Environmental Assessment

for HUD-funded Proposals

Recommended format per 24 CFR 58.36, revised March 2005
[Previously recommended EA formats are obsolete].

Project Identification:	Casa Linda Apartments North Ave. Carr. 177 (Ave. Los Filtros) Bayamon, P.R. 00959
Preparer:	Mauricio Velez, P.E. PRABA, LLC
Responsible Entity:	Puerto Rico Department of Housing
Month/Year:	December/2021

Environmental Assessment

Responsible Entity: Puerto Rico Department of Housing
[24 CFR 58.2(a)(7)]

Certifying Officer: Sally Z. Acevedo Cosme
[24 CFR 58.2(a)(2)] Pedro de León Rodriguez
Maria T. Torres Bregón
Angel López Guzmán
Ivelisse Lorenzo Torres

Project Name: Casa Linda

Project Location: North Ave. Carr 177 (Ave. Los Filtros)
Bayamon, P.R. 00959

Estimated Total Project Cost: $74,067,814

B-17-DM-72-0001: $0
B-18-DP-72-0001: $45,007,948
Other Sources: $29,059,866

Grant Recipient: Puerto Rico Housing Finance Authority
[24 CFR 58.2(a)(5)]

Recipient Address: 606 Barbosa Avenue, Rio Piedras, PR 00918

Project Representative: Sr. Enrique Nodarse

Telephone Number: 787-396-3020

Conditions for Approval: [24 CFR 58.40(d), 40 CFR 1505.2(c)] (List all mitigation measures adopted by the responsible entity to eliminate or minimize adverse environmental impacts. These conditions must be included in project contracts and other relevant documents as requirements).

The conditions for approval and mitigation measures to be adopted through the construction of the project are specified in the supporting documents attached to this report:

1. Permits
    a. Ensure non-expired permits prior to construction commencement. These include:
        i. Construction Permit
        ii. General Consolidated Permit
        iii. General Permit- National Pollutant Discharge Elimination System (NPDES) in compliance with EPA
        iv. Incidental Permit
        v. LUMA/AEE Endorsed Plan Set, Letter and Project Evaluation and Point of Connection Approval
        vi. AAA Endorsed Plan Set, Letter and Project Evaluation and Point of Connection Approval
        vii. DTOP Regulatory Permit
        viii. ICP Endorsements
        ix. Asbestos and Lead Paint Certification
        x. State Historic Preservation Office
        xi. No Flood Certification
        xii. Certificate of Consistency by the State Coastal Management Program
        xiii. A tree cutting, pruning, transplanting, and planting authorization (ACP) in accordance with chapter 47 cutting, pruning and afforestation of the joint regulation of permits for construction works and land use must be applied for and obtained.
        xiv. If a Laundry is installed, corresponding permits for compliance with Rules 108 (Installation of Control Equipments) and 4040 (Fugitive Emissions) of the Regulation Number 5300 of August 28, 1995 must be obtained.
        xv. Consult EPA for management of storm water to confirm if a NPDES permit is necessary.
        xvi. The trucks transporting the waste during construction must possess the Permit to Operate Services of Recollection or Transportation of Non-Dangerous Solid Waste (DS-3 Permit, DRNA/JCA).
2. Compliance Measures
    a. Storage, management and disposition of waste materials must be executed in compliance with the “Reglamento para el Manejo de los Desperdicios Sólidos No peligrosos del DRNA/JCA”.
    b. Confirm all transport of dredged material and/or used waters is executed with authorization from the “Area de Control de Contaminación de Terrenos del DRNA/JCA”.

c. Compliance with noise ordinance as established in the “Reglamento para el Control de la Contaminación por Ruido del DRNA/JCA”.
d. Present to the DRNA an emergency plan in compliance with the “Reglamento de Estandares de Calidad de Agua (RECA)” in order to prevent and/or control diesel spills.
e. Implement and comply with a:
    i. CES Plan
    ii. Storm Water Pollution Prevention Plan (SWPPP)
    iii. Recycling Plan & Quarterly Recycling Report of the Generated Materials during the Construction Work Phase (if the Municipality is responsible for this work, Compromise Evidence from the Municipality must be submitted).
    iv. Drawings with the localization of the recycling area inside the Project must be submitted.
f. Compliance with Green Permit pre-qualification requirements as a measure to obtain Green Certification.
g. Project must comply with DRNA rules and regulations.
h. Project must follow the recommendations of the Soil Study for the project.
i. Project must comply with the Regulations for the Control and Prevention of Luminic Contamination.
j. A reforestation program using native species, which, in addition to helping to minimize erosion, benefits wildlife, must be established.

3. Construction
    a. Contractor must detain any and all construction work if any above and/or below ground water sources are encountered during the construction effort and shall notify DRNA immediately upon such findings.
    b. Contractor must detain any and all construction work if archaeological deposits and/or elements of historical value are encountered during any phase of the construction. Contractor must inform the ICPR and Contracting Officer within 24 hours of the finding.

Breakdown of Fund Sources

Tax Credit Capital	Permanent Loan	Other Sources	CDBG-DR	Total Cost
$25,059,866	$4,000,000	$0	$45,007,948	$74,067,814

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1. Acronyms and Abbreviations

Acronym	Meaning
SHPO	State Historic Preservation Office
FEMA	Federal Emergency Management Agency
EPA	Environmental Protection Agency
OGPe	Oficina de Gerencia y Permisos
CBRS	Coastal Barrier Resource System
CDBG-DR	Community Development Block Grant- Disaster Recovery
CES Plan	Erosion Control and Sediment Containment Plan (Plan para el Control de la erosión y prevención de la sedimentación)
DRNA	Department of Natural Resources (Departamento de Recursos Naturales
JCA	Puerto Rico Environmental Quality Board (Junta de Calidad Ambiental). JCA is now part of Department of Natural Resources DRNA
LBP	Lead Based Paints
AEE/LUMA	Puerto Rico Electric Power Authority (Autoridad de Energía Eléctrica)
AAA	Puerto Rico Aqueduct and Sewage Authority (Autoridad de Acueductos y Alcantarillados)
ACM	Asbestos Containing Materials
ICPR	Institute of Puertorican Culture (Instituto de Cultura Puertorriqueña)
EA	Environmental Assessment (Evaluación Ambiental)
PRDOH	Puerto Rico Department of Housing (Departamento de la Vivienda)
SSA	Sole Source Aquifers
USFWS	United States Fish and Wildlife Service
ADS	Solid Waste Authority (Autoridad de Desperdicios Sólidos)

2. Project Description

a. Statement of Purpose and Need for the Proposal: [40 CFR 1508.9(b)]

The Project started services to the community in May 1983, and given its age and continuous use, its rehabilitation is an urgent need to preserve the units under the affordable housing rental market. This is a priority of the PR State Housing Plan. Its rehabilitation is indispensable to continue its compliance under the existing HAP contract, with the Puerto Rico Housing Finance Authority as Contract Administrator for HUD. Re-capitalization of the asset to perform the rehabilitation is a step that needs to be taken in order to preserve direly needed affordable units in the Municipality of Bayamon, where currently there is a high percentage of single headed households with children unserved and underserved.

b. Description of the Proposal: Include all contemplated actions which logically are either geographically or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]

Casa Linda Apartments LLC proposes to rehabilitate and expand an existing multifamily project known as Casa Linda del Sur. The Project is an affordable rental housing project, is currently composed of 199 one-bedroom apartments and is conveniently located steps from the Salus Medical Clinic, a member of the Mayo Clinic Care Network with over forty doctors, dentists, drugstore and a full-service lab. With direct access to Avenida 177 “Los Filtros”, convenience destinations like Costco, supermarkets and parks are minutes away. This population continues to be a challenge to the state and local housing authorities, as the available affordable housing stock is not easily feasible for the population. The property also includes a conference room, laundry facilities, 24- hour security, controlled access and a community hall for activities. All units include a full bathroom, full kitchen with fridge and stove, and water heaters.

The proposed expansion at Casa Linda will also include the construction of a new building to accommodate two-bedroom rental units. In general, the new building will operate as an extension to the existing complex and will be served by the current and expanded utilities serving the existing complex; water supply, sanitary, electricity, telecommunications and fire protection. The new building is being proposed to be detached from the existing building but sharing common patios and parking. The new four (4) structures will require additional parking spaces, currently proposed to be as a new parking deck, one level above ground. The main programmatic components of the new building are: 52 two-bedroom dwelling units, common area(s) to serve the population of the entire development, its own domestic water cistern, and rain harvesting cistern.

The new construction has as objective to be resilient by providing a more refined and updated architectural design. This entails starting the design process by thinking carefully about the typical use scenarios of the building and involving its

users directly in the creation of the new construction. A new diesel AST for the generator will be installed to replace the existing one. Furthermore, it is of great importance to plan for the most-likely environmental disaster situations that could challenge the integrity of the building and/or endanger its occupants.

See:
Exhibit T – Casa Linda Apartments Site Plan

c. Existing Conditions and Trends:

The Project started services to the community in May 1983, and given its age and continuous use, its rehabilitation is an urgent need to preserve the units under the affordable housing rental market. The existing project consists of four (4) structures that range between 4 to 5 stories aimed to assist the single headed household special needs population.

3. Findings: [58.40(g)]

X **Finding of No Significant Impact**
(The project will not result in a significant impact on the quality of the human environment)

___ **Finding of Significant Impact**
(The project may significantly affect the quality of the human environment)

Preparer Signature: _____ **Date:** May 11, 2022

Name/Title/Agency: Mauricio Velez, P.E.
PRABA, LLC

RE Approving Official Signature: _____ **Date:** May 23, 2022

Name/Title/Agency:

Puerto Rico Department of Housing (PRDOH)

4. Statutory Checklist [24CFR §58.5]

Record the determinations made regarding each listed statute, executive order or regulation. Provide appropriate source documentation. Note reviews or consultations completed as well as any applicable permits or approvals obtained or required. Note dates of contact or page references. Provide compliance or consistency documentation. Attach additional material as appropriate. Note conditions, attenuation or mitigation measures required.

Factors	Determination and Compliance Documentation
Historic Preservation [36 CFR 800]	No historic properties were or will be affected according to the letter by SHPO. The Historical Building Heritage Program and the Archeology and Ethnohistory Program of the Institute of Puerto Rican Culture provided no objection towards the construction of the project based on the submitted and evaluated documents. Given the previous, there is no anticipated adverse impact on archaeological resources. However, should any entity find any archaeological resources during the construction endeavor, all works must be immediately stopped, and the matter needs to be addressed as per the 'Consejo de Arqueología Terrestre', SHPO and/or any other agency with jurisdiction over the matter. If any soil excavation is required due to changes in scope of work a separate endorsement from PRCI will be required. See: Exhibit A – SHPO Determination Exhibit B – ICPR Letter
Floodplain Management [24 CFR 55, Executive Order 11988]	The subject property is located in a Zone X, outside the 1% annual chance of flood area as per FEMA Emergency Flood Maps No. 72000C0345J and No. 72000C0365J revised on November 18, 2009. The Zone X is area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone X may have pond prone areas and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood. The Subject Site is assumed to be free of adverse floodable conditions that might affect its intended development, and no liability or responsibility is assumed in this respect. All Municipalities of Puerto Rico participate in the National Flood Insurance Program and are currently in good standing with the agency. The project will follow Hydrologic & Hydraulic Study recommendations noted in Section 5: Conclusion and Recommendations, number 7 to 9. See: Exhibit C – Environmental Site Assessment Phase I Exhibit D – FIRM (Flood Insurance Rate Map) Exhibit E – Hydrologic & Hydraulic Study Exhibit F – Non-Flood Certification
Wetlands Protection [Executive Order 11990]	No evidence of wetlands was noted on the subject property. The vicinity surrounding the Subject Property was evaluated

	using U.S. Fish and Wildlife Service Natural Wetland Inventory. A copy of the National Wetland Inventory for the subject property vicinity issued by the U.S. Fish and Wildlife Service is included in this report. The project site is not located on any riparian nor wetland. Furthermore, a permit won't be required as per Section 404 of the Clean Water Act as the project will not require the discharge of dredged or fill material into wetlands See: Exhibit G – National Wetlands Inventory Map Exhibit C – Environmental Site Assessment Phase I
Coastal Zone Management Act [Sections 307(c), (d)]	Puerto Rico's coastal zone generally extends 1,000 meters (one kilometer) inland. The municipality of Bayamon is bordered on the north by the municipalities of Catano and Toa Baja, on the south by the municipalities of Naranjito and Aguas Buenas, to the east by the municipality of Guaynabo and to the west by the municipality of Toa Alta. Because of its location, the municipality is part of the northern coastal plain region. The project site is located approximately 4 miles South of the Northern Coast of Puerto Rico, which pertains to the Atlantic Ocean. There are no anticipated adverse effects due to the project's development, as the project is outside the limits of a Coastal Zone. See: Exhibit H1 – Coastal Zone Map Exhibit C – Environmental Site Assessment Phase I
Sole Source Aquifers [40 CFR 149]	Puerto Rico is included in a sole-source aquifer region designated as Region II of the USA EPA. The project is not connected to a direct potable water line which provides water from a designated sole-source aquifer nor is it located within a sole source aquifer watershed. This was confirmed with the EPA Sole Source Aquifers Map. See: Exhibit I – Sole Source Aquifers Map of Puerto Rico Exhibit C – Environmental Site Assessment Phase I
Endangered Species Act [50 CFR 402]	No federally listed, proposed species or designated critical habitat are known to exist within the project area. See: Exhibit J – USFWS Technical Assistance Letter- Endangered Species and Ecology Exhibit C – Environmental Site Assessment Phase I
Wild and Scenic Rivers Act [Sections 7(b), (c)]	Puerto Rico has approximately 5,385 river miles. Only 8.9 miles of three rivers are designated as wild & scenic. There are no surrounding rivers that qualify as wild and scenic rivers. The closest wild and scenic river (Rio Mameyes) is located in the Yunque Rainforest, more than 24 miles east of the project site. The project poses no harm to this river. See: Exhibit C –Environmental Site Assessment Phase I Exhibit K - Wild & Scenic Rivers Map

Air Quality [Clean Air Act, Sections 176(c) and (d), and 40 CFR 6, 51, 93]	While the EPA Green Book indicates the Municipality of Bayamon as being in nonattainment area for S02 (2010), the current status of Puerto Rico designated areas no longer indicates Bayamon in nonattainment area. The contractor must implement mitigation measures that include but are not limited to, a CES Plan to be developed and maintained throughout the duration of the construction. Heavy equipment must comply with emission regulations. A General Consolidated Permit from OGPe is required. See: **Nonattainment Areas for Criteria Pollutants (Green Book) | US EPA** Exhibit C – Environmental Site Assessment Phase I Exhibit L – DECA (Division de Evaluación de Cumplimiento Ambiental)
Farmland Protection Policy Act [7 CFR 658]	The proposed use is in harmony with the surrounding developments area and does not impact agricultural projects. The project land lies within a mixed use and populated urban area in the Juan Sanchez Ward in Bayamon. See: Exhibit M – Site Aerial Imagery (Google Maps)
Environmental Justice [Executive Order 12898]	The proposed low-income housing development and rehabilitation is meant to serve the pressing need for affordable rental housing in Bayamon's low-income population, availability of safe and decent housing units in compliance with Housing Quality Standards and assist single head of household's population. The Municipality of Bayamon expressed their complete support in the Municipality's Endorsement Letter. The Phase I Environmental Study determined that the probability of the Site being contaminated is very low, that no substantial environmental issues were found and that no potential environmental impact issues to the Project were determined. Mitigation of asbestos and lead done in accordance with EPA and EQB practices will help prevent any adverse environmental effects. See: Exhibit N - Municipal Endorsement Letter Exhibit C – Environmental Site Assessment Phase I Exhibit O - Asbestos and Lead paint Reports

HUD Environmental Standards	Determination and Compliance Documentation
Noise Abatement and Control [24 CFR 51 B]	The HUD noise acceptability criterion of 65 dB for exterior of Casa Linda was met. No further restrictions or controls are applicable to this project. See: Exhibit P – Noise Study
Toxic/Hazardous/Radioactive Materials, Contamination, Chemicals or Gases [24 CFR 58.5(i)(2)]	The Phase I Environmental Site Assessment revealed no evidence of recognized environmental conditions in connection with the property. Due to the fact that no recognized environmental conditions were identified during this assessment, there is no need to conduct any further study or testing in the subject property, unless there is a change of the current operations as described herein. There was no Data Gap while conducting the research for this assessment that could have any significant impact in the findings described herein. Except for the limitations and exceptions discussed in Section 2.3, this Phase I ESA complies with the ASTM Standard 1527-13. The asbestos and lead paint reports found asbestos in the mastic (thin-set) of the floor tiles. Also, lead paint was present in the ceramic tiles located in the apartments and common areas. Proper mitigation will take place prior rehabilitation work. See: Exhibit C - Environmental Site Assessment Phase I Exhibit O - Asbestos and Lead paint Reports
Siting of HUD-Assisted Projects near Hazardous Operations [24 CFR 51 C]	There are no hazardous or contaminated facilities within 1 mile of the project. There are no sites with ASTs that could impact the site. See: Exhibit Q – Undesirable Activities Surveyor Certification Exhibit R – ALTA Survey + As-Built Survey
Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]	The project site is located approximately 8 miles away from the Luis Munoz Marin International Airport, which is also a joint civil-military airport, and 5 miles away from the Isla Grande Airport. The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. See: Exhibit S – Site Aerial Imagery (Google Maps) Exhibit Q – Undesirable Activities Surveyor Certification

5. Environmental Assessment Checklist

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a determination of impact. Impact Codes: (1) - No impact anticipated; (2) - Potentially beneficial; (3) - Potentially adverse; (4) - Requires mitigation; (5) - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional material as appropriate. Note conditions or mitigation measures required.

Land Development	Code	Source or Documentation
Conformance with Comprehensive Plans and Zoning	2	This zoning permits the intended use of the property. There is no need for any changes or variances to the site/project. The Municipality of Bayamon has endorsed the housing development and the site has been vetted by the Junta de Planificación (Planning Board of PR). The Project is shovel ready and integrates strategies and activities that lead to lower construction costs. The Project has an Urbanization Permit, and other state and local permits and endorsements. There are no potential obstacles to the development of the Project. Further, there are no foreseen environmental, land use, or community concerns, that may delay or negatively impact the development or operation of the Project.
Compatibility and Urban Impact	2	The project lies within a suburban mixed residential, light industrial and commercial structures which have adequate and immediate road access. The proposed project is one that promotes an affordable, resistant, and resilient housing project, and social enhancement. Moreover, the Project promote community cohesion, beautify neighborhood, promote resource conservation, and improve the quality of life of the community. In addition, this Project represents a complement to the efforts of the state and local government, to provide families affected by Hurricanes Irma and María, and the recent earthquakes with a decent and affordable housing alternative, plus services for a better quality of life.
Slope	1	The existing site is semi-flat. It is not within an area of potential landslides. Some grade preparations will be required for the new construction. These earthworks do not seem to be major and are not expected to create any adverse effect on the project site or vicinities.
Erosion	1	During development of the project, a potential for erosion exists. However, the contractor through strict compliance with a CES Plan, will mitigate the possibilities of erosion during the construction process. There is no anticipated adverse effect on erosion expected as a result of the development of this new project.
Soil Suitability	1	This zoning permits the intended use of the property. However, the contractor must comply with all

		recommendations presented in the geotechnical report.
Hazards and Nuisances including Site Safety	1	The project does not present any construction logistic difficulties to the contractor. However, the contractor could experience safety, hazard, or nuisances typical to construction projects. Nevertheless, the contractor must provide a safe environment, on and off-site, throughout the construction process. This includes compliance with all safety and environmental measures established by, but not limited to, OSHA, EPA, USFWS and DRNA. The Phase I Environmental Study determined that the probability of the Site being contaminated is very low.
Energy Consumption	2	The design has been pre-qualified by the local permit's office as a Green Building. In the absence of energy consumption reduction measures, the demand for electricity generated by the project won't require a major expansion of power facilities nor would it have any anticipated adverse effects. The project has been endorsed by AEE/LUMA. See: Exhibit U - Endorsement Letter AEE/LUMA

Noise - Contribution to Community Noise Levels	1	The HUD noise acceptability criterion of 65 dB for exterior of Casa Linda was met. No further restrictions or controls are applicable to this project. The construction noise must be mitigated utilizing standard procedures and measures as requested by Puerto Rico's environmental quality board and required in the 'Reglamento para el Control de la Contaminación por Ruido'.
Air Quality Effects of Ambient Air Quality on Project and Contribution to Community Pollution Levels	1	The contractor must implement mitigation measures that include but are not limited to, a CES Plan to be developed and maintained throughout the duration of the construction. Heavy equipment must comply with emission regulations. A General Consolidated Permit from OGPe is required. This permit is required prior to the start of construction.
Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale	2	The Project will be designed and built to achieve high performance in six key areas: Site Design, Resource Efficiency, Water Efficiency, Energy Efficiency, Indoor Environmental Quality, and Building Operation & Maintenance under the rigorous requirements of the ICC-700 National Green Building Standard™ (NGBS). • Incorporates state and municipal initiatives. • Promotes the Projects proposed works by leveraging public and private resources. • Promotes neighborhood and family stabilization. • Stimulates affordable, safe and decent rental housing. • Integrates innovative housing construction methods, new materials and feasible energy efficient technologies in the

		Project construction. The surrounding environment of the proposed project serves the residential, commercial and institutional needs of the Municipality of Bayamon. The architecture of the surrounding environment varies in scale and aesthetics. It is in compliance with the requirements of the Municipality's plan for the area.

Socioeconomic	**Code**	**Source or Documentation**
Demographic Character Changes	2	The project will include renovations and new constructions within a mixed-use sector of Bayamon. Additional housing will contribute to the Municipalities ongoing effort to attend the demand for affordable housing as well as to attract and maintain a steady population in this district.
Displacement	2	There will be neither displacement nor adverse socioeconomic effects to the site or area since the project is an existing building to be rehabilitated, in addition to the new construction.
Employment and Income Patterns	2	The rehabilitation will help bring the complex to comply with current codes as possible due to historical building restrictions, improve its internal infrastructure, modernize cabinets, plumbing and electrical fixtures, and mitigate existing asbestos & lead paint. This will mitigate possible lower demand of tenants due to deterioration of building structures and internal infrastructure and will help maintain current administration and maintenance jobs & contracts. In addition, the new tenants of the new units to be built will add to the market for the neighboring commercial facilities. Hence, potentially improving regional commerce. Also, during construction and renovations, the project will generate direct and indirect jobs.

Community Facilities and Services	**Code**	**Source or Documentation**
Educational Facilities	1	The project is surrounded by various public and private schools.
Commercial Facilities	2	There are numerous small, mid-scale and large-scale mixed-use Commercial and industrial facilities throughout the urban district of Bayamon, which will benefit from the new potential client base.
Health Care	2	Pharmacies, clinics, medical offices, and CDTs are found within a 2-mile radius of the site.
Social Services	2	The project intends to fulfill the current demand for affordable housing for low-income families in Bayamon. Qualified participants will receive the financial support for suitable housing within a planned community. The effort conforms to the best interest of the Municipality and its population.
Solid Waste	2	Existing solid waste removal services are available to the existing complex. The proposed project calls for an increase in the solid waste removal services that will be created from the new units. Recycling should be implemented and enforced as per

		standards set by the Solid Waste Authority (Autoridad de Desperdicios Sólidos' - ADS). A recycling plan must be submitted by the contractor to the DRNA/ADS for endorsement. During Construction, the proponent needs to comply with the laws and regulations related to the management and disposal of solid waste and recyclable materials: 1. Ley Núm. 70, de 18 de septiembre de 1992, Ley para la Reducción y Reciclaje de los Desperdicios Sólidos. 2. Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos (Reglamento Núm. 6825 de 15 de junio de 2004). 3. Reglamento Conjunto de Permisos para Obras de Construcción y Usos de Terrenos (Reglamento Conjunto) de 29 de noviembre de 2010.
Waste Water	1	The project is currently served by the local water and sewer service entity, Puerto Rico Aqueduct and Sewer Authority (AAA). The new construction has been endorsed by the Municipality.
Storm Water	1	The renovation of the existing building does not have an open site. Storm water will be same as current generated from roofs and interior patios. Drainage system will be improved to better handle storms & hurricanes. The subject property is located in a Zone X, outside the 1% annual chance of flood area as per FEMA Flood Maps. The Subject Site is assumed to be free of adverse floodable conditions that might affect its intended development, and no liability or responsibility is assumed in this respect.
Water Supply	1	The project will be served by the existing aqueduct infrastructure provided by the local water and sewer service entity, Puerto Rico Aqueduct and Sewer Authority (AAA).
Public Safety - Police	1	A Police Station is located less than two miles away from the project.
- Fire	1	A Fire Station is located less than three miles away from the project. The project has been endorsed by the local Fire Department.
- Emergency Medical	1	Medical offices and clinics are found within a 1-mile radius of the site.
Open Space and Recreation	2	The Bayamon Municipality is densely populated and is by far the most developed area in Puerto Rico and hosts the island's manufacturing, financial, cultural, and tourism center. The project will be located close to public transportation, religious services, plazas, theaters, restaurants, stores, events, sports complexes and attractions. However, the project already has open spaces.
Transportation	1	This area is served by a free Municipal Trolley that connects to the bus stops of Metropolitan Bus Authority

		(AMA), Puerto Rico's public transportation in the metropolitan area.

Natural Features		Source or Documentation
Water Resources	1	All potable water supply services will be provided by the local water and sewer service entity, Puerto Rico Aqueduct and Sewer Authority (AAA). The project has been endorsed by this entity.
Surface Water	1	The selected site is not located in a floodplain. It stands within the Zone X defined as an area determined to be outside the 500-year flood by FEMA. Although the site is not located in a floodplain, there are rivers and creeks near the project. See: Exhibit V – Location Map
Unique Natural Features and Agricultural Lands	1	The project has an existing structure and the proposed use for the new construction is in harmony with the surrounding developments area and does not impact agricultural projects. The project land lies within a mixed use and populated urban area in Bayamon.
Vegetation and Wildlife	1	The proposal is for a rehabilitation project of an existing multifamily complex and construction of a new one. The site is within a densely populated urban landscape. There are no anticipated adverse effects on vegetation and/or wildlife. A tree cutting, pruning, transplanting, and planting authorization (ACP) in accordance with chapter 47 cutting, pruning and afforestation of the joint regulation of permits for construction works and land use must be applied for and obtained.

Other Factors		Source or Documentation
Flood Disaster Protection Act [Flood Insurance] [§58.6(a)]	1	The selected site is not located in a floodplain. It stands within the Zone X defined as an area determined to be outside the 500-year flood by FEMA. No mandatory flood insurance purchase is required.
Coastal Barrier Resources Act/ Coastal Barrier Improvement Act [§58.6(c)]	1	The project site is outside Coastal Barrier Act / Coastal Barriers Improvements Act. The Coastal Barrier Resource System Map further confirms that the site is not identified as a protected area. See: Exhibit H2 - USFWS Coastal Barrier Resources System Map
Airport Runway Clear Zone or Clear Zone Disclosure [§58.6(d)]	1	The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. See:

		Exhibit S – Site Aerial Imagery (Google Maps)
Other Factors		

6. List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]

1. National Parks Services
    a. https://www.nps.gov/subjects/nnlandmarks/index.htm
2. FEMA Flood Map Service Center
    a. https://msc.fema.gov/portal/home
3. The National Flood Insurance Program Community Status Book
    a. https://www.fema.gov/cis/PR.html
4. Junta de Planificación de Puerto Rico
5. National Wetlands Inventory
    a. https://www.fws.gov/wetlands/data/mapper.html
6. Puerto Rico Coastal Zone Management Program
    a. http://drna.pr.gov/historico/oficinas/arn/recursosvivientes/costasreservasrefugios/pmzc/pmzc/pmzc2009/PMZCPR%20ingles%202009%20final.pdf
7. Office for Coastal Zone Management
    a. https://coast.noaa.gov/czm/mystate/#puertorico
8. United States Environmental Protection Agency
    a. https://www.epa.gov/dwssa
    b. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b
    c. https://www3.epa.gov/airquality/greenbook/tnca.html
    d. https://www3.epa.gov/airquality/greenbook/anayo_pr.html
9. National Wildlife Refuge System
    a. https://www.fws.gov/refuges/
    b. https://www.fws.gov/refuges/refugeLocatorMaps/PuertoRico.html
    c. https://www.fws.gov/refuges/maps/NWRS_National_Map.pdf
10. USA National Wild and Scenic Rivers
    a. www.rivers.gov
11. Federal Aviation Administration
    a. https://www.faa.gov/airports/planning_capacity/npias/reports/media/NPIAS-Report 2019-2023-Appendix-B.pdf
12. Google Earth
    a. https://earth.google.com
13. Google Maps
    a. https://maps.google.com
14. USFWS Coastal Barrier Resources System
    a. https://www.fws.gov/cbra

7. Summary of Findings and Conclusions

a. Alternatives to the Proposed Action [24 CFR 58.40(e), Ref. 40 CFR 1508.9]

(Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)

The Municipality is interested in residential developments for affordable housing within its urban limits. Given the character of the community within which it lies, the available infrastructure, access to principal roads and highways, and its readily accessible location, the site is perfectly suitable for the intended use.

Alternatives:

1. Building fewer units would mean a reduction in the number of apartments available for affordable housing. Noise, air pollution, pollution, traffic, demand for water and electricity would be decreased proportionally. However, this is not necessarily attractive given that a reduced density would be inconsistent with the municipality's interest in providing a solution for the high demand for affordable housing.
2. A 2nd option would be to limit the project to renovation but would not be aligned with the municipality's interest in providing a solution for the high demand for affordable housing.

b. No Action Alternative [24 CFR 58.40(e)]

(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).

In the absence of the development, current economic trends suggest that the building would continue to deteriorate. This option would ignore the need for additional affordable housing to low income single-headed households that the Municipality and local population desperately need.

8. Mitigation Measures Recommended [24 CFR 58.40(d), 40 CFR 1508.20]
(Recommend feasible ways in which the proposal or its external factors should be modified in order to minimize adverse environmental impacts and restore or enhance environmental quality.)

The conditions for approval and mitigation measures to be adopted through the construction of the project are specified in the supporting documents attached to this report:

1. Permits
    a. Ensure non-expired permits prior to construction commencement. These include:
        i. Construction Permit
        ii. General Consolidated Permit
        iii. General Permit- National Pollutant Discharge Elimination System (NPDES) in compliance with EPA
        iv. Incidental Permit
        v. LUMA/AEE Endorsed Plan Set, Letter and Project Evaluation and Point of Connection Approval
        vi. AAA Endorsed Plan Set, Letter and Project Evaluation and Point of Connection Approval
        vii. DTOP Regulatory Permit
        viii. ICP Endorsements
        ix. Asbestos and Lead Paint Certification
        x. State Historic Preservation Office
        xi. No Flood Certification
        xii. Certificate of Consistency by the State Coastal Management Program
        xiii. A tree cutting, pruning, transplanting, and planting authorization (ACP) in accordance with chapter 47 cutting, pruning and afforestation of the joint regulation of permits for construction works and land use must be applied for and obtained.
        xiv. If a Laundry is installed, corresponding permits for compliance with Rules 108 (Installation of Control Equipments) and 4040 (Fugitive Emissions) of the Regulation Number 5300 of August 28, 1995 must be obtained.
        xv. Consult EPA for management of storm water to confirm if a NPDES permit is necessary.
        xvi. The trucks transporting the waste during construction must possess the Permit to Operate Services of Recollection or Transportation of Non-Dangerous Solid Waste (DS-3 Permit, DRNA/JCA).
2. Compliance Measures
    a. Storage, management and disposition of waste materials must be executed in compliance with the “Reglamento para el Manejo de los Desperdicios Sólidos No peligrosos del DRNA/JCA”.
    b. Confirm all transport of dredged material and/or used waters is executed with authorization from the “Area de Control de Contaminación de Terrenos del DRNA/JCA”.

c. Compliance with noise ordinance as established in the “Reglamento para el Control de la Contaminación por Ruido del DRNA/JCA”.
d. Present to the DRNA an emergency plan in compliance with the “Reglamento de Estandares de Calidad de Agua (RECA)” in order to prevent and/or control diesel spills.
e. Implement and comply with a:
    i. CES Plan
    ii. Storm Water Pollution Prevention Plan (SWPPP)
    iii. Recycling Plan & Quarterly Recycling Report of the Generated Materials during the Construction Work Phase (if the Municipality is responsible for this work, Compromise Evidence from the Municipality must be submitted).
    iv. Drawings with the localization of the recycling area inside the Project must be submitted.
f. Compliance with Green Permit pre-qualification requirements as a measure to obtain Green Certification.
g. Project must comply with DRNA rules and regulations.
h. Project must follow the recommendations of the Soil Study for the project.
i. Project must comply with the Regulations for the Control and Prevention of Luminic Contamination.
j. A reforestation program using native species, which, in addition to helping to minimize erosion, benefits wildlife, must be established.

3. Construction
    a. Contractor must detain any and all construction work If any above and/or below ground water sources are encountered during the construction effort and shall notify DRNA immediately upon such findings.
    b. Contractor must detain any and all construction work if archaeological deposits and/or elements of historical value are encountered during any phase of the construction. Contractor must inform the ICPR and Contracting Officer within 24 hours of the finding.

Exhibit A

GOBIERNO DE PUERTO RICO

Oficina Estatal de Conservación Histórica

Friday, December 11, 2020

Lauren Bair Poche
Historic Preservation Manager
HORNE
10000 Perkins Rowe, Suite 610 Bldg G
Baton Rouge, LA 70810

SHPO: 10-05-20-04 PUERTO RICO DISASTER DISCOVERY, CDBG-DR GAP TO LOW INCOME HOUSING TAX CREDITS (LIHTC) PROGRAM, CASA LINDA APARTMENTS, BAYAMÓN, PUERTO RICO

Dear Ms. Bair,

Our Office has received and reviewed the above referenced project in accordance with 54 USC 306108 (commonly known as Section 106 of the *National Historic Preservation Act, as amended)* and 36 CFR Part 800: *Protection of Historic Properties* from the Advisory Council on Historic Preservation. The State Historic Preservation Officer (SHPO) is to advise and assist federal agencies and other responsible entities when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or reduce the project's effects.

Our records support your finding of **no historic properties affected** within the project's area of potential effects.

Please note that should the Agency discover other historic properties at any point during project implementation, you should notify the SHPO immediately. If you have any questions concerning our comments, do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-Cancela
State Historic Preservation Officer

CARC/GMO/MC/MDT

SHPO OECH
OFICINA ESTATAL DE CONSERVACIÓN HISTÓRICA
OFICINA DEL GOBERNADOR
STATE HISTORIC PRESERVATION OFFICE
OFFICE OF THE GOVERNOR

Exhibit B

GOBIERNO DE PUERTO RICO
INSTITUTO DE CULTURA PUERTORRIQUEÑA
Directora | Arqla. Nancy R. Santiago Capetillo, Ph. D.

14 de septiembre de 2021

ACTUALIZACIÓN DE AUTORIZACIÓN

Ing. Gabriel Hernández Rodríguez
Secretario Auxiliar
Departamento de Desarrollo Económico y Comercio
Oficina de Gerencia de Permisos
PO Box 41118
San Juan, Puerto Rico 00940

PROYECTO: CASA LINDA APARTMENTS
DIRECCIÓN: CARR. 177, AVE. LOS FILTROS, BO. LOS FRAILES, BAYAMÓN
OGPe #: 2020-312510-SRA-046514 (Antes 2020-312378-REA-004325)
ICP PAE#: BA-20-145
CATASTRO: 085-070-047-13

Estimados señores:

El Programa de Arqueología y Etnohistoria del Instituto de Cultura Puertorriqueña ha evaluado los documentos relacionados al proyecto de referencia recibidos a través de la Oficina de Gerencia de Permisos.

Nuestros registros evidencian que, con fecha del **2 de septiembre de 2020**, el Programa de Arqueología y Etnohistoria emitió una autorización al proyecto. La evaluación realizada sugiere que, basado en los datos existentes al presente, las probabilidades de impactar un recurso arqueológico, según definido por la Ley 112 del 20 de julio de 1988, según enmendada, son mínimas. Por lo antes expuesto, **actualizamos nuestra autorización**.

Le notificamos que esta autorización es de tipo parcial y que el proponente queda sujeto a las responsabilidades y obligaciones que impone la Ley 112 del 20 de julio de 1988, según enmendada. Esta establece que, se deberá paralizar todo tipo de actividad de excavación, movimiento y remoción de la corteza terrestre, y notificar en un plazo de veinticuatro (24) horas al Consejo, en caso de que, durante el desarrollo del proyecto, se descubra o impacte algún depósito, elemento, estructura o vestigio de naturaleza arqueológica.

Este proceso es paralelo al del Programa de Patrimonio Histórico Edificado del Instituto de Cultura Puertorriqueña, permiso que el proponente deberá gestionar, para cumplir con las regulaciones de la Ley 374 de 1949 y la Ley 89 de 1955.

Se le apercibe que el incumplimiento de estos requerimientos podrá ser objeto de sanciones administrativas según lo establecido en la citada ley.

Esta autorización tiene una vigencia de un (1) año.

Cordialmente,

Arqla. Nancy R. Santiago Capetillo Ph.D.
Directora
Programa de Arqueología y Etnohistoria

NRSC/GOE

GOBIERNO DE PUERTO RICO
INSTITUTO DE CULTURA PUERTORRIQUEÑA
Director Ejecutivo | Carlos R. Ruiz Cortés |
cruiz@icp.pr.gov

1 DE SEPTIEMBRE DE 2021

Ing. Gabriel Hernández Rodríguez
Secretario Auxiliar
DEPARTAMENTO DE DESARROLLO ECONÓMICO Y COMERCIO
Oficina de Gerencia de Permisos
PO Box 41179
San Juan, Puerto Rico 00940-1179

NO OBJECIÓN

CASO OGPE:	2020-312510-SRA-046514
DESCRIPCIÓN:	CASA LINDA APARTMENTS
MUNICIPIO:	BAYAMÓN
UBICACIÓN:	CARRETERA PR- 177 (AVE. LOS FILTROS)
CATASTRO:	085-070-047-13
CALIFICACIÓN:	R-A
PROPIETARIO:	CASA LINDA DEL SUR ASSOCIATES
PROPONENTE:	CASA LINDA APARTMENTS LLC

El Instituto de Cultura Puertorriqueña (**ICP**), por medio de su Programa de Patrimonio Histórico Edificado (**ICP-PPHE**), ha examinado el proyecto de referencia para determinar si afecta Propiedades de Valor Histórico y Arquitectónico que estén protegidas, o sean elegibles a serlo, bajo las leyes y reglamentos que nuestra agencia tiene responsabilidad de administrar, como agencia primaria, endosante o recomendante. Estas leyes y reglamentos incluyen, entre otros:

1. La Ley 89 del 21 de junio de 1955 S.E., Ley Orgánica del Instituto de Cultura Puertorriqueña, en especial el inciso 4(a)(7), "Determinar que edificios o estructuras son de valor histórico o artístico en Puerto Rico. (…)" y el inciso 4(a)(8), "Asesorar a la Junta de Planificación en la reglamentación de construcción en aquellas zonas que determine como zonas de valor histórico. (…)".
2. La Ley 89 del 21 de junio de 1955 S.E., Ley Orgánica del Instituto de Cultura Puertorriqueña, en su inciso 4(b)(3) según enmendado por la ley 119 del 26 de septiembre de 2005, que permite "adoptar, enmendar o derogar, por conducto de su Junta de Directores, las reglas que gobiernen [el] funcionamiento y el descargo de los poderes" concedidos e impuestos al ICP por ley, y la imposición de multas administrativas y/u otras sanciones por su incumplimiento o violación.

    a. Reglamento de Procedimientos Administrativos del Programa de Patrimonio Histórico Edificado del Instituto de Cultura Puertorriqueña registrado en el Departamento de Estado como Reglamento Núm. 7746 con vigencia del 3 de abril de 2009.

3. Ley Núm. 161 de 1 de diciembre de 2009, S.E., Ley para la Reforma del Proceso de Permisos de Puerto rico, Artículo 1.5, inciso 31, el Instituto de Cultura Puertorriqueña es identificado como una

de las agencias gubernamentales concernidas y con injerencia sobre el proceso de evaluación de solicitudes para el desarrollo y uso de terrenos, consultas, permisos, licencias, certificaciones, autorizaciones o cualquier trámite para la operación de negocios en Puerto Rico. Esta Ley establece claramente el requerimiento de autorización escrita previa del ICP para toda intervención y operación en las propiedades incluidas en el Registro de Sitios y Zonas Históricas de Puerto Rico, *plazas de recreo* y centros fundacionales (ver Reglamento Conjunto).

A. Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operaciones de Negocios (RC-2020); registrado en el Departamento de Estado de Puerto Rico bajo el Número 9233 con vigencia de 2 de enero de 2021. Tomo X: Conservación de Recursos Históricos
B. Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operaciones de Negocios (RC-2020); registrado en el Departamento de Estado de Puerto Rico bajo el Número 9233 con vigencia de 2 de enero de 2021. Tomos II, III, IV, VI, VII, IX (ver anejo 1 con identificación de Reglas correspondientes).

4. La Ley Núm. 183 de 21 de agosto de 2000, S.E., Ley Orgánica de la Oficina Estatal de Conservación Histórica, Artículo 7(b) y Artículo 8 (b), establece implícitamente el requerimiento de la recomendación favorable previa del ICP en permisos para proyectos que cuenten con fondos, permisos o asistencia de alguna agencia federal para realizar intervenciones que puedan impactar propiedades localizadas en el territorio de Puerto Rico que hayan sido incluidas en el Registro Nacional de Lugares Históricos en Washington o sean elegibles al mismo.[1]
5. Ley Núm. 60 de 1 de julio de 2019, S.E., Código de Incentivos de Puerto Rico, Capítulo 7 Infraestructura y Energía Verde, Sección 2071.01, Inciso 1: Se provee para que un negocio establecido, o que será establecido, en Puerto Rico por una Persona, organizado o no bajo un nombre común, pueda solicitarle al Secretario del DDEC la Concesión de Incentivos cuando la Entidad se establece en Puerto Rico para dedicarse a una de las siguientes actividades elegibles: Realizar obras de mejoras, restauración o reconstrucción de edificios existentes, u obras de reestructuración o nueva construcción en solares baldíos en las **Zonas Históricas de Puerto Rico**, y los alquileres de tales edificios localizados en tales zonas una vez hayan sido mejorados, restaurados, reconstruidos, restructurados o construidos, según sea el caso. Se requiere la Recomendación del ICP.
6. La exigencia de endoso o comentario del **ICP** aplicable a propiedades designadas de valor histórico y arquitectónico por otros medios, tales como:
    a. Resolución de la Asamblea Legislativa.
    b. Monumentos Históricos designados por la Junta de Directores del **ICP.**
    c. Propiedades designadas por un plan de ordenamiento territorial de un Municipio Autónomo y que esté en vigor, o por el Plan de Uso de Terrenos de Puerto Rico.
    d. Ser declaradas históricas en un plan especial de zonificación.
    e. Otras propiedades referidas por cualquier componente del Sistema Unificado de Información/Single Business Portal (**SUI/SBP**), la Oficina de Permisos de un Municipio Autónomo con poder de otorgar permisos, la Junta de Planificación, el Programa de

[1] La OECH **asiste** a las agencias federales en el proceso de cumplimiento con el 54 USC 306108 (Sección 106 de la Ley de Preservación Histórica Nacional) y el 36 CFR Parte 800: Protección de Propiedades Históricas, pero esta consulta **no sustituye** los permisos ni las recomendaciones requeridos en Puerto Rico para intervenciones en propiedades históricas en virtud de la Ley 161-2009, según enmendada, Ley para la Reforma del Proceso de Permisos de Puerto Rico y la Ley 89-1955, según enmendada, Ley Orgánica del Instituto de Cultura Puertorriqueña.

Arqueología y Etnohistoria del **ICP**, u otra agencia o entidad de gobierno con poder reglamentario.

7. Petición a solicitud voluntaria de un propietario o derechohabiente de una propiedad.

De acuerdo a nuestros expedientes y la información provista:

1. Esta propiedad NO es Sitio Histórico designado, ni es parte de una Zona Histórica según estos conceptos están definidos por el tomo XII (12), parte III, definiciones S-63, Z-11 y Z-12, y elaborados en el tomo X (10), del Reglamento Conjunto.
2. La propiedad es una no elegible en el municipio de Bayamón.
3. Se propone la actualización de nuestra recomendación favorable para la remodelación general del edificio existente, la construcción de un edifico multipisos de apartamentos y un estacionamiento.
4. El Proyecto propuesto no implica impacto adverso a recursos culturales pertenecientes al patrimonio histórico construido.

Por lo tanto, se emite una determinación de **NO OBJECIÓN AL PROYECTO PROPUESTO.**

Esta evaluación no incluye los elementos a evaluarse conforme a la Ley 112-1988, Ley para la Protección del Patrimonio Arqueológico Terrestre, lo cual debe hacerse mediante solicitud separada al Programa de Arqueología y Etnohistoria del **ICP**. Las evaluaciones de ambos programas son necesarias para concluir el proceso con esta agencia.

Este documento tiene vigencia de un (1) año a partir de su emisión.

Sin otro particular, quedo.

Pablo Ojeda O'Neill
Director
Programa Patrimonio Histórico Edificado

POO/ejc

Cc: Arqto. Pablo Ojeda O'Neill, Director ICP-PHE
Elliott J. Cruz, Conservacionista IV, Evaluador caso ICP-PPHE
Expediente caso ICP-PHE

ANEJO 1

1. Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operaciones de Negocios (RC-2020); registrado en el Departamento de Estado de Puerto Rico bajo el Número 9233 con vigencia de 2 de enero de 2021. Tomo X: Conservación de Recursos Históricos
    a. Capítulo 10.2 Conservación de Sitios Históricos, Zonas Históricas y Centros Fundacionales,
        1. Regla 10.2.2 Requerimiento Expedición de Permisos y Recomendaciones en Sitios y Zonas Históricas, Sección 10.2.2.3, Sección 10.2.2.4, Sección 10.2.2.3 y Sección 10.2.2.4
        2. Regla 10.2.5 Normas Generales de Intervención
        3. Regla 10.2.7 Intervención en Espacios Públicos y Estacionamientos donde ubican Sitios y Zonas Históricas
        4. Regla 10.2.8 Obras en las Plazas, Plazuelas, Plazas de Recreo y en las Propiedades Circundantes a éstas, en Zonas Históricas Designadas o en Proceso de Designación
        5. Regla 10.2.9 Estacionamiento en Sitios y Zonas Históricas

6. Regla 10.2.10 Rótulos, Cortinas y Toldos en Sitios y Zonas Históricas
7. Regla 10.2.11 Conservación del Patrimonio Inmueble, Sección 10.2.11.5 Requerimiento de Recomendaciones o Certificaciones

2. Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operaciones de Negocios (RC-2020); registrado en el Departamento de Estado de Puerto Rico bajo el Número 9233 con vigencia de 2 de enero de 2021. Tomos II, III, IV, VI, VII, IX

   a. Regla 2.1.8, Sección 2.1.8.7, Inciso "b": Todo proyecto público o privado que conlleve movimiento de terreno, excavación, extracción de corteza terrestre o construcción, reconstrucciones o canalizaciones deberá solicitar a la División o Unidad de Evaluación Ambiental (DECA) la recomendación del ICP sobre Arqueología y Conservación Histórica, ya sea a través de la OGPe, los Municipios Autónomos con Jerarquía 1 a la III o el Profesional Autorizado.
   b. Regla 2.2.8, Inciso c-10: Consultas de Ubicación a proyectos de mejoras públicas municipales en propiedades y estructuras que ubiquen en los centros fundacionales, dentro de Zonas Históricas o designadas como sitio histórico deberán contar con la recomendación del ICP, previo comienzo de la obra.
   c. Regla 2.3.1: El PA requerirá una Recomendación del ICP en todo aquel permiso único a otorgarse en las estructuras oficialmente designadas e incluidas en el Registro de Sitios y Zonas Históricas de la JP y en los centros fundacionales de los Municipios. Los permisos y determinaciones finales a un permiso de construcción y para la demolición, reparación, restauración o remodelación de una estructura con valor histórico requerirán de la recomendación del ICP.
   d. Regla 3.2.1 Permisos de Construcción, Sección 3.2.1.2, inciso "l": El proyecto que se encuentre en una zona histórica, centros urbanos tradicionales y yacimientos arqueológicos, la OGPe, Los Municipios Autónomos con jerarquías de la I a la III o los PA, requerirán la recomendación escrita del ICP antes de autorizar cualquier permiso de construcción, conforme a la Regla 10.2.11 de Conservación del Patrimonio Inmueble, en el Tomo X de este Reglamento Conjunto.
   e. Regla 3.2.2, inciso "b-6": Si el proyecto se encuentre en una zona histórica, centros urbanos tradicionales y yacimientos arqueológicos, la OGPe, los Municipios Autónomos con Jerarquía I a la III, o los PA, requerirán la recomendación escrita del ICP antes de autorizar la actividad de demolición. En caso de ser una propiedad histórica, estará conforme a lo establecido en este Reglamento Conjunto sobre Conservación de Sitios y Zonas Históricas, entiéndase Tomo X, o cualquier documento formal emitido por las Entidades Gubernamentales Concernidas cuando existe una situación de emergencia previamente decretada por el Gobierno de Puerto Rico o el Gobierno Federal.
   f. Regla 3.2.4 Obras Exentas de Permisos de Construcción
      1. Sección 3.2.4.1 Actividades que no se consideran obras de Construcción, inciso "c": Cuando la actividad se vaya a realizar en Sitios y Zonas Históricas así declaradas por la JP, el ICP o la Asamblea Legislativa, o en otras áreas especiales donde así se establezca mediante Reglamento o resolución, deberá obtener la autorización correspondiente del ICP, mediante una solicitud de recomendación de arqueología y conservación histórica ('SRA").
      2. Sección 3.2.4.2 Obras de Carácter Menor Exentas, inciso "b": Cuando la obra exenta se vaya a realizar en Sitios y Zonas Históricas así declaradas por la JP, el ICP o la Asamblea Legislativa, o en otras áreas especiales donde así se establezca mediante Reglamento o resolución, deberá obtener la autorización correspondiente del ICP, mediante una solicitud de recomendación de arqueología y conservación histórica ('SRA").
   g. Regla 3.5.9 Permiso Formal para la Extracción, Excavación, Remoción y Dragado de los Componentes de la Corteza Terrestre, Sección 3.5.9.4, inciso "u": Recomendación del ICP para el área donde se propone la extracción, cuando la misma haya sido predeterminada por ICP o la Asamblea Legislativa como zona de valor histórico o arqueológico.
   h. Regla 3.7.1 Permiso Único, Sección 3.7.1.7, inciso "g": Se requerirá la recomendación del ICP en Sitios y Zonas históricas antes de expedir este tipo de permiso para actividades cuya duración exceda de treinta (30) días.
   i. Regla 4.4.1.2 Licencias Traficantes al Detalle de Bebidas Alcohólicas, Sección 4.4.1.2, inciso "c": Recomendación del ICP en los casos en que la propiedad ubique en una zona histórica
   j. Regla 6.1.27 Distrito S-H: Sitio Histórico, Sección 6.6.27.2 (ver Tabla 6.85 – Usos permitidos en Distrito S-H) y Sección 6.1.27.4 (ver Tabla 6.86 – Parámetros de Diseño Distrito S-H).
   k. Regla 6.1.28 Distrito C-H: Conservación Histórica, Sección 6.1.28.2 (ver Tabla 6.87 – Usos permitidos en Distrito C-H) y Sección 6.1.28.4 (ver Tabla 6.88- Parámetros de Diseño Distrito C-H).
   l. Regla 7.3.6 Centro Urbano (CU), Sección 7.3.6.1, Inciso "d": Toda intervención en los centros urbanos delimitados se hará en conformidad con el Plan de Ordenación Territorial, Plan de área del Centro Urbano Tradicional o Plan de Rehabilitación del Centro Urbano, cumpliendo con las disposiciones de la Regla 10.2.11 en el Tomo X de este Reglamento Conjunto.
   m. Capítulo 9.1 Obras Eléctricas, Sección 9.1.2.2 inciso "k": Los permisos y autorizaciones en Sitios y Zonas Históricas, Plazas de recreo y bloques circundantes, entiéndase centros fundacionales de los pueblos requerirán de la recomendación del ICP.
   n. Capítulo 9.6 Obras de Acueductos y Alcantarillados, Sección 9.6.2.2, Inciso "l": Los permisos y Autorizaciones en Sitios y Zonas Históricas, plazas de recreo y bloques circundantes, entiéndase centros fundacionales de los pueblos requerirán de la recomendación del ICP.
   o. Capítulo 9.8 Sistemas Individuales de Disposición de Desperdicios Domésticos (SIDDD), Sección 9.8.3.1, inciso "d".
   p. Capítulo 9.11 Proyectos de Construcción, Instalación y Ubicación de Torres e Instalaciones de Telecomunicaciones, Sección 9.11.6.3, inciso "e" Zonas Históricas y Centros Fundacionales.

mgv

GOBIERNO DE PUERTO RICO
Instituto de Cultura Puertorriqueña

25 DE JUNIO DE 2020

ING. GABRIEL HERNÁNDEZ RODRÍGUEZ
Secretario Auxiliar
Oficina de Gerencia de Permisos
PO Box 41179
San Juan, Puerto Rico 00940-1179

NO OBJECIÓN

CASO OGPE: 2020-312378-REA-004325
CASA LINDA APARTMENTS
MUNICIPIO: BAYAMÓN
UBICACIÓN: PR 177 AVENIDA LOS FILTROS
CATASTRO: 084-070-047-13
PROPIETARIO: CASA LINDA DEL SUR ASOCIATES
PROPONENTE: CASA LINDA APARTMENTS LLC

Estimados señores:

El Instituto de Cultura Puertorriqueña (ICP), por medio de su Programa de Patrimonio Histórico Edificado (ICP-PHE), ha examinado el proyecto de referencia para determinar si afecta Propiedades de Valor Histórico y Arquitectónico que estén protegidas, o sean elegibles a serlo, bajo las leyes y reglamentos que nuestra agencia tiene responsabilidad de administrar, como agencia primaria, endosante o recomendante. Estas leyes y reglamentos incluyen, entre otros:

1. La ley 89 del 21 de junio de 1955 S.E., Ley Orgánica del Instituto de Cultura Puertorriqueña, en especial el inciso 4(a)(7), "Determinar que edificios o estructuras son de valor histórico o artístico en Puerto Rico. (…)" y el inciso 4(a)(8), "Asesorar a la Junta de Planificación en la reglamentación de construcción en aquellas zonas que determine como zonas de valor histórico. (…)".
2. La ley 89 del 21 de junio de 1955 S.E., Ley Orgánica del Instituto de Cultura Puertorriqueña, en su inciso 4(b)(3) según enmendado por la ley 119 del 26 de septiembre de 2005, que permite "adoptar, enmendar o derogar, por conducto de su Junta de Directores, las reglas que gobiernen [el] funcionamiento y el descargo de los poderes" concedidos e impuestos al ICP por ley, y la *imposición de multas administrativas y/u otras sanciones por su incumplimiento o violación.*
3. El **Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios**, Reglamento 38 de la Junta de Planificación ("Reglamento Conjunto") con vigencia del 7 de junio de 2019, en todos los incisos aplicables a zonas y sitios históricos, en especial el Tomo X (10), "Conservación de Recursos Históricos" – incluyendo, en las zonas históricas, edificios elegibles, no elegibles, solares vacíos y espacios públicos.
4. Las zonificaciones S-H, antes CR-H o SH, cubiertas por el Tomo VI, Capítulo 6.1 "Áreas Calificadas", Regla 6.1.21 del Reglamento Conjunto.
5. Las disposiciones del Tomo X, Capítulo 10.2 "Conservación de Sitios y Zonas Históricas", Sección 10.2.5.4 y Reglas 10.2.7 y 10.2.8 del Reglamento Conjunto, las que establecen, para los Centros Fundacionales de los Pueblos, así como para las Plazas, Plazuelas y Plazas de Recreo, las reglas de protección del Patrimonio Histórico.
6. La disposición del Tomo X, Capítulo 10.2 "Conservación de Sitios y Zonas Históricas", Sección 10.2.2.4, "Obras Exentas de Permisos", del Reglamento Conjunto la que establece el requerimiento de la Recomendación del ICP en las reparaciones y construcciones misceláneas de carácter menor, incluyendo aplicación de pintura y la limpieza rutinaria o de mantenimiento de la edificación que no conlleve el uso de

maquinaría, químicos o abrasivos y no afecte la integridad de la misma, en los centros fundacionales, sitios y zonas Históricas de Puerto Rico.

7. La Resolución JPE-25 Primera Extensión de 10 de febrero de 2000, la cual requiere evaluación del ICP para consultas y usos a darse a edificios públicos construidos anteriores a 1960.
8. La exigencia de endoso o comentario del ICP aplicable a propiedades designadas de valor histórico y arquitectónico por otros medios, tales como:

    a. Resolución de la Asamblea Legislativa.
    b. Monumentos Históricos designados por la Junta de Directores del ICP.
    c. Propiedades designadas por un plan de ordenamiento territorial de un Municipio Autónomo y que esté en vigor, o por el Plan de Uso de Terrenos de Puerto Rico.
    d. Ser declaradas históricas en un plan especial de zonificación.
    e. Otras propiedades referidas por cualquier componente del Sistema Unificado de Información/Single Business Portal (SUI/SBP), la Oficina de Permisos de un Municipio Autónomo con poder de otorgar permisos, la Junta de Planificación, el Programa de Arqueología y Etnohistoria del ICP, u otra agencia o entidad de gobierno con poder reglamentario.

9. Petición a solicitud voluntaria de un propietario o derechohabiente de una propiedad.

De acuerdo a nuestros expedientes y la información provista:

1. La propiedad es una no elegible en Bayamón.
2. Se propone una remodelación general del edifico existente, construir un edifico multipisos para estacionamientos y un edifico nuevo de apartamentos residenciales.
3. El proyecto propuesto no implica impacto adverso a recursos culturales pertenecientes al patrimonio histórico construido.

Por lo tanto, se emite una determinación de **NO OBJECIÓN AL PROYECTO PROPUESTO.**

Esta evaluación no incluye los elementos a evaluarse conforme a la Ley 112 del 12 de agosto de 1988, Ley de Patrimonio Arqueológico Terrestre, lo cual debe hacerse mediante solicitud separada al Programa de Arqueología y Etnohistoria del **ICP**. Las evaluaciones de ambos programas son necesarias para concluir el proceso con esta agencia.

Este documento tiene vigencia de un año a partir de su emisión.

Sin otro particular, quedo.

Mildred González Valentín, M.Arch.
Subdirectora
Patrimonio Histórico Edificado

MGV/ejc

Cc: Expediente caso PPHE, ICP

Recomendación Ambiental

Casa Linda Apartments

Fecha de Expedición:
03/SEP/2020

Datos de localización

De acuerdo a la información suministrada se propone una actividad Privada en el Distrito de Clasificación identificado a continuación:

Dirección Física
CARR PR-177 INT. AVENIDA NORTE
BO. JUAN SANCHEZ
Bayamón, Puerto Rico, 00956

Número(s) de Catastro
085-070-047-13

Calificación
Distrito(s) de Calificación:
R-A
Distrito en el Mapa de Inundabilidad:
X
Tipo de Suelo:
RpE2 (97.3%), RpD2 (2.7%)

Datos de permiso

Dueño
Casa Linda Apartments LLC

Cabida (Área Total Según Escritura)
19846.04 MC

Servidumbres Existentes
NINGUNA

Comentarios de las Divisiones al Permiso

Infraestructura

Recomendación Infraestructura:

Autoridad de Carreteras y Transportación:
ACT contesta REA - El Programa de Construcción y Mejoras Permanentes vigente de esta Autoridad no incluye proyectos programados que pudieran verse afectados por la acción propuesta. En cuanto al aspecto ambiental no tenemos comentarios.

Autoridad de Energía Eléctrica:
La AEE Contesta REA – Requiere SRI La Autoridad de Energía Eléctrica (AEE) desde el punto de vista ambiental, no tiene objeción al proyecto propuesto. No obstante, el proyecto según presentado requiere de una evaluación eléctrica. De acuerdo a la Regla 115.D.2 y 3 del Reglamento de Evaluación y Trámite de Documentos Ambientales se deberá discutir el impacto ambiental de cada actividad propuesta que afecte nuestra infraestructura y determinar la disponibilidad de la misma antes de la presentación de un documento ambiental. A esos efectos, deberá incorporar en el Documento Ambiental correspondiente las recomendaciones de la evaluación eléctrica realizada por la AEE que se obtenga mediante la Solicitud de Recomendación de Infraestructura (SRI) de la Oficina de Gerencia de Permisos. Le recordamos que la evaluación eléctrica caduca al año de realizada. De no comenzar sus trabajos en ese periodo, deberá solicitar una nueva evaluación eléctrica. Este comunicado no constituirá un endoso a la referida acción. Una vez cumplan con las condiciones que se establezcan en la correspondiente evaluación eléctrica, la acción

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propuesta se considerará endosada.

Autoridad de Acueductos y Alcantarillados:
2020-312378-REA-004325
Casa Linda Apartments
La Autoridad de Acueductos y Alcantarillados (AAA) evaluó el documento sometido en cumplimiento de su deber como agencia evaluadora, específicamente los aspectos ambientales exclusivos a nuestra jurisdicción y peritaje.
Según los documentos sometidos, El proyecto propone la remodelación del residencial Casa Linda del Sur y la construcción de un multi pisos para estacionamiento y 52 nuevos apartamentos. El mismo está localizado en la PR-177 int. Avenida Los Filtros (Norte), Barrio Juan Sánchez, Municipio de Bayamón. De manera preliminar, no se identifica que dicha propuesta según descrita en documentos presente un impacto en términos ambientales para la Autoridad de Acueductos y Alcantarillados.
Destacamos del proyecto requerir servicio de agua potable y/o alcantarillado sanitario, o identificación de utilidades; el Proponente deberá someter una Solicitud de Recomendación de infraestructura (SRI) ante la Oficina de Gerencia de Permisos (OGPe).
En la evaluación se determinará la disponibilidad de los servicios de agua y alcantarillado sanitario que puedan servir al mismo, requisitos y/o condiciones de endoso para conectar el proyecto. Dichas condiciones pueden incluir, pero no se limitan a:
• Obras de Aumento de capacidad en el sistema potable como de alcantarillado sanitario.
• Relocalización de utilidades de la AAA e identificación de servidumbres.
• Construcción de obras extramuros.
Esta comunicación no implica una autorización para que se conecten los servicios de agua y alcantarillado. El proponente será responsable de identificar y de reparar a su costo cualquier daño que pueda causar a las utilidades existentes de la Autoridad.

Junta Reglamentadora de Telecomunicaciones (JRTPR):
NETPR 2020-312378-REA-004325- Requisitos de Estricto Cumplimiento - El Negociado de Telecomunicaciones (NET) tiene los siguientes comentarios: El proyecto según presentado requiere de una evaluación técnica. Respecto a las recomendaciones para la instalación de infraestructura, la Parte Proponente continuará el trámite a través de la Oficina de Gerencias de Permisos (OGPe). A tales efectos autenticará con su firma digital y sello el formulario de Solicitud NETPR - F101. Es un deber esencial que la Parte Proponente certifique por ese medio, cualquier especificación, con especial atención a la infraestructura de telecomunicaciones y los puntos de conexión. 1. El dueño a través del proyectista solicitará al NET un punto de conexión a la infraestructura de telecomunicaciones. 2. Más adelante presentará para recomendaciones y posterior autorización, un Plano de Infraestructura Soterrada de Telecomunicaciones donde certifique los requeridos detalles mínimos de construcción. Previo al otorgamiento del Permiso de Construcción, presentará a la consideración del NET un Plano de Infraestructura de Telecomunicaciones para Aprobación Final. 1. En específico el dueño o su representante

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constituirán mediante Plano de Inscripción y Escritura la Servidumbre de Infraestructura Soterrada de Telecomunicaciones, en estricto cumplimiento con las disposiciones del Reglamento para Endosos de Planos de Infraestructura y Servidumbres para Facilidades de Telecomunicaciones y Televisión de la Junta Reglamentadora de Telecomunicaciones de Puerto Rico, Reglamento 7393, revisado". 2. Cuando la obra esté parcial o totalmente construida, presentará una Solicitud de Inspección para la requerida Certificación de Obras Construidas (COC). La COC es un requisito mandatorio para solicitar el Permiso de Uso. En cuanto a etapas posteriores de permisos, de acuerdo con las instrucciones vertidas esta recomendación está condicionada al cumplimiento específico de notificación a la Sección de Infraestructura del NET. Toda propuesta que incluya cambios que afecten nuestra infraestructura se diseñará de conformidad con las normas aplicables tal como surge del descrito Reglamento 7393, revisado". La parte proponente representará la infraestructura proyectada y determinará su viabilidad. A esos efectos, deberá incorporar en los correspondientes documentos de construcción las recomendaciones de la evaluación realizada por el NET que se obtengan prospectivamente mediante la Solicitud de Recomendación de Infraestructura (SRI) de la Oficina de Gerencia de Permisos. En las referidas etapas la Parte Proponente solicitará nuevas recomendaciones de infraestructura de telecomunicaciones. En tal eventualidad se radicarán planos certificados con el propuesto punto de conexión y los detalles de la infraestructura de telecomunicaciones. De ser necesaria una Relocalización de Planta, se exige el estricto cumplimiento con la sección 3.09 del Reglamento 7393, revisado. Estas instrucciones no constituyen una recomendación favorable a la referida acción, ni representa un relevo de cumplimiento respecto a todos los reglamentos aplicables. El NET ejercerá la autoridad delegada, evaluará cada fase inconclusa del proceso de permisos y cuando sea necesario solicitará información adicional. Este Negociado auditará el cumplimiento de todo requisito aplicable a la otorgación de autorizaciones con la facultad disponible para notificar procedimientos administrativos.

Medioambiente

La División de Medioambiente de la OGPe realizó una búsqueda en el Sistema de Información Geográfica (GIS) de la Junta de Planificación y no encontró en el área de la actividad propuesta hábitat crítico, elementos críticos ni área de Prioridad de Conservación. La División de Medioambiente no tiene objeción a la actividad propuesta. No obstante, deberá cumplir con lo siguiente:

1) Previo a cualquier extracción de la corteza terrestre deberá cumplir con la Regla 3.4.1 - Permiso Único Incidental Operacional y con el inciso (a) de la Sección 3.4.1.3 –Actividad Incidental a una Obra del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Se le aperçibe que la Ley Núm. 132 de 25 de junio de 1968, según enmendada y su Reglamento, prohíben la extracción, excavación, remoción y dragado de material de la corteza terrestre sin el permiso correspondiente.

2) De ser necesario el corte de árboles, deberá cumplir con las Reglas 3.4.1 - Permiso Único Incidental Operacional y con la Regla 3.4.2 Requisitos para las Mitigaciones y Siembras de Árboles del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Se le apercibe que la Ley Núm. 133 de 1 de julio de 1975, según enmendada prohíbe el corte y poda de árboles sin el permiso correspondiente.

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3) Deberá establecer un programa de reforestación utilizando especies nativas que además de ayudar a minimizar la erosión beneficien la vida silvestre. Esta medida es cónsona con la Ley para Fomentar la Siembra de Árboles Cuyas Frutas y/o Semillas Provean Alimento a Especies de Aves Silvestres de Puerto Rico (Ley Núm. 97 de 24 de junio de 1998), la cual establece lo siguiente: "En todo proyecto de reforestación en que se utilicen fondos públicos o privados, o en una combinación de estos, un 15% en las áreas rurales y un 10% en las áreas urbanas del total de árboles a ser sembrados, serán de especies cuyas frutas y/o semillas sirvan de alimento a las aves silvestres que residan temporal o permanentemente en ésta".

4) De descubrirse en el predio objeto de desarrollo algún cuerpo de agua superficial o subterráneo, sea perenne o intermitente, deberá informarlo inmediatamente al DRNA y demás agencias concernidas. No informar hallazgos de este tipo, así como las medidas de mitigación que se implantarán para proteger estos recursos naturales conllevará una revocación automática de la presente comunicación de no objeción y podrá ser base para acciones legales por parte de la Junta de Planificación (JP)e en los foros correspondientes.

5) Deberá Presentar Certificación de Hábitat, según el Capítulo 9.13 del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Dicha Certificación deberá ser tramitada en el DRNA, en conformidad con la Ley Núm. 241 de 15 de agosto de 1999, La Nueva Ley de Vida Silvestre de Puerto Rico, el Reglamento 6765 Reglamento para Regir La Conservación y el Manejo de La Vida Silvestre, Las Especies Exóticas y la Caza en el Estado Libre Asociado de Puerto Rico y la Orden Administrativa Núm. 2010-09, Para Establecer los Procedimientos y Requisitos Para La Evaluación, Categorización y Mitigación de Hábitats.

6) Para la fase de Permiso Construcción deberá cumplir con la Sección 5.1.2.2 Análisis de Riesgos a Deslizamientos y otras Condiciones del Subsuelo del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019 el cual indica que para todo proyecto de urbanización, incluyendo urbanizaciones vía excepción, se tomará en consideración el riesgo a deslizamientos y otras condiciones del subsuelo mediante la presentación de un estudio geotécnico certificado por un ingeniero licenciado que evalúe la geología e hidrología del terreno, presencia de fallas geológicas, historial de deslizamientos en la zona, susceptibilidad del terreno a los mismos, topografía, presencia del materiales de depósitos de deslizamientos (QI) según descritos en los cuadrángulos geológicos de Puerto Rico por el USGS y las propiedades ingenieriles del subsuelo, entre otros.

7) Para la fase de permiso de Construcción deberá cumplir con las disposiciones de la Sección 5.1.9.4 (Manejo de Aguas Pluviales) del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

8) Para la fase de Permiso de Construcción y de tener alguna descarga de escorrentía a cualquier cuerpo de agua durante la operación, deberá consultar a la Agencia Federal de Protección Ambiental para

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determinar si dichas descargas requieren un permiso "NPDES" de acuerdo al Código Federal de Reglamentación Número 40, Sección 122.26 (b) (14) (x).

9) Para la fase de Permiso de Construcción será responsabilidad del Peticionario previo las labores de remoción de extracción de los materiales de la corteza terrestre el obtener y mantener en vigor el Permiso General Consolidado por la Oficina de Gerencias de Permisos (OGPe) para el área de operaciones objeto del permiso" a través de la Regla 3.4.1 - Permiso Único Incidental Operacional del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

Esta recomendación es solamente aplicable a la situación de hechos y los datos según presentados y evaluados en el caso y el Secretario Auxiliar se reserva el derecho de reevaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o la acción administrativa correspondiente por parte de la agencia solicitante o proponente cuando surja nueva información oficial específica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente, o cuando el endoso original se emitió bajo premisas falsas o fraudulentas.

ADS:

16 de junio de 2020 DRNA/ADS-Medioambiente SUPERSIP-2020-312378-REA-004325 Proyecto Residencial Casa Linda del Sur Municipio de Bayamón La División de Medioambiente de OGPe y la Autoridad de Desperdicios Sólidos (ADS) consolidada con el Departamento de Recursos Naturales y Ambientales (DRNA), recibió la solicitud de recomendación ambiental para el proyecto en referencia. El proyecto propone la remodelación del residencial Casa Linda del Sur y la construcción de un multipisos para estacionamiento y 52 nuevos apartamentos. El mismo está localizado en la PR-177 int. Avenida Los Filtros (Norte), Barrio Juan Sánchez, Municipio de Bayamón. Luego de revisar la información suministrada, la agencia no objeta la acción propuesta, ya que la misma no tiene aspectos contrarios a la política pública nuestra. Sin embargo, el proponente cumplirá con las siguientes leyes y reglamentos relacionados con el manejo y disposición de los residuos sólidos y materiales reciclables: 1. Ley Núm. 70, de 18 de septiembre de 1992, Ley para la Reducción y Reciclaje de los Desperdicios Sólidos, según enmendada, establece el desarrollo e implantación de estrategias económicamente viables y ambientalmente seguras que resulten en la disminución del volumen de desperdicios sólidos que requerirá disposición final. Como parte de estas estrategias, se considera necesario modificar las prácticas de manejo y disposición existentes para reducir la intensidad de uso de los Sistemas de Relleno Sanitario (SRS) del país. 2. Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos (Reglamento Núm. 6825 de 15 de junio de 2004), según enmendado. Aplicará a toda persona, natural o jurídica, ya sea municipios, cooperativas, industrias, comunidades, condominios, complejos de vivienda vertical tipo "walk-up", residenciales público, agencias gubernamentales, empresas o instituciones privadas (comercios y organizaciones sin fines de lucro) y empresas comunitarias que generen o manejen desperdicios sólidos, que contengan material reciclable, dentro de la jurisdicción del Estado Libre Asociado de Puerto Rico. 3. Reglamento Conjunto para la

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Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de terrenos y Operación de Negocios (Reglamento Conjunto) de 7 de junio de 2019. El proponente cumplirá con la información requerida, según lo dispuesto en: a. Capítulo 3.2 Edificación y Conservación de Energía. Regla 3.2.1 Permiso de Construcción. Sección 3.2. 1.1-Disposiciones Generales Sección 3.2.1.2 Requisitos de Presentación (j) Plan de Reciclaje. (k) b. Capítulo 3.4 Permisos de Medioambiente Regla 3.4.1 Permiso Único Incidental Operacional • Sección 3.4.1.1 Disposiciones Generales • Sección 3.4.1.2 Aplicabilidad C-1 b. Se deberán presentar alternativas para el manejo y disposición del material vegetativo generado en el caso de corte y poda conforme al Capítulo IX del Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos, según enmendado (Reglamento 6825). c. Capítulo 9.9, Desperdicios Sólidos Regla 9.9.1 Disposición General Regla 9.9.2 Disposición de los Desperdicios Sólidos No Reciclables Regla 9.9.3 Centro de Recuperación de Materiales Reciclables (CRMR) • Sección 9.9.3.1 • Sección 9.9.3.2 • Sección 9.9.3.7 Los siguientes aspectos serán incorporados en el proyecto propuesto: 1. Notificar al Coordinador de Reciclaje Municipal sobre las áreas designadas para la recuperación y disposición de los materiales reciclables. Si el municipio tiene recogido de materiales reciclables en el área, deberá incluir el mismo. 2. Indicar el responsable del recogido y disposición de los desperdicios sólidos (privado o municipal). 3. Implantar técnicas de prevención de contaminación: • Utilizar productos sin materiales tóxicos. • Emplear materiales reusables o reciclables. • Mantener los contaminantes segregados. • Conservar el agua y los recursos energéticos. • Rotular recipientes y contenedores, apropiadamente, para lo que estén designados. Las recomendaciones emitidas aplican a los hechos presentados y evaluados al momento. La OGPe y agencia se reservan el derecho de reevaluar y modificar los mismos en el caso de surgir información oficial que identifique que las condiciones han cambiado, o cuando los comentarios hayan sido emitidos bajo premisas falsas. Además, la agencia tiene la facultad de solicitar cualquier información adicional que entienda pertinente y que, de conformidad con las leyes y reglamentaciones vigentes, garantice el interés público y la protección del ambiente.

Arqueología y Conservación Histórica

COMENTARIO DACH-ICP A CASO NÚM. 2020-312378-REA-004325: I. BASE LEGAL: Se emite el siguiente comentario en base a la Ley 374 del 14 de marzo de 1949, según enmendada, Ley de Zonas Antiguas o Históricas y Zonas de Interés Turístico, Ley 3 del 2 de marzo de 1951, Ley de Edificios y otras Estructuras Históricas y la Ley 89 del 21 de junio de 1955, según enmendada, conocida como Ley Orgánica del Instituto de Cultura Puertorriqueña y la Ley 161 del 1 de diciembre de 2009, conocida como Ley para la Reforma del Proceso de Permisos de Puerto Rico. Estas leyes le confieren jurisdicción sobre los siguientes asuntos: 1. Edificios, lugares y zonas incluidas en el Registro de Sitios y Zonas Históricas de Puerto Rico de la Junta de Planificación (REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); 2. Edificios, lugares y zonas declaradas históricas a través de legislación (o de resolución de la JUNTA DE DIRECTORES DEL ICP; 3. Plazas de recreo y edificios circundantes (REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); 4. Propiedades zonificadas "P" construidas previo a 1960 (RESOLUCIÓN JPE-25 Y RESOLUCIÓN JPE-047); 5. Propiedades zonificadas "CRH", "SH" o "R-ZH"- Según REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENO; 6. Propiedades elegibles a sitios históricos; propiedades de valor histórico que satisfacen los criterios de elegibilidad como sitios históricos para ser designada como tal individualmente (LEY NÚM. 89 DE

Recomendación Ambiental

1955; REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); II. EVALUACION: El Instituto de Cultura Puertorriqueña a través de los Programas de Patrimonio Histórico Edificado y Arqueología y Etnohistoria han evaluado los documentos relacionados al proyecto de referencia, recibidos a través de la División de Arqueología y Conservación Histórica de la Oficina de Gerencia de Permisos (OGPe). El Programa de Patrimonio Histórico Edificado, en comunicación del 25 de junio de 2020, emitió los siguientes comentarios: "De acuerdo a nuestros expedientes y la información provista: 1. La propiedad es una no elegible en Bayamón. 2. Se propone una remodelación general del edifico existente, construir un edifico multipisos para estacionamientos y un edifico nuevo de apartamentos residenciales. 3. El proyecto propuesto no implica impacto adverso a recursos culturales pertenecientes al patrimonio histórico construido. Por lo tanto, se emite una determinación de NO OBJECIÓN AL PROYECTO PROPUESTO. Esta evaluación no incluye los elementos a evaluarse conforme a la Ley 112 del 12 de agosto de 1988, Ley de Patrimonio Arqueológico Terrestre, lo cual debe hacerse mediante solicitud separada al Programa de Arqueología y Etnohistoria del ICP. Las evaluaciones de ambos programas son necesarias para concluir el proceso con esta agencia. Este documento tiene vigencia de un año a partir de su emisión." Por su parte, el Programa de Arqueología y Etnohistoria evaluó los documentos relacionados al proyecto de referencia, indicando lo siguiente en carta del 2 de septiembre de 2020: "La evaluación realizada sugiere que, basado en los datos existentes al presente, las probabilidades de impactar un recurso arqueológico, según definido por la Ley 112 del 20 de julio de 1988, según enmendada, son mínimas. Por lo tanto, en lo concerniente a recursos culturales de naturaleza arqueológica, no tenemos objeción al proyecto según fue radicado y evaluado. Le notificamos que esta autorización es de tipo parcial y que el proponente queda sujeto a las responsabilidades y obligaciones que impone la Ley 112 del 20 de julio de 1988, según enmendada. Esta establece que, se deberá paralizar todo tipo de actividad de excavación, movimiento y remoción de la corteza terrestre, y notificar en un plazo de veinticuatro (24) horas al Consejo de Arqueología Terrestre, en caso de que, durante el desarrollo del proyecto, se descubra o impacte algún depósito, elemento, estructura o vestigio de naturaleza arqueológica. Se le apercibe que el incumplimiento de estos requerimientos podrá ser objeto de sanciones administrativas según lo establecido en las citadas leyes. Esta autorización tiene vigencia de (1) año." III. RECOMENDACIÓN: La División de Arqueología y Conservación Histórica de la OGPe recomienda favorablemente el proyecto, según recomendado por los Programas que componen el Instituto de Cultura Puertorriqueña. Se anejan documentos.

División de Evaluación de Cumplimiento Ambiental

En el Documento de Evaluación Ambiental (DEA) que se someta se deberá atender los comentarios y requerimientos que hayan emitido las agencias comentadoras. La DEA deberá ser tramitada a través del Single Business Portal (SBP).

Se incluyen los comentarios del Departamento de Recursos Naturales y Ambientales (Junta de Calidad Ambiental), emitidos en carta fechada 9 de julio de 2020.

Condiciones Generales

Recomendación Ambiental

Condiciones Generales

Esta recomendación es solamente aplicable a la situación de hechos y los datos según presentados y evaluados en el caso. La OGPe se reserva el derecho de reevaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o requerir la acción administrativa correspondiente por parte de la agencia solicitante o proponente cuando surja nueva información oficial específica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente, o cuando la recomendación original se emitió bajo premisas falsas o fraudulentas.

Habido recibido los comentarios de las agencias gubernamentales concernidas. Esta información será utilizada para la presentación del Documento Ambiental correspondiente a ser evaluado por la División de Evaluación de Cumplimiento Ambiental.

Vigencia

Las vigencias de las diferentes agencias del proceso de recomendación serán los establecidos en las comunicaciones que en estas emitan conforme a sus reglamentos. Esta recomendación ambiental tendrá una vigencia de trescientos sesenta y cinco (365) días a partir de su expedición.

Condiciones Especiales

NINGUNA

Firma / Sellos

Fecha de Expedición:
03/SEP/2020

Ing. Gabriel Hernández
Secretario Auxiliar
Departamento de Desarrollo Económico y Comercio de Puerto Rico
Oficina de Gerencia de Permisos

Exhibit C

CTS GROUP INC.
ENGINEERS & ENVIRONMENTAL CONSULTANTS

PREPARED FOR:

PR HOUSING
FINANCE AUTHORITY
SAN JUAN, PR.

CASA LINDA APARTMENTS LLC.
SAN JUAN, PR.

PREPARED BY:

CTS GROUP, INC.
SAN JUAN, PR.

DATABASES SEARCH
PROVIDED BY:

EDR LIGHTBOX



ESA PHASE I

ASTM E1527-13

SITE: CASA LINDA DEL SUR APARTMENT
WEST OF NORTH AVE. & SOUTH OF PR-177
JUAN SANCHEZ WARD
BAYAMÓN, PUERTO RICO.

PROJECT ID: CLS-11-021
SUPPORT: INFO@CTSGROUPPR.COM

NOVEMBER 25, 2021

Background and Disclaimer: The purpose of an environmental site assessment is to identify actual or potential "recognized environmental conditions" that may result in liability or land use restrictions. The ASTM 1527-13 Environmental Site Assessment is the minimum standard for environmental due diligence in the commercial real estate industry and currently meet the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfield's redevelopment Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practice was undertaken to identify the "recognize environmental conditions" that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, CTS Group, Inc. cannot state with absolute certainty that no other potentially hazardous waste site is located in the area.

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1.0 EXECUTIVE SUMMARY

Mr. Enrique A. Nodarse acting as an authorized representative of Casa Linda Apartments LLC. engaged CTS Group Inc. to conduct a Phase I Environmental Site Assessments (ESA) at a commercial property located at West of North Avenue and south of Road PR-177, Juan Sanchez Ward, Bayamón Municipality in Puerto Rico. The property is currently operating as a residential project under the commercial name of Casa Linda del Sur Apartments. This property will be subsequently referred to in this report as "the subject property". This assessment was prepared in accordance with the American Society of Testing Materials (ASTM) Standard Practice for Phase I Environmental Site Assessments Process (ASTM Designation E1527-13).

The purpose of the Phase I was to evaluate environmental concerns or issues with respect to the range of contaminants within the scope of the Comprehensive Environmental Response and Liability Act (CERCLA) and petroleum products that may be associated with the Subject Property, based upon readily available information and site observations. In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a property, the goal of the processes established by this practice is to identify *"Recognized Environmental Conditions (REC)"*. A REC means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. The term is not intended to include *de minimis* conditions that generally do not present a threat to the human health or the environment and that generally would not be subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The subject project site lies in an area zoned R-A (High Density Residential), as it appears on the last revised Puerto Rico Planning Board Map for the Bayamon Municipality. This R-A zoning district was established to classify urban areas having a high-density residential character located near major roads, commercial areas, schools and public transportation, having infrastructure already in place including sanitary sewer, water and electricity. A complete zoning compliance assessment is beyond the scope of this Environmental Site Assessment. As per the Federal Emergency Management Agency (FEMA) flood insurance rate maps No. 72000C0345J and No. 72000C0365J for the Commonwealth of Puerto Rico, last revised on November 18, 2009, the subject project site has been placed under a Zone X, which is defined as an area of minimal flood hazard. The environmental professional, however, is not qualified to determine the flooding conditions of the subject site. The Subject Site is

assumed to be free of adverse floodable conditions that might affect its intended development, and no liability or responsibility is assumed in this respect. Further analysis of the flood insurance or flood certification is beyond the scope of this Environmental Assessment.

The Municipality of Bayamon was contacted in order to obtain information in connection with the subject property. During a phone conversation and while being interviewed Mr. Manuel J. Felix Ortiz director of the Office for Emergency Management indicated that there is not information in record connecting the subject and adjoining properties with any incident or violation that would result in the presence of a Recognized Environmental Condition. Mr. Tommy Figueroa Cortez director of the Public Works Department was also interviewed; and based on his statement, there is not record in the public Works Department connecting the subject Property with any environmentally related incident or violation that will result in a risk for the human health and/or the presence of contaminants at the subject property. After reviewing the available documentation in the U.S. EPA and the PR Environmental Quality Board's Underground Storage Tank Program in connection with the subject property, no information was found that would affect the professional opinion issued in this report. A letter was sent on October 12, 2021 to the Puerto Rico Environmental Quality Board requesting information regarding any environmentally related incident or violation in connection with the commercial operations of the subject property and the rest of the business in the subject's immediate vicinity. As of the completion of this report, CTS Group, Inc. has not yet received a response to the letter sent to the PR EQB requesting information (Copy of the communication is included in Appendix V of this report. No other responsive records have been received. Responses from agencies not yet received will be forwarded to Marie Housing, LLC. upon receipt with recommendations. After reviewing the available documentation in the U.S. EPA and the PR Environmental Quality Board's Underground Storage Tank Program in connection with the subject property, no information was found that would affect the professional opinion issued in this report.

The inspection of the subject property surrounding yield the following results:

- There is no evidence of oily films on standing water.
- There is no evidence of discolored and oil stained floors.
- There is no evidence of discarded chemical containers.
- There is no evidence of waste pipes, buried waste.
- There is no evidence of distressed vegetation.
- There is no presence of unusual odors.
- There is no evidence of a LUST Facility at the subject property

- There is no evidence of a LUST Facility at any of the adjoining properties.

The results of this assessment have revealed no Recognized Environmental Conditions associated with the Subject Property.

The results of this assessment have revealed no Controlled Recognized Environmental Conditions associated with the Subject Property.

The results of this assessment have revealed no Historical Recognized Environmental Condition associated with the Subject Property.

The results of this assessment have revealed no De *Minimis Condition* associated with the Subject Property.

It is our professional opinion that due to the fact that no Recognized Environmental Conditions were identified during this assessment, there is no need to conduct any further study or testing in the subject property, unless there is a change of the current operations as describes herein. No Data Gap was identified while conducting the research for this Environmental Site Assessment that could have a significant impact in the findings described herein. Except for the limitations and exceptions discussed in Section 2.3, this Phase I ESA complies with the ASTM Standard 1527-13.

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of a vacant undeveloped commercial property located at Road PR-177, Juan Sanchez Ward, Bayamón Municipality in Puerto Rico. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property. Any exception to, or deletions from, this practice are described in Section 13.0 of this report. The Findings, Opinions, and Conclusion sections of this report are based on sections 12.5, 12.6, and 12.8 of ASTM E 1527-13, respectively. This assessment has revealed no evidence of recognized environmental conditions in connection with the subject property.

2.0 INTRODUCTION

CTS Group, Inc. conducted a Phase I Environmental Site Assessment of a commercial property operating under the commercial name of Casa Linda del Sur Apartments located at Road PR-177, Juan Sanchez Ward, Bayamón Municipality in Puerto Rico. The subject property refers to a residential project consisting of an I-shaped building which are divided in three wings and identified as North, South and Center winds respectively. This Phase I ESA is being conducted as required by the Puerto Rico Housing Finance Authority to comply with the federal and state requirements of a guaranteed commercial banking transaction in the Commonwealth of Puerto Rico.

2.1 Purpose

The purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products*. As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner*, *contiguous property owner*, or *bona fide prospective purchaser* limitations on CERCLA liability (hereinafter, the "*landowner liability protections*," or "*LLPs*"): that is, the practice that constitutes *all appropriate inquiries* into the previous ownership and uses of the *property* consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B). Controlled substances are not included within the scope of this standard.

2.2 Detailed scope of Services

CTS Group, Inc. was engaged by Mr. Enrique A. Nodarse acting as an authorized representative of Casa Linda Apartments LLC. to conduct an ESA Phase I to conform to ASTM 1527-13. Casa Linda Apartments LLC. and its representative understand that it is the professional obligation of CTS Group, Inc. to report the findings from the assessment being conducted. The scope of services for this project included a visual reconnaissance of the site and neighboring properties; review of readily available Federal, state, and local regulatory records; examination when available of historic information and evaluation of current and past operations and activities on-site. Matrix reviewed/utilized historic aerial photographs, Sanborn Fire Insurance Maps, historic topographic maps and city directories as part of the Phase I ESA. Additionally, a regulatory database search was conducted by CTS Group, Inc. for information available in governmental databases. The Phase I ESA also included an initial Vapor Encroachment Screening (VES) to determine if a Vapor Encroachment Condition

(VEC) is identified for the Target Property TP (that is, the presence or likely presence of Chemicals of Concern (COC) vapors in the subsurface of the TP caused by the release of vapors from contaminated soil and/or groundwater either on or near the TP as identified by the Tier 1 procedure of ASTM E2600-10. As required by the ASTM 1527-13 standard, a Phase I ESA consists of four components which are being described below:

Records Review

Review of property deeds, titles, and any other pertinent legal record. Review of available records, including permitting, topographic maps, geological maps, aerial pictures and historical records. The database of the U.S. Environmental Protection Agency and the Puerto Rico Environmental Quality Board were reviewed to determine if any regulated facilities were located at the subject property or in its vicinity.

Site Reconnaissance

A site reconnaissance of the subject property and adjoining properties will be conducted to identify if there is the presence of any Recognized Environmental Condition.

Interviews

CTS Group, Inc. will perform a series of interviews with present and past owners of the subject property, neighbors and owners of adjoining property, and local and state government officials.

Preparation of final Report

This Final Report will reveal the Environmental Professional evaluation of findings after conducting an ASTM E1527-13 Phase I ESA at the subject property.

2.3 Significant Assumptions

CTS Group, Inc. assumes that the reports, documents and general and specific information provided by the client, government agencies and the people interviewed while conducting this study are complete and reliable. No other significant assumptions have been made while performing this Phase I ESA.

2.4 Limitations and Exceptions

The purpose of an environmental site assessment is to identify actual or potential "recognized environmental conditions" that may result in liability or land use restrictions. The ASTM 1527-13 Environmental Site Assessment is the minimum

standard for environmental due diligence in the commercial real estate industry and currently meet the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfield's redevelopment Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practice was undertaken to identify the "recognized environmental conditions" that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, CTS Group, Inc. cannot state with absolute certainty that no other potentially hazardous waste sites are located in the area. This assessment reflects the normal degree of care and skill that is ordinarily exercised by environmental professionals conducting business in this or similar localities. In no event, shall CTS Group, Inc., or its employees be liable for any damages, injury, loss, cost, or expenses whatsoever arising in connection with the use or reliance on the information contained in this report, except as otherwise provided by law. As part of this assessment, CTS Group, Inc. submitted requests for information via the Freedom of Information Act (FOIA) and Office of Public Records Act (OPRA) to various governmental agencies. As of the preparation of this report, these requests may not have been fulfilled. The conclusions of this report are subject to change upon receipt of a response from these FOIA and OPRA requests. Where access to portions of the subject property or to structures on the site was unavailable or limited, CTS Group, Inc. renders no opinion as to the presence of direct or indirect evidence relating to petroleum substances, hazardous substances or both in that portion of the site or structure. In addition, CTS Group, Inc. renders no opinion as to the presence of indirect evidence related to hazardous material or oil where direct observation of the ground surface, interior walls, floors, ceilings, or a structure is obstructed by objects or materials, including snow, covering on or over these surfaces.

The information in this report is based on the review of available historical documents, governmental databases, deed records, aerial photographs, governmental environmental files, conducted interviews with past/present owners and neighbors, and a site reconnaissance of the area by the environmental professional. The result of this assessment, as written in this report, is valid as of the date of report. The assessment does not include sampling of soil, rock, groundwater, surface water, or air. Mold, indoor air quality, asbestos, and lead-based paint surveys are excluded from the scope of this report.

2.5 Special Terms and Conditions

The Phase I ESA was conducted in conformance with the scope and limitations of ASTM designation E 1527-13 standard practice. There are no special terms or

conditions to the content of the report that are in addition to the scope outlined in Section 2.2.

Authorization to perform this assessment was given by Mr. Enrique A. Nodarse acting as an authorized representative of Casa Linda Apartments LLC. Instructions as to the location of the subject property, access, and an explanation of the subject property and facilities to be assessed were provided by Mr. Alejandro Nazario.

The following is a list of terminology that is used throughout this report and therefore should be defined:

Actual Knowledge: The knowledge actually possessed by an individual who is a real person, rather than an entity.

Adjoining Properties: Any real property or properties the border of which is contiguous or partially contiguous with that of the subject property, or that would be contiguous or partially contiguous with that of the subject property but for a street, road, or another public thoroughfare separating them.

All Appropriate Inquiry: That inquiry constituting "all appropriate inquiry into previous ownership and uses of the subject property consistent with good commercial or customary practice", as defined in CERCLA, 42 U.S.C 9607 (b)(3), 9607 (q); and 9607 (r), assuming compliance with other elements of the defense.

Activity and Use Limitation (AUL): Legal or physical restrictions or limitations on the use of, or access to, a site or facility: (1) to reduce or eliminate potential exposure to hazardous substances or petroleum products in the soil, soil vapor, groundwater, and/or surface water on the property, or (2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.

Area of Concern (AOC) (defined by the Approximate Minimum Search Distance)*:* Records to be reviewed pertain to the *TP* and to properties within the *AOC* (that is, within the *approximate minimum search distance*). The *AOC* is one third of a mile around the *TP*.

Business Environmental Risk: A risk which can have a material environmental or environmentally driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in the E 1527-13 practice. Considerations of business environmental risk may involve addressing one or more non-scope considerations.

Chemical(s) of Concern (COC): Chemical that is present in the subsurface environment and can potentially migrate as a vapor into the sub-surface of the TP.

Controlled Recognized Environmental Condition: A REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a NFA letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls).

Data Failure: A failure to achieve the historical research objectives of ASTM 1527-13 even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

Data Gap: A lack of or inability to obtain information required by ASTM 1527-13 despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by the ASTM 1527-13, including, but not limited to, site reconnaissance (for example, an inability to conduct the subject property visit) and interviews (for example, an inability to interview the key subject property manager, regulatory officials, etc.).

De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are neither, recognized environmental conditions nor controlled recognized environmental conditions.

Due Diligence: The process of inquiring into the environmental characteristics of a parcel of commercial real estate or other conditions, usually in connection with a property transaction.

Environmental Professional: A person meeting the education, training and experience requirements, as set forth in the ASTM E 1527-13 practice.

Hazardous Substance: A substance defined as a hazardous substance pursuant to CERCLA 42 USC 9601(14), as interpreted by USEPA regulations and the courts.

Historical Recognized Environmental Condition: A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without

subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls). Before calling the past release and HREC, the EP must determine whether the past release is a REC at the time the Phase I ESA is conducted (e.g., if there has been a change in the regulatory criteria). If the EP considers this past release to be a REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a REC.

Migrate/ Migration: Refers to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.

Obvious: That which is plain or evident; a condition or fact that could not be ignored or overlooked by a reasonable observer while visually or physically observing the subject property.

Occupants: Those tenants, subtenants, or other persons or entities using the subject property or a portion of the subject property.

Owner: Generally, the fee owner of record of the subject property.

Practically Reviewable: Information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the subject property without the need for extraordinary analysis of irrelevant data.

Reasonable Ascertainable: Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable.

Recognized Environmental Conditions: The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

Subject Property: The real estate property that is the subject of this ESA.

Target Property (TP): Property involved in the real estate transaction that is the subject of the VES defined by this guide.

User: The party seeking to use Practice E 1527-13 to perform an environmental site assessment of the subject property.

Vapor Encroachment Condition (VEC): Presence or likely presence of COC vapors in the subsurface of the TP caused by the release of vapors from contaminated soil or groundwater or both either on or near the TP as identified by the *VES*.

2.6 User Reliance

While conducting a Phase I – Environmental Site Assessments, as recommended by ASTM E-1527-13, an environmental professional is not required to verify independently the information provided but may rely on information provided unless he or she has actual knowledge that certain information is incorrect or unless it is obvious that certain information is incorrect based on other information obtained in the Phase I Environmental Site Assessment or otherwise actually known to the environmental professional. This Phase I ESA was conducted solely for the purpose of providing information to the client. The findings, opinions, conclusions and other information provided in this report may be released to third parties. However, third parties shall have no right to rely on any information contained in this report, and CTS Group, Inc. shall have no liability to third parties in any manner whatsoever.

3.0 USER PROVIDED INFORMATION

3.1 Location and Legal Description

The subject property is located at West of North Avenue and south of Road PR-177, Juan Sanchez Ward, Bayamón Municipality in Puerto Rico. The general site location is in the metropolitan area of the island. The subject property legal description reads as follows from its original Spanish translation.

URBANA: Tract of land located at Juan Sánchez Ward in the Municipality of Bayamón, Puerto Rico, comprising an area of 19,896.1294 square meters, equivalent to five cuerdas and six hundred twenty-one ten thousandth of a cuerda, equivalent to two hundred fourteen thousand, one hundred fifty nine square feet and two thousand nine hundred seventy eight ten thousandths of a square foot, equivalent to four acres and nine thousand one hundred sixty four ten thousanths of an acre; bounded at the **NORTH, SOUTH, EAST and WEST**, by land property of the Puerto Rico Land Administration.

3.2 Owner Information

- Based on the provided information the subject property's owner of record is Casa Linda del Sur Associates.

3.3 Owner Information

- Title Survey performed by Capital Title Services, Inc. on January 11, 2019 on parcel No. 59,466 registered in page 196 of volume 1320 of the Bayamon South Office of

Property Registry of Puerto Rico - Section I of Bayamon. The subject property owner of records is Casa Linda del Sur Associates.

No additional legal documents were made available to the Environmental Professional as part of this Environmental Site Assessment. A copy of the title survey report is included on Appendix V.

3.4 Environmental Liens or Activity and Use Limitations.

The "client/user" reports no Environmental Liens or Activity and Use Limitations that are known on the subject property. The reviewed documentation, title survey and EDR Report show no Environmental Lien or Activity and Use Limitation (AUL) in connection with the subject property.

3.5 Specialized Knowledge or Experience of the User

The "client/user" reports no specialized knowledge or experience with regards to the subject property not already discussed in this ESA report.

3.6 Actual Knowledge of the User

The "client/user" reports no actual knowledge with regards to the subject property not already discussed in this ESA report.

3.7 Reasons for Significantly Lower Purchase Price.

This assessment has yielded no significant environmental issues or contamination concerns that may significantly reduce the fair market value of the property was reported. None are suspected by CTS Group Inc.

3.8 Commonly Known or Reasonably Ascertainable Information.

The client does not know of any specific chemicals that are present or once were present at the subject property.

The client does not know of any spills or other chemical releases that have taken place at the subject property.

The client does not know of any environmental cleanups that have taken place at the subject property.

In general, the client is not aware of any commonly known or reasonably ascertainable information that can be used to identify a recognized environmental condition in connection with the subject property.

3.9 Reason for Performing Phase I

The objective of performing this Phase I Environmental Site Assessment at the subject property is to identify any recognized environmental condition in connection with the present and past operations of the subject property and the neighboring business. The scope of this practice includes research and reporting requirements that support the user's ability to qualify for the LLPs. As such, sufficient documentation of all sources, records, and resources utilized in conducting the inquiry required by this practice is provided in this report.

3.10 Prior Assessments

The following environmental site assessment were performed by CTS Group at the Subject property:

Assessment Type:	Date & Project ID	RECs
ESA Phase I – ASTM 1227-13	CLS-06-020 – June 15, 2020	No

4.0 RECORDS REVIEWS

4.1 Standard Environmental Records Sources

CTS Group, Inc. contracted Environmental Data Resources, Inc. to perform an EDR Radius Map with Lightbox and Historical Topo Maps and Aerial Photo Search in order to comply with the Federal approximate minimum search distance as detailed in ASTM Document E-1527-13. The database search includes regulatory agency lists of known or potentially hazardous waste facilities, landfills, hazardous waste generators, and disposal facilities in addition to properties under investigation. The information provided in this report was obtained from publicly available sources. The locations of the properties listed in this report are plotted with a geographic information system (GIS) utilizing geocoding of property addresses. Updated on a monthly or quarterly basis this Report by itself may not meet the 90 days updating requirements of the ASTM standard. For this reason, CTS Group, Inc. individually reviewed each of the required Standard Environmental Record Resources found in the Standard to verify the available records including EPA and EQB internet sites and physical files. The following Federal ASTM and Non-ASTM Records were requested and verified for this purpose. (Please see EDR Report Details in the Appendix 2). All records were reviewed and verified, however, CTS Group, Inc. must emphasize that the underlined records are the requirements of the ASTM Standard to be reviewed for the approximately minimum search distance as indicated in Table - 2.

Federal Database	Specified Search Radii	No. of Sites Identified
National Priority List (NPL)	1.0 mile	0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	0.5 mile	0
CERCLIS No Further Remedial Action Planned (NFRAP)	0.25 mile	0
Corrective Action Report (CORRACTS)	1.0 mile	0
Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal facilities (TSD) list	0.5 mile	0
RCRA Generators list	0.25 mile	0
RCRA Non-Generators list	0.25 mile	0

Table – 2

Subject Property Search Result

The target property was not identified in any of the databases reviewed as part of this Environmental Site Assessment. Refer to EDR Report on Appendix I.

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

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DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL	National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY	Federal Facility Site Information listing
SEMS	Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE	Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS	Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF	RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS	Land Use Control Information System

Table – 3

Based on the federal database included in the reviewed EDR Report, no facilities were listed in the Municipality of Bayamon under the specified search criteria. Neither the subject property nor any of the adjoining properties are on this list. Refer to EDR Report on Appendix I.

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The state databases searched, and the specified search radii, are as follows:

State Database	Specified Search Radii	No. of Sites Identified
State Hazardous Waste Sites (SHWS)	1.0 mile	0
State Solid Waste Landfill Sites	0.5 mile	0
State Registered Underground Storage Tanks/ Aboveground Storage Tanks (UST's/AST's) list	0.25 mile	0
State Registered Leaking Underground Storage Tanks (LUST) list	0.5 mile	0
State Voluntary Cleanup Programs (VCP)	0.5 mile	0
Brownfields	0.5 mile	0
Local Landfill/Solid Waste Disposal Sites (SWRCY)	0.5 mile	0
Historical Service Stations	0.25 mile	0
Historical Dry Cleaners	0.25 mile	0

Table – 4

Based on the state database included in the reviewed EDR Report, no facilities were listed in the Municipality of Bayamon under the specified search criteria. Neither the subject property nor any of the adjoining properties are on this list. Refer to EDR Report on Appendix I.

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Orphan or Unmapped Sites

Based on EDR report, the following sites were not mapped due to poor or inadequate address information:

Due to poor or inadequate address information, the following sites were not mapped. Count: 57 records.

Site Name	Database(s)
INDUSTRIAL MACHINERY MOVERS INC	SEMS, RCRA NonGen / NLR
SANTA OLAYA	SEMS
SHELL #4444	LUST
SIERRA BAYAMON II S/S 377	LUST
GULF #189	LUST
REXVILLE S/S (TEXACO #654)	LUST
TEXACO S/S #214	LUST
SHELL 3140	LUST
ROYAL PALM S/S #231	LUST
SAMARITANO & CO., INC.	LUST
ESSO S/S 13060	LUST
ESSO CO-063	LUST
HOSPITAL MATILDE BRENES	LUST
MAGNOLIA SERVICE STA.	LUST
LA ALDEA SERVACAR	LUST
BEST PAJAROS S/S	LUST
MEPSI CENTER	LUST
FELIX MIRANDA S/S	LUST
FLAV-O-RICH	LUST
AUT. CARRETERAS	LUST
CITIBANK-BAYAMON	LUST
CITGO BAYAMON	LUST
SHELL # 710	LUST
TEXACO S/S #251	LUST
READY MIX (PLANTA 8)	LUST
SHELL 2323	LUST
SHELL 2410	LUST
P.R. CONTAINER	LUST
ESSO CO-057 ISMAEL ORTIZ	LUST
SHELL #1112	LUST
COLEGIO UNIVERSITARIO TECNOLOGICO	LUST
BEST S/S	LUST
DEP. DE TRANSPORTACION	LUST
GULF #153	LUST
SEVEN UP	LUST
SHELL #804517	LUST
SHELL #804525	LUST
ANTIGUA PLANTA LA FAMOSA	LUST
CHEVRON WAREHOUSE	LUST
GULF #084	LUST
GULF #054	LUST
SHELL SERVICE STATION #204284	LUST
GULF #091	LUST
SHELL #3697	LUST
GSA CENTER	LUST
VALLE ESCONDIDO S/S (GULF)	LUST
ESSO CO-002	LUST
SHELL #4589	LUST
HOLLY LAND, INC.	LUST
GULF # 395	LUST
FORTO CHEMICAL	LUST
PRTC/ REMOTO VII	LUST
SHELL #804690	LUST
TEXACO # 285	LUST
OLYMPIC MILLS INC.	LUST
CITGO LA MUDA	LUST
BAYAMON FORMER SANITARY LANDFILL	ODI

None of the identified orphan sites are located in the subject property immediate vicinity. None of the Orphan Facilities represent a risk of human exposure to contamination and migration of contaminated ground water from or to the property. Neither the subject property nor any of the adjoining properties are on this list.

4.2 Regulatory Agency File and Records Review

Neither the subject property nor any of the adjoining properties were identified with a past or current violation on one or more of the standard environmental record sources. Therefore, regulatory files and/or records associated with the above-mentioned listing do not need to be reviewed.

4.3 Additional Environmental Records Sources

Department of Natural Resources and Environment (DRNA) & US Geological Survey (USGS)

According to the DRNA and the USGS, there are no public supply wells or agricultural wells within the subject property or any of the adjoining properties. Based on the information obtained from the USGS Groundwater Monitoring Network there are Two (2) active monitoring wells in the Municipality of San Juan. Refer to Appendix VIII.

EQB List of Registered Petroleum Storage Tanks

Information was obtained by using Environmental Quality Board data information system. A list with all the Registered UST and LUST listed in the Municipality of Bayamon is provided in Appendix VI. Neither the subject property nor any of the adjoining properties are on this list. The EDR report does not show the presence of a LUST facility in the subject site vicinity. Refer to EDR Report on Appendix I. The review of the documentation available in the Underground Tanks Program of the PR EQB which was last updated in 2018, yielded no LUST facility in the subject property immediate vicinity. Refer to Appendix IX.

4.4 Physical Setting Source

Physical Setting Sources were obtained from the USGS, US Department of Agriculture, and visits to the subject property and its vicinity.

General Geography

The subject property is located in the Municipality of Bayamon which is part of the Bayamón-Loíza region. The Bayamón-Loíza region covers about 280 mi2 in the eastern North Coast area. It is bounded to the north by the Atlantic Ocean, to the west and south by the drainage basin divide of the Río de Bayamón, and to the east and south by the drainage basin divide of the lower Río Grande de Loíza (below Lago Loíza). Included in the Bayamón-Loíza region are the Río Bayamón, Río Piedras, and lower Río Grande de Loíza drainage basins (fig. 2.1.4.A-1). The San Juan metropolitan area is not only the principal population center of the Bayamón-Loíza region, but also of all

Puerto Rico. The northern section of the Bayamón-Loíza region consists of a coastal plain composed of deposits of sand, silt, clay, and sand muck overlying limestone formations, which form the principal aquifer. The elevation of the land surface in the coastal plain ranges from mean sea level to about 100 feet above mean sea level. An almost continuous strip of swamps and lagoons lies near the coast. The principal coastal lagoons are Laguna San José, Laguna La Torrecilla, and Laguna de Piñones. The southern part of the region is comprised mostly of the foothills of the inner uplands, which range in elevation from about 100 to 1,300 feet above mean sea level.

General Site Geographic Information

The Bayamón-Loíza region covers about 280 sq mi in the eastern North Coast area. It is bounded to the north by the Atlantic Ocean, to the west and south by the drainage basin divide of the Río de Bayamón, and to the east and south by the drainage basin divide of the lower Río Grande de Loíza (below Lago Loíza). Included in the Bayamón-Loíza region are the Río Bayamón, Río Piedras, and lower Río Grande de Loíza drainage basins. The San Juan metropolitan area is not only the principal population center of the Bayamón-Loíza region, but also of all Puerto Rico. The northern section of the Bayamón-Loíza region consists of a coastal plain composed of deposits of sand, silt, clay, and sand muck overlying limestone formations, which form the principal aquifer. The elevation of the land surface in the coastal plain ranges from mean sea level to about 100 feet above mean sea level. An almost continuous strip of swamps and lagoons lies near the coast. The principal coastal lagoons are Laguna San José, Laguna La Torrecilla, and Laguna de Piñones. The southern part of the region is comprised mostly of the foothills of the inner uplands, which range in elevation from about 100 to 1,300 feet above mean sea level. The principal streams flowing through the region are the Río Bayamón and Río Piedras which flow north, and the Río Grande de Loíza which flows northeast. The Río Bayamón has its headwaters in the mountainous interior of the island and flows across a wide alluvial valley surrounded by swamp deposits near the coast. The Río Piedras, a relatively short river that has its headwaters in the foothills, flows across a wide alluvial plain and discharges into Bahía de San Juan. The Río Grande de Loíza, with headwaters in the interior of the island (section 2.5), is the primary source of water filling Lago Loíza (the principal water-supply reservoir for the San Juan metropolitan area), on its course to the Atlantic Ocean.

General Site and Vicinity Hydrogeology

Two principal water-bearing units are present in the Bayamón-Loíza region: an upper water-table aquifer comprised of sedimentary rocks of Tertiary age and surficial deposits of Quaternary age; and a lower confined aquifer comprised mainly of

sedimentary rocks of Tertiary age. The two units are separated by the upper member of the Cibao Formation, which acts as a confining unit. The upper aquifer occurs in the uppermost rocks overlying the upper member of the Cibao Formation, the Aguada and Aymamón Limestones, and alluvial deposits. The Aguada and Aymamón Limestones are eroded and covered with alluvial deposits, and the upper part of the Cibao Formation becomes thinner near San Juan. As a consequence, the available freshwater in the upper aquifer around San Juan largely resides in surficial deposits. For the most part, according to Rodríguez-Martínez (1991, p. 12), the upper aquifer is absent in the San Juan metropolitan area, and where present, is thin and contains brackish water. The thickness of the upper aquifer is limited by the location of the saline-freshwater interface and the top of the Cibao Formation The transmissivity of the upper aquifer ranges from less than 500 to more than 3,000 ft2/d (Ingrid Padilla, U.S. Geological Survey, written communication,1991).

Higher transmissivity values are measured west of the Canal del Río de Bayamón in the Toa Baja-Vega Baja region. The lower aquifer occurs in the Mucarabones Sand and minor limestone lenses within the Cibao Formation (Rodríguez-Martínez, 1991, p.15). The lower aquifer is confined from Bayamón to San Juan, but east of Río Piedras, the formations that comprise this hydrologic unit pinch out. The transmissivity of the lower aquifer ranges from less than 150 to 2,000 ft2/d (Anderson, 1976, p. 18). The quality of water in the lower aquifer ranges between fresh to brackish in the San Juan metropolitan area (Rodríguez-Martínez, 1991, p.15). Some wells south of Trujillo Alto and Carolina yield water from the volcanic rocks in small quantities. The water that may be available in the volcanic bedrock flows through cracks and fissures in the weathered zones.

Ground-Water Levels & Movements

Regional ground-water flow in the upper and lower aquifers within the Bayamón-Loíza region is northward from surficial exposures of the formations of Tertiary age, where the recharge occurs, to eventually discharge into swamps and lagoons along the coast. Ground water also moves locally towards the main stream systems of the Río Bayamón, Río Piedras, and Río Grande de Loíza. Higher ground-water levels are observed during the rainy season, which occurs from August through November and from April to May, than during the dry season. The difference between the highest and the lowest water-level altitude during 1987 in one observation well near Cataño and another near San Juan was about 4 and 9 feet, respectively. Recharge to the water-bearing formations in the area is primarily from rainfall, but also from infiltration of streamflow. In the highly urbanized San Juan metropolitan area another possible source of recharge to the aquifer is leakage from water and sewer lines (Anderson, 1976, p.15). According to Anderson

(1976, p. 27), the Río Bayamón recharges the alluvium and the Tertiary age aquifers when ground-water levels are low, generally from January to April. During the rest of the year the aquifer either is in balance with the stream or contributes water to it.

4.5 Historical Use of the Property

Based on the Aerial photographs included in this report and information provided, the subject property refers to a residential project consisting of an I-shaped building which are divided in three wings and identified as North, South and Center winds respectively. The structure was built back in 1984 on a previously undeveloped lot of land. commercial use regarding the subject property No other commercial use was identified at the subject property; neither is suspected by CTS Group, Inc.

4.6 Use of Properties in Surrounding Area

The subject immediate area south of PR-177 is mainly comprised by residential townhouse, mixed townhouse/walk-up condominium and walk-up condominium projects. The townhouse projects include Casa Linda Court, Alturas del Rio, Villas del Rio, Parque de Torrimar, Sunset View, Vereda del Rio, Riberas del Rio and Casa Linda Village. The mixed townhouse/walk-up condominium projects include Altos de Torrimar and Plaza de Torrimar I. The walk-up condominium projects include Villas de la Fuente, Boulevard del Rio and Vistas del Rio. Immediately across the street from the subject is the Salus Medical Clinic and just south of the subject is Baldwin School. In addition, north of PR-177 and also along North Avenue is the Rio Bayamón Norte Community, which includes the Riviera and Rio master planned developments whose construction are currently ongoing.

4.7 Standard Historical Sources

Aerial Photographs

Aerial photographs were obtained using the Google Professional Server. The images taken from an aerial platform had sufficient resolution to allow identification of development and activities of areas encompassing the subject property. The reviewed material included images from as early as 1962. Based on the available aerial photographs, the commercial activities in the subject property vicinity has experienced significant changes over the past two decades, being the development of residential projects and the typical business supporting demographic expansion the most notable addition to the area. No significant changes were notice in industrial, manufacturing and agricultural activities.

Fire Insurance Maps

No fire insurance maps were reviewed as part of this investigation.

Property Tax Files

No property tax information was made available to the environmental professional.

Recorded Land Title Records

No title records were reviewed as part of this environmental site assessment.

USGS Topographic Maps

The USGS Topographic Map of the subject property vicinity was reviewed. Other than the commercial use listed under sections 4.5 and 4.6, no additional commercial used was identified in connection with the subject property or any of the adjoining properties.

Local Street Directories

Local street directories were reviewed as part of this assessment in order to identify any prior commercial use of the subject property and the adjoining properties. The Shell Petroleum refinery was identified as the main industrial operation in the subject property immediate vicinity.

Building Department Records

No building department records were reviewed as part of this assessment.

Zoning/Land Use Records

The subject project site lies in an area zoned R-A (High Density Residential), as it appears on the last revised Puerto Rico Planning Board Map for the Bayamon Municipality. This R-A zoning district was established to classify urban areas having a high-density residential character located near major roads, commercial areas, schools and public transportation, having infrastructure already in place including sanitary sewer, water and electricity. A complete zoning compliance assessment is beyond the scope of this Environmental Site Assessment.

Other Historical Sources

No *other historical sources were reviewed as part of this assessment.*

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

The subject property was inspected on November 19, 2021 by EP Ihosvany Negret.

The methodology used for the site reconnaissance of the subject property consisted of visually inspecting the subject property interior and surrounding areas. The purpose of this visit was to identify potential recognized environmental conditions and/or any potential source of environmental impairment. There were not physical obstructions such as adjacent buildings, bodies of water, asphalt, or other paved areas, and any other physical constraints (for example, snow, rain).

5.2 General Site Setting

All areas of the subject property were accessible at the time of the inspection. There were no visual or physical obstructions of the subject property. During the inspection, an interior and exterior walk-through of the subject property was performed. The exteriors of adjoining properties were visually evaluated to identify any Recognized Environmental Condition.

General Description of Structures and Facilities

The subject property is comprised by 199 residential apartment units distributed among a 4 & 5 story building having a I-shape and divided in three wings identified at North, South and Center. The following table illustrates the distribution of the 199 total apartment units at the subject property. The subject project was built in 1984, or about 36 years ago, and evidences an average physical condition with a low-cost quality of construction. The project amenities include a lobby, a communal/recreational area with bathrooms and a kitchen, laundry rooms in each floor, a mailbox room, passive green areas and a gated entrance with a guardhouse with 24-hour security. In addition, the subject project includes an administrative office and a social workers office. The subject project is supported by two elevators, an emergency power plant (for communal areas only), a water cistern and sprinkler system in each floor.

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The following table provides general details of the subject property improvements.

No. of Units	199	**Project Site Area**	19,896.1314 sq. mts./ 5.0621 cdas.
Model Type Units:			
1BR-1BA (No Balcony) - 34 Units	559 sq. ft.	**Building Stories**	4 & 5
1BR-1BA (Balcony) – 165 Units	595 sq. ft.	**Elevators**	2
Total Building Gross Construction Area	161,434*		
Construction Type	Masonry	**Year Built**	1984
Building Class	C-Low Cost	**Actual Age**	36 Years
Exterior Facade **Roof**	RC & CB RC	**Effective Age**	12-14 Years
Total number of parking spaces **Parking spaces per residential unit**	210 1	**Total Economic Life**	60 Years
Ceiling Height	8'6"	**Deferred Maintenance** **Functional Obsolescence** **External Obsolescence**	Yes No See comments

Roads

The major road leading towards the subject immediate area is PR-177, which includes an exit ramp at kilometer 2.0 that leads to the subject North Avenue. Other important arteries of the subject immediate area include Santa Ana Avenue, Ramirez de Arrellano Avenue, PR-20 and PR-174.

Utilities

The Puerto Rico Electrical Power Authority (PREPA) provides electrical power to the subject's immediate neighborhood. The Puerto Rico Aqueducts and Sewers Authority (PRASA) provide potable water, to the area, and the Puerto Rico Telephone Company provides telephone services. There are no other utilities available at the subject property. The subject property vicinity has the typical and necessary government services available, including fire and police protection provided by the Commonwealth government, street cleaning provided by the municipal government, and postal service provided by the federal government.

Floods

As per the Federal Emergency Management Agency (FEMA) flood insurance rate maps No. 72000C0345J and No. 72000C0365J for the Commonwealth of Puerto Rico, last revised on November 18, 2009, the subject project site has been placed under a Zone X, which is defined as an area of minimal flood hazard. The environmental professional, however, is not qualified to determine the flooding conditions of the subject site. The Subject Site is assumed to be free of adverse floodable conditions that might affect its intended development, and no liability or responsibility is assumed in

this respect. Further analysis of the flood insurance or flood certification is beyond the scope of this Environmental Assessment.

Vicinity Boundaries

The subject property is located in the Juan Sanchez Ward of the Municipality of Bayamon and the neighborhood boundaries are:

- North: SR PR-2
- South: Road PR-199
- East: SR PR-20
- West: Road PR-174

Landfill, Dumping, Disturbed Soil

There are not landfills, Dumping, or disturbed soil at the subject property or adjoining properties. The soil is not disturbed but it does show water accumulation in several areas in the presence of precipitation. There is not a Municipal Solid Waste Facility in the Municipality of Bayamon.

5.3 Current Use(s) of the Property

The subject property is currently operating as a residential project under the commercial name of Casa Linda del Sur Apartment.

5.4 Past Use(s) of the Property

Based on the information provided, the subject property refers to a commercial property improved by a residential apartment structure with 199 units distributed among a 4 & 5 story building having an I-shape and divided in three wings identified at North, South and Center. The structure was built back in 1984 on a previously undeveloped lot of land.

5.5 Current Uses of Adjoining Properties

On the North, the subject property is adjoined by State Road PR-177 and several undeveloped lots of land located across the above-mentioned road.

On the South, the property shares boundary with a commercial property operating as a residential project under the name of Casa Linda Court.

On the East, the subject property is adjoined by a commercial property operating as a medical service provider under the commercial name of Clinica Salus.

On the West, the subject property is adjoined by a residential project known as Alturas del Rio Development and by a commercial property owned and operated by the Municipality the Bayamon as a recreational facility under the commercial name of Rio Bayamon Recreational Park.

5.6 Past Uses of Adjoining Properties

There is no additional information available on the past uses of the residential projects adjoining the subject site on the north, south, and west. Historical data obtained from aerial photos suggests that the above-mentioned residential projects were built over 30 years ago on property used in the past mostly for agricultural purposes. There is no evidence of industrial or agricultural operations in the area in the last 25 years. No other commercial use was identified or reported in connection with the subject property; neither is suspected by CTS group, Inc.

5.7 Current and Past Uses in the Surrounding Area

The subject property is located west of North Avenue and south PR-177 in the Juan Sanchez Ward of the Bayamón Municipality in Puerto Rico. Please note, that the subject is located just off the boundary line with the adjacent/bounding Guaynabo Municipality. The subject immediate area south of PR-177 is mainly comprised by residential townhouse, mixed townhouse/walk-up condominium and walk-up condominium projects. The townhouse projects include Casa Linda Court, Alturas del Rio, Villas del Rio, Parque de Torrimar, Sunset View, Vereda del Rio, Riberas del Rio and Casa Linda Village. The mixed townhouse/walk-up condominium projects include Altos de Torrimar and Plaza de Torrimar I. The walk-up condominium projects include Villas de la Fuente, Boulevard del Rio and Vistas del Rio. Immediately across the street from the subject is the Salus Medical Clinic and just south of the subject is Baldwin School. In addition, north of PR-177 and also along North Avenue is the Rio Bayamón Norte Community, which includes the Riviera and Rio master planned developments whose construction are currently ongoing.

5.8 Interior and Exterior Observations

Hazardous Substances and Petroleum Products in Connection with Identified Uses.

No hazardous substances and petroleum products were identified in connection with identified use of the subject property.

Power Generators

A 50 Kw power generator was reported or observed during the site reconnaissance.

Petroleum Storage Tanks

A 100 gallons diesel AST used to support the operation of the power generator was identified during the site reconnaissance.

Odors

No strong, pungent, or noxious odors were identified at the subject property and its surroundings during the site inspection.

Pools of Liquid

No standing surface water, pools or sumps containing liquids likely to be hazardous substances or petroleum products were observed during the site reconnaissance.

Drums

No drums or suspect containers were observed at the subject property.

Hazardous Substance and Petroleum Products Containers (Not Necessarily in Connection with Identified Uses)

No hazardous substance and/or petroleum products containers were observed at the subject property.

Unidentified Substance Containers

No unidentified Substance Containers were observed at the subject property.

PCBs

During the site inspection, we did not identify any visual indications of equipment likely to contain PCB.

Interior Observations:

Heating/Cooling

There is not a heating/cooling system at the subject property. Each space in need of A/C has its own unit.

Stains or Corrosion

No stains or sign of corrosion was observed at the property.

Drains and Sumps

No sumps or malfunctioning drain system were observed at the subject property.

Exterior Observations:

Pits, Ponds, or Lagoons

No pits, ponds, or lagoons were observed in the subject property.

Stained Soil or Pavement

No stained soil or pavement was observed at the subject property.

Stressed Vegetation

No stressed vegetation other than from insufficient water was observed at the subject property.

Solid Waste

No trash construction debris, demolition debris, or other solid waste disposal, or mounds or depressions suggesting trash or other solid waste disposal were observed at the subject property.

Wastewater

No wastewater or any discharge into a drain, ditch, underground injection system, or stream on or adjacent to the property was observed. The subject property is fully connected to the Municipal Sewer System.

Wells

No dry wells, irrigation wells, injection wells, abandoned wells, or other wells were observed at the subject property.

Septic Systems

No on-site septic systems or cesspools were observed.

5.9 Vapor Encroachment Screen (VES)

The initial Vapor Encroachment Screening (VES) is intended to determine if a Vapor Encroachment Condition (VEC) is identified for the Target Property TP (that is, the presence or likely presence of Chemicals of Concern (COC) vapors in the subsurface of the TP caused by the release of vapors from contaminated soil and/or groundwater

either on or near the TP as identified by the Tier 1 procedure of ASTM E2600-15. No sources of Petroleum Hydrocarbon COCs were identified within the specified Area of Concern of 528 ft. from the subject property. No source of volatile/semi volatile hazardous COCs were identified in the proposed Area of Concern.

5.10 Out of Scope Considerations

Following are several non-scope considerations that the user may want to assess in connection with *commercial real estate*. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive:

Wetlands/Flood Plain

No evidence of wetlands was noted on the subject property. The vicinity surrounding the Subject Property was evaluated using U.S. Fish and Wildlife Service Natural Wetland Inventory. The current operations at the subject property are believed to cause no adverse impact to the wetlands identified in the map. A copy of the National Wetland Inventory for the subject property vicinity issued by the U.S. Fish and Wildlife Service is included in Appendix A of this report. As per the Federal Emergency Management Agency (FEMA) flood insurance rate maps No. 72000C0345J and No. 72000C0365J for the Commonwealth of Puerto Rico, last revised on November 18, 2009, the subject project site has been placed under a Zone X, which is defined as an area of minimal flood hazard.

The environmental professional, however, is not qualified to determine the flooding conditions of the subject site. The Subject Site is assumed to be free of adverse floodable conditions that might affect its intended development, and no liability or responsibility is assumed in this respect. Further analysis of the flood insurance or flood certification is beyond the scope of this Environmental Assessment.

Endangered Species

Under the Endangered Species Act (ESA), the government protects endangered and threatened plants and animals (listed species) and their habitats. The presence of listed species can restrict use of property to ensure that the proposed or current activities do not adversely affect endangered or threatened species as well as their critical habitats. Based on limited reviewed information could not identify any record of threatened or endangered species in the subject property immediate vicinity that may be affected by the current operations at the site.

Lead-Based Paint

The Consumer Product Safety Commission (CPSC) prohibited use of lead in paint for residential use in 1978 in concentrations greater than 0.06 percent lead by weight. Since CERCLA authorizes EPA to address releases of hazardous substances into the environment, the agency has limited authority to use the federal Superfund program to address exposure from building interior LBP. In limited circumstances, EPA may use its CERCLA authority to conduct response actions for soils contaminated by a release of lead contaminated paint from building exteriors that pose a lead hazard and to prevent recontamination of soils that have been remediated.

A limited Lead-Based Paint (LBP) inspection was performed at the subject property by Engineering Solutions Firm under the supervision of Certified LBP Inspector Mr. Edwin A. Ayala. The inspection confirmed the presence of LBP at the subject property which warrant the performance of an LBP Abatement as required by State and Federal regulations. Refer to Appendix X for a copy of the LBP inspection report.

Asbestos Containing Building Materials (ACBM's)

National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations require sampling potential ACBM prior to demolition or extensive renovation, regardless of the date of construction; therefore, if such activities are planned, it may be required to conduct a survey of the entire facility, or that portion slated for renovation or demolition, before initiating such destructive activities. CTS Group, Inc. did not perform an Asbestos Containing Materials Inspection at the subject property.

A limited Asbestos Containing Building Materials (ACBM's) inspection was performed at the subject property by Engineering Solutions Firm under the supervision of Certified LBP Inspector Mr. Edwin A. Ayala. The inspection confirmed the presence of ACBM at the subject property which warrant the performance of an ACBM Abatement as required by State and Federal regulations. Refer to Appendix X for a copy of the ACBM inspection report.

Microbial Contamination (Mold)

A comprehensive mold survey was beyond the scope of this assessment; however, during the assessment, no visual evidence of active water or mold damage was observed in the areas inspected by CTS Group, Inc.

Radon

Radon gas is a product of the decay series that begins with uranium. Radon is produced

directly from radium, which can be commonly found in bedrock that contains black shale and/or granite. Radon gas can migrate through the ground and enter buildings through porous concrete or fractures. Radon tends to accumulate in poorly ventilated basements. Long-term exposure to radon has been associated with lung cancer. The EPA Map of Radon Zones does not provide a map for Puerto Rico. Performing a Radon monitoring and sampling is not required in order to provide a professional opinion under the ASTM 1527-13 Standard.

Lead in Drinking Water

CTS Group, Inc. researched information pertaining to the source and the regulatory compliance of the drinking water supplied to the subject property. The subject property receives its drinking water from the Puerto Rico Aqueduct and Sewer Authority (PRASA). According to the PRASA's website, 100 % of its water is tested before it enters the distribution system. The water supplied to the Subject Property vicinity is believed to meet federal and state drinking water standards.

Indoor Air Quality

Indoor pollution sources that release gases or particles into the air are the primary cause of indoor air quality problems in homes. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the home. High temperature and humidity levels can also increase concentrations of some pollutants. CTS Group, Inc. did not perform any indoor air quality monitoring activities at the subject property. Ambient air quality related to releases of hazardous substances or petroleum products was analyzed as part of a Vapor Encroachment Screen included in section 5.9.

Noise Pollution

A Noise Survey was not performed as part of this Environmental Site Assessment. No information was provided to the Environmental Professional on whether or not a Noise Survey has been performed at the premises.

6.0 INTERVIEWS AND QUESTIONNAIRES

6.1 User/client questionnaire

Refer to Appendix X for a copy of the client/user questionnaire.

6.2 Past owners and/or past occupants Questionnaire

The subject property past owners were not available to be interviewed. Based on the

information collected by interviewing local government officials, present owner and neighboring business owners there is no reason to believed that the subject property was used to store any regulated chemicals.

6.3 Present owner and/or site manager interview

Refer to Appendix X for a copy of the client/user questionnaire.

6.4 Government Official(s) Interview (s)

The Municipality of Bayamon was contacted in order to obtain information in connection with the subject property. During a phone conversation and while being interviewed Mr. Manuel J. Felix Ortiz director of the Office for Emergency Management indicated that there is not information in record connecting the subject and adjoining properties with any incident or violation that would result in the presence of a Recognized Environmental Condition. Mr. Tommy Figueroa Cortez director of the Public Works Department was also interviewed; and based on his statement, there is not record in the public Works Department connecting the subject Property with any environmentally related incident or violation that will result in a risk for the human health and/or the presence of contaminants at the subject property. After reviewing the available documentation in the U.S. EPA and the PR Environmental Quality Board's Underground Storage Tank Program in connection with the subject property, no information was found that would affect the professional opinion issued in this report. A letter was sent on October 12, 2021 to the Puerto Rico Environmental Quality Board requesting information regarding any environmentally related incident or violation in connection with the commercial operations of the subject property and the rest of the business in the subject's immediate vicinity. As of the completion of this report, CTS Group, Inc. has not yet received a response to the letter sent to the PR EQB requesting information (Copy of the communication is included in Appendix V of this report. No other responsive records have been received. Responses from agencies not yet received will be forwarded to Marie Housing, LLC. upon receipt with recommendations. After reviewing the available documentation in the U.S. EPA and the PR Environmental Quality Board's Underground Storage Tank Program in connection with the subject property, no information was found that would affect the professional opinion issued in this report.

7.0 FINDINGS

The inspection of the subject property surrounding yield the following results:

- There is no evidence of oily films on standing water.

- There is no evidence of discolored and oil stained floors.
- There is no evidence of discarded chemical containers.
- There is no evidence of waste pipes, buried waste.
- There is no evidence of distressed vegetation.
- There is no presence of unusual odors.
- There is no evidence of a LUST Facility at the subject property
- There is no evidence of a LUST Facility at any of the adjoining properties.

The results of this assessment have revealed no Recognized Environmental Conditions associated with the Subject Property.

The results of this assessment have revealed no Controlled Recognized Environmental Conditions associated with the Subject Property.

The results of this assessment have revealed no Historical Recognized Environmental Condition associated with the Subject Property.

The results of this assessment have revealed no De *Minimis Condition* associated with the Subject Property.

The results of this assessment have revealed no De *Minimis Condition* associated with the Subject Property.

It is our professional opinion that due to the fact that no Recognized Environmental Conditions were identified during this assessment, there is no need to conduct any further study or testing in the subject property, unless there is a change of the current operations as describes herein. A Data Gap related to the inability to interview any state or municipal government official was identified while conducting the research for this Environmental Site Assessment. The identified data gap could have an impact in the findings described herein. Except for the limitations and exceptions discussed in Section 2.3, this Phase I ESA complies with the ASTM Standard 1527-13.

8.0 OPINIONS

It is our professional opinion that due to the fact that no Recognized Environmental Conditions were identified during this assessment, there is no need to conduct any further study or testing in the subject property, unless there is a change of the current operations as describes herein.

9.0 ADDITIONAL INVESTIGATIONS

No additional investigation was performed at the subject property beyond the scope of

the ASTM 1527-13 Standard.

10.0 DATA GAPS

No Data Gap was identified while conducting the research for this Environmental Site Assessment that could have a significant impact in the findings described herein.

11.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of a commercial property operating under the commercial name of Casa Linda del Sur Apartments and located at Road PR-177, Juan Sanchez Ward, Bayamón Municipality in Puerto Rico. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. Any exception to, or deletions from, this practice are described in Section 13.0 of this report. The Findings, Opinions, and Conclusion sections of this report are based on sections 12.5, 12.6, and 12.8 of ASTM E 1527-13, respectively.

12.0 RECOMMENDATIONS

No further testing is required at the subject property.

13.0 LIMITING CONDITIONS & DEVIATIONS

Any exception to, or deletions from, this practice are described in Section 13.0 of this report. The Findings, Opinions, and Conclusion sections of this report are based on sections 12.5, 12.6, and 12.8 of ASTM E 1527-13, respectively.

14.0 REFERENCES

ASTM Standards:

1. *ASTM1527-13 Standard practice for Environmental Site Assessments Phase I*
2. *E2091 Guide for Use of Activity and Use Limitations, Including Institutional and Engineering Controls*
3. *E2600 Guide for Vapor Encroachment Screening on Property*
4. *Involved in Real Estate Transactions*

Federal Statutes:

1. *Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund"), as amended by Superfund Amendments and Reauthorization Act of 1986 ("SARA") and Small Business Liability Relief and Brownfields Revitalization Act of 2002 ("Brownfields Amendments"), 42 U.S.C. §§9601 et seq.*

2. *Emergency Planning and Community Right-To-Know Act of 1986 ("EPCRA"), 42 U.S.C. §§11001 et seq.*
3. *Freedom of Information Act, 5 U.S.C. §552, as amended by Public Law No. 104-231, 110 Stat. 3048*

USEPA Documents:

1. *"All Appropriate Inquiries" Final Rule, 40 C.F.R. Part 312*
2. *Chapter 1 EPA, Subchapter J-Superfund, Emergency.*

15.0 ENVIRONMENTAL PROFESSIONAL STATEMENT & SIGNATURE

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR § 312" and 12.13.2. I, have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the subject *property*. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Ihosvany Negret Lapeira, MS, ME.
Lead Environmental Consultant
CTS Group Inc.
Lajas, PR.



Site Photographs
&
Aerial Views



Subject Property – Main Entrance



Subject Property – Surroundings



Subject Property – Surroundings



Subject Property – Northeast Surroundings



Subject Property – Southwest Surroundings



Subject Property– North to South View



Subject Property – Northwest Surroundings



Subject Property – Surroundings



Subject Property – Surroundings



Subject Property – Interiors



Subject Property – Offices



Subject Property – Reception Desk



Subject Property – Restroom facilities



Subject Property – Laundry room



Subject Property – Northeast lobby

Adjoining Properties



Northeast side adjoining property



Southeast side adjoining property – Casa Linda Court



Southeast side adjoining property – Casa Linda Court



Northwest side adjoining property – Alturas del Rio



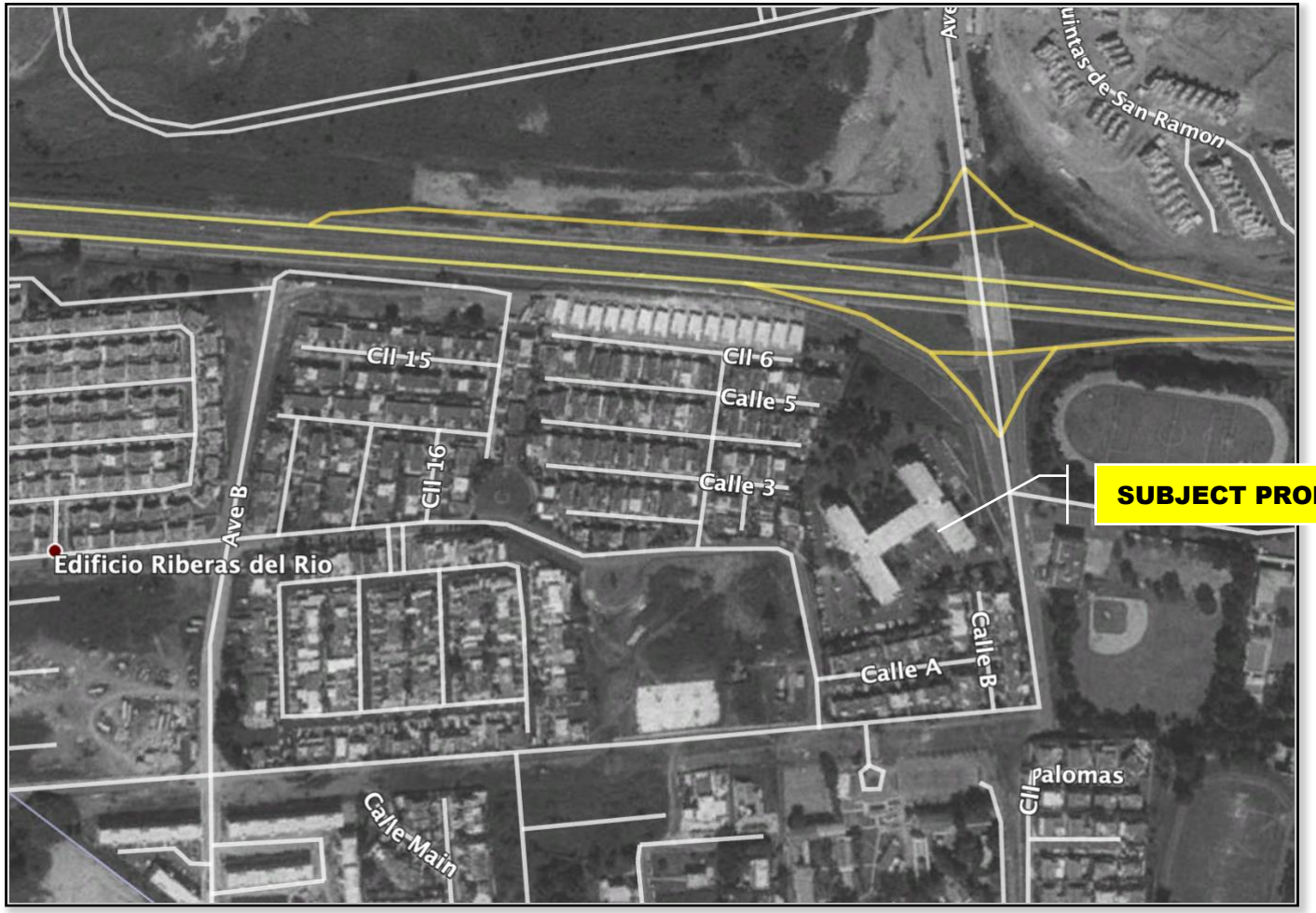
South view from entrance



North view from entrance

Appendix A
Aerial Views and Maps

Aerial Photographs



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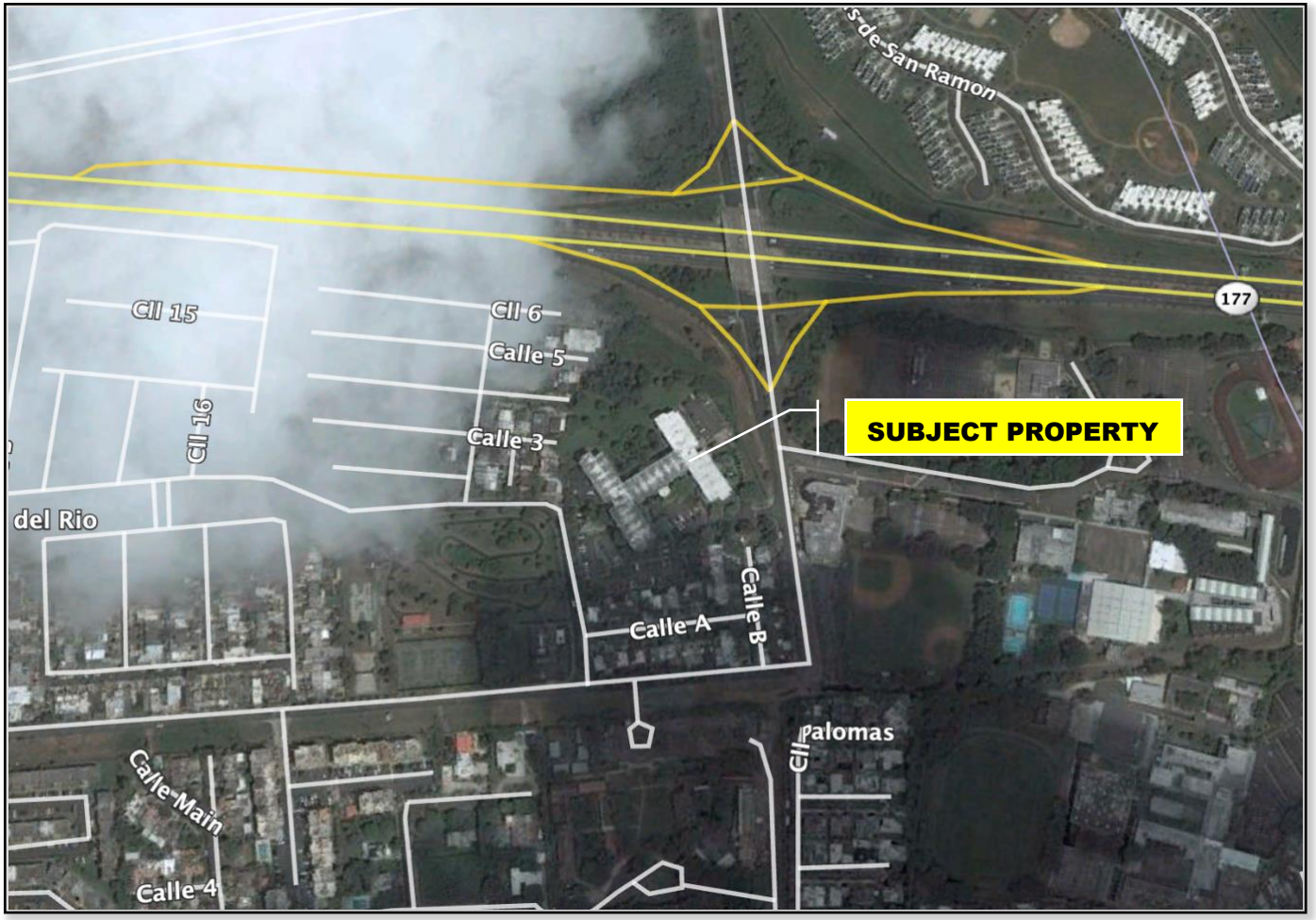
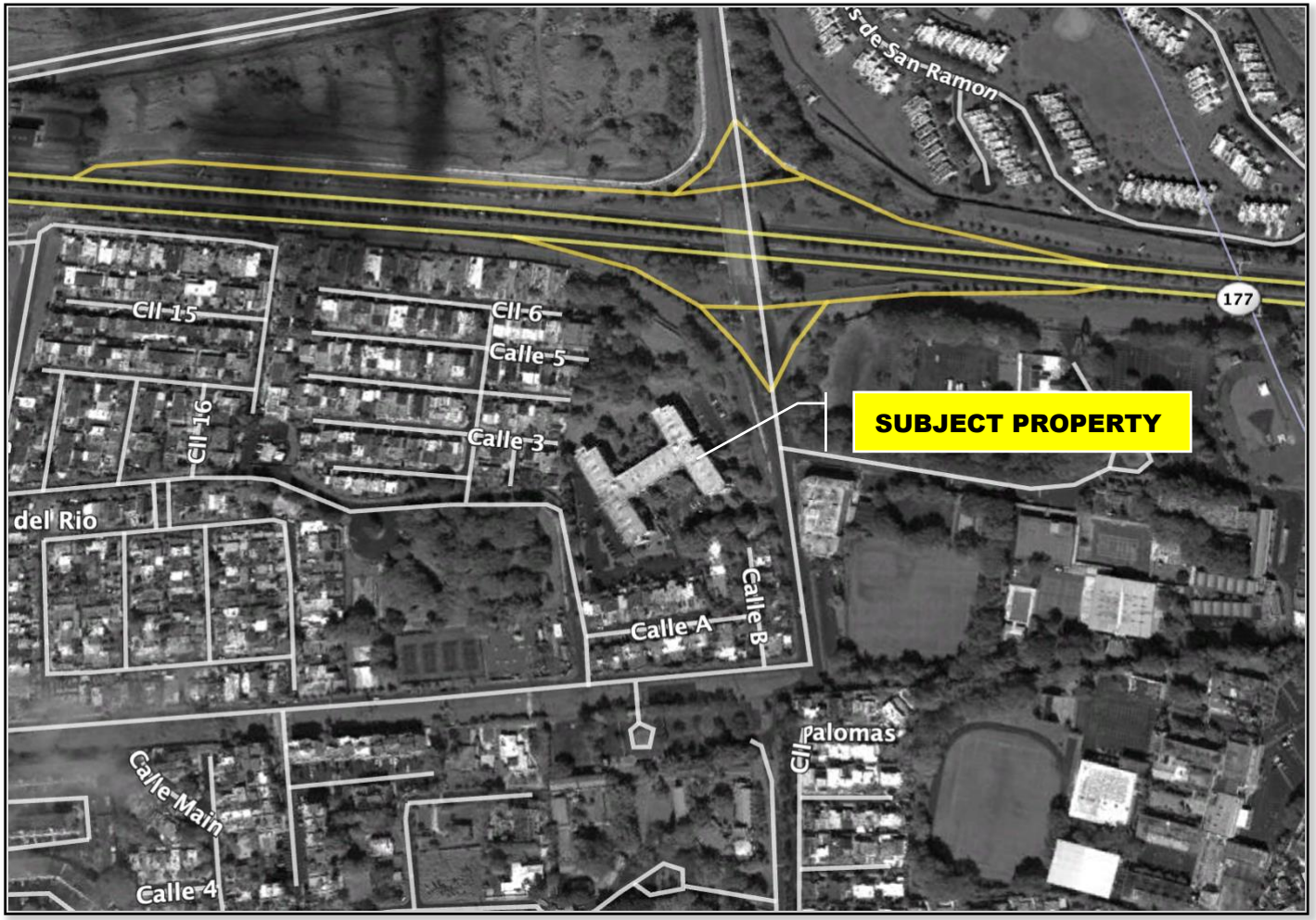
SUBJECT PROPERTY VICINITY
AERIAL VIEW – 1995
GOOGLE EARTH PRO

CASA LINDA DEL SUR APARTMENT
WEST OF NORTH AVE. & SOUTH OF ROAD PR-177
JUAN SANCHEZ WARD, BAYAMÓN, PUERTO RICO



Subject Property Vicinity
Aerial View – 2004
Google Earth Pro

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico





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Subject Property Vicinity
Aerial View – 2011
Google Earth Pro

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico



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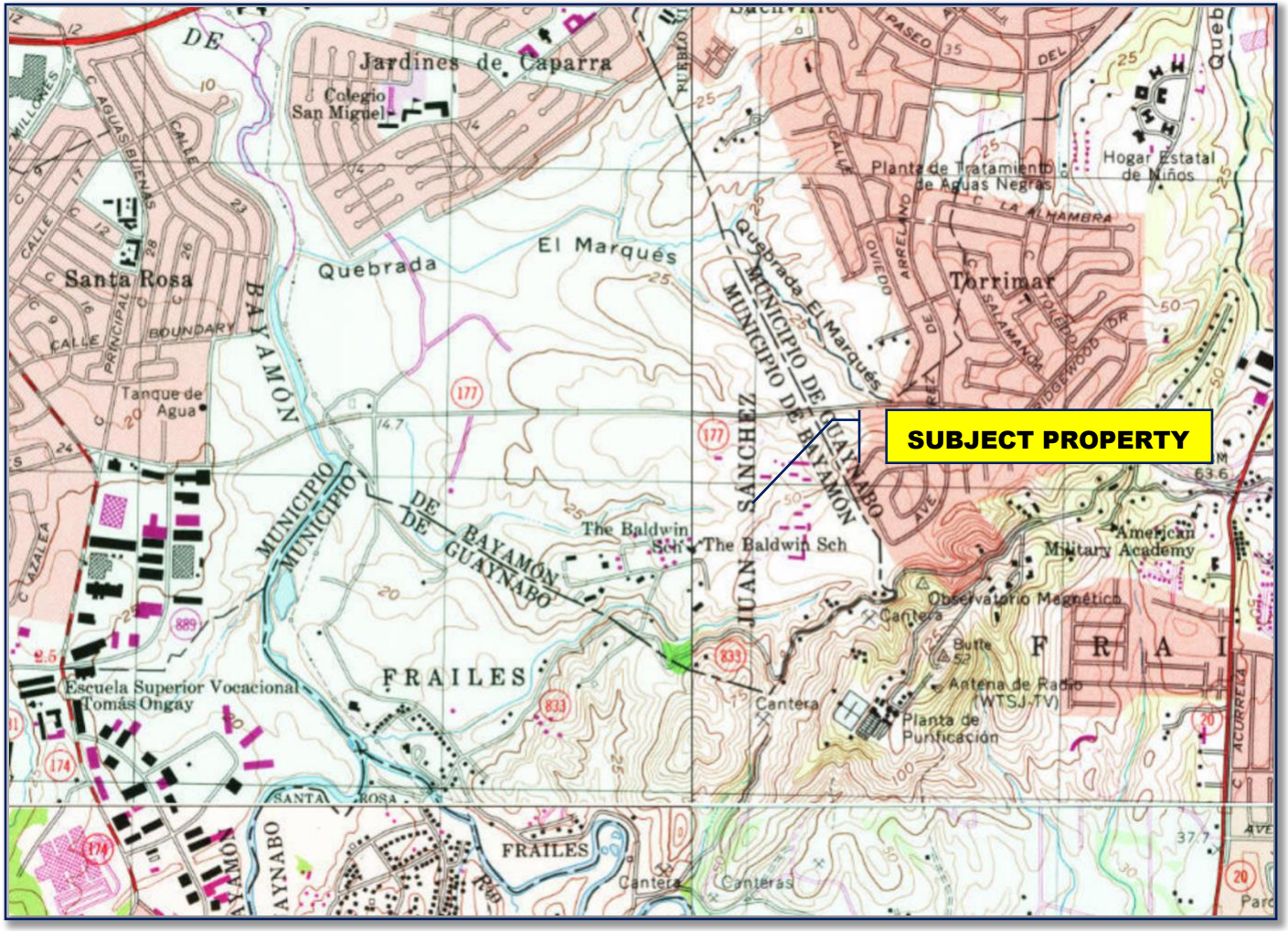
SUBJECT PROPERTY VICINITY
AERIAL VIEW – 2019
GOOGLE EARTH PRO

CASA LINDA DEL SUR APARTMENT
WEST OF NORTH AVE. & SOUTH OF ROAD PR-177
JUAN SANCHEZ WARD, BAYAMÓN, PUERTO RICO

Topographic Map



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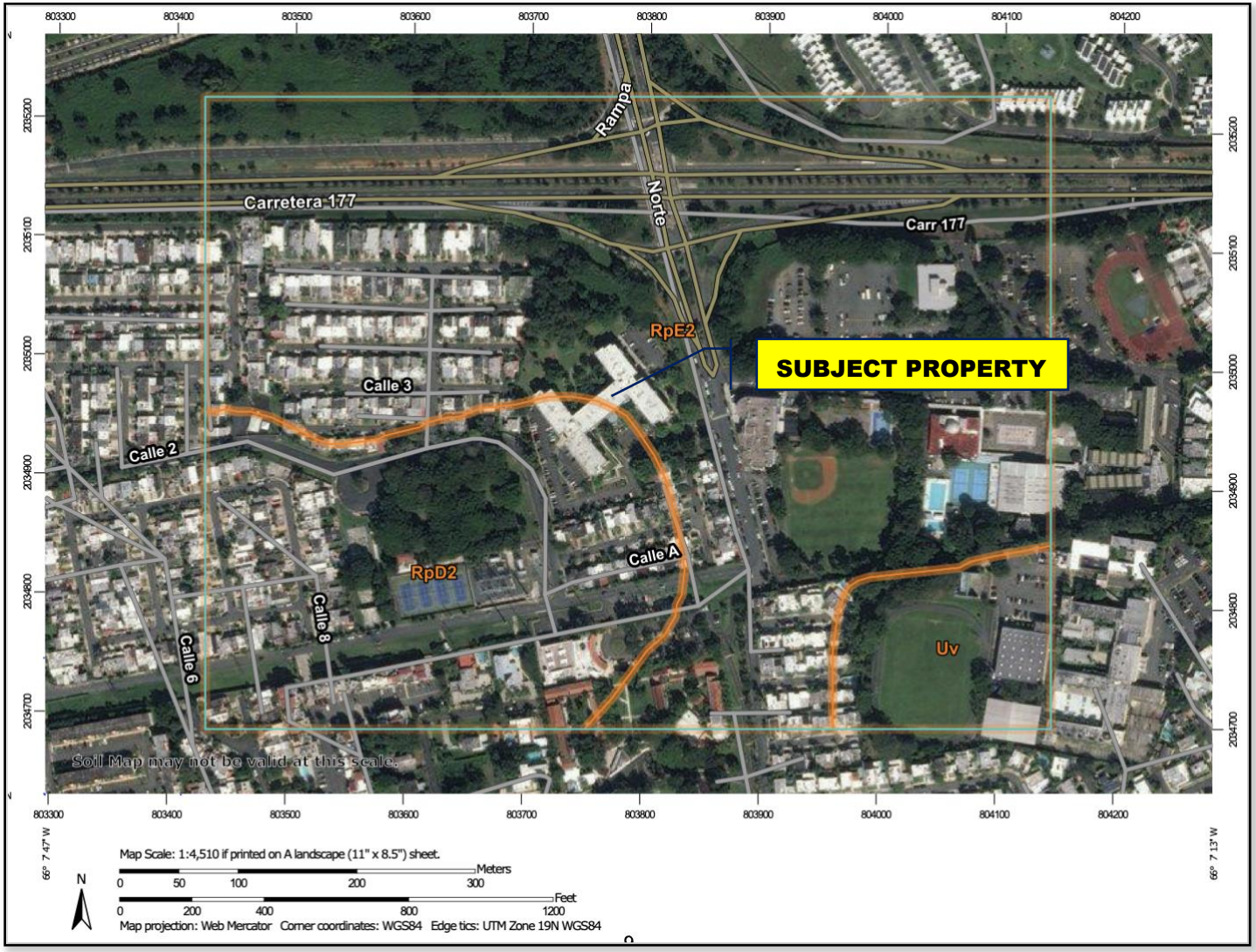
Subject Property Vicinity
Topographic Quadrangle
Source: USGS

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico

USDA Soil Map



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Subject Property Vicinity
Soil Map
Source: USDA

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico

Property Tax ID Information

Ubicación	
Catastro	**085-070-047-13**
Coordenadas Nad83	x: 232551.9723, y: 260863.7419 (Lat: 18.38298510, Lon: -66.12529094) Ver: Google | Google Earth | OpenStreet | Temblores USGS| Waze
Area Aprox. (m.c.)	19846.0405
Municipio	Bayamón
Barrio	Juan Sánchez
Características Ambientales	
Zona Inundabilidad	X
Zona Inund. Advisory	X
Panel Inundabilidad	72000C0345J , 72000C0365J
Floodway	
Suelo (NRCS)	RpE2 (97.3%) , RpD2 (2.7%)
Calificación y Clasificación de Suelo	
Calificación	**R-A** (Residencial de Alta Densidad)
Clasificación PT	**SU** (Suelo Urbano)
Clasificación PUT	**SU** (Suelo Urbano)
Mapas de Calificación	Bayamón Mapa PUT
Distrito Sobrepuesto	**APE-ZC** (Área de Planificación Especial Zona Cársica)
Zona Histórica	
Sitio Histórico	
Reglamento Aplicable	• Plan de Uso de Terrenos • Reglamento Conjunto de Permisos para Obras de Construcción y Usos de Terrenos
Vigencia de Clasificación PUT	30-nov-2015
Vigencia de GeoDato de Calificación	20-DIC-2012
Status POT	Municipio Autónomo con Jerarquia V
Usos Permitidos Por Reglamento	**R-A** • Casa de Salud de hasta 2 inquilinos • Hospedajes • Hospedajes especializados • Vivienda multifamiliar • Estacionamientos en solares para esos propósitos
Permisos	1 Casos SharePoint



PROPERTY TAX ID INFORMATION
SOURCE: PR PLANNING BOARD

CASA LINDA DEL SUR APARTMENT
WEST OF NORTH AVE. & SOUTH OF ROAD PR-177
JUAN SANCHEZ WARD, BAYAMÓN, PUERTO RICO

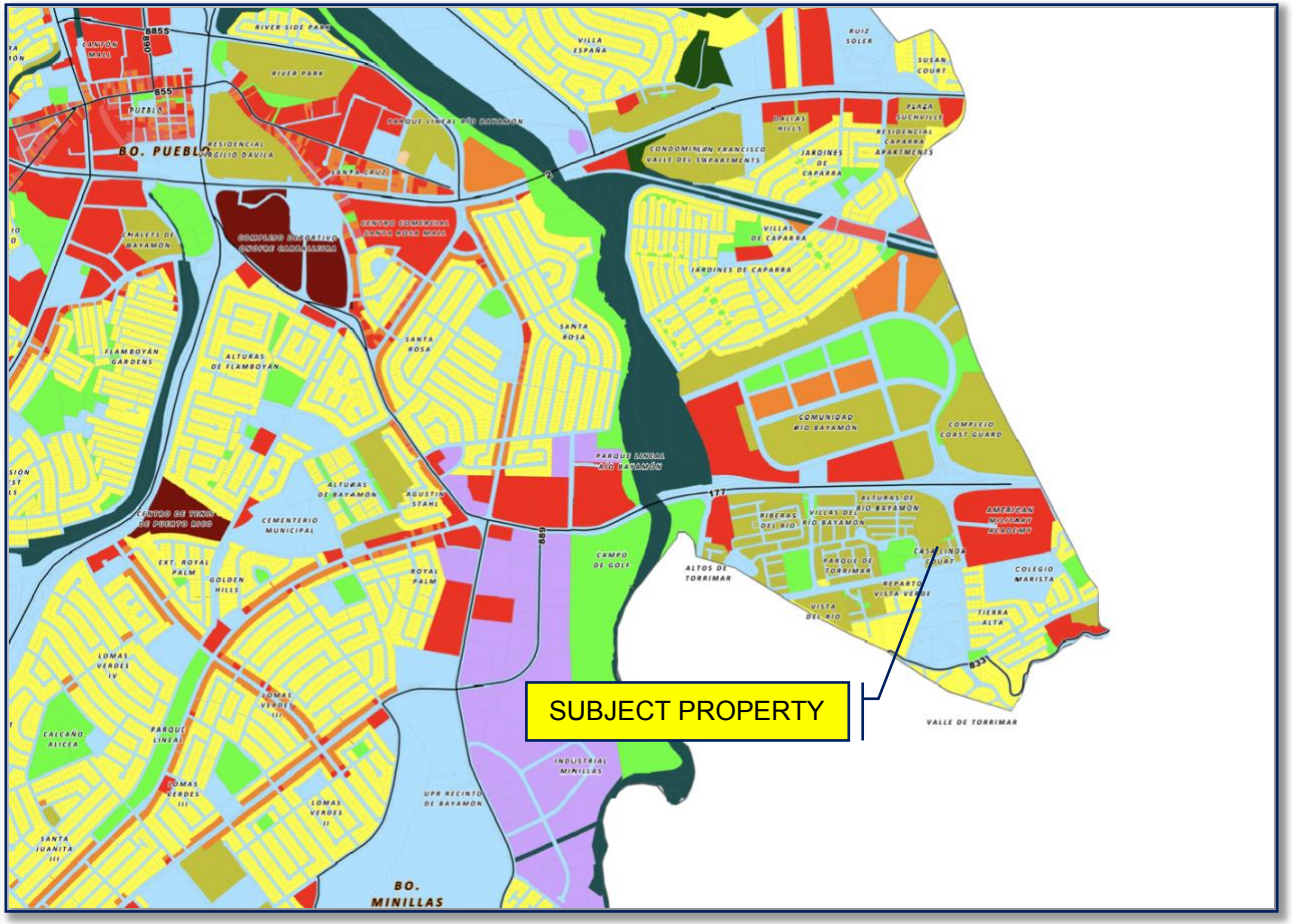
Zoning Map

DISTRITOS DE CALIFICACIÓN

CALIF	DESCRIPCIÓN
M	A MEJORARSE
A-G	AGRICOLA GENERAL
A-P	AGRICOLA PRODUCTIVO
AD	AREAS DESARROLLADAS
B-Q	BOSQUES
C-C	CENTRO COMERCIAL
C-I	COMERCIAL INTERMEDIO
C-L	COMERCIAL LIVIANO
CT-I	COMERCIAL TURISTICO INTERMEDIO
CT-L	COMERCIAL TURISTICO LIVIANO
CR-C	CONSERVACIÓN DE CUENCAS
CR	CONSERVACIÓN DE RECURSOS
CR-A	CONSERVACIÓN DE RECURSOS ARQUEOLÓGICOS
SH	CONSERVACIÓN Y RESTAURACIÓN DE SITIOS HISTÓRICOS
DES	DESARROLLO ECOTURÍSTICO SOSTENIBLE
DS	DESARROLLO SELECTIVO
DTS	DESARROLLO TURÍSTICO SELECTIVO
DT-G	DOTACIONAL GENERAL
DT-P	DOTACIONAL PARQUE
I-L	INDUSTRIAL LIVIANO
I-P	INDUSTRIAL PESADO
PM	PESCA Y MARICULTURA
PP	PLAYAS PÚBLICAS
PR	PRESERVACIÓN DE RECURSOS
RC-E	RECREACION COMERCIAL EXTENSA
RC-M	RESIDENCIAL COMERCIAL MIXTO
R-A	RESIDENCIAL DE ALTA DENSIDAD
R-I	RESIDENCIAL INTERMEDIO
RT-A	RESIDENCIAL TURISTICO DE ALTA DENSIDAD
RT-B	RESIDENCIAL TURÍSTICO DE BAJA DENSIDAD
RT-I	RESIDENCIAL TURISTICO INTERMEDIO
R-ZH	RESIDENCIAL ZONA HISTÓRICA
R-G	RURAL GENERAL
RE	RUTA ESCÉNICA
UR	TERRENOS URBANIZABLES

DISTRITOS DE CALIFICACIÓN PRESENTES EN BAYAMÓN

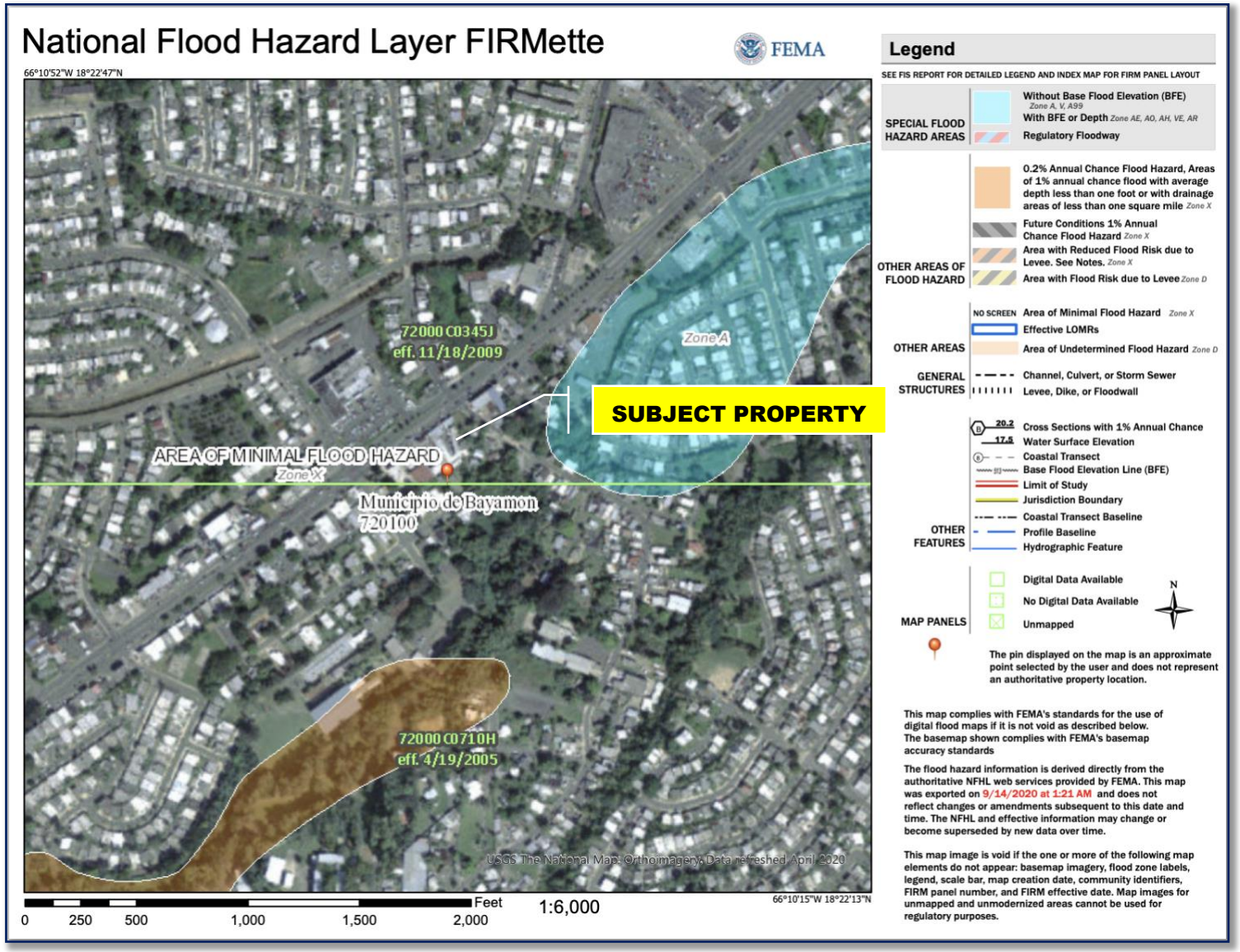
- AD
- B-Q
- C-C
- C-I
- C-L
- CR
- CT-L
- DT-G
- DT-P
- I-L
- I-P
- M
- PR
- R-A
- R-G
- R-I
- RC-E
- RC-M
- UR



SUBJECT PROPERTY VICINITY
ZONING MAP
SOURCE: PLANNING BOARD OF PR

CASA LINDA DEL SUR APARTMENT
WEST OF NORTH AVE. & SOUTH OF ROAD PR-177,
JUAN SANCHEZ WARD, BAYAMÓN, PUERTO RICO

U.S. FEMA Flood Map





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MAP#: 72000C0345H
MAP#: 72000C0365H
SOURCE: US FEMA

JMC AUTO BODY SHOP, INC.
LOT 13 SR PR-167, KM 20.1, PAJAROS WARD
BAYAMON, PUERTO RICO.

U.S. Fish and Wildlife Service

National Wetland Inventory Map



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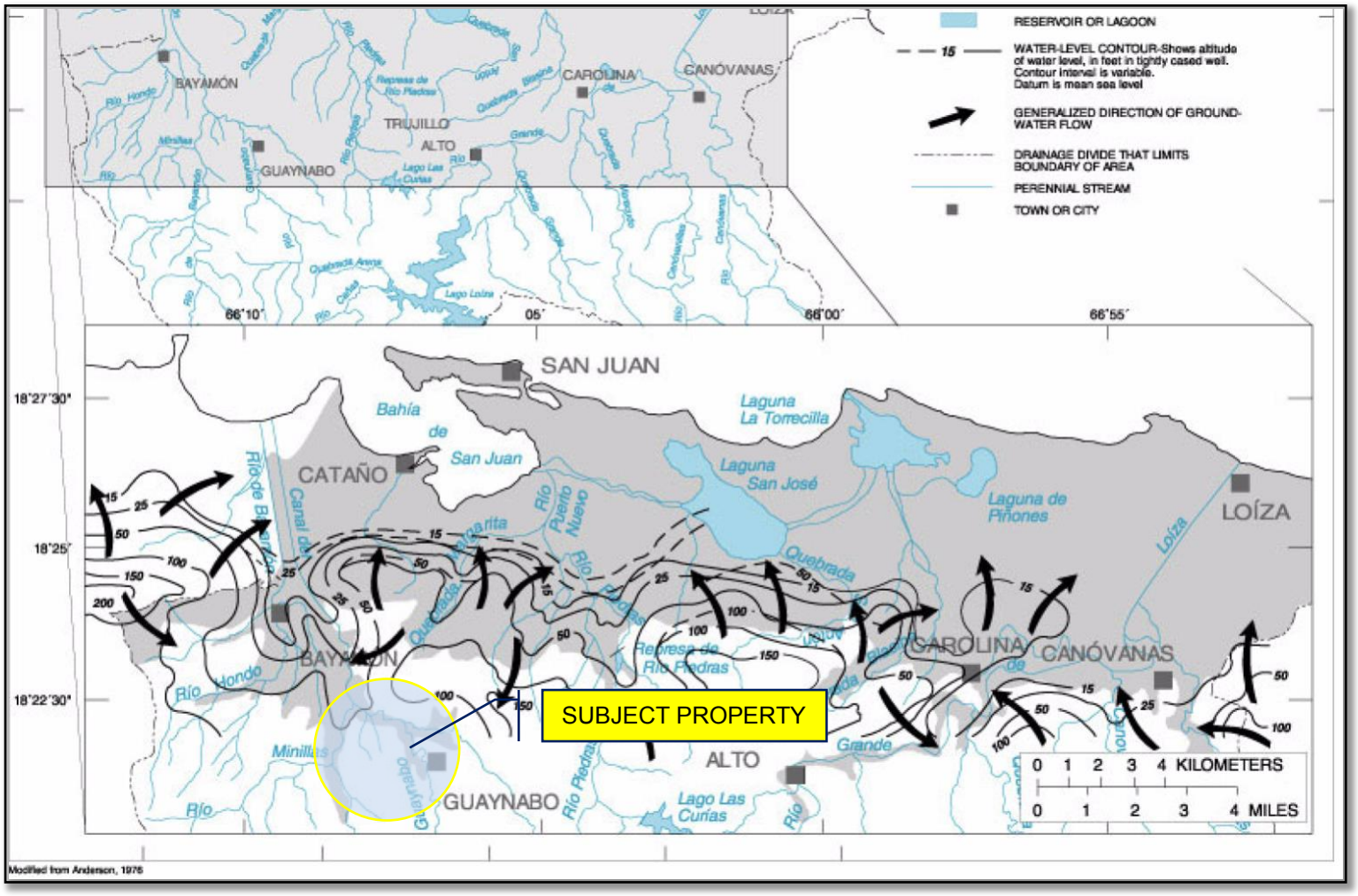
U.S. Fish & Wildlife Service
National Wetland Inventory Map

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177,
Juan Sanchez Ward, Bayamón, Puerto Rico

U.S. USGS

Vicinity Ground Water Movement



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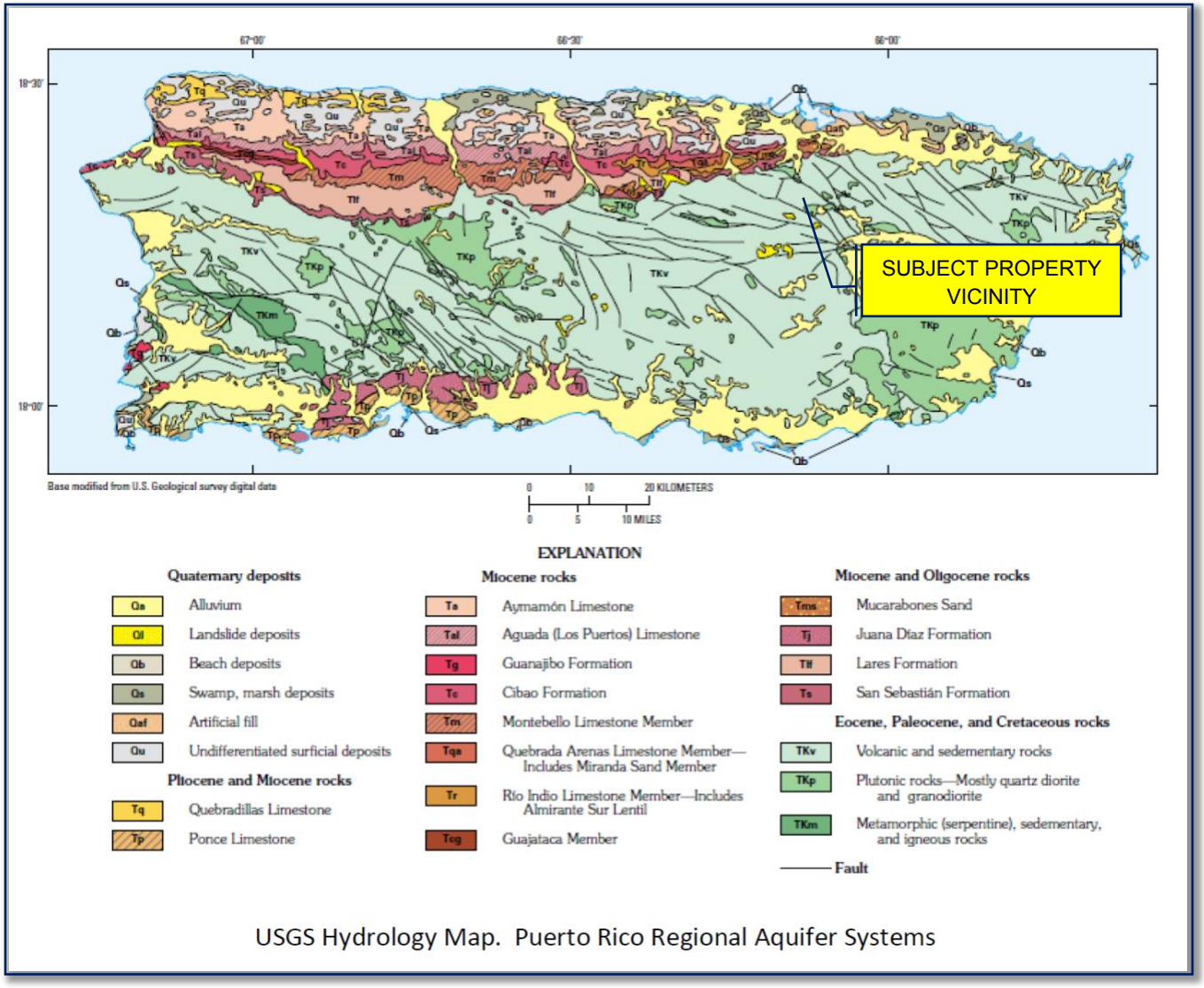
Bayamon-Loiza Region
Ground-Water Movement
Source: Atlas of PR Ground-Water

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico

USGS Geologic Map



USGS Hydrology Map. Puerto Rico Regional Aquifer Systems

N

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USGE Hydrology Map
Puerto Rico Regional Aquifer System
USGS Resources

Casa Linda del Sur Apartment
West of North Ave. & south of Road PR-177, Juan Sanchez Ward, Bayamón, Puerto Rico

Appendix I
EDR Radius Map with GeoCheck

Casa Linda Del Sur
W of North Ave. and S of PR-177, Juan Sanchez Ward
Bayamon, PR 00959

Inquiry Number: 6733091.2s
November 03, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting Source Map	A-6
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

W OF NORTH AVE. AND S OF PR-177, JUAN SANCHEZ WARD
BAYAMON, PR 00959

COORDINATES

Latitude (North):	18.3829850 - 18˚ 22' 58.74''
Longitude (West):	66.1252900 - 66˚ 7' 31.04''
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	803767.9
UTM Y (Meters):	2034840.8
Elevation:	107 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	12367425 BAYAMON, PR
Version Date:	2018
Northeast Map:	12367789 SAN JUAN, PR
Version Date:	2018
Southeast Map:	12382740 AGUAS BUENAS, PR
Version Date:	2018
Southwest Map:	12382750 NARANJITO, PR
Version Date:	2018

MAPPED SITES SUMMARY

Target Property Address:
W OF NORTH AVE. AND S OF PR-177, JUAN SANCHEZ WARD
BAYAMON, PR 00959

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL National Priority List
Proposed NPL Proposed National Priority List Sites
NPL LIENS Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY Federal Facility Site Information listing
SEMS Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG RCRA - Large Quantity Generators
RCRA-SQG RCRA - Small Quantity Generators
RCRA-VSQG RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS Engineering Controls Sites List
US INST CONTROLS Institutional Controls Sites List

Federal ERNS list

ERNS Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal leaking storage tank lists

LUST Leaking Underground Storage Tanks
INDIAN LUST Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST Underground Storage Tank Listing
UST Underground Storage Tank Facilities
INDIAN UST Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI Report on the Status of Open Dumps on Indian Lands
ODI Open Dump Inventory
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
US CDL National Clandestine Laboratory Register

Local Land Records

LIENS 2 CERCLA Lien Information

Records of Emergency Release Reports

HMIRS Hazardous Materials Information Reporting System

Other Ascertainable Records

RCRA NonGen / NLR RCRA - Non Generators / No Longer Regulated

EXECUTIVE SUMMARY

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
MINES MRDS	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

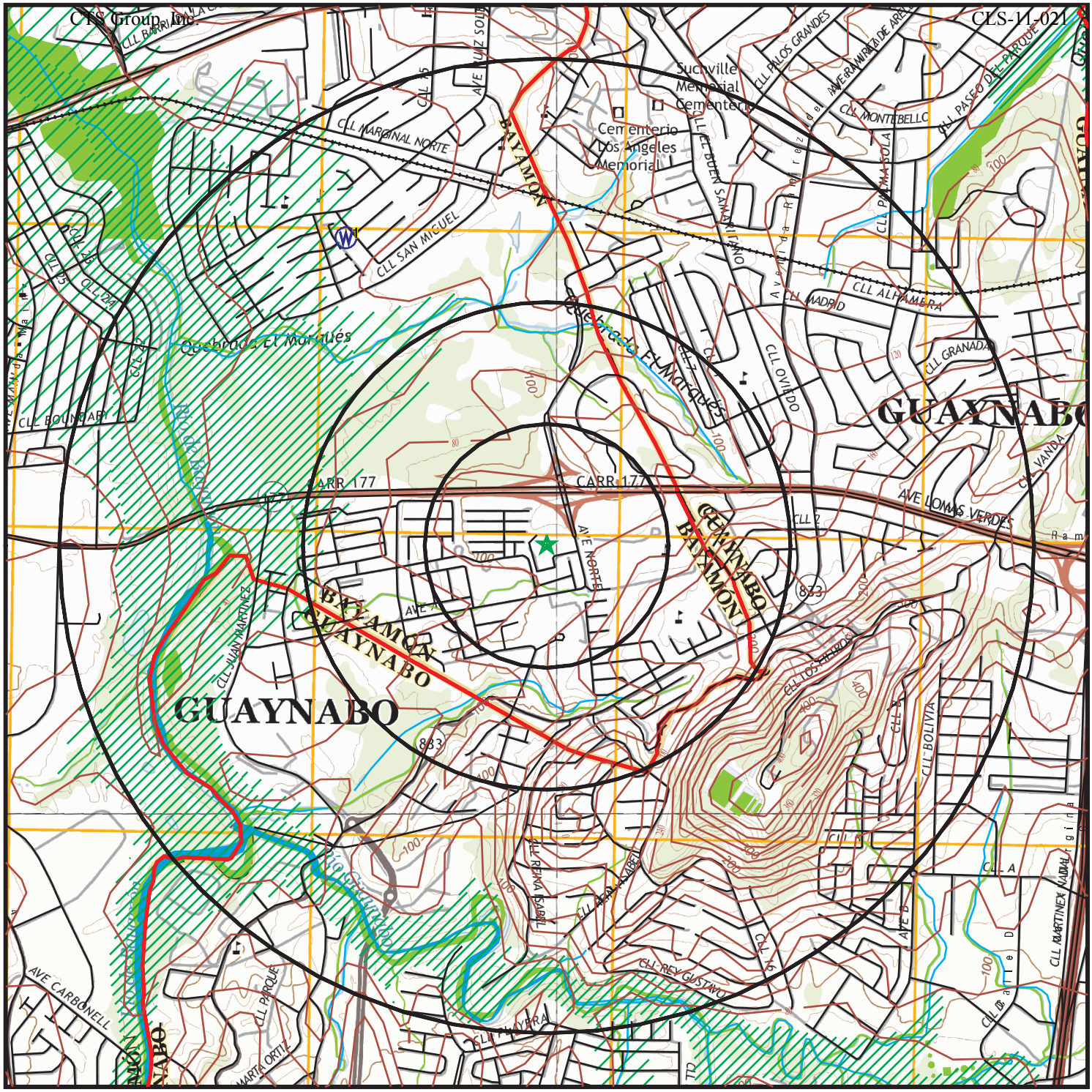
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 57 records.

Site Name	Database(s)
INDUSTRIAL MACHINERY MOVERS INC	SEMS, RCRA NonGen / NLR
SANTA OLAYA	SEMS
SHELL #4444	LUST
SIERRA BAYAMON II S/S 377	LUST
GULF #189	LUST
REXVILLE S/S (TEXACO #654)	LUST
TEXACO S/S #214	LUST
SHELL 3140	LUST
ROYAL PALM S/S #231	LUST
SAMARITANO & CO., INC.	LUST
ESSO S/S 13060	LUST
ESSO CO-063	LUST
HOSPITAL MATILDE BRENES	LUST
MAGNOLIA SERVICE STA.	LUST
LA ALDEA SERVACAR	LUST
BEST PAJAROS S/S	LUST
MEPSI CENTER	LUST
FELIX MIRANDA S/S	LUST
FLAV-O-RICH	LUST
AUT. CARRETERAS	LUST
CITIBANK-BAYAMON	LUST
CITGO BAYAMON	LUST
SHELL # 710	LUST
TEXACO S/S #251	LUST
READY MIX (PLANTA 8)	LUST
SHELL 2323	LUST
SHELL 2410	LUST
P.R. CONTAINER	LUST
ESSO CO-057 ISMAEL ORTIZ	LUST
SHELL #1112	LUST
COLEGIO UNIVERSITARIO TECNOLOGICO	LUST
BEST S/S	LUST
DEP. DE TRANSPORTACION	LUST
GULF #153	LUST
SEVEN UP	LUST
SHELL #804517	LUST
SHELL #804525	LUST
ANTIGUA PLANTA LA FAMOSA	LUST
CHEVRON WAREHOUSE	LUST
GULF #084	LUST
GULF #054	LUST
SHELL SERVICE STATION #204284	LUST
GULF #091	LUST
SHELL #3697	LUST
GSA CENTER	LUST
VALLE ESCONDIDO S/S (GULF)	LUST
ESSO CO-002	LUST
SHELL #4589	LUST
HOLLY LAND, INC.	LUST
GULF # 395	LUST
FORTO CHEMICAL	LUST
PRTC/ REMOTO VII	LUST
SHELL #804690	LUST
TEXACO # 285	LUST
OLYMPIC MILLS INC.	LUST
CITGO LA MUDA	LUST
BAYAMON FORMER SANITARY LANDFILL	ODI

OVERVIEW MAP - 6733091.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Casa Linda Del Sur	CLIENT: CTS Group, Inc.
ADDRESS: W of North Ave and S of PR-177, Juan Sanchez Ward Bayamon PR 00959	CONTACT: Ihosvany Negret
LAT/LONG: 18.382985 / 66.12529	INQUIRY #: 6733091.2s
	DATE: November 03, 2021 8:26 am

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DETAIL MAP - 6733091.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Casa Linda Del Sur	CLIENT: CTS Group, Inc.
ADDRESS: W of North Ave. and S of PR-177, Juan Sanchez Ward Bayamon PR 00959	CONTACT: Ihosvany Negret
LAT/LONG: 18.382985 / 66.12529	INQUIRY #: 6733091.2s
	DATE: November 03, 2021 8:26 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

MAP FINDINGS

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number

NO SITES FOUND

Count: 57 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BAYAMON	S101442822	SHELL #4444	AVE LOMAS VERDES		LUST
BAYAMON	S103553989	SIERRA BAYAMON II S/S 377	AVE WEST MAIN ESQ. COMERIO/SIE		LUST
BAYAMON	S103553765	GULF #189	AVE LOMAS VERDES 174		LUST
BAYAMON	S103553987	REXVILLE S/S (TEXACO #654)	AVE. PERIFERAL ESQ. CALLE 9 UR		LUST
BAYAMON	S106917733	TEXACO S/S #214	AVE. LOMAS VERDES & CARR. #174		LUST
BAYAMON	S104904859	SHELL 3140	AVE. LOMAS VERDES ESQ. CALLE N		LUST
BAYAMON	S103553988	ROYAL PALM S/S #231	AVE. LOMAS VERDES ESQ. JACINTO		LUST
BAYAMON	S123161981	SAMARITANO & CO., INC.	BOUNDARY ST. #1, CORNER 24 ST.		LUST
BAYAMON	S103553960	ESSO S/S 13060	CALLE BARBOSA ESQ. CARR 2		LUST
BAYAMON	S106917694	ESSO CO-063	CALLE LAUREL LOMAS VERDES		LUST
BAYAMON	S103934119	HOSPITAL MATILDE BRENES	CALLE J-9 EXTENCION HERMANAS D		LUST
BAYAMON	S106917800	MAGNOLIA SERVICE STA.	CALLE ESQUINA 15 MAGNOLIA		LUST
BAYAMON	S101442877	LA ALDEA SERVACAR	CALLE 167 KM 2.6		LUST
BAYAMON	S101443004	BEST PAJAROS S/S	CARR 863 KM 0.1, BO. PAJAROS		LUST
BAYAMON	S104540046	MEPSI CENTER	CARR #2		LUST
BAYAMON	S101442816	FELIX MIRANDA S/S	CARR 167 KM 18.5		LUST
BAYAMON	S103553736	FLAV-O-RICH	CARR 174 KM 2.2 MINILLAS INDUS		LUST
BAYAMON	S104228807	AUT. CARRETERAS	CARR 2 SANTA ROSA		LUST
BAYAMON	S104228797	CITIBANK-BAYAMON	CARR 2 KM 11.2		LUST
BAYAMON	S103554087	CITGO BAYAMON	CARR 831 URB. LOMAS VERDES		LUST
BAYAMON	S106452761	SHELL # 710	CARR 2 KM 8.9		LUST
BAYAMON	S106452769	TEXACO S/S #251	CARR #2 KM 12		LUST
BAYAMON	S101442840	READY MIX (PLANTA 8)	CARR 861 KM 3		LUST
BAYAMON	S107517977	SHELL 2323	CARR 831 KM 2.5		LUST
BAYAMON	S103934106	SHELL 2410	CARR 167 KM 15.4		LUST
BAYAMON	S103554122	P.R. CONTAINER	CARR 2 KM 15.2 CORUJO IND. PAR		LUST
BAYAMON	S101442892	ESSO CO-057 ISMAEL ORTIZ	CARR 2 CALLE 1 COOP.		LUST
BAYAMON	1000982154	INDUSTRIAL MACHINERY MOVERS INC	CARR 174 KM 4.4 CALLE 10 NO 6	00959	SEMS, RCRA NonGen / NLR
BAYAMON	S103553906	SHELL #1112	CARR. 2 KM. 13.9/ HATO TEJAS		LUST
BAYAMON	S103554048	COLEGIO UNIVERSITARIO TECNOLOGICO	CARR. 174, KM. 2.8, SECTOR IND		LUST
BAYAMON	S106917813	BEST S/S	CARR. #167, KM. 11.0, BO. DAJA		LUST
BAYAMON	S106917792	DEP. DE TRANSPORTACION	CARR. 174, CALLE 5, BO. JUAN S		LUST
BAYAMON	S104904761	GULF #153	CARR. 2 KM. 15.4		LUST
BAYAMON	S104904834	SEVEN UP	CARR. 177 KM. 8.3 MINILLAS		LUST
BAYAMON	S106917654	SHELL #804517	CARR. 167 KM. 9.6		LUST
BAYAMON	S104904822	SHELL #804525	CARR. 2 KM. 12.0		LUST
BAYAMON	S106917838	ANTIGUA PLANTA LA FAMOSA	CARR. #2, BO. HATO TEJAS		LUST
BAYAMON	S106917622	CHEVRON WAREHOUSE	CARR. 28 KM. 2.1		LUST
BAYAMON	S101442781	GULF #084	CARR. 2 KM. 15.0		LUST
BAYAMON	S106917636	GULF #054	CARR.2 KM 9.5		LUST
BAYAMON	S123161980	SHELL SERVICE STATION #204284	CARRETERA #2 CENTRO COMERCIAL		LUST
BAYAMON	S106917638	GULF #091	PR-174 KM. 2.2 BO. MINILLAS		LUST
BAYAMON	1008879622	SANTA OLAYA	ROAD #829 KM. 5.6 SANTA OLAYA		SEMS

Count: 57 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BAYAMON	1007445493	BAYAMON FORMER SANITARY LANDFILL	STATE ROAD PR - 167 KM 12 HM 8		ODI
GUAYNABO	S103553913	SHELL #3697	CALLE #177, ESQ. MURO/ MUNOZ R		LUST
GUAYNABO	S110713196	GSA CENTER	CARR 28 KM 3.8		LUST
GUAYNABO	S103934125	VALLE ESCONDIDO S/S (GULF)	CARR 834 KM 2.2 BO. HATO NUEVO		LUST
GUAYNABO	S107517968	ESSO CO-002	CARR 2 KM 46.2 JUAN DOMINGO		LUST
GUAYNABO	S103553830	SHELL #4589	CARR 20 KM 0.4		LUST
GUAYNABO	S103554156	HOLLY LAND, INC.	CARR 833 KM 4.7 / GUARAGUAO		LUST
GUAYNABO	S101442804	GULF # 395	CARR 20 KM 9.2		LUST
GUAYNABO	S106917781	FORTO CHEMICAL	CARR. 20 KM. 9.1, BO. LOS FRAI		LUST
GUAYNABO	S105073603	PRTC/ REMOTO VII	CARR. 1 KM. 19.1		LUST
GUAYNABO	S104228765	SHELL #804690	CARR. 177 KM. 2.2 LOS FILTROS		LUST
GUAYNABO	S106917820	TEXACO # 285	CARR. 20 KM. 6.9, BO. CAMARONE		LUST
GUAYNABO	S106917837	OLYMPIC MILLS INC.	CARR. 20 KM. 3.8, BO. LOS FRAI		LUST
GUAYNABO	S103554060	CITGO LA MUDA	CARR. 1 KM. 23.1/LA MUDA		LUST

CTS Group, Inc.

CLS-11-021

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 06/24/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/12/2021
Date Data Arrived at EDR: 08/06/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 77

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/05/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/14/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 61
Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/21/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A
Source: Environmental Quality Board
Telephone: 787-767-8181
Last EDR Contact: 08/22/2005
Next Scheduled EDR Contact: 11/21/2005
Data Release Frequency: N/A

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tanks
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/24/2020
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/04/2021
Number of Days to Update: 84
Source: Environmental Quality Board
Telephone: 787-767-8056
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

UST: Underground Storage Tank Facilities
Underground storage tank site locations.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 03/26/2008
Date Made Active in Reports: 04/23/2008
Number of Days to Update: 28
Source: Environmental Quality Board
Telephone: 787-767-8056
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 68

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/12/2021
Date Data Arrived at EDR: 09/13/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 15

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/13/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/10/2021
Date Data Arrived at EDR: 08/17/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 66

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/17/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/19/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35
Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/03/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/27/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 07/16/2021
Number of Days to Update: 2
Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151
Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/12/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2021
Date Data Arrived at EDR: 05/25/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 78

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/15/2021
Date Data Arrived at EDR: 06/16/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 62
Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/05/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 91
Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/07/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/26/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89
Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 70
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Environmental Quality Board in Puerto Rico.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/04/2014
Number of Days to Update: 187

Source: Environmental Quality Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/11/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CASA LINDA DEL SUR
W OF NORTH AVE. AND S OF PR-177, JUAN SANCHEZ WARD
BAYAMON, PR 00959

TARGET PROPERTY COORDINATES

Latitude (North):	18.382985 - 18˚ 22' 58.75"
Longitude (West):	66.12529 - 66˚ 7' 31.04"
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	803767.9
UTM Y (Meters):	2034840.8
Elevation:	107 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	12367425 BAYAMON, PR
Version Date:	2018
Northeast Map:	12367789 SAN JUAN, PR
Version Date:	2018
Southeast Map:	12382740 AGUAS BUENAS, PR
Version Date:	2018
Southwest Map:	12382750 NARANJITO, PR
Version Date:	2018

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

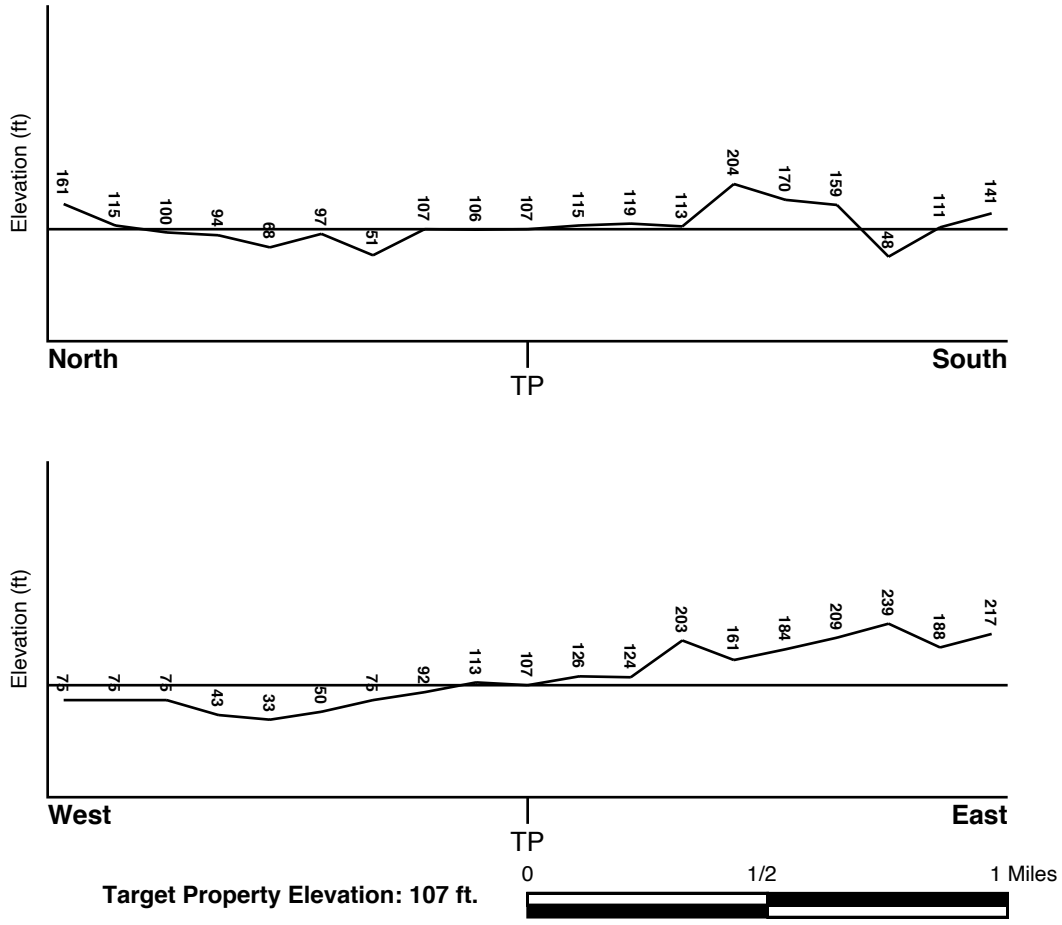
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
7200000049B	FEMA Q3 Flood data

Additional Panels in search area:	FEMA Source Type
7200000053C	FEMA Q3 Flood data
7200000110C	FEMA Q3 Flood data
7200000111C	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: -
System: -
Series: -
Code: N/A *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: clay loam
loamy sand

Surficial Soil Types: clay loam
loamy sand

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: unweathered bedrock

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40001045583	1/2 - 1 Mile NNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

PHYSICAL SETTING SOURCE MAP - 6733091.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location

N

SITE NAME: Casa Linda Del Sur	CLIENT: CTS Group, Inc.
ADDRESS: W of North Ave and S of PR-177, Juan Sanchez Ward Bayamon PR 00959	CONTACT: Ihosvany Negret
LAT/LONG: 18.382985 / 66.12529	INQUIRY #: 6733091.2s
	DATE: November 03, 2021 8:26 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **NNW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40001045583**

Organization ID:	USGS-PR		
Organization Name:	USGS Puerto Rico Water Science Center		
Monitor Location:	QUI WELL, BAYAMON, PR	Type:	Well
Description:	Not Reported	HUC:	21010005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1954
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1961-04-26
Feet below surface:	8.06	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Not Reported

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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Appendix II
EDR Historical Topo Map and Aerial Photo Report

Casa Linda Del Sur
W of North Ave. and S of PR-177, Juan Sanchez Ward
Bayamon, PR 00959

Inquiry Number: 6733091.5
November 03, 2021

EDR Historical Topo Map Report
with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

Site Name:	Client Name:
Casa Linda Del Sur	CTS Group, Inc.
W of North Ave. and S of PR-1	400 Juan Calaf, Ste. 235
Bayamon, PR 00959	San Juan, PR 00912
EDR Inquiry # 6733091.5	Contact: Ihosvany Negret

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by CTS Group, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		*Coordinates:*	
P.O.#	NA	**Latitude:**	18.382985 18° 22' 59" North
Project:	NA	**Longitude:**	-66.12529 -66° 7' 31" West
		UTM Zone:	Zone 19 North
		UTM X Meters:	803763.42
		UTM Y Meters:	2034963.01
		Elevation:	109.45' above sea level

Maps Provided:

2013
1982
1969
1963, 1964
1957
1949, 1952
1947, 1950
1941, 1946

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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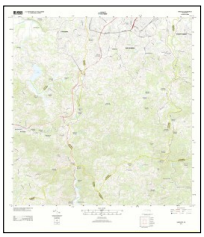
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

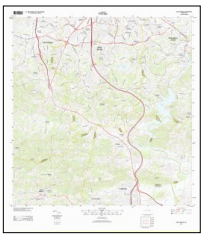
2013 Source Sheets



San Juan
2013
7.5-minute, 20000



Naranjito
2013
7.5-minute, 20000



Aguas Buenas
2013
7.5-minute, 20000



Bayamon
2013
7.5-minute, 20000

1982 Source Sheets



Aguas Buenas
1982
7.5-minute, 20000
Aerial Photo Revised 1977



Bayamon
1982
7.5-minute, 20000
Aerial Photo Revised 1977



San Juan
1982
7.5-minute, 20000
Aerial Photo Revised 1977

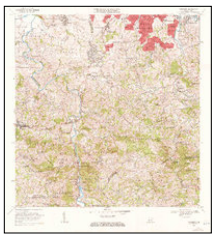


Naranjito
1982
7.5-minute, 20000
Aerial Photo Revised 1977

1969 Source Sheets



San Juan
1969
7.5-minute, 20000
Aerial Photo Revised 1967



Naranjito
1969
7.5-minute, 20000
Aerial Photo Revised 1967



Aguas Buenas
1969
7.5-minute, 20000
Aerial Photo Revised 1967



Bayamon
1969
7.5-minute, 20000
Aerial Photo Revised 1967

1963, 1964 Source Sheets



Naranjito
1963
7.5-minute, 20000
Aerial Photo Revised 1941



Bayamon
1963
7.5-minute, 20000
Aerial Photo Revised 1962



San Juan
1963
7.5-minute, 20000
Aerial Photo Revised 1962



Aguas Buenas
1964
7.5-minute, 20000
Aerial Photo Revised 1962

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1957 Source Sheets



Bayamon
1957
7.5-minute, 20000



San Juan
1957
7.5-minute, 20000



Aguas Buenas
1957
7.5-minute, 20000
Aerial Photo Revised 1941



Naranjito
1957
7.5-minute, 20000
Aerial Photo Revised 1941

1949, 1952 Source Sheets



Bayamon
1949
7.5-minute, 30000



San Juan
1949
7.5-minute, 30000

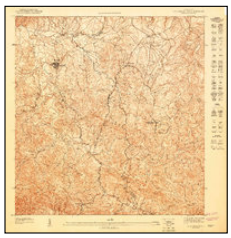


Aguas Buenas
1952
7.5-minute, 30000
Aerial Photo Revised 1941



Naranjito
1952
7.5-minute, 30000
Aerial Photo Revised 1941

1947, 1950 Source Sheets



Aguas Buenas NO
1947
7.5-minute, 10000



Bayamon SE
1950
7.5-minute, 10000

1941, 1946 Source Sheets



Bayamon
1941
7.5-minute, 30000



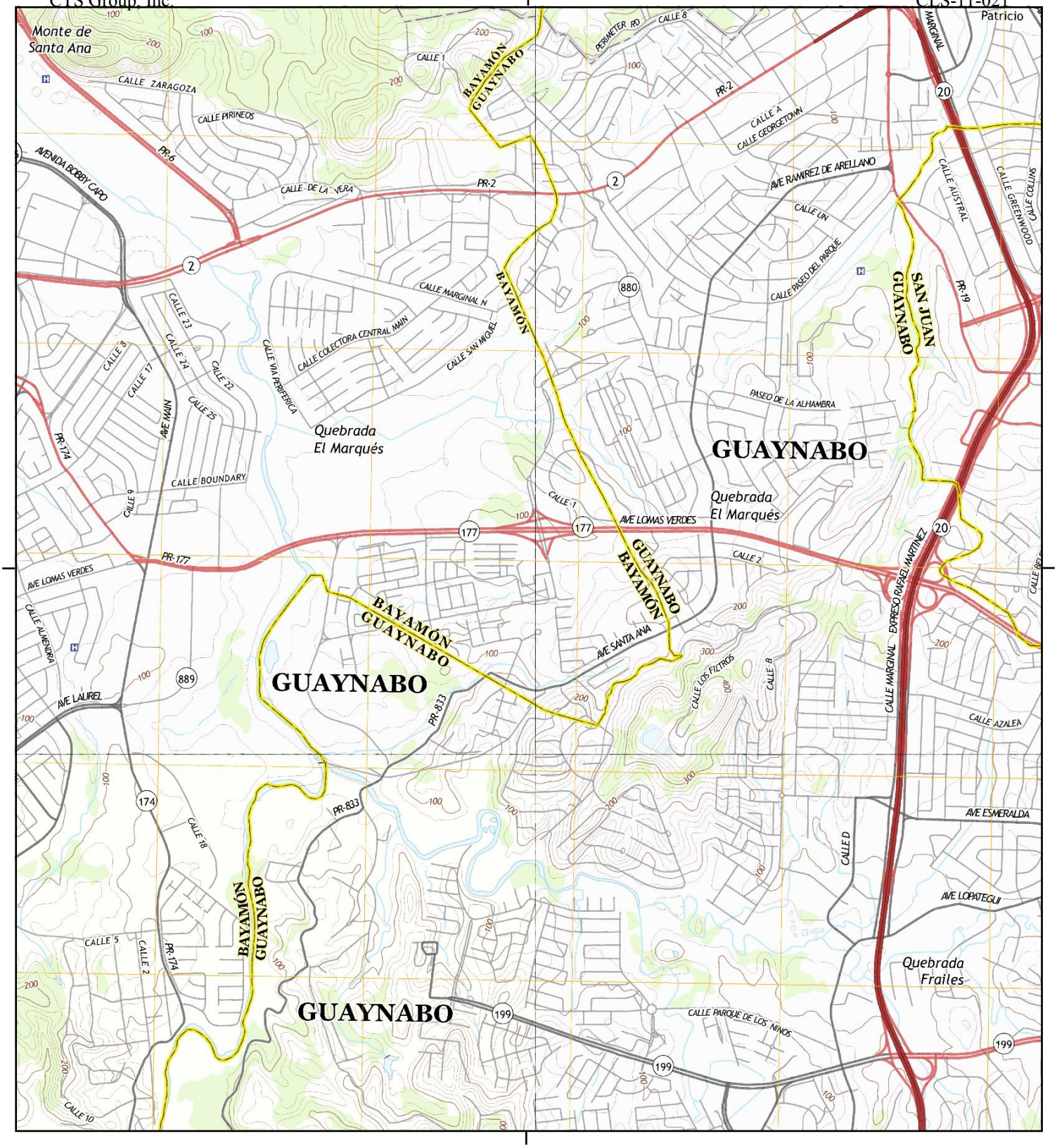
San Juan
1941
7.5-minute, 30000



Aguas Buenas
1946
7.5-minute, 30000



Naranjito
1946
7.5-minute, 30000



This report includes information from the following map sheet(s).

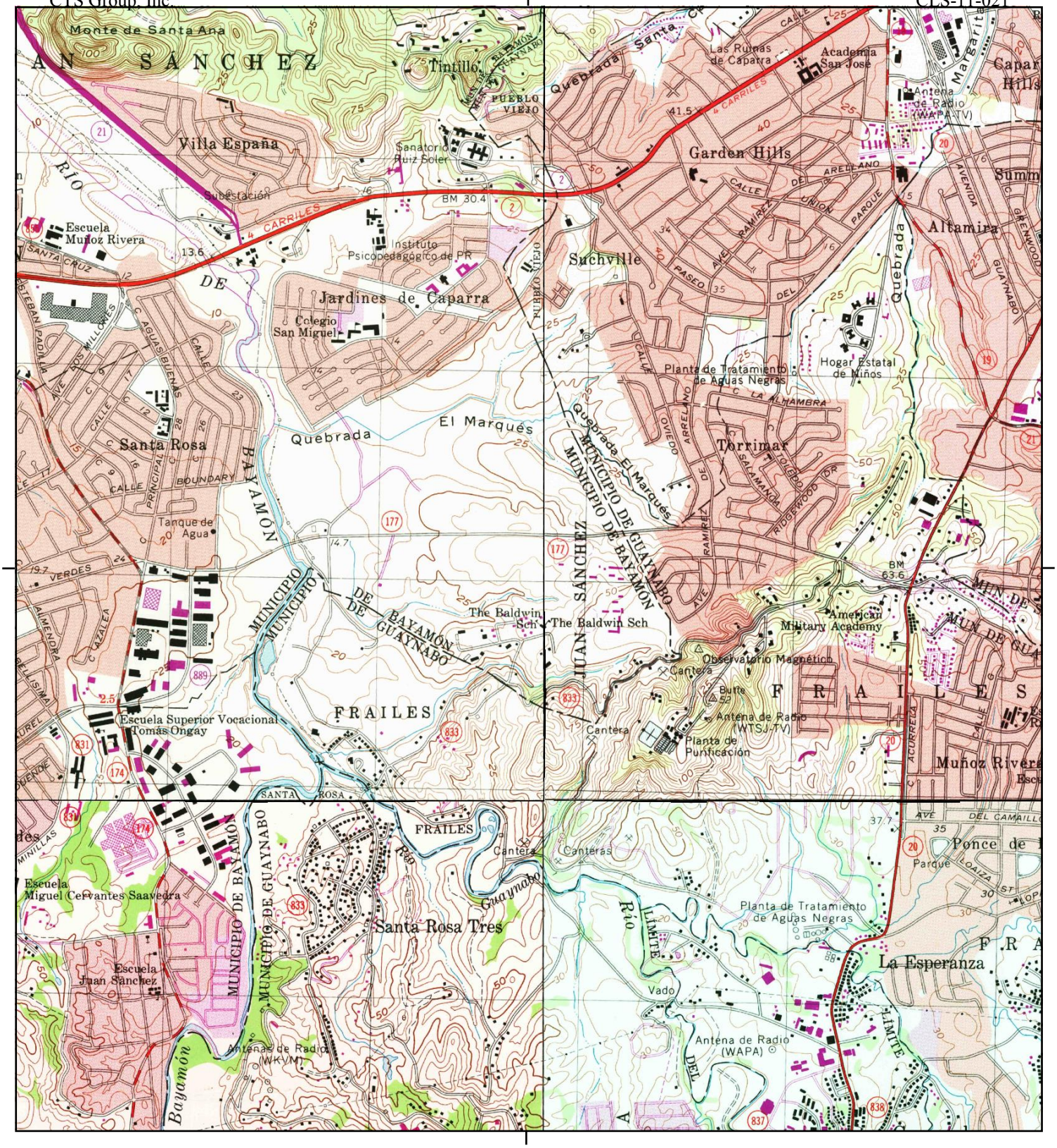
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 2013, 7.5-minute
NE, San Juan, 2013, 7.5-minute
SE, Aguas Buenas, 2013, 7.5-minute
SW, Naranjito, 2013, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



This report includes information from the following map sheet(s).

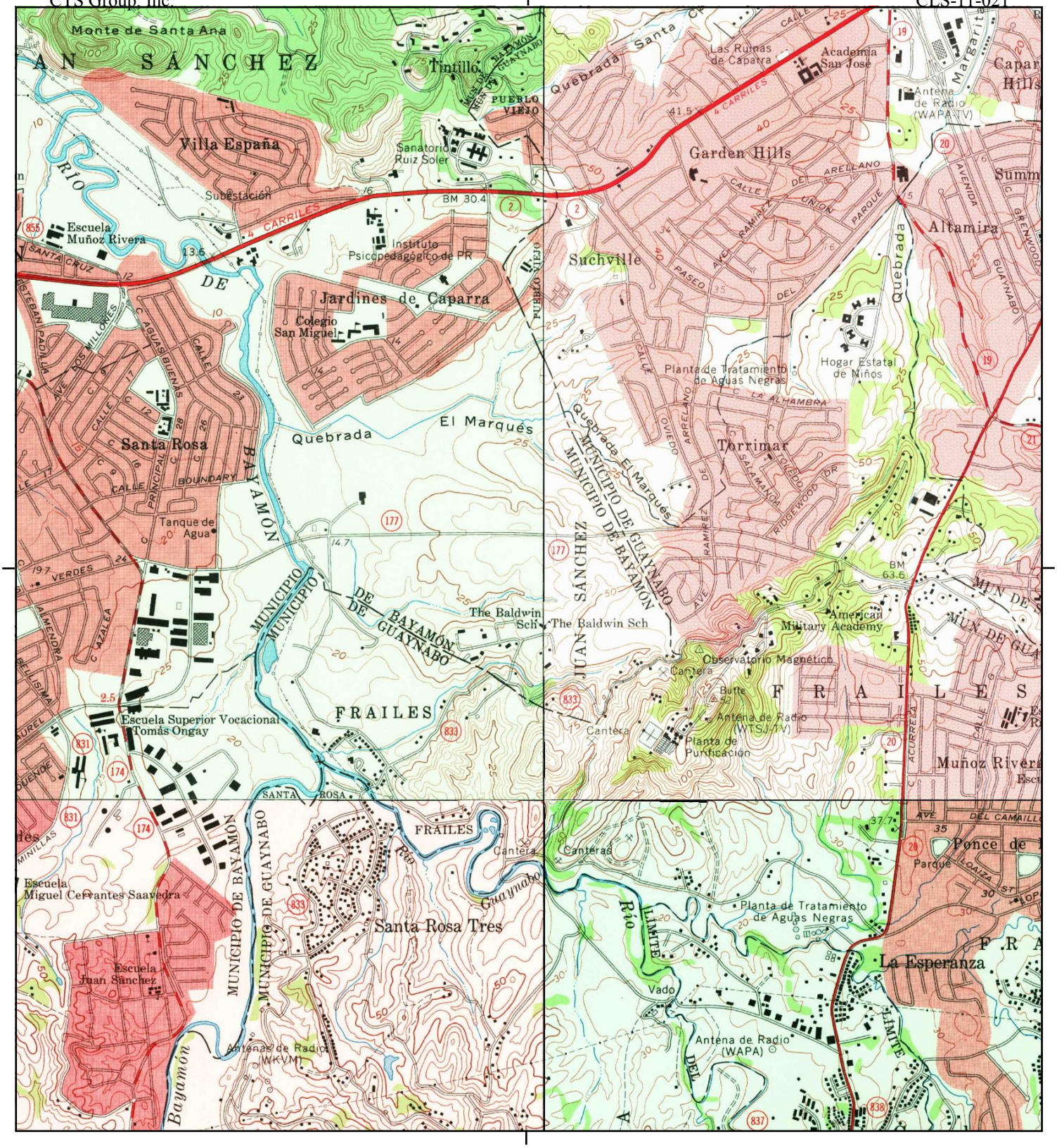
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 1982, 7.5-minute
NE, San Juan, 1982, 7.5-minute
SE, Aguas Buenas, 1982, 7.5-minute
SW, Naranjito, 1982, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



This report includes information from the following map sheet(s).

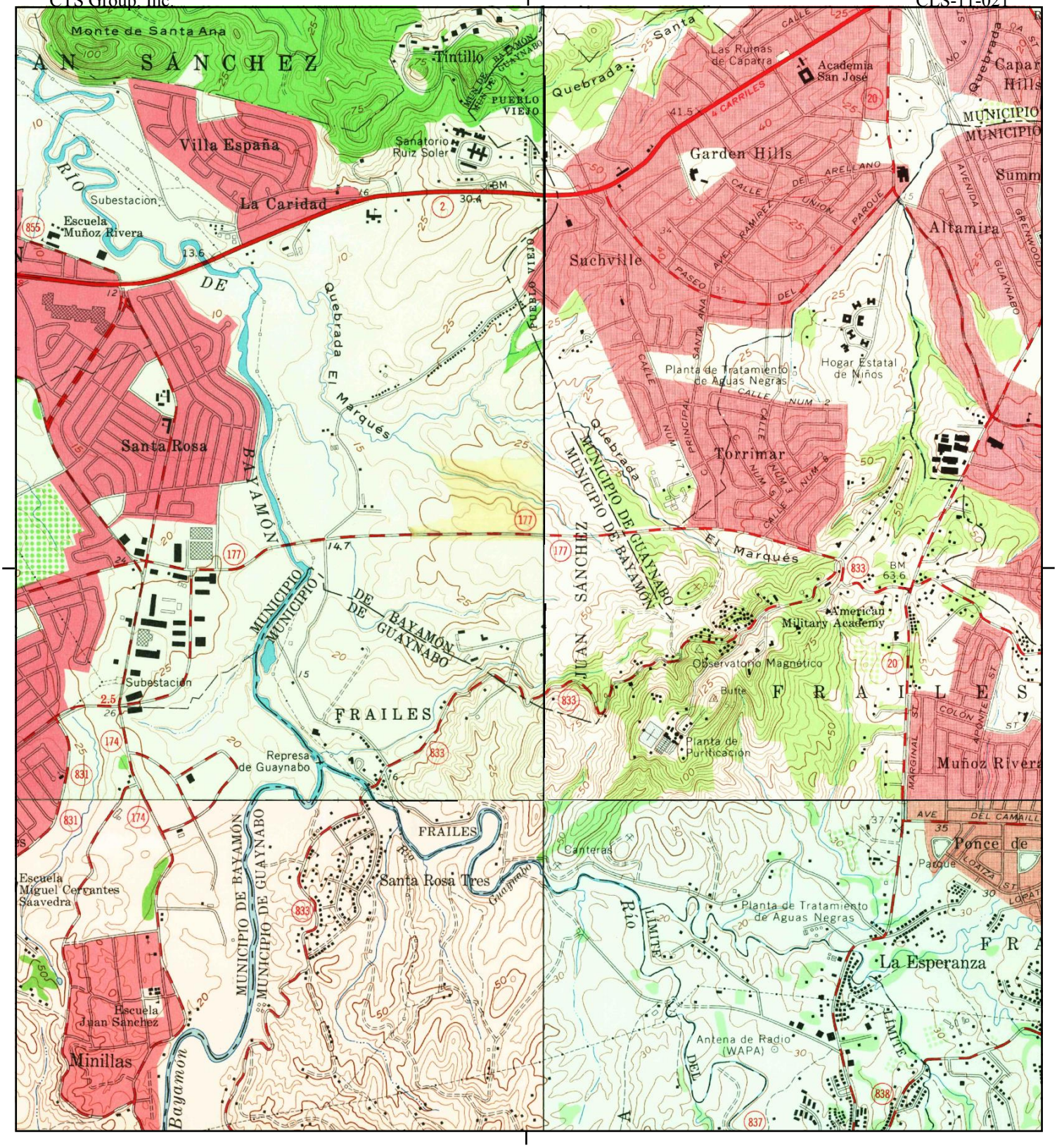
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 1969, 7.5-minute
NE, San Juan, 1969, 7.5-minute
SE, Aguas Buenas, 1969, 7.5-minute
SW, Naranjito, 1969, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



This report includes information from the following map sheet(s).

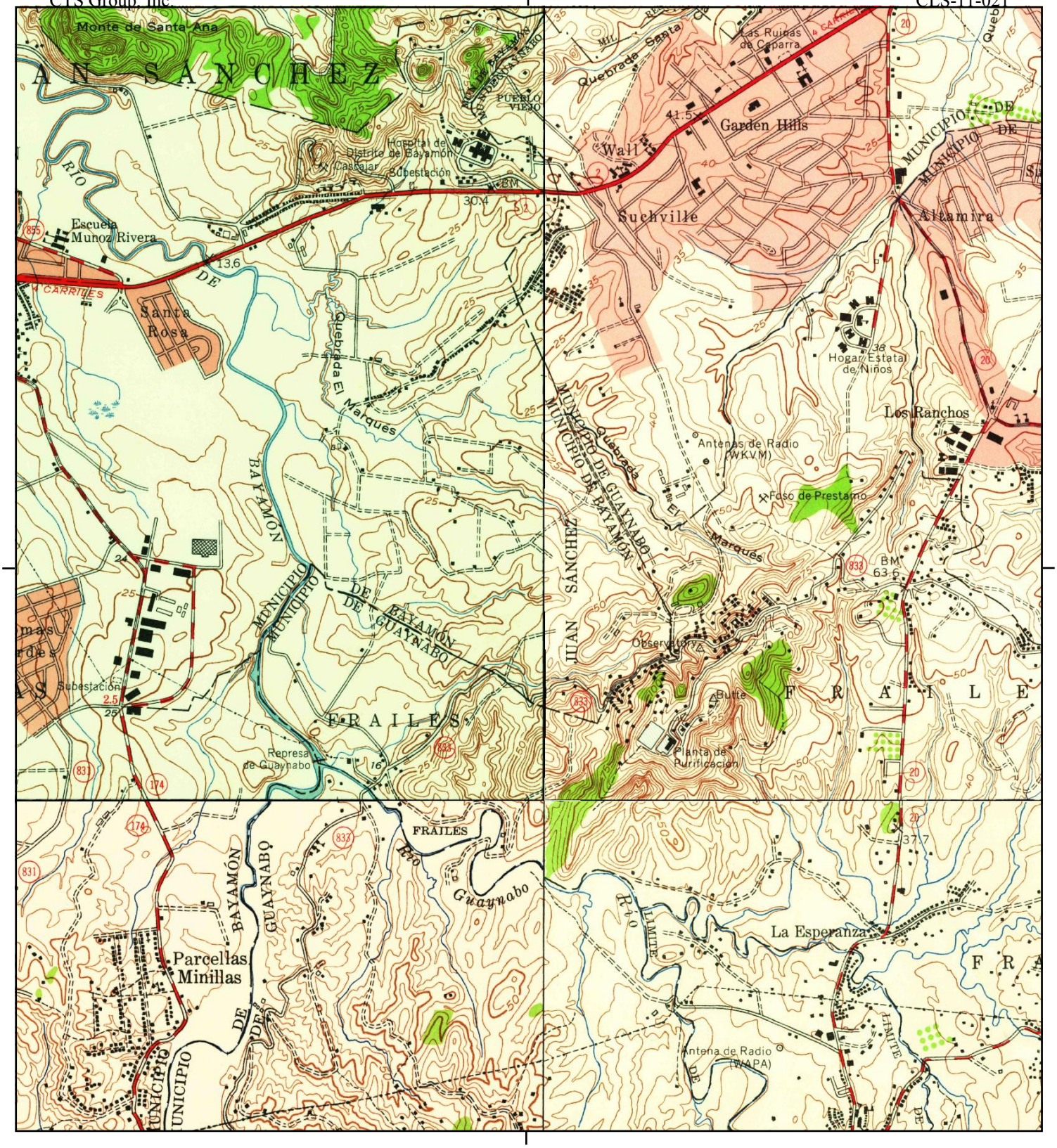
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 1963, 7.5-minute
NE, San Juan, 1963, 7.5-minute
SE, Aguas Buenas, 1964, 7.5-minute
SW, Naranjito, 1963, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



This report includes information from the following map sheet(s).

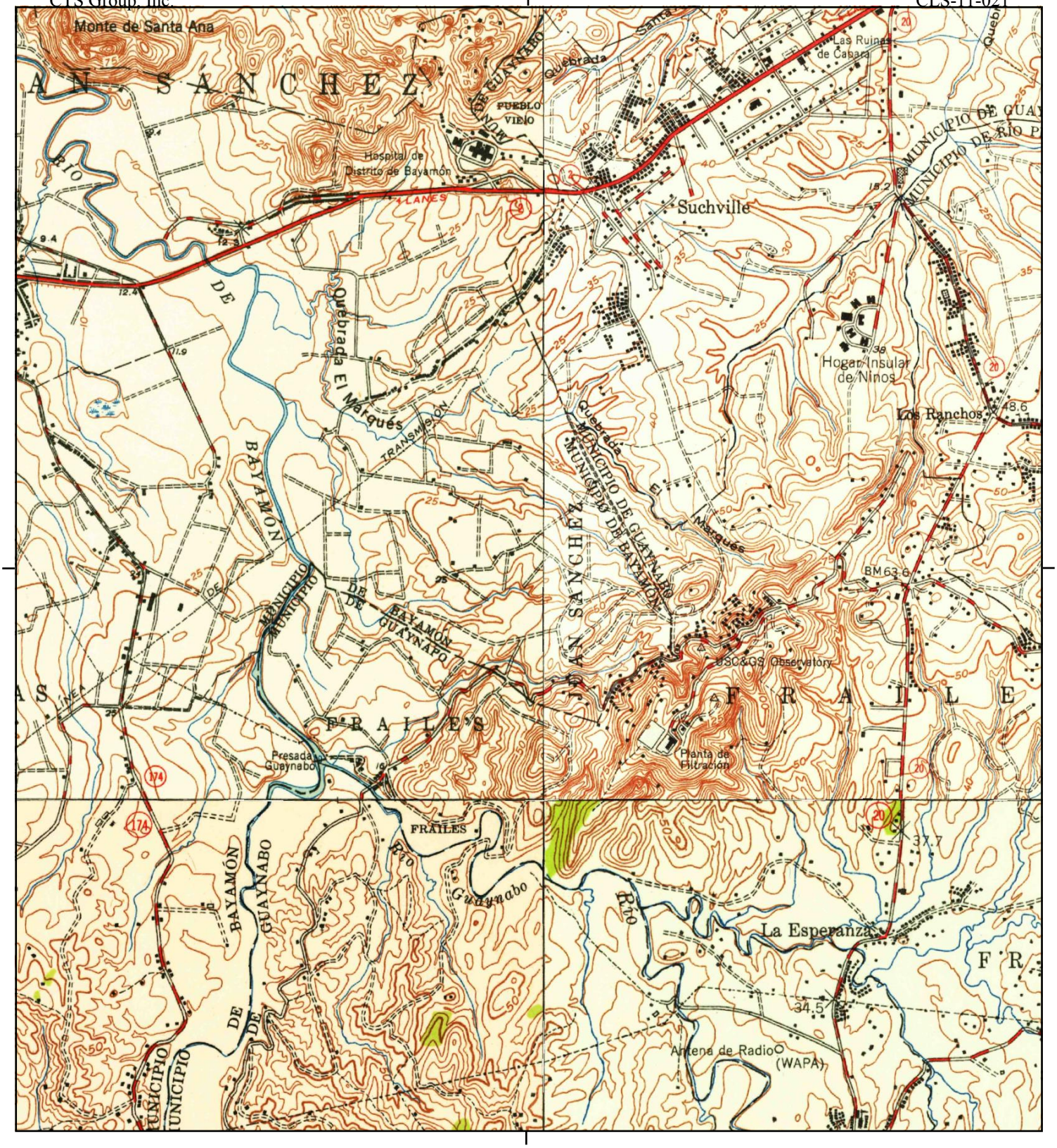
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 1957, 7.5-minute
NE, San Juan, 1957, 7.5-minute
SE, Aguas Buenas, 1957, 7.5-minute
SW, Naranjito, 1957, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



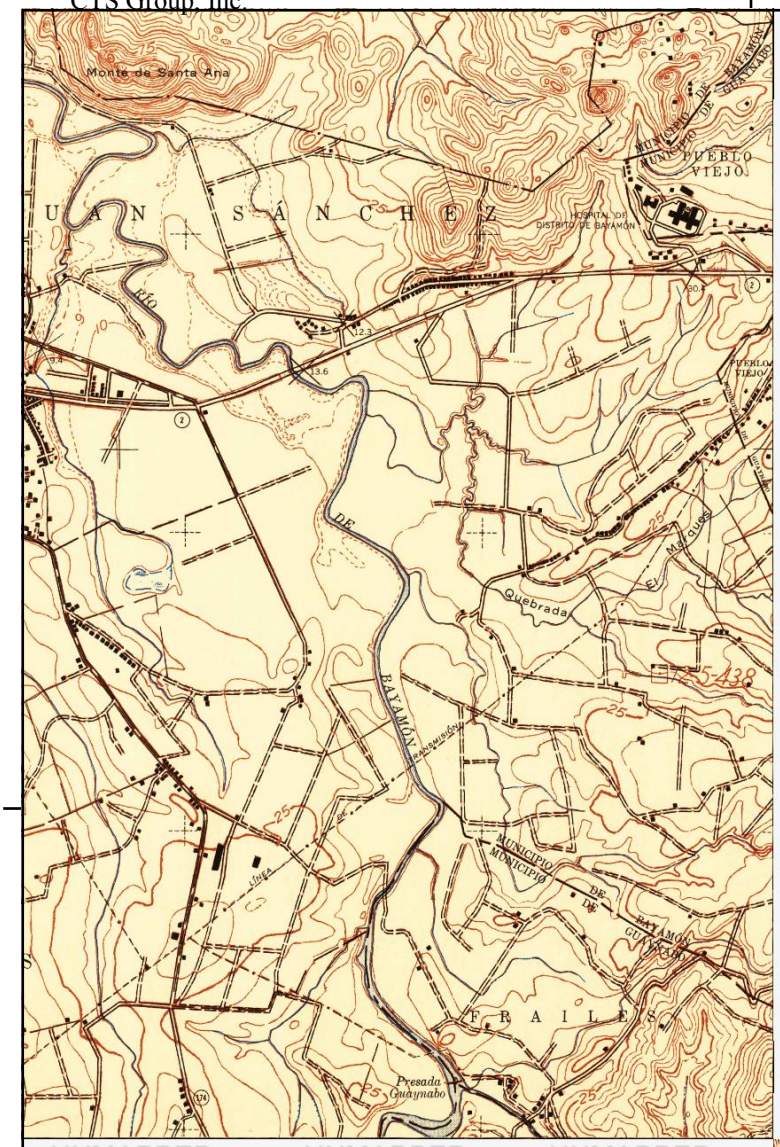
This report includes information from the following map sheet(s).

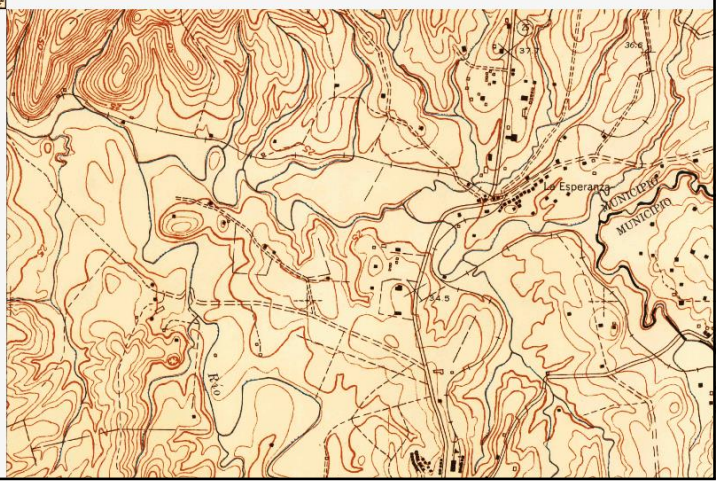
NW N NE
W E
SW S SE

TP, Bayamon, 1949, 7.5-minute
NE, San Juan, 1949, 7.5-minute
SE, Aguas Buenas, 1952, 7.5-minute
SW, Naranjito, 1952, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N





UNMAPPED

This report includes information from the following map sheet(s).

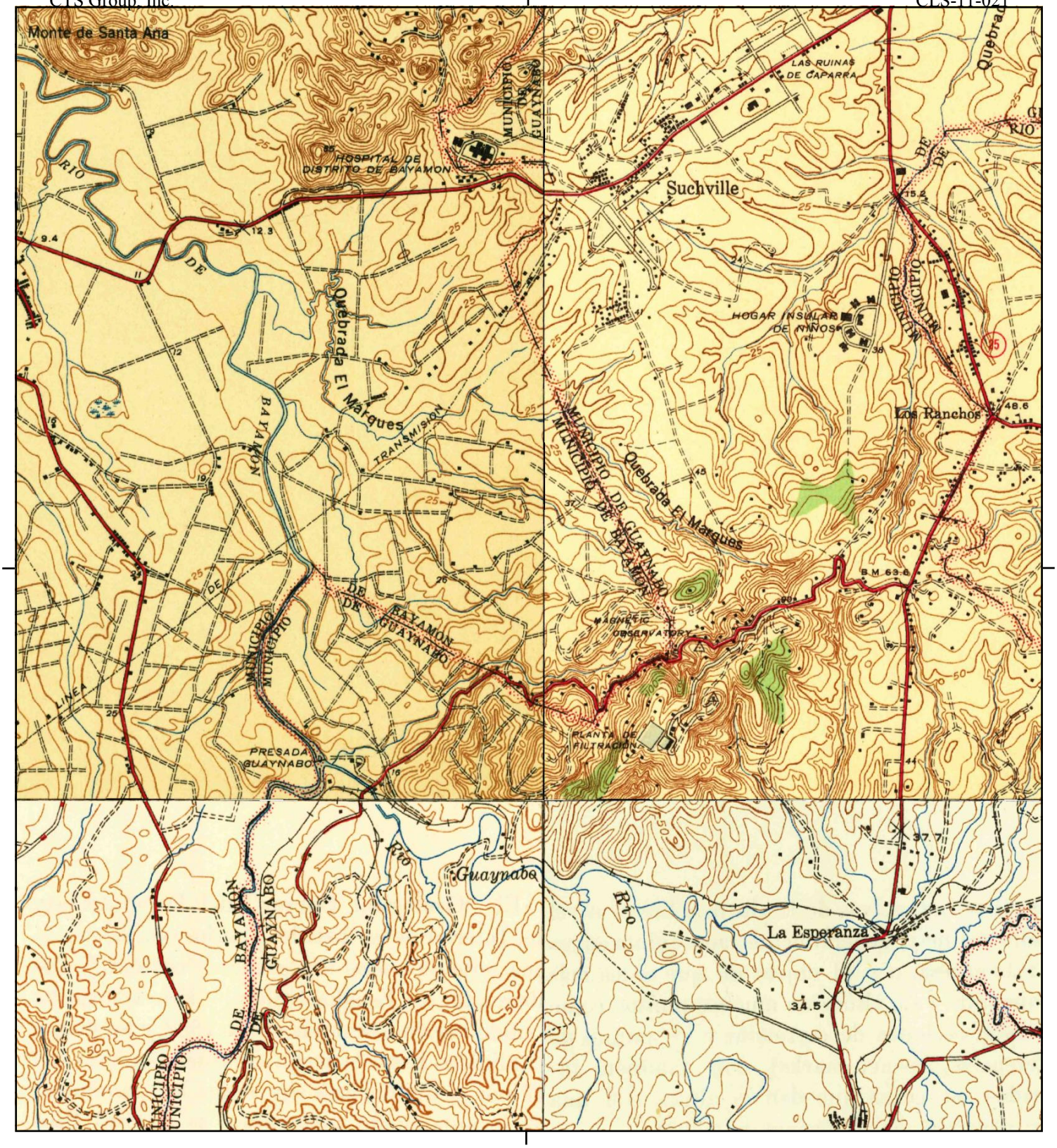
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon SE, 1950, 7.5-minute
SE, Aguas Buenas NO, 1947, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bayamon, 1941, 7.5-minute
NE, San Juan, 1941, 7.5-minute
SE, Aguas Buenas, 1946, 7.5-minute
SW, Naranjito, 1946, 7.5-minute

SITE NAME: Casa Linda Del Sur
ADDRESS: W of North Ave. and S of PR-177, Juan S
Bayamon, PR 00959
CLIENT: CTS Group, Inc.

N

Casa Linda Del Sur

W of North Ave. and S of PR-177, Juan Sanchez Ward

Bayamon, PR 00959

Inquiry Number: 6733091.6

November 05, 2021

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/05/21

Site Name:	Client Name:
Casa Linda Del Sur W of North Ave. and S of PR-1 Bayamon, PR 00959 EDR Inquiry # 6733091.6	CTS Group, Inc. 400 Juan Calaf, Ste. 235 San Juan, PR 00912 Contact: Ihosvany Negret

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Search Results:

Year	Scale	Details	Source
1993	1"=500'	Flight Date: December 12, 1993	USGS
1977	1"=500'	Flight Date: March 20, 1977	USGS
1974	1"=500'	Flight Date: January 17, 1974	USGS
1967	1"=500'	Flight Date: September 25, 1967	USGS
1962	1"=500'	Flight Date: February 16, 1962	USGS

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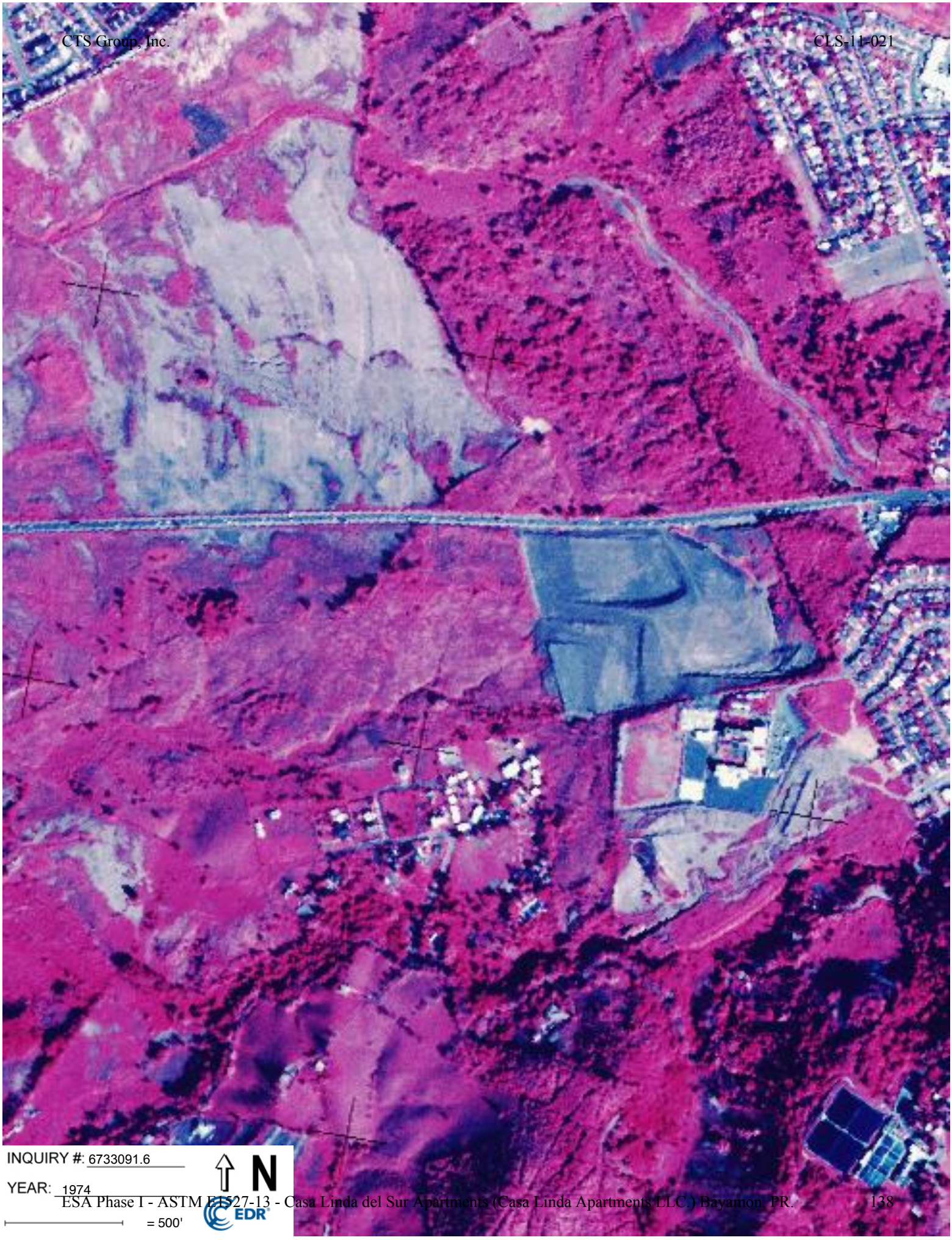
INQUIRY #: 6733091.6

YEAR: 1993

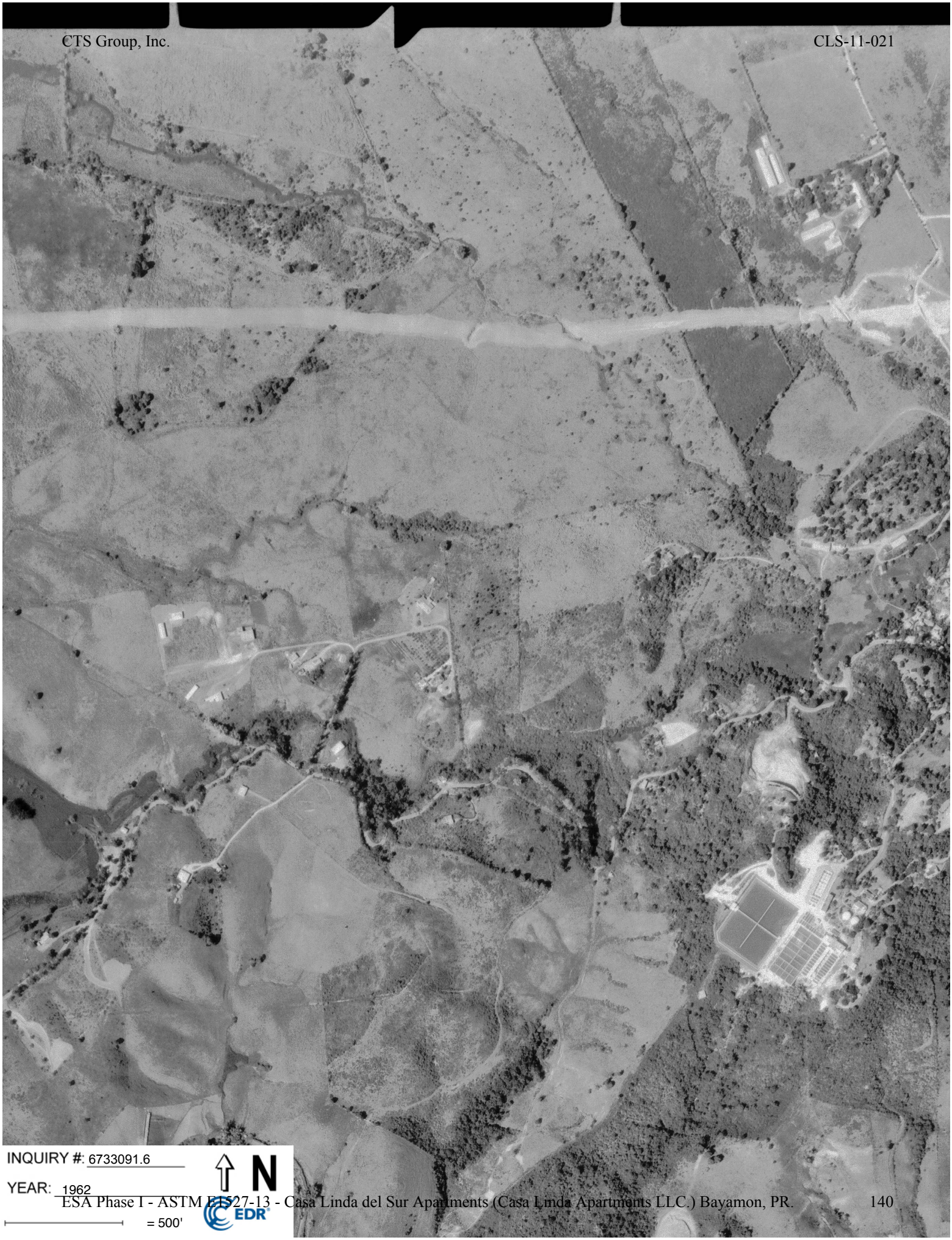
N

= 500'


INQUIRY #: 6733091.6
YEAR: 1977
N
= 500'
EDR


INQUIRY #: 6733091.6
YEAR: 1974
N
= 500'
EDR


INQUIRY #: 6733091.6
YEAR: 1967
N
= 500'
EDR


INQUIRY #: 6733091.6
YEAR: 1962
N
= 500'
EDR

Appendix III
USGS and Puerto Rico EQB Water Monitoring Wells

CTS Group, Inc. CLS-11-021

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Bayamón Municipio, Puerto Rico

Click site symbol to open information pop-up. Click Station ID in pop-up for information and data.
Map loading slowly? Try a different browser. Web browser performance varies significantly.



Explanation - Percentile classes (symbol color based on most recent measurement)								Wells	Springs
								Real-Time	
Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	High	Not Ranked	Continuous	
								Periodic Measurements	

Map generated 11/25/2021 8:02:09 AM

Groundwater Watch Help Page

Network wells depicted on the Bayamón Municipio, PR location map

Note: Color shading in the table below indicates multiple wells that plot as a single point on the state location map above.
Note: BLS = Water Level in Feet Below Land Surface, RVD = Water Level referenced to a vertical datum

Map Index	Site ID	Site Name	Most Recent Measurement	Date	Well Depth	Local Aquifer
1	182441066082600	BUCHANAN PARK WELL, BAYAMON, PR	44.38 BLS	11/10/2021		Cibao Formation
2	182451066080200	PIEZOMETER FORT BUCHANAN 1, BAYAMON, PR	39.09 BLS	10/27/2021	249.4	North Coast Limestone Aquifer, Upper

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*References to non-Department of the Interior (DOI) products do not constitute an endorsement by the DOI.

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U.S. Department of the Interior | U.S. Geological Survey
URL: https://groundwaterwatch.usgs.gov/countymap.asp
Last update: Thursday, March 4, 2021 at 13:30
Page Contact Information: Contact the GroundWater Watch Support Team



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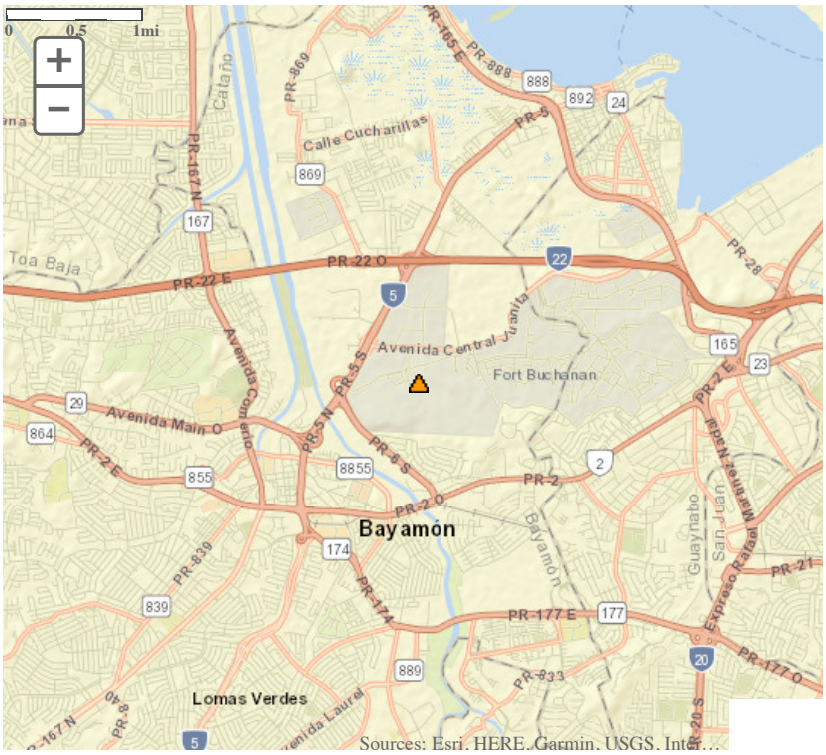
Site Number: 182441066082600 - BUCHANAN PARK WELL, BAYAMON, PR



DESCRIPTION:
Latitude 18°24'41", Longitude 66°08'26" NAD27
Bayamon Municipio, Puerto Rico, Hydrologic Unit 21010005
Well depth: not determined.
Hole depth: 182 feet
Land surface altitude: 66feet above NGVD29.
Well completed in "North Coast Limestone aquifer system (Puerto Rico)" (N400NCSTLM) national aquifer.
Well completed in "Cibao Formation" (122CIBO) local aquifer

AVAILABLE DATA:

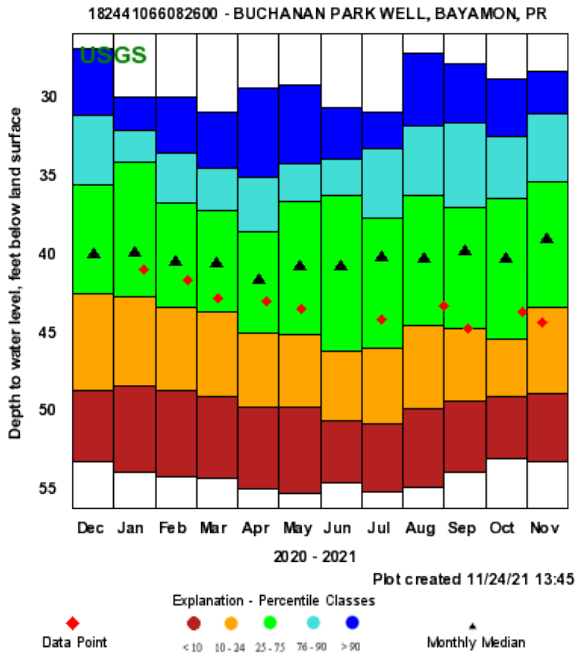
Data Type	Begin Date	End Date	Count
Daily Data			
Depth to water level, feet below land surface	1985-12-21	2002-10-17	5745
Field groundwater-level measurements	1985-12-20	2021-11-10	353
Field/Lab water-quality samples			
Water-Year Summary	2006	2013	7

Additional Data Sources	Begin Date	End Date	Count
Groundwater Watch **offsite**	1985	2021	6090

OPERATION:
Record for this site is maintained by the USGS Puerto Rico Water Science Center
Email questions about this site to Puerto Rico Water Science Center Water-Data Inquiries

Groundwater Watch Help Page

Site Statistics



Most recent data value: 44.38 on 11/10/2021
Period of Record Monthly Statistics for 182441066082600
Depth to water level, feet below land surface
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	53.95	48.43	42.74	39.87	34.08	32.05	29.99	34
Feb	54.26	48.69	43.44	40.45	36.75	33.53	29.97	32
Mar	54.35	49.14	43.72	40.58	37.18	34.51	30.97	33
Apr	55.02	49.74	45.01	41.62	38.55	35.13	29.36	31
May	55.25	49.77	45.11	40.82	36.60	34.21	29.16	34
Jun	54.58	50.69	46.22	40.80	36.21	33.92	30.68	31
Jul	55.14	50.82	45.97	40.19	37.72	33.21	30.90	32
Aug	54.85	49.83	44.51	40.26	36.20	31.81	27.18	33
Sep	53.95	49.36	44.74	39.86	36.99	31.57	27.80	31
Oct	53.06	49.10	45.46	40.31	36.40	32.45	28.81	31
Nov	53.29	48.91	43.42	39.02	35.36	31.06	28.29	31
Dec	53.24	48.70	42.49	39.99	35.61	31.09	26.90	31

As of 11/20/2021 18:33-2

Statistics Options

View month/year statistics

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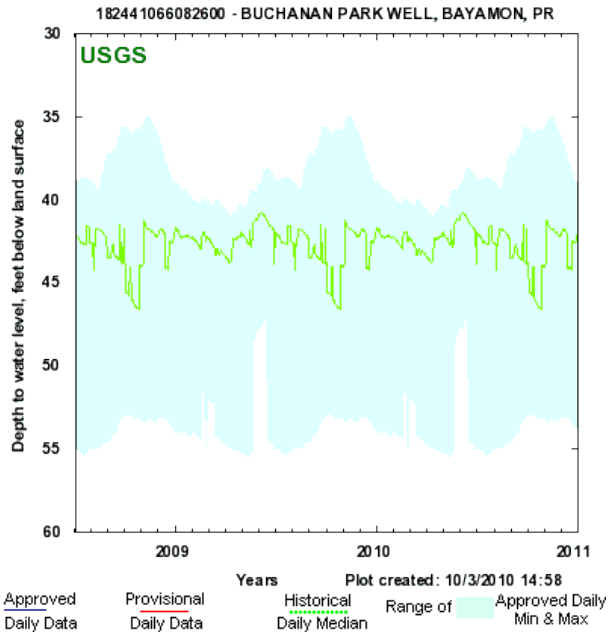
Daily Groundwater Data



Most recent Approved daily data value: 38.53 on 10/17/02

Summary for Period of Continuous Record

Depth to water level, feet below land surface

Approved Daily Values Data Used in Analysis

Begin Date	End Date	Days	% Complete
12/21/85	10/17/02	5,745	93

Lowest Level	5th %ile	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	95th %ile	Highest Level
55.59	53.11	51.50	48.33	43.68	40.89	39.42	38.72	34.99

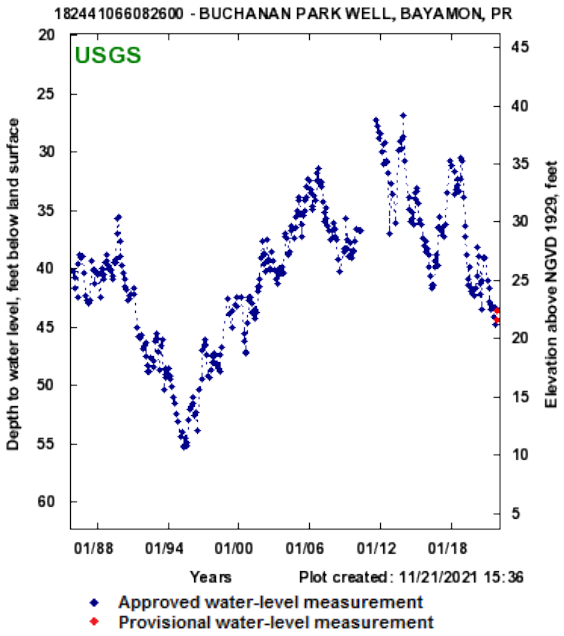
Daily Data Options

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels

Depth to water level, feet below land surface

Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
12/20/85	11/10/21	348

Highest WL	Date of Highest WL	Lowest WL	Date of Lowest WL
26.9	12/09/13	55.25	05/17/95

Groundwater Levels Options

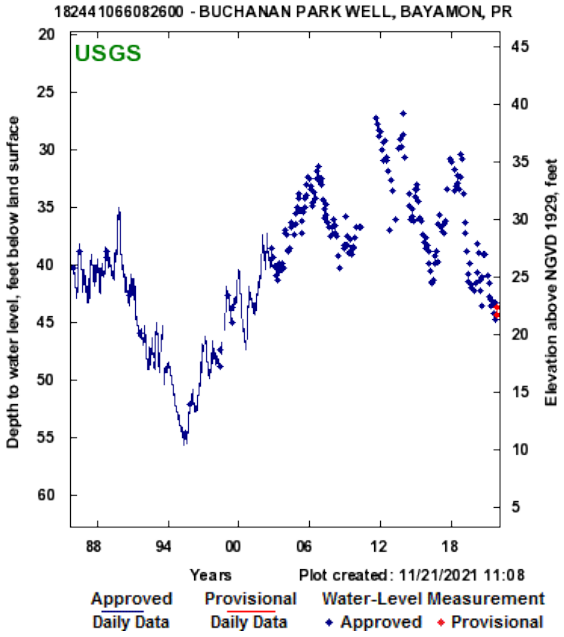
View latest data on NWISWeb

Download groundwater levels in text format

Note: The most recent measurement on 11/10/2021 has the following status:
''

Period of Record - All Data Types

Summary for Period of Record - All Data Types



Depth to water level, feet below land surface

Begin Date	End Date	Number of Values
12/20/85	11/10/21	6,094

Highest WL	Date of Highest WL	Lowest WL	Date of Lowest WL
26.9	12/09/13	55.59	05/10/95

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

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URL: https://groundwaterwatch.usgs.gov/AWLSites.asp
Last update: Monday, March 8, 2021 at 14:43
Page Contact Information: Contact the GroundWater Watch Support Team

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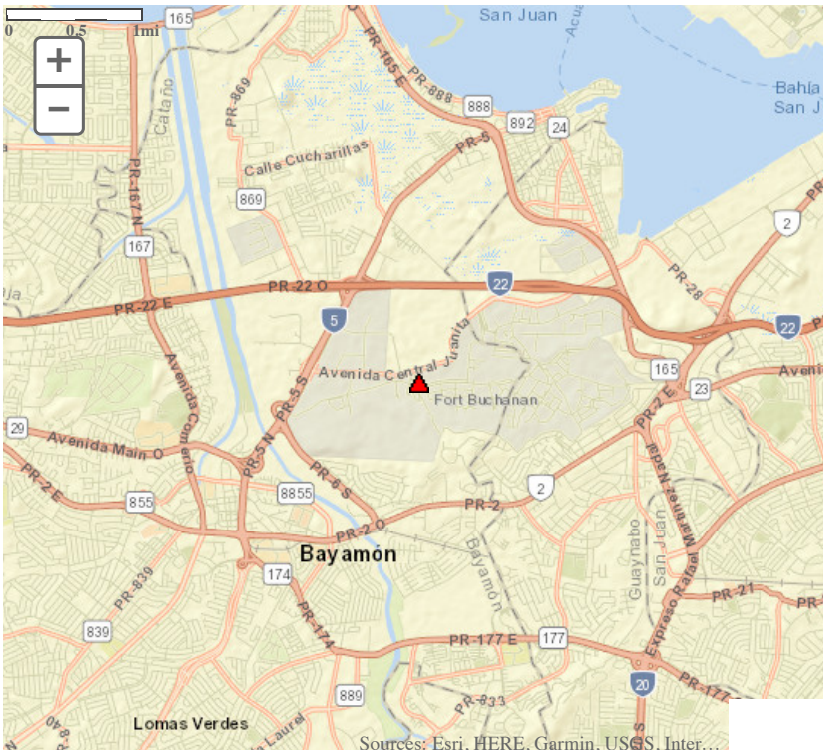
Latest News...

Site Number: 182451066080200 - PIEZOMETER FORT BUCHANAN 1, BAYAMON, PR



DESCRIPTION:
Latitude 18°24'51", Longitude 66°08'02" NAD27
Bayamon Municipio, Puerto Rico, Hydrologic Unit 21010005
Well depth: 249.4 feet
Hole depth: 500 feet
Land surface altitude: 46feet above NGVD29.
Well completed in "North Coast Limestone aquifer system (Puerto Rico)" (N400NCSTLM) national aquifer.
Well completed in "North Coast Limestone Aquifer, Upper" (122NRCSU) local aquifer

AVAILABLE DATA:

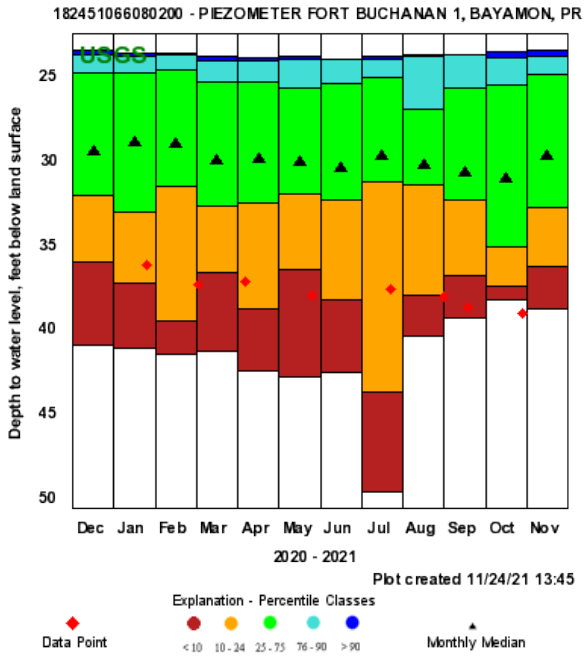
Data Type	Begin Date	End Date	Count
Daily Data			
Depth to water level, feet below land surface	1997-09-13	2002-10-17	1733
Field groundwater-level measurements	1994-07-14	2021-10-27	211
Field/Lab water-quality samples			
Water-Year Summary	2006	2013	8

Additional Data Sources		Begin Date	End Date	Count
Groundwater Watch	**offsite**	1994	2021	1940

OPERATION:
Record for this site is maintained by the USGS Puerto Rico Water Science Center
Email questions about this site to Puerto Rico Water Science Center Water-Data Inquiries

Groundwater Watch Help Page

Site Statistics



Most recent data value: 39.09 on 10/27/2021
Period of Record Monthly Statistics for 182451066080200
Depth to water level, feet below land surface
All Approved Continuous & Periodic Data Used In Analysis
Note: Highlighted values in the table indicate closest statistic to the most recent data value.

Month	Lowest Median	10th %ile	25th %ile	50th %ile	75th %ile	90th %ile	Highest Median	Number of Years
Jan	41.17	37.29	33.07	28.90	24.77	23.82	23.61	20
Feb	41.46	39.49	31.52	28.97	24.58	23.71	23.57	18
Mar	41.35	36.60	32.71	29.96	25.30	24.04	23.77	21
Apr	42.49	38.78	32.49	29.94	25.32	24.08	23.92	17
May	42.87	36.50	31.98	30.07	25.64	23.98	23.78	18
Jun	42.56	38.23	32.37	30.45	25.40	24.01	23.93	20
Jul	49.67	43.71	31.21	29.70	25.09	23.94	23.76	19
Aug	40.44	37.98	31.42	30.24	26.92	23.82	23.68	21
Sep	39.38	36.82	32.32	30.69	25.66	23.72	23.70	19
Oct	38.22	37.42	35.14	31.10	25.51	23.92	23.52	19
Nov	38.84	36.26	32.74	29.68	24.91	23.79	23.45	17
Dec	40.94	35.98	32.07	29.45	24.74	23.74	23.44	17

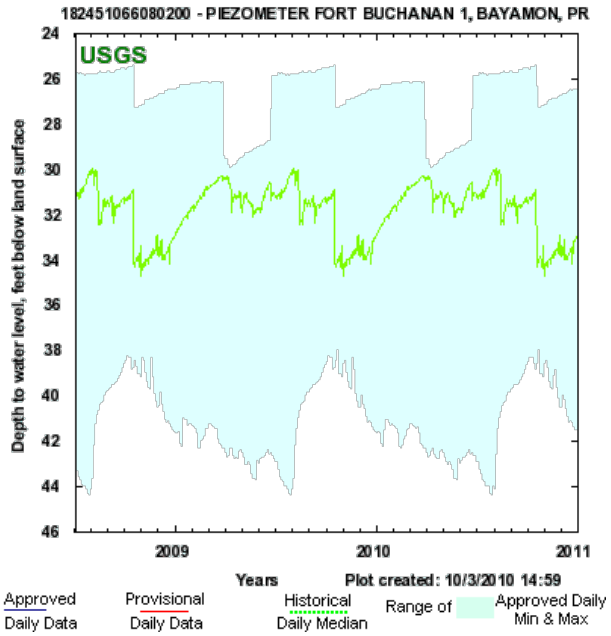
As of 11/20/2021 18:33-2

Statistics Options

View month/year statistics

CTS Group, Inc. CLS-11-021

Daily Groundwater Data



Most recent Approved daily data value: 25.44 on 10/17/02

Summary for Period of Continuous Record
Depth to water level, feet below land surface
Approved Daily Values Data Used in Analysis

Begin Date	End Date	Days	% Complete
09/13/97	10/17/02	1,733	93

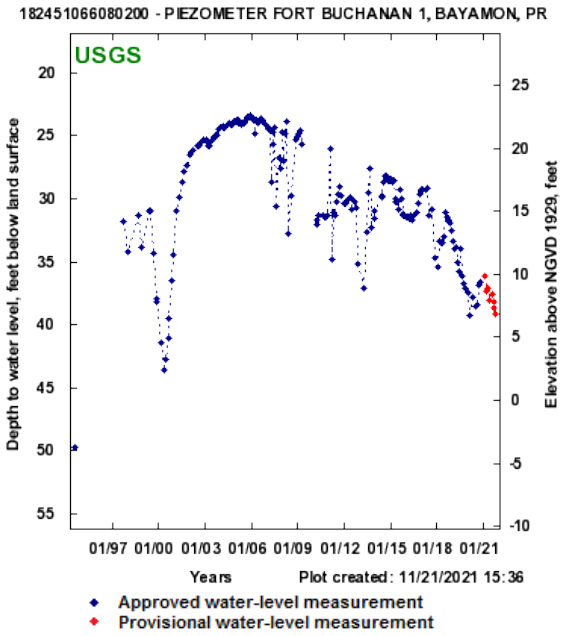
Daily Data Options

View data in calendar format

Download data in text format

View daily medians

Periodic Groundwater Data



Summary for Period of Record Periodic Water Levels
Depth to water level, feet below land surface
Approved Periodic Water Level Values

Begin Date	End Date	Number of Values
07/14/94	10/27/21	209

Highest WL	Date of Highest WL	Lowest WL	Date of Lowest WL
23.44	12/13/05	49.67	07/14/94

Groundwater Levels Options

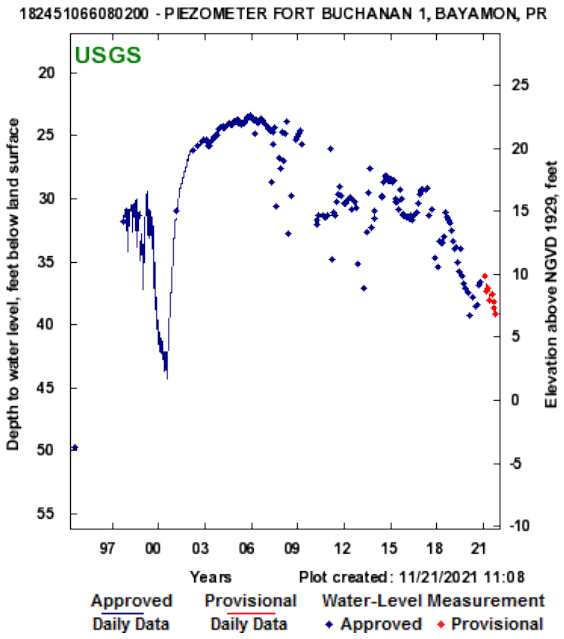
View latest data on NWISWeb

Download groundwater levels in text format

Note: The most recent measurement on 10/27/2021 has the following status:
''

Period of Record - All Data Types

Summary for Period of Record - All Data Types



Depth to water level, feet below land surface

Begin Date	End Date	Number of Values
07/14/94	10/27/21	1,943

Highest WL	Date of Highest WL	Lowest WL	Date of Lowest WL
23.44	12/13/05	49.67	07/14/94

Period of Record Options

View latest data on NWISWeb for all data types

View month/year statistics

Download groundwater levels in text format of all data types

Return to Groundwater Watch | Return to County Page | Return to State Page

*References to non-Department of the Interior (DOI) products do not constitute an endorsement by the DOI.

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URL: https://groundwaterwatch.usgs.gov/AWLSites.asp
Last update: Monday, March 8, 2021 at 14:43
Page Contact Information: Contact the GroundWater Watch Support Team

Appendix IV
Leaking Underground Storage Tanks (LUST) and Registered Underground Storage Tanks (UST)

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
Caribbean Petroleum Corporation	2-910294	Amended	Gulf S/S #300	AVE PALMAS ALTAS 22	Barceloneta	Gas Station
AUTORIDAD DE TIERRAS	2-910326	Amended	AUTORIDAD DE TIERRAS	RD #2 ALMACEN WALCOT	Barceloneta	State Government
RCA DEL CARIBE, INC .	2-860062	Closure	RCA DEL CARIBE, INC .	PO BOX 627	Barceloneta	Industrial
MERCK SHARP AND DOHME	2-860003	Closure	MERCK SHARP AND DOHME QUIMICA	ROAD NO. 2 KM. 56.1	Barceloneta	Industrial
PFIZER PHARMACEUTICALS INC.	2-861465	Closure	PFIZER PHARMACEUTICALS INC.	RD #2 KM 58.2	Barceloneta	Industrial
DEPARTAMENTO DE EDUCACION	2-940206	Closure	ESC. FERNANDO SURIA CHAVES	GEORGETTI ST.	Barceloneta	State Government
TEXACO PUERTO RICO INC	2-940286	Amended	MOHAMED ELBERKANI S/S 994	RD 140 KM 60.9	Barceloneta	Gas Station
AUTORIDAD DE TIERRAS	2-860131	New	AUTORIDAD DE TIERRAS	RD. 2 KM. 56.4	Barceloneta	State Government
AUTORIDAD DE EDIFICIOS	2-920114	Closure	CENTRO SALUD FAMILIAR	RD. 2 KM 53	Barceloneta	State Government
BRISTOL-MYERS	2-880063	Closure	BRISTOL-MYERS BARCELONETA,INC	ROAD # 2 Km 56.4 P.O BOX 657	Barceloneta	Not Listed
VISKASE PUERTO RICO CORP.	2-860431	New	VISKASE PUERTO RICO CORP.	HWAY NO. 2 KM 56.7	Barceloneta	Not Listed
CESAR DÁVILA	2-860646	Amended	BARCELONETA S/S	RD # 2 KM. 56.3	Barceloneta	Gas Station
CASERA FOODS, INC.	2-860045	Closure	CASERA FOODS, INC.	PR RD NO 2 KM 59	Barceloneta	Industrial
Frito Lay Snacks Caribbean Inc.	2-860155	Closure	FRITO LAY DE PR - 54190500	RD. #2 KM 52.6	Barceloneta	Industrial
SOL PUERTO LIMITED	2-860845	Amended	SHELL S/S #003093	RD. 2 ,KM. 55.5	Barceloneta	Gas Station
AUTORIDAD DE CARRETERAS	2-950021	Closure	AUTORIDAD DE CARRETERAS	RD. 2 KM. 54.8 BO.PALENQUE	Barceloneta	State Government
Total Petroleum Puerto Rico Corp.	2-910072	Amended	GPR #3113	RD 2, KM 55.9	Barceloneta	Gas Station
TEXACO PUERTO RICO INC	2-861553	Amended	Texaco- Cruce Davila S/S #567	PR 2 KM. 57.3	Barceloneta	Gas Station
A.H. ROBINS MANUFACTURING	2-860441	New	A.H. ROBINS MANUFACTURING	RD #2 KM. 60	Barceloneta	Not Listed
TEXACO PUERTO RICO INC	2-861544	Amended	Texaco- Barceloneta S/S #558	TOMAS DAVILA ST. 13	Barceloneta	Gas Station
Caribbean Petroleum Corporation	2-860307	Amended	GULF S/S #104	Carr. 2 & 140 KM. 57.8 Cruce Davila	Barceloneta	Gas Station
AUTORIDAD DE TIERRAS	2-910022	Amended	AUTORIDAD DE TIERRAS-LOTUS	RD. #2	Barceloneta	Utilities
AUTORIDAD DE TIERRAS	2-910023	Amended	AUTORIDAD DE TIERRAS TALLER	RD 2, KM 61.6	Barceloneta	Utilities
ABBOTT CHEMICALS, INC.	2-860414	Closure	ABBOTT CHEMICALS, INC.	RD. #2 KM 58.0	Barceloneta	Industrial
ESSO STANDARD OIL CO PR	2-861176	Amended	ESSO S/S CO-159	ROAD 140 KM 65.5 Bo. Cruce Davila	Barceloneta	Gas Station
TEXACO PUERTO RICO INC	2-861597	Amended	Pablo R. Colon S/S	ROAD 152 KM 2.2	Barranquitas	Gas Station
COMPAÑIA DE FOMENTO	2-940172	Closure	COMPANIA DE FOMENTO INDUSTRIAL	RD. 152 KM. 0.6	Barranquitas	Industrial
HOSPITAL BARRANQU	2-900053	Closure	CENTRO DE SALUD DE	BARCELO ST.	Barranquitas	Not Listed
PUERTO RICO TELEPHONE CO	2-890121	Closure	Repetidor Torrecillas	RD 770 KM 0.8	Barranquitas	Utilities
PUERTO RICO TELEPHONE CO	2-890106	Closure	BARRANQUITAS	65 INFANTERIA AVE. #8	Barranquitas	Utilities
SOL PUERTO LIMITED	2-860993	Amended	SHELL S/S #000558	BARCELO ST.	Barranquitas	Gas Station
MIGUEL RIVERA BERMUDEZ	2-930014	Amended	GASOLINERA MIGUEL RIVERA	RD. #152, KM 6.6	Barranquitas	Gas Station
TEXACO PUERTO RICO INC	2-861598	Amended	Texaco- Eligio Colon S/S # 382	ROAD PR-156 KM 10.5	Barranquitas	Gas Station
Caribbean Petroleum Corporation	2-860358	Amended	GULF S/S #362	Carr 719 KM. 2.6 Bo Helechal	Barranquitas	Gas Station
SR. ARCADIO TORRES	2-990039	Closure	ANTIGUA E/S SECTOR LA PELOTA	CARR.#162, KM.9.1, SECTOR LA PELOTA	Barranquitas	Gas Station
Angel L. Maldonado	2-910266	Closure	Estación de Gasolina	Road 156 km 17.2	Barranquitas	Gas Station
Juan Enrique Colón	2-861470	Amended	Cañabón S/S	RD. 772 KM. 8.2	Barranquitas	Gas Station
Juan Isidro Colón Del Valle	2-960033	Amended	Colón S/S	Road 162 Int. 143 Km.8.0	Barranquitas	Gas Station
Autoridad de Energia Electrica	2-860747	Amended	TALLER DE MECANICA AUTOMOTRIZ	LA VEGA, EXIT TO OROCOVIS	Barranquitas	Utilities
ESSO STANDARD OIL CO PR	2-861381	Closure	ESSO S/S CO-074	ROAD 156 KM. 14.7	Barranquitas	Gas Station
OCTAVIO SANTINI	2-010031	Amended	Tavin S/S	Carr 152 int Carr 771 KM 0.2	Barranquitas	Gas Station
OCTAVIO SANTINI	2-861462	Amended	Papirin S/S	RD. 771, KM. 2.5	Barranquitas	Gas Station
Pedro Alicea	2-000009	Amended	Estacion Gasolina #3111	Calle Comerio Esq.Calle 21	Bayamon	Gas Station
PUERTO RICO TELEPHONE CO	2-890135	Amended	BAYAMON NORTE CO	RD.167 FROM BAYAMON TO COMERIO	Bayamon	Utilities

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
ANTONIO MUÑOZ	2-860718	Amended	MUÑOZ METRO OFFICE, SE	ROAD 177 KM 8.3 Urb. Industrial Minillas	Bayamon	Industrial
Efraín Reyes	2-000006	Amended	Gas Service Station	Carr. 167 Km. 16.1	Bayamon	Gas Station
H. B. FULLER CO. PUERTO RICO	2-860005	Closure	H. B. FULLER CO. PUERTO RICO	C ST. #26	Bayamon	Industrial
SOL PUERTO LIMITED	2-860702	Closure	A.J.M. PACKAGING	RD. 32 KM 1.5 HATO TEJAS	Bayamon	Not Listed
CESAR RODRIGUEZ RIVERA/RV	2-930080	Amended	RV Enterprise (ExU.S. GASOLINE)	RD. 167 KM. 18.7	Bayamon	Gas Station
VA MEDICAL & REG. OFFICE	2-861525	Closure	PR NATIONAL CEMENTERY	RD 168 CORNER CEM NAC AVE.	Bayamon	Federal Non-Military
UNION CARBIDE	2-860014	Closure	UNION CARBIDE	B STREET LOT 38	Bayamon	Industrial
SOL PUERTO LIMITED	2-860777	Closure	READY MIX CONCRETE, INC.	PLANTA #8, BO. PAJARO AMERICANO	Bayamon	Not Listed
ESSO STANDARD OIL CO PR	2-880093	Closure	PAN PEPIN,INC	C ST. BLOQUE 23	Bayamon	Industrial
AJM MEAT PACKING INC	2-910329	Closure	AJM MEAT PACKING INC	PARQUE INDUSTRIAL HATO TEJAS	Bayamon	Industrial
CHELSEA LAB. CARIBE INC.	2-860047	Closure	CHELSEA LAB. CARIBE INC.	60 E ST. MINILLAS IND. PARK	Bayamon	Industrial
PUERTO RICO TELEPHONE CO	2-890108	Closure	HATO TEJAS	RD.2 MORALES ST. #48 CORNER BDA.	Bayamon	Utilities
CITIBANK N.A.- HATO REY	2-940091	Closure	CITIBANK-BAYAMON	RD. 2 KM 11.2	Bayamon	Commercial
SOL PUERTO LIMITED	2-860813	Closure	COATINGS, INC.	URB. INDUSTRIAL MINILLAS	Bayamon	Not Listed
Caribbean Petroleum Corporation	2-860133	Closure	ORANGE CRUSH - 5430601	RD.#174 URB. INDUST. MINILLAS	Bayamon	Gas Station
AMERICAN PETROLEUM	2-860580	Amended	American Petroleum CADILLAC	Carr. 177 Esq. Laurel	Bayamon	Industrial
STRUCTURAL STEEL WORKS	2-940191	New	STRUCTURAL STEEL WORKS	INDUSTRIAL LUCHETTI B ST.	Bayamon	Industrial
TEXACO PUERTO RICO INC	2-861691	Closure	STAPLES MFG. CO.	C-13 ST.	Bayamon	Industrial
SOL PUERTO LIMITED	2-861012	Amended	SHELL S/S #003794	COMERIO AVE. CORNER 31 ST. Brisas de Bayamon	Bayamon	Gas Station
CARIBBEAN GULF REFINING CORP.	2-860450	Amended	CARIBBEAN GULF REFINING CORP.	LUCHETTI INDUSTRIAL PARK	Bayamon	Industrial
ESSO STANDARD OIL CO PR	2-861162	Amended	ESSO S/S CO-102	Calle Eugenio Duarte la Milagrosa Hato tejas	Bayamon	Gas Station
COMPAÑIA DE FOMENTO	2-940051	Closure	VIRGINIA CHEMICAL INC.	PARQUE INDUSTRIAL LUCHETTI	Bayamon	Industrial
Cooperativa de Camioneros	2-860142	Closure	CHEVRON WAREHOUSE - 54165701	RD. 28 KM 2.1	Bayamon	Petroleum
Caribbean Petroleum Corporation	2-860183	Amended	GULF S/S # 473 (antes 164)	Carr. 167 KM. 19.4	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860239	Amended	GULF S/S #001	Calle C-33 Marginal Esq Paz Forest Hills	Bayamon	Gas Station
GOYA DE PUERTO RICO, INC.	2-860584	Closure	GOYA DE PUERTO RICO, INC.	RD 28	Bayamon	Industrial
MIKE PIZARRO	2-862010	New	MIKE PIZARRO	HIRAM GONZALEZ #415	Bayamon	Not Listed
PUERTO RICO TELEPHONE CO	2-890111	Closure	COVADONGA	RD.# 2,KM 17.4	Bayamon	Utilities
Caribbean Petroleum Corporation	2-860156	Closure	Gulf 54190300	CALLE D-9 Urb Ind Luchetti	Bayamon	Gas Station
RELIANCE CARIBBEAN INC.	2-860420	Amended	RELIANCE CARIBBEAN INC.	LUCHETTI INDUSTRIAL PARK	Bayamon	Industrial
BANCO POPULAR DE P.R.	2-940194	Closure	BANCO POPULAR DE P.R.	RAMON L RODRIGUEZ AVE. #100	Bayamon	Other
Caribbean Petroleum Corporation	2-860315	Amended	GULF S/S #113	BETANCES AVE. Calle J Hermanas Davila	Bayamon	Gas Station
Total Petroleum Puerto Rico Corp.	2-910038	Amended	Total Petroleum #3140	RD 167, KM 7	Bayamon	Gas Station
Total Petroleum Puerto Rico Corp.	2-860383	Amended	Total #5105	RD. 167, KM. 16.1	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-861577	Amended	Texaco -Santa Cruz S/S # 273	P.R. 2 SANTA CRUZ ST.	Bayamon	Gas Station
CARLOS GONZALEZ MIRANDA	2-900051	Amended	Gretcar Inc.	RD 174 K.M 4.4	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860157	Closure	FLAVORICH #54190200	RD #174 KM 2.2	Bayamon	Commercial
Luis B Cruz	2-860884	Amended	Ex SHELL S/S # 003409	ORQUIDEA AVE. CORNER LIRIO Valencia Gardens	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860314	Amended	GULF S/S #112	Ave. West Main Esq. North Sierra Bayamon	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860263	Amended	GULF S/S# 034	Calle Boundary & Carr. 174 Urb Santa Rosa	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-910205	Closure	Manuel Montalvo	PAJAROS ST. 32, RD 862	Bayamon	Commercial
SOL PUERTO LIMITED	2-860648	Amended	SHELL S/ S #804517	RD. 167 KM. 9.6	Bayamon	Gas Station
ORANGE CRUSH OF P.R.	2-880017	Closure	ORANGE CRUSH OF P.R.	ROAD 174 MINILLA IND. PARK	Bayamon	Industrial
Total Petroleum Puerto Rico Corp.	2-860959	Amended	GASOLINAS PUERT RICO # 3126	SANTA CRUZ ST. #54	Bayamon	Gas Station

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
Francisco Rivera Robles	2-861010	Amended	SHELL Forest Hill/S # 001724	RD. #167, CORNER 15 ST.	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860998	Closure	SHELL SERVICE STATION #002712	COLECTORA CENTRAL	Bayamon	Gas Station
Total Petroleum Puerto Rico Corp.	2-860401	Amended	Total #5127	25 SANTA CRUZ ST.	Bayamon	Gas Station
PUERTO RICO TELEPHONE CO	2-890109	Amended	BAYAMON TOPS	RAMON L.RODRIGUEZ AVE. Flamboyan Gardens	Bayamon	Utilities
ANTONIO DE JESUS	2-860647	Amended	Gel S/S	RD. #28, KM. 2	Bayamon	Gas Station
Unknown	2-860193	Closure	GULF SERVICE STATION #0175	RFD#4, RD. 167 LA PAZ ST.	Bayamon	Gas Station
HOSPITAL MATILDE BRENES INC	2-900080	Closure	HOSPITAL MATILDE BRENES INC	J-9 ST. EXT.HNAS.DAVILA	Bayamon	Other
TEXACO PUERTO RICO INC	2-861572	Closure	Texaco Reparto Flamingo S/S #252	CALLE CENTRAL ESQ. DEL PEPINO REPARTO	Bayamon	Gas Station
Elvin Soto Santiago	2-910052	Amended	Speedway Service Station	Carr. 864 KM. 202	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-860611	Amended	Texaco-Tomas Rodriguez #988	LOS MILLONES AVE.	Bayamon	Gas Station
HARRIS & DEVOE PAINTS CORP.	2-860433	Closure	HARRIS & DEVOE PAINTS INC	C STREET #15 MINILLAS IND PARK	Bayamon	Industrial
JARDINES DE CAPARRA	2-940038	Closure	JARDINES DE CAPARRA ASSOCIATES	RD. #2 KM. 8.3	Bayamon	Residential
ESSO STANDARD OIL CO PR	2-861153	Amended	ESSO S/S CO-064	Ave. Betances	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861290	Closure	ESSO S/S	COMERIO ST.	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861151	Amended	ESSO S/S CO-062	Carr. 167 Bo. Buena Vista	Bayamon	Gas Station
INTERSTATE GENERAL	2-940036	Closure	VALLE DEL SOL ASSOCIATES	END MAIN ST.	Bayamon	Residential
Antonio Perez	2-860612	Amended	Rexville S/S	RD 167 KM 18.5	Bayamon	Gas Station
Enrique Alejandro Figueroa	2-861637	Amended	Cobra S/S	165 BETANCES AVE. & E ST.	Bayamon	Gas Station
TREN URBANO	2-990008	Closure	Antiguo local General Gases	Calle Barbosa #6	Bayamon	State Government
SOL PUERTO LIMITED	2-860962	Closure	SHELL SERVICE STATION #000566	PRINCIPAL AVE. MAGNOLIA GARD.	Bayamon	Gas Station
DEPARTAMENTO DE EDUCACION	2-940216	Closure	ESC.EPIFANIO FERNANDEZ VANGA	URB. SANTA MONICA	Bayamon	State Government
Jose Arroyo Marzan	2-860882	Amended	Minillas Shell (SHELL S/S #002623)	RD 831, KM. 2.7	Bayamon	Gas Station
SOL PUERTO LIMITED	2-861009	Amended	SHELL S/ S #003026	RD. 167 KM. 20.7 Urb Contry Estates	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861160	Amended	ESSO S/S CO-100	Ave. Las Cumbres Esq. Carr. 840 Royal Town	Bayamon	Gas Station
Pedro Gonzalez	2-861563	Closure	MAGNOLIA GARDENS S/S	10 & 21 ST.MAGNOLIA GARDENS	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861152	Amended	ESSO S/S CO-063	LAUREL ST. CORNER BELLISIMA	Bayamon	Gas Station
Douglas Morales	2-980059	Closure	Douglas Morales	Carr. #2 Km. 14.2, Hato Tejas	Bayamon	Gas Station
Autoridad de Acueductos y	2-920090	Closure	ESTACION DE BOMBAS REXVILLE	RD. 167 21 ST.	Bayamon	Utilities
SOL PUERTO LIMITED	2-860883	Amended	SHELL S/S #002518	RD # 861 CORNER SANTA Monica	Bayamon	Gas Station
PUEBLO INTERNACIONAL	2-940064	Closure	X-TRA RIO HONDO	BAYAMON MALL AVE. COMERIO I-167	Bayamon	Commercial
BAYAMON TECH. UNIVERSITY	2-861990	Closure	BColegio Universitario Tecnologico de	Carr 174 km 2.8	Bayamon	Other
DEPARTAMENTO DE EDUCACION	2-940215	Closure	ESC.RAFAEL HERNANDEZ	BAYAMON GARDENS	Bayamon	State Government
ESSO STANDARD OIL CO PR	2-861150	Closure	ESSO S/S	RD. 2 CORNER #1 ST.	Bayamon	Gas Station
DEPARTAMENTO DE EDUCACION	2-950035	Closure	ESCUELA PADRE RUFO M.	LAREDO ST. CORNER QUINTANA 4TA.	Bayamon	State Government
Santa Paula Oil	2-900032	Amended	Santa Paula Oil- Magnolia	CORNER 15 ST. MAGNOLIA GARDENS	Bayamon	Gas Station
DEPARTAMENTO DE EDUCACION	2-940207	Closure	ESC. MARIANO FELIU	RD. 831 URB. LOMAS VERDES	Bayamon	State Government
ESSO STANDARD OIL CO PR	2-861159	Amended	ESSO S/S CO-097	MINILLAS & HOSTOS AVES.	Bayamon	Gas Station
AUTORIDAD DE CARRETERAS	2-861955	Closure	HIGHWAY AUTHORITY	STA. JUANITA MARGINAL	Bayamon	Utilities
SOL PUERTO LIMITED	2-860652	Amended	SHELL S/S #804444	LOMAS VERDES AVE. 1-A-101 Royal Palm	Bayamon	Gas Station
RAUL MEDERO RAMIREZ	2-940092	New	ONE HOUR MARTINIZING	A-1 LOMAS VERDES AVE.	Bayamon	Commercial
TEXACO PUERTO RICO INC	2-861578	Amended	Texaco- Santa Juanita S/S #369	SANTA JUANITA AVE. & INDIA ST	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860961	Amended	SHELL S/S #002607	LAUREL AVE. ESPANA CORNER Sta Juanita	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-861585	Amended	Texaco Villas De Navarra S/S #387	IRLANDA AVE.	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-861561	Amended	Texaco Lomas Verdes S/S # 214	LOMAS VERDES & PR. 174	Bayamon	Gas Station

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
Southwest health corporation	2-950074	Amended	Hospital Regional Universitario Bayamon	AVE. LAUREL SANTA JUANITA	Bayamon	Other
ESSO STANDARD OIL CO PR	2-861161	Amended	ESSO S/S CO-101	Carr. 167 Calle Marginal Esq. 6-A Urb Cana	Bayamon	Gas Station
Dario Roman	2-860608	Amended	Magnolia (EX-SHELL S/S #804436)	PRINCIPAL AVE ESQ 3 ST. Magnolia Gardens	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-910040	Amended	JIMMY FERRER # 303	Carr. South East Main, Ext. Minillas	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860958	Amended	Shell S/S #003140	LOMAS VERDES AVE. Esq Nogal	Bayamon	Gas Station
SOL PUERTO LIMITED	2-861011	Amended	SHELL S/S #002860	STA. JUANITA AVE. CORNER HOSTOS	Bayamon	Gas Station
US POSTAL SERV.-BAYAMON	2-860425	Closure	US POSTAL SERV.-BAYAMON	RAMON L. RODRIGUEZ AVE	Bayamon	Not Listed
Florencio Sanchez	2-861286	Amended	Florencio Sanchez (Ex ESSO S/S 2P-	ROAD 829 KM 2.4 Buena Vista	Bayamon	Gas Station
DANOSA CARIBBEAN INC	2-880010	Closure	DANOSA CARIBBEAN,INC	LOT 29 ,LUCHETTI IND.COMPLEX	Bayamon	Industrial
TEXACO PUERTO RICO INC	2-861642	Amended	Maria Diaz S/S #319	Carr. 167 KM 9.8	Bayamon	Gas Station
IVAN RODRIGUEZ	2-930039	New	IVAN RODRIGUEZ	SOLAR #13	Bayamon	Industrial
PETROLEUM CHEMICAL	2-861898	Amended	Petroleum Chemical Corporation	Calle C Lote 36	Bayamon	Commercial
TEXACO PUERTO RICO INC	2-861631	Amended	LILLIAN RIVERA DE JESUS S/S #263	ROAD 167 KM 10.1	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860123	Closure	ATLANTIC PIPE CORP.-54116000	DE DIEGO EXW. KM. 0.8	Bayamon	Gas Station
DURAWEAR MFG. CO.	2-861909	New	DURAWEAR MFG. CO.	13 C STREET MINILLAS IND PARK	Bayamon	Not Listed
ESSO STANDARD OIL CO PR	2-861163	Amended	ESSO S/S CO-103	PRINCIPAL AVE. Alturas de Flamboyan	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-861671	Closure	INSULAR WIRE PROD. INC.	URB. INDUSTRIAL LUCHETTI	Bayamon	Industrial
AUCTION &SALVAGE INC.	2-940126	Closure	OLD LA FAMOSA PLANT	STATE ROAD # 2	Bayamon	Industrial
BETTEROADS ASPHALT COPR.	2-861975	Closure	BETTEROADS ASPHALT CORP	PR 167 KM. 26.3 (PLANT #3)	Bayamon	Not Listed
ESSO STANDARD OIL CO PR	2-861084	Closure	ESSO S/S CO-084	ROAD 886 KM. 3.2	Bayamon	Gas Station
MOBIL OIL CARIBE	2-860640	Amended	CALDERO, GILBERTO	RD. #831	Bayamon	Gas Station
SUCESION ANTONIO MORALES	2-900011	New	SUEN.ANTONIO MORALES GARCIA	KM 14 HM 4 BO.HATO TEJAS	Bayamon	Not Listed
SOL PUERTO LIMITED	2-861008	Amended	SHELL S/S # 002577	COMERIO ST. CORNER HNAS. DAVILA	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860997	Amended	SHELL S/S #003220	LOS DOMINICOS AVE. CORNER 25ST.	Bayamon	Gas Station
Sami Abraham	2-860964	Amended	Abraham Petroleum S/S	RD. 861, KM. 2.6	Bayamon	Gas Station
Antonio Perez	2-861574	Amended	Rexville S/S # 399	PERIPHERAL Esq. 9 ST.	Bayamon	Gas Station
V B INVESTMENT, INC.	2-860402	Amended	Esso- Independiente	RIO HONDO SHOP CTR, RD 167	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860303	Amended	GULF S/S #479 antes 099	CASTIGLIONI AVE. Esq. Calle 21	Bayamon	Gas Station
AUTORIDAD DE EDIFICIOS	2-930048	Closure	CENTRO JUDICIAL BAYAMON	RD. 2 KM 10.5	Bayamon	State Government
Total Petroleum Puerto Rico Corp.	2-910082	Amended	Total Petroleum #3132	CASTIGLIONI AVE. S-1	Bayamon	Gas Station
MITEL CARIBE, INC.	2-860423	Amended	MITEL CARIBE, INC.	MINILLAS IND. PARK	Bayamon	Industrial
PRADO ALTO S.E.	2-860770	Closure	PLAZA RIO BAYAMON.	RIO BAYAMON ST	Bayamon	Industrial
Autoridad de Acueductos y	2-861505	Closure	CENTRO DE CONSTRUCCION	PR 167 KM. 2.0	Bayamon	Utilities
ESSO STANDARD OIL CO PR	2-861288	Closure	ESSO S/S CO-099	RD. 831, KM. 2.7 MINILLAS WD.	Bayamon	Gas Station
EDWIN RUBERO	2-940130	New	MILLONES TEXACO #988	MILLONES AVE. CORNER COMERIO	Bayamon	Gas Station
DEPARTAMENTO DE EDUCACION	2-950048	Closure	ESCUELA MIGUEL MELENDEZ MU¥IZ	RD. 840 KM. 1.3 BO. LA ALDEA	Bayamon	State Government
INTERNATIONAL CAR SERVICES	2-940199	Amended	INTERNATIONAL CAR SERVICES INC.	CAMINO ABRE ESTRECHA LOTE A Corujo Industrial	Bayamon	Commercial
GOYA DE PUERTO RICO, INC.	2-910003	Amended	Goya de Puerto Rico, Inc.	RD 28 URB. INDUSTRIAL LUCHETTI	Bayamon	Industrial
PUERTO RICO TELEPHONE CO	2-890107	Closure	REXVILLE	31 ST. END DA-2 URB.REXVILLE	Bayamon	Utilities
Caribbean Petroleum Corporation	2-860293	Amended	GULF S/S #084	RD. 2 KM. 15.7 PArque Industrial Corujo	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860895	Amended	SHELL S/S #000710	RD #2 KM.8.9	Bayamon	Gas Station
DEPARTAMENTO DE EDUCACION	2-950047	Closure	ESCUELA JOSE DAVILA SEMPRIT	33 ST.	Bayamon	State Government
Caribbean Petroleum Corporation	2-860334	Amended	GULF S/S # 0139	RD # 2,KM. 8.3 Marginal Jardines de Caparra	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861165	Amended	ESSO S/S CO-466	Ave. Comerío Esq. Carr. 801 Rio Hondo	Bayamon	Gas Station

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
Caribbean Petroleum Corporation	2-860173	Amended	GULF S/S #0153	RD. 2 KM 15.4 Hato Tejas	Bayamon	Gas Station
TEXACO PUERTO RICO INC	2-861579	Amended	Sierra BayamonI 1 #363	MAIN NORTH AVE. & #3 ST.	Bayamon	Gas Station
HOSPITAL HNOS.MELENDEZ INC	2-880019	Closure	HOSPITAL HNOS.MELENDEZ INC	HIGHWAY #2 KM 11.7	Bayamon	Other
Caribbean Petroleum Corporation	2-860275	Closure	GULF S/S #054	RD. #2 KM. 9	Bayamon	Gas Station
Total Petroleum Puerto Rico Corp.	2-910079	Amended	Total #3123	RD 2, KM 14.2	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860216	Amended	GULF S/S #199 (antes #428)	ROAD 2 KM 14.2 Hato Tejas	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861287	Closure	ESSO S/S 13060	BARBOSA ST. CORNER RD. #2	Bayamon	Gas Station
Southwest health corporation	2-980150	Amended	Centro SORDO CIEGO	ANTIGUO HOSPITAL RUIZ SOLER	Bayamon	Commercial
ISRAEL BENITEZ	2-861005	Amended	HATO TEJAS GAS STATION	RD. #2, KM. 13.9	Bayamon	Gas Station
HOSPITAL SAN PABLO, INC	2-880008	Amended	HOSPITAL SAN PABLO	SANTA CRUZ # 70	Bayamon	Other
TEXACO PUERTO RICO INC	2-861678	Closure	P.R. MARBLE IND.	RD. 2 KM. 16.4	Bayamon	Industrial
Caribbean Petroleum Corporation	2-860138	Closure	KANE CARIBBEAN 54203600	RD. #2 KM. 17, Hato Tejas	Bayamon	Gas Station
EMPRESAS LAUSELL	2-860160	Closure	EMPRESAS LAUSELL	HWAY PR #02 KM 14.1	Bayamon	Commercial
AGUSTIN PEREZ RODRIGUEZ	2-861164	Amended	APR Bayamon S/S (exESSO S/S CO-	Carr. # 812 km. 0.9 Urb Santa Teresita Rio Plantation	Bayamon	Gas Station
P.R.CONTAINER CO.	2-920122	Closure	P.R.CONTAINER CO.	RD. 2 KM 15.2	Bayamon	Industrial
SOL PUERTO LIMITED	2-860999	Amended	SHELL S/S #003182	RD. #168 Centro Comercial Riverview	Bayamon	Gas Station
CARLOS R. ALVARADO	2-900021	Amended	CRAE Investment Rio Plantation S/S	RD.872 Km 1.4	Bayamon	Gas Station
TECNICENTROS MUNDIAL	2-960027	Closure	Tecnicentros Mundial Inc.	Centro Comercial Bayamon Oeste	Bayamon	Commercial
Caribbean Petroleum Corporation	2-890171	Amended	GULF S/S #402	ROAD 2 ,KM.14.5 hato Tejas	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860790	Closure	GOOD YEAR WESTERN HEMISPHERE	RD. #2, KM. 14.4 HATO TEJAS	Bayamon	Not Listed
Esteban Davila Altieri	2-980131	Closure	Esteban Davila	Carr 167 km 19	Bayamon	Commercial
SOL PUERTO LIMITED	2-860965	Amended	SHELL S/S #002410	RD. #167, KM. 15.4 Bo Buena Vista	Bayamon	Gas Station
GARAJE CHEVRON LUCHETTI	2-860234	Amended	GARAJE CHEVRON LUCHETTI	CARR.5 KM 26.1	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860617	Closure	SHELL S/S # 804525	RD 2 KM 12.0	Bayamon	Gas Station
Total Petroleum Puerto Rico Corp.	2-910074	Amended	Total Petroleum #3111	COMERIO ST. CORNER C/21	Bayamon	Gas Station
ESSO STANDARD OIL CO PR	2-861079	Amended	ESSO S/S CO-067	ROAD 167 KM 2.6	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860207	Amended	GULF #489 antes 189	ROAD 174 & LOMAS VERDES AVE	Bayamon	Gas Station
PUERTO RICO TELEPHONE CO	2-910169	Closure	DAJAOS	RD 167 KM 10.3	Bayamon	Utilities
TEXACO PUERTO RICO INC	2-861580	Amended	Texaco Sierra BayamonII S/S #377	WEST MAIN AVE. CORNER COMERIO	Bayamon	Gas Station
Noel Laureano Vega	2-861279	Amended	Noel Service Station	Calle Comerio 308	Bayamon	Gas Station
Angel Ortiz	2-030009	Amended	Minillas S/S	Carr 831 km 4 Bo. Minillas	Bayamon	Gas Station
AMERICAN PETROLEUM	2-861282	Amended	Guaraguao Service Station	RD. 174, KM. 8.3	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860619	Amended	SHELL S/S #804959	RD. #2, SANTA ROSA SHOP CENTER	Bayamon	Gas Station
Caribbean Petroleum Corporation	2-860297	Amended	GULF S/S 091	RD. 174 KM. 2.0 Ind Minillas	Bayamon	Gas Station
MUNICIPIO DE BAYAMON	2-890152	Closure	DEPARTAMENTO DE	5 ST. INT. RD. #174	Bayamon	Local Government
Manley Berenson P.R. Inc.	2-980011	Closure	Tienda Woolworth	Centro Comercial Rio Hondo	Bayamon	Commercial
Autoridad de Acueductos y	2-861506	Closure	INDUSTRIAL MINILLAS	E-93 MINILLAS IND. DEV.	Bayamon	Utilities
Autoridad de Energia Electrica	2-860762	Amended	Taller Mecánica Automotriz	Carretera # 174 Int Ave LAurel	Bayamon	State Government
ANTONIO DE JESUS	2-910349	Amended	Gel Service Station	RD 167 KM 10.9	Bayamon	Gas Station
Hato Rey Psychiatric Hospital - Mepsi	2-980123	Closure	Mepsi Center	Carr. # 2	Bayamon	Other
Total Petroleum Puerto Rico Corp.	2-910053	Amended	Total Petroleum #3008	RD 167	Bayamon	Gas Station
Water Works Corporation	2-980075	Closure	Water Works Corporation	Carr. 174 Km. 2.3	Bayamon	Commercial
Departamento de Correccion y	2-960052	Closure	Carcel Regional de Bayamon	Central Ave. Juanita Anex #8	Bayamon	Other
ANTONIO DE JESUS	2-910348	Amended	Best Pajaros S/S	RD #863 KM 0.1	Bayamon	Gas Station

Owner Name	AltFacilityID	Notification Description	Facility Name	Street Address	City	Facility Description
SOLARES & CIA.	2-930032	New	SOLARES & CIA.	RD. #28, KM 2.1	Bayamon	Industrial
Santa Paula Oil	2-861608	Amended	Santa Paula Oil Bayamon	ROAD #2 KM 12.1	Bayamon	Gas Station
Bogus Owner	2-860620	Amended	Rosan Inc.	RD. #2, KM. 13.6	Bayamon	Gas Station
SOL PUERTO LIMITED	2-860805	Closure	SAMARITANO & CO., INC.	BOUNDARY ST. #1, CORNER 24 ST.	Bayamon	Not Listed
FLAV-O-RICH, INC.	2-860043	Closure	FLAV-O-RICH, INC.	RD. 174 KM 2.2	Bayamon	Industrial
Sears Roebuck and Co. P.R.	2-960048	Closure	Sears Store # 1915	Road 2 Ave.Aguas Buenas	Bayamon	Other
Caribbean Petroleum Distributor Corp.	2-920126	Closure	Caribbean Petroleum Distributor Corp.	Road #174 km 1.7 Interior	Bayamon	Truck/Transporter
Clemente Santisteban Inc.	2-960060	New	Clemente Santisteban Inc.	Calle a Esq. Calle B	Bayamon	Industrial
MUNICIPIO DE BAYAMON	2-010013	Amended	Estacionamiento Casa Alcaldía	P.O Box 2988	Bayamon	Not Listed
Santa Fe Properties Inc.	2-010032	Closure	Santa Fe Properties Inc. (Plavica)	Carr. 2 Km. 14.0	Bayamon	Commercial
AUTORIDAD DE CARRETERAS	2-980097	Closure	Bayamon Office of Transportation	Carr. 2	Bayamon	State Government
TEXACO PUERTO RICO INC	2-861576	Amended	Texaco- Royal Palm S/S #231	LOMAS VERDES AVE. & Urb.	Bayamon	Gas Station
Manley Berenson P.R. Inc.	2-970013	Closure	Manley Berenson P.R. Inc.	Carr. 167	Bayamón	Commercial
Pep Boys /Soltero, Muñiz & Asociado	2-960051	Closure	Pep Boys	Road 167 Ave. Los Millones	Bayamón	Commercial
Administracion Servicios Generales	2-860081	Closure	GPR #3126	Calle Santa Cruz	Bayamón	Gas Station
Sucesion Luis Ramirez Piñero	2-940045	Amended	Doggie Gas	Carr. 101 final pueblo Boqueron	Cabo Rojo	Gas Station
RAFAEL AYALA MOYA	2-861338	Amended	GUANIQUILLA S/S	ROAD 307 KM 5.3 Barrio Guaniquilla	Cabo Rojo	Gas Station
PUERTO RICO NATIONAL GUARD	2-940004	Closure	GUARDIA NACIONAL DE PUERTO	RD. INT RD. 308	Cabo Rojo	State Government
BETTEROADS ASPHALT COPR.	2-000031	Closure	BETTERROADS ASPHALT	PR 3311 KM 0.2	Cabo Rojo	Other
CIA PETROLERA CARIBE INC	2-910402	Amended	GARAGE DOITTEAU	PRINCIPAL ST.	Cabo Rojo	Gas Station
Jose Rodriguez Rodriguez	2-010028	Amended	Golfers Gas Park	Carr 100 km 1.9	Cabo Rojo	Gas Station
Total Petroleum Puerto Rico Corp.	2-020018	Amended	Total Petroleum # 3158	Carr #100 km 3.6	Cabo Rojo	Gas Station
TEXACO PUERTO RICO INC	2-861824	Amended	CABO ROJO S/S #646	RD. 103 Y 102	Cabo Rojo	Gas Station
ESSO STANDARD OIL CO PR	2-861202	Amended	ESSO S/S CO-379	Carr. 100, INT.Carr 311	Cabo Rojo	Gas Station
Eduardo Ruiz Valentín	2-861826	Amended	All Star (Ex Texaco #667)	RD. 102, KM. 23.9 Monte Grande	Cabo Rojo	Gas Station
Francisco Gonzalez	2-930056	Amended	GARAJE Y SUPERMER. CONCHITA	RD. 102, KM 14.1	Cabo Rojo	Gas Station
CLUB DEPORTIVO DEL OESTE	2-940255	Closure	CLUB DEPORTIVO DEL OESTE	RD. 102 KM. 15.4	Cabo Rojo	Other
SUPERMERCADOS MR. SPECIAL,	2-000022	New	SUPERMERCADO MR. SPECIAL	CARR. 100 KM. 6.7	Cabo Rojo	Commercial
ALFREDO CARDER LUGO	2-900055	Amended	REAR YARD OF GASOLINE STATION	ROAD 103 KM. 4.0	Cabo Rojo	Gas Station
TEXACO PUERTO RICO INC	2-861848	Amended	NORYLUZ VELEZ S/S # 654	RD. BOQUERON, KM. 13.9	Cabo Rojo	Gas Station
TEXACO PUERTO RICO INC	2-861838	Amended	LUIS RAMIREZ S/S #630	RD. 103 KM. 10.9	Cabo Rojo	Gas Station
TEXACO PUERTO RICO INC	2-861823	Amended	BOQUERON S/S # 674	RD. #101, KM. 2.6	Cabo Rojo	Gas Station
Gustavo A. Colberg-Menendez	2-960038	Amended	Las Arenas Service Station	Road 101 Km.16.7 1/2	Cabo Rojo	Gas Station
SOL PUERTO LIMITED	2-860685	Amended	SHELL S/S #804231	CARBONELL CORNER RD 311	Cabo Rojo	Gas Station
Neftali Rosas	2-030008	New	Expreso Gas	Carr #100 km 5.5	Cabo Rojo	Gas Station
HEALTH-TEX, INC.	2-860115	Closure	HEATH-TEX, INC.	RD 308 KM 0.8	Cabo Rojo	Industrial
TEXACO PUERTO RICO INC	2-910334	Amended	LUIS G. FERNANDEZ #696	RD. 100 KM 6.4	Cabo Rojo	Gas Station
Carlos R. Robles Sanchez	2-860665	Amended	SIT-GO Service Station	SALVADOR BRAU #65	Cabo Rojo	Gas Station
Pedro Silva Ramirez	2-950027	Amended	Estación se Servicio Sepulveda Silva	Carr. 103 Km.8.2	Cabo Rojo	Gas Station
Caribbean Petroleum Corporation	2-860912	Amended	Gulf S/S #461	RD. #103, KM 9.1 Bo Llano Tuna	Cabo Rojo	Gas Station
Jorge Rivera Padilla	2-861339	Amended	Corozo Service Center	ROAD 301, KM. 7.4	Cabo Rojo	Gas Station
TEXACO PUERTO RICO INC	2-861882	Amended	GEORGINA FELICIANO #647	RD. #103, KM. 6.9	Cabo Rojo	Gas Station
José Méndez, Jr.	2-861344	Amended	PESCADERIA ROSAS, INC.	Carr. Principal 1158	Cabo Rojo	Gas Station
Total Petroleum Puerto Rico Corp.	2-910120	Amended	GPR #2221	RD 301 KM .5.5	Cabo Rojo	Gas Station

Appendix V
Additional Provided Documentation

CTS GROUP INC.
ENGINEERS & ENVIRONMENTAL CONSULTANTS

12 de Octubre de 2021

Sr. Rafael A. Machargo Maldonado
Secretario
Departamento de Recursos Naturales y Ambientales
San Juan, Puerto Rico.

RE: AUTORIZACIÓN PARA ACCESAR INFORMACIÓN SOBRE PROPIEDAD COMERCIAL UBICADA EN OESTE DE LA AVENIDA NORTE Y SUR DE LA CARR PR-177, BO. JUAN SANCHEZ, BAYAMON, PR.

Estimado Sr. Machargo:

Reciba un cordial saludo de parte del equipo de CTS Group, Inc. Nuestra firma ha sido contratada para realizar una Evaluación Ambiental (Fase I) en la propiedad en referencia la cual se encuentra ubicada en el municipio de Bayamon. La ubicación de dicha propiedad es Lat: 18.382987, Lon: -66.125219 y el número de catastro es: 085-070-047-13. Con dicho estudio se espera establecer la presencia de algún tipo de condición ambiental reconocida (si alguna) como producto de sus operaciones y la de los negocios adyacentes a la propiedad en cuestión. A raíz de lo antes mencionado, le solicitamos respetuosamente nos provea información sobre el caso en referencia, y de salir positiva a alguna condición ambiental reconocida, su autorización para ir a verificar el expediente de la propiedad. Le agradecemos su disponibilidad y cooperación para asistirnos en este asunto.

Cordialmente,

Mayte Pérez Patiño
Project Coordinator
CTS Group, Inc.
Tel. (786) 622-3721
E-mail: mayte.perez@ctsgrouppr.com

GOBIERNO DE PUERTO RICO

Departamento de Recursos Naturales y Ambientales

1 de septiembre de 2020

AGRO ELVELISSE FIGUEROA HERNANDEZ
CALLE 1 #G-1
URB VILLA MATILDE
TOA ALTA, PR 00953

Estimada agrónoma Figueroa Hernández:

Certificación para Categorización de
Hábitats Naturales para la Vida Silvestre
Casa Linda Apartments
Carr. PR-177 Intersección Ave. Norte
Bo. Juan Sánchez, Bayamón
O-SE-CCH01-SJ-01696-15032020

El Departamento de Recursos Naturales y Ambientales (DRNA) evaluó una Solicitud de Certificación para Categorización de Hábitats Naturales para la Vida Silvestre para el proyecto de epígrafe. La misma fue evaluada de acuerdo con las disposiciones aplicables relacionadas con la fauna, la flora y sus hábitats de la Ley 416 del 2004, según enmendada (*Ley Sobre Política Pública Ambiental*), su Reglamento 8762 de 2019 (*Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios*), la Ley 23 del 1972, según enmendada (*Ley Orgánica del Departamento de Recursos Naturales y Ambientales de Puerto Rico*), la Ley 150 de 1988, según enmendada (*Ley del Programa de Patrimonio Natural de Puerto Rico*), la Ley 314 de 1998 (*Ley para Declarar la Política Pública sobre Humedales y Designación de Caño Tiburones como Reserva Natural*), la Ley 292 del 1999 (*Ley para la Protección de la Fisiografía Cársica de Puerto Rico*) y su Reglamento 8486 de 2014 (*Plan y Reglamento del Área de Planificación Especial del Carso*) y la Ley 241 del 1999, según enmendada (*Nueva Ley de vida silvestre de Puerto Rico*) y sus Reglamentos 6765 de 2004 (*Reglamento para regir la conservación y el manejo de la vida silvestre, las especies exóticas y la caza en el Estado Libre Asociado de Puerto Rico*) y 6766 del 2004 (*Reglamento para regir las especies vulnerables y en peligro de extinción en el Estado Libre Asociado de Puerto Rico*), así como de la Orden Administrativa del DRNA 2010-09 y el *Puerto Rico State Wildlife Action Plan* del DRNA, adoptado en Septiembre, 2015. En cuanto al Inventario de flora y fauna incluido en la solicitud, encontramos que cumplió satisfactoriamente con las disposiciones aplicables de la Ley 416 del 2004, *supra,* y su Reglamento 8762, *supra*, documentando de forma representativa la flora y la fauna del lugar.

Recomendación Ambiental

Casa Linda Apartments

Fecha de Expedición:

03/SEP/2020

Datos de localización

De acuerdo a la información suministrada se propone una actividad Privada en el Distrito de Clasificación identificado a continuación:

Dirección Física

CARR PR-177 INT. AVENIDA NORTE
BO. JUAN SANCHEZ
Bayamón, Puerto Rico, 00956

Número(s) de Catastro

085-070-047-13

Calificación

Distrito(s) de Calificación:

R-A

Distrito en el Mapa de Inundabilidad:

X

Tipo de Suelo:

RpE2 (97.3%), RpD2 (2.7%)

Datos de permiso

Dueño

Casa Linda Apartments LLC

Cabida (Área Total Según Escritura)

19846.04 MC

Servidumbres Existentes

NINGUNA

Comentarios de las Divisiones al Permiso

Infraestructura

Recomendación Infraestructura:

Autoridad de Carreteras y Transportación:
ACT contesta REA - El Programa de Construcción y Mejoras Permanentes vigente de esta Autoridad no incluye proyectos programados que pudieran verse afectados por la acción propuesta. En cuanto al aspecto ambiental no tenemos comentarios.

Autoridad de Energía Eléctrica:
La AEE Contesta REA – Requiere SRI La Autoridad de Energía Eléctrica (AEE) desde el punto de vista ambiental, no tiene objeción al proyecto propuesto. No obstante, el proyecto según presentado requiere de una evaluación eléctrica. De acuerdo a la Regla 115.D.2 y 3 del Reglamento de Evaluación y Trámite de Documentos Ambientales se deberá discutir el impacto ambiental de cada actividad propuesta que afecte nuestra infraestructura y determinar la disponibilidad de la misma antes de la presentación de un documento ambiental. A esos efectos, deberá incorporar en el Documento Ambiental correspondiente las recomendaciones de la evaluación eléctrica realizada por la AEE que se obtenga mediante la Solicitud de Recomendación de Infraestructura (SRI) de la Oficina de Gerencia de Permisos. Le recordamos que la evaluación eléctrica caduca al año de realizada. De no comenzar sus trabajos en ese periodo, deberá solicitar una nueva evaluación eléctrica. Este comunicado no constituirá un endoso a la referida acción. Una vez cumplan con las condiciones que se establezcan en la correspondiente evaluación eléctrica, la acción

Recomendación Ambiental

propuesta se considerará endosada.

Autoridad de Acueductos y Alcantarillados:
2020-312378-REA-004325
Casa Linda Apartments
La Autoridad de Acueductos y Alcantarillados (AAA) evaluó el documento sometido en cumplimiento de su deber como agencia evaluadora, específicamente los aspectos ambientales exclusivos a nuestra jurisdicción y peritaje.
Según los documentos sometidos, El proyecto propone la remodelación del residencial Casa Linda del Sur y la construcción de un multi pisos para estacionamiento y 52 nuevos apartamentos. El mismo está localizado en la PR-177 int. Avenida Los Filtros (Norte), Barrio Juan Sánchez, Municipio de Bayamón. De manera preliminar, no se identifica que dicha propuesta según descrita en documentos presente un impacto en términos ambientales para la Autoridad de Acueductos y Alcantarillados.
Destacamos del proyecto requerir servicio de agua potable y/o alcantarillado sanitario, o identificación de utilidades; el Proponente deberá someter una Solicitud de Recomendación de infraestructura (SRI) ante la Oficina de Gerencia de Permisos (OGPe).
En la evaluación se determinará la disponibilidad de los servicios de agua y alcantarillado sanitario que puedan servir al mismo, requisitos y/o condiciones de endoso para conectar el proyecto. Dichas condiciones pueden incluir, pero no se limitan a:
• Obras de Aumento de capacidad en el sistema potable como de alcantarillado sanitario.
• Relocalización de utilidades de la AAA e identificación de servidumbres.
• Construcción de obras extramuros.
Esta comunicación no implica una autorización para que se conecten los servicios de agua y alcantarillado. El proponente será responsable de identificar y de reparar a su costo cualquier daño que pueda causar a las utilidades existentes de la Autoridad.

Junta Reglamentadora de Telecomunicaciones (JRTPR):
NETPR 2020-312378-REA-004325- Requisitos de Estricto Cumplimiento - El Negociado de Telecomunicaciones (NET) tiene los siguientes comentarios: El proyecto según presentado requiere de una evaluación técnica. Respecto a las recomendaciones para la instalación de infraestructura, la Parte Proponente continuará el trámite a través de la Oficina de Gerencias de Permisos (OGPe). A tales efectos autenticará con su firma digital y sello el formulario de Solicitud NETPR - F101. Es un deber esencial que la Parte Proponente certifique por ese medio, cualquier especificación, con especial atención a la infraestructura de telecomunicaciones y los puntos de conexión. 1. El dueño a través del proyectista solicitará al NET un punto de conexión a la infraestructura de telecomunicaciones. 2. Más adelante presentará para recomendaciones y posterior autorización, un Plano de Infraestructura Soterrada de Telecomunicaciones donde certifique los requeridos detalles mínimos de construcción. Previo al otorgamiento del Permiso de Construcción, presentará a la consideración del NET un Plano de Infraestructura de Telecomunicaciones para Aprobación Final. 1. En específico el dueño o su representante

Recomendación Ambiental

constituirán mediante Plano de Inscripción y Escritura la Servidumbre de Infraestructura Soterrada de Telecomunicaciones, en estricto cumplimiento con las disposiciones del Reglamento para Endosos de Planos de Infraestructura y Servidumbres para Facilidades de Telecomunicaciones y Televisión de la Junta Reglamentadora de Telecomunicaciones de Puerto Rico, Reglamento 7393, revisado". 2. Cuando la obra esté parcial o totalmente construida, presentará una Solicitud de Inspección para la requerida Certificación de Obras Construidas (COC). La COC es un requisito mandatorio para solicitar el Permiso de Uso. En cuanto a etapas posteriores de permisos, de acuerdo con las instrucciones vertidas esta recomendación está condicionada al cumplimiento específico de notificación a la Sección de Infraestructura del NET. Toda propuesta que incluya cambios que afecten nuestra infraestructura se diseñará de conformidad con las normas aplicables tal como surge del descrito Reglamento 7393, revisado". La parte proponente representará la infraestructura proyectada y determinará su viabilidad. A esos efectos, deberá incorporar en los correspondientes documentos de construcción las recomendaciones de la evaluación realizada por el NET que se obtengan prospectivamente mediante la Solicitud de Recomendación de Infraestructura (SRI) de la Oficina de Gerencia de Permisos. En las referidas etapas la Parte Proponente solicitará nuevas recomendaciones de infraestructura de telecomunicaciones. En tal eventualidad se radicarán planos certificados con el propuesto punto de conexión y los detalles de la infraestructura de telecomunicaciones. De ser necesaria una Relocalización de Planta, se exige el estricto cumplimiento con la sección 3.09 del Reglamento 7393, revisado. Estas instrucciones no constituyen una recomendación favorable a la referida acción, ni representa un relevo de cumplimiento respecto a todos los reglamentos aplicables. El NET ejercerá la autoridad delegada, evaluará cada fase inconclusa del proceso de permisos y cuando sea necesario solicitará información adicional. Este Negociado auditará el cumplimiento de todo requisito aplicable a la otorgación de autorizaciones con la facultad disponible para notificar procedimientos administrativos.

Medioambiente

La División de Medioambiente de la OGPe realizó una búsqueda en el Sistema de Información Geográfica (GIS) de la Junta de Planificación y no encontró en el área de la actividad propuesta hábitat crítico, elementos críticos ni área de Prioridad de Conservación. La División de Medioambiente no tiene objeción a la actividad propuesta. No obstante, deberá cumplir con lo siguiente:

1) Previo a cualquier extracción de la corteza terrestre deberá cumplir con la Regla 3.4.1 - Permiso Único Incidental Operacional y con el inciso (a) de la Sección 3.4.1.3 –Actividad Incidental a una Obra del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Se le apercibe que la Ley Núm. 132 de 25 de junio de 1968, según enmendada y su Reglamento, prohíben la extracción, excavación, remoción y dragado de material de la corteza terrestre sin el permiso correspondiente.

2) De ser necesario el corte de árboles, deberá cumplir con las Reglas 3.4.1 - Permiso Único Incidental Operacional y con la Regla 3.4.2 Requisitos para las Mitigaciones y Siembras de Árboles del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Se le apercibe que la Ley Núm. 133 de 1 de julio de 1975, según enmendada prohíbe el corte y poda de árboles sin el permiso correspondiente.

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3) Deberá establecer un programa de reforestación utilizando especies nativas que además de ayudar a minimizar la erosión beneficien la vida silvestre. Esta medida es cónsona con la Ley para Fomentar la Siembra de Árboles Cuyas Frutas y/o Semillas Provean Alimento a Especies de Aves Silvestres de Puerto Rico (Ley Núm. 97 de 24 de junio de 1998), la cual establece lo siguiente: "En todo proyecto de reforestación en que se utilicen fondos públicos o privados, o en una combinación de estos, un 15% en las áreas rurales y un 10% en las áreas urbanas del total de árboles a ser sembrados, serán de especies cuyas frutas y/o semillas sirvan de alimento a las aves silvestres que residan temporal o permanentemente en ésta".

4) De descubrirse en el predio objeto de desarrollo algún cuerpo de agua superficial o subterráneo, sea perenne o intermitente, deberá informarlo inmediatamente al DRNA y demás agencias concernidas. No informar hallazgos de este tipo, así como las medidas de mitigación que se implantarán para proteger estos recursos naturales conllevará una revocación automática de la presente comunicación de no objeción y podrá ser base para acciones legales por parte de la Junta de Planificación (JP)e en los foros correspondientes.

5) Deberá Presentar Certificación de Hábitat, según el Capítulo 9.13 del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019. Dicha Certificación deberá ser tramitada en el DRNA, en conformidad con la Ley Núm. 241 de 15 de agosto de 1999, La Nueva Ley de Vida Silvestre de Puerto Rico, el Reglamento 6765 Reglamento para Regir La Conservación y el Manejo de La Vida Silvestre, Las Especies Exóticas y la Caza en el Estado Libre Asociado de Puerto Rico y la Orden Administrativa Núm. 2010-09, Para Establecer los Procedimientos y Requisitos Para La Evaluación, Categorización y Mitigación de Hábitats.

6) Para la fase de Permiso Construcción deberá cumplir con la Sección 5.1.2.2 Análisis de Riesgos a Deslizamientos y otras Condiciones del Subsuelo del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019 el cual indica que para todo proyecto de urbanización, incluyendo urbanizaciones vía excepción, se tomará en consideración el riesgo a deslizamientos y otras condiciones del subsuelo mediante la presentación de un estudio geotécnico certificado por un ingeniero licenciado que evalúe la geología e hidrología del terreno, presencia de fallas geológicas, historial de deslizamientos en la zona, susceptibilidad del terreno a los mismos, topografía, presencia del materiales de depósitos de deslizamientos (QI) según descritos en los cuadrángulos geológicos de Puerto Rico por el USGS y las propiedades ingenieriles del subsuelo, entre otros.

7) Para la fase de permiso de Construcción deberá cumplir con las disposiciones de la Sección 5.1.9.4 (Manejo de Aguas Pluviales) del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

8) Para la fase de Permiso de Construcción y de tener alguna descarga de escorrentía a cualquier cuerpo de agua durante la operación, deberá consultar a la Agencia Federal de Protección Ambiental para

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determinar si dichas descargas requieren un permiso "NPDES" de acuerdo al Código Federal de Reglamentación Número 40, Sección 122.26 (b) (14) (x).

9) Para la fase de Permiso de Construcción será responsabilidad del Peticionario previo las labores de remoción de extracción de los materiales de la corteza terrestre el obtener y mantener en vigor el Permiso General Consolidado por la Oficina de Gerencias de Permisos (OGPe) para el área de operaciones objeto del permiso" a través de la Regla 3.4.1 - Permiso Único Incidental Operacional del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

Esta recomendación es solamente aplicable a la situación de hechos y los datos según presentados y evaluados en el caso y el Secretario Auxiliar se reserva el derecho de reevaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o la acción administrativa correspondiente por parte de la agencia solicitante o proponente cuando surja nueva información oficial específica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente, o cuando el endoso original se emitió bajo premisas falsas o fraudulentas.

ADS:

16 de junio de 2020 DRNA/ADS-Medioambiente SUPERSIP-2020-312378-REA-004325 Proyecto Residencial Casa Linda del Sur Municipio de Bayamón La División de Medioambiente de OGPe y la Autoridad de Desperdicios Sólidos (ADS) consolidada con el Departamento de Recursos Naturales y Ambientales (DRNA), recibió la solicitud de recomendación ambiental para el proyecto en referencia. El proyecto propone la remodelación del residencial Casa Linda del Sur y la construcción de un multipisos para estacionamiento y 52 nuevos apartamentos. El mismo está localizado en la PR-177 int. Avenida Los Filtros (Norte), Barrio Juan Sánchez, Municipio de Bayamón. Luego de revisar la información suministrada, la agencia no objeta la acción propuesta, ya que la misma no tiene aspectos contrarios a la política pública nuestra. Sin embargo, el proponente cumplirá con las siguientes leyes y reglamentos relacionados con el manejo y disposición de los residuos sólidos y materiales reciclables: 1. Ley Núm. 70, de 18 de septiembre de 1992, Ley para la Reducción y Reciclaje de los Desperdicios Sólidos, según enmendada, establece el desarrollo e implantación de estrategias económicamente viables y ambientalmente seguras que resulten en la disminución del volumen de desperdicios sólidos que requerirá disposición final. Como parte de estas estrategias, se considera necesario modificar las prácticas de manejo y disposición existentes para reducir la intensidad de uso de los Sistemas de Relleno Sanitario (SRS) del país. 2. Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos (Reglamento Núm. 6825 de 15 de junio de 2004), según enmendado. Aplicará a toda persona, natural o jurídica, ya sea municipios, cooperativas, industrias, comunidades, condominios, complejos de vivienda vertical tipo "walk-up", residenciales público, agencias gubernamentales, empresas o instituciones privadas (comercios y organizaciones sin fines de lucro) y empresas comunitarias que generen o manejen desperdicios sólidos, que contengan material reciclable, dentro de la jurisdicción del Estado Libre Asociado de Puerto Rico. 3. Reglamento Conjunto para la

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Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de terrenos y Operación de Negocios (Reglamento Conjunto) de 7 de junio de 2019. El proponente cumplirá con la información requerida, según lo dispuesto en: a. Capítulo 3.2 Edificación y Conservación de Energía. Regla 3.2.1 Permiso de Construcción. Sección 3.2. 1.1-Disposiciones Generales Sección 3.2.1.2 Requisitos de Presentación (j) Plan de Reciclaje. (k) b. Capítulo 3.4 Permisos de Medioambiente Regla 3.4.1 Permiso Único Incidental Operacional • Sección 3.4.1.1 Disposiciones Generales • Sección 3.4.1.2 Aplicabilidad C-1 b. Se deberán presentar alternativas para el manejo y disposición del material vegetativo generado en el caso de corte y poda conforme al Capítulo IX del Reglamento para la Reducción, Reutilización y Reciclaje de Desperdicios Sólidos, según enmendado (Reglamento 6825). c. Capítulo 9.9, Desperdicios Sólidos Regla 9.9.1 Disposición General Regla 9.9.2 Disposición de los Desperdicios Sólidos No Reciclables Regla 9.9.3 Centro de Recuperación de Materiales Reciclables (CRMR) • Sección 9.9.3.1 • Sección 9.9.3.2 • Sección 9.9.3.7 Los siguientes aspectos serán incorporados en el proyecto propuesto: 1. Notificar al Coordinador de Reciclaje Municipal sobre las áreas designadas para la recuperación y disposición de los materiales reciclables. Si el municipio tiene recogido de materiales reciclables en el área, deberá incluir el mismo. 2. Indicar el responsable del recogido y disposición de los desperdicios sólidos (privado o municipal). 3. Implantar técnicas de prevención de contaminación: • Utilizar productos sin materiales tóxicos. • Emplear materiales reusables o reciclables. • Mantener los contaminantes segregados. • Conservar el agua y los recursos energéticos. • Rotular recipientes y contenedores, apropiadamente, para lo que estén designados. Las recomendaciones emitidas aplican a los hechos presentados y evaluados al momento. La OGPe y agencia se reservan el derecho de reevaluar y modificar los mismos en el caso de surgir información oficial que identifique que las condiciones han cambiado, o cuando los comentarios hayan sido emitidos bajo premisas falsas. Además, la agencia tiene la facultad de solicitar cualquier información adicional que entienda pertinente y que, de conformidad con las leyes y reglamentaciones vigentes, garantice el interés público y la protección del ambiente.

Arqueología y Conservación Histórica

COMENTARIO DACH-ICP A CASO NÚM. 2020-312378-REA-004325: I. BASE LEGAL: Se emite el siguiente comentario en base a la Ley 374 del 14 de marzo de 1949, según enmendada, Ley de Zonas Antiguas o Históricas y Zonas de Interés Turístico, Ley 3 del 2 de marzo de 1951, Ley de Edificios y otras Estructuras Históricas y la Ley 89 del 21 de junio de 1955, según enmendada, conocida como Ley Orgánica del Instituto de Cultura Puertorriqueña y la Ley 161 del 1 de diciembre de 2009, conocida como Ley para la Reforma del Proceso de Permisos de Puerto Rico. Estas leyes le confieren jurisdicción sobre los siguientes asuntos: 1. Edificios, lugares y zonas incluidas en el Registro de Sitios y Zonas Históricas de Puerto Rico de la Junta de Planificación (REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); 2. Edificios, lugares y zonas declaradas históricas a través de legislación (o de resolución de la JUNTA DE DIRECTORES DEL ICP; 3. Plazas de recreo y edificios circundantes (REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); 4. Propiedades zonificadas “P” construidas previo a 1960 (RESOLUCIÓN JPE-25 Y RESOLUCIÓN JPE-047); 5. Propiedades zonificadas “CRH”, “SH” o “R-ZH”- Según REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENO; 6. Propiedades elegibles a sitios históricos; propiedades de valor histórico que satisfacen los criterios de elegibilidad como sitios históricos para ser designada como tal individualmente (LEY NÚM. 89 DE

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1955; REGLAMENTO CONJUNTO DE PERMISOS PARA OBRAS DE CONSTRUCCIÓN Y USOS DE TERRENOS); II. EVALUACION: El Instituto de Cultura Puertorriqueña a través de los Programas de Patrimonio Histórico Edificado y Arqueología y Etnohistoria han evaluado los documentos relacionados al proyecto de referencia, recibidos a través de la División de Arqueología y Conservación Histórica de la Oficina de Gerencia de Permisos (OGPe). El Programa de Patrimonio Histórico Edificado, en comunicación del 25 de junio de 2020, emitió los siguientes comentarios: “De acuerdo a nuestros expedientes y la información provista: 1. La propiedad es una no elegible en Bayamón. 2. Se propone una remodelación general del edifico existente, construir un edifico multipisos para estacionamientos y un edifico nuevo de apartamentos residenciales. 3. El proyecto propuesto no implica impacto adverso a recursos culturales pertenecientes al patrimonio histórico construido. Por lo tanto, se emite una determinación de NO OBJECIÓN AL PROYECTO PROPUESTO. Esta evaluación no incluye los elementos a evaluarse conforme a la Ley 112 del 12 de agosto de 1988, Ley de Patrimonio Arqueológico Terrestre, lo cual debe hacerse mediante solicitud separada al Programa de Arqueología y Etnohistoria del ICP. Las evaluaciones de ambos programas son necesarias para concluir el proceso con esta agencia. Este documento tiene vigencia de un año a partir de su emisión.” Por su parte, el Programa de Arqueología y Etnohistoria evaluó los documentos relacionados al proyecto de referencia, indicando lo siguiente en carta del 2 de septiembre de 2020: “La evaluación realizada sugiere que, basado en los datos existentes al presente, las probabilidades de impactar un recurso arqueológico, según definido por la Ley 112 del 20 de julio de 1988, según enmendada, son mínimas. Por lo tanto, en lo concerniente a recursos culturales de naturaleza arqueológica, no tenemos objeción al proyecto según fue radicado y evaluado. Le notificamos que esta autorización es de tipo parcial y que el proponente queda sujeto a las responsabilidades y obligaciones que impone la Ley 112 del 20 de julio de 1988, según enmendada. Esta establece que, se deberá paralizar todo tipo de actividad de excavación, movimiento y remoción de la corteza terrestre, y notificar en un plazo de veinticuatro (24) horas al Consejo de Arqueología Terrestre, en caso de que, durante el desarrollo del proyecto, se descubra o impacte algún depósito, elemento, estructura o vestigio de naturaleza arqueológica. Se le apercibe que el incumplimiento de estos requerimientos podrá ser objeto de sanciones administrativas según lo establecido en las citadas leyes. Esta autorización tiene vigencia de (1) año." III. RECOMENDACIÓN: La División de Arqueología y Conservación Histórica de la OGPe recomienda favorablemente el proyecto, según recomendado por los Programas que componen el Instituto de Cultura Puertorriqueña. Se anejan documentos.

División de Evaluación de Cumplimiento Ambiental

En el Documento de Evaluación Ambiental (DEA) que se someta se deberá atender los comentarios y requerimientos que hayan emitido las agencias comentadoras. La DEA deberá ser tramitada a través del Single Business Portal (SBP).

Se incluyen los comentarios del Departamento de Recursos Naturales y Ambientales (Junta de Calidad Ambiental), emitidos en carta fechada 9 de julio de 2020.

Condiciones Generales

Recomendación Ambiental

Condiciones Generales

Esta recomendación es solamente aplicable a la situación de hechos y los datos según presentados y evaluados en el caso. La OGPe se reserva el derecho de reevaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o requerir la acción administrativa correspondiente por parte de la agencia solicitante o proponente cuando surja nueva información oficial específica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente, o cuando la recomendación original se emitió bajo premisas falsas o fraudulentas.

Habido recibido los comentarios de las agencias gubernamentales concernidas. Esta información será utilizada para la presentación del Documento Ambiental correspondiente a ser evaluado por la División de Evaluación de Cumplimiento Ambiental.

Vigencia

Las vigencias de las diferentes agencias del proceso de recomendación serán los establecidos en las comunicaciones que en estas emitan conforme a sus reglamentos. Esta recomendación ambiental tendrá una vigencia de trescientos sesenta y cinco (365) días a partir de su expedición.

Condiciones Especiales

NINGUNA

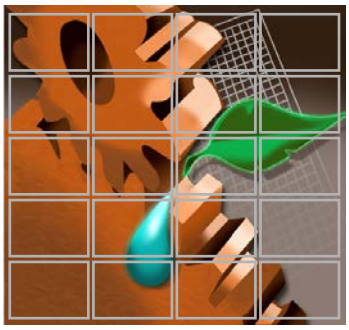
Firma / Sellos

Fecha de Expedición:

03/SEP/2020

Ing. Gabriel Hernández
Secretario Auxiliar
Departamento de Desarrollo Económico y Comercio de Puerto Rico
Oficina de Gerencia de Permisos

SBP SINGLE BUSINESS PORTAL



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ASBESTOS-CONTAINING MATERIALS AND LEAD-BASED PAINT SURVEY

Casa Linda del Sur Apartments Common Areas
(1st, 2nd and 3rd Floor Hallways,
First Floor Main Lobby, Terrace and Parking Areas)
Road PR-177
Bayamón, PR

February 23, 2019
For: Casa Linda del Sur Apartments
Prepared by: Edwin A. Ayala.

El predio del proyecto ocupa unas 5.1 cdas. Es un predio urbano residencial, ocupado una estructura residencial multifamiliar y áreas verdes con grama recortada y algunos árboles y arbustos de especies ornamentales, nativas comunes y exóticas invasoras. Se propone la remodelación de la estructura existente, y la construcción de otra estructura residencial multifamiliar de 52 unidades, un estacionamiento multipisos y facilidades recreativas. No hay reportes de especies de flora o fauna Vulnerables o En Peligro de Extinción.

Como resultado de dicha evaluación, hemos categorizado el predio como **Hábitat Natural con Bajo Potencial de Convertirse en Hábitat Esencial, Hábitat de Alto Valor Ecológico o Hábitat de Valor Ecológico (Categoría 6).** El Artículo 2.03 del Reglamento 6765, supra, establece lo siguiente para esta categoría:

"La meta de la mitigación es minimizar el impacto al hábitat. El Departamento deberá actuar para alcanzar las metas de la mitigación de hábitat recomendando o exigiendo acciones que minimicen la pérdida directa de hábitat y que evite impacto a otro hábitat fuera del área a impactarse."

Este documento es una calificación de los hábitats naturales sitos en el predio de epígrafe, requerida por los estatutos legales vigentes. **No constituye un permiso para la construcción u operación del proyecto propuesto.**

Esta certificación es solamente aplicable a la situación de hechos según presentados y evaluados en el caso y la Secretaria se reserva el derecho de evaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o la acción administrativa correspondiente por parte de la agencia solicitante o proponente, de surgir nueva información oficial especifica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente o cuando la certificación original se emitió bajo premisas falsas o fraudulentas.

Si tiene alguna pregunta o necesita orientación sobre este asunto, puede escribirnos a la dirección indicada o comunicarse al teléfono 787-999-2200 extensiones 2834 2846.

Cordialmente,

Joanna C. Cepeda Díaz
Secretaria Auxiliar
Secretaría Auxiliar de Permisos, Endosos y Asuntos Especializados

Introduction

Casa Linda del Sur retained Edwin A. Ayala. to perform an Asbestos-Containing Materials (ACM) and Lead-Based Paint (LBP) survey in Casa Linda Apartment Common Areas (1st, 2nd and 3rd Floor Hallways, First Floor Main Lobby, Terrace and Parking Areas) located at road PR-177, Bayamón. The location map is shown in the appendix A.

The purpose of the survey was to determine the presence of ACM and/or LBP in the structure prior to the final demolition and disposal.

This survey was by conducted by EQB certify inspectors on February 23, 2019, copies of his credentials are included in appendix B.

Lead Based Paint Procedure

Hazard of lead in paint has been defined by the Department of Housing and Urban Development as 1.0 mg/cm^2 as measured by XRF instrument or Atomic Absorption Spectroscopy (AAS) or 0.5% by weight or 5,000 ppm as measured by AAS or Inductive Coupled Plasma (ICP). The same level was adopted by EPA regulations published in 1992, under Title X.

The survey was performed following the methodology established in the HUD Guidelines for the Evaluation and Control of Lead Based Paint in Housing (2012 revision) and the PREQB Lead Based Paint Abatement Control Regulation.

The structure inspection was conducted by a PR lead-based paint inspector using the following six steps:

1. List all testing combinations, including those that are painted, stained, shellacked, varnished, coated, or wallpaper which covers painted surfaces.
2. Select testing combinations. (XRF testing is required for at least one location per testing combination, except for interior and exterior walls, where four readings should be taken, one on each wall.)
3. Perform XRF testing (including the calibration check readings).
4. Collect and analyze paint-chip samples for testing combinations that cannot be tested with XRF or that had inconclusive XRF result,
5. Classify XRF and paint-chip results.
6. Preparation final report

The surfaces evaluation was performed as follows:

- If the lead concentration measured by the XRF Spectrum Analyzer is less than 1.0 mg/cm^2 it is considered negative.
- If the lead concentration measured by the XRF Spectrum Analyzer is equal or greater than 1.0 mg/cm^2 it is considered positive.

To each functional space of the property a name was assigned according to the use of that space. If no name could be assigned then a code letter or number was assigned. The room numbers will be assigned clockwise as you enter the structure and go towards the left always. Each wall surface was named with letters beginning with wall A the wall facing street; the wall at your left will be wall B, the wall at front wall C and the wall at you right will be wall D.

Lead Based Paint Results

A total of **One hundred twenty nine (129)** testing combinations were tested using NITON 300XLp Series X-Ray Fluorescence instrument (XRF) manufactured by NITON Corporation. Using EPA Method 6200, the XRF instrument was set at Standard Paint Mode showing reading "Positive" or "Negative" with a 95% confidence level reading. Results are presented in mg/cm^2.

The XRF results are shown in Appendix C. Lead Based Paint were found in some wall tiles at lobby area, some wheel stops and concrete curbs at parking area. Table 1 summarizes the positive XRF results. Lead based Paint photo log is shown in the Appendix D.

Table 1 : Lead Based Paint Summary

READING NO	RESULTS	COMPONENT	SUBSTRATE	SIDE	CONDITION	COLOR	SITE	FLOOR	ROOM	AMOUNT
360	POSITIVE	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDA SUR	FIRST	LOBBY	160
361	POSITIVE	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDA SUR	FIRST	LOBBY	
447	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	SOUTH PARKING	ALL YELLOW CONCRETE CURBS
452	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	SOUTH PARKING	ALL YELLOW WHEEL STOP
456	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW WHEEL STOP
457	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW WHEEL STOP
462	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW CONCRETE CURBS
463	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW CONCRETE CURBS

LBP Total Area = 160 ft^2 of wall tiles, all wheel stop and concrete curbs. The LBP area must be verified by the contractors.

Asbestos Containing Material Survey

Asbestos-Containing Building Material (ACBM) is defined as any material or product which contains more than 1 percent asbestos. The sample test must be performed by a laboratory which has received interim accreditation for polarized light microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program. The asbestos inspection and bulk sampling procedures to be implemented was based on the guidelines established by the ASTM E2356-14 Standard Practice for Comprehensive Building Asbestos Surveys. Field information is organized according to the E2356 concept of Homogeneous Area (HA). A HA is defined as a suspect material of similar age, appearance, function, and texture. Each material will be grouped together as a specific HA, sampled, and then assessed for condition.

The structure inspection was conducted by a Puerto Rico Certificate inspector using the following tasks:

1. Visual determination as to the extent of visible and accessible suspect materials and conditions of the material;
2. Collection and analysis of suspect building materials for asbestos content;
3. A physical "Hand Pressure" test for determining friability and condition of suspect materials;
4. An assessment of suspect friable and non-friable materials and locations;
5. Quantification of the amount of suspect friable and non-friable materials in their respective locations;
6. Identification of all suspect materials sampled on the appropriate building floor plan diagram with the sample number; and
7. Preparation of a Chain of Custody (AES International Laboratory).
8. Preparation Final report.

Asbestos Containing Material Result

During the survey, inspectors found Suspected Asbestos Containing Material. A total of 14 bulks (Vinyl Floor Tiles, White Ceiling Pearltek, Black Caulking, and Baseboard Mastic) samples were collected in the structure. Based on the laboratory results, all Vinyl Floor Tiles in the hallways (Common Areas) must be considered as ACBM. Table 2 summarizes the Asbestos-Containing Building Material (ACBM). Laboratory asbestos results and the photo logs are shown in the Appendix E.

Table 2: Asbestos Containing Material Analysis Results

SAMPLE ID	RESULTS	DESCRIPTION AND LOCATION	AHERA	NESHAP	AREA (ft^2)	CONDITION
Casalinda-EA-01	2 % CHRYSOTILE	3rd FLOOR NORTH AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1	3,200	GOOD NO DAMAGED
Casalinda-EA-05	2 % CHRYSOTILE	2nd FLOOR SOUTH AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1		GOOD NO DAMAGED
Casalinda-EA-09	2 % CHRYSOTILE	1st FLOOR CENTER AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1		GOOD NO DAMAGED

Please do not hesitate to contact us, if you have any questions or comments regarding the results of this particular Asbestos-Containing Materials and Lead-Based Paint Survey.

Cordially;



Edwin A. Ayala

ACM Inspector ASB-0418-240-SI

LBP Inspector 3204-1018-LI-002

APPENDIX A

LOCATION MAP


SITE
Casa Linda del Sur Apartments
American Military Academy
Av. Lomas Verdes
Av. Casa Linda
Baldwin School of Puerto Rico
Colegio Marista de Guaynabo
GUAYNABO BAYAMON
Calle 1
Calle 2
Calle 3
Calle 4
Calle 5
Calle 6
Calle 7
Calle 8
Calle 9
Calle 11
Calle 12
Calle 13
Calle 14
Calle 15
Calle 16
Calle A
Av. Nte
177

Location



Third Floor Area



Second Floor Area



First Floor Area



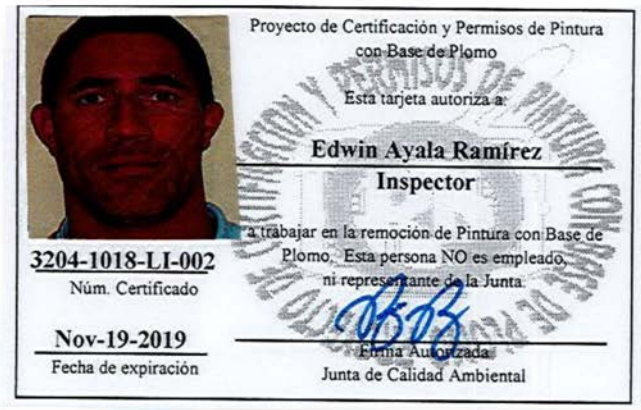
Parking Area

APPENDIX B

INSPECTOR CREDENTIALS

ENGINEERING SOLUTION FIRM ID





APPENDIX C

XRF SAMPLING DATA

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900 Middlesex Turnpike
Billerica, MA 01821

Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
1	352	2019-02-23 11:24	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 0.85
2	353	2019-02-23 11:24	Positive			CALIBRATE							1.10 ± 0.10	1.10 ± 0.10	< LOD : 0.89
3	354	2019-02-23 11:25	Positive			CALIBRATE							1.00 ± 0.10	1.00 ± 0.10	< LOD : 0.60
4	355	2019-02-23 13:36	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
5	356	2019-02-23 13:37	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
6	357	2019-02-23 13:37	Negative	CEILING	CONCRETE	UPPER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
7	358	2019-02-23 13:38	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
8	359	2019-02-23 13:38	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.82
9	360	2019-02-23 13:38	Positive	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 10.35	< LOD : 10.35	< LOD : 32.55
10	361	2019-02-23 13:39	Positive	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 19.50	< LOD : 12.75	< LOD : 19.50
11	362	2019-02-23 13:41	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
12	363	2019-02-23 13:41	Negative	WALL	DRYWALL	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 2.16
13	364	2019-02-23 13:42	Negative	WALL	DRYWALL	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.40
14	365	2019-02-23 13:42	Negative	WALL	CONCRETE	C	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
15	366	2019-02-23 13:42	Negative	CEILING	DRYWALL	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 2.13
16	367	2019-02-23 13:43	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	MAIL	0.60 ± 0.30	0.60 ± 0.30	< LOD : 4.05
17	368	2019-02-23 13:44	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.60 ± 0.30	0.60 ± 0.30	< LOD : 5.25
18	369	2019-02-23 13:45	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
19	370	2019-02-23 13:45	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
20	371	2019-02-23 13:45	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.61
21	372	2019-02-23 13:46	Negative	WALL	CONCRETE	C	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.74
22	373	2019-02-23 13:46	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
23	374	2019-02-23 13:46	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
24	375	2019-02-23 13:47	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
25	376	2019-02-23 13:47	Negative	WALL	CONCRETE	D	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.85
26	377	2019-02-23 13:47	Negative	WALL	CONCRETE	A	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
27	378	2019-02-23 13:47	Negative	WALL	CONCRETE	A	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
28	379	2019-02-23 13:48	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.70 ± 0.30	0.70 ± 0.30	< LOD : 2.40
29	380	2019-02-23 13:48	Negative	BASEBOARD	CERAMIC	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.70 ± 0.30	0.70 ± 0.30	< LOD : 2.40
30	381	2019-02-23 13:49	Negative	DOOR	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.04	< LOD : 0.04	< LOD : 4.80
31	382	2019-02-23 13:49	Negative	DOOR FRAME	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.05	< LOD : 0.05	< LOD : 4.32
32	383	2019-02-23 13:50	Negative	DOOR FRAME	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.62
33	384	2019-02-23 13:50	Negative	DOOR	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.47
34	385	2019-02-23 13:50	Negative	WINDOW	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.74

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Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
35	386	2019-02-23 13:50	Negative	WINDOW	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.67
36	387	2019-02-23 13:52	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
37	388	2019-02-23 13:52	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
38	389	2019-02-23 13:52	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
39	390	2019-02-23 13:53	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
40	391	2019-02-23 13:53	Negative	FLOOR	CONCRETE	LOWER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
41	392	2019-02-23 13:54	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 2.00
42	393	2019-02-23 13:55	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	HALLWAY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
43	394	2019-02-23 13:56	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALLWAY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
44	395	2019-02-23 13:56	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
45	396	2019-02-23 13:56	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
46	397	2019-02-23 13:57	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 2.01
47	398	2019-02-23 13:57	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
48	399	2019-02-23 13:57	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.05
49	400	2019-02-23 13:58	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
50	401	2019-02-23 13:58	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.78
51	402	2019-02-23 13:58	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 1.61	< LOD : 0.05	< LOD : 1.61
52	403	2019-02-23 13:58	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.99
53	404	2019-02-23 13:59	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.99
54	405	2019-02-23 13:59	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
55	406	2019-02-23 13:59	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.18
56	407	2019-02-23 13:59	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
57	408	2019-02-23 14:00	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.96
58	409	2019-02-23 14:00	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
59	410	2019-02-23 14:00	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
60	411	2019-02-23 14:01	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
61	412	2019-02-23 14:01	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
62	413	2019-02-23 14:01	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
63	414	2019-02-23 14:02	Negative	WALL	CONCRETE	A	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.87
64	415	2019-02-23 14:02	Negative	WALL	CONCRETE	B	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.76
65	416	2019-02-23 14:02	Negative	WALL	CONCRETE	C	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
66	417	2019-02-23 14:02	Negative	WALL	CONCRETE	D	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
67	418	2019-02-23 14:03	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.65	< LOD : 0.65	< LOD : 9.30
68	419	2019-02-23 14:03	Negative	DOOR	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.04	< LOD : 0.04	< LOD : 4.85

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Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
69	420	2019-02-23 14:03	Negative	DOOR FRAME	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 4.48
70	421	2019-02-23 14:04	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
71	422	2019-02-23 14:05	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
72	423	2019-02-23 14:05	Negative	WALL	CONCRETE	A	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
73	424	2019-02-23 14:06	Negative	WALL	CONCRETE	B	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.93
74	425	2019-02-23 14:06	Negative	WALL	CONCRETE	C	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.90
75	426	2019-02-23 14:06	Negative	WALL	CONCRETE	D	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
76	427	2019-02-23 14:06	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.53	< LOD : 0.53	< LOD : 8.96
77	428	2019-02-23 14:07	Negative	DOOR	WOOD	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 5.05
78	429	2019-02-23 14:07	Negative	DOOR FRAME	WOOD	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 5.05
79	430	2019-02-23 14:08	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
80	431	2019-02-23 14:08	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
81	432	2019-02-23 14:08	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
82	433	2019-02-23 14:09	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.00
83	434	2019-02-23 14:09	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.88
84	435	2019-02-23 14:09	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
85	436	2019-02-23 14:09	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.93
86	437	2019-02-23 14:09	Negative	DOOR	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.50
87	438	2019-02-23 14:09	Negative	DOOR	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.40
88	439	2019-02-23 14:10	Negative	WINDOW	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.75
89	440	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.96
90	441	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
91	442	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
92	443	2019-02-23 14:11	Negative	WALL	CONCRETE	C	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.82
93	444	2019-02-23 14:11	Negative	WALL	CONCRETE	C	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.86
94	445	2019-02-23 14:12	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.20
95	446	2019-02-23 14:13	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
96	**447**	**2019-02-23 14:13**	**Positive**	**CURB**	**CONCRETE**	**LOWER**	**FAIR**	**TAN**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**SOUTH PARKING**	**1.60 ± 0.50**	**0.40 ± 0.10**	**1.60 ± 0.50**
97	448	2019-02-23 14:14	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.05	< LOD : 0.05	< LOD : 1.84
98	449	2019-02-23 14:15	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
99	450	2019-02-23 14:15	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
100	451	2019-02-23 14:16	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.88
101	**452**	**2019-02-23 14:17**	**Positive**	**WHEELSTOP**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**SOUTH PARKING**	**1.50 ± 0.50**	**< LOD : 0.03**	**1.50 ± 0.50**
102	453	2019-02-23 14:18	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	0.80 ± 0.50

Thermo
ELECTRON CORPORATION

NITON Corporation
900 Middlesex Turnpike
Billerica, MA 01821

Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
103	454	2019-02-23 14:19	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 2.03
104	455	2019-02-23 14:21	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
105	456	2019-02-23 14:21	Positive	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	2.40 ± 1.20	2.40 ± 1.20	< LOD : 5.40
106	457	2019-02-23 14:22	Positive	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 7.65	< LOD : 7.65	< LOD : 13.80
107	458	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	1.10 ± 0.50
108	459	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	0.06 ± 0.03	0.06 ± 0.03	< LOD : 1.20
109	460	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.17	< LOD : 0.17	< LOD : 1.65
110	461	2019-02-23 14:24	Negative	CURB	CONCRETE	LOWER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
111	462	2019-02-23 14:24	Positive	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	2.80 ± 1.80	2.80 ± 1.80	< LOD : 10.80
112	463	2019-02-23 14:25	Positive	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	2.10 ± 0.90	2.10 ± 0.90	< LOD : 4.20
113	464	2019-02-23 14:26	Null	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	0.03 ± 0.02	0.03 ± 0.02	1.20 ± 0.30
114	465	2019-02-23 14:27	Null	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	1.20 ± 0.50
115	466	2019-02-23 14:27	Negative	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
116	467	2019-02-23 14:27	Negative	FLOOR	CONCRETE	LOWER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
117	468	2019-02-23 14:28	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.90
118	469	2019-02-23 14:28	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
119	470	2019-02-23 14:28	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
120	471	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
121	472	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
122	473	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
123	474	2019-02-23 14:30	Negative	DOOR	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.17
124	475	2019-02-23 14:30	Negative	DOOR	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.42
125	476	2019-02-23 14:30	Negative	WINDOW	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.79
126	477	2019-02-23 14:30	Negative	CEILING	CONCRETE	UPPER	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
127	478	2019-02-23 14:31	Positive			CALIBRATE							1.10 ± 0.10	1.10 ± 0.10	< LOD : 0.90
128	479	2019-02-23 14:32	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 1.11
129	480	2019-02-23 14:32	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 1.05

APPENDIX D

LEAD BASED PAINT PHOTO LOG



360-361



447

All yellow concrete curbs must be considered LBP



452

All yellow wheel stop must be considered LBP



456

All yellow wheel stop must be considered LBP



457

All yellow wheel stop must be considered LBP



462

All yellow concrete curbs must be considered LBP



463

All yellow concrete curbs must be considered LBP

APPENDIX E

ASBESTOS LABORATORY RESULTS

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate Street, 2nd. Floor, Santurce, P.R. 00907
PH. (787) 722-0220 Fax (787) 724-5788

Job ID: B19020027

REPORT NUMBER

RP19032209

Revised

POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLE ANALYSIS REPORT

Client Name:	Engineering Solution Firm	Date Collected:	02/24/2019
Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.01 B19020027.01.A Casalinda-EA-01 Layer % of Total :100%	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 3	Binders/Paint 65 Sand/Aggregates 25 Bitumen 5
Date Analyzed: 03/05/2019 Sample Location: Third Floor North Area VFT Beige 12'x 12" Comments:					
B19020027.02 B19020027.02.A Casalinda-EA-02 Layer % of Total :100%	Semi Hard with Paint, Mica and Fibers White	No		Cellulose 8	Vermiculite/Mica 10 Binders/Paint 82
Date Analyzed: 03/05/2019 Sample Location: Third Floor North Area White Pearltek Ceiling Comments: Paint Included As Binders					
B19020027.03 B19020027.03.A Casalinda-EA-03 Layer % of Total :100%	Semi Hard, Glue With Fibers Brown	No		Cellulose 4	Glue 96
Date Analyzed: 03/06/2019 Sample Location: Third Floor North Area Black Mastic Baseboard Comments:					
B19020027.04 B19020027.04.A Casalinda-EA-04 Layer % of Total :100%	Semi Hard , Glue with Paint and Fibers Black	No		Cellulose 5	Glue 85 Binders/Paint 10
Date Analyzed: 03/06/2019 Sample Location: Third Floor North Area Window Caulking Comments:					

MICROANALYST: [Karen Acosta] QUALITY CONTROL: [Elme Rivera]

PLM IS NOT CONSISTENTLY RELIABLE IN DETECTING SMALL CONCENTRATION OF ASBESTOS IN FLOOR TILES AND SIMILAR NONFRIABLE MATERIALS. QUANTITATIVE TEM IS CURRENTLY THE ONLY METHOD THAT CAN BE USED TO GET THE CONCLUSIVE ASBESTOS CONTENT. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL AND NOT WITHOUT WRITTEN APPROVAL OF THE LABORATORY. THIS REPORT SHALL NOT BE USED TO CLAIM ENDORSEMENT BY NVLAP OR ANY AGENCY OF OF THE US GOVERNMENT. ANALYSIS OF FLOOR TILE IS NOT COVERED BY THE CURRENT NEW YORK ELAP CERTIFICATION. EPA METHOD 600/M4-82-020: INTERIM METHOD FOR THE DETERMINATION OF ASBESTOS IN BULK INSULATION SAMPLES.

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Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.05 B19020027.05.A Casalinda-EA-05 Layer % of Total :100%	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 2	Binders/Paint 69 Sand/Aggregates 22 Bitumen 5
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area VFT Beige 12"x 12" Comments:					
B19020027.06 B19020027.06.A Casalinda-EA-06 Layer % of Total :100%	Semi Hard with Mica and Fibers White	Yes	Chrysotile .5	Cellulose 10	Vermiculite/Mica 20 Binders/Paint 70
Sample Casalinda-EA-06 was tested using TEM Method					
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area White Pearltek Ceiling Comments:					
B19020027.07 B19020027.07.A Casalinda-EA-07 Layer % of Total :100%	Semi Hard, Glue and Fibers Brown	No		Cellulose 6	Glue 94
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area Black Mastic Baseboard Comments:					
B19020027.08 B19020027.08.A Casalinda-EA-08 Layer % of Total :100%	Semi Hard, Glue with Paint and Fibers Black	No		Cellulose 4	Glue 88 Binders/Paint 8
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area Window Caulking Comments: Paint Included As Binders					

MICROANALYST: KA [Karen Acosta]

QUALITY CONTROL: ER [Elme Rivera]

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Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.09 B19020027.09.A Casalinda-EA-09 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area VFT Beige 12" x 12" Comments:	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 2	Binders/Paint 68 Sand/Aggregates 24 Bitumen 4
B19020027.10 B19020027.10.A Casalinda-EA-10 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Pearltek Ceiling Comments:	Semi Hard with Mica and Fibers White	No		Cellulose 8	Vermiculite/Mica 15 Binders/Paint 77
B19020027.11 B19020027.11.A Casalinda-EA-11 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Acoustic Ceiling Comments: Paint Included As Binders	Semi Hard, Fibrous with Perlite and Paint Gray	No		Cellulose 18 Synthetic 20 Mineral Wool 22	Perlite 15 Binders/Paint 25
B19020027.12 B19020027.12.A Casalinda-EA-12 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Acoustic Ceiling Comments:	Semi Hard, Fibrous with Perlite and Paint Gray	No		Cellulose 14 Synthetic 15 Mineral Wool 20	Perlite 10 Binders/Paint 41

MICROANALYST: KA [Karen Acosta]

QUALITY CONTROL: ER [Elme Rivera]

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REPORT NUMBER
RP19032209

Revised

POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLE ANALYSIS REPORT

Client Name:	Engineering Solution Firm	Date Collected:	02/24/2019
Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
Paint Included As Binders					
B19020027.13 B19020027.13.A Casalinda-EA-13 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area Black Mastic Baseboard Comments:	Semi Hard, Glue with Aggregates and Fibers Brown	No		Cellulose 4	Glue 71 Sand/Aggregates 25
B19020027.14 B19020027.14.A Casalinda-EA-14 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area Window Caulking Comments:	Semi Hard, Glue with Paint and Fibers Brown	No		Cellulose 3	Glue 82 Binders/Paint 15

Comments:
FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH COMPONENT IS ANALYZED AND REPORTED SEPARATELY.
SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH US EPA METHOD: 600/M4-82/020 of Dec. 1982 and 600/R-93/116 OF JULY 93.

MICROANALYST: IKA [Karen Acosta]

QUALITY CONTROL: ER [Elme Rivera]

PLM IS NOT CONSISTENTLY RELIABLE IN DETECTING SMALL CONCENTRATION OF ASBESTOS IN FLOOR TILES AND SIMILAR NONFRIABLE MATERIALS. QUANTITATIVE TEM IS CURRENTLY THE ONLY METHOD THAT CAN BE USED TO GET THE CONCLUSIVE ASBESTOS CONTENT. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL AND NOT WITHOUT WRITTEN APPROVAL OF THE LABORATORY. THIS REPORT SHALL NOT BE USED TO CLAIM ENDORSEMENT BY NVLAP OR ANY AGENCY OF OF THE US GOVERNMENT. ANALYSIS OF FLOOR TILE IS NOT COVERED BY THE CURRENT NEW YORK ELAP CERTIFICATION. EPA METHOD 600/M4-82-020: INTERIM METHOD FOR THE DETERMINATION OF ASBESTOS IN BULK INSULATION SAMPLES.

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ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate, 2nd. Floor, Santurce, P.R. 00907
Ph: (787) 722-0220 Fax: (787) 724-5788

Transmittal Sheet for Bulk Sample Analysis

Client Name:	Engineering Solution Firm, Corp.	**Project Name:**	2019-017 Casa Linda Sur Aprtament
Address:	PMB 332 PO Box 4960, Caguas, PR, 00726	**Site Location:**	PR-177, Bayamón
Contact:	Edwin A. Ayala	**Samplers Name:**	Edwin A. Ayala
Phone/Fax:	(787)691-4440	**Company:**	ESF

Chain of Custody Record

COC-BULK-011/REV 1/06

Sample I. D.	Sample Description (i.e. Location, Name, etc.)	Collected		Analysis Required		Comments	Laboratory I.D.
		Date	Time	PLM	Other		
Casalinda-EA-01	Third Floor North Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			19020027.01
Casalinda-EA-02	Third Floor North Area white Pearltek Ceiling	24-2-19	2:00pm	X			02
Casalinda-EA-03	Third Floor North Area Black Mastic Baseboard	24-2-19	2:00pm	X			03
Casalinda-EA-04	Third Floor North Area Window Caulking	24-2-19	2:00pm	X			04
Casalinda-EA-05	Second Floor South Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			05
Casalinda-EA-06	Second Floor South area white Pearltek Ceiling	24-2-19	2:00pm	X			06
Casalinda-EA-07	Second Floor South area Black Mastic Baseboard	24-2-19	2:00pm	X			07
Casalinda-EA-08	Second Floor South area Window Caulking	24-2-19	2:00pm	X			08
Casalinda-EA-09	First Floor Center Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			09
Casalinda-EA-10	First Floor Center area white Pearltek Ceiling	24-2-19	2:00pm	X			10
Casalinda-EA-11	First Floor Center area white Acoustic Ceiling	24-2-19	2:00pm	X			11
Casalinda-EA-12	First Floor Center area white Acoustic Ceiling	24-2-19	2:00pm	X			12
Casalinda-EA-13	First Floor Center area Black Mastic Baseboard	24-2-19	2:00pm	X			13
Casalinda-EA-14	First Floor Center area window caulking	24-2-19	2:00pm	X			14

Turnaround Time: Normal: ☐ Rush: ☐

Relinquished By:		**Delivered Directly to Lab:**	
Date/ Time:	24-2-19 5:00pm		
Received By:	Nimesis Nieves	**Method of Shipment:**	
Date/ Time:	2/25/19 7:00		
Relinquished By:		**Lab. Recipient:**	
Date/ Time:			
Received By:		**Date:**	
Date/ Time:			

Job ID:B19020027
Engineering Solution Firm

SanAir Technologies Laboratory

SanAir ID Number
19012983
FINAL REPORT
3/22/2019 3:51:13 PM

Name: Analytical Environmental Services International
Address: 611 Monserrate Street, 2nd Floor
San Juan, PR 00907
Phone: 787-722-0220

Project Number:
P.O. Number:
Project Name: B19020027
Collected Date: 2/24/2019
Received Date: 3/21/2019 9:35:00 AM

Analyst: Sobrino, Sandra

Asbestos Bulk TEM EPA NOB EPA 600/R-93/116

Sample	Appearance	% Other Material	% Non-Asbestos Fibers	Asbestos Types	% Total Asbestos
Casalinda-EA-06 19012983-001 Second Floor South Area White Pearltek Ceiling	Non-Fibrous Homogeneous White	100%		None Detected	

Analyst: Sandra Sobrino Approved Signatory:

Analysis Date: 3/22/2019 Date: 3/22/2019

Page 3 of 5

19012983

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate, 2nd. Floor, Santurce, P.R. 00907
Ph: (787) 722-0220 Fax: (787) 724-5788

NVLAP® NVLAP LAB CODE 200651-0 TESTING

Transmittal Sheet for Bulk Sample Analysis

Client Name: CLT1003
Address:
Contact:
Phone/Fax:

Project Name: B19020027
Site Location:
Samplers Name:
Company:

Chain of Custody Record

Sample I. D.	Sample Description (i.e. Location, Name, etc.)	Collected		Analysis Required		Comments	Laboratory I.D.
		Date	Time	TEM	Other		
Casalinda-EA-06	Second Floor South area white Pearltek Ceiling	24-2-19	2:00PM	X			B19020027.06

Turnaround Time: Normal: [ ] Rush: [X]

Relinquished By:		**Delivered Directly to Lab:** [ ]	**Shipped:** [X]
Date/ Time:	3/20/19 7:00		
Received By:		**Method of Shipment:**	Fedex
Date/ Time:			
Relinquished By:		**Lab. Recipient:**	SanAir
Date/ Time:			
Received By:		**Date:**	#######
Date/ Time:			

COC-BULK-011/REV2/1 Page 5 of 5

MAR 2 1 2019 9:35AM



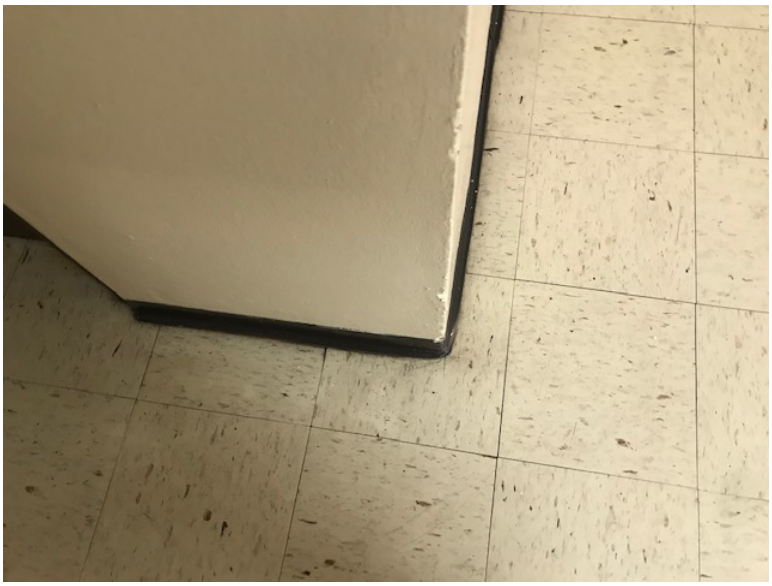
Casalinda-EA-01



Casalinda-EA-02



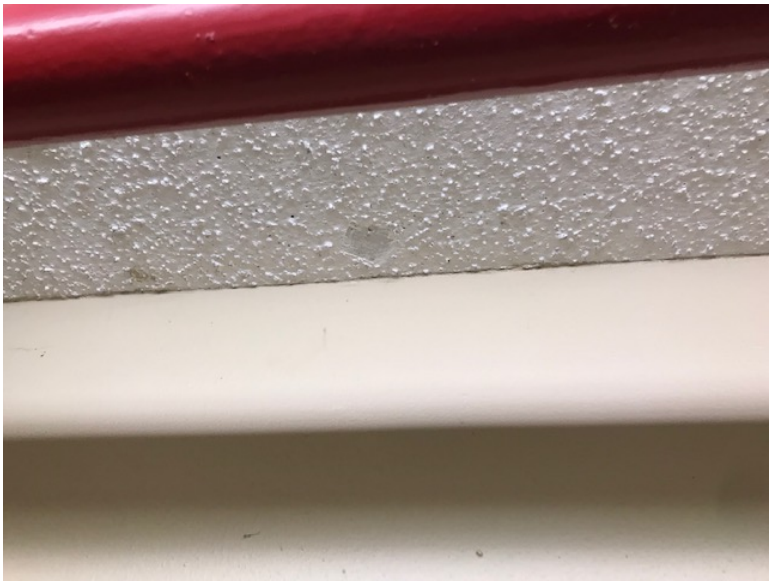
Casalinda-EA-03



Casalinda-EA-04



Casalinda-EA-05



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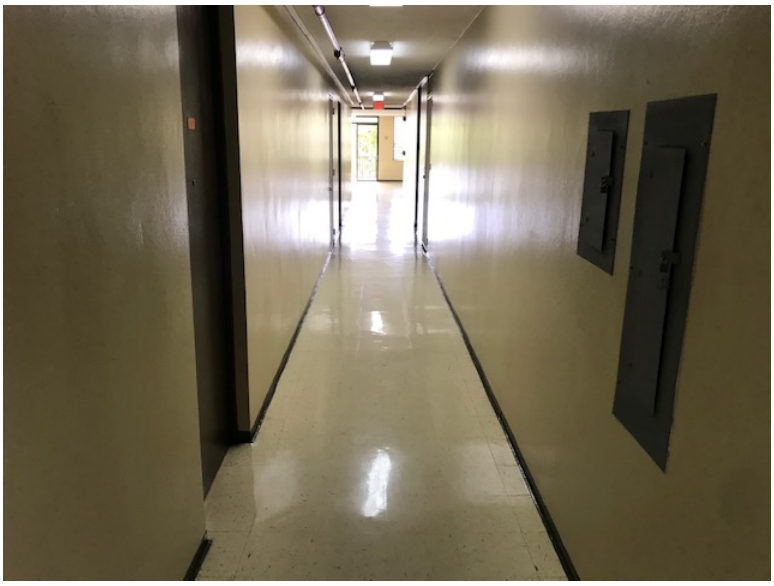
Casalinda-EA-07



Casalinda-EA-08



Casalinda-EA-09



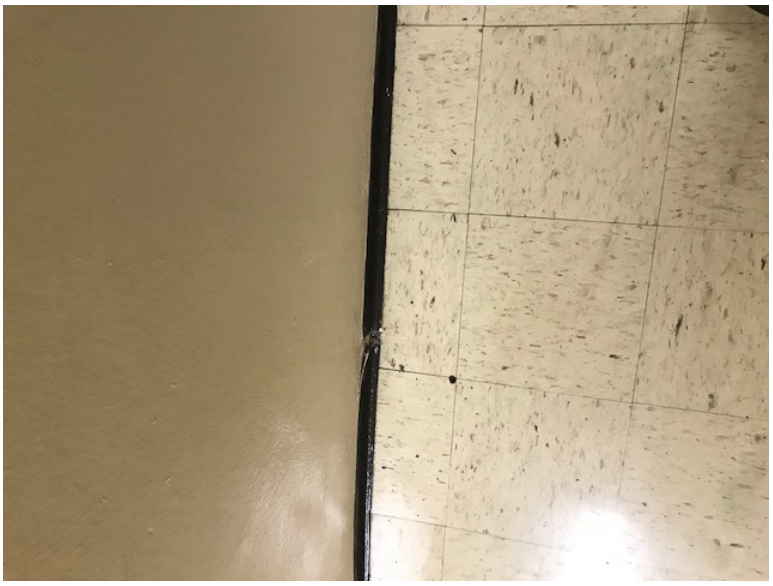
Casalinda-EA-10



Casalinda-EA-11



Casalinda-EA-12



Casalinda-EA-13



Casalinda-EA-14

ESTUDIO

CLIENTE : **VILLARRUBIA LLC** 428,756

RE : **/ BLANCO ENTERPRISES/**
SUSAN MARTIN/ HIPOTECARIO/

FINCA : Número 59,466, inscrita al folio 196 del tomo 1,320 de Bayamón Sur. Registro de la Propiedad de Puerto Rico, Sección I de Bayamón.

DESCRIPCIÓN:

URBANA: Tract of land located at Juan Sánchez Ward in the Municipality of Bayamón, Puerto Rico, comprising an area of 19,896.1294 square meters, equivalent to five cuerdas and six hundred twenty-one ten thousandth of a cuerda, equivalent to two hundred fourteen thousand, one hundred fifty nine square feet and two thousand nine hundred seventy eight ten thousandths of a square foot, equivalent to four acres and nine thousand one hundred sixty four ten thousanths of an acre; bounded at the **NORTH, SOUTH**, **EAST and WEST**, by land property of the Puerto Rico Land Administration.

ORIGEN REGISTRAL:

Se segrega de la finca número 59,454, inscrita al folio 136 del tomo 1,320 de Bayamón Sur.

PLENO DOMINIO:

Consta inscrito al folio 196 del tomo 1,320 de Bayamón Sur, a favor de **Casa Linda Del Sur Associates**, cuya entidad adquirió por segregación y compraventa a la Corporación de Renovación Urbana y Vivienda de Puerto Rico, por el precio de $636,800.00, mediante la escritura número 2, otorgada en San Juan, Puerto Rico, el día 14 de enero de 1982, ante el notario Pedro R. Vázquez, finca número 59,466, inscripción 1ra.

GRAVÁMENES:

i. Por su procedencia está afecta a:

a. Servidumbre a favor de la Autoridad de Acueductos y Alcantarillados de Puerto Rico.

b. Servidumbre a favor de la Autoridad de Fuentes Fluviales de Puerto Rico

c. Servidumbre a favor de PR Railway Light & Power Company.

d. Servidumbre de acueducto perpetuo a favor del Estado Libre Asociado de Puerto Rico.

ii. Por sí está afecta a:

a. Hipoteca en garantía de un pagaré a favor del Banco de Ponce, o a su orden, por la suma principal de $6,065,700.00, con intereses al 7% desde el día 1 de febrero del 1982, hasta su vencimiento, si ocurre antes será al 7 ½%, vencedero el día 1 de marzo del 2024, constituida mediante la escritura número 3, otorgada en San Juan, Puerto Rico, el día 14 de enero de 1982, ante el notario Pedro R. Vázquez, e inscrita al folio 197 vuelto del tomo 1,320 de Bayamón, finca número 59,466, inscripción 2da.

33 Calle Resolución, Suite 302
San Juan, PR 00920-2727
TEL: 787-707-7369
FAX: 787-782-6743

Continuación…
Finca número 59,466

b. Modificada la hipoteca de la inscripción 2da., en cuanto a la fecha de comienzo de efectuar los pagarés, que será el día 1 de septiembre del 1983, según la escritura número 10, otorgada en San Juan, Puerto Rico, el día 16 de mayo de 1984, ante el notario Pedro R. Vázquez, e inscrita al margen folio 198 vuelto del tomo 1,320 de Bayamón Sur, finca número 59,466, inscripción 2da.

c. Servidumbre a favor de la Autoridad de Acueductos y Alcantarillados de Puerto Rico, **(no expresa valor)**, constituida mediante la escritura número 6, otorgada en San Juan, Puerto Rico, el día 8 de junio de 1983, ante el notario Pedro R. Vázquez, e inscrita al folio 198 vuelto del tomo 1,320 de Bayamón Sur, finca número 59,466, inscripción 3ra.

REVISADOS:

Registro de Embargos del ELA, incluyendo los de la Ley número 12 del día 20 de enero de 2010; Contribuciones Federales; Sentencias; Bitácora Ágora; Electrónica y Sistema Karibe.

NOTA: Esta Sección tiene establecido un sistema computadorizado de Bitácoras. No nos hacemos responsables por errores y/u omisiones que cometa el Empleado del Registro en la entrada y búsqueda de datos en el mismo.

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Capital Title Services, Inc.

POR: *Ramón F. Gómez Marcos*
11 de enero de 2019
EM/ssn/f

33 Calle Resolución, Suite 302
San Juan, PR 00920-2727
TEL: 787-707-7369
FAX: 787-782-6743

Appendix VI
Reliance Letter
Evidence of Insurance

November 25, 2021

R4 Capital LLC
R4 VR II Acquisition LLC
Nixon Peabody LLP
and their respective successors and assigns

RE: Casa Linda Apartments LLC. (the "Project")
West of North Avenue and south of Road PR-177
Juan Sanchez Ward, Bayamón, Puerto Rico.

Ladies and Gentlemen:

CTS Group, Inc. ("Consultant") agrees and acknowledges that Casa Linda Apartments LLC. and each of their respective successors and assigns (the "Relying Entities") are authorized by Consultant to rely without limitation on the information, recommendations, and other contents of the following environmental reports, which was prepared by Consultant in connection with the Project:

- ASTM E 1527-13 Environmental Site Assessment Phase I dated November 25, 2021.

The Phase I Environmental Site Assessment Reports were prepared in accordance with ASTM E 1527-13 as authorized by EPA's All Appropriate Inquiries Final Rule. Consultant also agrees and acknowledges that the entities set forth above are authorized to rely on all other environmental reports, studies, letters, data, information, or recommendations prepared by Consultant in connection with the Project.

Consultant acknowledges that it maintains Commercial General Liability and Professional Liability insurance with limits of at least $1,000,000 per occurrence. Consultant agrees and acknowledges that it shall not limit its liability in an amount less than said insurance coverage to the Relying Entities, notwithstanding any limitations on liability set forth in the Phase I Reports or any other environmental reports, studies, letters, data, information, or recommendations, or any terms and conditions agreed to as part of preparation of the referenced documents.

Very truly yours,

CTS Group, Inc.
By: Ihosvany Negret Lapeira, MS, M. Eng.
Its. Environmental Professional

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY): 09/29/2021

PRODUCER: CTS Group, LLC
EASTERN AMERICA INSURANCE AGENCY
P.O. BOX 193900
SAN JUAN, PR 00919-3900

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURED: CTS GROUP, INC.
400 CALLE CALAF, SUITE 235
SAN JUAN, PR 00918

INSURER A: CONTINENTAL CASUALTY COMPANY
INSURER B:
INSURER C:
INSURER D:
INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire)	$
	☐ CLAIMS MADE ☐ OCCUR				MED EXP (Any one person)	$
					PERSONAL & ADV INJURY	$
					GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PROJECT ☐ LOC					$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Each accident)	$
	☐ ANY AUTO					
	☐ ALL OWNED AUTOS				BODILY INJURY (Per person)	$
	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
	☐ NON-OWNED AUTOS					
					PROPERTY DAMAGE (Per accident)	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
					AGG	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ OCCUR ☐ CLAIMS MADE				AGGREGATE	$
	☐ DEDUCTIBLE					$
	☐ RETENTION $					$
						$
	WORKERS COMPENSATION AND EMPLOYERS LIABILITY				☐ W C STATU-TORY LIMITS ☐ OTHER	$
					E.L. EACH ACCIDENT	$
					E.L. DISEASE-EA EMPLOYEE	$
					E.L. DISEASE-POLICY LIMIT	$
A	OTHER ARCHITECTS ENGINEERS & CONSULTANTS	EEH591922807	09/07/2021	09/07/2022	LIMITS OF LIABILITY $1,000,000 PER CLAIM $1,000,000 AGGREGATE $1,000 DEDUCTIBLE	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
LIMITED TO PROFESSIONAL SERVICES RENDERED

CERTIFICATE HOLDER | ADDITIONAL INSURED; INSURER LETTER: | CANCELLATION

TO WHOM IT MAY CONCERN

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
EASTERN AMERICA INSURANCE AGENCY, INC.

FILE # H89079 CERT # 14 PROD # 1463 OCP

IMPORTANT
If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).
If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER
This Certificate of Insurance does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

Exhibit D

National Flood Hazard Layer FIRMette

FEMA

66°7'50"W 18°23'19"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

66°7'13"W 18°22'45"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile Zone
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/15/2020 at 11:54 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Exhibit E

Hydrologic and Hydraulic Study:

Casa Linda, Bayamon, PR



Prepared for: Quanta Urban Developers

Prepared by:

PMG AND ASSOCIATES
ENGINEERING DESIGN & CONSULTING

July 27, 2020

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1. INTRODUCTION

1.1 Project Description and Location

PMG & Associates, LLC, was contracted to perform a Hydrologic and Hydraulic study (HH) for the proposed improvements and expansion to Casa Linda Residential Apartment Complex (the Project). The Project is located at the intersection between Avenida Norte and state road PR-177, within the Municipality of Guaynabo. It is bounded along the north by PR-177, along east side by Casa Linda Avenue (Avenida Norte), along the south by Casa Linda Court housing development, and, along the west by Calle 1 of Quintas de San Román housing development. Appendix A shows a location map.

The project includes the construction of a new 52-bedroom apartment building within the existing developed site. The site contains an existing stormwater system which collects all runoff and discharge at south west of the facility by a 15-inch pipe. Appendix B shows the Proposed Plan.

The southwestern portion of the site, covered by parking spaces, have been subject to frequent flooding (see Picture 1). A Hydrologic and Hydraulic study (HH Study) is necessary to evaluate the existing storm sewer capacity, determine the changes in stormwater peak flows generated by the proposed development and, make the necessary recommendations to improve the existing system capacity and manage the runoff excess resulting from the proposed project.



Picture 1. Casa Linda south western parking area flooding.

1.2 Study Purpose

The purpose of this study is to complete an H-H Study for Casa Linda project to determine the capacity of the existing storm water system, pre- and post-development peak flow conditions, and, recommend the necessary stormwater structures to manage and improve the current capacity and the runoff excess resulting from the proposed project.

1.3 Scope of Work

The following tasks were performed to complete the scope of work:

1. Watershed delineation and flow pattern determination for the watershed contributing to the study area.
2. Determination of hydrological classification of soils, land uses and soil types.
3. Calculation of the SCS Curve Number.
4. Collecting information of rainfall characteristic for the basins.
5. Development and construction of a hydrologic simulation model to determine the peak flows generated by storm events with return periods of 2, 5, 10, 25, 50 and 100 years for the pre- and post- developed conditions
6. Evaluate alternatives to increase the existing stormwater system capacity including determining the storage requirements to maintain the discharge downstream of the project according to the existing condition.
7. Determine the dimensions of a storm water detention system and its corresponding outlet structure.
8. The hydrological / hydraulic analysis will be carried out in compliance with the new HH Study Guides established by the Puerto Rico Planning Board and the Department of Natural and Environmental Resources (June 2016).

1.4 Parties Involved and Authorization

Quanta Urban Developers has contracted PMG & Associates, LLC, to prepare the Hydrologic and Hydraulic (HH) Study.

2. DESCRIPTION OF STUDY AREA

2.1 Topography

The Project topography has elevation ranging from 29.34 to 38.7 meters above mean sea level. The project site does not have any creeks near to the facility. The existing stormwater system discharge to Quintas de San Ramon stormwater system located at west of the facility. Appendix C shows the facility survey and off-site topography map.

2.2 Flood Zone Classification

According to FEMA's Flood Insurance Rate Maps (FIRM) Panels 72000C0345J and 72000C0365J (November 18, 2009), the site is located within unshaded Zone X (See Appendix D). Zone X (unshaded) are areas of minimal flood hazard, which are outside the special flood hazard area (SFHA) and higher than the elevation of the 0.2-percent-annual-chance flood.

After Hurricane María, FEMA developed the Puerto Rico Advisory Base Flood Elevations (ABFE), which provide information about Base Flood Elevation (BFE) and new floodplains with annual probability occurrence of 1% and 0.2% in Puerto Rico. According to the ABFE, the site is still classified as Zone X.

3. HYDROLOGIC ANALYSIS

3.1 Hydrologic Analysis Methodology

The hydrologic simulation was performed in accordance with the methods developed by the Soil Conservation Service (SCS). The hydrologic model used was ICPR Streamlines Technologies. This computer program estimates the surface runoff resulting from any synthetic or natural storm. Rainfall is transformed to runoff via unit hydrograph methods. Discharge is computed at the outlet of each sub-area (sub-basin).

3.2 Design Storm and Rainfall Data

The precipitations considered for the study were: return periods of 2-, 5-, 10-, 25, 50-, and 100-years, and durations of 1-, 6-, 12- and 24-hours. The storm data for these events was obtained from Atlas 14 Hydrometeorological Design Study Center, which for this case used the position coordinates: 18.3830 N and -66.1252 W. These values are presented on Table 3-1. Rainfall time distributions were established according to the National Weather Service (NWS) for the first and fourth quartile, as the 10% and 90% percentile, respectively. Appendix E shows the precipitation data used.

Table 3-1 Rainfall average values for storms with different return periods.

Precipitation Depth corresponding to Tr (inches)					
Duration (hrs)	**2**	**10**	**25**	**50**	**100**
1	2.07	2.56	2.83	3.03	3.21
6	3.64	5.33	6.31	7.09	7.87
12	4.27	6.73	8.24	9.47	10.7
24	5.06	8.23	10.3	11.9	13.7
Precipitation Depth corresponding to Tr (mm)					
Duration (hrs)	**2**	**10**	**25**	**50**	**100**
1	52.58	65.02	71.88	76.96	81.53
6	92.46	135.38	160.27	180.09	199.90
12	108.46	170.94	209.30	240.54	271.78
24	128.52	209.04	261.62	302.26	347.98

3.3 Watershed Description

The facility drainage area is approximately 2.00 ha (4.03 acres). This watershed area was divided according to existing stormwater inlets locations. The existing stormwater system contains 18 inlets, but in this study, these inlets were consolidated into 13 inlets which compound the principal stormwater system to be analyzed. These 13 Sub Basins were delimited and assigned into respective inlets. Additional to the inlets Sub Basins, the part of the facility drains overland to northwest of the facility and was included into the Off-Site Basin.

The off-site watershed represents the drainage area of the existing stormwater system that does not discharge into the Project storm sewer system but is combined with the Project outflow at the storm sewer system located in Calle 1 to Calle 15 of Quintas de San Ramon housing development. Appendix F shows the watershed map for pre-developed conditions.

3.3.1 Land Uses

The land use within the defined basins are 7.7% Pastures, 7.0 Recreation Area, 14.4& Public Residential and 70.9% Urban Medium Density. A complete distribution of the land use is available in the land cover map in Appendix G.

3.3.2 Soil Type

Soil types within the basin is 100% Rio Piedras Clay (RpE2). The hydrologic soil group is type B. Appendix H shows the soil map.

3.4 Runoff Curve Number

The SCS method of runoff estimation involves the computation of a runoff Curve Number (CN). This number corresponds to hydrologic soil-cover relations and land uses. The major factors to determine CN are the hydrologic soil group, cover type, and antecedent moisture condition.

Values of CN were obtained from tables prepared by the SCS for the Caribbean and were weighted according to the soil type and land use area percentage on each sub-basin. Soil characteristics of the study area were identified by means of soil maps. The United States Department of Agriculture Natural Soil Conservation

Service (NRCS), in cooperation with the University of Puerto Rico has published soil maps and classified the soils according to their hydrologic characteristics. The Puerto Rico Planning Board (PRPB) has digitalized these maps.

Land cover for the site was assigned based on data, aerial photography and site visit. Runoff CN's values were determined using the information provided in the Soil Map and Land Cover Map together with the SCS tables. The combination of the soil and land cover map was achieved using GIS techniques. Appendix I shows the CN calculation table. The computed CN for each sub-basin is shownn in Table 3-2.

3.5 Time of Concentration

The time of concentration was estimated using the commonly used method known as Lag Equation. This equation was developed by NRCS using 24 watersheds in United States. It provides reasonable results for watersheds with areas up to 19 mi2. The Lag equation follows,

$$Tc = [1.67^* L\ 0.8[(1000/CN) - 9]\ 0.7\ ]/\ (1900^* S\ 0.5)$$

where: Tc = time of concentration (hr)

L = stream flow length (ft)

S = watershed slope

CN= curve number.

Hydrologic properties used to estimate the Tc for all sub-basins are presented on Appendix I and the computed times are shown in Table 3-2.

Table 3-2. General hydrologic properties for each sub-basin (existing condition).

Sub-Basin ID	Area (acres)	Calculated Tc (min)	Tc used (min)	CN
CB1-01	0.06	1.82	5.00	61.00
CB1-02	0.97	4.97	5.00	81.41
CB1-03	0.13	2.78	5.00	95.55
CB1-04	0.23	3.32	5.00	96.00
CB1-05	0.60	2.32	5.00	96.00
CB1-06	0.13	1.84	5.00	96.00
CB1-07	0.48	4.50	5.00	95.98
CB2-1	0.51	3.00	5.00	78.96
CB2-2	0.36	3.73	5.00	77.41
CB2-3	0.69	4.83	5.00	64.89
CB2-4	0.68	1.94	5.00	96.00
CB3-1	0.09	2.21	5.00	95.30
Total Project Area	4.93			85.2
Off-Site	10.86	14.95	14.95	90
Total Area System	**15.79**			

3.6 Hydrologic Simulation

The hydrologic simulation model used for this study was ICPR Streamlines Technologies. The hydrologic simulations were performed for the storm events with return period of 2-, 10-, 25-, 50- and 100-years and 24-, 12-, 6- and 1-hour duration under existing and proposed condition.

3.6.1 Existing Conditions

The simulation was performed based on the SCS Dimensionless Unit Hydrograph Method. The hydrologic model configuration setup is presented on Figure 3-1. The ICPR Model Configuration Map is shown in Appendix J.

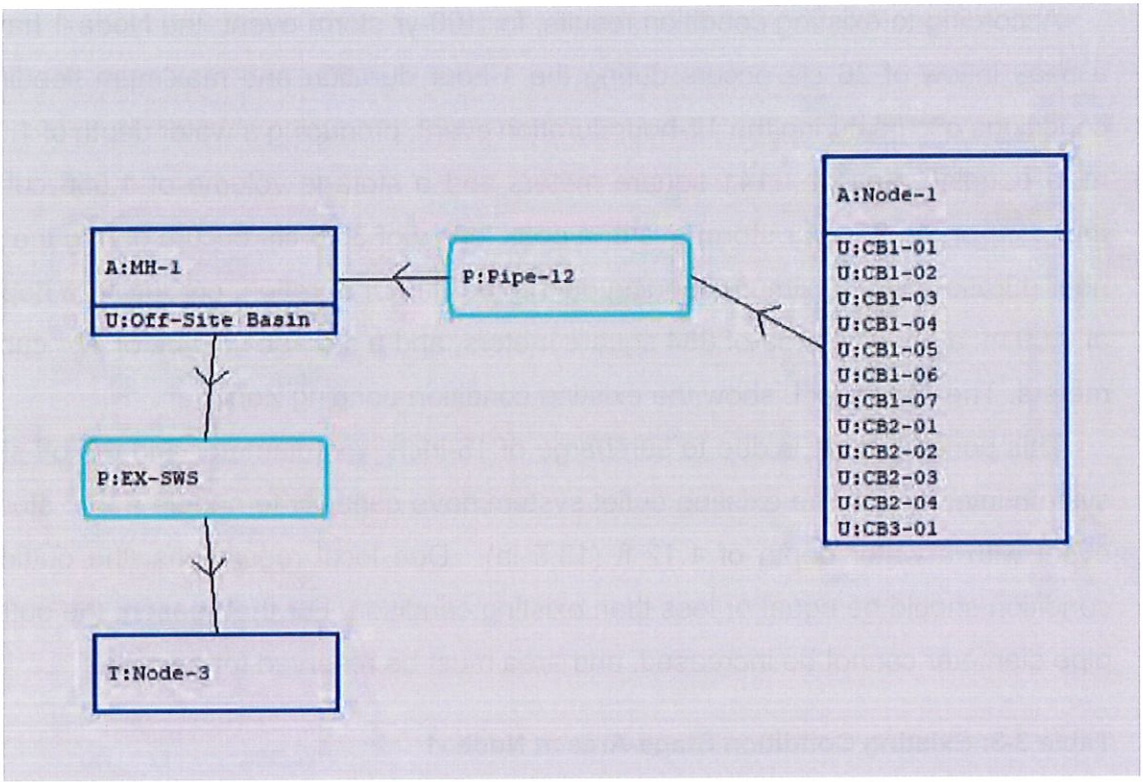

Figure 3-1 Hydrologic model configuration under existing conditions.

In compliance with local regulations, any development causing a peak flow greater than that under existing conditions, should provide a storm water management facility to mitigate the runoff increment before discharging downstream into a neighboring property. To verify that the discharge from Casa Linda development will not have downstream impacts, three Nodes were created in the model for the Pre-Developed Condition to represent the existing discharge points in site and out site. Node-1 represent the facility discharge point were the 12 sub-basins are incorporated, then this node discharge by a 15-inch pipe diameter to MH-1 which represent the off-site stormwater system basin. The MH-1 discharge to Off-Site Node by a 32-inch pipe diameter. According to the facility topographic data, a stage area was incorporate into Node-1 which represent the existing ponding area occurring within the parking area. The stage-area relationship is shown in Table 3-3. The facility outlet peak flows summary are shown in the Table 3-4. Results for all simulations performed can be found in Appendix K.

According to existing condition results, for 100-yr storm event, the Node-1 have a peak inflow of 36 cfs occurs during the 1-hour duration and maximum flooding conditions occurs during the 12-hour duration event, producing a water depth of 1.12 m, a ponding area of 1,141 square meters and a storage volume of 1,556 cubic meters. For the 25-year storm event, a peak inflow of 30.6 cfs occurs during the 1-hour duration and maximum flooding during the 6-hour duration, producing a depth of 0.69 m, a ponding area of 884 square meters, and a storage volume of 424 cubic meters. The Appendix L show the existing condition ponding Zone.

This ponding zone is due to surcharge of 15-inch pipe diameter and the off-site system interaction. The existing outlet system have capacity to handle a 2-yr storm event with a water depth of 1.12 ft (13.5 in). Due local regulations, the outflow condition should be equal or less than existing condition. For that reason, the outlet pipe diameter cannot be increased, and area must be reserved for storage.

Table 3-3: Existing Condition Stage-Area at Node -1

ELEVATION	ICPR SURFACE AREA			STORAGE VOLUME
(m)	(m^2)	(ha)	(ac)	(m^3)
27.89	1.115	0.0001	0.0003	15.5
29.34	1.115	0.0001	0.0003	17.2
29.5	42.00	0.0042	0.0104	20.6
29.75	300	0.0300	0.0741	55.5
30.00	692	0.0692	0.1710	171.6
32.00	4650	0.4650	1.1490	5513.6

Table 3-4. Hydrologic simulation maximum peak flow results under existing condition.

Node -1		
Tr (yr)	Max Flow (cfs)	Simulation
100	35.96	100-1hr-90%
50	33.40	50-1hr-90%
25	30.59	25yr-1hr-90%
10	26.81	10yr-1hr-90%
2	20.11	2yr-1hr-90%

Table 3-5: Maximum Water Ponding Surface elevation (WSE) and Water Ponding Depth (WD) at Node-1

Tr	Peak Flow (cfs)	WSE (m)	WD (m)	WD (ft)	Surface Area (m*2)	Volume (m^3)	Simulation
100	20.39	30.52	1.12	3.67	1,721	1,556	100-12hr-10%
50	19.25	30.31	0.91	3.00	1,317	1,010	50-6hr-10%
25	16.64	30.09	0.69	2.28	884	424	25yr-6hr-10%
10	26.81	29.94	0.54	1.76	592	140	10yr-1hr-90%
2	20.11	29.74	0.34	1.12	293	46	2yr-1hr-90%

3.6.2 Post-development Conditions

Proposed conditions include a new building. In the analysis, the model configuration remains the same. The proposed building is located between CB2-01 to CB2-03 which discharge into the existing stormwater system between the existing and proposed apartments building. The hydrologic properties as drainage area, time of concentration and curve number changed. The drainage area for CB2-01 still the same, while CB2-02 increase and CB2-03 decreased. The curve number these Sub-Bains increased. Each Sub-Basin will discharge at its original discharge points. The Table 3-6 shows the hydrologic properties for post-developed conditions including the revised drainage areas, CN, and time of concentration. Appendix F shows the watershed map for post-developed conditions.

Table 3-6: General hydrologic properties for PC sub-basin (post-developed conditions).

Sub-Basin ID	Area (acres)	Calculated Tc (min)	TOC used (min)	CN
CB2-1	0.51	3.00	5.00	78.96
CB2-2	0.87	4.59	5.00	68.47
CB2-3	0.20	3.90	5.00	72.00

Table 3-7 shows the greatest peak flow values under post-developed conditions. The Table 3-8 compares the peak flow values between pre-developed and post developed conditions at each node. According to hydrologic results, the proposed development does not increase the existing project outflows, however flooding conditions remain.

Table 3-7. Peak Flow Summary results for each Node under proposed conditions.

Node-1		
Tr (yr)	**Max Flow (cfs)**	**Simulation**
100	35.94	100-1hr-90%
50	33.38	50-1hr-90%
25	30.55	25yr-1hr-90%
10	26.76	10yr-1hr-90%
2	20.06	2yr-1hr-90%

Table 3-8 Peak flow comparison between pre- and post-developed conditions.

Tr	Pre-developed Flow Max (cfs)	Post-developed Flow Max (cfs)	Pre vs Post (cfs)
	Node-1		
100	35.96	35.94	**-0.02**
50	33.40	33.38	**-0.02**
25	30.59	30.55	**-0.04**
10	26.81	26.76	**-0.05**
2	20.11	20.06	**-0.05**

4. Stormwater System Hydraulic Analysis

A hydraulic analysis is required to determine the flow capacity of the storm sewer system and make recommendation to increase the system capacity to mitigate the ponding area accumulation in the outlet location. The outlet capacity is control by the off-site stormwater system causing backwater effect. According to hydrologic results, the stormwater system presents a ponding area due to existing system limitations.

To evaluate the stormwater system, a hydraulic simulation model was built using Stormwater and Sewer System Analysis by AutoDesk (SSSW). The SSSW has a hydrodynamic routing option for all pipes and links in the model. The hydrodynamic routing methods solves the complete St. Venant equations throughout the drainage network and includes modeling of backwater effects, flow reversal, surcharging, looped connections, pressure flow, tidal outfalls, and interconnected ponds.

ICPR Streamline Methodology will be used when only the storage is modeled without taking into account the storm system. Simulations were performed for 100-, 50-, 25-, 10- and 2- years return period.

The hydraulic model requires definition of parameters such as the existing stormwater geometry, the Manning's roughness, the rain gages, and hydrologic unit hydrographs for each simulated storm event.

4.1.1 Description of Facility Stormwater System

In this study, the simulated stormwater system is compound by 13 inlets and 12 storm pipes which collects the facility runoff and discharge by a 15-inch pipe diameter into off-site storm system. To identify the stormwater system, was divided in two sub systems.

The system 1 is compound by seven (7) inlets and seven (7) pipes which start in the east parking area CB1-01 to CB3-01 located at southwest of the facility. The system 2 is compound by four (4) inlets and four (4) pipes which runs from the north of the existing apartment building in the inlets CB2-01 to CB3-01 located at southwest of the facility. These two systems discharge by 15-inch pipe diameter from CB3-01 to MH1. The CB3-01 was incorporated as Storage Node with the stage-area

relation show in Table 3-3. The Table 4-1show a description of the inlets and Table 4-2 show a description of the simulated stormwater system. The simulated stormwater system is shown in Appendix M.

Table 4-1: Inlets and Node Storage Descriptions

Element ID	Inlet Location	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Grate Clogging Factor (%)
CB1-01	On Sag	32.85	33.83	0.98	25.00
CB1-02	On Grade	32.84	33.84	1.00	25.00
CB1-03	On Grade	32.61	33.64	1.03	25.00
CB1-04	On Grade	31.90	33.06	1.16	25.00
CB1-05	On Grade	31.22	32.19	0.97	25.00
CB1-06	On Grade	29.69	30.78	1.09	25.00
CB1-07	On Grade	28.33	29.46	1.13	25.00
CB2-01	On Grade	33.38	34.40	1.02	25.00
CB2-02	On Grade	33.05	33.96	0.91	25.00
CB2-03	On Grade	31.21	32.12	0.91	25.00
CB2-04	On Grade	29.56	30.06	0.50	25.00

Table 4-2: Stormwater Description

System ID	Element ID	Element Type	From ID	To ID	Length (m)	Inlet IE (m)	Outlet IE (m)	Average Slope(%)	Dia. Height(in)
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.170	12
	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.770	12
	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.720	12
	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.010	12
	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.190	12
	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.420	12
	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	28.29	0.440	15
2	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.810	12
	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.210	12
	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.940	12
	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	28.29	2.900	12
Out	Pipe - (12)	Pipe	CB3-01	Out	12.71	27.89	27.73	1.260	15

4.1.2 Overflows

In the system, the overflows were incorporated into the model according to surface elevation with trapezoidal channels with a bottom range from 5 to 20 meters, height range from 0.05 to 0.075m and lateral slopes of 1H:10V.

4.1.3 Manning's Roughness Coefficients ("n")

Manning's roughness represents the resistance of a drainage structures to allow water flow. The Manning's roughness values assigned in the model were based on the pipes and road materials conditions found in the field following the guidelines established by an USGS report published in 1989. Values may range from 0.025 to 0.045 for natural land, and 0.012 for pavements and pipes.

4.1.4 Boundary Conditions and Flow Regime

Boundary conditions are necessary to establish the starting water surface at both ends of the system (upstream and downstream). In this case, in order to establish a representative boundary condition, the facility hydrologic properties show in Table 3-2 and Table 3-3 were incorporated into the stormwater models. The rain data shown in Table 3-1 was incorporated into the model and the storm events simulations were incorporated according to HH Study Guides established by the Puerto Rico Planning Board and the Department of Natural and Environmental Resources (June 2016).

A free discharge with a invert elevation of 26.98 m was used as Tail water boundary condition.

4.2 Hydraulic Simulation Model Scenarios Analyzed

According to the hydrologic simulations, the total peak flow for the post-development conditions is equal to the peak flow for the existing conditions. Two (2) scenarios were evaluated in the hydraulic analysis, the first represents the existing stormwater system, and the other represents the proposed condition stormwater improvement to mitigate the stormwater deficiencies. Figure 4-1 show the stormwater system in the SSSW software. The storm events simulations are presented in Table 4-3corresponding to the 100- 25-years storm events.

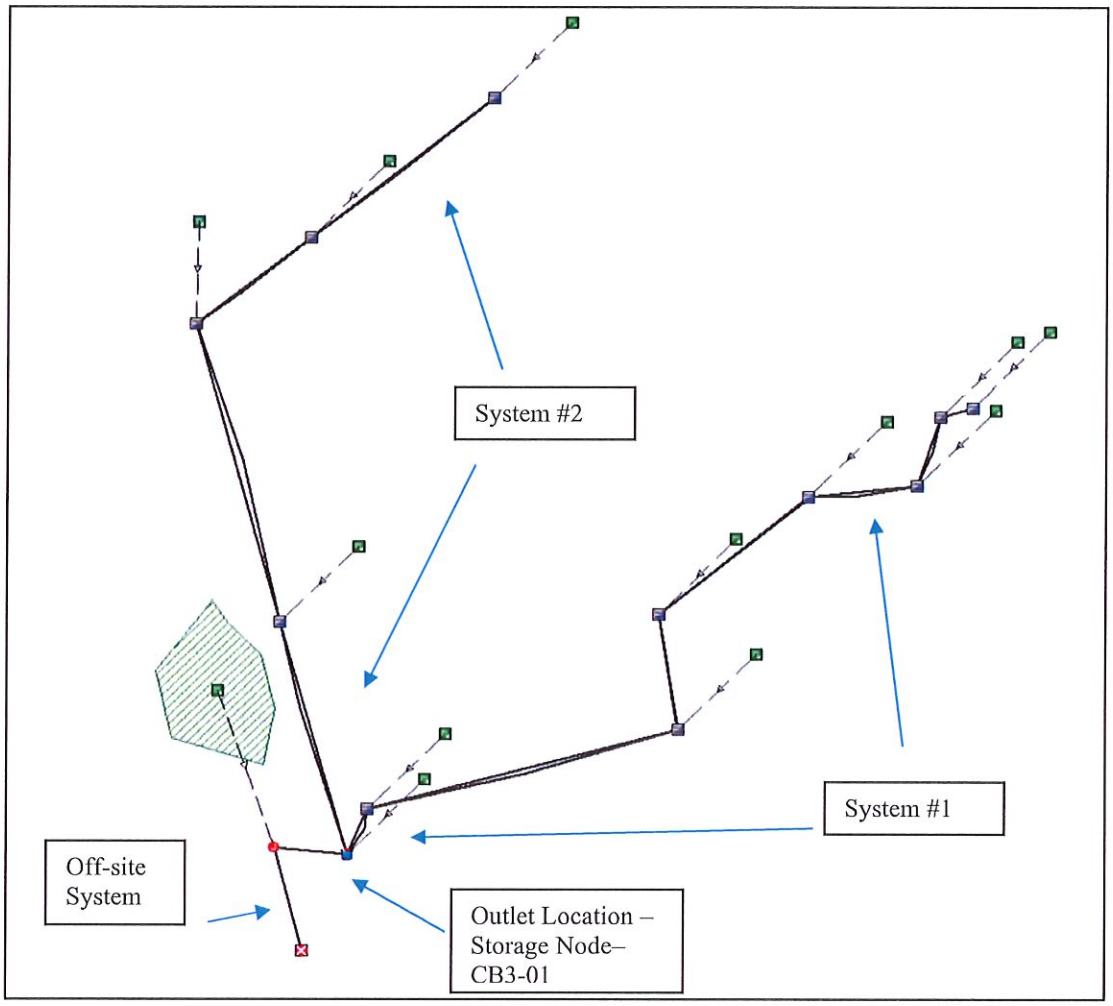

Figure 4-1: Stormwater System Model in SSSW

Table 4-3. Storm Events simulations used in hydraulic model

Return of Period Year	Peak Flow Simulation	Max Storage Simulation
25	1hr-90%	6hr-10%
50	1hr-90%	6hr-10%
100	1hr-90%	12hr-10%

4.2.1 Scenario 1 – Existing Condition

Scenario 1 evaluates the existing stormwater conditions. This simulated the storm events simulations show in Table 4-3 and includes the existing stage-area relation at CB3-01 shows in Table 3-3. Table 4-4 shows the storage node inflow, WSE and storage volume results for 100-, 50 and 25-year events. Table 4-5 and Table 4-6 shows the inlets and pipes summary of results for 100- year storm events respectively. Table 4-7 and Table 4-8 shows the inlets and pipes summary of results for 100- year storm events, respectively.

According to the storage node inflow results, for a 100-yr storm events, the existing stormwater system receive 35.7 cfs, similar to the hydrologic results, with a maximum water depth of 3.77 ft (1.15 m) causing a ponding area of 1,780 m (0.44 ac). The inlets results show a range of maximum water depth from 0.06 m to 0.01 m and the all pipes are surcharged with exception of pipe (8) and pipe (9). When the pipe system is surcharged but the overflows redirect runoff to the lowest point (CB3-01).

The existing stormwater is always surcharged and cannot handle a storm event greater than 2-years. During a 10-year storm event or greater the water accumulation reaches 1.91 ft of water depth, causing a ponding area because the system is controlled by the 15-inch discharge pipe and off-site system. The Appendix N show the hydraulic profiles results. The Appendix O show the Existing Condition Results.

Table 4-4. Hydrologic simulation results under existing condition at CB3-01CB.

Tr (yr)	Max Inflow (cfs)	Max Inflow (cms)	Max Outflow (cfs)	Max Outflow (cms)	WSE (m)	WD(m)	WD (ft)	Area (m^2)	Area (ac)
100	20.49	0.58	13.82	0.40	30.55	1.15	3.77	1721	0.44
50	19.78	0.56	13.82	0.40	30.35	0.95	3.13	1317	0.34
25	16.64	0.472	13.82	0.40	30.16	0.76	2.49	884	0.50

Table 4-5: 100-YR Inlets Summary Results

ID	I.E.	T.E.	Peak Flow	Peak Flow Intercepted	Peak Flow Bypassing	Water Elev.	Water Depth
	(m)	(m)	(cms)	(cms)	(cms)	(m)	(m)
CB1-01	32.85	33.83	0.005	N/A	N/A	33.86	0.03
CB1-02	32.84	33.84	0.181	0.08	0.10	33.88	0.04
CB1-03	32.61	33.64	0.033	0.01	0.02	33.65	0.01
CB1-04	31.90	33.06	0.057	0.03	0.03	33.07	0.01
CB1-05	31.22	32.19	0.150	0.07	0.08	32.22	0.03
CB1-06	29.69	30.78	0.032	0.01	0.02	30.78	0.00
CB1-07	28.33	29.46	0.120	0.05	0.07	30.08	0.02
CB2-01	33.38	34.40	0.088	0.03	0.06	34.42	0.02
CB2-02	33.05	33.96	0.062	0.03	0.03	33.99	0.03
CB2-03	31.21	32.12	0.071	0.03	0.04	32.13	0.01
CB2-04	29.56	30.06	0.169	0.08	0.09	30.10	0.04

Table 4-6: 100-yr Pipe Summary Results

Element ID	From	To (Outlet)	Length (m)	Inlet I.E. (m)	Outlet I.E. (m)	Slope (%)	Diameter (m)	Flow (cms)	Capacity (cms)	Reported Condition
Pipe - (1)	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.02	0.05	SURCHARGED
Pipe - (2)	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.06	0.14	SURCHARGED
Pipe - (3)	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.15	0.20	SURCHARGED
Pipe - (4)	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.16	0.15	SURCHARGED
Pipe - (5)	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.22	0.28	SURCHARGED
Pipe - (6)	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.15	0.16	SURCHARGED
Pipe - (7)	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.19	0.42	SURCHARGED
Pipe - (8)	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.03	0.09	Calculated
Pipe - (9)	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.11	0.28	Calculated
Pipe - (10)	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.16	0.18	SURCHARGED
Pipe - (11)	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.13	0.20	SURCHARGED
Pipe - (12)	CB3-01	Out-	12.71	27.89	27.73	1.2600	0.375	0.40	0.21	SURCHARGED

Table 4-7: 25-yr Inlets Summary Results

ID	I.E.	T.E.	Peak Flow	Peak Flow Intercepted	Peak Flow Bypassing	Water Elev.	Water Depth
	(m)	(m)	(cms)	(cms)	(cms)	(m)	(m)
CB1-01	32.85	33.83	0.00	N/A	N/A	33.85	0.02
CB1-02	32.84	33.84	0.09	0.04	0.05	33.87	0.03
CB1-03	32.61	33.64	0.02	0.01	0.01	33.65	0.01
CB1-04	31.90	33.06	0.03	0.01	0.02	33.07	0.01
CB1-05	31.22	32.19	0.07	0.03	0.04	32.21	0.02
CB1-06	29.69	30.78	0.02	0.01	0.01	30.78	0.00
CB1-07	28.33	29.46	0.06	0.03	0.03	30.08	0.02
CB2-01	33.38	34.40	0.04	0.02	0.03	34.42	0.02
CB2-02	33.05	33.96	0.05	0.02	0.03	33.98	0.02
CB2-03	31.21	32.12	0.01	0.01	0.01	32.13	0.01
CB2-04	29.56	30.06	0.08	0.04	0.05	30.09	0.03

Table 4-8: 25-yr Pipe Summary Results

Element ID	From	To (Outlet)	Length (m)	Inlet I.E. (m)	Outlet I.E. (m)	Slope (%)	Diameter (m)	Flow (cms)	Capacity (cms)	Reported Condition
Pipe - (1)	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.02	0.05	Calculated
Pipe - (2)	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.06	0.14	Calculated
Pipe - (3)	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.15	0.20	Calculated
Pipe - (4)	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.16	0.15	SURCHARGED
Pipe - (5)	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.22	0.28	SURCHARGED
Pipe - (6)	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.15	0.16	SURCHARGED
Pipe - (7)	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.19	0.42	SURCHARGED
Pipe - (8)	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.03	0.09	Calculated
Pipe - (9)	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.09	0.28	Calculated
Pipe - (10)	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.14	0.18	Calculated
Pipe - (11)	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.13	0.20	SURCHARGED
Pipe - (12)	CB3-01	Out	12.71	27.89	27.73	1.2600	0.375	0.40	0.21	SURCHARGED

4.2.2 Scenario 2 - Proposed Conditions

According to existing simulation results, the stormwater system does not have problem to collect and redirect the runoff to the outlet location. The system problem is due the 15-inch pipe capacity and these outlet pipe cannot be increased to maintain the pre-development discharge conditions. To mitigate the ponding area impacts, two alternatives are evaluated in this analysis.

The proposed condition 1 (PC1) propose a Ponding Zone to storage the 100-yr event volume and relocated the affected parking lots. The PC2 propose a underground storage pipes systems to storage a 25-yr storm event volume and increase the southwest parking lot terrain elevation to 30 meters. Both proposed conditions are evaluated in ICPR.

4.2.2.1 Proposed Condition 1 (PC1)

To reduce the 100-YR pond zone, approximately 1,100 square meters located at southwest of the facility is use as pond zone, affecting 38 parking lots which should be relocated. This scenario was simulated in the Proposed Condition Hydrologic Simulation. This stage- area are located at Node -1 in ICPR. The hydraulic model configuration setup is presented on Figure 3-1. Appendix P show the Propose Pond Location map. The stage-area relation is shown in Table 4-9 The outlet pipe of the propose pond still with the existing 15-inch pipe diameter. Appendix I shows the general hydrologic properties calculation sheet.

Table 4-9: Proposed Condition Stage-Area at Node -1 (CB3-01)

ELEVATION	SURFACE AREA			STORAGE VOLUME
(m)	(m^2)	(ha)	(ac)	(m^3)
27.89	445	0.445	0.110	0
30.00	1,100	1.100	0.272	1623
32.00	2,000	2.000	0.494	4730

Table 4-10 the water surface elevation (WSE) and Water Depth (WD) under proposed condition. The Table 4-11 compare the WSE between pre-developed and post developed conditions. According to hydrologic results, the proposed developed not increase the existing hydrological condition of the site.

The proposed pond area has a WSE of 29.97 meters with a surface area of 1,141 square meters which storage approximately 1,600 cubic meters. This propose pond reduce the WSE by 0.55 meters and surface area by 580 square meters. With this alternative, 33 parking lots should be relocated.

The Appendix Q show the post-development ponding areas. Results for PC1 simulated modeled can be found in Appendix R.

Table 4-10. Water Depth Summary results for Node-1 (CB3-01) under proposed conditions (PC-1).

Tr	WSE (m)	WD (m)	WD (ft)	Volume (m^3)	Simulation
100	29.97	2.08	6.82	1,606	100-12hr-10%
50	29.61	1.72	5.64	1,329	50-12hr-10%
25	29.30	1.41	4.61	1,086	25yr-6hr-10%
10	28.94	1.05	3.44	811	10yr-6hr-10%
2	28.48	0.59	1.92	453	2yr-6hr-10%

Table 4-11 Water Depth comparison between pre- and post-developed conditions.

Tr	Pre-developed WSE (m)	Post-developed WSE (m)	Pre vs Post (m)
	Node-1 (CB3-01)		
100	30.52	29.97	**-0.55**
50	30.31	29.61	**-0.70**
25	30.09	29.30	**-0.80**
10	29.94	28.94	**-1.00**
2	29.74	28.48	**-1.26**

4.2.2.2 Proposed Condition 2 (PC2)

For the Proposed condition 2 (PC2), two underground storage pipes with 4 x 60-inch pipes each system are proposed to store the 25-yr storm event volume of approximately 421 square meters (1,500 cubic feet). This scenario was simulated in ICPR. In this condition the parking area terrain elevation is raised to maintain 15-inch of water depth at outlet zone.

The stage-volume relation is shown in Table 4-12. The outlet pipe of the proposed pond remains the existing 15-inch pipe diameter. The underground systems calculation sheet, schematic design and location are show in Appendix P.

Table 4-12: Proposed Condition 2 Stage-Area at Node -1 (CB3-01)

Stage (m)	Volume (m^3)	Stage (m)	Volume (m^3)
27.8	0	28.8	299
27.9	3.23	28.9	337
28.0	16.81	29.0	374
28.1	40.94	29.1	408
28.2	70.82	29.2	438
28.3	104.65	29.3	462
28.4	141.25	29.4	477
28.5	179.71	29.6	499
28.6	219.25	30.0	592
28.7	259.15	32.0	5514

Table 4-13 shows the water surface elevation (WSE) and Water Depth (WD) under propose condition. The Table 4-14 compares the WSE between pre-developed and post-developed conditions.

The proposed condition produces a WSE of 29.90 for a 25-yr storm events, 0.19m below of existing condition. In this alternative, the parking area ground elevation should be raised to a minimum of 29.90 meter (amsl) to maintain at least 1.28 ft (15-inch) of water depth for a 100-yr events. The Appendix S shows the resulting hydraulic grade profiles. Output report can be found in Appendix T.

Table 4-13. Water Depth Summary results for Node-1 (CB3-01) under proposed conditions.

Tr	WSE (m)	WD (m)	WD (ft)	Volume (m^3)	Simulation
100	30.29	0.39	1.28	1,304	100-12hr-10%
50	30.08	0.18	0.59	621	50-6hr-10%
25	29.90	0.00	0.00	554	25yr-6hr-10%

Table 4-14 Water Depth comparison between pre- and post-developed conditions.

Tr	EC WSE (m)	PC-1 WSE (m)	PC-2 WSE (m)	Difference between EC & PC1	Difference between EC & PC2
100	30.52	29.97	30.29	-0.55	-0.23
50	30.31	29.61	30.08	-0.70	-0.23
25	30.09	29.30	29.90	-0.80	-0.19

5. CONCLUSIONS AND RECOMMENDATIONS

The hydrologic analysis determined the runoff that will be generated under existing and proposed conditions considering the proposed apartments complex development.

After the completion of the hydrologic analysis, a hydraulic analysis was developed to determine the existing system capacity and make recommendations to improve the system capacity. The following conclusions and recommendations can be made from the analyses:

1. The proposed residential development will not increase the storm water runoff at the stormwater system outlet location.
2. The facility system discharge is control by the 15-inch pipe diameter and the off-site stormwater system.
3. According to results, all pipes are surcharged, the inlets have a range of water depth of 0.01 to 0.06 meters and the overflow redirect the runoff to the CB3-01.
4. The off-site and facility stormwater systems interactions cause back water effect preventing the free discharge of the facility system causing ponding zone.
5. In a 100-yr event, the existing stormwater system have a maximum water depth of 3.67 ft (1.12 m) causing a ponding area of 1,721 m^2.
6. In a 25-yr event, the existing stormwater system have a maximum water depth of 2.26 ft (0.69 m), a ponding area of 884 m^2.
7. Two alternative were evaluated, one considering the relocation on approximately 33 parking to reserve the lower point to storage zone (PC1) and the other consider two underground pipes system and increase the parking lot terrain elevation to storage part of runoff volume below the ground.
8. The PC1 propose pond reduce the WSE by 0.55 meters and surface area by 580 square meters but 33 parking lots should be relocated.

9. The PC2 propose two underground pipes storage systems which reduce the 25-yr storm events by 0.19m. In this alternative, the terrain parking lots elevation should be increased to a minimum of 29.90 meter (amsl) to maintain at least 1.28 ft (15-inch) of water depth for a 100-yr events.
10. It can be concluded that if all the assumptions and recommendations provided in this report are fulfilled, the proposed project is in compliance with the storm water management requirements of the "Reglamento Conjunto de Permisos para Obras de Construccion y Uso de Terrenos" and Regulation Num. 13.

6. LIMITATIONS OF STUDY

This study has been prepared according to accepted engineering practices. The conclusions and recommendations provided in this report are based on the data available and design drainage plans proposed revised at the time the study was completed. **It is the responsibility of the design engineer to follow all of the recommendations stated in this report**. Changes to the proposed site layout and/or any of the improvements recommended in this report should be consulted with the hydrologist preparing this document, as it could alter or invalidate some or all of the results presented herein.

7. REFERENCES

1- Puerto Rico Planning Board. "Reglamento Sobre Areas Especiales de Riesgo a Inundación: "Planning Regulation Num. 13." (2005)

2-FEMA, Flood Insurance Study for the Commonwealth of Puerto Rico, Nov 18, 2009

3- SCS, National Engineering Handbook, Section 4, 1985

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5- SCS, Soil Survey of San Juan Area Puerto Rico, Department of Agriculture SCS, Nov. 1978

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7- Arcement, G.J., Schneider, V.R. Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains: USGS Water-Supply Paper 2339. United States Government Printing Office, 1989.

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10-Gupta, R.S. Hydrologic and Hydraulic System. Prentice Hall Inc. (1989)

8. CERTIFICATION

I, Pedro M. García Campos, MSCE, PE, hereby certify that the calculations included on the Hydrologic and Hydraulic Study: Casa Linda Apartments Development, Bayamon, PR were performed by me or under my supervision.

Related to this report, I certify that to the best of my knowledge, the information included on this document is truthful, correct, and complete.

Pedro M. García Campos, MSCE, PE
Lic. 18874



Digitally signed by Pedro M. Garcia Campos
DN: cn=Pedro M. Garcia Campos, o=CIAPR - 18874, ou=CIAPR - 18874, email=pmgarcia@pmgroupllc.com, c=US
Date: 2020.07.28 12:00:05 -04'00'

9. APPENDICES

Appendix A Location Map ..... A
Appendix B Proposed General Site Plan ..... B
Appendix C Surveyed Map and Off-site Topography Map C
Appendix D FEMA's FIRM & ABFE Map ..... D
Appendix E Precipitation Data ..... E
Appendix F Watershed Map for Pre and Post Development Conditions ..... F
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Appendix I Hydrologic Data Calculation Sheets I
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Appendix K ICPR Input & Output Report ..... K
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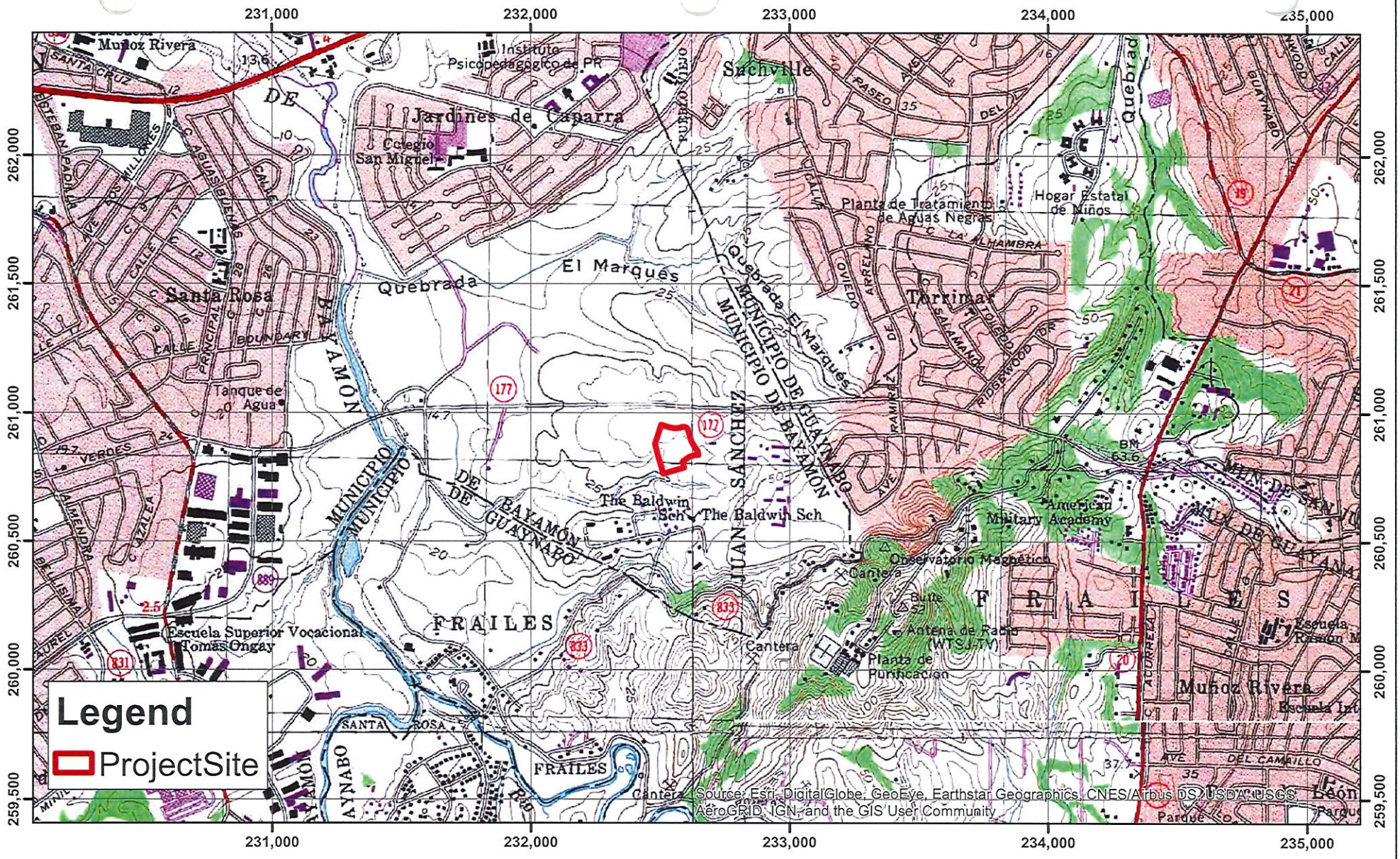
Appendix S Proposed Condition 2 (PC2) Profile View ..... S
Appendix T Proposed Condition 1 (PC2) Output Report ..... T

Appendix A Location Map



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:20,000

490 245 0 490 Meters



Location Map

Casa Linda, Bayamon, PR

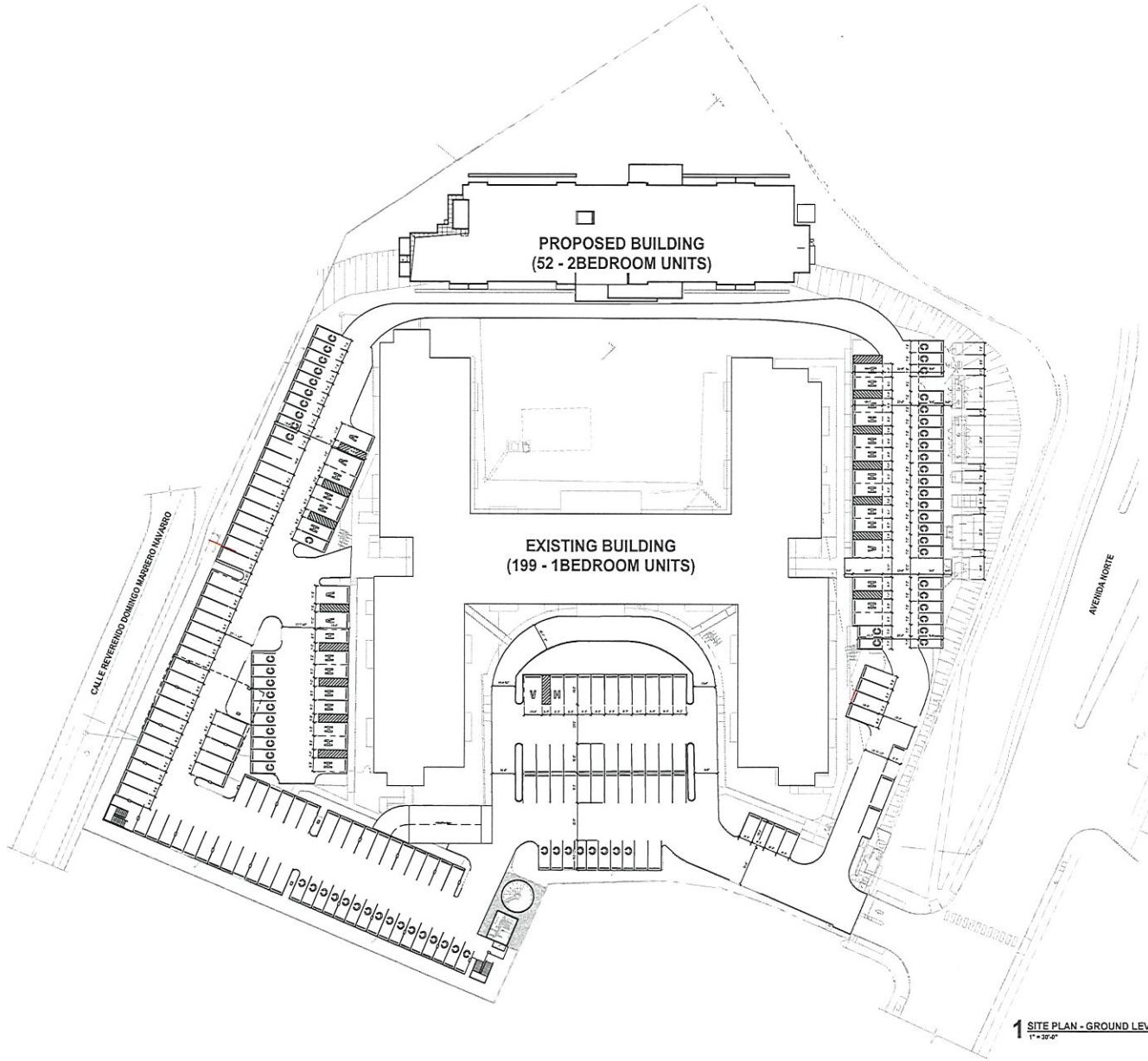
N W E S

Date: 6/10/2020

PMG AND ASSOCIATES

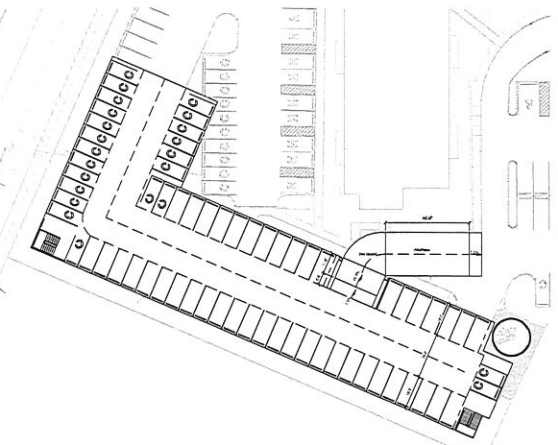
Document Path: M:\32301-Casa-Linda\GIS\MXD\32301_LOC.MAP_R00.mxd

Appendix B Proposed General Site Plan



1 SITE PLAN - GROUND LEVEL
1" = 30'-0"

PARKING TOTAL	
PARKING SPACE	TOTAL
LEVEL 1	
ADA - 8'-3" x 18'-0"	25
ADA VAN - 11'-0" x 18'-0"	6
COMPACT - 7'-3" x 15'-0"	70
REGULAR - 8'-3" x 18'-0"	109
LEVEL 2	
COMPACT - 7'-3" x 15'-0"	23
REGULAR - 8'-3" x 18'-0"	44
	277



2 ELEVATED PARKING - LEVEL 2
1" = 30'-0"

PROGRESS PRINT
NOT FOR CONSTRUCTION



Marvel Architects
Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.765.3434

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

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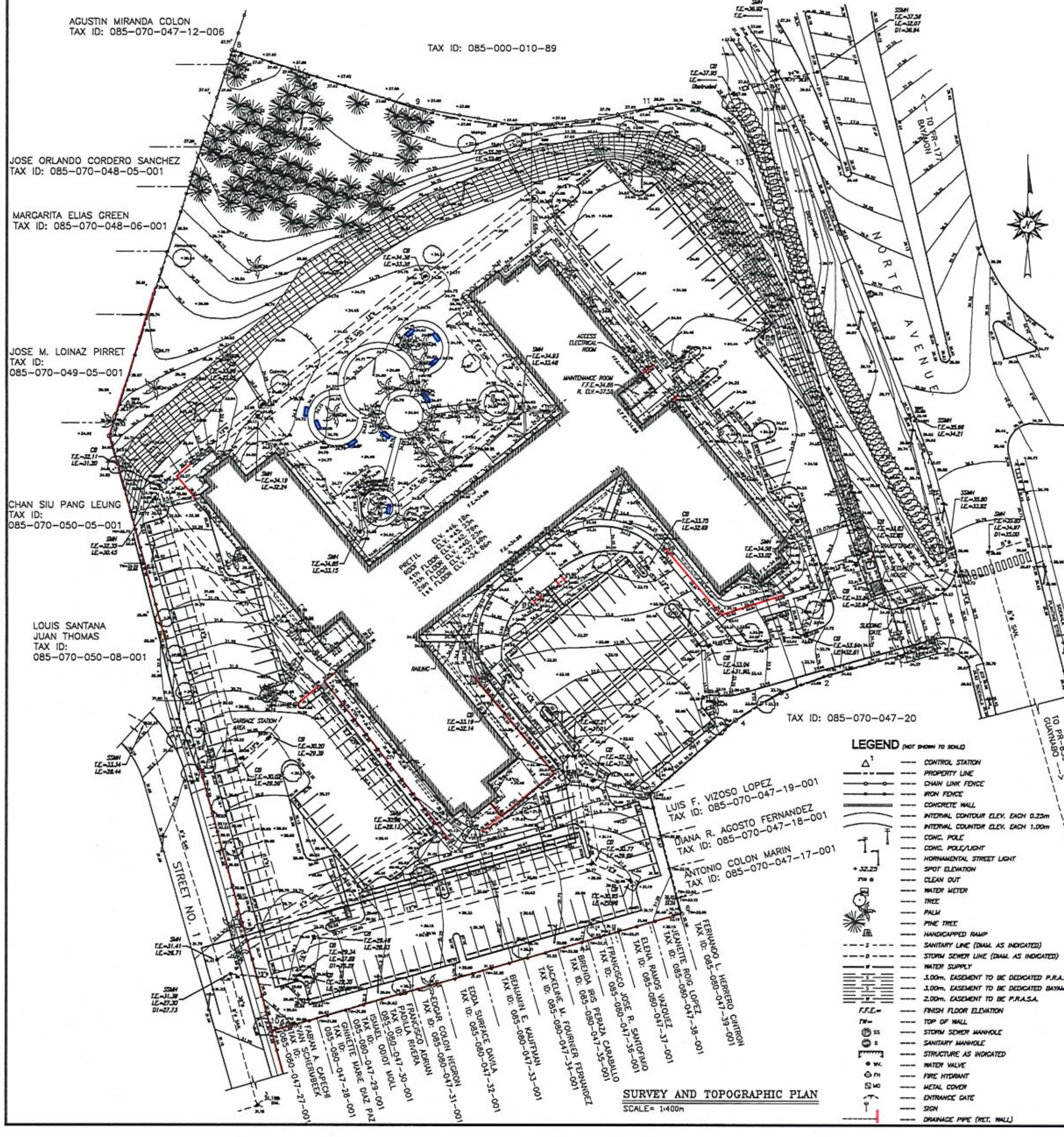
MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, DISEÑADOR, LICENCIA NUM. 31758, COLEGIADO EN EL PROFESIONAL DE PUERTO RICO, CERTIFICO QUE LOS PRESENTES PLANOS Y ESTE INFORME SE HAN PREPARADO DE ACUERDO Y CUMPLEN CON EL CÓDIGO DE CONSTRUCCIÓN VIGENTE DE PUERTO RICO, INCLUYENDO EL CÓDIGO SÍSMICO, EL CÓDIGO DE PLOMERÍA, EL CÓDIGO MECÁNICO, EL CÓDIGO ELÉCTRICO, EL CÓDIGO DE CONSTRUCCIÓN VERDE, EL CÓDIGO DE ACCESIBILIDAD, EL CÓDIGO DE PREVENCIÓN DE INCENDIOS, LA ORDENANZA DE ZONIFICACIÓN DE BAYAMÓN, LA ORDENANZA DE CONSTRUCCIÓN DE BAYAMÓN, LA ORDENANZA DE PLANIFICACIÓN DE BAYAMÓN

Appendix C Surveyed Map and Off-site Topography Map



SURVEY AND TOPOGRAPHIC PLAN
SCALE= 1:400m

SURVEY DATA

POINT	LINE	(Y) NORTH	(X) EAST	DISTANCE	BEARINGS	DESCRIPTION
1	—	260826.7450	[illegible]	—	—	Galv. steel pipe
2	1-2	[illegible]	[illegible]	15.269	S 74°21'27" W	Galv. steel pipe
3	2-3	[illegible]	[illegible]	10.590	S 70°10'14" W	Galv. steel pipe
4	3-4	[illegible]	[illegible]	10.779	[illegible]	Galv. steel pipe
5	4-5	[illegible]	[illegible]	[illegible]	[illegible]	Galv. steel pipe
6	5-6	[illegible]	[illegible]	[illegible]	S 14°21'37" E	Galv. steel pipe
10	6-10	[illegible]	[illegible]	[illegible]	S 72°34'12" W	Galv. steel pipe
7	10-7	[illegible]	[illegible]	120.401	N 19°19'04" W	Galv. steel pipe
8	7-8	[illegible]	[illegible]	[illegible]	N 17°34'02" E	Galv. steel pipe
9	8-9	[illegible]	[illegible]	26.614	[illegible]	PC. Galv. steel pipe
Center		261017.3211	232563.6402	—	—	Center coord
CURVE DATA		ANGLE 33°08'49"	RADIUS 77.422	TANGENT 24.320	EXTERNA 3.790	ARC LENGHT 47.493
11	9-11	[illegible]	[illegible]	46.752	[illegible]	PC. Galv. steel pipe
Center		[illegible]	232591.3849	—	—	Center coord
CURVE DATA		ANGLE 89°59'46"	RADIUS 15.000	TANGENT 14.999	EXTERNA 6.213	ARC LENGHT 23.561
12	11-12	[illegible]	[illegible]	21.213	[illegible]	PT. Galv. steel pipe
1	12-1	260826.7450	[illegible]	101.722	[illegible]	Galv. steel pipe

AREA = 19896.1314 SQ. Mt. =O= 5.0621 CDAS.

PARENT PARCEL LEGAL DESCRIPTION:
(SPANISH LANGUAGE):

FINCA: Numero 59,468, inscrita al folio 196 del tomo 1,320 de Bayamon Sur, Registro de la Propiedad de Puerto Rico, Seccion I de Bayamon.

DESCRIPCIÓN:

URBANA: Tract of land located at Juan Sanchez Ward in the Municipality of Bayamon, Puerto Rico, comprising an area of 19,896.1294 square meters, equivalent to five cuerdas and six hundred twenty-one ten thousandth of a cuerda, equivalent to two hundred fourteen thousand, one hundred fifty nine square feet and two thousand nine hundred seventy eight ten thousand of a square foot, equivalent to four acres and nine thousand one hundred sixty four ten thousanths of an acre; bounded at the NORTH, SOUTH, EAST and WEST, by land property of the Puerto Rico Land Administration.

ORIGEN REGISTRAL:

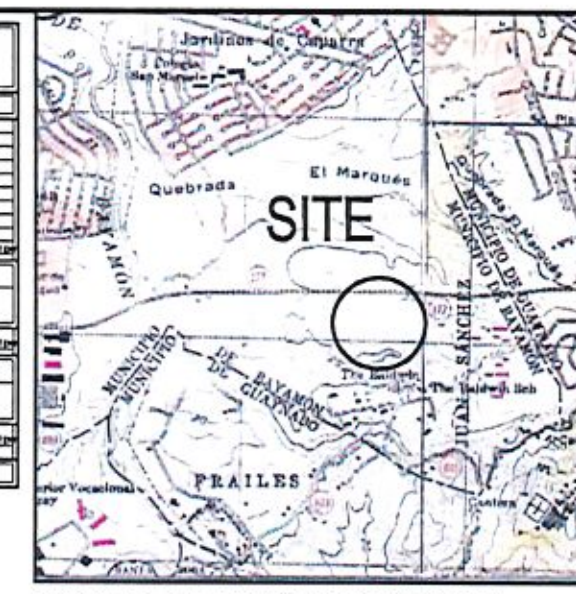
Se segrega de la finca numero 59,454, inscrita al folio 136 del tomo 1,320 de Bayamon Sur.

PLENO DOMINIO:

Consta inscrito al folio 196 del tomo 1,320 de bayamon Sur, a favor de Casa Linda del Sur Associates, cuya entidad adquirio por segregacion y compraventa a la Corporacion de Renovacion Urbana y Vivienda de Puerto Rico, mediante la escritura numero 2, otorgada en San Juan, Puerto Rico, el dia 14 de enero de 1982, ante el notario Pedro R. Vazquez, finca numero 59,468, inscripcion 1ra.

Surveyor Notes:

1. Plane coordinates are based on the P. R. Lambert Coordinates system Nad83(2011). state plane north zone. Datum to refer National Geodetic Survey base station "SANABRIA", GPS control, Y-265276.022m, X-230024.231m. observation date December 21, 2018
2. The Boundaries line and survey data obtained of Finak Survey Plan, by Octavio J. Gandara Civil Engineer lic. 5044, date April 26, 1984.
3. All azimuths are grid: reckoned clockwise from True North.
4. All elevations are referred to Mean Sea Level System. are referred to vertical datum Bench Mark "Bridge" which is elevation is 16.205m located on the north west sidewalk of PR-177 bridge over Bayamon river stablished by P.R. Highway Authority for Rio Bayamon Community.
5. Distances are shown in metric system, unless otherwise indicated.
6. Survey accuracy (Crandall) is 1: 17465.0
7. Three (3) direct position angle and three (3) angle repetition in the reverse position to be measured.
8. The equipment used to obtain field data was: Total station "Trimble" calibrations each/1 second by manufactured were adjusted & inspection performed this survey results by Conde presicion instruments.
9. There is no observed evidence of current earth moving work, building construction or building additions.
10. There is no observed evidence of site use as a solid waste dump, sump or sanitary landfill.
11. Survey data obtained in field month of December 2018. and can only considered the existing conditions.
12. The Cadastral number of the property is: 085-070-047-13-000 according to the "Centro de Recaudacion de Impuesto (CRIM)" agency.
13. The property has direct access to Norte avenue, dedicated public street.
14. The according Municipality of Bayamon (Territorial zoning office) the calification is RA (Hight density residential).
15. Utility Note: The underground utilities shown have been located from the field survey information and existing drawings. Rhe surveyors make mo guarantee that the underground utility shown comprise all such utilities in the area, either in service or abandoned. The surveyor fufther does not warrant that the underground utilities shown area in the exact location indicated although he does certify that they area located as accurately as possible from information available. The surveyor has not physically located the underground utilities.



LOCATION MAP, SAN JUAN AND BAYAMON QUADRANGLE
SCALE 1:20,000



FLOOD MAP
FIRM PANEL 72000C0345J AND 72000C0365J
MAP REVISED: NOV. 18, 2009



Calification Map
Calification "RA" (High density residential) see sheet 45 of Land use planning
Certification: February 5, 2019

Horizontal and vertical control station						
Sta.	Bearing gr. min. seg.	Distance MTS	Lambert Coord."NAD83" Y (mts)	X (mts)	Elevation meter MSL	Description
1			260828.2505	232587.1368	33.18	STEEL BAR
4	N 38 29 10.498 E	34.4229	260856.1952	232618.5611	34.31	STEEL BAR
429	N 10 38 15.808 W	49.5558	260903.8994	232609.4132	34.63	STEEL BAR
602	N 54 10 15.853 W	53.5491	260930.2740	232565.8587	36.76	STEEL BAR
784	S 28 26 35.004 W	32.7893	260908.4433	232550.3387	34.76	STEEL BAR
909	S 43 32 45.015 W	34.1259	260878.0840	232523.3840	34.76	STEEL NAIL
1076	N 78 38 56.446 W	38.0259	260685.7651	232485.1219	35.44	STEEL BAR
1294	S 24 56 32.449 E	64.3509	260827.4036	232512.2442	30.76	STEEL BAR
1414	S 07 57 45.018 E	56.6067	260766.3600	232520.3630	29.70	STEEL BAR
5	N 47 56 00.419 E	65.7248	260814.0363	232566.8233	32.24	SCREW
1	N 62 25 22.180 E	30.7039	260828.2505	232587.1368	33.18	STEEL BAR

Surveyor's Certification :

To Casa Linda del Sur Associates and each of their respective successors and/or assigns

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 10(a), 13, 14, 16, 17, 18, 19, and 20 of Table A thereof. The field work was completed on December 28, 2018.

Date: February 26, 2018
Update: April 29, 2020



Luis Sousa Gallardo, P.L.S.
Register Surveyor Lic. no. 7528

SOUSA SURVEYING SERVICES
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REVISIONS

NUM.	DATE	DESCRIPTION
1	4.29.2020	INTERNAL CONTOUR ELV. INDICATED
2		
3		
4		
5		

ALTA/NSPS LAND TITLE SURVEYS
CASA LINDA DEL SUR CONDOMINIUM
NORTE AVE., BAYAMON, PUERTO RICO

DRAWING TITLE: SURVEY AND TOPOGRAPHIC PLAN
WORK ORDER NUMBER: 18-89
DATE STARTED: Dec. 20, 2018 | UPDATE: Dec. 28, 2018
CADD FILE NAME: 18-89 | EXT. DTE. PAG. 1-1
SCALE: 1:400
SHEET NUMBER: 1 OF 1
DRAWING NUMBER: C.1



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:3,500

80 40 0 80 Meters



Topography Map

Casa Linda, Bayamon, PR

N W E S

Date: 6/10/2020

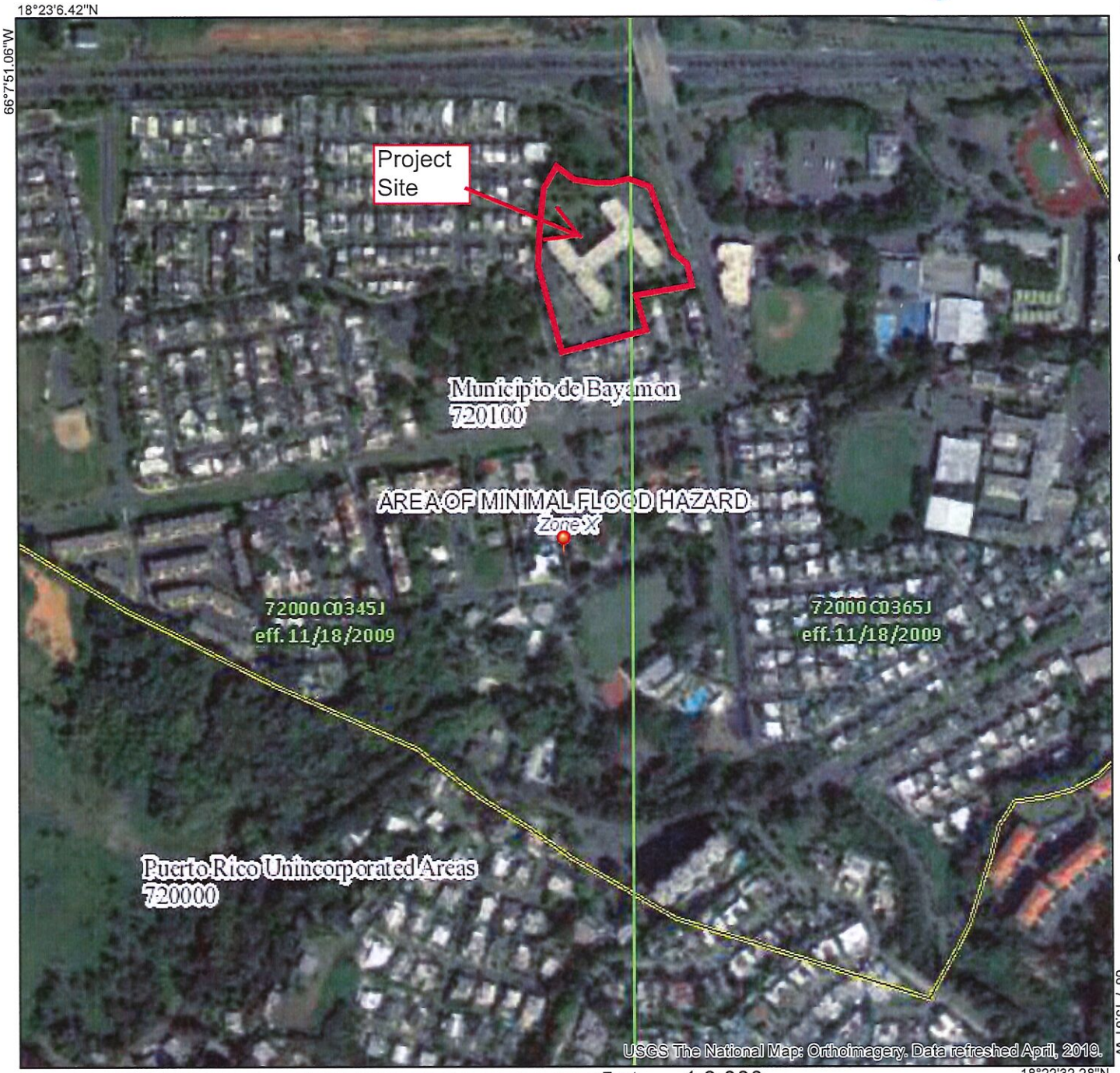
PMG AND ASSOCIATES

Document Patl .32301-Casa-Linda\GIS\MXD\32301_TOPO.MAP_R00.mxd

Appendix D FEMA's FIRM & ABFE Map

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS
  - Without Base Flood Elevation (BFE) *Zone A, V, A99*
  - With BFE or Depth *Zone AE, AO, AH, VE, AR*
  - Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD
  - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
  - Future Conditions 1% Annual Chance Flood Hazard *Zone X*
  - Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
  - Area with Flood Risk due to Levee *Zone D*
- OTHER AREAS
  - NO SCREEN Area of Minimal Flood Hazard *Zone X*
  - Effective LOMRs
  - Area of Undetermined Flood Hazard *Zone D*
- GENERAL STRUCTURES
  - Channel, Culvert, or Storm Sewer
  - Levee, Dike, or Floodwall
- OTHER FEATURES
  - 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
  - Coastal Transect
  - Base Flood Elevation Line (BFE)
  - Limit of Study
  - Jurisdiction Boundary
  - Coastal Transect Baseline
  - Profile Baseline
  - Hydrographic Feature
- MAP PANELS
  - Digital Data Available
  - No Digital Data Available
  - Unmapped

N

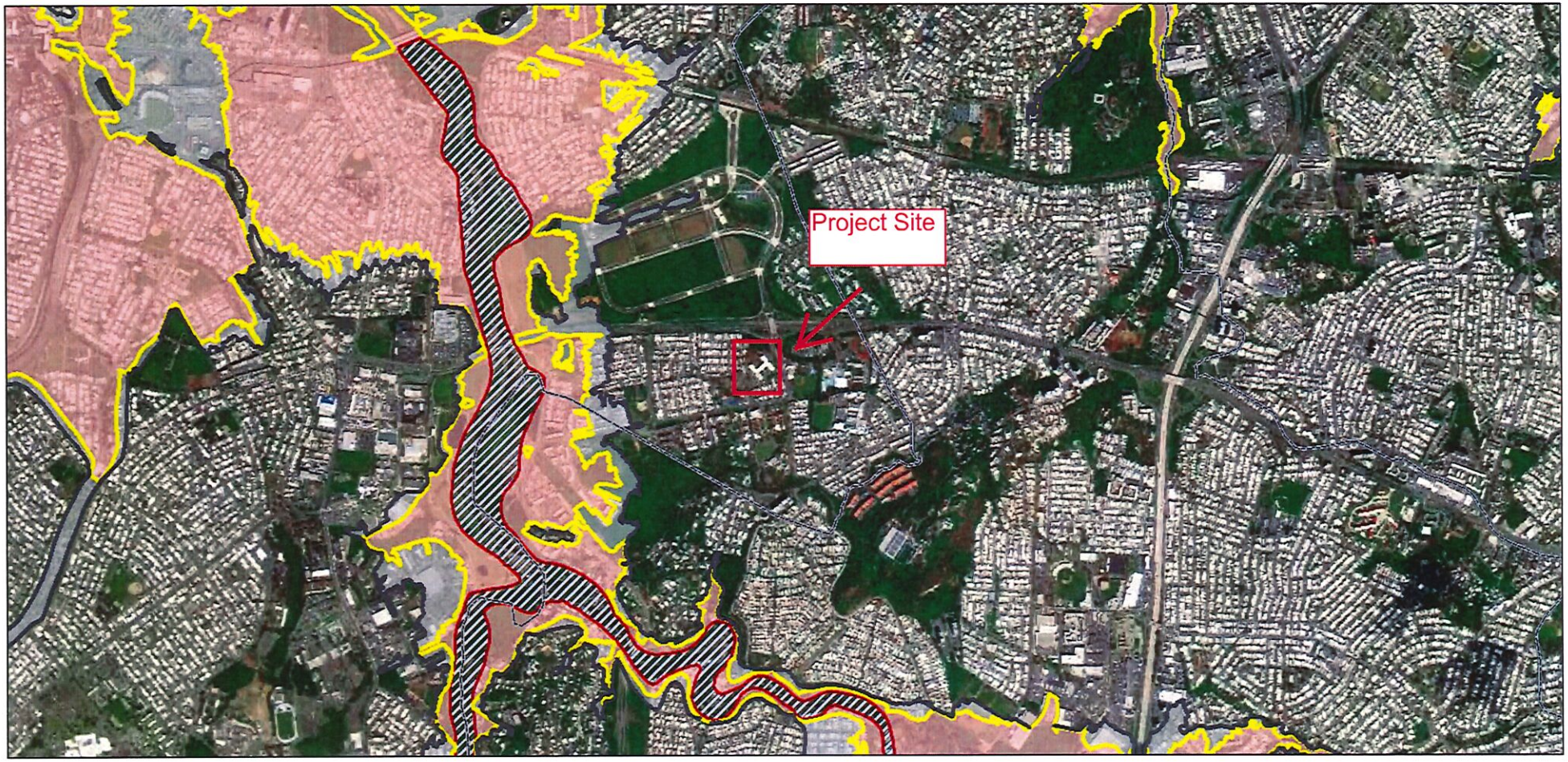
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/10/2020 at 1:39:14 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas can[illegible]e used for regulatory purposes.

Puerto Rico Advisory Base Flood Elevation Data Review



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Flood Hazard Zone
- A
- AO
- AE
- Coastal A Zone
- VE
- X 0.2% Annual Chance Flood
- A-Floodway
- AE-Floodway
- Coastal A Zone and Floodway
- Floodway
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood
- Limit of Moderate Wave Action (LiMWA)
- Municipios

1:18,056

0 0.2 0.4 0.8 mi

0 0.33 0.65 1.3 km

FEMA, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FEMA DR-4339-PR
FEMA | GeoEye, Maxar, CNES/Airbus DS |

Appendix E Precipitation Data

NOAA Atlas 14, Volume 3, Version 4
Location name: Juan Sánchez, Puerto Rico, PRI*
Latitude: 18.383°, Longitude: -66.1252°
Elevation: 107.95 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	
5-min	0.386 (0.378-0.429)	0.496 (0.467-0.531)	0.563 (0.529-0.602)	0.614 (0.576-0.658)	0.678 (0.634-0.727)	0.726 (0.677-0.781)	0.770 (0.716-0.833)	0.814 (0.754-0.885)	0.872 (0.800-0.953)	(0.8
10-min	0.528 (0.516-0.586)	0.678 (0.638-0.726)	0.769 (0.723-0.822)	0.839 (0.787-0.899)	0.927 (0.866-0.994)	0.992 (0.925-1.07)	1.05 (0.978-1.14)	1.11 (1.03-1.21)	1.19 (1.09-1.30)	(1.
15-min	0.678 (0.663-0.752)	0.870 (0.819-0.931)	0.987 (0.927-1.06)	1.08 (1.01-1.15)	1.19 (1.11-1.27)	1.27 (1.19-1.37)	1.35 (1.26-1.46)	1.43 (1.32-1.55)	1.53 (1.40-1.67)	(1.
30-min	1.09 (1.06-1.20)	1.39 (1.31-1.49)	1.58 (1.49-1.69)	1.72 (1.62-1.85)	1.91 (1.78-2.04)	2.04 (1.90-2.19)	2.16 (2.01-2.34)	2.29 (2.12-2.49)	2.45 (2.25-2.68)	(2.
60-min	1.61 (1.57-1.79)	2.07 (1.95-2.21)	2.35 (2.20-2.51)	2.56 (2.40-2.74)	2.83 (2.64-3.03)	3.03 (2.82-3.25)	3.21 (2.98-3.47)	3.39 (3.14-3.69)	3.63 (3.34-3.97)	(3.
2-hr	2.05 (2.01-2.32)	2.69 (2.52-2.90)	3.16 (2.94-3.41)	3.52 (3.27-3.80)	3.98 (3.67-4.31)	4.33 (3.98-4.71)	4.66 (4.26-5.11)	5.00 (4.54-5.53)	5.45 (4.90-6.07)	(5.
3-hr	2.35 (2.17-2.56)	2.95 (2.73-3.22)	3.54 (3.27-3.87)	4.00 (3.68-4.38)	4.59 (4.19-5.04)	5.05 (4.59-5.57)	5.50 (4.96-6.11)	5.97 (5.34-6.68)	6.59 (5.82-7.43)	(6.
6-hr	2.84 (2.58-3.16)	3.64 (3.31-4.04)	4.59 (4.15-5.11)	5.33 (4.80-5.94)	6.31 (5.63-7.06)	7.09 (6.28-7.98)	7.87 (6.90-8.91)	8.68 (7.54-9.93)	9.79 (8.40-11.3)	(9.
12-hr	3.29 (2.93-3.72)	4.27 (3.81-4.84)	5.63 (4.99-6.39)	6.73 (5.92-7.65)	8.24 (7.16-9.40)	9.47 (8.14-10.9)	10.7 (9.12-12.4)	12.1 (10.1-14.1)	14.0 (11.5-16.5)	(12
24-hr	3.88 (3.46-4.37)	5.06 (4.53-5.71)	6.80 (6.05-7.68)	8.23 (7.29-9.30)	10.3 (9.00-11.6)	11.9 (10.4-13.5)	13.7 (11.8-15.5)	15.6 (13.3-17.7)	18.2 (15.4-20.8)	(17
2-day	4.61 (4.07-5.24)	6.03 (5.32-6.86)	8.12 (7.16-9.22)	9.85 (8.65-11.2)	12.3 (10.7-14.0)	14.3 (12.3-16.3)	16.4 (14.0-18.8)	18.7 (15.8-21.4)	21.9 (18.3-25.3)	(20
3-day	4.85 (4.30-5.50)	6.33 (5.61-7.19)	8.54 (7.55-9.65)	10.4 (9.12-11.7)	12.9 (11.3-14.6)	15.0 (13.0-17.1)	17.3 (14.8-19.7)	19.7 (16.7-22.5)	23.1 (19.3-26.5)	(21
4-day	5.09 (4.52-5.76)	6.64 (5.91-7.52)	8.95 (7.93-10.1)	10.9 (9.59-12.2)	13.6 (11.9-15.3)	15.8 (13.7-17.8)	18.1 (15.6-20.6)	20.7 (17.6-23.5)	24.2 (20.4-27.8)	(22
7-day	6.11 (5.49-6.85)	7.91 (7.09-8.88)	10.4 (9.32-11.7)	12.5 (11.1-14.0)	15.5 (13.7-17.3)	17.9 (15.7-20.1)	20.5 (17.8-23.1)	23.2 (20.0-26.4)	27.1 (23.1-31.0)	(25
10-day	7.11 (6.43-7.90)	9.12 (8.24-10.1)	11.7 (10.5-13.0)	13.8 (12.4-15.4)	16.8 (15.0-18.7)	19.3 (17.0-21.5)	21.8 (19.1-24.5)	24.6 (21.4-27.7)	28.5 (24.5-32.3)	(27
20-day	10.1 (9.19-11.1)	12.7 (11.6-14.0)	15.6 (14.2-17.2)	18.0 (16.3-19.8)	21.3 (19.2-23.5)	23.9 (21.4-26.4)	26.6 (23.7-29.5)	29.5 (26.0-32.8)	33.4 (29.2-37.4)	(31
30-day	13.0 (12.0-14.1)	16.3 (15.0-17.7)	19.5 (18.0-21.2)	22.1 (20.3-24.0)	25.6 (23.4-27.9)	28.4 (25.8-31.0)	31.1 (28.2-34.1)	34.0 (30.6-37.3)	37.9 (33.9-41.9)	(36
45-day	16.2 (15.0-17.5)	20.2 (18.7-21.9)	23.9 (22.1-25.9)	26.9 (24.8-29.2)	30.9 (28.4-33.7)	34.1 (31.1-37.2)	37.2 (33.8-40.7)	40.5 (36.5-44.4)	44.8 (40.1-49.4)	(43
60-day	19.3 (17.9-20.8)	23.9 (22.2-25.9)	27.9 (25.9-30.1)	31.1 (28.8-33.6)	35.4 (32.5-38.2)	38.7 (35.4-41.8)	41.9 (38.2-45.5)	45.2 (41.1-49.2)	49.6 (44.8-54.3)	(47

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estima given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds a checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
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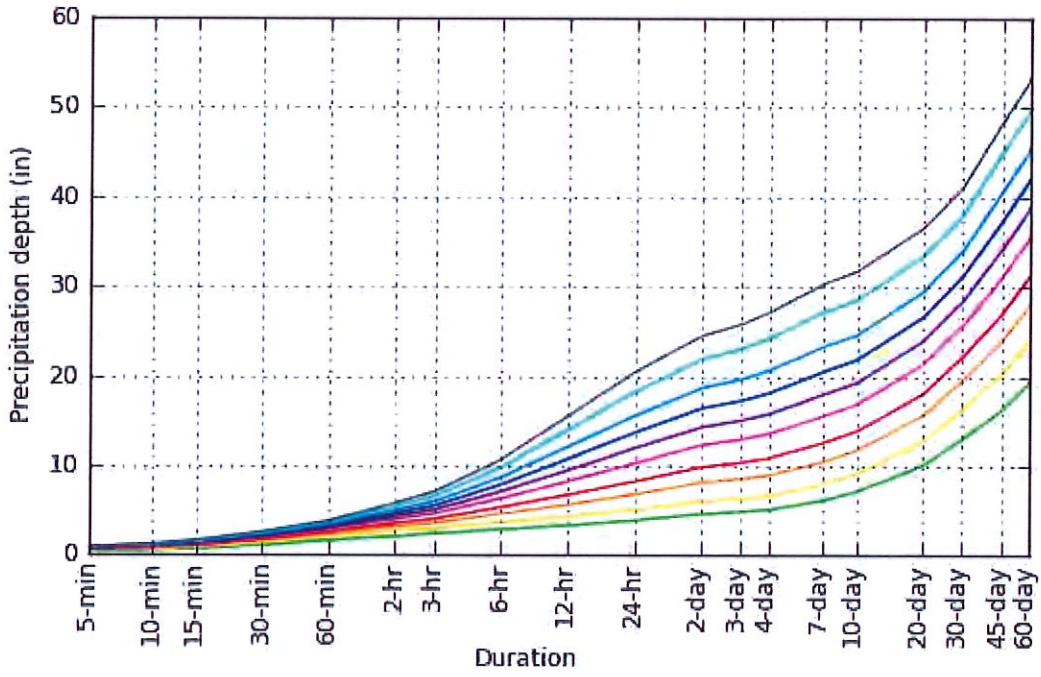

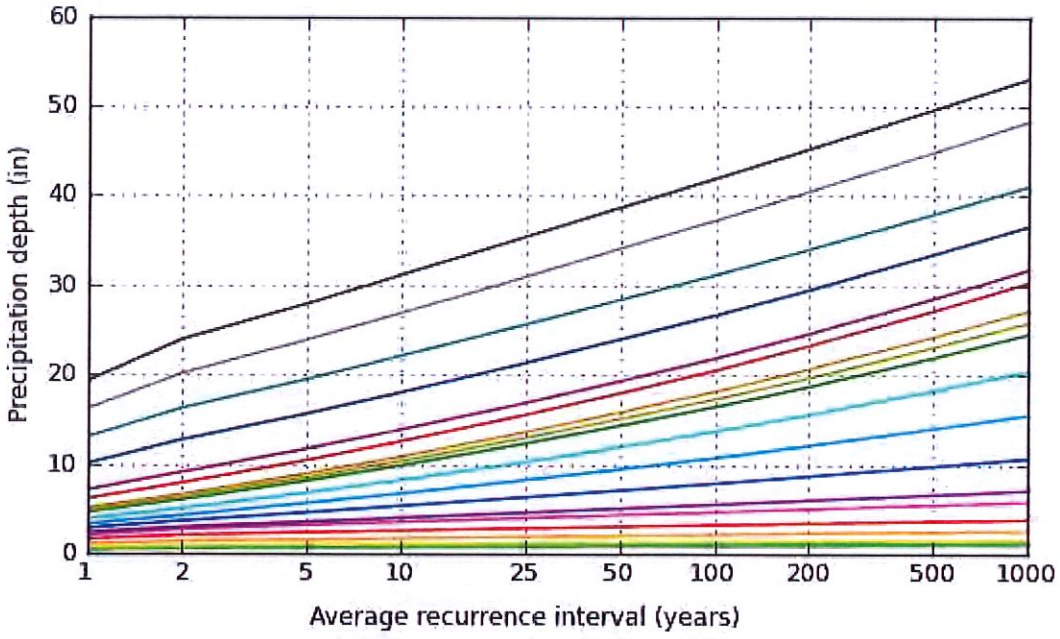

NOAA Atlas 14, Volume 3, Version 4

Created (GMT): Wed Jun 10 17:39:54 2020

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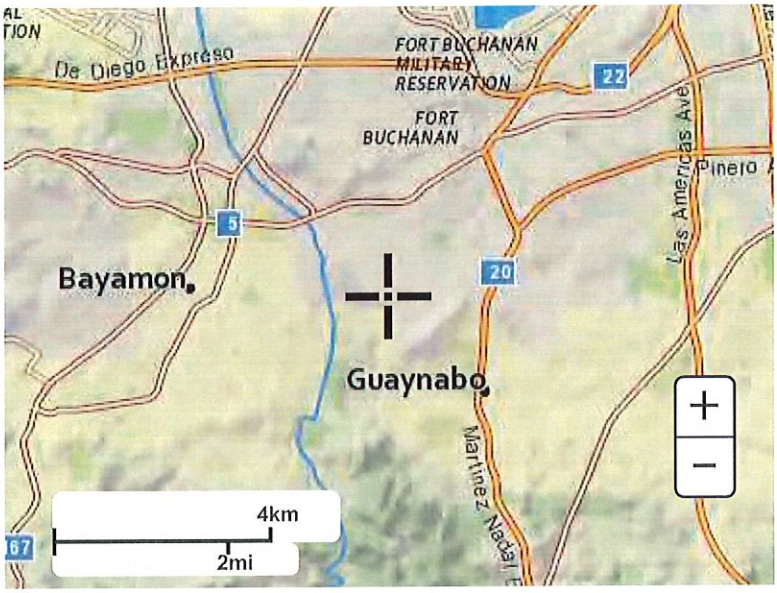
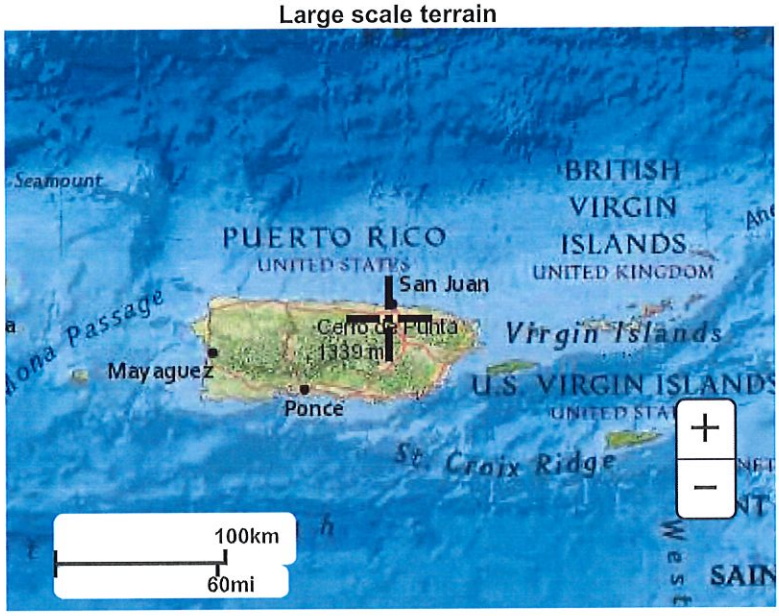
Maps & aerials

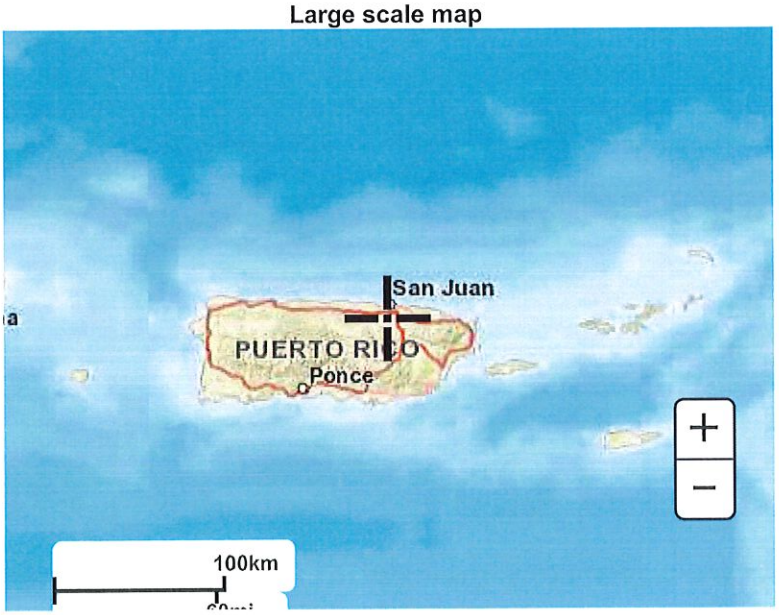
Small scale terrain



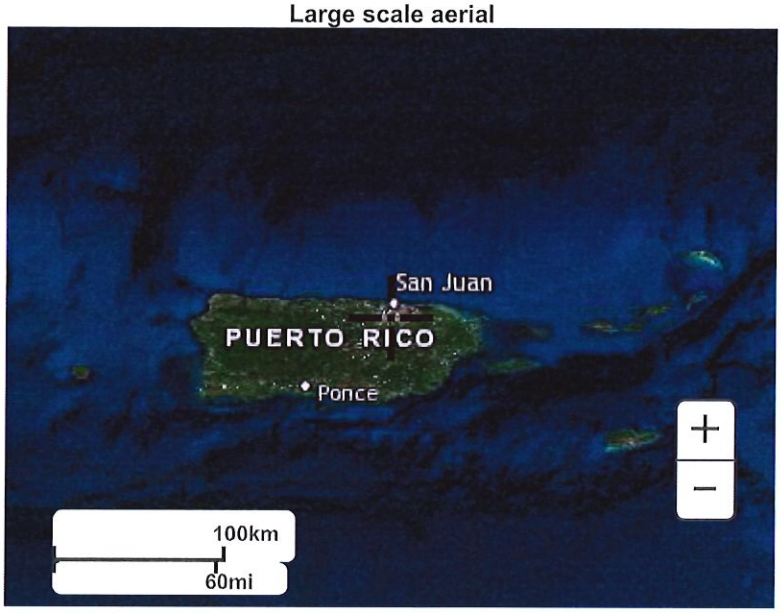
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix F Watershed Map for Pre and Post Development Conditions



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:2,000

50 25 0 50 Meters



Watershed Map

Casa Linda, Bayamon, PR

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Date: 6/22/2020

PMG AND ASSOCIATES

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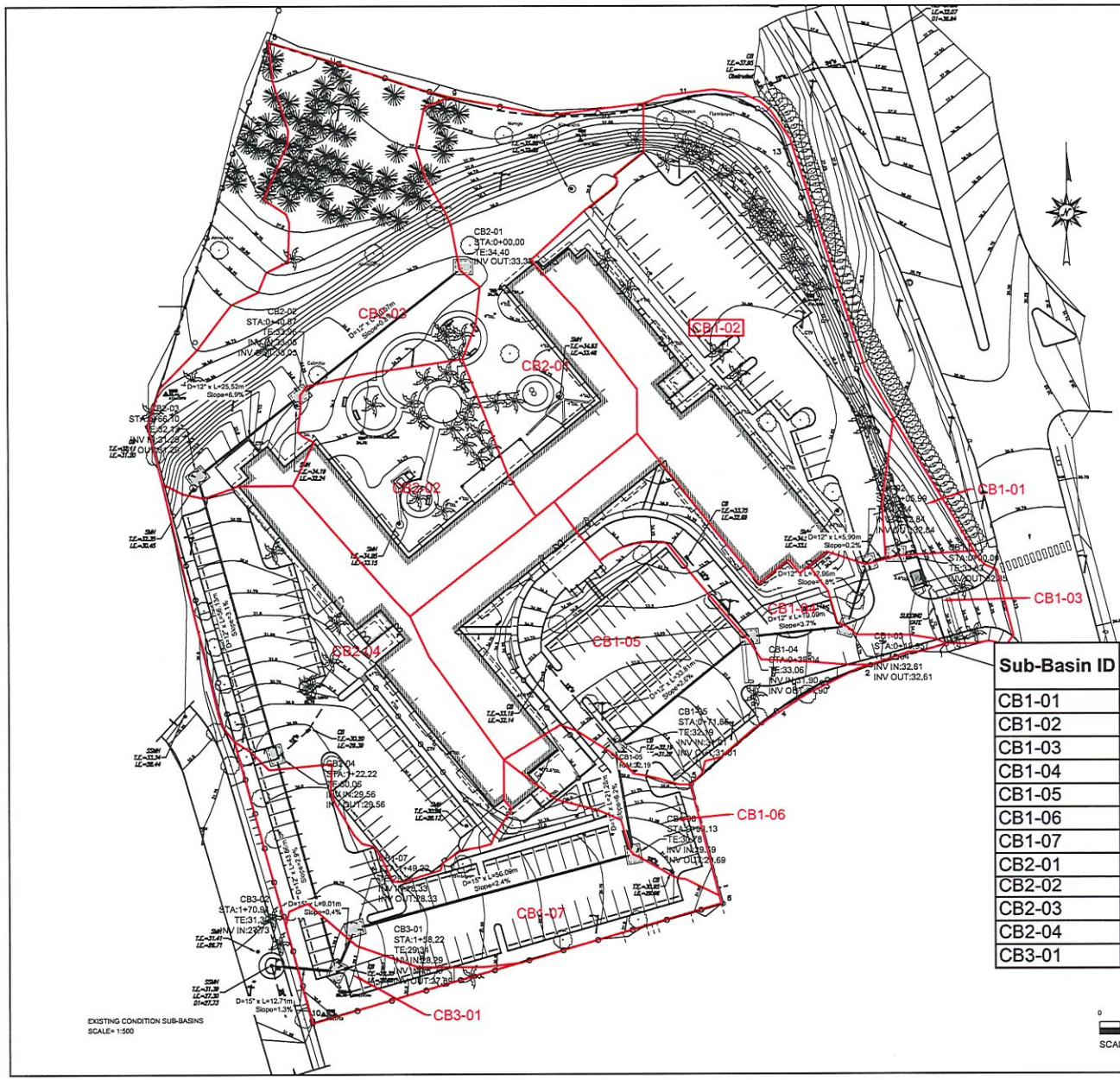
CB1-01
CB1-02
CB1-03
CB1-04
CB1-05
CB1-06
CB2-01
CB2-02
CB2-03
CB2-04
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CB3-02
CB1-07
CB2-05
CB2-06
CB2-07
CB3-03
CB1-08
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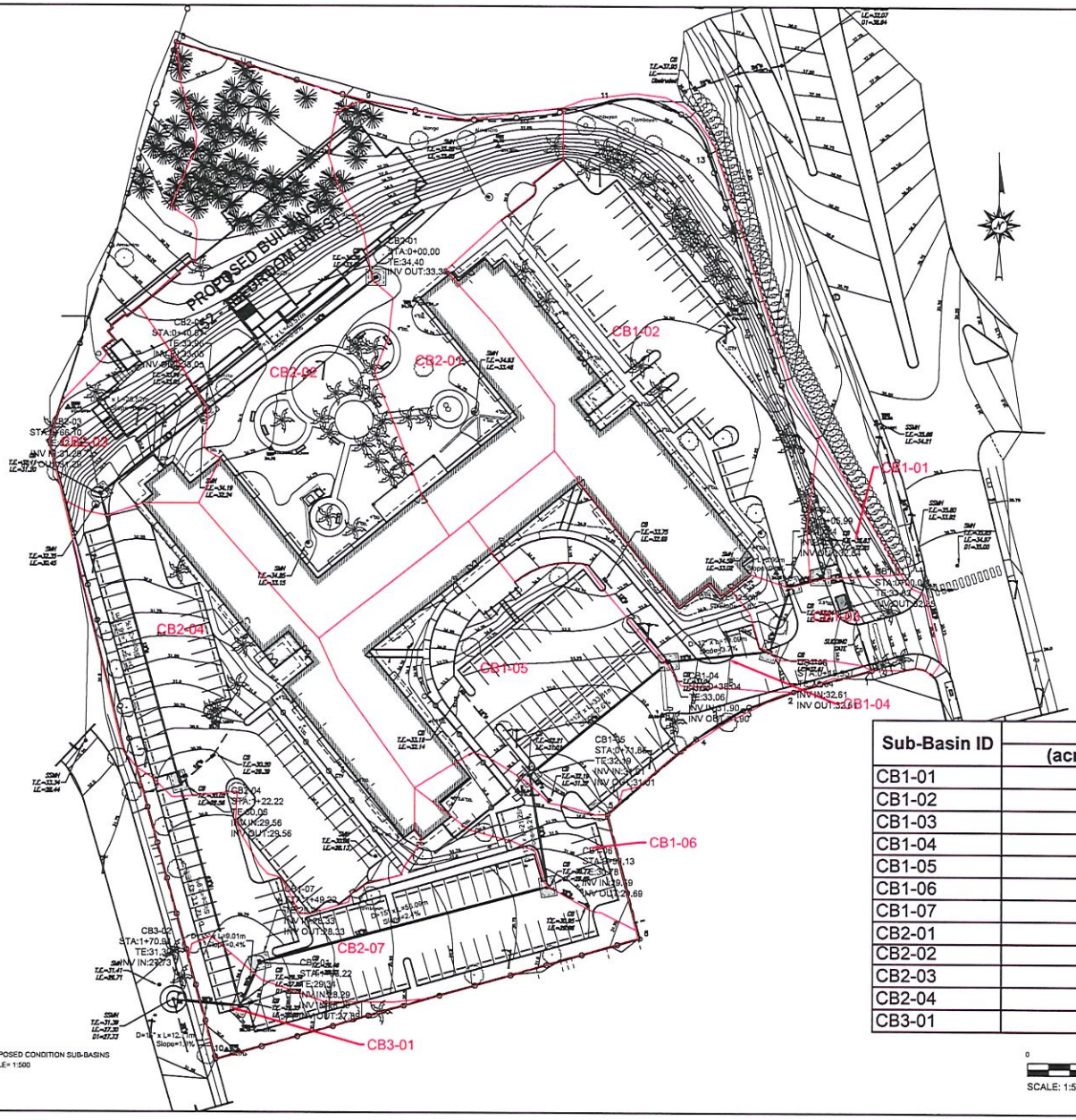
CB1-47



Sub-Basin ID	Area (acres)	Area ha	Tc (min)	CN
CB1-01	0.06	0.02	0.7	96.0
CB1-02	0.06	0.39	2.9	81.4
CB1-03	0.13	0.05	1.7	95.6
CB1-04	0.23	0.09	1.4	96.0
CB1-05	0.60	0.24	1.5	96.0
CB1-06	0.13	0.05	1.2	96.0
CB1-07	0.48	0.19	2.9	96.0
CB2-01	0.51	0.21	1.2	79.0
CB2-02	0.87	0.35	2.3	68.5
CB2-03	0.20	0.08	1.4	72.0
CB2-04	0.68	0.27	1.5	96.0
CB3-01	0.09	0.03	1.3	95.4

0 25 m 50 m
SCALE: 1:500

CERTIFICO QUE SO Y EL PROFESIONAL QUE CONFECCIONO, Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA OOPE.

PMG AND ASSOCIATES
#12 ACOSTA CAGUAS PR 00726
787.643.4761 INFO@PMGGROUPLLC.COM

HYDROLOGIC AND HYDRAULIC STUDY
CASA LINDA APARTMENTS
NORTH AVENUE, BAYAMON, PUERTO RICO

PLOT DATE AND TIME 5/22/2020 10:15 AM

NO.	REVISION	DATE
0		00/00/2020

SCALE: AS NOTED

CHECK BY: P.GARCIA
DRAW BY: N.TORRES

PREPARED FOR: ADD OWNER

PAGE TITLE: PROPOSED CONDITION SUB-BASINS

SHEET: *Appendix F*

FILE:M:\11232-Finca-Sueno-Aurora\DWG\ORIG\32301_PC-Basins.dwg

Appendix G Land Cover Map for Pre and Post Developed Conditions



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:2,000

50 25 0 50 Meters



Landcover Map

Casa Linda, Bayamon, PR

N
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S

Date: 6/22/2020

PMG AND ASSOCIATES

Document Path: ...32301-Casa-Linda\GIS\MXD\32301_LC.MAP_R00.mxd



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

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Landcover Map

Casa Linda, Bayamon, PR

N W E S

Date: 6/22/2020

PMG AND ASSOCIATES

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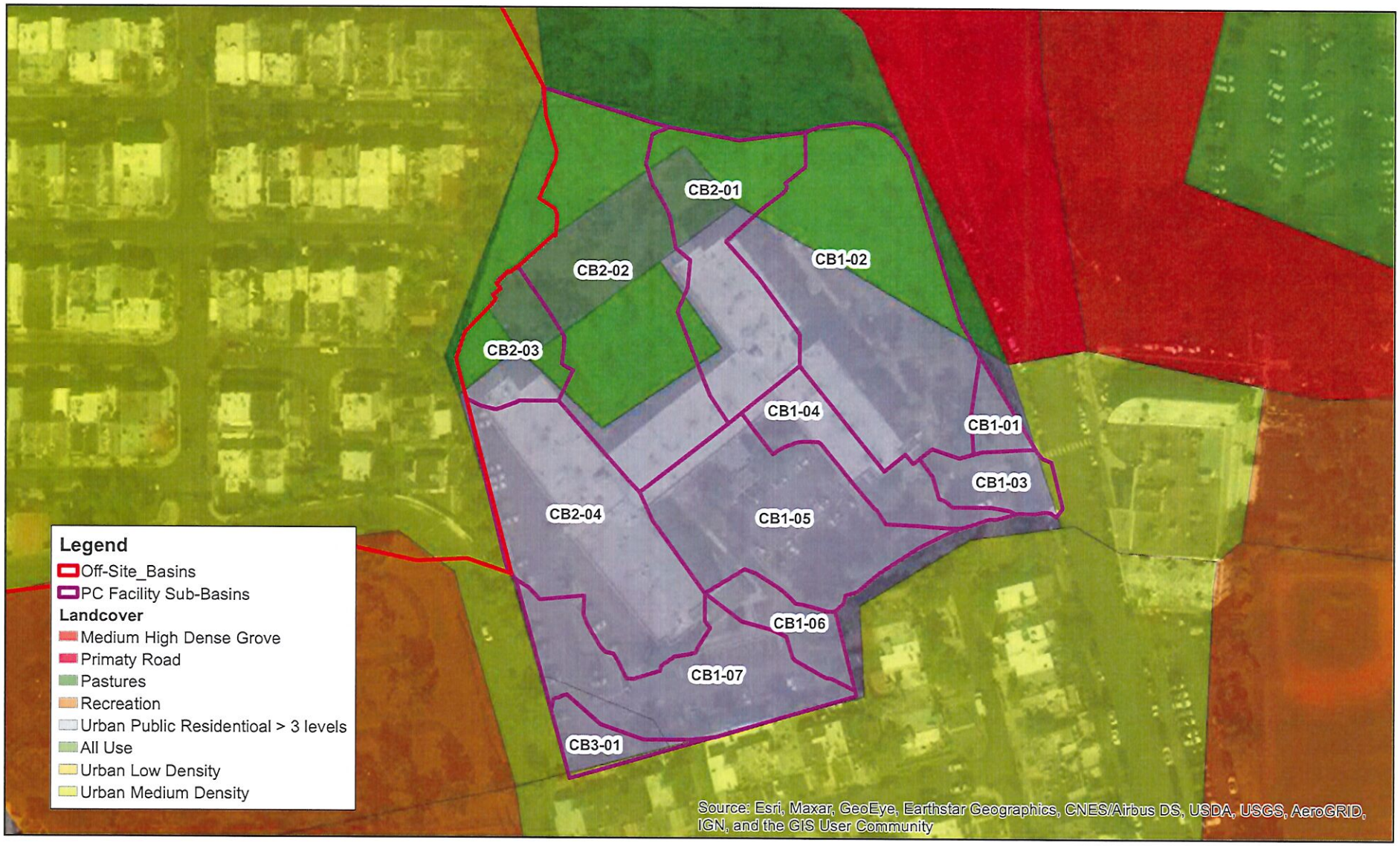

Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

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Propose Condition Land Cover Map

Casa Linda, Bayamon, PR

N W E S

Date: 6/22/2020

PMG AND ASSOCIATES

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Appendix H Soil Map



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

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50 25 0 50 Meters



Soil Map

Casa Linda, Bayamon, PR

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Date: 6/22/2020

PMG AND ASSOCIATES

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Appendix I Hydrologic Data Calculation Sheets

Hydrology Post
Sub-basin Basin Out
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	10.86	acr	4.39	ha
Total Flow Length	450.00	m	1476.00	ft
Average Watershed Slope	4.15%			
Time of Concentration	14.95	min	0.25	hr
CN	90.00	AMC2	93.5	AMC3

Hydrology Post
Sub-basin CB1-01
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	0.06	acr	0.02	ha
Total Flow Length	18.87	m	61.89	ft
Average Watershed Slope	1.00%			
Time of Concentration	1.82	min	0.03	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology Post
Sub-basin CB1-02
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	0.97	acr	0.39	ha
Total Flow Length	107.00	m	350.96	ft
Average Watershed Slope	7.00%			
Time of Concentration	4.97	min	0.08	hr
CN	81.41	AMC2	87.62	AMC3

Hydrology	Post
Sub-basin	CB1-03
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.13	acr	0.05	ha
Total Flow Length	40.00	m	131.20	ft
Average Watershed Slope	1.50%			
Time of Concentration	2.78	min	0.05	hr
CN	95.55	AMC2	97.15	AMC3

Hydrology	Post
Sub-basin	CB1-04
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.23	acr	0.09	ha
Total Flow Length	44.80	m	146.94	ft
Average Watershed Slope	1.20%			
Time of Concentration	3.32	min	0.06	hr
CN	96.00	AMC2	97.4	AMC3

Hydrology	Post
Sub-basin	CB1-05
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.60	acr	0.24	ha
Total Flow Length	48.06	m	157.64	ft
Average Watershed Slope	2.75%			
Time of Concentration	2.32	min	0.04	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB1-06
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.13	acr	0.05	ha
Total Flow Length	31.71	m	104.01	ft
Average Watershed Slope	2.25%			
Time of Concentration	1.84	min	0.03	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB1-07
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.48	acr	0.19	ha
Total Flow Length	80.00	m	262.40	ft
Average Watershed Slope	1.65%			
Time of Concentration	4.50	min	0.08	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB2-01
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.51	acr	0.21	ha
Total Flow Length	47.00	m	154.16	ft
Average Watershed Slope	6.00%			
Time of Concentration	3.00	min	0.05	hr
CN	78.96	AMC2	85.89	AMC3

Hydrology Post
Sub-basin CB2-02
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.87	acr	0.35	ha
Total Flow Length		79.20	m	259.78	ft
Average Watershed Slope		6.50%			
Time of Concentration		4.59	min	0.08	hr
CN		77.41	AMC2	84.8	AMC3

Hydrology Post
Sub-basin CB2-03
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.20	acr	0.08	ha
Total Flow Length		42.00	m	137.76	ft
Average Watershed Slope		6.50%			
Time of Concentration		3.90	min	0.06	hr
CN		64.89	AMC2	75.33	AMC3

Hydrology Post
Sub-basin CB2-04
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.68	acr	0.28	ha
Total Flow Length		54.06	m	177.32	ft
Average Watershed Slope		4.75%			
Time of Concentration		1.94	min	0.03	hr
CN		95.99	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB3-01
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area		0.09	acr	0.03	ha
Total Flow Length		29.80	m	97.77	ft
Average Watershed Slope		4.75%			
Time of Concentration		2.21	min	0.04	hr
CN		95.39	AMC2	97.05	AMC3

CN Calculation Sheets (Pre-developed Condition)

Basin Out

Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	158.44	9664.55
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	56.24	5398.90
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	43272.00	3894480.00
RpD2	Rio Piedras clay	B	Urbano Mediana Densidad	90	31.35	2821.71
RpE2	Rio Piedras clay	B	Pastos	61	563.74	34387.95
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	7.71	693.96
				Total	43931.04	3937782.51
				CN	89.64	

Basin	CB1-01					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	248.41	15153.05
				Total	248.41	15153.05
				CN	61.00	

Basin	CB1-02					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	1613.44	98419.93
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2277.72	218661.57
RpE2	Rio Piedras clay	B	Pastos	61	15.54	948.08
				Total	3906.71	318029.58
				CN	81.41	

Basin	CB1-03					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	502.70	48258.90
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	40.70	3663.13
				Total	543.40	51922.03
				CN	95.55	

Basin	CB1-04					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	921.70	88482.98
				Total	921.70	88482.98
				CN	96.00	176965.97

Basin	CB1-05					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	9.08	872.02
				Total	9.08	872.02
				CN	96.00	1744.03

Basin	CB1-06					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2496.67	239680.08
				Total	2496.67	239680.08
				CN	96.00	479360.17

Basin	CB1-07					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	1765.07	169446.96
RpD2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	183.10	17577.14
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	6.32	569.00
				Total	1954.49	187593.10
				CN	95.98	

Basin	#REF!					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	999.18	60949.84
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	1053.06	101093.88
				Total	2052.24	162043.72
				CN	78.96	

Basin	CB2-02					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	784.35	47845.46
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	692.45	66475.34
				Total	1476.80	114320.80
				CN	77.41	

Basin	CB2-03					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	2496.67	152296.72
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	311.61	29914.16
RpE2	Rio Piedras clay	B	Pastos	61	0.54	32.88
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	0.89	80.30
				Total	2809.70	182324.06
				CN	64.89	

Basin	CB2-04					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2746.41	263654.96
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	5.07	456.13
				Total	2751.47	264111.09
				CN	95.99	

Basin	CB3-01					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	9.08	872.02
RpD2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	311.80	29932.96
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	6.97	627.27
RpD2	Rio Piedras clay	B	Urbano Mediana Densidad	90	35.16	3164.18
				Total	363.01	34596.42
				CN	95.30	

Hydrology Post
Sub-basin Basin Out
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	10.86	acr	4.39	ha
Total Flow Length	450.00	m	1476.00	ft
Average Watershed Slope	4.15%			
Time of Concentration	14.95	min	0.25	hr
CN	90.00	AMC2	93.5	AMC3

Hydrology Post
Sub-basin CB1-01
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	0.06	acr	0.02	ha
Total Flow Length	18.87	m	61.89	ft
Average Watershed Slope	1.00%			
Time of Concentration	1.82	min	0.03	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology Post
Sub-basin CB1-02
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area	0.97	acr	0.39	ha
Total Flow Length	107.00	m	350.96	ft
Average Watershed Slope	7.00%			
Time of Concentration	4.97	min	0.08	hr
CN	81.41	AMC2	87.62	AMC3

Hydrology	Post
Sub-basin	CB1-03
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.13	acr	0.05	ha
Total Flow Length	40.00	m	131.20	ft
Average Watershed Slope	1.50%			
Time of Concentration	2.78	min	0.05	hr
CN	95.55	AMC2	97.15	AMC3

Hydrology	Post
Sub-basin	CB1-04
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.23	acr	0.09	ha
Total Flow Length	44.80	m	146.94	ft
Average Watershed Slope	1.20%			
Time of Concentration	3.32	min	0.06	hr
CN	96.00	AMC2	97.4	AMC3

Hydrology	Post
Sub-basin	CB1-05
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.60	acr	0.24	ha
Total Flow Length	48.06	m	157.64	ft
Average Watershed Slope	2.75%			
Time of Concentration	2.32	min	0.04	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB1-06
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.13	acr	0.05	ha
Total Flow Length	31.71	m	104.01	ft
Average Watershed Slope	2.25%			
Time of Concentration	1.84	min	0.03	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB1-07
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.48	acr	0.19	ha
Total Flow Length	80.00	m	262.40	ft
Average Watershed Slope	1.65%			
Time of Concentration	4.50	min	0.08	hr
CN	96.00	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB2-01
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area	0.51	acr	0.21	ha
Total Flow Length	47.00	m	154.16	ft
Average Watershed Slope	6.00%			
Time of Concentration	3.00	min	0.05	hr
CN	78.96	AMC2	85.89	AMC3

Hydrology Post
Sub-basin CB2-02
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.87	acr	0.35	ha
Total Flow Length		79.20	m	259.78	ft
Average Watershed Slope		6.50%			
Time of Concentration		4.59	min	0.08	hr
CN		77.41	AMC2	84.8	AMC3

Hydrology Post
Sub-basin CB2-03
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.20	acr	0.08	ha
Total Flow Length		42.00	m	137.76	ft
Average Watershed Slope		6.50%			
Time of Concentration		3.90	min	0.06	hr
CN		64.89	AMC2	75.33	AMC3

Hydrology Post
Sub-basin CB2-04
Project Casa Linda
Location Bayamon
Date: 2-Jun-20

Area		0.68	acr	0.28	ha
Total Flow Length		54.06	m	177.32	ft
Average Watershed Slope		4.75%			
Time of Concentration		1.94	min	0.03	hr
CN		95.99	AMC2	97.44	AMC3

Hydrology	Post
Sub-basin	CB3-01
Project	Casa Linda
Location	Bayamon
Date:	2-Jun-20

Area		0.09	acr	0.03	ha
Total Flow Length		29.80	m	97.77	ft
Average Watershed Slope		4.75%			
Time of Concentration		2.21	min	0.04	hr
CN		95.39	AMC2	97.05	AMC3

CN Calculation Sheets (Post-developed Condition)

Basin Out

Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	56.24	5398.90
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	43272.00	3894480.00
RpD2	Rio Piedras clay	B	Urbano Mediana Densidad	90	31.35	2821.71
RpE2	Rio Piedras clay	B	Pastos	61	523.76	31949.26
				Total	43883.35	3934649.87
				CN	89.66	

Basin	CB1-01					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
CB1-01	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	248.41	23847.43
				Total	248.41	23847.43
				CN	96.00	

Basin	CB1-02					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	1613.44	98419.93
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2277.72	218661.57
RpE2	Rio Piedras clay	B	Pastos	61	15.54	948.08
				Total	3906.71	318029.58
				CN	81.41	

Basin	CB1-03					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	502.70	48258.91
RpE2	Rio Piedras clay	B	Urbano Mediana Densidad	90	40.70	3663.13
				Total	543.40	51922.04
				CN	95.55	

Basin	CB1-04					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	921.70	88482.99
				Total	921.70	88482.99
				CN	96.00	176965.98

Basin	CB1-05					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2421.70	232482.88
				Total	2421.70	232482.88
				CN	96.00	464965.76

Basin	CB1-06					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	523.67	50272.41
				Total	523.67	50272.41
				CN	96.00	100544.82

Basin	CB1-07					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	1765.07	169446.92
RpD2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	183.10	17577.19
				Total	1948.17	187024.11
				CN	96.00	

Basin	CB2-01					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	651.80	39759.85
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	1053.06	101093.90
RpE2	Rio Piedras clay	B	Pastos	61	347.38	21190.02
				Total	2052.24	162043.77
				CN	78.96	

Basin	CB2-02					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	1789.70	109171.76
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	748.57	71862.38
RpE2	Rio Piedras clay	B	Pastos	61	970.55	59203.76
				Total	3508.82	240237.90
				CN	68.47	

Basin	CB2-03					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Pastos	61	289.10	17635.00
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	255.34	24512.65
RpE2	Rio Piedras clay	B	Pastos	61	267.87	16339.78
				Total	812.30	58487.42
				CN	72.00	

Basin	CB2-04					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpE2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	2746.41	263654.89
				Total	2746.41	263654.89
				CN	96.00	

Basin	CB3-01					
Soil Type	Serie	Hydrologic Group	Land Cover	CN	Area (m^2)	CN X Area
RpD2	Rio Piedras clay	B	Residencial Publico Urbano > 3pis	96	311.80	29932.90
RpD2	Rio Piedras clay	B	Urbano Mediana Densidad	90	35.16	3164.18
				Total	346.96	33097.08
				CN	95.39	

Appendix J Hydrologic Model SitePlan



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:1,500

30 15 0 30 Meters



ICPR_Model Configuration Map

Casa Linda, Bayamon, PR

N W E S

Date: 6/10/2020

PMG AND ASSOCIATES

Document Path: M:\32301-Casa-Linda\GIS\MXD\32301_ICPR.MAP_R00.mxd

Appendix K ICPR Input & Output Report

==========
==== Basins ====
==========

Name: CB1-01 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.062 Time Shift(hrs): 0.00
Curve Number: 61.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-02 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.966 Time Shift(hrs): 0.00
Curve Number: 81.41 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-03 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.133 Time Shift(hrs): 0.00
Curve Number: 95.55 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-04 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.227 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-05 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.598 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-06 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.128 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

```
-----------------------------------------------------------------------------------------------
        Name: CB1-07                  Node: Node-1                 Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.482                 Time Shift(hrs): 0.00
          Curve Number: 95.98            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB2-01                  Node: Node-1                 Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.509                 Time Shift(hrs): 0.00
          Curve Number: 78.96            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB2-02                  Node: Node-1                 Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.366                 Time Shift(hrs): 0.00
          Curve Number: 77.41            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB2-03                  Node: Node-1                 Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.694                 Time Shift(hrs): 0.00
          Curve Number: 64.89            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB2-04                  Node: Node-1                 Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.680                 Time Shift(hrs): 0.00
          Curve Number: 96.00            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB2-05                  Node: MH-1                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 5.00
             Area(ac): 0.143                 Time Shift(hrs): 0.00
          Curve Number: 61.39            Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: CB3-01                  Node: Node-1                 Status: Onsite
```

Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.089 Time Shift(hrs): 0.00
Curve Number: 95.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Outsite Node: MH-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 12.87
Area(ac): 19.007 Time Shift(hrs): 0.00
Curve Number: 87.03 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==========

==== Nodes ==========

==========

Name: Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: MH-1 Base Flow(cfs): 0.000 Init Stage(ft): 89.567
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: Node-1 Base Flow(cfs): 0.000 Init Stage(ft): 91.503
Group: BASE Warn Stage(ft): 96.260
Type: Stage/Area

Stage(ft)	Area(ac)
91.503	0.0003
96.260	0.0003
96.785	0.0104
97.605	0.0586
98.425	0.1730
104.987	1.1490

Name: Node-3 Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	0.000
100.00	98.425

==========

==== Operating Tables ==========

==========

Name: Group: BASE
Type: Bottom Clip

Function: US Depth Above Invert vs. Depth of Clip

US Depth(ft)	Clip Depth(in)
0.00	0.00
1.50	1.50
12.00	1.50

==========

==== Pipes ====

==========

Name:	EX-SWS	From Node:	MH-1	Length(ft): 53.58
Group:	BASE	To Node:	Node-3	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Circular	Circular		Flow: Both
Span(in):	32.00	32.00		Entrance Loss Coef: 0.00
Rise(in):	32.00	32.00		Exit Loss Coef: 1.00
Invert(ft):	89.567	88.222		Bend Loss Coef: 0.00
Manning's N:	0.012000	0.012000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name:	Pipe-12	From Node:	Node-1	Length(ft): 41.70
Group:	BASE	To Node:	MH-1	Count: 1
				Friction Equation: Automatic
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Most Restrictive
Geometry:	Circular	Circular		Flow: Both
Span(in):	15.00	15.00		Entrance Loss Coef: 0.00
Rise(in):	15.00	15.00		Exit Loss Coef: 0.50
Invert(ft):	91.503	90.978		Bend Loss Coef: 0.50
Manning's N:	0.014000	0.014000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dc
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==========

==== Hydrology Simulations ====

==========

Name: 100-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 10.70

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 100-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 10.70

  me(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 100-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 3.21

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 100-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 3.21

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 100-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 7.87
```

```
Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------------
         Name: 100-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 7.87

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------------
```

Name: 10yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 8.23

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 10yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 8.23

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 10yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 5.33

e(hrs)	Print Inc(min)
6.000	10.00

Name: 10yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 5.33

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 25yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 8.24

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.R32

Override Defaults: Yes

```
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 8.24

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.83

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.83

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 10.30

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 10.30

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 6.31

Time(hrs)       Print Inc(min)
--------------- ---------------
```

6.000 10.00

Name: 25yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 6.31

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 2yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 4.27

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 2yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 4.27

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 2yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 2.07

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 2yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 2.07

Time(hrs)	Print Inc(min)
.000	5.00

Name: 2yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 5.06

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 5.06

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 50-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 9.47

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 50-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 9.47
```

Time(hrs) Print Inc(min)
---------- ----------
12.000 15.00

Name: 50-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 3.03

Time(hrs) Print Inc(min)
---------- ----------
1.000 5.00

Name: 50-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 3.03

Time(hrs) Print Inc(min)
---------- ----------
1.000 5.00

Name: 50-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 11.90

Time(hrs) Print Inc(min)
---------- ----------
24.000 15.00

Name: 50-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 11.90

Time(hrs) Print Inc(min)
---------- ----------
24.000 15.00

Name: 50-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 7.09

Time(hrs) Print Inc(min)
---------- ----------
6.000 10.00

```
         Name: 50-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
   Rainfall Amount(in): 7.09

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
   Rainfall Amount(in): 5.63

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
   Rainfall Amount(in): 5.63

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
   Rainfall Amount(in): 2.35

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
   Rainfall Amount(in): 2.35

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.R32


      Override Defaults: Yes
```

```
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 6.80

Time(hrs)       Print Inc(min)
--------------- ---------------
000             30.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 6.80

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

==============================================================================================
==== Routing Simulations ======================================================================
==============================================================================================

         Name: 100-12hr-10%        Hydrology Sim: 100-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.I32



      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
99.000          15.000

Group           Run
--------------- -----
BASE            Yes
```

Name: 100-12hr-90% Hydrology Sim: 100-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-1hr-10% Hydrology Sim: 100-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-1hr-90% Hydrology Sim: 100-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-24hr-10% Hydrology Sim: 100-24hr-10%

Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-24hr-90% Hydrology Sim: 100-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-6hr-10% Hydrology Sim: 100-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 100-6hr-90% Hydrology Sim: 100-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.I32

```
     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes
```

```
        Name: 10yr-12hr-10%       Hydrology Sim: 10yr-12hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes
```

```
        Name: 10yr-12hr-90%       Hydrology Sim: 10yr-12hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes
```

```
        Name: 10yr-1hr-10%        Hydrology Sim: 10yr-1hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No
```

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 10yr-1hr-90% Hydrology Sim: 10yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 10yr-24hr-10% Hydrology Sim: 10yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-24hr-90% Hydrology Sim: 10yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000

Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-6hr-10% Hydrology Sim: 10yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 10yr-6hr-90% Hydrology Sim: 10yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 25yr-12hr-10% Hydrology Sim: 25yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

oup	Run
BASE	Yes

Name: 25yr-12hr-90% Hydrology Sim: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-1hr-10% Hydrology Sim: 25yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 25yr-1hr-90% Hydrology Sim: 25yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 25yr-24hr-10% Hydrology Sim: 25yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-24hr-90% Hydrology Sim: 25yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-6hr-10% Hydrology Sim: 25yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 25yr-6hr-90% Hydrology Sim: 25yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-12hr-10% Hydrology Sim: 2yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 2yr-12hr-90% Hydrology Sim: 2yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run

BASE Yes

Name: 2yr-1hr-10% Hydrology Sim: 2yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-1hr-90% Hydrology Sim: 2yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-24hr-10% Hydrology Sim: 2yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-24hr-90% Hydrology Sim: 2yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-6hr-10% Hydrology Sim: 2yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-6hr-90% Hydrology Sim: 2yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 50-12hr-10% Hydrology Sim: 50-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.I32

```
     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 24.00
   Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-12hr-90%         Hydrology Sim: 50-12hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 24.00
   Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-1hr-10%          Hydrology Sim: 50-1hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                     End Time(hrs): 2.00
   Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-1hr-90%          Hydrology Sim: 50-1hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.I32
```

```
     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-10%         Hydrology Sim: 50-24hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-90%         Hydrology Sim: 50-24hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-6hr-10%          Hydrology Sim: 50-6hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No
```

```
        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 12.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
         Name: 50-6hr-90%          Hydrology Sim: 50-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.I32


      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 12.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
         Name: 5yr-12hr-10%        Hydrology Sim: 5yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.I32


      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
         Name: 5yr-12hr-90%        Hydrology Sim: 5yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.I32


      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
```

```
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
9.000           15.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-10%         Hydrology Sim: 5yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.I32


     Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-90%         Hydrology Sim: 5yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.I32


     Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
         Name: 5yr-24hr-10%        Hydrology Sim: 5yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.I32


     Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 5yr-24hr-90% Hydrology Sim: 5yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 5yr-6hr-10% Hydrology Sim: 5yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-6hr-90% Hydrology Sim: 5yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)

999.000	10.000

Group	Run
BASE	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100-12hr-10%	CB1-01	BASE	1.27	0.16	5.605	1257
100-12hr-10%	CB1-02	BASE	0.77	3.89	8.365	29338
100-12hr-10%	CB1-03	BASE	0.51	0.68	10.147	4915
100-12hr-10%	CB1-04	BASE	0.50	1.17	10.202	8419
100-12hr-10%	CB1-05	BASE	0.50	3.08	10.202	22146
100-12hr-10%	CB1-06	BASE	0.50	0.66	10.202	4759
100-12hr-10%	CB1-07	BASE	0.50	2.48	10.200	17841
100-12hr-10%	CB2-01	BASE	0.77	1.95	8.045	14866
100-12hr-10%	CB2-02	BASE	0.77	1.36	7.841	10409
100-12hr-10%	CB2-03	BASE	1.02	2.00	6.147	15494
100-12hr-10%	CB2-04	BASE	0.50	3.49	10.202	25166
100-12hr-10%	CB2-05	BASE	1.27	0.38	5.660	2945
100-12hr-10%	CB3-01	BASE	0.51	0.45	10.117	3267
100-12hr-10%	Outsite	BASE	0.80	82.50	9.086	626926
100-12hr-90%	CB1-01	BASE	12.00	0.18	5.604	1257
100-12hr-90%	CB1-02	BASE	12.00	3.24	8.364	29334
100-12hr-90%	CB1-03	BASE	12.00	0.46	10.146	4915
100-12hr-90%	CB1-04	BASE	12.00	0.79	10.201	8418
100-12hr-90%	CB1-05	BASE	12.00	2.07	10.201	22144
100-12hr-90%	CB1-06	BASE	12.00	0.45	10.201	4758
100-12hr-90%	CB1-07	BASE	12.00	1.67	10.199	17839
100-12hr-90%	CB2-01	BASE	12.00	1.69	8.044	14864
100-12hr-90%	CB2-02	BASE	12.00	1.20	7.840	10408
100-12hr-90%	CB2-03	BASE	12.00	2.09	6.146	15492
100-12hr-90%	CB2-04	BASE	12.00	2.36	10.201	25163
100-12hr-90%	CB2-05	BASE	12.00	0.42	5.659	2944
100-12hr-90%	CB3-01	BASE	12.00	0.31	10.116	3267
100-12hr-90%	Outsite	BASE	11.98	64.03	9.029	622972
100-1hr-10%	CB1-01	BASE	0.72	0.05	0.447	100
100-1hr-10%	CB1-02	BASE	0.27	2.81	1.503	5271
100-1hr-10%	CB1-03	BASE	0.20	0.82	2.708	1312
100-1hr-10%	CB1-04	BASE	0.20	1.43	2.755	2274
100-1hr-10%	CB1-05	BASE	0.20	3.77	2.755	5981
100-1hr-10%	CB1-06	BASE	0.20	0.81	2.755	1285
100-1hr-10%	CB1-07	BASE	0.20	3.04	2.753	4816
100-1hr-10%	CB2-01	BASE	0.28	1.28	1.340	2476
100-1hr-10%	CB2-02	BASE	0.29	0.84	1.242	1649
100-1hr-10%	CB2-03	BASE	0.71	0.65	0.600	1512
100-1hr-10%	CB2-04	BASE	0.20	4.29	2.755	6797
100-1hr-10%	CB2-05	BASE	0.71	0.11	0.462	240
100-1hr-10%	CB3-01	BASE	0.20	0.54	2.682	866
100-1hr-10%	Outsite	BASE	0.34	61.99	1.897	130858
100-1hr-90%	CB1-01	BASE	1.01	0.19	0.447	100
100-1hr-90%	CB1-02	BASE	1.01	6.59	1.503	5271
100-1hr-90%	CB1-03	BASE	1.00	1.21	2.708	1312
100-1hr-90%	CB1-04	BASE	1.00	2.07	2.755	2274
100-1hr-90%	CB1-05	BASE	1.00	5.45	2.755	5981
100-1hr-90%	CB1-06	BASE	1.00	1.17	2.755	1285
100-1hr-90%	CB1-07	BASE	1.00	4.39	2.753	4815
100-1hr-90%	CB2-01	BASE	1.01	3.24	1.340	2475
100-1hr-90%	CB2-02	BASE	1.01	2.22	1.242	1649
100-1hr-90%	CB2-03	BASE	1.01	2.58	0.600	1512
100-1hr-90%	CB2-04	BASE	1.00	6.19	2.755	6796
100-1hr-90%	CB2-05	BASE	1.01	0.44	0.462	240
100-1hr-90%	CB3-01	BASE	1.00	0.80	2.682	866
100-1hr-90%	Outsite	BASE	1.03	108.51	1.700	117285
100-24hr-10%	CB1-01	BASE	1.51	0.15	8.190	1836
100-24hr-10%	CB1-02	BASE	1.01	3.55	11.281	39564
100-24hr-10%	CB1-03	BASE	0.50	0.64	13.139	6364
100-24hr-10%	CB1-04	BASE	0.50	1.10	13.195	10889
100-24hr-10%	CB1-05	BASE	0.50	2.89	13.195	28642
100-24hr-10%	CB1-06	BASE	0.50	0.62	13.195	6155
100-24hr-10%	CB1-07	BASE	0.50	2.33	13.192	23075
100-24hr-10%	CB2-01	BASE	1.01	1.80	10.936	20208
100-24hr-10%	CB2-02	BASE	1.01	1.26	10.715	14225
100-24hr-10%	CB2-03	BASE	1.51	1.85	8.819	22229
100-24hr-10%	CB2-04	BASE	0.50	3.28	13.195	32548
100-24hr-10%	CB2-05	BASE	1.51	0.36	8.254	4294
100-24hr-10%	CB3-01	BASE	0.50	0.43	13.108	4233
100-24hr-10%	Outsite	BASE	1.03	74.18	12.045	831049
100-24hr-90%	CB1-01	BASE	24.00	0.20	8.188	1836
100-24hr-90%	CB1-02	BASE	24.00	3.46	11.278	39556
100-24hr-90%	CB1-03	BASE	24.00	0.49	13.137	6363
100-24hr-90%	CB1-04	BASE	24.00	0.83	13.193	10887
100-24hr-90%	CB1-05	BASE	24.00	2.19	13.193	28638
100-24hr-90%	CB1-06	BASE	24.00	0.47	13.193	6154
100-24hr-90%	CB1-07	BASE	24.00	1.76	13.190	23071
100-24hr-90%	CB2-01	BASE	24.00	1.81	10.934	20204

100-24hr-90%	CB2-02	BASE	24.00	1.29	10.713	14222
100-24hr-90%	CB2-03	BASE	24.00	2.31	8.817	22224
100-24hr-90%	CB2-04	BASE	24.00	2.48	13.193	32543
100-24hr-90%	CB2-05	BASE	24.00	0.46	8.252	4293
100-24hr-90%	CB3-01	BASE	24.00	0.33	13.106	4232
100-24hr-90%	Outsite	BASE	23.99	68.71	12.026	829760
100-6hr-10%	CB1-01	BASE	1.01	0.16	3.341	749
100-6hr-10%	CB1-02	BASE	0.69	4.15	5.660	19851
100-6hr-10%	CB1-03	BASE	0.51	0.73	7.328	3549
100-6hr-10%	CB1-04	BASE	0.51	1.25	7.381	6091
100-6hr-10%	CB1-05	BASE	0.51	3.28	7.381	16023
100-6hr-10%	CB1-06	BASE	0.51	0.70	7.381	3443
100-6hr-10%	CB1-07	BASE	0.51	2.64	7.379	12907
100-6hr-10%	CB2-01	BASE	0.69	2.08	5.375	9932
100-6hr-10%	CB2-02	BASE	0.69	1.44	5.196	6898
100-6hr-10%	CB2-03	BASE	0.86	2.04	3.772	9508
100-6hr-10%	CB2-04	BASE	0.51	3.73	7.381	18208
100-6hr-10%	CB2-05	BASE	1.01	0.38	3.384	1761
100-6hr-10%	CB3-01	BASE	0.51	0.48	7.298	2357
100-6hr-10%	Outsite	BASE	0.74	88.57	6.318	435943
100-6hr-90%	CB1-01	BASE	6.00	0.15	3.341	749
100-6hr-90%	CB1-02	BASE	6.00	2.94	5.660	19849
100-6hr-90%	CB1-03	BASE	5.84	0.43	7.327	3549
100-6hr-90%	CB1-04	BASE	5.84	0.74	7.381	6091
100-6hr-90%	CB1-05	BASE	5.84	1.94	7.381	16022
100-6hr-90%	CB1-06	BASE	5.84	0.42	7.381	3443
100-6hr-90%	CB1-07	BASE	5.84	1.56	7.378	12906
100-6hr-90%	CB2-01	BASE	6.00	1.52	5.375	9931
100-6hr-90%	CB2-02	BASE	6.00	1.08	5.195	6897
100-6hr-90%	CB2-03	BASE	6.00	1.79	3.772	9507
100-6hr-90%	CB2-04	BASE	5.84	2.20	7.381	18207
100-6hr-90%	CB2-05	BASE	6.00	0.35	3.384	1761
100-6hr-90%	CB3-01	BASE	5.84	0.29	7.297	2356
100-6hr-90%	Outsite	BASE	5.98	59.66	6.247	431047
10yr-12hr-10%	CB1-01	BASE	1.51	0.07	2.506	562
10yr-12hr-10%	CB1-02	BASE	1.01	2.10	4.593	16109
10yr-12hr-10%	CB1-03	BASE	0.51	0.41	6.193	3000
10yr-12hr-10%	CB1-04	BASE	0.51	0.71	6.246	5155
10yr-12hr-10%	CB1-05	BASE	0.51	1.88	6.246	13559
10yr-12hr-10%	CB1-06	BASE	0.51	0.40	6.246	2913
10yr-12hr-10%	CB1-07	BASE	0.51	1.51	6.244	10921
10yr-12hr-10%	CB2-01	BASE	1.01	1.04	4.328	7997
10yr-12hr-10%	CB2-02	BASE	1.02	0.72	4.162	5525
10yr-12hr-10%	CB2-03	BASE	1.27	0.95	2.881	7261
10yr-12hr-10%	CB2-04	BASE	0.51	2.13	6.246	15408
10yr-12hr-10%	CB2-05	BASE	1.51	0.17	2.543	1323
10yr-12hr-10%	CB3-01	BASE	0.51	0.27	6.164	1991
10yr-12hr-10%	Outsite	BASE	0.83	46.32	5.215	359822
10yr-12hr-90%	CB1-01	BASE	12.00	0.09	2.505	562
10yr-12hr-90%	CB1-02	BASE	12.00	1.96	4.592	16107
10yr-12hr-90%	CB1-03	BASE	12.00	0.29	6.193	3000
10yr-12hr-90%	CB1-04	BASE	12.00	0.49	6.246	5154
10yr-12hr-90%	CB1-05	BASE	12.00	1.30	6.246	13558
10yr-12hr-90%	CB1-06	BASE	12.00	0.28	6.246	2913
10yr-12hr-90%	CB1-07	BASE	12.00	1.05	6.243	10920
10yr-12hr-90%	CB2-01	BASE	12.00	1.01	4.327	7996
10yr-12hr-90%	CB2-02	BASE	12.00	0.71	4.161	5525
10yr-12hr-90%	CB2-03	BASE	12.00	1.14	2.880	7260
10yr-12hr-90%	CB2-04	BASE	12.00	1.48	6.246	15406
10yr-12hr-90%	CB2-05	BASE	12.00	0.22	2.542	1323
10yr-12hr-90%	CB3-01	BASE	12.00	0.19	6.163	1990
10yr-12hr-90%	Outsite	BASE	11.98	39.38	5.180	357385
10yr-1hr-10%	CB1-01	BASE	0.73	0.03	0.214	48
10yr-1hr-10%	CB1-02	BASE	0.29	1.80	1.007	3532
10yr-1hr-10%	CB1-03	BASE	0.20	0.62	2.072	1004
10yr-1hr-10%	CB1-04	BASE	0.20	1.09	2.117	1747
10yr-1hr-10%	CB1-05	BASE	0.20	2.87	2.117	4596
10yr-1hr-10%	CB1-06	BASE	0.20	0.62	2.117	988
10yr-1hr-10%	CB1-07	BASE	0.20	2.31	2.115	3700
10yr-1hr-10%	CB2-01	BASE	0.30	0.80	0.875	1616
10yr-1hr-10%	CB2-02	BASE	0.30	0.51	0.797	1058
10yr-1hr-10%	CB2-03	BASE	0.72	0.39	0.317	798
10yr-1hr-10%	CB2-04	BASE	0.20	3.26	2.117	5222
10yr-1hr-10%	CB2-05	BASE	0.73	0.06	0.223	116
10yr-1hr-10%	CB3-01	BASE	0.21	0.41	2.048	661
10yr-1hr-10%	Outsite	BASE	0.37	42.73	1.341	92542
10yr-1hr-90%	CB1-01	BASE	1.02	0.10	0.214	48
10yr-1hr-90%	CB1-02	BASE	1.01	4.72	1.007	3532
10yr-1hr-90%	CB1-03	BASE	1.00	0.95	2.072	1004
10yr-1hr-90%	CB1-04	BASE	1.00	1.63	2.117	1747
10yr-1hr-90%	CB1-05	BASE	1.00	4.30	2.117	4595

10yr-1hr-90%	CB1-06	BASE	1.00	0.92	2.117	987
10yr-1hr-90%	CB1-07	BASE	1.00	3.46	2.115	3699
10yr-1hr-90%	CB2-01	BASE	1.01	2.27	0.875	1616
10yr-1hr-90%	CB2-02	BASE	1.01	1.54	0.797	1058
10yr-1hr-90%	CB2-03	BASE	1.01	1.53	0.317	798
10yr-1hr-90%	CB2-04	BASE	1.00	4.89	2.117	5222
10yr-1hr-90%	CB2-05	BASE	1.02	0.24	0.223	116
10yr-1hr-90%	CB3-01	BASE	1.00	0.63	2.048	661
10yr-1hr-90%	Outsite	BASE	1.03	79.02	1.192	82278
10yr-24hr-10%	CB1-01	BASE	2.01	0.07	3.616	811
10yr-24hr-10%	CB1-02	BASE	1.01	1.82	6.000	21045
10yr-24hr-10%	CB1-03	BASE	0.51	0.37	7.686	3723
10yr-24hr-10%	CB1-04	BASE	0.51	0.63	7.740	6387
10yr-24hr-10%	CB1-05	BASE	0.51	1.67	7.740	16801
10yr-24hr-10%	CB1-06	BASE	0.51	0.36	7.740	3610
10yr-24hr-10%	CB1-07	BASE	0.51	1.34	7.738	13534
10yr-24hr-10%	CB2-01	BASE	1.01	0.89	5.710	10551
10yr-24hr-10%	CB2-02	BASE	1.51	0.61	5.527	7337
10yr-24hr-10%	CB2-03	BASE	1.51	0.83	4.063	10241
10yr-24hr-10%	CB2-04	BASE	0.51	1.90	7.740	19092
10yr-24hr-10%	CB2-05	BASE	2.01	0.15	3.661	1905
10yr-24hr-10%	CB3-01	BASE	0.51	0.24	7.656	2472
10yr-24hr-10%	Outsite	BASE	1.06	40.18	6.668	460104
10yr-24hr-90%	CB1-01	BASE	24.00	0.10	3.615	811
10yr-24hr-90%	CB1-02	BASE	24.00	2.01	5.999	21040
10yr-24hr-90%	CB1-03	BASE	24.00	0.29	7.685	3722
10yr-24hr-90%	CB1-04	BASE	24.00	0.50	7.739	6386
10yr-24hr-90%	CB1-05	BASE	24.00	1.31	7.739	16799
10yr-24hr-90%	CB1-06	BASE	24.00	0.28	7.739	3610
10yr-24hr-90%	CB1-07	BASE	24.00	1.06	7.736	13532
10yr-24hr-90%	CB2-01	BASE	24.00	1.04	5.709	10549
10yr-24hr-90%	CB2-02	BASE	24.00	0.74	5.526	7336
10yr-24hr-90%	CB2-03	BASE	24.00	1.24	4.062	10238
10yr-24hr-90%	CB2-04	BASE	24.00	1.49	7.739	19089
10yr-24hr-90%	CB2-05	BASE	24.00	0.24	3.660	1904
10yr-24hr-90%	CB3-01	BASE	24.00	0.19	7.655	2472
10yr-24hr-90%	Outsite	BASE	23.99	40.60	6.657	459342
10yr-6hr-10%	CB1-01	BASE	1.02	0.08	1.569	352
10yr-6hr-10%	CB1-02	BASE	0.84	2.44	3.314	11623
10yr-6hr-10%	CB1-03	BASE	0.51	0.48	4.803	2326
10yr-6hr-10%	CB1-04	BASE	0.51	0.83	4.854	4006
10yr-6hr-10%	CB1-05	BASE	0.51	2.17	4.854	10537
10yr-6hr-10%	CB1-06	BASE	0.51	0.47	4.854	2264
10yr-6hr-10%	CB1-07	BASE	0.51	1.75	4.852	8487
10yr-6hr-10%	CB2-01	BASE	0.86	1.20	3.080	5691
10yr-6hr-10%	CB2-02	BASE	0.86	0.83	2.935	3897
10yr-6hr-10%	CB2-03	BASE	1.02	1.04	1.866	4703
10yr-6hr-10%	CB2-04	BASE	0.51	2.47	4.854	11974
10yr-6hr-10%	CB2-05	BASE	1.02	0.19	1.598	832
10yr-6hr-10%	CB3-01	BASE	0.51	0.32	4.774	1542
10yr-6hr-10%	Outsite	BASE	0.77	54.36	3.877	267501
10yr-6hr-90%	CB1-01	BASE	6.00	0.08	1.569	352
10yr-6hr-90%	CB1-02	BASE	6.00	1.89	3.314	11622
10yr-6hr-90%	CB1-03	BASE	5.84	0.29	4.802	2326
10yr-6hr-90%	CB1-04	BASE	5.84	0.50	4.854	4006
10yr-6hr-90%	CB1-05	BASE	5.84	1.31	4.854	10536
10yr-6hr-90%	CB1-06	BASE	5.84	0.28	4.854	2264
10yr-6hr-90%	CB1-07	BASE	5.84	1.05	4.852	8486
10yr-6hr-90%	CB2-01	BASE	6.00	0.97	3.080	5691
10yr-6hr-90%	CB2-02	BASE	6.00	0.68	2.935	3896
10yr-6hr-90%	CB2-03	BASE	6.00	1.03	1.866	4702
10yr-6hr-90%	CB2-04	BASE	5.84	1.49	4.854	11973
10yr-6hr-90%	CB2-05	BASE	6.00	0.19	1.598	831
10yr-6hr-90%	CB3-01	BASE	5.84	0.19	4.774	1542
10yr-6hr-90%	Outsite	BASE	5.98	39.22	3.830	264271
25yr-12hr-10%	CB1-01	BASE	1.27	0.11	3.624	813
25yr-12hr-10%	CB1-02	BASE	0.77	2.75	6.010	21078
25yr-12hr-10%	CB1-03	BASE	0.51	0.52	7.696	3728
25yr-12hr-10%	CB1-04	BASE	0.51	0.89	7.750	6396
25yr-12hr-10%	CB1-05	BASE	0.51	2.34	7.750	16823
25yr-12hr-10%	CB1-06	BASE	0.51	0.50	7.750	3615
25yr-12hr-10%	CB1-07	BASE	0.51	1.88	7.748	13552
25yr-12hr-10%	CB2-01	BASE	1.01	1.38	5.719	10568
25yr-12hr-10%	CB2-02	BASE	1.01	0.96	5.536	7349
25yr-12hr-10%	CB2-03	BASE	1.27	1.34	4.071	10261
25yr-12hr-10%	CB2-04	BASE	0.51	2.65	7.750	19117
25yr-12hr-10%	CB2-05	BASE	1.27	0.25	3.668	1909
25yr-12hr-10%	CB3-01	BASE	0.51	0.34	7.666	2476
25yr-12hr-10%	Outsite	BASE	0.83	60.04	6.678	460776
25yr-12hr-90%	CB1-01	BASE	12.00	0.13	3.623	813
25yr-12hr-90%	CB1-02	BASE	12.00	2.45	6.009	21075

25yr-12hr-90%	CB1-03	BASE	12.00	0.36	7.695	3727
25yr-12hr-90%	CB1-04	BASE	12.00	0.61	7.749	6395
25yr-12hr-90%	CB1-05	BASE	12.00	1.60	7.749	16821
25yr-12hr-90%	CB1-06	BASE	12.00	0.34	7.749	3614
25yr-12hr-90%	CB1-07	BASE	12.00	1.29	7.747	13550
25yr-12hr-90%	CB2-01	BASE	12.00	1.27	5.719	10567
25yr-12hr-90%	CB2-02	BASE	12.00	0.90	5.535	7348
25yr-12hr-90%	CB2-03	BASE	12.00	1.50	4.070	10260
25yr-12hr-90%	CB2-04	BASE	12.00	1.81	7.749	19115
25yr-12hr-90%	CB2-05	BASE	12.00	0.29	3.668	1908
25yr-12hr-90%	CB3-01	BASE	12.00	0.24	7.665	2475
25yr-12hr-90%	Outsite	BASE	11.98	48.79	6.635	457760
25yr-1hr-10%	CB1-01	BASE	0.72	0.03	0.303	68
25yr-1hr-10%	CB1-02	BASE	0.28	2.20	1.208	4236
25yr-1hr-10%	CB1-03	BASE	0.20	0.71	2.336	1131
25yr-1hr-10%	CB1-04	BASE	0.20	1.23	2.382	1965
25yr-1hr-10%	CB1-05	BASE	0.20	3.25	2.382	5170
25yr-1hr-10%	CB1-06	BASE	0.20	0.70	2.382	1111
25yr-1hr-10%	CB1-07	BASE	0.20	2.61	2.380	4162
25yr-1hr-10%	CB2-01	BASE	0.29	0.99	1.062	1962
25yr-1hr-10%	CB2-02	BASE	0.30	0.64	0.976	1295
25yr-1hr-10%	CB2-03	BASE	0.71	0.50	0.426	1074
25yr-1hr-10%	CB2-04	BASE	0.20	3.69	2.382	5875
25yr-1hr-10%	CB2-05	BASE	0.72	0.08	0.314	163
25yr-1hr-10%	CB3-01	BASE	0.20	0.46	2.311	746
25yr-1hr-10%	Outsite	BASE	0.37	50.54	1.569	108221
25yr-1hr-90%	CB1-01	BASE	1.02	0.14	0.302	68
25yr-1hr-90%	CB1-02	BASE	1.01	5.49	1.208	4236
25yr-1hr-90%	CB1-03	BASE	1.00	1.06	2.336	1131
25yr-1hr-90%	CB1-04	BASE	1.00	1.82	2.382	1965
25yr-1hr-90%	CB1-05	BASE	1.00	4.78	2.382	5170
25yr-1hr-90%	CB1-06	BASE	1.00	1.03	2.382	1111
25yr-1hr-90%	CB1-07	BASE	1.00	3.85	2.379	4162
25yr-1hr-90%	CB2-01	BASE	1.01	2.67	1.062	1962
25yr-1hr-90%	CB2-02	BASE	1.01	1.82	0.976	1295
25yr-1hr-90%	CB2-03	BASE	1.01	1.95	0.426	1074
25yr-1hr-90%	CB2-04	BASE	1.00	5.43	2.382	5875
25yr-1hr-90%	CB2-05	BASE	1.01	0.32	0.314	163
25yr-1hr-90%	CB3-01	BASE	1.00	0.70	2.310	746
25yr-1hr-90%	Outsite	BASE	1.03	91.21	1.400	96581
25yr-24hr-10%	CB1-01	BASE	1.51	0.10	5.273	1182
25yr-24hr-10%	CB1-02	BASE	1.01	2.47	7.979	27985
25yr-24hr-10%	CB1-03	BASE	0.51	0.47	9.748	4722
25yr-24hr-10%	CB1-04	BASE	0.50	0.81	9.803	8090
25yr-24hr-10%	CB1-05	BASE	0.50	2.13	9.803	21280
25yr-24hr-10%	CB1-06	BASE	0.50	0.46	9.803	4573
25yr-24hr-10%	CB1-07	BASE	0.50	1.72	9.801	17143
25yr-24hr-10%	CB2-01	BASE	1.01	1.23	7.663	14160
25yr-24hr-10%	CB2-02	BASE	1.01	0.85	7.462	9906
25yr-24hr-10%	CB2-03	BASE	1.51	1.21	5.801	14621
25yr-24hr-10%	CB2-04	BASE	0.50	2.42	9.803	24182
25yr-24hr-10%	CB2-05	BASE	1.51	0.23	5.326	2771
25yr-24hr-10%	CB3-01	BASE	0.51	0.31	9.718	3138
25yr-24hr-10%	Outsite	BASE	1.03	53.08	8.693	599812
25yr-24hr-90%	CB1-01	BASE	24.00	0.14	5.271	1182
25yr-24hr-90%	CB1-02	BASE	24.00	2.56	7.978	27979
25yr-24hr-90%	CB1-03	BASE	24.00	0.37	9.747	4721
25yr-24hr-90%	CB1-04	BASE	24.00	0.62	9.802	8089
25yr-24hr-90%	CB1-05	BASE	24.00	1.64	9.802	21277
25yr-24hr-90%	CB1-06	BASE	24.00	0.35	9.802	4572
25yr-24hr-90%	CB1-07	BASE	24.00	1.32	9.799	17140
25yr-24hr-90%	CB2-01	BASE	24.00	1.33	7.662	14158
25yr-24hr-90%	CB2-02	BASE	24.00	0.95	7.461	9904
25yr-24hr-90%	CB2-03	BASE	24.00	1.64	5.799	14617
25yr-24hr-90%	CB2-04	BASE	24.00	1.87	9.802	24178
25yr-24hr-90%	CB2-05	BASE	24.00	0.33	5.324	2770
25yr-24hr-90%	CB3-01	BASE	24.00	0.24	9.716	3138
25yr-24hr-90%	Outsite	BASE	23.99	51.27	8.679	598850
25yr-6hr-10%	CB1-01	BASE	1.02	0.11	2.213	496
25yr-6hr-10%	CB1-02	BASE	0.69	3.08	4.205	14748
25yr-6hr-10%	CB1-03	BASE	0.51	0.58	5.776	2798
25yr-6hr-10%	CB1-04	BASE	0.51	0.99	5.828	4810
25yr-6hr-10%	CB1-05	BASE	0.51	2.60	5.828	12652
25yr-6hr-10%	CB1-06	BASE	0.51	0.56	5.828	2719
25yr-6hr-10%	CB1-07	BASE	0.51	2.09	5.826	10191
25yr-6hr-10%	CB2-01	BASE	0.84	1.53	3.948	7296
25yr-6hr-10%	CB2-02	BASE	0.84	1.06	3.788	5029
25yr-6hr-10%	CB2-03	BASE	1.02	1.40	2.566	6467
25yr-6hr-10%	CB2-04	BASE	0.51	2.96	5.828	14377
25yr-6hr-10%	CB2-05	BASE	1.02	0.26	2.248	1169
25yr-6hr-10%	CB3-01	BASE	0.51	0.38	5.747	1856

25yr-6hr-10%	Outsite	BASE	0.74	67.47	4.811	331963
25yr-6hr-90%	CB1-01	BASE	6.00	0.11	2.213	496
25yr-6hr-90%	CB1-02	BASE	6.00	2.30	4.205	14747
25yr-6hr-90%	CB1-03	BASE	5.84	0.35	5.776	2798
25yr-6hr-90%	CB1-04	BASE	5.84	0.59	5.828	4809
25yr-6hr-90%	CB1-05	BASE	5.84	1.55	5.828	12651
25yr-6hr-90%	CB1-06	BASE	5.84	0.33	5.828	2718
25yr-6hr-90%	CB1-07	BASE	5.84	1.25	5.826	10190
25yr-6hr-90%	CB2-01	BASE	6.00	1.18	3.948	7295
25yr-6hr-90%	CB2-02	BASE	6.00	0.84	3.788	5029
25yr-6hr-90%	CB2-03	BASE	6.00	1.32	2.565	6466
25yr-6hr-90%	CB2-04	BASE	5.84	1.76	5.828	14376
25yr-6hr-90%	CB2-05	BASE	6.00	0.25	2.247	1169
25yr-6hr-90%	CB3-01	BASE	5.84	0.23	5.746	1856
25yr-6hr-90%	Outsite	BASE	5.98	47.14	4.755	328088
2yr-12hr-10%	CB1-01	BASE	1.77	0.03	0.952	214
2yr-12hr-10%	CB1-02	BASE	1.27	1.08	2.382	8354
2yr-12hr-10%	CB1-03	BASE	0.52	0.25	3.753	1818
2yr-12hr-10%	CB1-04	BASE	0.52	0.43	3.803	3138
2yr-12hr-10%	CB1-05	BASE	0.52	1.13	3.803	8255
2yr-12hr-10%	CB1-06	BASE	0.52	0.24	3.803	1774
2yr-12hr-10%	CB1-07	BASE	0.52	0.91	3.800	6647
2yr-12hr-10%	CB2-01	BASE	1.27	0.52	2.179	4026
2yr-12hr-10%	CB2-02	BASE	1.27	0.36	2.055	2728
2yr-12hr-10%	CB2-03	BASE	1.52	0.40	1.180	2975
2yr-12hr-10%	CB2-04	BASE	0.52	1.28	3.803	9380
2yr-12hr-10%	CB2-05	BASE	1.77	0.07	0.974	507
2yr-12hr-10%	CB3-01	BASE	0.52	0.16	3.725	1203
2yr-12hr-10%	Outsite	BASE	1.06	25.42	2.884	199015
2yr-12hr-90%	CB1-01	BASE	12.00	0.05	0.952	213
2yr-12hr-90%	CB1-02	BASE	12.00	1.15	2.382	8353
2yr-12hr-90%	CB1-03	BASE	12.00	0.18	3.752	1818
2yr-12hr-90%	CB1-04	BASE	12.00	0.31	3.802	3138
2yr-12hr-90%	CB1-05	BASE	12.00	0.82	3.802	8254
2yr-12hr-90%	CB1-06	BASE	12.00	0.18	3.802	1774
2yr-12hr-90%	CB1-07	BASE	12.00	0.66	3.800	6647
2yr-12hr-90%	CB2-01	BASE	12.00	0.58	2.178	4025
2yr-12hr-90%	CB2-02	BASE	12.00	0.41	2.054	2727
2yr-12hr-90%	CB2-03	BASE	12.00	0.57	1.180	2974
2yr-12hr-90%	CB2-04	BASE	12.00	0.93	3.802	9379
2yr-12hr-90%	CB2-05	BASE	12.00	0.11	0.974	507
2yr-12hr-90%	CB3-01	BASE	12.00	0.12	3.725	1203
2yr-12hr-90%	Outsite	BASE	11.98	23.88	2.863	197532
2yr-1hr-10%	CB1-01	BASE	0.76	0.01	0.087	20
2yr-1hr-10%	CB1-02	BASE	0.30	1.14	0.667	2339
2yr-1hr-10%	CB1-03	BASE	0.21	0.47	1.598	774
2yr-1hr-10%	CB1-04	BASE	0.21	0.83	1.640	1353
2yr-1hr-10%	CB1-05	BASE	0.21	2.19	1.640	3560
2yr-1hr-10%	CB1-06	BASE	0.21	0.47	1.640	765
2yr-1hr-10%	CB1-07	BASE	0.21	1.76	1.638	2865
2yr-1hr-10%	CB2-01	BASE	0.31	0.48	0.562	1038
2yr-1hr-10%	CB2-02	BASE	0.32	0.30	0.501	665
2yr-1hr-10%	CB2-03	BASE	0.73	0.22	0.152	384
2yr-1hr-10%	CB2-04	BASE	0.21	2.49	1.640	4046
2yr-1hr-10%	CB2-05	BASE	0.74	0.03	0.093	48
2yr-1hr-10%	CB3-01	BASE	0.21	0.31	1.575	509
2yr-1hr-10%	Outsite	BASE	0.37	29.18	0.946	65245
2yr-1hr-90%	CB1-01	BASE	1.02	0.05	0.087	20
2yr-1hr-90%	CB1-02	BASE	1.01	3.36	0.667	2339
2yr-1hr-90%	CB1-03	BASE	1.00	0.76	1.598	774
2yr-1hr-90%	CB1-04	BASE	1.00	1.30	1.640	1353
2yr-1hr-90%	CB1-05	BASE	1.00	3.43	1.640	3560
2yr-1hr-90%	CB1-06	BASE	1.00	0.74	1.640	765
2yr-1hr-90%	CB1-07	BASE	1.00	2.76	1.638	2865
2yr-1hr-90%	CB2-01	BASE	1.01	1.58	0.561	1037
2yr-1hr-90%	CB2-02	BASE	1.01	1.05	0.501	665
2yr-1hr-90%	CB2-03	BASE	1.02	0.85	0.152	384
2yr-1hr-90%	CB2-04	BASE	1.00	3.90	1.640	4045
2yr-1hr-90%	CB2-05	BASE	1.02	0.12	0.093	48
2yr-1hr-90%	CB3-01	BASE	1.00	0.50	1.575	508
2yr-1hr-90%	Outsite	BASE	1.03	57.28	0.833	57476
2yr-24hr-10%	CB1-01	BASE	2.51	0.03	1.403	315
2yr-24hr-10%	CB1-02	BASE	1.51	0.90	3.073	10777
2yr-24hr-10%	CB1-03	BASE	0.51	0.21	4.535	2197
2yr-24hr-10%	CB1-04	BASE	0.51	0.36	4.586	3785
2yr-24hr-10%	CB1-05	BASE	0.51	0.95	4.586	9955
2yr-24hr-10%	CB1-06	BASE	0.51	0.20	4.586	2139
2yr-24hr-10%	CB1-07	BASE	0.51	0.76	4.584	8018
2yr-24hr-10%	CB2-01	BASE	1.51	0.43	2.846	5259
2yr-24hr-10%	CB2-02	BASE	1.51	0.29	2.706	3593
2yr-24hr-10%	CB2-03	BASE	2.01	0.34	1.683	4242

2yr-24hr-10%	CB2-04	BASE	0.51	1.08	4.586	11313
2yr-24hr-10%	CB2-05	BASE	2.51	0.06	1.431	744
2yr-24hr-10%	CB3-01	BASE	0.51	0.14	4.507	1455
2yr-24hr-10%	Outsite	BASE	1.06	20.63	3.622	249910
2yr-24hr-90%	CB1-01	BASE	24.00	0.05	1.403	315
2yr-24hr-90%	CB1-02	BASE	24.00	1.16	3.072	10775
2yr-24hr-90%	CB1-03	BASE	24.00	0.18	4.534	2196
2yr-24hr-90%	CB1-04	BASE	24.00	0.31	4.585	3784
2yr-24hr-90%	CB1-05	BASE	24.00	0.80	4.585	9953
2yr-24hr-90%	CB1-06	BASE	24.00	0.17	4.585	2139
2yr-24hr-90%	CB1-07	BASE	24.00	0.65	4.583	8016
2yr-24hr-90%	CB2-01	BASE	24.00	0.59	2.845	5257
2yr-24hr-90%	CB2-02	BASE	24.00	0.42	2.706	3592
2yr-24hr-90%	CB2-03	BASE	24.00	0.62	1.683	4241
2yr-24hr-90%	CB2-04	BASE	24.00	0.91	4.585	11311
2yr-24hr-90%	CB2-05	BASE	24.00	0.12	1.430	744
2yr-24hr-90%	CB3-01	BASE	24.00	0.12	4.506	1455
2yr-24hr-90%	Outsite	BASE	23.99	24.08	3.615	249457
2yr-6hr-10%	CB1-01	BASE	1.19	0.03	0.636	143
2yr-6hr-10%	CB1-02	BASE	0.86	1.39	1.851	6492
2yr-6hr-10%	CB1-03	BASE	0.52	0.31	3.131	1517
2yr-6hr-10%	CB1-04	BASE	0.52	0.54	3.179	2624
2yr-6hr-10%	CB1-05	BASE	0.52	1.43	3.179	6902
2yr-6hr-10%	CB1-06	BASE	0.52	0.31	3.179	1483
2yr-6hr-10%	CB1-07	BASE	0.52	1.15	3.177	5558
2yr-6hr-10%	CB2-01	BASE	0.86	0.66	1.670	3087
2yr-6hr-10%	CB2-02	BASE	1.01	0.45	1.561	2073
2yr-6hr-10%	CB2-03	BASE	1.19	0.48	0.820	2067
2yr-6hr-10%	CB2-04	BASE	0.52	1.62	3.179	7843
2yr-6hr-10%	CB2-05	BASE	1.19	0.08	0.654	340
2yr-6hr-10%	CB3-01	BASE	0.52	0.21	3.104	1002
2yr-6hr-10%	Outsite	BASE	0.89	32.65	2.308	159258
2yr-6hr-90%	CB1-01	BASE	6.00	0.04	0.636	143
2yr-6hr-90%	CB1-02	BASE	6.00	1.18	1.851	6492
2yr-6hr-90%	CB1-03	BASE	5.84	0.20	3.131	1516
2yr-6hr-90%	CB1-04	BASE	5.84	0.34	3.179	2624
2yr-6hr-90%	CB1-05	BASE	5.84	0.89	3.179	6901
2yr-6hr-90%	CB1-06	BASE	5.84	0.19	3.179	1483
2yr-6hr-90%	CB1-07	BASE	5.84	0.72	3.177	5557
2yr-6hr-90%	CB2-01	BASE	6.00	0.59	1.670	3086
2yr-6hr-90%	CB2-02	BASE	6.00	0.41	1.561	2073
2yr-6hr-90%	CB2-03	BASE	6.00	0.55	0.820	2066
2yr-6hr-90%	CB2-04	BASE	5.84	1.01	3.179	7842
2yr-6hr-90%	CB2-05	BASE	6.00	0.10	0.653	340
2yr-6hr-90%	CB3-01	BASE	5.84	0.13	3.104	1002
2yr-6hr-90%	Outsite	BASE	5.98	25.42	2.278	157153
50-12hr-10%	CB1-01	BASE	1.27	0.13	4.594	1030
50-12hr-10%	CB1-02	BASE	0.77	3.32	7.182	25188
50-12hr-10%	CB1-03	BASE	0.51	0.60	8.921	4321
50-12hr-10%	CB1-04	BASE	0.51	1.03	8.976	7407
50-12hr-10%	CB1-05	BASE	0.51	2.71	8.976	19484
50-12hr-10%	CB1-06	BASE	0.51	0.58	8.976	4187
50-12hr-10%	CB1-07	BASE	0.51	2.18	8.973	15696
50-12hr-10%	CB2-01	BASE	1.01	1.66	6.875	12704
50-12hr-10%	CB2-02	BASE	1.01	1.16	6.681	8869
50-12hr-10%	CB2-03	BASE	1.27	1.66	5.092	12835
50-12hr-10%	CB2-04	BASE	0.51	3.08	8.976	22141
50-12hr-10%	CB2-05	BASE	1.27	0.31	4.644	2416
50-12hr-10%	CB3-01	BASE	0.51	0.40	8.891	2871
50-12hr-10%	Outsite	BASE	0.80	71.25	7.879	543657
50-12hr-90%	CB1-01	BASE	12.00	0.15	4.594	1030
50-12hr-90%	CB1-02	BASE	12.00	2.84	7.181	25185
50-12hr-90%	CB1-03	BASE	12.00	0.41	8.920	4321
50-12hr-90%	CB1-04	BASE	12.00	0.70	8.975	7406
50-12hr-90%	CB1-05	BASE	12.00	1.84	8.975	19482
50-12hr-90%	CB1-06	BASE	12.00	0.39	8.975	4186
50-12hr-90%	CB1-07	BASE	12.00	1.48	8.972	15694
50-12hr-90%	CB2-01	BASE	12.00	1.48	6.874	12703
50-12hr-90%	CB2-02	BASE	12.00	1.05	6.680	8868
50-12hr-90%	CB2-03	BASE	12.00	1.80	5.091	12833
50-12hr-90%	CB2-04	BASE	12.00	2.09	8.975	22139
50-12hr-90%	CB2-05	BASE	12.00	0.36	4.644	2416
50-12hr-90%	CB3-01	BASE	12.00	0.27	8.890	2871
50-12hr-90%	Outsite	BASE	11.98	56.42	7.829	540172
50-1hr-10%	CB1-01	BASE	0.72	0.04	0.376	84
50-1hr-10%	CB1-02	BASE	0.27	2.52	1.362	4775
50-1hr-10%	CB1-03	BASE	0.20	0.77	2.531	1226
50-1hr-10%	CB1-04	BASE	0.20	1.34	2.578	2128
50-1hr-10%	CB1-05	BASE	0.20	3.52	2.578	5596
50-1hr-10%	CB1-06	BASE	0.20	0.76	2.578	1203
50-1hr-10%	CB1-07	BASE	0.20	2.84	2.576	4506

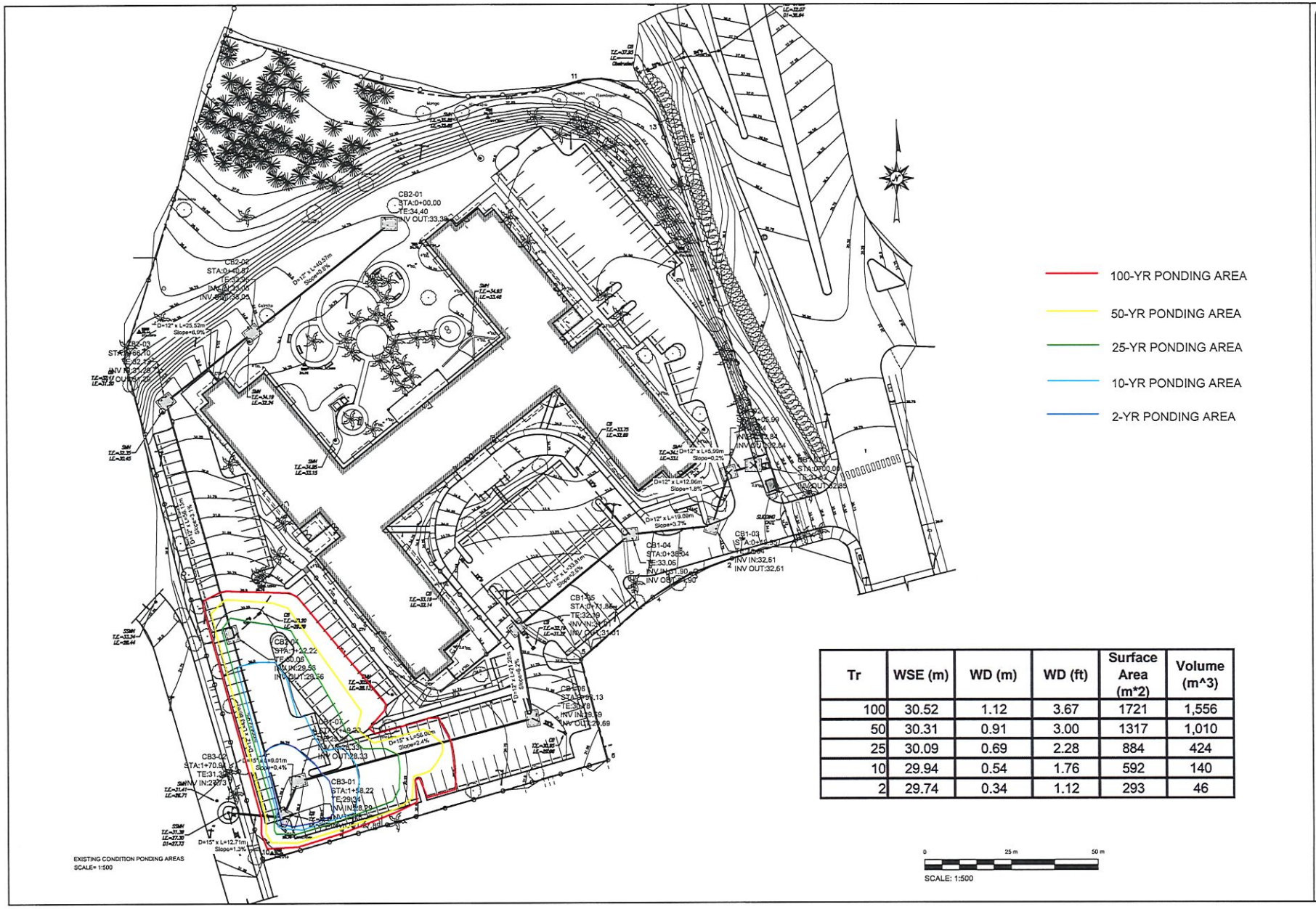
50-1hr-10%	CB2-01	BASE	0.28	1.14	1.206	2229
50-1hr-10%	CB2-02	BASE	0.29	0.74	1.114	1479
50-1hr-10%	CB2-03	BASE	0.71	0.58	0.515	1298
50-1hr-10%	CB2-04	BASE	0.20	4.00	2.578	6360
50-1hr-10%	CB2-05	BASE	0.72	0.10	0.389	202
50-1hr-10%	CB3-01	BASE	0.20	0.51	2.506	809
50-1hr-10%	Outsite	BASE	0.37	56.43	1.740	120062
50-1hr-90%	CB1-01	BASE	1.01	0.16	0.376	84
50-1hr-90%	CB1-02	BASE	1.01	6.07	1.361	4775
50-1hr-90%	CB1-03	BASE	1.00	1.14	2.531	1226
50-1hr-90%	CB1-04	BASE	1.00	1.95	2.578	2127
50-1hr-90%	CB1-05	BASE	1.00	5.13	2.578	5596
50-1hr-90%	CB1-06	BASE	1.00	1.10	2.578	1202
50-1hr-90%	CB1-07	BASE	1.00	4.13	2.576	4506
50-1hr-90%	CB2-01	BASE	1.01	2.97	1.206	2229
50-1hr-90%	CB2-02	BASE	1.01	2.03	1.114	1479
50-1hr-90%	CB2-03	BASE	1.01	2.28	0.515	1298
50-1hr-90%	CB2-04	BASE	1.00	5.83	2.578	6359
50-1hr-90%	CB2-05	BASE	1.01	0.38	0.389	202
50-1hr-90%	CB3-01	BASE	1.00	0.76	2.506	809
50-1hr-90%	Outsite	BASE	1.03	100.30	1.557	107404
50-24hr-10%	CB1-01	BASE	1.51	0.12	6.621	1485
50-24hr-10%	CB1-02	BASE	1.01	2.98	9.527	33413
50-24hr-10%	CB1-03	BASE	0.50	0.55	11.344	5495
50-24hr-10%	CB1-04	BASE	0.50	0.95	11.399	9407
50-24hr-10%	CB1-05	BASE	0.50	2.49	11.399	24744
50-24hr-10%	CB1-06	BASE	0.50	0.53	11.399	5317
50-24hr-10%	CB1-07	BASE	0.50	2.00	11.397	19934
50-24hr-10%	CB2-01	BASE	1.01	1.50	9.196	16993
50-24hr-10%	CB2-02	BASE	1.01	1.04	8.984	11927
50-24hr-10%	CB2-03	BASE	1.51	1.51	7.202	18152
50-24hr-10%	CB2-04	BASE	0.50	2.83	11.399	28118
50-24hr-10%	CB2-05	BASE	1.51	0.29	6.680	3475
50-24hr-10%	CB3-01	BASE	0.50	0.37	11.313	3653
50-24hr-10%	Outsite	BASE	1.03	63.03	10.268	708432
50-24hr-90%	CB1-01	BASE	24.00	0.17	6.620	1484
50-24hr-90%	CB1-02	BASE	24.00	2.98	9.525	33407
50-24hr-90%	CB1-03	BASE	24.00	0.42	11.342	5494
50-24hr-90%	CB1-04	BASE	24.00	0.72	11.397	9405
50-24hr-90%	CB1-05	BASE	24.00	1.90	11.397	24740
50-24hr-90%	CB1-06	BASE	24.00	0.41	11.397	5316
50-24hr-90%	CB1-07	BASE	24.00	1.53	11.395	19931
50-24hr-90%	CB2-01	BASE	24.00	1.56	9.194	16989
50-24hr-90%	CB2-02	BASE	24.00	1.11	8.983	11925
50-24hr-90%	CB2-03	BASE	24.00	1.95	7.200	18148
50-24hr-90%	CB2-04	BASE	24.00	2.16	11.397	28114
50-24hr-90%	CB2-05	BASE	24.00	0.39	6.679	3475
50-24hr-90%	CB3-01	BASE	24.00	0.28	11.311	3653
50-24hr-90%	Outsite	BASE	23.99	59.49	10.251	707316
50-6hr-10%	CB1-01	BASE	1.02	0.14	2.763	620
50-6hr-10%	CB1-02	BASE	0.69	3.62	4.928	17284
50-6hr-10%	CB1-03	BASE	0.51	0.65	6.551	3173
50-6hr-10%	CB1-04	BASE	0.51	1.12	6.605	5450
50-6hr-10%	CB1-05	BASE	0.51	2.94	6.605	14337
50-6hr-10%	CB1-06	BASE	0.51	0.63	6.605	3081
50-6hr-10%	CB1-07	BASE	0.51	2.37	6.602	11548
50-6hr-10%	CB2-01	BASE	0.69	1.80	4.656	8604
50-6hr-10%	CB2-02	BASE	0.84	1.25	4.486	5955
50-6hr-10%	CB2-03	BASE	0.86	1.71	3.157	7957
50-6hr-10%	CB2-04	BASE	0.51	3.34	6.605	16292
50-6hr-10%	CB2-05	BASE	1.02	0.32	2.802	1458
50-6hr-10%	CB3-01	BASE	0.51	0.43	6.522	2106
50-6hr-10%	Outsite	BASE	0.74	78.03	5.562	383788
50-6hr-90%	CB1-01	BASE	6.00	0.13	2.763	620
50-6hr-90%	CB1-02	BASE	6.00	2.62	4.928	17282
50-6hr-90%	CB1-03	BASE	5.84	0.39	6.551	3173
50-6hr-90%	CB1-04	BASE	5.84	0.66	6.604	5450
50-6hr-90%	CB1-05	BASE	5.84	1.75	6.604	14336
50-6hr-90%	CB1-06	BASE	5.84	0.37	6.604	3080
50-6hr-90%	CB1-07	BASE	5.84	1.41	6.602	11547
50-6hr-90%	CB2-01	BASE	6.00	1.35	4.656	8603
50-6hr-90%	CB2-02	BASE	6.00	0.96	4.485	5955
50-6hr-90%	CB2-03	BASE	6.00	1.55	3.156	7956
50-6hr-90%	CB2-04	BASE	5.84	1.98	6.604	16291
50-6hr-90%	CB2-05	BASE	6.00	0.30	2.802	1458
50-6hr-90%	CB3-01	BASE	5.84	0.26	6.522	2106
50-6hr-90%	Outsite	BASE	5.98	53.41	5.499	379401

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MH-1	BASE	100-12hr-10%	0.76	95.94	0.00	-0.0050	134	0.75	60.20	0.76	60.16
Node-1	BASE	100-12hr-10%	1.69	100.13	96.26	-0.0298	18523	0.75	20.39	2.45	16.18
Node-3	BASE	100-12hr-10%	24.00	23.63	0.00	0.0164	0	0.76	60.16	0.00	0.00
MH-1	BASE	100-1hr-90%	1.00	97.09	0.00	-0.2141	134	1.00	68.43	1.00	67.24
Node-1	BASE	100-1hr-90%	1.00	98.88	96.26	-0.0539	10400	1.00	35.96	1.00	15.72
Node-3	BASE	100-1hr-90%	2.00	1.97	0.00	0.0148	1	1.00	67.24	0.00	0.00
MH-1	BASE	100-24hr-10%	1.00	95.33	0.00	0.0050	134	1.00	56.10	1.00	56.08
Node-1	BASE	100-24hr-10%	1.70	99.63	96.26	-0.0176	15304	1.00	18.45	2.25	15.35
Node-3	BASE	100-24hr-10%	48.00	47.24	0.00	0.0164	0	1.00	56.08	0.00	0.00
MH-1	BASE	100-6hr-10%	0.83	96.42	0.00	-0.0049	134	0.83	63.24	0.83	63.23
Node-1	BASE	100-6hr-10%	1.33	100.09	96.26	-0.0433	18286	0.67	21.88	1.87	16.46
Node-3	BASE	100-6hr-10%	24.00	23.63	0.00	0.0164	0	0.83	63.23	0.00	0.00
MH-1	BASE	10yr-12hr-10%	0.81	93.27	0.00	-0.0050	135	0.80	39.13	0.81	39.13
Node-1	BASE	10yr-12hr-10%	0.80	96.38	96.26	0.0050	116	0.75	11.42	0.80	11.38
Node-3	BASE	10yr-12hr-10%	24.01	23.63	0.00	0.0164	0	0.81	39.13	0.00	0.00
MH-1	BASE	10yr-1hr-90%	1.00	95.12	0.00	-0.1565	135	1.00	55.40	1.00	54.55
Node-1	BASE	10yr-1hr-90%	1.00	98.22	96.26	-0.0539	6371	1.00	26.81	1.00	14.89
Node-3	BASE	10yr-1hr-90%	1.99	1.96	0.00	0.0164	1	1.00	54.55	0.00	0.00
MH-1	BASE	10yr-24hr-10%	1.00	92.79	0.00	-0.0050	135	1.00	33.99	1.00	33.98
Node-1	BASE	10yr-24hr-10%	1.01	95.13	96.26	-0.0050	114	1.00	9.92	1.02	9.88
Node-3	BASE	10yr-24hr-10%	47.99	47.24	0.00	0.0164	0	1.00	33.98	0.00	0.00
MH-1	BASE	10yr-6hr-10%	0.84	93.92	0.00	-0.0050	135	0.83	45.19	0.84	45.17
Node-1	BASE	10yr-6hr-10%	0.95	97.57	96.26	-0.0075	3127	0.67	13.39	1.12	12.68
Node-3	BASE	10yr-6hr-10%	12.00	11.81	0.00	0.0164	0	0.84	45.17	0.00	0.00
MH-1	BASE	25yr-12hr-10%	0.84	94.25	0.00	-0.0050	135	0.83	47.96	0.84	47.96
Node-1	BASE	25yr-12hr-10%	1.27	98.29	96.26	-0.0102	6761	0.75	14.79	1.63	13.72
Node-3	BASE	25yr-12hr-10%	24.01	23.63	0.00	0.0164	0	0.84	47.96	0.00	0.00
MH-1	BASE	25yr-1hr-90%	1.00	95.91	0.00	-0.1802	134	1.00	60.97	1.00	59.98
Node-1	BASE	25yr-1hr-90%	1.00	98.51	96.26	-0.0538	8000	1.00	30.59	1.00	15.26
Node-3	BASE	25yr-1hr-90%	2.00	1.97	0.00	0.0148	1	1.00	59.98	0.00	0.00
MH-1	BASE	25yr-24hr-10%	1.00	93.75	0.00	-0.0050	135	1.00	43.70	1.00	43.68
Node-1	BASE	25yr-24hr-10%	1.11	97.40	96.26	0.0050	2522	1.00	13.12	1.22	12.56
Node-3	BASE	25yr-24hr-10%	48.00	47.24	0.00	0.0164	0	1.00	43.68	0.00	0.00
MH-1	BASE	25yr-6hr-10%	0.84	94.84	0.00	-0.0050	135	0.83	52.58	0.84	52.56
Node-1	BASE	25yr-6hr-10%	1.14	98.74	96.26	-0.0246	9521	0.67	16.64	1.53	14.44
Node-3	BASE	25yr-6hr-10%	12.00	11.81	0.00	0.0164	0	0.84	52.56	0.00	0.00
MH-1	BASE	2yr-12hr-10%	1.00	91.90	0.00	-0.0050	184	1.00	22.01	1.00	22.00
Node-1	BASE	2yr-12hr-10%	1.00	93.36	96.26	0.0050	120	1.00	6.25	1.00	6.24
Node-3	BASE	2yr-12hr-10%	24.00	23.63	0.00	0.0164	0	1.00	22.00	0.00	0.00
MH-1	BASE	2yr-1hr-90%	1.00	93.82	0.00	-0.1145	135	1.00	44.88	1.00	44.30
Node-1	BASE	2yr-1hr-90%	1.00	97.58	96.26	-0.0539	3155	1.00	20.11	1.00	14.06
Node-3	BASE	2yr-1hr-90%	2.00	1.97	0.00	0.0164	1	1.00	44.30	0.00	0.00
MH-1	BASE	2yr-24hr-10%	1.01	91.61	0.00	0.0050	195	1.01	18.02	1.01	18.02
Node-1	BASE	2yr-24hr-10%	1.01	93.04	96.26	0.0038	120	1.00	5.19	1.01	5.19
Node-3	BASE	2yr-24hr-10%	48.01	47.25	0.00	0.0164	0	1.01	18.02	0.00	0.00
MH-1	BASE	2yr-6hr-10%	0.84	92.36	0.00	0.0048	148	0.83	28.34	0.84	28.33
Node-1	BASE	2yr-6hr-10%	0.83	94.03	96.26	0.0050	119	0.83	8.01	0.83	8.00
Node-3	BASE	2yr-6hr-10%	11.99	11.81	0.00	0.0164	0	0.84	28.33	0.00	0.00
MH-1	BASE	50-12hr-10%	0.76	95.07	0.00	0.0050	135	0.75	54.24	0.76	54.21
Node-1	BASE	50-12hr-10%	1.51	99.29	96.26	-0.0210	13056	0.75	17.58	2.09	15.08
Node-3	BASE	50-12hr-10%	24.01	23.63	0.00	0.0164	0	0.76	54.21	0.00	0.00
MH-1	BASE	50-1hr-90%	1.00	96.52	0.00	-0.1979	134	1.00	64.94	1.00	63.84
Node-1	BASE	50-1hr-90%	1.00	98.71	96.26	-0.0539	9293	1.00	33.40	1.00	15.51
Node-3	BASE	50-1hr-90%	2.00	1.97	0.00	0.0148	1	1.00	63.84	0.00	0.00
MH-1	BASE	50-24hr-10%	1.00	94.49	0.00	-0.0050	135	1.00	49.85	1.00	49.83
Node-1	BASE	50-24hr-10%	1.54	98.58	96.26	-0.0065	8476	1.00	15.62	1.75	14.08
Node-3	BASE	50-24hr-10%	47.99	47.24	0.00	0.0164	0	1.00	49.83	0.00	0.00

MH-1	BASE	50-6hr-10%	0.83	95.61	0.00	-0.0049	134	0.83	58.03	0.83	58.01
Node-1	BASE	50-6hr-10%	1.25	99.46	96.26	-0.0348	14181	0.67	19.25	1.75	15.55
Node-3	BASE	50-6hr-10%	12.00	11.81	0.00	0.0164	0	0.83	58.01	0.00	0.00

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max Stage ft	Max Time DS Stage hrs	Max DS Stage ft
EX-SWS	BASE	100-12hr-10%	1.00	83.92	-0.068	1.00	100.31	1.00	90.42
Pipe-12	BASE	100-12hr-10%	2.96	17.70	-0.071	1.87	101.61	1.00	100.31
EX-SWS	BASE	100-12hr-90%	12.00	72.15	-1.289	12.00	97.96	12.00	90.13
Pipe-12	BASE	100-12hr-90%	12.00	16.56	0.575	12.00	99.60	12.00	97.96
EX-SWS	BASE	100-1hr-10%	0.34	67.90	-0.565	0.34	97.20	0.34	90.05
Pipe-12	BASE	100-1hr-10%	0.20	13.61	0.282	0.46	98.49	0.34	97.20
EX-SWS	BASE	100-1hr-90%	1.00	91.07	-1.783	1.00	101.90	1.00	90.89
Pipe-12	BASE	100-1hr-90%	1.01	16.34	5.266	1.00	99.40	1.00	101.90
EX-SWS	BASE	100-24hr-10%	1.00	79.56	-0.070	1.00	99.40	1.00	90.30
Pipe-12	BASE	100-24hr-10%	3.25	16.17	-0.047	2.10	101.05	1.00	99.40
EX-SWS	BASE	100-24hr-90%	24.00	76.13	-1.321	24.00	98.71	24.00	90.22
Pipe-12	BASE	100-24hr-90%	24.00	17.04	0.682	24.00	100.02	24.00	98.71
EX-SWS	BASE	100-6hr-10%	0.92	86.41	-0.074	0.92	100.85	0.92	90.50
Pipe-12	BASE	100-6hr-10%	2.00	18.13	0.220	1.44	101.56	0.92	100.85
EX-SWS	BASE	100-6hr-90%	6.00	68.73	-1.253	6.00	97.35	6.00	90.06
Pipe-12	BASE	100-6hr-90%	6.00	16.39	0.479	6.00	99.44	6.00	97.35
EX-SWS	BASE	10yr-12hr-10%	1.00	56.38	-0.054	1.00	95.38	1.00	89.83
Pipe-12	BASE	10yr-12hr-10%	1.44	11.26	0.012	1.16	97.81	1.00	95.38
EX-SWS	BASE	10yr-1hr-90%	1.00	75.26	-1.418	1.00	98.55	1.00	90.20
Pipe-12	BASE	10yr-1hr-90%	1.00	15.34	1.699	1.00	98.57	1.00	98.55
EX-SWS	BASE	10yr-24hr-10%	1.00	49.59	-0.069	1.00	94.46	1.00	89.70
Pipe-12	BASE	10yr-24hr-10%	1.04	9.85	-0.016	1.02	96.56	1.00	94.46
EX-SWS	BASE	10yr-6hr-10%	0.84	63.52	0.056	0.84	96.47	0.84	89.96
Pipe-12	BASE	10yr-6hr-10%	1.54	13.22	-0.040	1.13	98.62	0.84	96.47
EX-SWS	BASE	25yr-12hr-10%	1.00	67.99	-0.056	1.00	97.22	1.00	90.05
Pipe-12	BASE	25yr-12hr-10%	2.30	14.27	-0.042	1.53	99.45	1.00	97.22
EX-SWS	BASE	25yr-1hr-90%	1.00	80.24	-1.569	1.00	99.54	1.00	90.32
Pipe-12	BASE	25yr-1hr-90%	1.00	15.79	5.177	1.00	98.94	1.00	99.54
EX-SWS	BASE	25yr-24hr-10%	1.00	62.46	-0.069	1.00	96.30	1.00	89.94
Pipe-12	BASE	25yr-24hr-10%	2.22	12.59	-0.016	1.56	98.64	1.00	96.30
EX-SWS	BASE	25yr-6hr-10%	0.84	73.77	0.063	0.84	98.26	0.84	90.17
Pipe-12	BASE	25yr-6hr-10%	1.89	15.74	-0.061	1.28	99.81	0.84	98.26
EX-SWS	BASE	2yr-12hr-10%	1.01	31.36	-0.069	1.01	92.59	1.01	89.35
Pipe-12	BASE	2yr-12hr-10%	1.01	6.24	-0.014	1.01	93.44	1.01	92.59
EX-SWS	BASE	2yr-1hr-90%	1.00	61.57	-1.244	1.00	96.16	1.00	89.92
Pipe-12	BASE	2yr-1hr-90%	1.00	14.45	0.465	1.00	97.88	1.00	96.16
EX-SWS	BASE	2yr-24hr-10%	1.46	25.42	-0.070	1.50	92.15	1.46	89.23
Pipe-12	BASE	2yr-24hr-10%	1.01	5.18	-0.015	1.01	93.04	1.01	91.80
EX-SWS	BASE	2yr-6hr-10%	0.84	40.37	0.055	0.84	93.40	0.84	89.53
Pipe-12	BASE	2yr-6hr-10%	0.85	7.97	0.013	0.85	94.79	0.84	93.40
EX-SWS	BASE	50-12hr-10%	1.00	76.41	-0.062	1.00	98.77	1.00	90.22
Pipe-12	BASE	50-12hr-10%	2.75	16.15	-0.054	1.73	100.55	1.00	98.77
EX-SWS	BASE	50-1hr-90%	1.00	85.65	-1.643	1.00	100.68	1.00	90.47
Pipe-12	BASE	50-1hr-90%	1.01	16.09	4.589	1.00	99.19	1.00	100.68
EX-SWS	BASE	50-24hr-10%	1.00	70.99	-0.067	1.00	97.75	1.00	90.11
Pipe-12	BASE	50-24hr-10%	2.75	14.52	-0.034	1.71	99.83	1.00	97.75
EX-SWS	BASE	50-6hr-10%	0.84	80.80	-0.075	0.84	99.65	0.84	90.33
Pipe-12	BASE	50-6hr-10%	1.95	17.04	-0.077	1.37	100.67	0.84	99.65

Appendix L Existing Condition Ponding Area Map



Tr	WSE (m)	WD (m)	WD (ft)	Surface Area (m*2)	Volume (m^3)
100	30.52	1.12	3.67	1721	1,556
50	30.31	0.91	3.00	1317	1,010
25	30.09	0.69	2.28	884	424
10	29.94	0.54	1.76	592	140
2	29.74	0.34	1.12	293	46

CERTIFICO QUE SO Y EL PROFESIONAL QUE CONTECCIONO Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS, TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO, CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA DGPE.

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HYDROLOGIC AND HYDRAULIC STUDY
CASA LINDA APARTMENTS
NORTH AVENUE, BAYAMON, PUERTO RICO

PLOT DATE AND TIME 6/19/2020 10:45 AM

NO.	REVISION	DATE
0		00/00/0000

SCALE: AS NOTED

CHECK BY: P.GARCIA
DRAW BY: N.TORRES

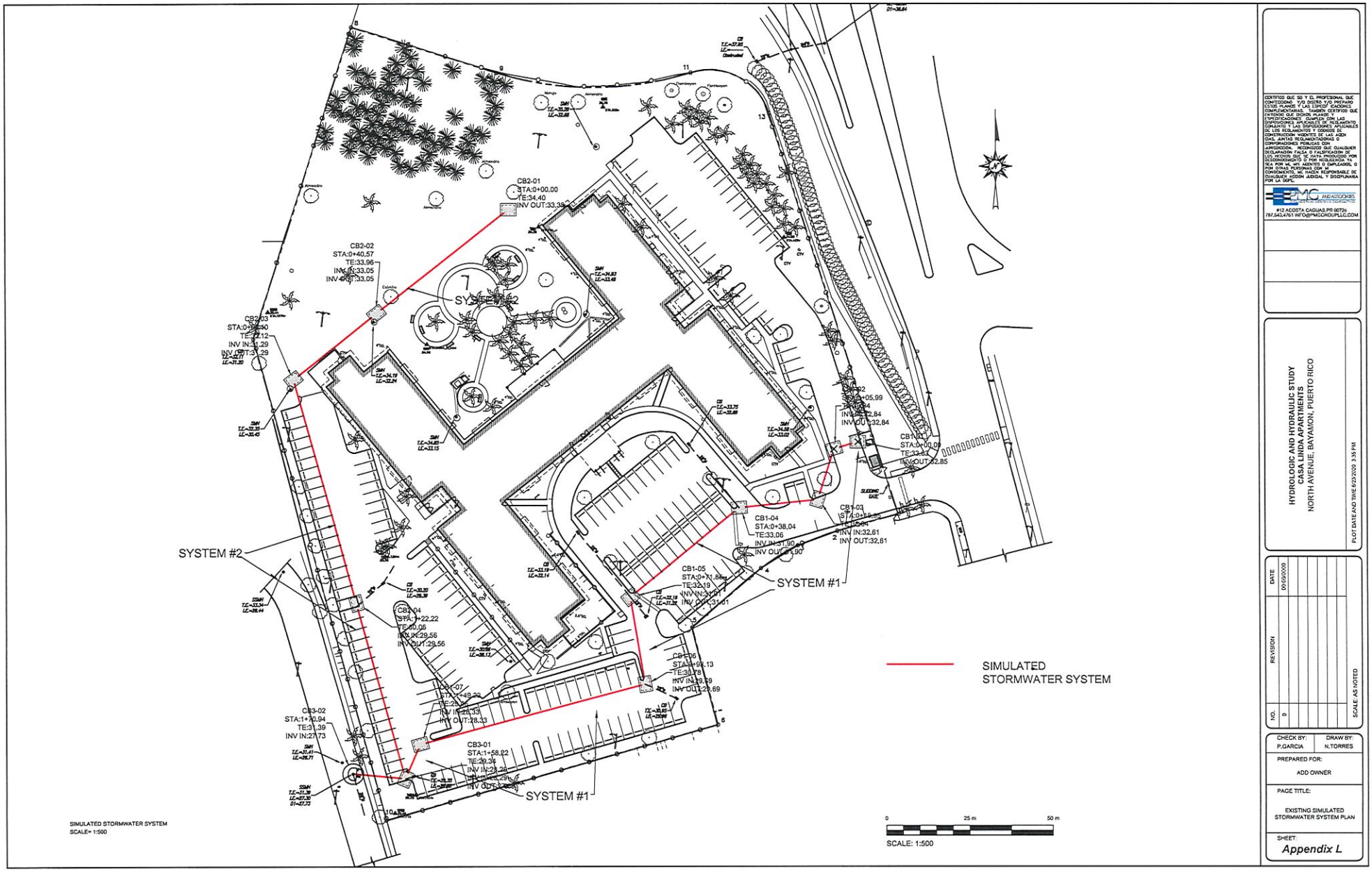
PREPARED FOR: ADD OWNER

PAGE TITLE: EXISTING CONDITION PONDING AREAS

SHEET: *Appendix L*

FILE:M:\32301-Casa-Linda\CAD\WORK\32301_EC-Pond.dwg

Appendix M Existing Stormwater Simulations SitePlan



SIMULATED STORMWATER SYSTEM
SCALE= 1:500

CERTIFICO QUE SO Y EL PROFESIONAL QUE CONTECCIONO Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA DGPE.

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HYDROLOGIC AND HYDRAULIC STUDY
CASA LINDA APARTMENTS
NORTH AVENUE, BAYAMON, PUERTO RICO

PLOT DATE AND TIME 6/23/2020 3:35 PM

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0		00/00/0000

SCALE: AS NOTED

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P.GARCIA	N.TORRES

PREPARED FOR:
ADD OWNER

PAGE TITLE:
EXISTING SIMULATED STORMWATER SYSTEM PLAN

SHEET:
Appendix L

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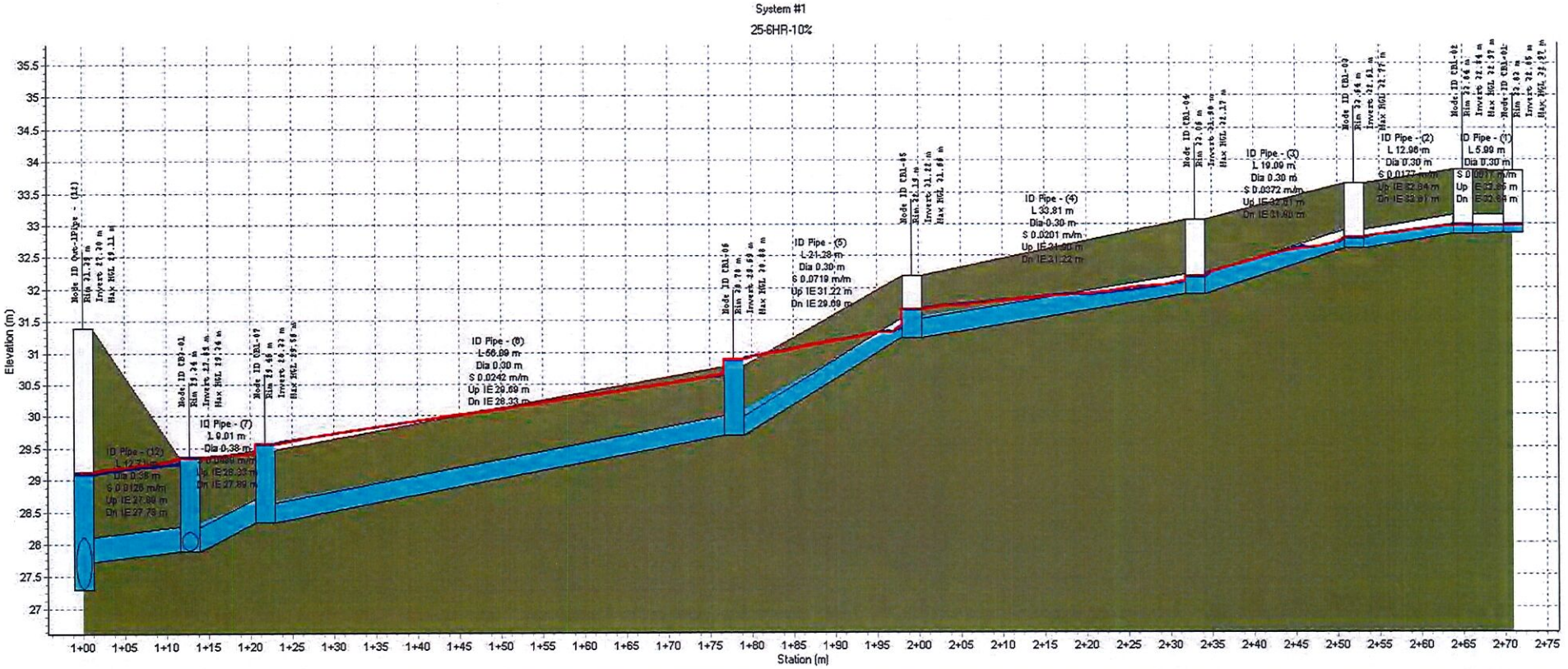
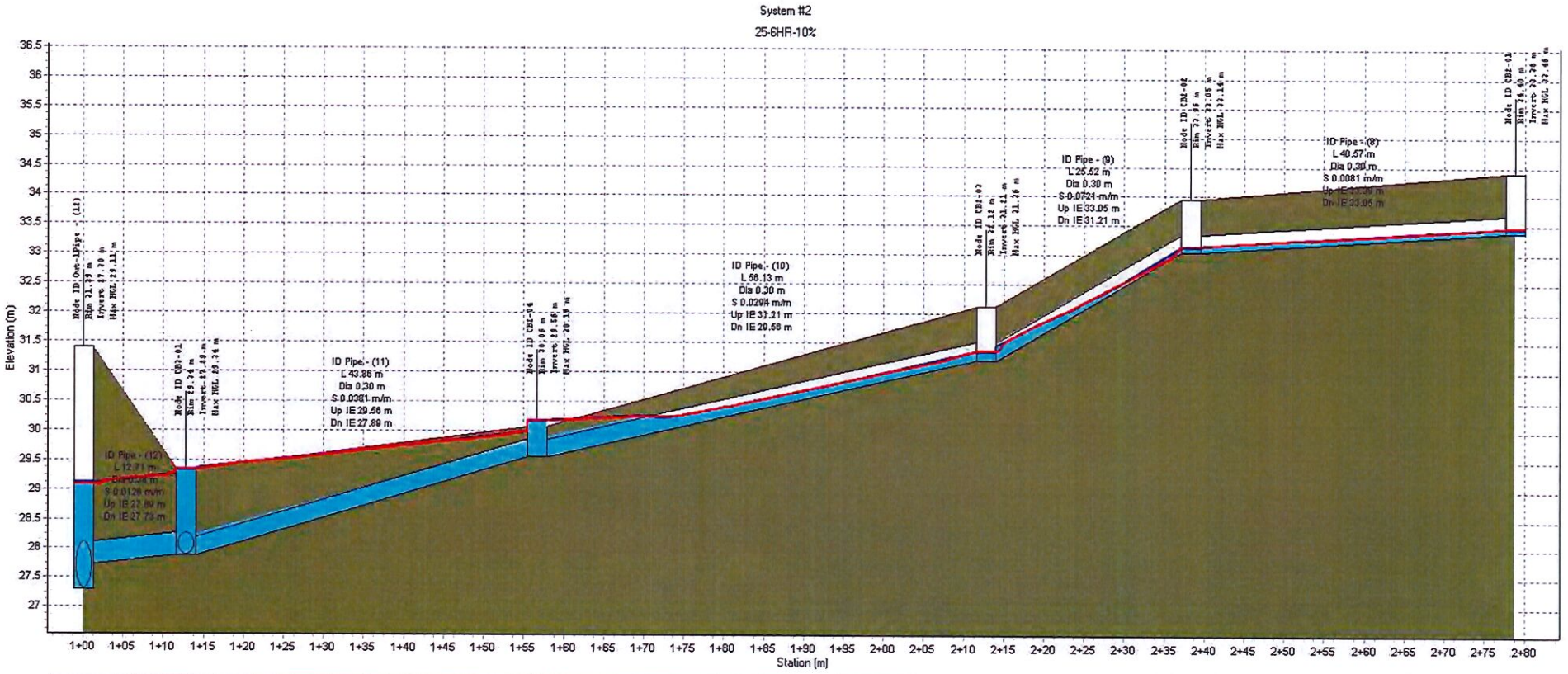
Appendix N Stormwater System Simulation Profiles View



Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	29.34	29.46	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.11	29.34	29.56	30.88	31.66	32.17	32.77	32.97	32.97

ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
L (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up IE (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn IE (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.40	0.18	0.15	0.16	0.12	0.10	0.04	0.00
Max Vel (m/s):	3.61	1.64	2.76	4.31	3.97	1.99	1.21	0.76
Max Depth (m):	0.38	0.38	0.30	0.30	0.28	0.21	0.15	0.13

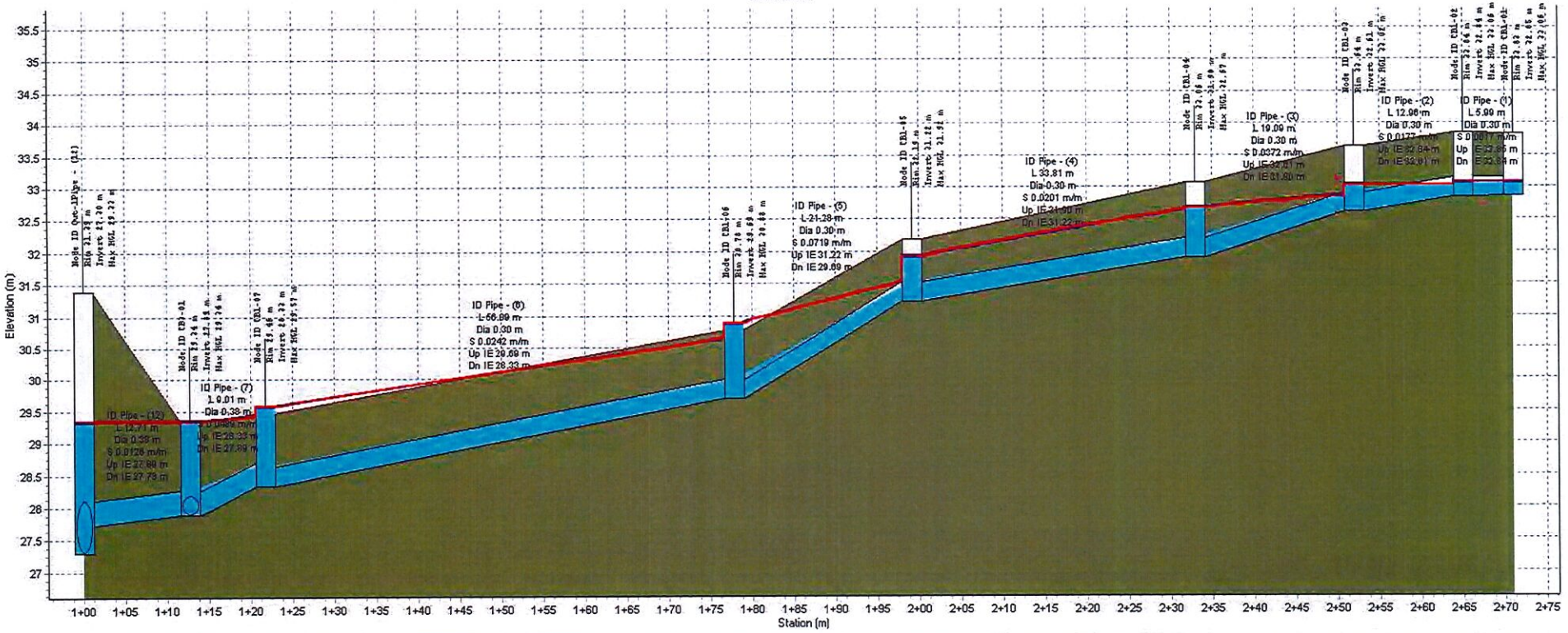


Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	29.34	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.11	29.34	30.16	31.36	33.14	33.46

ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
L (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up IE (m):	27.89	29.56	31.21	33.05	33.38
Dn IE (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.40	0.13	0.14	0.08	0.02
Max Vel (m/s):	3.61	1.81	3.16	11.15	2.02
Max Depth (m):	0.38	0.30	0.23	0.12	0.09

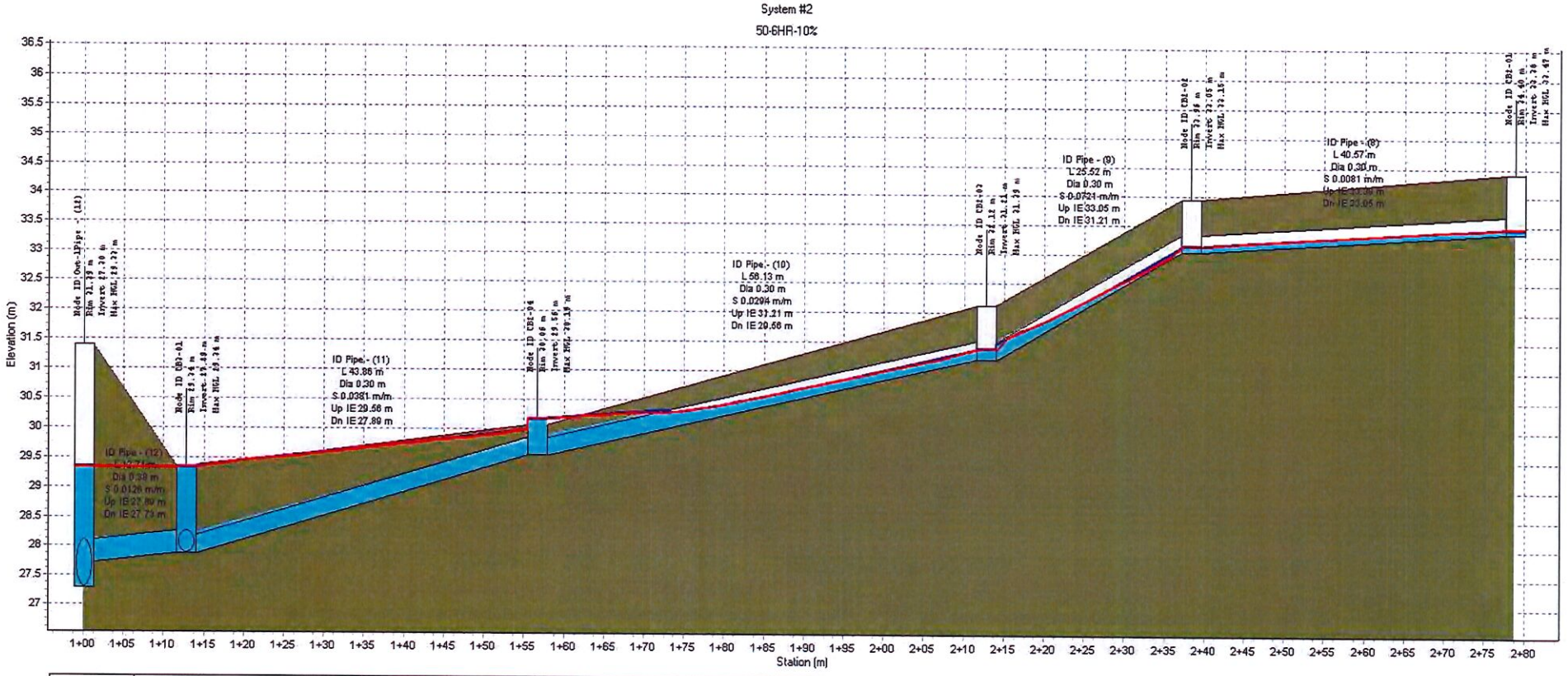
System #1

50-6HR-10%



Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	29.34	29.46	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.33	29.34	29.57	30.88	31.92	32.67	33.02	33.06	33.06

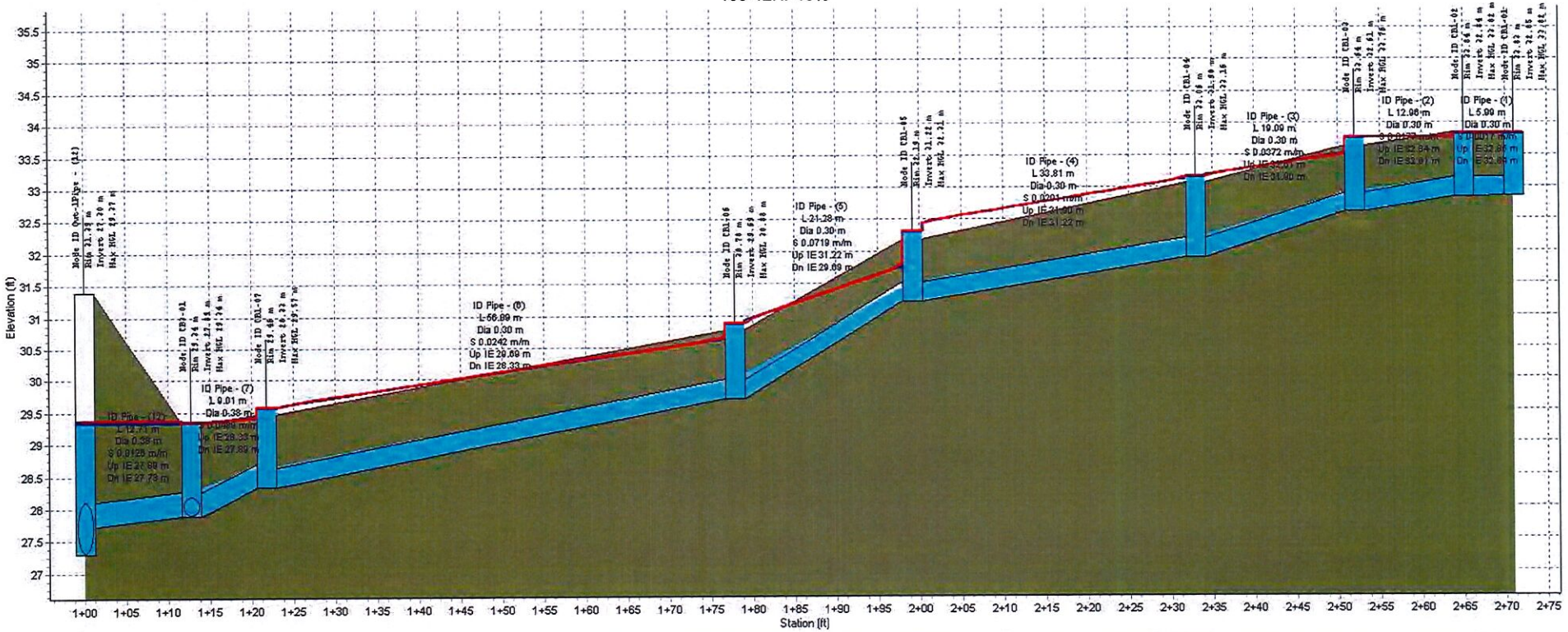
ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
L (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up IE (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn IE (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.40	0.19	0.15	0.19	0.14	0.11	0.05	0.01
Max Vel (m/s):	3.63	1.68	2.39	3.88	3.61	2.00	1.22	0.58
Max Depth (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.26	0.21



Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	29.34	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.33	29.34	30.16	31.39	33.15	33.47

ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
L (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up IE (m):	27.89	29.56	31.21	33.05	33.38
Dn IE (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.40	0.13	0.11	0.07	0.02
Max Vel (m/s):	3.63	1.81	2.94	8.98	1.97
Max Depth (m):	0.38	0.30	0.24	0.14	0.10

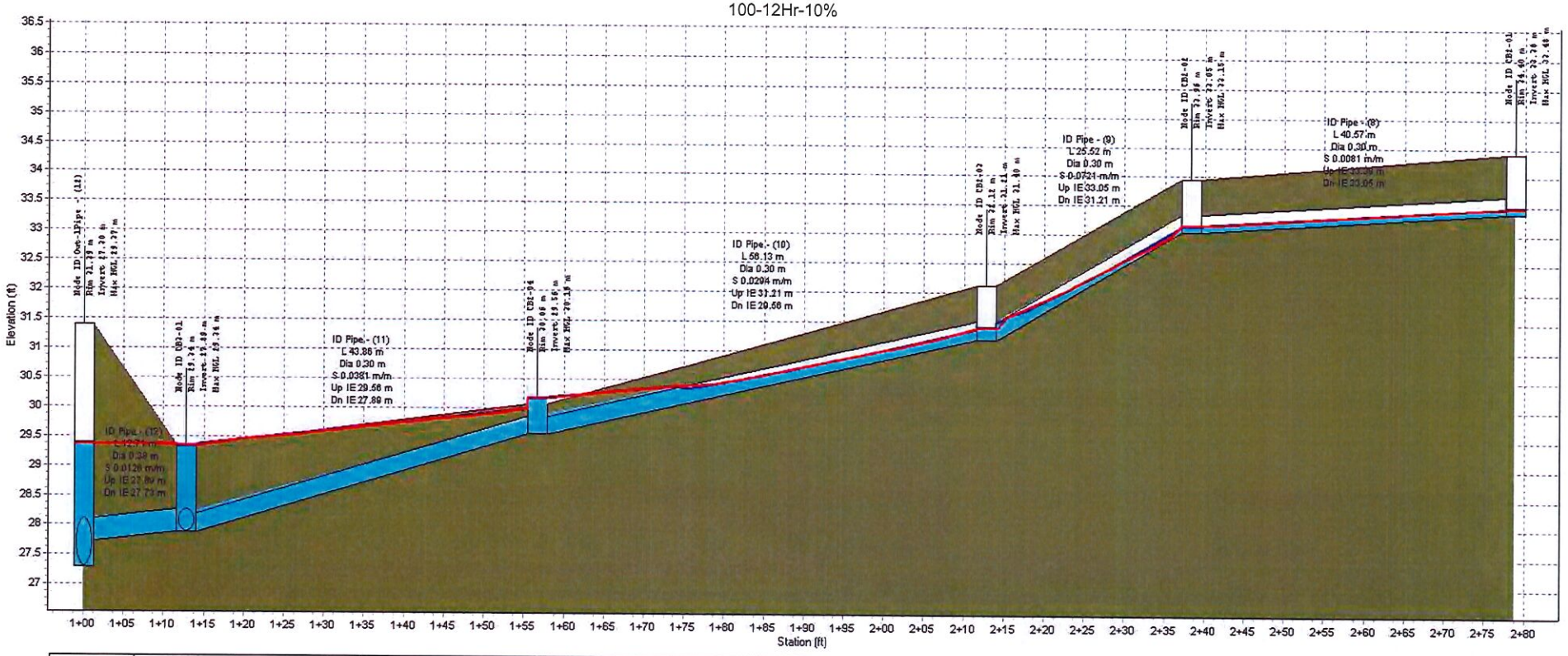
System #1
100-12Hr-10%



Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	29.34	29.46	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.37	29.34	29.57	30.88	32.31	33.16	33.76	33.82	33.82

ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
L (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up IE (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn IE (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.40	0.19	0.15	0.22	0.17	0.16	0.06	0.04
Max Vel (m/s):	3.63	1.70	2.72	4.28	3.87	2.25	1.23	0.77
Max Depth (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30

System #2
100-12Hr-10%



Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	29.34	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.37	29.34	30.16	31.40	33.15	33.48

ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
L (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up IE (m):	27.89	29.56	31.21	33.05	33.38
Dn IE (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.40	0.13	0.12	0.07	0.02
Max Vel (m/s):	3.63	1.81	3.21	10.50	2.02
Max Depth (m):	0.38	0.30	0.25	0.15	0.10

Appendix O Stormwater Sewer System Analysis Output Report

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	100-hr-90%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	81.53	11.38	0.28	0.01	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	81.53	38.23	14.94	0.18	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	81.53	67.44	3.66	0.03	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	81.53	70.08	6.46	0.06	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	81.53	70.08	16.97	0.15	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	81.53	70.08	3.67	0.03	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	81.53	70.03	13.69	0.12	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	81.53	34.09	7.01	0.09	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	81.53	31.57	4.74	0.06	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	81.53	15.27	4.27	0.07	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	81.53	70.08	19.30	0.17	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	81.53	68.20	2.48	0.02	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	3.13	30.17	0.00	1.22	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.80	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	1.02	29.34				86.29	27.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.02	0.05	0.40	0.70	0.30	1.00	12.00	SURCHARGED
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.16	0.18	0.91	2.31	0.30	1.00	4.00	SURCHARGED
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	15.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	39.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.06	0.14	0.43	1.15	0.30	1.00	12.00	SURCHARGED
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.15	0.20	0.73	2.09	0.30	1.00	13.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.16	0.15	1.04	2.45	0.30	1.00	16.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.22	0.28	0.78	3.12	0.30	1.00	18.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.91	2.11	0.30	1.00	26.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.72	0.38	1.00	40.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.03	0.09	0.33	1.32	0.13	0.44	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.11	0.28	0.40	6.91	0.22	0.73	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.80	1.68	1.67	5.39	0.81	1.00	20.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.31	3.16	0.10	0.83	0.08	0.73	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.07	4.26	0.02	0.55	0.01	0.09	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.03	0.93	0.04	0.44	0.01	0.14	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.04	5.28	0.01	0.39	0.05	0.53	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.10	4.83	0.02	0.57	0.01	0.10	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.11	4.80	0.02	0.99	0.06	0.58	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.14	6.02	0.02	1.04	0.06	0.58	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.18	4.80	0.04	0.70	0.05	0.61	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.02	3.90	0.00	0.24	0.06	0.52	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.06	0.45	0.13	0.27	0.02	0.27	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.01	N/A	N/A	N/A	2.00	0.55	33.86
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.18	0.08	0.10	44.73	2.00	0.98	33.90
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.03	0.01	0.02	44.73	2.00	0.18	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.06	0.03	0.03	44.73	2.00	0.31	33.08
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.15	0.07	0.08	44.73	2.00	0.81	32.24
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.03	0.01	0.02	44.73	2.00	0.17	30.79
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.12	0.05	0.07	44.73	2.00	0.65	29.50
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.09	0.03	0.06	36.05	2.00	0.92	34.44
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.06	0.03	0.03	44.73	2.00	0.33	33.98
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.07	0.03	0.04	44.73	2.00	0.37	32.15
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.17	0.08	0.09	44.73	2.00	0.92	30.12

Subbasin Hydrology

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

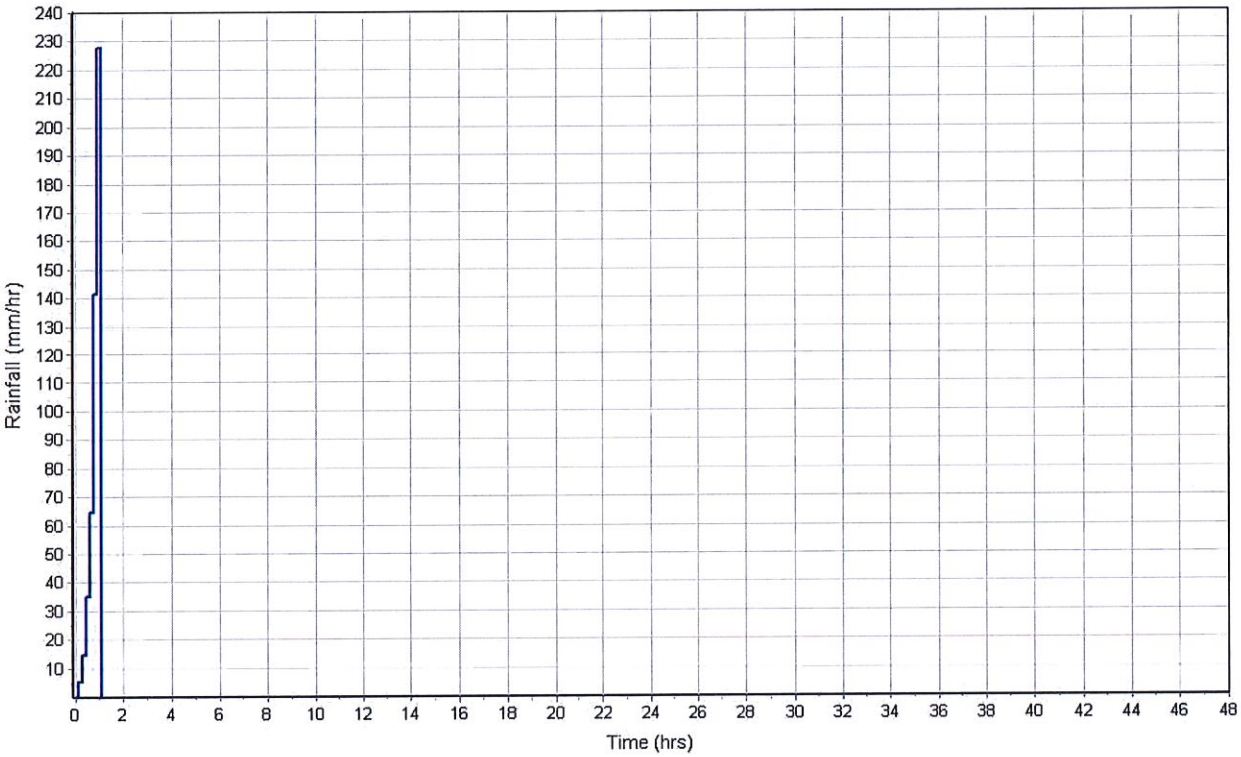
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

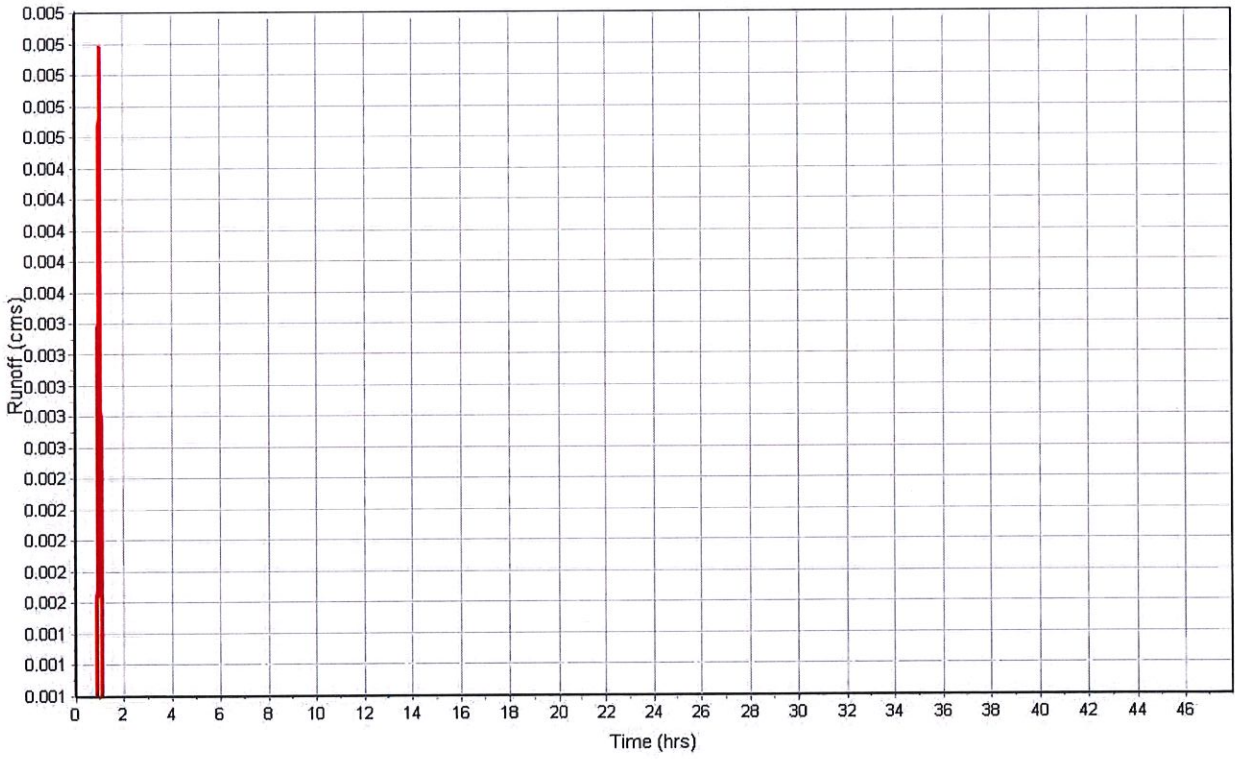
Total Rainfall (mm)	81.53
Total Runoff (mm)	11.38
Peak Runoff (cms)	0.01
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

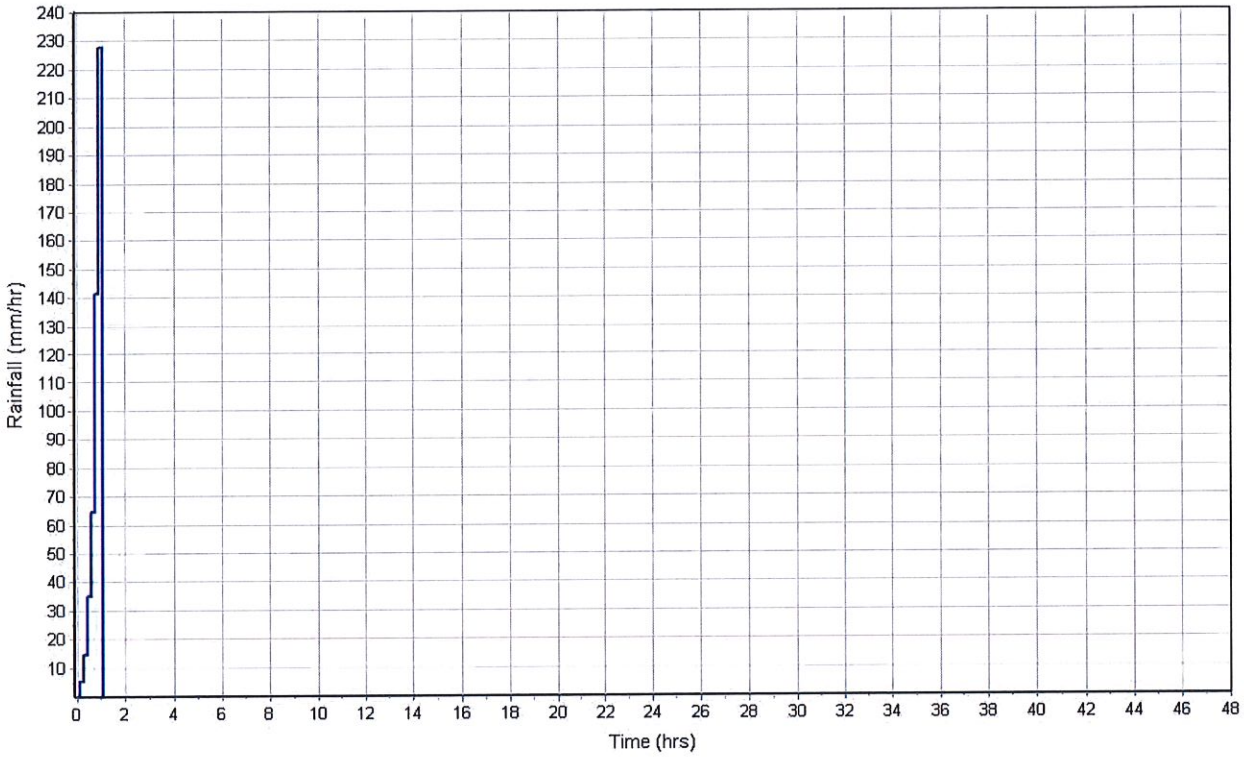
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

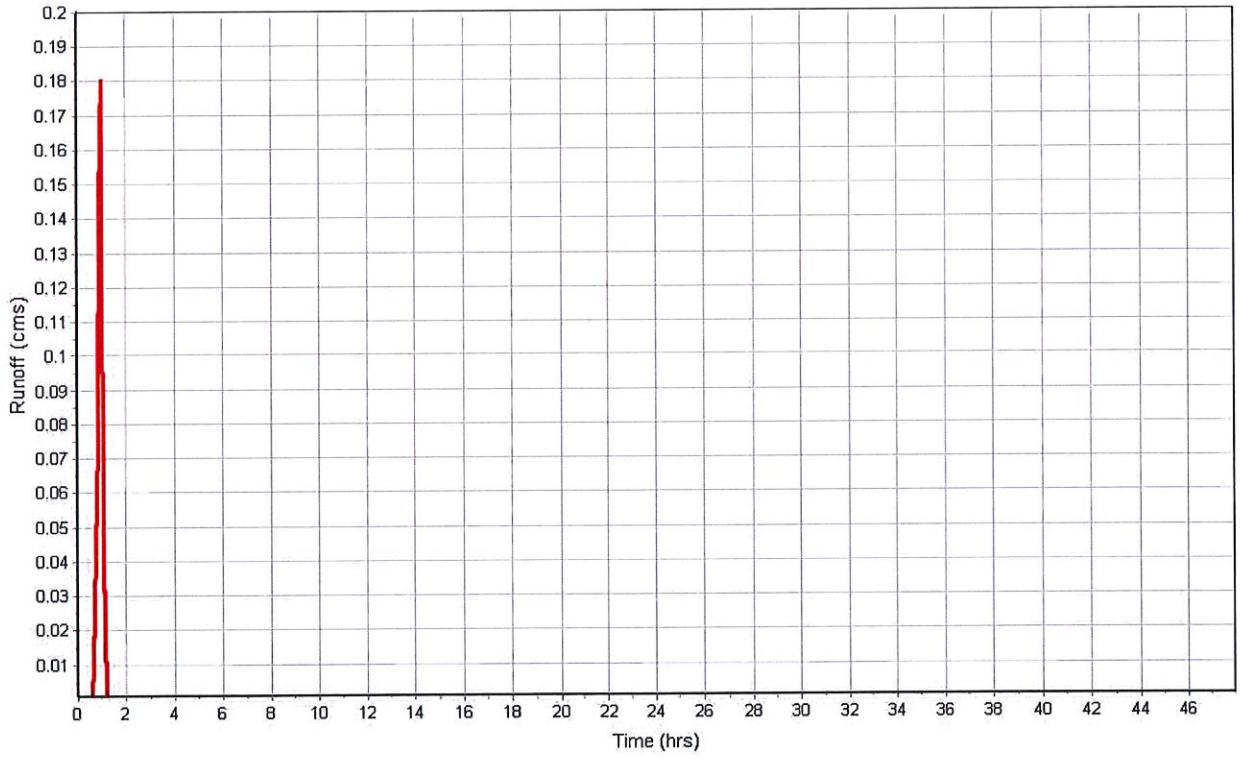
Total Rainfall (mm)	81.53
Total Runoff (mm)	38.23
Peak Runoff (cms)	0.18
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

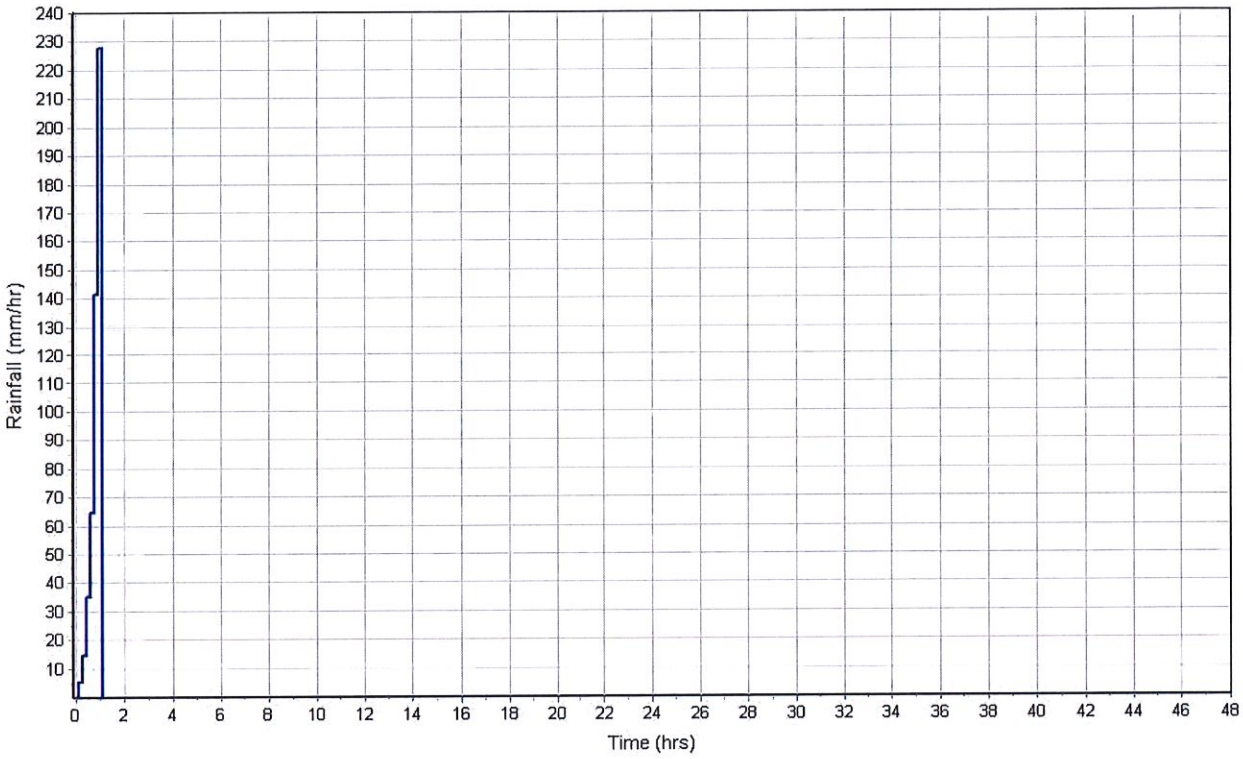
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

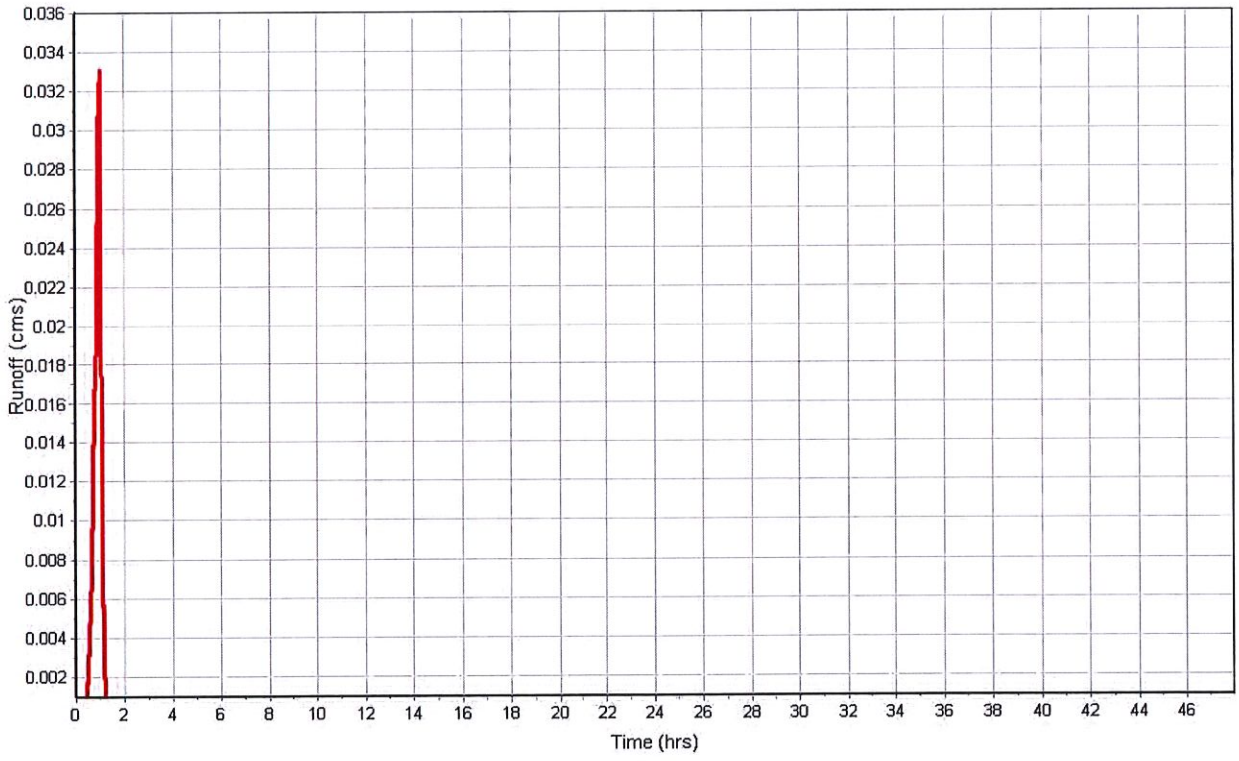
Total Rainfall (mm)	81.53
Total Runoff (mm)	67.44
Peak Runoff (cms)	0.03
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

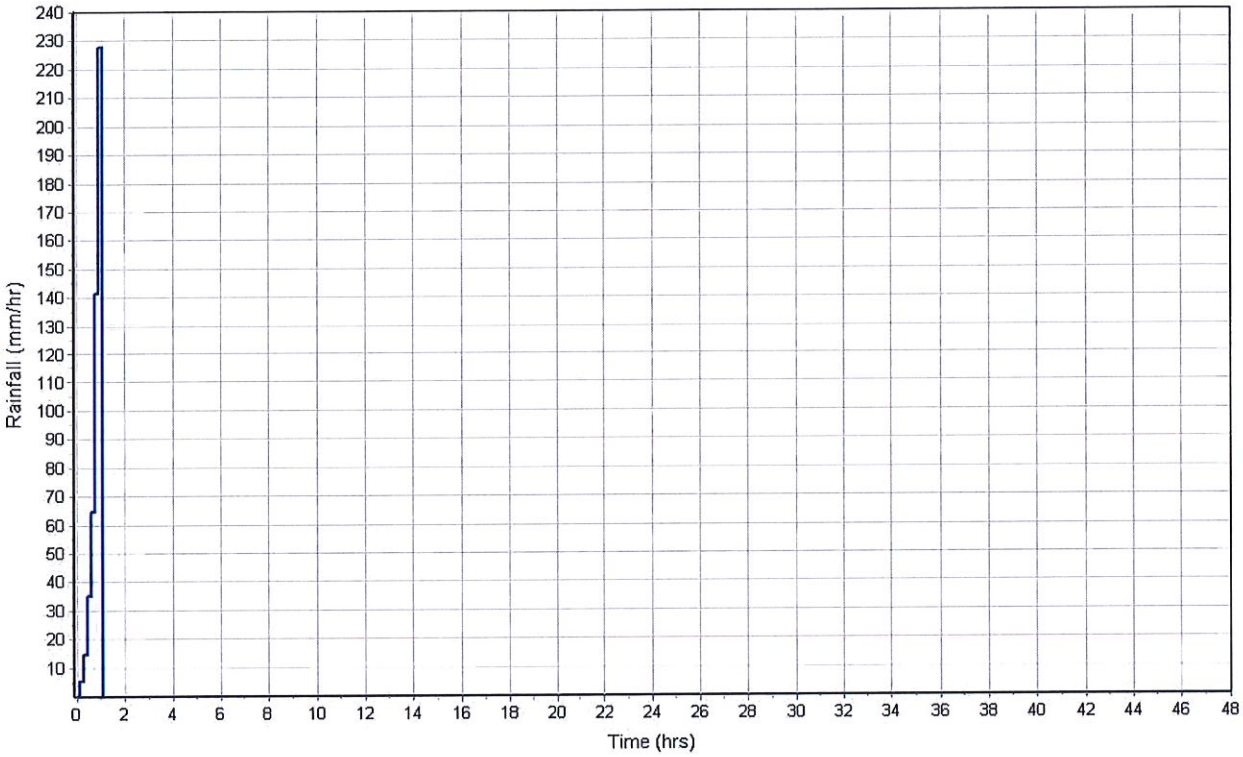
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

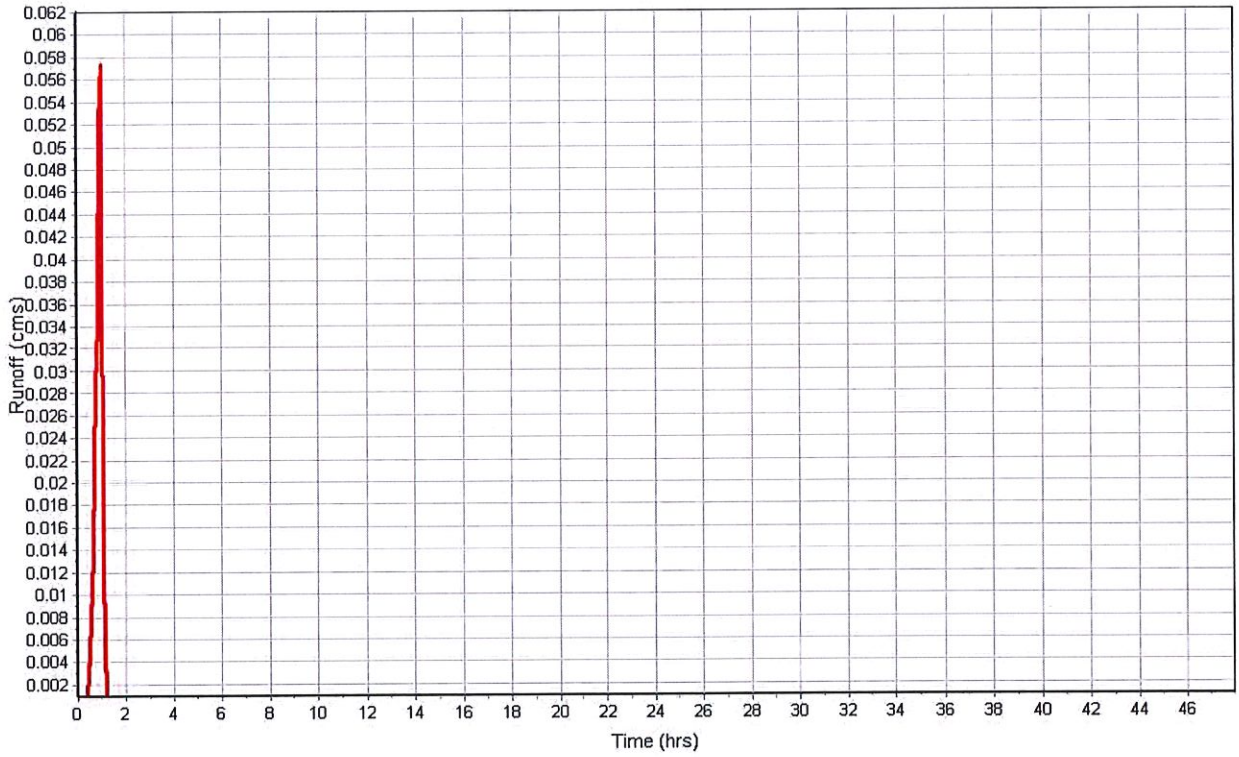
Total Rainfall (mm)	81.53
Total Runoff (mm)	70.08
Peak Runoff (cms)	0.06
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

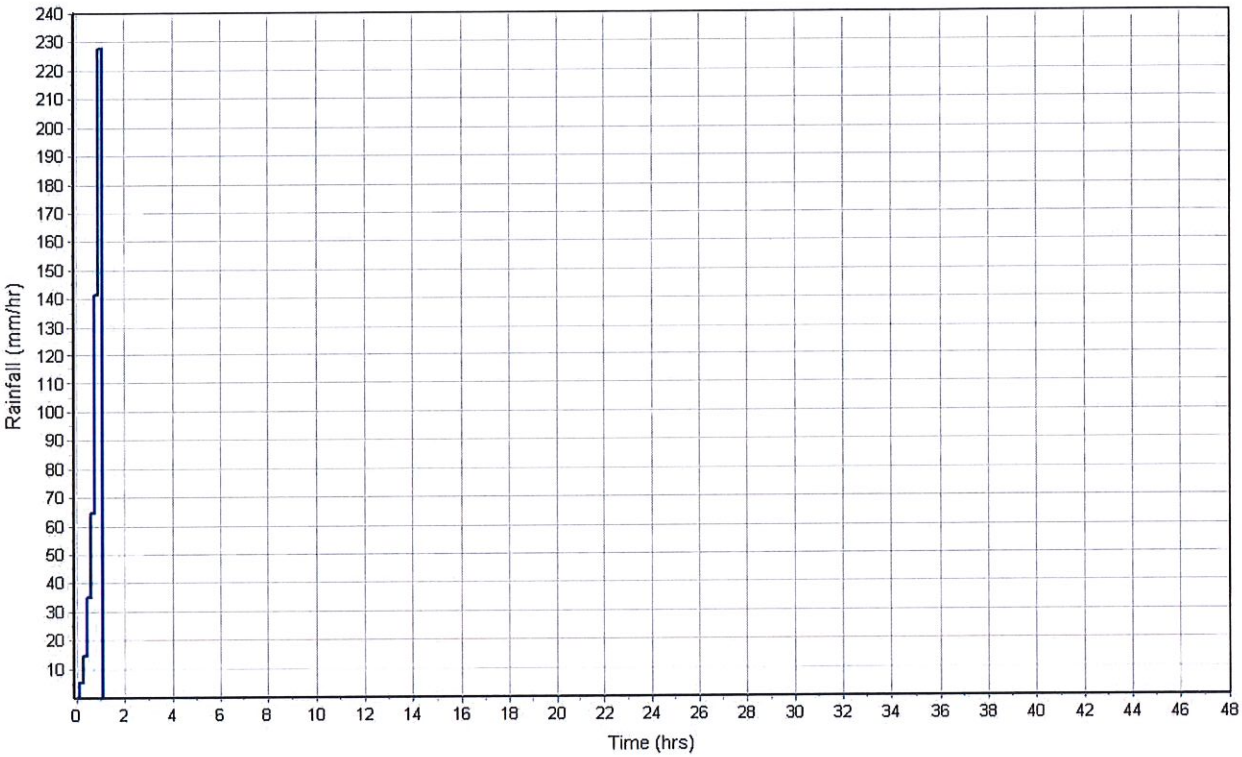
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

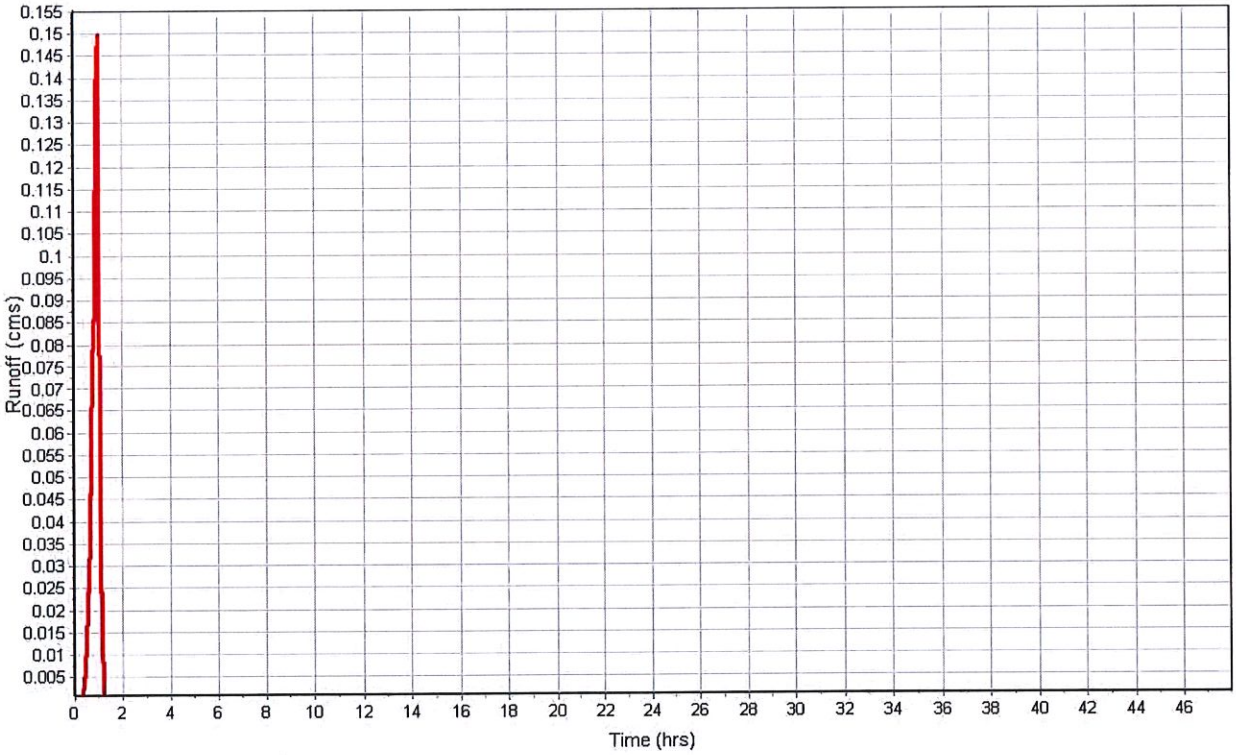
Total Rainfall (mm)	81.53
Total Runoff (mm)	70.08
Peak Runoff (cms)	0.15
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

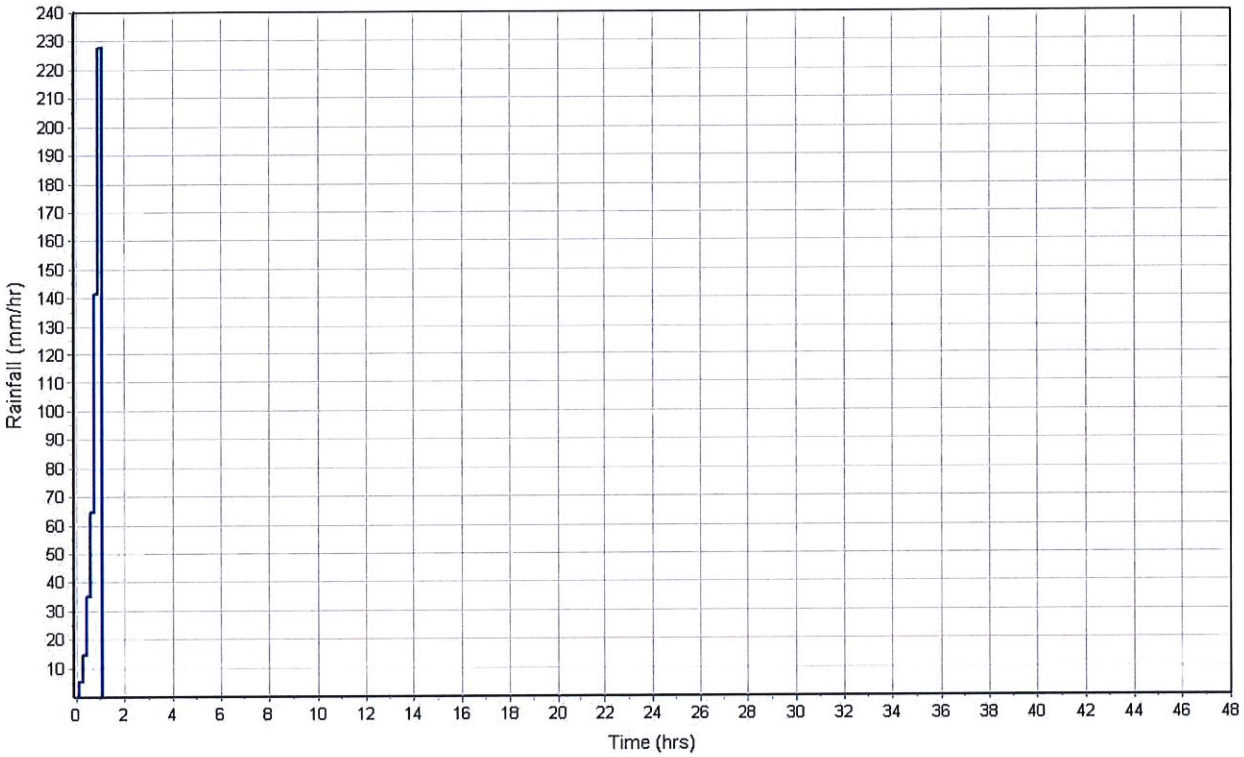
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

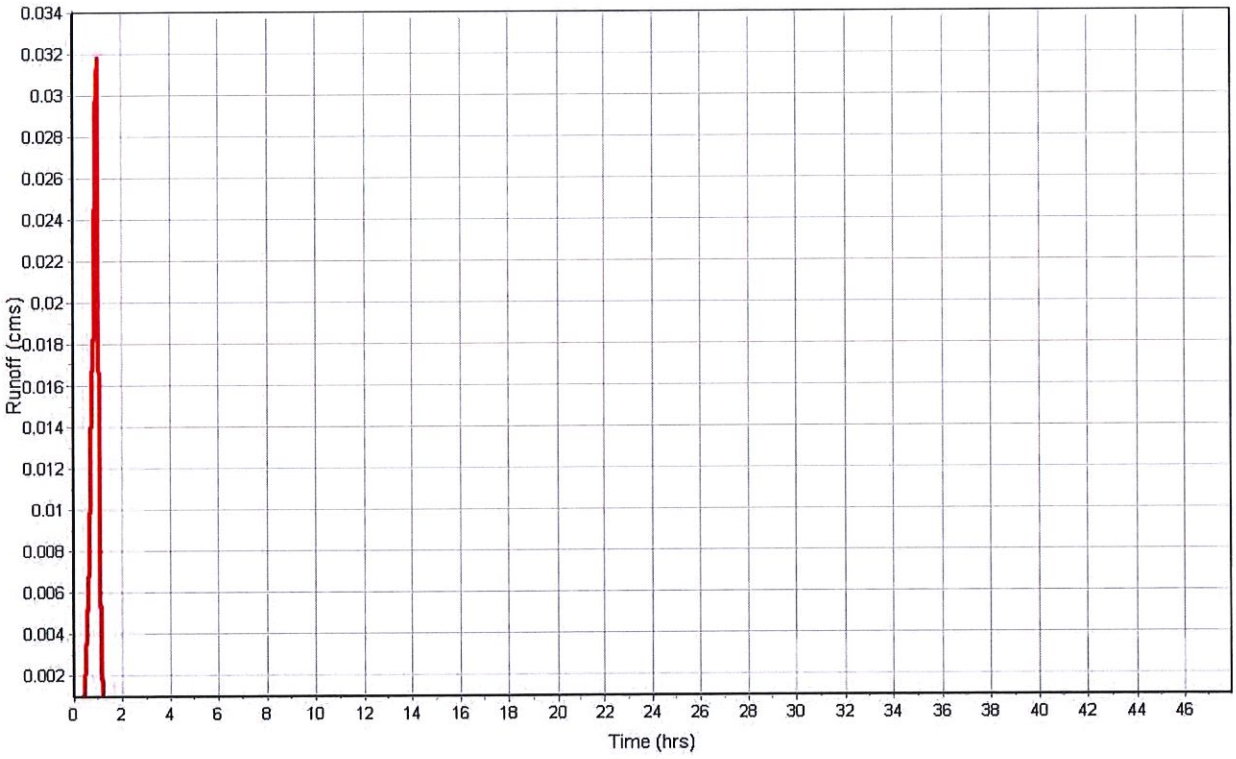
Total Rainfall (mm)	81.53
Total Runoff (mm)	70.08
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

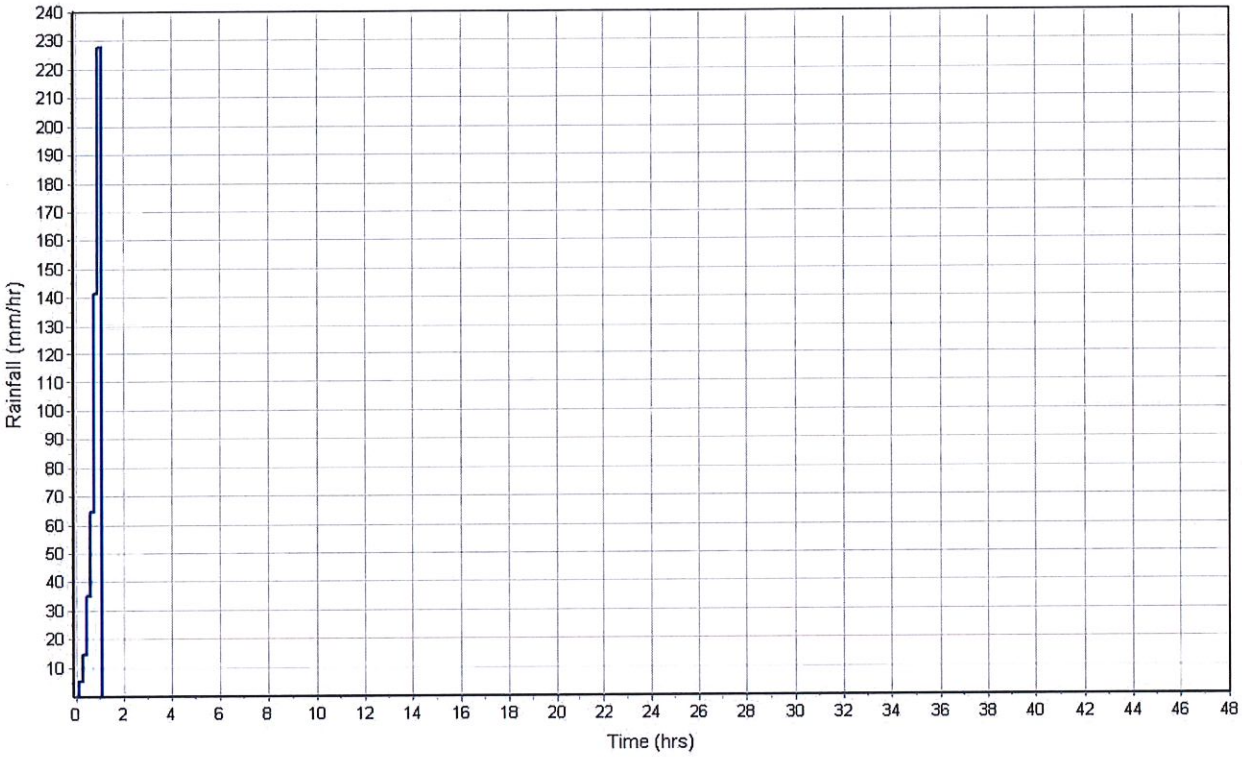
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

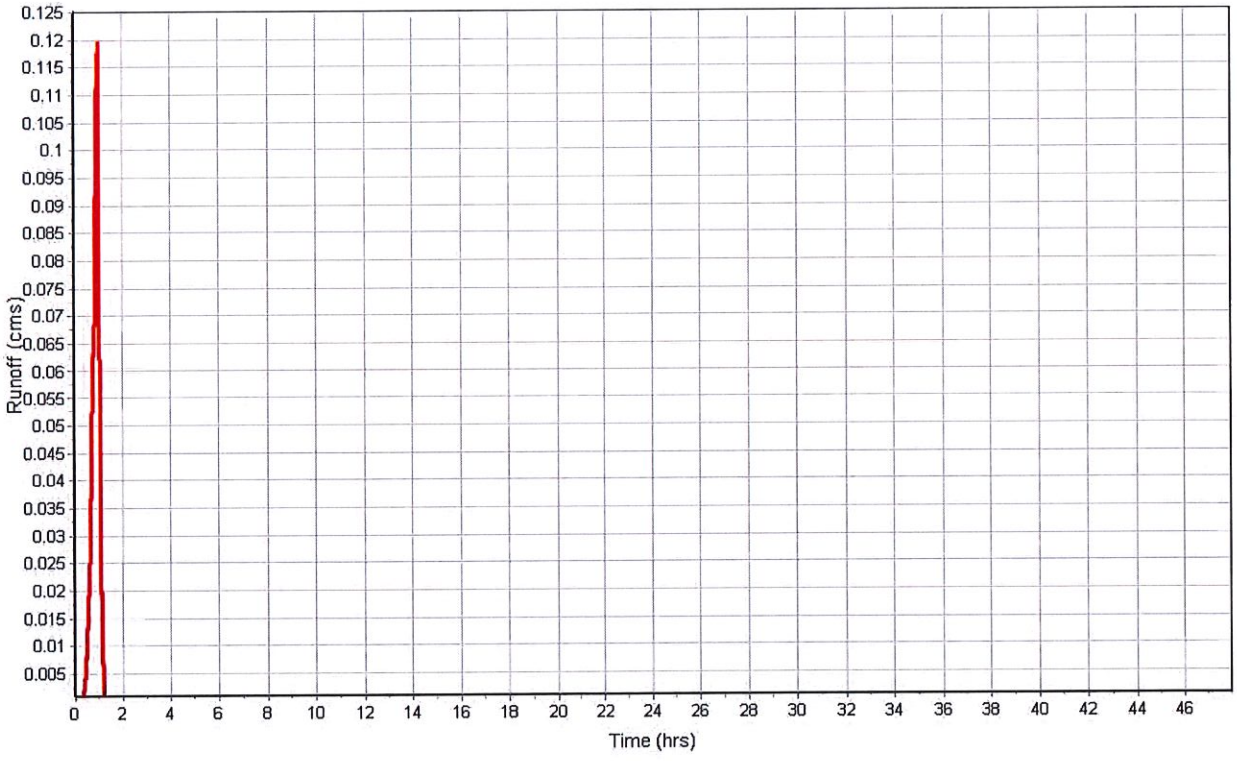
Total Rainfall (mm)	81.53
Total Runoff (mm)	70.03
Peak Runoff (cms)	0.12
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

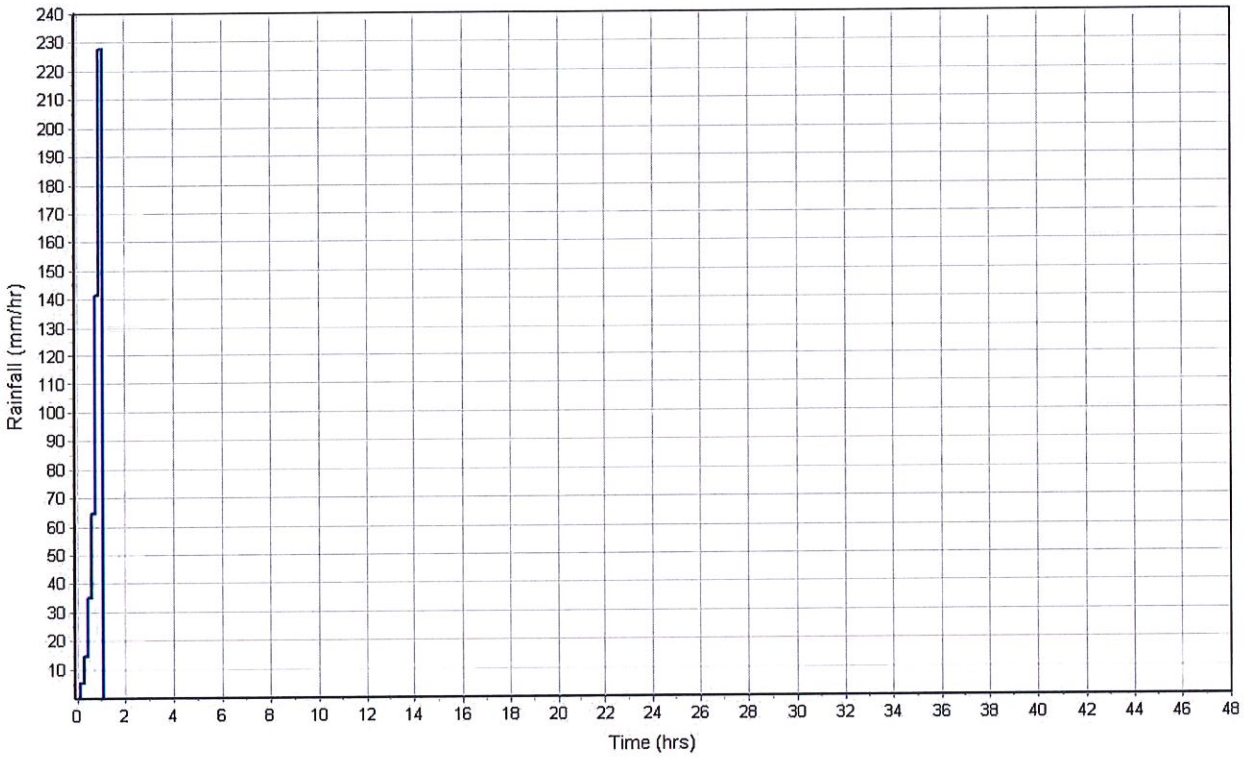
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

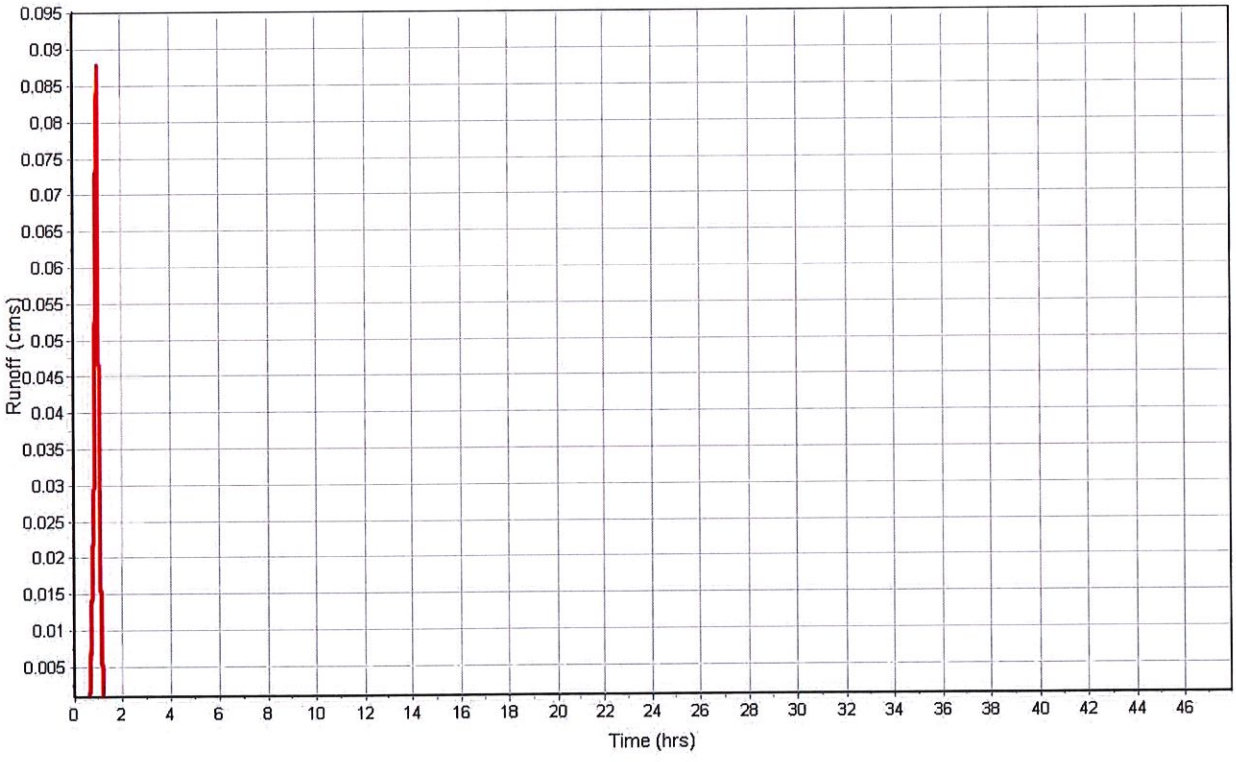
Total Rainfall (mm)	81.53
Total Runoff (mm)	34.09
Peak Runoff (cms)	0.09
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

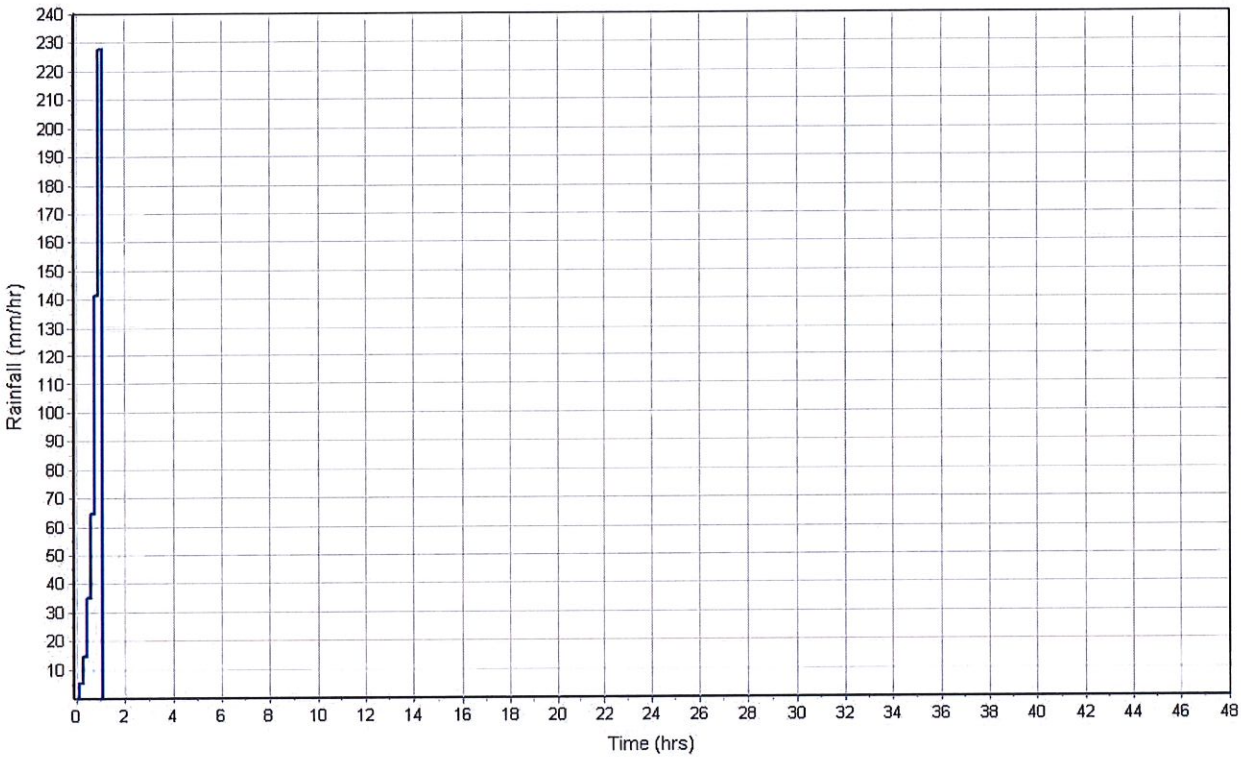
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

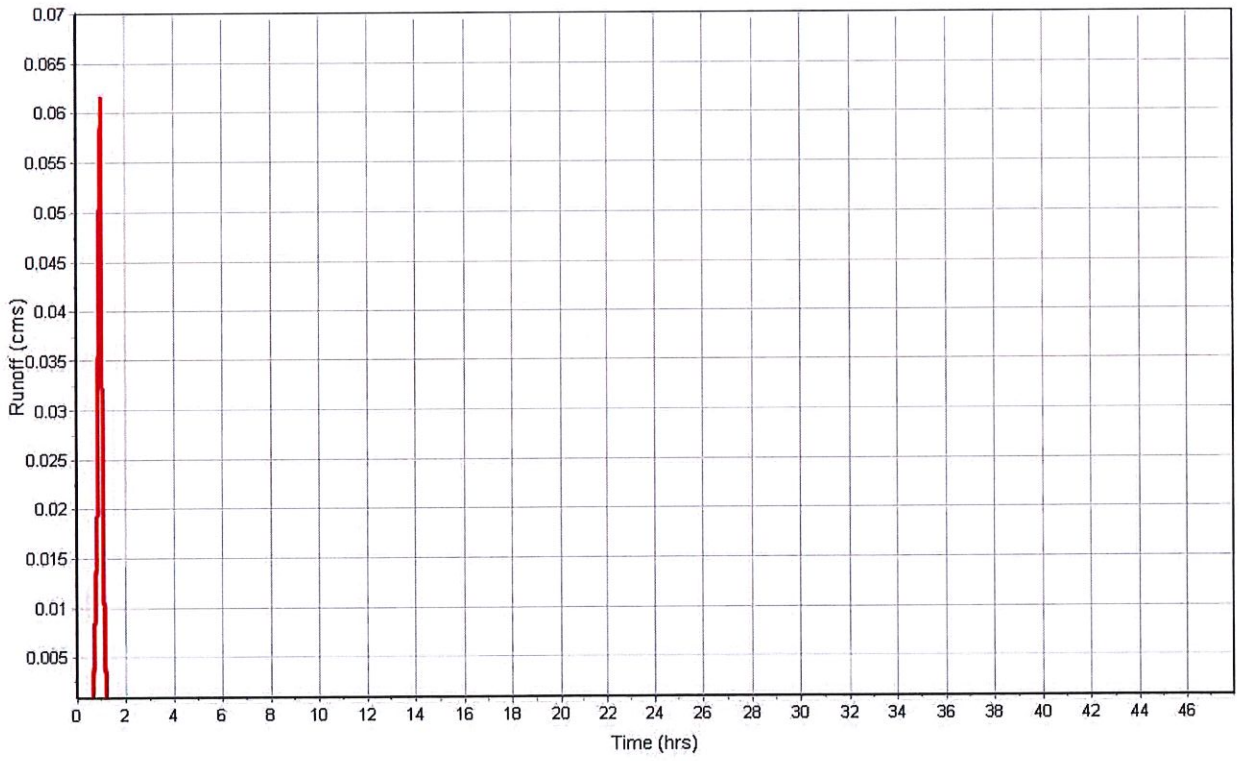
Total Rainfall (mm)	81.53
Total Runoff (mm)	31.57
Peak Runoff (cms)	0.06
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

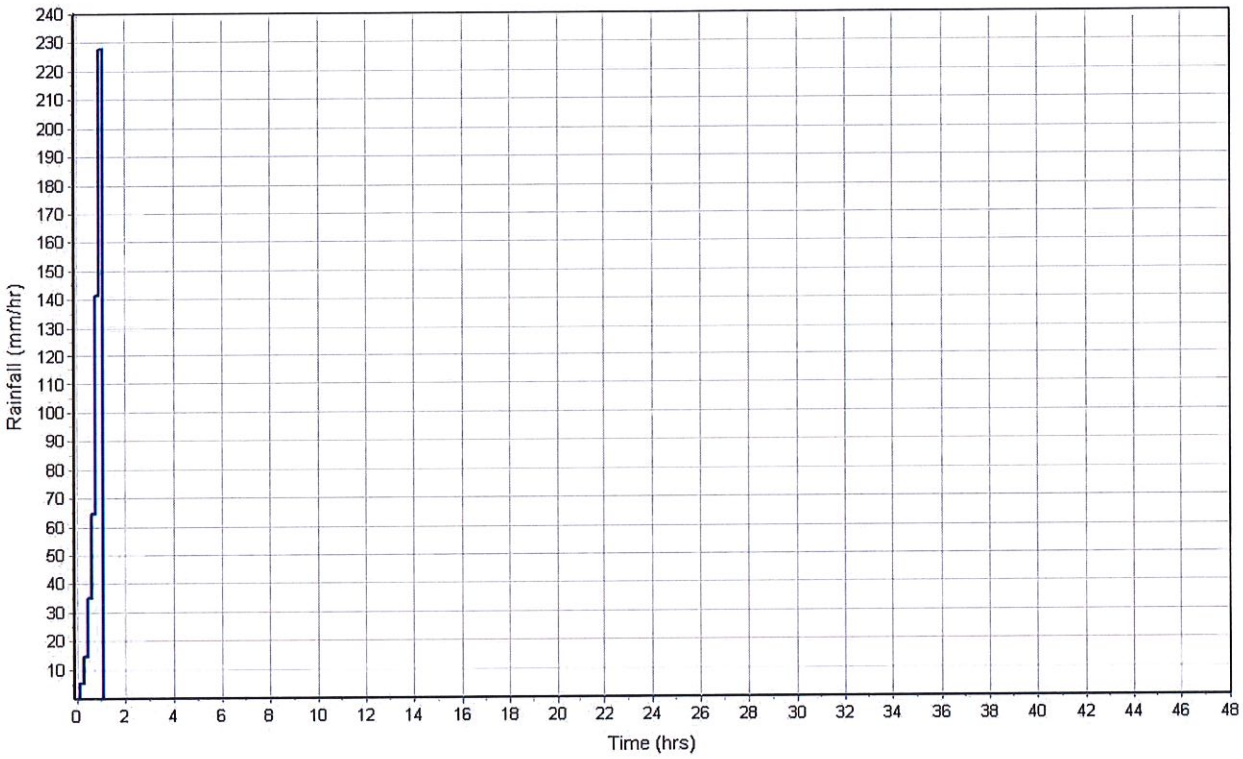
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

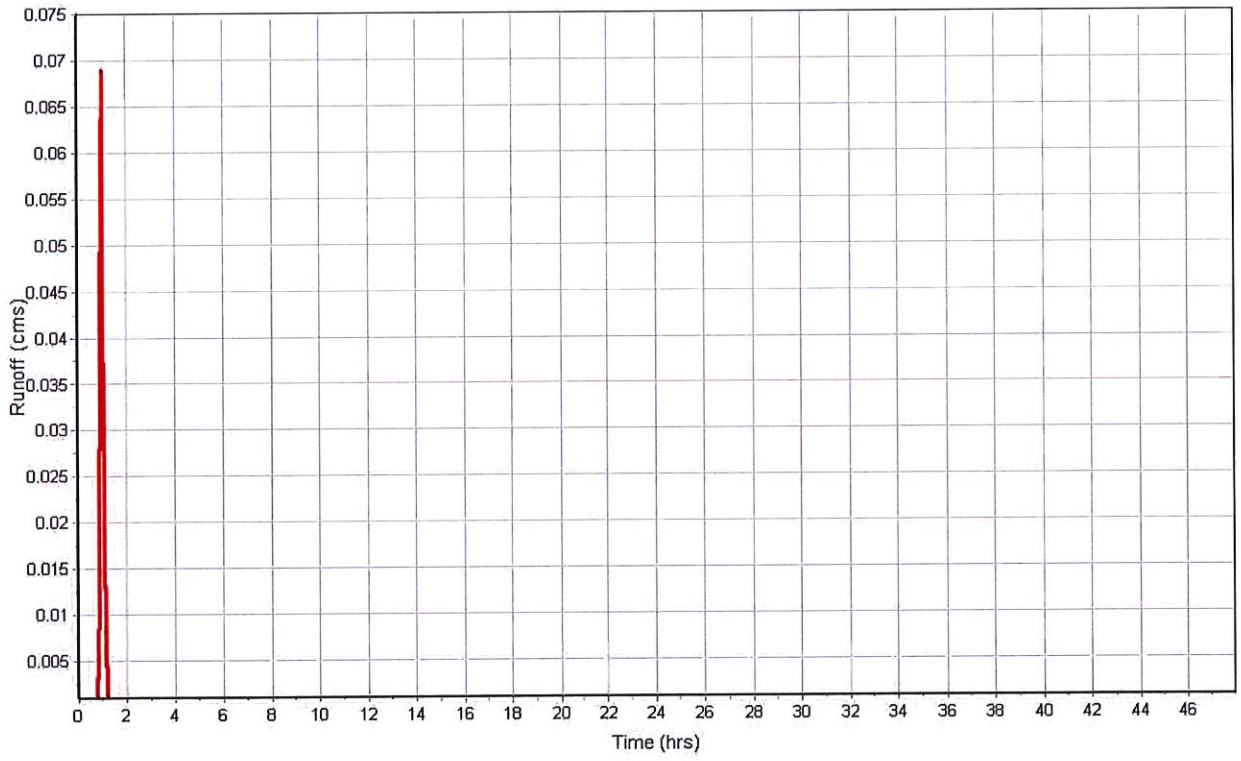
Total Rainfall (mm)	81.53
Total Runoff (mm)	15.27
Peak Runoff (cms)	0.07
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

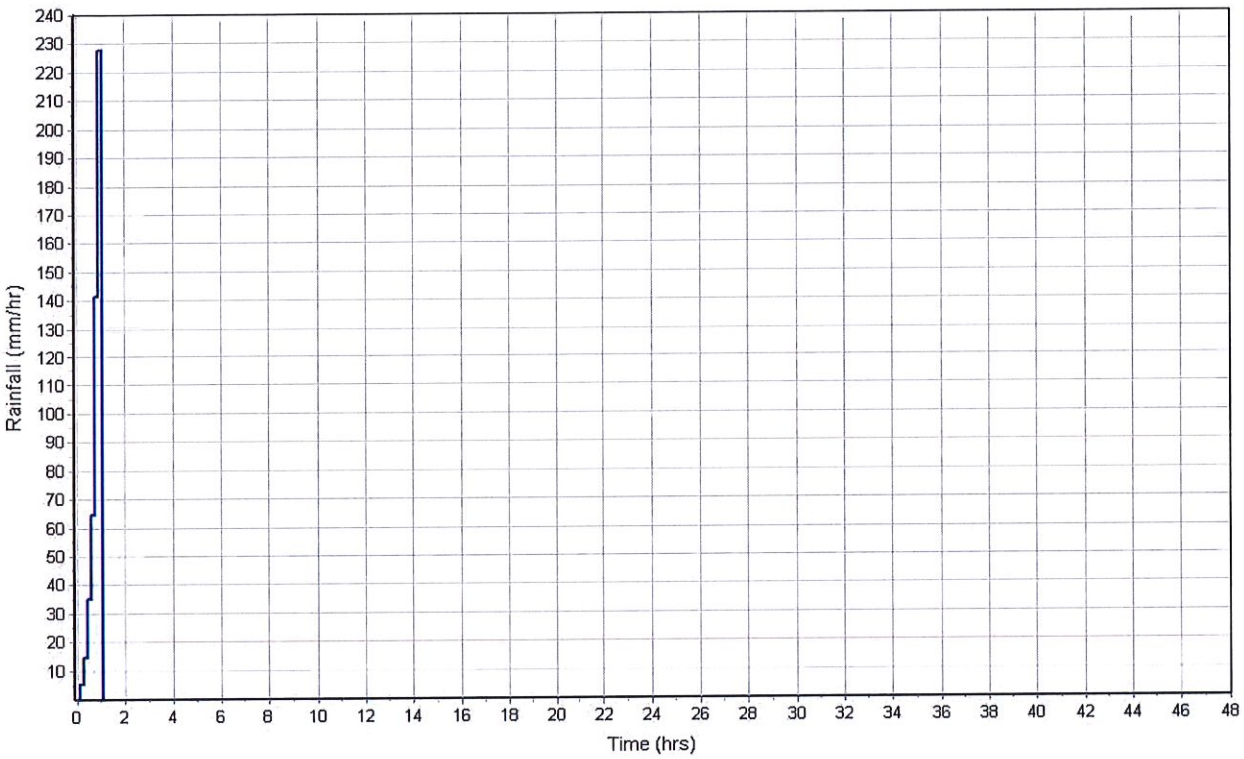
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

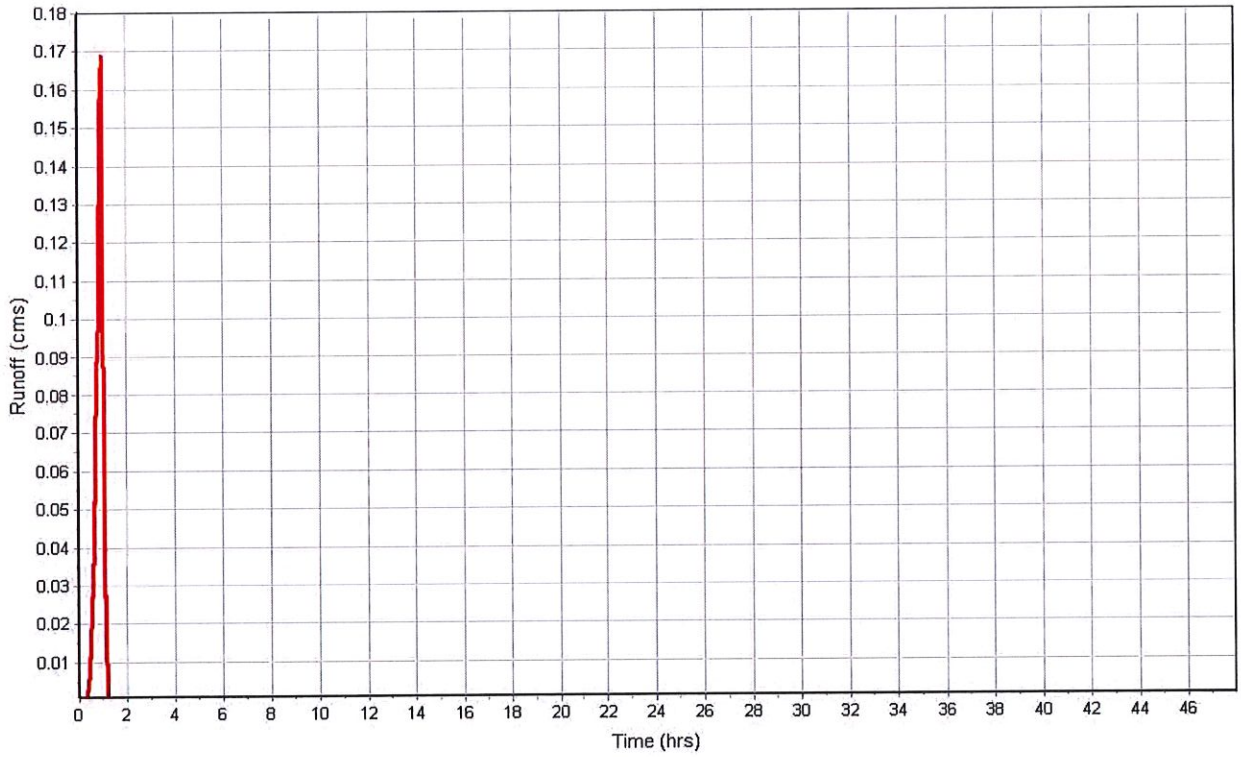
Total Rainfall (mm)	81.53
Total Runoff (mm)	70.08
Peak Runoff (cms)	0.17
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

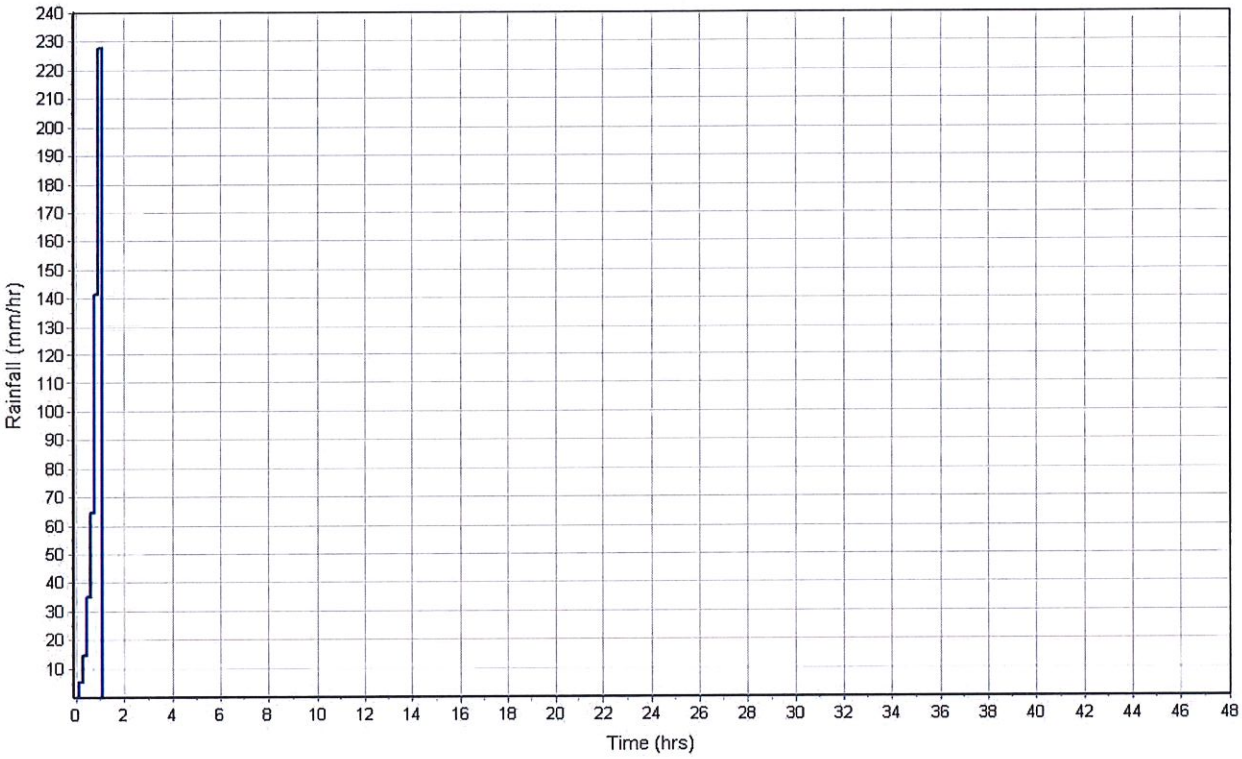
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

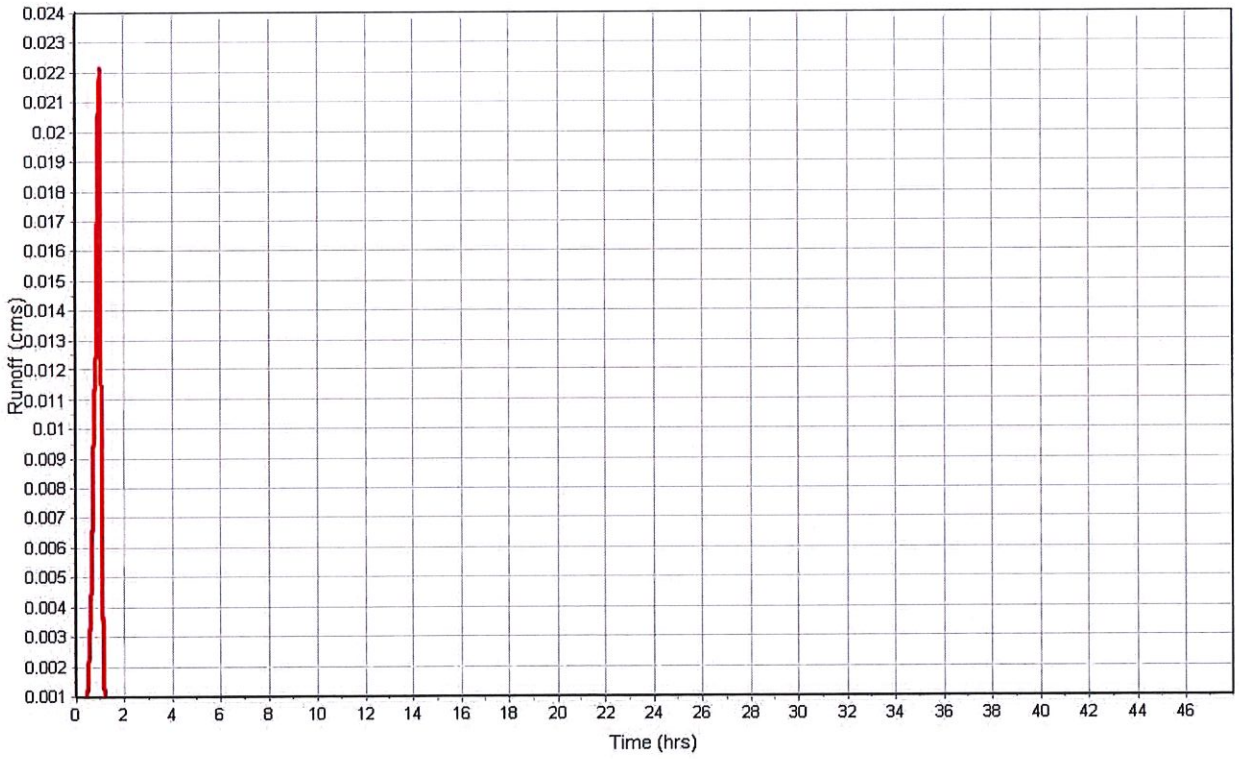
Total Rainfall (mm)	81.53
Total Runoff (mm)	68.20
Peak Runoff (cms)	0.02
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m²)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	3.13	3.13	30.17	2.87	0.00	1.22	27.54	0.24	0 01:09	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Shape	Height	Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate
		(m)	(m)	(m)	(m)	(m)	(m)	(%)		(m)	(m)					(cms)	
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	0.31	0 01:02	3.16	0.10	0.83	0.26	0.08	0.73	0.00		
2	OF-06	0.07	0 01:05	4.26	0.02	0.55	0.28	0.01	0.09	0.00		
3	OF-08	0.03	0 01:04	0.93	0.04	0.44	0.97	0.01	0.14	0.00		
4	OF-09	0.04	0 01:04	5.28	0.01	0.39	2.40	0.05	0.53	0.00		
5	OF-10	0.10	0 01:05	4.83	0.02	0.57	1.28	0.01	0.10	0.00		
6	OF-2	0.11	0 01:02	4.80	0.02	0.99	0.32	0.06	0.58	0.00		
7	OF-3	0.14	0 01:02	6.02	0.02	1.04	0.54	0.06	0.58	0.00		
8	OF-4	0.18	0 00:58	4.80	0.04	0.70	0.51	0.05	0.61	0.00		
9	OF-5	0.02	0 01:04	3.90	0.00	0.24	3.90	0.06	0.52	0.00		
10	OF-7	0.06	0 01:04	0.45	0.13	0.27	2.50	0.02	0.27	0.00		

Pipe Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	No. of Barrels
		(m)	(m)	(m)	(m)	(m)	(m)	(%)		(m)	(m)					(cms)		
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	Pipe - (1)	0.02	0 00:59	0.05	0.40	0.70	0.14	0.30	1.00	12.00		SURCHARGED
2	Pipe - (10)	0.16	0 01:05	0.18	0.91	2.31	0.40	0.30	1.00	4.00		SURCHARGED
3	Pipe - (11)	0.13	0 01:01	0.20	0.63	1.81	0.40	0.30	1.00	15.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:49	0.21	1.88	3.63	0.06	0.38	1.00	39.00		SURCHARGED
5	Pipe - (2)	0.06	0 01:05	0.14	0.43	1.15	0.19	0.30	1.00	12.00		SURCHARGED
6	Pipe - (3)	0.15	0 01:03	0.20	0.73	2.09	0.15	0.30	1.00	13.00		SURCHARGED
7	Pipe - (4)	0.16	0 01:09	0.15	1.04	2.45	0.23	0.30	1.00	16.00		SURCHARGED
8	Pipe - (5)	0.22	0 01:03	0.28	0.78	3.12	0.11	0.30	1.00	18.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:12	0.16	0.91	2.11	0.44	0.30	1.00	26.00		SURCHARGED
10	Pipe - (7)	0.19	0 01:05	0.42	0.45	1.72	0.09	0.38	1.00	40.00		SURCHARGED
11	Pipe - (8)	0.03	0 01:05	0.09	0.33	1.32	0.51	0.13	0.44	0.00		Calculated
12	Pipe - (9)	0.11	0 01:05	0.28	0.40	6.91	0.06	0.22	0.73	0.00		Calculated
13	Pipe-Out	2.80	0 01:09	1.68	1.67	5.39	0.05	0.81	1.00	20.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.01	0.01	N/A	N/A	N/A	0.55	33.86	0.03	0 00:59	0.72	8.00
2	CB1-02	0.18	0.18	0.08	0.10	44.73	0.98	33.90	0.06	0 00:59	0.02	1.00
3	CB1-03	0.03	0.03	0.01	0.02	44.73	0.18	33.65	0.01	0 00:59	5.88	9.00
4	CB1-04	0.06	0.06	0.03	0.03	44.73	0.31	33.08	0.02	0 00:59	4.55	10.00
5	CB1-05	0.15	0.15	0.07	0.08	44.73	0.81	32.24	0.05	0 00:59	3.15	9.00
6	CB1-06	0.03	0.03	0.01	0.02	44.73	0.17	30.79	0.01	0 00:51	14.36	21.00
7	CB1-07	0.12	0.12	0.05	0.07	44.73	0.65	29.50	0.04	0 00:55	1.16	12.00
8	CB2-01	0.09	0.09	0.03	0.06	36.05	0.92	34.44	0.03	0 01:05	0.00	0.00
9	CB2-02	0.06	0.06	0.03	0.03	44.73	0.33	33.98	0.02	0 01:05	0.00	0.00
10	CB2-03	0.07	0.07	0.03	0.04	44.73	0.37	32.15	0.02	0 01:05	0.00	0.00
11	CB2-04	0.17	0.17	0.08	0.09	44.73	0.92	30.12	0.05	0 00:57	6.80	12.00

Storage Nodes

Storage Node : CB3-01

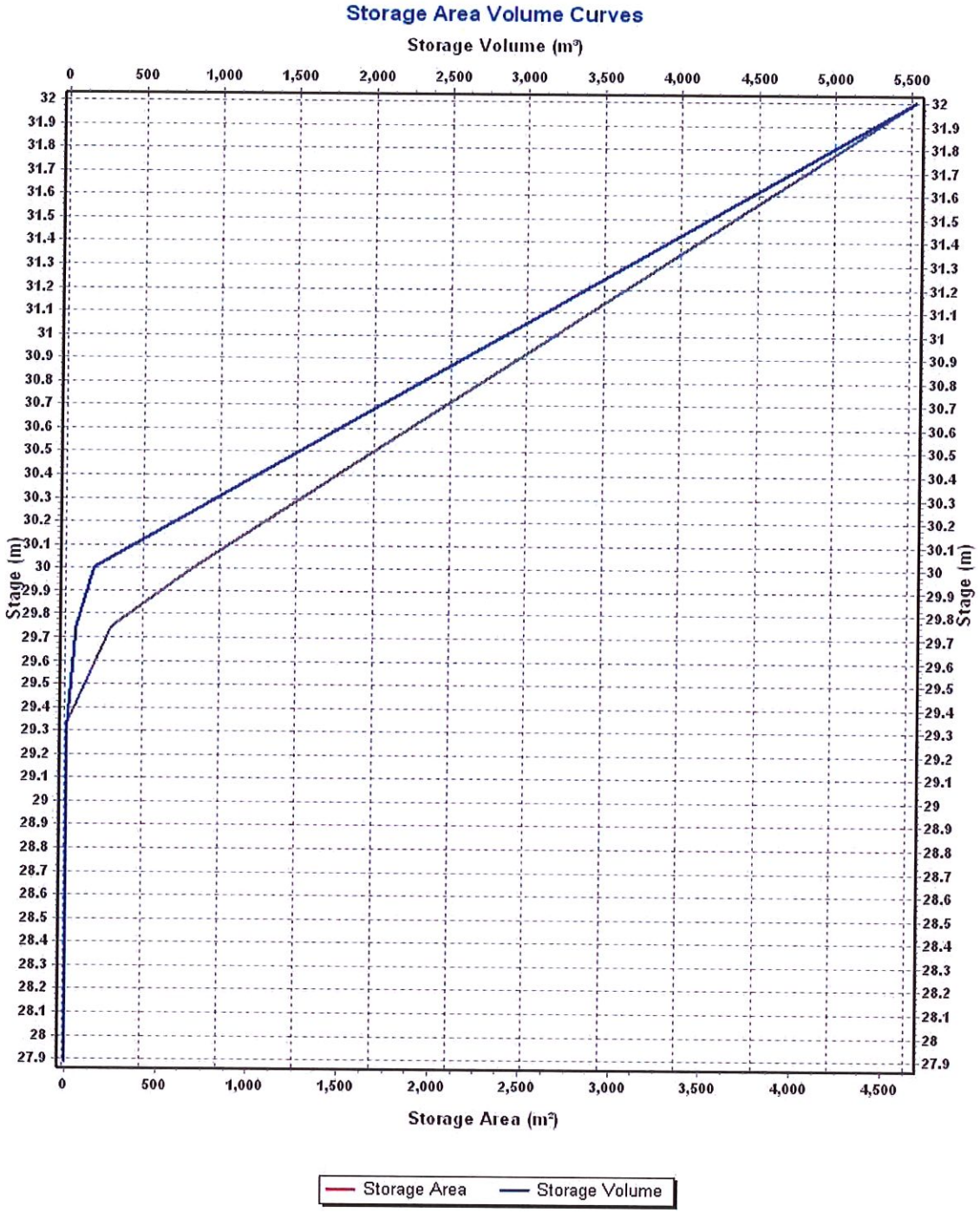
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	1.02
Peak Lateral Inflow (cms)	0.24
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.44
Average HGL Depth Attained (m)	0.55
Time of Max HGL Occurrence (days hh:mm)	0 00:47
Total Exfiltration Volume (1000-m^3)	0.000
Total Flooded Volume (ha-mm)	86.29
Total Time Flooded (min)	27
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	100-12hr-10%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	271.78	142.55	3.54	0.01	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	271.78	212.75	83.12	0.11	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	271.78	256.36	13.92	0.02	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	271.78	259.49	23.92	0.03	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	271.78	259.49	62.85	0.09	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	271.78	259.46	13.60	0.02	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	271.78	259.41	50.70	0.07	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	271.78	204.62	42.09	0.06	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	271.78	199.39	29.91	0.04	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	271.78	156.36	43.78	0.06	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	271.78	259.49	71.45	0.10	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	271.78	257.30	9.34	0.01	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m²)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.33	29.37	0.00	2.02	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.28	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.58	29.34				163.90	138.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.04	0.05	0.93	0.77	0.30	1.00	94.00	SURCHARGED
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.12	0.18	0.68	3.21	0.25	0.82	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	120.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	165.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.06	0.14	0.40	1.23	0.30	1.00	95.00	SURCHARGED
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.16	0.20	0.79	2.25	0.30	1.00	101.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.17	0.15	1.11	3.87	0.30	1.00	109.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.22	0.28	0.78	4.28	0.30	1.00	113.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.91	2.72	0.30	1.00	145.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.70	0.38	1.00	176.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.02	0.09	0.21	2.02	0.10	0.33	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.07	0.28	0.26	10.50	0.15	0.51	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.28	1.68	1.36	4.39	0.81	1.00	109.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	1.20	3.16	0.38	0.91	0.10	1.00	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.04	4.26	0.01	0.55	0.01	0.07	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.02	0.93	0.03	0.44	0.01	0.11	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.03	5.28	0.01	0.46	0.05	0.53	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.06	4.83	0.01	0.50	0.01	0.07	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.03	4.80	0.01	0.06	0.05	0.51	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.08	6.02	0.01	0.94	0.06	0.51	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.20	4.80	0.04	0.76	0.06	0.62	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.01	3.90	0.00	0.28	0.06	0.49	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.04	0.45	0.08	0.22	0.02	0.21	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.51	33.86
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.11	0.05	0.06	44.73	2.00	0.60	33.88
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.02	0.01	0.01	44.73	2.00	0.11	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.03	0.02	0.02	44.73	2.00	0.18	33.07
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.09	0.04	0.05	44.73	2.00	0.48	32.22
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.02	0.01	0.01	44.73	2.00	0.10	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.07	0.03	0.04	44.73	2.00	0.38	29.48
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.05	0.02	0.04	36.05	2.00	0.58	34.42
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.04	0.02	0.02	44.73	2.00	0.21	33.97
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.06	0.03	0.03	44.73	2.00	0.31	32.14
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.10	0.04	0.05	44.73	2.00	0.54	30.10

Subbasin Hydrology

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

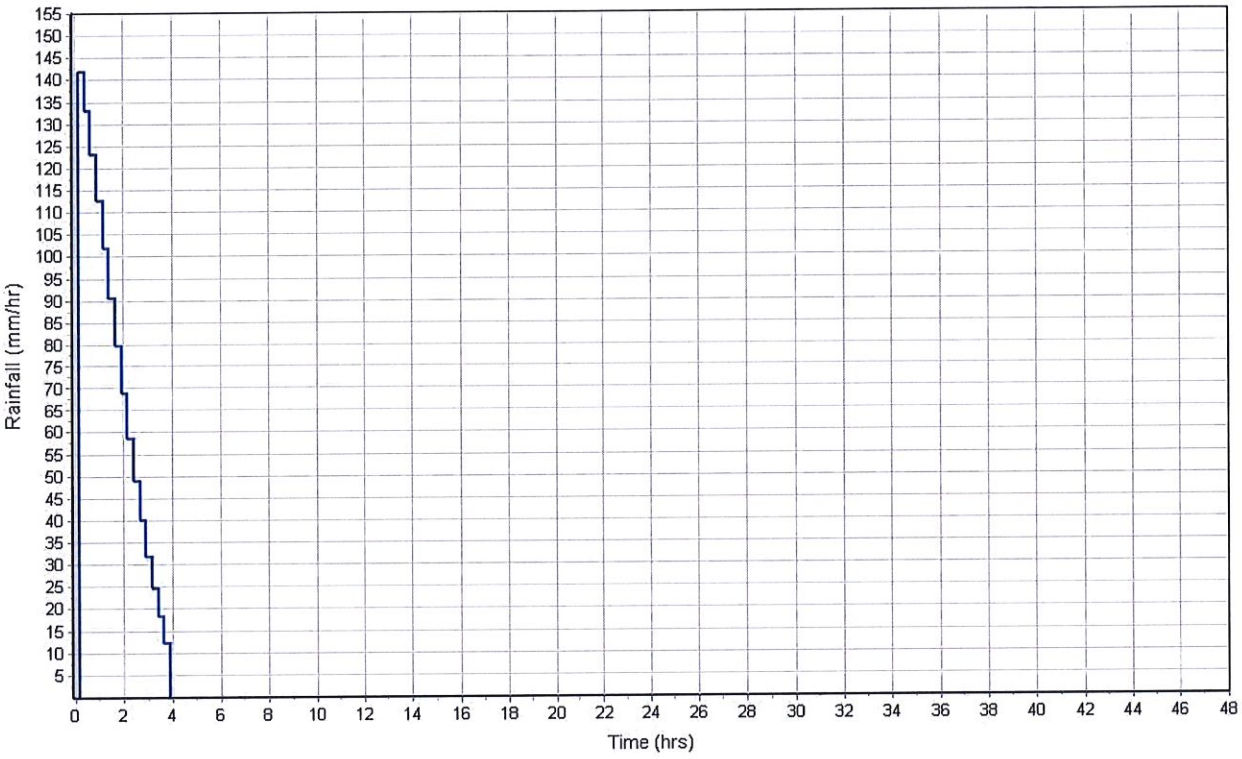
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

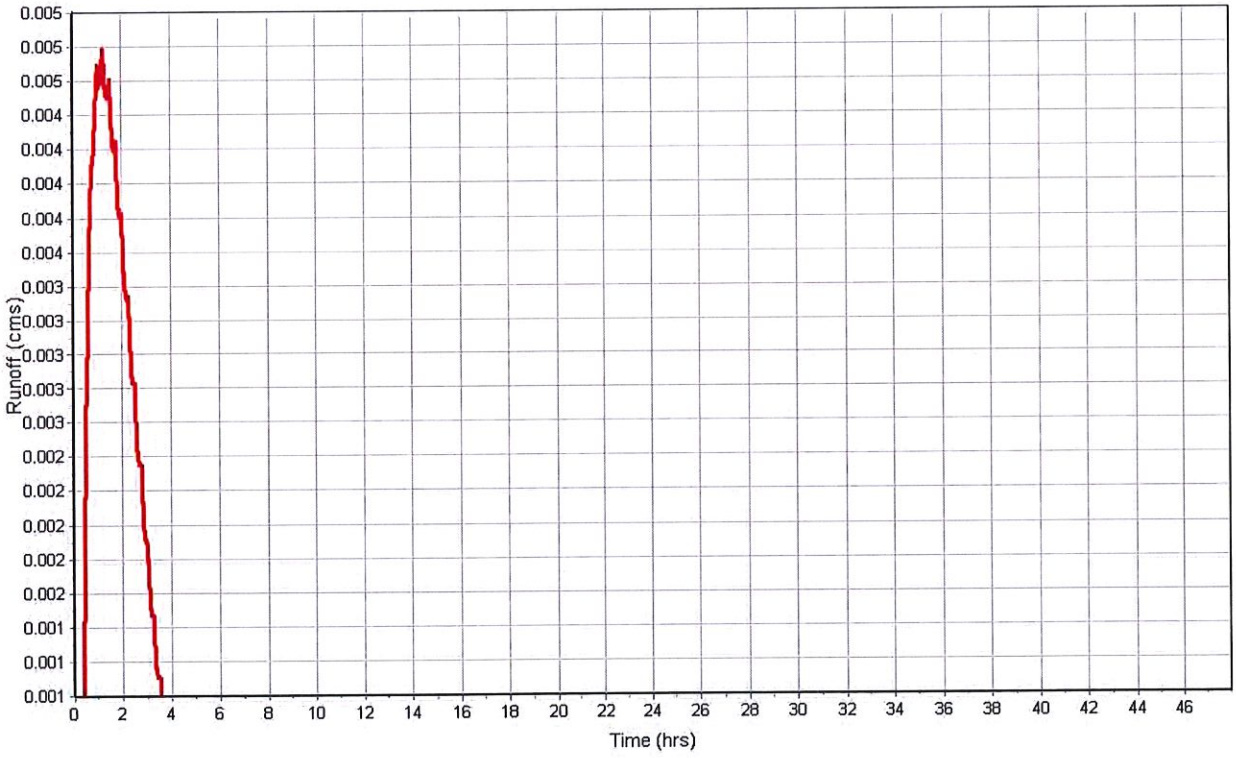
Total Rainfall (mm)	271.78
Total Runoff (mm)	142.55
Peak Runoff (cms)	0.01
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

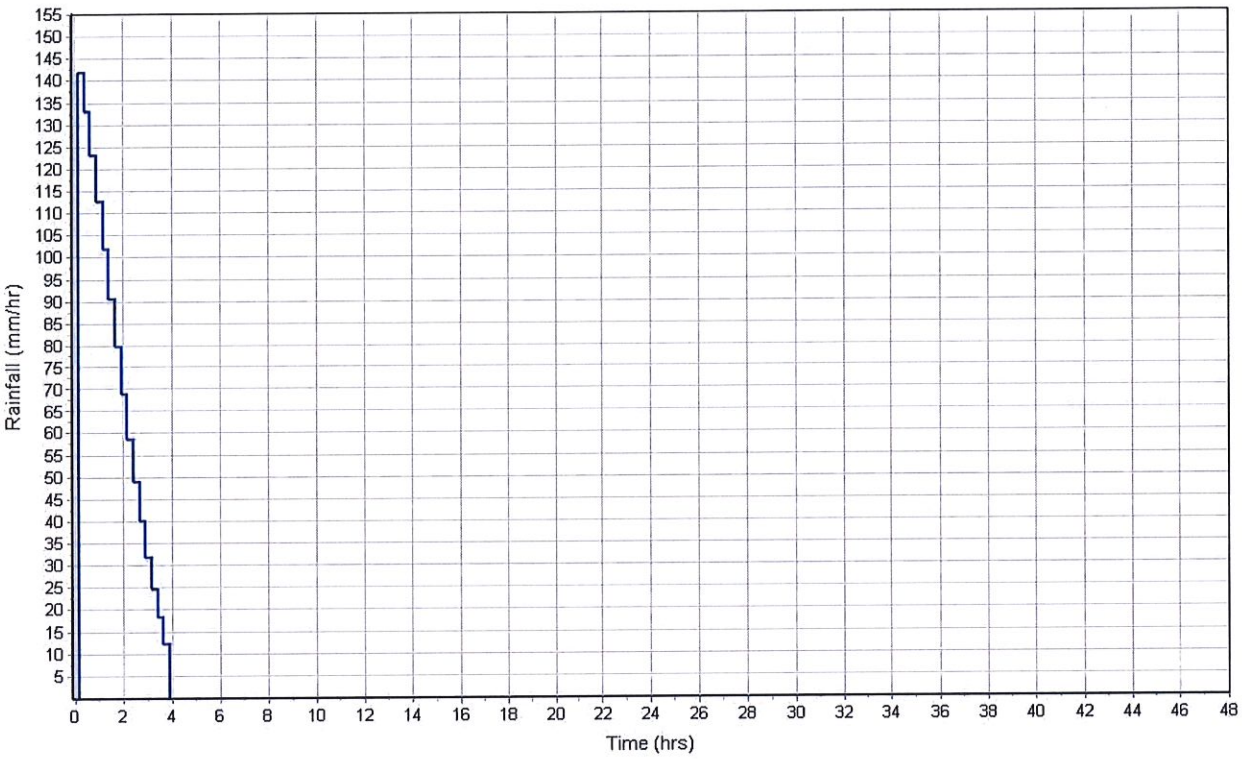
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

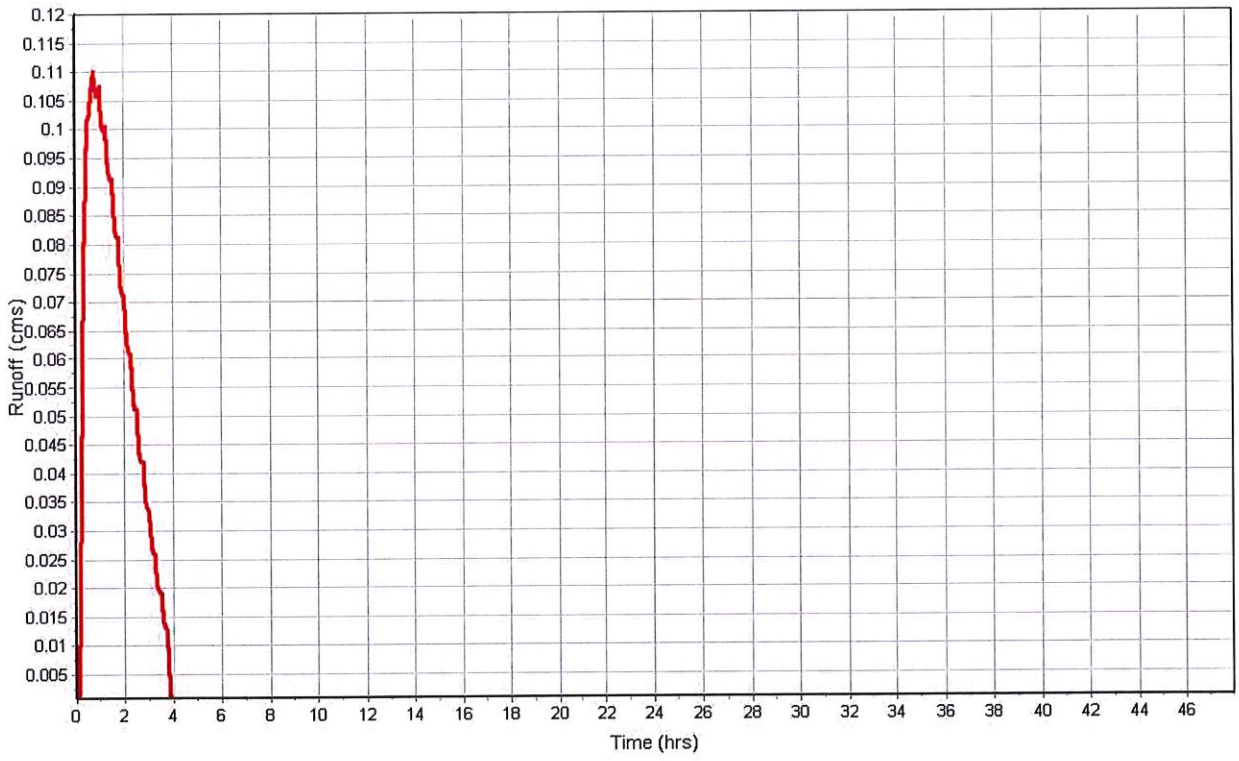
Total Rainfall (mm)	271.78
Total Runoff (mm)	212.75
Peak Runoff (cms)	0.11
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

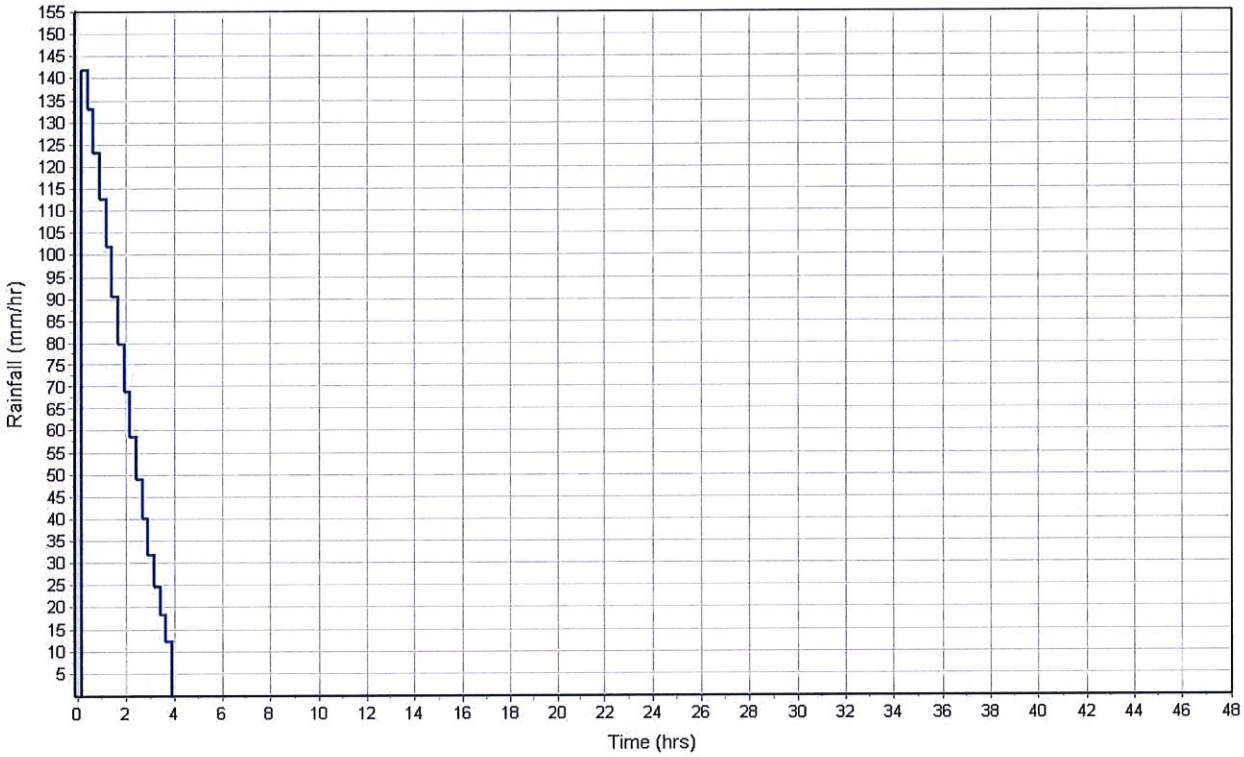
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

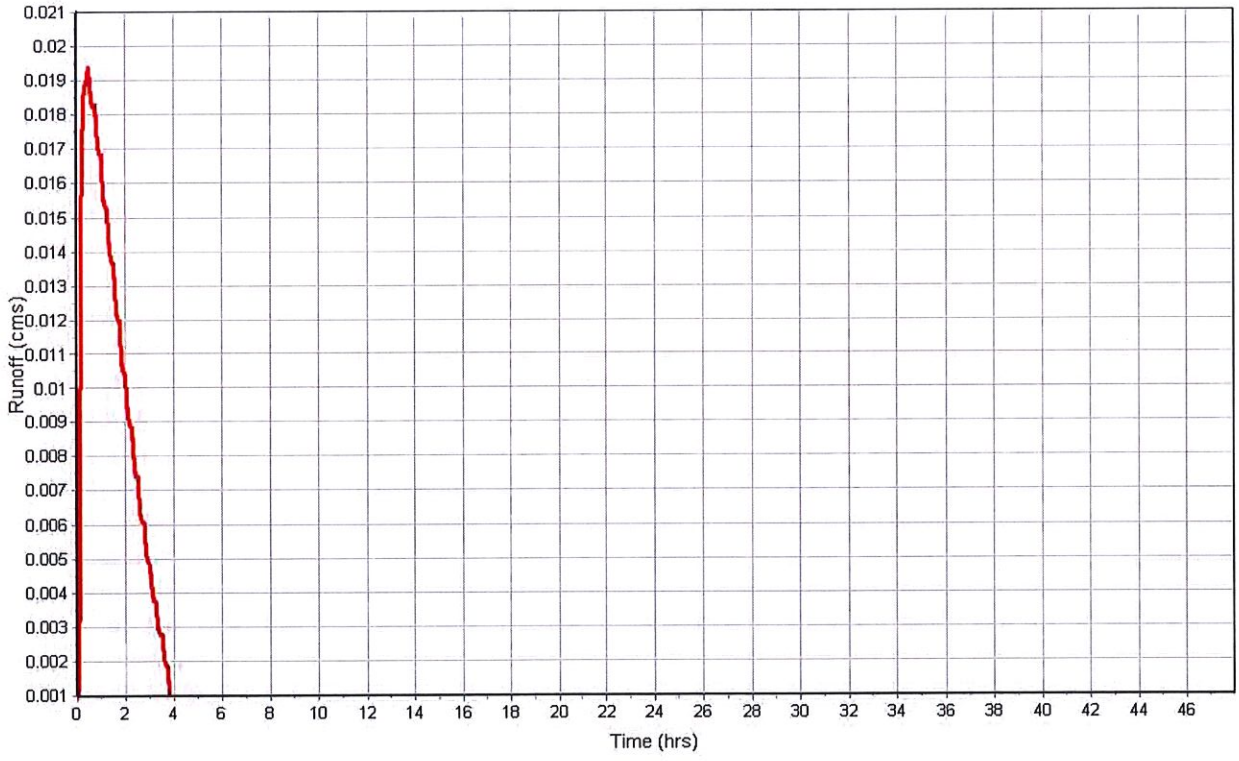
Total Rainfall (mm)	271.78
Total Runoff (mm)	256.36
Peak Runoff (cms)	0.02
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

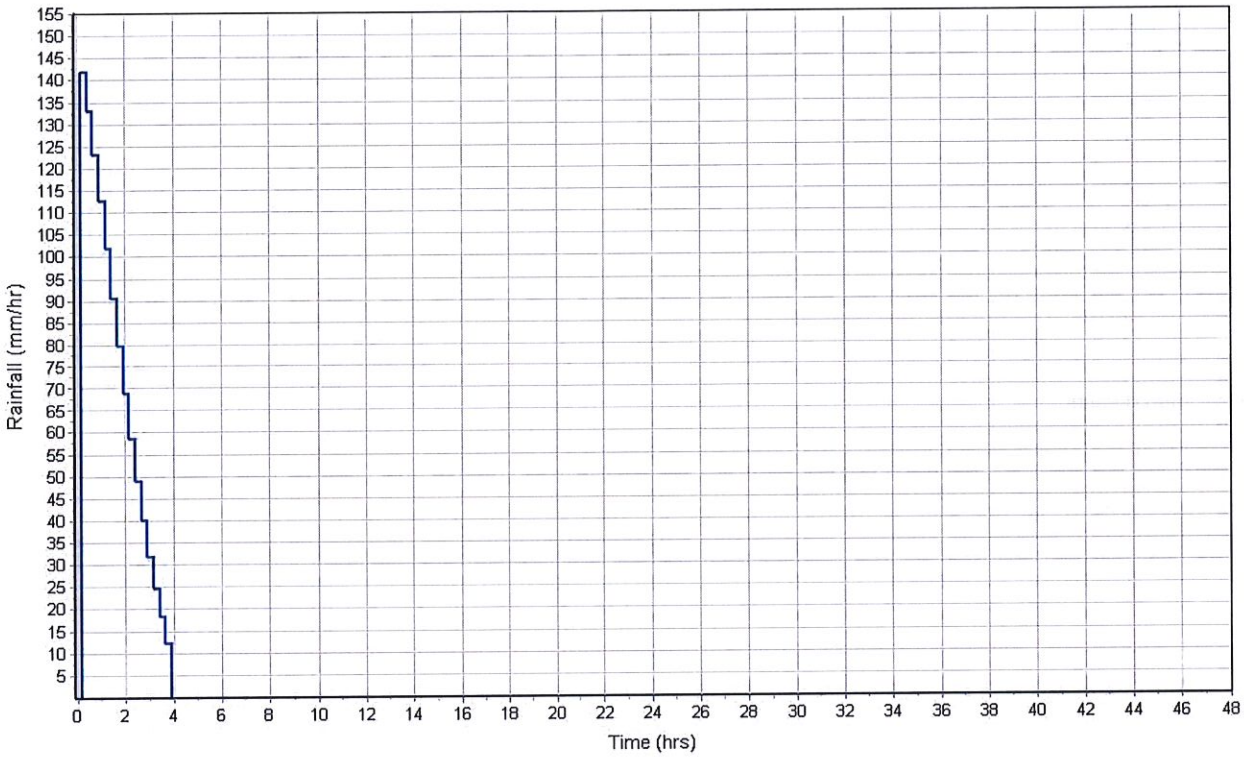
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

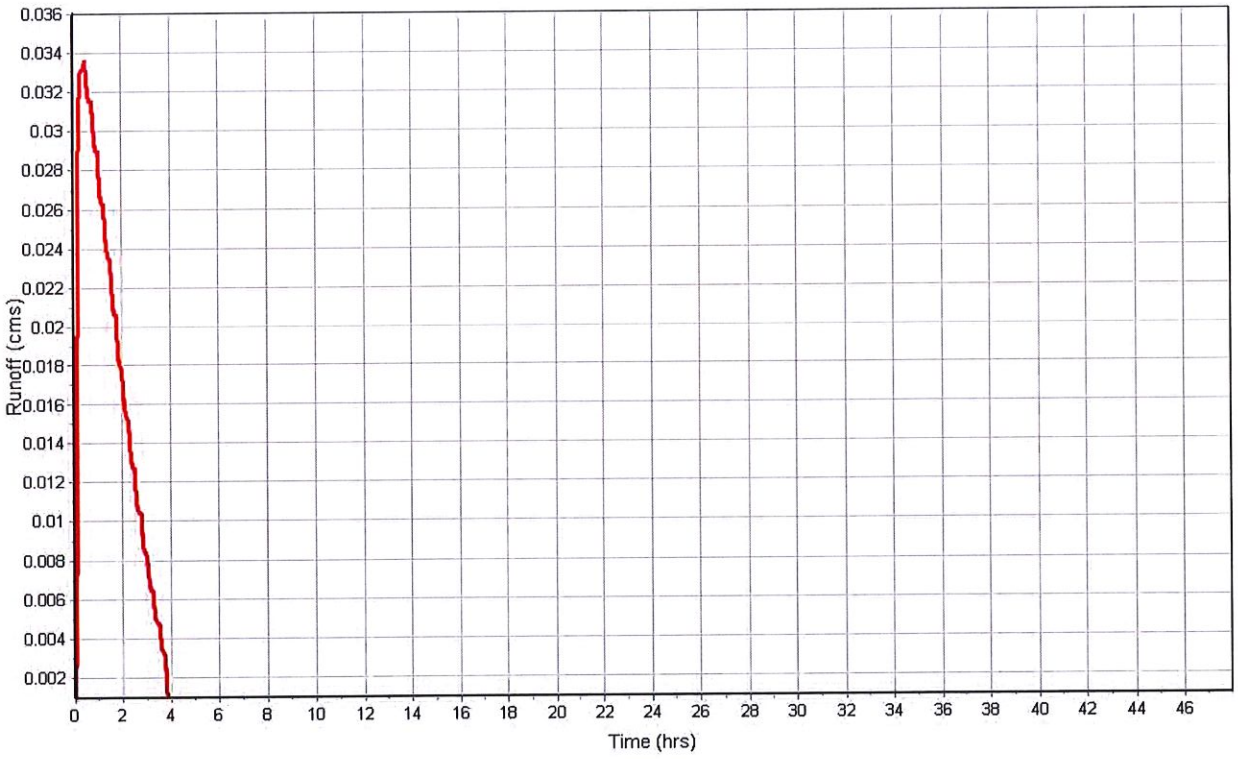
Total Rainfall (mm)	271.78
Total Runoff (mm)	259.49
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

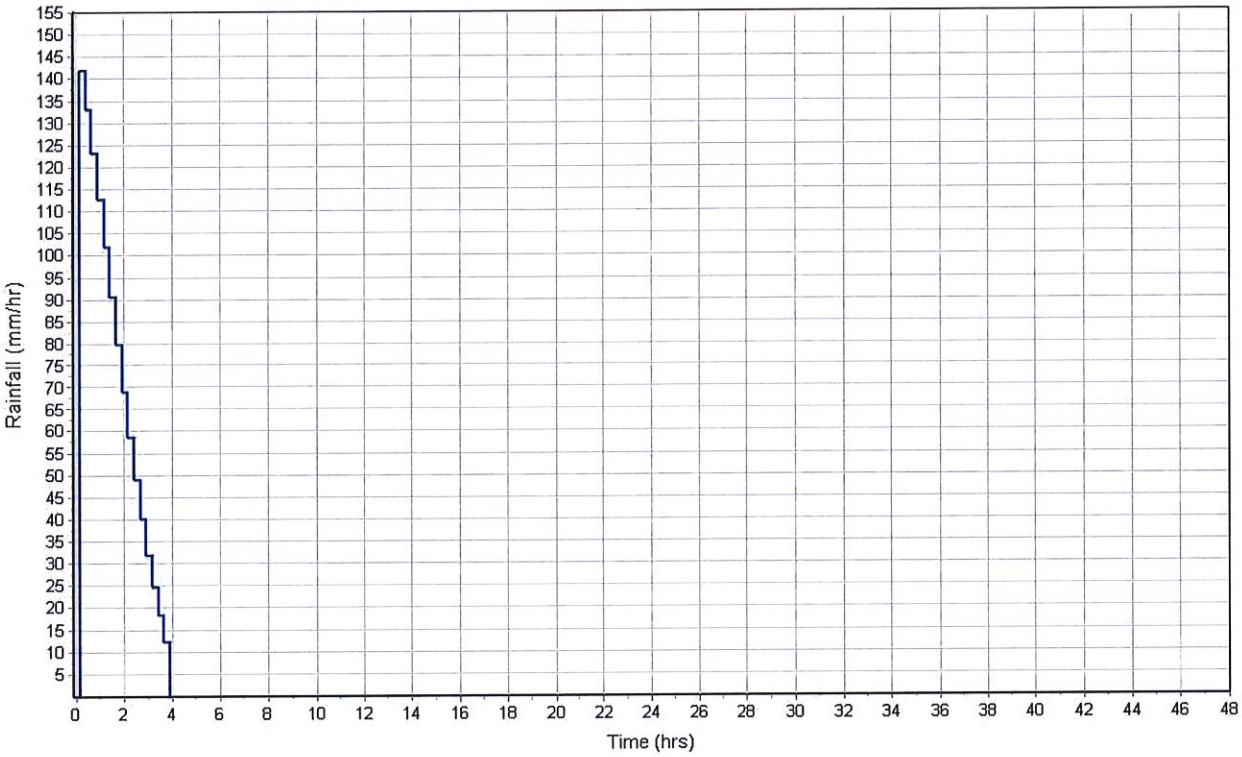
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

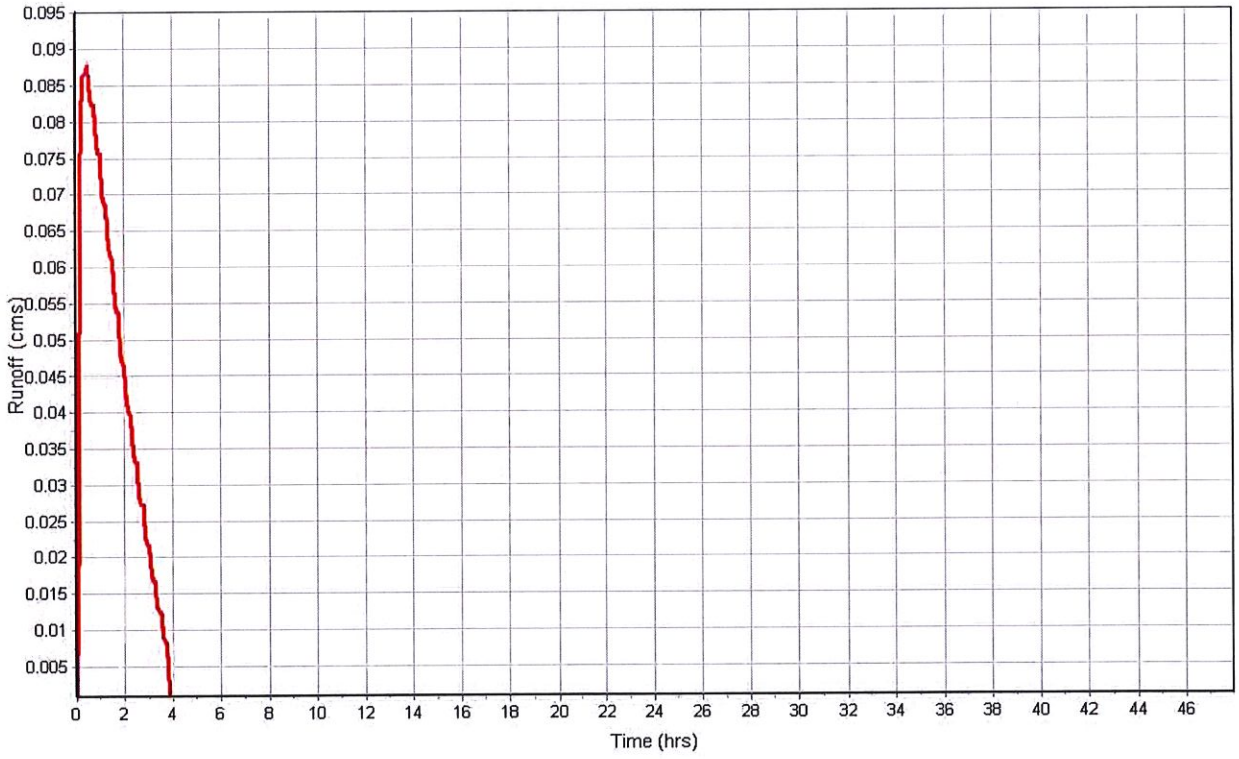
Total Rainfall (mm)	271.78
Total Runoff (mm)	259.49
Peak Runoff (cms)	0.09
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	'

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

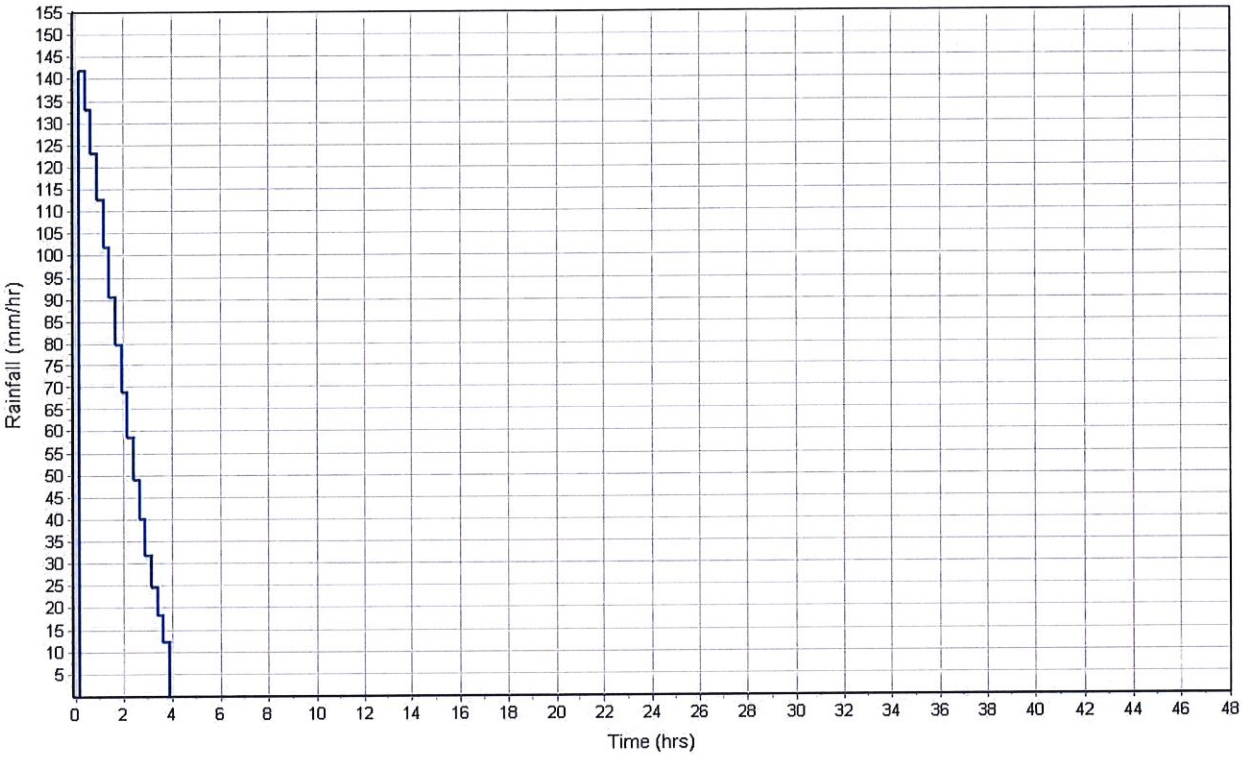
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

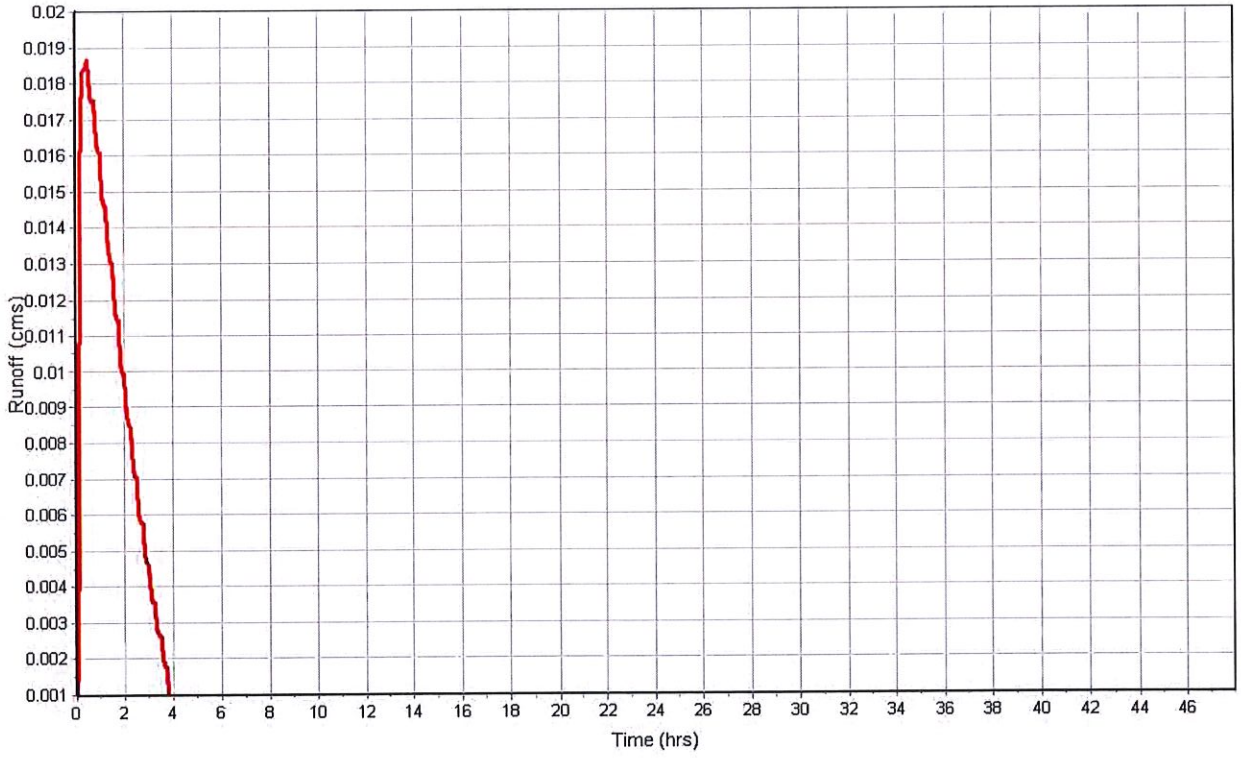
Total Rainfall (mm)	271.78
Total Runoff (mm)	259.46
Peak Runoff (cms)	0.02
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

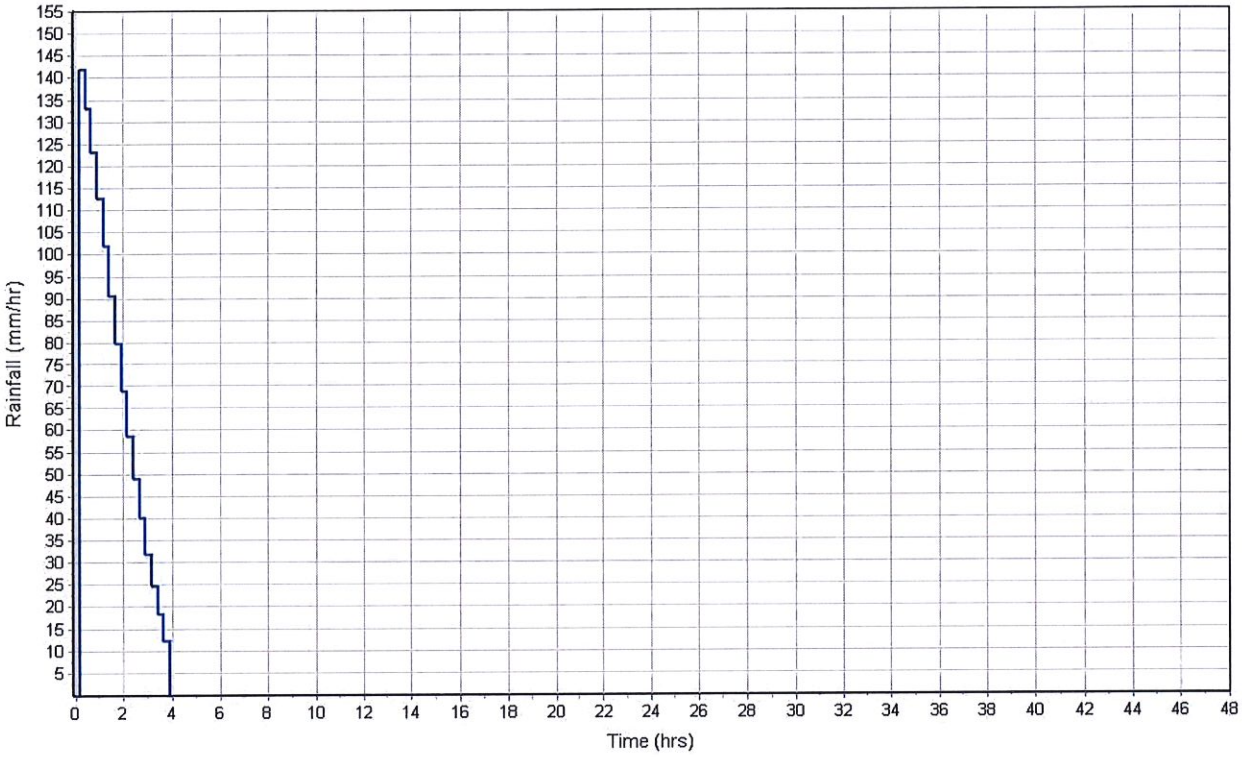
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

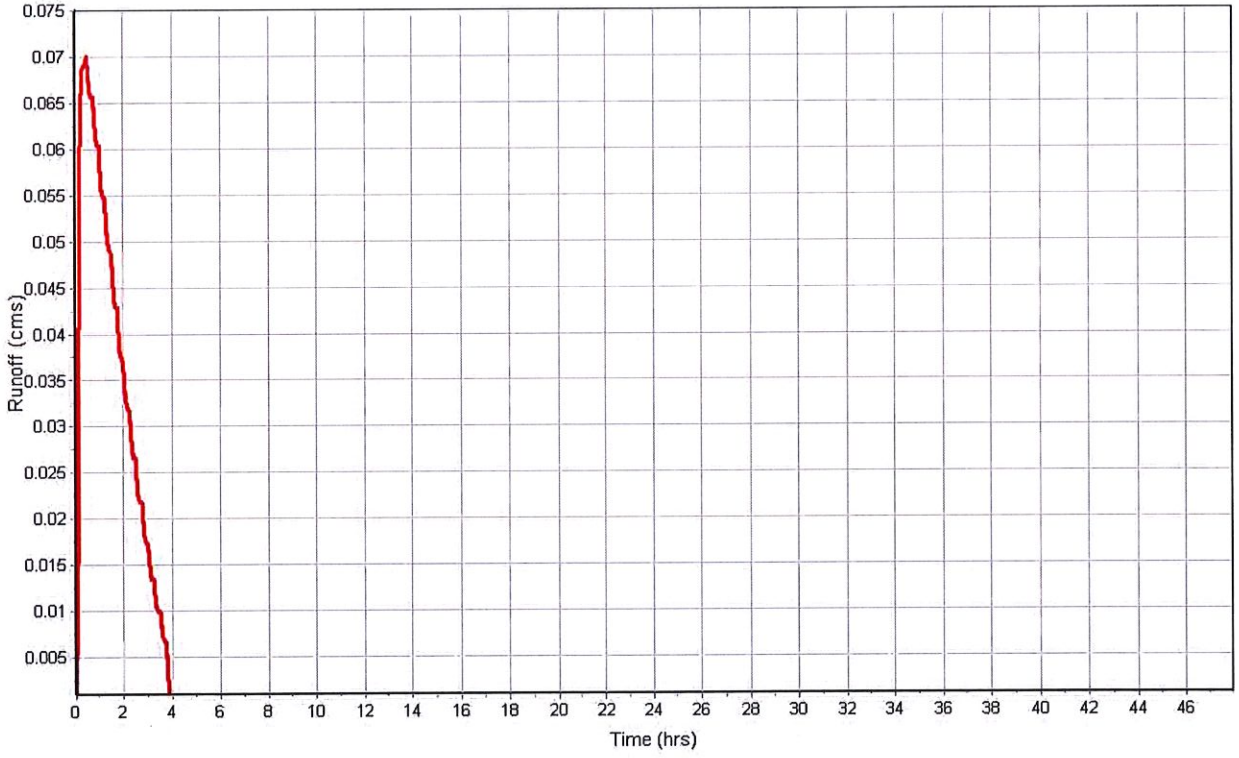
Total Rainfall (mm)	271.78
Total Runoff (mm)	259.41
Peak Runoff (cms)	0.07
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

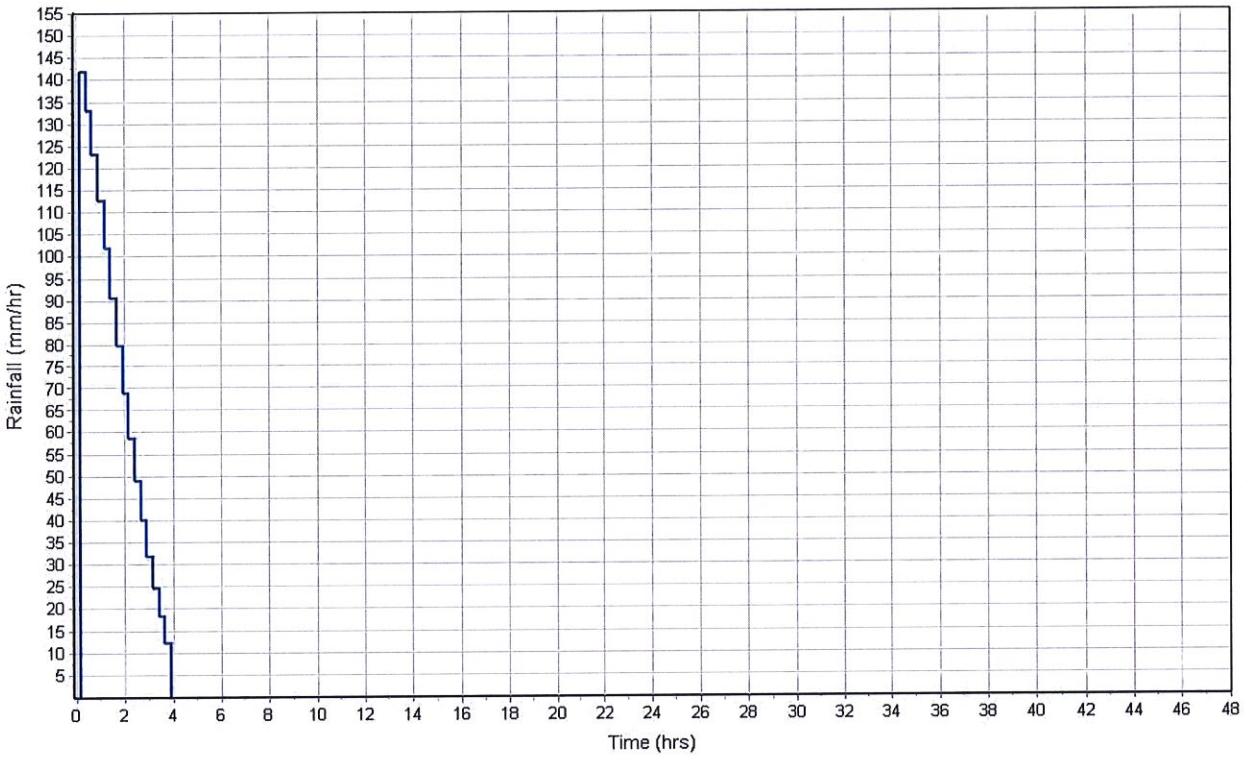
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

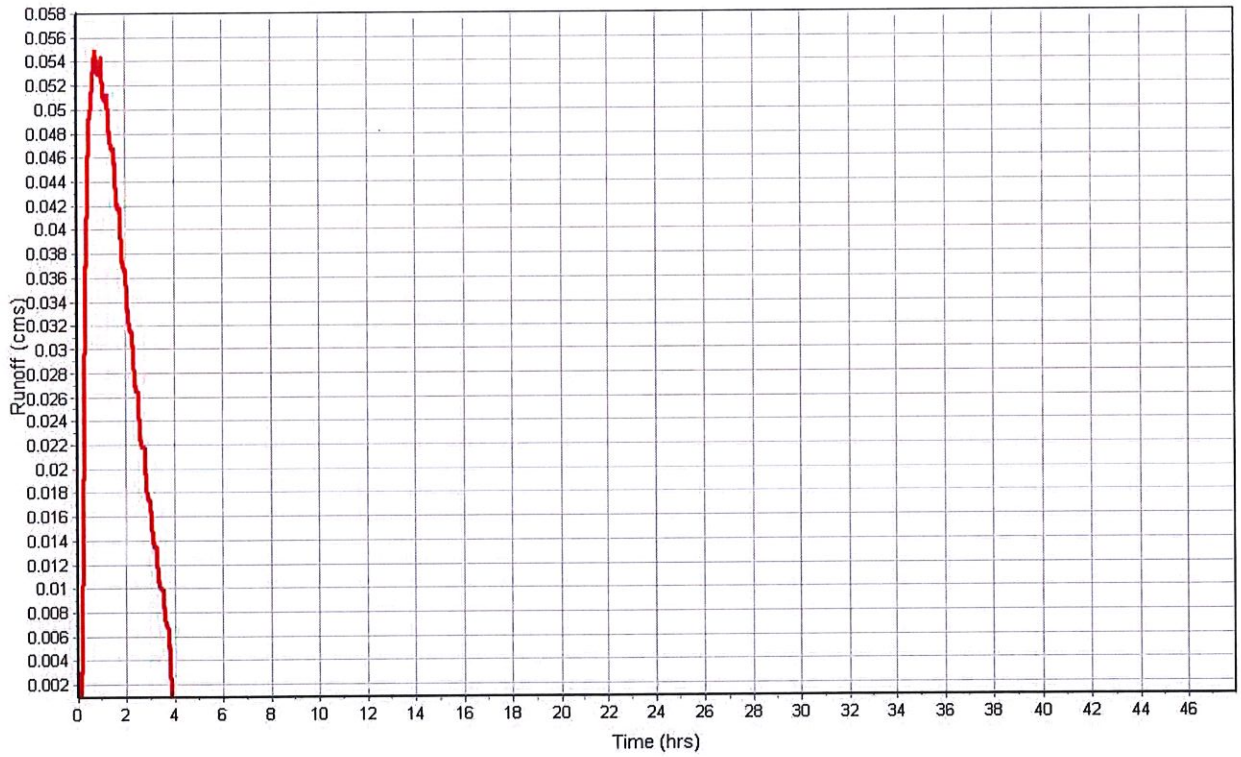
Total Rainfall (mm)	271.78
Total Runoff (mm)	204.62
Peak Runoff (cms)	0.06
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

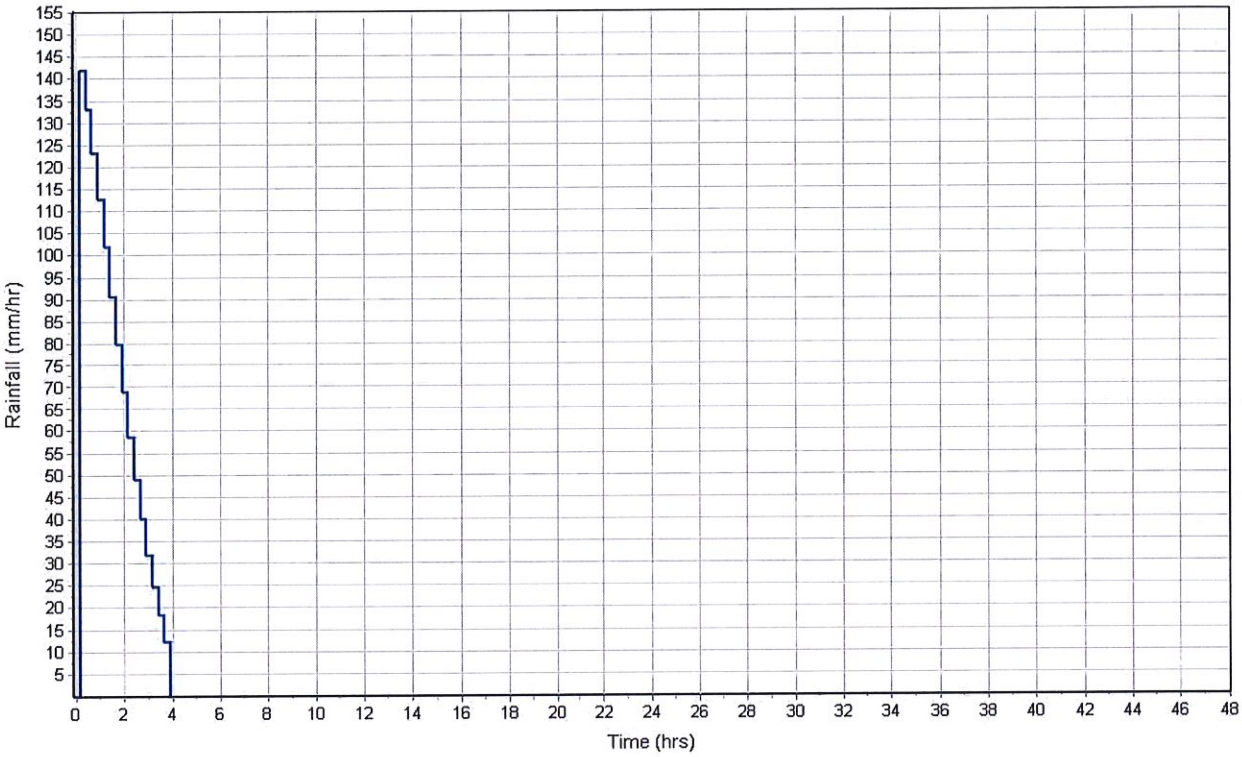
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

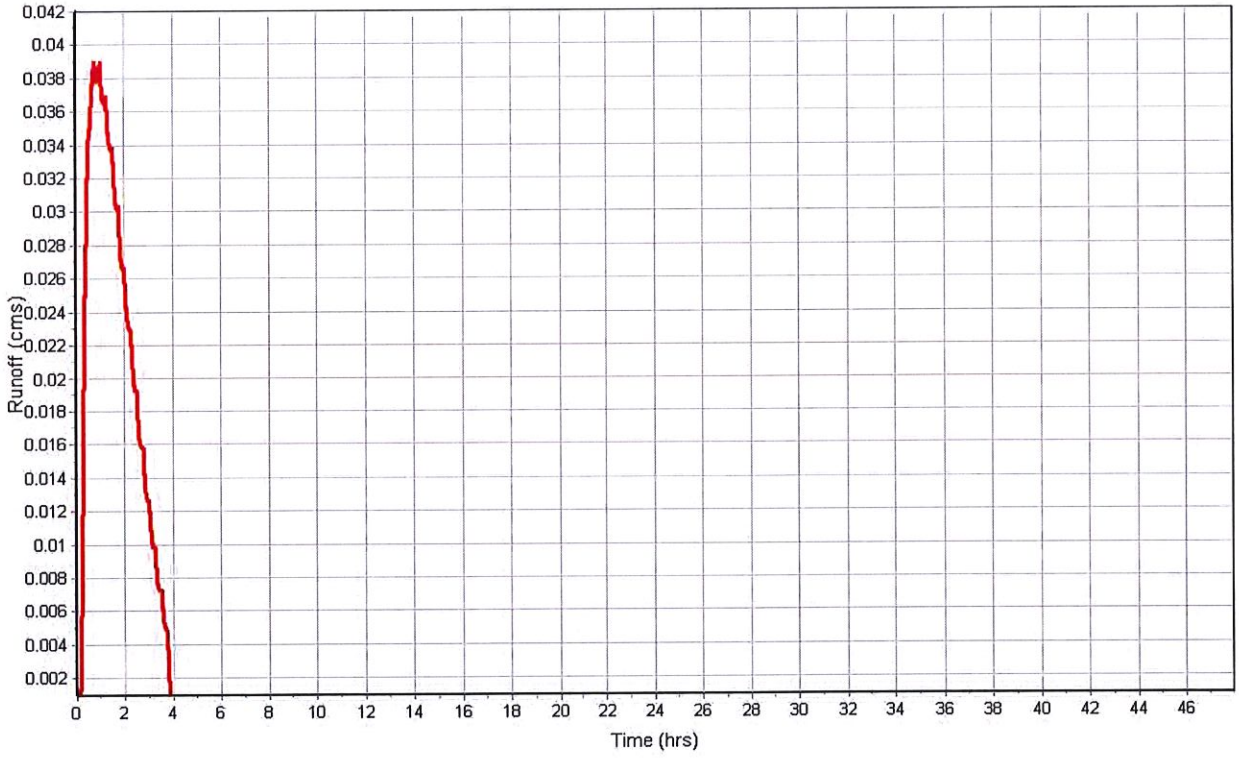
Total Rainfall (mm)	271.78
Total Runoff (mm)	199.39
Peak Runoff (cms)	0.04
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

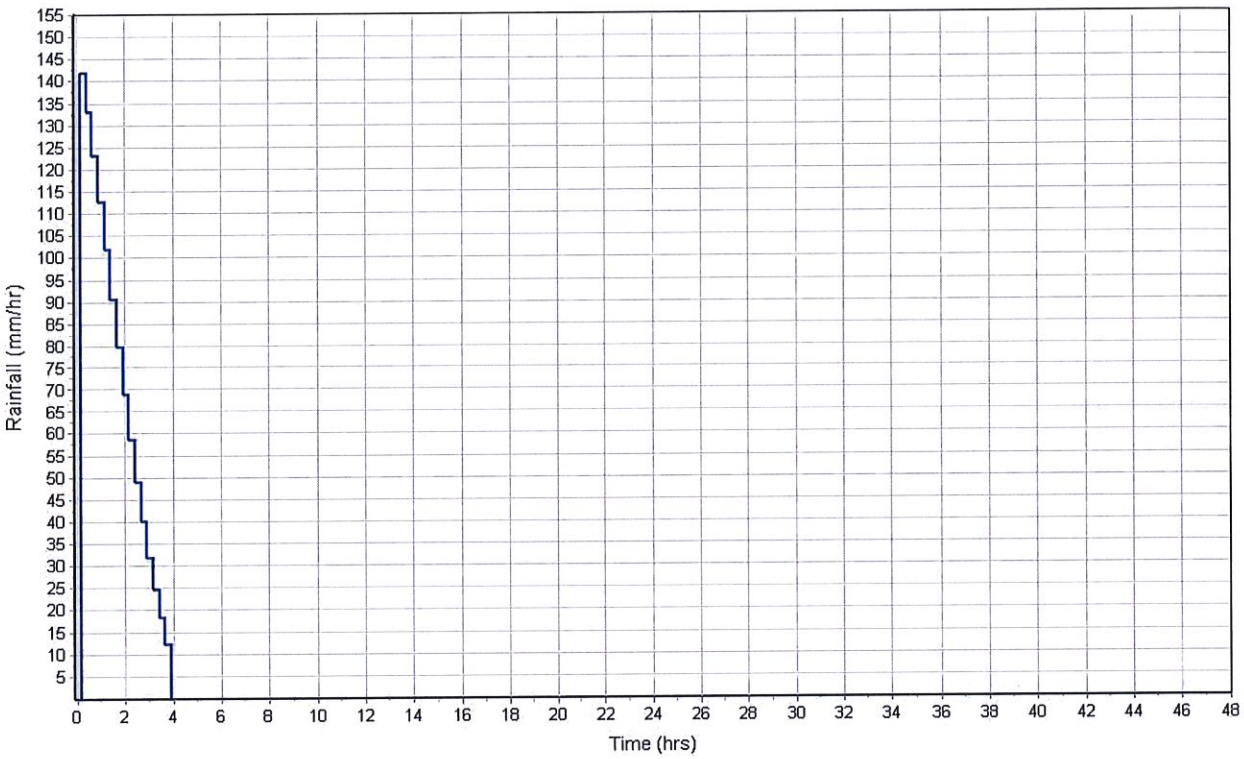
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

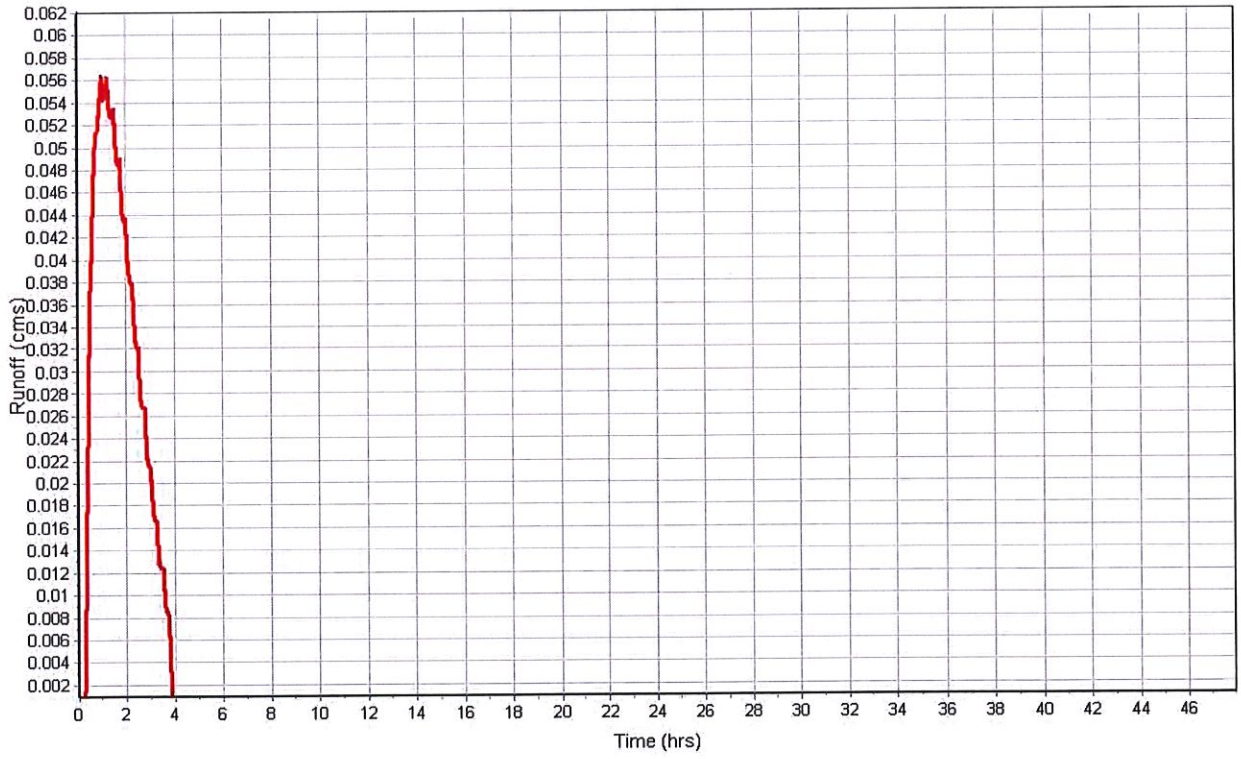
Total Rainfall (mm)	271.78
Total Runoff (mm)	156.36
Peak Runoff (cms)	0.06
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

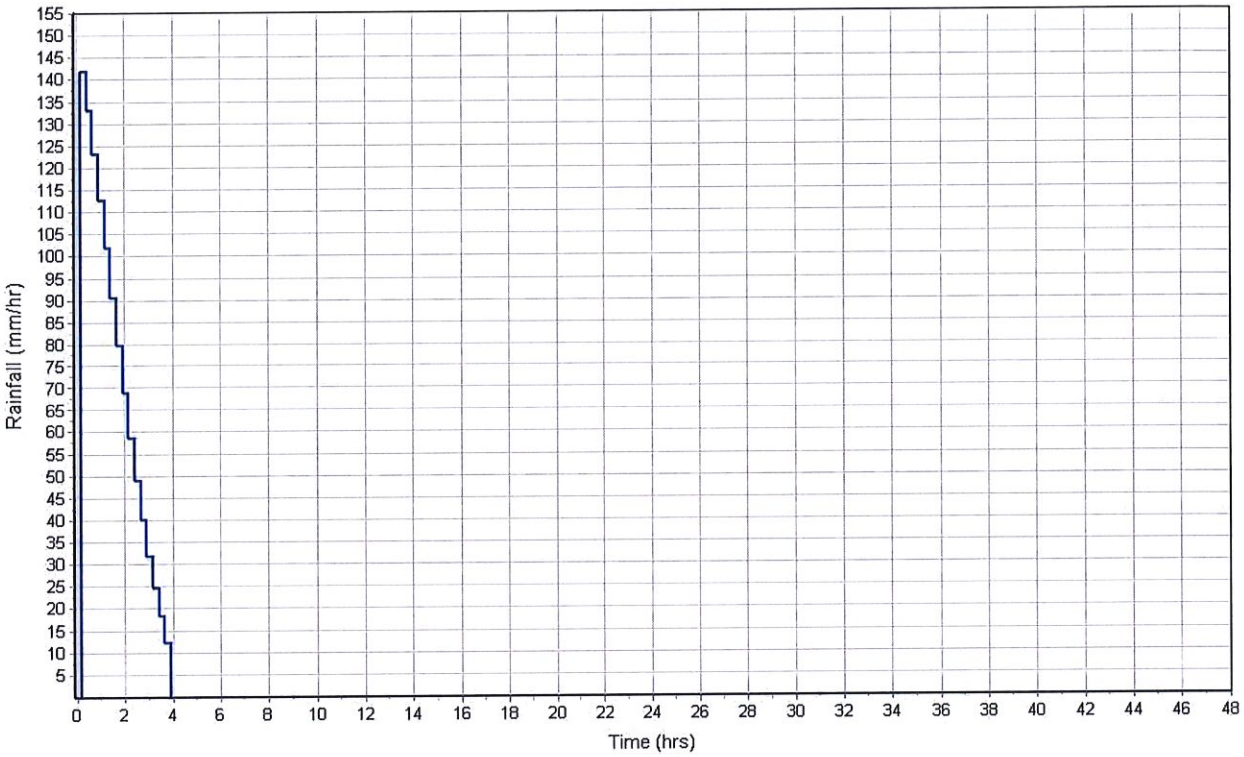
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

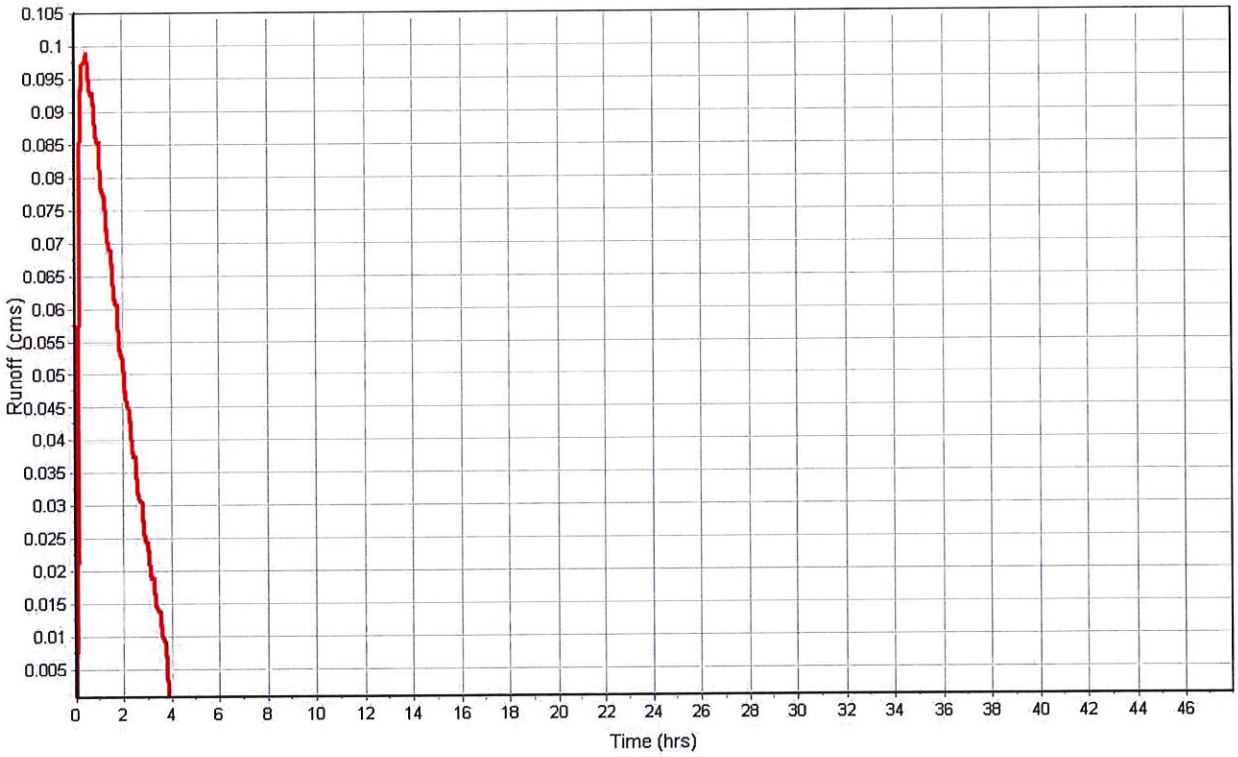
Total Rainfall (mm)	271.78
Total Runoff (mm)	259.49
Peak Runoff (cms)	0.10
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

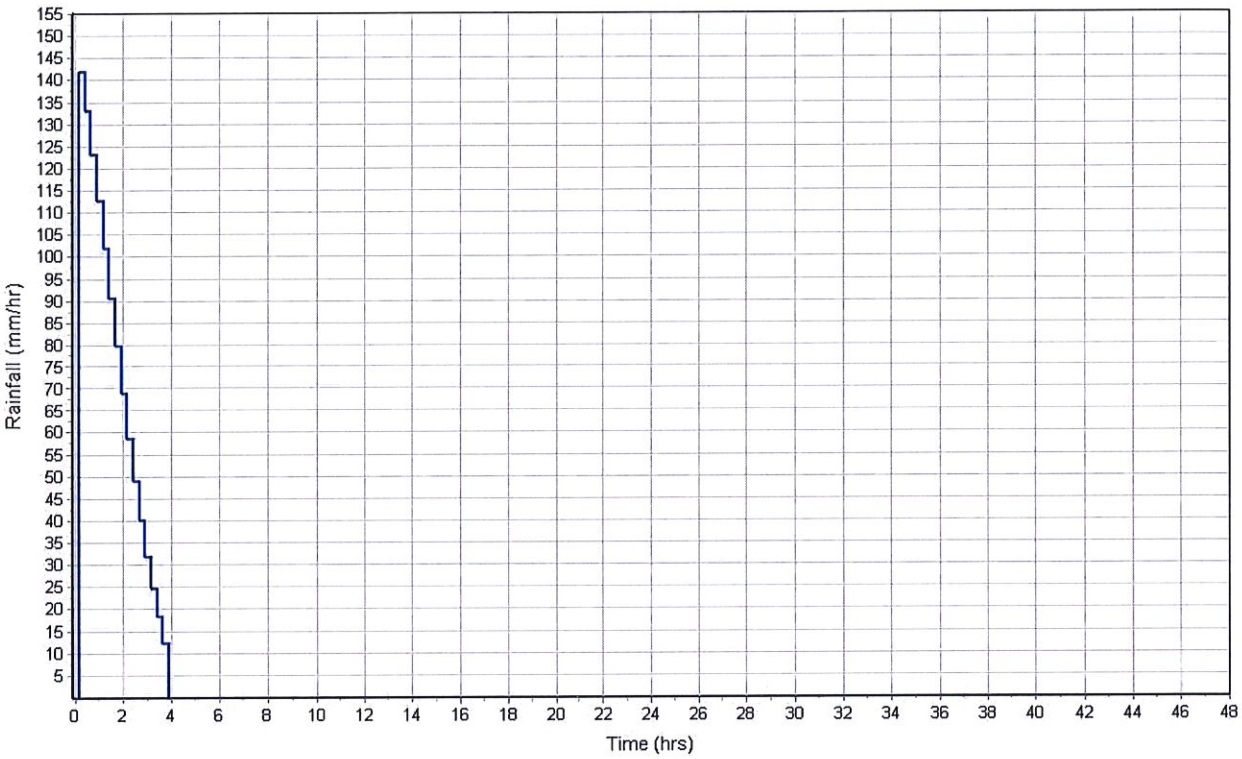
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

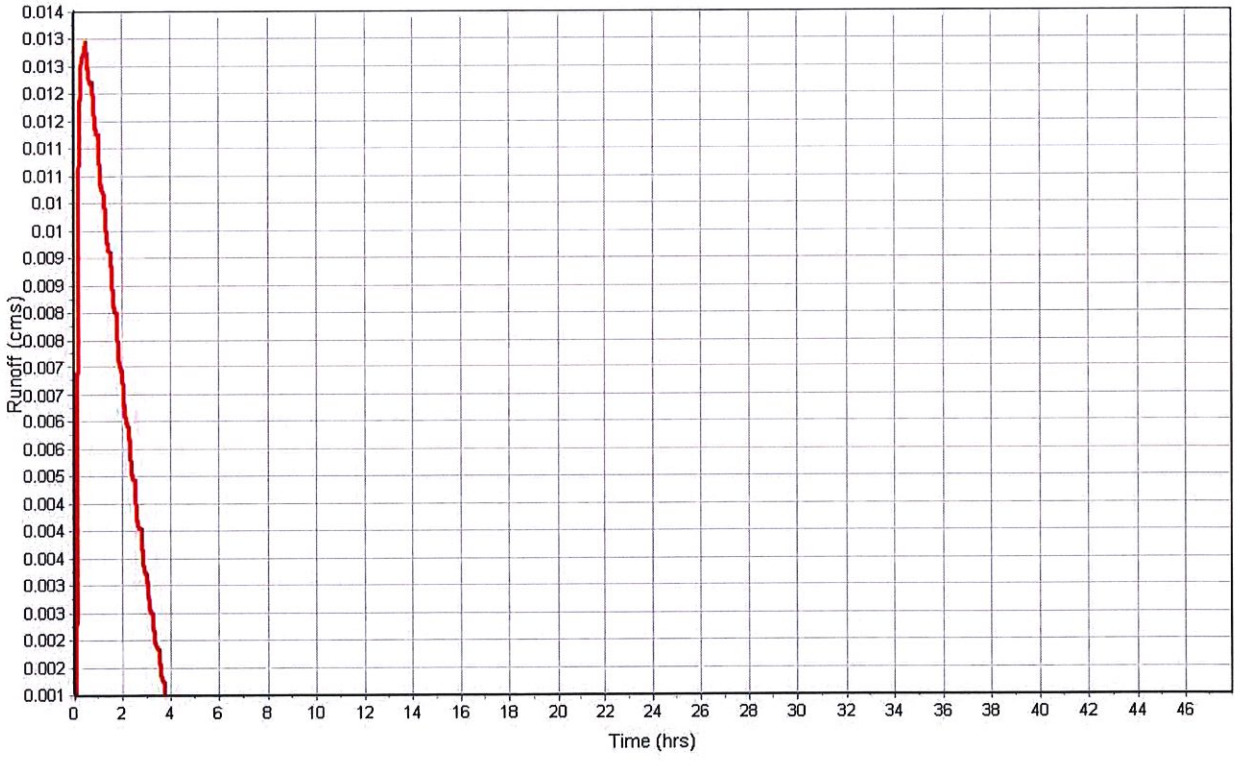
Total Rainfall (mm)	271.78
Total Runoff (mm)	257.30
Peak Runoff (cms)	0.01
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m^2)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.33	2.33	29.37	2.07	0.00	2.02	27.53	0.23	0 00:54	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Shape	Height	Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate
		(m)	(m)	(m)	(m)	(m)	(m)	(%)		(m)	(m)					(cms)	
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	1.20	0 01:53	3.16	0.38	0.91	0.24	0.10	1.00	0.00		
2	OF-06	0.04	0 00:34	4.26	0.01	0.55	0.28	0.01	0.07	0.00		
3	OF-08	0.02	0 00:50	0.93	0.03	0.44	0.97	0.01	0.11	0.00		
4	OF-09	0.03	0 01:06	5.28	0.01	0.46	2.04	0.05	0.53	0.00		
5	OF-10	0.06	0 00:34	4.83	0.01	0.50	1.46	0.01	0.07	0.00		
6	OF-2	0.03	0 00:34	4.80	0.01	0.06	5.33	0.05	0.51	0.00		
7	OF-3	0.08	0 00:40	6.02	0.01	0.94	0.60	0.06	0.51	0.00		
8	OF-4	0.20	0 00:41	4.80	0.04	0.76	0.47	0.06	0.62	0.00		
9	OF-5	0.01	0 00:34	3.90	0.00	0.28	3.34	0.06	0.49	0.00		
10	OF-7	0.04	0 00:49	0.45	0.08	0.22	3.07	0.02	0.21	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	Pipe - (1)	0.04	0 00:40	0.05	0.93	0.77	0.13	0.30	1.00	94.00		SURCHARGED
2	Pipe - (10)	0.12	0 00:00	0.18	0.68	3.21	0.29	0.25	0.82	0.00		Calculated
3	Pipe - (11)	0.13	0 00:39	0.20	0.63	1.81	0.40	0.30	1.00	120.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:19	0.21	1.88	3.63	0.06	0.38	1.00	165.00		SURCHARGED
5	Pipe - (2)	0.06	0 02:14	0.14	0.40	1.23	0.18	0.30	1.00	95.00		SURCHARGED
6	Pipe - (3)	0.16	0 00:40	0.20	0.79	2.25	0.14	0.30	1.00	101.00		SURCHARGED
7	Pipe - (4)	0.17	0 02:13	0.15	1.11	3.87	0.15	0.30	1.00	109.00		SURCHARGED
8	Pipe - (5)	0.22	0 01:10	0.28	0.78	4.28	0.08	0.30	1.00	113.00		SURCHARGED
9	Pipe - (6)	0.15	0 02:16	0.16	0.91	2.72	0.34	0.30	1.00	145.00		SURCHARGED
10	Pipe - (7)	0.19	0 00:35	0.42	0.45	1.70	0.09	0.38	1.00	176.00		SURCHARGED
11	Pipe - (8)	0.02	0 00:50	0.09	0.21	2.02	0.33	0.10	0.33	0.00		Calculated
12	Pipe - (9)	0.07	0 00:50	0.28	0.26	10.50	0.04	0.15	0.51	0.00		Calculated
13	Pipe-Out	2.28	0 00:54	1.68	1.36	4.39	0.06	0.81	1.00	109.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.51	33.86	0.03	0 00:40	0.05	1.00
2	CB1-02	0.11	0.11	0.05	0.06	44.73	0.60	33.88	0.04	0 00:40	0.07	0.00
3	CB1-03	0.02	0.02	0.01	0.01	44.73	0.11	33.65	0.01	0 00:40	78.52	25.00
4	CB1-04	0.03	0.03	0.02	0.02	44.73	0.18	33.07	0.01	0 00:40	6.05	74.00
5	CB1-05	0.09	0.09	0.04	0.05	44.73	0.48	32.22	0.03	0 01:06	0.00	0.00
6	CB1-06	0.02	0.02	0.01	0.01	44.73	0.10	30.78	0.01	0 00:18	84.99	118.00
7	CB1-07	0.07	0.07	0.03	0.04	44.73	0.38	29.48	0.02	0 00:35	0.00	0.00
8	CB2-01	0.05	0.05	0.02	0.04	36.05	0.58	34.42	0.02	0 00:00	0.00	0.00
9	CB2-02	0.04	0.04	0.02	0.02	44.73	0.21	33.97	0.01	0 00:50	0.00	0.00
10	CB2-03	0.06	0.06	0.03	0.03	44.73	0.31	32.14	0.02	0 00:00	0.00	0.00
11	CB2-04	0.10	0.10	0.04	0.05	44.73	0.54	30.10	0.03	0 00:29	20.61	97.00

Storage Nodes

Storage Node : CB3-01

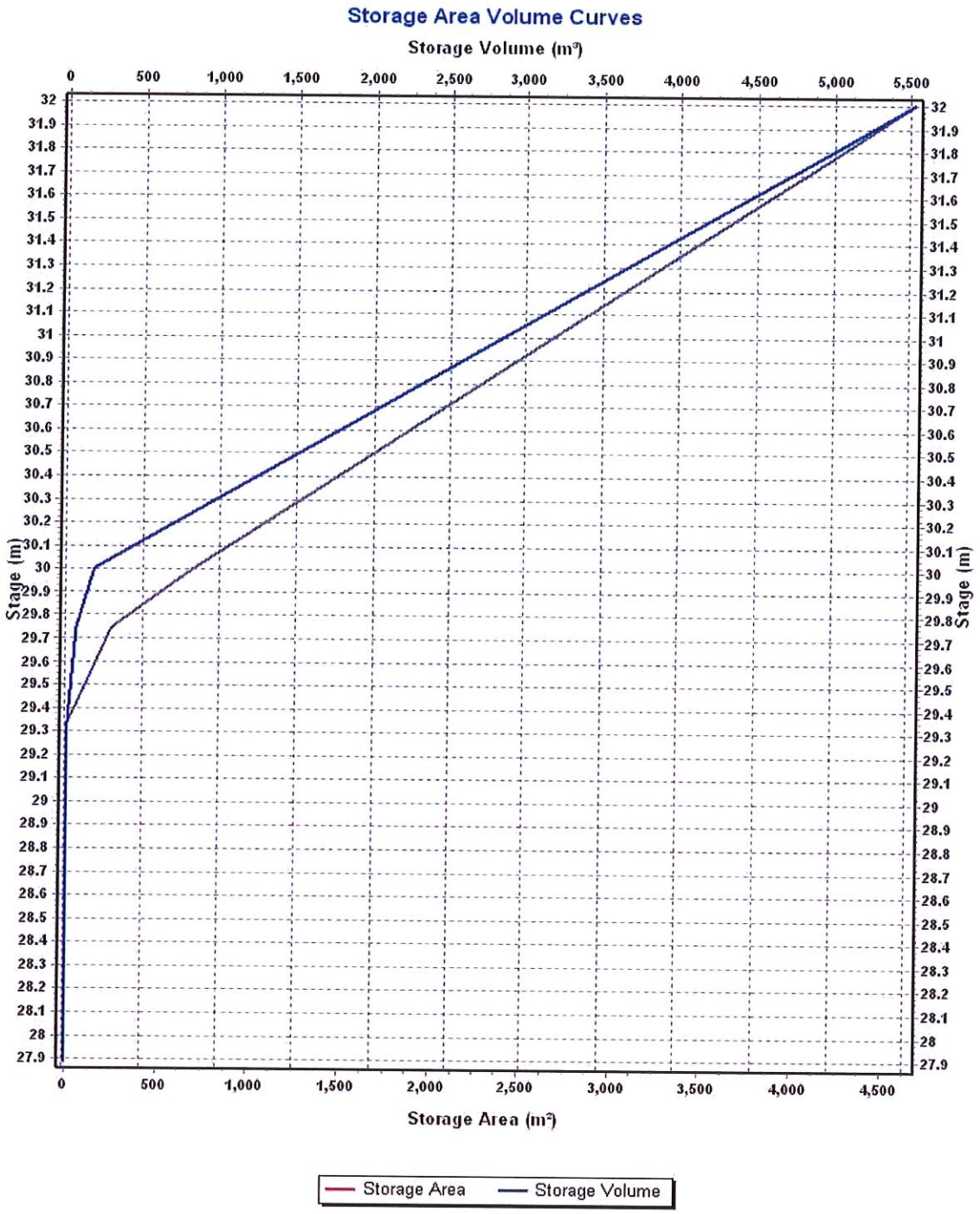
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m^2)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m^2)	Storage Volume (m^3)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
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29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.58
Peak Lateral Inflow (cms)	0.13
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.21
Average HGL Depth Attained (m)	0.32
Time of Max HGL Occurrence (days hh:mm)	0 00:17
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	163.9
Total Time Flooded (min)	138
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	50-1hr-90%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	76.96	9.55	0.24	0.01	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	76.96	34.62	13.53	0.17	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	76.96	62.97	3.42	0.03	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	76.96	65.58	6.05	0.05	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	76.96	65.58	15.88	0.14	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	76.96	65.56	3.44	0.03	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	76.96	65.51	12.80	0.11	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	76.96	30.68	6.31	0.08	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	76.96	28.32	4.25	0.06	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	76.96	13.11	3.67	0.06	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	76.96	65.58	18.06	0.16	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	76.96	63.73	2.31	0.02	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.90	29.89	0.00	1.50	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.63	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.95	29.34				76.94	27.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.02	0.05	0.34	0.70	0.30	1.00	11.00	SURCHARGED
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.16	0.18	0.87	2.23	0.29	1.00	1.00	SURCHARGED
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	14.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	38.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.06	0.14	0.43	1.16	0.30	1.00	11.00	SURCHARGED
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.15	0.20	0.73	2.09	0.30	1.00	12.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.15	0.15	1.03	2.50	0.30	1.00	15.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.22	0.28	0.78	3.12	0.30	1.00	16.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.92	2.11	0.30	1.00	25.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.72	0.38	1.00	40.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.03	0.09	0.30	1.34	0.12	0.41	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.11	0.28	0.37	6.79	0.21	0.71	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.63	1.68	1.57	5.07	0.81	1.00	18.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	1.19	3.16	0.38	2.14	0.06	1.00	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.06	4.26	0.01	0.53	0.01	0.08	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.03	0.93	0.03	0.43	0.01	0.13	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.04	5.28	0.01	0.25	0.05	0.53	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.10	4.83	0.02	0.62	0.01	0.10	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.11	4.80	0.02	1.00	0.05	0.57	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.14	6.02	0.02	1.05	0.06	0.58	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.30	4.80	0.06	0.69	0.06	0.65	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.02	3.90	0.00	0.20	0.06	0.52	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.05	0.45	0.12	0.26	0.02	0.26	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m²)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.47	33.86
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.17	0.07	0.09	44.73	2.00	0.90	33.89
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.03	0.01	0.02	44.73	2.00	0.17	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.05	0.02	0.03	44.73	2.00	0.29	33.08
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.14	0.06	0.08	44.73	2.00	0.77	32.24
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.03	0.01	0.02	44.73	2.00	0.16	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.11	0.05	0.06	44.73	2.00	0.61	29.50
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.08	0.03	0.05	36.05	2.00	0.84	34.43
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.06	0.03	0.03	44.73	2.00	0.30	33.98
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.06	0.03	0.03	44.73	2.00	0.33	32.14
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.16	0.07	0.09	44.73	2.00	0.86	30.12

Subbasin Hydrology

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

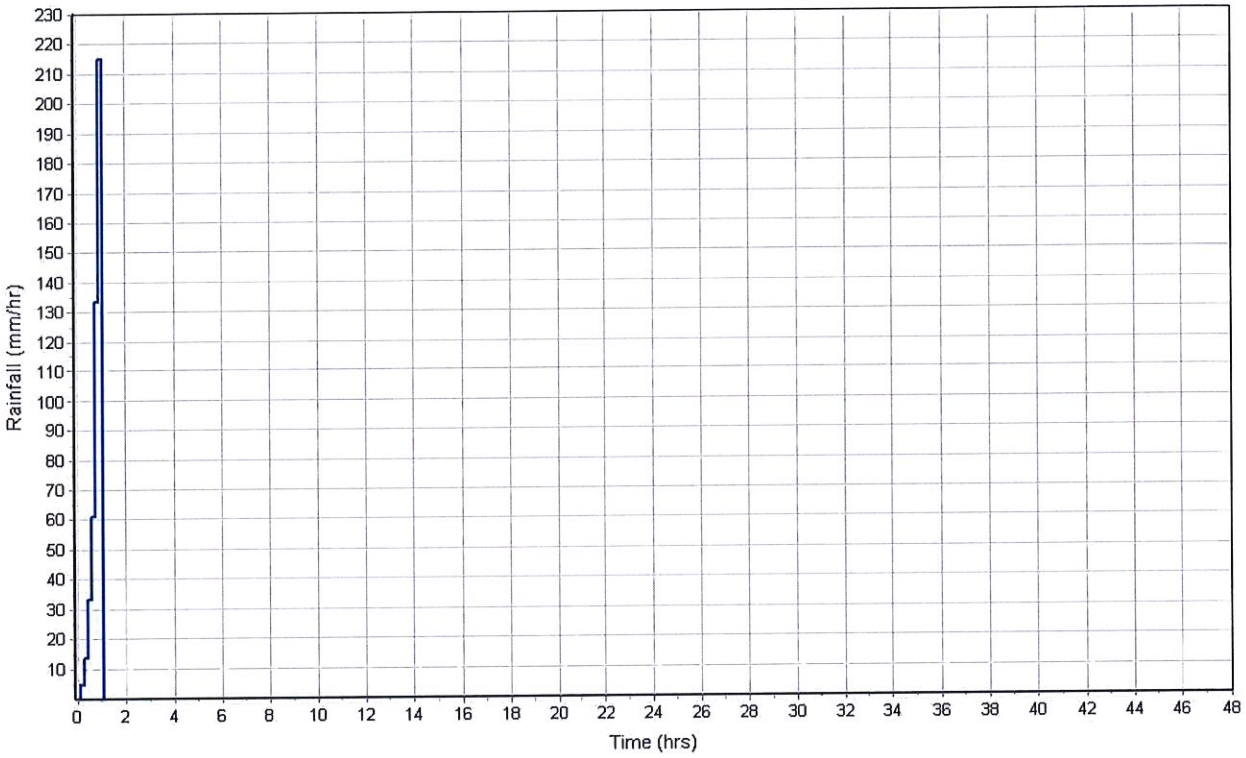
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

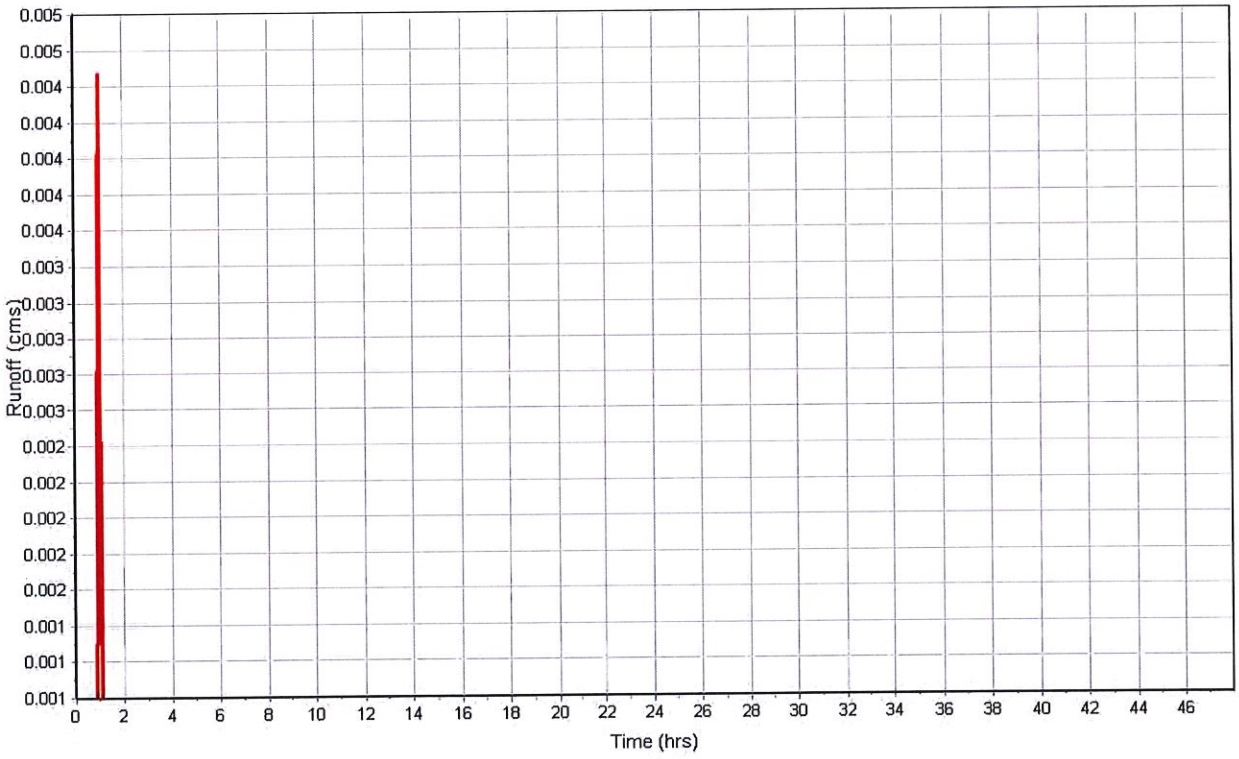
Total Rainfall (mm)	76.96
Total Runoff (mm)	9.55
Peak Runoff (cms)	0.01
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

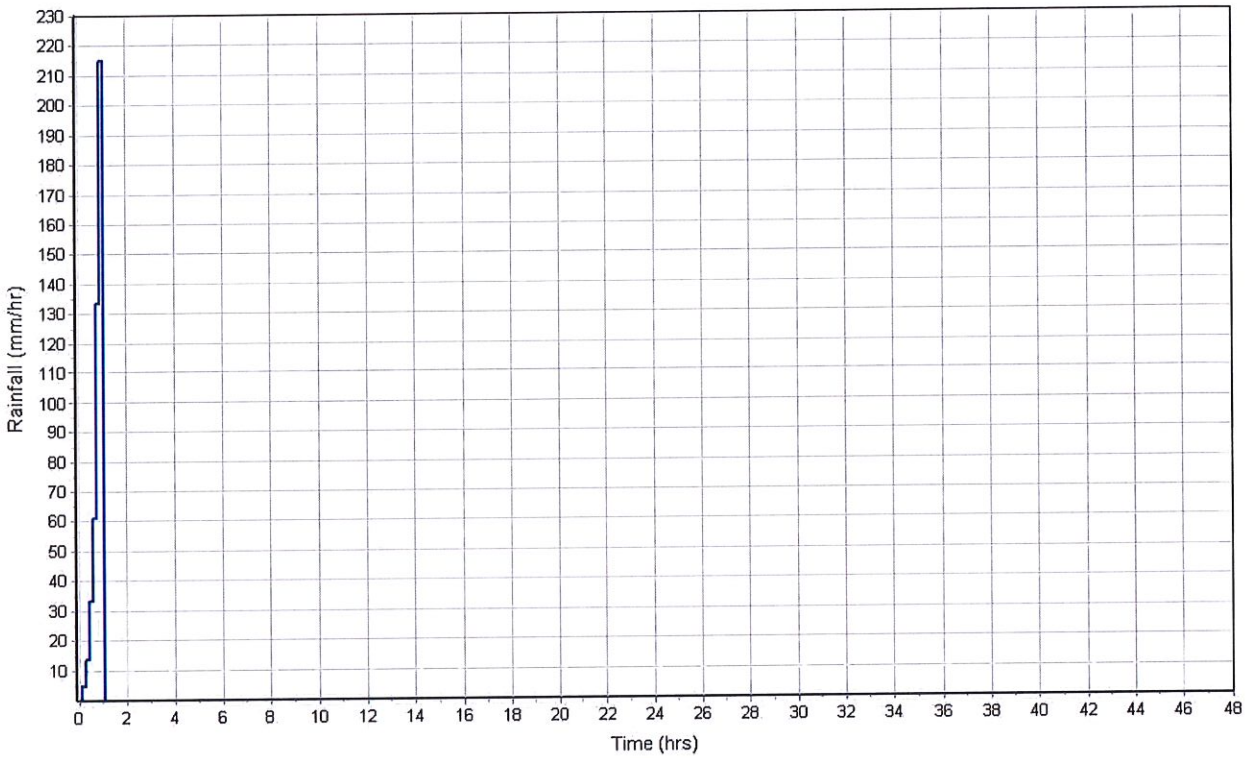
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

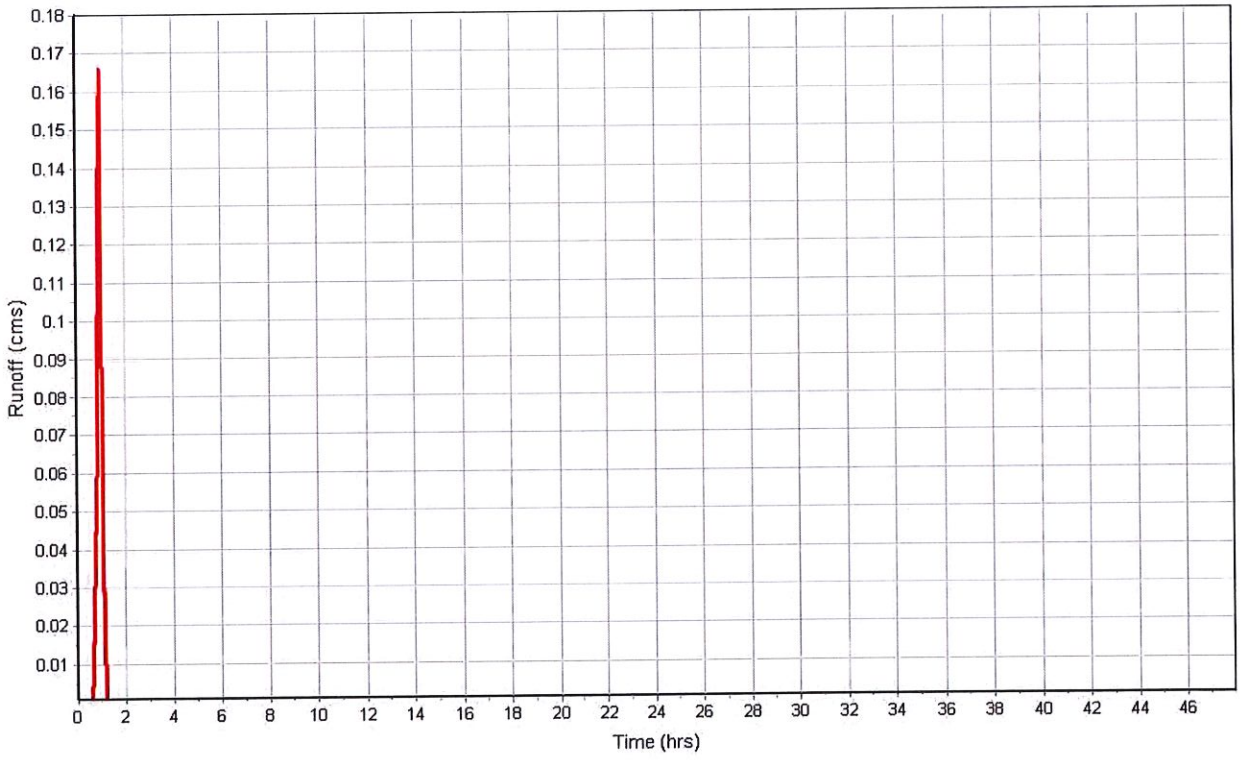
Total Rainfall (mm)	76.96
Total Runoff (mm)	34.62
Peak Runoff (cms)	0.17
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

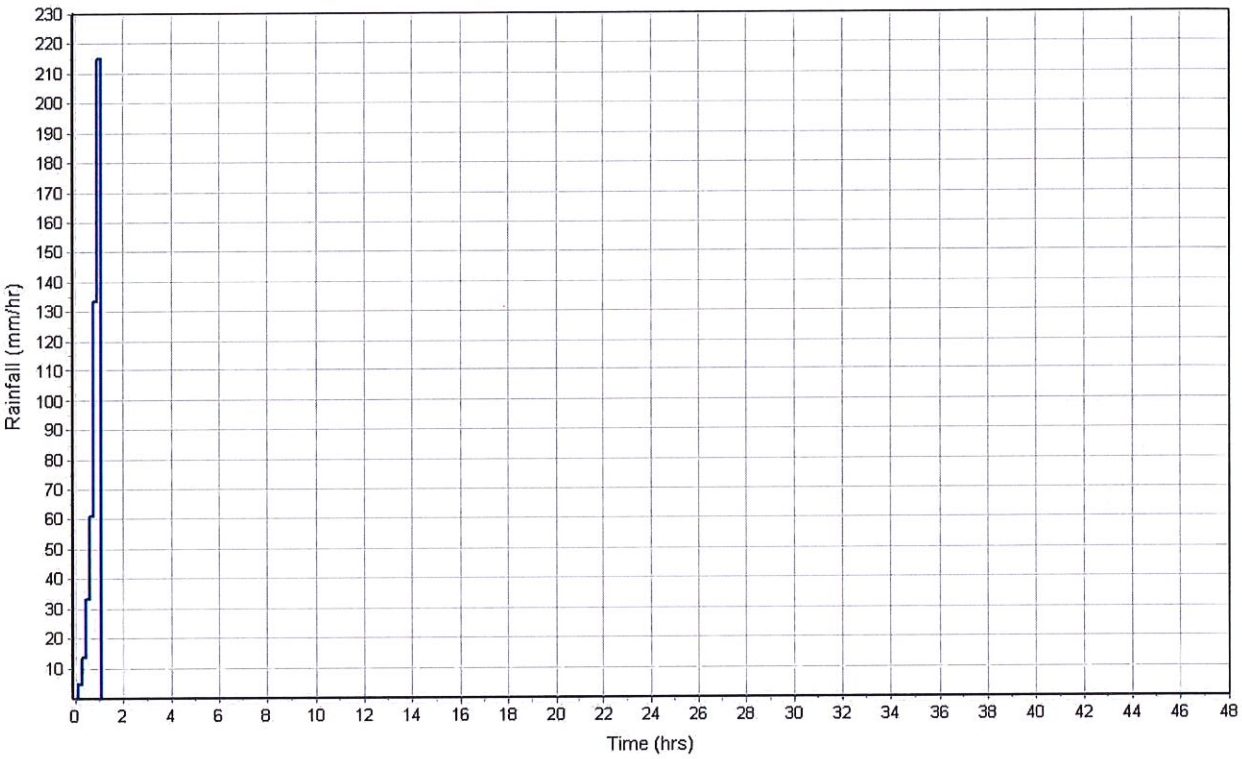
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

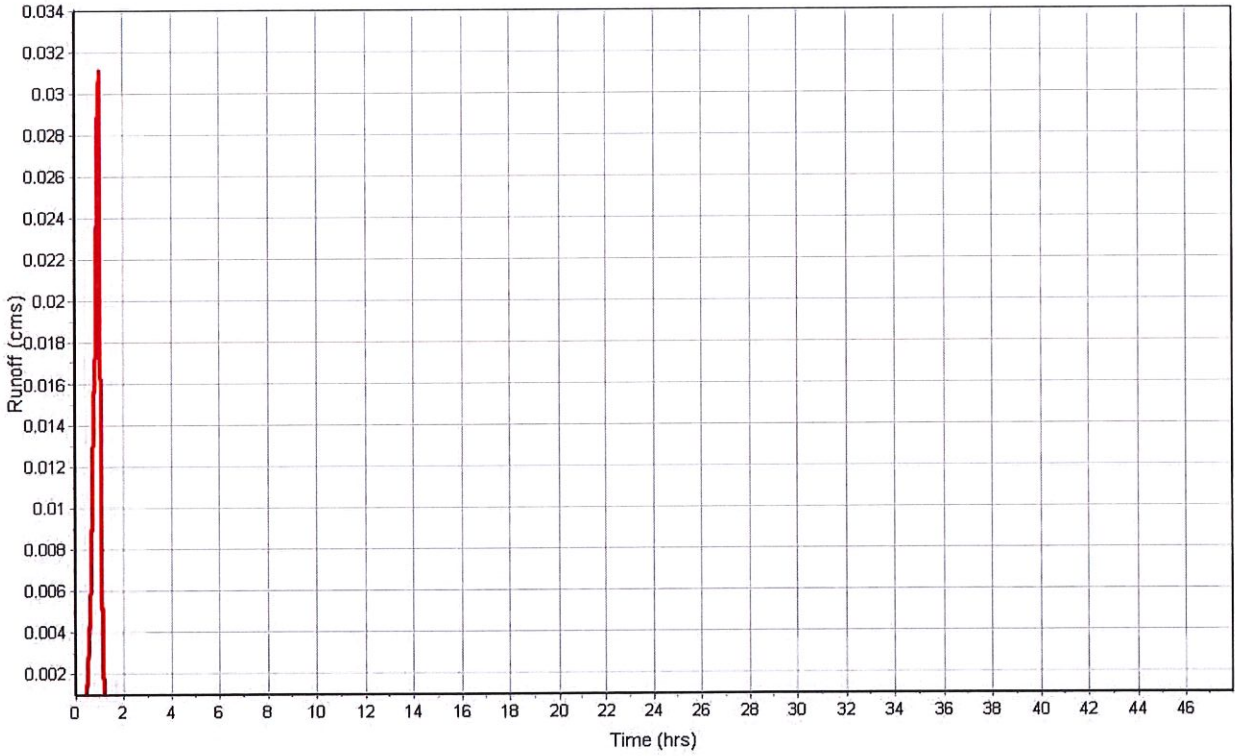
Total Rainfall (mm)	76.96
Total Runoff (mm)	62.97
Peak Runoff (cms)	0.03
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

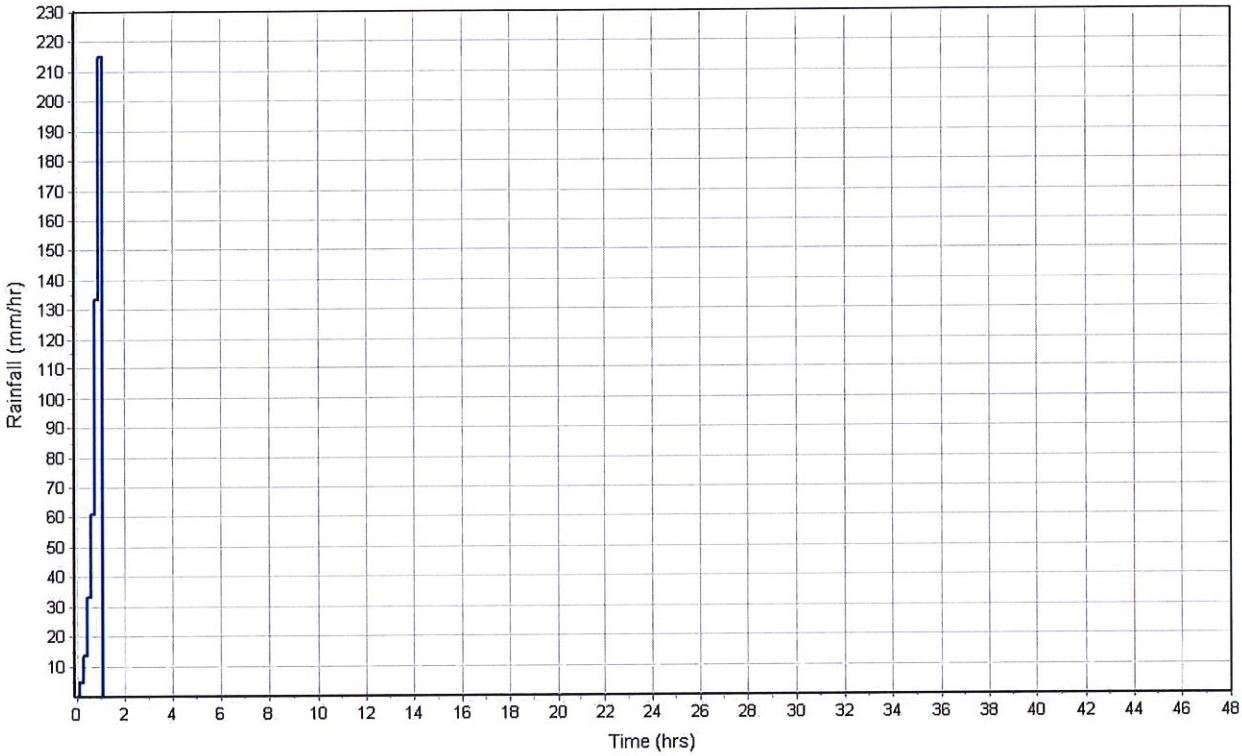
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

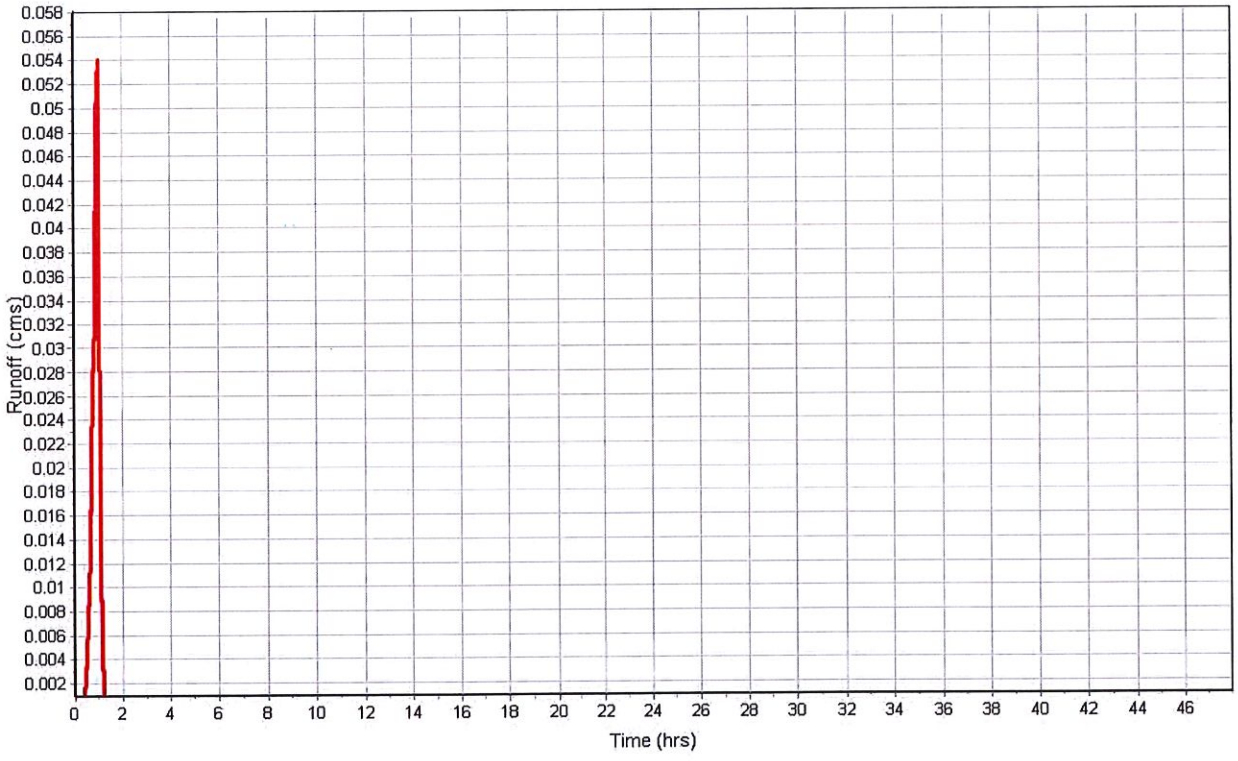
Total Rainfall (mm)	76.96
Total Runoff (mm)	65.58
Peak Runoff (cms)	0.05
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

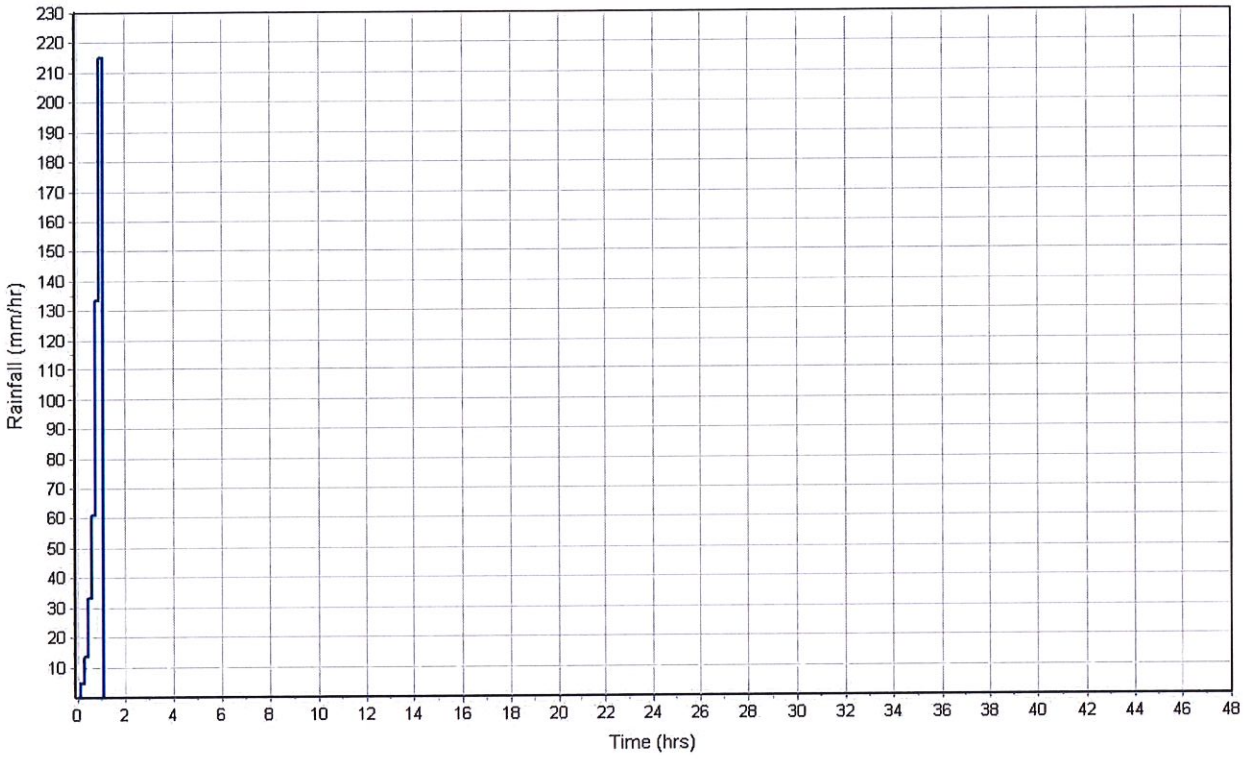
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

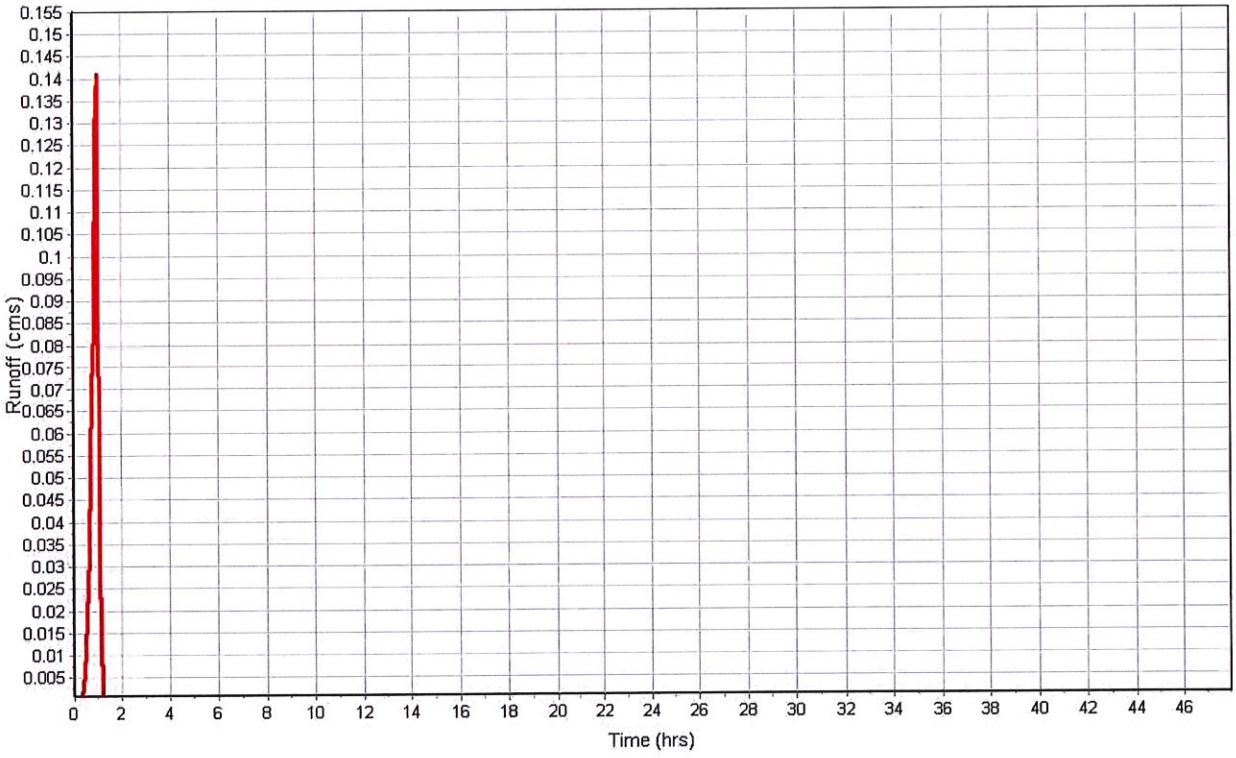
Total Rainfall (mm)	76.96
Total Runoff (mm)	65.58
Peak Runoff (cms)	0.14
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

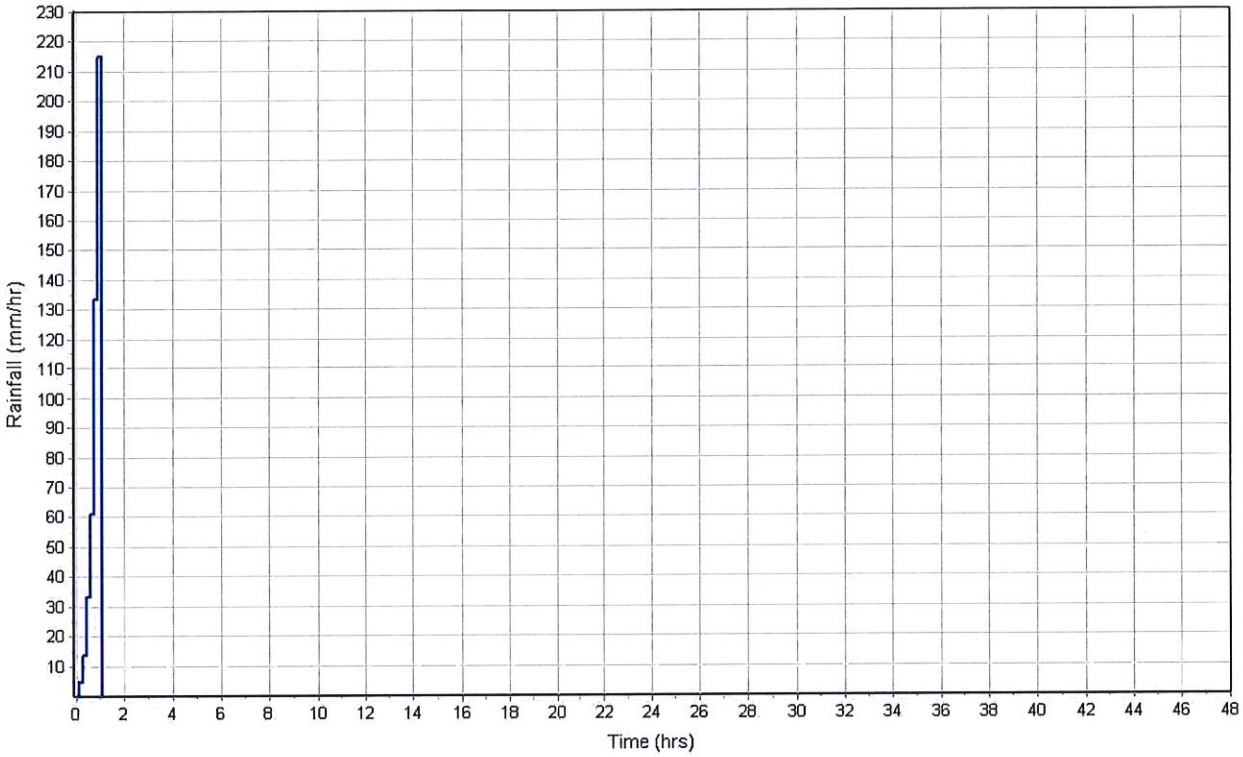
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

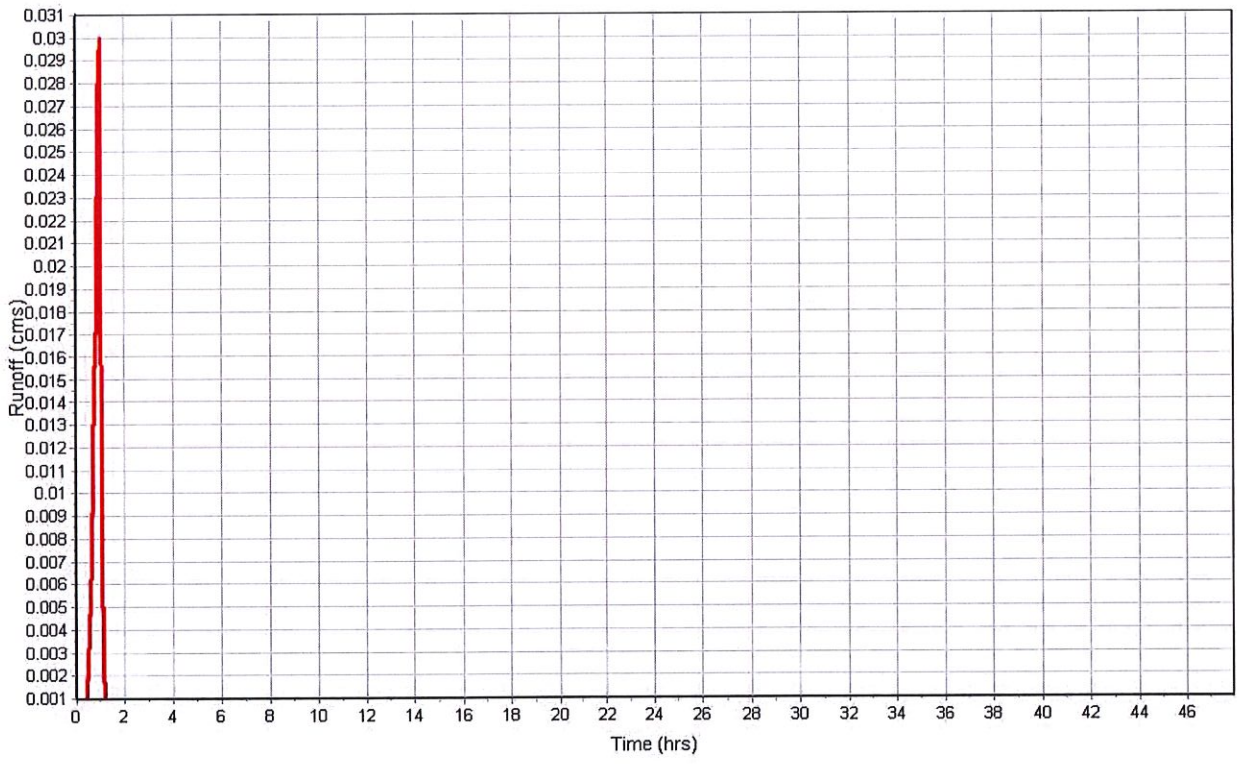
Total Rainfall (mm)	76.96
Total Runoff (mm)	65.56
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

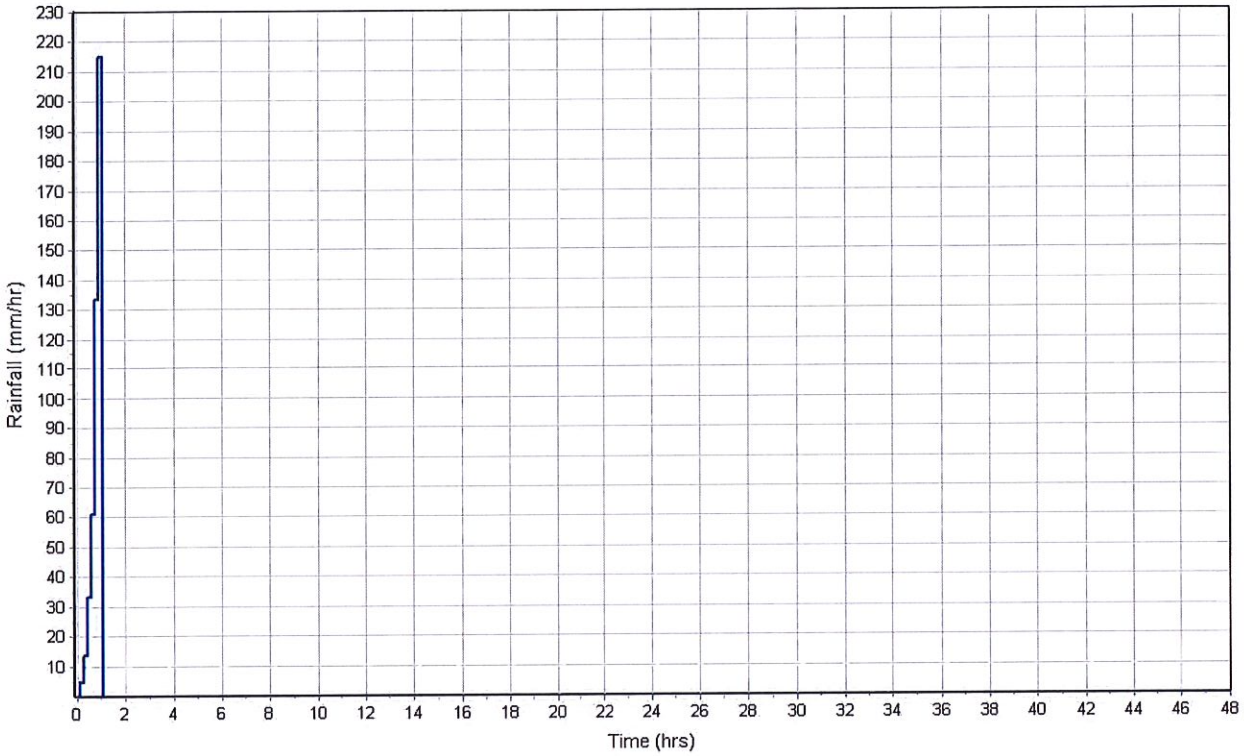
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

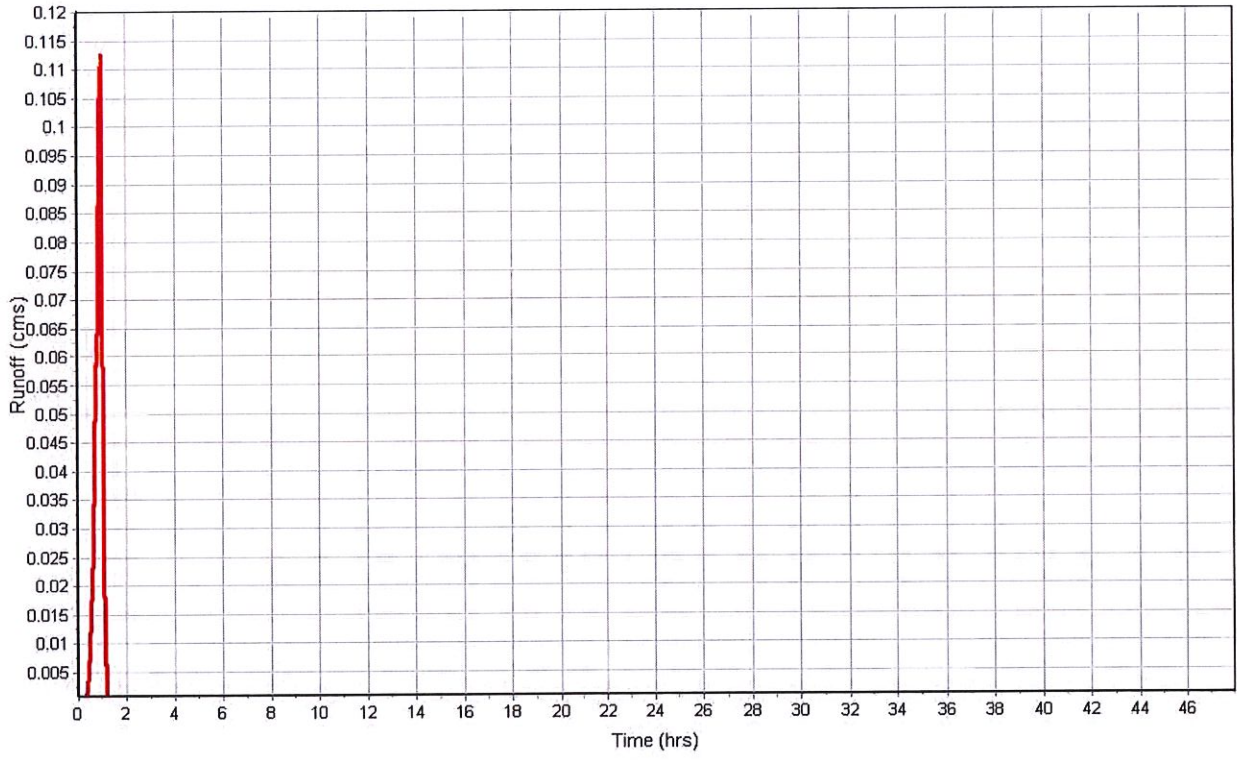
Total Rainfall (mm)	76.96
Total Runoff (mm)	65.51
Peak Runoff (cms)	0.11
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

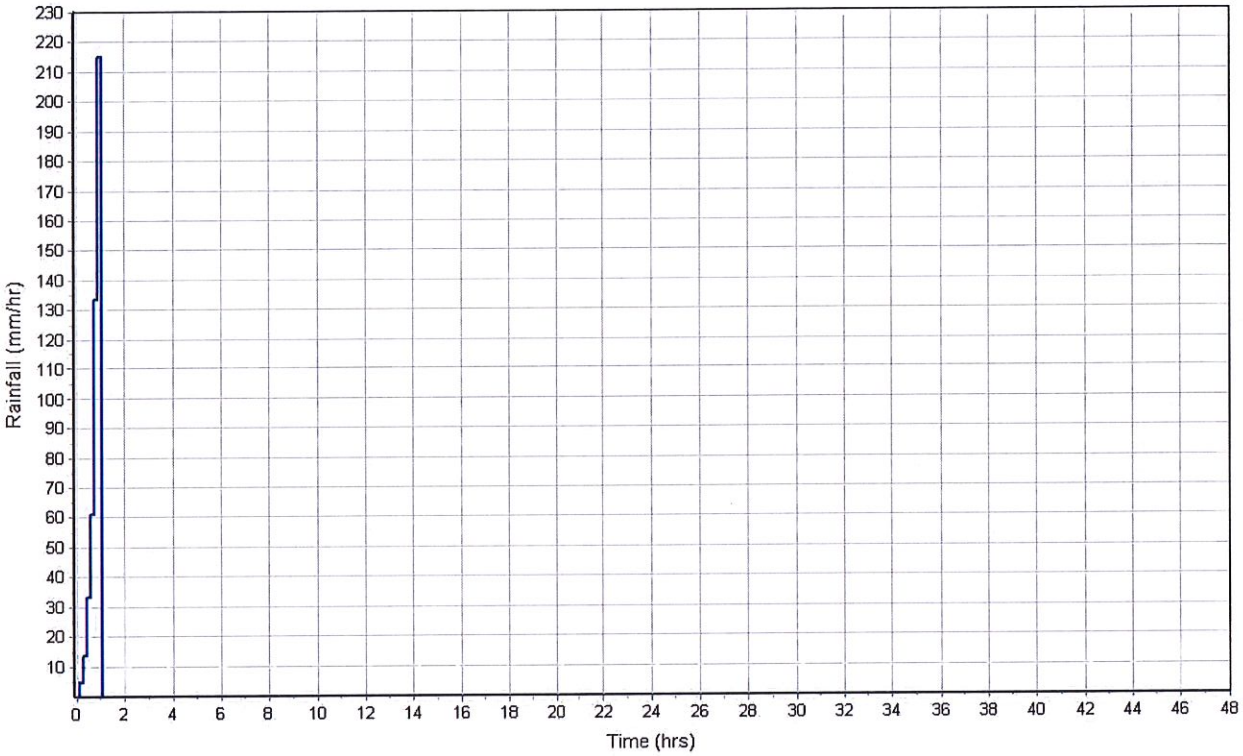
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

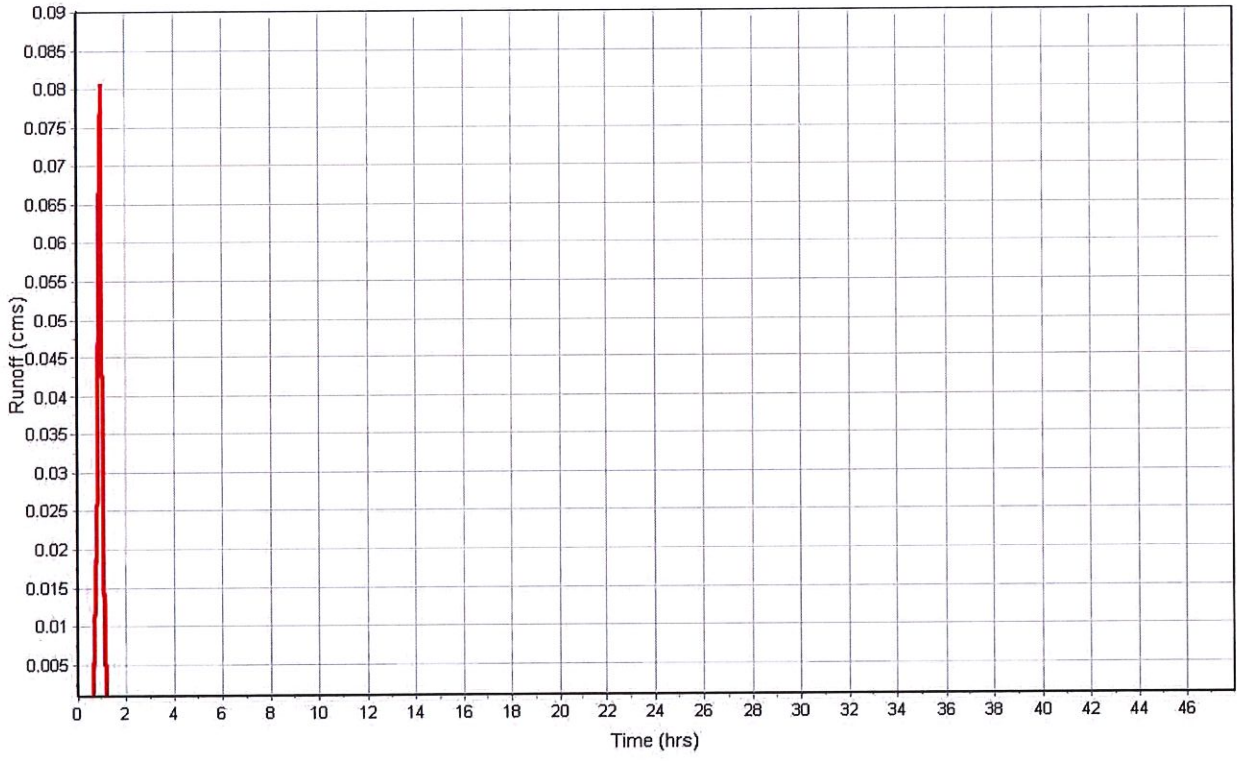
Total Rainfall (mm)	76.96
Total Runoff (mm)	30.68
Peak Runoff (cms)	0.08
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

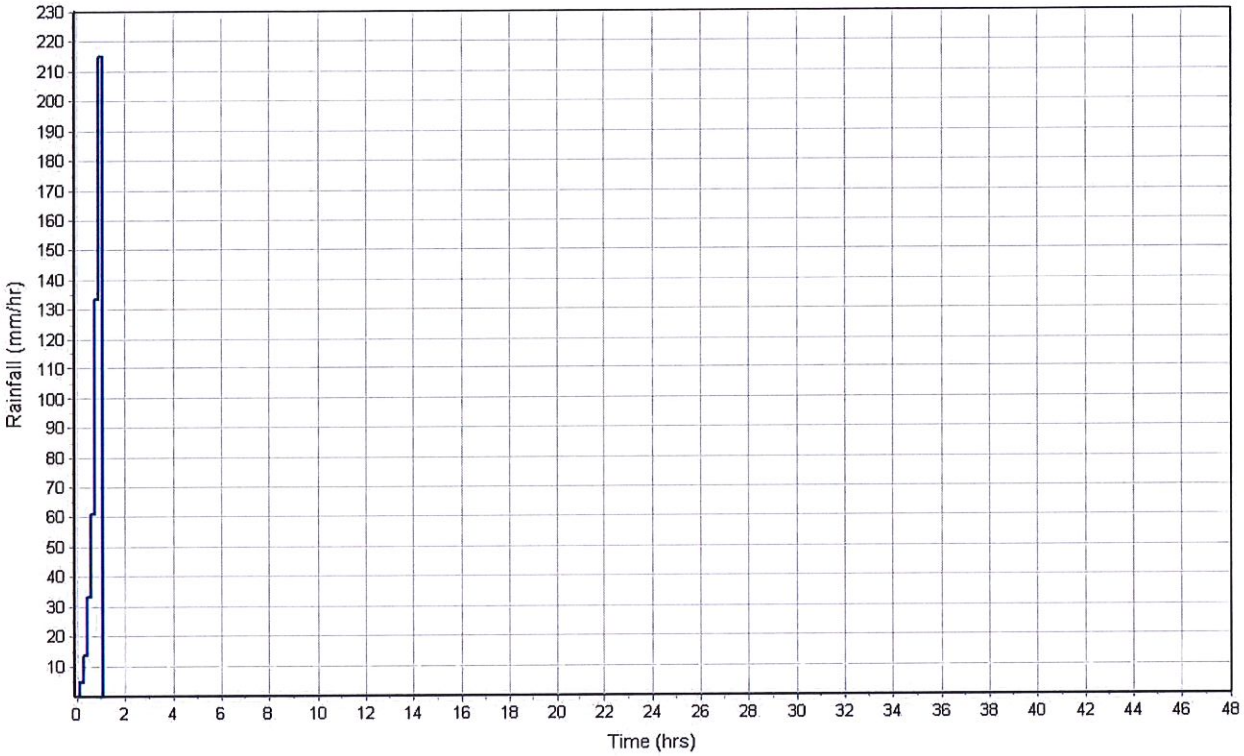
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

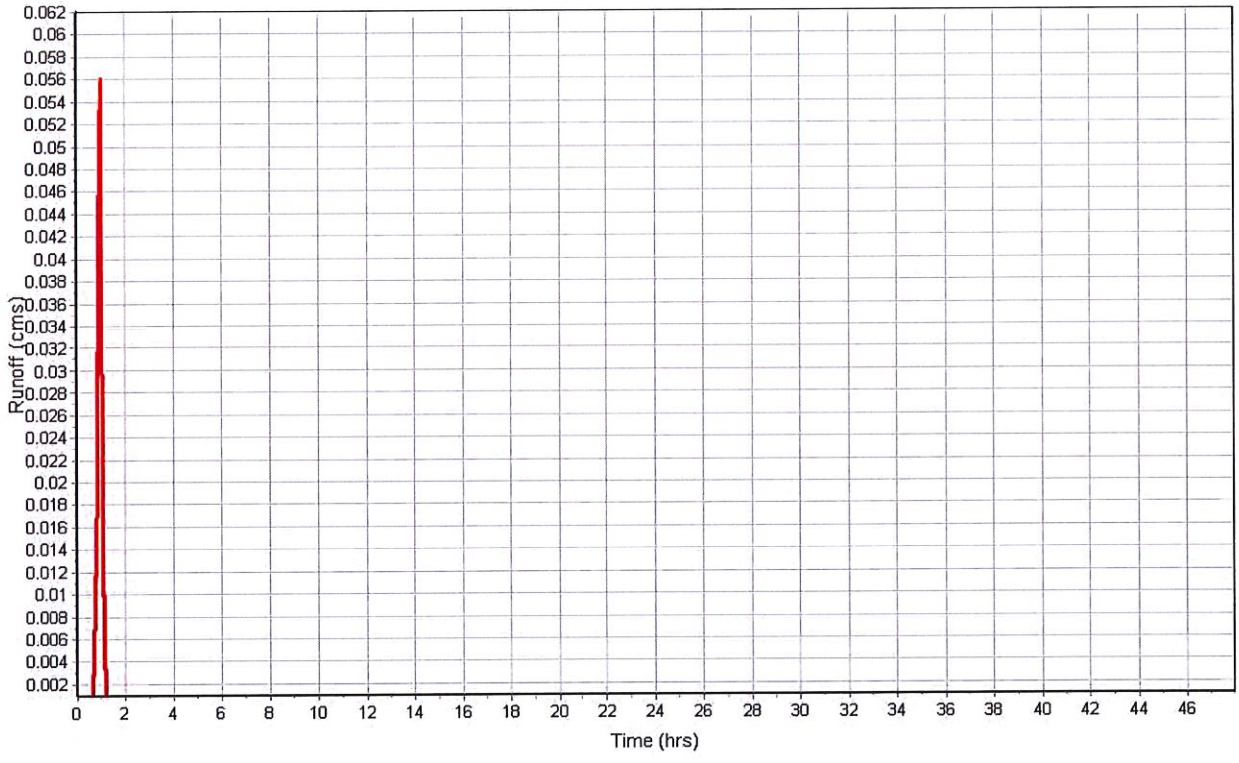
Total Rainfall (mm)	76.96
Total Runoff (mm)	28.32
Peak Runoff (cms)	0.06
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

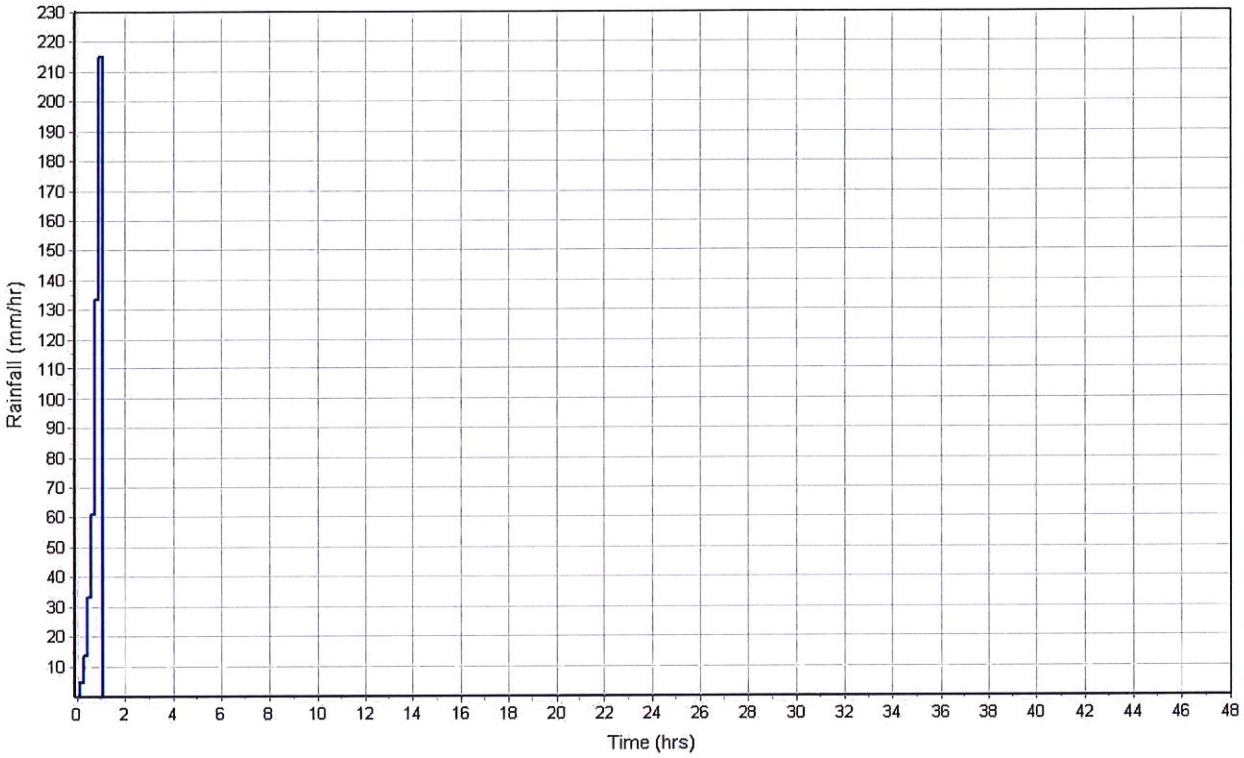
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

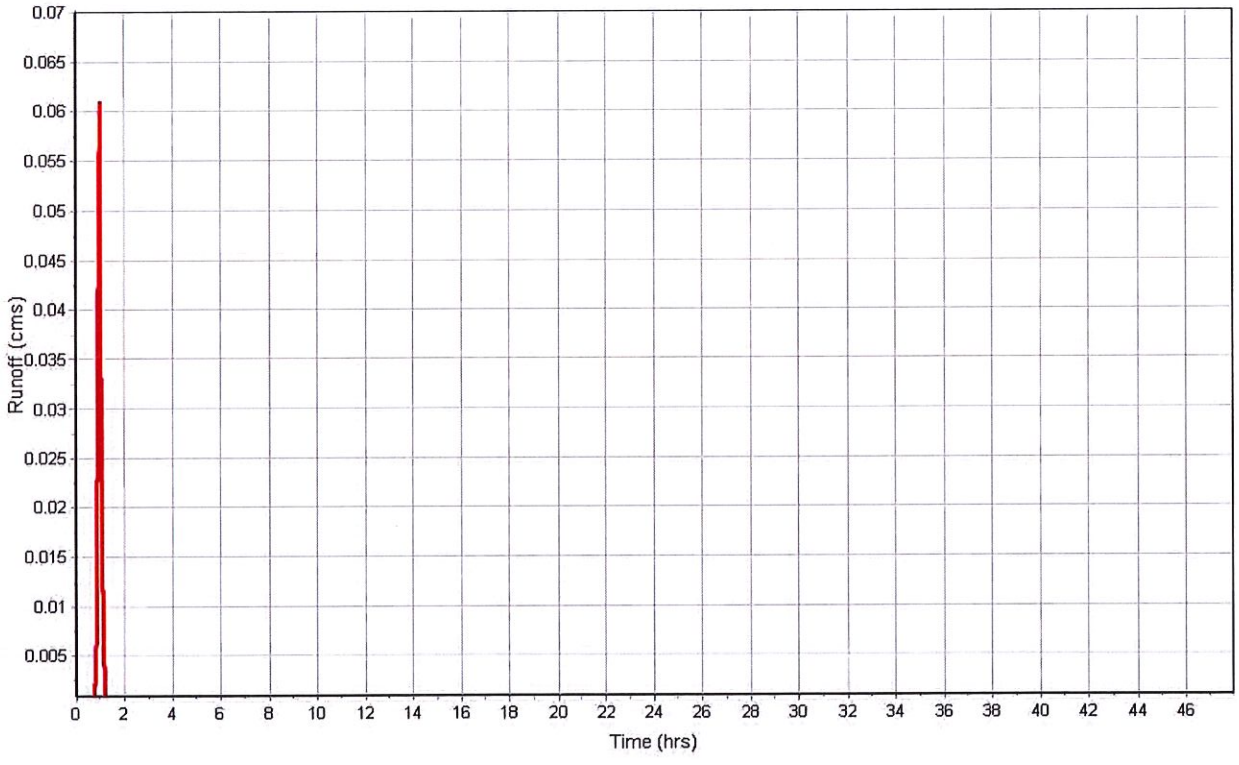
Total Rainfall (mm)	76.96
Total Runoff (mm)	13.11
Peak Runoff (cms)	0.06
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

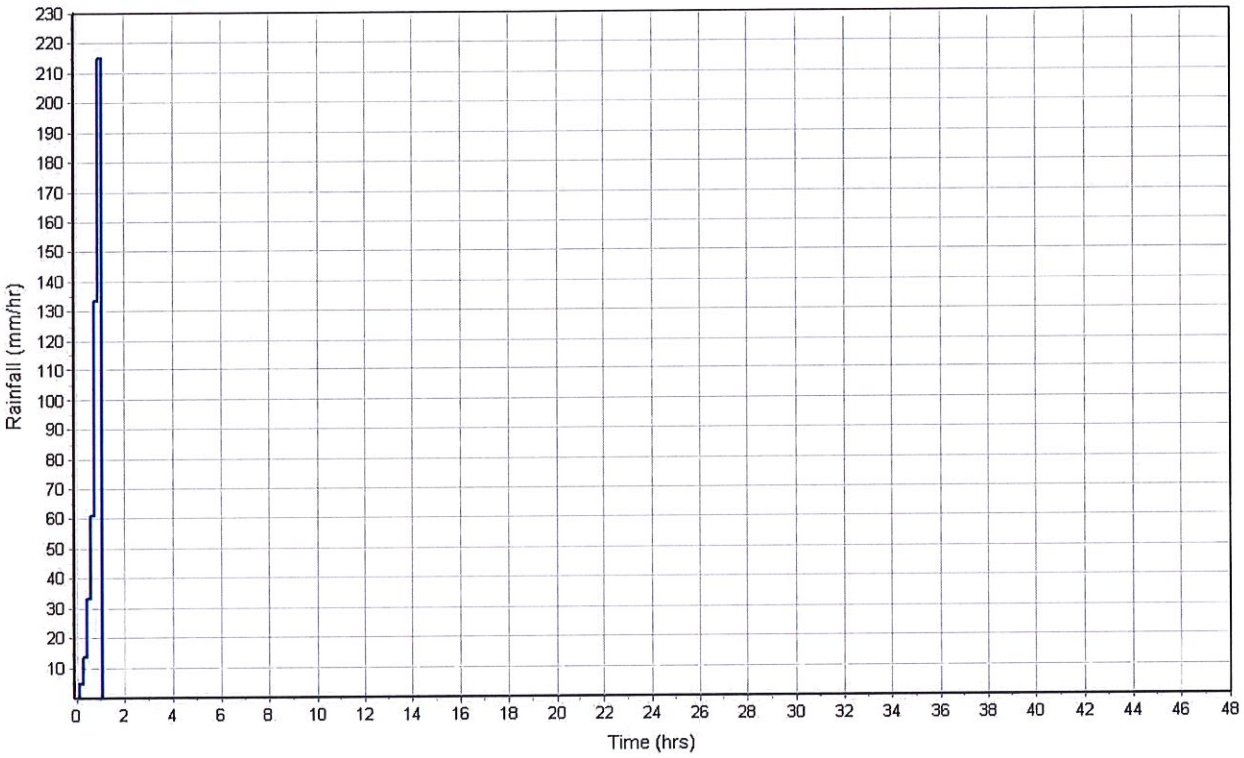
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

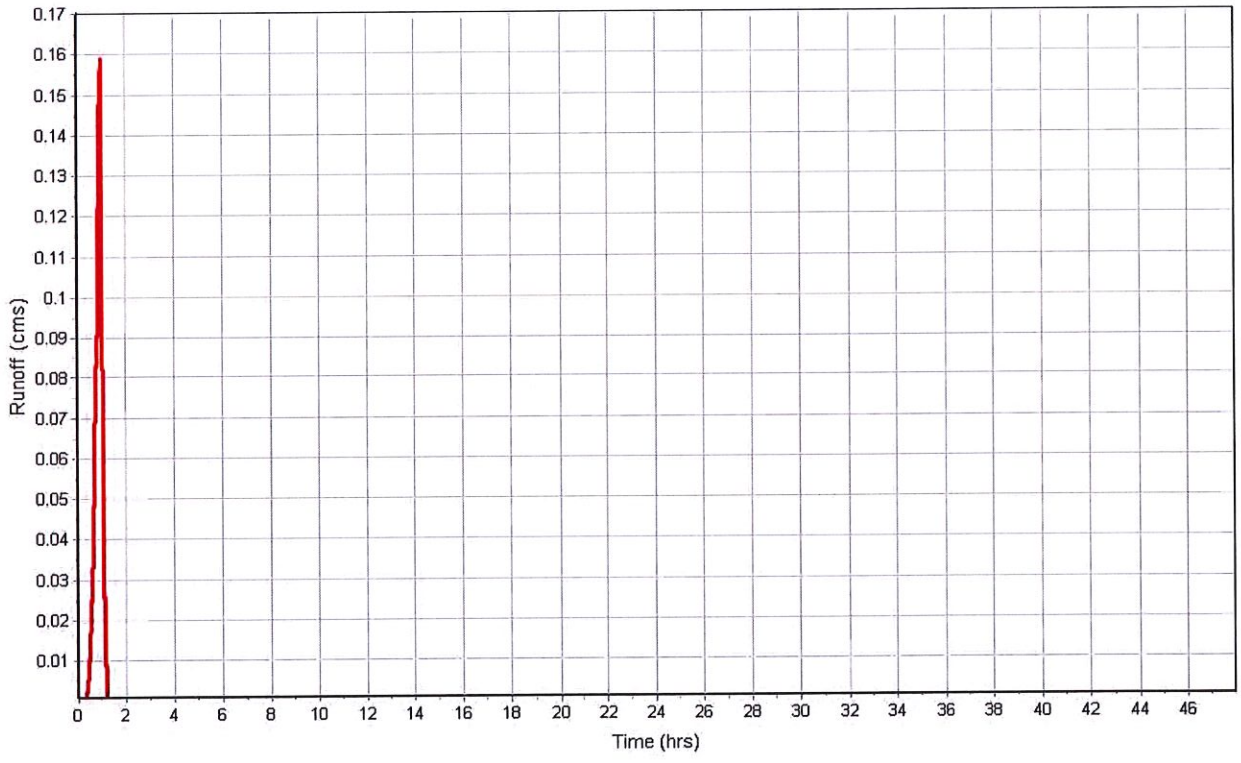
Total Rainfall (mm)	76.96
Total Runoff (mm)	65.58
Peak Runoff (cms)	0.16
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

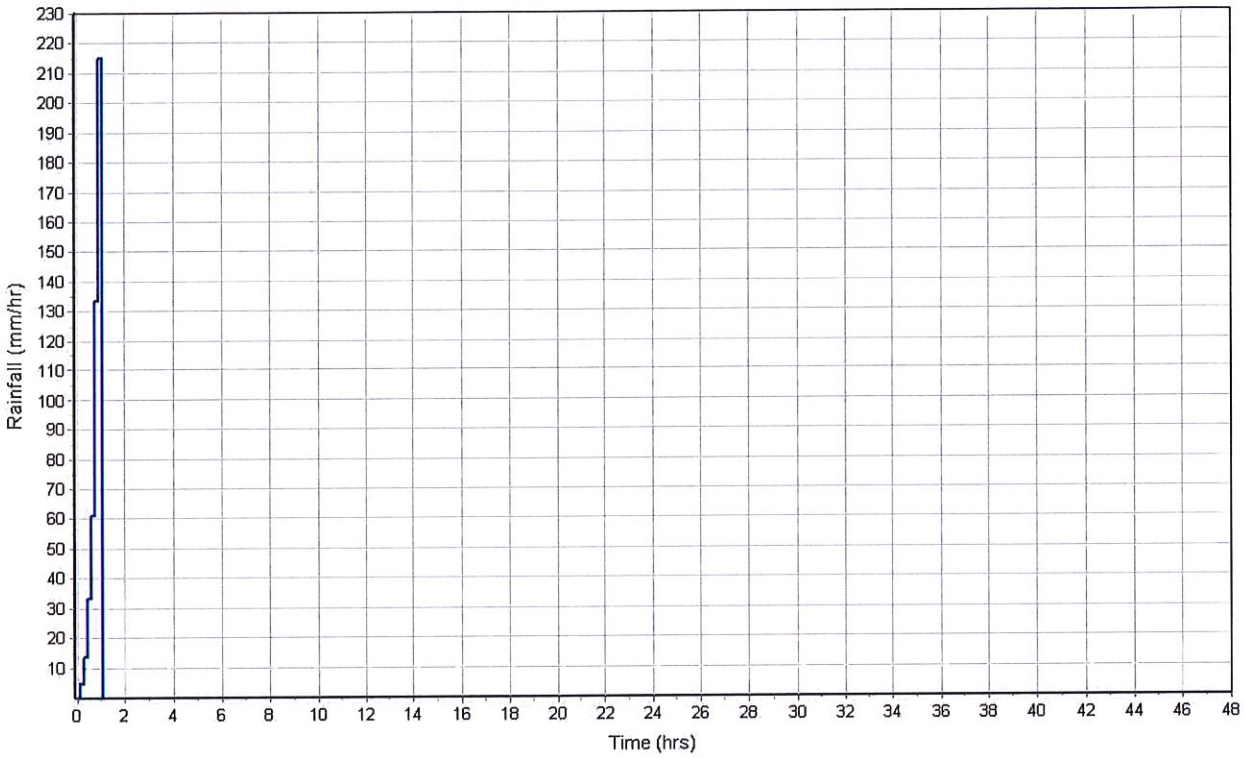
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

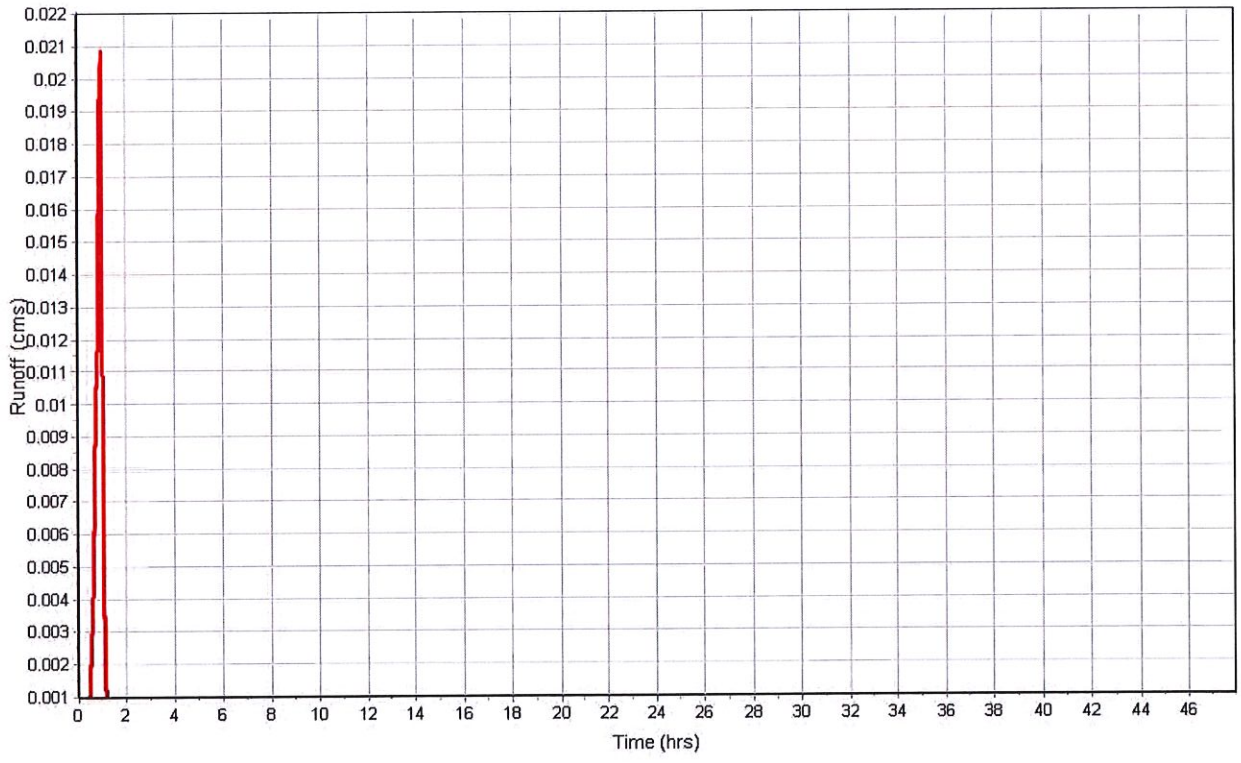
Total Rainfall (mm)	76.96
Total Runoff (mm)	63.73
Peak Runoff (cms)	0.02
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m²)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.90	2.90	29.89	2.59	0.00	1.50	27.55	0.25	0 01:09	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	1.19	0 01:06	3.16	0.38	2.14	0.10	0.06	1.00	0.00		
2	OF-06	0.06	0 01:05	4.26	0.01	0.53	0.29	0.01	0.08	0.00		
3	OF-08	0.03	0 01:05	0.93	0.03	0.43	0.99	0.01	0.13	0.00		
4	OF-09	0.04	0 01:04	5.28	0.01	0.25	3.75	0.05	0.53	0.00		
5	OF-10	0.10	0 01:04	4.83	0.02	0.62	1.18	0.01	0.10	0.00		
6	OF-2	0.11	0 00:59	4.80	0.02	1.00	0.32	0.05	0.57	0.00		
7	OF-3	0.14	0 01:04	6.02	0.02	1.05	0.54	0.06	0.58	0.00		
8	OF-4	0.30	0 00:59	4.80	0.06	0.69	0.51	0.06	0.65	0.00		
9	OF-5	0.02	0 01:05	3.90	0.00	0.20	4.68	0.06	0.52	0.00		
10	OF-7	0.05	0 01:05	0.45	0.12	0.26	2.60	0.02	0.26	0.00		

Pipe Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	No. of Barrels
		(m)	(m)	(m)	(m)	(m)	(m)	(%)		(m)	(m)					(cms)		
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	Pipe - (1)	0.02	0 01:10	0.05	0.34	0.70	0.14	0.30	1.00	11.00		SURCHARGED
2	Pipe - (10)	0.16	0 01:04	0.18	0.87	2.23	0.42	0.29	1.00	1.00		SURCHARGED
3	Pipe - (11)	0.13	0 01:01	0.20	0.63	1.81	0.40	0.30	1.00	14.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:49	0.21	1.88	3.63	0.06	0.38	1.00	38.00		SURCHARGED
5	Pipe - (2)	0.06	0 01:05	0.14	0.43	1.16	0.19	0.30	1.00	11.00		SURCHARGED
6	Pipe - (3)	0.15	0 01:03	0.20	0.73	2.09	0.15	0.30	1.00	12.00		SURCHARGED
7	Pipe - (4)	0.15	0 01:09	0.15	1.03	2.50	0.23	0.30	1.00	15.00		SURCHARGED
8	Pipe - (5)	0.22	0 01:04	0.28	0.78	3.12	0.11	0.30	1.00	16.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:12	0.16	0.92	2.11	0.44	0.30	1.00	25.00		SURCHARGED
10	Pipe - (7)	0.19	0 00:58	0.42	0.45	1.72	0.09	0.38	1.00	40.00		SURCHARGED
11	Pipe - (8)	0.03	0 01:05	0.09	0.30	1.34	0.50	0.12	0.41	0.00		Calculated
12	Pipe - (9)	0.11	0 01:05	0.28	0.37	6.79	0.06	0.21	0.71	0.00		Calculated
13	Pipe-Out	2.63	0 01:09	1.68	1.57	5.07	0.05	0.81	1.00	18.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.47	33.86	0.02	0 01:00	0.42	6.00
2	CB1-02	0.17	0.17	0.07	0.09	44.73	0.90	33.89	0.05	0 01:00	0.02	0.00
3	CB1-03	0.03	0.03	0.01	0.02	44.73	0.17	33.65	0.01	0 01:00	5.55	8.00
4	CB1-04	0.05	0.05	0.02	0.03	44.73	0.29	33.08	0.02	0 01:00	2.66	9.00
5	CB1-05	0.14	0.14	0.06	0.08	44.73	0.77	32.24	0.05	0 01:00	2.30	7.00
6	CB1-06	0.03	0.03	0.01	0.02	44.73	0.16	30.78	0.01	0 00:52	16.24	20.00
7	CB1-07	0.11	0.11	0.05	0.06	44.73	0.61	29.50	0.04	0 00:56	0.92	11.00
8	CB2-01	0.08	0.08	0.03	0.05	36.05	0.84	34.43	0.03	0 01:05	0.00	0.00
9	CB2-02	0.06	0.06	0.03	0.03	44.73	0.30	33.98	0.02	0 01:05	0.00	0.00
10	CB2-03	0.06	0.06	0.03	0.03	44.73	0.33	32.14	0.02	0 01:05	0.00	0.00
11	CB2-04	0.16	0.16	0.07	0.09	44.73	0.86	30.12	0.05	0 00:58	5.29	11.00

Storage Nodes

Storage Node : CB3-01

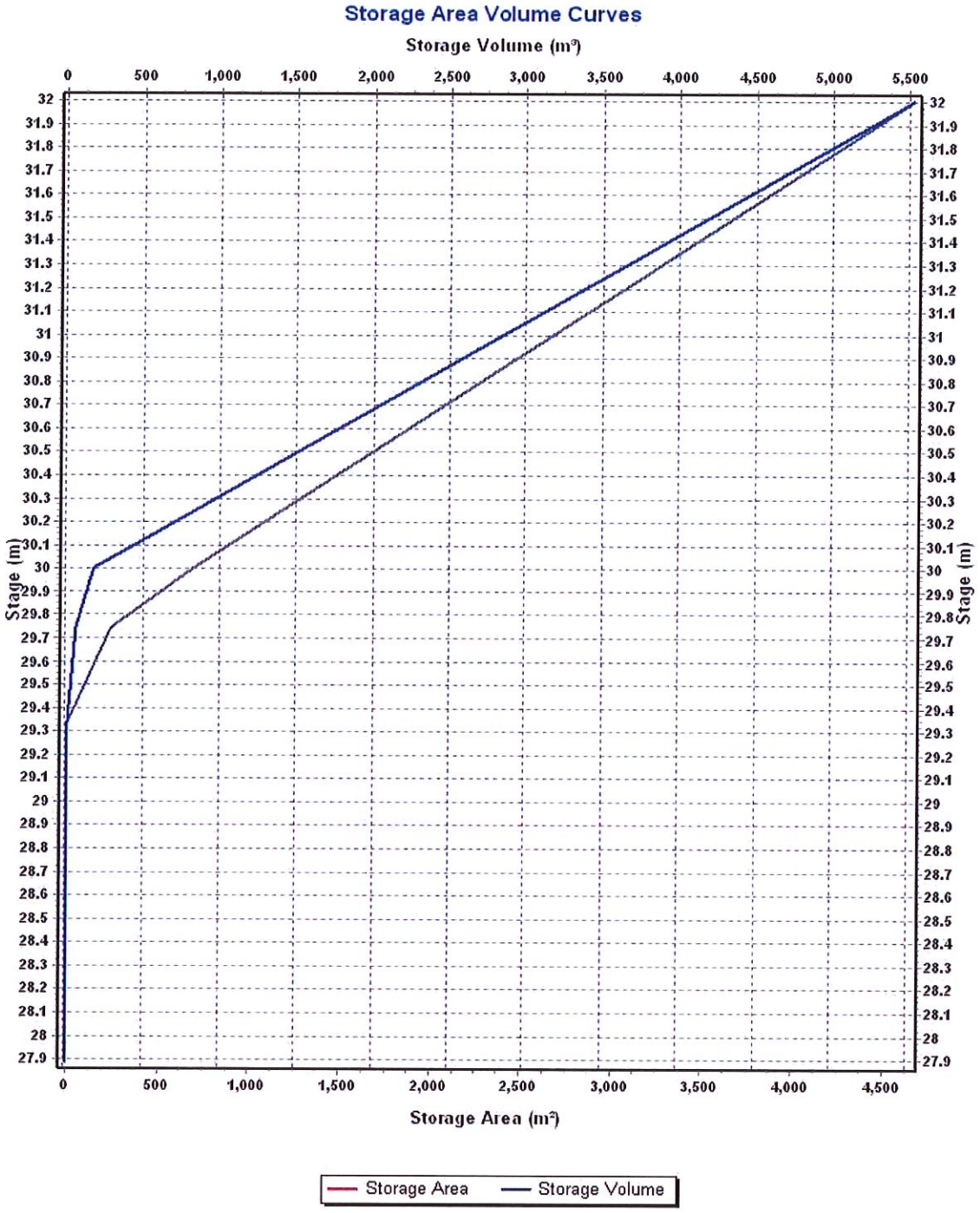
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.95
Peak Lateral Inflow (cms)	0.24
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.45
Average HGL Depth Attained (m)	0.56
Time of Max HGL Occurrence (days hh:mm)	0 00:47
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	76.94
Total Time Flooded (min)	27
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units ..... CMS
Elevation Type ..... Elevation
Hydrology Method ..... SCS TR-55
Time of Concentration (TOC) Method ..... Kirpich
Link Routing Method ..... Hydrodynamic
Enable Overflow Ponding at Nodes ..... YES
Skip Steady State Analysis Time Periods .. NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins.....	13
Nodes.....	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links.....	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	50-6hr-10%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	180.09	70.28	1.74	0.00	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	180.09	125.35	48.97	0.10	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	180.09	164.97	8.96	0.02	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	180.09	167.97	15.49	0.03	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	180.09	167.97	40.68	0.08	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	180.09	167.97	8.80	0.02	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	180.09	167.92	32.82	0.07	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	180.09	116.42	24.36	0.05	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	180.09	114.07	17.11	0.04	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	180.09	80.32	22.49	0.05	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	180.09	167.97	46.25	0.10	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	180.09	165.86	6.02	0.01	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.25	29.33	0.00	2.06	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.25	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.56	29.34				111.81	89.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.01	0.05	0.10	0.58	0.21	0.78	0.00	Calculated
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.11	0.18	0.60	2.94	0.24	0.80	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	71.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	108.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.05	0.14	0.35	1.22	0.26	0.90	0.00	Calculated
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.11	0.20	0.56	2.00	0.30	1.00	18.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.14	0.15	0.92	3.61	0.30	1.00	40.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.19	0.28	0.67	3.88	0.30	1.00	51.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.91	2.39	0.30	1.00	92.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.44	1.68	0.38	1.00	113.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.02	0.09	0.19	1.97	0.10	0.32	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.07	0.28	0.24	8.98	0.14	0.46	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.25	1.68	1.34	4.34	0.81	1.00	68.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.06	3.16	0.02	0.50	0.01	0.09	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.04	4.26	0.01	0.45	0.01	0.06	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.02	0.93	0.02	0.33	0.01	0.10	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.03	5.28	0.01	0.37	0.05	0.52	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.06	4.83	0.01	0.47	0.01	0.07	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.02	4.80	0.00	0.35	0.00	0.04	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.02	6.02	0.00	0.32	0.00	0.03	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.15	4.80	0.03	0.78	0.05	0.56	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.01	3.90	0.00	0.27	0.06	0.47	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.03	0.45	0.07	0.21	0.02	0.20	0.00	

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

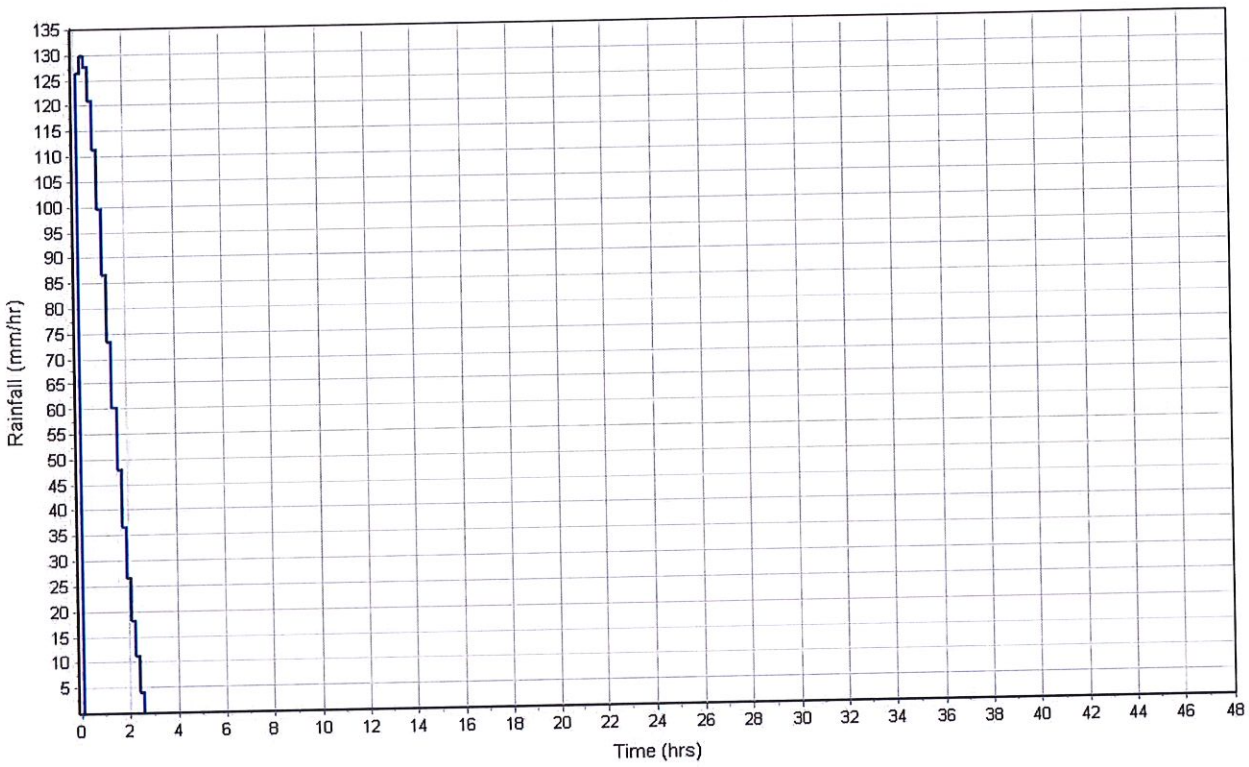
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

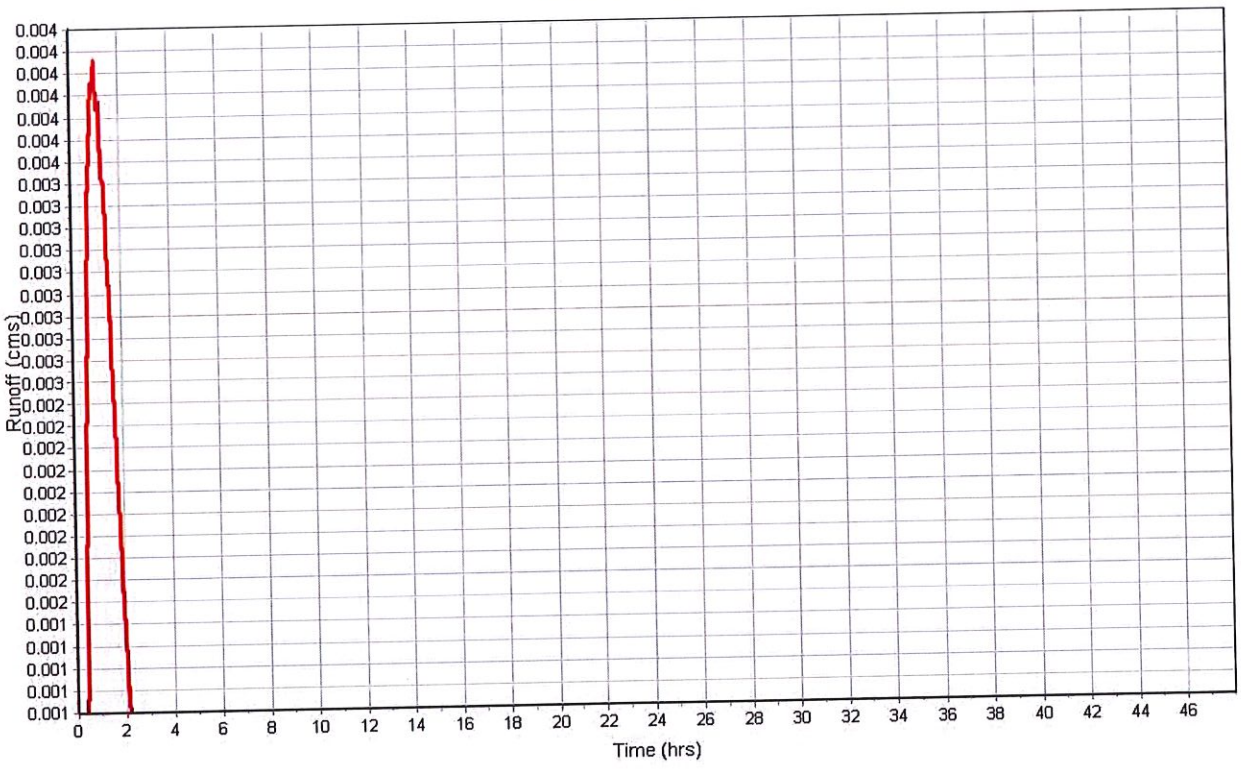
Total Rainfall (mm)	180.09
Total Runoff (mm)	70.28
Peak Runoff (cms)	0.00
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

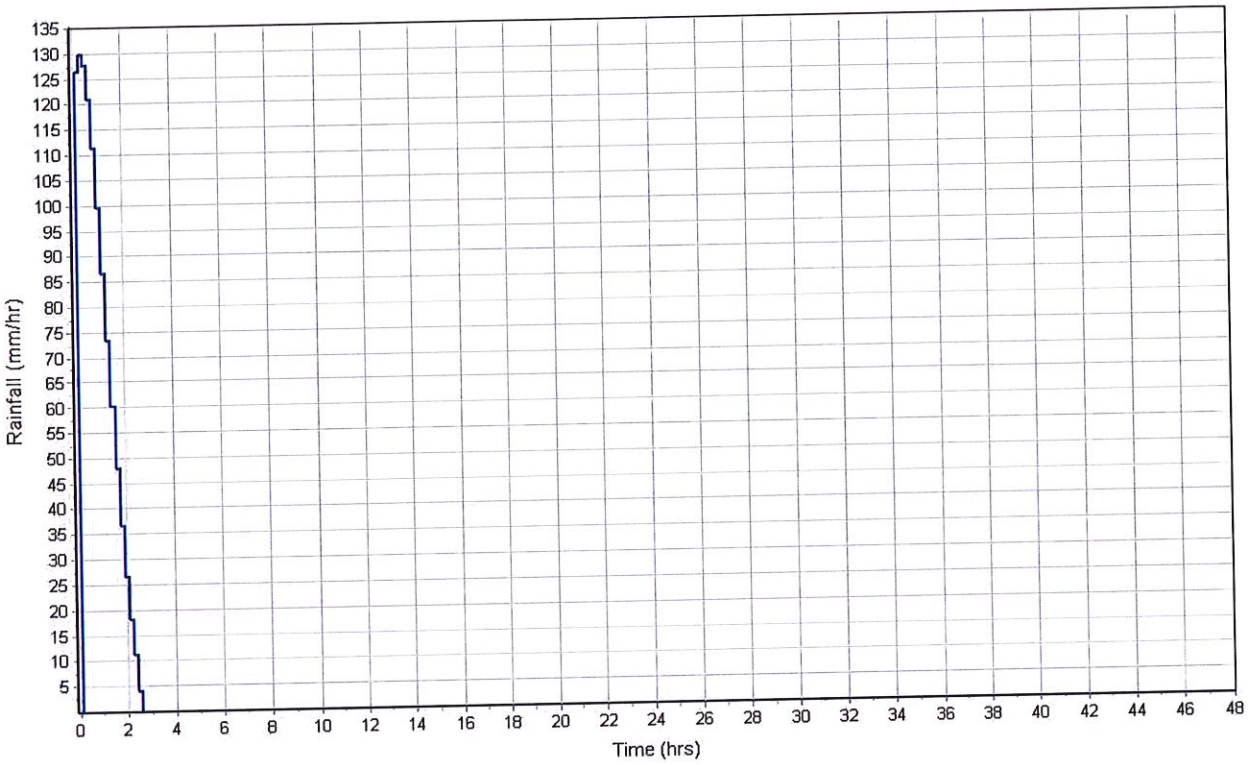
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

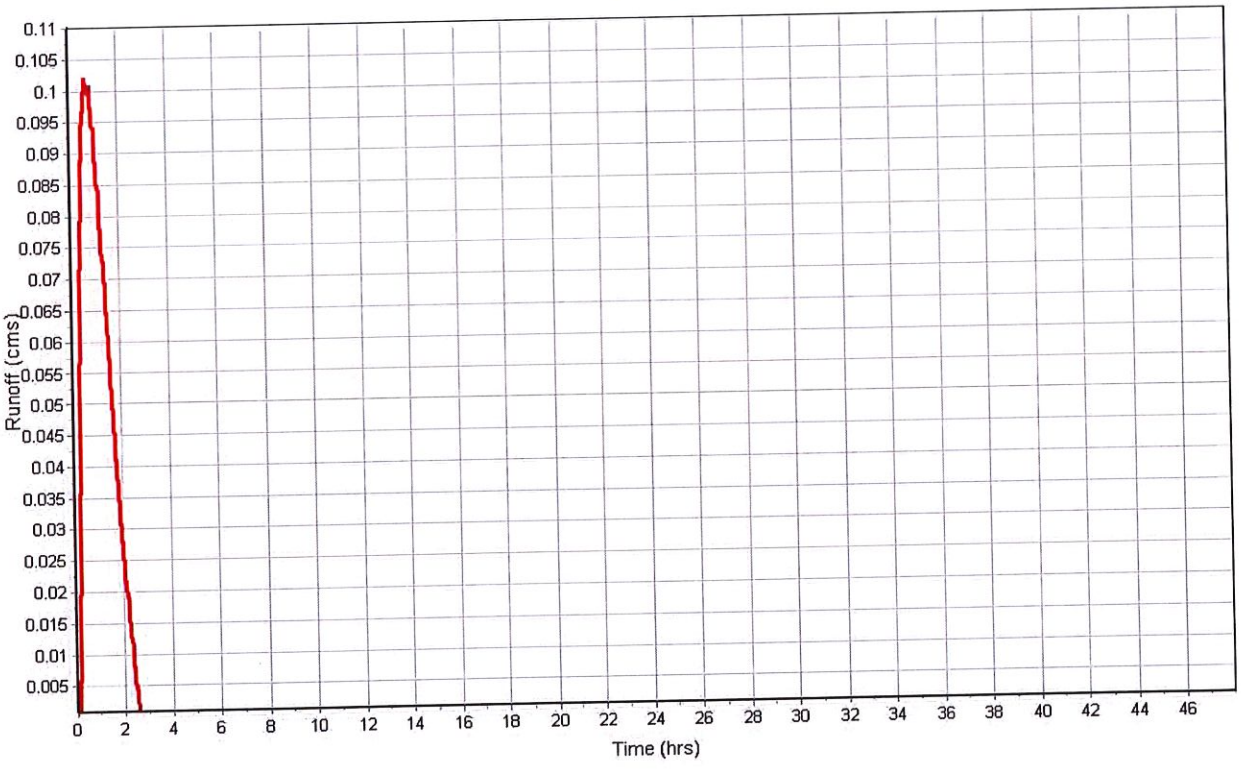
Total Rainfall (mm)	180.09
Total Runoff (mm)	125.35
Peak Runoff (cms)	0.10
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

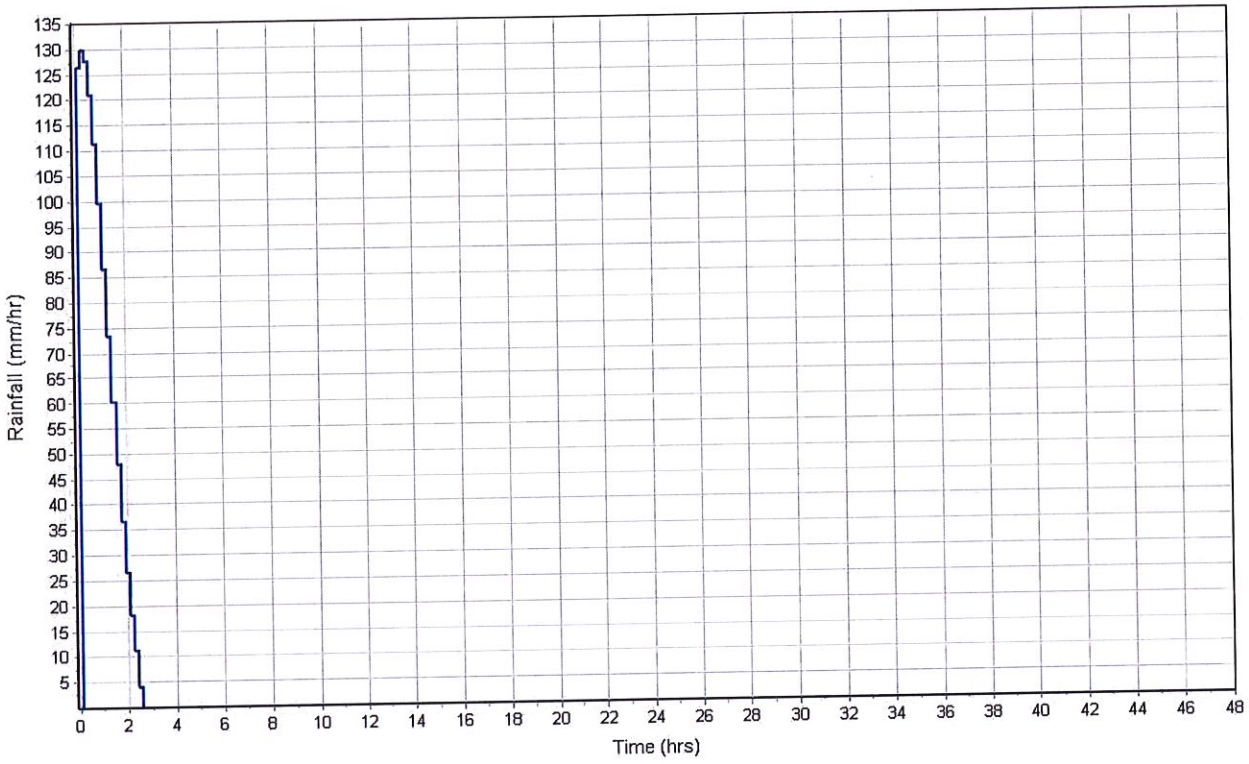
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

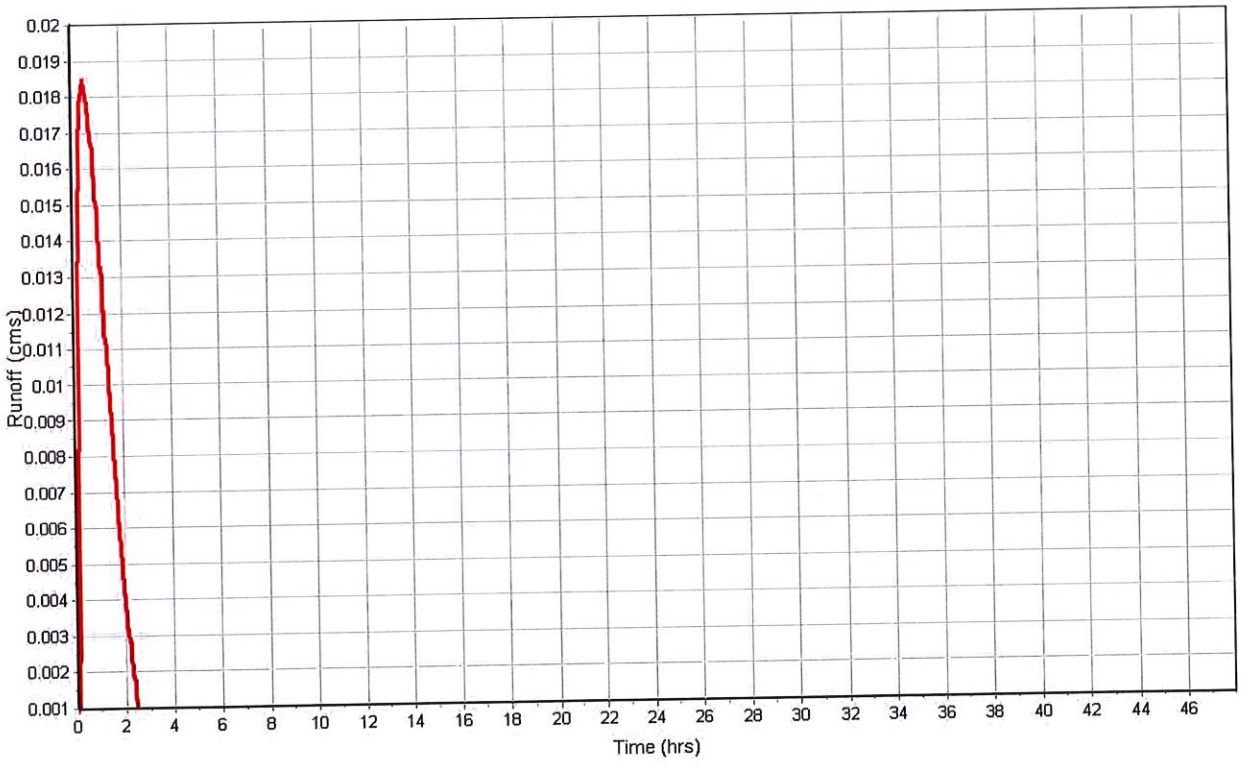
Total Rainfall (mm)	180.09
Total Runoff (mm)	164.97
Peak Runoff (cms)	0.02
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

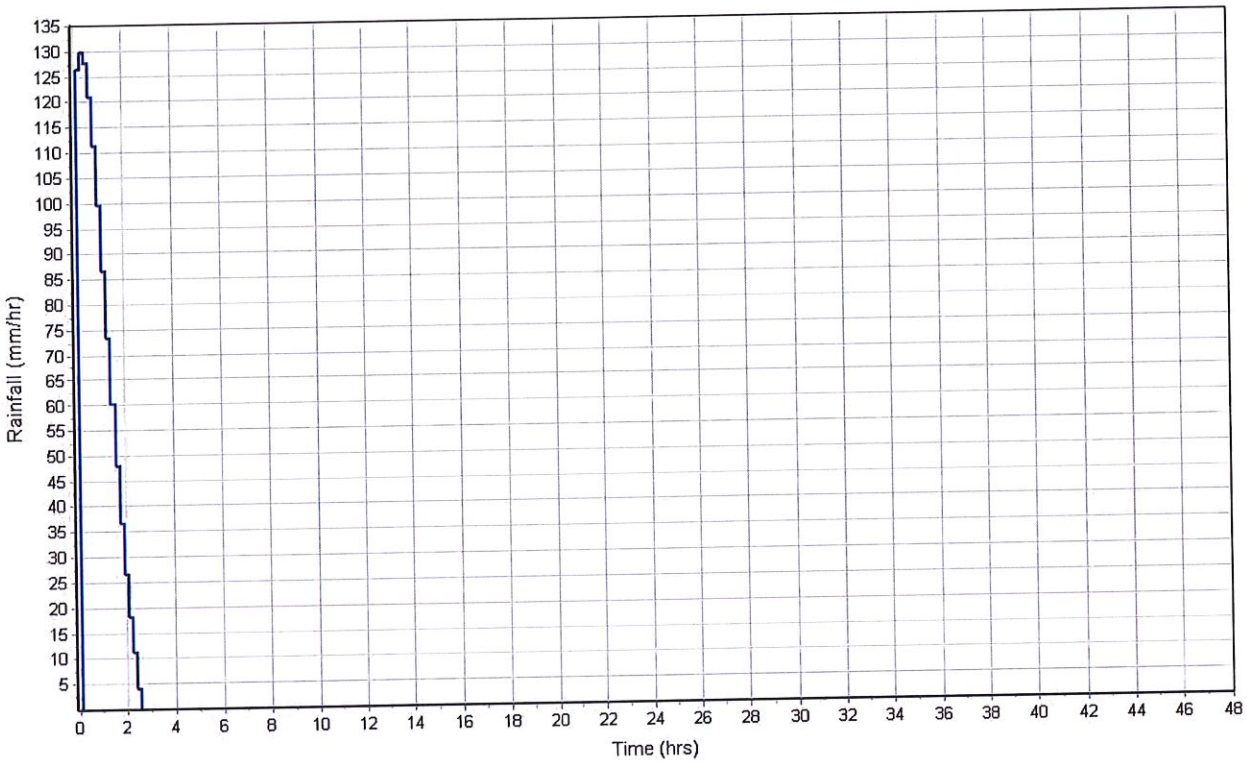
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

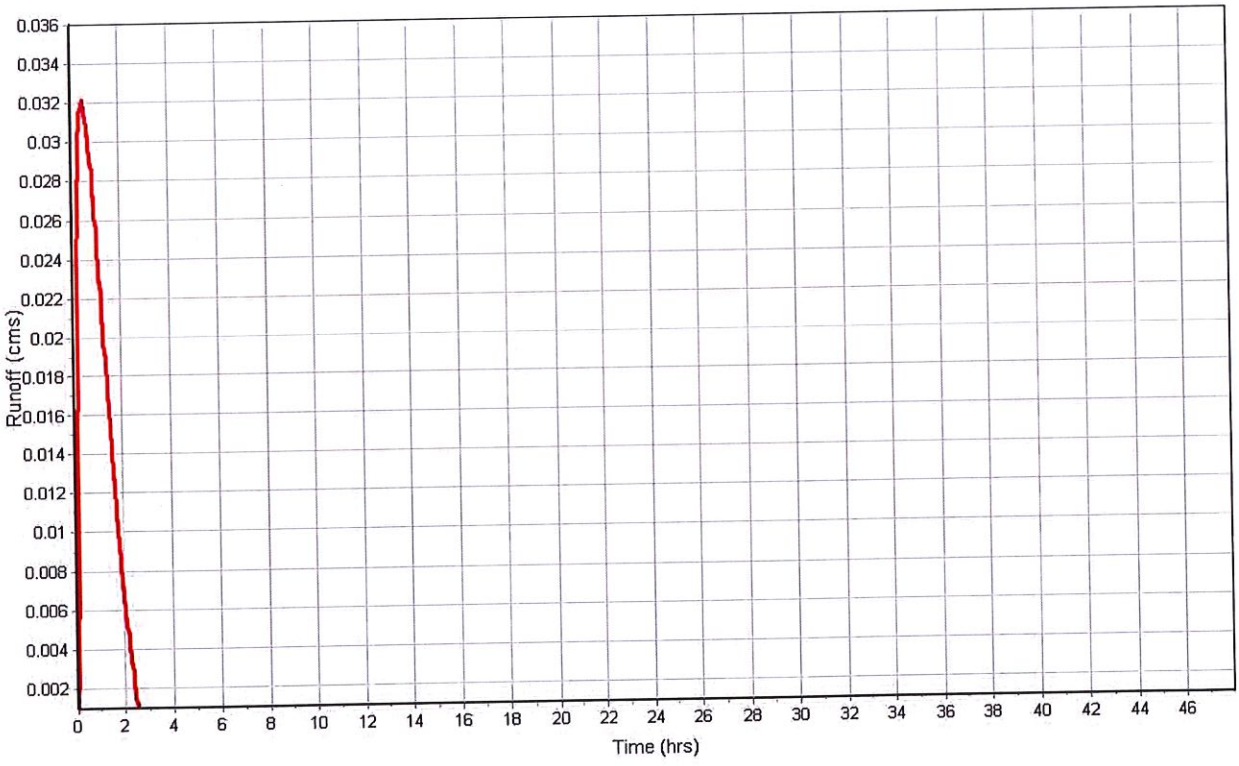
Total Rainfall (mm)	180.09
Total Runoff (mm)	167.97
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

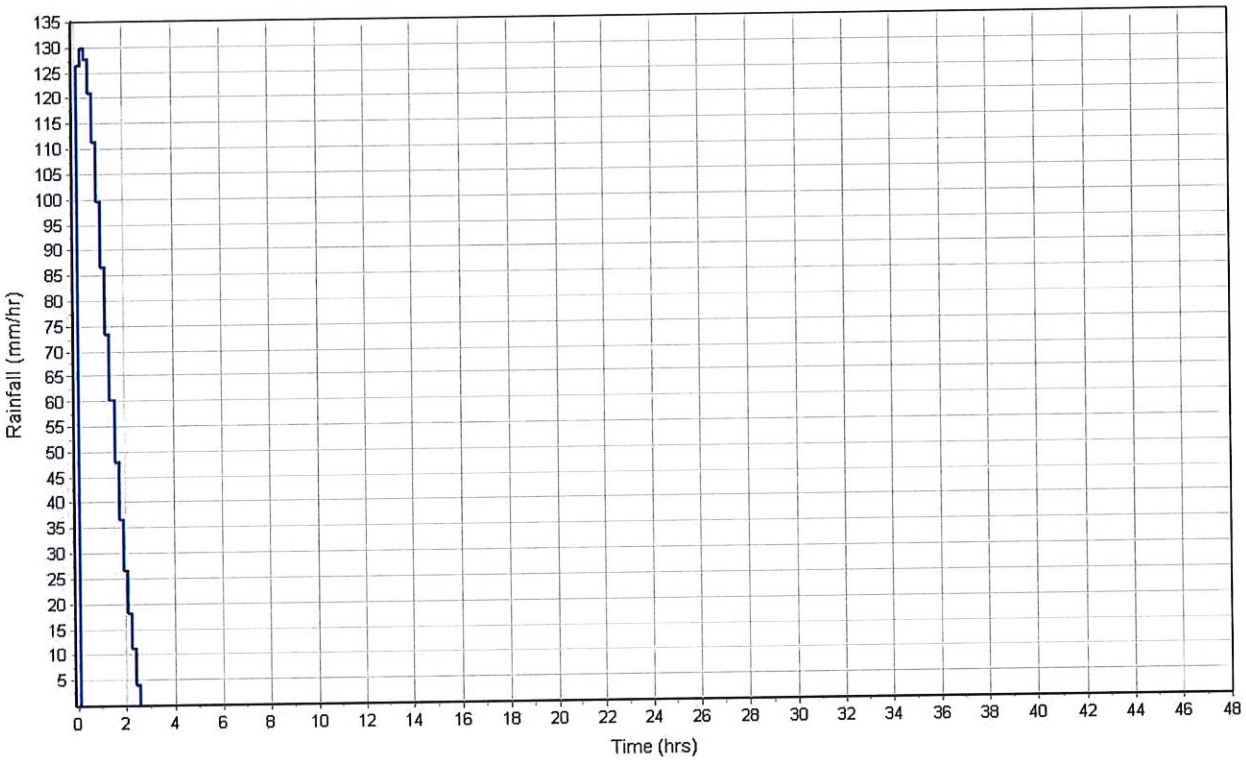
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

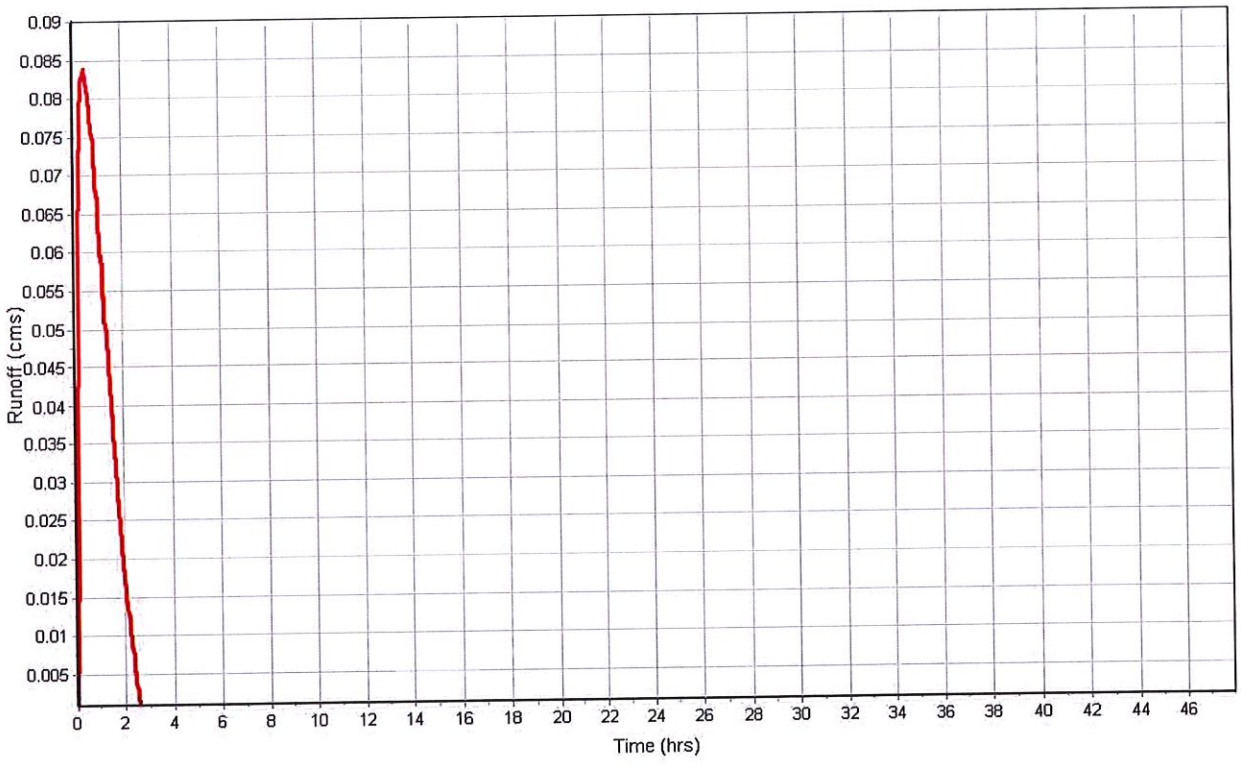
Total Rainfall (mm)	180.09
Total Runoff (mm)	167.97
Peak Runoff (cms)	0.08
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

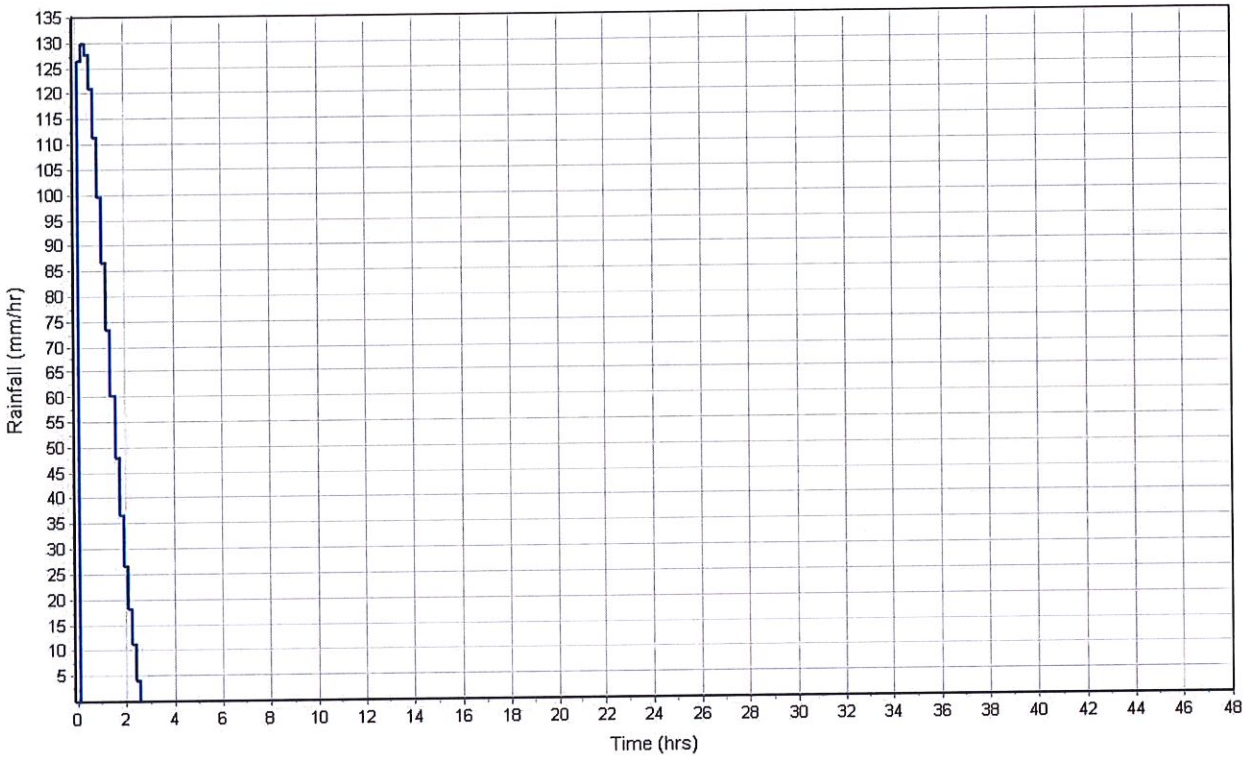
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

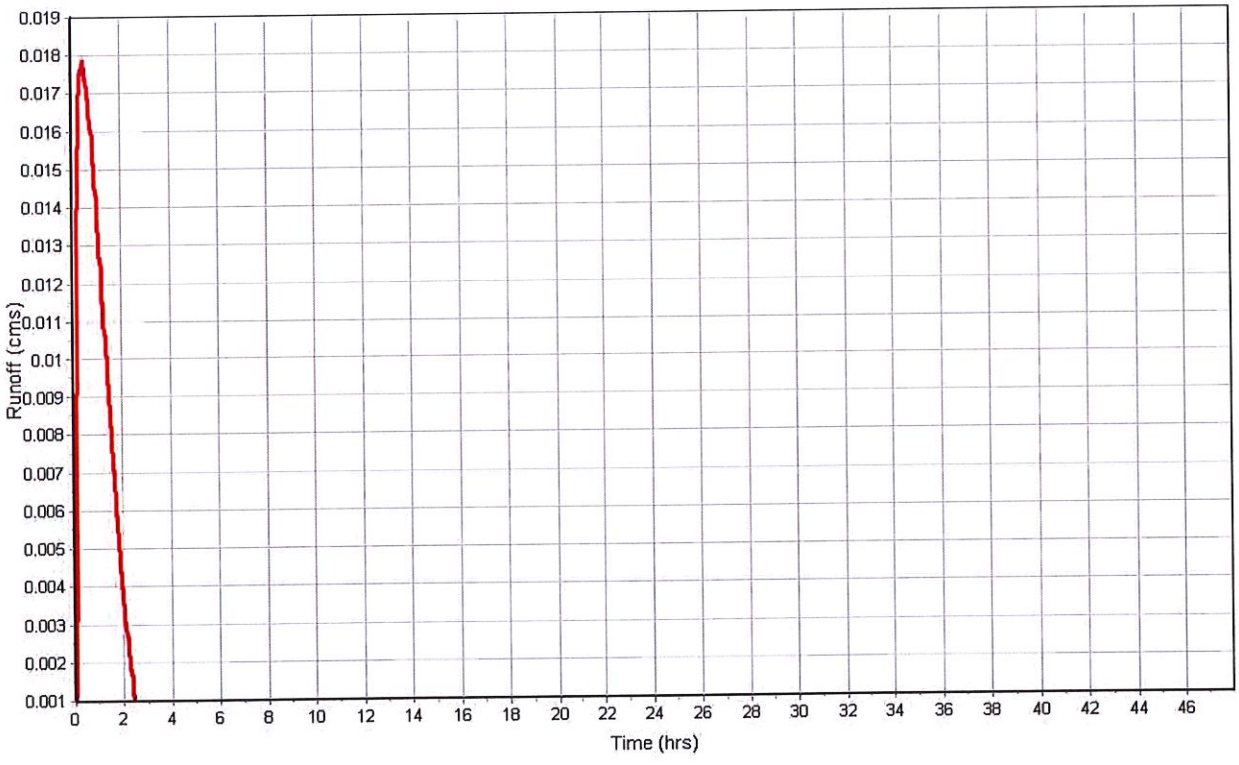
Total Rainfall (mm)	180.09
Total Runoff (mm)	167.97
Peak Runoff (cms)	0.02
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

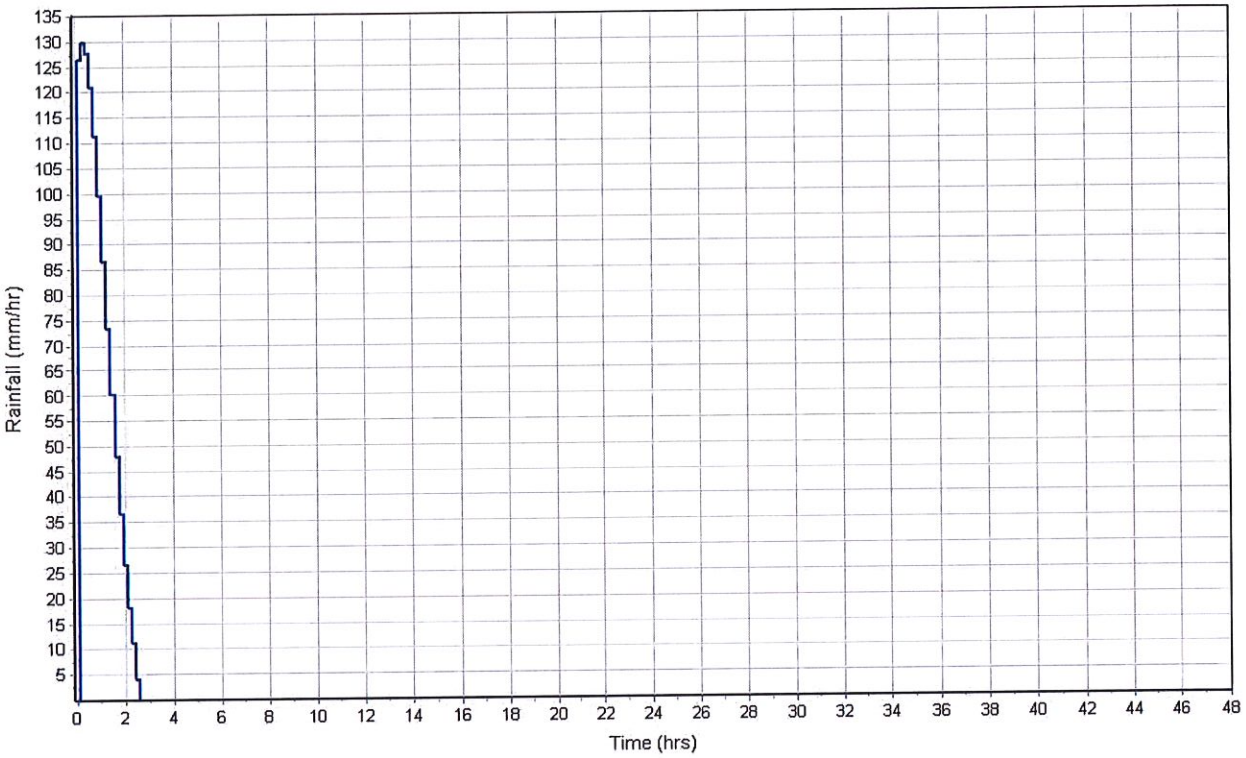
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

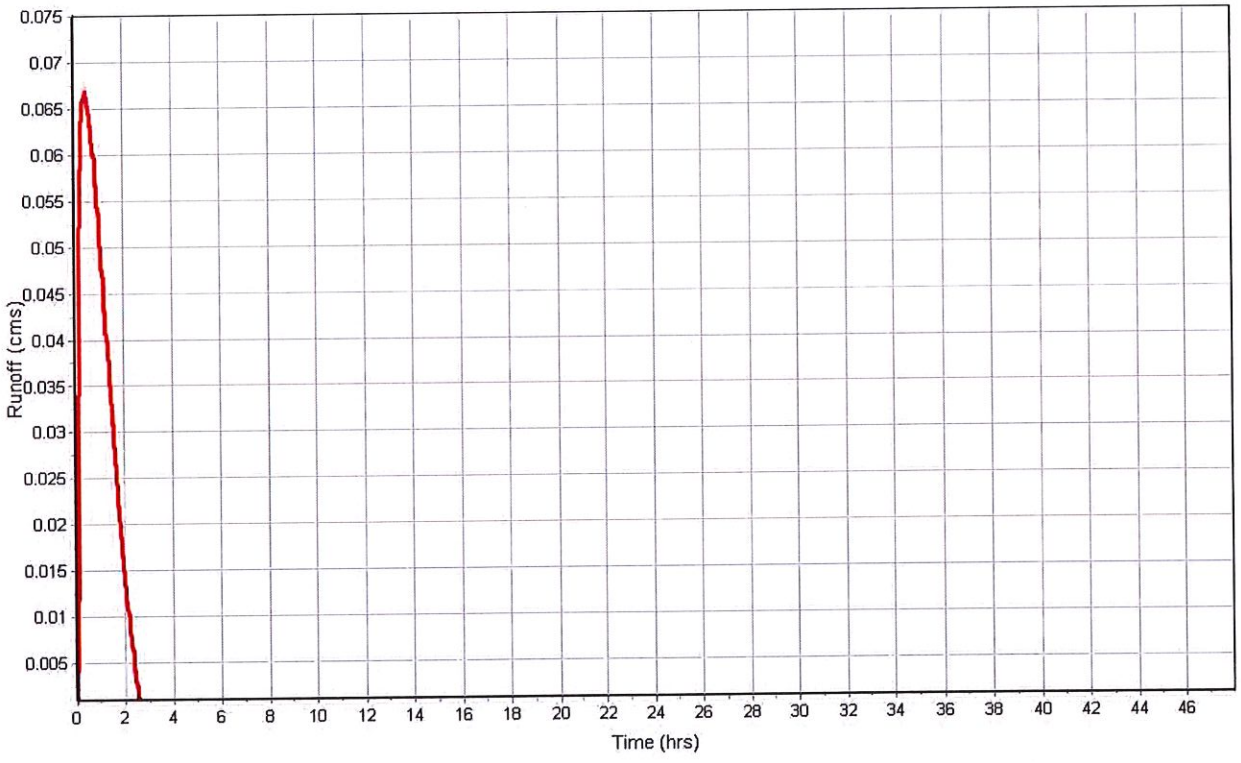
Total Rainfall (mm)	180.09
Total Runoff (mm)	167.92
Peak Runoff (cms)	0.07
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

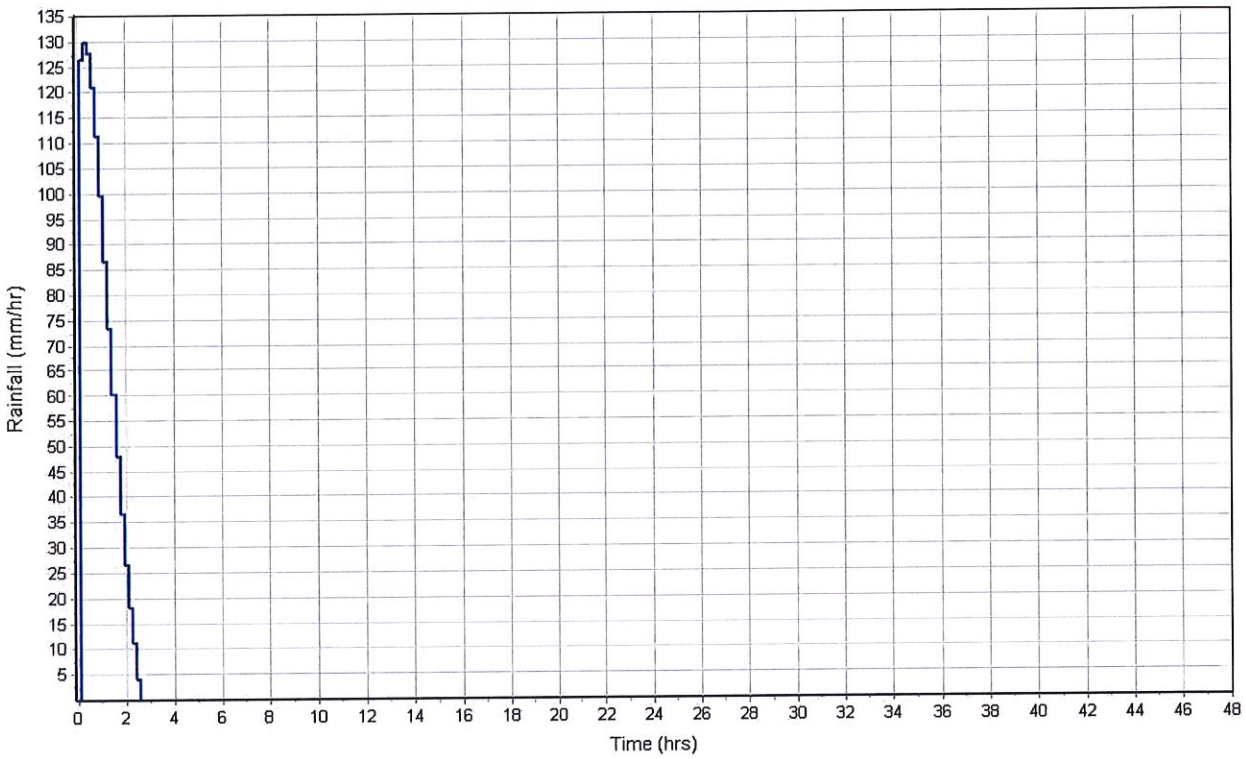
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

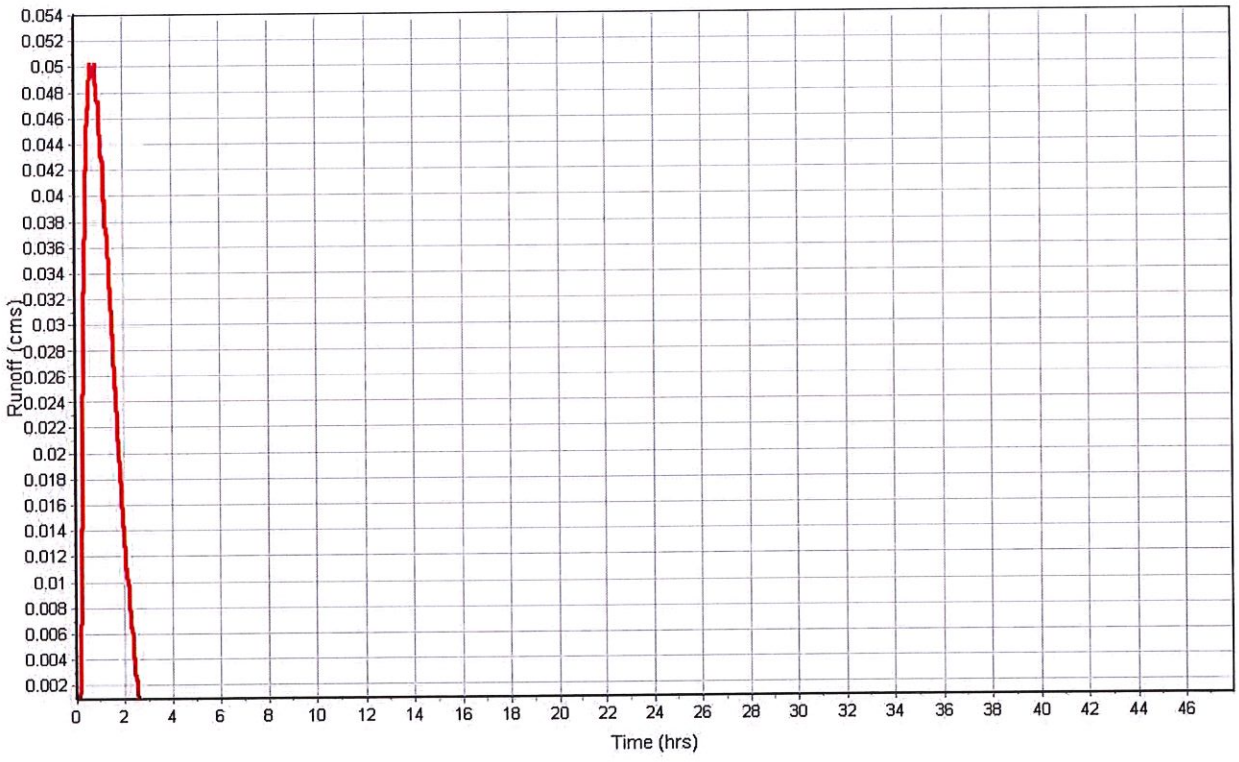
Total Rainfall (mm)	180.09
Total Runoff (mm)	118.42
Peak Runoff (cms)	0.05
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

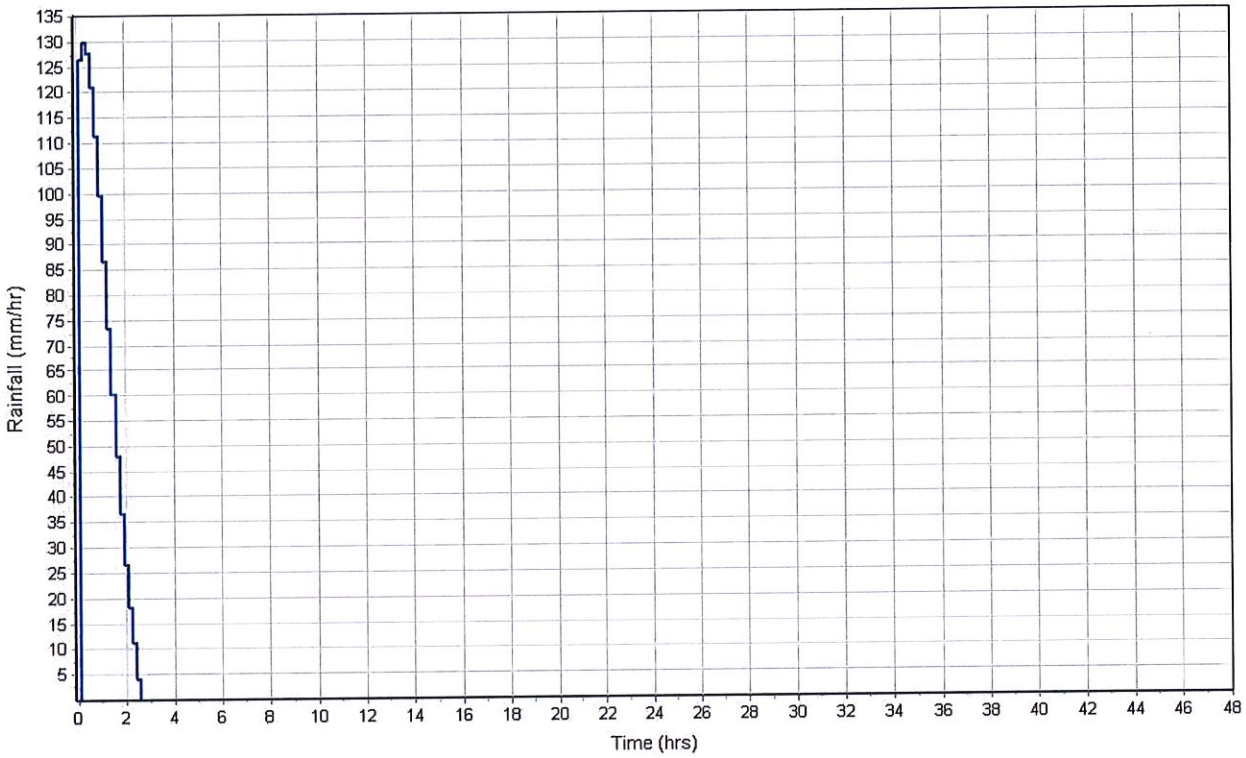
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

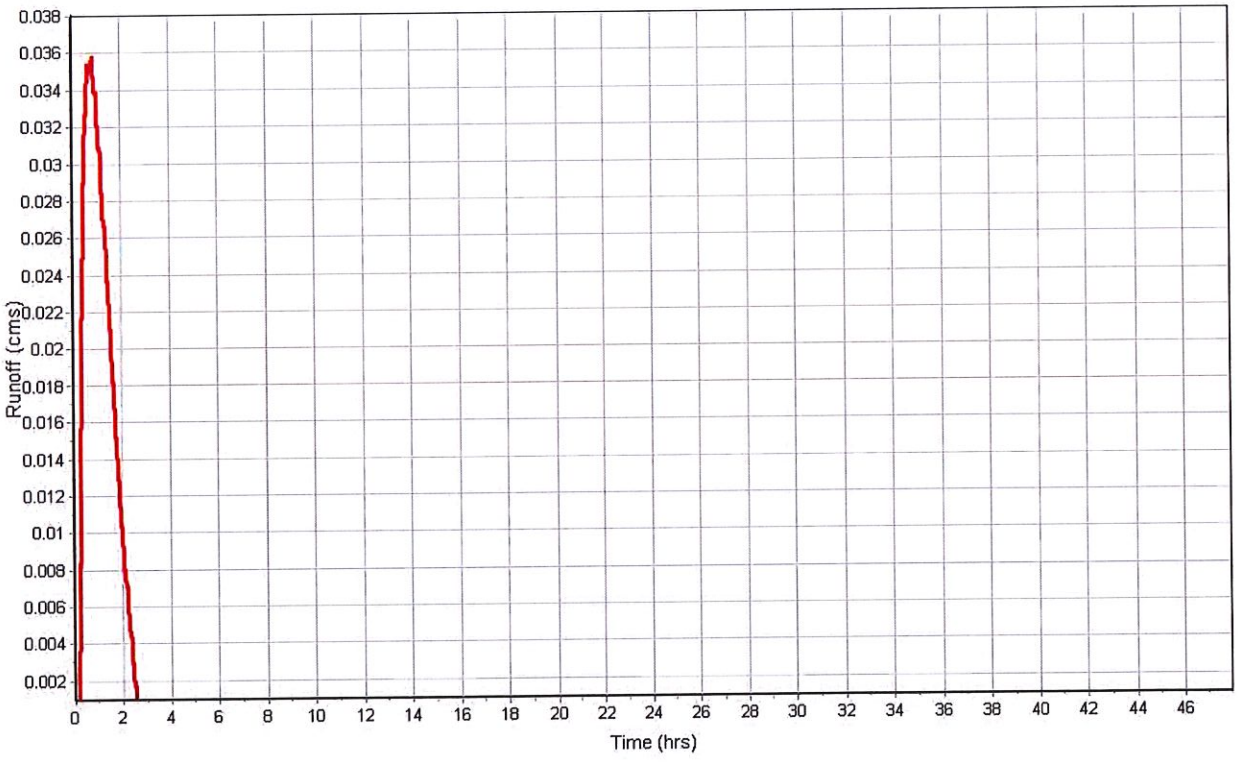
Total Rainfall (mm)	180.09
Total Runoff (mm)	114.07
Peak Runoff (cms)	0.04
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

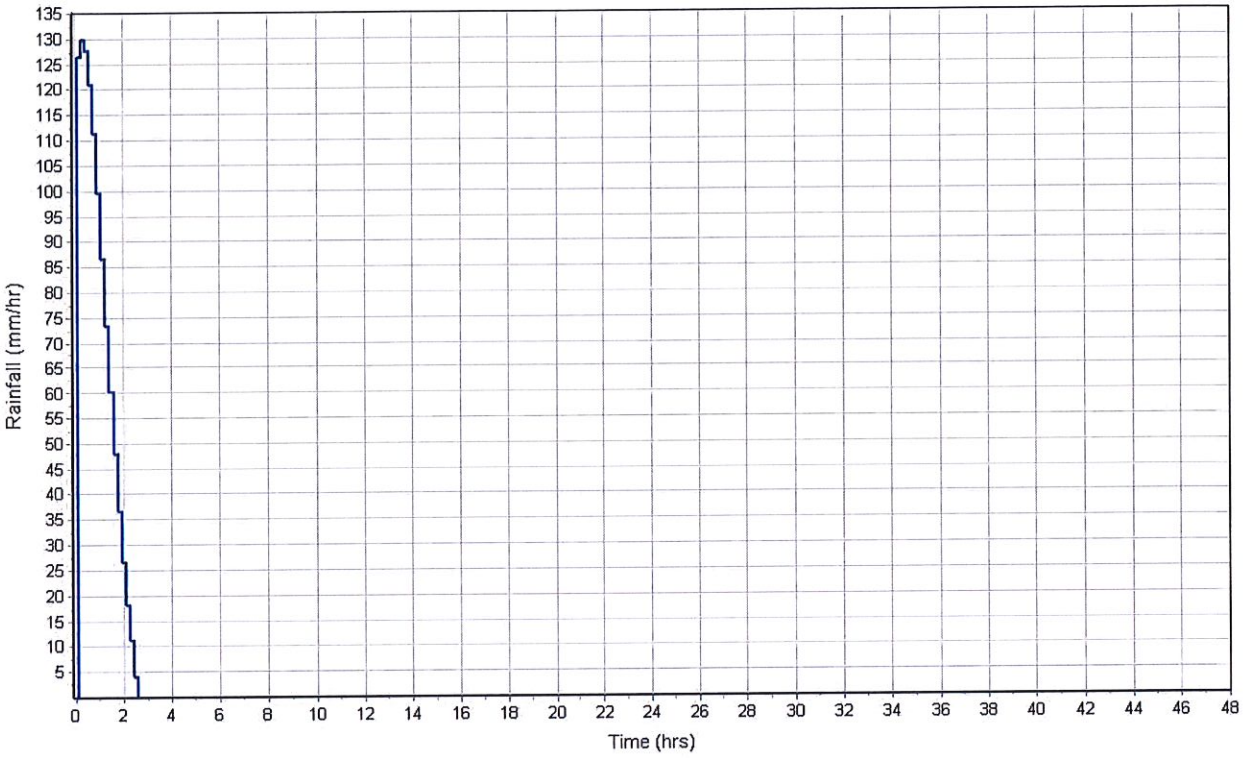
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

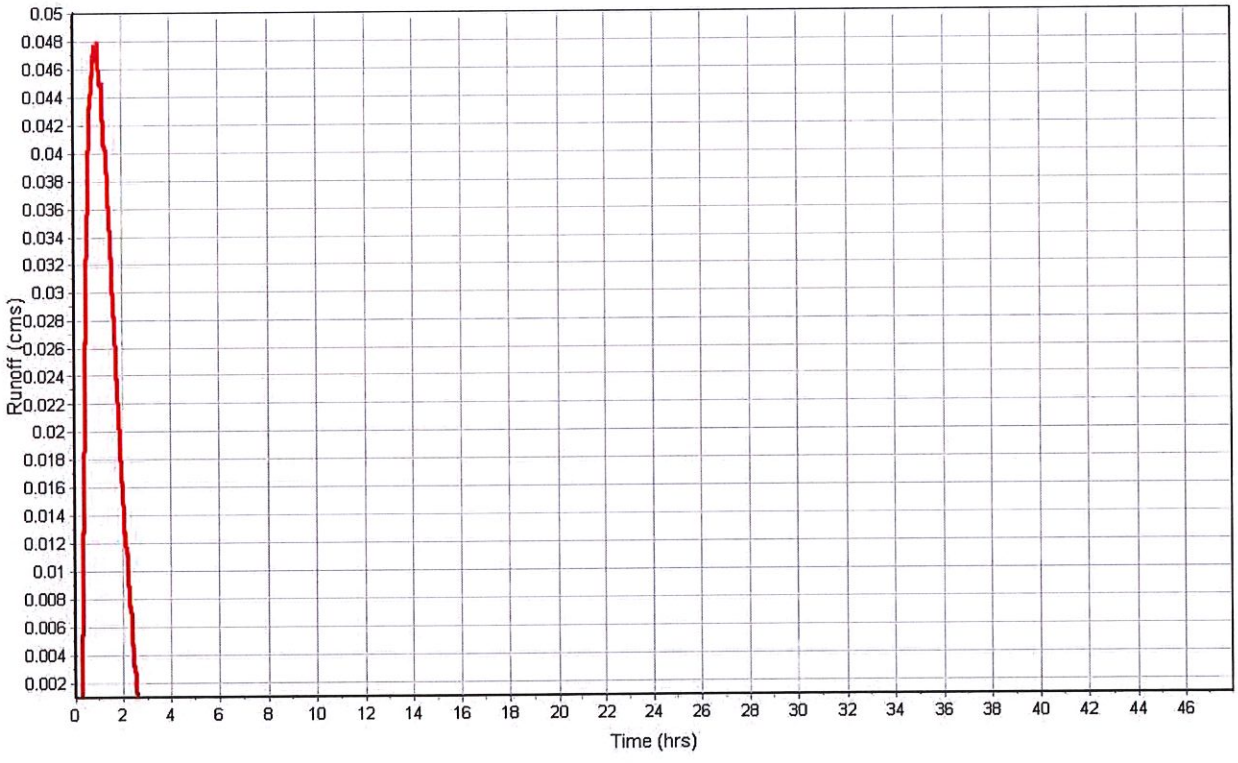
Total Rainfall (mm)	180.09
Total Runoff (mm)	80.32
Peak Runoff (cms)	0.05
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

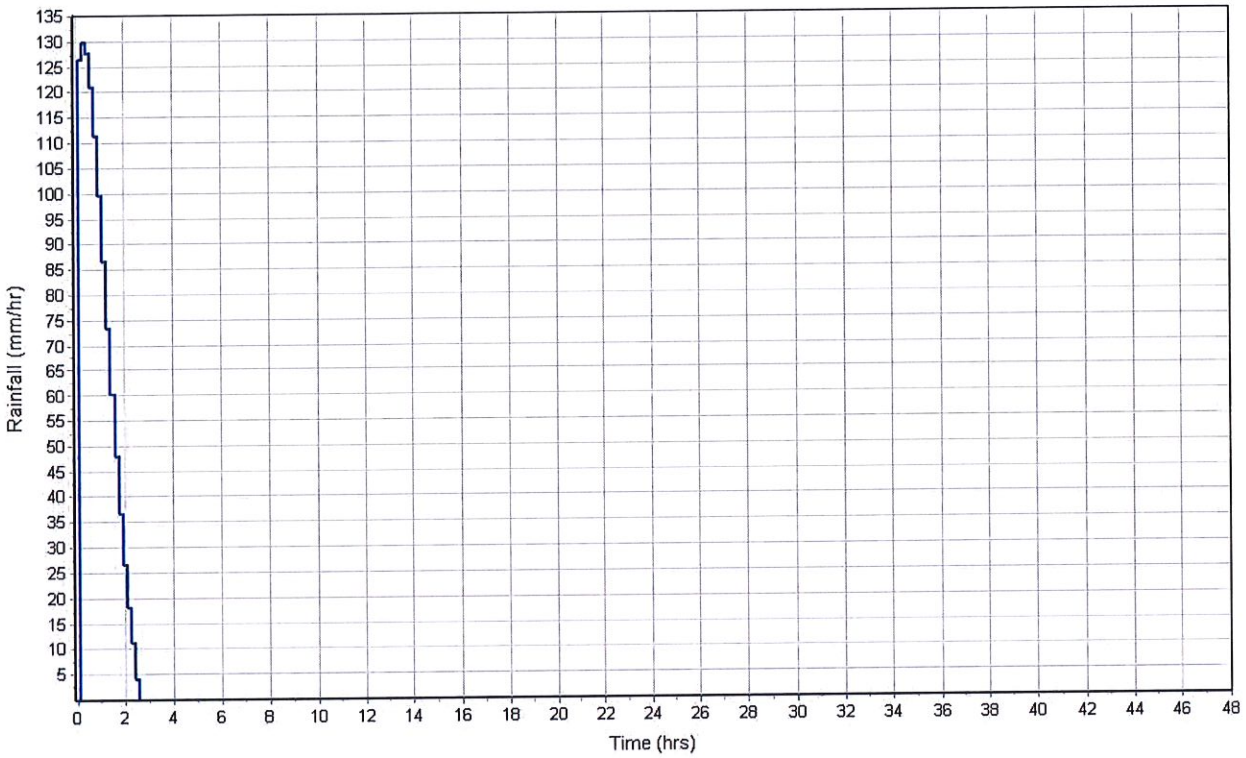
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

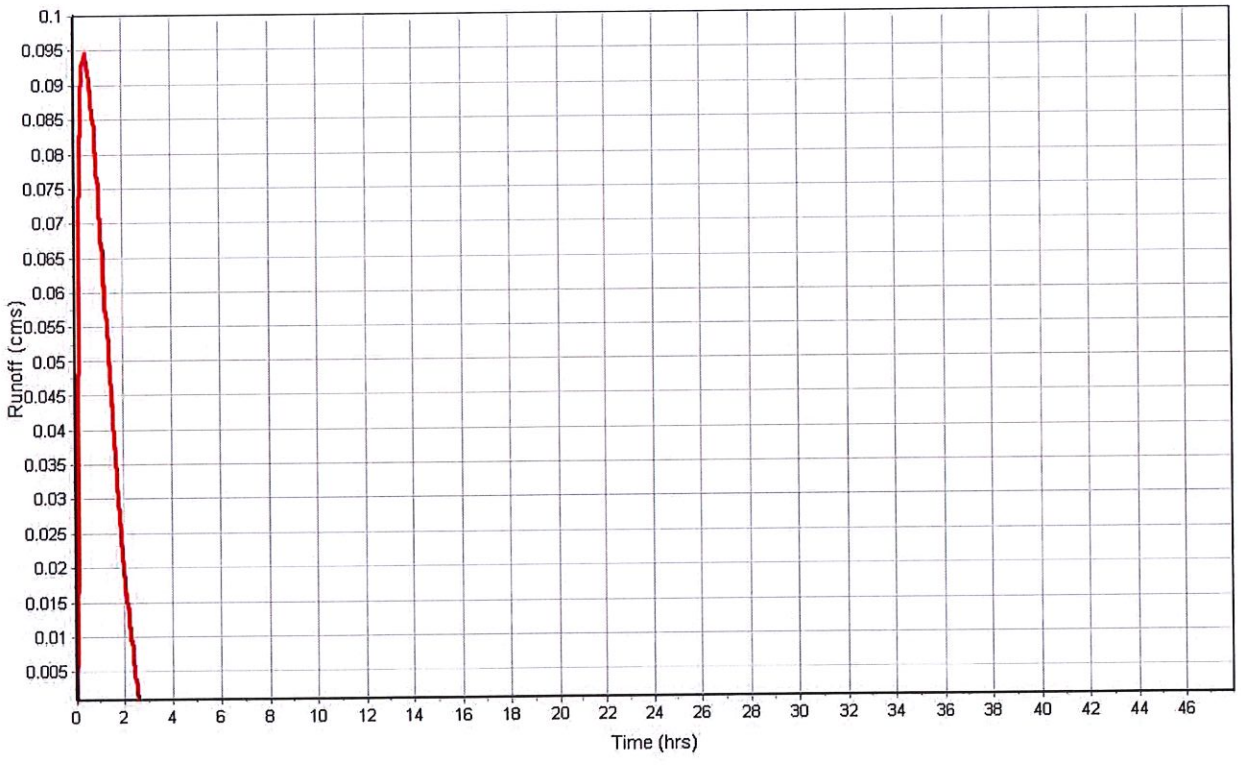
Total Rainfall (mm)	180.09
Total Runoff (mm)	167.97
Peak Runoff (cms)	0.10
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

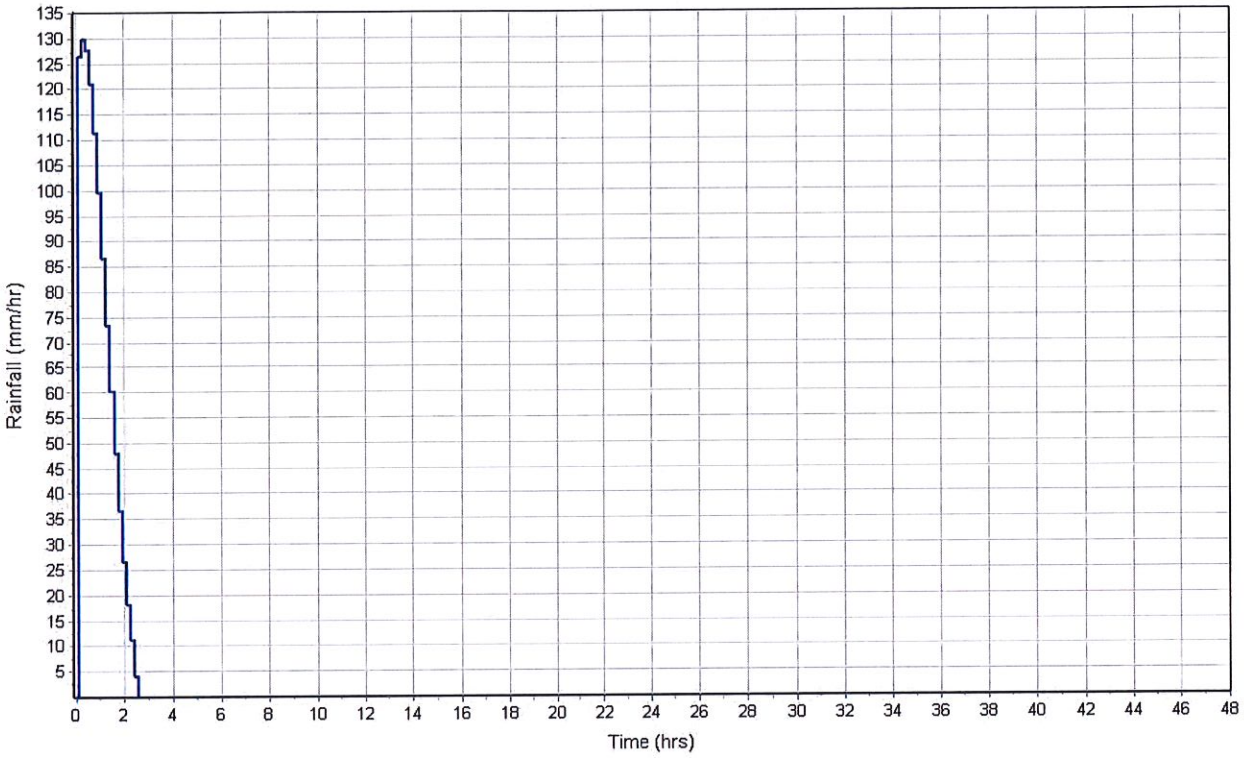
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

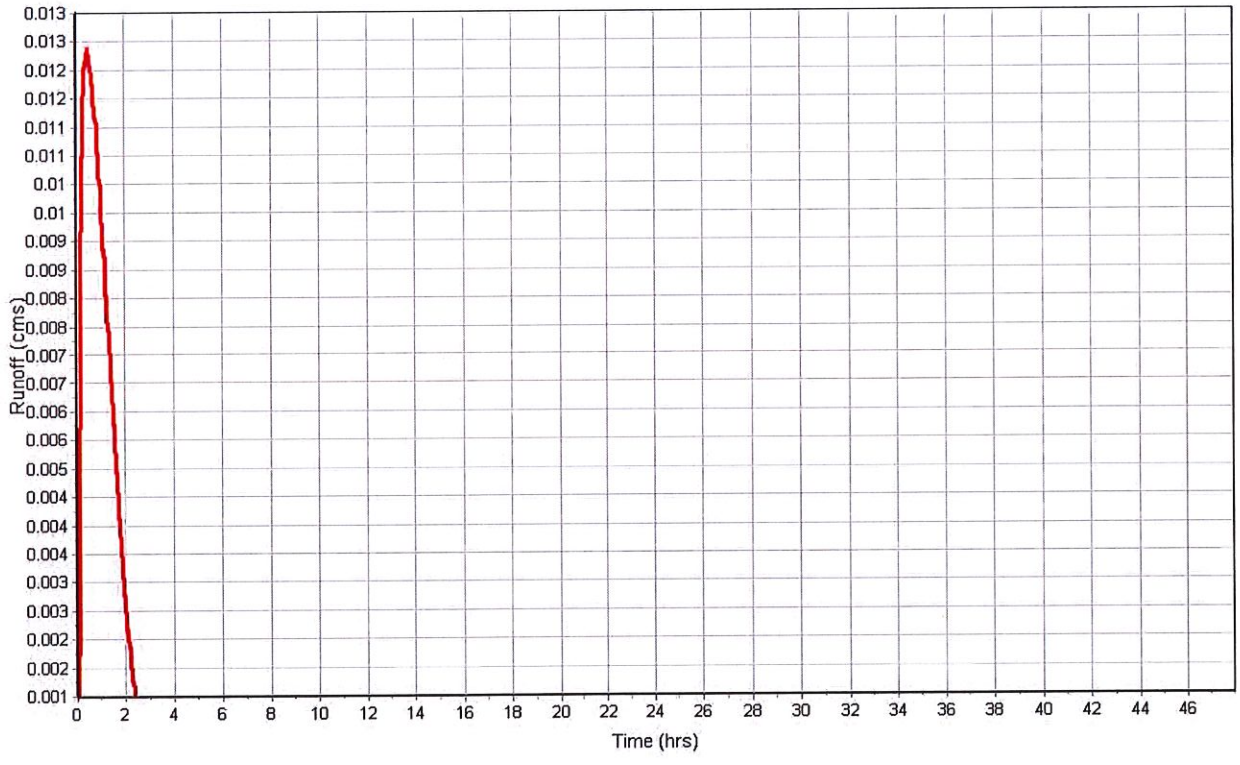
Total Rainfall (mm)	180.09
Total Runoff (mm)	165.86
Peak Runoff (cms)	0.01
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m^2)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.25	2.21	29.33	2.03	0.00	2.06	27.53	0.23	0 00:49	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	0.06	0 00:45	3.16	0.02	0.50	0.43	0.01	0.09	0.00		
2	OF-06	0.04	0 00:31	4.26	0.01	0.45	0.34	0.01	0.06	0.00		
3	OF-08	0.02	0 00:55	0.93	0.02	0.33	1.29	0.01	0.10	0.00		
4	OF-09	0.03	0 01:05	5.28	0.01	0.37	2.53	0.05	0.52	0.00		
5	OF-10	0.06	0 00:31	4.83	0.01	0.47	1.56	0.01	0.07	0.00		
6	OF-2	0.02	0 00:42	4.80	0.00	0.35	0.91	0.00	0.04	0.00		
7	OF-3	0.02	0 00:35	6.02	0.00	0.32	1.76	0.00	0.03	0.00		
8	OF-4	0.15	0 00:42	4.80	0.03	0.78	0.46	0.05	0.56	0.00		
9	OF-5	0.01	0 00:35	3.90	0.00	0.27	3.46	0.06	0.47	0.00		
10	OF-7	0.03	0 00:55	0.45	0.07	0.21	3.22	0.02	0.20	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	Pipe - (1)	0.01	0 00:59	0.05	0.10	0.58	0.17	0.21	0.78	0.00		Calculated
2	Pipe - (10)	0.11	0 00:55	0.18	0.60	2.94	0.32	0.24	0.80	0.00		Calculated
3	Pipe - (11)	0.13	0 00:49	0.20	0.63	1.81	0.40	0.30	1.00	71.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:19	0.21	1.88	3.63	0.06	0.38	1.00	108.00		SURCHARGED
5	Pipe - (2)	0.05	0 00:50	0.14	0.35	1.22	0.18	0.26	0.90	0.00		Calculated
6	Pipe - (3)	0.11	0 00:48	0.20	0.56	2.00	0.16	0.30	1.00	18.00		SURCHARGED
7	Pipe - (4)	0.14	0 00:47	0.15	0.92	3.61	0.16	0.30	1.00	40.00		SURCHARGED
8	Pipe - (5)	0.19	0 00:47	0.28	0.67	3.88	0.09	0.30	1.00	51.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:28	0.16	0.91	2.39	0.39	0.30	1.00	92.00		SURCHARGED
10	Pipe - (7)	0.19	0 00:35	0.42	0.44	1.68	0.09	0.38	1.00	113.00		SURCHARGED
11	Pipe - (8)	0.02	0 00:55	0.09	0.19	1.97	0.34	0.10	0.32	0.00		Calculated
12	Pipe - (9)	0.07	0 00:55	0.28	0.24	8.98	0.05	0.14	0.46	0.00		Calculated
13	Pipe-Out	2.25	0 00:49	1.68	1.34	4.34	0.06	0.81	1.00	68.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.42	33.86	0.02	0 00:47	0.00	0.00
2	CB1-02	0.10	0.10	0.05	0.06	44.73	0.55	33.87	0.03	0 00:47	0.00	0.00
3	CB1-03	0.02	0.02	0.01	0.01	44.73	0.10	33.65	0.01	0 00:47	0.00	0.00
4	CB1-04	0.03	0.03	0.01	0.02	44.73	0.17	33.07	0.01	0 00:47	0.00	0.00
5	CB1-05	0.08	0.08	0.04	0.05	44.73	0.46	32.22	0.03	0 00:47	0.00	0.00
6	CB1-06	0.02	0.02	0.01	0.01	44.73	0.10	30.78	0.01	0 00:20	26.18	68.00
7	CB1-07	0.07	0.07	0.03	0.04	44.73	0.36	29.48	0.02	0 00:35	0.00	0.00
8	CB2-01	0.05	0.05	0.02	0.03	36.05	0.53	34.42	0.02	0 00:00	0.00	0.00
9	CB2-02	0.04	0.04	0.02	0.02	44.73	0.19	33.97	0.01	0 00:55	0.00	0.00
10	CB2-03	0.05	0.05	0.02	0.03	44.73	0.26	32.14	0.02	0 00:00	0.00	0.00
11	CB2-04	0.09	0.09	0.04	0.05	44.73	0.51	30.10	0.03	0 00:32	8.53	53.00

Storage Nodes

Storage Node : CB3-01

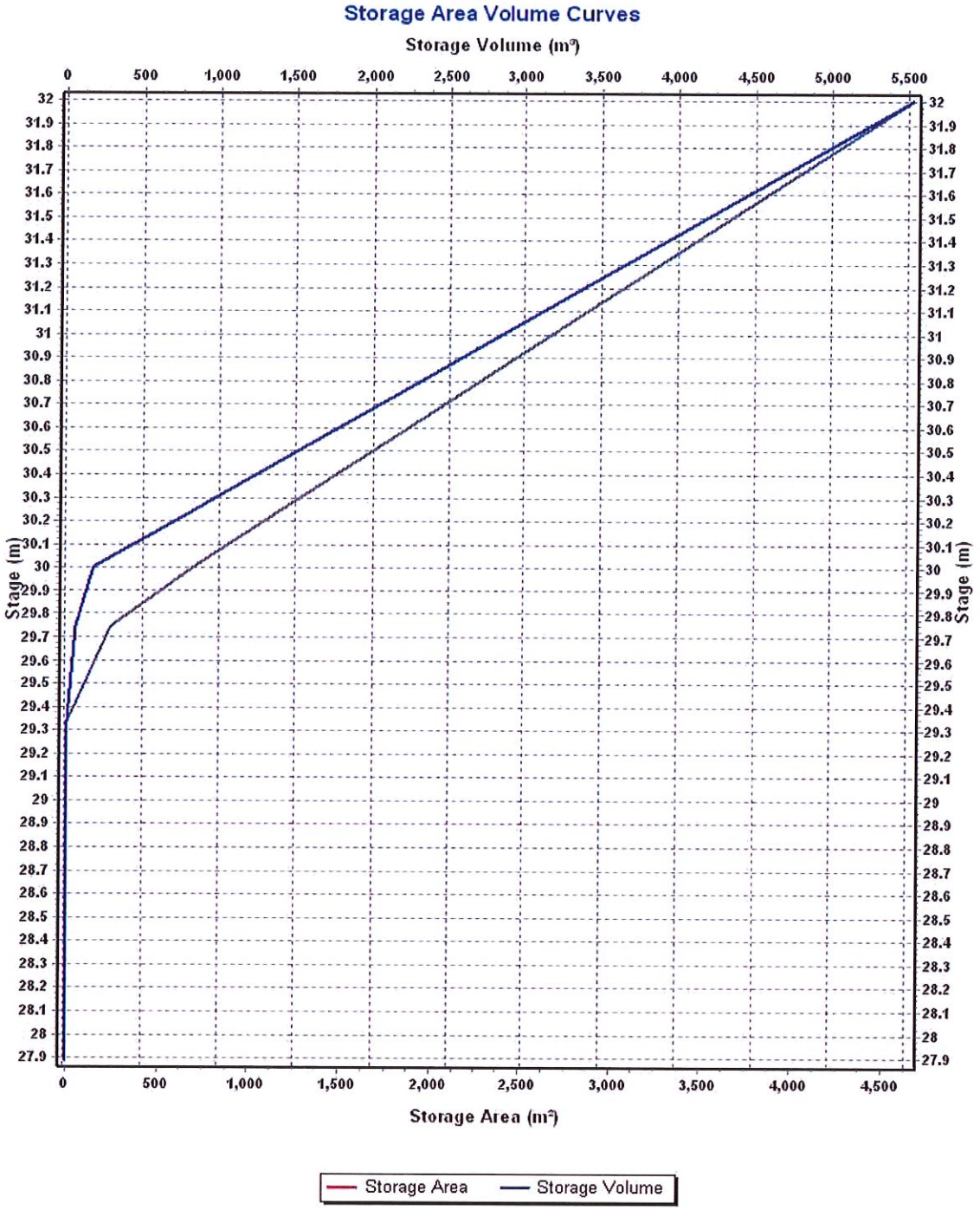
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.56
Peak Lateral Inflow (cms)	0.15
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.23
Average HGL Depth Attained (m)	0.34
Time of Max HGL Occurrence (days hh:mm)	0 00:18
Total Exfiltration Volume (1000-m^3)	0.000
Total Flooded Volume (ha-mm)	111.81
Total Time Flooded (min)	89
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	25-1hr-90%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	71.88	7.70	0.19	0.00	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	71.88	30.73	12.01	0.15	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	71.88	58.01	3.15	0.03	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	71.88	60.58	5.59	0.05	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	71.88	60.58	14.67	0.13	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	71.88	60.58	3.17	0.03	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	71.88	60.53	11.83	0.11	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	71.88	27.00	5.55	0.07	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	71.88	24.79	3.72	0.05	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	71.88	10.85	3.04	0.05	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	71.88	60.58	16.68	0.15	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	71.88	58.75	2.13	0.02	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.65	29.62	0.00	1.77	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.46	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.86	29.34				67.67	27.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.02	0.05	0.46	0.87	0.30	1.00	11.00	SURCHARGED
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.14	0.18	0.80	2.15	0.27	0.90	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	13.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	38.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.06	0.14	0.42	1.16	0.30	1.00	11.00	SURCHARGED
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.15	0.20	0.73	2.09	0.30	1.00	12.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.16	0.15	1.07	2.54	0.30	1.00	15.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.22	0.28	0.78	3.12	0.30	1.00	16.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.92	2.12	0.30	1.00	25.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.72	0.38	1.00	40.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.03	0.09	0.27	1.36	0.12	0.39	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.09	0.28	0.33	6.56	0.18	0.59	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.46	1.68	1.47	4.73	0.81	1.00	17.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.34	3.16	0.11	0.79	0.07	0.73	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.06	4.26	0.01	0.52	0.01	0.08	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.03	0.93	0.03	0.41	0.01	0.12	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.03	5.28	0.01	0.15	0.05	0.52	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.08	4.83	0.02	0.54	0.01	0.09	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.10	4.80	0.02	1.00	0.05	0.54	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.13	6.02	0.02	1.05	0.06	0.58	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.23	4.80	0.05	0.68	0.06	0.62	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.02	3.90	0.00	0.22	0.06	0.52	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.05	0.45	0.10	0.25	0.02	0.24	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.39	33.85
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.15	0.07	0.08	44.73	2.00	0.81	33.89
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.03	0.01	0.02	44.73	2.00	0.16	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.05	0.02	0.03	44.73	2.00	0.27	33.08
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.13	0.06	0.07	44.73	2.00	0.71	32.23
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.03	0.01	0.02	44.73	2.00	0.15	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.10	0.05	0.06	44.73	2.00	0.57	29.49
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.07	0.03	0.05	36.05	2.00	0.76	34.43
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.05	0.02	0.03	44.73	2.00	0.27	33.98
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.05	0.02	0.03	44.73	2.00	0.28	32.14
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.15	0.07	0.08	44.73	2.00	0.81	30.11

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

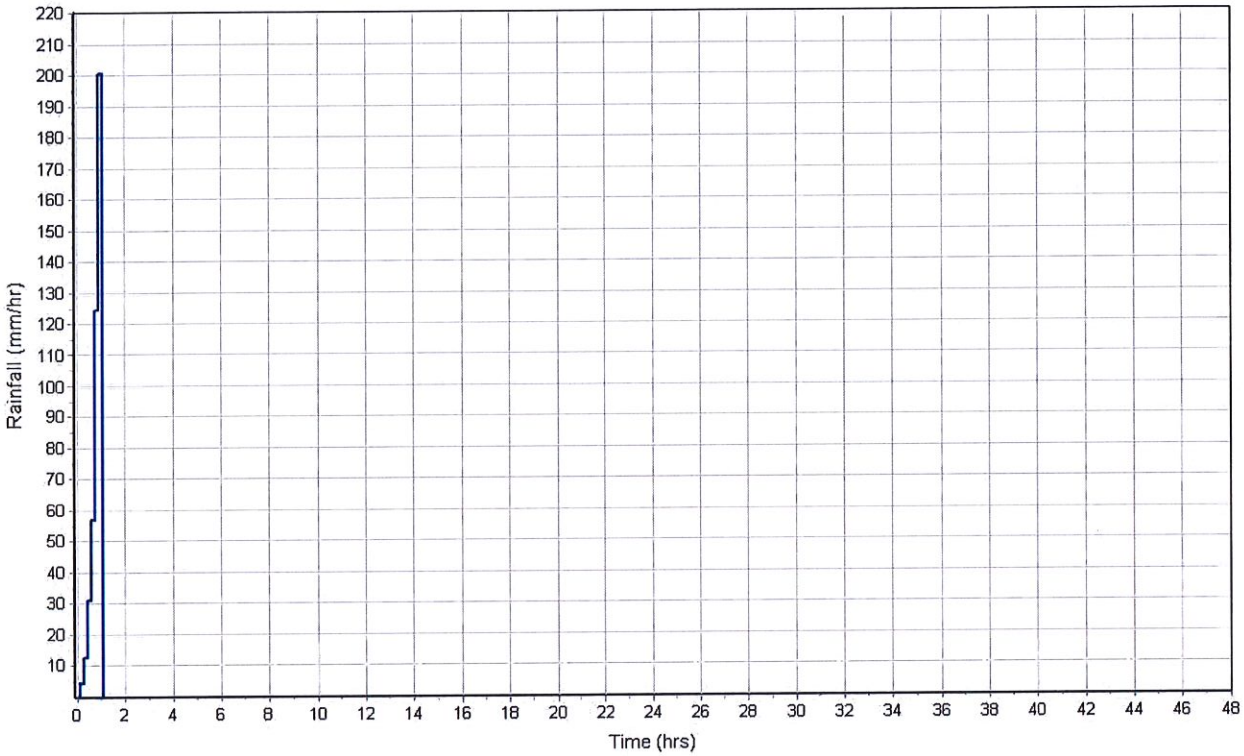
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

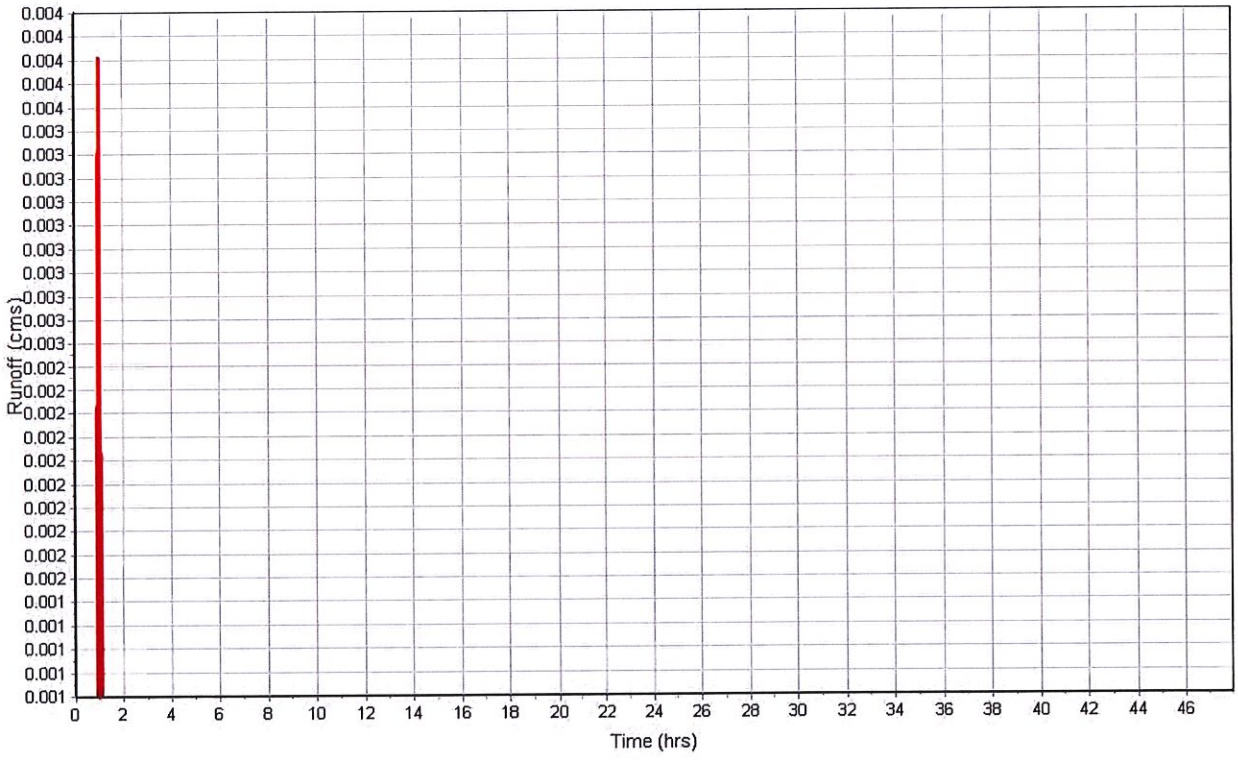
Total Rainfall (mm)	71.88
Total Runoff (mm)	7.70
Peak Runoff (cms)	0.00
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

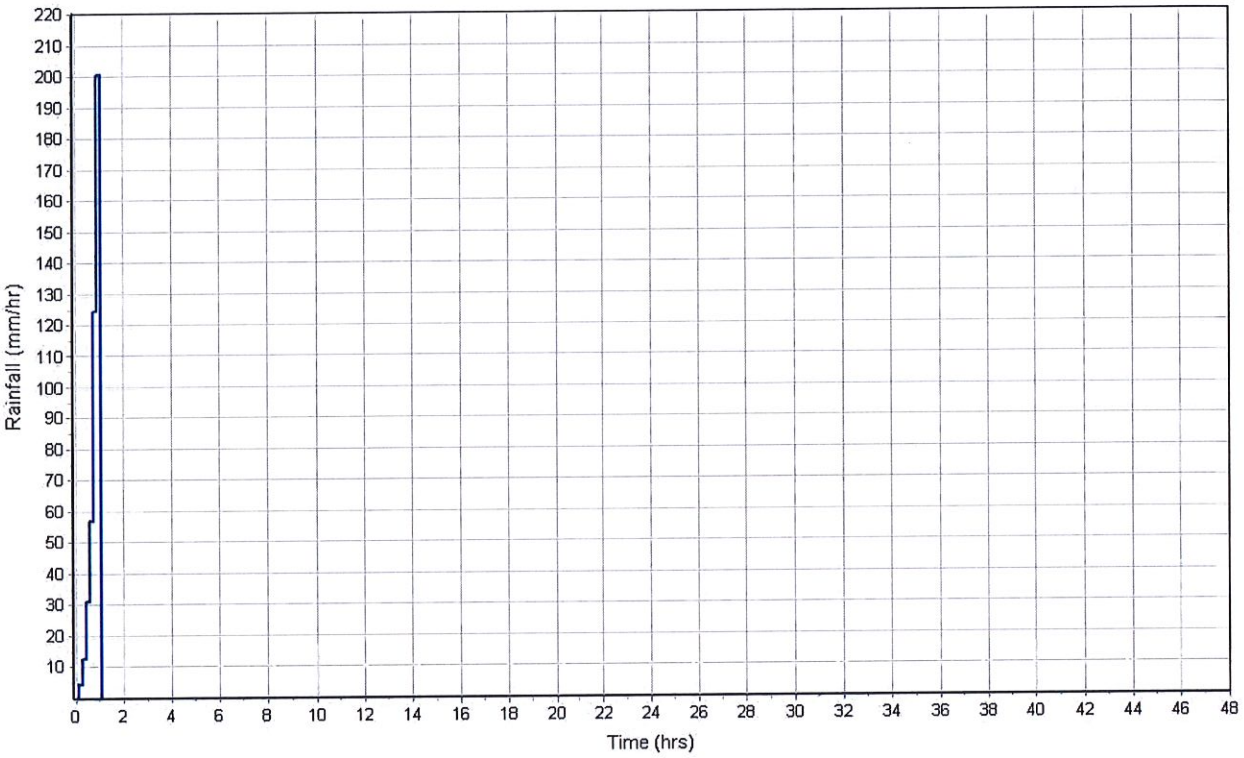
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

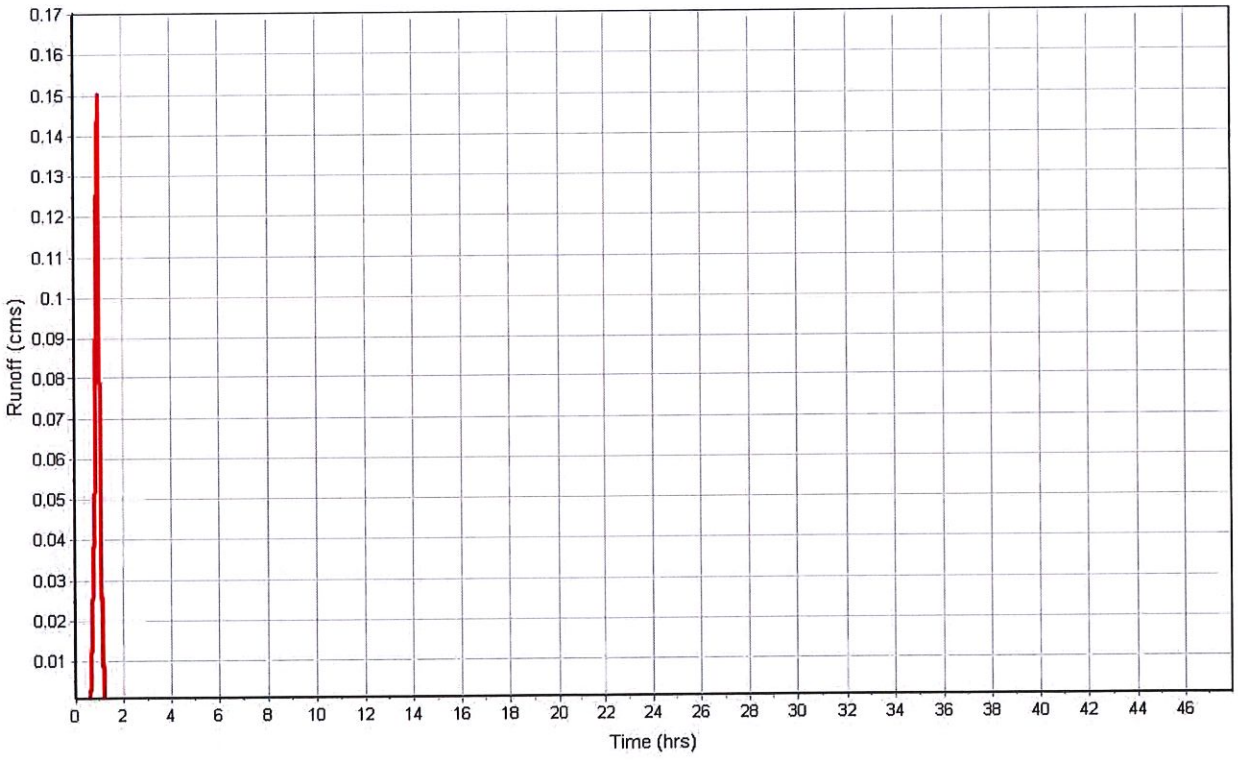
Total Rainfall (mm)	71.88
Total Runoff (mm)	30.73
Peak Runoff (cms)	0.15
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

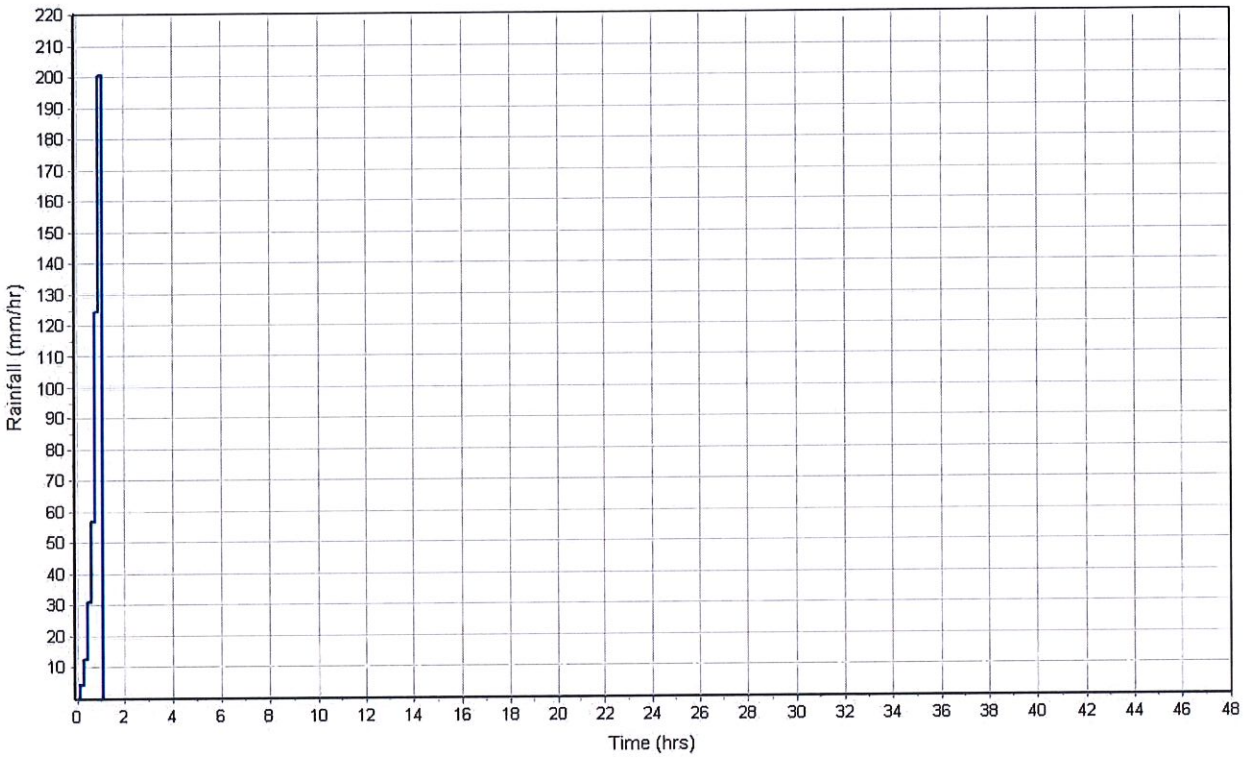
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

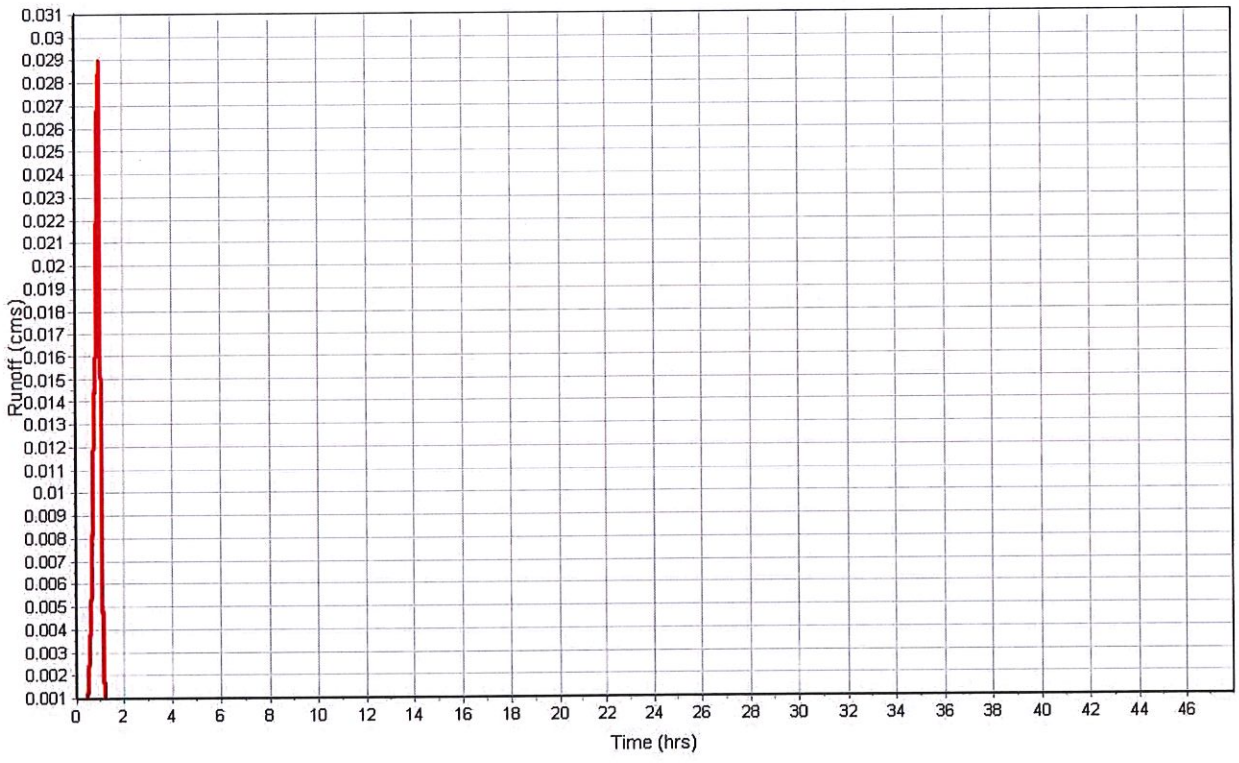
Total Rainfall (mm)	71.88
Total Runoff (mm)	58.01
Peak Runoff (cms)	0.03
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

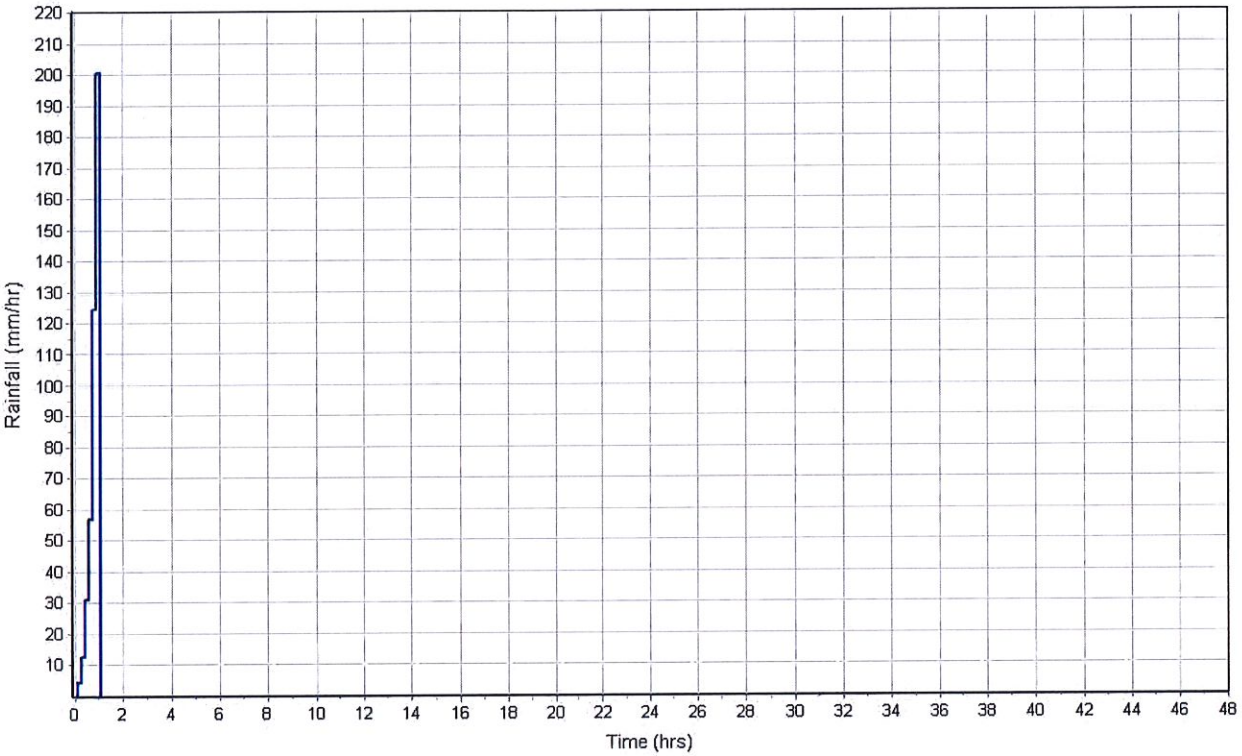
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

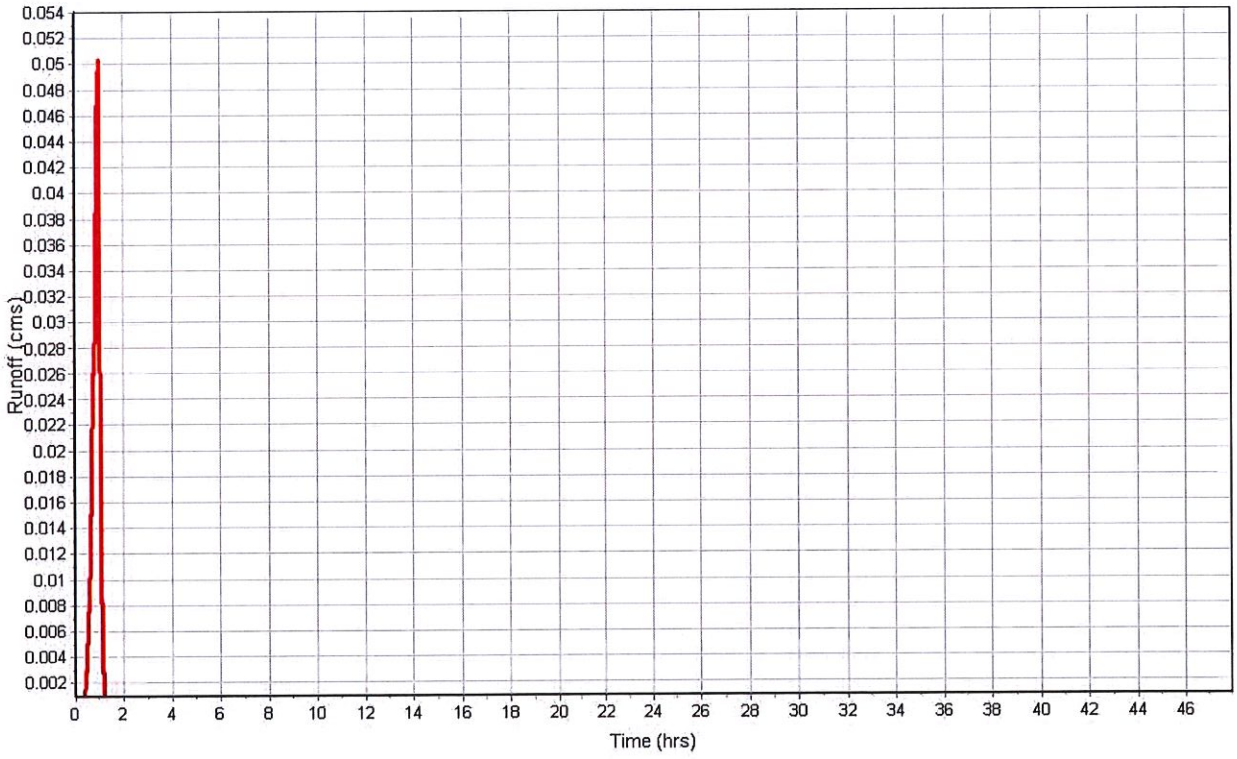
Total Rainfall (mm)	71.88
Total Runoff (mm)	60.58
Peak Runoff (cms)	0.05
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

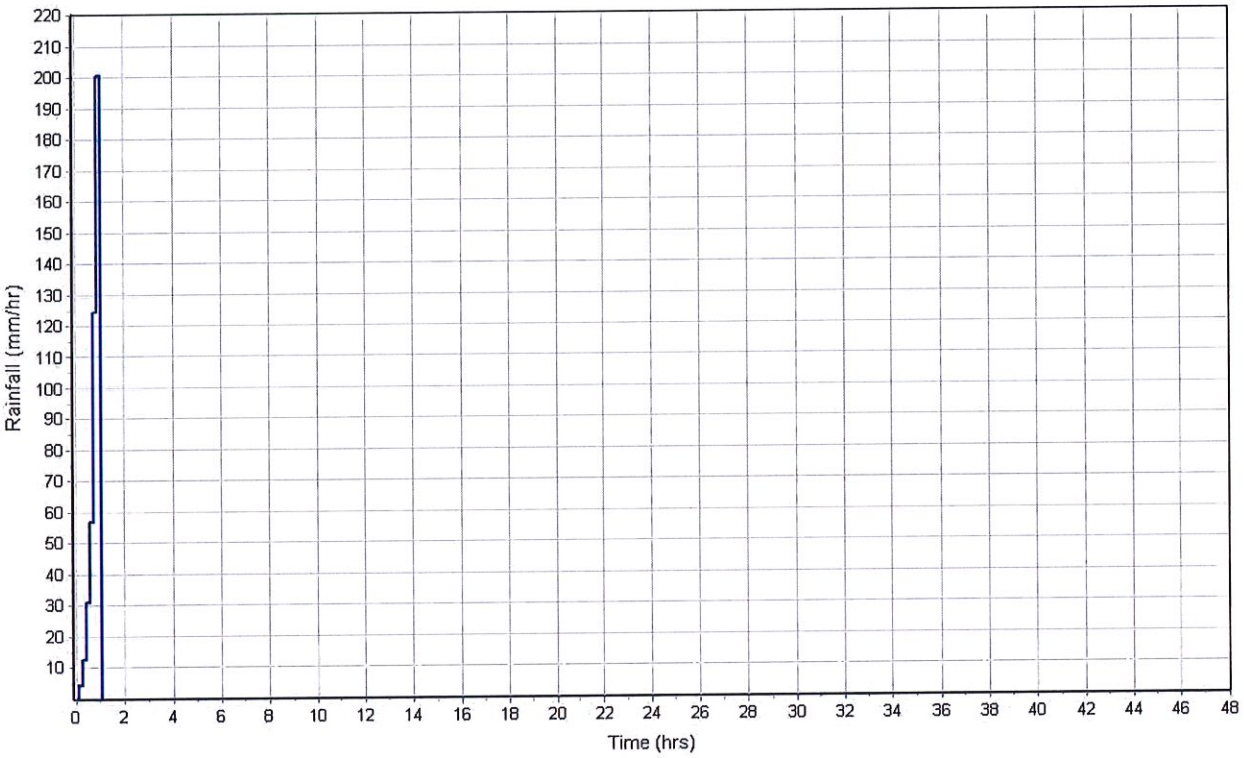
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

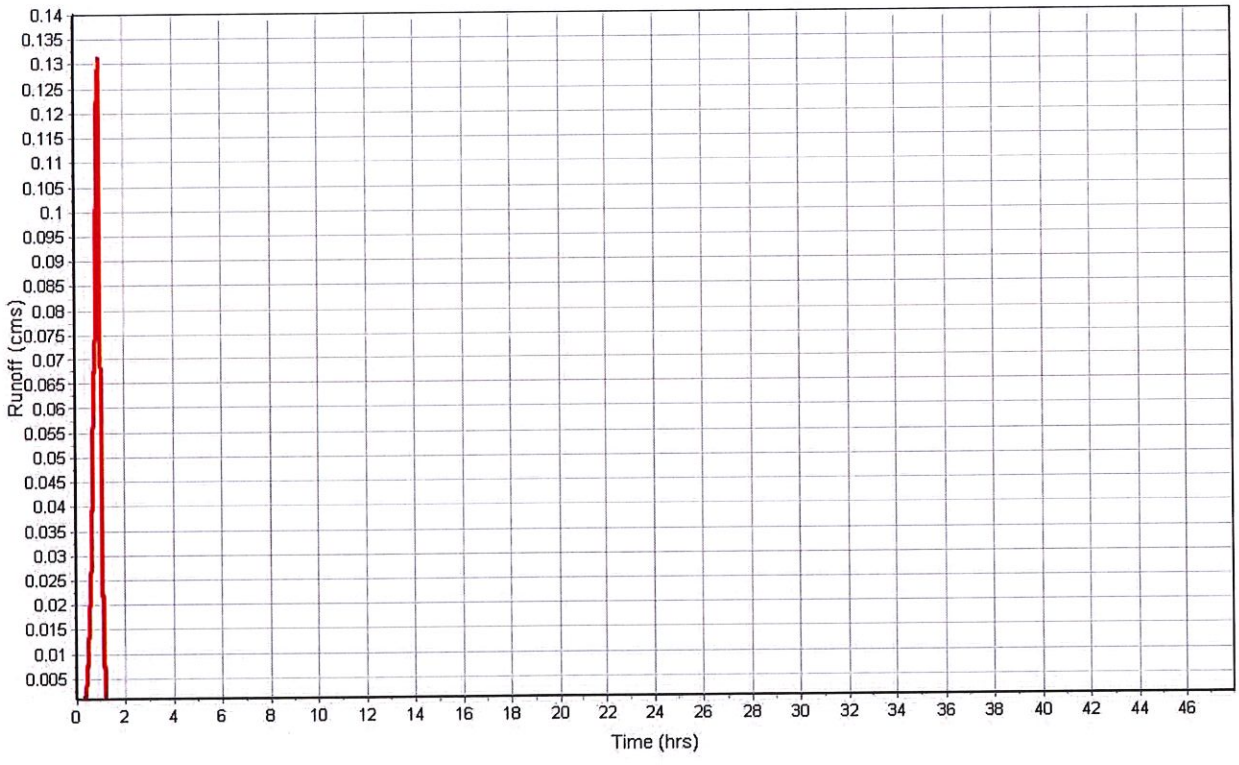
Total Rainfall (mm)	71.88
Total Runoff (mm)	60.58
Peak Runoff (cms)	0.13
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

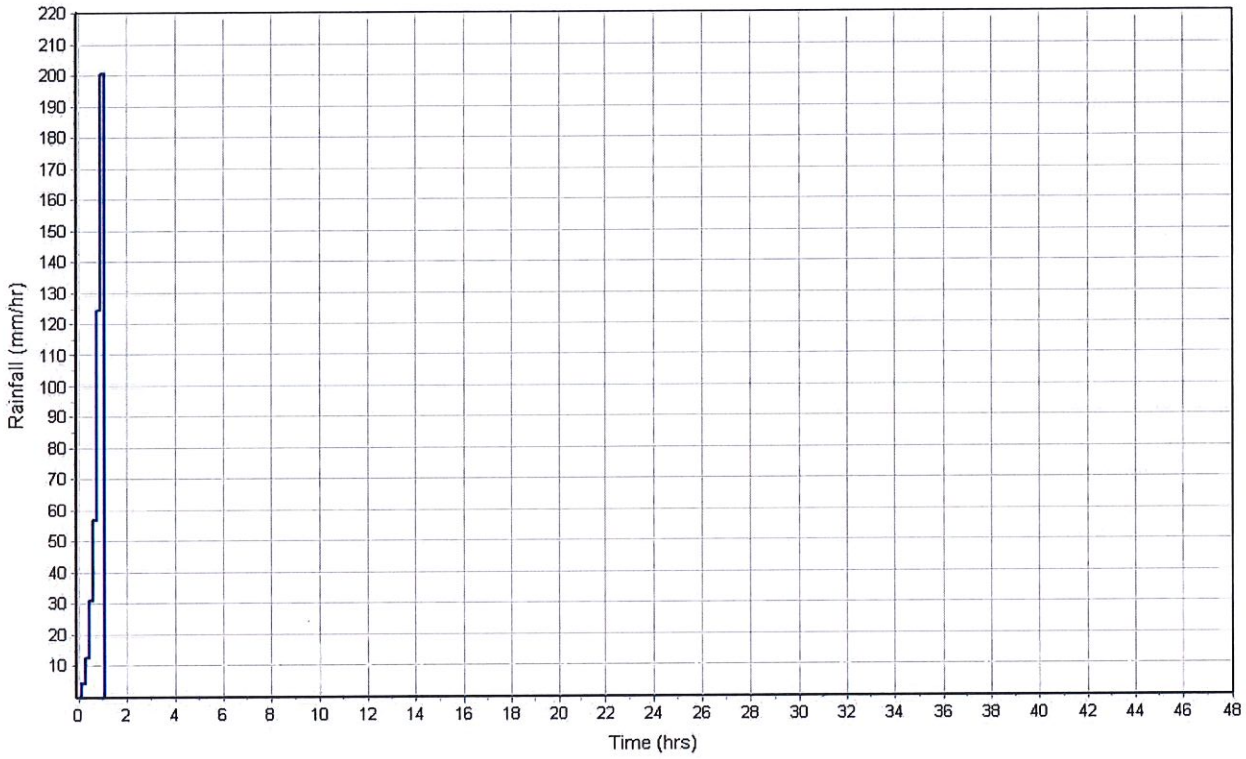
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

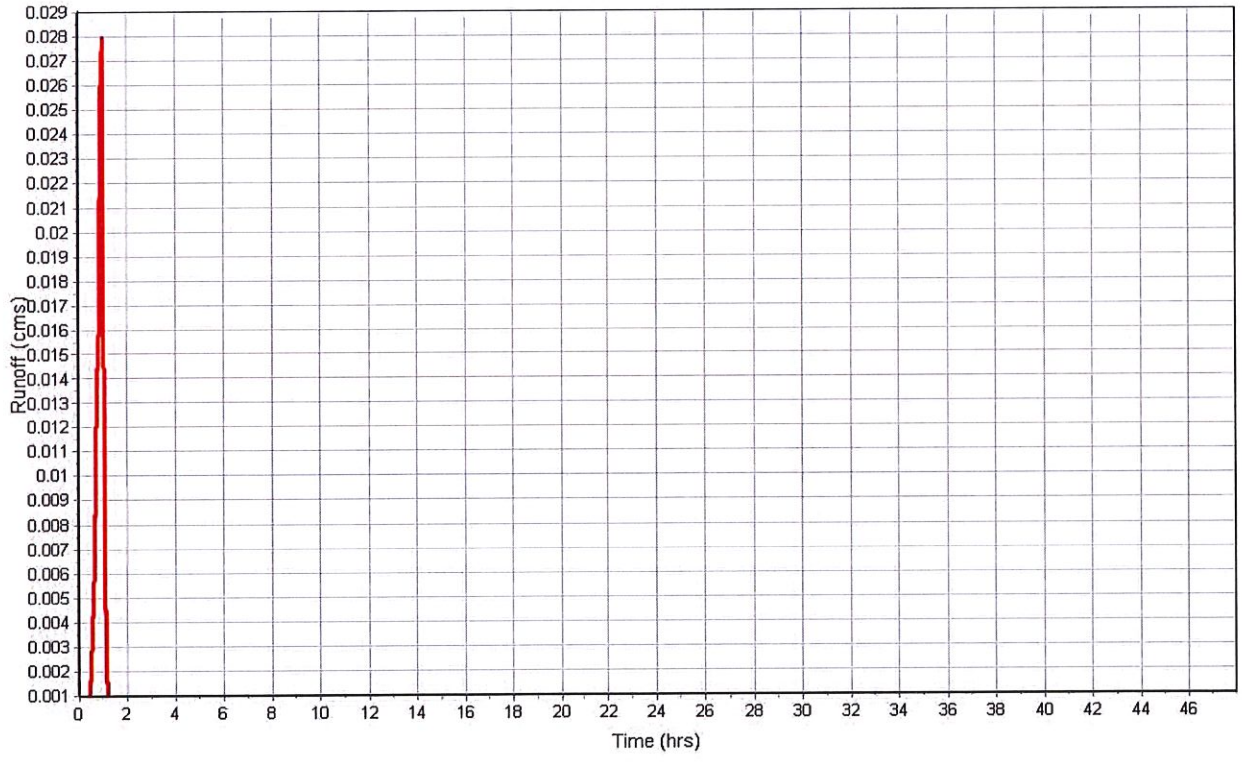
Total Rainfall (mm)	71.88
Total Runoff (mm)	60.58
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	4

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

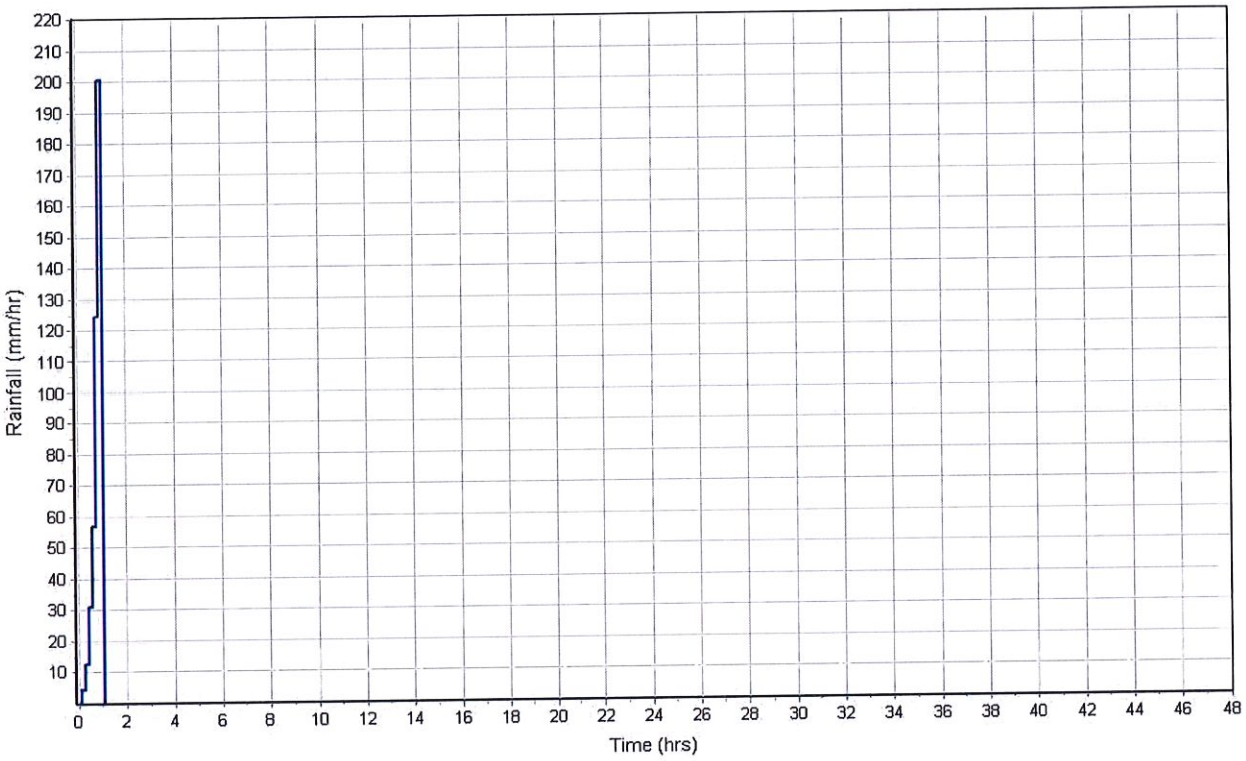
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

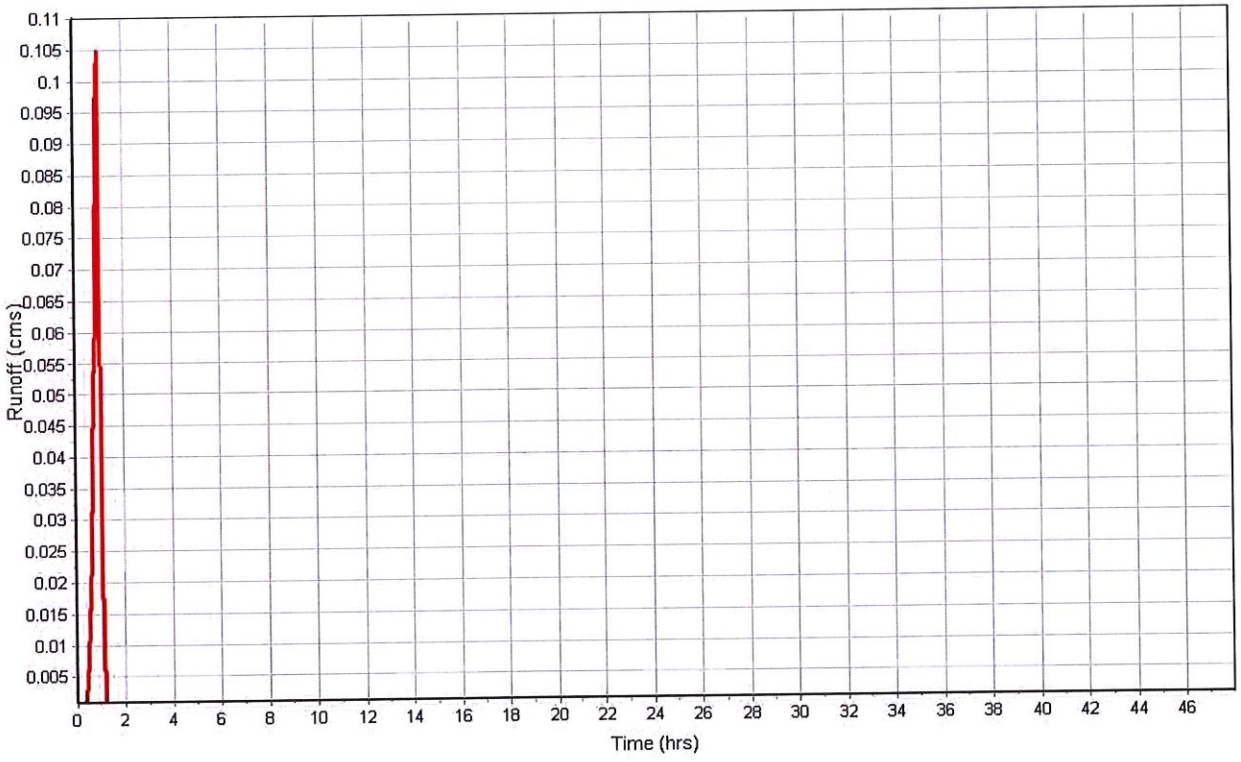
Total Rainfall (mm)	71.88
Total Runoff (mm)	60.53
Peak Runoff (cms)	0.11
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

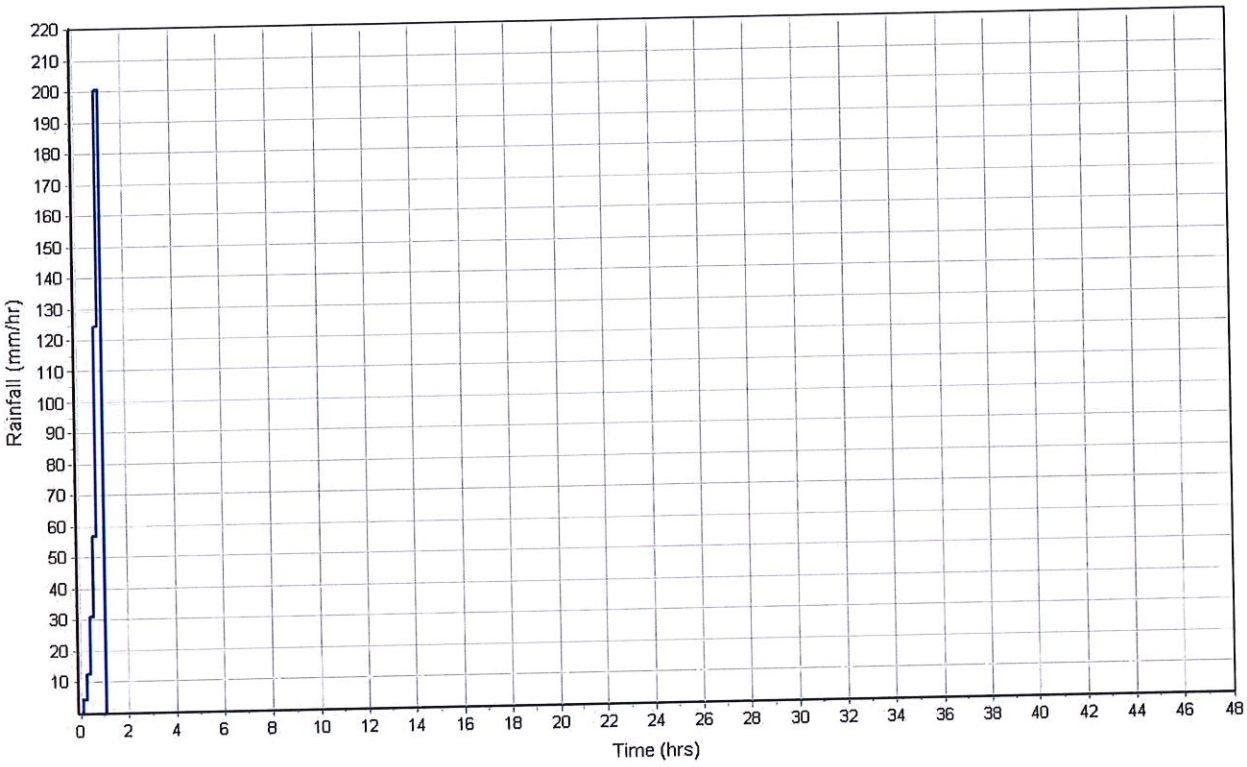
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

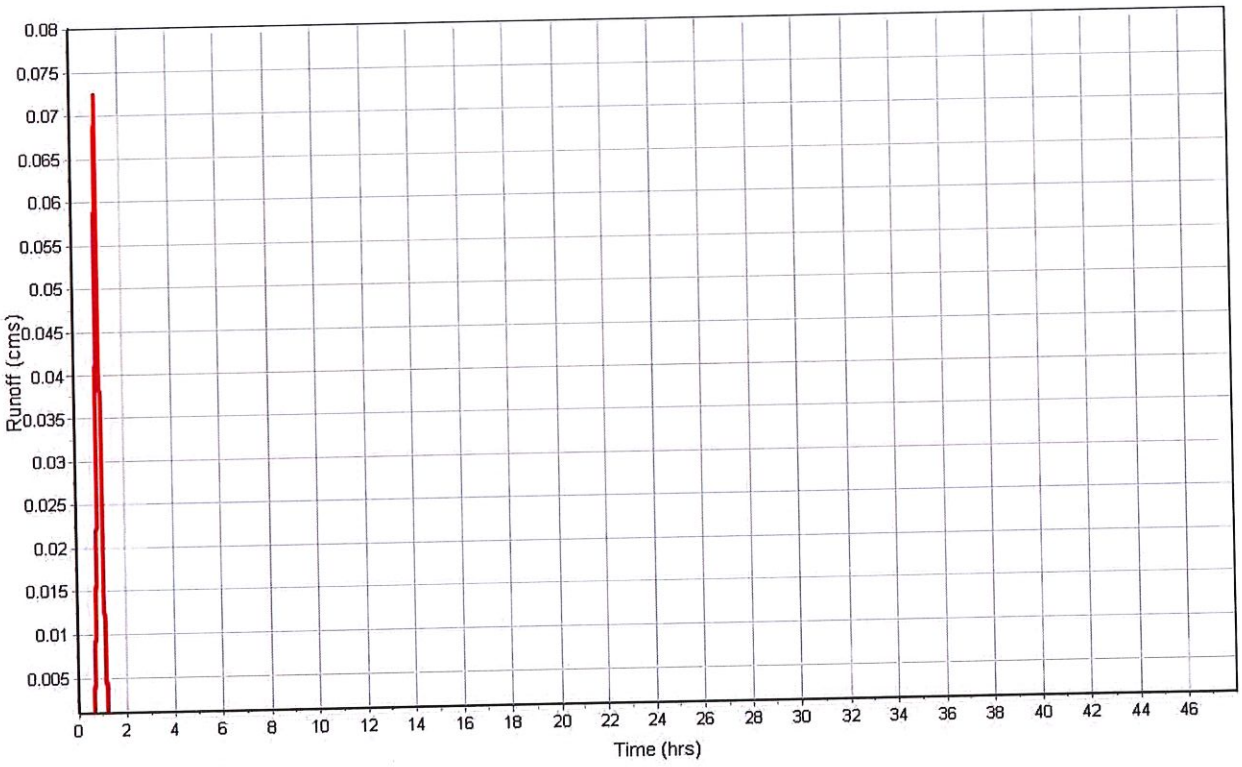
Total Rainfall (mm)	71.88
Total Runoff (mm)	27.00
Peak Runoff (cms)	0.07
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

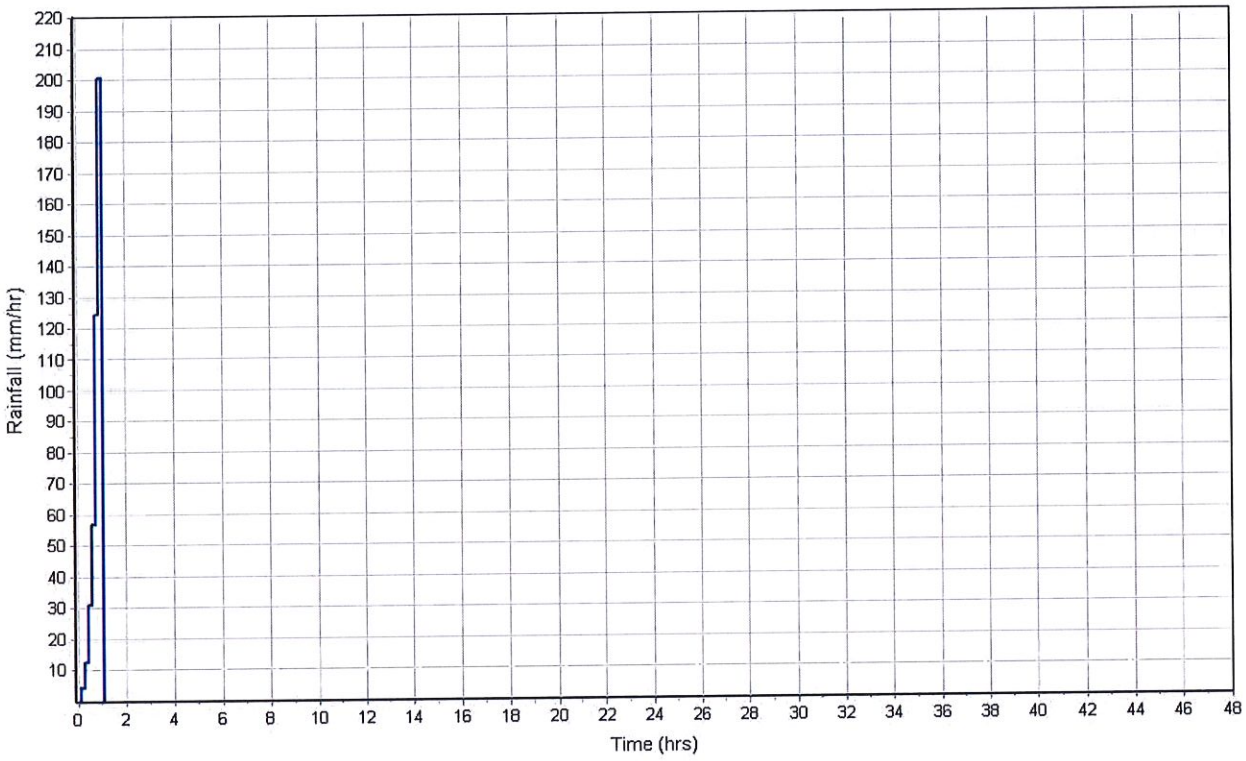
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

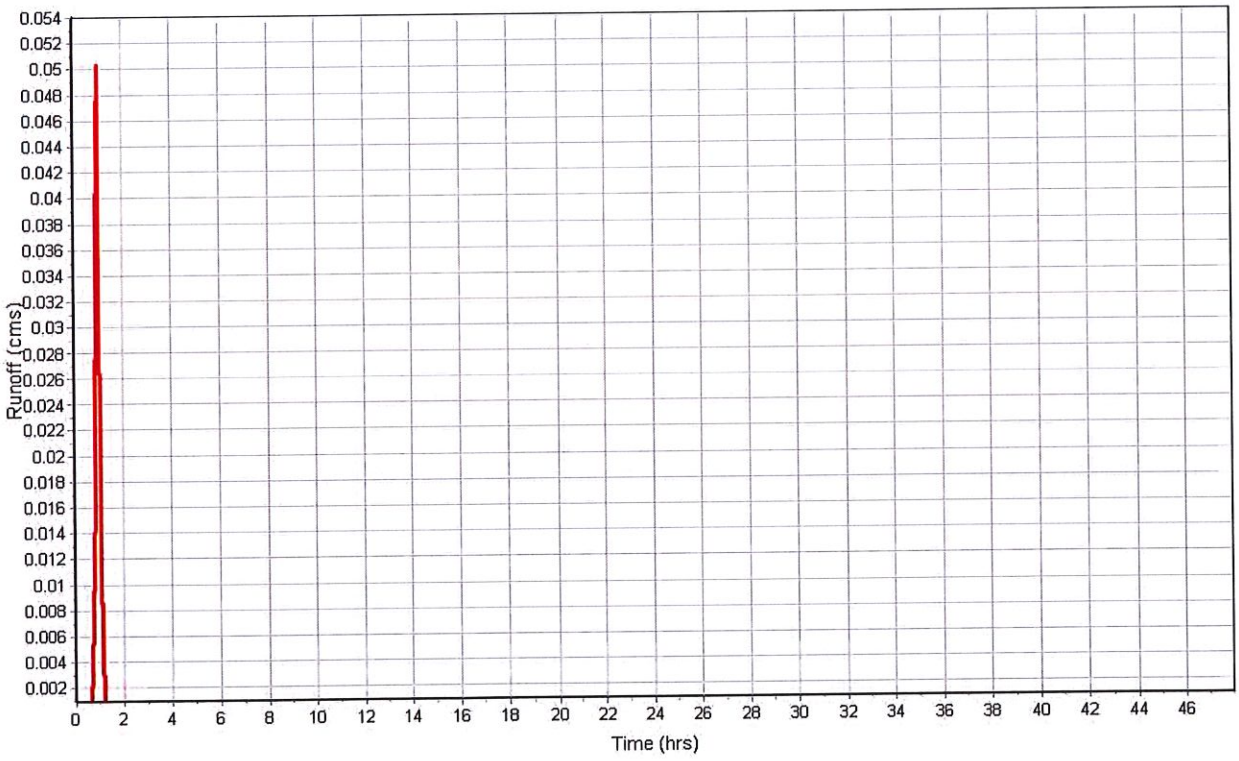
Total Rainfall (mm)	71.88
Total Runoff (mm)	24.79
Peak Runoff (cms)	0.05
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

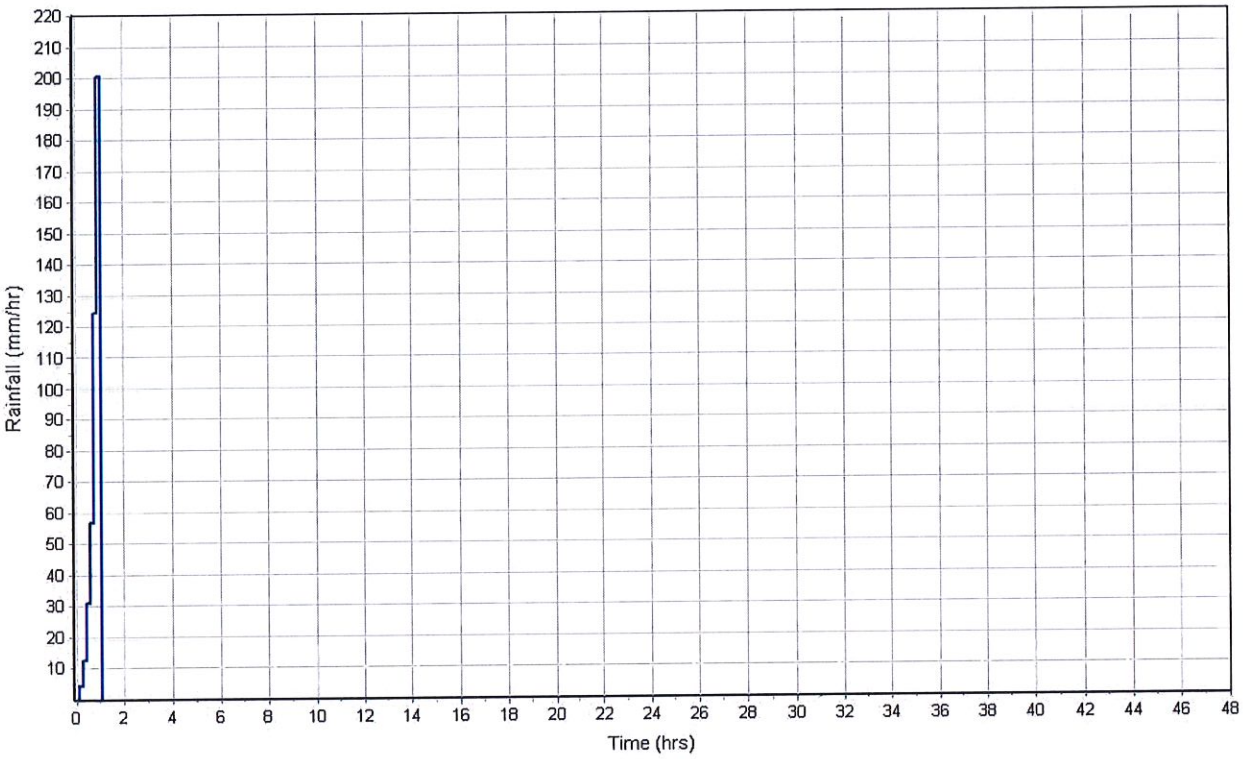
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

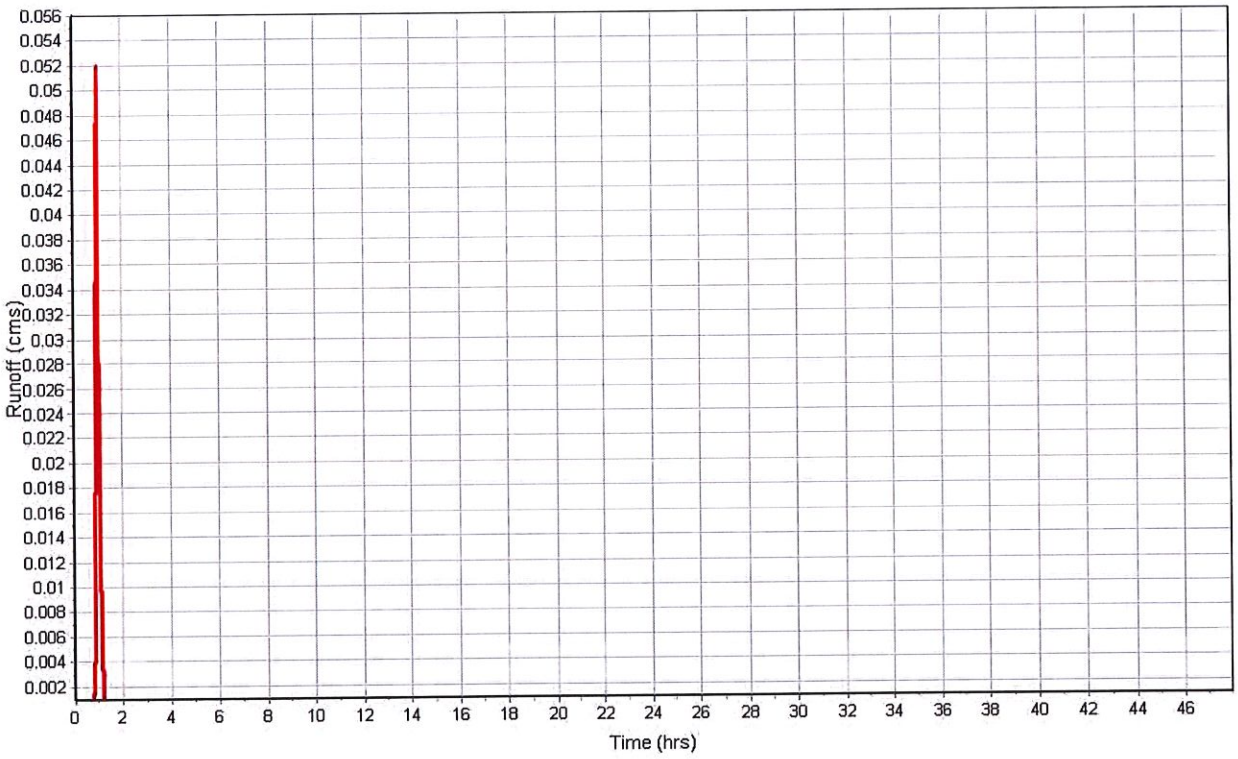
Total Rainfall (mm)	71.88
Total Runoff (mm)	10.85
Peak Runoff (cms)	0.05
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

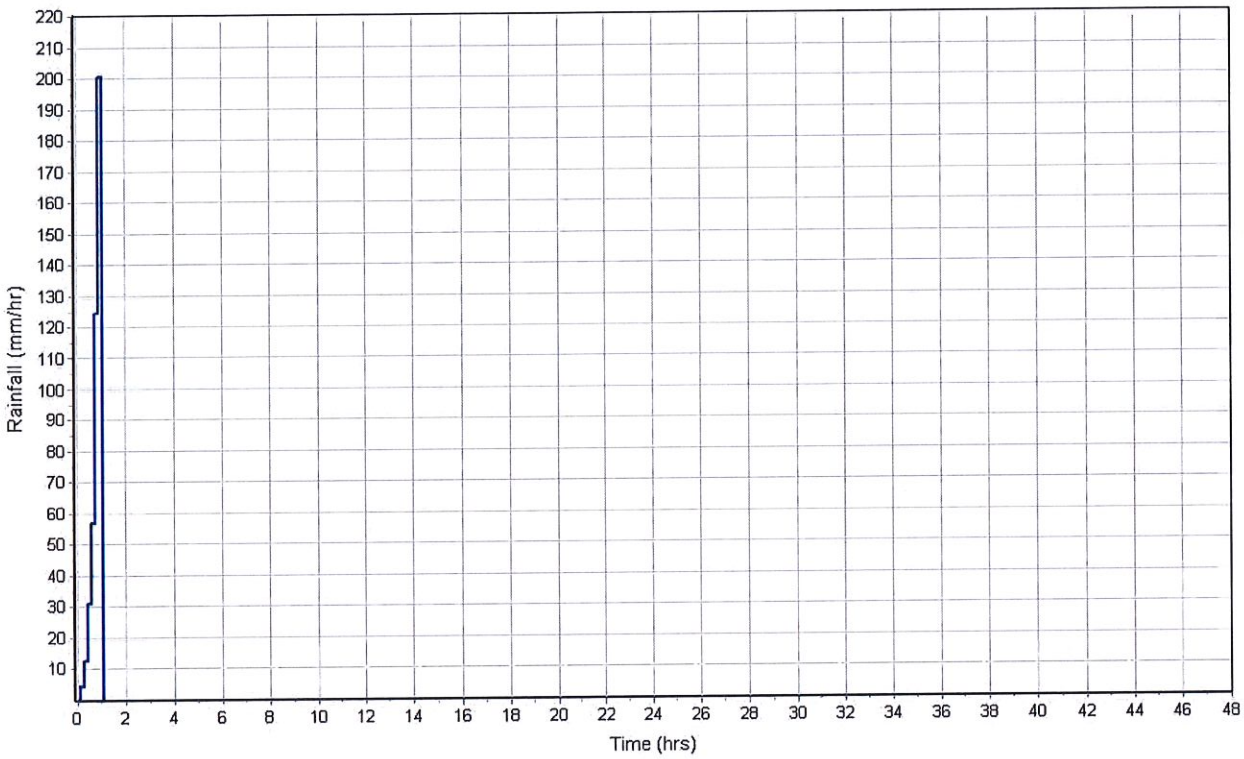
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

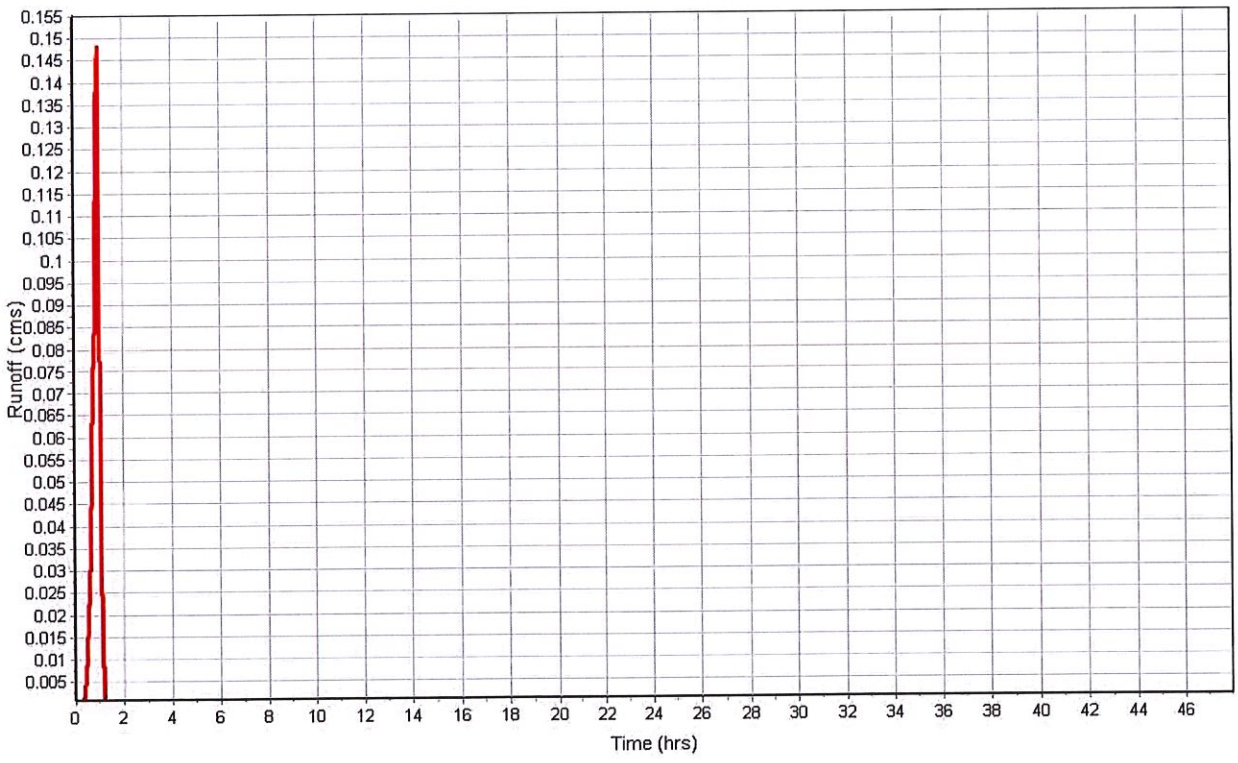
Total Rainfall (mm)	71.88
Total Runoff (mm)	60.58
Peak Runoff (cms)	0.15
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

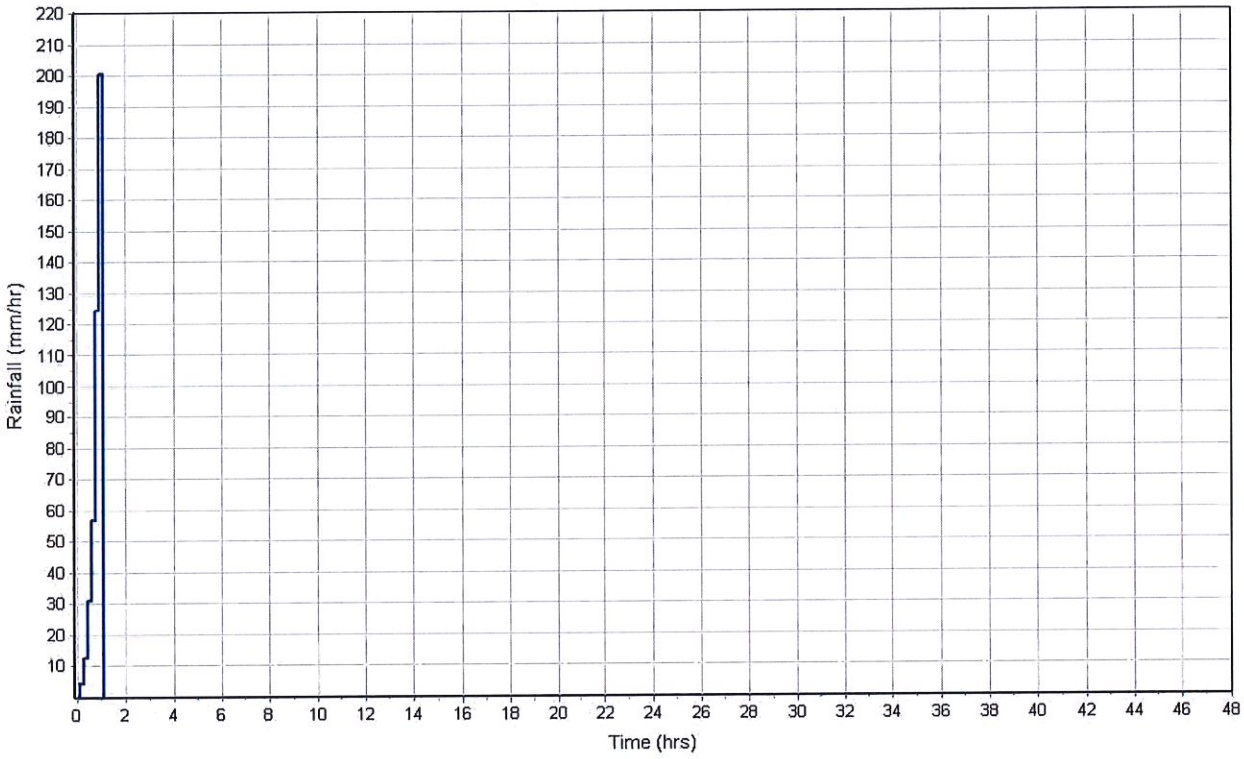
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

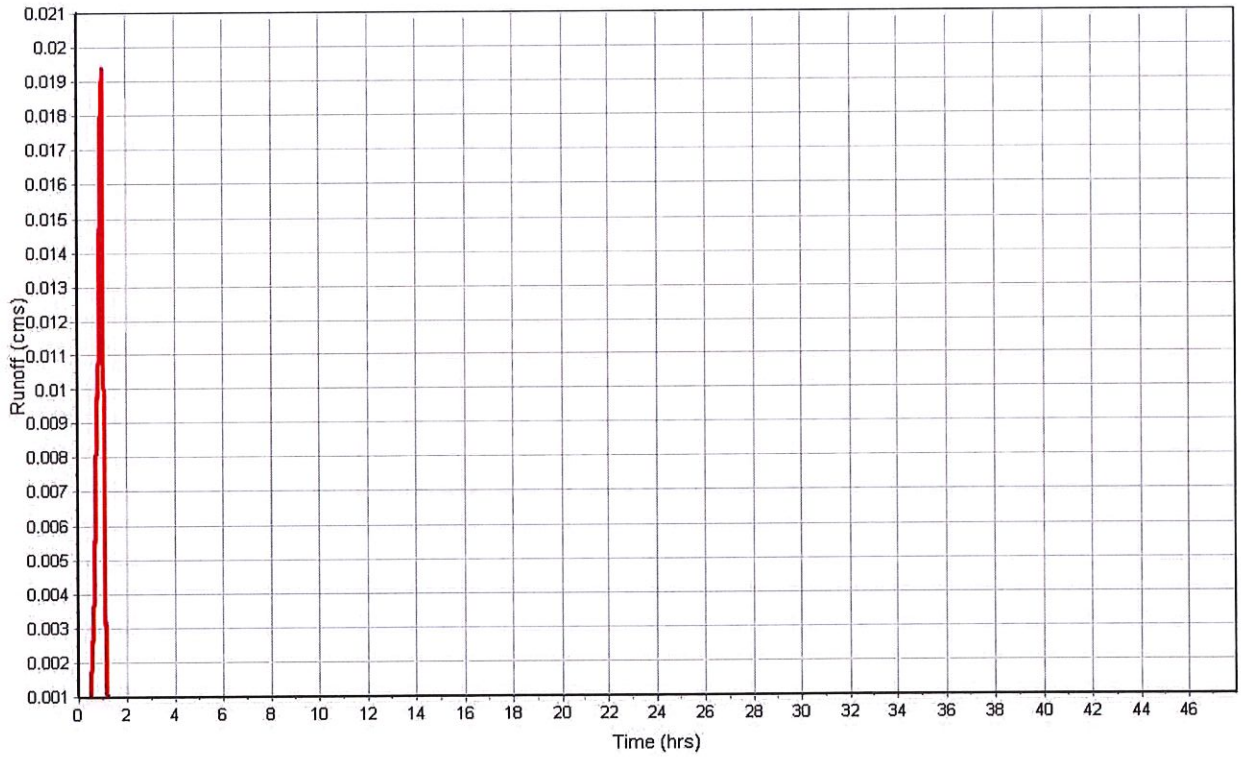
Total Rainfall (mm)	71.88
Total Runoff (mm)	58.75
Peak Runoff (cms)	0.02
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m²)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.65	2.65	29.62	2.32	0.00	1.77	27.55	0.25	0 01:09	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	OF-01	0.34	0 01:08	3.16	0.11	0.79	0.27	0.07	0.73	0.00		
2	OF-06	0.06	0 01:05	4.26	0.01	0.52	0.30	0.01	0.08	0.00		
3	OF-08	0.03	0 01:05	0.93	0.03	0.41	1.04	0.01	0.12	0.00		
4	OF-09	0.03	0 01:05	5.28	0.01	0.15	6.24	0.05	0.52	0.00		
5	OF-10	0.08	0 01:04	4.83	0.02	0.54	1.35	0.01	0.09	0.00		
6	OF-2	0.10	0 01:00	4.80	0.02	1.00	0.32	0.05	0.54	0.00		
7	OF-3	0.13	0 01:04	6.02	0.02	1.05	0.54	0.06	0.58	0.00		
8	OF-4	0.23	0 01:00	4.80	0.05	0.68	0.52	0.06	0.62	0.00		
9	OF-5	0.02	0 01:04	3.90	0.00	0.22	4.25	0.06	0.52	0.00		
10	OF-7	0.05	0 01:05	0.45	0.10	0.25	2.71	0.02	0.24	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe - (1)	0.02	0 01:10	0.05	0.46	0.87	0.11	0.30	1.00	11.00		SURCHARGED
2	Pipe - (10)	0.14	0 01:05	0.18	0.80	2.15	0.44	0.27	0.90	0.00		Calculated
3	Pipe - (11)	0.13	0 01:02	0.20	0.63	1.81	0.40	0.30	1.00	13.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:51	0.21	1.88	3.63	0.06	0.38	1.00	38.00		SURCHARGED
5	Pipe - (2)	0.06	0 01:05	0.14	0.42	1.16	0.19	0.30	1.00	11.00		SURCHARGED
6	Pipe - (3)	0.15	0 01:05	0.20	0.73	2.09	0.15	0.30	1.00	12.00		SURCHARGED
7	Pipe - (4)	0.16	0 01:09	0.15	1.07	2.54	0.22	0.30	1.00	15.00		SURCHARGED
8	Pipe - (5)	0.22	0 01:03	0.28	0.78	3.12	0.11	0.30	1.00	16.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:12	0.16	0.92	2.12	0.44	0.30	1.00	25.00		SURCHARGED
10	Pipe - (7)	0.19	0 00:59	0.42	0.45	1.72	0.09	0.38	1.00	40.00		SURCHARGED
11	Pipe - (8)	0.03	0 01:05	0.09	0.27	1.36	0.50	0.12	0.39	0.00		Calculated
12	Pipe - (9)	0.09	0 01:05	0.28	0.33	6.56	0.06	0.18	0.59	0.00		Calculated
13	Pipe-Out	2.46	0 01:09	1.68	1.47	4.73	0.06	0.81	1.00	17.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.39	33.85	0.02	0 01:01	0.19	5.00
2	CB1-02	0.15	0.15	0.07	0.08	44.73	0.81	33.89	0.05	0 01:01	0.02	0.00
3	CB1-03	0.03	0.03	0.01	0.02	44.73	0.16	33.65	0.01	0 01:01	3.98	8.00
4	CB1-04	0.05	0.05	0.02	0.03	44.73	0.27	33.08	0.02	0 01:01	1.92	9.00
5	CB1-05	0.13	0.13	0.06	0.07	44.73	0.71	32.23	0.04	0 01:01	1.76	6.00
6	CB1-06	0.03	0.03	0.01	0.02	44.73	0.15	30.78	0.01	0 00:53	14.90	19.00
7	CB1-07	0.10	0.10	0.05	0.06	44.73	0.57	29.49	0.03	0 00:57	0.66	10.00
8	CB2-01	0.07	0.07	0.03	0.05	36.05	0.76	34.43	0.03	0 01:05	0.00	0.00
9	CB2-02	0.05	0.05	0.02	0.03	44.73	0.27	33.98	0.02	0 01:05	0.00	0.00
10	CB2-03	0.05	0.05	0.02	0.03	44.73	0.28	32.14	0.02	0 01:05	0.00	0.00
11	CB2-04	0.15	0.15	0.07	0.08	44.73	0.81	30.11	0.05	0 00:59	3.72	9.00

Storage Nodes

Storage Node : CB3-01

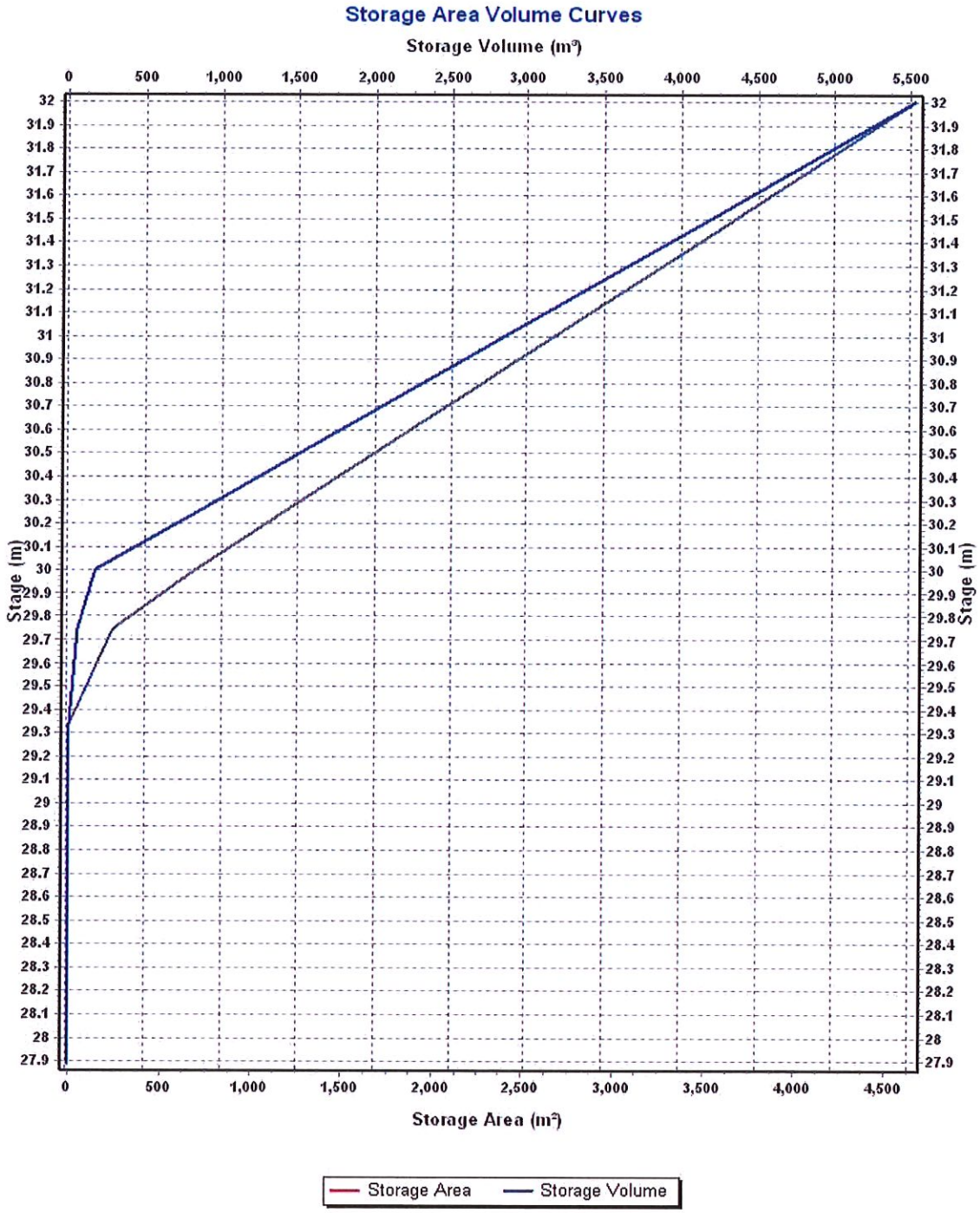
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.86
Peak Lateral Inflow (cms)	0.25
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.49
Average HGL Depth Attained (m)	0.6
Time of Max HGL Occurrence (days hh:mm)	0 00:48
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	67.67
Total Time Flooded (min)	27
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	25-6hr-10%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	160.27	56.26	1.40	0.00	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	160.27	106.96	41.79	0.09	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	160.27	145.26	7.89	0.02	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	160.27	148.23	13.67	0.03	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	160.27	148.23	35.90	0.07	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	160.27	148.23	7.77	0.02	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	160.27	148.18	28.96	0.06	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	160.27	100.41	20.65	0.04	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	160.27	96.32	14.45	0.03	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	160.27	65.28	18.28	0.04	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	160.27	148.23	40.82	0.08	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	160.27	146.15	5.31	0.01	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.09	29.11	0.00	2.28	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.09	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.48	29.34				59.86	71.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.00	0.05	0.07	0.76	0.13	0.42	0.00	Calculated
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.14	0.18	0.77	3.16	0.23	0.76	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	57.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.87	3.61	0.38	1.00	90.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.04	0.14	0.30	1.21	0.15	0.49	0.00	Calculated
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.10	0.20	0.48	1.99	0.21	0.74	0.00	Calculated
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.12	0.15	0.79	3.97	0.28	0.97	0.00	Calculated
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.16	0.28	0.58	4.31	0.30	1.00	32.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.91	2.76	0.30	1.00	80.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.18	0.42	0.43	1.64	0.38	1.00	94.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.02	0.09	0.16	2.02	0.09	0.29	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.08	0.28	0.28	11.15	0.12	0.52	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.09	1.68	1.25	8.56	0.81	1.00	57.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.05	3.16	0.02	0.50	0.01	0.08	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.03	4.26	0.01	0.38	0.01	0.06	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.02	0.93	0.02	0.30	0.01	0.09	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.02	5.28	0.00	0.37	0.05	0.52	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.05	4.83	0.01	0.44	0.01	0.07	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.02	4.80	0.00	0.00	0.00	0.03	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.02	6.02	0.00	0.30	0.00	0.03	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.07	4.80	0.01	0.68	0.05	0.54	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.01	3.90	0.00	0.27	0.05	0.43	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.03	0.45	0.06	0.19	0.01	0.19	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.34	33.85
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.09	0.04	0.05	44.73	2.00	0.47	33.87
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.02	0.01	0.01	44.73	2.00	0.09	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.03	0.01	0.02	44.73	2.00	0.15	33.07
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.07	0.03	0.04	44.73	2.00	0.40	32.21
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.02	0.01	0.01	44.73	2.00	0.09	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.06	0.03	0.03	44.73	2.00	0.32	29.48
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.04	0.02	0.03	36.05	2.00	0.45	34.42
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.03	0.01	0.02	44.73	2.00	0.17	33.97
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.04	0.02	0.02	44.73	2.00	0.21	32.14
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.08	0.04	0.05	44.73	2.00	0.46	30.09

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

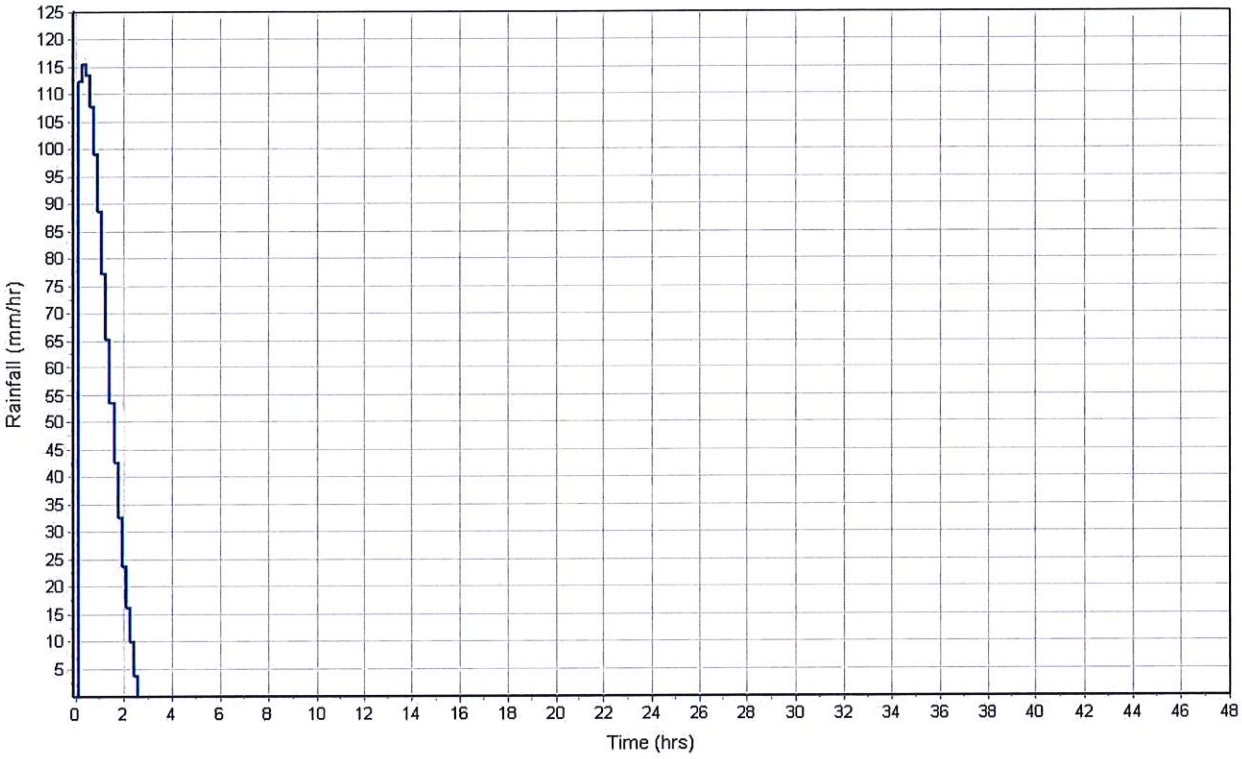
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

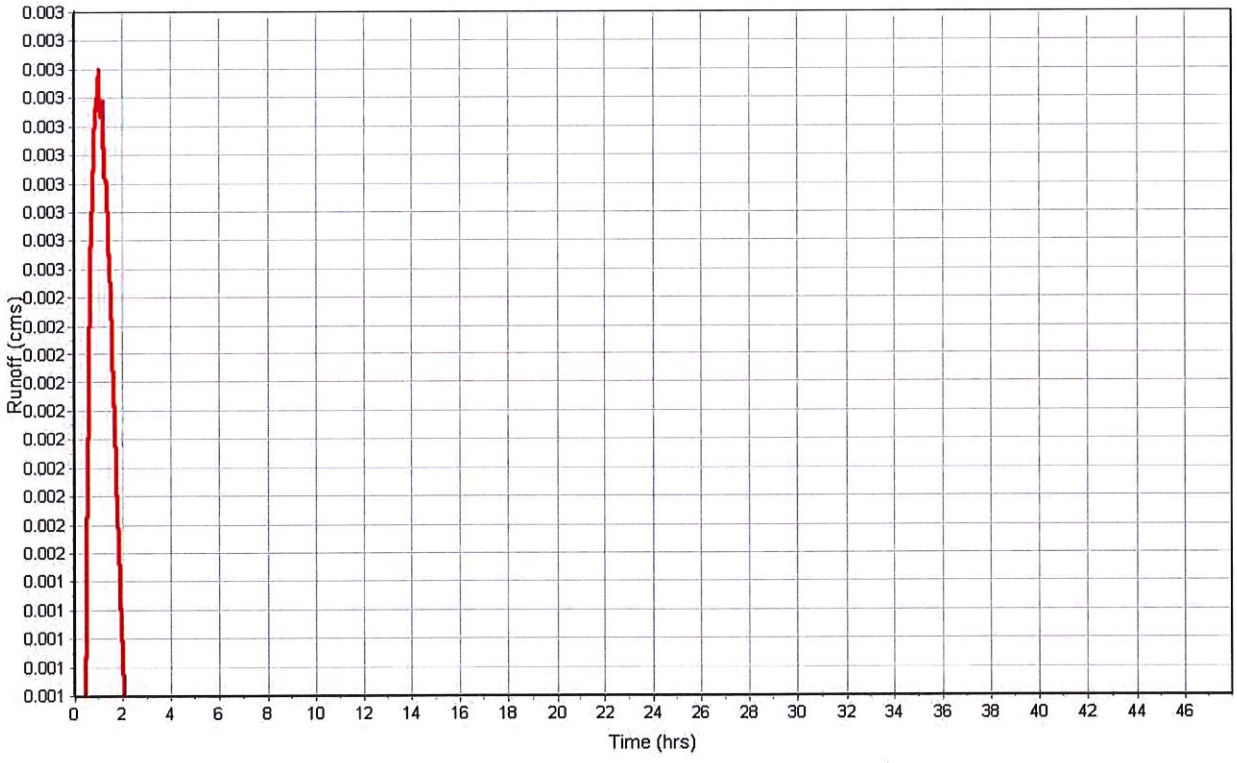
Total Rainfall (mm)	160.27
Total Runoff (mm)	56.26
Peak Runoff (cms)	0.00
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

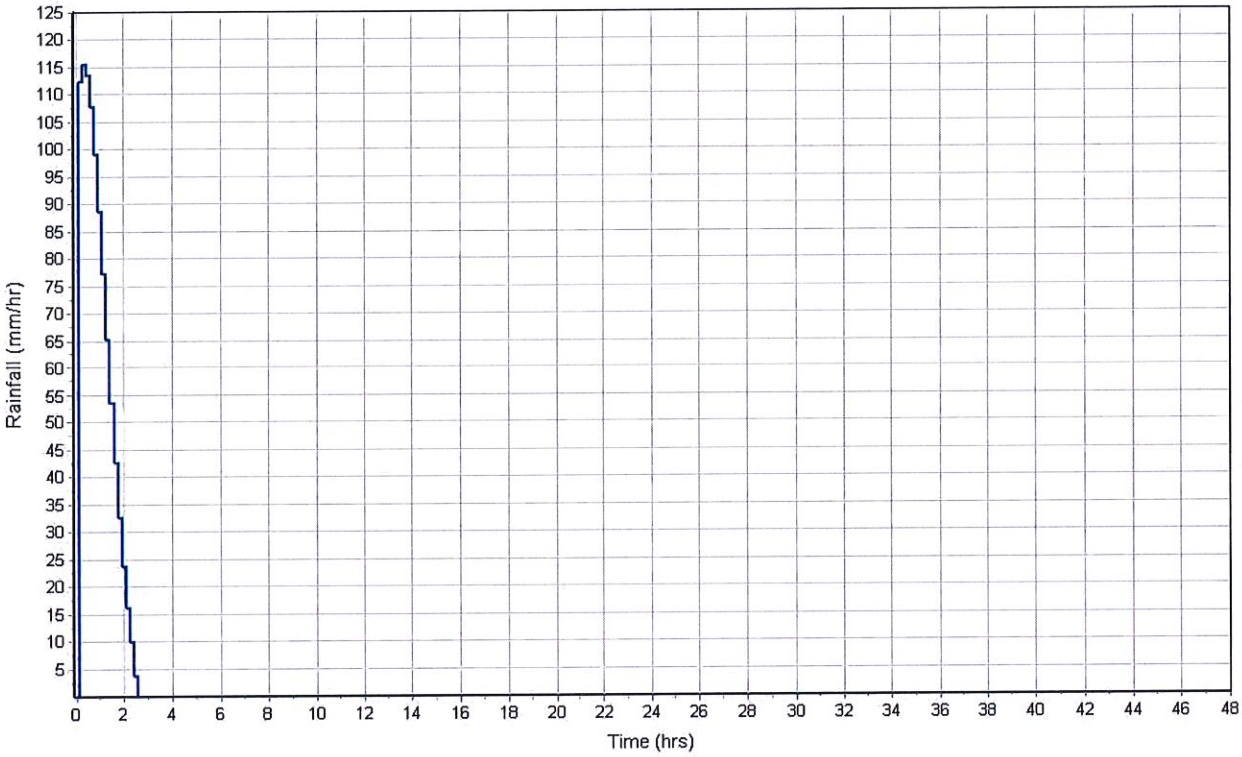
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

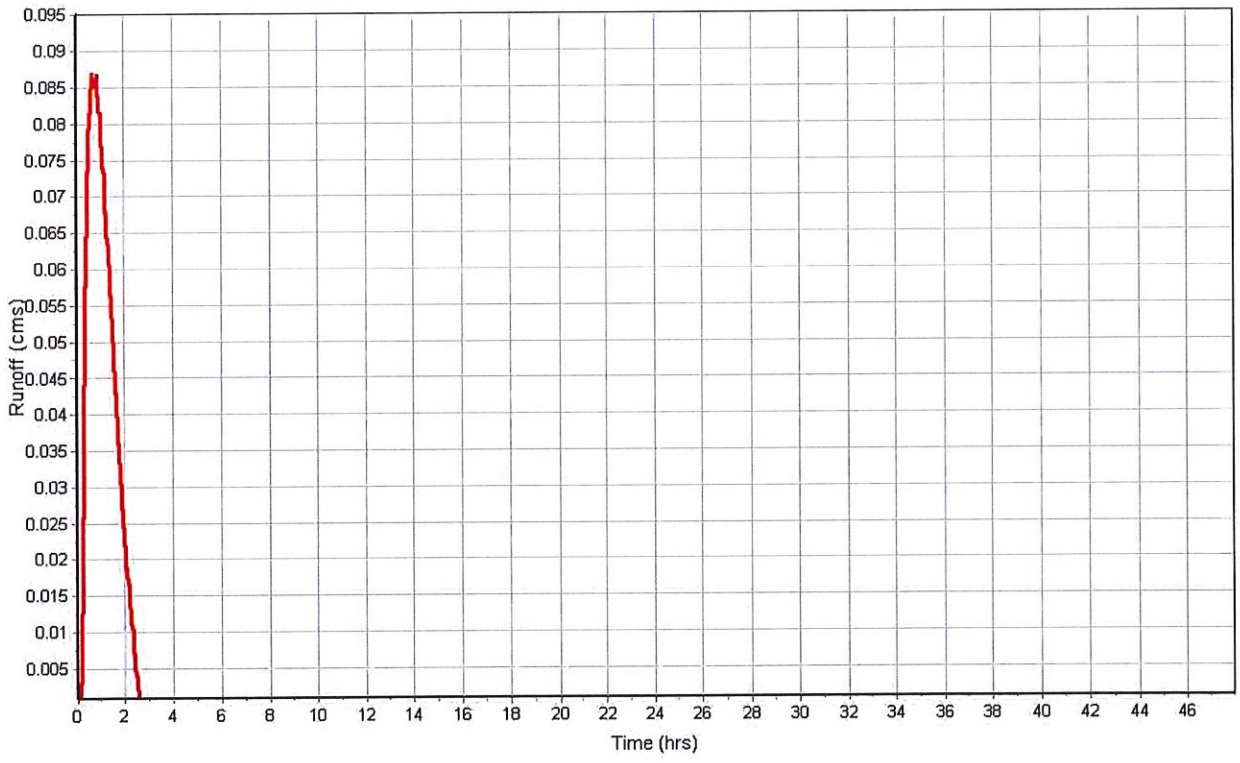
Total Rainfall (mm)	160.27
Total Runoff (mm)	106.96
Peak Runoff (cms)	0.09
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

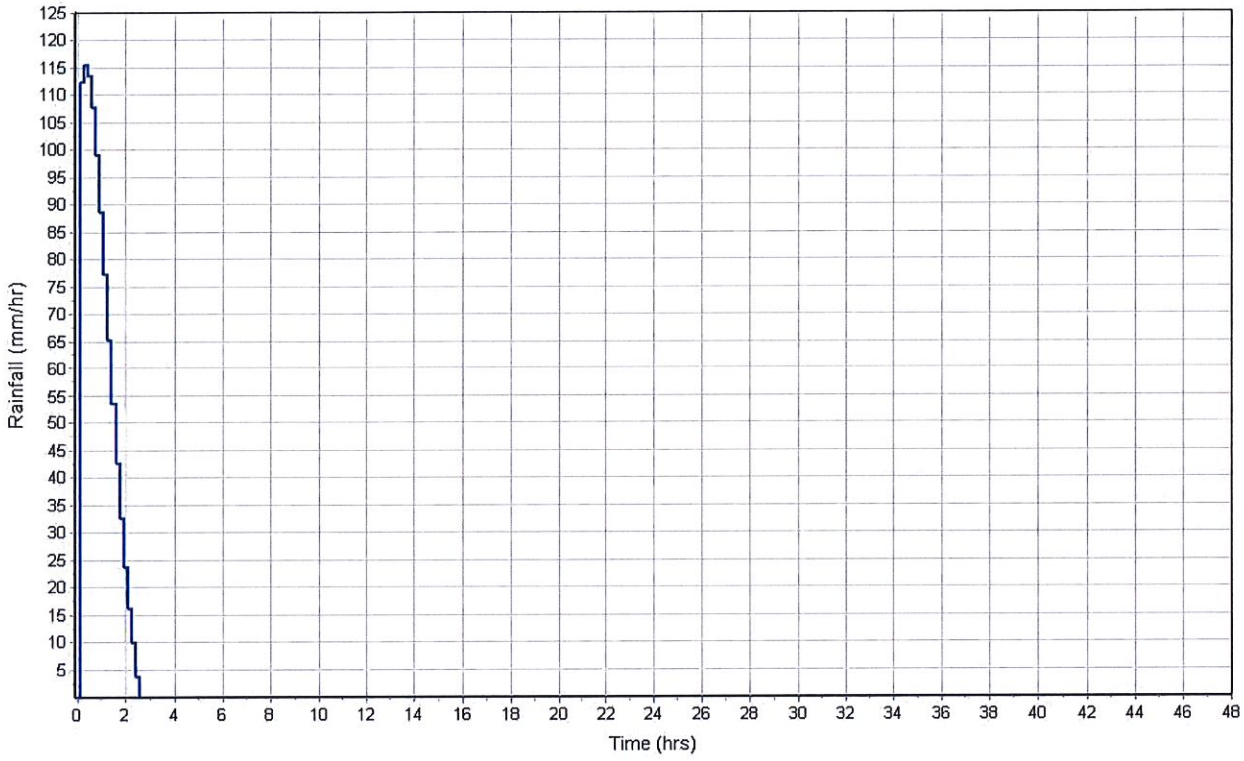
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

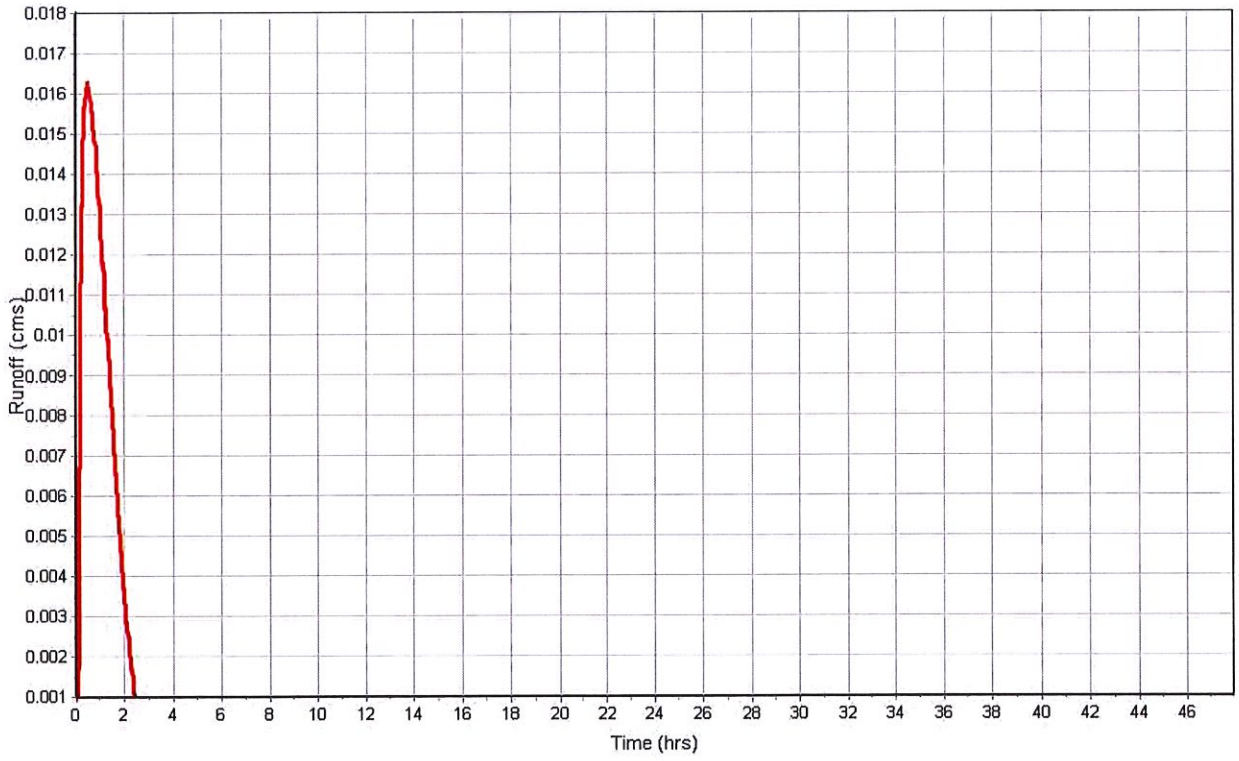
Total Rainfall (mm)	160.27
Total Runoff (mm)	145.26
Peak Runoff (cms)	0.02
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

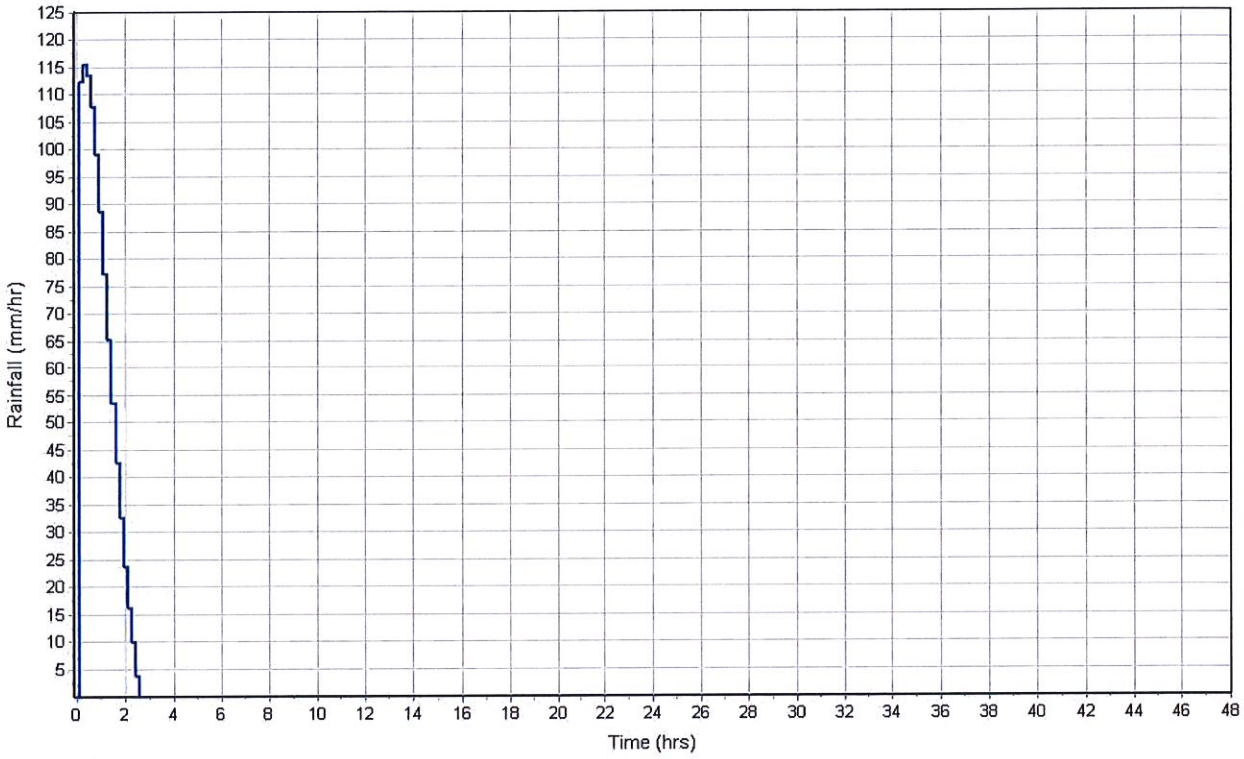
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

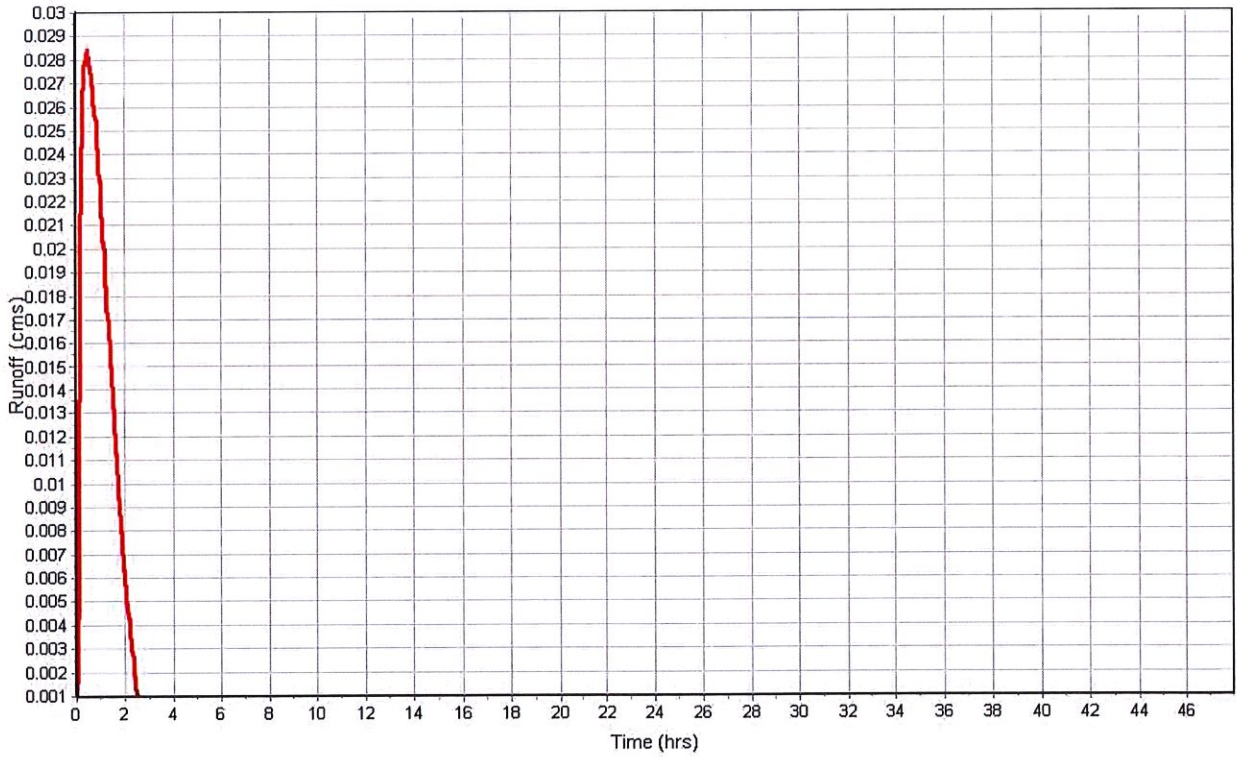
Total Rainfall (mm)	160.27
Total Runoff (mm)	148.23
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

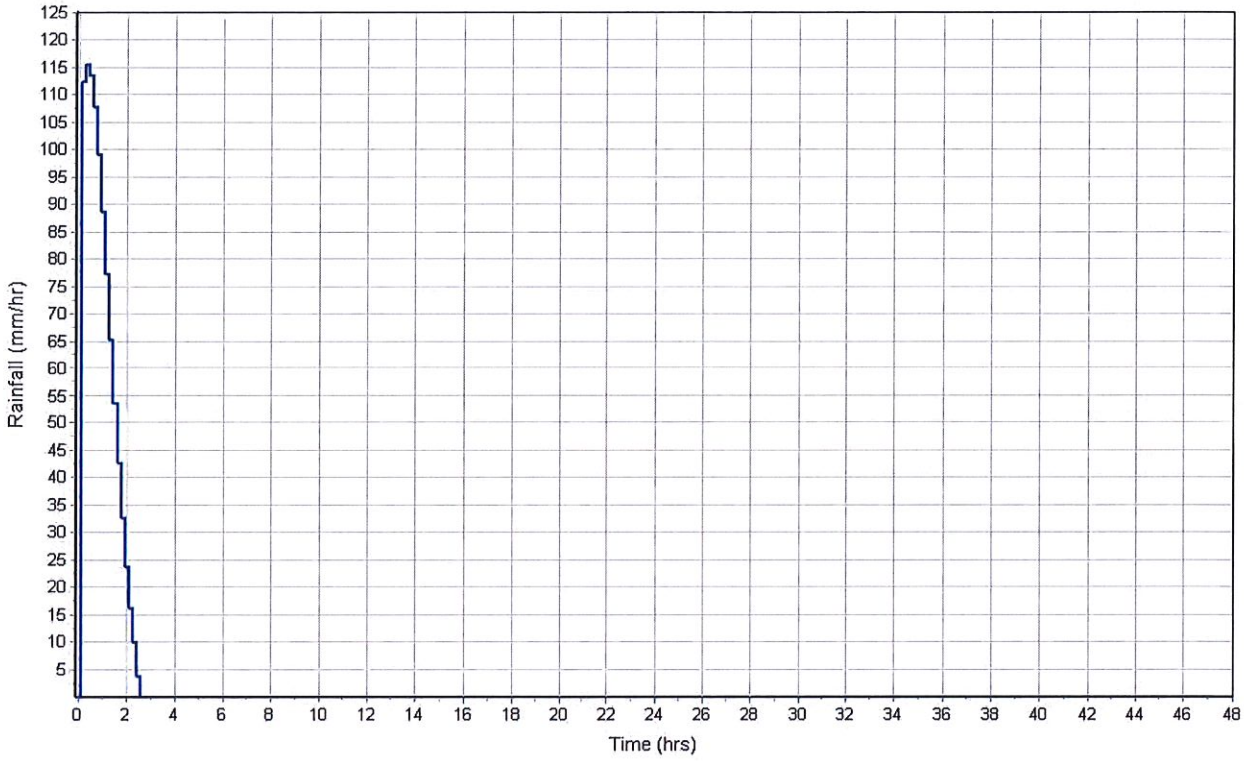
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

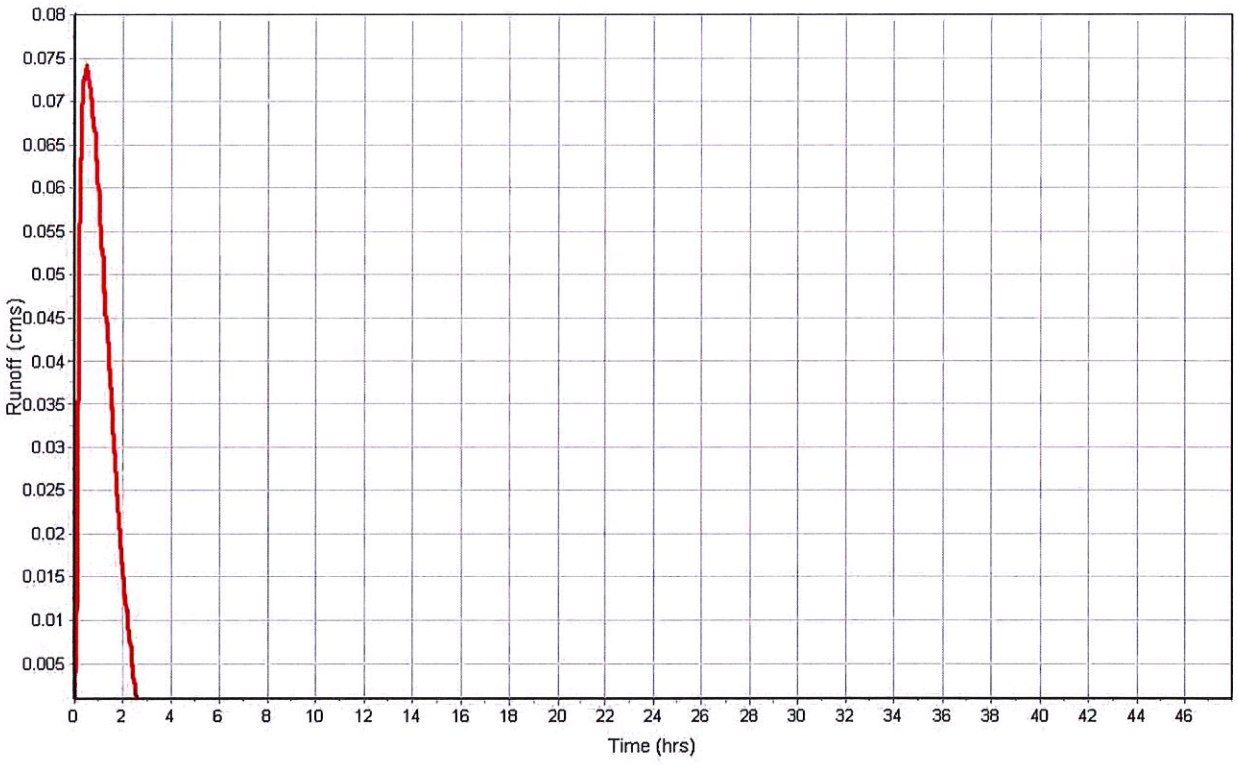
Total Rainfall (mm)	160.27
Total Runoff (mm)	148.23
Peak Runoff (cms)	0.07
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

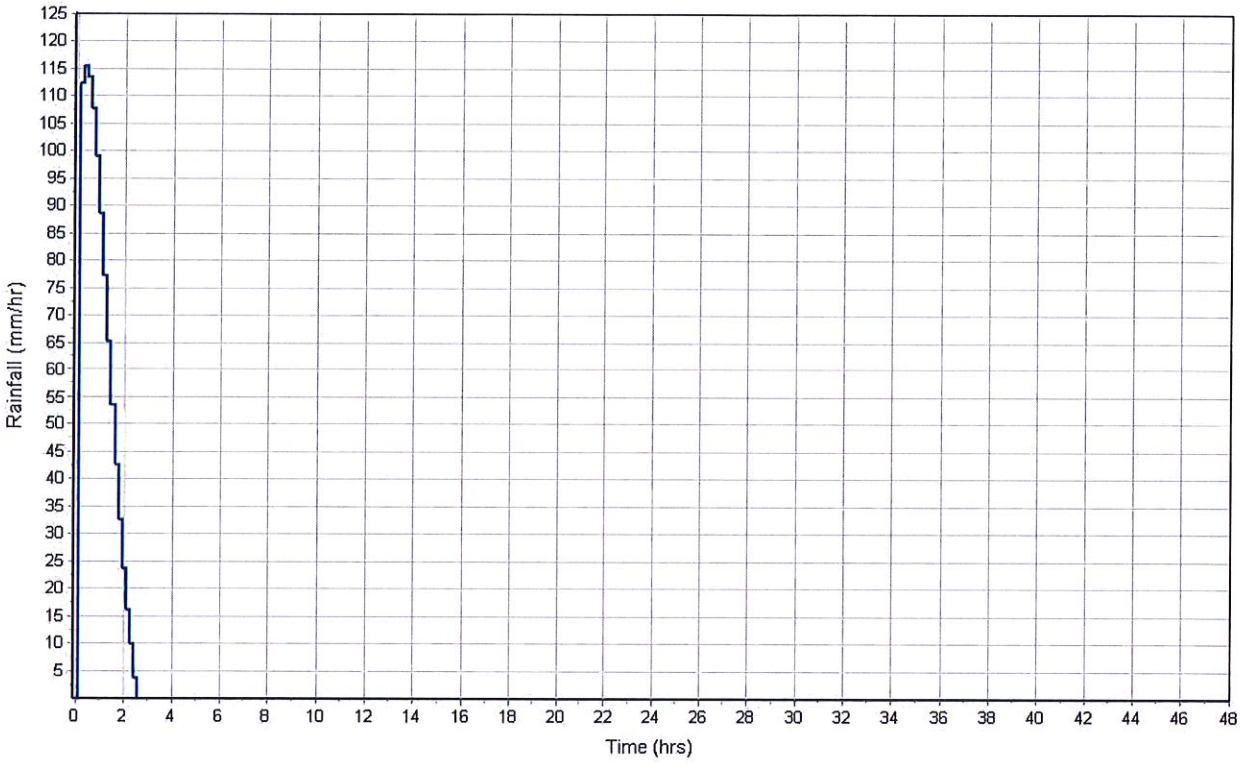
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

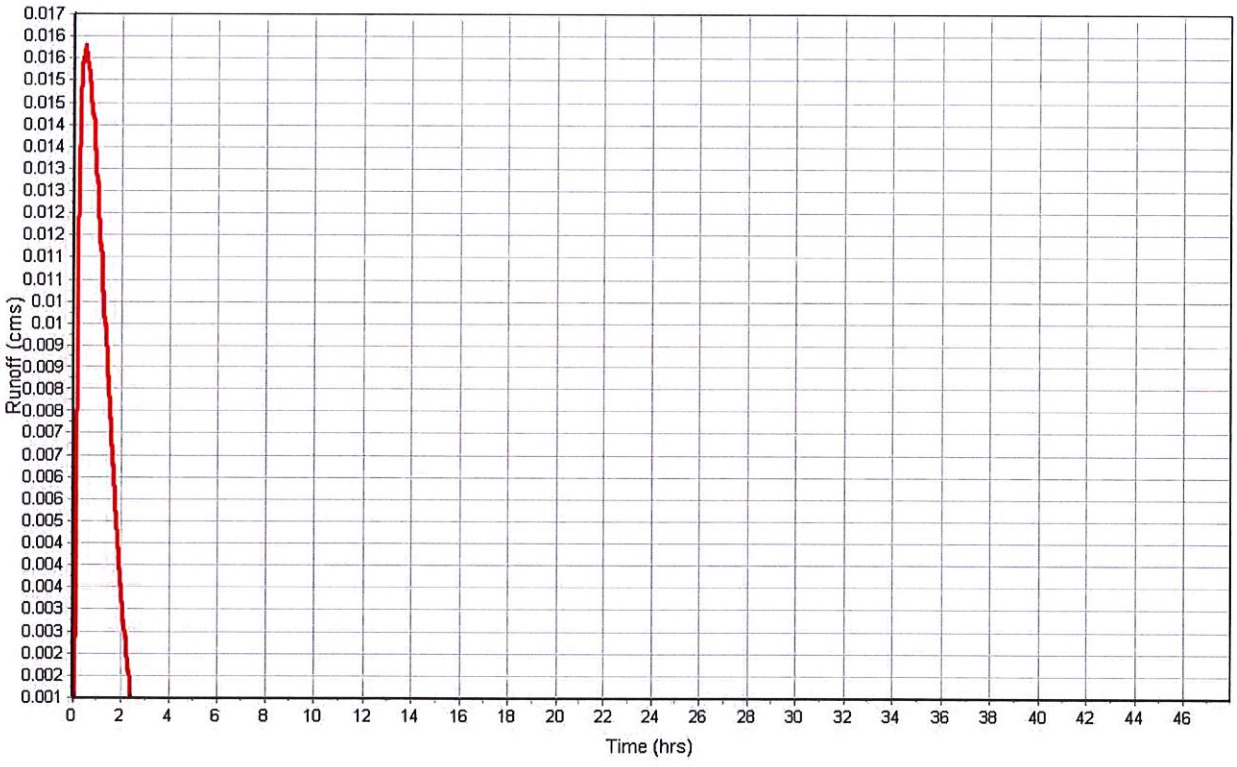
Total Rainfall (mm)	160.27
Total Runoff (mm)	148.23
Peak Runoff (cms)	0.02
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

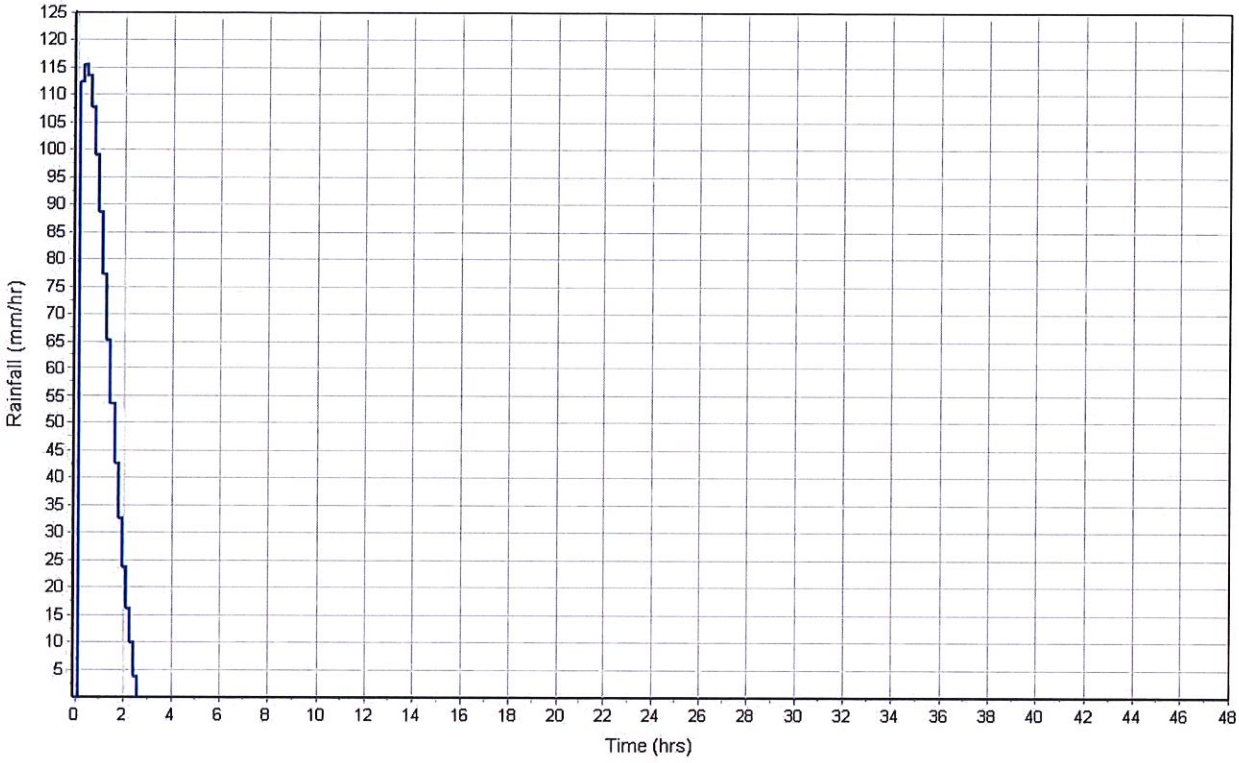
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

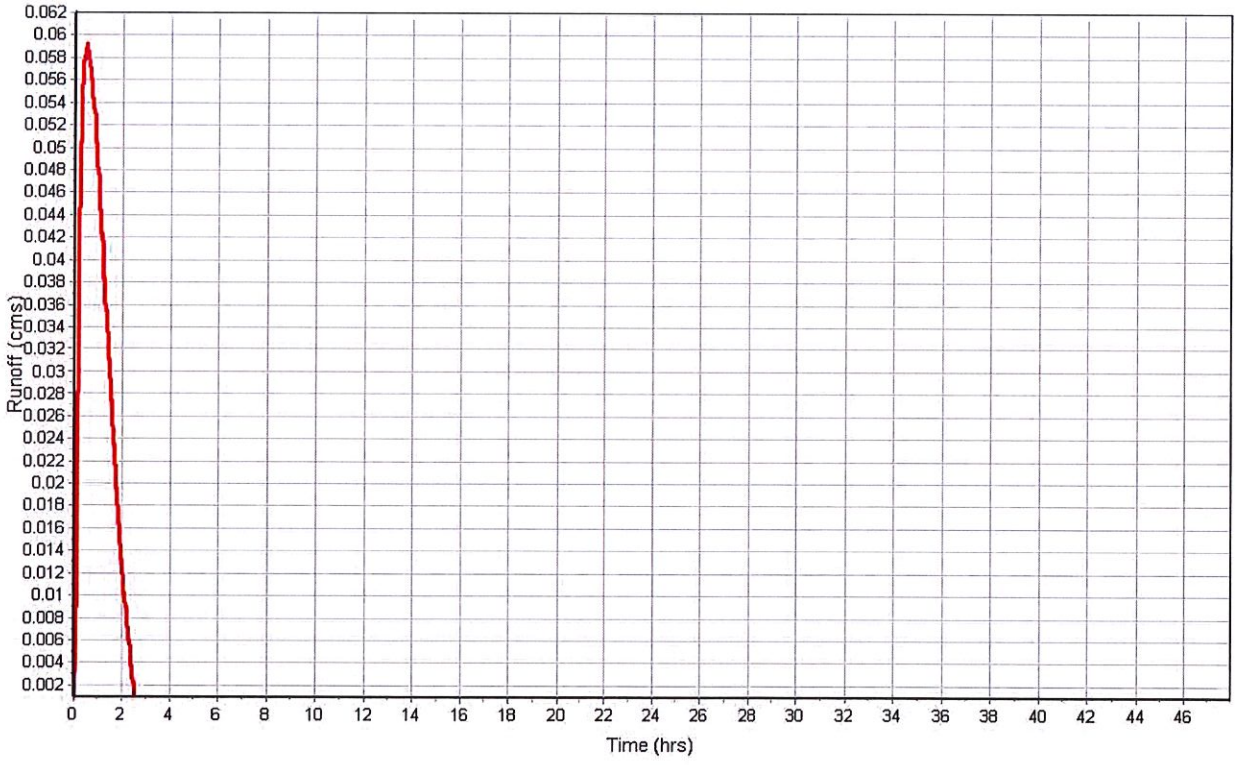
Total Rainfall (mm)	160.27
Total Runoff (mm)	148.18
Peak Runoff (cms)	0.06
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

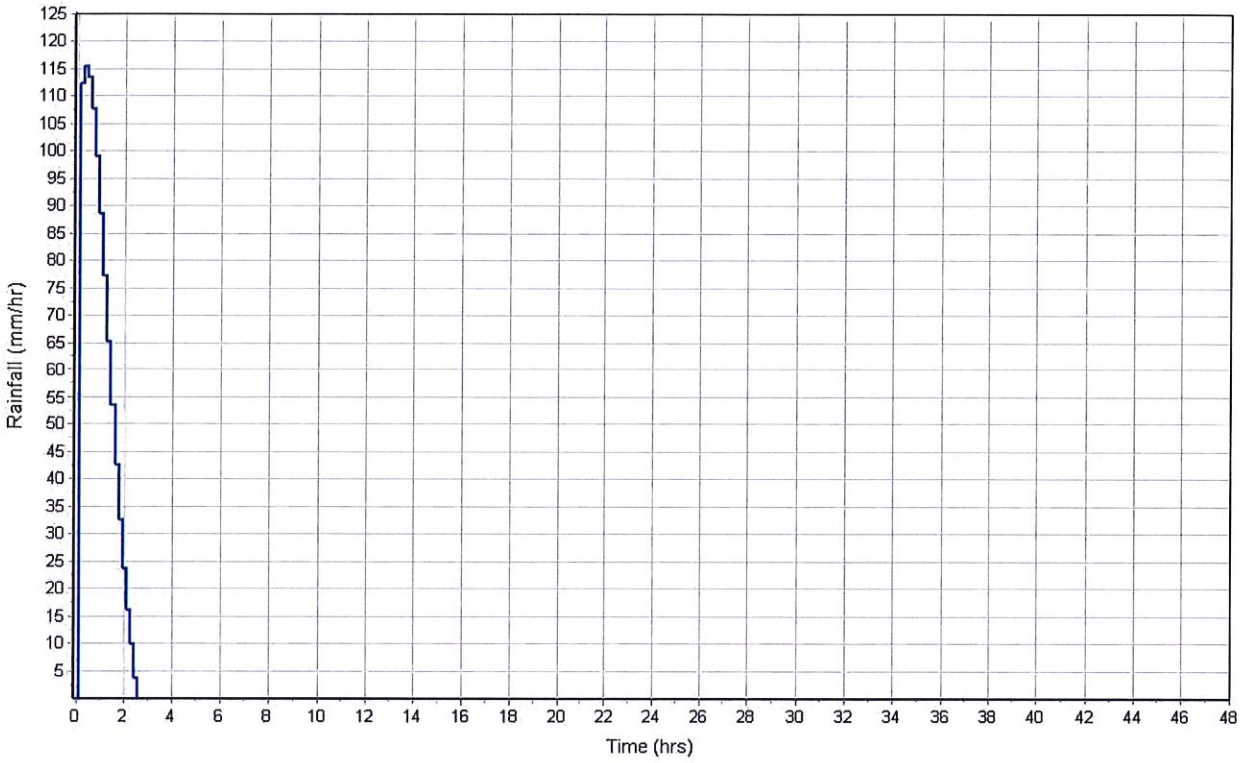
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

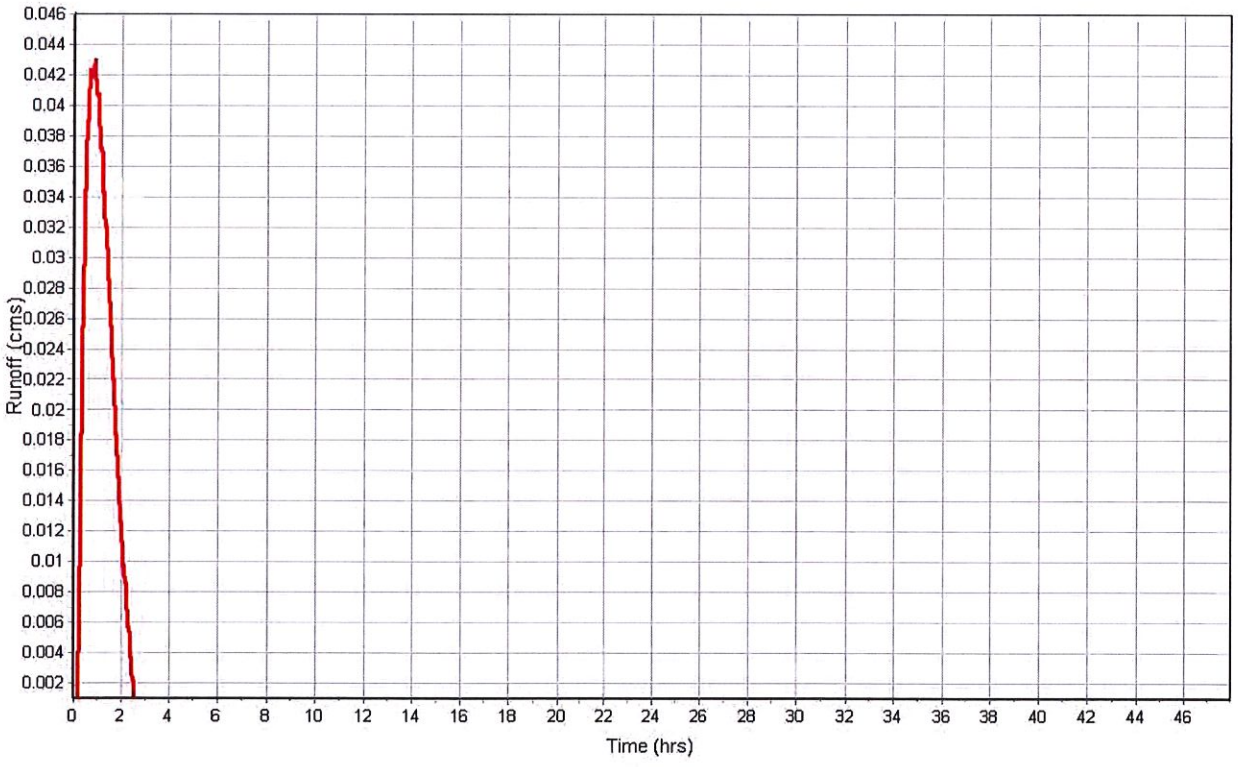
Total Rainfall (mm)	160.27
Total Runoff (mm)	100.41
Peak Runoff (cms)	0.04
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

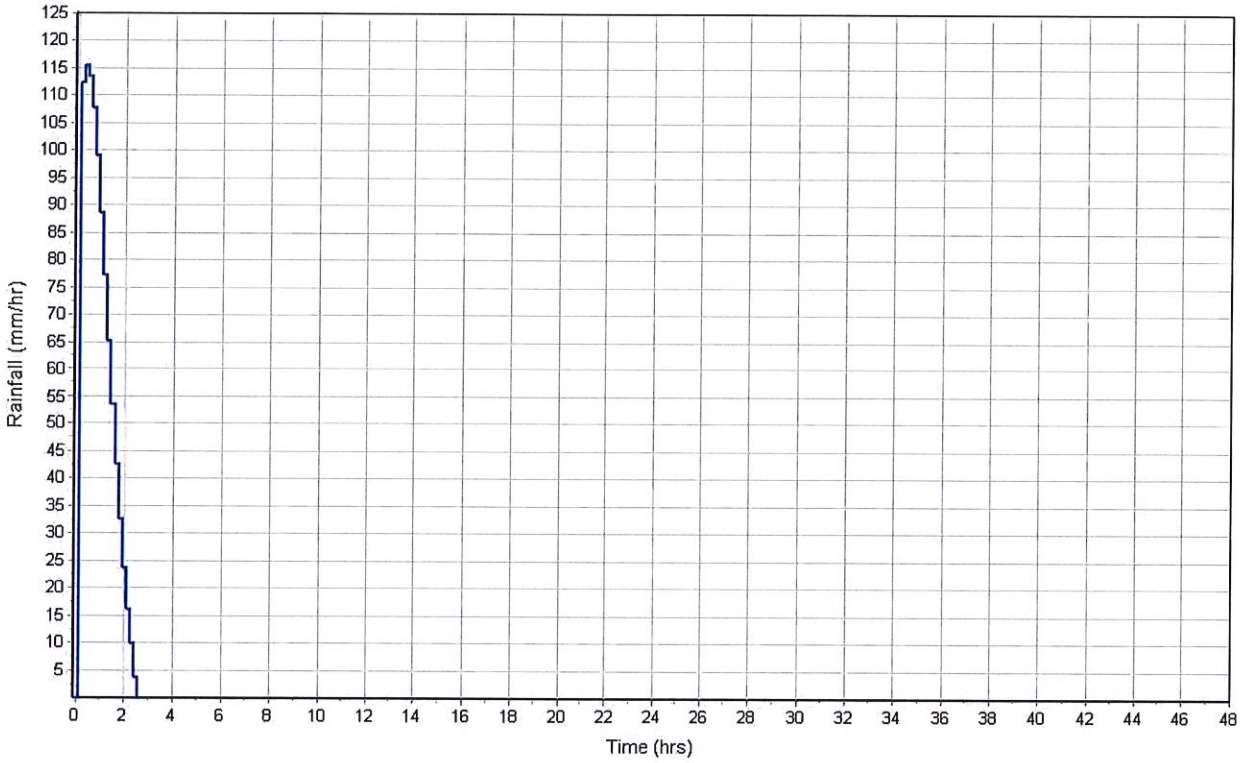
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

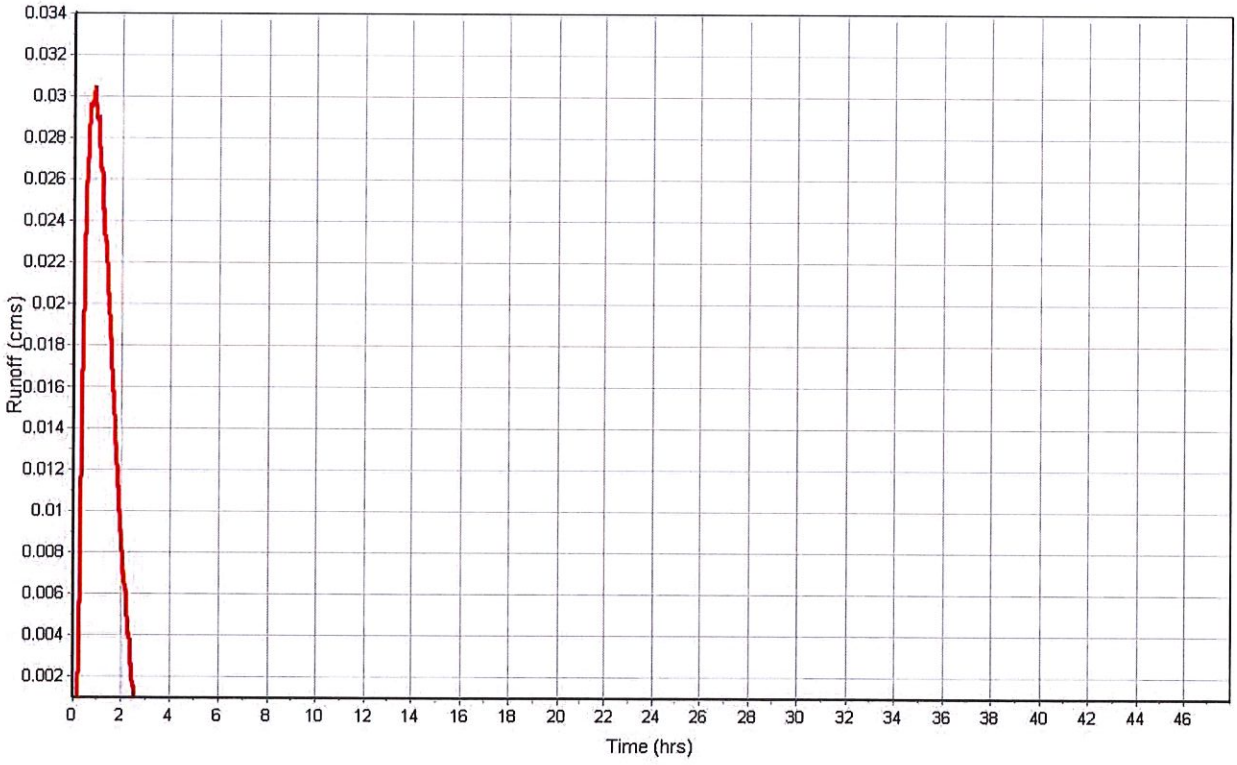
Total Rainfall (mm)	160.27
Total Runoff (mm)	96.32
Peak Runoff (cms)	0.03
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

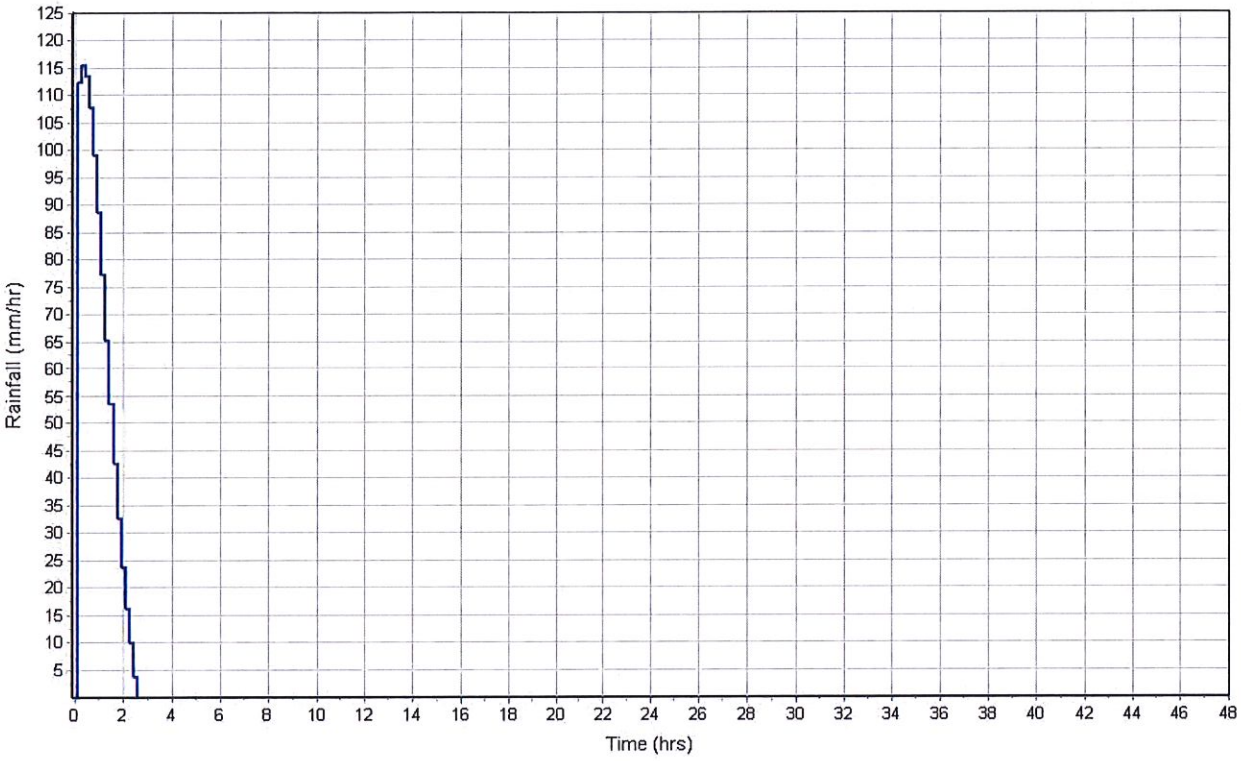
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

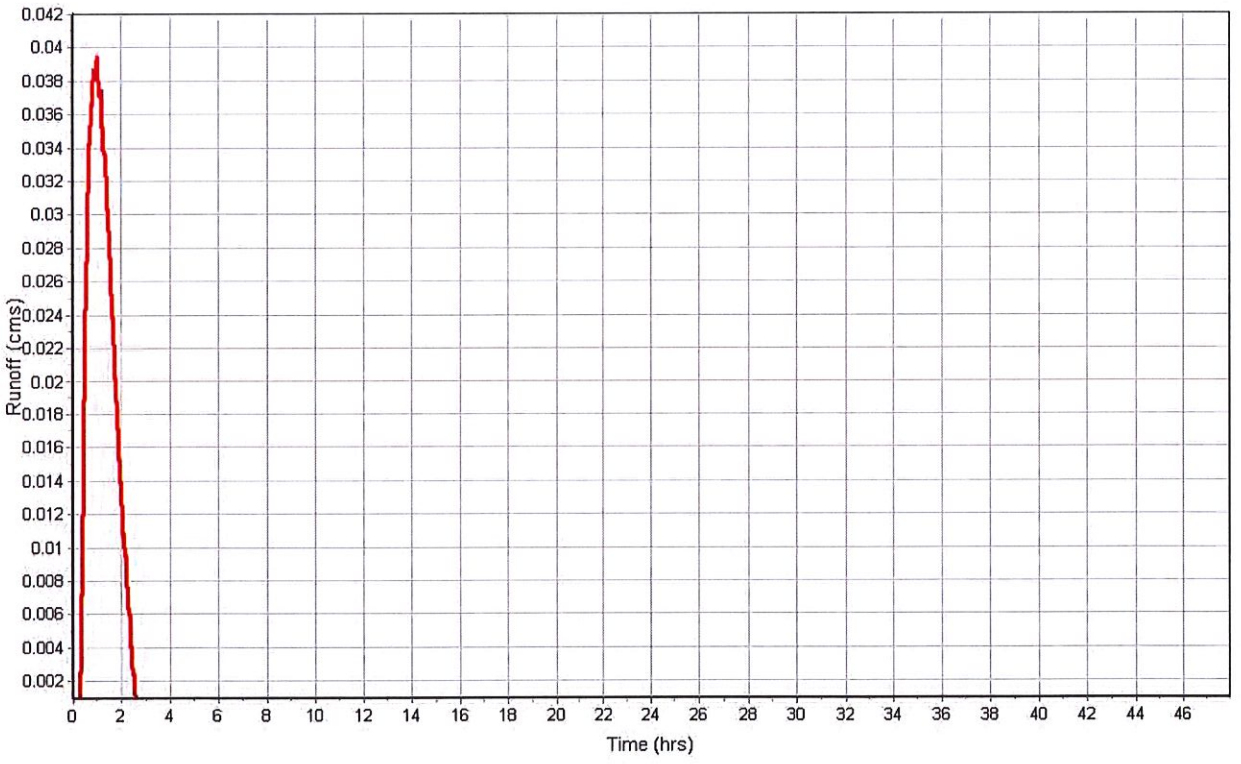
Total Rainfall (mm)	160.27
Total Runoff (mm)	65.28
Peak Runoff (cms)	0.04
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

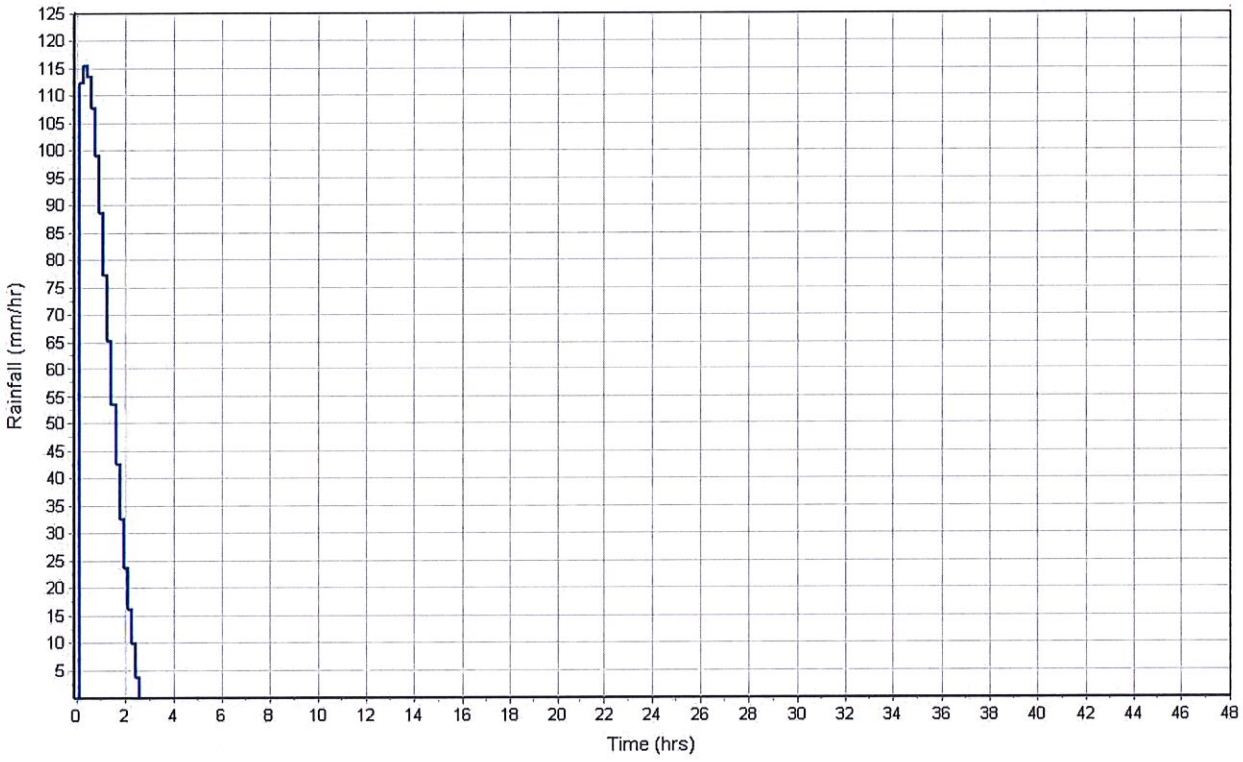
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

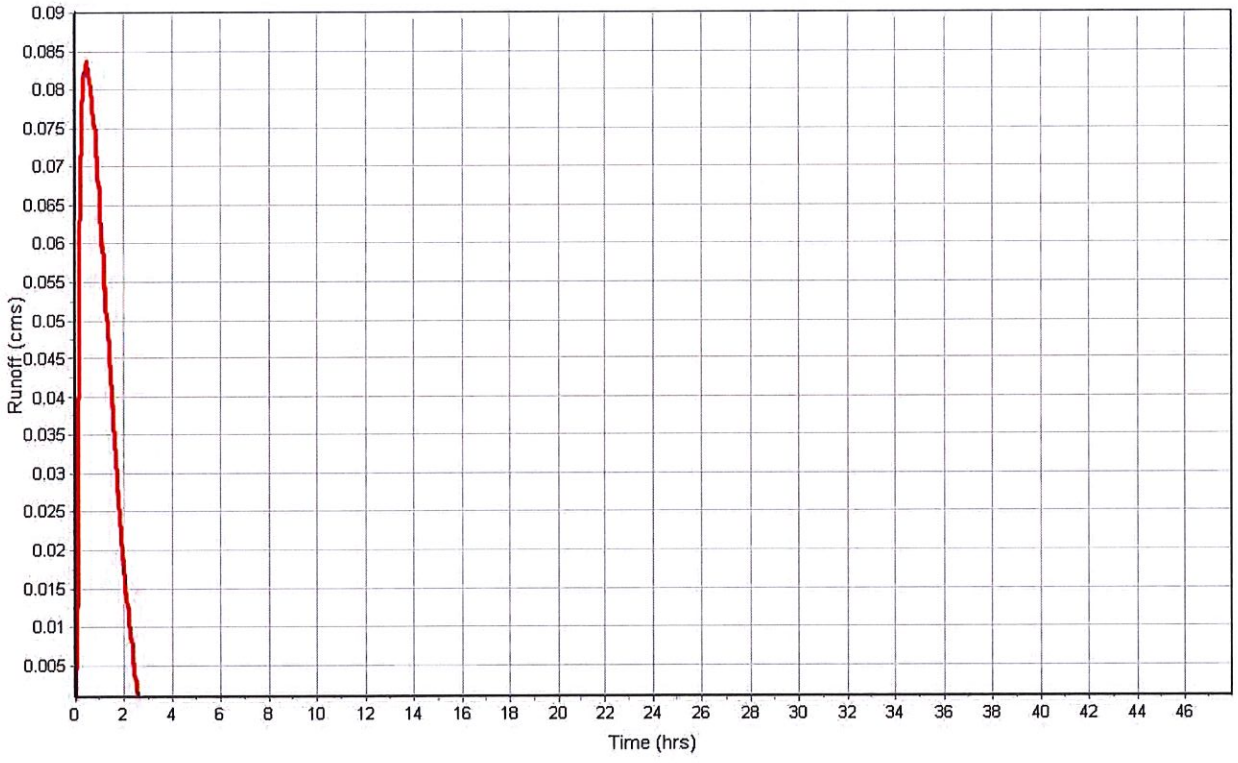
Total Rainfall (mm)	160.27
Total Runoff (mm)	148.23
Peak Runoff (cms)	0.08
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha)	0.04
Weighted Curve Number	95.30
Average Slope (%)	1.5000
Flow Length (m)	29.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

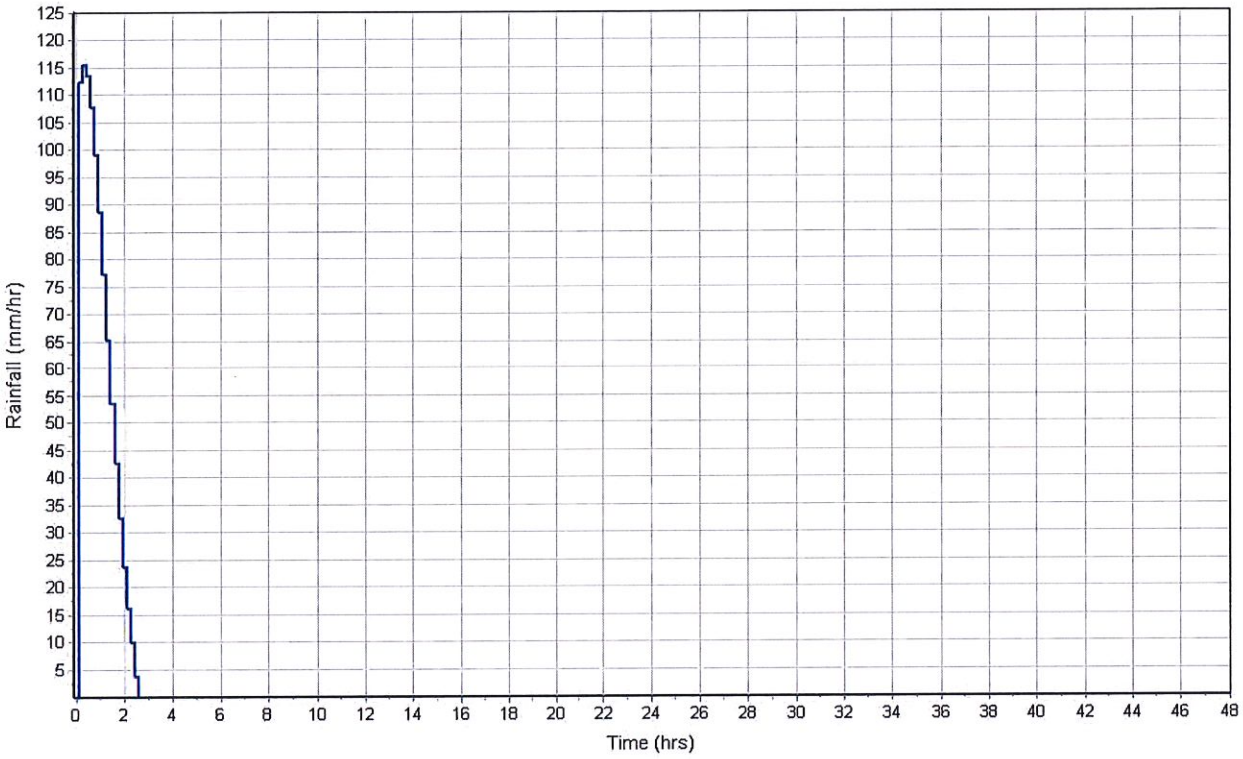
Flow Length (m)	29.80
Slope (%)	1.5
Computed TOC (min)	1.34

Subbasin Runoff Results

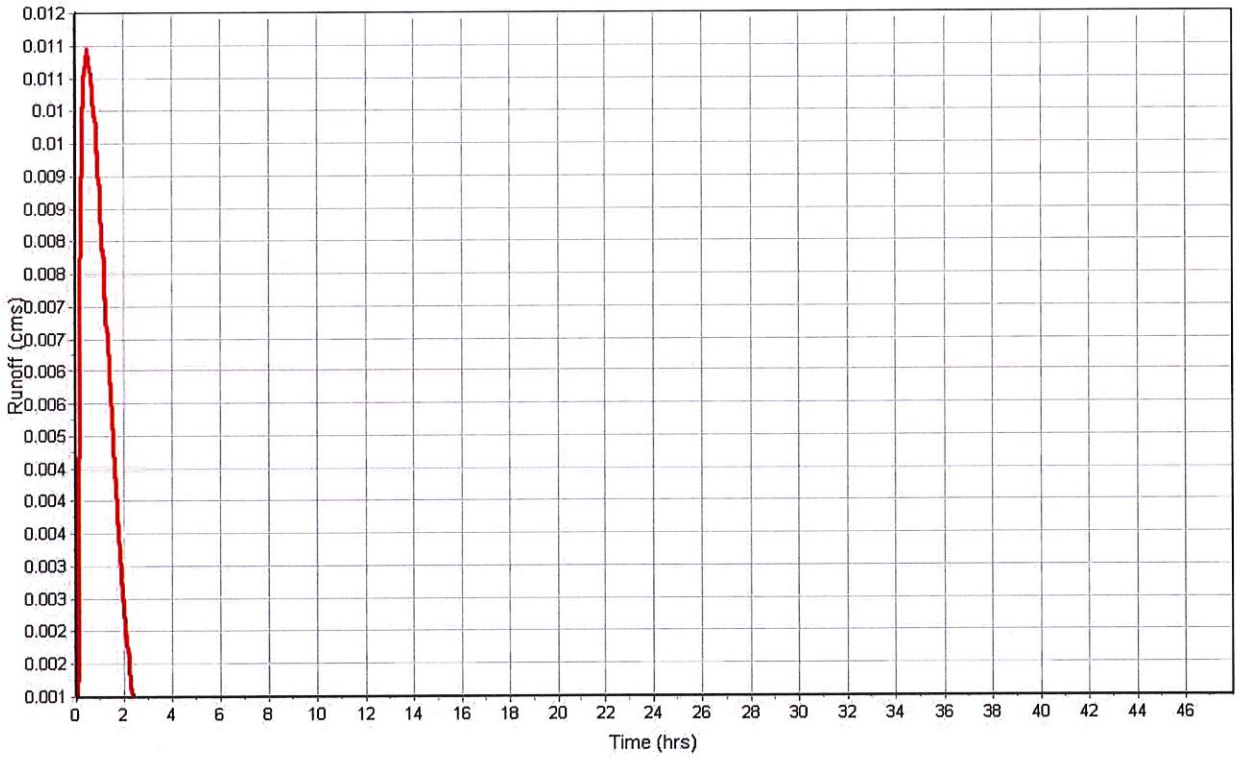
Total Rainfall (mm)	160.27
Total Runoff (mm)	146.15
Peak Runoff (cms)	0.01
Weighted Curve Number	95.30
Time of Concentration (days hh:mm:ss)	0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m^2)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.09	1.92	29.11	1.81	0.00	2.28	27.48	0.18	0 00:50	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	0.05	0 00:54	3.16	0.02	0.50	0.43	0.01	0.08	0.00		
2	OF-06	0.03	0 00:34	4.26	0.01	0.38	0.41	0.01	0.06	0.00		
3	OF-08	0.02	0 00:55	0.93	0.02	0.30	1.42	0.01	0.09	0.00		
4	OF-09	0.02	0 01:05	5.28	0.00	0.37	2.53	0.05	0.52	0.00		
5	OF-10	0.05	0 00:35	4.83	0.01	0.44	1.66	0.01	0.07	0.00		
6	OF-2	0.02	0 01:25	4.80	0.00	0.00		0.00	0.03	0.00		
7	OF-3	0.02	0 00:34	6.02	0.00	0.30	1.88	0.00	0.03	0.00		
8	OF-4	0.07	0 00:32	4.80	0.01	0.68	0.52	0.05	0.54	0.00		
9	OF-5	0.01	0 00:34	3.90	0.00	0.27	3.46	0.05	0.43	0.00		
10	OF-7	0.03	0 00:54	0.45	0.06	0.19	3.56	0.01	0.19	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe - (1)	0.00	0 01:05	0.05	0.07	0.76	0.13	0.13	0.42	0.00		Calculated
2	Pipe - (10)	0.14	0 00:00	0.18	0.77	3.16	0.30	0.23	0.76	0.00		Calculated
3	Pipe - (11)	0.13	0 01:06	0.20	0.63	1.81	0.40	0.30	1.00	57.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:24	0.21	1.87	3.61	0.06	0.38	1.00	90.00		SURCHARGED
5	Pipe - (2)	0.04	0 00:55	0.14	0.30	1.21	0.18	0.15	0.49	0.00		Calculated
6	Pipe - (3)	0.10	0 00:45	0.20	0.48	1.99	0.16	0.21	0.74	0.00		Calculated
7	Pipe - (4)	0.12	0 00:47	0.15	0.79	3.97	0.14	0.28	0.97	0.00		Calculated
8	Pipe - (5)	0.16	0 00:46	0.28	0.58	4.31	0.08	0.30	1.00	32.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:20	0.16	0.91	2.76	0.34	0.30	1.00	80.00		SURCHARGED
10	Pipe - (7)	0.18	0 00:35	0.42	0.43	1.64	0.09	0.38	1.00	94.00		SURCHARGED
11	Pipe - (8)	0.02	0 00:55	0.09	0.16	2.02	0.33	0.09	0.29	0.00		Calculated
12	Pipe - (9)	0.08	0 00:00	0.28	0.28	11.15	0.04	0.12	0.52	0.00		Calculated
13	Pipe-Out	2.09	0 00:50	1.68	1.25	8.56	0.03	0.81	1.00	57.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.34	33.85	0.02	0 00:55	0.00	0.00
2	CB1-02	0.09	0.09	0.04	0.05	44.73	0.47	33.87	0.03	0 00:55	0.00	0.00
3	CB1-03	0.02	0.02	0.01	0.01	44.73	0.09	33.65	0.01	0 00:54	0.00	0.00
4	CB1-04	0.03	0.03	0.01	0.02	44.73	0.15	33.07	0.01	0 00:47	0.00	0.00
5	CB1-05	0.07	0.07	0.03	0.04	44.73	0.40	32.21	0.02	0 00:46	0.00	0.00
6	CB1-06	0.02	0.02	0.01	0.01	44.73	0.09	30.78	0.01	0 00:24	14.91	55.00
7	CB1-07	0.06	0.06	0.03	0.03	44.73	0.32	29.48	0.02	0 00:35	0.00	0.00
8	CB2-01	0.04	0.04	0.02	0.03	36.05	0.45	34.42	0.02	0 00:00	0.00	0.00
9	CB2-02	0.03	0.03	0.01	0.02	44.73	0.17	33.97	0.01	0 00:55	0.00	0.00
10	CB2-03	0.04	0.04	0.02	0.02	44.73	0.21	32.14	0.01	0 00:00	0.00	0.00
11	CB2-04	0.08	0.08	0.04	0.05	44.73	0.46	30.09	0.03	0 00:40	1.98	30.00

Storage Nodes

Storage Node : CB3-01

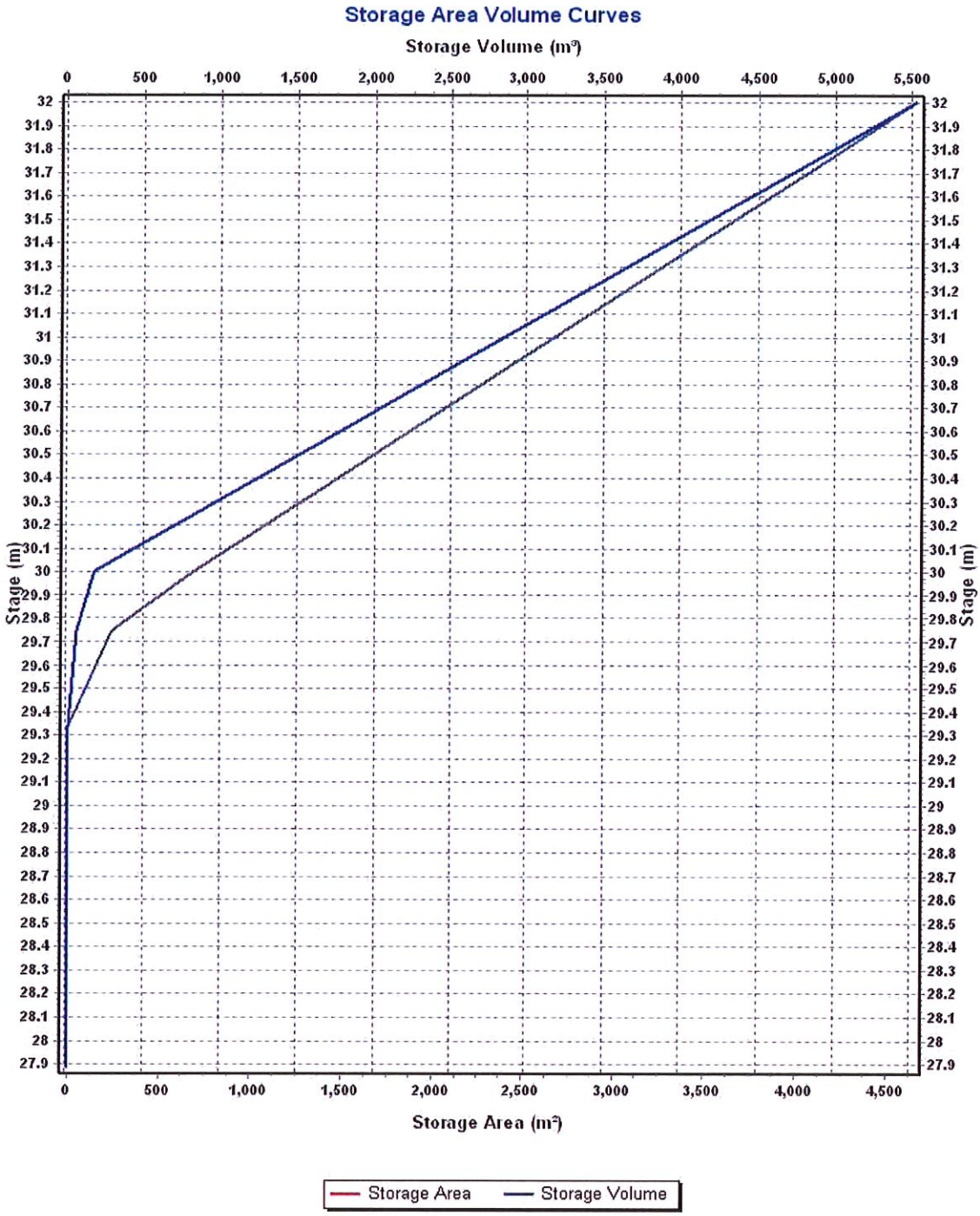
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1.115	15.549
29.34	1.115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.48
Peak Lateral Inflow (cms)	0.09
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.14
Average HGL Depth Attained (m)	0.25
Time of Max HGL Occurrence (days hh:mm)	0 00:24
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	59.86
Total Time Flooded (min)	71
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	10yr-1hr-90%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	65.02	5.44	0.13	0.00	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	65.02	25.60	10.00	0.13	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	65.02	51.33	2.79	0.03	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	65.02	53.85	4.96	0.05	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	65.02	53.85	13.04	0.12	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	65.02	53.85	2.82	0.03	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	65.02	53.80	10.51	0.09	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	65.02	22.25	4.58	0.06	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	65.02	20.27	3.04	0.04	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	65.02	8.05	2.25	0.04	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	65.02	53.85	14.83	0.13	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	65.02	52.07	1.89	0.02	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	2.32	29.36	0.00	2.03	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					2.27	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.74	29.34				12.40	27.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.02	0.05	0.46	0.81	0.30	1.00	8.00	SURCHARGED
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.12	0.18	0.67	1.92	0.25	0.83	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.63	1.81	0.30	1.00	11.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	47.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.06	0.14	0.42	1.16	0.30	1.00	8.00	SURCHARGED
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.15	0.20	0.73	2.09	0.30	1.00	10.00	SURCHARGED
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.15	0.15	1.03	2.27	0.30	1.00	12.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.22	0.28	0.78	3.12	0.30	1.00	14.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.92	2.11	0.30	1.00	24.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.72	0.38	1.00	54.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.02	0.09	0.23	1.26	0.11	0.35	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.08	0.28	0.28	5.64	0.15	0.51	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	2.27	1.68	1.36	4.38	0.81	1.00	14.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.28	3.16	0.09	1.08	0.07	0.69	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.05	4.26	0.01	0.48	0.01	0.07	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.02	0.93	0.03	0.39	0.01	0.11	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.02	5.28	0.00	0.37	0.05	0.52	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.07	4.83	0.02	0.54	0.01	0.08	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.10	4.80	0.02	1.03	0.05	0.53	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.11	6.02	0.02	1.06	0.06	0.57	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.26	4.80	0.05	0.68	0.06	0.61	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.01	3.90	0.00	0.21	0.06	0.52	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.04	0.45	0.09	0.23	0.02	0.22	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.29	33.85
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.13	0.06	0.07	44.73	2.00	0.70	33.88
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.03	0.01	0.01	44.73	2.00	0.14	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.05	0.02	0.03	44.73	2.00	0.25	33.07
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.12	0.05	0.07	44.73	2.00	0.64	32.23
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.03	0.01	0.01	44.73	2.00	0.14	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.09	0.04	0.05	44.73	2.00	0.51	29.49
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.06	0.02	0.04	36.05	2.00	0.64	34.43
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.04	0.02	0.02	44.73	2.00	0.23	33.97
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.04	0.02	0.02	44.73	2.00	0.22	32.14
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.13	0.06	0.07	44.73	2.00	0.73	30.11

Subbasin Hydrology

Subbasin : Sub-CB1-01

Input Data

Area (ha) 0.02
Weighted Curve Number 61.00
Average Slope (%) 3.0000
Flow Length (m) 18.87
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

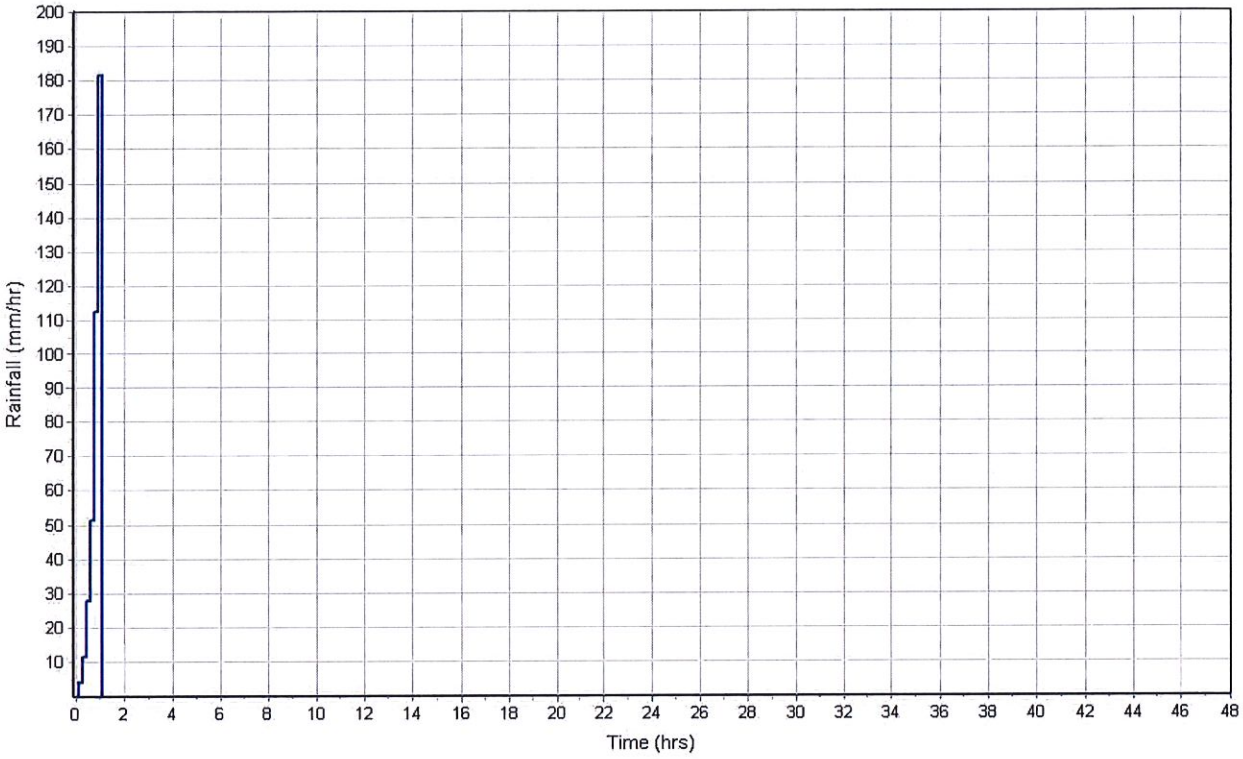
Flow Length (m) 18.87
Slope (%) 3
Computed TOC (min) 0.72

Subbasin Runoff Results

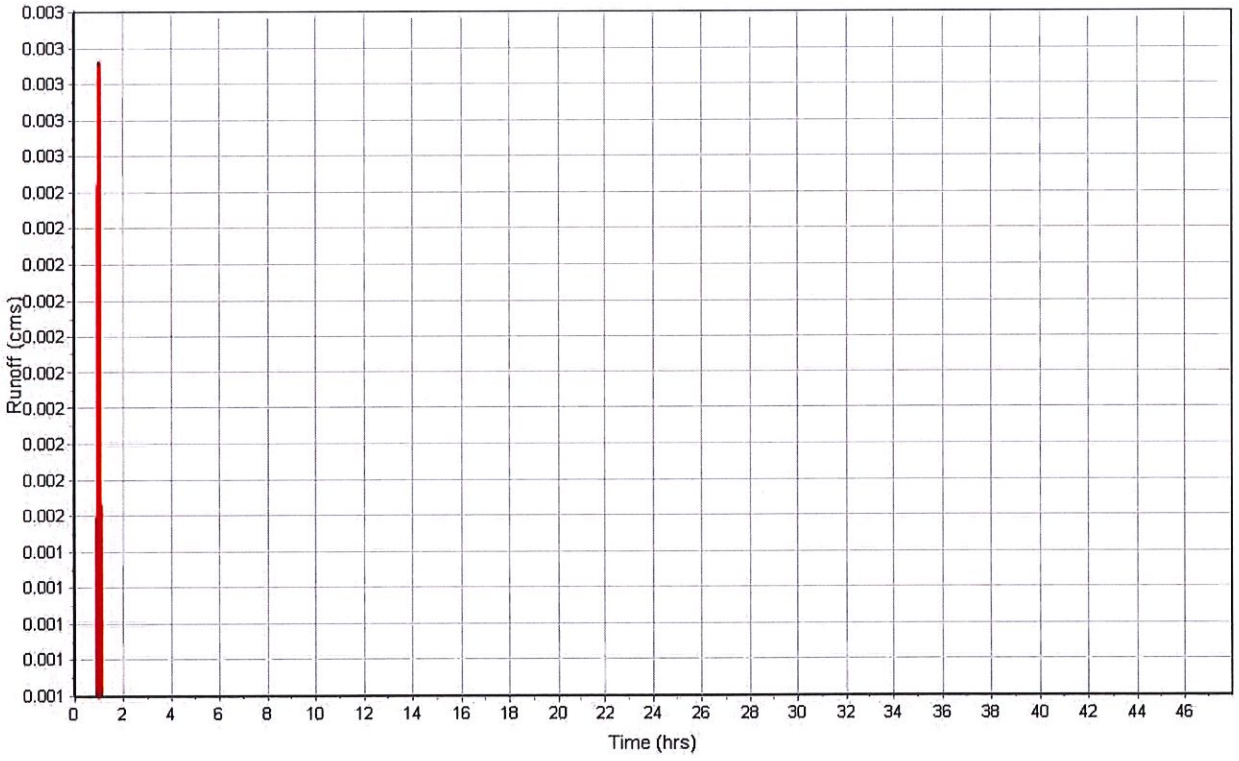
Total Rainfall (mm) 65.02
Total Runoff (mm) 5.44
Peak Runoff (cms) 0.00
Weighted Curve Number 61.00
Time of Concentration (days hh:mm:ss) 0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

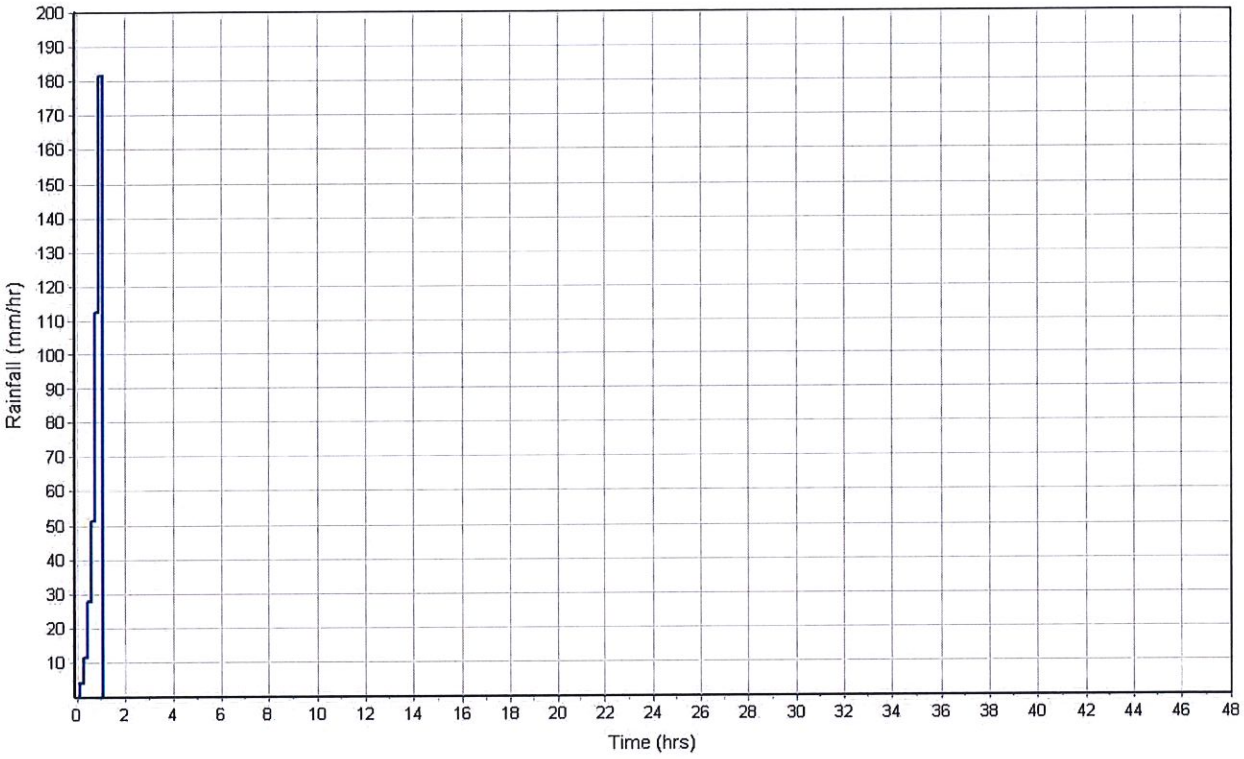
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

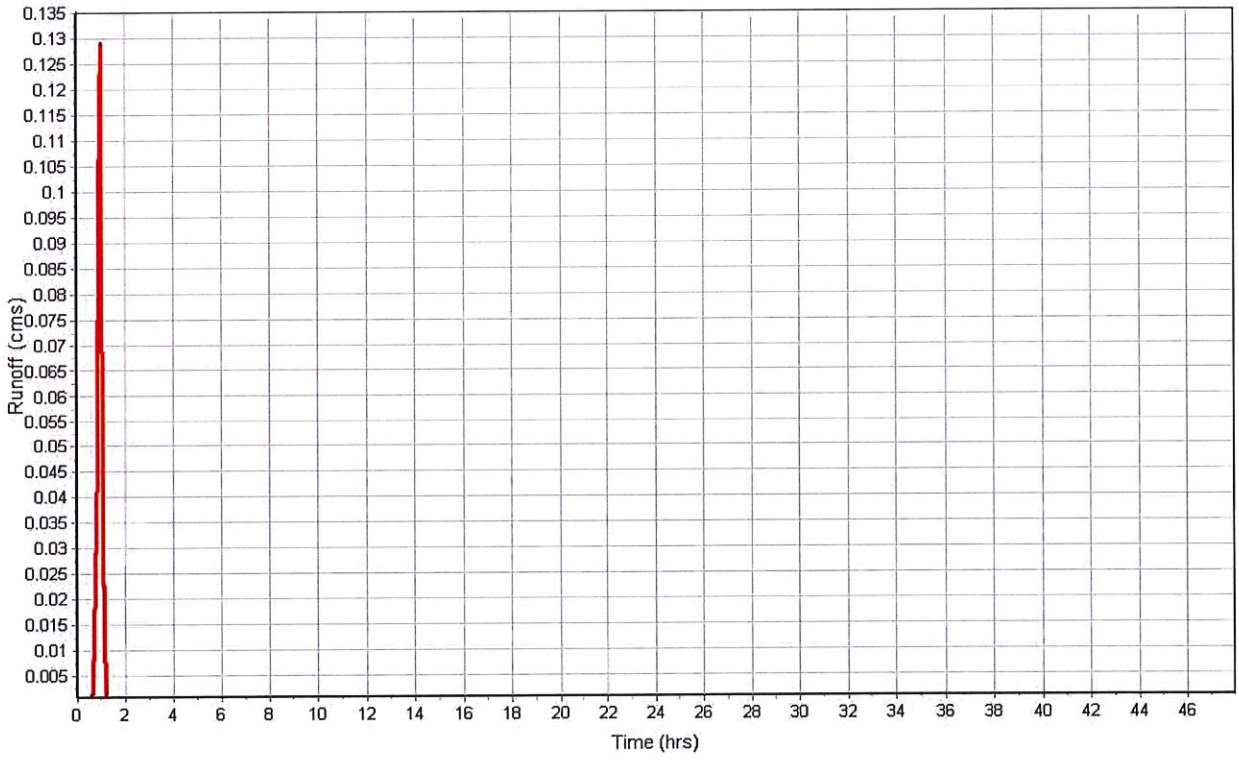
Total Rainfall (mm)	65.02
Total Runoff (mm)	25.60
Peak Runoff (cms)	0.13
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

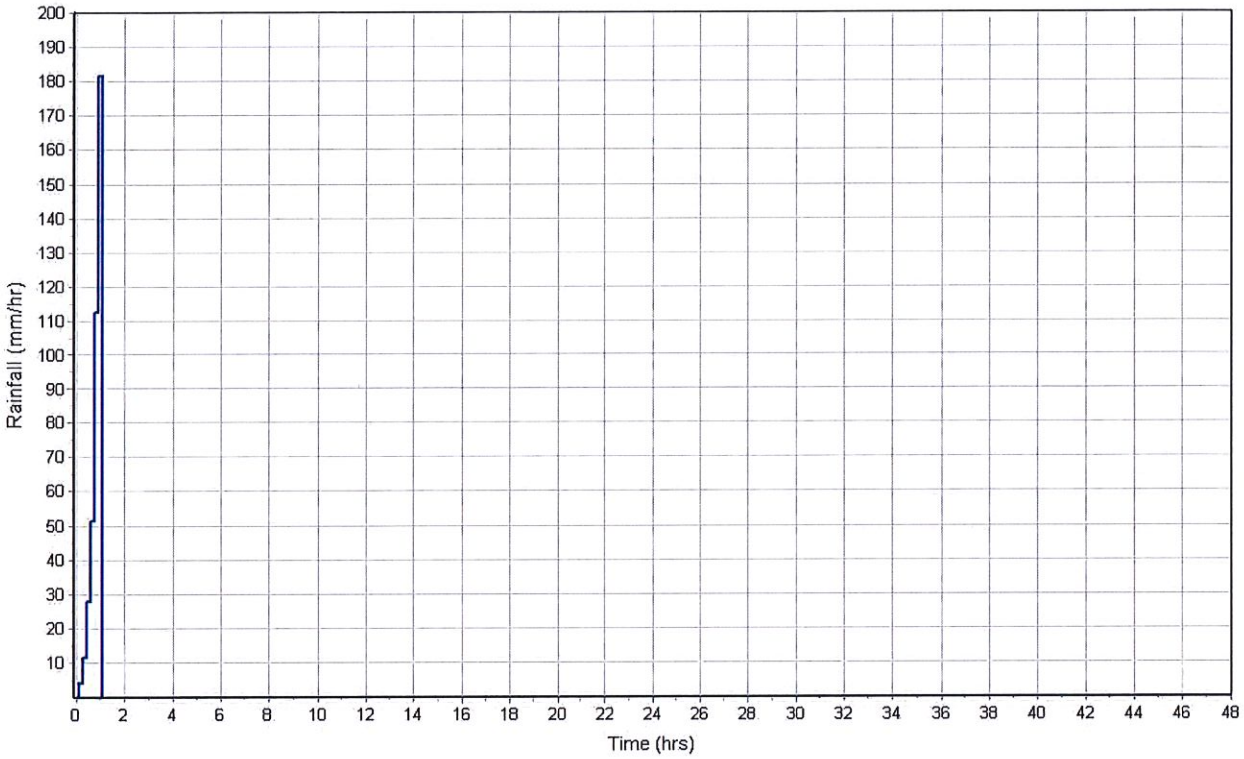
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

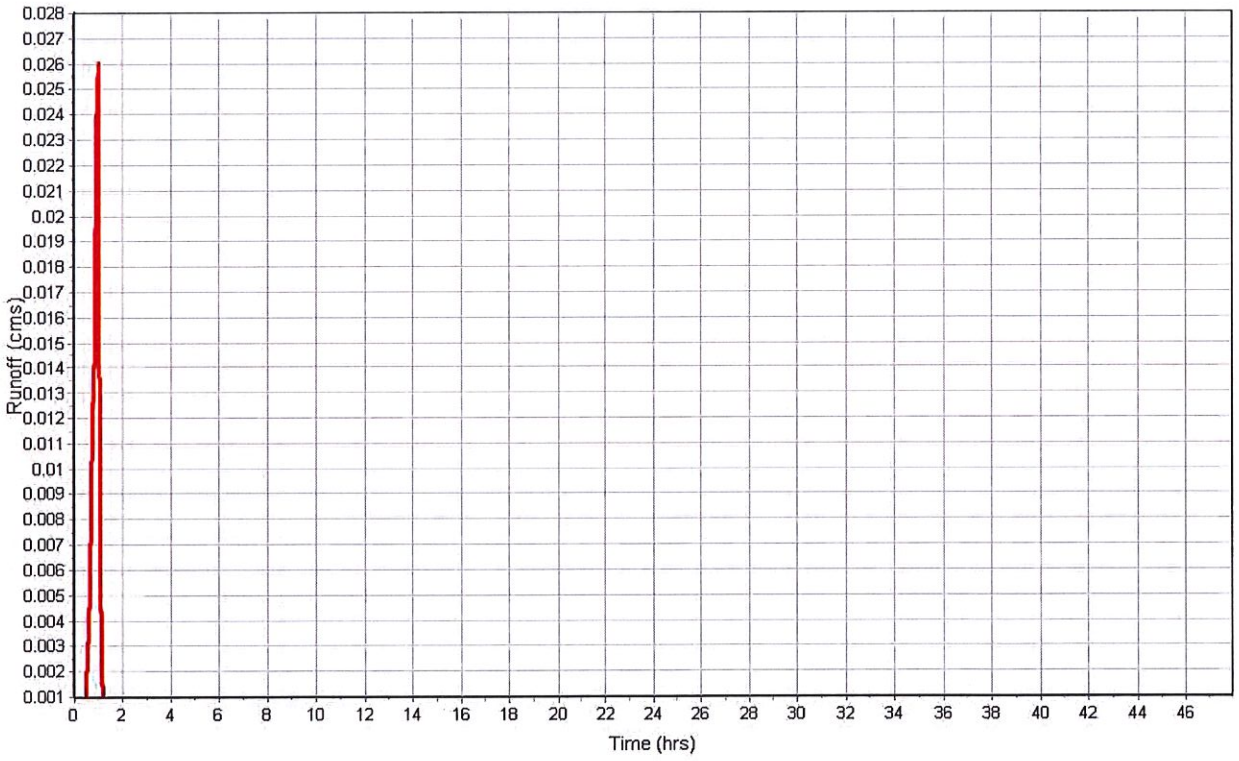
Total Rainfall (mm)	65.02
Total Runoff (mm)	51.33
Peak Runoff (cms)	0.03
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

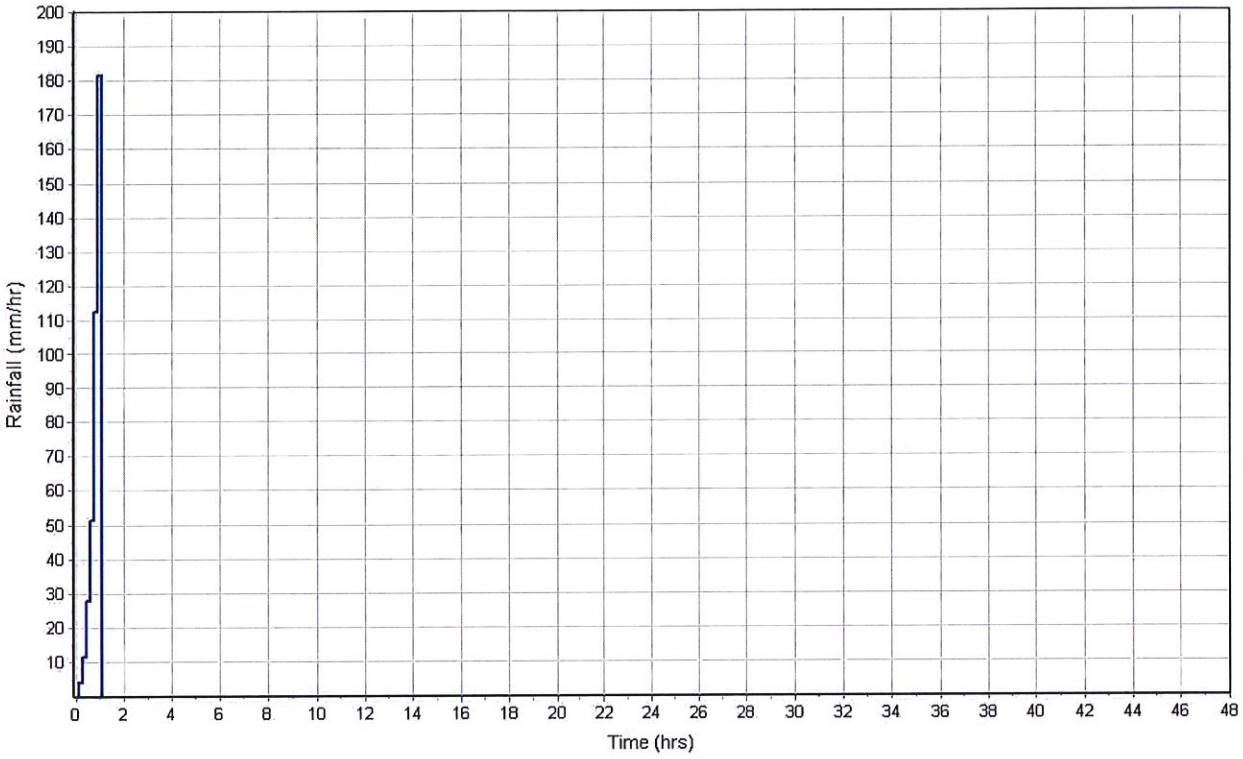
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

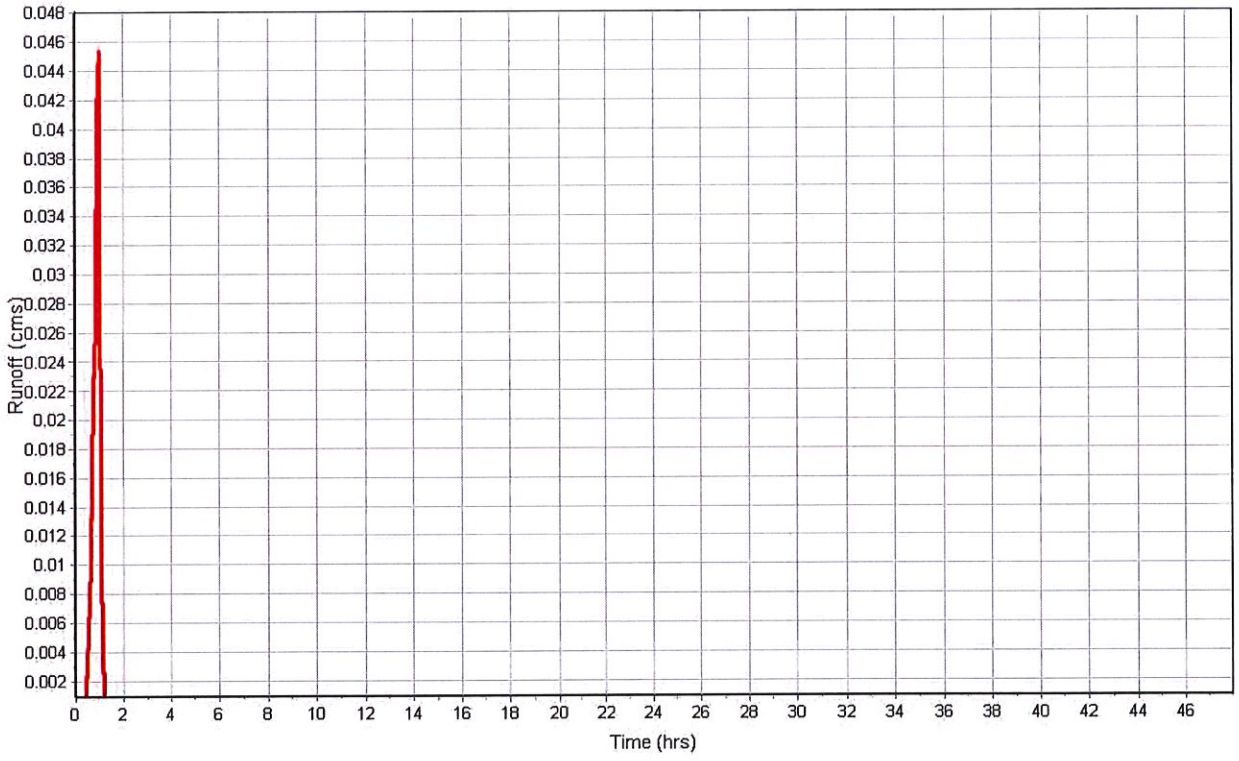
Total Rainfall (mm)	65.02
Total Runoff (mm)	53.85
Peak Runoff (cms)	0.05
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha)	0.24
Weighted Curve Number	96.00
Average Slope (%)	3.0000
Flow Length (m)	48.06
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

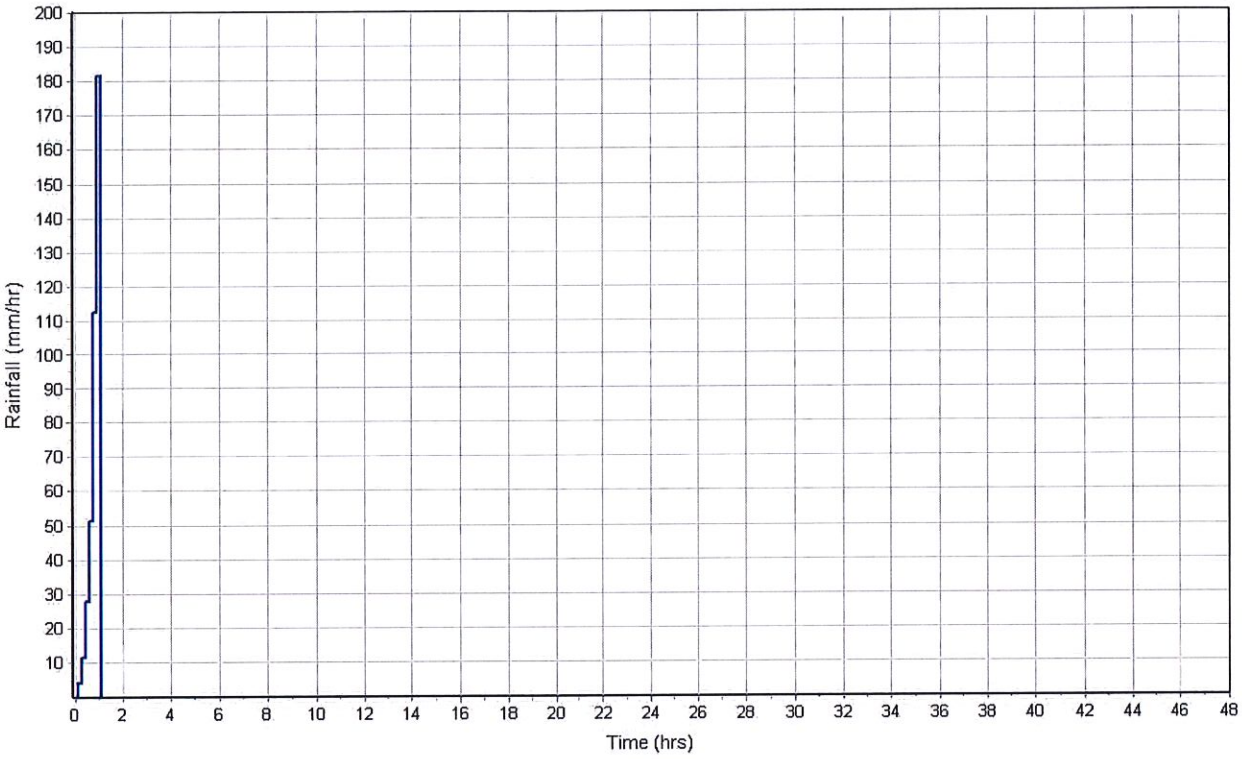
Flow Length (m)	48.06
Slope (%)	3.0
Computed TOC (min)	1.48

Subbasin Runoff Results

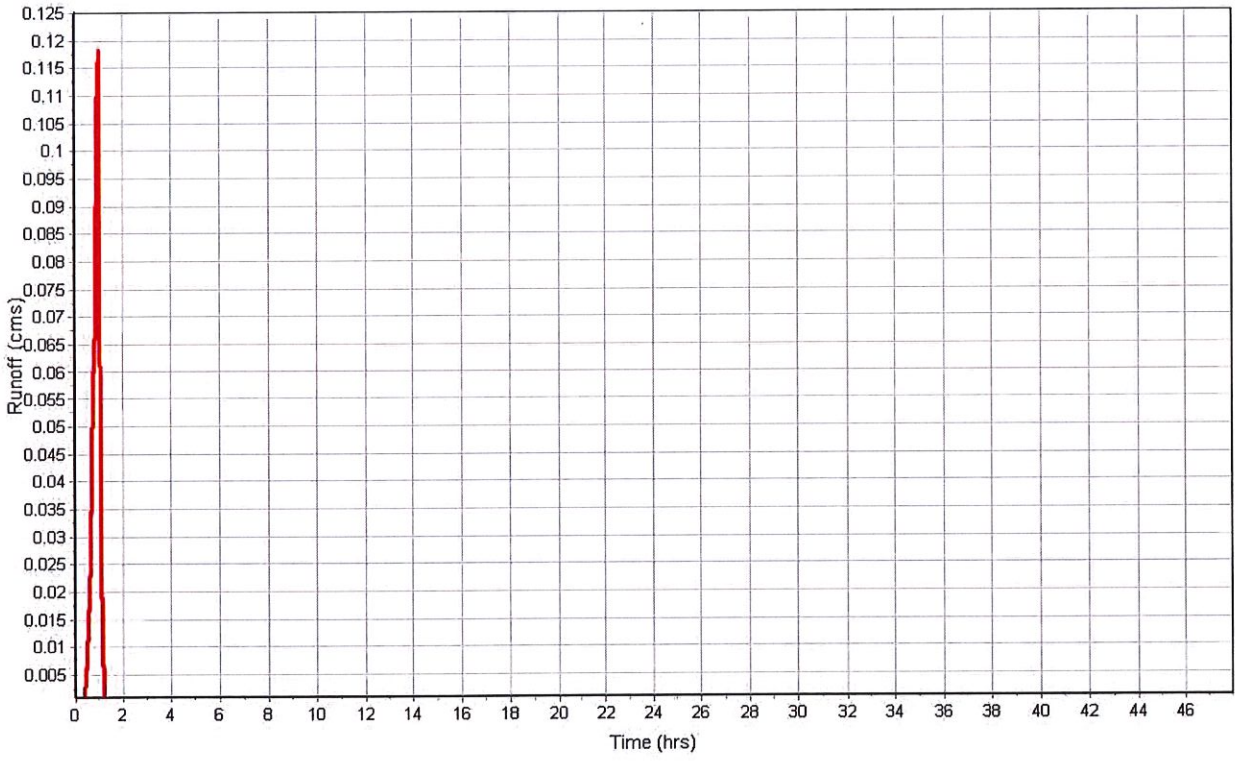
Total Rainfall (mm)	65.02
Total Runoff (mm)	53.85
Peak Runoff (cms)	0.12
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

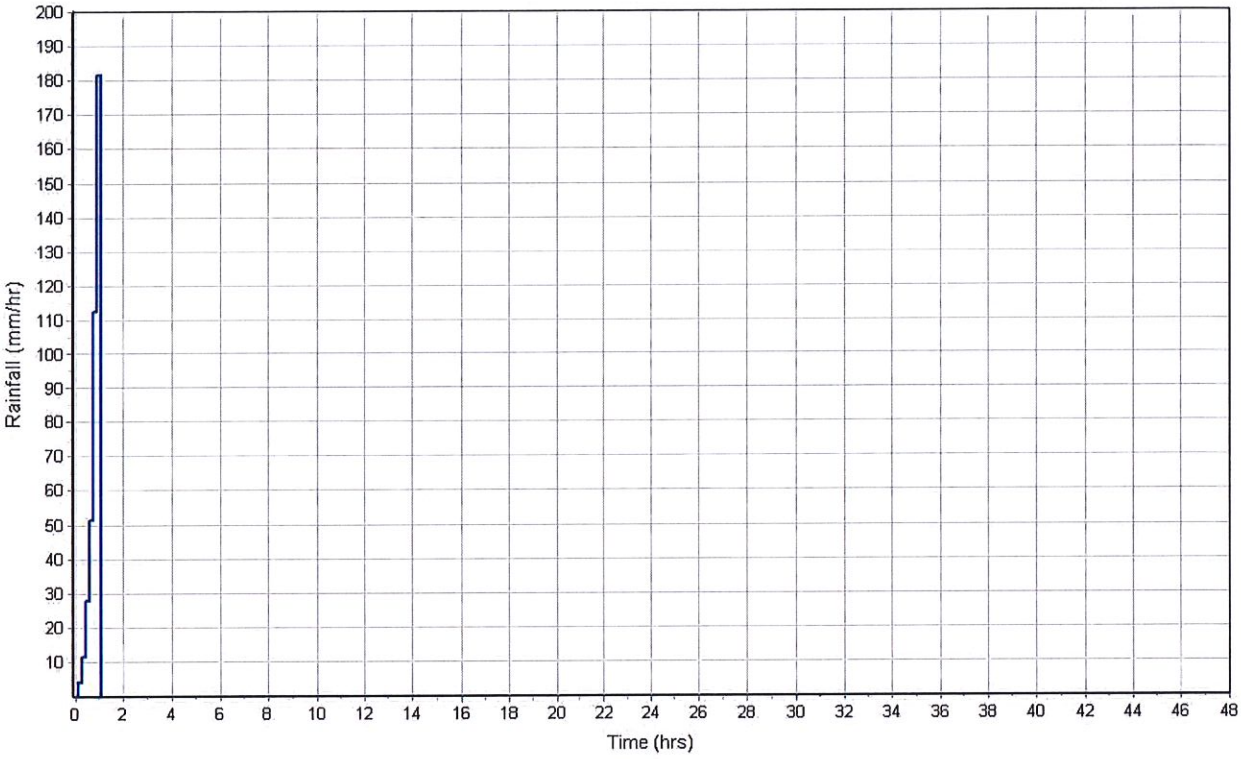
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

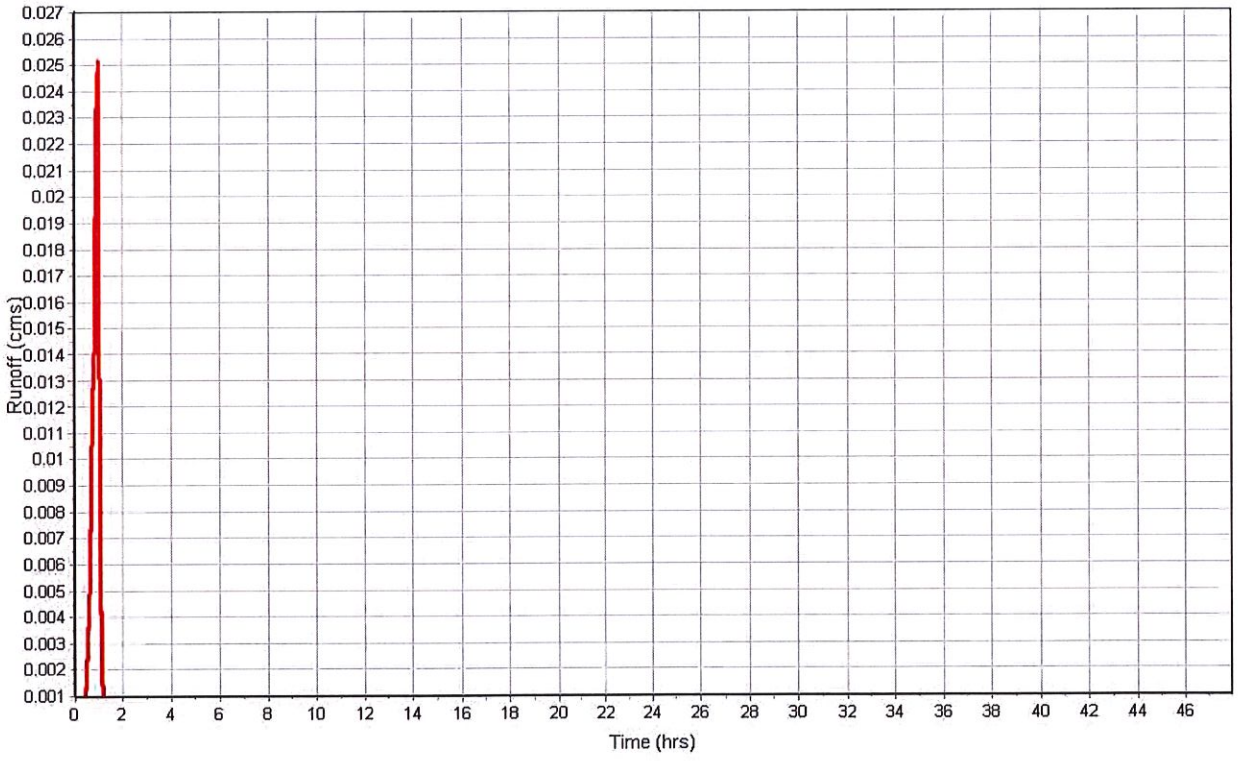
Total Rainfall (mm)	65.02
Total Runoff (mm)	53.85
Peak Runoff (cms)	0.03
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

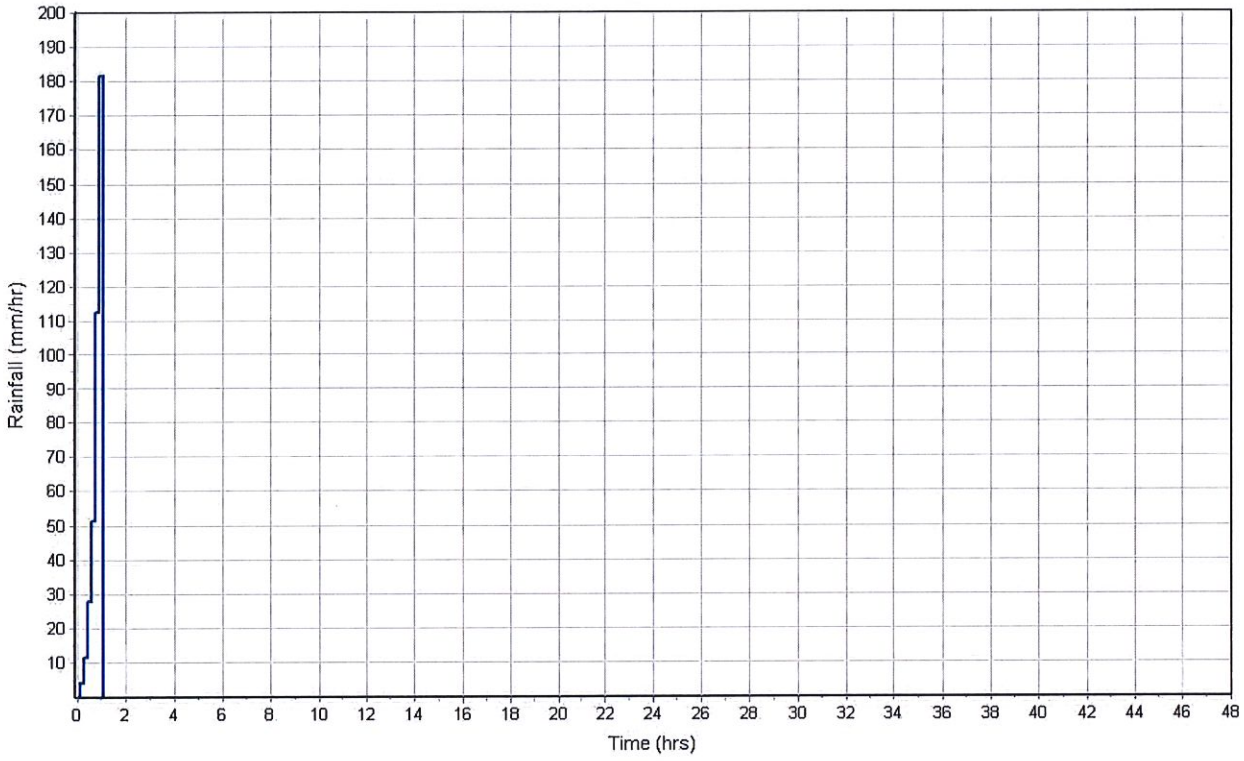
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

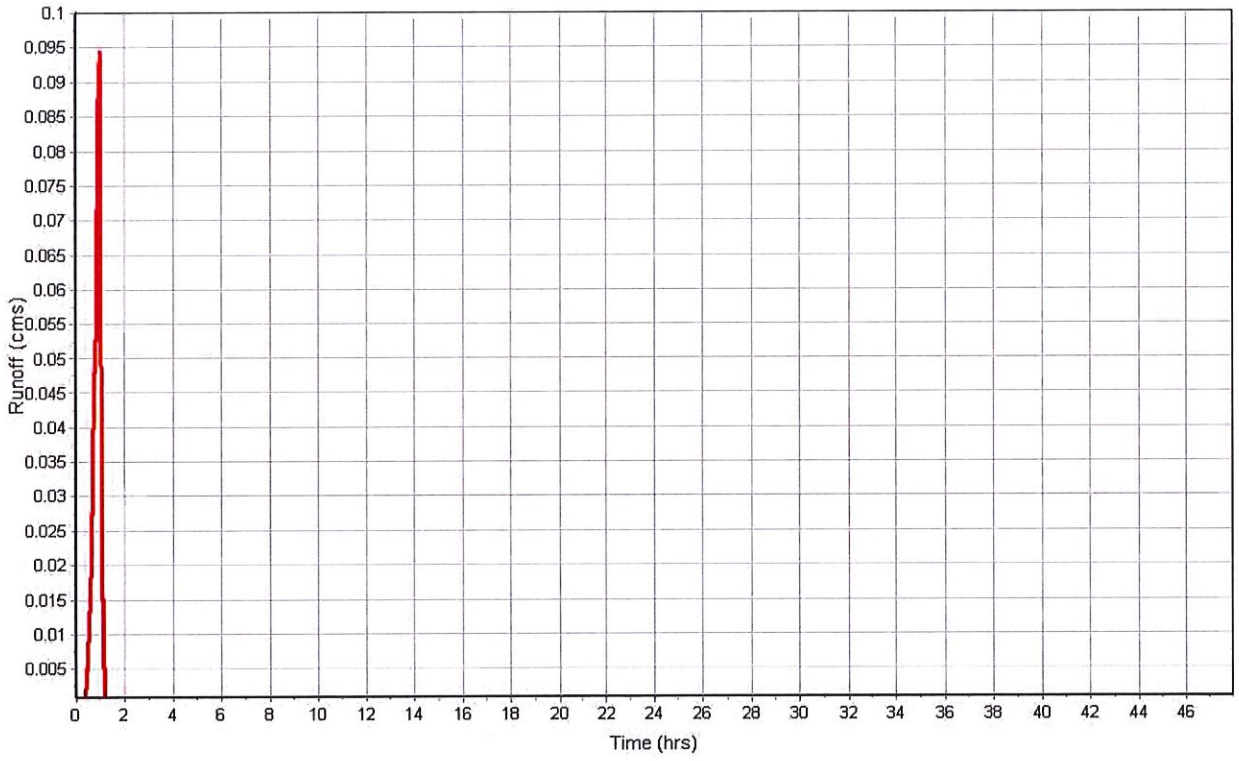
Total Rainfall (mm)	65.02
Total Runoff (mm)	53.80
Peak Runoff (cms)	0.09
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

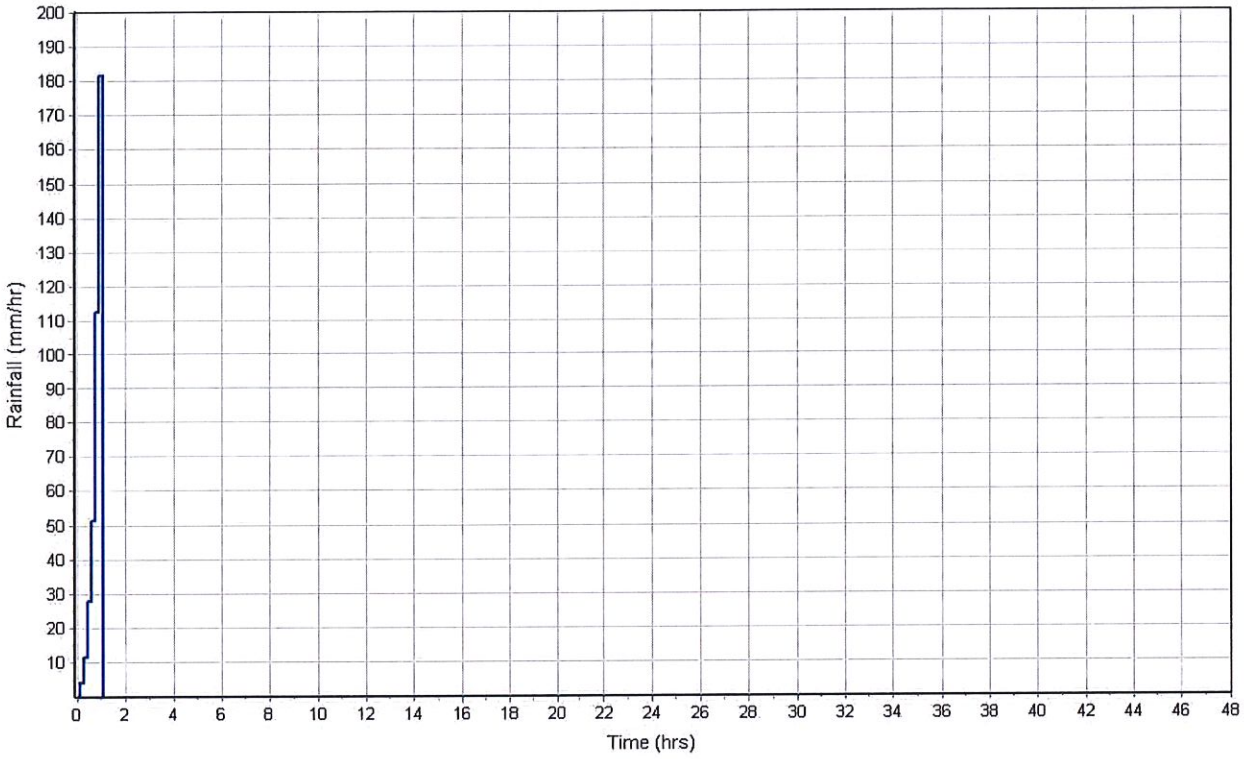
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

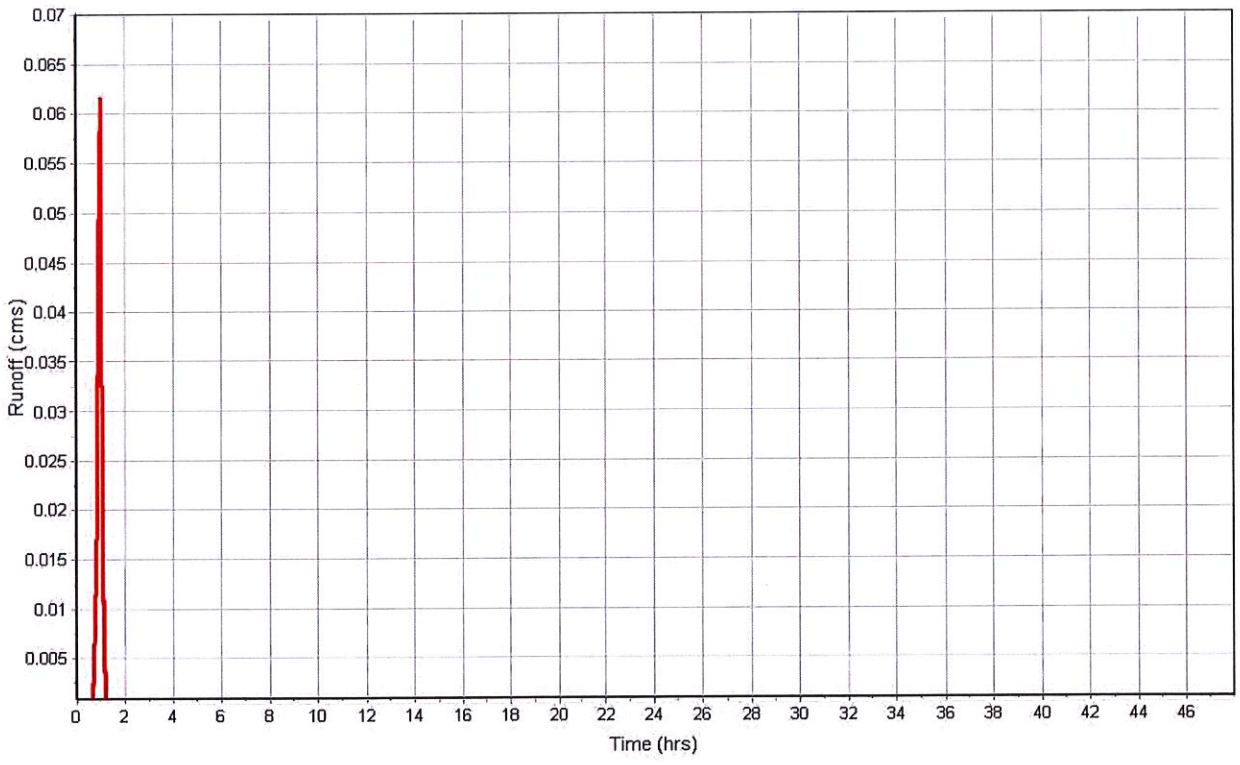
Total Rainfall (mm)	65.02
Total Runoff (mm)	22.25
Peak Runoff (cms)	0.06
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

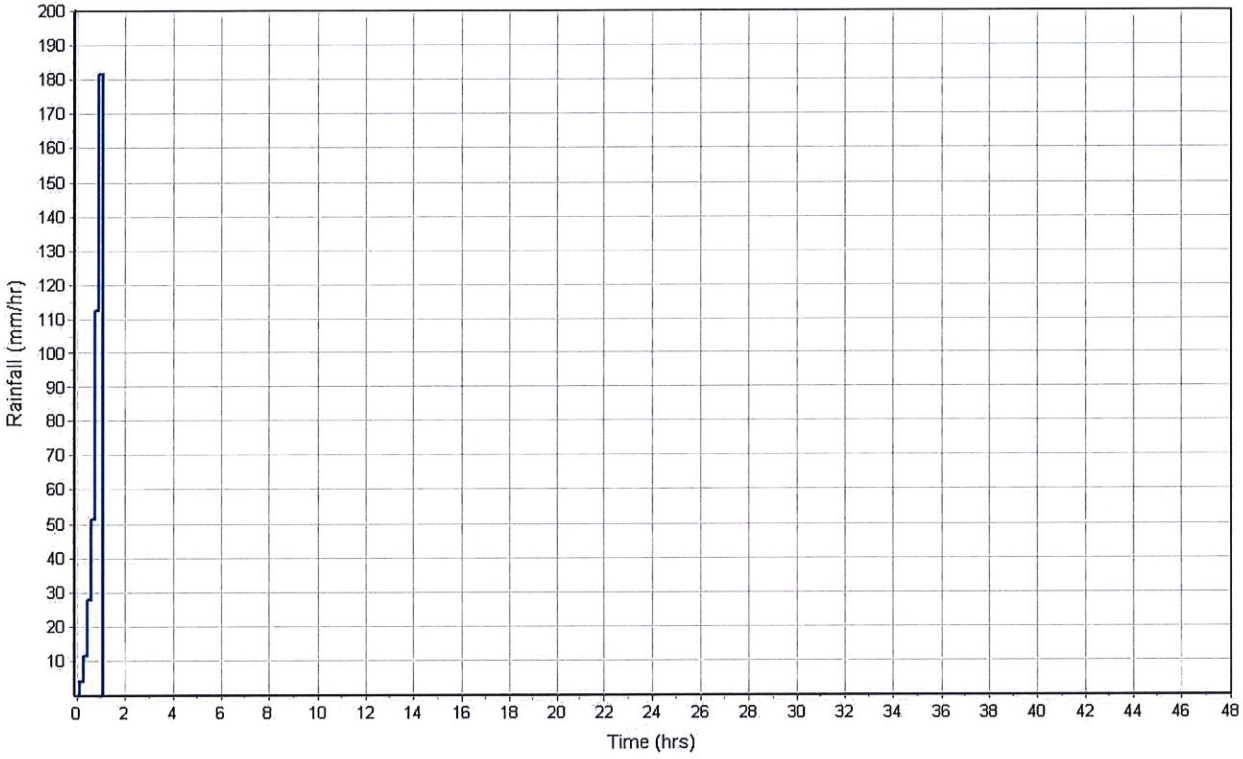
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

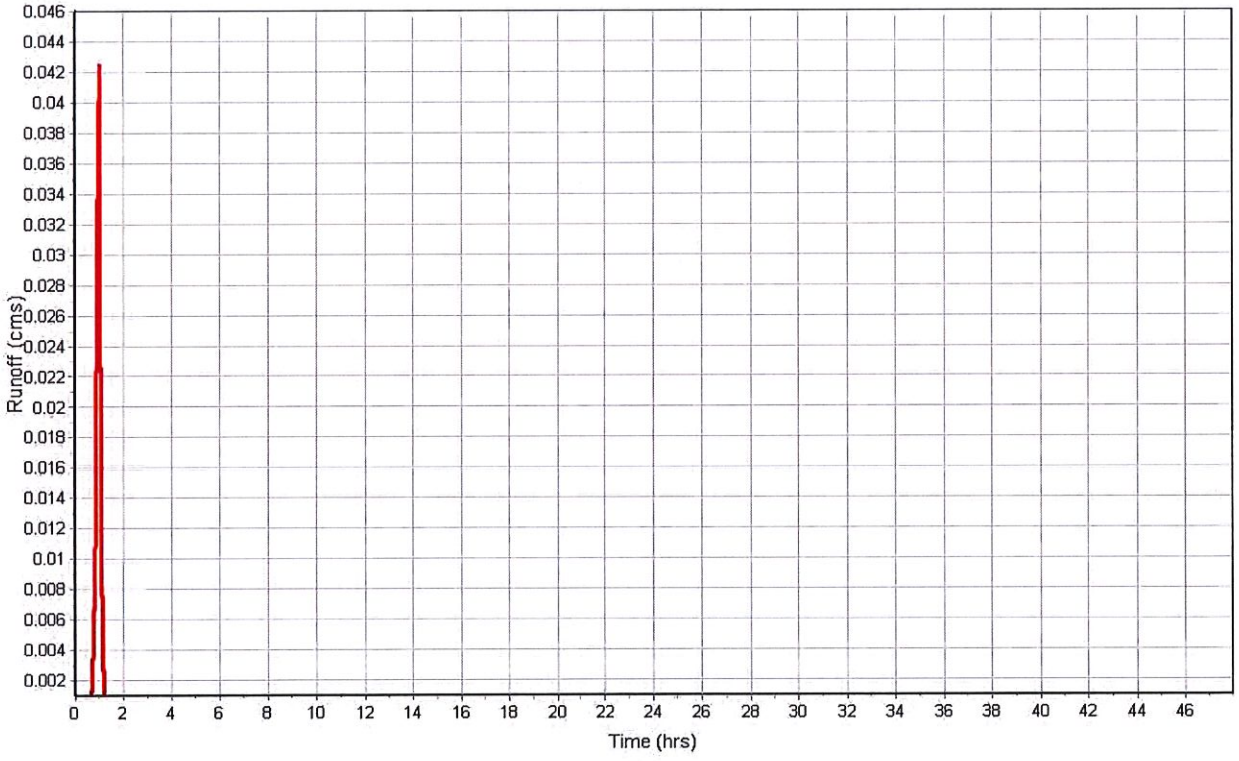
Total Rainfall (mm)	65.02
Total Runoff (mm)	20.27
Peak Runoff (cms)	0.04
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

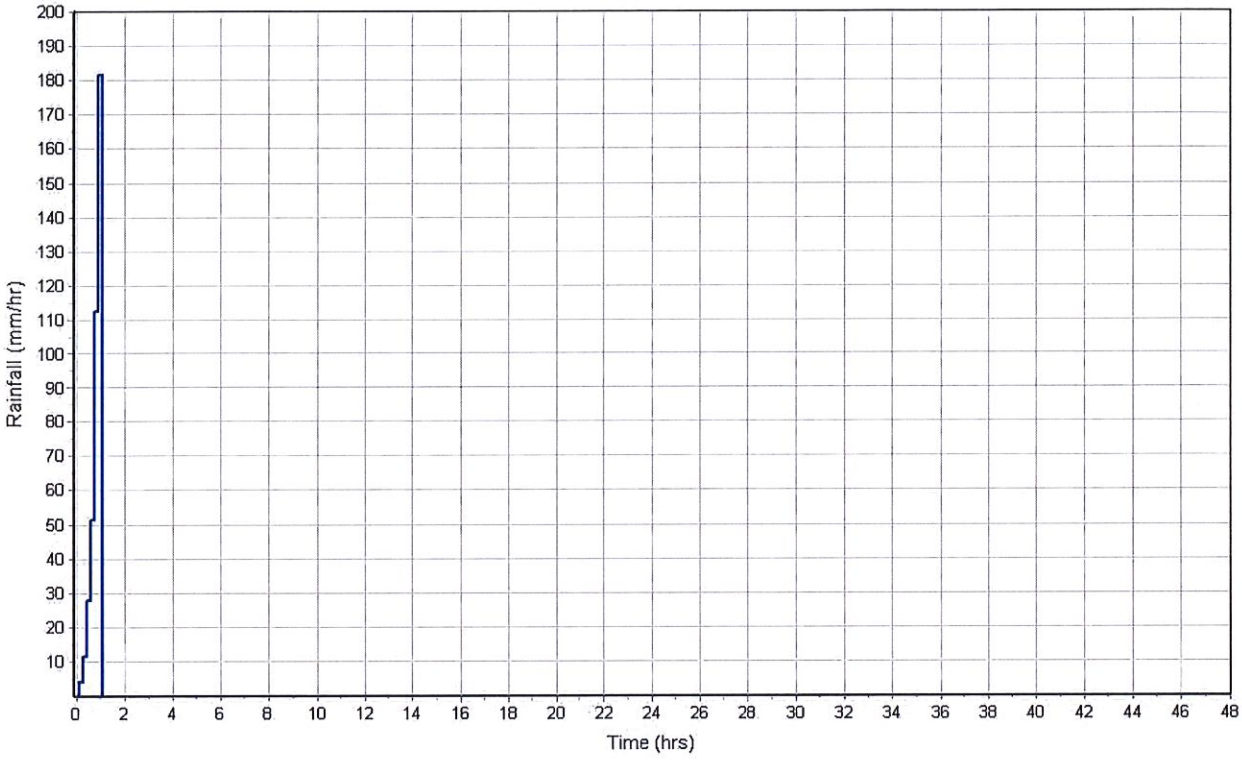
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

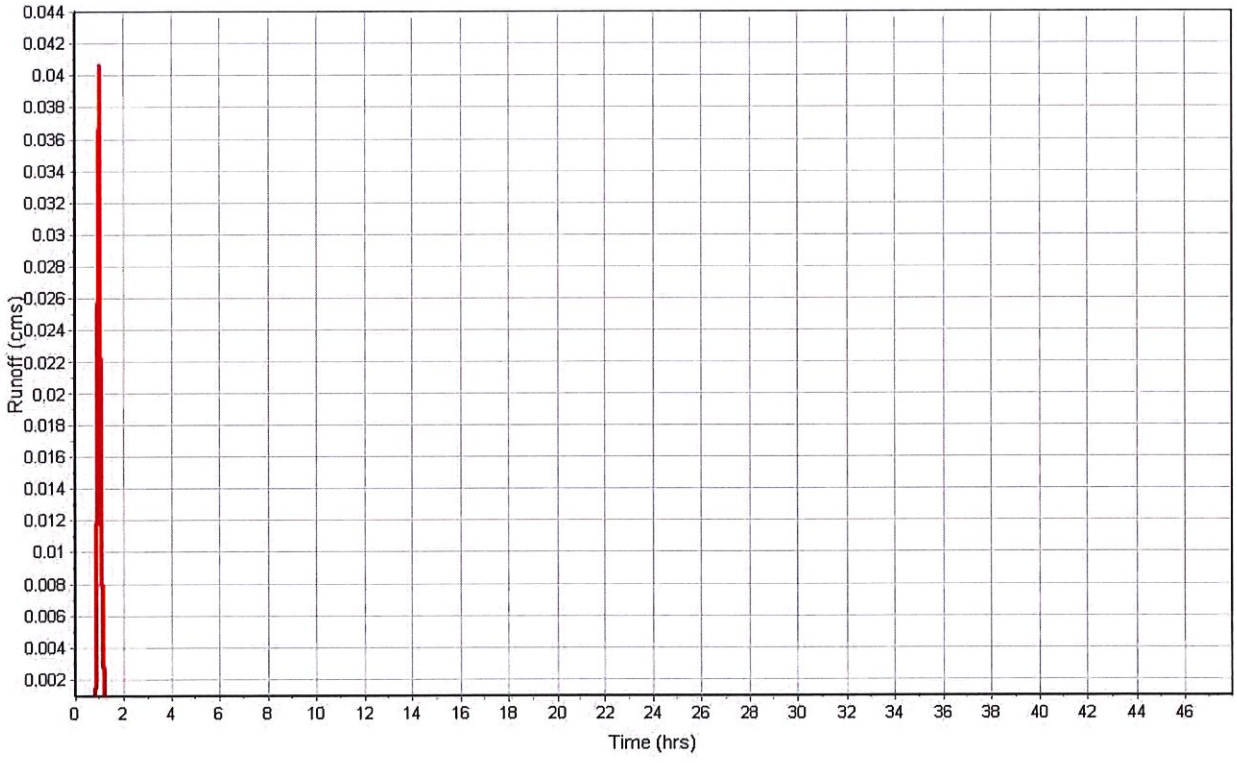
Total Rainfall (mm)	65.02
Total Runoff (mm)	8.05
Peak Runoff (cms)	0.04
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

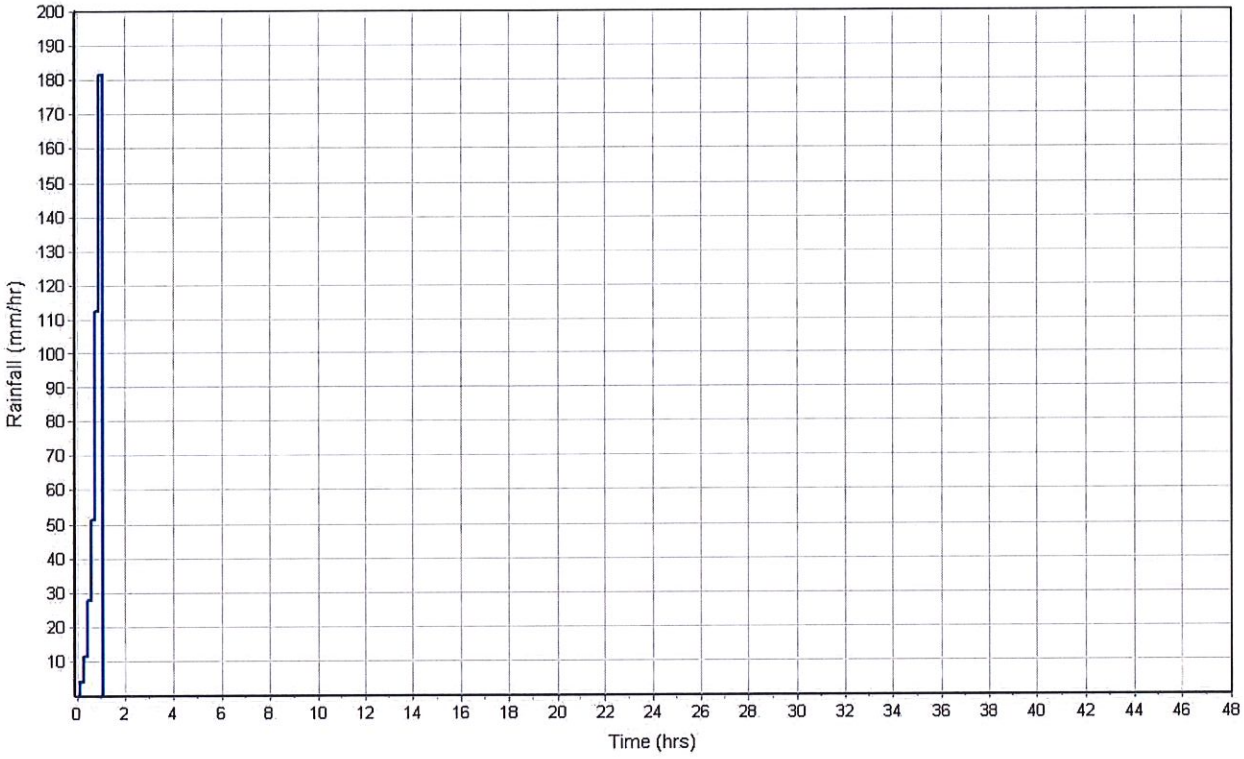
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

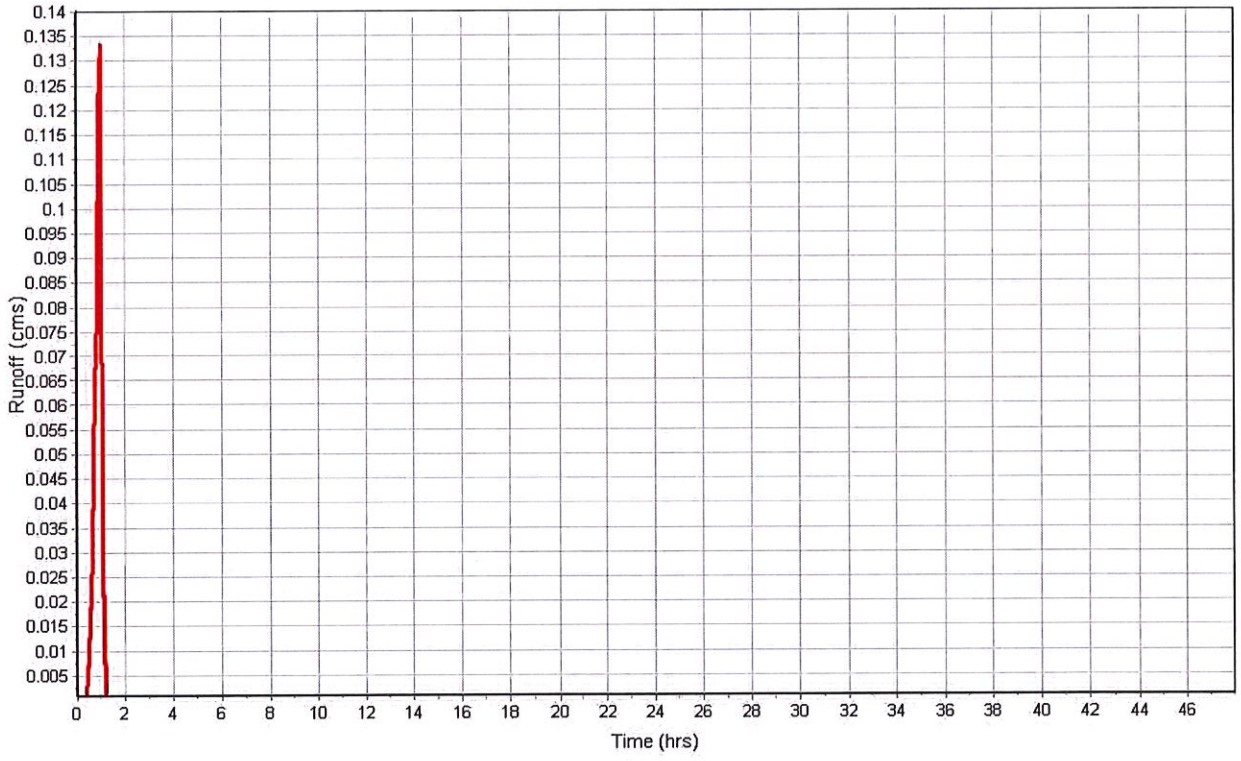
Total Rainfall (mm)	65.02
Total Runoff (mm)	53.85
Peak Runoff (cms)	0.13
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha) 0.04
Weighted Curve Number 95.30
Average Slope (%) 1.5000
Flow Length (m) 29.80
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

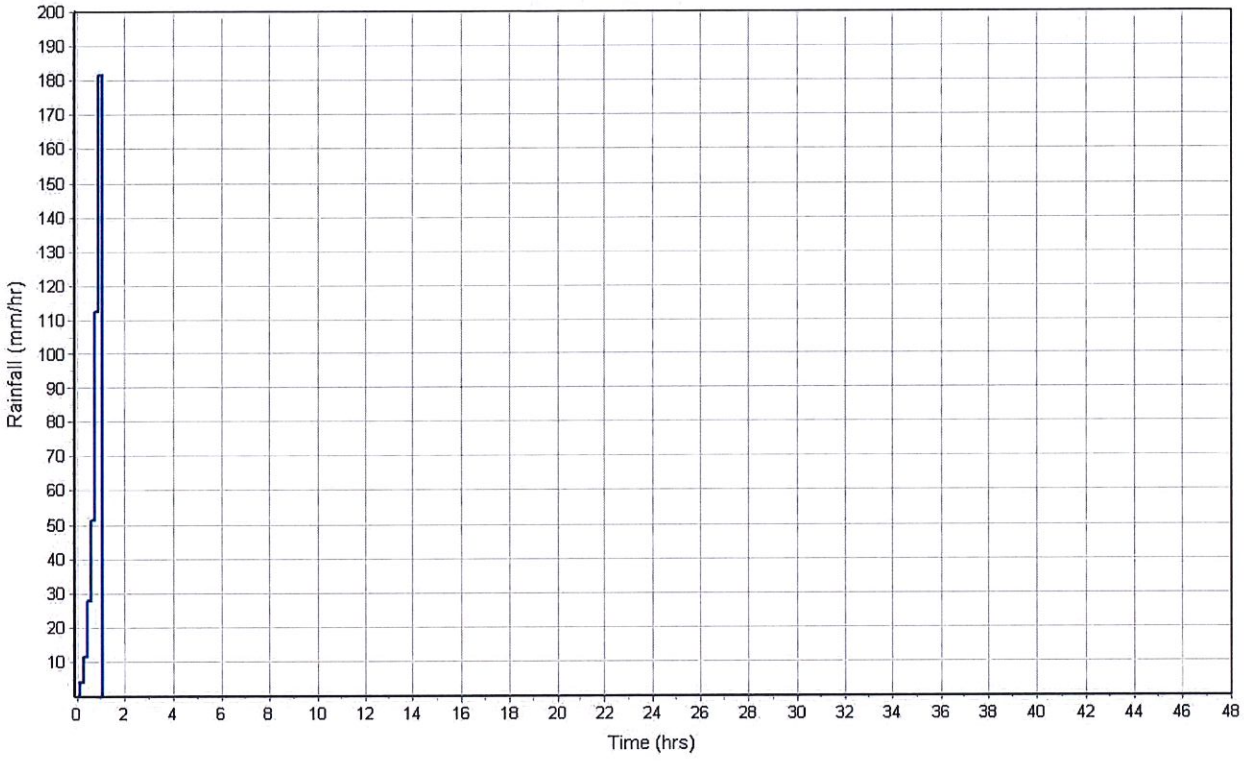
Flow Length (m) 29.80
Slope (%) 1.5
Computed TOC (min) 1.34

Subbasin Runoff Results

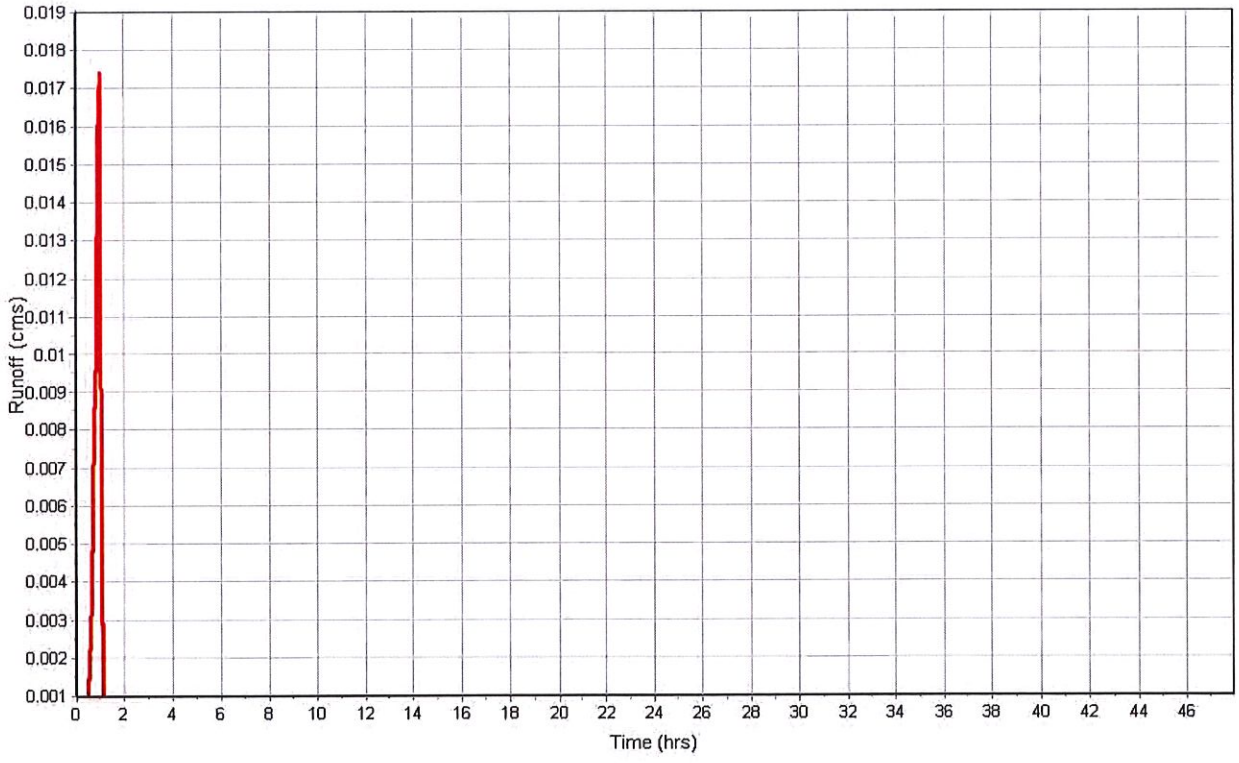
Total Rainfall (mm) 65.02
Total Runoff (mm) 52.07
Peak Runoff (cms) 0.02
Weighted Curve Number 95.30
Time of Concentration (days hh:mm:ss) 0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m^2)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	2.32	2.32	29.36	2.06	0.00	2.03	27.58	0.28	0 01:09	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	OF-01	0.28	0 01:04	3.16	0.09	1.08	0.20	0.07	0.69	0.00		
2	OF-06	0.05	0 01:02	4.26	0.01	0.48	0.32	0.01	0.07	0.00		
3	OF-08	0.02	0 01:04	0.93	0.03	0.39	1.09	0.01	0.11	0.00		
4	OF-09	0.02	0 01:04	5.28	0.00	0.37	2.53	0.05	0.52	0.00		
5	OF-10	0.07	0 01:02	4.83	0.02	0.54	1.35	0.01	0.08	0.00		
6	OF-2	0.10	0 01:02	4.80	0.02	1.03	0.31	0.05	0.53	0.00		
7	OF-3	0.11	0 01:04	6.02	0.02	1.06	0.53	0.06	0.57	0.00		
8	OF-4	0.26	0 01:01	4.80	0.05	0.68	0.52	0.06	0.61	0.00		
9	OF-5	0.01	0 01:04	3.90	0.00	0.21	4.45	0.06	0.52	0.00		
10	OF-7	0.04	0 01:04	0.45	0.09	0.23	2.94	0.02	0.22	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe - (1)	0.02	0 01:10	0.05	0.46	0.81	0.12	0.30	1.00	8.00		SURCHARGED
2	Pipe - (10)	0.12	0 01:05	0.18	0.67	1.92	0.49	0.25	0.83	0.00		Calculated
3	Pipe - (11)	0.13	0 01:04	0.20	0.63	1.81	0.40	0.30	1.00	11.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:48	0.21	1.88	3.63	0.06	0.38	1.00	47.00		SURCHARGED
5	Pipe - (2)	0.06	0 01:04	0.14	0.42	1.16	0.19	0.30	1.00	8.00		SURCHARGED
6	Pipe - (3)	0.15	0 01:06	0.20	0.73	2.09	0.15	0.30	1.00	10.00		SURCHARGED
7	Pipe - (4)	0.15	0 01:09	0.15	1.03	2.27	0.25	0.30	1.00	12.00		SURCHARGED
8	Pipe - (5)	0.22	0 01:05	0.28	0.78	3.12	0.11	0.30	1.00	14.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:11	0.16	0.92	2.11	0.44	0.30	1.00	24.00		SURCHARGED
10	Pipe - (7)	0.19	0 01:02	0.42	0.45	1.72	0.09	0.38	1.00	54.00		SURCHARGED
11	Pipe - (8)	0.02	0 01:05	0.09	0.23	1.26	0.54	0.11	0.35	0.00		Calculated
12	Pipe - (9)	0.08	0 01:05	0.28	0.28	5.64	0.08	0.15	0.51	0.00		Calculated
13	Pipe-Out	2.27	0 01:09	1.68	1.36	4.38	0.06	0.81	1.00	14.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.29	33.85	0.01	0 01:03	0.02	1.00
2	CB1-02	0.13	0.13	0.06	0.07	44.73	0.70	33.88	0.04	0 01:03	0.00	0.00
3	CB1-03	0.03	0.03	0.01	0.01	44.73	0.14	33.65	0.01	0 01:03	1.59	4.00
4	CB1-04	0.05	0.05	0.02	0.03	44.73	0.25	33.07	0.01	0 01:03	1.01	5.00
5	CB1-05	0.12	0.12	0.05	0.07	44.73	0.64	32.23	0.04	0 01:03	0.77	4.00
6	CB1-06	0.03	0.03	0.01	0.01	44.73	0.14	30.78	0.01	0 00:55	11.29	16.00
7	CB1-07	0.09	0.09	0.04	0.05	44.73	0.51	29.49	0.03	0 00:58	0.35	8.00
8	CB2-01	0.06	0.06	0.02	0.04	36.05	0.64	34.43	0.02	0 00:00	0.00	0.00
9	CB2-02	0.04	0.04	0.02	0.02	44.73	0.23	33.97	0.01	0 01:05	0.00	0.00
10	CB2-03	0.04	0.04	0.02	0.02	44.73	0.22	32.14	0.01	0 01:05	0.00	0.00
11	CB2-04	0.13	0.13	0.06	0.07	44.73	0.73	30.11	0.04	0 01:00	1.94	7.00

Storage Nodes

Storage Node : CB3-01

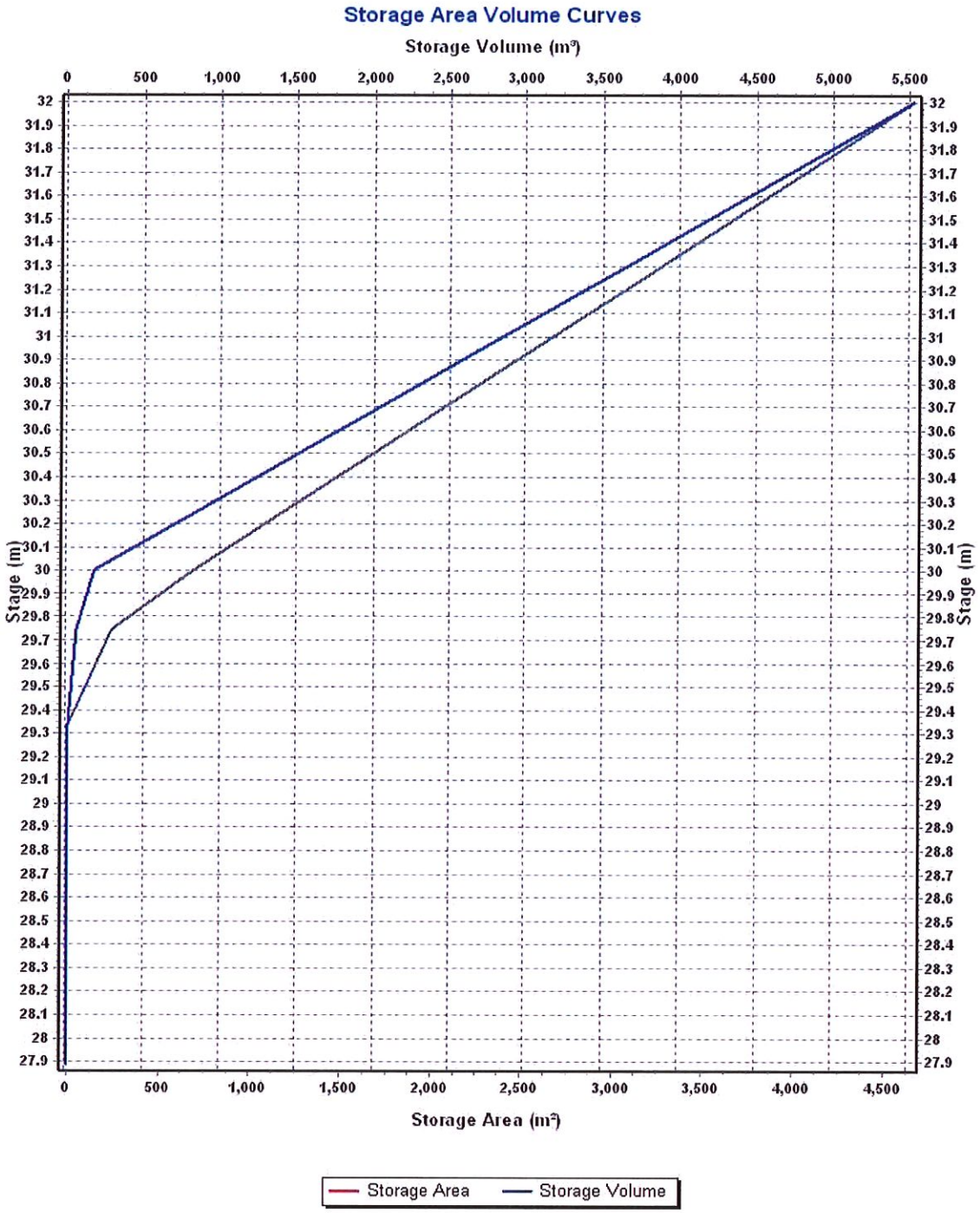
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1.115	15.549
29.34	1.115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11


Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
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30.3
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29.9
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29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.74
Peak Lateral Inflow (cms)	0.30
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.69
Average HGL Depth Attained (m)	0.8
Time of Max HGL Occurrence (days hh:mm)	0 00:47
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	12.4
Total Time Flooded (min)	27
Total Retention Time (sec)	0.00

Project Description

File Name StormXML2-EC-Final.SPF

Project Options

Flow Units	CMS
Elevation Type	Elevation
Hydrology Method	SCS TR-55
Time of Concentration (TOC) Method	Kirpich
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jun 08, 2020	00:00:00
End Analysis On	Jun 10, 2020	00:00:00
Start Reporting On	Jun 08, 2020	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	18
Subbasins	13
Nodes	14
Junctions	1
Outfalls	1
Flow Diversions	0
Inlets	11
Storage Nodes	1
Links	23
Channels	10
Pipes	13
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (mm)	Rainfall Distribution
1		Time Series	2yr-1hr-90%	Cumulative	mm				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ha)	Weighted Curve Number	Average Slope (%)	Flow Length (m)	Total Rainfall (mm)	Total Runoff (mm)	Total Runoff Volume (ha-mm)	Peak Runoff (cms)	Time of Concentration (days hh:mm:ss)
1	Sub-CB1-01	0.02	61.00	3.0000	18.87	52.58	2.21	0.05	0.00	0 00:05:00
2	Sub-CB1-02	0.39	81.41	2.5000	107.00	52.58	16.97	6.63	0.09	0 00:05:00
3	Sub-CB1-03	0.05	95.00	2.0000	40.00	52.58	39.37	2.14	0.02	0 00:05:00
4	Sub-CB1-04	0.09	96.00	3.2500	44.80	52.58	41.71	3.85	0.04	0 00:05:00
5	Sub-CB1-05	0.24	96.00	3.0000	48.06	52.58	41.71	10.10	0.09	0 00:05:00
6	Sub-CB1-06	0.05	96.00	2.5000	31.71	52.58	41.71	2.19	0.02	0 00:05:00
7	Sub-CB1-07	0.20	95.98	1.5000	68.23	52.58	41.66	8.14	0.08	0 00:05:00
8	Sub-CB2-01	0.21	78.96	4.5000	47.00	52.58	14.28	2.94	0.04	0 00:05:00
9	Sub-CB2-02	0.15	77.40	4.5000	48.52	52.58	12.73	1.91	0.03	0 00:05:00
10	Sub-CB2-03	0.28	64.90	3.7500	99.70	52.58	3.89	1.09	0.02	0 00:05:00
11	Sub-CB2-04	0.28	96.00	3.5000	54.86	52.58	41.71	11.48	0.11	0 00:05:00
12	Sub-CB3-01	0.04	95.30	1.5000	29.80	52.58	40.06	1.45	0.01	0 00:05:00

Node Summary

SN	Element ID	Element Type	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Initial Water Elevation (m)	Surcharge Elevation (m)	Ponded Area (m^2)	Peak Inflow (cms)	Max HGL Elevation Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	Junction	27.30	31.39	0.00	0.00	0.00	1.93	28.93	0.00	2.46	0 00:00	0.00	0.00
2	Out-01	Outfall	26.98					1.93	27.79					
3	CB3-01	Storage Node	27.89	29.34	27.89		0.00	0.57	29.34				5.70	14.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(m)	(m)	(m)	(%)	(m)		(cms)	(cms)		(m/sec)	(m)		(min)	
1	Pipe - (1)	Pipe	CB1-01	CB1-02	5.99	32.85	32.84	0.1700	0.300	0.0120	0.00	0.05	0.06	0.58	0.13	0.43	0.00	Calculated
2	Pipe - (10)	Pipe	CB2-03	CB2-04	56.13	31.21	29.56	2.9400	0.300	0.0120	0.08	0.18	0.44	2.94	0.22	0.73	0.00	Calculated
3	Pipe - (11)	Pipe	CB2-04	CB3-01	43.86	29.56	27.89	3.8100	0.300	0.0120	0.13	0.20	0.62	1.80	0.30	1.00	6.00	SURCHARGED
4	Pipe - (12)	Pipe	CB3-01	Out-1Pipe - (12)	12.71	27.89	27.73	1.2600	0.375	0.0120	0.40	0.21	1.88	3.63	0.38	1.00	24.00	SURCHARGED
5	Pipe - (2)	Pipe	CB1-02	CB1-03	12.96	32.84	32.61	1.7700	0.300	0.0120	0.04	0.14	0.30	1.17	0.16	0.54	0.00	Calculated
6	Pipe - (3)	Pipe	CB1-03	CB1-04	19.09	32.61	31.90	3.7200	0.300	0.0120	0.10	0.20	0.49	1.87	0.24	0.82	0.00	Calculated
7	Pipe - (4)	Pipe	CB1-04	CB1-05	33.81	31.90	31.22	2.0100	0.300	0.0120	0.12	0.15	0.81	3.61	0.30	1.00	3.00	SURCHARGED
8	Pipe - (5)	Pipe	CB1-05	CB1-06	21.28	31.22	29.69	7.1900	0.300	0.0120	0.18	0.28	0.63	3.88	0.30	1.00	7.00	SURCHARGED
9	Pipe - (6)	Pipe	CB1-06	CB1-07	56.09	29.69	28.33	2.4200	0.300	0.0120	0.15	0.16	0.91	2.39	0.30	1.00	15.00	SURCHARGED
10	Pipe - (7)	Pipe	CB1-07	CB3-01	9.01	28.33	27.89	4.8900	0.375	0.0120	0.19	0.42	0.45	1.72	0.38	1.00	25.00	SURCHARGED
11	Pipe - (8)	Pipe	CB2-01	CB2-02	40.57	33.38	33.05	0.8100	0.300	0.0120	0.02	0.09	0.16	1.97	0.09	0.29	0.00	Calculated
12	Pipe - (9)	Pipe	CB2-02	CB2-03	25.52	33.05	31.21	7.2100	0.300	0.0120	0.06	0.28	0.19	8.98	0.11	0.38	0.00	Calculated
13	Pipe-Out	Pipe	Out-1Pipe - (12)	Out-01	16.33	27.30	26.98	1.9600	0.813	0.0150	1.93	1.68	1.15	3.72	0.81	1.00	9.00	SURCHARGED
14	OF-01	Channel	CB1-02	CB1-03	13.02	33.84	33.64	1.5400	0.120	0.0120	0.05	3.16	0.02	0.51	0.01	0.09	0.00	
15	OF-06	Channel	CB1-07	CB3-01	9.25	29.46	29.34	1.3000	0.150	0.0120	0.04	4.26	0.01	0.44	0.01	0.07	0.00	
16	OF-08	Channel	CB2-02	CB2-03	25.53	33.96	32.12	7.1900	0.070	0.0320	0.02	0.93	0.02	0.30	0.01	0.09	0.00	
17	OF-09	Channel	CB2-03	CB2-04	56.18	32.46	30.06	4.2600	0.100	0.0120	0.01	5.28	0.00	0.16	0.02	0.44	0.00	
18	OF-10	Channel	CB2-04	CB3-01	43.89	30.06	29.34	1.6500	0.120	0.0120	0.06	4.83	0.01	0.47	0.01	0.07	0.00	
19	OF-2	Channel	CB1-03	CB1-04	19.18	33.64	33.06	3.0300	0.100	0.0120	0.01	4.80	0.00	0.00	0.00	0.03	0.00	
20	OF-3	Channel	CB1-04	CB1-05	33.86	33.06	32.19	2.5700	0.120	0.0120	0.02	6.02	0.00	0.33	0.00	0.03	0.00	
21	OF-4	Channel	CB1-05	CB1-06	21.32	32.19	30.78	6.6400	0.100	0.0120	0.14	4.80	0.03	0.70	0.05	0.59	0.00	
22	OF-5	Channel	CB1-06	CB1-07	56.11	30.78	29.46	2.3400	0.120	0.0120	0.01	3.90	0.00	0.14	0.06	0.52	0.00	
23	OF-7	Channel	CB2-01	CB2-02	40.58	34.40	33.96	1.0900	0.070	0.0320	0.03	0.45	0.06	0.19	0.01	0.18	0.00	

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Initial Water Elevation (m)	Ponded Area (m^2)	Peak Flow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (m)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	32.92	0.00	0.00	N/A	N/A	N/A	2.00	0.13	33.84
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	32.79	N/A	0.09	0.04	0.05	44.73	2.00	0.50	33.87
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	32.62	N/A	0.02	0.01	0.01	44.73	2.00	0.11	33.65
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	32.04	N/A	0.04	0.02	0.02	44.73	2.00	0.20	33.07
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	31.17	N/A	0.09	0.04	0.05	44.73	2.00	0.51	32.22
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	29.75	N/A	0.02	0.01	0.01	44.73	2.00	0.11	30.78
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	28.44	N/A	0.08	0.03	0.04	44.73	2.00	0.41	29.48
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	33.48	N/A	0.04	0.02	0.03	36.05	2.00	0.44	34.42
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	31.91	N/A	0.03	0.01	0.02	44.73	2.00	0.16	33.97
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	29.77	N/A	0.02	0.01	0.01	44.73	2.00	0.12	32.13
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	29.05	N/A	0.11	0.05	0.06	44.73	2.00	0.58	30.10

Subbasin : Sub-CB1-01

Input Data

Area (ha)	0.02
Weighted Curve Number	61.00
Average Slope (%)	3.0000
Flow Length (m)	18.87
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.02	-	61.00
Composite Area & Weighted CN	0.02		61.00

Time of Concentration

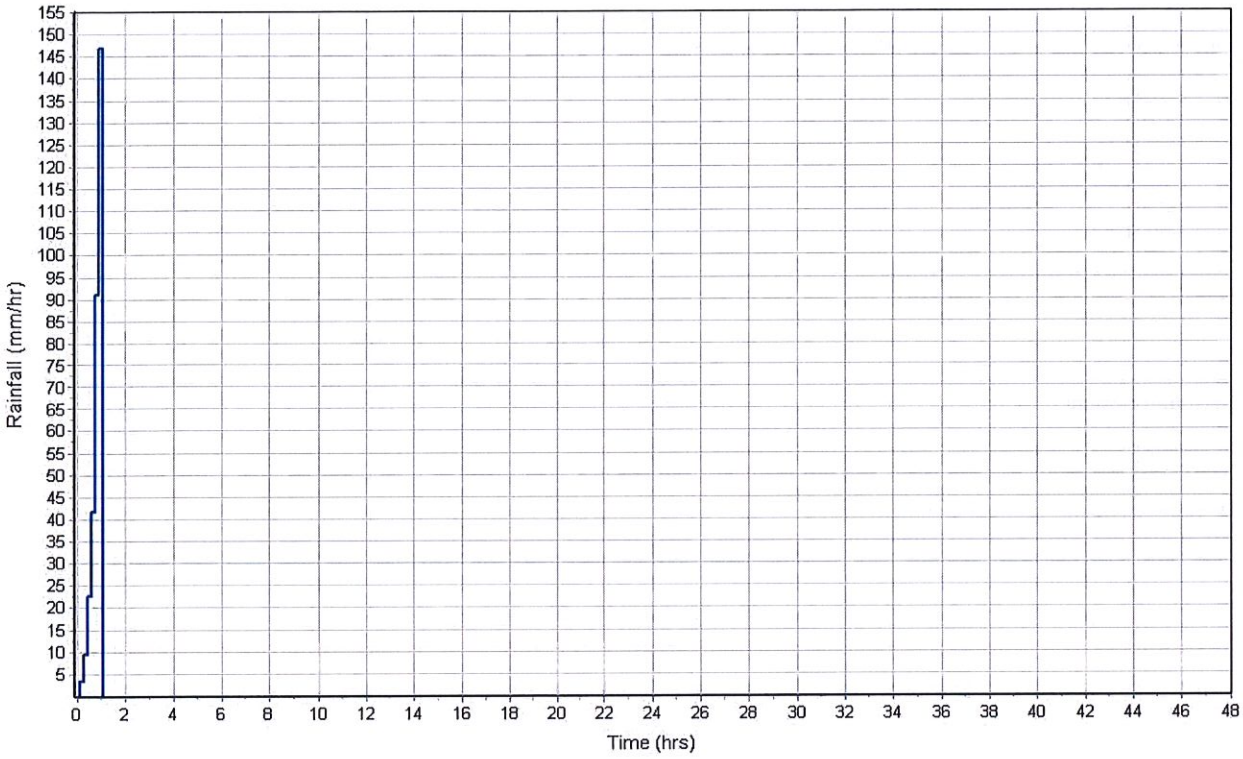
Flow Length (m)	18.87
Slope (%)	3
Computed TOC (min)	0.72

Subbasin Runoff Results

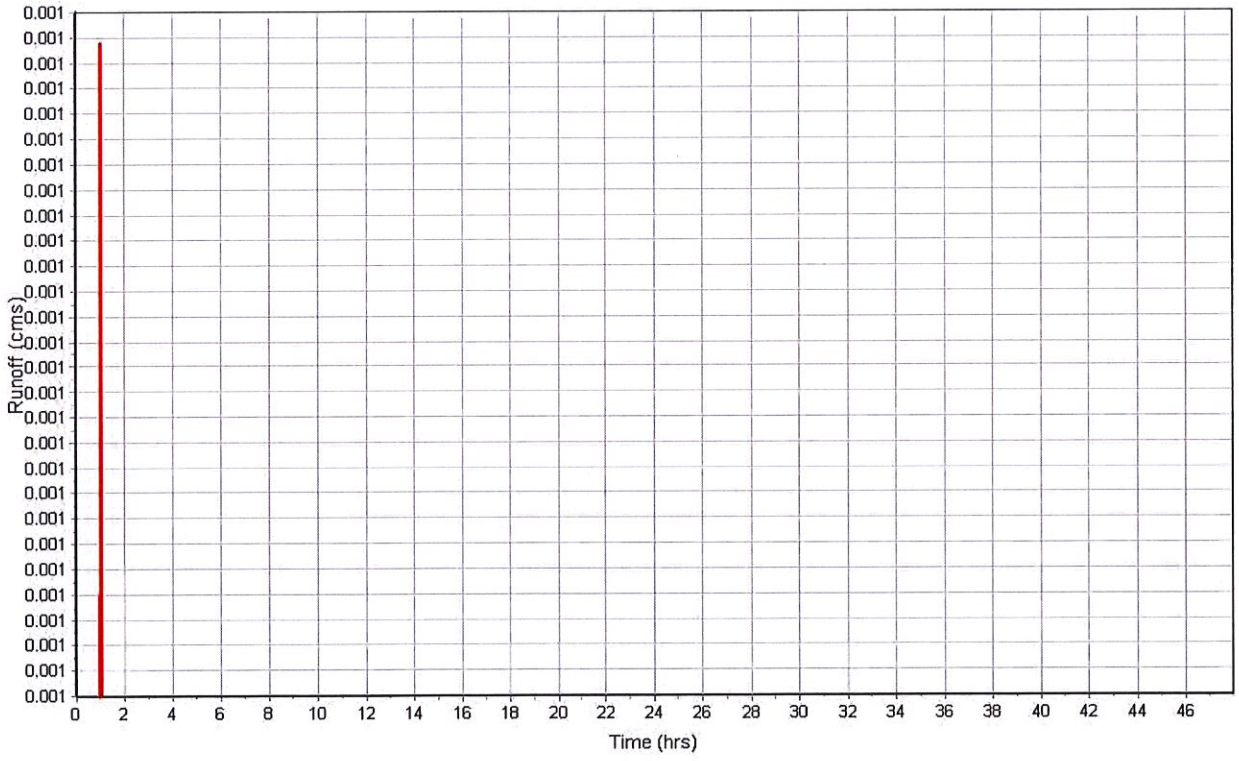
Total Rainfall (mm)	52.58
Total Runoff (mm)	2.21
Peak Runoff (cms)	0.00
Weighted Curve Number	61.00
Time of Concentration (days hh:mm:ss)	0 00:00:43

Subbasin : Sub-CB1-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-02

Input Data

Area (ha)	0.39
Weighted Curve Number	81.41
Average Slope (%)	2.5000
Flow Length (m)	107.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.39	-	81.41
Composite Area & Weighted CN	0.39		81.41

Time of Concentration

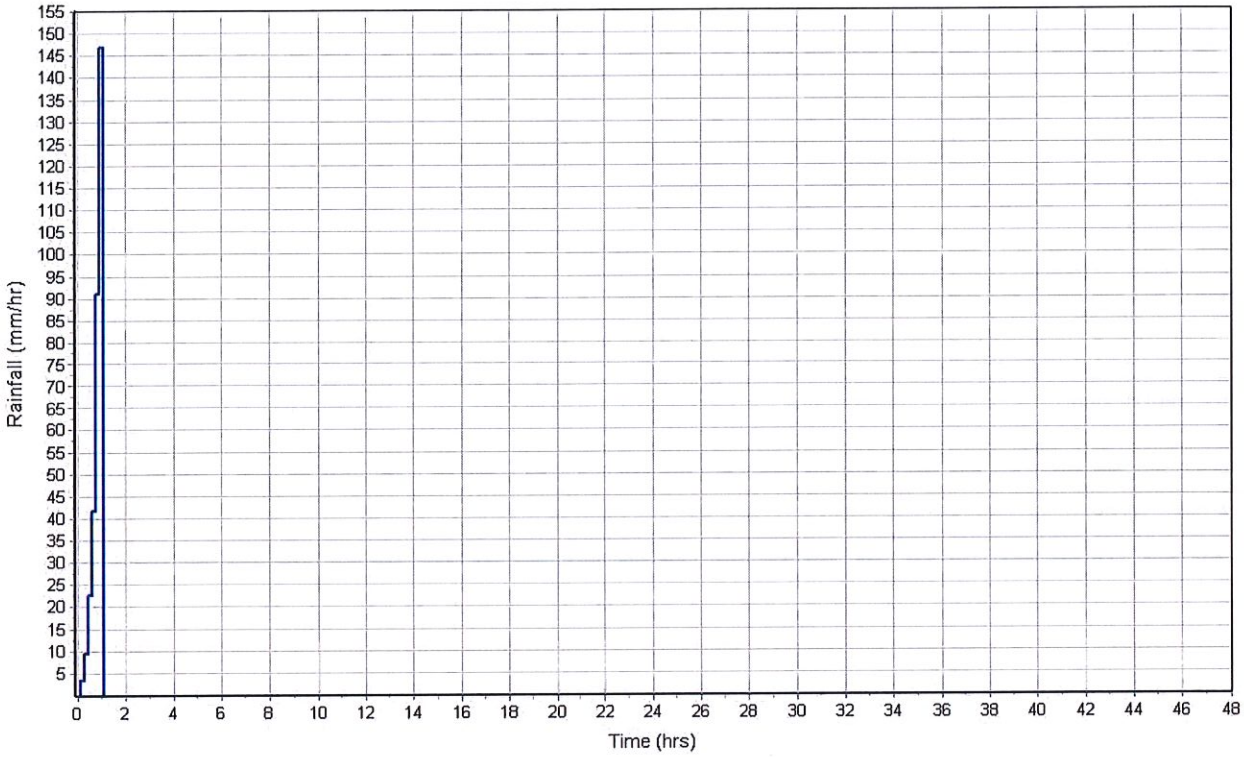
Flow Length (m)	107.00
Slope (%)	2.5
Computed TOC (min)	2.94

Subbasin Runoff Results

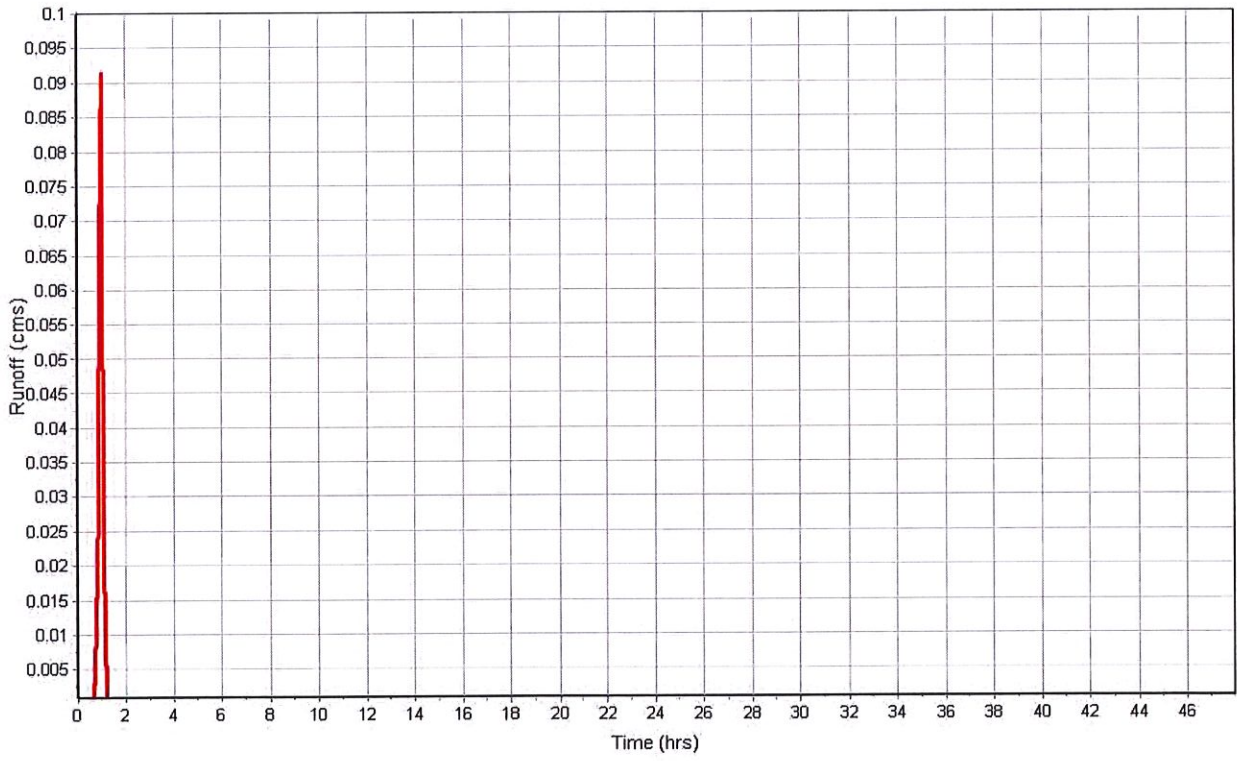
Total Rainfall (mm)	52.58
Total Runoff (mm)	16.97
Peak Runoff (cms)	0.09
Weighted Curve Number	81.41
Time of Concentration (days hh:mm:ss)	0 00:02:56

Subbasin : Sub-CB1-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-03

Input Data

Area (ha)	0.05
Weighted Curve Number	95.00
Average Slope (%)	2.0000
Flow Length (m)	40.00
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	95.00
Composite Area & Weighted CN	0.05		95.00

Time of Concentration

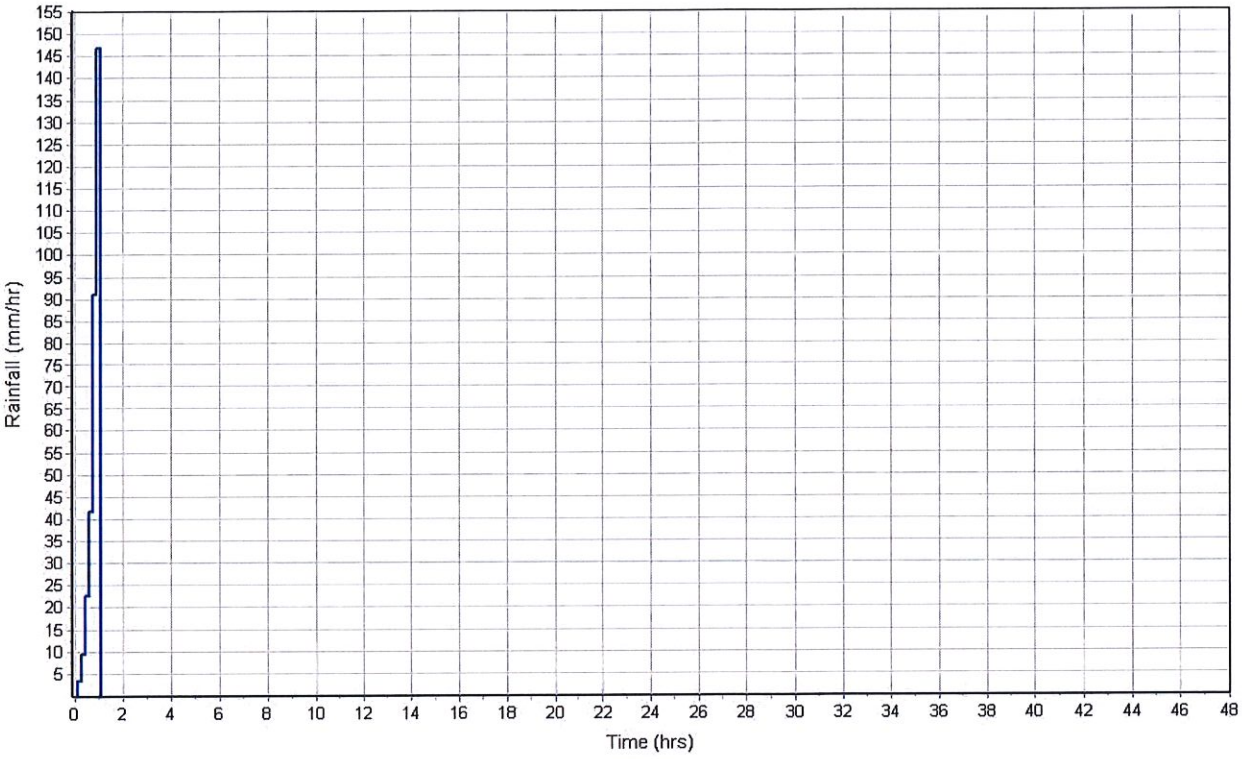
Flow Length (m)	40.00
Slope (%)	2
Computed TOC (min)	1.50

Subbasin Runoff Results

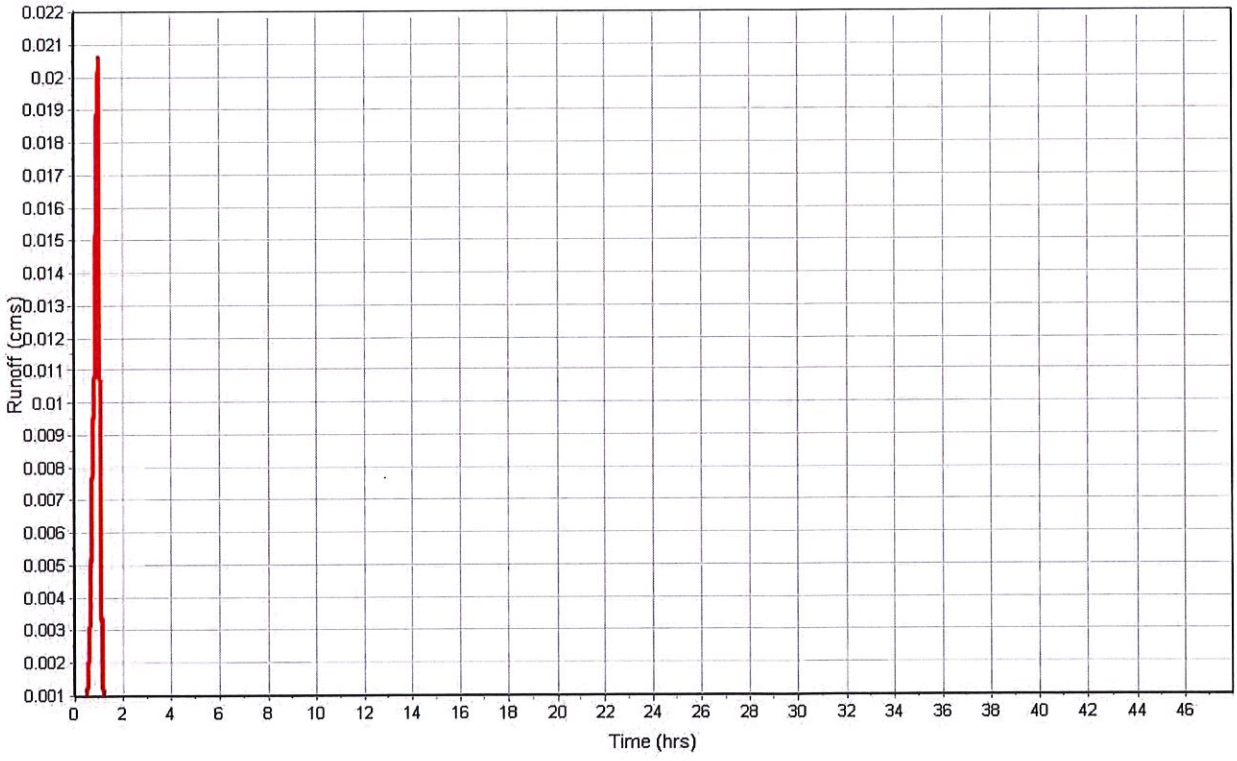
Total Rainfall (mm)	52.58
Total Runoff (mm)	39.37
Peak Runoff (cms)	0.02
Weighted Curve Number	95.00
Time of Concentration (days hh:mm:ss)	0 00:01:30

Subbasin : Sub-CB1-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-04

Input Data

Area (ha)	0.09
Weighted Curve Number	96.00
Average Slope (%)	3.2500
Flow Length (m)	44.80
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.09	-	96.00
Composite Area & Weighted CN	0.09		96.00

Time of Concentration

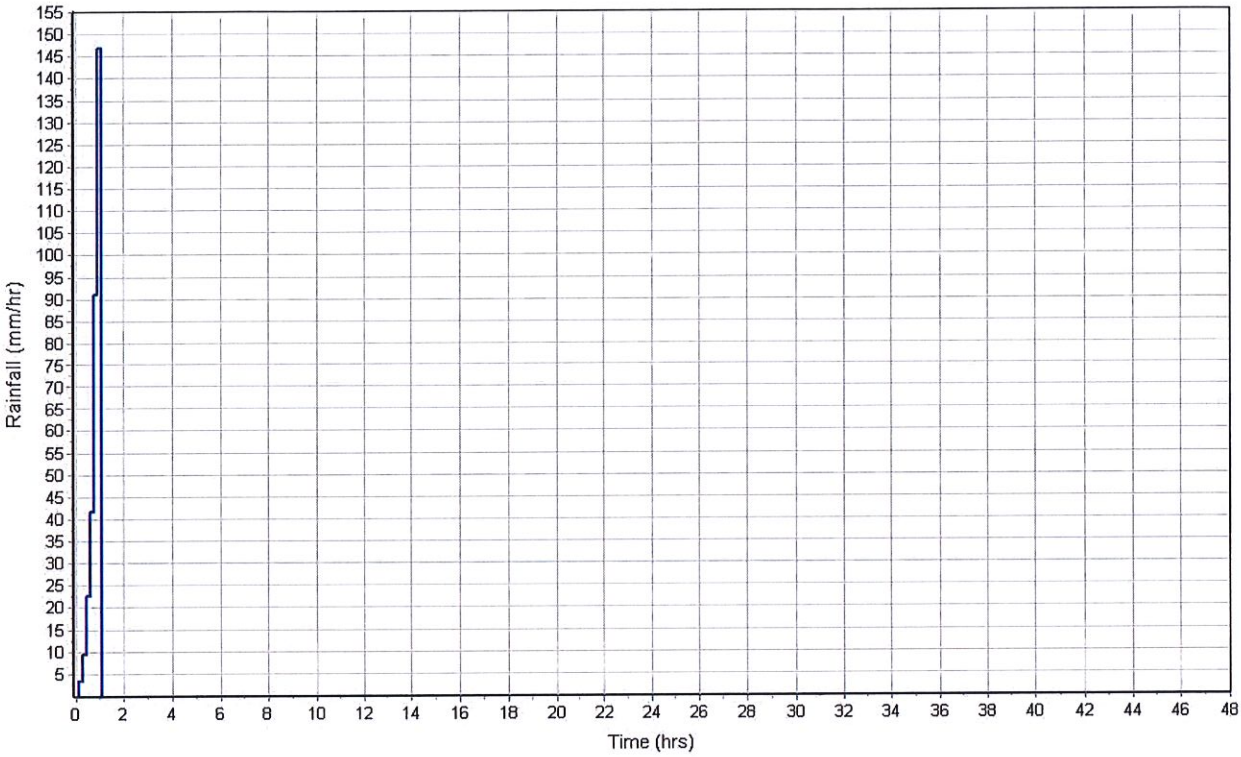
Flow Length (m)	44.80
Slope (%)	3.25
Computed TOC (min)	1.36

Subbasin Runoff Results

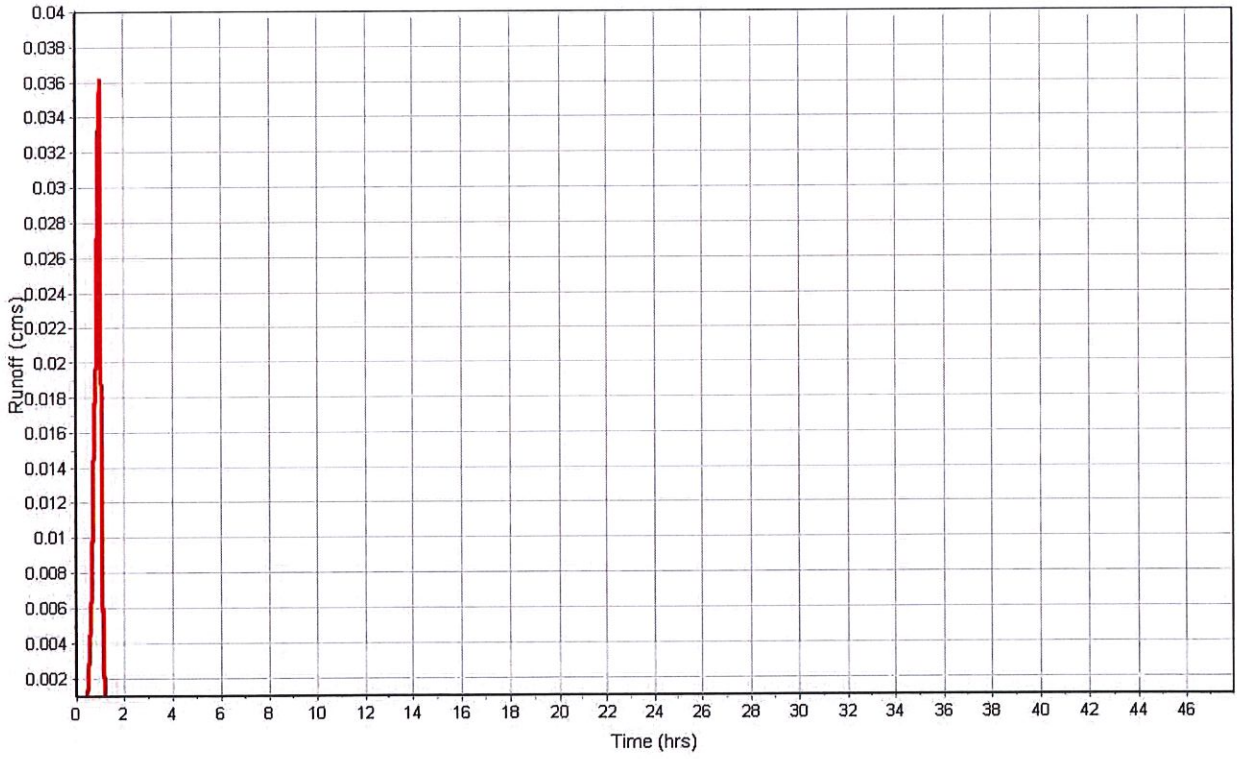
Total Rainfall (mm)	52.58
Total Runoff (mm)	41.71
Peak Runoff (cms)	0.04
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:22

Subbasin : Sub-CB1-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-05

Input Data

Area (ha) 0.24
Weighted Curve Number 96.00
Average Slope (%) 3.0000
Flow Length (m) 48.06
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.24	-	96.00
Composite Area & Weighted CN	0.24		96.00

Time of Concentration

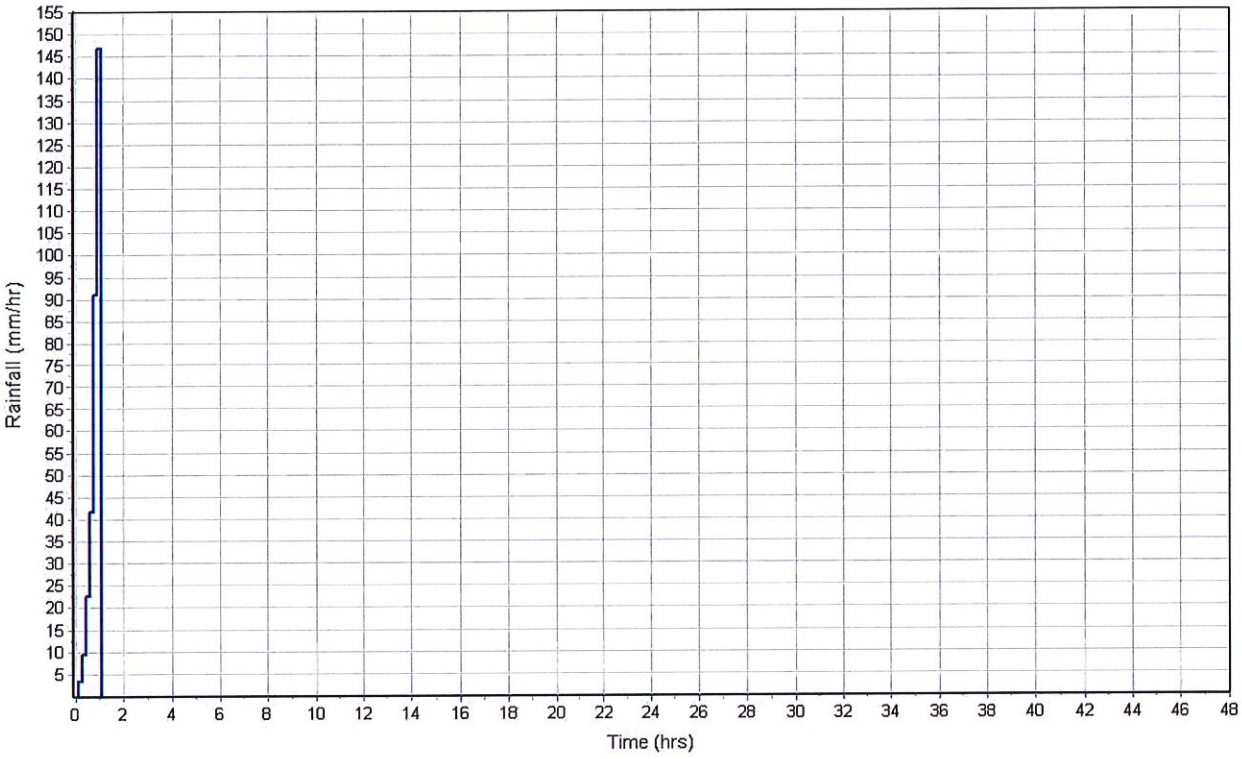
Flow Length (m) 48.06
Slope (%) 3.0
Computed TOC (min) 1.48

Subbasin Runoff Results

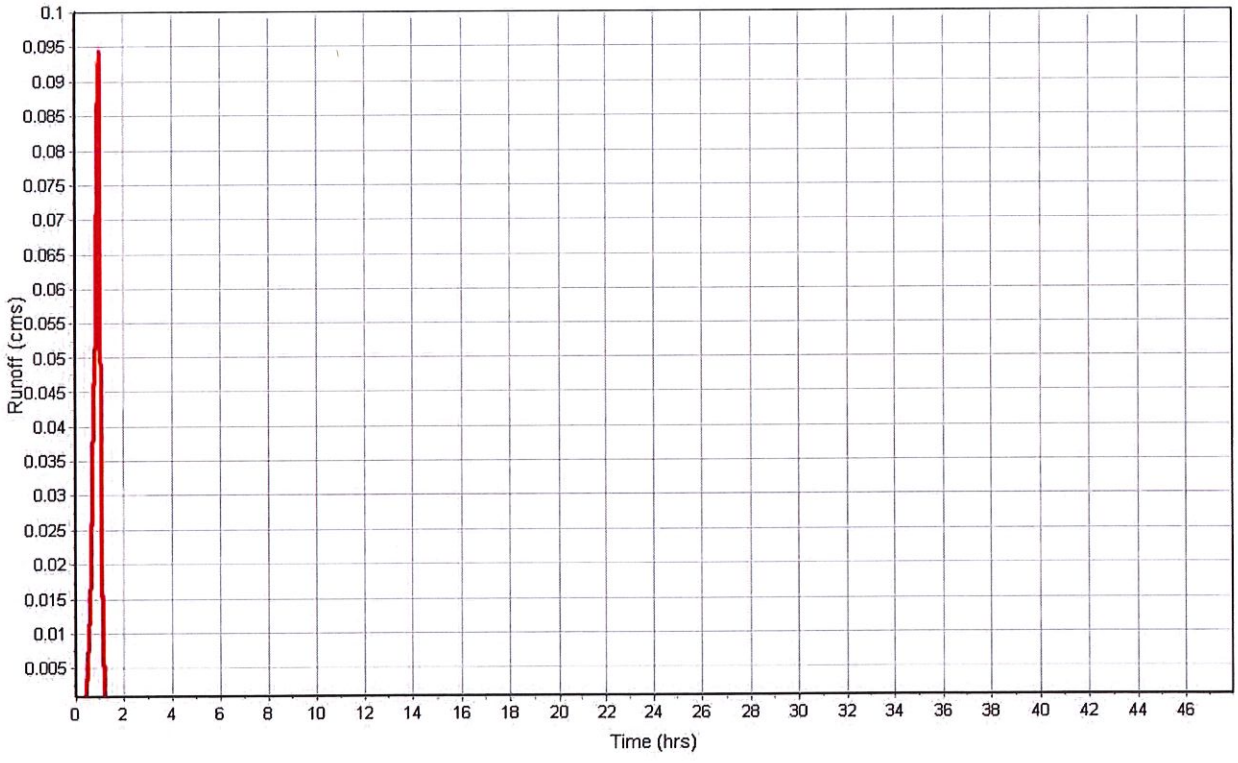
Total Rainfall (mm) 52.58
Total Runoff (mm) 41.71
Peak Runoff (cms) 0.09
Weighted Curve Number 96.00
Time of Concentration (days hh:mm:ss) 0 00:01:29

Subbasin : Sub-CB1-05

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-06

Input Data

Area (ha)	0.05
Weighted Curve Number	96.00
Average Slope (%)	2.5000
Flow Length (m)	31.71
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.05	-	96.00
Composite Area & Weighted CN	0.05		96.00

Time of Concentration

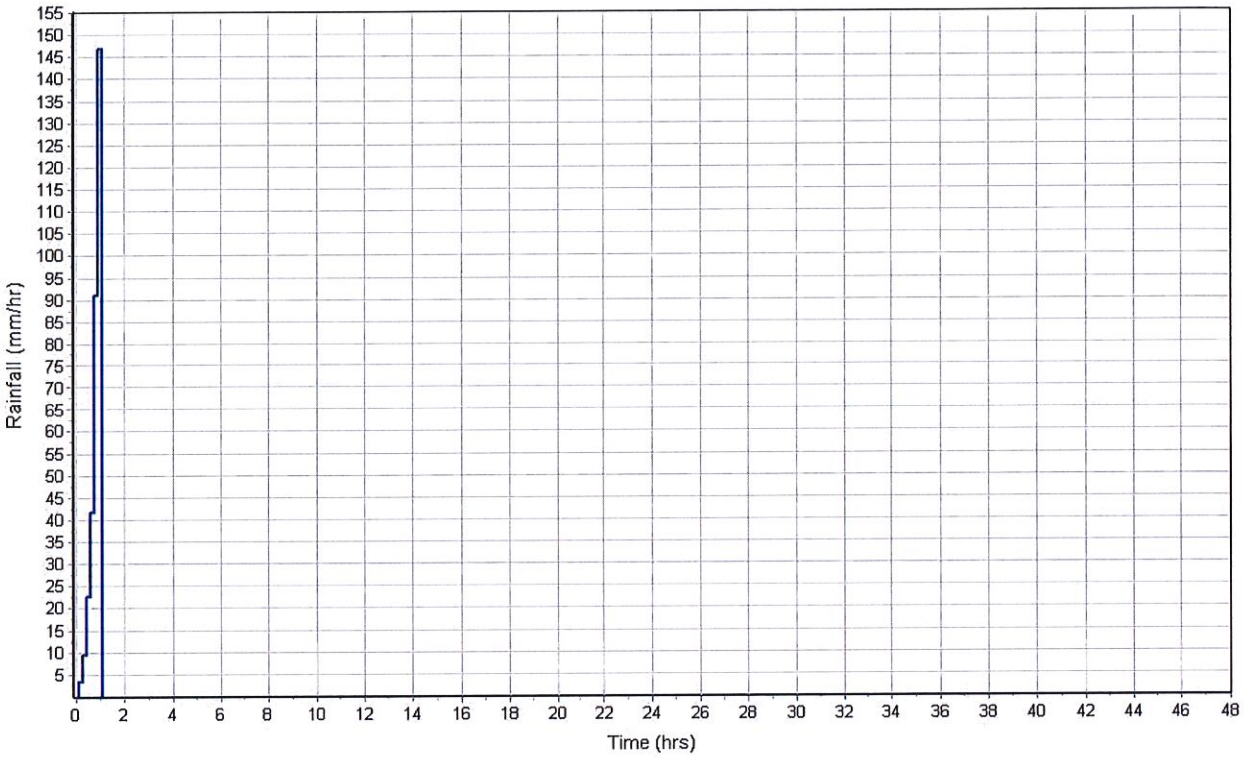
Flow Length (m)	31.71
Slope (%)	2.5
Computed TOC (min)	1.15

Subbasin Runoff Results

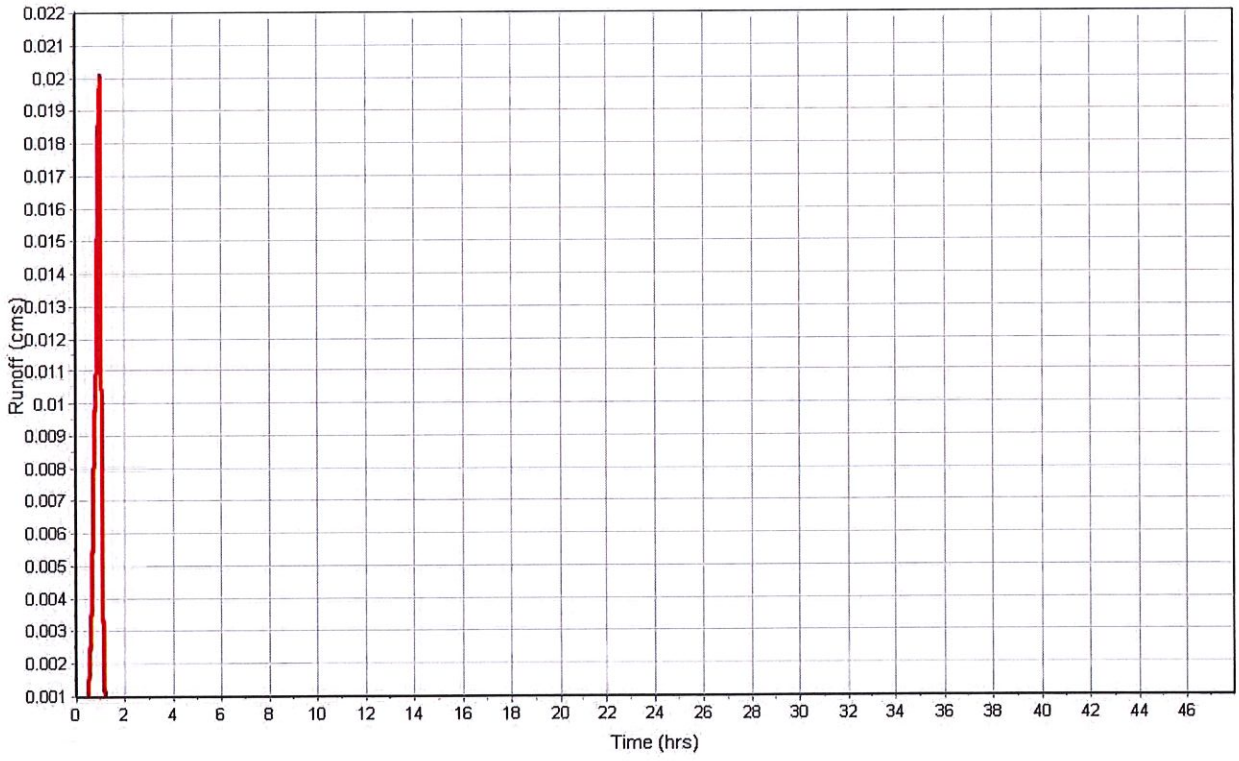
Total Rainfall (mm)	52.58
Total Runoff (mm)	41.71
Peak Runoff (cms)	0.02
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:09

Subbasin : Sub-CB1-06

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB1-07

Input Data

Area (ha)	0.20
Weighted Curve Number	95.98
Average Slope (%)	1.5000
Flow Length (m)	68.23
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.20	-	95.98
Composite Area & Weighted CN	0.20		95.98

Time of Concentration

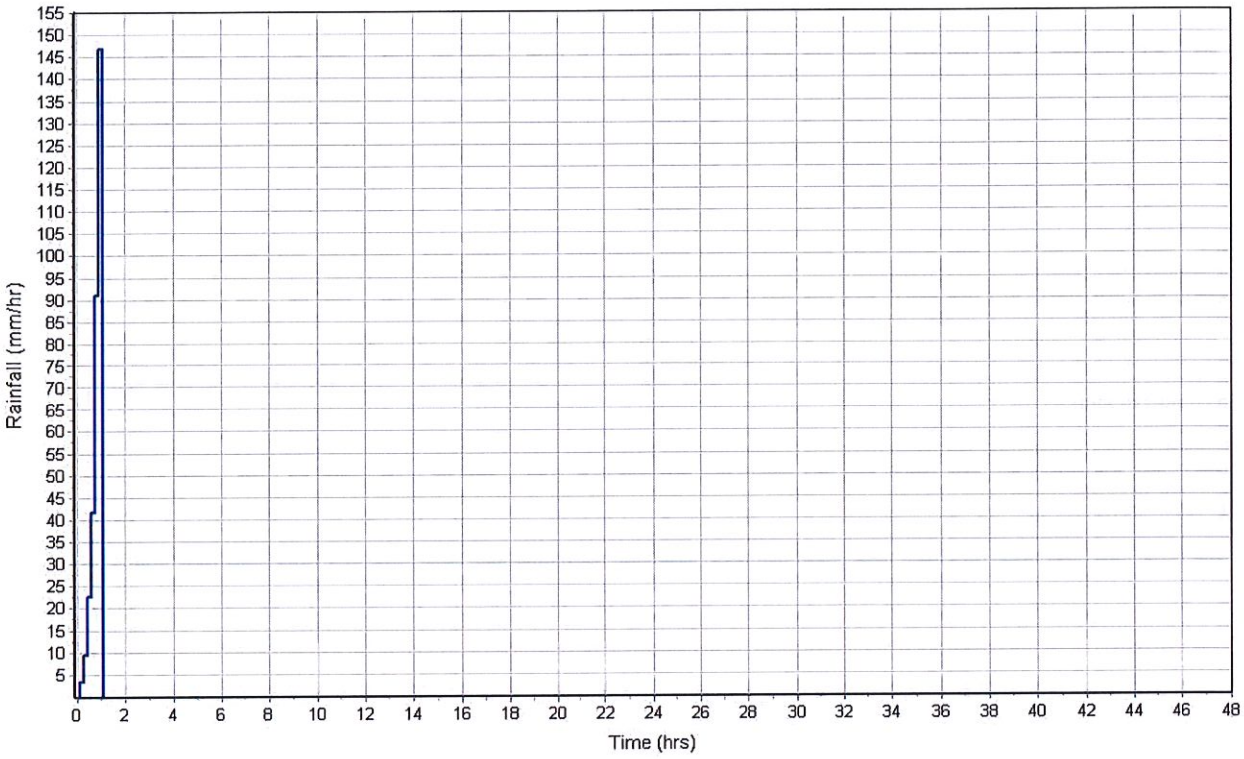
Flow Length (m)	68.23
Slope (%)	1.5
Computed TOC (min)	2.53

Subbasin Runoff Results

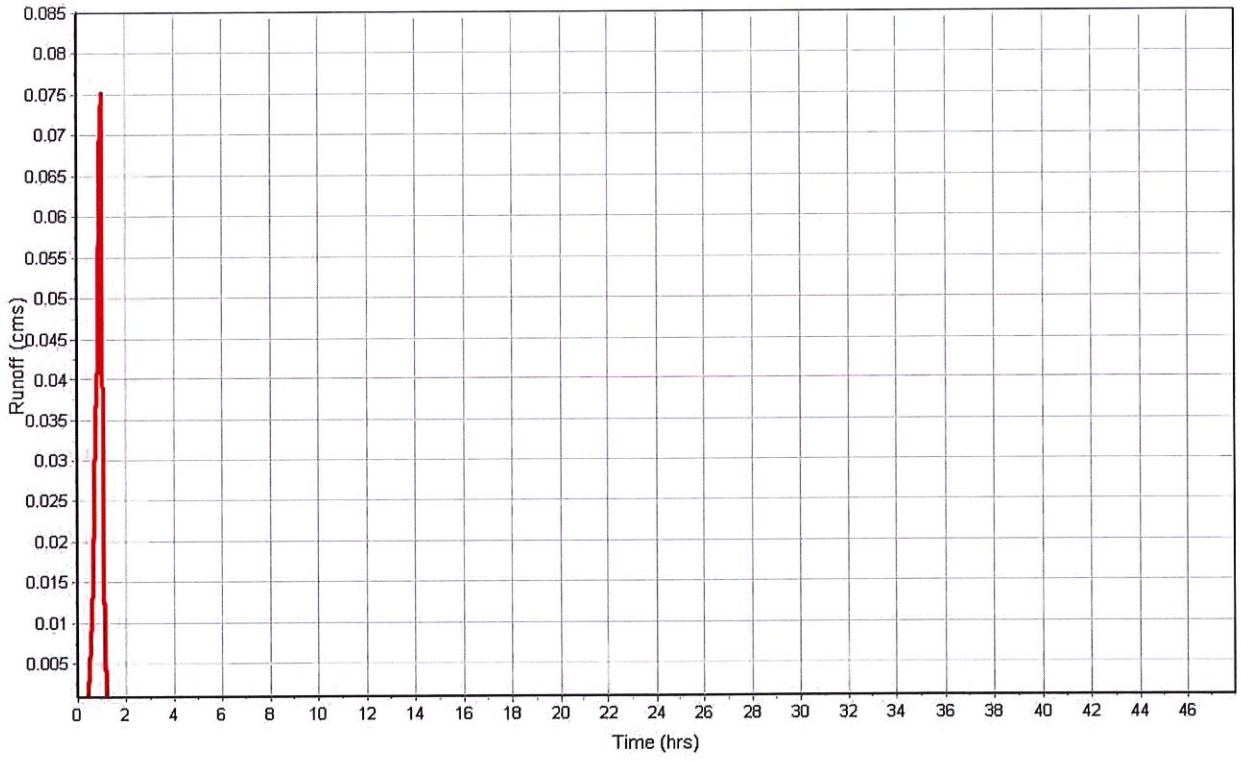
Total Rainfall (mm)	52.58
Total Runoff (mm)	41.66
Peak Runoff (cms)	0.08
Weighted Curve Number	95.98
Time of Concentration (days hh:mm:ss)	0 00:02:32

Subbasin : Sub-CB1-07

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-01

Input Data

Area (ha)	0.21
Weighted Curve Number	78.96
Average Slope (%)	4.5000
Flow Length (m)	47.00
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.21	-	78.96
Composite Area & Weighted CN	0.21		78.96

Time of Concentration

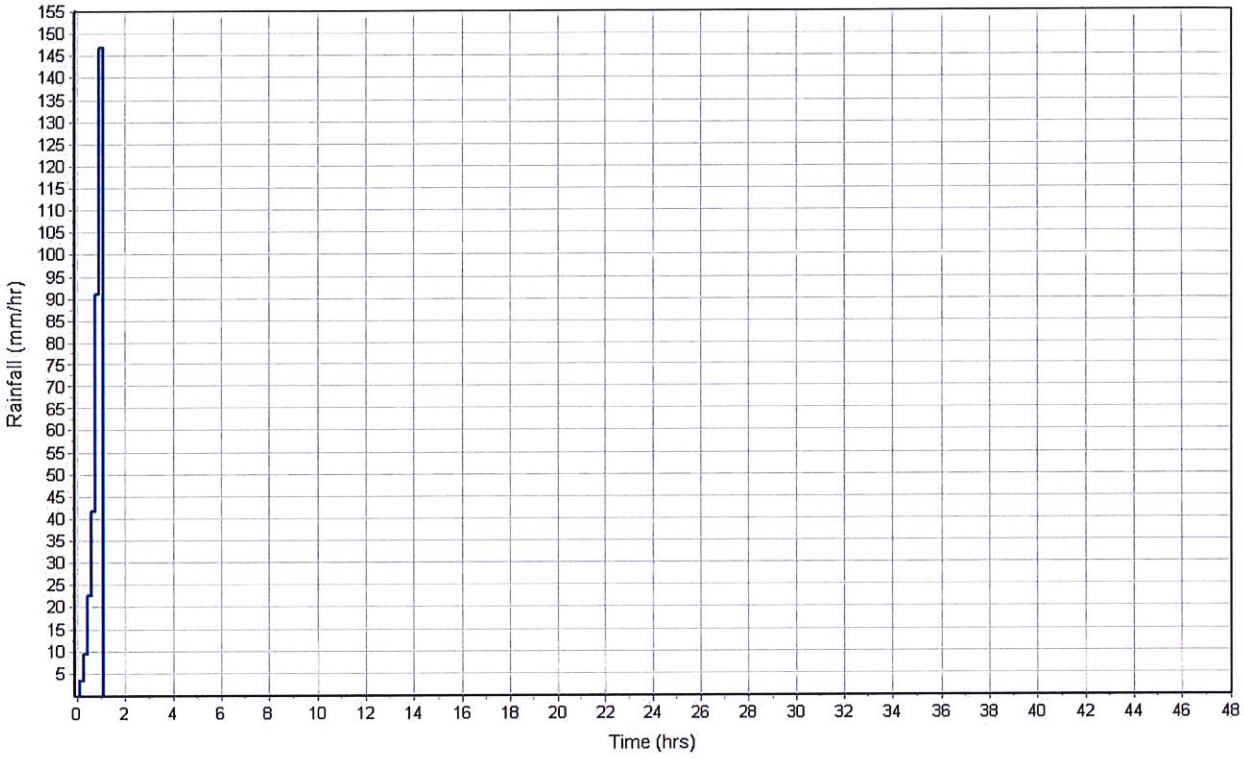
Flow Length (m)	47.00
Slope (%)	4.5
Computed TOC (min)	1.25

Subbasin Runoff Results

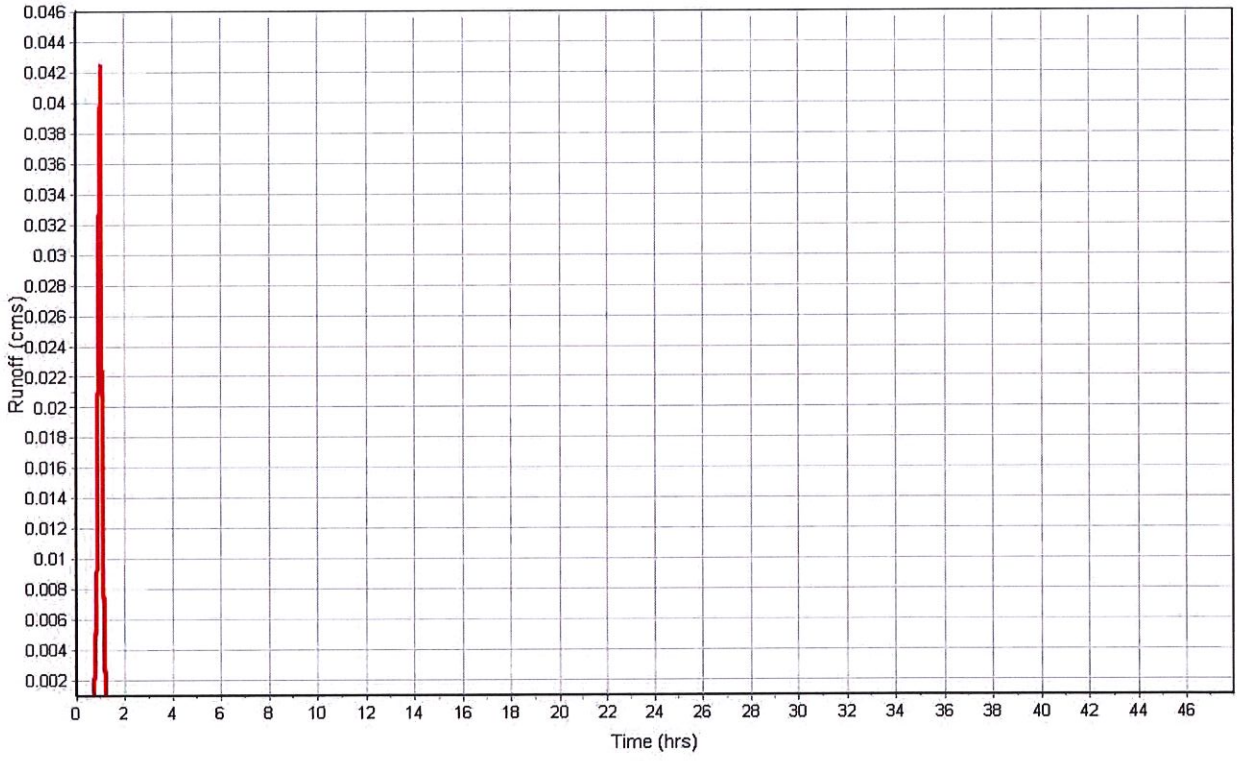
Total Rainfall (mm)	52.58
Total Runoff (mm)	14.28
Peak Runoff (cms)	0.04
Weighted Curve Number	78.96
Time of Concentration (days hh:mm:ss)	0 00:01:15

Subbasin : Sub-CB2-01

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-02

Input Data

Area (ha)	0.15
Weighted Curve Number	77.40
Average Slope (%)	4.5000
Flow Length (m)	48.52
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.15	-	77.40
Composite Area & Weighted CN	0.15		77.40

Time of Concentration

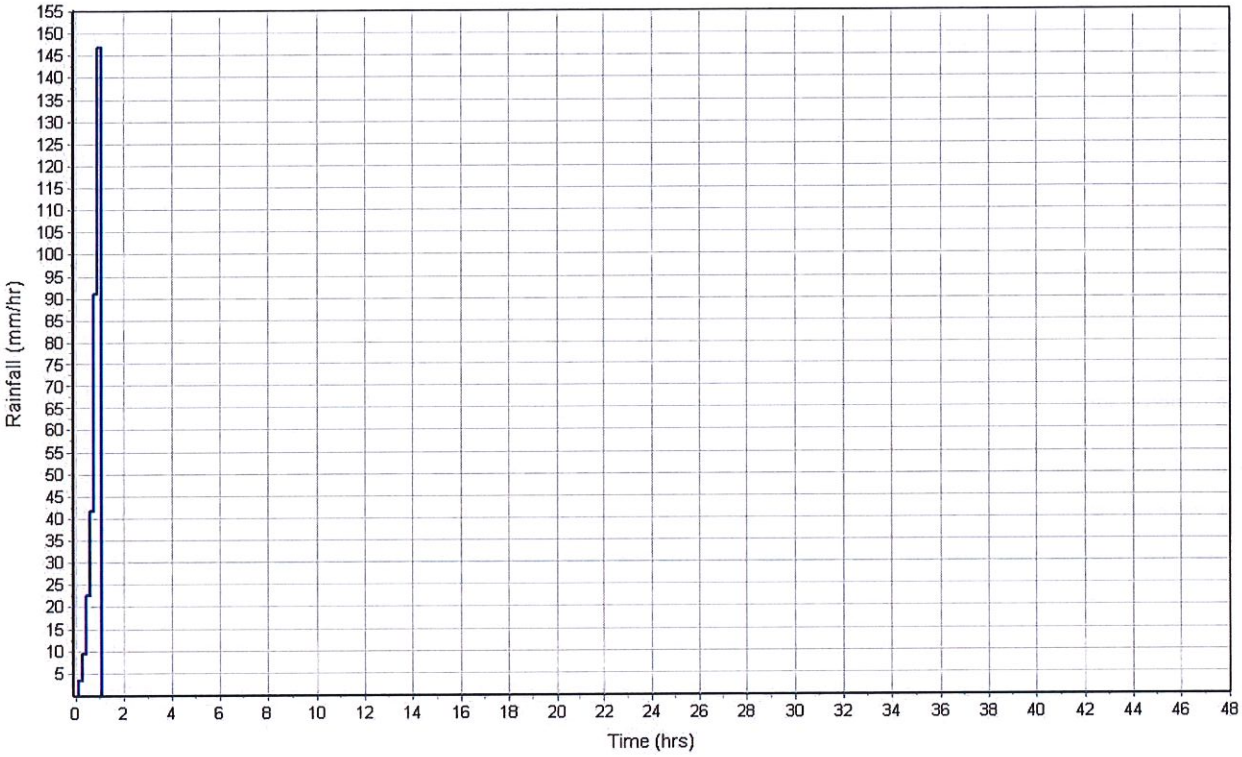
Flow Length (m)	48.52
Slope (%)	4.5
Computed TOC (min)	1.28

Subbasin Runoff Results

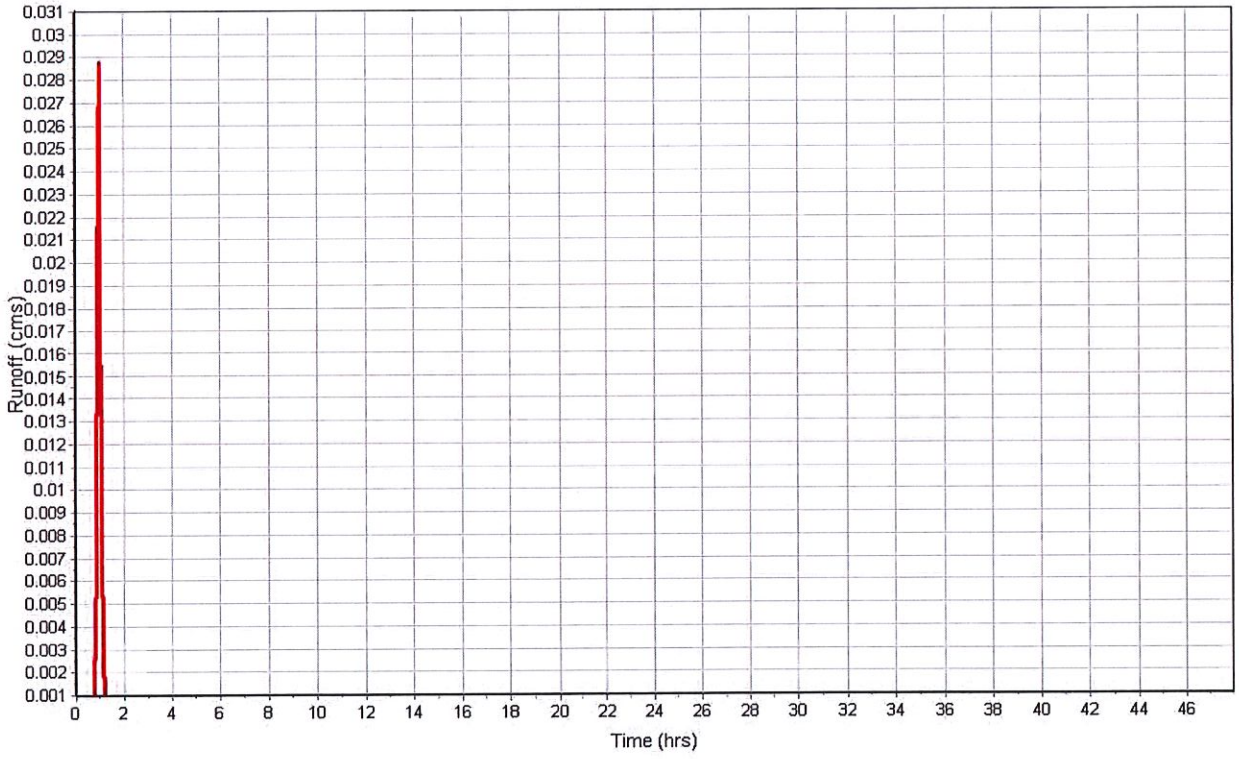
Total Rainfall (mm)	52.58
Total Runoff (mm)	12.73
Peak Runoff (cms)	0.03
Weighted Curve Number	77.40
Time of Concentration (days hh:mm:ss)	0 00:01:17

Subbasin : Sub-CB2-02

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-03

Input Data

Area (ha)	0.28
Weighted Curve Number	64.90
Average Slope (%)	3.7500
Flow Length (m)	99.70
Rain Gage ID	1

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	64.90
Composite Area & Weighted CN	0.28		64.90

Time of Concentration

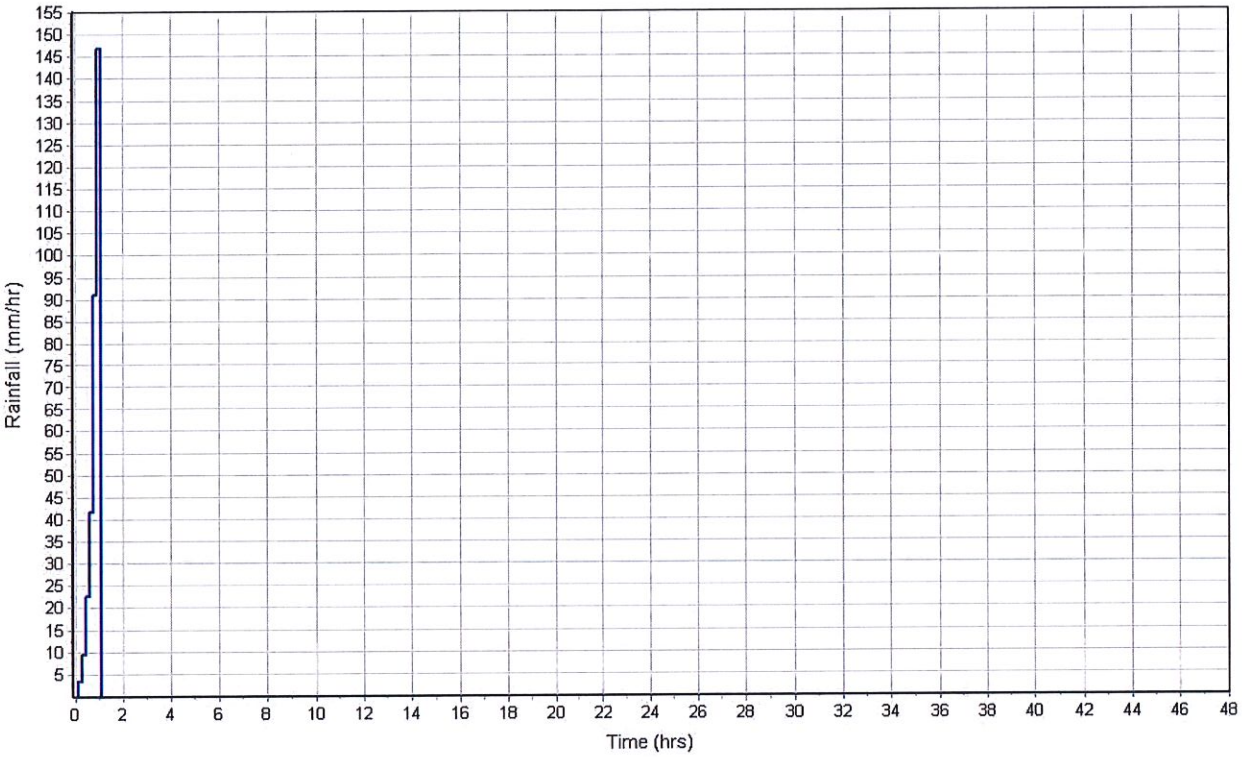
Flow Length (m)	99.70
Slope (%)	3.75
Computed TOC (min)	2.38

Subbasin Runoff Results

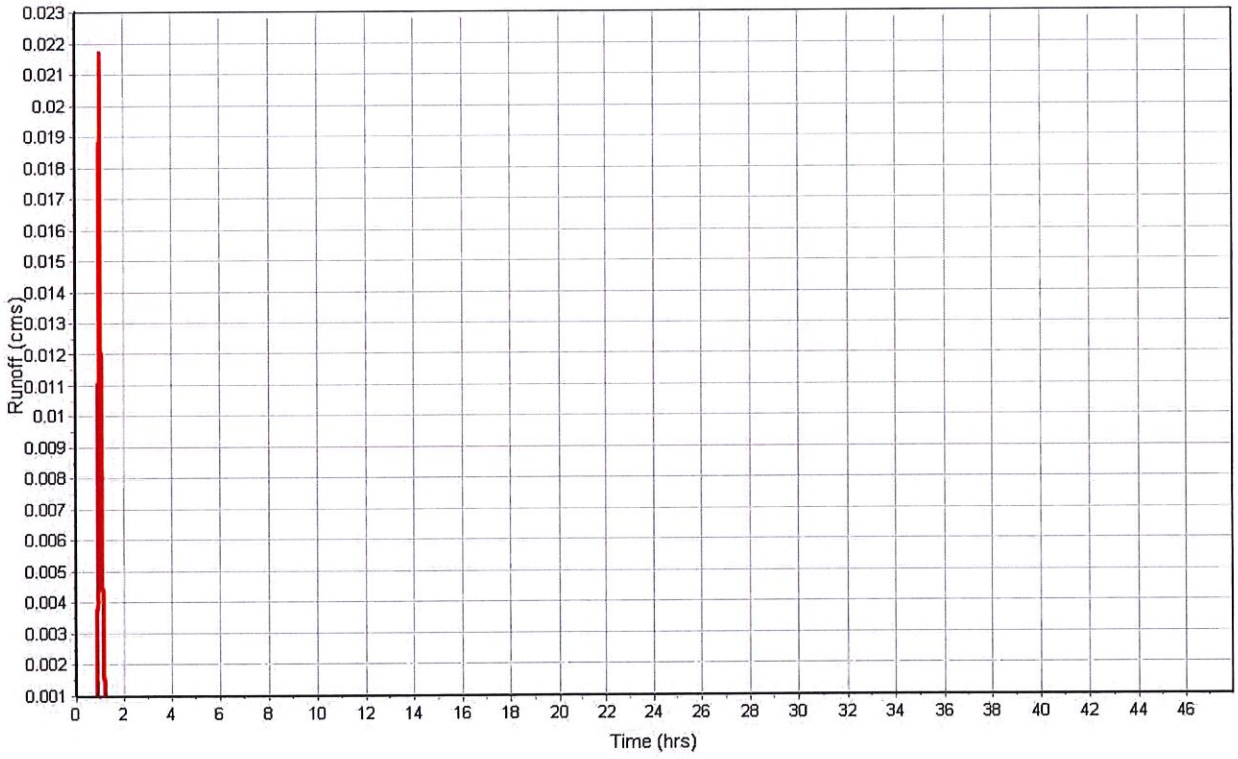
Total Rainfall (mm)	52.58
Total Runoff (mm)	3.89
Peak Runoff (cms)	0.02
Weighted Curve Number	64.90
Time of Concentration (days hh:mm:ss)	0 00:02:23

Subbasin : Sub-CB2-03

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB2-04

Input Data

Area (ha)	0.28
Weighted Curve Number	96.00
Average Slope (%)	3.5000
Flow Length (m)	54.86
Rain Gage ID	*

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.28	-	96.00
Composite Area & Weighted CN	0.28		96.00

Time of Concentration

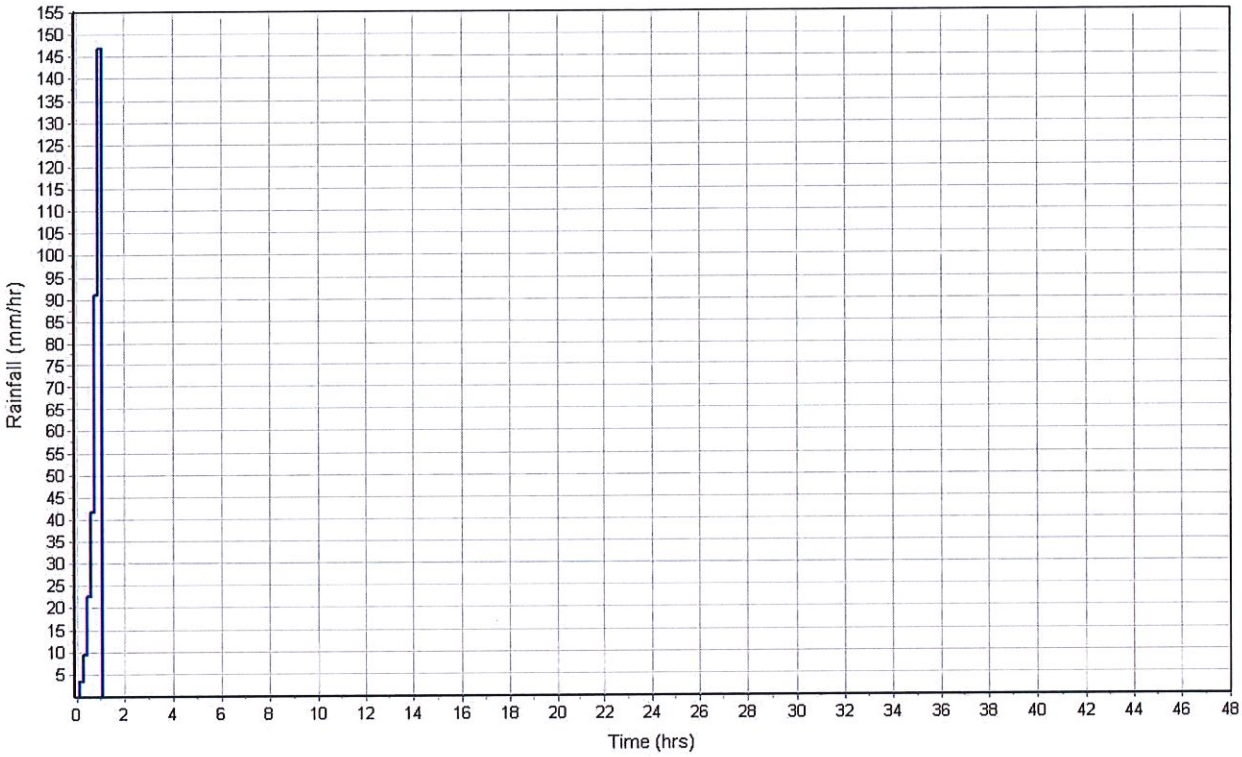
Flow Length (m)	54.86
Slope (%)	3.5
Computed TOC (min)	1.55

Subbasin Runoff Results

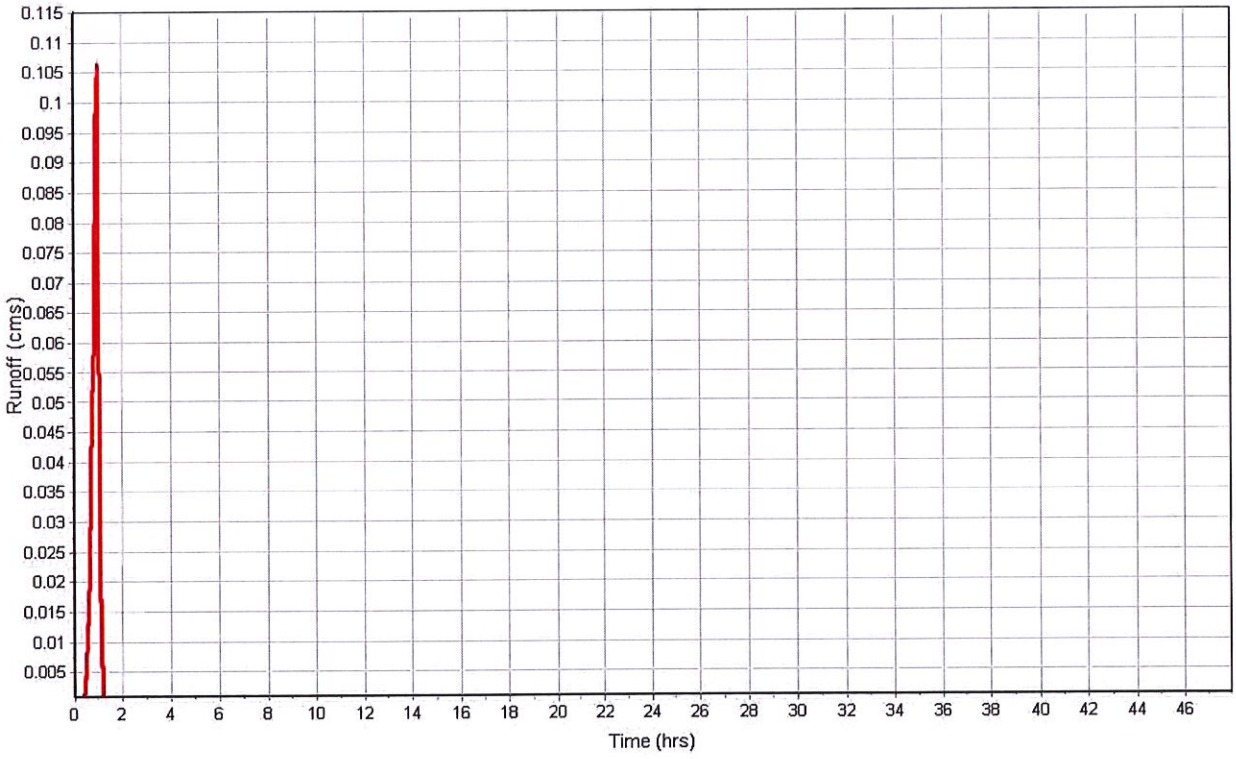
Total Rainfall (mm)	52.58
Total Runoff (mm)	41.71
Peak Runoff (cms)	0.11
Weighted Curve Number	96.00
Time of Concentration (days hh:mm:ss)	0 00:01:33

Subbasin : Sub-CB2-04

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : Sub-CB3-01

Input Data

Area (ha) 0.04
Weighted Curve Number 95.30
Average Slope (%) 1.5000
Flow Length (m) 29.80
Rain Gage ID ..... *

Composite Curve Number

Soil/Surface Description	Area (ha)	Soil Group	Curve Number
-	0.04	-	95.30
Composite Area & Weighted CN	0.04		95.30

Time of Concentration

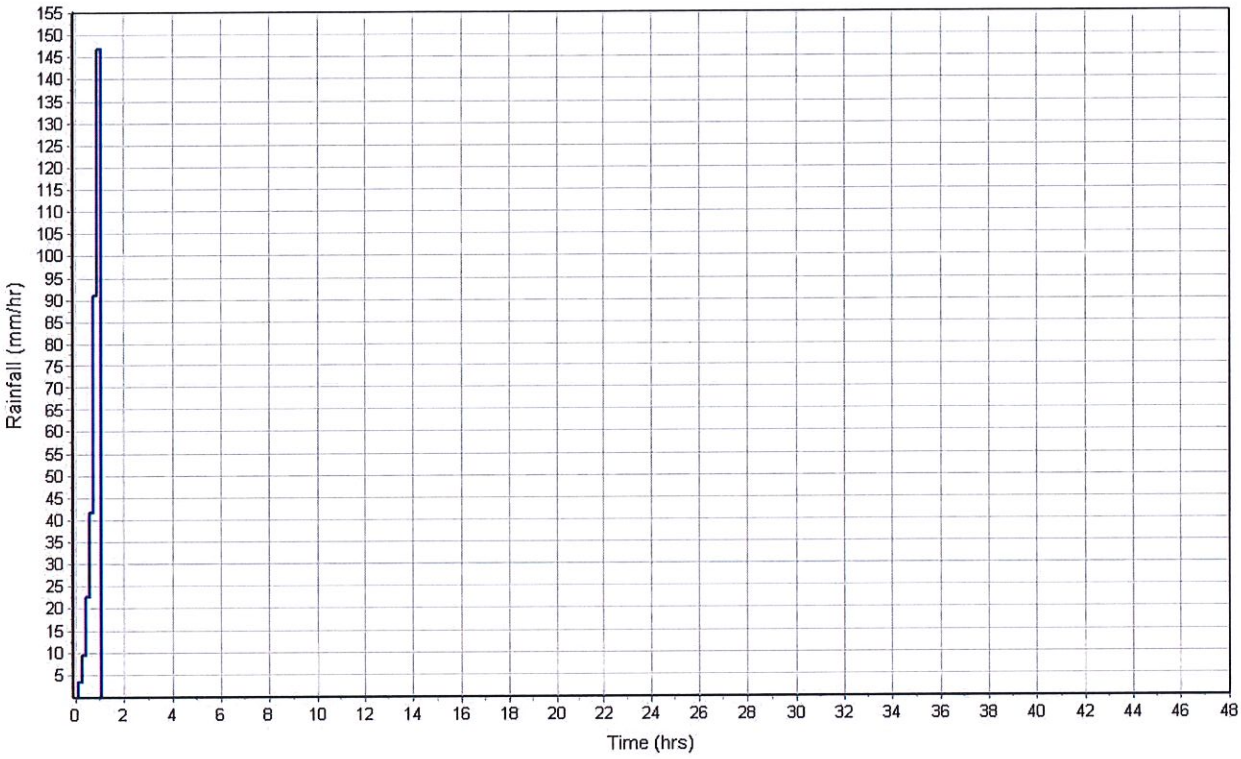
Flow Length (m) 29.80
Slope (%) 1.5
Computed TOC (min) 1.34

Subbasin Runoff Results

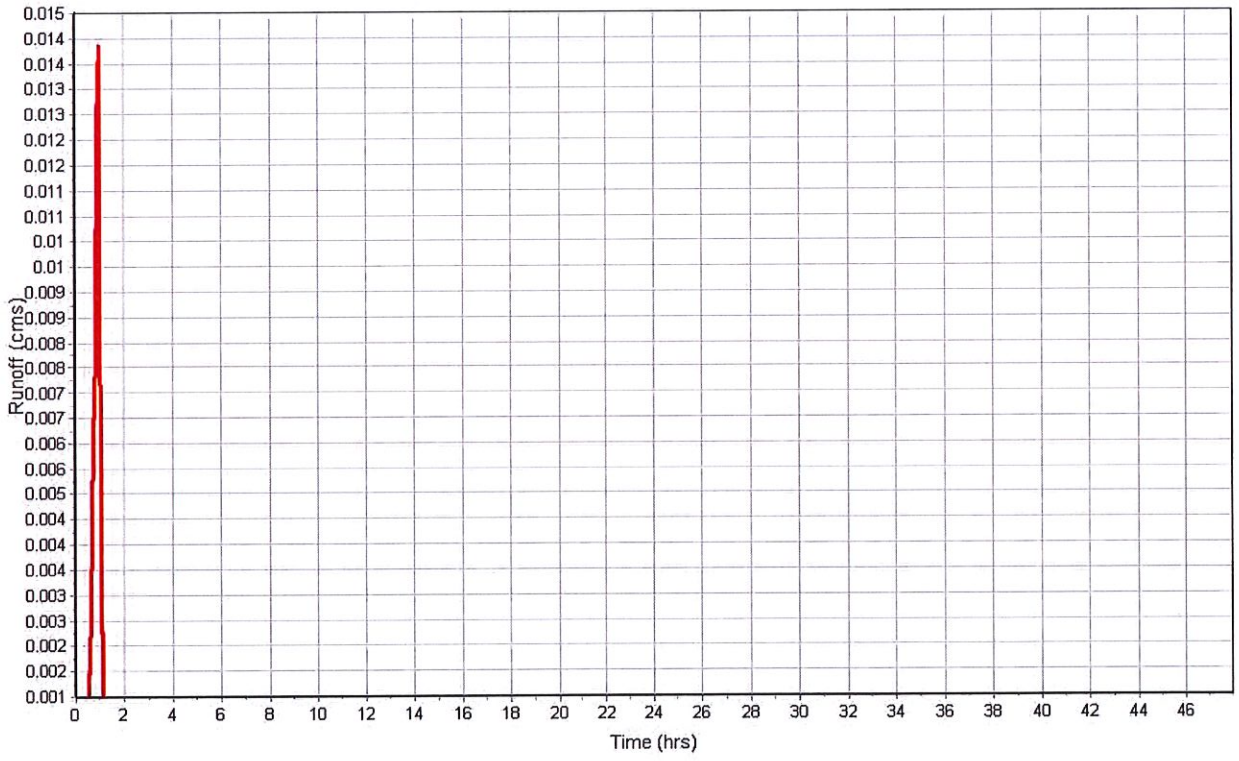
Total Rainfall (mm) 52.58
Total Runoff (mm) 40.06
Peak Runoff (cms) 0.01
Weighted Curve Number 95.30
Time of Concentration (days hh:mm:ss) 0 00:01:20

Subbasin : Sub-CB3-01

Rainfall Intensity Graph



Runoff Hydrograph



Junction Input

SN	Element ID	Invert Elevation (m)	Ground/Rim (Max) Elevation (m)	Ground/Rim (Max) Offset (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Surcharge Elevation (m)	Surcharge Depth (m)	Ponded Area (m²)	Minimum Pipe Cover (m)
1	Out-1Pipe - (12)	27.30	31.39	4.09	0.00	-27.30	0.00	-31.39	0.00	3.28

Junction Results

SN	Element ID	Peak Inflow (cms)	Peak Lateral Inflow (cms)	Max HGL Elevation Attained (m)	Max HGL Depth Attained (m)	Max Surcharge Depth Attained (m)	Min Freeboard Attained (m)	Average HGL Elevation Attained (m)	Average HGL Depth Attained (m)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	Out-1Pipe - (12)	1.93	1.70	28.93	1.63	0.00	2.46	27.49	0.19	0 01:10	0 00:00	0.00	0.00

Channel Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Shape	Height (m)	Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate
1	OF-01	13.02	33.84	1.00	33.64	1.03	0.20	1.5400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
2	OF-06	9.25	29.46	1.13	29.34	1.45	0.12	1.3000	Trapezoidal	0.150	13.000	0.0120	0.5000	0.5000	0.0000	0.00	No
3	OF-08	25.53	33.96	0.91	32.12	0.91	1.84	7.1900	Trapezoidal	0.070	9.500	0.0320	0.5000	0.5000	0.0000	0.00	No
4	OF-09	56.18	32.46	1.25	30.06	0.50	2.40	4.2600	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
5	OF-10	43.89	30.06	0.50	29.34	1.45	0.72	1.6500	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
6	OF-2	19.18	33.64	1.03	33.06	1.16	0.58	3.0300	Trapezoidal	0.100	17.000	0.0120	0.5000	0.5000	0.0000	0.00	No
7	OF-3	33.86	33.06	1.16	32.19	0.97	0.87	2.5700	Trapezoidal	0.120	17.400	0.0120	0.5000	0.5000	0.0000	0.00	No
8	OF-4	21.32	32.19	0.97	30.78	1.09	1.41	6.6400	Trapezoidal	0.100	12.000	0.0120	0.5000	0.5000	0.0000	0.00	No
9	OF-5	56.11	30.78	1.09	29.46	1.13	1.32	2.3400	Trapezoidal	0.120	12.400	0.0120	0.5000	0.5000	0.0000	0.00	No
10	OF-7	40.58	34.40	1.02	33.96	0.91	0.44	1.0900	Trapezoidal	0.070	11.500	0.0320	0.5000	0.5000	0.0000	0.00	No

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cms)	(days hh:mm)	(cms)		(m/sec)	(min)	(m)		(min)		
1	OF-01	0.05	0 01:04	3.16	0.02	0.51	0.43	0.01	0.09	0.00		
2	OF-06	0.04	0 01:05	4.26	0.01	0.44	0.35	0.01	0.07	0.00		
3	OF-08	0.02	0 01:04	0.93	0.02	0.30	1.42	0.01	0.09	0.00		
4	OF-09	0.01	0 01:05	5.28	0.00	0.16	5.85	0.02	0.44	0.00		
5	OF-10	0.06	0 01:04	4.83	0.01	0.47	1.56	0.01	0.07	0.00		
6	OF-2	0.01	0 01:04	4.80	0.00	0.00		0.00	0.03	0.00		
7	OF-3	0.02	0 01:04	6.02	0.00	0.33	1.71	0.00	0.03	0.00		
8	OF-4	0.14	0 01:04	4.80	0.03	0.70	0.51	0.05	0.59	0.00		
9	OF-5	0.01	0 01:04	3.90	0.00	0.14	6.68	0.06	0.52	0.00		
10	OF-7	0.03	0 01:04	0.45	0.06	0.19	3.56	0.01	0.18	0.00		

Pipe Input

SN	Element ID	Length (m)	Inlet Invert Elevation (m)	Inlet Invert Offset (m)	Outlet Invert Elevation (m)	Outlet Invert Offset (m)	Total Drop (m)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (m)	Pipe Width (m)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cms)	Flap Gate	No. of Barrels
1	Pipe - (1)	5.99	32.85	0.00	32.84	0.00	0.01	0.1700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
2	Pipe - (10)	56.13	31.21	0.00	29.56	0.00	1.65	2.9400	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
3	Pipe - (11)	43.86	29.56	0.00	27.89	0.00	1.67	3.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
4	Pipe - (12)	12.71	27.89	0.00	27.73	0.43	0.16	1.2600	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
5	Pipe - (2)	12.96	32.84	0.00	32.61	0.00	0.23	1.7700	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
6	Pipe - (3)	19.09	32.61	0.00	31.90	0.00	0.71	3.7200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
7	Pipe - (4)	33.81	31.90	0.00	31.22	0.00	0.68	2.0100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
8	Pipe - (5)	21.28	31.22	0.00	29.69	0.00	1.53	7.1900	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
9	Pipe - (6)	56.09	29.69	0.00	28.33	0.00	1.36	2.4200	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
10	Pipe - (7)	9.01	28.33	0.00	27.89	0.00	0.44	4.8900	CIRCULAR	0.380	0.380	0.0120	0.5000	0.5000	0.0000	0.00	No	1
11	Pipe - (8)	40.57	33.38	0.00	33.05	0.00	0.33	0.8100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
12	Pipe - (9)	25.52	33.05	0.00	31.21	0.00	1.84	7.2100	CIRCULAR	0.300	0.300	0.0120	0.5000	0.5000	0.0000	0.00	No	1
13	Pipe-Out	16.33	27.30	0.00	26.98	0.00	0.32	1.9600	CIRCULAR	0.810	0.810	0.0150	0.5000	0.5000	0.0000	0.00	No	1

Pipe Results

SN	Element ID	Peak Flow (cms)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cms)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (m/sec)	Travel Time (min)	Peak Flow Depth (m)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	Pipe - (1)	0.00	0 00:00	0.05	0.06	0.58	0.17	0.13	0.43	0.00		Calculated
2	Pipe - (10)	0.08	0 01:05	0.18	0.44	2.94	0.32	0.22	0.73	0.00		Calculated
3	Pipe - (11)	0.13	0 01:05	0.20	0.62	1.80	0.41	0.30	1.00	6.00		SURCHARGED
4	Pipe - (12)	0.40	0 00:59	0.21	1.88	3.63	0.06	0.38	1.00	24.00		SURCHARGED
5	Pipe - (2)	0.04	0 01:05	0.14	0.30	1.17	0.18	0.16	0.54	0.00		Calculated
6	Pipe - (3)	0.10	0 01:05	0.20	0.49	1.87	0.17	0.24	0.82	0.00		Calculated
7	Pipe - (4)	0.12	0 01:05	0.15	0.81	3.61	0.16	0.30	1.00	3.00		SURCHARGED
8	Pipe - (5)	0.18	0 01:05	0.28	0.63	3.88	0.09	0.30	1.00	7.00		SURCHARGED
9	Pipe - (6)	0.15	0 01:08	0.16	0.91	2.39	0.39	0.30	1.00	15.00		SURCHARGED
10	Pipe - (7)	0.19	0 01:05	0.42	0.45	1.72	0.09	0.38	1.00	25.00		SURCHARGED
11	Pipe - (8)	0.02	0 01:05	0.09	0.16	1.97	0.34	0.09	0.29	0.00		Calculated
12	Pipe - (9)	0.06	0 01:05	0.28	0.19	8.98	0.05	0.11	0.38	0.00		Calculated
13	Pipe-Out	1.93	0 01:10	1.68	1.15	3.72	0.07	0.81	1.00	9.00		SURCHARGED

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (m)	Max (Rim) Elevation (m)	Inlet Depth (m)	Initial Water Elevation (m)	Initial Water Depth (m)	Ponded Area (m^2)	Grate Clogging Factor (%)
1	CB1-01	FHWA HEC-22 GENERIC	N/A	On Sag	1	32.85	33.83	0.98	32.92	0.07	0.00	25.00
2	CB1-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.84	33.84	1.00	32.79	-0.05	N/A	25.00
3	CB1-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	32.61	33.64	1.03	32.62	0.01	N/A	25.00
4	CB1-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.90	33.06	1.16	32.04	0.14	N/A	25.00
5	CB1-05	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.22	32.19	0.97	31.17	-0.05	N/A	25.00
6	CB1-06	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.69	30.78	1.09	29.75	0.06	N/A	25.00
7	CB1-07	FHWA HEC-22 GENERIC	N/A	On Grade	1	28.33	29.46	1.13	28.44	0.11	N/A	25.00
8	CB2-01	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.38	34.40	1.02	33.48	0.10	N/A	25.00
9	CB2-02	FHWA HEC-22 GENERIC	N/A	On Grade	1	33.05	33.96	0.91	31.91	-1.14	N/A	25.00
10	CB2-03	FHWA HEC-22 GENERIC	N/A	On Grade	1	31.21	32.12	0.91	29.77	-1.44	N/A	25.00
11	CB2-04	FHWA HEC-22 GENERIC	N/A	On Grade	1	29.56	30.06	0.50	29.05	-0.51	N/A	25.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (m/m)	Roadway Cross Slope (m/m)	Roadway Manning's Roughness	Gutter Cross Slope (m/m)	Gutter Width (m)	Gutter Depression (cm)	Allowable Spread (m)
1	CB1-01	N/A	0.0500	0.0130	0.0620	2.00	0.0000	2.00
2	CB1-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
3	CB1-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
4	CB1-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
5	CB1-05	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
6	CB1-06	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
7	CB1-07	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
8	CB2-01	0.0100	0.0200	0.0160	0.0620	2.00	0.1667	2.00
9	CB2-02	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
10	CB2-03	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00
11	CB2-04	0.0200	0.0500	0.0130	0.0620	2.00	0.0000	2.00

Inlet Results

SN	Element ID	Peak Flow (cms)	Peak Lateral Inflow (cms)	Peak Flow Intercepted by Inlet (cms)	Peak Flow Bypassing Inlet (cms)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (m)	Max Gutter Water Elev. during Peak Flow (m)	Max Gutter Water Depth during Peak Flow (m)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ha-mm)	Total Time Flooded (min)
1	CB1-01	0.00	0.00	N/A	N/A	N/A	0.13	33.84	0.01	0 01:05	0.00	0.00
2	CB1-02	0.09	0.09	0.04	0.05	44.73	0.50	33.87	0.03	0 01:05	0.00	0.00
3	CB1-03	0.02	0.02	0.01	0.01	44.73	0.11	33.65	0.01	0 01:05	0.00	0.00
4	CB1-04	0.04	0.04	0.02	0.02	44.73	0.20	33.07	0.01	0 01:05	0.00	0.00
5	CB1-05	0.09	0.09	0.04	0.05	44.73	0.51	32.22	0.03	0 01:05	0.00	0.00
6	CB1-06	0.02	0.02	0.01	0.01	44.73	0.11	30.78	0.01	0 00:59	4.29	9.00
7	CB1-07	0.08	0.08	0.03	0.04	44.73	0.41	29.48	0.02	0 01:04	0.00	0.00
8	CB2-01	0.04	0.04	0.02	0.03	36.05	0.44	34.42	0.02	0 00:00	0.00	0.00
9	CB2-02	0.03	0.03	0.01	0.02	44.73	0.16	33.97	0.01	0 01:05	0.00	0.00
10	CB2-03	0.02	0.02	0.01	0.01	44.73	0.12	32.13	0.01	0 00:00	0.00	0.00
11	CB2-04	0.11	0.11	0.05	0.06	44.73	0.58	30.10	0.03	0 01:05	0.00	0.00

Storage Nodes

Storage Node : CB3-01

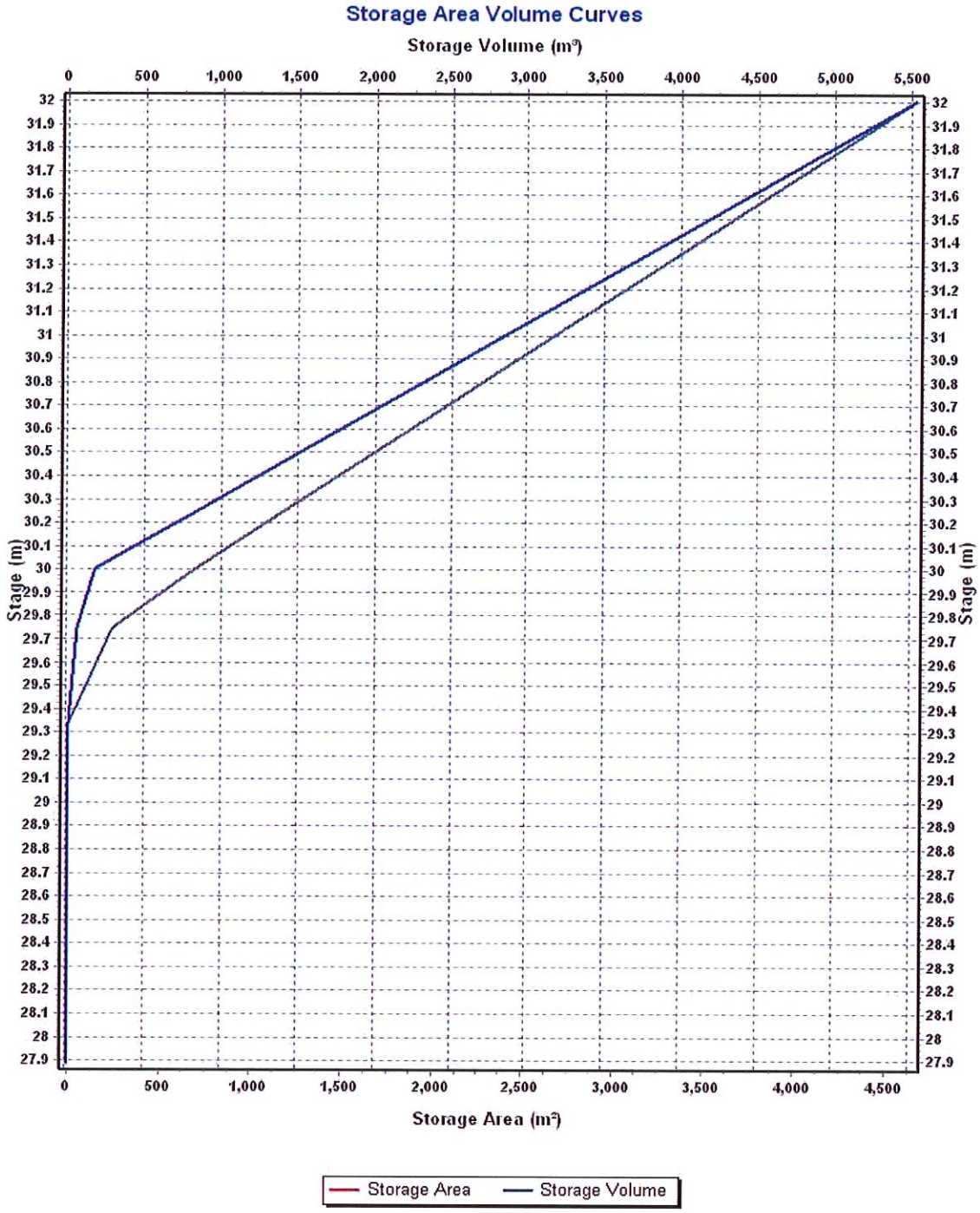
Input Data

Invert Elevation (m)	27.89
Max (Rim) Elevation (m)	29.34
Max (Rim) Offset (m)	1.45
Initial Water Elevation (m)	27.89
Initial Water Depth (m)	0.00
Ponded Area (m²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (m)	Storage Area (m²)	Storage Volume (m³)
27.89	1,115	15.549
29.34	1,115	17.17
29.75	237	65.98
30	692	182.11
32	4650	5524.11

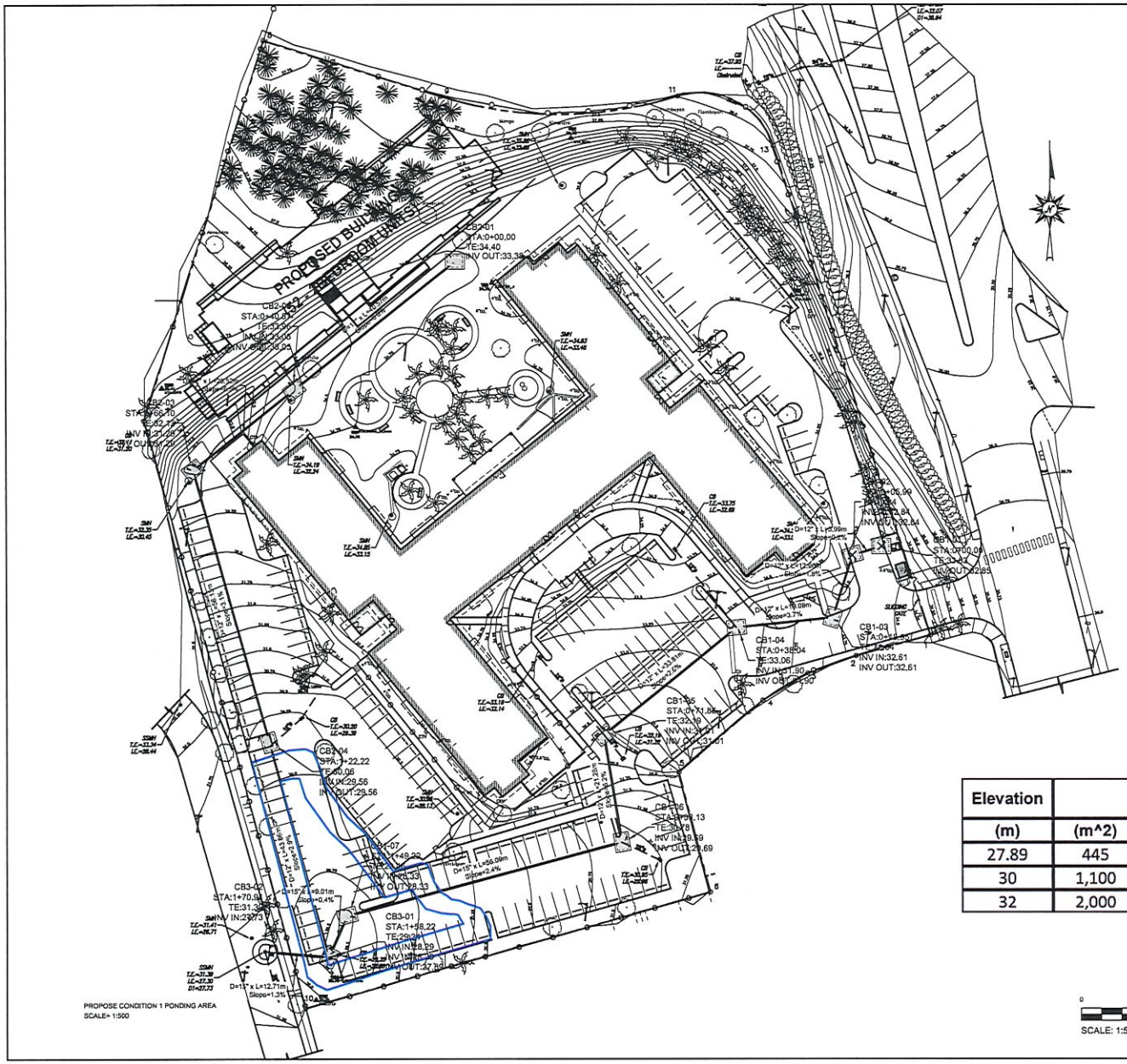

Storage Area Volume Curves
Storage Volume (m³)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
5,500
Stage (m)
32
31.9
31.8
31.7
31.6
31.5
31.4
31.3
31.2
31.1
31
30.9
30.8
30.7
30.6
30.5
30.4
30.3
30.2
30.1
30
29.9
29.8
29.7
29.6
29.5
29.4
29.3
29.2
29.1
29
28.9
28.8
28.7
28.6
28.5
28.4
28.3
28.2
28.1
28
27.9
Storage Area (m²)
Storage Area
Storage Volume

Storage Node : CB3-01 (continued)

Output Summary Results

Peak Inflow (cms)	0.57
Peak Lateral Inflow (cms)	0.15
Peak Outflow (cms)	0.40
Peak Exfiltration Flow Rate (cmm)	0.00
Max HGL Elevation Attained (m)	29.34
Max HGL Depth Attained (m)	1.45
Average HGL Elevation Attained (m)	28.19
Average HGL Depth Attained (m)	0.3
Time of Max HGL Occurrence (days hh:mm)	0 00:57
Total Exfiltration Volume (1000-m³)	0.000
Total Flooded Volume (ha-mm)	5.7
Total Time Flooded (min)	14
Total Retention Time (sec)	0.00

Appendix P Proposed Conditions Site Plan and Schematics Design



Elevation	Surface Area			Storage Volume
(m)	(m^2)	(ha)	(ac)	(m^3)
27.89	445	0.445	0.11	0
30	1,100	1.1	0.272	1623
32	2,000	2	0.494	4730

0 25 m 50 m

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CERTIFICO QUE SO Y EL PROFESIONAL QUE CONTIGUOND. Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y ORDENES DE CONSTRUCCION VIGENTES DE LAS AGENCIAS GUBERNAMENTALES PUBLICAS CON COMPROBACIONES PUBLICAS CON JURISDICCION SOBRE LA OBRA. QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS AQUI SE HAYA PRODUCIDO POR NEGLIGENCIA O POR MALICIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O PERSONAS NATURALES CON LAS CUALES ESTOY RELACIONADO PROFESIONALMENTE, SERA RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA MISMA.

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PROPOSED CONDITION 1 (PC1) POND AREA

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Appendix P

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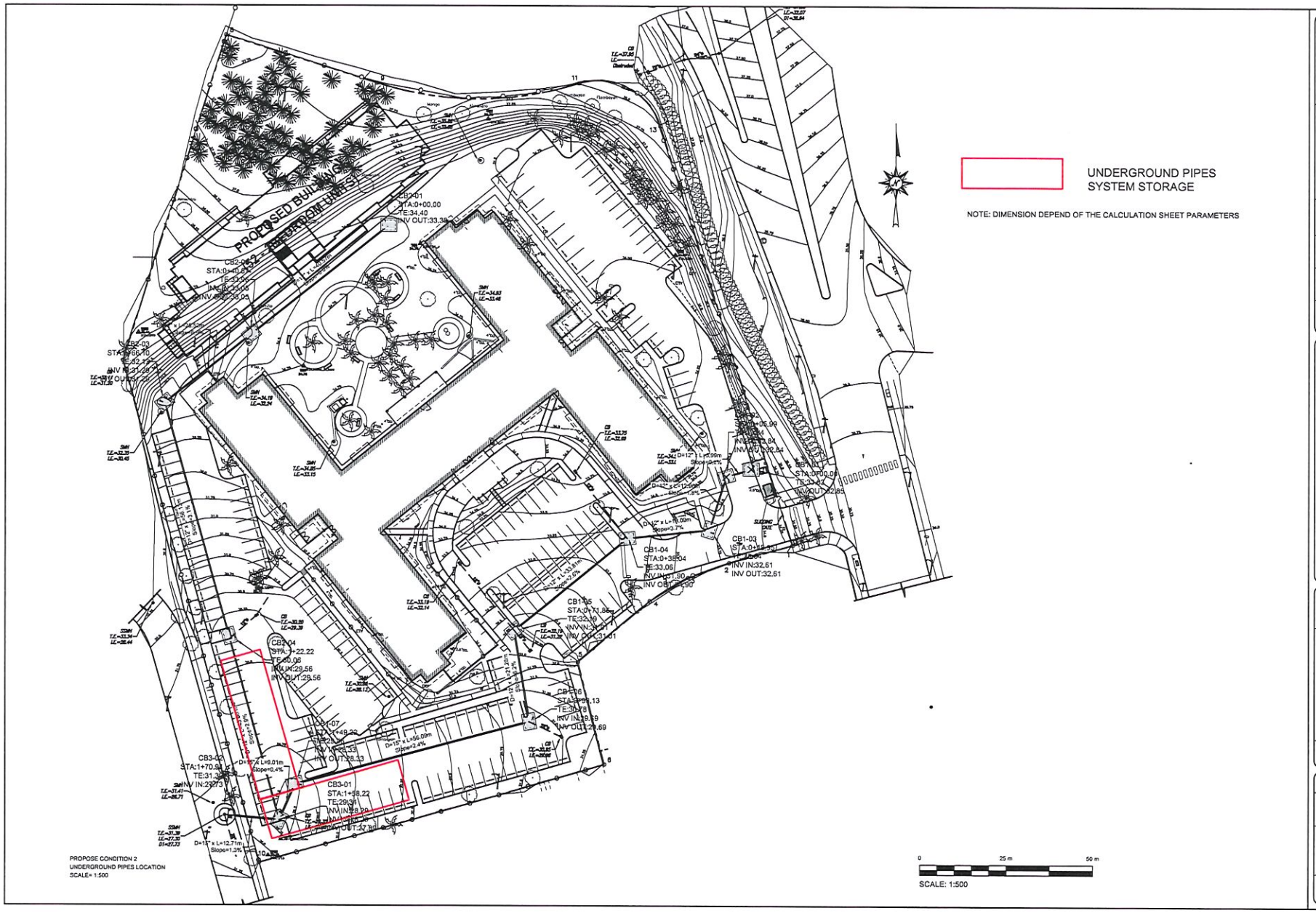

CERTIFICO QUE SO Y EL PROFESIONAL QUE CONFECCIONE, Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES, TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS, COMISIONES O COMPAÑIAS PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PROVOCADO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR ME, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONSENTIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA OCPL.

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PROPOSED CONDITION 2 (PC2) UNDERGROUND PIPE SYSTEM LOCATION

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Appendix P

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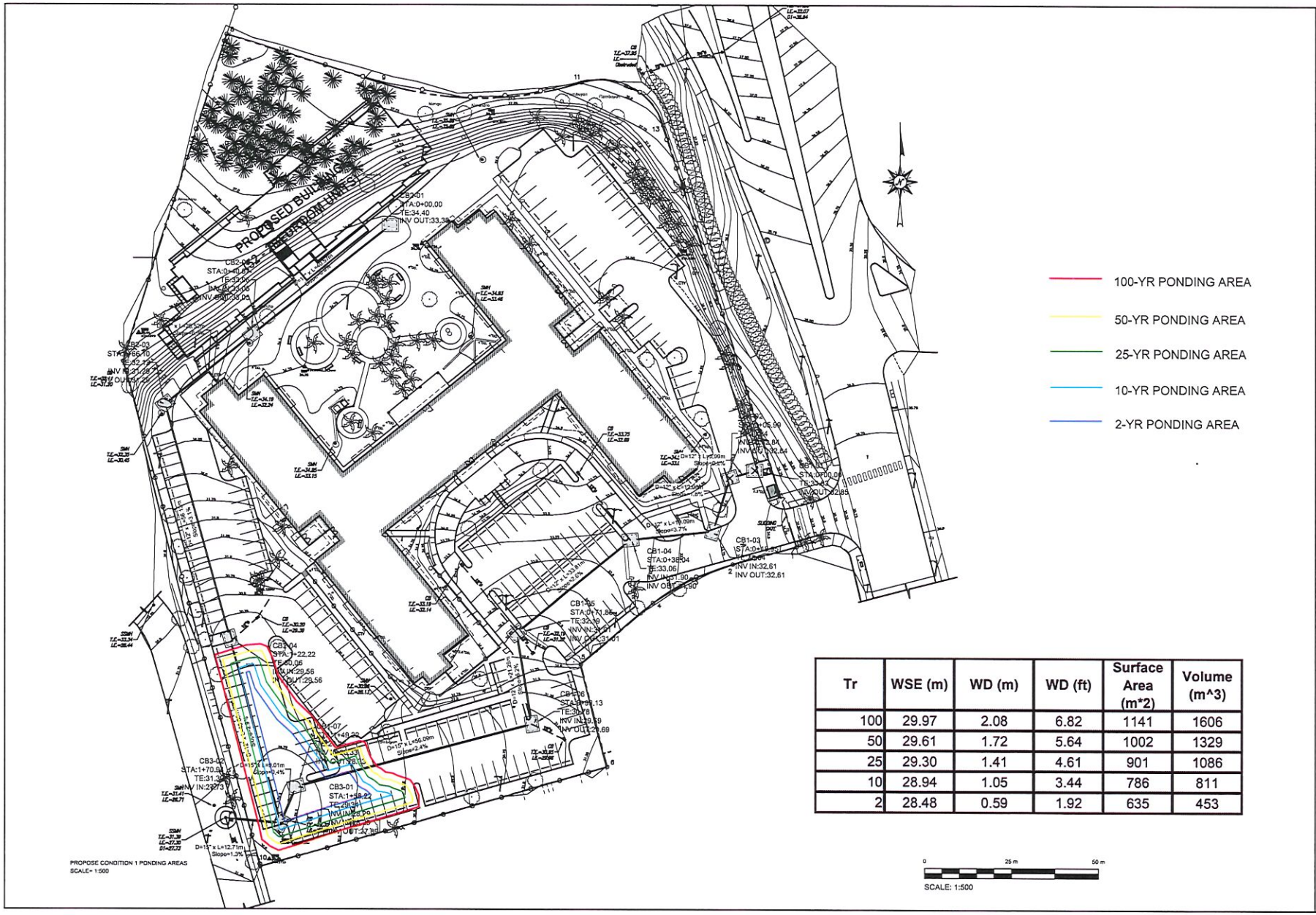
Appendix Q Proposed Conditions Ponding Areas Site Plan



Tr	WSE (m)	WD (m)	WD (ft)	Surface Area (m*2)	Volume (m^3)
100	29.97	2.08	6.82	1141	1606
50	29.61	1.72	5.64	1002	1329
25	29.30	1.41	4.61	901	1086
10	28.94	1.05	3.44	786	811
2	28.48	0.59	1.92	635	453

CERTIFICO QUE SOY EL PROFESIONAL QUE CONFECCIONO Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS LISTAS DE CACIONES COMPLEMENTARIAS. TAMBIEN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES COMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O CORPORACIONES PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISCIPLINARIA POR LA OGPE.

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PAGE TITLE: PROPOSED CONDITION 1 (PC1) PONDING AREA

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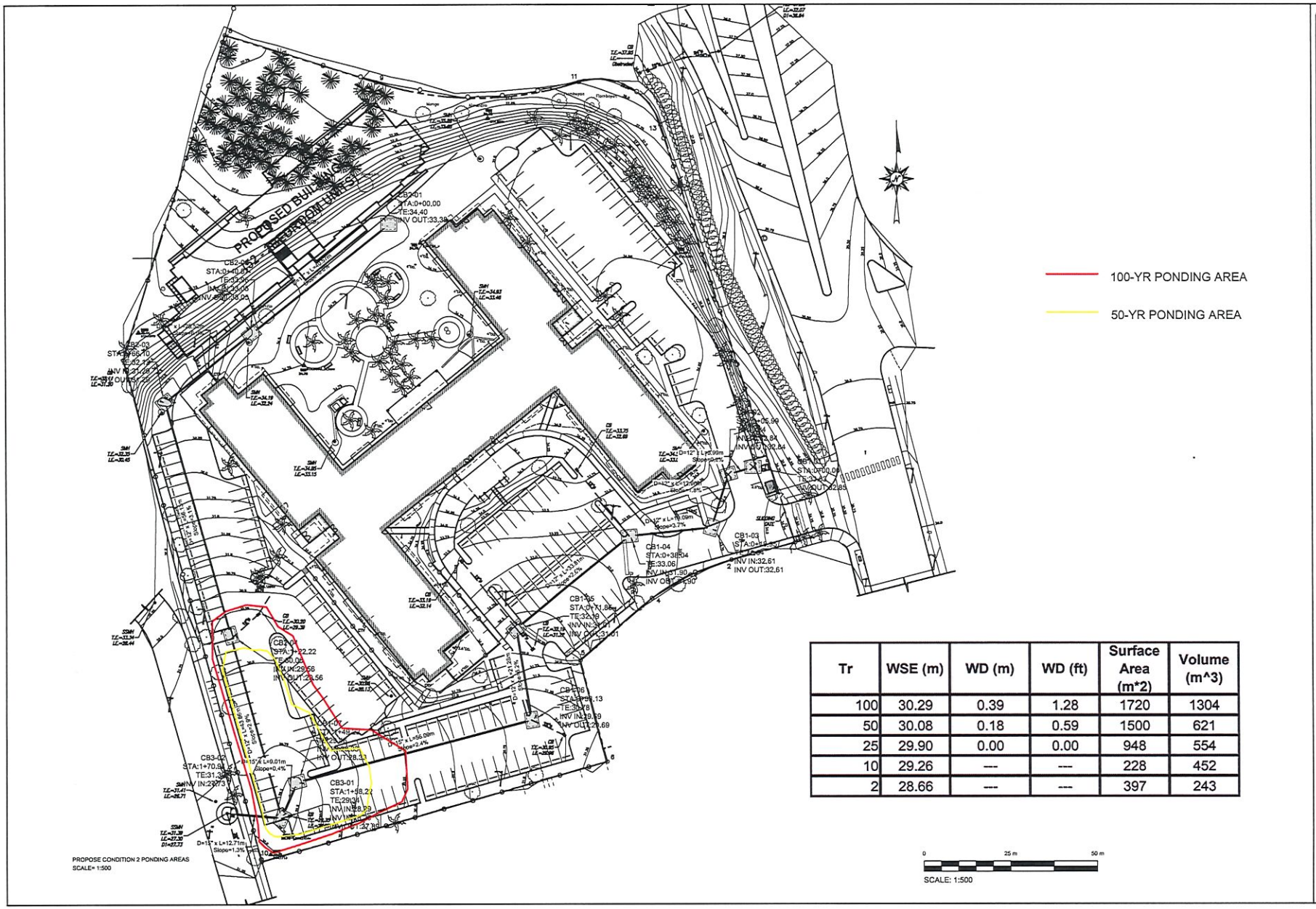

Tr	WSE (m)	WD (m)	WD (ft)	Surface Area (m*2)	Volume (m^3)
100	30.29	0.39	1.28	1720	1304
50	30.08	0.18	0.59	1500	621
25	29.90	0.00	0.00	948	554
10	29.26	---	---	228	452
2	28.66	---	---	397	243

CERTIFICO QUE SO Y EL PROFESIONAL QUE CONTECCIONO Y/O DISEÑO Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DE REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O COMPORACIONES PÚBLICAS CON JURISDICCIÓN. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMIENTO O POR NEGLIGENCIA YA SEA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCIÓN JUDICIAL Y DISCIPLINARIA POR LA OCPC.

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PAGE TITLE: PROPOSED CONDITION 2 (PC2) PONDING AREA

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Appendix R Proposed Condition 1 (PC1) Output Report

==========
==== Basins ====
==========

Name: CB1-01 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.062 Time Shift(hrs): 0.00
Curve Number: 61.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-02 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.966 Time Shift(hrs): 0.00
Curve Number: 81.41 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-03 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.133 Time Shift(hrs): 0.00
Curve Number: 95.55 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-04 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.227 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-05 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.598 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-06 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.128 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-07		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.482	Time Shift(hrs):	0.00
Curve Number:	95.98	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: CB2-01		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.509	Time Shift(hrs):	0.00
Curve Number:	78.96	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: CB2-02		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.865	Time Shift(hrs):	0.00
Curve Number:	68.50	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: CB2-03		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.198	Time Shift(hrs):	0.00
Curve Number:	72.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: CB2-04		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.680	Time Shift(hrs):	0.00
Curve Number:	96.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: CB3-01		Node: Node-1	Status: Onsite
Group: BASE		Type: SCS Unit Hydrograph CN	
Unit Hydrograph:	Uh484	Peaking Factor:	484.0
Rainfall File:		Storm Duration(hrs):	0.00
Rainfall Amount(in):	0.000	Time of Conc(min):	5.00
Area(ac):	0.089	Time Shift(hrs):	0.00
Curve Number:	95.30	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: Off-Site Basin	Node: MH-1	Status: Onsite

Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 10.848 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Nodes

Name: Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: MH-1 Base Flow(cfs): 0.000 Init Stage(ft): 89.567
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: Node-1 Base Flow(cfs): 0.000 Init Stage(ft): 91.503
Group: BASE Warn Stage(ft): 98.425
Type: Stage/Area

Stage(ft)	Area(ac)
91.503	0.1100
97.605	0.2587
104.987	0.4942

Name: Node-3 Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	0.000
100.00	98.425

Operating Tables

Name: Group: BASE
Type: Bottom Clip
Function: US Depth Above Invert vs. Depth of Clip

US Depth(ft)	Clip Depth(in)
0.00	0.00
1.50	1.50
12.00	1.50

Pipes

Name: EX-SWS From Node: MH-1 Length(ft): 49.21
Group: BASE To Node: Node-3 Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	32.00	32.00
Rise(in):	32.00	32.00
Invert(ft):	89.567	78.740
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 0.50
Bend Loss Coef: 0.50
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: Pipe-12
Group: BASE
From Node: Node-1
To Node: MH-1
Length(ft): 41.70
Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	15.00	15.00
Rise(in):	15.00	15.00
Invert(ft):	91.503	90.978
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==========

==== Hydrology Simulations ====

==========

Name: 100-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 10.70

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 100-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 10.70

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 100-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 3.21

e(hrs)       Print Inc(min)
------------ ---------------
1.000        5.00

-------------------------------------------------------------------------------------------------
         Name: 100-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 3.21

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 100-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 7.87

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 100-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 7.87
```

```
Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 8.23

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 10yr-24hr-90%
```

Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 8.23

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 10yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 5.33

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 10yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 5.33

Time(hrs)	Print Inc(min)
00	10.00

Name: 25yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 8.24

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 8.24

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 25yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00

Rainfall File: 1hr-10%
Rainfall Amount(in): 2.83

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 25yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 2.83

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 25yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 10.30

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 25yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 10.30

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 25yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 6.31

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 25yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 6.31

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 2yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 4.27

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 2yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 4.27

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 2yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 2.07

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 2yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 2.07

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 2yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 5.06

Time(hrs)	Print Inc(min)
000	30.00

Name: 2yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 5.06

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 50-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 9.47

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 50-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 9.47

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 50-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 3.03
```

```
Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
        Name: 50-1hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 3.03

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 50-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 11.90

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 50-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 11.90

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 50-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 7.09

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 50-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.R32


      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 7.09

me(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 5yr-12hr-10%
```

Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 5.63

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 5yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 5.63

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 5yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 2.35

Time(hrs)	Print Inc(min)
1.000	10.00

Name: 5yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 2.35

Time(hrs)	Print Inc(min)
1.000	10.00

Name: 5yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 6.80

Time(hrs)	Print Inc(min)
24.000	30.00

Name: 5yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00

```
         Rainfall File: 24hr-90%
    Rainfall Amount(in): 6.80

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
         Rainfall File: 6hr-10%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
         Rainfall File: 6hr-90%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

===============================================================================================
==== Routing Simulations ======================================================================
===============================================================================================

         Name: 100-12hr-10%        Hydrology Sim: 100-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.I32



      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:



Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------------
         Name: 100-12hr-90%        Hydrology Sim: 100-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.I32



      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-1hr-10% Hydrology Sim: 100-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-1hr-90% Hydrology Sim: 100-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-24hr-10% Hydrology Sim: 100-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)

999.000	15.000

Group	Run
BASE	Yes

Name: 100-24hr-90% Hydrology Sim: 100-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-6hr-10% Hydrology Sim: 100-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 100-6hr-90% Hydrology Sim: 100-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 10yr-12hr-10% Hydrology Sim: 10yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-12hr-90% Hydrology Sim: 10yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-1hr-10% Hydrology Sim: 10yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 10yr-1hr-90% Hydrology Sim: 10yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 10yr-24hr-10% Hydrology Sim: 10yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-24hr-90% Hydrology Sim: 10yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-6hr-10% Hydrology Sim: 10yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 10yr-6hr-90% Hydrology Sim: 10yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 25yr-12hr-10% Hydrology Sim: 25yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-12hr-90% Hydrology Sim: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.I32

```
     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 25yr-1hr-10%        Hydrology Sim: 25yr-1hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
0.000           5.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 25yr-1hr-90%        Hydrology Sim: 25yr-1hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
  Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 25yr-24hr-10%       Hydrology Sim: 25yr-24hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
```

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-24hr-90% Hydrology Sim: 25yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-6hr-10% Hydrology Sim: 25yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 25yr-6hr-90% Hydrology Sim: 25yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500

```
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


 ..me(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
        Name: 2yr-12hr-10%        Hydrology Sim: 2yr-12hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.I32



     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
        Name: 2yr-12hr-90%        Hydrology Sim: 2yr-12hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.I32



     Execute: No          Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------
        Name: 2yr-1hr-10%         Hydrology Sim: 2yr-1hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.I32



     Execute: No          Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
```

Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-1hr-90% Hydrology Sim: 2yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-24hr-10% Hydrology Sim: 2yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-24hr-90% Hydrology Sim: 2yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-6hr-10% Hydrology Sim: 2yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-6hr-90% Hydrology Sim: 2yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 50-12hr-10% Hydrology Sim: 50-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)

999.000 15.000

Group Run
--- ---
BASE Yes

Name: 50-12hr-90% Hydrology Sim: 50-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
999.000 15.000

Group Run
--- ---
BASE Yes

Name: 50-1hr-10% Hydrology Sim: 50-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
999.000 5.000

Group Run
--- ---
BASE Yes

Name: 50-1hr-90% Hydrology Sim: 50-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
--- ---
999.000 5.000

Group Run

```
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-10%         Hydrology Sim: 50-24hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-90%         Hydrology Sim: 50-24hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-6hr-10%          Hydrology Sim: 50-6hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
99.000          10.000

Group           Run
--------------- -----
BASE            Yes
```

Name: 50-6hr-90% Hydrology Sim: 50-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-12hr-10% Hydrology Sim: 5yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 5yr-12hr-90% Hydrology Sim: 5yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 5yr-1hr-10% Hydrology Sim: 5yr-1hr-10%

Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-1hr-90% Hydrology Sim: 5yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

..e(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-24hr-10% Hydrology Sim: 5yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 5yr-24hr-90% Hydrology Sim: 5yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.I32

```
     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         30.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------------
        Name: 5yr-6hr-10%         Hydrology Sim: 5yr-6hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------------
        Name: 5yr-6hr-90%         Hydrology Sim: 5yr-6hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes
```

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100-12hr-10%	CB1-01	BASE	1.27	0.16	5.605	1257
100-12hr-10%	CB1-02	BASE	0.77	3.89	8.365	29338
100-12hr-10%	CB1-03	BASE	0.51	0.68	10.147	4915
100-12hr-10%	CB1-04	BASE	0.50	1.17	10.202	8419
100-12hr-10%	CB1-05	BASE	0.50	3.08	10.202	22146
100-12hr-10%	CB1-06	BASE	0.50	0.66	10.202	4759
100-12hr-10%	CB1-07	BASE	0.50	2.48	10.200	17841
100-12hr-10%	CB2-01	BASE	0.77	1.95	8.045	14866
100-12hr-10%	CB2-02	BASE	1.02	2.71	6.644	20857
100-12hr-10%	CB2-03	BASE	1.01	0.67	7.119	5108
100-12hr-10%	CB2-04	BASE	0.50	3.49	10.202	25166
100-12hr-10%	CB3-01	BASE	0.51	0.45	10.117	3267
100-12hr-90%	CB1-01	BASE	12.00	0.18	5.604	1257
100-12hr-90%	CB1-02	BASE	12.00	3.24	8.364	29334
100-12hr-90%	CB1-03	BASE	12.00	0.46	10.146	4915
100-12hr-90%	CB1-04	BASE	12.00	0.79	10.201	8418
100-12hr-90%	CB1-05	BASE	12.00	2.07	10.201	22144
100-12hr-90%	CB1-06	BASE	12.00	0.45	10.201	4758
100-12hr-90%	CB1-07	BASE	12.00	1.67	10.199	17839
100-12hr-90%	CB2-01	BASE	12.00	1.69	8.044	14864
100-12hr-90%	CB2-02	BASE	12.00	2.69	6.643	20854
100-12hr-90%	CB2-03	BASE	12.00	0.63	7.118	5108
100-12hr-90%	CB2-04	BASE	12.00	2.36	10.201	25163
100-12hr-90%	CB3-01	BASE	12.00	0.31	10.116	3267
100-1hr-10%	CB1-01	BASE	0.72	0.05	0.447	100
100-1hr-10%	CB1-02	BASE	0.27	2.81	1.503	5271
100-1hr-10%	CB1-03	BASE	0.20	0.82	2.708	1312
100-1hr-10%	CB1-04	BASE	0.20	1.43	2.755	2274
100-1hr-10%	CB1-05	BASE	0.20	3.77	2.755	5981
100-1hr-10%	CB1-06	BASE	0.20	0.81	2.755	1285
100-1hr-10%	CB1-07	BASE	0.20	3.04	2.753	4816
100-1hr-10%	CB2-01	BASE	0.28	1.28	1.340	2476
100-1hr-10%	CB2-02	BASE	0.33	1.07	0.760	2387
100-1hr-10%	CB2-03	BASE	0.31	0.32	0.935	671
100-1hr-10%	CB2-04	BASE	0.20	4.29	2.755	6797
100-1hr-10%	CB3-01	BASE	0.20	0.54	2.682	866
100-1hr-90%	CB1-01	BASE	1.01	0.19	0.447	100
100-1hr-90%	CB1-02	BASE	1.01	6.59	1.503	5271
100-1hr-90%	CB1-03	BASE	1.00	1.21	2.708	1312
100-1hr-90%	CB1-04	BASE	1.00	2.07	2.755	2274
100-1hr-90%	CB1-05	BASE	1.00	5.45	2.755	5981
100-1hr-90%	CB1-06	BASE	1.00	1.17	2.755	1285
100-1hr-90%	CB1-07	BASE	1.00	4.39	2.753	4815
100-1hr-90%	CB2-01	BASE	1.01	3.24	1.340	2475
100-1hr-90%	CB2-02	BASE	1.01	3.79	0.760	2387
100-1hr-90%	CB2-03	BASE	1.01	1.00	0.934	671
100-1hr-90%	CB2-04	BASE	1.00	6.19	2.755	6796
100-1hr-90%	CB3-01	BASE	1.00	0.80	2.682	866
100-24hr-10%	CB1-01	BASE	1.51	0.15	8.190	1836
100-24hr-10%	CB1-02	BASE	1.01	3.55	11.281	39564
100-24hr-10%	CB1-03	BASE	0.50	0.64	13.139	6364
100-24hr-10%	CB1-04	BASE	0.50	1.10	13.195	10889
100-24hr-10%	CB1-05	BASE	0.50	2.89	13.195	28642
100-24hr-10%	CB1-06	BASE	0.50	0.62	13.195	6155
100-24hr-10%	CB1-07	BASE	0.50	2.33	13.192	23075
100-24hr-10%	CB2-01	BASE	1.01	1.80	10.936	20208
100-24hr-10%	CB2-02	BASE	1.01	2.48	9.386	29467
100-24hr-10%	CB2-03	BASE	1.01	0.61	9.920	7118
100-24hr-10%	CB2-04	BASE	0.50	3.28	13.195	32548
100-24hr-10%	CB3-01	BASE	0.50	0.43	13.108	4233
100-24hr-90%	CB1-01	BASE	24.00	0.20	8.188	1836
100-24hr-90%	CB1-02	BASE	24.00	3.46	11.278	39556
100-24hr-90%	CB1-03	BASE	24.00	0.49	13.137	6363
100-24hr-90%	CB1-04	BASE	24.00	0.83	13.193	10887
100-24hr-90%	CB1-05	BASE	24.00	2.19	13.193	28638
100-24hr-90%	CB1-06	BASE	24.00	0.47	13.193	6154
100-24hr-90%	CB1-07	BASE	24.00	1.76	13.190	23071
100-24hr-90%	CB2-01	BASE	24.00	1.81	10.934	20204
100-24hr-90%	CB2-02	BASE	24.00	2.94	9.384	29461
100-24hr-90%	CB2-03	BASE	24.00	0.68	9.918	7117
100-24hr-90%	CB2-04	BASE	24.00	2.48	13.193	32543
100-24hr-90%	CB3-01	BASE	24.00	0.33	13.106	4232
100-6hr-10%	CB1-01	BASE	1.01	0.16	3.341	749
100-6hr-10%	CB1-02	BASE	0.69	4.15	5.660	19851
100-6hr-10%	CB1-03	BASE	0.51	0.73	7.328	3549
100-6hr-10%	CB1-04	BASE	0.51	1.25	7.381	6091
100-6hr-10%	CB1-05	BASE	0.51	3.28	7.381	16023
100-6hr-10%	CB1-06	BASE	0.51	0.70	7.381	3443

100-6hr-10%	CB1-07	BASE	0.51	2.64	7.379	12907
100-6hr-10%	CB2-01	BASE	0.69	2.08	5.375	9932
100-6hr-10%	CB2-02	BASE	0.86	2.80	4.177	13114
100-6hr-10%	CB2-03	BASE	0.86	0.69	4.574	3283
100-6hr-10%	CB2-04	BASE	0.51	3.73	7.381	18208
100-6hr-10%	CB3-01	BASE	0.51	0.48	7.298	2357
100-6hr-90%	CB1-01	BASE	6.00	0.15	3.341	749
100-6hr-90%	CB1-02	BASE	6.00	2.94	5.660	19849
100-6hr-90%	CB1-03	BASE	5.84	0.43	7.327	3549
100-6hr-90%	CB1-04	BASE	5.84	0.74	7.381	6091
100-6hr-90%	CB1-05	BASE	5.84	1.94	7.381	16022
100-6hr-90%	CB1-06	BASE	5.84	0.42	7.381	3443
100-6hr-90%	CB1-07	BASE	5.84	1.56	7.378	12906
100-6hr-90%	CB2-01	BASE	6.00	1.52	5.375	9931
100-6hr-90%	CB2-02	BASE	6.00	2.34	4.177	13113
100-6hr-90%	CB2-03	BASE	6.00	0.56	4.574	3282
100-6hr-90%	CB2-04	BASE	5.84	2.20	7.381	18207
100-6hr-90%	CB3-01	BASE	5.84	0.29	7.297	2356
10yr-12hr-10%	CB1-01	BASE	1.51	0.07	2.506	562
10yr-12hr-10%	CB1-02	BASE	1.01	2.10	4.593	16109
10yr-12hr-10%	CB1-03	BASE	0.51	0.41	6.193	3000
10yr-12hr-10%	CB1-04	BASE	0.51	0.71	6.246	5155
10yr-12hr-10%	CB1-05	BASE	0.51	1.88	6.246	13559
10yr-12hr-10%	CB1-06	BASE	0.51	0.40	6.246	2913
10yr-12hr-10%	CB1-07	BASE	0.51	1.51	6.244	10921
10yr-12hr-10%	CB2-01	BASE	1.01	1.04	4.328	7997
10yr-12hr-10%	CB2-02	BASE	1.27	1.33	3.239	10169
10yr-12hr-10%	CB2-03	BASE	1.27	0.33	3.595	2580
10yr-12hr-10%	CB2-04	BASE	0.51	2.13	6.246	15408
10yr-12hr-10%	CB3-01	BASE	0.51	0.27	6.164	1991
10yr-12hr-90%	CB1-01	BASE	12.00	0.09	2.505	562
10yr-12hr-90%	CB1-02	BASE	12.00	1.96	4.592	16107
10yr-12hr-90%	CB1-03	BASE	12.00	0.29	6.193	3000
10yr-12hr-90%	CB1-04	BASE	12.00	0.49	6.246	5154
10yr-12hr-90%	CB1-05	BASE	12.00	1.30	6.246	13558
10yr-12hr-90%	CB1-06	BASE	12.00	0.28	6.246	2913
10yr-12hr-90%	CB1-07	BASE	12.00	1.05	6.243	10920
10yr-12hr-90%	CB2-01	BASE	12.00	1.01	4.327	7996
10yr-12hr-90%	CB2-02	BASE	12.00	1.51	3.239	10167
10yr-12hr-90%	CB2-03	BASE	12.00	0.36	3.595	2580
10yr-12hr-90%	CB2-04	BASE	12.00	1.48	6.246	15406
10yr-12hr-90%	CB3-01	BASE	12.00	0.19	6.163	1990
10yr-1hr-10%	CB1-01	BASE	0.73	0.03	0.214	48
10yr-1hr-10%	CB1-02	BASE	0.29	1.80	1.007	3532
10yr-1hr-10%	CB1-03	BASE	0.20	0.62	2.072	1004
10yr-1hr-10%	CB1-04	BASE	0.20	1.09	2.117	1747
10yr-1hr-10%	CB1-05	BASE	0.20	2.87	2.117	4596
10yr-1hr-10%	CB1-06	BASE	0.20	0.62	2.117	988
10yr-1hr-10%	CB1-07	BASE	0.20	2.31	2.115	3700
10yr-1hr-10%	CB2-01	BASE	0.30	0.80	0.875	1616
10yr-1hr-10%	CB2-02	BASE	0.71	0.60	0.431	1352
10yr-1hr-10%	CB2-03	BASE	0.33	0.18	0.559	401
10yr-1hr-10%	CB2-04	BASE	0.20	3.26	2.117	5222
10yr-1hr-10%	CB3-01	BASE	0.21	0.41	2.048	661
10yr-1hr-90%	CB1-01	BASE	1.02	0.10	0.214	48
10yr-1hr-90%	CB1-02	BASE	1.01	4.72	1.007	3532
10yr-1hr-90%	CB1-03	BASE	1.00	0.95	2.072	1004
10yr-1hr-90%	CB1-04	BASE	1.00	1.63	2.117	1747
10yr-1hr-90%	CB1-05	BASE	1.00	4.30	2.117	4595
10yr-1hr-90%	CB1-06	BASE	1.00	0.92	2.117	987
10yr-1hr-90%	CB1-07	BASE	1.00	3.46	2.115	3699
10yr-1hr-90%	CB2-01	BASE	1.01	2.27	0.875	1616
10yr-1hr-90%	CB2-02	BASE	1.01	2.38	0.431	1352
10yr-1hr-90%	CB2-03	BASE	1.01	0.65	0.559	401
10yr-1hr-90%	CB2-04	BASE	1.00	4.89	2.117	5222
10yr-1hr-90%	CB3-01	BASE	1.00	0.63	2.048	661
10yr-24hr-10%	CB1-01	BASE	2.01	0.07	3.616	811
10yr-24hr-10%	CB1-02	BASE	1.01	1.82	6.000	21045
10yr-24hr-10%	CB1-03	BASE	0.51	0.37	7.686	3723
10yr-24hr-10%	CB1-04	BASE	0.51	0.63	7.740	6387
10yr-24hr-10%	CB1-05	BASE	0.51	1.67	7.740	16801
10yr-24hr-10%	CB1-06	BASE	0.51	0.36	7.740	3610
10yr-24hr-10%	CB1-07	BASE	0.51	1.34	7.738	13534
10yr-24hr-10%	CB2-01	BASE	1.01	0.89	5.710	10551
10yr-24hr-10%	CB2-02	BASE	1.51	1.16	4.481	14070
10yr-24hr-10%	CB2-03	BASE	1.51	0.29	4.890	3509
10yr-24hr-10%	CB2-04	BASE	0.51	1.90	7.740	19092
10yr-24hr-10%	CB3-01	BASE	0.51	0.24	7.656	2472
10yr-24hr-90%	CB1-01	BASE	24.00	0.10	3.615	811
10yr-24hr-90%	CB1-02	BASE	24.00	2.01	5.999	21040
10yr-24hr-90%	CB1-03	BASE	24.00	0.29	7.685	3722

10yr-24hr-90%	CB1-04	BASE	24.00	0.50	7.739	6386
10yr-24hr-90%	CB1-05	BASE	24.00	1.31	7.739	16799
10yr-24hr-90%	CB1-06	BASE	24.00	0.28	7.739	3610
10yr-24hr-90%	CB1-07	BASE	24.00	1.06	7.736	13532
10yr-24hr-90%	CB2-01	BASE	24.00	1.04	5.709	10549
10yr-24hr-90%	CB2-02	BASE	24.00	1.61	4.480	14066
10yr-24hr-90%	CB2-03	BASE	24.00	0.38	4.889	3508
10yr-24hr-90%	CB2-04	BASE	24.00	1.49	7.739	19089
10yr-24hr-90%	CB3-01	BASE	24.00	0.19	7.655	2472
10yr-6hr-10%	CB1-01	BASE	1.02	0.08	1.569	352
10yr-6hr-10%	CB1-02	BASE	0.84	2.44	3.314	11623
10yr-6hr-10%	CB1-03	BASE	0.51	0.48	4.803	2326
10yr-6hr-10%	CB1-04	BASE	0.51	0.83	4.854	4006
10yr-6hr-10%	CB1-05	BASE	0.51	2.17	4.854	10537
10yr-6hr-10%	CB1-06	BASE	0.51	0.47	4.854	2264
10yr-6hr-10%	CB1-07	BASE	0.51	1.75	4.852	8487
10yr-6hr-10%	CB2-01	BASE	0.86	1.20	3.080	5691
10yr-6hr-10%	CB2-02	BASE	1.02	1.47	2.156	6769
10yr-6hr-10%	CB2-03	BASE	0.86	0.38	2.452	1759
10yr-6hr-10%	CB2-04	BASE	0.51	2.47	4.854	11974
10yr-6hr-10%	CB3-01	BASE	0.51	0.32	4.774	1542
10yr-6hr-90%	CB1-01	BASE	6.00	0.08	1.569	352
10yr-6hr-90%	CB1-02	BASE	6.00	1.89	3.314	11622
10yr-6hr-90%	CB1-03	BASE	5.84	0.29	4.802	2326
10yr-6hr-90%	CB1-04	BASE	5.84	0.50	4.854	4006
10yr-6hr-90%	CB1-05	BASE	5.84	1.31	4.854	10536
10yr-6hr-90%	CB1-06	BASE	5.84	0.28	4.854	2264
10yr-6hr-90%	CB1-07	BASE	5.84	1.05	4.852	8486
10yr-6hr-90%	CB2-01	BASE	6.00	0.97	3.080	5691
10yr-6hr-90%	CB2-02	BASE	6.00	1.38	2.156	6769
10yr-6hr-90%	CB2-03	BASE	6.00	0.34	2.451	1759
10yr-6hr-90%	CB2-04	BASE	5.84	1.49	4.854	11973
10yr-6hr-90%	CB3-01	BASE	5.84	0.19	4.774	1542
25yr-12hr-10%	CB1-01	BASE	1.27	0.11	3.624	813
25yr-12hr-10%	CB1-02	BASE	0.77	2.75	6.010	21078
25yr-12hr-10%	CB1-03	BASE	0.51	0.52	7.696	3728
25yr-12hr-10%	CB1-04	BASE	0.51	0.89	7.750	6396
25yr-12hr-10%	CB1-05	BASE	0.51	2.34	7.750	16823
25yr-12hr-10%	CB1-06	BASE	0.51	0.50	7.750	3615
25yr-12hr-10%	CB1-07	BASE	0.51	1.88	7.748	13552
25yr-12hr-10%	CB2-01	BASE	1.01	1.38	5.719	10568
25yr-12hr-10%	CB2-02	BASE	1.27	1.82	4.490	14096
25yr-12hr-10%	CB2-03	BASE	1.02	0.46	4.899	3516
25yr-12hr-10%	CB2-04	BASE	0.51	2.65	7.750	19117
25yr-12hr-10%	CB3-01	BASE	0.51	0.34	7.666	2476
25yr-12hr-90%	CB1-01	BASE	12.00	0.13	3.623	813
25yr-12hr-90%	CB1-02	BASE	12.00	2.45	6.009	21075
25yr-12hr-90%	CB1-03	BASE	12.00	0.36	7.695	3727
25yr-12hr-90%	CB1-04	BASE	12.00	0.61	7.749	6395
25yr-12hr-90%	CB1-05	BASE	12.00	1.60	7.749	16821
25yr-12hr-90%	CB1-06	BASE	12.00	0.34	7.749	3614
25yr-12hr-90%	CB1-07	BASE	12.00	1.29	7.747	13550
25yr-12hr-90%	CB2-01	BASE	12.00	1.27	5.719	10567
25yr-12hr-90%	CB2-02	BASE	12.00	1.96	4.489	14094
25yr-12hr-90%	CB2-03	BASE	12.00	0.46	4.898	3515
25yr-12hr-90%	CB2-04	BASE	12.00	1.81	7.749	19115
25yr-12hr-90%	CB3-01	BASE	12.00	0.24	7.665	2475
25yr-1hr-10%	CB1-01	BASE	0.72	0.03	0.303	68
25yr-1hr-10%	CB1-02	BASE	0.28	2.20	1.208	4236
25yr-1hr-10%	CB1-03	BASE	0.20	0.71	2.336	1131
25yr-1hr-10%	CB1-04	BASE	0.20	1.23	2.382	1965
25yr-1hr-10%	CB1-05	BASE	0.20	3.25	2.382	5170
25yr-1hr-10%	CB1-06	BASE	0.20	0.70	2.382	1111
25yr-1hr-10%	CB1-07	BASE	0.20	2.61	2.380	4162
25yr-1hr-10%	CB2-01	BASE	0.29	0.99	1.062	1962
25yr-1hr-10%	CB2-02	BASE	0.34	0.75	0.560	1758
25yr-1hr-10%	CB2-03	BASE	0.32	0.23	0.708	508
25yr-1hr-10%	CB2-04	BASE	0.20	3.69	2.382	5875
25yr-1hr-10%	CB3-01	BASE	0.20	0.46	2.311	746
25yr-1hr-90%	CB1-01	BASE	1.02	0.14	0.302	68
25yr-1hr-90%	CB1-02	BASE	1.01	5.49	1.208	4236
25yr-1hr-90%	CB1-03	BASE	1.00	1.06	2.336	1131
25yr-1hr-90%	CB1-04	BASE	1.00	1.82	2.382	1965
25yr-1hr-90%	CB1-05	BASE	1.00	4.78	2.382	5170
25yr-1hr-90%	CB1-06	BASE	1.00	1.03	2.382	1111
25yr-1hr-90%	CB1-07	BASE	1.00	3.85	2.379	4162
25yr-1hr-90%	CB2-01	BASE	1.01	2.67	1.062	1962
25yr-1hr-90%	CB2-02	BASE	1.01	2.95	0.560	1758
25yr-1hr-90%	CB2-03	BASE	1.01	0.79	0.708	508
25yr-1hr-90%	CB2-04	BASE	1.00	5.43	2.382	5875
25yr-1hr-90%	CB3-01	BASE	1.00	0.70	2.310	746

25yr-24hr-10%	CB1-01	BASE	1.51	0.10	5.273	1182
25yr-24hr-10%	CB1-02	BASE	1.01	2.47	7.979	27985
25yr-24hr-10%	CB1-03	BASE	0.51	0.47	9.748	4722
25yr-24hr-10%	CB1-04	BASE	0.50	0.81	9.803	8090
25yr-24hr-10%	CB1-05	BASE	0.50	2.13	9.803	21280
25yr-24hr-10%	CB1-06	BASE	0.50	0.46	9.803	4573
25yr-24hr-10%	CB1-07	BASE	0.50	1.72	9.801	17143
25yr-24hr-10%	CB2-01	BASE	1.01	1.23	7.663	14160
25yr-24hr-10%	CB2-02	BASE	1.51	1.64	6.286	19735
25yr-24hr-10%	CB2-03	BASE	1.51	0.40	6.752	4845
25yr-24hr-10%	CB2-04	BASE	0.50	2.42	9.803	24182
25yr-24hr-10%	CB3-01	BASE	0.51	0.31	9.718	3138
25yr-24hr-90%	CB1-01	BASE	24.00	0.14	5.271	1182
25yr-24hr-90%	CB1-02	BASE	24.00	2.56	7.978	27979
25yr-24hr-90%	CB1-03	BASE	24.00	0.37	9.747	4721
25yr-24hr-90%	CB1-04	BASE	24.00	0.62	9.802	8089
25yr-24hr-90%	CB1-05	BASE	24.00	1.64	9.802	21277
25yr-24hr-90%	CB1-06	BASE	24.00	0.35	9.802	4572
25yr-24hr-90%	CB1-07	BASE	24.00	1.32	9.799	17140
25yr-24hr-90%	CB2-01	BASE	24.00	1.33	7.662	14158
25yr-24hr-90%	CB2-02	BASE	24.00	2.11	6.285	19731
25yr-24hr-90%	CB2-03	BASE	24.00	0.50	6.751	4844
25yr-24hr-90%	CB2-04	BASE	24.00	1.87	9.802	24178
25yr-24hr-90%	CB3-01	BASE	24.00	0.24	9.716	3138
25yr-6hr-10%	CB1-01	BASE	1.02	0.11	2.213	496
25yr-6hr-10%	CB1-02	BASE	0.69	3.08	4.205	14748
25yr-6hr-10%	CB1-03	BASE	0.51	0.58	5.776	2798
25yr-6hr-10%	CB1-04	BASE	0.51	0.99	5.828	4810
25yr-6hr-10%	CB1-05	BASE	0.51	2.60	5.828	12652
25yr-6hr-10%	CB1-06	BASE	0.51	0.56	5.828	2719
25yr-6hr-10%	CB1-07	BASE	0.51	2.09	5.826	10191
25yr-6hr-10%	CB2-01	BASE	0.84	1.53	3.948	7296
25yr-6hr-10%	CB2-02	BASE	0.86	1.96	2.905	9120
25yr-6hr-10%	CB2-03	BASE	0.86	0.50	3.244	2328
25yr-6hr-10%	CB2-04	BASE	0.51	2.96	5.828	14377
25yr-6hr-10%	CB3-01	BASE	0.51	0.38	5.747	1856
25yr-6hr-90%	CB1-01	BASE	6.00	0.11	2.213	496
25yr-6hr-90%	CB1-02	BASE	6.00	2.30	4.205	14747
25yr-6hr-90%	CB1-03	BASE	5.84	0.35	5.776	2798
25yr-6hr-90%	CB1-04	BASE	5.84	0.59	5.828	4809
25yr-6hr-90%	CB1-05	BASE	5.84	1.55	5.828	12651
25yr-6hr-90%	CB1-06	BASE	5.84	0.33	5.828	2718
25yr-6hr-90%	CB1-07	BASE	5.84	1.25	5.826	10190
25yr-6hr-90%	CB2-01	BASE	6.00	1.18	3.948	7295
25yr-6hr-90%	CB2-02	BASE	6.00	1.75	2.905	9119
25yr-6hr-90%	CB2-03	BASE	6.00	0.42	3.244	2328
25yr-6hr-90%	CB2-04	BASE	5.84	1.76	5.828	14376
25yr-6hr-90%	CB3-01	BASE	5.84	0.23	5.746	1856
2yr-12hr-10%	CB1-01	BASE	1.77	0.03	0.952	214
2yr-12hr-10%	CB1-02	BASE	1.27	1.08	2.382	8354
2yr-12hr-10%	CB1-03	BASE	0.52	0.25	3.753	1818
2yr-12hr-10%	CB1-04	BASE	0.52	0.43	3.803	3138
2yr-12hr-10%	CB1-05	BASE	0.52	1.13	3.803	8255
2yr-12hr-10%	CB1-06	BASE	0.52	0.24	3.803	1774
2yr-12hr-10%	CB1-07	BASE	0.52	0.91	3.800	6647
2yr-12hr-10%	CB2-01	BASE	1.27	0.52	2.179	4026
2yr-12hr-10%	CB2-02	BASE	1.51	0.59	1.410	4427
2yr-12hr-10%	CB2-03	BASE	1.51	0.16	1.650	1184
2yr-12hr-10%	CB2-04	BASE	0.52	1.28	3.803	9380
2yr-12hr-10%	CB3-01	BASE	0.52	0.16	3.725	1203
2yr-12hr-90%	CB1-01	BASE	12.00	0.05	0.952	213
2yr-12hr-90%	CB1-02	BASE	12.00	1.15	2.382	8353
2yr-12hr-90%	CB1-03	BASE	12.00	0.18	3.752	1818
2yr-12hr-90%	CB1-04	BASE	12.00	0.31	3.802	3138
2yr-12hr-90%	CB1-05	BASE	12.00	0.82	3.802	8254
2yr-12hr-90%	CB1-06	BASE	12.00	0.18	3.802	1774
2yr-12hr-90%	CB1-07	BASE	12.00	0.66	3.800	6647
2yr-12hr-90%	CB2-01	BASE	12.00	0.58	2.178	4025
2yr-12hr-90%	CB2-02	BASE	12.00	0.79	1.410	4426
2yr-12hr-90%	CB2-03	BASE	12.00	0.20	1.650	1184
2yr-12hr-90%	CB2-04	BASE	12.00	0.93	3.802	9379
2yr-12hr-90%	CB3-01	BASE	12.00	0.12	3.725	1203
2yr-1hr-10%	CB1-01	BASE	0.76	0.01	0.087	20
2yr-1hr-10%	CB1-02	BASE	0.30	1.14	0.667	2339
2yr-1hr-10%	CB1-03	BASE	0.21	0.47	1.598	774
2yr-1hr-10%	CB1-04	BASE	0.21	0.83	1.640	1353
2yr-1hr-10%	CB1-05	BASE	0.21	2.19	1.640	3560
2yr-1hr-10%	CB1-06	BASE	0.21	0.47	1.640	765
2yr-1hr-10%	CB1-07	BASE	0.21	1.76	1.638	2865
2yr-1hr-10%	CB2-01	BASE	0.31	0.48	0.562	1038
2yr-1hr-10%	CB2-02	BASE	0.72	0.37	0.230	722

2yr-1hr-10%	CB2-03	BASE	0.71	0.11	0.322	231
2yr-1hr-10%	CB2-04	BASE	0.21	2.49	1.640	4046
2yr-1hr-10%	CB3-01	BASE	0.21	0.31	1.575	509
2yr-1hr-90%	CB1-01	BASE	1.02	0.05	0.087	20
2yr-1hr-90%	CB1-02	BASE	1.01	3.36	0.667	2339
2yr-1hr-90%	CB1-03	BASE	1.00	0.76	1.598	774
2yr-1hr-90%	CB1-04	BASE	1.00	1.30	1.640	1353
2yr-1hr-90%	CB1-05	BASE	1.00	3.43	1.640	3560
2yr-1hr-90%	CB1-06	BASE	1.00	0.74	1.640	765
2yr-1hr-90%	CB1-07	BASE	1.00	2.76	1.638	2865
2yr-1hr-90%	CB2-01	BASE	1.01	1.58	0.561	1037
2yr-1hr-90%	CB2-02	BASE	1.01	1.42	0.230	721
2yr-1hr-90%	CB2-03	BASE	1.01	0.42	0.322	231
2yr-1hr-90%	CB2-04	BASE	1.00	3.90	1.640	4045
2yr-1hr-90%	CB3-01	BASE	1.00	0.50	1.575	508
2yr-24hr-10%	CB1-01	BASE	2.51	0.03	1.403	315
2yr-24hr-10%	CB1-02	BASE	1.51	0.90	3.073	10777
2yr-24hr-10%	CB1-03	BASE	0.51	0.21	4.535	2197
2yr-24hr-10%	CB1-04	BASE	0.51	0.36	4.586	3785
2yr-24hr-10%	CB1-05	BASE	0.51	0.95	4.586	9955
2yr-24hr-10%	CB1-06	BASE	0.51	0.20	4.586	2139
2yr-24hr-10%	CB1-07	BASE	0.51	0.76	4.584	8018
2yr-24hr-10%	CB2-01	BASE	1.51	0.43	2.846	5259
2yr-24hr-10%	CB2-02	BASE	2.01	0.50	1.959	6150
2yr-24hr-10%	CB2-03	BASE	2.01	0.13	2.241	1608
2yr-24hr-10%	CB2-04	BASE	0.51	1.08	4.586	11313
2yr-24hr-10%	CB3-01	BASE	0.51	0.14	4.507	1455
2yr-24hr-90%	CB1-01	BASE	24.00	0.05	1.403	315
2yr-24hr-90%	CB1-02	BASE	24.00	1.16	3.072	10775
2yr-24hr-90%	CB1-03	BASE	24.00	0.18	4.534	2196
2yr-24hr-90%	CB1-04	BASE	24.00	0.31	4.585	3784
2yr-24hr-90%	CB1-05	BASE	24.00	0.80	4.585	9953
2yr-24hr-90%	CB1-06	BASE	24.00	0.17	4.585	2139
2yr-24hr-90%	CB1-07	BASE	24.00	0.65	4.583	8016
2yr-24hr-90%	CB2-01	BASE	24.00	0.59	2.845	5257
2yr-24hr-90%	CB2-02	BASE	24.00	0.84	1.958	6148
2yr-24hr-90%	CB2-03	BASE	24.00	0.21	2.241	1608
2yr-24hr-90%	CB2-04	BASE	24.00	0.91	4.585	11311
2yr-24hr-90%	CB3-01	BASE	24.00	0.12	4.506	1455
2yr-6hr-10%	CB1-01	BASE	1.19	0.03	0.636	143
2yr-6hr-10%	CB1-02	BASE	0.86	1.39	1.851	6492
2yr-6hr-10%	CB1-03	BASE	0.52	0.31	3.131	1517
2yr-6hr-10%	CB1-04	BASE	0.52	0.54	3.179	2624
2yr-6hr-10%	CB1-05	BASE	0.52	1.43	3.179	6902
2yr-6hr-10%	CB1-06	BASE	0.52	0.31	3.179	1483
2yr-6hr-10%	CB1-07	BASE	0.52	1.15	3.177	5558
2yr-6hr-10%	CB2-01	BASE	0.86	0.66	1.670	3087
2yr-6hr-10%	CB2-02	BASE	1.02	0.72	1.010	3170
2yr-6hr-10%	CB2-03	BASE	1.02	0.19	1.212	870
2yr-6hr-10%	CB2-04	BASE	0.52	1.62	3.179	7843
2yr-6hr-10%	CB3-01	BASE	0.52	0.21	3.104	1002
2yr-6hr-90%	CB1-01	BASE	6.00	0.04	0.636	143
2yr-6hr-90%	CB1-02	BASE	6.00	1.18	1.851	6492
2yr-6hr-90%	CB1-03	BASE	5.84	0.20	3.131	1516
2yr-6hr-90%	CB1-04	BASE	5.84	0.34	3.179	2624
2yr-6hr-90%	CB1-05	BASE	5.84	0.89	3.179	6901
2yr-6hr-90%	CB1-06	BASE	5.84	0.19	3.179	1483
2yr-6hr-90%	CB1-07	BASE	5.84	0.72	3.177	5557
2yr-6hr-90%	CB2-01	BASE	6.00	0.59	1.670	3086
2yr-6hr-90%	CB2-02	BASE	6.00	0.77	1.010	3170
2yr-6hr-90%	CB2-03	BASE	6.00	0.19	1.212	870
2yr-6hr-90%	CB2-04	BASE	5.84	1.01	3.179	7842
2yr-6hr-90%	CB3-01	BASE	5.84	0.13	3.104	1002
50-12hr-10%	CB1-01	BASE	1.27	0.13	4.594	1030
50-12hr-10%	CB1-02	BASE	0.77	3.32	7.182	25188
50-12hr-10%	CB1-03	BASE	0.51	0.60	8.921	4321
50-12hr-10%	CB1-04	BASE	0.51	1.03	8.976	7407
50-12hr-10%	CB1-05	BASE	0.51	2.71	8.976	19484
50-12hr-10%	CB1-06	BASE	0.51	0.58	8.976	4187
50-12hr-10%	CB1-07	BASE	0.51	2.18	8.973	15696
50-12hr-10%	CB2-01	BASE	1.01	1.66	6.875	12704
50-12hr-10%	CB2-02	BASE	1.02	2.26	5.553	17432
50-12hr-10%	CB2-03	BASE	1.01	0.56	5.997	4304
50-12hr-10%	CB2-04	BASE	0.51	3.08	8.976	22141
50-12hr-10%	CB3-01	BASE	0.51	0.40	8.891	2871
50-12hr-90%	CB1-01	BASE	12.00	0.15	4.594	1030
50-12hr-90%	CB1-02	BASE	12.00	2.84	7.181	25185
50-12hr-90%	CB1-03	BASE	12.00	0.41	8.920	4321
50-12hr-90%	CB1-04	BASE	12.00	0.70	8.975	7406
50-12hr-90%	CB1-05	BASE	12.00	1.84	8.975	19482
50-12hr-90%	CB1-06	BASE	12.00	0.39	8.975	4186

50-12hr-90%	CB1-07	BASE	12.00	1.48	8.972	15694
50-12hr-90%	CB2-01	BASE	12.00	1.48	6.874	12703
50-12hr-90%	CB2-02	BASE	12.00	2.32	5.552	17430
50-12hr-90%	CB2-03	BASE	12.00	0.55	5.997	4303
50-12hr-90%	CB2-04	BASE	12.00	2.09	8.975	22139
50-12hr-90%	CB3-01	BASE	12.00	0.27	8.890	2871
50-1hr-10%	CB1-01	BASE	0.72	0.04	0.376	84
50-1hr-10%	CB1-02	BASE	0.27	2.52	1.362	4775
50-1hr-10%	CB1-03	BASE	0.20	0.77	2.531	1226
50-1hr-10%	CB1-04	BASE	0.20	1.34	2.578	2128
50-1hr-10%	CB1-05	BASE	0.20	3.52	2.578	5596
50-1hr-10%	CB1-06	BASE	0.20	0.76	2.578	1203
50-1hr-10%	CB1-07	BASE	0.20	2.84	2.576	4506
50-1hr-10%	CB2-01	BASE	0.28	1.14	1.206	2229
50-1hr-10%	CB2-02	BASE	0.33	0.92	0.663	2081
50-1hr-10%	CB2-03	BASE	0.31	0.28	0.825	592
50-1hr-10%	CB2-04	BASE	0.20	4.00	2.578	6360
50-1hr-10%	CB3-01	BASE	0.20	0.51	2.506	809
50-1hr-90%	CB1-01	BASE	1.01	0.16	0.376	84
50-1hr-90%	CB1-02	BASE	1.01	6.07	1.361	4775
50-1hr-90%	CB1-03	BASE	1.00	1.14	2.531	1226
50-1hr-90%	CB1-04	BASE	1.00	1.95	2.578	2127
50-1hr-90%	CB1-05	BASE	1.00	5.13	2.578	5596
50-1hr-90%	CB1-06	BASE	1.00	1.10	2.578	1202
50-1hr-90%	CB1-07	BASE	1.00	4.13	2.576	4506
50-1hr-90%	CB2-01	BASE	1.01	2.97	1.206	2229
50-1hr-90%	CB2-02	BASE	1.01	3.39	0.663	2081
50-1hr-90%	CB2-03	BASE	1.01	0.90	0.825	592
50-1hr-90%	CB2-04	BASE	1.00	5.83	2.578	6359
50-1hr-90%	CB3-01	BASE	1.00	0.76	2.506	809
50-24hr-10%	CB1-01	BASE	1.51	0.12	6.621	1485
50-24hr-10%	CB1-02	BASE	1.01	2.98	9.527	33413
50-24hr-10%	CB1-03	BASE	0.50	0.55	11.344	5495
50-24hr-10%	CB1-04	BASE	0.50	0.95	11.399	9407
50-24hr-10%	CB1-05	BASE	0.50	2.49	11.399	24744
50-24hr-10%	CB1-06	BASE	0.50	0.53	11.399	5317
50-24hr-10%	CB1-07	BASE	0.50	2.00	11.397	19934
50-24hr-10%	CB2-01	BASE	1.01	1.50	9.196	16993
50-24hr-10%	CB2-02	BASE	1.51	2.02	7.729	24265
50-24hr-10%	CB2-03	BASE	1.01	0.50	8.230	5906
50-24hr-10%	CB2-04	BASE	0.50	2.83	11.399	28118
50-24hr-10%	CB3-01	BASE	0.50	0.37	11.313	3653
50-24hr-90%	CB1-01	BASE	24.00	0.17	6.620	1484
50-24hr-90%	CB1-02	BASE	24.00	2.98	9.525	33407
50-24hr-90%	CB1-03	BASE	24.00	0.42	11.342	5494
50-24hr-90%	CB1-04	BASE	24.00	0.72	11.397	9405
50-24hr-90%	CB1-05	BASE	24.00	1.90	11.397	24740
50-24hr-90%	CB1-06	BASE	24.00	0.41	11.397	5316
50-24hr-90%	CB1-07	BASE	24.00	1.53	11.395	19931
50-24hr-90%	CB2-01	BASE	24.00	1.56	9.194	16989
50-24hr-90%	CB2-02	BASE	24.00	2.50	7.727	24259
50-24hr-90%	CB2-03	BASE	24.00	0.58	8.228	5904
50-24hr-90%	CB2-04	BASE	24.00	2.16	11.397	28114
50-24hr-90%	CB3-01	BASE	24.00	0.28	11.311	3653
50-6hr-10%	CB1-01	BASE	1.02	0.14	2.763	620
50-6hr-10%	CB1-02	BASE	0.69	3.62	4.928	17284
50-6hr-10%	CB1-03	BASE	0.51	0.65	6.551	3173
50-6hr-10%	CB1-04	BASE	0.51	1.12	6.605	5450
50-6hr-10%	CB1-05	BASE	0.51	2.94	6.605	14337
50-6hr-10%	CB1-06	BASE	0.51	0.63	6.605	3081
50-6hr-10%	CB1-07	BASE	0.51	2.37	6.602	11548
50-6hr-10%	CB2-01	BASE	0.69	1.80	4.656	8604
50-6hr-10%	CB2-02	BASE	0.86	2.37	3.531	11085
50-6hr-10%	CB2-03	BASE	0.86	0.60	3.901	2799
50-6hr-10%	CB2-04	BASE	0.51	3.34	6.605	16292
50-6hr-10%	CB3-01	BASE	0.51	0.43	6.522	2106
50-6hr-90%	CB1-01	BASE	6.00	0.13	2.763	620
50-6hr-90%	CB1-02	BASE	6.00	2.62	4.928	17282
50-6hr-90%	CB1-03	BASE	5.84	0.39	6.551	3173
50-6hr-90%	CB1-04	BASE	5.84	0.66	6.604	5450
50-6hr-90%	CB1-05	BASE	5.84	1.75	6.604	14336
50-6hr-90%	CB1-06	BASE	5.84	0.37	6.604	3080
50-6hr-90%	CB1-07	BASE	5.84	1.41	6.602	11547
50-6hr-90%	CB2-01	BASE	6.00	1.35	4.656	8603
50-6hr-90%	CB2-02	BASE	6.00	2.04	3.530	11084
50-6hr-90%	CB2-03	BASE	6.00	0.49	3.900	2799
50-6hr-90%	CB2-04	BASE	5.84	1.98	6.604	16291
50-6hr-90%	CB3-01	BASE	5.84	0.26	6.522	2106

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MH-1	BASE	100-12hr-10%	1.00	95.06	0.00	-0.0050	132	1.00	55.97	1.00	55.97
Node-1	BASE	100-12hr-10%	1.87	98.35	98.43	-0.0050	12300	0.75	20.40	2.45	14.50
Node-3	BASE	100-12hr-10%	24.00	23.62	0.00	0.0066	1	1.00	55.97	0.00	0.00
MH-1	BASE	100-1hr-90%	1.00	95.11	0.00	-0.2104	132	1.00	57.22	1.00	56.31
Node-1	BASE	100-1hr-90%	1.00	94.91	98.43	0.0050	8413	1.00	35.95	1.00	9.87
Node-3	BASE	100-1hr-90%	2.00	1.97	0.00	0.0162	31	1.00	56.31	0.00	0.00
MH-1	BASE	100-24hr-10%	1.00	94.53	0.00	-0.0050	132	1.00	52.18	1.00	52.15
Node-1	BASE	100-24hr-10%	2.12	97.80	98.43	-0.0050	11541	1.00	18.47	2.75	13.78
Node-3	BASE	100-24hr-10%	47.99	47.24	0.00	0.0164	0	1.00	52.15	0.00	0.00
MH-1	BASE	100-6hr-10%	0.84	95.50	0.00	0.0050	132	0.83	58.99	0.84	58.96
Node-1	BASE	100-6hr-10%	1.44	98.03	98.43	-0.0047	11866	0.67	21.89	1.77	14.27
Node-3	BASE	100-6hr-10%	24.00	23.62	0.00	0.0066	0	0.84	58.96	0.00	0.00
MH-1	BASE	10yr-12hr-10%	1.00	92.69	0.00	-0.0050	131	1.00	35.71	1.00	35.70
Node-1	BASE	10yr-12hr-10%	1.62	94.59	98.43	-0.0050	8069	0.75	11.40	1.62	9.24
Node-3	BASE	10yr-12hr-10%	24.00	23.62	0.00	0.0066	0	1.00	35.70	0.00	0.00
MH-1	BASE	10yr-1hr-90%	1.00	93.80	0.00	-0.1588	132	1.00	46.93	1.00	46.31
Node-1	BASE	10yr-1hr-90%	1.00	93.97	98.43	0.0043	7406	1.00	26.76	1.00	7.85
Node-3	BASE	10yr-1hr-90%	2.00	1.97	0.00	0.0162	26	1.00	46.31	0.00	0.00
MH-1	BASE	10yr-24hr-10%	1.00	92.33	0.00	-0.0050	147	1.00	31.41	1.00	31.40
Node-1	BASE	10yr-24hr-10%	1.70	94.10	98.43	-0.0045	7556	1.00	9.92	1.70	8.18
Node-3	BASE	10yr-24hr-10%	48.01	47.25	0.00	0.0164	0	1.00	31.40	0.00	0.00
MH-1	BASE	10yr-6hr-10%	0.84	93.13	0.00	-0.0049	131	0.83	40.27	0.84	40.26
Node-1	BASE	10yr-6hr-10%	1.30	94.96	98.43	-0.0050	8467	0.67	13.38	1.36	9.96
Node-3	BASE	10yr-6hr-10%	12.00	11.81	0.00	0.0066	1	0.84	40.26	0.00	0.00
MH-1	BASE	25yr-1hr-90%	1.00	94.34	0.00	-0.1791	132	1.00	51.28	1.00	50.70
Node-1	BASE	25yr-1hr-90%	1.00	94.35	98.43	0.0045	7810	1.00	30.56	1.00	8.72
Node-3	BASE	25yr-1hr-90%	2.00	1.97	0.00	0.0162	28	1.00	50.70	0.00	0.00
MH-1	BASE	25yr-24hr-10%	1.00	93.05	0.00	0.0050	131	1.00	39.54	1.00	39.52
Node-1	BASE	25yr-24hr-10%	1.74	95.30	98.43	-0.0050	8826	1.00	13.13	2.02	10.58
Node-3	BASE	25yr-24hr-10%	48.00	47.24	0.00	0.0164	0	1.00	39.52	0.00	0.00
MH-1	BASE	25yr-6hr-10%	0.84	93.96	0.00	0.0050	132	0.83	47.69	0.84	47.67
Node-1	BASE	25yr-6hr-10%	1.36	96.13	98.43	-0.0050	9707	0.67	16.63	1.57	11.80
Node-3	BASE	25yr-6hr-10%	12.00	11.81	0.00	0.0066	0	0.84	47.67	0.00	0.00
MH-1	BASE	2yr-12hr-10%	1.09	91.56	0.00	-0.0050	188	1.08	20.90	1.07	20.89
Node-1	BASE	2yr-12hr-10%	1.51	93.15	98.43	0.0039	6546	1.00	6.24	1.51	5.56
Node-3	BASE	2yr-12hr-10%	24.00	23.62	0.00	0.0103	0	1.07	20.89	0.00	0.00
MH-1	BASE	2yr-1hr-90%	1.00	92.80	0.00	-0.1177	131	1.00	37.37	1.00	36.93
Node-1	BASE	2yr-1hr-90%	1.00	93.34	98.43	0.0049	6740	1.00	20.06	1.00	6.16
Node-3	BASE	2yr-1hr-90%	2.00	1.97	0.00	0.0162	22	1.00	36.93	0.00	0.00
MH-1	BASE	2yr-24hr-10%	1.45	91.30	0.00	-0.0050	192	1.45	17.32	1.43	17.32
Node-1	BASE	2yr-24hr-10%	1.70	92.94	98.43	-0.0034	6329	1.00	5.18	1.70	4.80
Node-3	BASE	2yr-24hr-10%	47.99	47.24	0.00	0.0164	0	1.43	17.32	0.00	0.00
MH-1	BASE	2yr-6hr-10%	0.93	91.95	0.00	-0.0050	176	0.92	26.20	0.91	26.20
Node-1	BASE	2yr-6hr-10%	1.24	93.43	98.43	-0.0041	6839	0.83	7.99	1.24	6.43
Node-3	BASE	2yr-6hr-10%	12.00	11.81	0.00	0.0083	0	0.91	26.20	0.00	0.00
MH-1	BASE	50-12hr-10%	1.00	94.24	0.00	-0.0050	132	1.00	49.91	1.00	49.90
Node-1	BASE	50-12hr-10%	1.79	97.16	98.43	-0.0050	10798	0.75	17.58	2.23	13.13
Node-3	BASE	50-12hr-10%	24.00	23.62	0.00	0.0066	1	1.00	49.90	0.00	0.00
MH-1	BASE	50-1hr-90%	1.00	94.70	0.00	-0.1909	132	1.00	54.13	1.00	53.38
Node-1	BASE	50-1hr-90%	1.00	94.64	98.43	0.0043	8124	1.00	33.38	1.00	9.33
Node-3	BASE	50-1hr-90%	2.00	1.97	0.00	0.0162	30	1.00	53.38	0.00	0.00
MH-1	BASE	50-24hr-10%	1.00	93.71	0.00	-0.0050	132	1.00	45.59	1.00	45.56
Node-1	BASE	50-24hr-10%	2.05	96.46	98.43	-0.0050	10060	1.00	15.63	2.25	12.20
Node-3	BASE	50-24hr-10%	48.00	47.24	0.00	0.0164	0	1.00	45.56	0.00	0.00
MH-1	BASE	50-6hr-10%	0.84	94.70	0.00	0.0050	132	0.83	53.42	0.84	53.40
Node-1	BASE	50-6hr-10%	1.41	97.08	98.43	-0.0050	10714	0.67	19.25	1.68	13.09
Node-3	BASE	50-6hr-10%	12.00	11.81	0.00	0.0066	1	0.84	53.40	0.00	0.00

N	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max Stage ft	Max Time DS Stage hrs	Max DS Stage ft
EX-SWS	BASE	100-12hr-10%	1.00	55.97	-0.496	1.00	95.06	1.00	79.60
Pipe-12	BASE	100-12hr-10%	2.45	14.50	-0.014	1.87	98.35	1.00	95.06
EX-SWS	BASE	100-1hr-90%	1.00	56.31	-1.505	1.00	95.11	1.00	79.60
Pipe-12	BASE	100-1hr-90%	1.00	9.87	4.166	1.00	94.91	1.00	95.11
EX-SWS	BASE	100-24hr-10%	1.00	52.15	-0.497	1.00	94.53	1.00	79.57
Pipe-12	BASE	100-24hr-10%	2.75	13.78	-0.014	2.12	97.80	1.00	94.53
EX-SWS	BASE	100-6hr-10%	0.84	58.96	-0.496	0.84	95.50	0.84	79.63
Pipe-12	BASE	100-6hr-10%	1.77	14.27	0.016	1.44	98.03	0.84	95.50
EX-SWS	BASE	10yr-12hr-10%	1.00	35.70	-0.498	1.00	92.69	1.00	79.42
Pipe-12	BASE	10yr-12hr-10%	1.62	9.24	-0.019	1.62	94.59	1.00	92.69
EX-SWS	BASE	10yr-1hr-90%	1.00	46.31	-1.385	1.00	93.80	1.00	79.52
Pipe-12	BASE	10yr-1hr-90%	1.00	7.85	0.899	1.00	93.97	1.00	93.80
EX-SWS	BASE	10yr-24hr-10%	1.00	31.40	-0.496	1.00	92.33	1.00	79.38
Pipe-12	BASE	10yr-24hr-10%	1.70	8.18	-0.017	1.70	94.10	1.70	92.06
EX-SWS	BASE	10yr-6hr-10%	0.84	40.26	-0.496	0.84	93.13	0.84	79.47
Pipe-12	BASE	10yr-6hr-10%	1.36	9.96	-0.018	1.30	94.96	0.84	93.13
EX-SWS	BASE	25yr-12hr-10%	1.00	43.64	-0.496	1.00	93.49	1.00	79.50
Pipe-12	BASE	25yr-12hr-10%	1.96	11.60	-0.018	1.70	95.98	1.00	93.49
EX-SWS	BASE	25yr-1hr-90%	1.00	50.70	-1.424	1.00	94.34	1.00	79.56
Pipe-12	BASE	25yr-1hr-90%	1.00	8.72	1.571	1.00	94.35	1.00	94.34
EX-SWS	BASE	25yr-24hr-10%	1.00	39.52	-0.496	1.00	93.05	1.00	79.46
Pipe-12	BASE	25yr-24hr-10%	2.02	10.58	-0.016	1.74	95.30	1.00	93.05
EX-SWS	BASE	25yr-6hr-10%	0.84	47.67	-0.496	0.84	93.96	0.84	79.53
Pipe-12	BASE	25yr-6hr-10%	1.57	11.80	-0.017	1.36	96.13	0.84	93.96
EX-SWS	BASE	2yr-12hr-10%	1.07	20.89	-0.498	1.09	91.56	1.07	79.26
Pipe-12	BASE	2yr-12hr-10%	1.51	5.56	-0.016	1.51	93.15	1.51	91.75
EX-SWS	BASE	2yr-1hr-90%	1.00	36.93	-1.294	1.00	92.80	1.00	79.44
Pipe-12	BASE	2yr-1hr-90%	1.00	6.16	0.468	1.00	93.34	1.00	92.80
EX-SWS	BASE	2yr-24hr-10%	1.43	17.32	-0.497	1.45	91.30	1.43	79.22
Pipe-12	BASE	2yr-24hr-10%	1.70	4.80	-0.016	1.70	92.94	1.70	91.68
EX-SWS	BASE	2yr-6hr-10%	0.91	26.20	-0.496	0.93	91.95	0.91	79.33
Pipe-12	BASE	2yr-6hr-10%	1.24	6.43	-0.018	1.24	93.43	1.24	91.84
EX-SWS	BASE	50-12hr-10%	1.00	49.90	-0.496	1.00	94.24	1.00	79.55
Pipe-12	BASE	50-12hr-10%	2.23	13.13	-0.021	1.79	97.16	1.00	94.24
EX-SWS	BASE	50-1hr-90%	1.00	53.38	-1.441	1.00	94.70	1.00	79.58
Pipe-12	BASE	50-1hr-90%	1.00	9.33	2.894	1.00	94.64	1.00	94.70
EX-SWS	BASE	50-24hr-10%	1.00	45.56	-0.496	1.00	93.71	1.00	79.52
Pipe-12	BASE	50-24hr-10%	2.25	12.20	-0.015	2.05	96.46	1.00	93.71
EX-SWS	BASE	50-6hr-10%	0.84	53.40	-0.497	0.84	94.70	0.84	79.58
Pipe-12	BASE	50-6hr-10%	1.68	13.09	0.015	1.41	97.08	0.84	94.70

Appendix S Proposed Condition 2 (PC2) Profile View

==========
==== Basins ====
==========

Name: CB1-01 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.062 Time Shift(hrs): 0.00
Curve Number: 61.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-02 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.966 Time Shift(hrs): 0.00
Curve Number: 81.41 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-03 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.133 Time Shift(hrs): 0.00
Curve Number: 95.55 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-04 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.227 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-05 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.598 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-06 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.128 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB1-07 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.482 Time Shift(hrs): 0.00
Curve Number: 95.98 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB2-01 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.509 Time Shift(hrs): 0.00
Curve Number: 78.96 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB2-02 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.865 Time Shift(hrs): 0.00
Curve Number: 68.50 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB2-03 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.198 Time Shift(hrs): 0.00
Curve Number: 72.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB2-04 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.680 Time Shift(hrs): 0.00
Curve Number: 96.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: CB3-01 Node: Node-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 5.00
Area(ac): 0.089 Time Shift(hrs): 0.00
Curve Number: 95.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Off-Site Basin Node: MH-1 Status: Onsite

Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 10.848 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==========
==== Nodes ==========
==========

Name: Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: MH-1 Base Flow(cfs): 0.000 Init Stage(ft): 89.567
Group: BASE Warn Stage(ft): 0.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: Node-1 Base Flow(cfs): 0.000 Init Stage(ft): 91.207
Group: BASE Warn Stage(ft): 98.425
Type: Stage/Volume

Stage(ft)	Volume(af)
91.207	0.0000
91.535	0.0026
91.864	0.0136
92.192	0.0332
92.520	0.0574
92.848	0.0848
93.176	0.1145
93.504	0.1457
93.832	0.1777
94.160	0.2101
94.488	0.2422
94.816	0.2734
95.144	0.3031
95.472	0.3307
95.801	0.3551
96.129	0.3748
96.457	0.3865
97.605	0.4044
98.425	0.4796
104.987	4.4703

Name: Node-3 Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	0.000
100.00	98.425

==========
==== Operating Tables ==========
==========

Name: Group: BASE

Type: Bottom Clip
Function: US Depth Above Invert vs. Depth of Clip

US Depth(ft)	Clip Depth(in)
0.00	0.00
1.50	1.50
12.00	1.50

==========
==== Pipes ====
==========

Name: EX-SWS | From Node: MH-1 | Length(ft): 49.21
Group: BASE | To Node: Node-3 | Count: 1
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 0.50
Bend Loss Coef: 0.50
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	32.00	32.00
Rise(in):	32.00	32.00
Invert(ft):	89.567	78.740
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: Pipe-12 | From Node: Node-1 | Length(ft): 41.70
Group: BASE | To Node: MH-1 | Count: 1
Friction Equation: Automatic
Solution Algorithm: Most Restrictive
Flow: Both
Entrance Loss Coef: 0.50
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	15.00	15.00
Rise(in):	15.00	15.00
Invert(ft):	91.503	90.978
Manning's N:	0.012000	0.012000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==========
==== Hydrology Simulations ====
==========

Name: 100-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 10.70

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 100-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
  Rainfall Amount(in): 10.70

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 100-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 3.21

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------
         Name: 100-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 3.21

Time(hrs)       Print Inc(min)
--------------- ---------------
00              5.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 100-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 13.70

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 100-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
```

```
    Rainfall Amount(in): 7.87

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 100-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 7.87

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 10yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 6.73

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 10yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.56

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00
```

Name: 10yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 8.23

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 10yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 8.23

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 10yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 5.33

e(hrs)	Print Inc(min)
6.000	10.00

Name: 10yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 5.33

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 25yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 8.24

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 8.24

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.83

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.83

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 10.30

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 10.30

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 6.31

Time(hrs)       Print Inc(min)
```

```
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 25yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 6.31

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 4.27

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
    Rainfall Amount(in): 4.27

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-10%
    Rainfall Amount(in): 2.07

Time(hrs)       Print Inc(min)
--------------- ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: 1hr-90%
    Rainfall Amount(in): 2.07

e(hrs)       Print Inc(min)
------------ ---------------
1.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 2yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 5.06

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 2yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 5.06

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

-------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 2yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 3.64

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

-------------------------------------------------------------------------------------------------
         Name: 50-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-10%
    Rainfall Amount(in): 9.47

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          15.00

-------------------------------------------------------------------------------------------------
         Name: 50-12hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 12.00
          Rainfall File: 12hr-90%
```

Rainfall Amount(in): 9.47

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 50-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 3.03

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 50-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 3.03

Time(hrs)	Print Inc(min)
1.000	5.00

Name: 50-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-10%
Rainfall Amount(in): 11.90

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 50-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: 24hr-90%
Rainfall Amount(in): 11.90

Time(hrs)	Print Inc(min)
24.000	15.00

Name: 50-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-10%
Rainfall Amount(in): 7.09

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 50-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: 6hr-90%
Rainfall Amount(in): 7.09

Time(hrs)	Print Inc(min)
6.000	10.00

Name: 5yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-10%
Rainfall Amount(in): 5.63

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 5yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: 12hr-90%
Rainfall Amount(in): 5.63

Time(hrs)	Print Inc(min)
12.000	15.00

Name: 5yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-10%
Rainfall Amount(in): 2.35

Time(hrs)	Print Inc(min)
1.000	10.00

Name: 5yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: 1hr-90%
Rainfall Amount(in): 2.35

Time(hrs)	Print Inc(min)
1.000	10.00

Name: 5yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-10%
    Rainfall Amount(in): 6.80

Time(hrs)       Print Inc(min)
--------------- ---------------
.000            30.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-24hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: 24hr-90%
    Rainfall Amount(in): 6.80

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          30.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-10%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

------------------------------------------------------------------------------------------------------
         Name: 5yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.R32



      Override Defaults: Yes
    Storm Duration(hrs): 6.00
          Rainfall File: 6hr-90%
    Rainfall Amount(in): 4.59

Time(hrs)       Print Inc(min)
--------------- ---------------
6.000           10.00

==============================================================================================
==== Routing Simulations ======================================================================
==============================================================================================

         Name: 100-12hr-10%        Hydrology Sim: 100-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-10%.I32



      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:



e(hrs)       Print Inc(min)
------------ ---------------
999.000      15.000

Group           Run
--------------- -----
BASE            Yes
```

Name: 100-12hr-90% Hydrology Sim: 100-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-1hr-10% Hydrology Sim: 100-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-1hr-90% Hydrology Sim: 100-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 100-24hr-10% Hydrology Sim: 100-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-10%.I32

Execute: Yes Restart: No Patch: No
lternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-24hr-90% Hydrology Sim: 100-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 100-6hr-10% Hydrology Sim: 100-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
E	Yes

Name: 100-6hr-90% Hydrology Sim: 100-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\100-6hr-90%.I32

```
     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 12.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------------
        Name: 10yr-12hr-10%       Hydrology Sim: 10yr-12hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------------
        Name: 10yr-12hr-90%       Hydrology Sim: 10yr-12hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-12hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------------
        Name: 10yr-1hr-10%        Hydrology Sim: 10yr-1hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-10%.I32


     Execute: No          Restart: No           Patch: No
```

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 10yr-1hr-90% Hydrology Sim: 10yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

up	Run
BASE	Yes

Name: 10yr-24hr-10% Hydrology Sim: 10yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 10yr-24hr-90% Hydrology Sim: 10yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 48.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------------
         Name: 10yr-6hr-10%        Hydrology Sim: 10yr-6hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-10%.I32


      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 12.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------------
         Name: 10yr-6hr-90%        Hydrology Sim: 10yr-6hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\10yr-6hr-90%.I32


      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 12.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


------------------------------------------------------------------------------------------------------
         Name: 25yr-12hr-10%       Hydrology Sim: 25yr-12hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-10%.I32


      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
```

Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
.000	15.000

Group	Run
BASE	Yes

Name: 25yr-12hr-90% Hydrology Sim: 25yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-1hr-10% Hydrology Sim: 25yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 25yr-1hr-90% Hydrology Sim: 25yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 25yr-24hr-10% Hydrology Sim: 25yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-24hr-90% Hydrology Sim: 25yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-24hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 25yr-6hr-10% Hydrology Sim: 25yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)

999.000 10.000

Group Run
BASE Yes

Name: 25yr-6hr-90% Hydrology Sim: 25yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\25yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
999.000 10.000

Group Run
BASE Yes

Name: 2yr-12hr-10% Hydrology Sim: 2yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-10%.I32

Execute: Yes Restart: No Patch: No
lternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
999.000 15.000

Group Run
BASE Yes

Name: 2yr-12hr-90% Hydrology Sim: 2yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
999.000 15.000

Group Run

BASE	Yes

Name: 2yr-1hr-10% Hydrology Sim: 2yr-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-1hr-90% Hydrology Sim: 2yr-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-1hr-90%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-24hr-10% Hydrology Sim: 2yr-24hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-24hr-90% Hydrology Sim: 2yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 2yr-6hr-10% Hydrology Sim: 2yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 2yr-6hr-90% Hydrology Sim: 2yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\2yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

up	Run
BASE	Yes

Name: 50-12hr-10% Hydrology Sim: 50-12hr-10%

Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-10%.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 50-12hr-90% Hydrology Sim: 50-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 50-1hr-10% Hydrology Sim: 50-1hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	5.000

Group	Run
BASE	Yes

Name: 50-1hr-90% Hydrology Sim: 50-1hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-1hr-90%.I32

```
     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-10%        Hydrology Sim: 50-24hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
.000            15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-24hr-90%        Hydrology Sim: 50-24hr-90%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-24hr-90%.I32


     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 48.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         15.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
        Name: 50-6hr-10%         Hydrology Sim: 50-6hr-10%
    Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-10%.I32


     Execute: Yes         Restart: No           Patch: No
 Alternative: No
```

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 50-6hr-90% Hydrology Sim: 50-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\50-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-12hr-10% Hydrology Sim: 5yr-12hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	15.000

Group	Run
BASE	Yes

Name: 5yr-12hr-90% Hydrology Sim: 5yr-12hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-12hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000

```
        Start Time(hrs): 0.000                   End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


e(hrs)       Print Inc(min)
------------ --------------
999.000      15.000

Group        Run
------------ -----
BASE         Yes


-------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-10%         Hydrology Sim: 5yr-1hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-10%.I32



      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                   End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- --------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
         Name: 5yr-1hr-90%         Hydrology Sim: 5yr-1hr-90%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-1hr-90%.I32



      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                   End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         10.000

Group           Run
--------------- -----
BASE            Yes


-------------------------------------------------------------------------------------------------
         Name: 5yr-24hr-10%        Hydrology Sim: 5yr-24hr-10%
     Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-10%.I32



      Execute: No          Restart: No           Patch: No
  lternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                   End Time(hrs): 48.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 5yr-24hr-90% Hydrology Sim: 5yr-24hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-24hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 48.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	30.000

Group	Run
BASE	Yes

Name: 5yr-6hr-10% Hydrology Sim: 5yr-6hr-10%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-10%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
BASE	Yes

Name: 5yr-6hr-90% Hydrology Sim: 5yr-6hr-90%
Filename: M:\32301-Casa-Linda\HH\ICPR\5yr-6hr-90%.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	10.000

Group	Run
E	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100-12hr-10%	CB1-01	BASE	1.27	0.16	5.605	1257
100-12hr-10%	CB1-02	BASE	0.77	3.89	8.365	29338
100-12hr-10%	CB1-03	BASE	0.51	0.68	10.147	4915
100-12hr-10%	CB1-04	BASE	0.50	1.17	10.202	8419
100-12hr-10%	CB1-05	BASE	0.50	3.08	10.202	22146
100-12hr-10%	CB1-06	BASE	0.50	0.66	10.202	4759
100-12hr-10%	CB1-07	BASE	0.50	2.48	10.200	17841
100-12hr-10%	CB2-01	BASE	0.77	1.95	8.045	14866
100-12hr-10%	CB2-02	BASE	1.02	2.71	6.644	20857
100-12hr-10%	CB2-03	BASE	1.01	0.67	7.119	5108
100-12hr-10%	CB2-04	BASE	0.50	3.49	10.202	25166
100-12hr-10%	CB3-01	BASE	0.51	0.45	10.117	3267
100-12hr-90%	CB1-01	BASE	12.00	0.18	5.604	1257
100-12hr-90%	CB1-02	BASE	12.00	3.24	8.364	29334
100-12hr-90%	CB1-03	BASE	12.00	0.46	10.146	4915
100-12hr-90%	CB1-04	BASE	12.00	0.79	10.201	8418
100-12hr-90%	CB1-05	BASE	12.00	2.07	10.201	22144
100-12hr-90%	CB1-06	BASE	12.00	0.45	10.201	4758
100-12hr-90%	CB1-07	BASE	12.00	1.67	10.199	17839
100-12hr-90%	CB2-01	BASE	12.00	1.69	8.044	14864
100-12hr-90%	CB2-02	BASE	12.00	2.69	6.643	20854
100-12hr-90%	CB2-03	BASE	12.00	0.63	7.118	5108
100-12hr-90%	CB2-04	BASE	12.00	2.36	10.201	25163
100-12hr-90%	CB3-01	BASE	12.00	0.31	10.116	3267
100-1hr-10%	CB1-01	BASE	0.72	0.05	0.447	100
100-1hr-10%	CB1-02	BASE	0.27	2.81	1.503	5271
100-1hr-10%	CB1-03	BASE	0.20	0.82	2.708	1312
100-1hr-10%	CB1-04	BASE	0.20	1.43	2.755	2274
100-1hr-10%	CB1-05	BASE	0.20	3.77	2.755	5981
100-1hr-10%	CB1-06	BASE	0.20	0.81	2.755	1285
100-1hr-10%	CB1-07	BASE	0.20	3.04	2.753	4816
100-1hr-10%	CB2-01	BASE	0.28	1.28	1.340	2476
100-1hr-10%	CB2-02	BASE	0.33	1.07	0.760	2387
100-1hr-10%	CB2-03	BASE	0.31	0.32	0.935	671
100-1hr-10%	CB2-04	BASE	0.20	4.29	2.755	6797
100-1hr-10%	CB3-01	BASE	0.20	0.54	2.682	866
100-1hr-90%	CB1-01	BASE	1.01	0.19	0.447	100
100-1hr-90%	CB1-02	BASE	1.01	6.59	1.503	5271
100-1hr-90%	CB1-03	BASE	1.00	1.21	2.708	1312
100-1hr-90%	CB1-04	BASE	1.00	2.07	2.755	2274
100-1hr-90%	CB1-05	BASE	1.00	5.45	2.755	5981
100-1hr-90%	CB1-06	BASE	1.00	1.17	2.755	1285
100-1hr-90%	CB1-07	BASE	1.00	4.39	2.753	4815
100-1hr-90%	CB2-01	BASE	1.01	3.24	1.340	2475
100-1hr-90%	CB2-02	BASE	1.01	3.79	0.760	2387
100-1hr-90%	CB2-03	BASE	1.01	1.00	0.934	671
100-1hr-90%	CB2-04	BASE	1.00	6.19	2.755	6796
100-1hr-90%	CB3-01	BASE	1.00	0.80	2.682	866
100-24hr-10%	CB1-01	BASE	1.51	0.15	8.190	1836
100-24hr-10%	CB1-02	BASE	1.01	3.55	11.281	39564
100-24hr-10%	CB1-03	BASE	0.50	0.64	13.139	6364
100-24hr-10%	CB1-04	BASE	0.50	1.10	13.195	10889
100-24hr-10%	CB1-05	BASE	0.50	2.89	13.195	28642
100-24hr-10%	CB1-06	BASE	0.50	0.62	13.195	6155
100-24hr-10%	CB1-07	BASE	0.50	2.33	13.192	23075
100-24hr-10%	CB2-01	BASE	1.01	1.80	10.936	20208
100-24hr-10%	CB2-02	BASE	1.01	2.48	9.386	29467
100-24hr-10%	CB2-03	BASE	1.01	0.61	9.920	7118
100-24hr-10%	CB2-04	BASE	0.50	3.28	13.195	32548
100-24hr-10%	CB3-01	BASE	0.50	0.43	13.108	4233
100-24hr-90%	CB1-01	BASE	24.00	0.20	8.188	1836
100-24hr-90%	CB1-02	BASE	24.00	3.46	11.278	39556
100-24hr-90%	CB1-03	BASE	24.00	0.49	13.137	6363
100-24hr-90%	CB1-04	BASE	24.00	0.83	13.193	10887
100-24hr-90%	CB1-05	BASE	24.00	2.19	13.193	28638
100-24hr-90%	CB1-06	BASE	24.00	0.47	13.193	6154
100-24hr-90%	CB1-07	BASE	24.00	1.76	13.190	23071
100-24hr-90%	CB2-01	BASE	24.00	1.81	10.934	20204
100-24hr-90%	CB2-02	BASE	24.00	2.94	9.384	29461
100-24hr-90%	CB2-03	BASE	24.00	0.68	9.918	7117
100-24hr-90%	CB2-04	BASE	24.00	2.48	13.193	32543
100-24hr-90%	CB3-01	BASE	24.00	0.33	13.106	4232
100-6hr-10%	CB1-01	BASE	1.01	0.16	3.341	749
100-6hr-10%	CB1-02	BASE	0.69	4.15	5.660	19851
100-6hr-10%	CB1-03	BASE	0.51	0.73	7.328	3549
100-6hr-10%	CB1-04	BASE	0.51	1.25	7.381	6091
100-6hr-10%	CB1-05	BASE	0.51	3.28	7.381	16023
100-6hr-10%	CB1-06	BASE	0.51	0.70	7.381	3443

100-6hr-10%	CB1-07	BASE	0.51	2.64	7.379	12907
100-6hr-10%	CB2-01	BASE	0.69	2.08	5.375	9932
100-6hr-10%	CB2-02	BASE	0.86	2.80	4.177	13114
100-6hr-10%	CB2-03	BASE	0.86	0.69	4.574	3283
100-6hr-10%	CB2-04	BASE	0.51	3.73	7.381	18208
100-6hr-10%	CB3-01	BASE	0.51	0.48	7.298	2357
100-6hr-90%	CB1-01	BASE	6.00	0.15	3.341	749
100-6hr-90%	CB1-02	BASE	6.00	2.94	5.660	19849
100-6hr-90%	CB1-03	BASE	5.84	0.43	7.327	3549
100-6hr-90%	CB1-04	BASE	5.84	0.74	7.381	6091
100-6hr-90%	CB1-05	BASE	5.84	1.94	7.381	16022
100-6hr-90%	CB1-06	BASE	5.84	0.42	7.381	3443
100-6hr-90%	CB1-07	BASE	5.84	1.56	7.378	12906
100-6hr-90%	CB2-01	BASE	6.00	1.52	5.375	9931
100-6hr-90%	CB2-02	BASE	6.00	2.34	4.177	13113
100-6hr-90%	CB2-03	BASE	6.00	0.56	4.574	3282
100-6hr-90%	CB2-04	BASE	5.84	2.20	7.381	18207
100-6hr-90%	CB3-01	BASE	5.84	0.29	7.297	2356
10yr-12hr-10%	CB1-01	BASE	1.51	0.07	2.506	562
10yr-12hr-10%	CB1-02	BASE	1.01	2.10	4.593	16109
10yr-12hr-10%	CB1-03	BASE	0.51	0.41	6.193	3000
10yr-12hr-10%	CB1-04	BASE	0.51	0.71	6.246	5155
10yr-12hr-10%	CB1-05	BASE	0.51	1.88	6.246	13559
10yr-12hr-10%	CB1-06	BASE	0.51	0.40	6.246	2913
10yr-12hr-10%	CB1-07	BASE	0.51	1.51	6.244	10921
10yr-12hr-10%	CB2-01	BASE	1.01	1.04	4.328	7997
10yr-12hr-10%	CB2-02	BASE	1.27	1.33	3.239	10169
10yr-12hr-10%	CB2-03	BASE	1.27	0.33	3.595	2580
10yr-12hr-10%	CB2-04	BASE	0.51	2.13	6.246	15408
10yr-12hr-10%	CB3-01	BASE	0.51	0.27	6.164	1991
10yr-12hr-90%	CB1-01	BASE	12.00	0.09	2.505	562
10yr-12hr-90%	CB1-02	BASE	12.00	1.96	4.592	16107
10yr-12hr-90%	CB1-03	BASE	12.00	0.29	6.193	3000
10yr-12hr-90%	CB1-04	BASE	12.00	0.49	6.246	5154
10yr-12hr-90%	CB1-05	BASE	12.00	1.30	6.246	13558
10yr-12hr-90%	CB1-06	BASE	12.00	0.28	6.246	2913
10yr-12hr-90%	CB1-07	BASE	12.00	1.05	6.243	10920
10yr-12hr-90%	CB2-01	BASE	12.00	1.01	4.327	7996
10yr-12hr-90%	CB2-02	BASE	12.00	1.51	3.239	10167
10yr-12hr-90%	CB2-03	BASE	12.00	0.36	3.595	2580
10yr-12hr-90%	CB2-04	BASE	12.00	1.48	6.246	15406
10yr-12hr-90%	CB3-01	BASE	12.00	0.19	6.163	1990
10yr-1hr-10%	CB1-01	BASE	0.73	0.03	0.214	48
10yr-1hr-10%	CB1-02	BASE	0.29	1.80	1.007	3532
10yr-1hr-10%	CB1-03	BASE	0.20	0.62	2.072	1004
10yr-1hr-10%	CB1-04	BASE	0.20	1.09	2.117	1747
10yr-1hr-10%	CB1-05	BASE	0.20	2.87	2.117	4596
10yr-1hr-10%	CB1-06	BASE	0.20	0.62	2.117	988
10yr-1hr-10%	CB1-07	BASE	0.20	2.31	2.115	3700
10yr-1hr-10%	CB2-01	BASE	0.30	0.80	0.875	1616
10yr-1hr-10%	CB2-02	BASE	0.71	0.60	0.431	1352
10yr-1hr-10%	CB2-03	BASE	0.33	0.18	0.559	401
10yr-1hr-10%	CB2-04	BASE	0.20	3.26	2.117	5222
10yr-1hr-10%	CB3-01	BASE	0.21	0.41	2.048	661
10yr-1hr-90%	CB1-01	BASE	1.02	0.10	0.214	48
10yr-1hr-90%	CB1-02	BASE	1.01	4.72	1.007	3532
10yr-1hr-90%	CB1-03	BASE	1.00	0.95	2.072	1004
10yr-1hr-90%	CB1-04	BASE	1.00	1.63	2.117	1747
10yr-1hr-90%	CB1-05	BASE	1.00	4.30	2.117	4595
10yr-1hr-90%	CB1-06	BASE	1.00	0.92	2.117	987
10yr-1hr-90%	CB1-07	BASE	1.00	3.46	2.115	3699
10yr-1hr-90%	CB2-01	BASE	1.01	2.27	0.875	1616
10yr-1hr-90%	CB2-02	BASE	1.01	2.38	0.431	1352
10yr-1hr-90%	CB2-03	BASE	1.01	0.65	0.559	401
10yr-1hr-90%	CB2-04	BASE	1.00	4.89	2.117	5222
10yr-1hr-90%	CB3-01	BASE	1.00	0.63	2.048	661
10yr-24hr-10%	CB1-01	BASE	2.01	0.07	3.616	811
10yr-24hr-10%	CB1-02	BASE	1.01	1.82	6.000	21045
10yr-24hr-10%	CB1-03	BASE	0.51	0.37	7.686	3723
10yr-24hr-10%	CB1-04	BASE	0.51	0.63	7.740	6387
10yr-24hr-10%	CB1-05	BASE	0.51	1.67	7.740	16801
10yr-24hr-10%	CB1-06	BASE	0.51	0.36	7.740	3610
10yr-24hr-10%	CB1-07	BASE	0.51	1.34	7.738	13534
10yr-24hr-10%	CB2-01	BASE	1.01	0.89	5.710	10551
10yr-24hr-10%	CB2-02	BASE	1.51	1.16	4.481	14070
10yr-24hr-10%	CB2-03	BASE	1.51	0.29	4.890	3509
10yr-24hr-10%	CB2-04	BASE	0.51	1.90	7.740	19092
10yr-24hr-10%	CB3-01	BASE	0.51	0.24	7.656	2472
10yr-24hr-90%	CB1-01	BASE	24.00	0.10	3.615	811
10yr-24hr-90%	CB1-02	BASE	24.00	2.01	5.999	21040
10yr-24hr-90%	CB1-03	BASE	24.00	0.29	7.685	3722

10yr-24hr-90%	CB1-04	BASE	24.00	0.50	7.739	6386
10yr-24hr-90%	CB1-05	BASE	24.00	1.31	7.739	16799
10yr-24hr-90%	CB1-06	BASE	24.00	0.28	7.739	3610
10yr-24hr-90%	CB1-07	BASE	24.00	1.06	7.736	13532
10yr-24hr-90%	CB2-01	BASE	24.00	1.04	5.709	10549
10yr-24hr-90%	CB2-02	BASE	24.00	1.61	4.480	14066
10yr-24hr-90%	CB2-03	BASE	24.00	0.38	4.889	3508
10yr-24hr-90%	CB2-04	BASE	24.00	1.49	7.739	19089
10yr-24hr-90%	CB3-01	BASE	24.00	0.19	7.655	2472
10yr-6hr-10%	CB1-01	BASE	1.02	0.08	1.569	352
10yr-6hr-10%	CB1-02	BASE	0.84	2.44	3.314	11623
10yr-6hr-10%	CB1-03	BASE	0.51	0.48	4.803	2326
10yr-6hr-10%	CB1-04	BASE	0.51	0.83	4.854	4006
10yr-6hr-10%	CB1-05	BASE	0.51	2.17	4.854	10537
10yr-6hr-10%	CB1-06	BASE	0.51	0.47	4.854	2264
10yr-6hr-10%	CB1-07	BASE	0.51	1.75	4.852	8487
10yr-6hr-10%	CB2-01	BASE	0.86	1.20	3.080	5691
10yr-6hr-10%	CB2-02	BASE	1.02	1.47	2.156	6769
10yr-6hr-10%	CB2-03	BASE	0.86	0.38	2.452	1759
10yr-6hr-10%	CB2-04	BASE	0.51	2.47	4.854	11974
10yr-6hr-10%	CB3-01	BASE	0.51	0.32	4.774	1542
10yr-6hr-90%	CB1-01	BASE	6.00	0.08	1.569	352
10yr-6hr-90%	CB1-02	BASE	6.00	1.89	3.314	11622
10yr-6hr-90%	CB1-03	BASE	5.84	0.29	4.802	2326
10yr-6hr-90%	CB1-04	BASE	5.84	0.50	4.854	4006
10yr-6hr-90%	CB1-05	BASE	5.84	1.31	4.854	10536
10yr-6hr-90%	CB1-06	BASE	5.84	0.28	4.854	2264
10yr-6hr-90%	CB1-07	BASE	5.84	1.05	4.852	8486
10yr-6hr-90%	CB2-01	BASE	6.00	0.97	3.080	5691
10yr-6hr-90%	CB2-02	BASE	6.00	1.38	2.156	6769
10yr-6hr-90%	CB2-03	BASE	6.00	0.34	2.451	1759
10yr-6hr-90%	CB2-04	BASE	5.84	1.49	4.854	11973
10yr-6hr-90%	CB3-01	BASE	5.84	0.19	4.774	1542
25yr-12hr-10%	CB1-01	BASE	1.27	0.11	3.624	813
25yr-12hr-10%	CB1-02	BASE	0.77	2.75	6.010	21078
25yr-12hr-10%	CB1-03	BASE	0.51	0.52	7.696	3728
25yr-12hr-10%	CB1-04	BASE	0.51	0.89	7.750	6396
25yr-12hr-10%	CB1-05	BASE	0.51	2.34	7.750	16823
25yr-12hr-10%	CB1-06	BASE	0.51	0.50	7.750	3615
25yr-12hr-10%	CB1-07	BASE	0.51	1.88	7.748	13552
25yr-12hr-10%	CB2-01	BASE	1.01	1.38	5.719	10568
25yr-12hr-10%	CB2-02	BASE	1.27	1.82	4.490	14096
25yr-12hr-10%	CB2-03	BASE	1.02	0.46	4.899	3516
25yr-12hr-10%	CB2-04	BASE	0.51	2.65	7.750	19117
25yr-12hr-10%	CB3-01	BASE	0.51	0.34	7.666	2476
25yr-12hr-90%	CB1-01	BASE	12.00	0.13	3.623	813
25yr-12hr-90%	CB1-02	BASE	12.00	2.45	6.009	21075
25yr-12hr-90%	CB1-03	BASE	12.00	0.36	7.695	3727
25yr-12hr-90%	CB1-04	BASE	12.00	0.61	7.749	6395
25yr-12hr-90%	CB1-05	BASE	12.00	1.60	7.749	16821
25yr-12hr-90%	CB1-06	BASE	12.00	0.34	7.749	3614
25yr-12hr-90%	CB1-07	BASE	12.00	1.29	7.747	13550
25yr-12hr-90%	CB2-01	BASE	12.00	1.27	5.719	10567
25yr-12hr-90%	CB2-02	BASE	12.00	1.96	4.489	14094
25yr-12hr-90%	CB2-03	BASE	12.00	0.46	4.898	3515
25yr-12hr-90%	CB2-04	BASE	12.00	1.81	7.749	19115
25yr-12hr-90%	CB3-01	BASE	12.00	0.24	7.665	2475
25yr-1hr-10%	CB1-01	BASE	0.72	0.03	0.303	68
25yr-1hr-10%	CB1-02	BASE	0.28	2.20	1.208	4236
25yr-1hr-10%	CB1-03	BASE	0.20	0.71	2.336	1131
25yr-1hr-10%	CB1-04	BASE	0.20	1.23	2.382	1965
25yr-1hr-10%	CB1-05	BASE	0.20	3.25	2.382	5170
25yr-1hr-10%	CB1-06	BASE	0.20	0.70	2.382	1111
25yr-1hr-10%	CB1-07	BASE	0.20	2.61	2.380	4162
25yr-1hr-10%	CB2-01	BASE	0.29	0.99	1.062	1962
25yr-1hr-10%	CB2-02	BASE	0.34	0.75	0.560	1758
25yr-1hr-10%	CB2-03	BASE	0.32	0.23	0.708	508
25yr-1hr-10%	CB2-04	BASE	0.20	3.69	2.382	5875
25yr-1hr-10%	CB3-01	BASE	0.20	0.46	2.311	746
25yr-1hr-90%	CB1-01	BASE	1.02	0.14	0.302	68
25yr-1hr-90%	CB1-02	BASE	1.01	5.49	1.208	4236
25yr-1hr-90%	CB1-03	BASE	1.00	1.06	2.336	1131
25yr-1hr-90%	CB1-04	BASE	1.00	1.82	2.382	1965
25yr-1hr-90%	CB1-05	BASE	1.00	4.78	2.382	5170
25yr-1hr-90%	CB1-06	BASE	1.00	1.03	2.382	1111
25yr-1hr-90%	CB1-07	BASE	1.00	3.85	2.379	4162
25yr-1hr-90%	CB2-01	BASE	1.01	2.67	1.062	1962
25yr-1hr-90%	CB2-02	BASE	1.01	2.95	0.560	1758
25yr-1hr-90%	CB2-03	BASE	1.01	0.79	0.708	508
25yr-1hr-90%	CB2-04	BASE	1.00	5.43	2.382	5875
25yr-1hr-90%	CB3-01	BASE	1.00	0.70	2.310	746

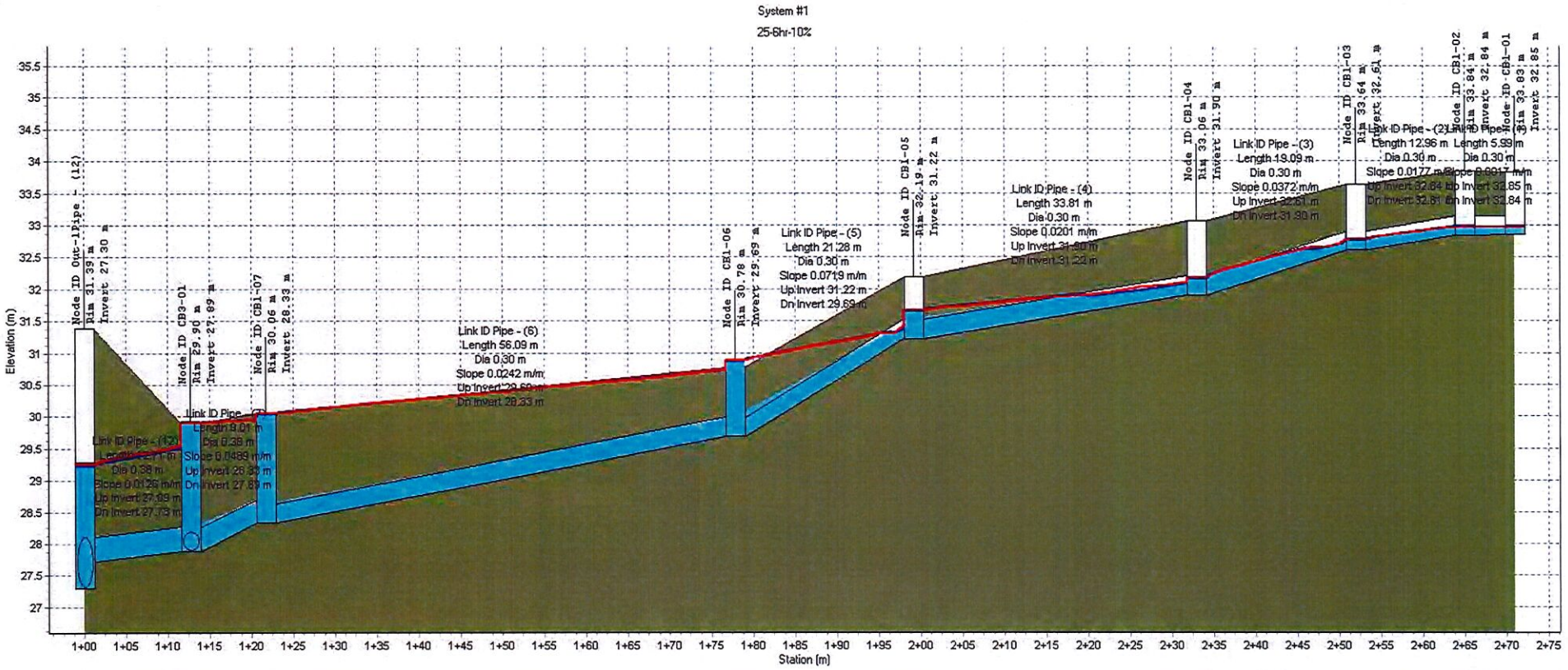
25yr-24hr-10%	CB1-01	BASE	1.51	0.10	5.273	1182
25yr-24hr-10%	CB1-02	BASE	1.01	2.47	7.979	27985
25yr-24hr-10%	CB1-03	BASE	0.51	0.47	9.748	4722
25yr-24hr-10%	CB1-04	BASE	0.50	0.81	9.803	8090
25yr-24hr-10%	CB1-05	BASE	0.50	2.13	9.803	21280
25yr-24hr-10%	CB1-06	BASE	0.50	0.46	9.803	4573
25yr-24hr-10%	CB1-07	BASE	0.50	1.72	9.801	17143
25yr-24hr-10%	CB2-01	BASE	1.01	1.23	7.663	14160
25yr-24hr-10%	CB2-02	BASE	1.51	1.64	6.286	19735
25yr-24hr-10%	CB2-03	BASE	1.51	0.40	6.752	4845
25yr-24hr-10%	CB2-04	BASE	0.50	2.42	9.803	24182
25yr-24hr-10%	CB3-01	BASE	0.51	0.31	9.718	3138
25yr-24hr-90%	CB1-01	BASE	24.00	0.14	5.271	1182
25yr-24hr-90%	CB1-02	BASE	24.00	2.56	7.978	27979
25yr-24hr-90%	CB1-03	BASE	24.00	0.37	9.747	4721
25yr-24hr-90%	CB1-04	BASE	24.00	0.62	9.802	8089
25yr-24hr-90%	CB1-05	BASE	24.00	1.64	9.802	21277
25yr-24hr-90%	CB1-06	BASE	24.00	0.35	9.802	4572
25yr-24hr-90%	CB1-07	BASE	24.00	1.32	9.799	17140
25yr-24hr-90%	CB2-01	BASE	24.00	1.33	7.662	14158
25yr-24hr-90%	CB2-02	BASE	24.00	2.11	6.285	19731
25yr-24hr-90%	CB2-03	BASE	24.00	0.50	6.751	4844
25yr-24hr-90%	CB2-04	BASE	24.00	1.87	9.802	24178
25yr-24hr-90%	CB3-01	BASE	24.00	0.24	9.716	3138
25yr-6hr-10%	CB1-01	BASE	1.02	0.11	2.213	496
25yr-6hr-10%	CB1-02	BASE	0.69	3.08	4.205	14748
25yr-6hr-10%	CB1-03	BASE	0.51	0.58	5.776	2798
25yr-6hr-10%	CB1-04	BASE	0.51	0.99	5.828	4810
25yr-6hr-10%	CB1-05	BASE	0.51	2.60	5.828	12652
25yr-6hr-10%	CB1-06	BASE	0.51	0.56	5.828	2719
25yr-6hr-10%	CB1-07	BASE	0.51	2.09	5.826	10191
25yr-6hr-10%	CB2-01	BASE	0.84	1.53	3.948	7296
25yr-6hr-10%	CB2-02	BASE	0.86	1.96	2.905	9120
25yr-6hr-10%	CB2-03	BASE	0.86	0.50	3.244	2328
25yr-6hr-10%	CB2-04	BASE	0.51	2.96	5.828	14377
25yr-6hr-10%	CB3-01	BASE	0.51	0.38	5.747	1856
25yr-6hr-90%	CB1-01	BASE	6.00	0.11	2.213	496
25yr-6hr-90%	CB1-02	BASE	6.00	2.30	4.205	14747
25yr-6hr-90%	CB1-03	BASE	5.84	0.35	5.776	2798
25yr-6hr-90%	CB1-04	BASE	5.84	0.59	5.828	4809
25yr-6hr-90%	CB1-05	BASE	5.84	1.55	5.828	12651
25yr-6hr-90%	CB1-06	BASE	5.84	0.33	5.828	2718
25yr-6hr-90%	CB1-07	BASE	5.84	1.25	5.826	10190
25yr-6hr-90%	CB2-01	BASE	6.00	1.18	3.948	7295
25yr-6hr-90%	CB2-02	BASE	6.00	1.75	2.905	9119
25yr-6hr-90%	CB2-03	BASE	6.00	0.42	3.244	2328
25yr-6hr-90%	CB2-04	BASE	5.84	1.76	5.828	14376
25yr-6hr-90%	CB3-01	BASE	5.84	0.23	5.746	1856
2yr-12hr-10%	CB1-01	BASE	1.77	0.03	0.952	214
2yr-12hr-10%	CB1-02	BASE	1.27	1.08	2.382	8354
2yr-12hr-10%	CB1-03	BASE	0.52	0.25	3.753	1818
2yr-12hr-10%	CB1-04	BASE	0.52	0.43	3.803	3138
2yr-12hr-10%	CB1-05	BASE	0.52	1.13	3.803	8255
2yr-12hr-10%	CB1-06	BASE	0.52	0.24	3.803	1774
2yr-12hr-10%	CB1-07	BASE	0.52	0.91	3.800	6647
2yr-12hr-10%	CB2-01	BASE	1.27	0.52	2.179	4026
2yr-12hr-10%	CB2-02	BASE	1.51	0.59	1.410	4427
2yr-12hr-10%	CB2-03	BASE	1.51	0.16	1.650	1184
2yr-12hr-10%	CB2-04	BASE	0.52	1.28	3.803	9380
2yr-12hr-10%	CB3-01	BASE	0.52	0.16	3.725	1203
2yr-12hr-90%	CB1-01	BASE	12.00	0.05	0.952	213
2yr-12hr-90%	CB1-02	BASE	12.00	1.15	2.382	8353
2yr-12hr-90%	CB1-03	BASE	12.00	0.18	3.752	1818
2yr-12hr-90%	CB1-04	BASE	12.00	0.31	3.802	3138
2yr-12hr-90%	CB1-05	BASE	12.00	0.82	3.802	8254
2yr-12hr-90%	CB1-06	BASE	12.00	0.18	3.802	1774
2yr-12hr-90%	CB1-07	BASE	12.00	0.66	3.800	6647
2yr-12hr-90%	CB2-01	BASE	12.00	0.58	2.178	4025
2yr-12hr-90%	CB2-02	BASE	12.00	0.79	1.410	4426
2yr-12hr-90%	CB2-03	BASE	12.00	0.20	1.650	1184
2yr-12hr-90%	CB2-04	BASE	12.00	0.93	3.802	9379
2yr-12hr-90%	CB3-01	BASE	12.00	0.12	3.725	1203
2yr-1hr-10%	CB1-01	BASE	0.76	0.01	0.087	20
2yr-1hr-10%	CB1-02	BASE	0.30	1.14	0.667	2339
2yr-1hr-10%	CB1-03	BASE	0.21	0.47	1.598	774
2yr-1hr-10%	CB1-04	BASE	0.21	0.83	1.640	1353
2yr-1hr-10%	CB1-05	BASE	0.21	2.19	1.640	3560
2yr-1hr-10%	CB1-06	BASE	0.21	0.47	1.640	765
2yr-1hr-10%	CB1-07	BASE	0.21	1.76	1.638	2865
2yr-1hr-10%	CB2-01	BASE	0.31	0.48	0.562	1038
2yr-1hr-10%	CB2-02	BASE	0.72	0.37	0.230	722

2yr-1hr-10%	CB2-03	BASE	0.71	0.11	0.322	231
2yr-1hr-10%	CB2-04	BASE	0.21	2.49	1.640	4046
2yr-1hr-10%	CB3-01	BASE	0.21	0.31	1.575	509
2yr-1hr-90%	CB1-01	BASE	1.02	0.05	0.087	20
2yr-1hr-90%	CB1-02	BASE	1.01	3.36	0.667	2339
2yr-1hr-90%	CB1-03	BASE	1.00	0.76	1.598	774
2yr-1hr-90%	CB1-04	BASE	1.00	1.30	1.640	1353
2yr-1hr-90%	CB1-05	BASE	1.00	3.43	1.640	3560
2yr-1hr-90%	CB1-06	BASE	1.00	0.74	1.640	765
2yr-1hr-90%	CB1-07	BASE	1.00	2.76	1.638	2865
2yr-1hr-90%	CB2-01	BASE	1.01	1.58	0.561	1037
2yr-1hr-90%	CB2-02	BASE	1.01	1.42	0.230	721
2yr-1hr-90%	CB2-03	BASE	1.01	0.42	0.322	231
2yr-1hr-90%	CB2-04	BASE	1.00	3.90	1.640	4045
2yr-1hr-90%	CB3-01	BASE	1.00	0.50	1.575	508
2yr-24hr-10%	CB1-01	BASE	2.51	0.03	1.403	315
2yr-24hr-10%	CB1-02	BASE	1.51	0.90	3.073	10777
2yr-24hr-10%	CB1-03	BASE	0.51	0.21	4.535	2197
2yr-24hr-10%	CB1-04	BASE	0.51	0.36	4.586	3785
2yr-24hr-10%	CB1-05	BASE	0.51	0.95	4.586	9955
2yr-24hr-10%	CB1-06	BASE	0.51	0.20	4.586	2139
2yr-24hr-10%	CB1-07	BASE	0.51	0.76	4.584	8018
2yr-24hr-10%	CB2-01	BASE	1.51	0.43	2.846	5259
2yr-24hr-10%	CB2-02	BASE	2.01	0.50	1.959	6150
2yr-24hr-10%	CB2-03	BASE	2.01	0.13	2.241	1608
2yr-24hr-10%	CB2-04	BASE	0.51	1.08	4.586	11313
2yr-24hr-10%	CB3-01	BASE	0.51	0.14	4.507	1455
2yr-24hr-90%	CB1-01	BASE	24.00	0.05	1.403	315
2yr-24hr-90%	CB1-02	BASE	24.00	1.16	3.072	10775
2yr-24hr-90%	CB1-03	BASE	24.00	0.18	4.534	2196
2yr-24hr-90%	CB1-04	BASE	24.00	0.31	4.585	3784
2yr-24hr-90%	CB1-05	BASE	24.00	0.80	4.585	9953
2yr-24hr-90%	CB1-06	BASE	24.00	0.17	4.585	2139
2yr-24hr-90%	CB1-07	BASE	24.00	0.65	4.583	8016
2yr-24hr-90%	CB2-01	BASE	24.00	0.59	2.845	5257
2yr-24hr-90%	CB2-02	BASE	24.00	0.84	1.958	6148
2yr-24hr-90%	CB2-03	BASE	24.00	0.21	2.241	1608
2yr-24hr-90%	CB2-04	BASE	24.00	0.91	4.585	11311
2yr-24hr-90%	CB3-01	BASE	24.00	0.12	4.506	1455
2yr-6hr-10%	CB1-01	BASE	1.19	0.03	0.636	143
2yr-6hr-10%	CB1-02	BASE	0.86	1.39	1.851	6492
2yr-6hr-10%	CB1-03	BASE	0.52	0.31	3.131	1517
2yr-6hr-10%	CB1-04	BASE	0.52	0.54	3.179	2624
2yr-6hr-10%	CB1-05	BASE	0.52	1.43	3.179	6902
2yr-6hr-10%	CB1-06	BASE	0.52	0.31	3.179	1483
2yr-6hr-10%	CB1-07	BASE	0.52	1.15	3.177	5558
2yr-6hr-10%	CB2-01	BASE	0.86	0.66	1.670	3087
2yr-6hr-10%	CB2-02	BASE	1.02	0.72	1.010	3170
2yr-6hr-10%	CB2-03	BASE	1.02	0.19	1.212	870
2yr-6hr-10%	CB2-04	BASE	0.52	1.62	3.179	7843
2yr-6hr-10%	CB3-01	BASE	0.52	0.21	3.104	1002
2yr-6hr-90%	CB1-01	BASE	6.00	0.04	0.636	143
2yr-6hr-90%	CB1-02	BASE	6.00	1.18	1.851	6492
2yr-6hr-90%	CB1-03	BASE	5.84	0.20	3.131	1516
2yr-6hr-90%	CB1-04	BASE	5.84	0.34	3.179	2624
2yr-6hr-90%	CB1-05	BASE	5.84	0.89	3.179	6901
2yr-6hr-90%	CB1-06	BASE	5.84	0.19	3.179	1483
2yr-6hr-90%	CB1-07	BASE	5.84	0.72	3.177	5557
2yr-6hr-90%	CB2-01	BASE	6.00	0.59	1.670	3086
2yr-6hr-90%	CB2-02	BASE	6.00	0.77	1.010	3170
2yr-6hr-90%	CB2-03	BASE	6.00	0.19	1.212	870
2yr-6hr-90%	CB2-04	BASE	5.84	1.01	3.179	7842
2yr-6hr-90%	CB3-01	BASE	5.84	0.13	3.104	1002
50-12hr-10%	CB1-01	BASE	1.27	0.13	4.594	1030
50-12hr-10%	CB1-02	BASE	0.77	3.32	7.182	25188
50-12hr-10%	CB1-03	BASE	0.51	0.60	8.921	4321
50-12hr-10%	CB1-04	BASE	0.51	1.03	8.976	7407
50-12hr-10%	CB1-05	BASE	0.51	2.71	8.976	19484
50-12hr-10%	CB1-06	BASE	0.51	0.58	8.976	4187
50-12hr-10%	CB1-07	BASE	0.51	2.18	8.973	15696
50-12hr-10%	CB2-01	BASE	1.01	1.66	6.875	12704
50-12hr-10%	CB2-02	BASE	1.02	2.26	5.553	17432
50-12hr-10%	CB2-03	BASE	1.01	0.56	5.997	4304
50-12hr-10%	CB2-04	BASE	0.51	3.08	8.976	22141
50-12hr-10%	CB3-01	BASE	0.51	0.40	8.891	2871
50-12hr-90%	CB1-01	BASE	12.00	0.15	4.594	1030
50-12hr-90%	CB1-02	BASE	12.00	2.84	7.181	25185
50-12hr-90%	CB1-03	BASE	12.00	0.41	8.920	4321
50-12hr-90%	CB1-04	BASE	12.00	0.70	8.975	7406
50-12hr-90%	CB1-05	BASE	12.00	1.84	8.975	19482
50-12hr-90%	CB1-06	BASE	12.00	0.39	8.975	4186

50-12hr-90%	CB1-07	BASE	12.00	1.48	8.972	15694
50-12hr-90%	CB2-01	BASE	12.00	1.48	6.874	12703
50-12hr-90%	CB2-02	BASE	12.00	2.32	5.552	17430
50-12hr-90%	CB2-03	BASE	12.00	0.55	5.997	4303
50-12hr-90%	CB2-04	BASE	12.00	2.09	8.975	22139
50-12hr-90%	CB3-01	BASE	12.00	0.27	8.890	2871
50-1hr-10%	CB1-01	BASE	0.72	0.04	0.376	84
50-1hr-10%	CB1-02	BASE	0.27	2.52	1.362	4775
50-1hr-10%	CB1-03	BASE	0.20	0.77	2.531	1226
50-1hr-10%	CB1-04	BASE	0.20	1.34	2.578	2128
50-1hr-10%	CB1-05	BASE	0.20	3.52	2.578	5596
50-1hr-10%	CB1-06	BASE	0.20	0.76	2.578	1203
50-1hr-10%	CB1-07	BASE	0.20	2.84	2.576	4506
50-1hr-10%	CB2-01	BASE	0.28	1.14	1.206	2229
50-1hr-10%	CB2-02	BASE	0.33	0.92	0.663	2081
50-1hr-10%	CB2-03	BASE	0.31	0.28	0.825	592
50-1hr-10%	CB2-04	BASE	0.20	4.00	2.578	6360
50-1hr-10%	CB3-01	BASE	0.20	0.51	2.506	809
50-1hr-90%	CB1-01	BASE	1.01	0.16	0.376	84
50-1hr-90%	CB1-02	BASE	1.01	6.07	1.361	4775
50-1hr-90%	CB1-03	BASE	1.00	1.14	2.531	1226
50-1hr-90%	CB1-04	BASE	1.00	1.95	2.578	2127
50-1hr-90%	CB1-05	BASE	1.00	5.13	2.578	5596
50-1hr-90%	CB1-06	BASE	1.00	1.10	2.578	1202
50-1hr-90%	CB1-07	BASE	1.00	4.13	2.576	4506
50-1hr-90%	CB2-01	BASE	1.01	2.97	1.206	2229
50-1hr-90%	CB2-02	BASE	1.01	3.39	0.663	2081
50-1hr-90%	CB2-03	BASE	1.01	0.90	0.825	592
50-1hr-90%	CB2-04	BASE	1.00	5.83	2.578	6359
50-1hr-90%	CB3-01	BASE	1.00	0.76	2.506	809
50-24hr-10%	CB1-01	BASE	1.51	0.12	6.621	1485
50-24hr-10%	CB1-02	BASE	1.01	2.98	9.527	33413
50-24hr-10%	CB1-03	BASE	0.50	0.55	11.344	5495
50-24hr-10%	CB1-04	BASE	0.50	0.95	11.399	9407
50-24hr-10%	CB1-05	BASE	0.50	2.49	11.399	24744
50-24hr-10%	CB1-06	BASE	0.50	0.53	11.399	5317
50-24hr-10%	CB1-07	BASE	0.50	2.00	11.397	19934
50-24hr-10%	CB2-01	BASE	1.01	1.50	9.196	16993
50-24hr-10%	CB2-02	BASE	1.51	2.02	7.729	24265
50-24hr-10%	CB2-03	BASE	1.01	0.50	8.230	5906
50-24hr-10%	CB2-04	BASE	0.50	2.83	11.399	28118
50-24hr-10%	CB3-01	BASE	0.50	0.37	11.313	3653
50-24hr-90%	CB1-01	BASE	24.00	0.17	6.620	1484
50-24hr-90%	CB1-02	BASE	24.00	2.98	9.525	33407
50-24hr-90%	CB1-03	BASE	24.00	0.42	11.342	5494
50-24hr-90%	CB1-04	BASE	24.00	0.72	11.397	9405
50-24hr-90%	CB1-05	BASE	24.00	1.90	11.397	24740
50-24hr-90%	CB1-06	BASE	24.00	0.41	11.397	5316
50-24hr-90%	CB1-07	BASE	24.00	1.53	11.395	19931
50-24hr-90%	CB2-01	BASE	24.00	1.56	9.194	16989
50-24hr-90%	CB2-02	BASE	24.00	2.50	7.727	24259
50-24hr-90%	CB2-03	BASE	24.00	0.58	8.228	5904
50-24hr-90%	CB2-04	BASE	24.00	2.16	11.397	28114
50-24hr-90%	CB3-01	BASE	24.00	0.28	11.311	3653
50-6hr-10%	CB1-01	BASE	1.02	0.14	2.763	620
50-6hr-10%	CB1-02	BASE	0.69	3.62	4.928	17284
50-6hr-10%	CB1-03	BASE	0.51	0.65	6.551	3173
50-6hr-10%	CB1-04	BASE	0.51	1.12	6.605	5450
50-6hr-10%	CB1-05	BASE	0.51	2.94	6.605	14337
50-6hr-10%	CB1-06	BASE	0.51	0.63	6.605	3081
50-6hr-10%	CB1-07	BASE	0.51	2.37	6.602	11548
50-6hr-10%	CB2-01	BASE	0.69	1.80	4.656	8604
50-6hr-10%	CB2-02	BASE	0.86	2.37	3.531	11085
50-6hr-10%	CB2-03	BASE	0.86	0.60	3.901	2799
50-6hr-10%	CB2-04	BASE	0.51	3.34	6.605	16292
50-6hr-10%	CB3-01	BASE	0.51	0.43	6.522	2106
50-6hr-90%	CB1-01	BASE	6.00	0.13	2.763	620
50-6hr-90%	CB1-02	BASE	6.00	2.62	4.928	17282
50-6hr-90%	CB1-03	BASE	5.84	0.39	6.551	3173
50-6hr-90%	CB1-04	BASE	5.84	0.66	6.604	5450
50-6hr-90%	CB1-05	BASE	5.84	1.75	6.604	14336
50-6hr-90%	CB1-06	BASE	5.84	0.37	6.604	3080
50-6hr-90%	CB1-07	BASE	5.84	1.41	6.602	11547
50-6hr-90%	CB2-01	BASE	6.00	1.35	4.656	8603
50-6hr-90%	CB2-02	BASE	6.00	2.04	3.530	11084
50-6hr-90%	CB2-03	BASE	6.00	0.49	3.900	2799
50-6hr-90%	CB2-04	BASE	5.84	1.98	6.604	16291
50-6hr-90%	CB3-01	BASE	5.84	0.26	6.522	2106

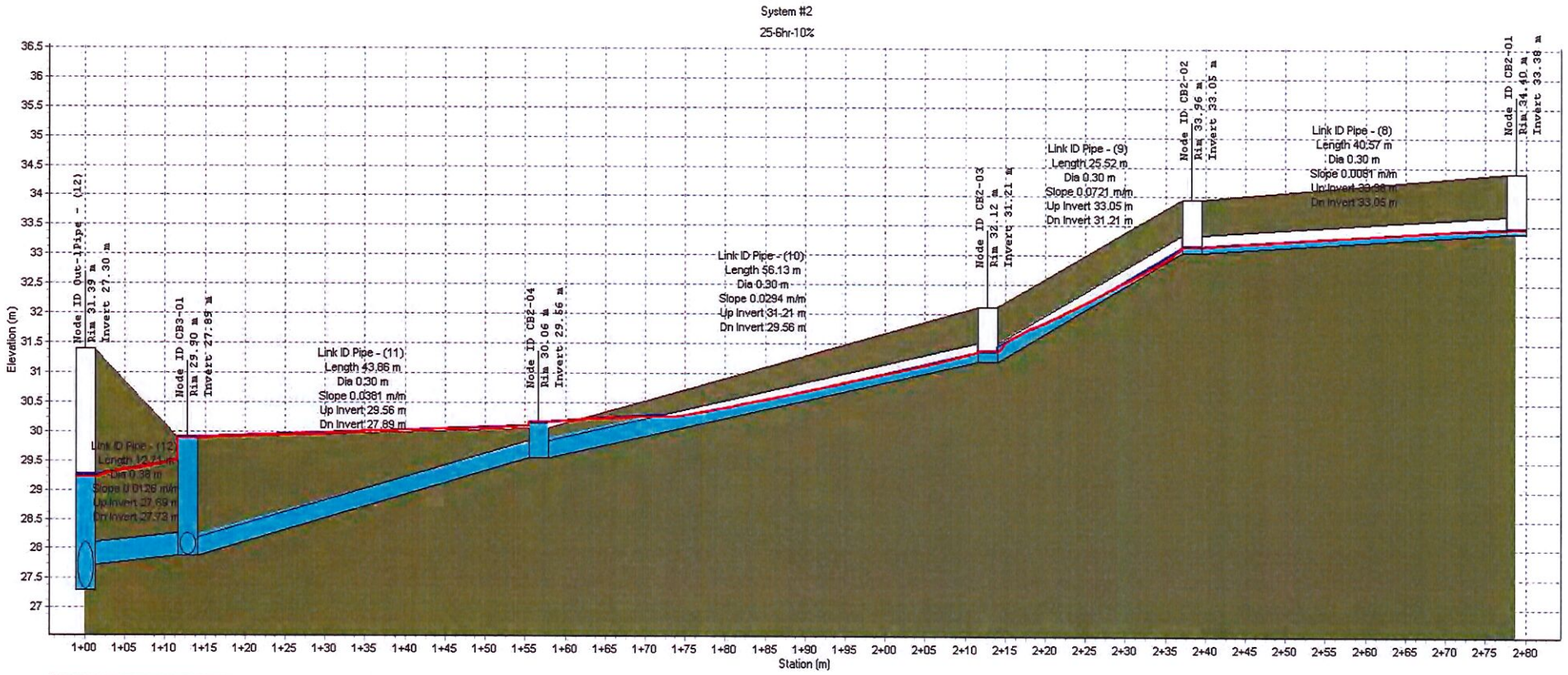
Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
MH-1	BASE	100-12hr-10%	0.76	95.58	0.00	0.0050	132	0.75	59.56	0.76	59.52
Node-1	BASE	100-12hr-10%	1.75	99.39	98.43	0.0051	18536	0.75	20.40	2.47	15.76
Node-3	BASE	100-12hr-10%	24.00	23.62	0.00	0.0164	0	0.76	59.52	0.00	0.00
MH-1	BASE	100-1hr-90%	1.00	96.50	0.00	-0.2154	132	1.00	66.87	1.00	65.30
Node-1	BASE	100-1hr-90%	1.00	97.62	98.43	0.0126	2551	1.00	35.94	1.00	14.06
Node-3	BASE	100-1hr-90%	2.00	1.97	0.00	0.0129	1	1.00	65.30	0.00	0.00
MH-1	BASE	100-24hr-10%	1.00	95.00	0.00	-0.0050	132	1.00	55.56	1.00	55.54
Node-1	BASE	100-24hr-10%	1.74	98.92	98.43	-0.0050	16954	1.00	18.47	2.75	15.07
Node-3	BASE	100-24hr-10%	47.99	47.24	0.00	0.0164	0	1.00	55.54	0.00	0.00
MH-1	BASE	100-6hr-10%	0.83	96.05	0.00	0.0050	132	0.83	62.51	0.83	62.50
Node-1	BASE	100-6hr-10%	1.37	99.29	98.43	0.0060	18215	0.67	21.89	1.78	15.82
Node-3	BASE	100-6hr-10%	23.99	23.62	0.00	0.0164	0	0.83	62.50	0.00	0.00
MH-1	BASE	10yr-12hr-10%	1.00	92.81	0.00	-0.0050	131	1.00	37.02	1.00	37.02
Node-1	BASE	10yr-12hr-10%	1.37	95.14	98.43	-0.0050	3805	0.75	11.40	1.46	10.28
Node-3	BASE	10yr-12hr-10%	24.01	23.63	0.00	0.0164	0	1.00	37.02	0.00	0.00
MH-1	BASE	10yr-1hr-90%	1.00	94.17	0.00	-0.1598	132	1.00	50.16	1.00	49.35
Node-1	BASE	10yr-1hr-90%	1.00	94.99	98.43	0.0050	3917	1.00	26.77	1.00	10.01
Node-3	BASE	10yr-1hr-90%	2.00	1.97	0.00	0.0129	3	1.00	49.35	0.00	0.00
MH-1	BASE	10yr-24hr-10%	1.00	92.41	0.00	-0.0050	144	1.00	32.43	1.00	32.42
Node-1	BASE	10yr-24hr-10%	1.58	94.38	98.43	-0.0050	4229	1.00	9.91	1.58	8.80
Node-3	BASE	10yr-24hr-10%	48.00	47.25	0.00	0.0164	0	1.00	32.42	0.00	0.00
MH-1	BASE	10yr-6hr-10%	0.84	93.33	0.00	0.0050	131	0.83	42.16	0.84	42.15
Node-1	BASE	10yr-6hr-10%	1.16	96.01	98.43	-0.0050	2405	0.67	13.38	1.31	11.24
Node-3	BASE	10yr-6hr-10%	11.99	11.81	0.00	0.0164	0	0.84	42.15	0.00	0.00
MH-1	BASE	25yr-1hr-90%	1.00	94.96	0.00	-0.1829	132	1.00	56.36	1.00	55.30
Node-1	BASE	25yr-1hr-90%	1.00	95.70	98.43	0.0050	3093	1.00	30.55	1.00	11.24
Node-3	BASE	25yr-1hr-90%	2.00	1.97	0.00	0.0129	0	1.00	55.30	0.00	0.00
MH-1	BASE	25yr-24hr-10%	1.00	93.05	0.00	0.0050	131	1.00	39.54	1.00	39.52
Node-1	BASE	25yr-24hr-10%	1.74	95.30	98.43	-0.0050	8826	1.00	13.13	2.02	10.58
Node-3	BASE	25yr-24hr-10%	48.00	47.24	0.00	0.0164	0	1.00	39.52	0.00	0.00
MH-1	BASE	25yr-6hr-10%	0.84	94.51	0.00	-0.0050	132	0.83	51.99	0.84	51.97
Node-1	BASE	25yr-6hr-10%	1.18	98.11	98.43	-0.0050	10318	0.67	16.63	1.49	14.00
Node-3	BASE	25yr-6hr-10%	12.00	11.81	0.00	0.0164	0	0.84	51.97	0.00	0.00
MH-1	BASE	2yr-12hr-10%	1.00	91.61	0.00	-0.0050	187	1.00	21.55	1.00	21.55
Node-1	BASE	2yr-12hr-10%	1.31	93.25	98.43	0.0049	4083	1.00	6.24	1.31	5.90
Node-3	BASE	2yr-12hr-10%	24.01	23.63	0.00	0.0164	0	1.00	21.55	0.00	0.00
MH-1	BASE	2yr-1hr-90%	1.00	92.98	0.00	-0.1178	131	1.00	39.24	1.00	38.74
Node-1	BASE	2yr-1hr-90%	1.00	94.03	98.43	0.0049	4278	1.00	20.05	1.00	8.01
Node-3	BASE	2yr-1hr-90%	2.00	1.97	0.00	0.0129	3	1.00	38.74	0.00	0.00
MH-1	BASE	2yr-24hr-10%	1.21	91.33	0.00	-0.0050	192	1.21	17.71	1.21	17.71
Node-1	BASE	2yr-24hr-10%	1.51	92.99	98.43	0.0050	3908	1.00	5.18	1.51	5.00
Node-3	BASE	2yr-24hr-10%	48.00	47.25	0.00	0.0164	0	1.21	17.71	0.00	0.00
MH-1	BASE	2yr-6hr-10%	0.86	92.01	0.00	0.0050	172	0.85	27.16	0.84	27.15
Node-1	BASE	2yr-6hr-10%	1.11	93.65	98.43	-0.0050	4240	0.83	7.99	1.11	7.07
Node-3	BASE	2yr-6hr-10%	12.01	11.82	0.00	0.0164	0	0.84	27.15	0.00	0.00
MH-1	BASE	50-12hr-10%	0.82	94.73	0.00	-0.0050	132	0.82	53.66	0.82	53.66
Node-1	BASE	50-12hr-10%	1.57	98.61	98.43	-0.0050	15873	0.75	17.58	2.20	14.79
Node-3	BASE	50-12hr-10%	24.01	23.63	0.00	0.0164	0	0.82	53.66	0.00	0.00
MH-1	BASE	50-1hr-90%	1.00	95.70	0.00	-0.1985	132	1.00	62.02	1.00	60.31
Node-1	BASE	50-1hr-90%	1.00	96.68	98.43	0.0121	1345	1.00	33.37	1.00	12.69
Node-3	BASE	50-1hr-90%	2.00	1.97	0.00	0.0129	18	1.00	60.31	0.00	0.00
MH-1	BASE	50-24hr-10%	1.00	94.18	0.00	-0.0050	132	1.00	49.45	1.00	49.43
Node-1	BASE	50-24hr-10%	1.58	98.09	98.43	-0.0050	9921	1.00	15.63	1.75	13.82
Node-3	BASE	50-24hr-10%	47.99	47.24	0.00	0.0164	0	1.00	49.43	0.00	0.00
MH-1	BASE	50-6hr-10%	0.83	95.27	0.00	0.0050	132	0.83	57.46	0.83	57.44
Node-1	BASE	50-6hr-10%	1.29	98.70	98.43	-0.0050	16172	0.67	19.25	1.70	15.10
Node	BASE	50-6hr-10%	12.00	11.81	0.00	0.0164	0	0.83	57.44	0.00	0.00

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
EX-SWS	BASE	100-12hr-10%	0.76	59.52	-0.494	0.76	95.58	0.76	79.63
Pipe-12	BASE	100-12hr-10%	2.47	15.76	-0.014	1.75	99.39	0.76	95.58
EX-SWS	BASE	100-1hr-90%	1.00	65.30	-1.319	1.00	96.50	1.00	79.67
Pipe-12	BASE	100-1hr-90%	1.00	14.06	0.599	1.00	97.62	1.00	96.50
EX-SWS	BASE	100-24hr-10%	1.00	55.54	-0.497	1.00	95.00	1.00	79.60
Pipe-12	BASE	100-24hr-10%	2.75	15.07	-0.018	1.74	98.92	1.00	95.00
EX-SWS	BASE	100-6hr-10%	0.83	62.50	-0.496	0.83	96.05	0.83	79.65
Pipe-12	BASE	100-6hr-10%	1.78	15.82	-0.014	1.37	99.29	0.83	96.05
EX-SWS	BASE	10yr-12hr-10%	1.00	37.02	-0.495	1.00	92.81	1.00	79.44
Pipe-12	BASE	10yr-12hr-10%	1.46	10.28	-0.016	1.37	95.14	1.00	92.81
EX-SWS	BASE	10yr-1hr-90%	1.00	49.35	-1.303	1.00	94.17	1.00	79.55
Pipe-12	BASE	10yr-1hr-90%	1.00	10.01	0.517	1.00	94.99	1.00	94.17
EX-SWS	BASE	10yr-24hr-10%	1.00	32.42	-0.497	1.00	92.41	1.00	79.39
Pipe-12	BASE	10yr-24hr-10%	1.58	8.80	-0.018	1.58	94.38	1.12	92.23
EX-SWS	BASE	10yr-6hr-10%	0.84	42.15	-0.495	0.84	93.33	0.84	79.48
Pipe-12	BASE	10yr-6hr-10%	1.31	11.24	-0.017	1.16	96.01	0.84	93.33
EX-SWS	BASE	25yr-12hr-10%	1.00	47.18	-0.494	1.00	93.90	1.00	79.53
Pipe-12	BASE	25yr-12hr-10%	1.55	13.37	-0.014	1.33	97.79	1.00	93.90
EX-SWS	BASE	25yr-1hr-90%	1.00	55.30	-1.327	1.00	94.96	1.00	79.60
Pipe-12	BASE	25yr-1hr-90%	1.00	11.24	0.613	1.00	95.70	1.00	94.96
EX-SWS	BASE	25yr-24hr-10%	1.00	39.52	-0.496	1.00	93.05	1.00	79.46
Pipe-12	BASE	25yr-24hr-10%	2.02	10.58	-0.016	1.74	95.30	1.00	93.05
EX-SWS	BASE	25yr-6hr-10%	0.84	51.97	-0.496	0.84	94.51	0.84	79.57
Pipe-12	BASE	25yr-6hr-10%	1.49	14.00	-0.014	1.18	98.11	0.84	94.51
EX-SWS	BASE	2yr-12hr-10%	1.00	21.55	-0.497	1.00	91.61	1.00	79.27
Pipe-12	BASE	2yr-12hr-10%	1.31	5.90	-0.018	1.31	93.25	1.31	91.79
EX-SWS	BASE	2yr-1hr-90%	1.00	38.74	-1.231	1.00	92.98	1.00	79.45
Pipe-12	BASE	2yr-1hr-90%	1.00	8.01	0.349	1.00	94.03	1.00	92.98
EX-SWS	BASE	2yr-24hr-10%	1.21	17.71	0.495	1.21	91.33	1.21	79.22
Pipe-12	BASE	2yr-24hr-10%	1.51	5.00	-0.017	1.51	92.99	1.51	91.70
EX-SWS	BASE	2yr-6hr-10%	0.84	27.15	-0.495	0.86	92.01	0.84	79.34
Pipe-12	BASE	2yr-6hr-10%	1.11	7.07	-0.019	1.11	93.65	1.11	91.91
EX-SWS	BASE	50-12hr-10%	0.82	53.66	0.495	0.82	94.73	0.82	79.58
Pipe-12	BASE	50-12hr-10%	2.20	14.79	-0.015	1.57	98.61	0.82	94.73
EX-SWS	BASE	50-1hr-90%	1.00	60.31	-1.318	1.00	95.70	1.00	79.64
Pipe-12	BASE	50-1hr-90%	1.00	12.69	0.585	1.00	96.68	1.00	95.70
EX-SWS	BASE	50-24hr-10%	1.00	49.43	0.495	1.00	94.18	1.00	79.55
Pipe-12	BASE	50-24hr-10%	1.75	13.82	-0.019	1.58	98.09	1.00	94.18
EX-SWS	BASE	50-6hr-10%	0.83	57.44	-0.496	0.83	95.27	0.83	79.61
Pipe-12	BASE	50-6hr-10%	1.70	15.10	-0.014	1.29	98.70	0.83	95.27



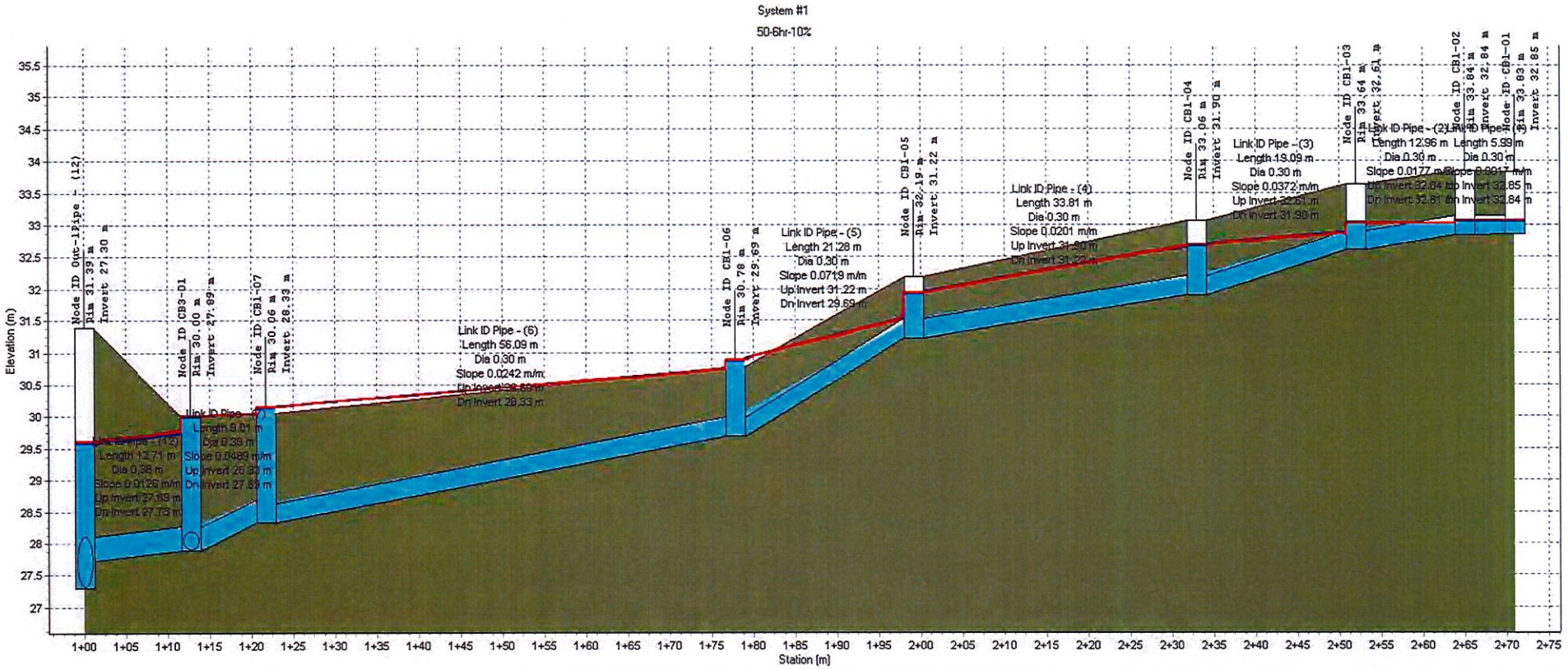
Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	29.90	30.06	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.26	29.90	30.05	30.88	31.66	32.17	32.77	32.97	32.97

Link ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
Length (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Slope (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up Invert (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn Invert (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.46	0.16	0.13	0.16	0.12	0.10	0.04	0.00
Max Vel (m/s):	4.15	1.44	2.83	4.31	4.24	1.99	1.21	0.72
Max Depth (m):	0.38	0.38	0.30	0.30	0.28	0.21	0.15	0.13



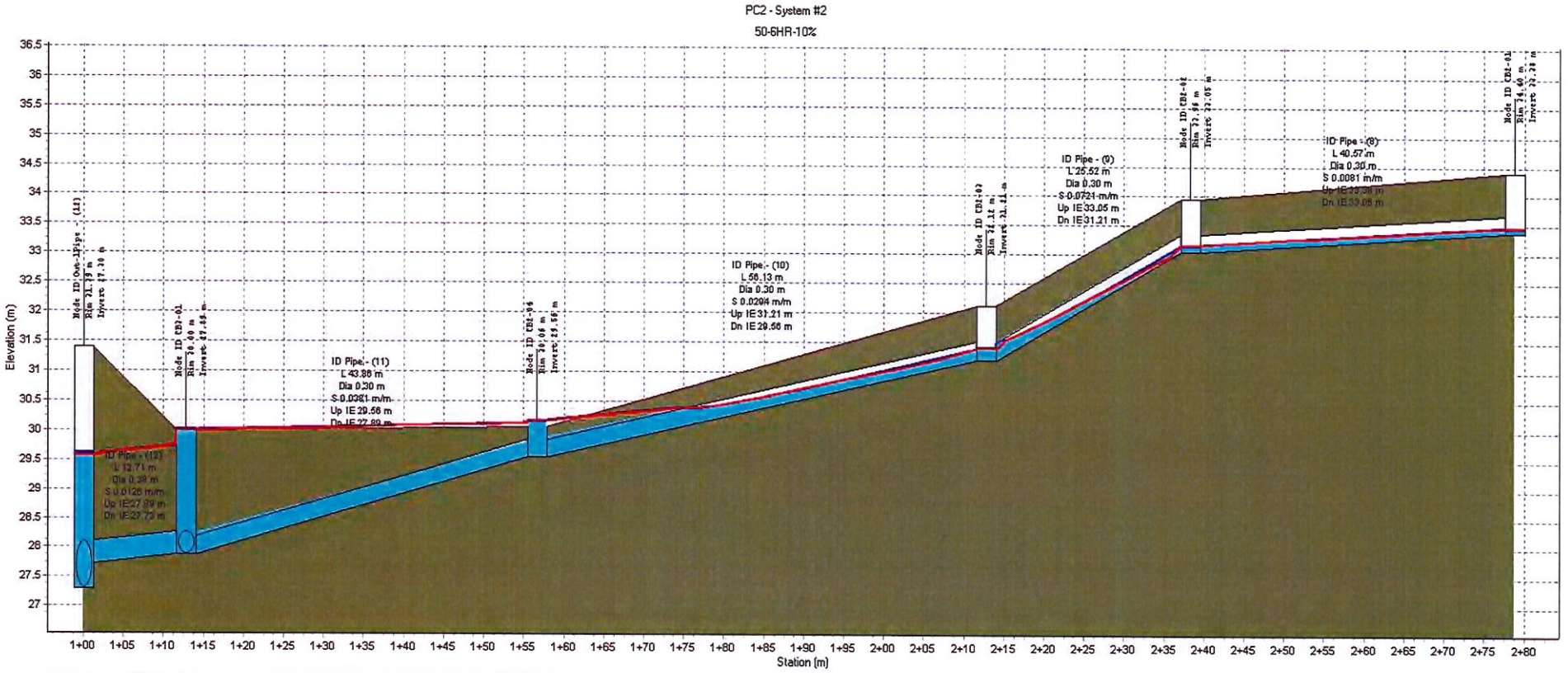
Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	29.90	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.26	29.90	30.16	31.38	33.15	33.46

Link ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
Length (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
Slope (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up Invert (m):	27.89	29.56	31.21	33.05	33.38
Dn Invert (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.46	0.09	0.14	0.08	0.02
Max Vel (m/s):	4.15	1.66	3.15	11.15	2.07
Max Depth (m):	0.38	0.30	0.24	0.14	0.09



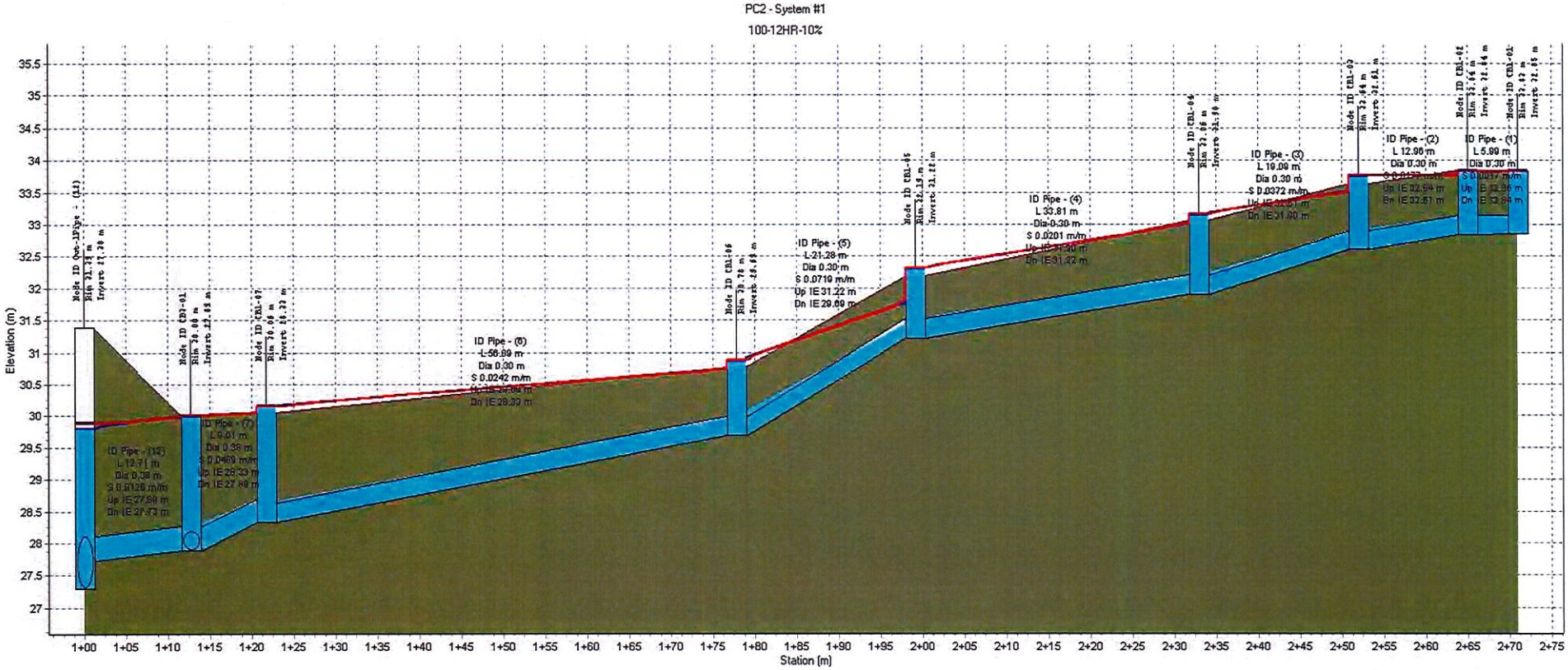
Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	30.00	30.06	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.60	30.00	30.15	30.88	31.93	32.68	33.02	33.06	33.06

Link ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
Length (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Slope (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up Invert (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn Invert (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.50	0.15	0.12	0.19	0.14	0.11	0.05	0.00
Max Vel (m/s):	4.49	1.35	2.55	4.11	3.89	1.99	1.23	0.77
Max Depth (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.26	0.21



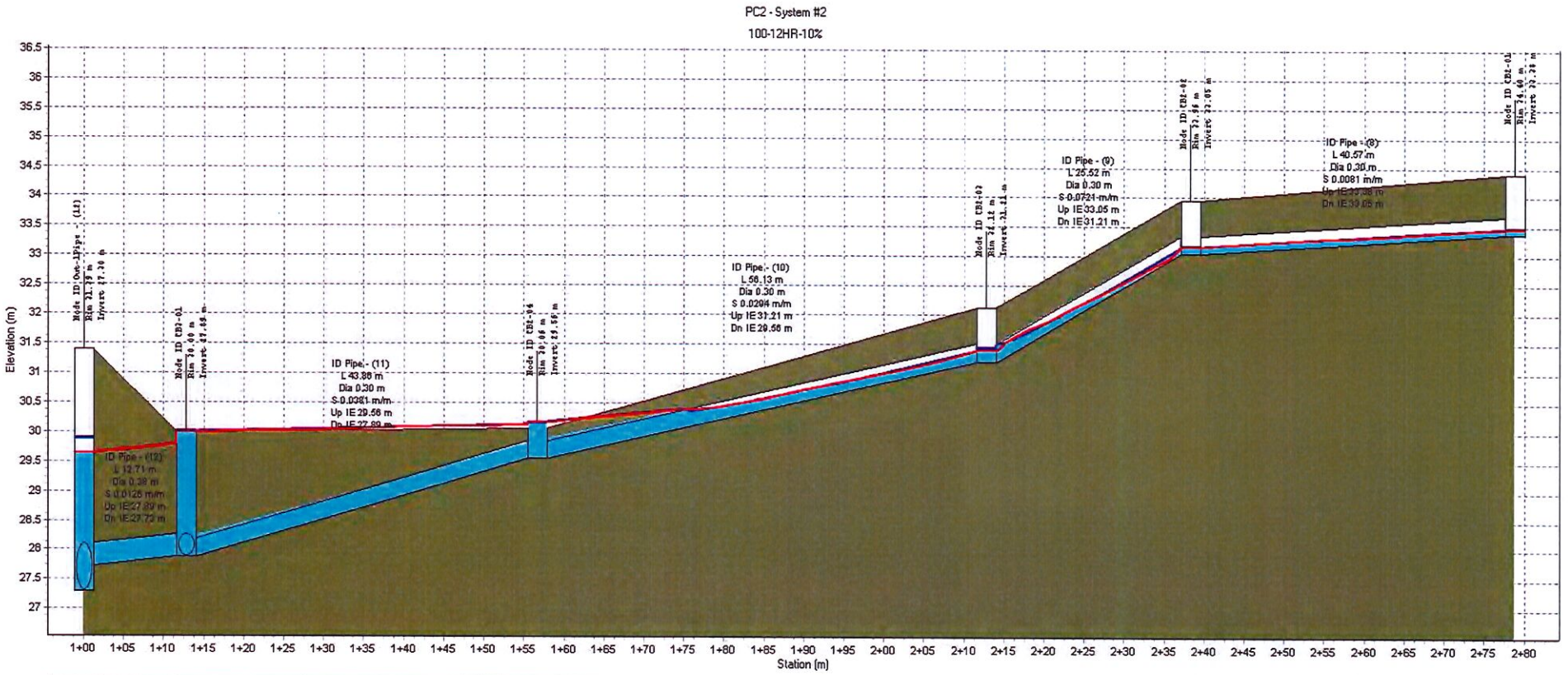
Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	30.00	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.60	30.00	30.16	31.41	33.16	33.47

ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
L (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up IE (m):	27.89	29.56	31.21	33.05	33.38
Dn IE (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.50	0.08	0.12	0.08	0.02
Max Vel (m/s):	4.49	1.07	3.01	9.12	1.98
Max Depth (m):	0.38	0.30	0.25	0.16	0.10



Node ID:		CB3-01	CB1-07	CB1-06	CB1-05	CB1-04	CB1-03	CB1-02	CB1-01
Rim (m):	31.39	30.00	30.06	30.78	32.19	33.06	33.64	33.84	33.83
Invert (m):	27.30	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Min Pipe Cover (m):	3.28								
Max HGL (m):	29.89	30.00	30.16	30.88	32.31	33.16	33.76	33.83	33.83

ID:	Pipe - (12)	Pipe - (7)	Pipe - (6)	Pipe - (5)	Pipe - (4)	Pipe - (3)	Pipe - (2)	Pipe - (1)
L (m):	12.71	9.01	56.09	21.28	33.81	19.09	12.96	5.99
Dia (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0489	0.0242	0.0719	0.0201	0.0372	0.0177	0.0017
Up IE (m):	27.89	28.33	29.69	31.22	31.90	32.61	32.84	32.85
Dn IE (m):	27.73	27.89	28.33	29.69	31.22	31.90	32.61	32.84
Max Q (cms):	0.50	0.15	0.12	0.22	0.16	0.15	0.06	0.01
Max Vel (m/s):	4.49	1.38	2.28	3.82	3.75	2.09	1.22	0.58
Max Depth (m):	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30



Node ID:		CB3-01	CB2-04	CB2-03	CB2-02	CB2-01
Rim (m):	31.39	30.00	30.06	32.12	33.96	34.40
Invert (m):	27.30	27.89	29.56	31.21	33.05	33.38
Min Pipe Cover (m):	3.28					
Max HGL (m):	29.89	30.00	30.16	31.45	33.17	33.48

ID:	Pipe - (12)	Pipe - (11)	Pipe - (10)	Pipe - (9)	Pipe - (8)
L (m):	12.71	43.86	56.13	25.52	40.57
Dia (m):	0.38	0.30	0.30	0.30	0.30
S (m/m):	0.0126	0.0381	0.0294	0.0721	0.0081
Up IE (m):	27.89	29.56	31.21	33.05	33.38
Dn IE (m):	27.73	27.89	29.56	31.21	33.05
Max Q (cms):	0.50	0.08	0.15	0.09	0.02
Max Vel (m/s):	4.49	1.06	2.92	8.82	1.97
Max Depth (m):	0.38	0.30	0.27	0.18	0.11

Appendix T Proposed Condition 1 (PC2) Output Report

Exhibit F

NON-FLOOD CERTIFICATION

I, Rafael Fernandez Bouza, a registered engineer, license no. 14253 in and for the Commonwealth of Puerto Rico, do hereby certify to Casa Linda Apartments LLC (the "Owner") that I have conducted a review of the Hydraulic-Hydrologic Study dated July 27, 2020 prepared by PMG & ASSOCIATES, and of the FEMA Flood Insurance Rate Maps, in specific, the map that applies to the lot with Map ID 72000C0345J AND 72000C0365J with effective date 11/18/2009, applicable to the Casa Linda Apartments project (the "Project") site, comprised of 19,896.13 square meters, and located at Ave. Norte, Lomas Verdes, in Bayamón, Puerto Rico and have determined the following:

(i) The lot is outside of all and any flood zone nearby, within a 922 meters radius.

(ii) The design of the special distribution of the installations have been designed accordingly to the recommendations in the referenced Hydraulic-Hydrologic Study.

I recognize that Casa Linda Apartments LLC, the Puerto Rico Housing Finance Authority, and the Puerto Rico Department of Housing will rely on this certification set forth above for the purpose of developing the site using low-income housing tax credits, and CDBG-DR funds.

Given this 13 day of January of 2022.



Certify correct,

Rafael Fernandez Bouza, PE

[Insert Name]

[Seal]

By: _____

Its: Senior Civil Engineer

(Title)

Exhibit G

U.S. Fish and Wildlife Service

National Wetlands Inventory

CASA LINDA WETLAND MAPPER



October 15, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Luis Sousa Gallardo
Agrimensor
Puerto Rico

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Exhibit H1

Coastal Zone Map

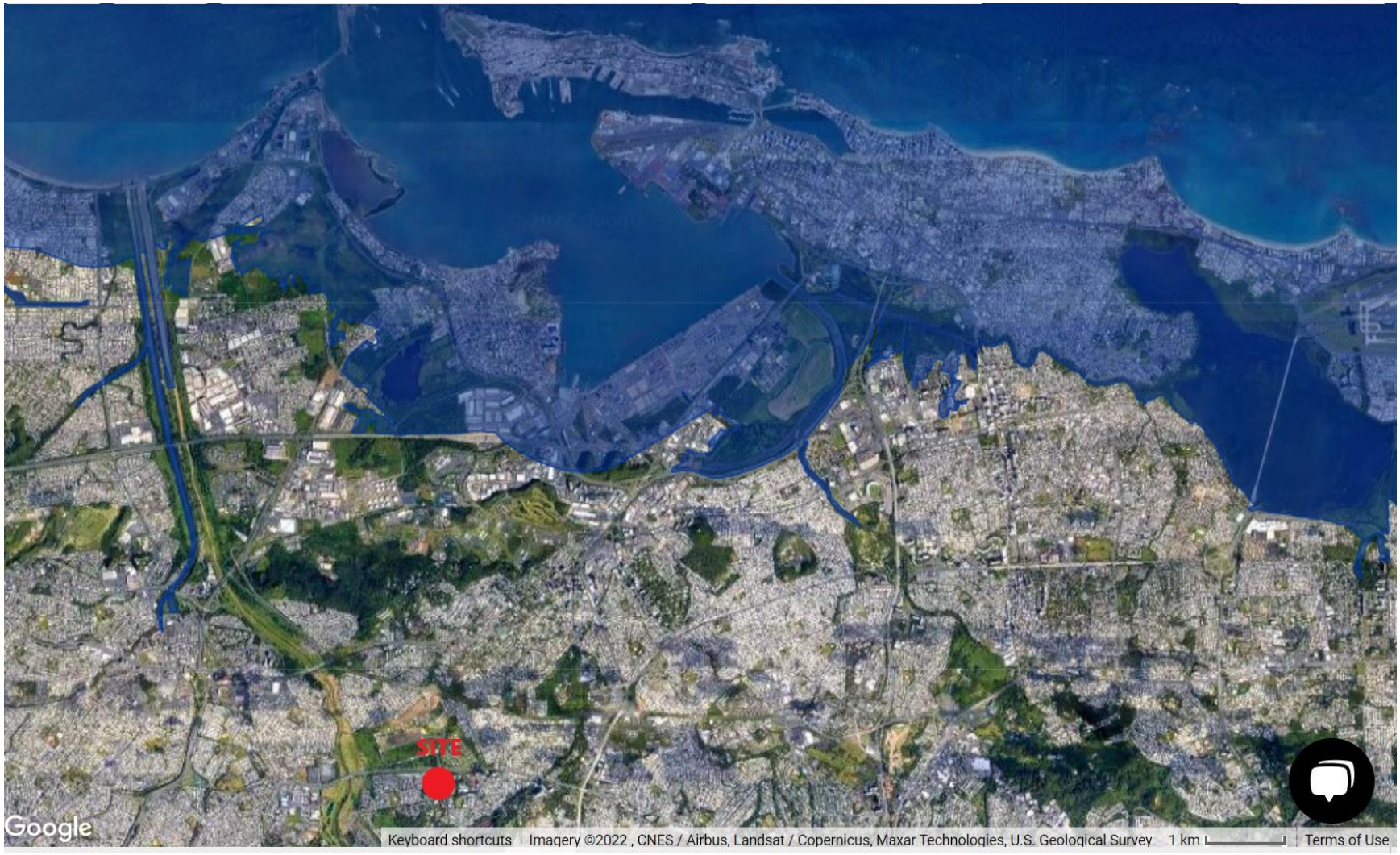


Exhibit H2

U.S. Fish and Wildlife Service
Coastal Barrier Resources System

Casa Linda CBRS Map



January 31, 2022

CBRS Units

- Otherwise Protected Area
- System Unit

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/cbra/maps/index.html. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (http://www.fws.gov/cbra/Determinations.html) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS mapper.

U.S. Fish and Wildlife Service

Coastal Barrier Resources System Mapper Documentation



CBRS Units

Otherwise Protected Area | CBRS Buffer Zone

System Unit | -66.125311, 18.38289

0 65 130 260 390 ft

1:4,514

The pin location displayed on the map is a point selected by the user. Failure of the user to ensure that the pin location displayed on this map correctly corresponds with the user supplied address/location description below may result in an invalid federal flood insurance policy. **The U.S. Fish and Wildlife Service (Service) has not validated the pin location with respect to the user supplied address/location description below. The Service recommends that all pin locations be verified by federal agencies prior to use of this map for the provision or denial of federal funding or financial assistance** . Please note that a structure bisected by the Coastal Barrier Resources System (CBRS) boundary (i.e., both "partially in" and "partially out") is within the CBRS and therefore affected by CBRA's restrictions on federal flood insurance. A pin placed on a bisected structure must be placed on the portion of the structure within the unit (including any attached features such as a deck or stairs).

User Name: CASA LINDA APARTMENTS
User Supplied Address/Location Description: AVENIDA CASA LINDA, BAYAMON, PR
Pin Location: Outside CBRS
Pin Flood Insurance Prohibition Date: N/A
Pin System Unit Establishment Date: N/A

The user placed pin location is not within the CBRS. The official CBRS maps are accessible at https://www.fws.gov/cbra/maps/index.html .

The CBRS information is derived directly from the CBRS web service provided by the Service. This map was exported on 10/15/2020 and does not reflect changes or amendments subsequent to this date. The CBRS boundaries on this map may become superseded by new boundaries over time.

This map image may be void if one or more of the following map elements do not appear: basemap imagery, CBRS unit labels, prohibition date labels, legend, scale bar, map creation date. For additional information about flood insurance and the CBRS, visit: https://www.fws.gov/cbra/Flood-Insurance.html .

Exhibit I

Sole Source Aquifers



National Water Information System: Mapper

Sites | Map

Search

Search by Street Address:

Carretera 177, Bayamon, P.I

Search by Place Name:

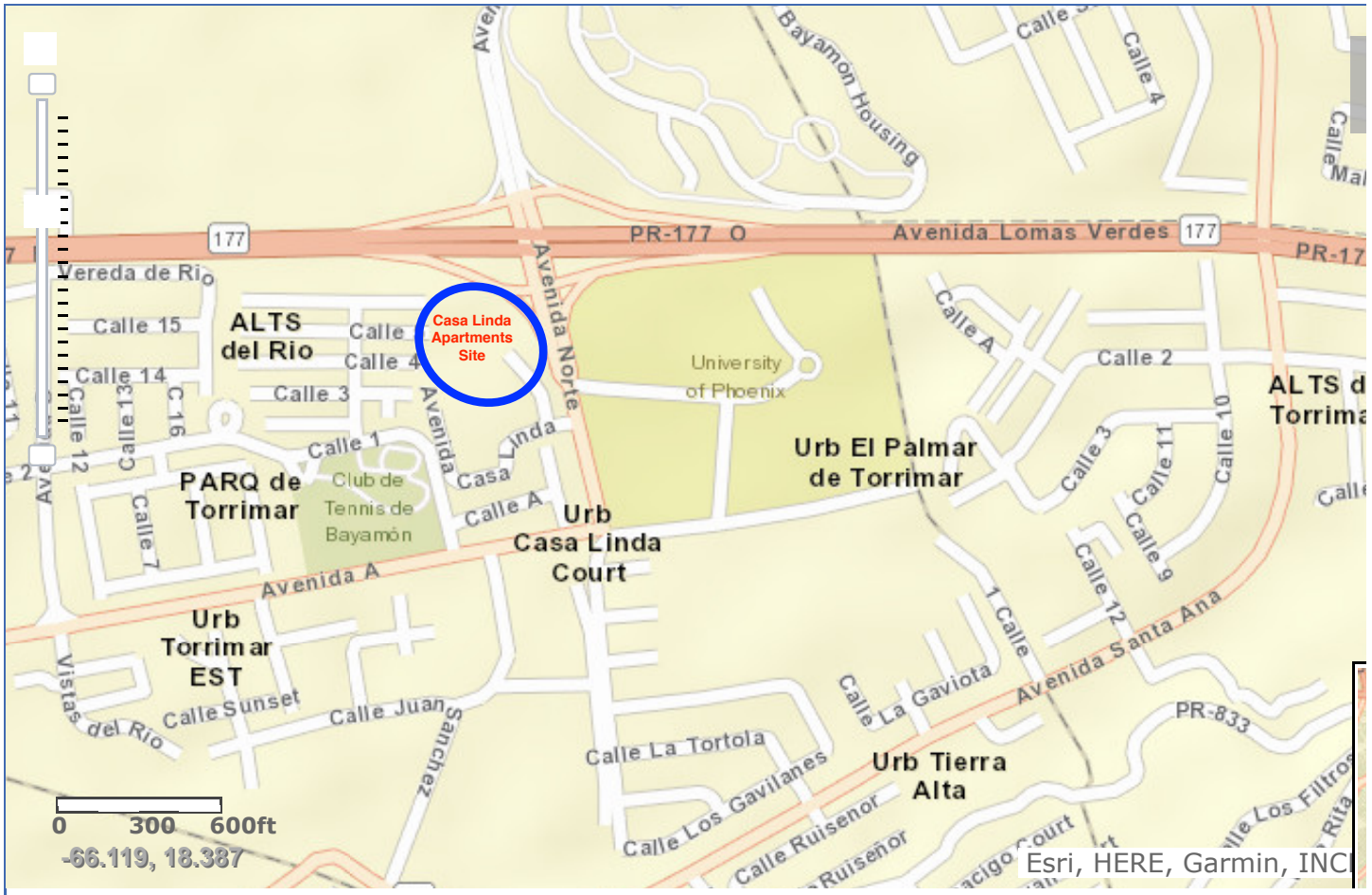
Enter Placename

Search by Site Number(s):

Enter Site Number(s)

Search by State/Territory:

- Surface-Water Sites
- Groundwater Sites
- Springs
- Atmospheric Sites
- Other Sites



Site Information

Exhibit J

18 de Junio de 2020

Sr. Edwin E. Muñiz
Fish and Wildlife Service
Caribbean Ecological Service Field Office
P.O Box 491/Road 301 km 5.1
Boquerón, PR 00622

Based on the information provided and currently available to us, no federally listed, proposed species or designated critical habitat are known to exist within the project area. No further consultation pursuant section 7 of Endangered Species Act of 1973, as amended is needed.

Reviewer DAMARIS ROMAN RUIZ Digitally signed by DAMARIS ROMAN RUIZ Date: 2020.06.22 07:23:21 -04'00'

EDWIN MUNIZ Digitally signed by EDWIN MUNIZ Date: 2020.06.22 07:35:37 -04'00'

Caribbean ES Field Supervisor

Casa Linda Apartments
Solicitud de Comentarios para Expansión y Renovación del Proyecto
Casa Linda del Sur – Carretera PR- 177 (Ave. Los Filtros) Bayamón, PR 00959

Señor Muñiz:

En representación de Casa Linda Apartments, LLC solicitamos comentarios sobre la propuesta expansión y renovación que se describe a continuación para el proyecto Casa Linda del Sur, existente dentro de los límites del Municipio de Bayamón.

1. Descripción del Proyecto Existente:

Casa Linda del Sur es un complejo de vivienda construido entre los años 1982 y 1983 y ocupado en 1984. El proyecto cuenta con 199 apartamentos de una (1) habitación que son servidos por 209 espacios de estacionamiento provistos en el terreno. El proyecto opera bajo la tipología de alquiler de interés social y actualmente se encuentra ocupado. El edificio actual ocupa un 17% del área del solar equivalente a 3,415 metros cuadrados. El área bruta existente es de 14,995 metros cuadrados equivalentes a un 75% del área del solar.

El edificio existente cuenta con áreas de recreación activa y pasiva, áreas de reuniones comunales y facilidades administrativas; tiene en su parte más alta 5 niveles y en la más baja 4 niveles con una altura máxima de 12.2 metros. Al predio se accede desde la avenida Norte colindante con los terrenos. El edificio cuenta con un generador de emergencia de 50 kw y cisterna combinada de agua doméstica y de fuegos con capacidad para 33,795 galones.

2. Titularidad:

La entidad con control del predio y del proyecto es la corporación Casa Linda Apartments LLC, representada por el señor Enrique Nodarse. La titularidad se evidencia a través del contrato de opción de compraventa suscrito entre las partes el 21 de mayo de 2020; se aneja el referido contrato a esta solicitud.

3. Descripción del Predio:

El predio en el que ubica el proyecto tiene una cabida de 19,896.1294 metros cuadrados según escritura y 19886.1314 metros cuadrados según mensura. La descripción legal de la propiedad es:

"URBANA: Tract of land located at Juan Sánchez Ward in the Municipality of Bayamón, Puerto Rico, comprising an area of 19,896.1294 square meters, equivalent to five cuerdas and six hundred twenty-one ten thousandth of a cuerda, equivalent to two hundred fourteen thousand, one hundred fifty nine square feet and two thousand nine hundred seventy eight ten thousandths of a square foot, equivalent to four acres and nine thousand one hundred sixty four ten thousandths of an acre; bounded at the NORTH, SOUTH, EAST and WEST, by land property of the Puerto Rico Land Administration."

El predio se identifica registralmente como la finca 59,466 inscrita en el folio 196 del tomo 1,320 del Registro de la Propiedad de Puerto Rico, Sección I de Bayamón.

El número de catastro de la propiedad es el 085-070-047-13; la propiedad se encuentra fuera de zona inundable según establecido en la hoja 72000C0345J y 72000C0365J de los Mapas para Establecer las Tasas de Seguros de Inundación (FIRM) con efectividad del 18 de noviembre de 2009. Esta determinación se mantiene en los Mapas de Niveles de Inundación Base Recomendados (Advisory Maps) efectivos para Puerto Rico a partir del 13 de abril de 2018.

El predio ostenta una calificación Residencial de Alta Densidad (RA) según establecido en el Mapa de Calificación de Suelos del Municipio Autónomo de Bayamón con vigencia del 20 de diciembre de 2012.



Figura 1: Foto Aérea del Predio. (jp.pr.gov)

4. Descripción de la Acción Propuesta:

Se propone dentro del predio existente lo siguiente:

a. **Remodelación y Renovación del Edificio Existente Casa Linda del Sur (199 unidades)**: Esto Incluye el reemplazo de elementos interiores y exteriores (puertas, ventanas, piso, equipos de baños, gabinetes de cocina), reparación de terminaciones exteriores (empañetados, sellador de techo, pintura) mejores a las áreas comunes y de circulación; reemplazo de equipos y enseres eléctricos y se reemplazará el generador de emergencia existente por uno de 750KW con un tanque de combustible de 2,000 galones. Con esta renovación no se están modificando los medios de salida existentes

b. **Construcción de Nuevo Edificio Residencial:** Se propone la construcción dentro del mismo predio de un edificio en el que se proveerán 52 apartamentos de dos (2) habitaciones; las nuevas unidades también operarán bajo el concepto de vivienda de interés social para alquiler; el nuevo edificio contará con cinco (5) niveles e incluirá facilidades comunales, recreativas y los sistemas requeridos de conformidad con los

reglamentos vigentes. Se proveerá además un generador de emergencia con capacidad de 400 kw que tendrá un tanque de 2,000 galones de combustible diésel. Para la construcción del nuevo edificio se estima que será necesario la remoción y disposición de aproximadamente 6,100 metros cúbicos de terreno y se adquirirán alrededor de 100 metros cúbicos de material de relleno. No se prevé almacenamiento de terreno en el site.

c. **Construcción de Estructura Multiniveles para proveer Estacionamiento Adicional**: Dentro del predio se proveerán 63 espacios de estacionamientos adicionales en una bandeja sobre parte del área de estacionamiento existente; esta estructura es necesaria para acomodar espacios requeridos para las unidades existentes y las adicionales propuestas. Con esta adición se proveerían en total entre el terreno y la estructura 277 espacios de estacionamiento incluidos los requeridos para personas con limitaciones físicas, los de visitantes y los requeridos para vehículos tipo van.

d. **Mejoras de Site:** Se proponen además en el predio obras conducentes a proveer áreas de recreación pasiva que promuevan la integración entre las unidades existentes y las propuestas, además se llevarán a cumplimiento con código todos los accesos y elementos de movilidad dentro del predio. Se reparará el asfalto en el predio; se reemplazarán las luminarias en las áreas exteriores y comunes y se dará tratamiento paisajista alrededor del predio. Se realizarán mejoras a las áreas de manejo de desperdicios sólidos de manera que se provean contenedores regulares y para el reciclaje de materiales. Se propone una nueva cisterna para alimentar el sistema de supresión de incendios del edificio existente y del propuesto con una capacidad de 30,000 galones y se añadirá también una bomba de sprinklers con una capacidad de 183 hp y su tanque de diésel de 500 galones. Se añadirá una cisterna de 10,400 galones para el agua de uso doméstico del nuevo edificio.

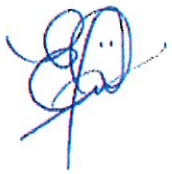
Como parte del proceso de permisos se solicitará la determinación de cumplimiento ambiental y las recomendaciones aplicables de las agencias concernidas para las expansiones y mejoras propuestas; además se presentarán para endoso los planos de la infraestructura potable, sanitaria, eléctrica y de telecomunicaciones para el nuevo edificio.

Las nuevas facilidades serán diseñadas en cumplimiento con los códigos de edificación vigente y los códigos aplicables para los distintos sistemas.

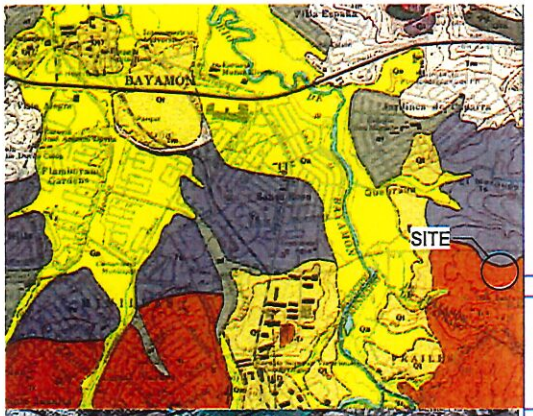
Anejamos a esta solicitud plano esquemático del proyecto, fotografías, mapa de localización y demás documentos relevantes a la solicitud.

Agradecemos su atención al asunto.

Cordialmente,



Erika Alcántara Martinez, PE
Representante Autorizado



LOCATION MAP

USGS TOPOGRAPHIC
QUADRANGLE: BAYAMON

ISSUED: 1973
SCALE: 1:20,000

LAMBERT COORDINATES:
X= 232551.9723, Y=260863.7419

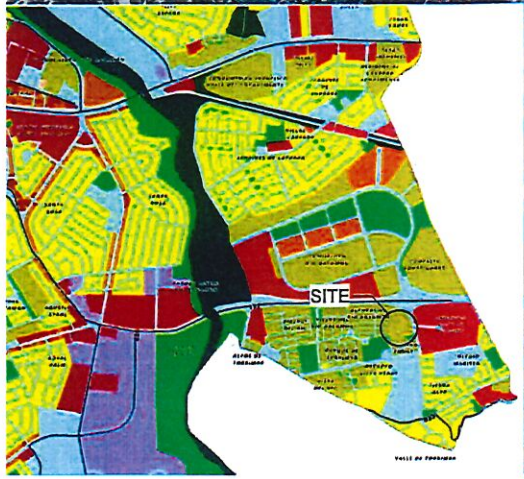


FLOOD ZONE MAP

FLOOD ZONE: X

FEMA FLOOR INSURANCE RATE MAP
SHEET NUM. 72000C0345J

ISSUED: 11/18/2009
SCALE: 1:10,000



ZONING MAP

QUALIFICATION DISTRICT R-A

MAPA DE CALIFICACION DE SUELO
MUNICIPIO DE BAYAMON

ISSUED: 12/02/202
SCALE: 1:20,000

CASA LINDA

Bayamon, Puerto Rico

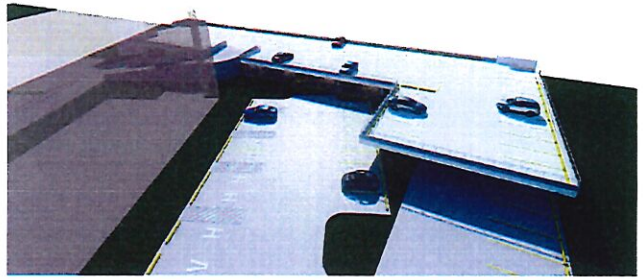
SOLICITUD DE RECOMENDACIONES



CASA LINDA - REMODELING



CASA LINDA - NEW BUILDING



CASA LINDA - PARKING



Marvel Architects
Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.789.9434

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNANDEZ BAUZA
DG3A DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

06/16/20

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21738
PUERTO RICO

#1811A

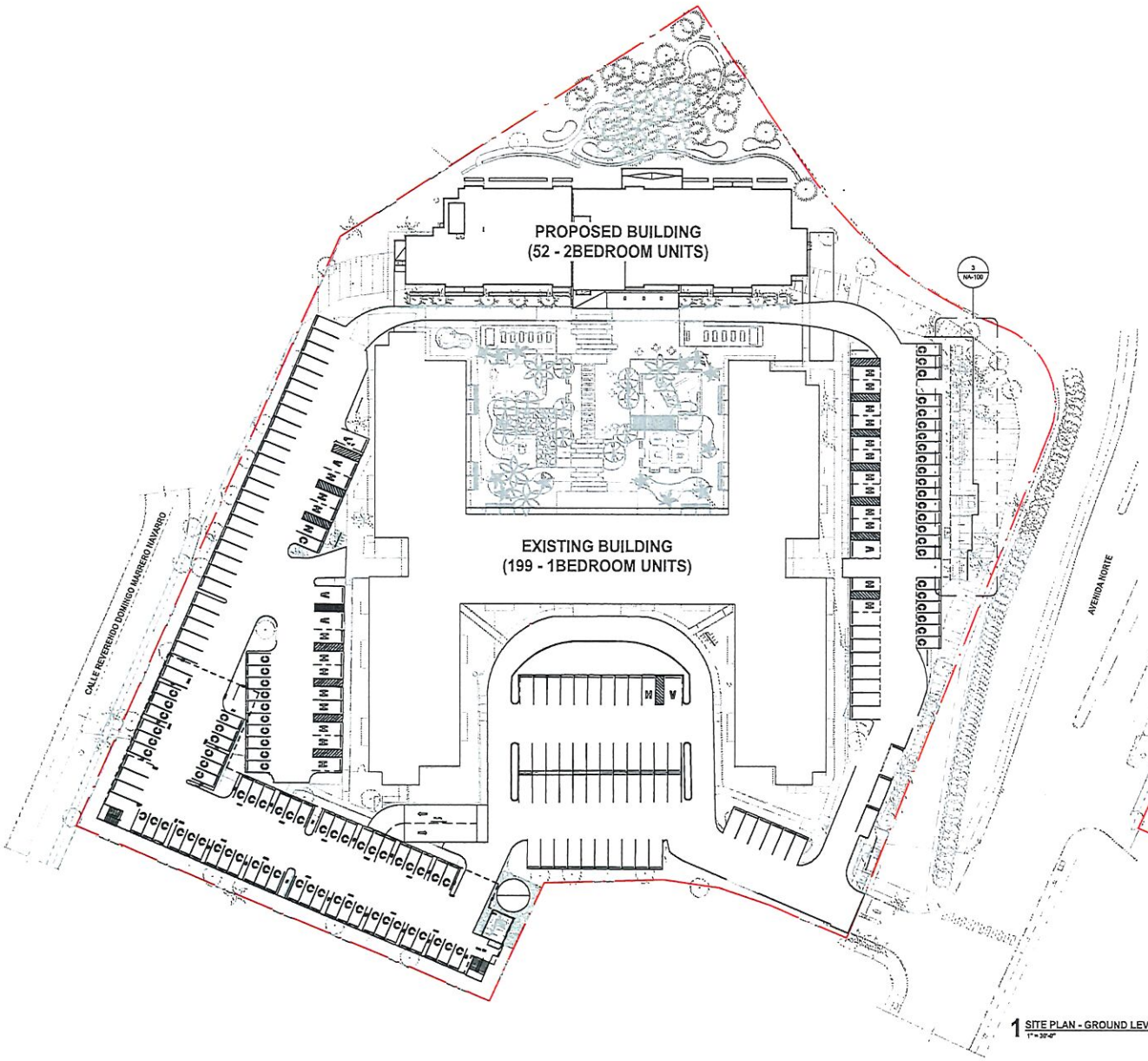
CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

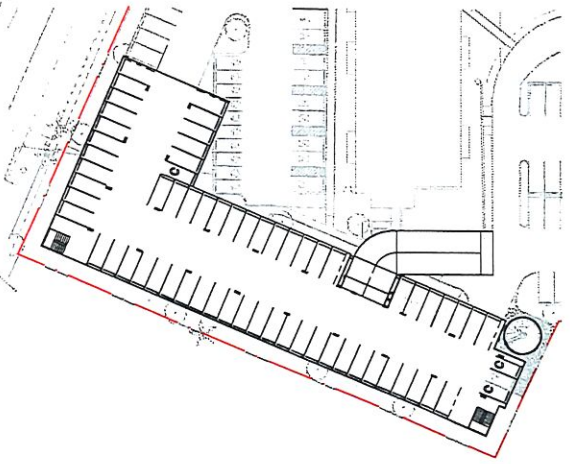
TITLE SHEET - NEW BLDG, REMODEL, PARKING

SCALE:

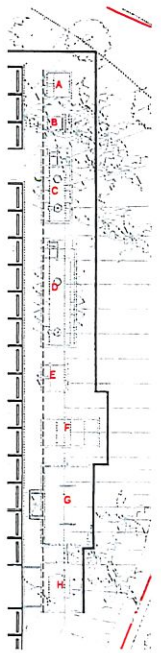
DRAWING #:
AT-001



1 SITE PLAN - GROUND LEVEL
1" = 30'-0"



2 ELEVATED PARKING - LEVEL 2
1" = 30'-0"



3 SITE PLAN - ELECTRICAL YARD
1:100

LEGEND

NEW BUILDING
A = TRANSFORMER (PAD MOUNTED)
B = AUTOMATIC TRANSFER SWITCH W/ METER
C = GENERATOR

EXITING BUILDING
D = GENERATOR
E = TRANSFORMER (PAD MOUNTED)
F = AUTOMATIC TRANSFER SWITCH

G = STORAGE
H = TRASH BIN

PROGRESS PRINT
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787.203.5434

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MENSERRATE
INGENIERO ESTRUCTURAL PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNANDEZ BAUZA
DG3A DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.08.12	100% DD

REV	DATE	DESCRIPTION

04.24.2020

ARQUITECTO LICENCIADO
JONATHAN J. MARVEL FULLER
LIC. #21736
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

SITE PLAN

SCALE: As indicated

DRAWING #:
NA-100

BLDS ACCESSIBILITY NOTES:

ALL DETAILS SHALL COMPLY WITH IBC CHAPTER 11 ACCESSIBILITY; ICC/ANSI 117.1-2017 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES AND THE FAIR HOUSING ACT ACCESSIBILITY REGULATIONS.

1. GRAB BAR REINFORCEMENTS SHALL BE PROVIDED AT ALL BATHROOMS.
2. GRAB BAR SHALL BE INSTALLED AT ALL PUBLIC BATHROOM LOCATIONS
3. ALL DWELLING UNITS SHALL BE "TYPE B" AS DEFINED BY CODE.
4. SEE FLOOR PLANS FOR DESIGNATED SECTION 504 OF REHABILITATION ACT ACCESSIBLE, HEARING & VISUALLY IMPAIRED UNITS.
5. SEE UNIT LAYOUT PLANS FOR COMPLIANCE WITH ACCESSIBILITY REQUIREMENTS ON A-501 SHEETS
6. SEE BATHROOM LAYOUT PLANS & ELEVATIONS FOR COMPLIANCE WITH ACCESSIBILITY REQUIREMENTS ON SHEETS RA505 & RA507
7. SEE KITCHENETTE & KITCHEN LAYOUTS & ELEVATIONS FOR COMPLIANCE WITH ACCESSIBILITY REQUIREMENTS ON SHEETS A-502, A-503 & A-505
8. SEE MAILROOM LAYOUT & ELEVATIONS FOR COMPLIANCE WITH ACCESSIBILITY AND USPS REQUIREMENT ON SHEET RA508
10. ELECTRICAL PANEL MUST BE INSTALLED 40" AFF TO TOP BREAKER IN ALL ADA UNITS.

ACCESSIBILITY LEGEND

UNITS FOR INDIVIDUALS WITH MOBILITY IMPAIRMENTS (ADA UNITS)

UNITS DESIGNED FOR PERSONS WITH MOBILITY IMPAIRMENTS, INCLUDING ALL APPLICABLE REQUIREMENTS OF THE FAIR HOUSING ACT DESIGN MANUAL

INCLUDING, BUT NOT LIMITED TO, ENTRANCES, TURNING SPACES, DOORS AND DOORWAYS, OPERABLE PARTS, TOILET AND BATHING FACILITIES, KITCHENS AND CABINETRY, STORAGE AND APPLIANCES.

V/H

UNITS FOR PERSONS WITH VISION AND HEARING IMPAIRMENTS (V/H UNITS)

UNITS DESIGNED FOR PERSONS WITH VISION AND HEARING IMPAIRMENTS, INCLUDING ALL APPLICABLE REQUIREMENTS OF THE FAIR HOUSING ACT DESIGN MANUAL. HEREIN REFERRED TO AS 'V/H UNITS'.

INCLUDING, BUT NOT LIMITED TO, BUILDING ENTRANCES, PRIMARY UNIT ENTRANCE, SMOKE DETECTION, FIRE ALARM SYSTEM, APPLIANCES AND CLOSED CIRCUIT COMMUNICATION SYSTEM.

SECTION 504 OF THE REHABILITATION ACT OF 1973:

THE FOLLOWING UNITS SHALL BE IN ACCORDANCE WITH SECTION 504 OF THE REHABILITATION ACT OF 1973:

20 UNITS ACCESSIBLE TO INDIVIDUALS WITH MOBILITY IMPAIRMENTS (10%)

- 1BR APARTMENTS
  S-101,S102,S-106,N-101,N-102,N-106N,N107,N-109,N-110,N-113,N-114,N-115,N-116, S-202,S-206,N-207,S-302,S-306,N-307 & S-406

4 UNITS ACCESSIBLE TO INDIVIDUALS WITH SENSORY IMPAIRMENTS (2%)

- 1BR APARTMENT :
  N-102,N-107,N-113 & N116

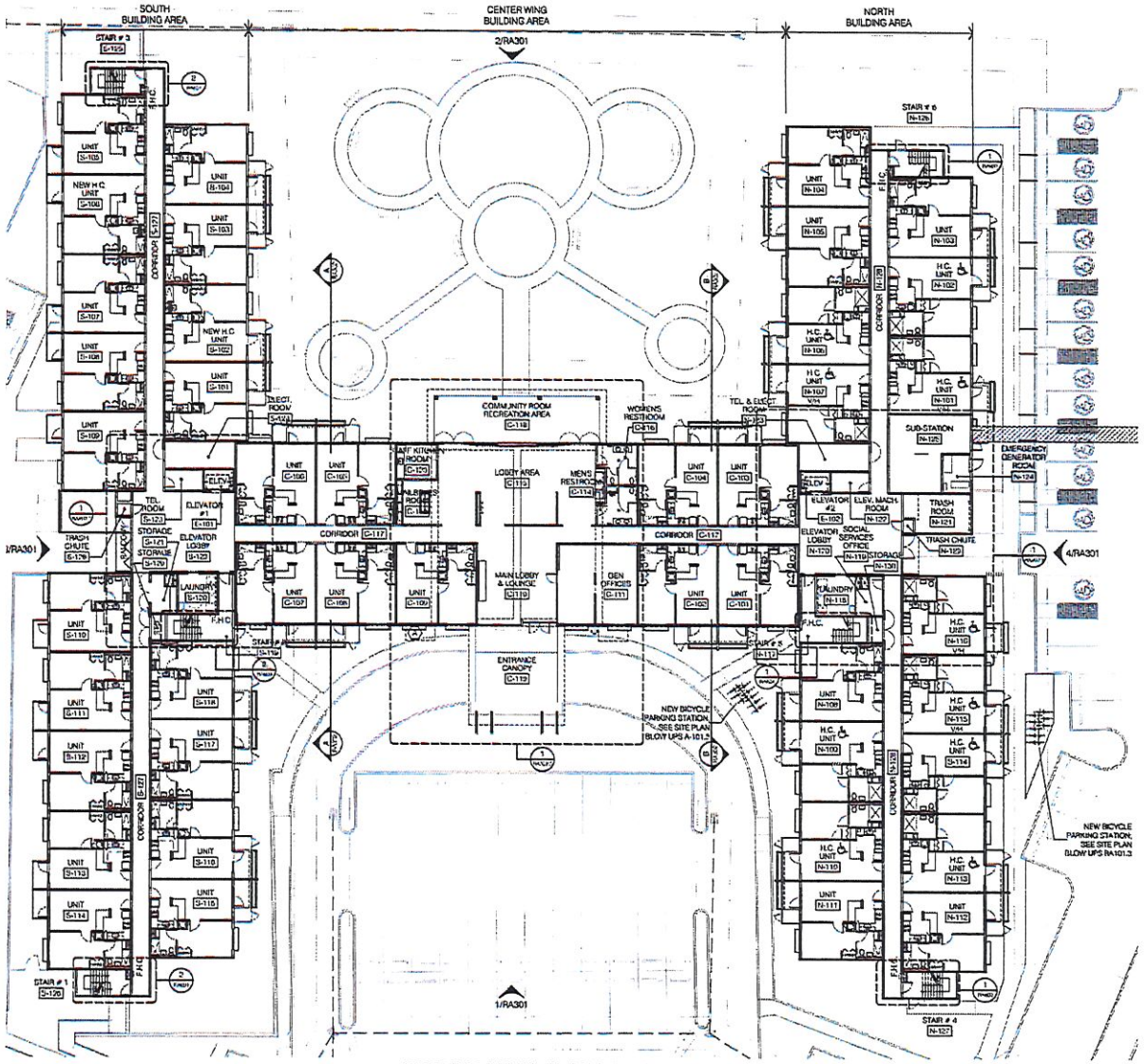
FOR THE UNITS ACCESSIBLE TO INDIVIDUALS WITH SENSORY IMPAIRMENTS, PROVIDE THE FOLLOWING:

-PREWIRE FOR A DOORBELL TO A JUNCTION BOX IN THE UNIT FOR A FLASHING LIGHT (LIGHT FIXTURE N.I.C.). FIXTURE TO BE PROVIDED BY OWNER AT TENANT'S REQUEST. LOCATION OF J-BOX TO BE DESIGNATED BY ARCHITECT. PROVIDE COVER PLATES AT DOOR BELL AND J-BOX.

-CIRCUITED SMOKE/CO DETECTOR WITH FLASHING STROBE

-LIGHT FIXTURES THAT ACCEPT FLUORESCENT LAMPING WITH AN OUTPUT EQUIVALENT TO 150W INCANDESCENT

-VISUAL ALARM TO BE PROVIDED IN THE FOLLOWING AREAS:
  -BATHROOM
  -BEDROOM
  -LIVING ROOM / KITCHEN



1 GROUND LEVEL FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 8' 16' 32'



Marvel Architects
Marvel Marchand
121 CALLE SAN JORGE, SAN JUAN, PR 00911
787.289.5181

OWNER / CLIENT: [illegible]
STRUCTURAL: [illegible]
PLUMBING / FP: [illegible]
ELECTRICAL: [illegible]
SURVEYOR: [illegible]

ISSUE RECORD

05.14.2018	AS BUILT SET
08.15.2019	PRICING SET
06.30.2020	PERMIT SET

REV.	MM.DD.YYYY	DESCRIPTION

JONATHAN J. MARVEL FULLEM
ARQUITECTO LICENCIADO
LIC. #21756
PUERTO RICO

YO, JONATHAN J. MARVEL FULLEM, MAYOR DE EDAD, CASADO, CERTIFICO QUE SOY EL PROFESIONAL QUE CONFECCIONO, DISEÑO Y PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIEN, CERTIFICO QUE ESTOS DOS DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LAS ORDENANZAS Y CODIGOS DE CONSTRUCCION MUNICIPALES DE LAS AGENCIAS ANTES MENCIONADAS. O CORPORACIONES PUBLICAS CON JURISDICCION, CONTROL, MENOS QUE EN LA PREPARACION DE ESTOS PLANOS Y ESPECIFICACIONES SE HAYA CUMPLIDO EXPRESAMENTE CON LAS DISPUESTO EN LA LEY NUM. 96 DE 15 DE JUNIO DE 2010, SEGUN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA PROTECCION POR LA EXISTENCIA PERPETUA" Y CON LA LEY NUM. 76 DE 6 DE AGOSTO DE 1958, SEGUN ENMENDADA, RECONOCIDO ESTE CUMPLIMIENTO MEDIANTE LA DEBIDA RADICACION DE LOS MISMOS QUE SE HAYA PRODUCIDO POR RECOMENDACION O POR RESOLUCION A TAL EFECTO POR MI, O SUS AGENTES O EMPLEADOS, Y POR ESTAS PERSONAS CON LA CONFORMIDAD, NO HAGA RESPONSABLE AL GOBIERNO O AGENCIA ANTES MENCIONADAS POR LO ANTE.

MM PROJECT NO. 1811

REMODELING OF CASA LINDA

AVE. NORTE & LOMAS VERDES
BAYAMÓN, PUERTO RICO

PROPOSED GROUND LEVEL FLOOR PLAN

DRAWING NO. **RA-202**

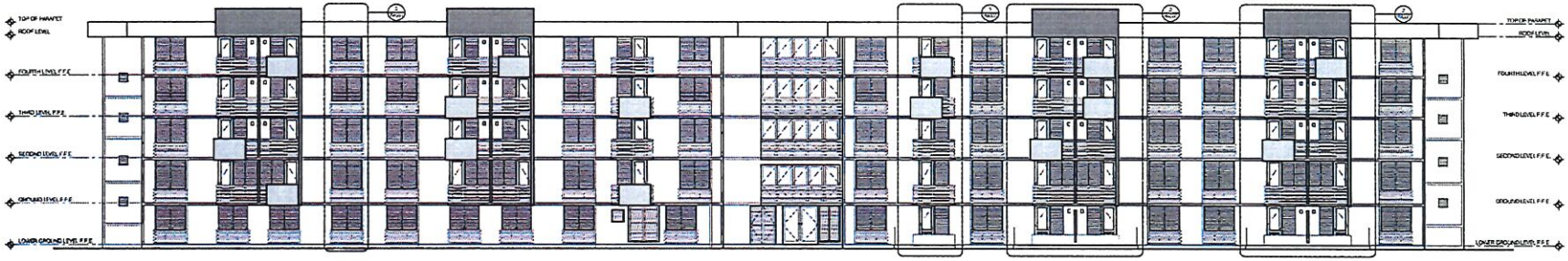
G:\1811\1811_CD\RA-202 PROPOSED GROUND LEVEL FLOOR PLAN.DWG 2019/07/07



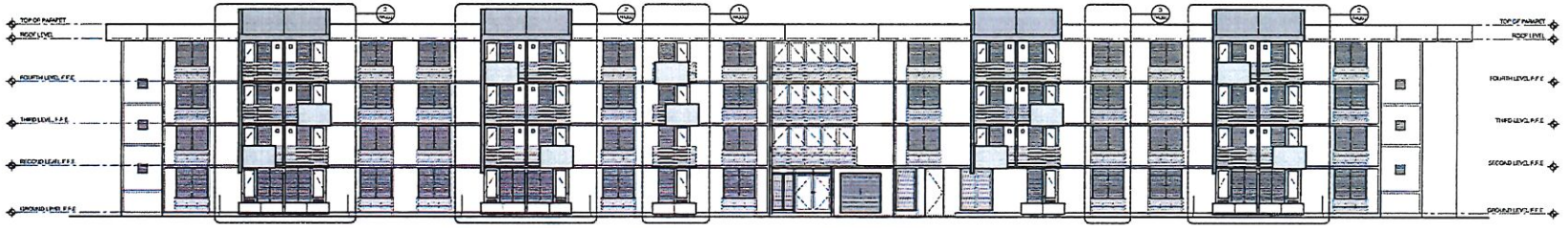
1 RA301 EAST ELEVATION
SCALE: 3/32" = 1'-0"



2 RA301 WEST ELEVATION
SCALE: 3/32" = 1'-0"



3 RA301 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



4 RA301 NORTH ELEVATION
SCALE: 3/32" = 1'-0"



Marvel Architects
Marvel Marchand
101 CALLE SAN JORGE SAN JUAN, PR 00911
787.289.9491

OWNER / CLIENT [illegible] DEVELOPERS, CORP.
STRUCTURAL [illegible] INGENIERO ESTRUCTURAL, PSC
PLUMBING / FP JORGE A. [illegible] CHIMBING ENGINEER, PSC
ELECTRICAL JUAN E. [illegible] & ASOCIADOS, CSP
SURVEYOR LUIS TOMÁS GALLARDO, PLS

ISSUE RECORD

05.14.2018	AS BUILT SET
08.15.2019	PRICING SET
06.30.2020	PERMIT SET

REV.	MM.DD.YYYY	DESCRIPTION

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21736
EXP. 29/SEP/2020
PUERTO RICO

YO, JONATHAN J. MARVEL FULLER, MÉDICO DE LICENCIA 21736, CERTIFICO QUE SOY EL PROFESIONAL QUE CONFECCIONÓ, DISEÑÓ Y/O PREPARÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN, CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS Y ESPECIFICACIONES CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS JUNTAS REGLAMENTACIONAS O COMPARACIONES PÚBLICAS CON JURISDICCIÓN. CERTIFICO, MEMÁS, QUE EN LA PREPARACIÓN DE ESTOS PLANOS Y ESPECIFICACIONES SE HA CUMPLIDO CABALMENTE CON LO DISPUESTO EN LA LEY NÚM. 14 DE 8 DE ENERO DE 2004, SEGÚN ENMENDADA, CONOCIDA COMO LA "LEY PARA LA INVERSIÓN POR LA INDUSTRIA PUERTORRIQUEÑA" Y CON LA LEY NÚM. 96 DE 6 DE JULIO DE 1978, SEGÚN ENMENDADA. RECONOZCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PROCURADO POR DESCONOCIMIENTO O POR RESOLUCIÓN VALIDA POR MÍ, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCIÓN JUDICIAL Y DISPLICADA POR LA OSPe.

MM PROJECT NO. 1811

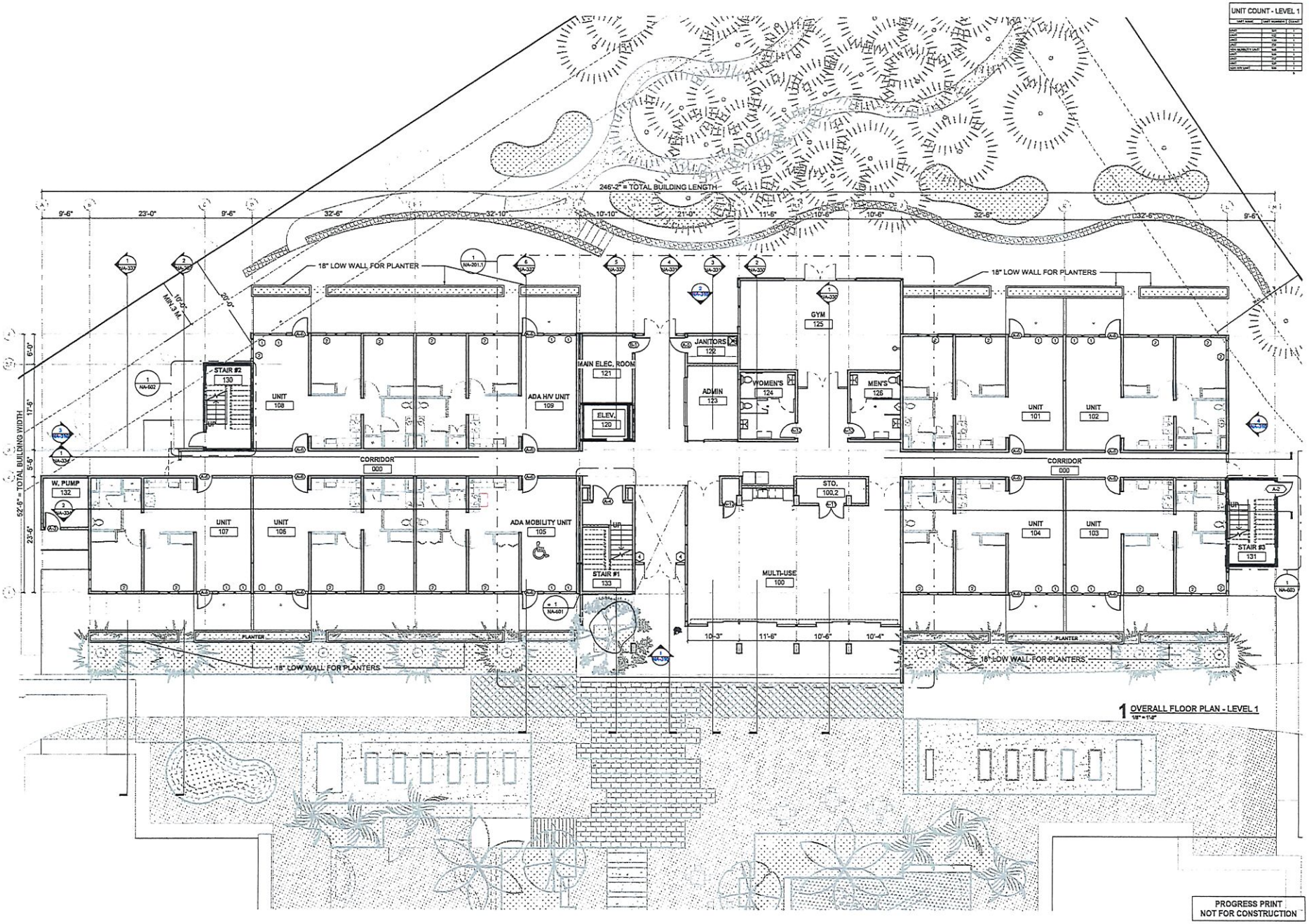
REMODELING OF CASA LINDA

AVE. NORTE & LOMAS VERDES
BAYAMÓN, PUERTO RICO

PROPOSED ELEVATIONS

DRAWING NO. **RA-301**

G:\1811\1811_COVRA-301 PROPOSED ELEVATIONS.DWG 2018/03/07



1 OVERALL FLOOR PLAN - LEVEL 1
1/8" = 1'-0"

UNIT COUNT - LEVEL 1

UNIT NAME	UNIT NUMBER	COUNT
	101	1
	102	1
	103	1
	104	1
	105	1
ADA MOBILITY UNIT	106	1
	107	1
	108	1
	109	1
	110	1
	111	1
	112	1
ADA H/V UNIT	113	1



Marvel Architects
Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.283.3434

OWNER
GUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNANDEZ BAUZA
DGSA DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, DIGA/HACER, LO CHO/HAN MAS, SITIO, QUE SI NO DIJO QUE, SOY EL PROFESional, QUE QUIERO YO HEMOS Y/O PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS, TAMBIEN CERTIFICO QUE SATISFACEN DICHOS PLANOS CUMPLEN CON LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS , JUNTAS REGLAMENTADORAS O COMPAÑIAS PUBLICAS CON JURISDICCION. RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE PRUEBE QUE SEAN FALSOS O FALSIFICADOS POR MI O BAJO MI DIRECCION YA SEA POR MI MAL AGUSTO O CUPLICADOS, EXPONE LOS PLANOS AUTORIZADOS CON MI CONOCIMIENTO SIN AVISO O RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y RESPONSABLE POR LA DEPA.

05.08.2020

ARQUITECTO LICENCIADO
JONATHAN J. MARVEL FULLER
LIC. #21736
EXP. 29/SEPT./2020
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

FLOOR PLANS - GROUND

SCALE: 1/8" = 1'-0"

DRAWING #:
NA-201

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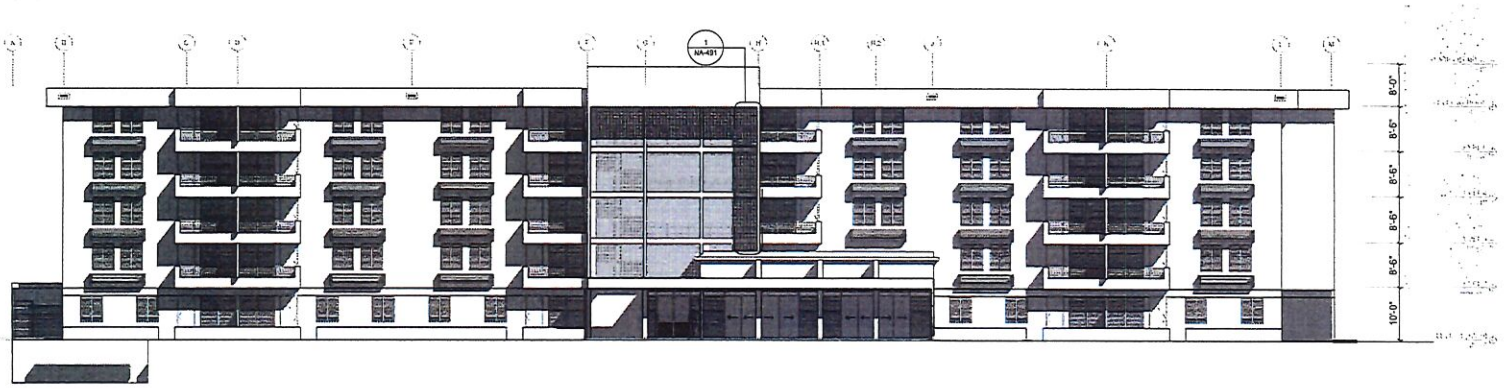
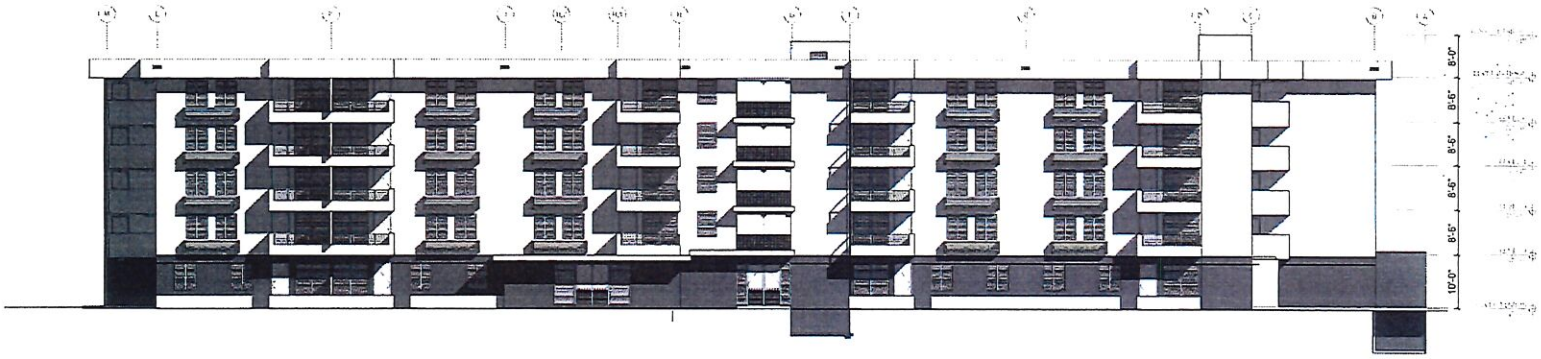
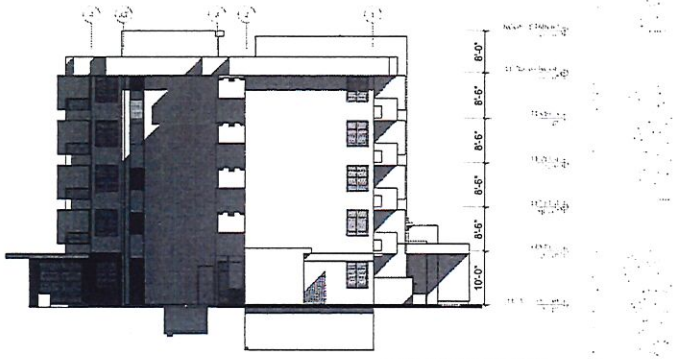


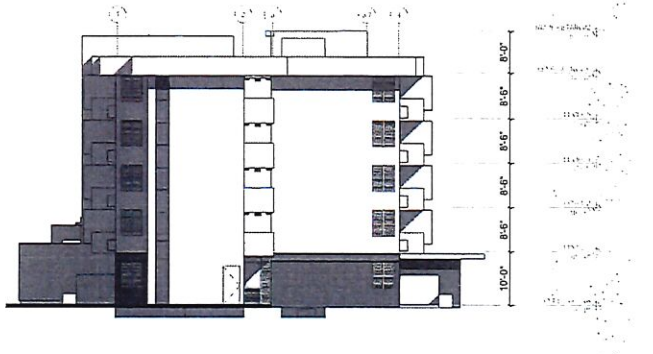
1 ELEVATION - NORTH (FRONT)
3/32" = 1'-0"



2 ELEVATION - SOUTH (BACK)
3/32" = 1'-0"



3 ELEVATION - WEST (LEFT)
3/32" = 1'-0"



4 ELEVATION - EAST (RIGHT)
3/32" = 1'-0"

PROGRESS PRINT
NOT FOR CONSTRUCTION



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Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.289.3434

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REDUCNA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNÁNDEZ BAUZA
DOJA DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, GRADUADO, LICENCIA NUM. 21736, CERTIFICO QUE ESTE PLANO FUE PREPARADO BAJO MI SUPERVISIÓN Y YO PERSONALMENTE LO HE REVISADO Y CUMPLE CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO VIGENTE Y LAS ORDENANZAS MUNICIPALES APLICABLES. ASIMISMO CERTIFICO QUE LAS OBRAS DESCRITAS EN EL MISMO CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO VIGENTE Y LAS DISPOSICIONES APLICABLES DE LAS ORDENANZAS MUNICIPALES. ESTE PLANO ES PROPIEDAD INTELECTUAL DE LA FIRMA MARVEL ARCHITECTS, PSC Y NO PODRÁ SER REPRODUCIDO NI UTILIZADO SIN EL CONSENTIMIENTO ESCRITO DE LA MISMA. EL USUARIO ACEPTA Y RECONOCE QUE CUALQUIER USO NO AUTORIZADO DE ESTE PLANO SERÁ CONSIDERADO COMO UNA VIOLACIÓN A LA PROPIEDAD INTELECTUAL DE MARVEL ARCHITECTS, PSC.

03/27/20

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21736
EXP. 29/NOV/2020
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR.

BUILDING ELEVATIONS

SCALE: 3/32" = 1'-0"

DRAWING #:
NA-310

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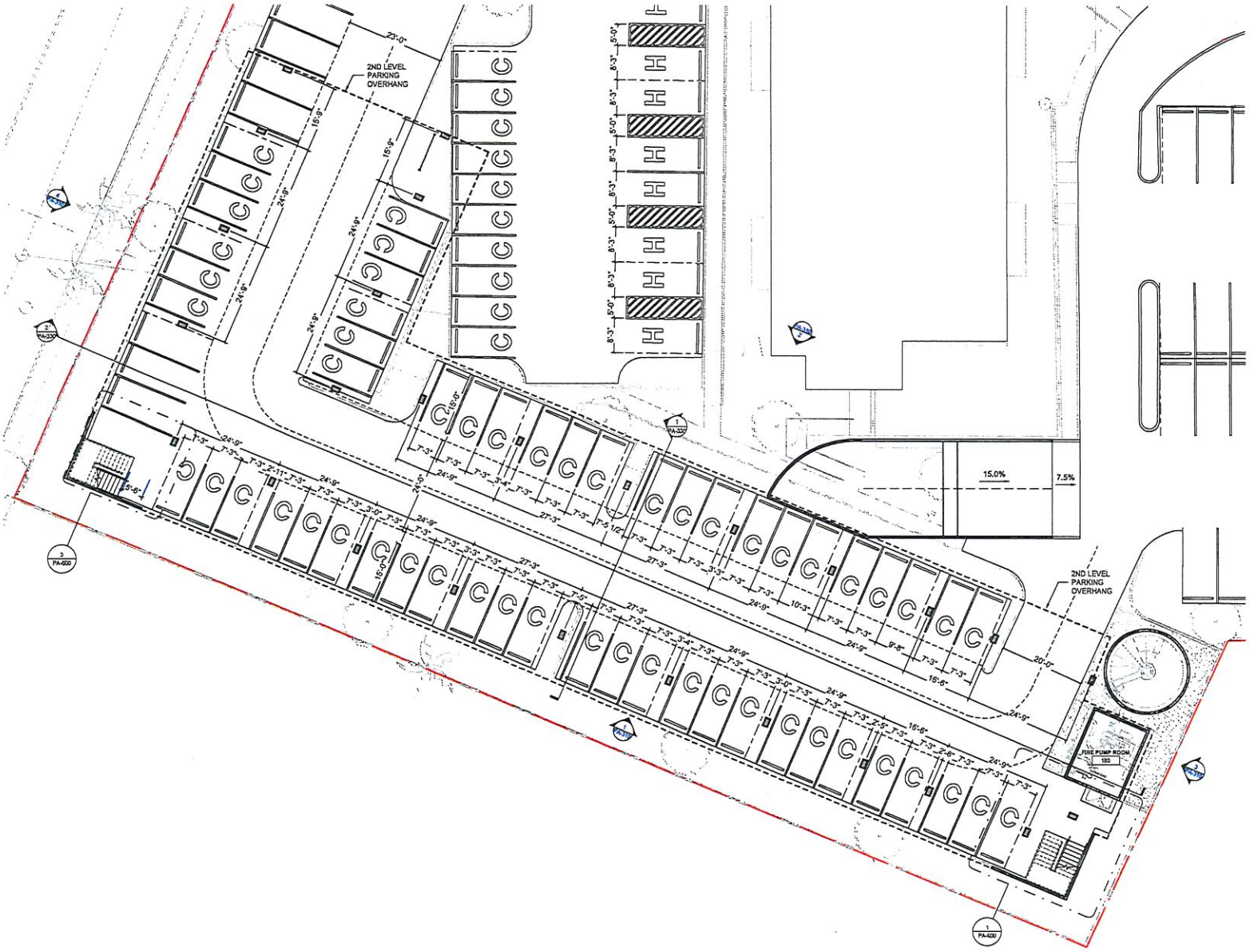

1 PARKING FLOOR PLAN - GROUND
3/32" = 1'-0"

PROGRESS PRINT
NOT FOR CONSTRUCTION



Marvel Architects
Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.289.9494

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNANDEZ BAUZA
DGJA DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, DE GENERAL, LICENCIADO BAJO EL NÚMERO 21736, CERTIFICO QUE LOS PLANOS Y LAS ESPECIFICACIONES CONSTRUCCIÓN, TAMBIÉN CERTIFICO QUE ESTOS PLANOS CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONSTRUCCIÓN Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y ORDENANZAS DE CONSTRUCCIÓN VIGENTES QUE LOS MISMOS SON APROPIADOS PARA LOS USOS PROPUESTOS. PROPORCIONADO QUE CUALQUIER DECLARACIÓN O ALZA O FALSIFICACIÓN DE LOS HECHOS AQUÍ EXPUESTOS, PROBADOS POR DOCUMENTO O TESTIGO, SEA POR MÍ O MIS AGENTES, O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, LAS PARTES RESPONSABLES SE EXPONEN A UNA ACCIÓN JUDICIAL Y SERÁ CASTIGADA POR LA LEY.

04/06/20

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21736
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

FLOOR PLAN - GROUND

SCALE: 3/32" = 1'-0"

DRAWING #:
PA-201

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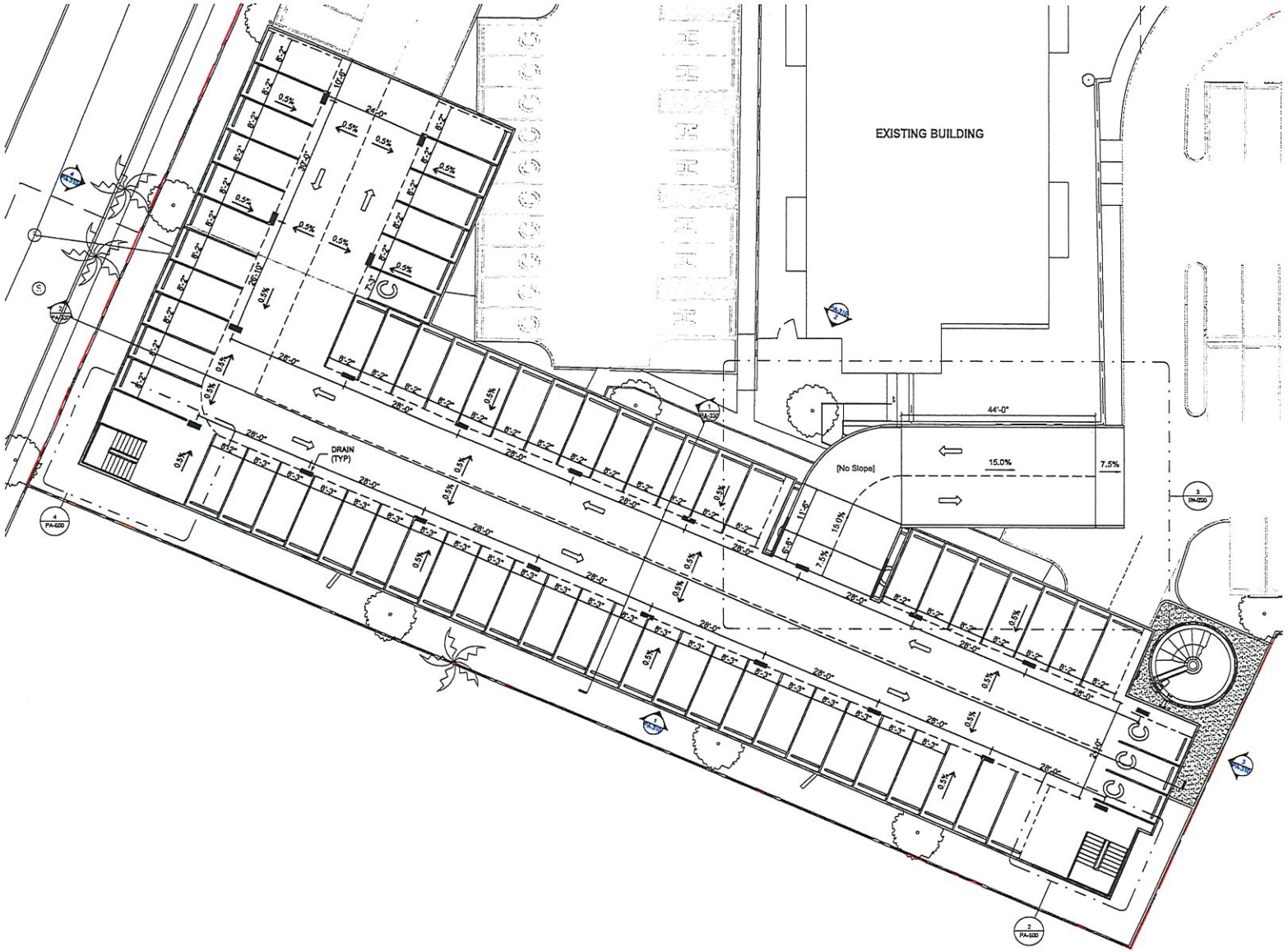

1 PARKING FLOOR PLAN - LEVEL 2
3/32" = 1'-0"

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Marvel Architects
Marvel Marchand
161 CALLE SAN JORGE SAN JUAN, PR 00911
787.289.9454

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INGENIERO ESTRUCTURAL, PSC

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RAFAEL FERNANDEZ BAUZA
DCDA DESIGN GROUP, PSC

MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, DE EDAD, LICENCIADO A LA PROFESIÓN DE ARQUITECTO, BAJO EL PROTECTORADO DE LA LEY NÚM. 173 DE 12 DE AGOSTO DE 1988, SEGÚN ENMENDADA, Y AUTORIZADO A EJERCER LA PROFESIÓN DE ARQUITECTURA EN EL ESTADO LIBRE ASOCIADO DE PUERTO RICO, CERTIFICO QUE LOS PLANOS Y ESPECIFICACIONES QUE ACOMPAÑAN ESTA SOLICITUD HAN SIDO PREPARADOS BAJO MI SUPERVISIÓN Y DIRECCIÓN PERSONAL, QUE HE EXAMINADO LOS PLANOS Y ESPECIFICACIONES, QUE DICHOS PLANOS CUMPLEN CON LAS DISPOSICIONES APLICABLES DE LA LEY NÚM. 173 DE 12 DE AGOSTO DE 1988, SEGÚN ENMENDADA, Y LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN APLICABLES DE LAS AGENCIAS GUBERNAMENTALES CON JURISDICCIÓN, INCLUYENDO LAS ORDENANZAS MUNICIPALES QUE CUBREN Y REGLAMENTAN EL USO DE SUELO Y LA EDIFICACIÓN, EXCEPTO POR LAS VARIACIONES QUE HAYAN SIDO AUTORIZADAS POR ESCRITO POR LAS AGENCIAS CORRESPONDIENTES. DECLARO QUE CUALQUIER DECLARACIÓN FALSA O INCUMPLIMIENTO DE LOS HECHOS AQUÍ EXPUESTOS PUEDE CONSTITUIR UN DELITO GRAVE, SEGÚN LA LEY NÚM. 173 DE 12 DE AGOSTO DE 1988, SEGÚN ENMENDADA, Y SUJETARME A LAS PENALIDADES ALLÍ ESTABLECIDAS. FIRMADO HOY 04/06/20 EN SAN JUAN, PUERTO RICO.

04/06/20

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21736
EXP. 31/MAY/2020
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

FLOOR PLAN - 2ND

SCALE: 3/32" = 1'-0"

DRAWING #:
PA-202

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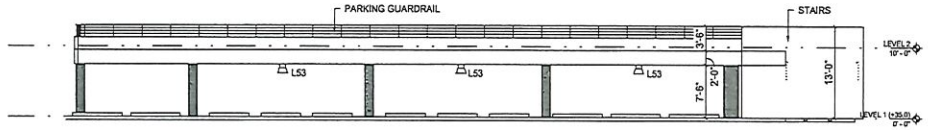
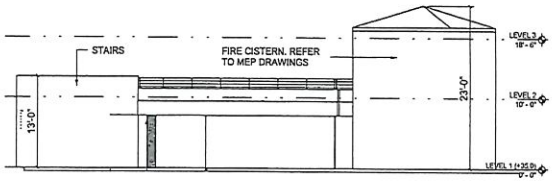


4 ELEVATION - PARKING - WEST
1/8" = 1'-0"



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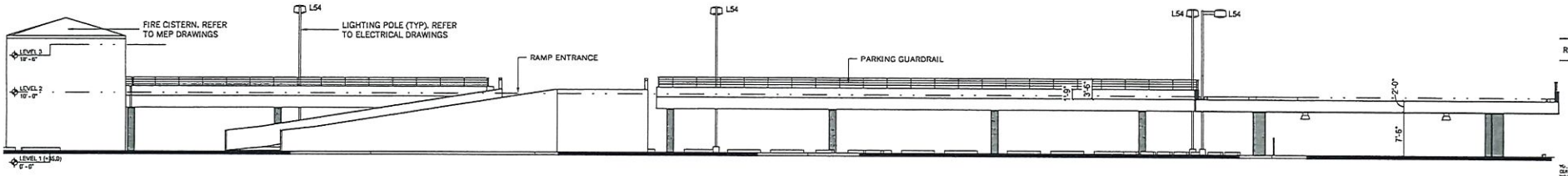
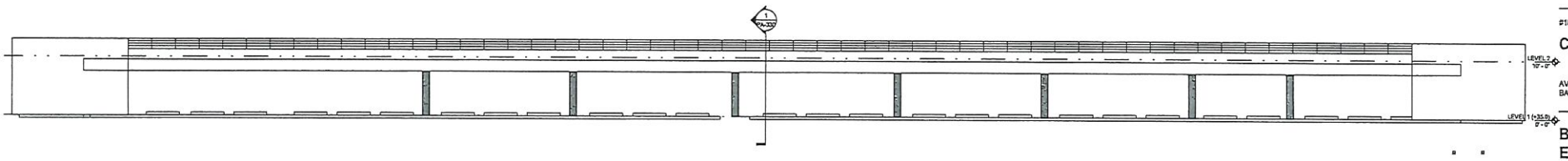


2 ELEVATION - PARKING - NORTH
1/8" = 1'-0"



1 ELEVATION - PARKING - SOUTH
1/8" = 1'-0"



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DG3A DESIGN GROUP, PSC

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JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD

REV	DATE	DESCRIPTION

YO, JONATHAN J. MARVEL FULLER, DISEÑADOR, LICENCIA NUM. 21736, CERTIFICO QUE, DEY EL PROFESIONAL QUE CONFECCIONO YO DISEÑO TIPO PREPARO ESTOS PLANOS Y LAS ESPECIFICACIONES, COMPLEMENTARIAS, TAMBIEN CERTIFICO QUE MI DISEÑO QUE DICHOS PLANOS CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOSICIONES APLICABLES DE LOS REGLAMENTOS Y CODIGOS DE CONSTRUCCION VIGENTES DE LAS AGENCIAS, JUNTAS REGLAMENTADORAS O COMPONENTES PUBLICAS CON JURISDICCION, RECONOZCO QUE CUALQUIER DECLARACION FALSA O FALSIFICACION DE LOS HECHOS QUE SE HAYA PROBADO, HAYA SIDO DESCONOCIDA O POR ALGUNA PARTE DE MI MEJOR SABER O CAPACIDAD, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCION JUDICIAL Y DISPUNIBLE POR LA DGPA.

04/06/20

JONATHAN J. MARVEL FULLER
ARQUITECTO
LICENCIADO
LIC. #21736
EXP. 29/SEPT./2020
PUERTO RICO

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

BUILDING ELEVATIONS

SCALE: 1/8" = 1'-0"

DRAWING #:
PA-310

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C102



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

July 23, 2020

Regulatory Division
South Permits Branch
Antilles Section
SAJ-2020-02815 (NPR)

Erika Alcántara Martínez
Enlace Técnico
400 Calle Calaf PMB 408
San Juan, PR 00918-1314

Dear Mrs. Alcántara:

Reference is made to the application received on June 18, 2020, for a Department of the Army permit for renovations to existing residential and recreational facilities, and the construction of a new residential building and a multilevel parking facility. The proposed project site is located at Carretera PR-177 (Ave. Los Filtros) Bayamon, PR 00959. The application has been assigned the file number SAJ-2020-02815.

The project as proposed will not require a Department of the Army permit in accordance with Section 10 of the Rivers and Harbors Act of 1899 as it is not located within the navigable waters of the United States. Furthermore, a permit will not be required in accordance with Section 404 of the Clean Water Act as it will not involve the discharge of dredged or fill material into waters of the United States. Provided the work is done in accordance with the enclosed drawings, Department of the Army authorization will not be required.

This No Permit Required (NPR) determination does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such.

This letter does not obviate the requirement to obtain any other Federal, State, or local permits that may be necessary for your project. Should you have any questions, please contact Marielys Ramos-Villanueva by email at Marielys.ramos-villanueva@usace.army.mil or at the letterhead address.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit http://per2.nwp.usace.army.mil/survey.html and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Please be aware this web address is case sensitive and should be entered as it appears above.

Sincerely,

Marielys Ramos-Villanueva
Project Manager

Exhibit K

Casa Linda Apartments
Bayamón, Puerto Rico

Wild and Scenic Rivers Map

There are no surrounding wild and scenic rivers at project site. The only river in this category is located in the Yunque Rainforest. Reference information enclosed.

RIO MAMEYES, PUERTO RICO



+ View larger map

Managing Agency:

U.S. Forest Service, Caribbean National Forest

Designated Reach:

December 19, 2002. From its headwaters in the Ban.AE6o de Oro Research Natural Area to the boundary of the Caribbean National Forest.

Classification/Mileage:

Wild — 2.1 miles; Scenic — 1.4 miles; Recreational — 1.0 miles; Total — 4.5 miles.

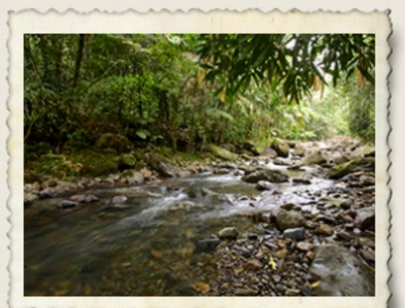


Photo Credit: Tim Palmer

RELATED LINKS

Wild & Scenic Rivers of Puerto Rico (U.S. Forest Service)

Rio Mameyes Management Plan (2.5 MB PDF)

Rio Mameyes Management Plan Environmental Assessment (2.0 MB PDF)

Rio Mameyes Management Plan (454 KB PDF)

Rio Mameyes

The Rio Mameyes flows in a northerly direction and has outstanding scenic, biological, recreation and historic values. The Rio Mameyes watershed covers 6.88-square miles within the El Yunque National Forest, or 10.4% of the forest. Water quality is optimum within the upper segment, since the entire corridor is located in the Bano de Oro Natural Area and no development exist. Due to steep slopes, no significant flood plains occur. There are approximately 73 acres of riparian wetlands in the designated segments.

EXPLORE DESIGNATED RIVERS



Choose A State Go

Choose A River Go

Dark and foreboding one minute, sun-drenched and exploding with color the next, tropical rivers span every mood.



LEGEND

Wild And Scenic Rivers

USA States (Generalized)

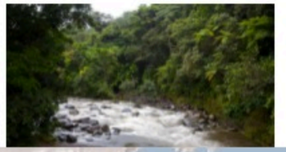
Rio Mameyes Wild And Scenic River

Responsible Agency: USFS

River Category: Federally Administered

For more information click here

Photo by:Tim Palmer



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National Wild and Scenic River System in the U.S.

Wild and Scenic Rivers

There are 226 national wild and scenic rivers in 40 States and the Commonwealth of Puerto Rico, totaling more than 13,412 miles (as of April 2019). This is a little more than one-quarter of one percent of the nation's rivers.



Photo (above). West Fork of the Chattooga River, Georgia and South Carolina (Tim Palmer).

The United States Forest Service, National Park Service, Bureau of Land Management, and the United States Fish and Wildlife are the four primary federal agencies with responsibility for the National Wild and Scenic Rivers System. These agencies are responsible for protecting and enhancing the river values for the components located within their management boundaries, whether designated by Congress, or by the Secretary of Interior at the request of a governor. Many rivers include private and tribal lands within the boundaries of the designated river area.

Exhibit L

Determinación de Cumplimiento Ambiental para Evaluación Ambiental

Casa Linda Apartments

Fecha de Expedición:
08/OCT/2020

Datos de Determinación

Presentado por
Municipio Autónomo de Bayamón

Dirección Física
CARR PR-177 INT. AVENIDA NORTE
BO. JUAN SANCHEZ
Bayamón Puerto Rico, 00956

Número(s) de Catastro
085-070-047-13

Número de Caso
2020-312378-DEA-004268

Casos de Referencia
2020-312378-REA-004325

Acción Propuesta

La Acción Propuesta consiste en un proyecto: Privada en el Distrito de Clasificación identificado a continuación. El mismo tiene los siguientes componentes:

Calificación

Distrito(s) de Calificación:
R-A

Distrito en el Mapa de Inundabilidad:
X

Tipo de Suelo:
RpE2 (97.3%), RpD2 (2.7%)

Cabida del proyecto (Área Total Según
19846.04 metros cuadrados

Servidumbres Existentes
NINGUNA

Movimiento de Tierra
Volumen: 6100 metros cúbicos
Volumen de corte: 6100 metros cúbicos
Volumen de relleno: 100 metros cúbicos

Demolición
Conlleva demolición: Sí
Conlleva explosivos: No

Instalación de Generadores de Electricidad
Conlleva generadores: No
Capacidad: N/A
Tanque: N/A

Desperdicios Sólidos
Volumen en construcción: 840 yardas cúbicas
Tipo: NP
Volumen en operación: 3000 yardas cúbicas
Tipo: NP

Descripción

Se propone la expansión y renovación del proyecto Casa Linda Apartments, ubicado en un predio con cabida de 19,886 metros cuadrados, según mensura. El mismo está localizado en la carretera PR-177 intersección Avenida Norte en el Barrio Juan Sánchez del municipio de Bayamón. El proyecto consiste en la remodelación del residencial Casa Linda del Sur, la construcción de estructura multiniveles para estacionamiento, construcción de nuevo edificio residencial y mejoras generales al predio. La remodelación y renovación del edificio existente incluye; el reemplazo de elementos interiores y exteriores, reparación de terminaciones exteriores, entre otras mejoras a las áreas comunes y de circulación. Como parte de las

mejoras se reemplazarán todos los equipos y enseres eléctricos y se proveerán nuevos enseres con mejor eficiencia energética, se proveerá una nueva bomba para el sistema y se reemplazará el generador de emergencia existente por uno de 750KW con un tanque de combustible de 2,000 galones. La estructura multiniveles propuesta proveerá estacionamiento a nivel de terreno y en bandejas adicionales en las que se proveerían un total de 63 espacios de estacionamiento. La construcción del nuevo edificio residencial (52 apartamentos) contará con cinco niveles y en el mismo se proveerán las facilidades comunales, recreativas y sistemas requeridos de conformidad con los reglamentos vigentes. Este nuevo edificio contará con cisterna potable y cisterna para atender el sistema de supresión de incendios, un generador de 400 KW y un tanque de 2,000 galones. En las mejoras en el predio se incluyen obras conducentes a proveer áreas de recreación pasiva que promuevan la integración entre las unidades existentes y las propuestas, además se mejorará la accesibilidad y movilidad dentro del predio. También se reparará el asfalto en el predio, se reemplazarán las luminarias, tratamiento paisajista, mejoras a las áreas de manejo de desperdicios sólidos y una nueva cisterna para alimentar el sistema de supresión de incendios 30,000 galones con una bomba de 183 hp y un tanque de diésel de 500 galones. El área cuenta con la infraestructura de agua potable, alcantarillado sanitario, energía eléctrica y acceso.

Impactos al Ambiente y Medidas de Mitigación

El proyecto no contempla impactos ambientales significativos. El predio es uno urbano residencial ocupado por una estructura residencial multifamiliar y cuenta con la Certificación para Categorización de Hábitats Naturales para Vida Silvestre del DRNA, emitida 1 de septiembre de 2020, donde se categoriza el predio como Hábitat Natural con Bajo Potencial de Convertirse en Hábitat Esencial, Hábitat de Alto Valor Ecológico o Hábitat de Valor Ecológico (Categoría 6). Para dicha categoría se establece lo siguiente: "La meta de la mitigación es minimizar el impacto al hábitat… y que evite impacto a otro hábitat fuera del área a impactarse."

Durante la construcción se tomarán las correspondientes medidas de mitigación para reducir el impacto que pueda tener el proyecto en cuanto a la generación de ruidos, polvo fugitivo, desperdicios sólidos y aguas de escorrentías. En el perímetro del proyecto se instalarán medidas de control de erosión y sedimentación para evitar que los sedimentos generados durante la construcción ganen acceso al sistema pluvial y pueda afectar algún cuerpo de agua. Se instalará una malla protectora (silt-fence) en el perímetro del proyecto para minimizar la sedimentación proveniente del mismo y se protegerán los pocetos que ubiquen dentro del proyecto y en áreas aledañas, entre otros. No se permitirá la acumulación de material suelto por largos periodos de tiempo y menos en áreas susceptibles a escorrentías para evitar el riesgo de arrastre de sedimentos en casos de lluvias. Además, se obtendrá la aprobación del Permiso General Consolidado y el plan de control de escorrentías (SWPPP- por sus siglas en ingles). Se radicará una notificación de intención (NOI) ante la Agencia de Protección Ambiental (EPA) previo al comienzo de la construcción.

Para la construcción del proyecto será necesario la remoción y disposición de aproximadamente 6,100 metros cúbicos para la preparación y nivelación del suelo. Para reducir o evitar este impacto en las áreas donde se encuentre el terreno expuesto, se asperjará sistemáticamente utilizando mangueras conectadas a asperjadores. Se realizarán mejoras a la entrada y salida del proyecto. Además, la entrada y la salida estarán estabilizadas con piedra para minimizar el arrastre de sedimentos hacia la vía municipal y estatal.

Los niveles de ruidos durante la construcción serán minimizados limitando el horario de operación de 7:00 am a 5:00 pm de lunes a sábado. Además, se implementará un plan de mantenimiento preventivo estricto para los motores de las máquinas y camiones de modo que los ruidos sean reducidos y se prevengan los escapes de aceites y combustible, incluyendo mantener un registro mensual de las inspecciones y el mantenimiento del equipo, entre otras medidas. Se realizó un estudio de asbesto y plomo en las áreas donde se remplazarán paredes existentes, estacionamientos, asfalto, entre otros componentes. El estudio dio resultados positivos a presencia de plomo y/o asbesto. Para los trabajos de remoción de las áreas contaminadas y disposición de los materiales se obtendrán los permisos pertinentes y se realizarán acorde a las leyes estatales y federales aplicables.

Durante la fase de operación no se anticipa una fuente mayor de generación de contaminantes al aire o emisiones de polvo fugitivo. El generador de electricidad existente en el edifico que será renovado se reemplazará por uno con capacidad de generar 750Kw con un tanque de combustible de 2,000 galones. Además, se proveerá una nueva bomba para el sistema de supresión de incendios de 183 HP con un tanque

de combustible diésel de 500 galones. En el nuevo edificio se instalará un generador de 400 Kw con un tanque de 2,000 galones. Previo a comenzar a operar se preparará un plan de control de derrames. Los generadores de electricidad para situaciones de emergencia son considerados una fuente menor estacionaria. Para ambos generadores se obtendrán los permisos aplicables cumpliendo con todas las Leyes y Reglamentos estatales y federales.
La disposición de los desperdicios sólidos no peligrosos a ser generados durante la construcción y operación se realizará en cumplimiento con la reglamentación. Los impactos temporeros asociados a la construcción serán minimizados según las recomendaciones que se establezca en el Permiso Único Incidental Operacional que se apruebe para el proyecto. Además, se implantarán las correspondientes medidas de mitigación y se cumplirá con los requerimientos de las agencias concernientes.

Determinación

Luego de revisado y analizado el expediente administrativo y discutidos todos los méritos del documento ambiental, al amparo de los poderes y facultades que le confiere a esta Oficina de Gerencia de Permisos, (en adelante "OGPe") la Ley Núm. 161 - 2009, según enmendada y el Reglamento para el Proceso de Evaluación Ambiental de la Junta de Calidad Ambiental (en adelante "RPEA"), RESOLVEMOS:

- La Evaluación Ambiental (en adelante, "EA") sometida por la Agencia Proponente para la acción propuesta, cumple con todos los requisitos de la Ley sobre Política Pública Ambiental, Ley Número 416 - 2004, según enmendada, y con el RPEA. En dicho documento ambiental fueron adecuadamente considerados y analizados los impactos ambientales que conlleva la acción, por lo que se aprueba el mismo, dando así por terminado el proceso de evaluación ambiental.

- De conformidad con el RPEA, las medidas de mitigación contenidas en el documento ambiental serán obligatorias y constituirán las medidas mínimas a tomarse en consideración para proteger el ambiente. La Agencia Proponente requerirá a las agencias con jurisdicción que incluyan las medidas de mitigación como condición indispensable de sus permisos.

- La Agencia Proponente deberá procurar que al momento de llevarse a cabo el desarrollo del Proyecto, las recomendaciones emitidas por los Gerentes de Permisos de la OGPe sean adecuadamente observadas y consideradas. Asimismo, la Agencia Proponente será responsable de velar que la acción, de llevarse a cabo, se desarrolle acorde con la información suministrada en el documento ambiental presentado apercibiéndosele que, los permisos que administran las entidades gubernamentales en relación al cumplimiento de las mismas están supeditados a la información y datos contenidos en documento ambiental.

- Si luego de haberse dado cumplimiento con el Artículo 4 de la Ley Núm. 416, supra, surgieran variaciones sustanciales en la acción propuesta, según definida en el RPEA, la Agencia Proponente será responsable de evaluar dichos impactos mediante el documento ambiental que entienda correspondiente.

- Se le apercibe que esta determinación de cumplimiento ambiental no será revisable hasta tanto se emita una determinación final, cuyo componente sea la presente determinación.

Recomendación y/o Comentarios del Director de la División de Cumplimiento Ambiental

1. Tendrá que obtener de la OGPe el Permiso Único Incidental Operacional, a tenor con la Regla 3.4.1 del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

2. Para el uso de generadores de electricidad, deberán someter ante la OGPe el Permiso General que establece el Reglamento para el Trámite de los Permisos Generales que incluye un Permiso para Fuente de Emisión (PFE) para los generadores con capacidad mayor de diez (10) caballos de fuerza y una operación no mayor de quinientas horas al año. Además, deberá someter al Área de Calidad de Agua del DRNA un Plan de Emergencia, a tenor con el Reglamento de Estándares de Calidad de Agua para prevenir y controlar derrames, parar los tanques para el almacenamiento de combustible.

3. Para la remoción de material con contenido de asbesto y/o plomo; tendrán que solicitar y obtener el

Determinación de Cumplimiento Ambiental para Evaluación Ambiental

Recomendación y/o Comentarios del Director de la División de Cumplimiento Ambiental

Permiso General para Actividades de Mitigación de Pintura con Base de Plomo y/o el Permiso General para el Manejo de Materiales con Contenido de Asbesto, que establece el Reglamento para el Trámite de los Permisos Generales de la Junta de Calidad Ambiental

4. Cumplir con la Sección 5.1.2.2 Análisis de Riesgos a Deslizamientos y otras Condiciones del Subsuelo y la Sección 5.1.9.4 (Manejo de Aguas Pluviales) del Reglamento Conjunto para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios del 7 de junio de 2019.

5. Cumplir con los requerimientos de las agencias concernientes y con las recomendaciones emitidas (2020-312378-REA-004325, 2020-312510-SRI-034599, 2020-312510-SRI-034543, 2020-312510-SRI-034545 y 2020-312510-SRI-034548) para el proyecto.

6. Deberá establecer un programa de reforestación utilizando especies nativas, que además de ayudar a minimizar la erosión beneficien la vida silvestre. Esta medida es cónsona con la Ley para Fomentar la Siembra de Árboles Cuyas Frutas y/o Semillas Provean Alimento a Especies de Aves Silvestres de Puerto Rico (Ley Núm. 97 de 24 de junio de 1998).

7. Cumplir con el Reglamento para el Control de la Contaminación Lumínica y el Reglamento para el Control de la Contaminación de Ruido.

8. El almacenaje, manejo y disposición de los desperdicios sólidos tiene que realizarse en conformidad con el Reglamento para el Manejo de los Desperdicios Sólidos No Peligrosos.

9. Para la descarga de escorrentía durante la construcción, tendrán que consultar con la Agencia Federal para la Protección Ambiental, para verificar si necesita obtener el correspondiente permiso bajo el Sistema Nacional de Eliminación de Descargas Contaminantes ("NPDES" por sus siglas en inglés) a tenor con la Ley Federal de Agua Limpia.

10. Tomar las medidas necesarias para evitar que residuos de sustancias orgánicas e inorgánicas tales como: aceites, combustibles u otras sustancias químicas, puedan ser arrastradas por la escorrentía y ganen acceso a cualquier cuerpo de agua o al pluvial.

11. Las recomendaciones y requisitos presentados en esta comunicación, no eximen de cualquier otro requerimiento o permiso de esta Oficina u otras agencias concernidas, que sean aplicables a la acción propuesta.

Firma / Sellos

CERTIFICO: Que he notificado copia fiel y exacta de la presente determinación con sus anejos, bajo mi firma, a la Agencia Proponente.

Fecha de Expedición:
08/OCT/2020

Determinación de Cumplimiento Ambiental para Evaluación Ambiental

Firma / Sellos

CERTIFICO: Que he notificado copia fiel y exacta de la presente determinación con sus anejos, bajo mi firma, a la Agencia Proponente.

Fecha de Expedición:
08/OCT/2020

Ing. Gabriel Hernández
Secretario Auxiliar
Departamento de Desarrollo Económico y Comercio de Puerto Rico
Oficina de Gerencia de Permisos

SBP
SINGLE BUSINESS PORTAL

Exhibit M

CASA LINDA APARTMENTS AERIAL PHOTO

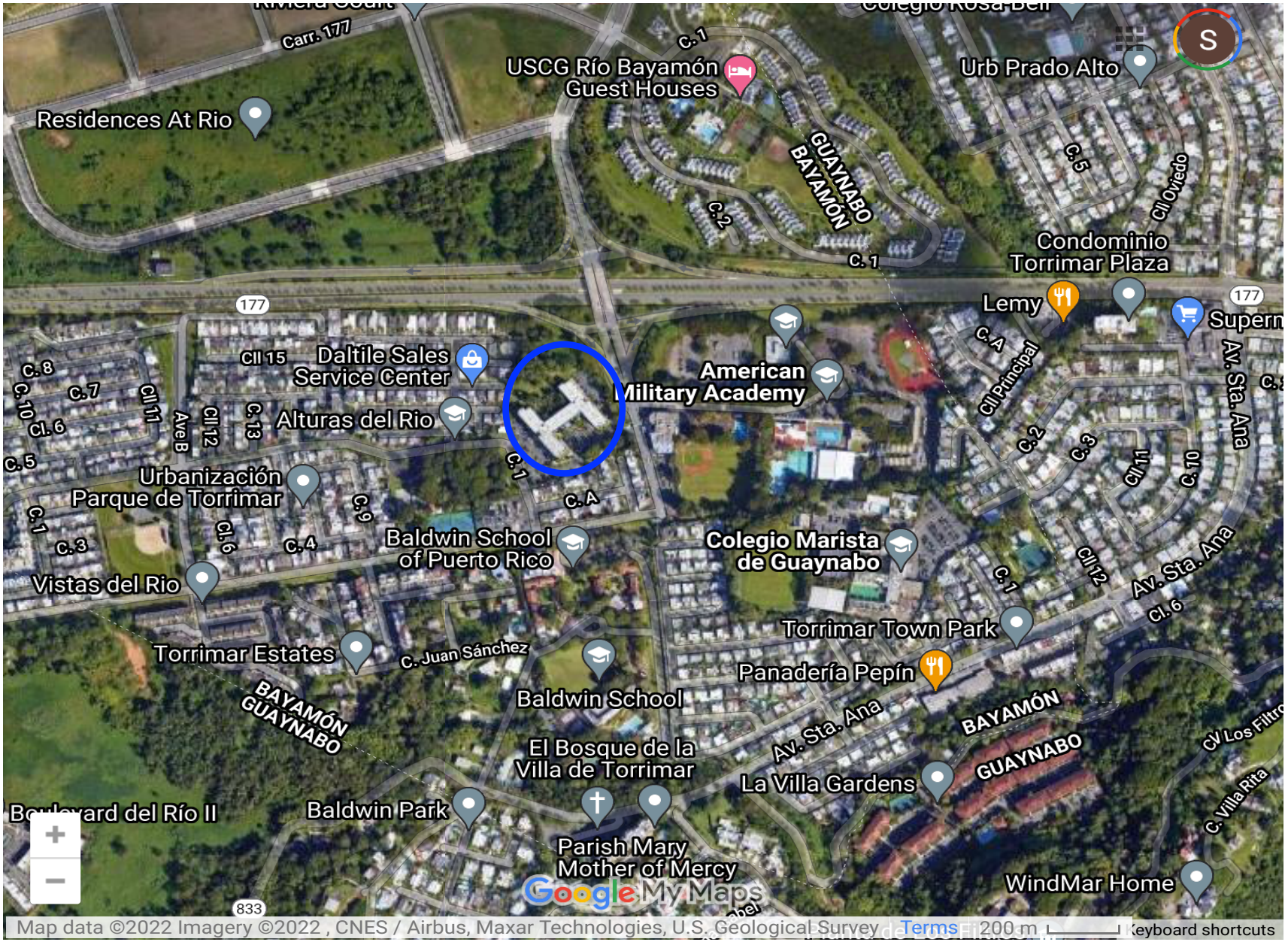


Exhibit N

CIUDAD DE BAYAMÓN
OFFICE OF THE MAYOR

March 3, 2020

Mr. Enrique Nodarse, General Partner
Casa Linda del Sur
P.O. Box 10563
San Juan, P.R 00922

Dear Mr. Nodarse:

UNQUALIFIED MAYOR ENDORSEMENT LETTER
REHABILITATION PROJECT -CASA LINDA DEL SUR APARTMENTS

We received your letter regarding the rehabilitation of an affordable rental-assisted housing project known as Casa Linda del Sur (the "Project"}, located in the Municipality of Bayamon. As per description, the proposed project will be developed under Section 42 of the federal Internal Revenue Code, (low-income housing tax credit program), and could combine other local, state or federal funding resources if available.

The Project consists of a rehabilitation of 199 (1 bedroom) apartment units distributed among a 4 story building and an expansion of 52 (2 bedroom) apartment units in a separate building. This is conveniently located amidst of the Urban Area, near healthcare, schools, commercial facilities, public and private transportation, among others. Casa Linda del Sur Apartments will undergo a comprehensive rehabilitation, which includes, and is not limited to, floor and window replacements, exterior and interior painting, replacement of lighting and bathroom fixtures, and replacement of equipment and appliances in accordance to energy efficiency standards. Further, the families will also enjoy renovated common areas and facilities for their use and enjoyment. You also propose to rehabilitate the surrounding public area adjacent to the building.

After detailed evaluation of the development of Casa Linda del Sur Apartments, we must conclude that the Project is undertaking at minimum two (2) pressing needs present in the Municipality: (i) preservation of existing affordable rental housing units for low-income families in the urban center, (ii) availability of safe and decent housing units in compliance with Housing Quality Standards; and (iii) assist single head of households population. All these pressing needs that left alone to the Municipality, will stretch the length of time to tackle and provide for such families. Therefore, acknowledging your efforts to preserve the Project as one affordable to the low-income families in the Municipality, the social needs addressed and the attributes of the same, we endorse without reserves this Project, as it complies with our Land Development Plan ("Plan de Ordenamiento Territorial").

You may count with our complete support in your efforts to develop the Project, and we are confident that the future occupants of Casa Linda del Sur will convey in a pleasant, safe, enjoyable and integrative community.

Cordially,

Ramón Luis Rivera
Mayor
Municipality of Bayamón

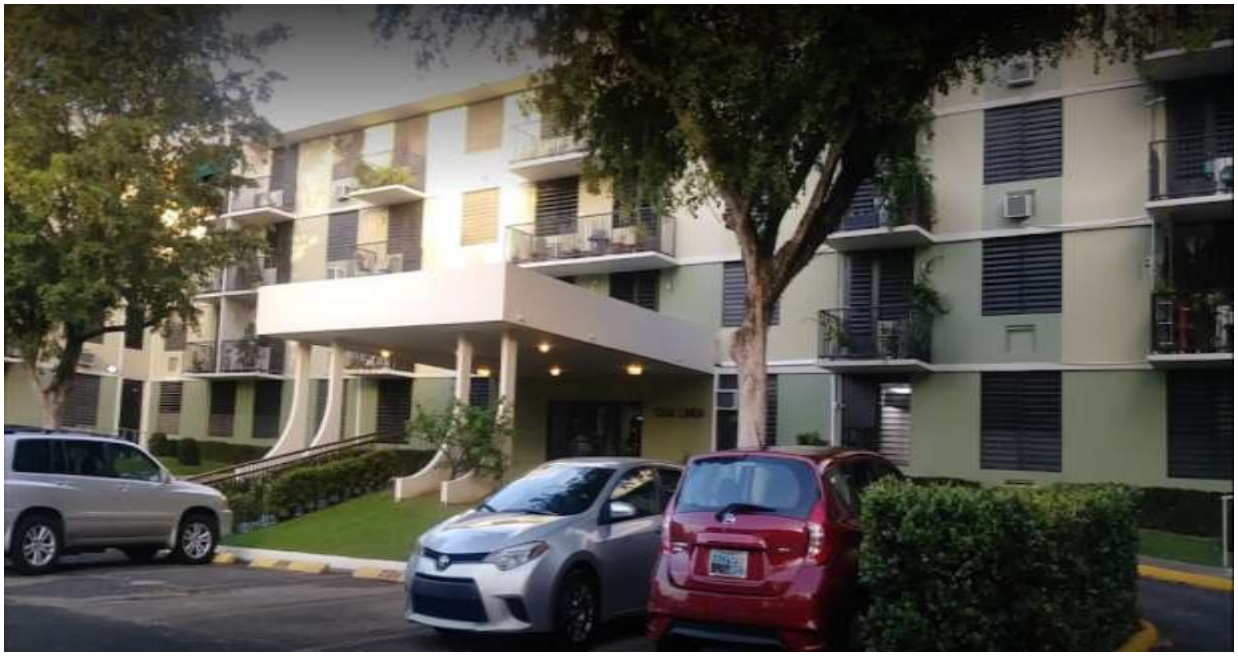
Exhibit O

THE ATMOSPHERIC ASSESSMENT GROUP

Adolfo Valdés-Agrait; M. Sc.
Senior Partner
P. O. Box 219
Mercedita, Puerto Rico 00715

Environmental Health and Safety
Consultant and Training Facility
e-mail: taagroup2@gmail.com
(787) 504-0279

REPORTE DE EVALUACIÓN AMBIENTAL PARA LA DETERMINACIÓN DE LA PRESENCIA DE MATERIALES DE CONSTRUCCIÓN CON CONTENIDO DE ASBESTO Y DE PINTURA CON BASE DE PLOMO



Casa Linda del Sur; Road 177 Minillas Ward Bayamón, PR

Preparado para: Ing. Alejandro J. Nazario, PE, Chief Development Officer
Quanta Urban Developers
PO Box 10563; San Juan, P. R. 00922
(787) 396-8361 / anazario@quantaurban.com

Preparado por: The Atmospheric Assessment Group
PO Box 219, Mercedita, P. R. 00715
(787) 504-0279 / taagroup2@gmail.com

June 2020

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REPORTE DE EVALUACIÓN AMBIENTAL PARA LA DETERMINACIÓN DE LA PRESENCIA DE MATERIALES DE CONSTRUCCIÓN CON CONTENIDO DE ASBESTO (MCA) Y DE PINTURA CON BASE DE PLOMO (PBP)

Casa Linda del Sur; Road 177 Minillas Ward Bayamón, PR

CERTIFICACIÓN PROFESIONAL

Certificamos que el informe aquí presentado, para la estructura de referencia, fue escrito de acuerdo con las guías publicadas por la Junta de Calidad Ambiental (JCA) ahora conocido como Recursos Naturales y Ambientales; y las guías publicadas por la Agencia de Protección Ambiental Federal (APA).

Las muestras se tomaron por Inspectores certificados por ambas agencias, y siguiendo el Protocolo de Muestreo recomendado en las publicaciones descritas. Los análisis de laboratorio para la determinación de la presencia y concentración de mineral de Asbesto se realizaron en un laboratorio certificado y proficiente en el análisis de materiales (NVLAP 101150-0; Exp. Mar 2021). Las muestras para la determinación de Pintura con Base de Plomo fueron obtenidas mediante el uso de un Instrumento de Fluorescencia de Rayos “X” (XRF, por sus siglas en ingles), y por inspectores certificados por la Junta de Calidad Ambiental.

Certificamos que la descripción y localización de nuestros hallazgos, son correctos a la fecha de este informe.



Adolfo Valdés Agrait, M. Sc.
The Atmospheric Assessment Group
Asbestos Inspector & Project Designer
Junio 2020

1.0 INTRODUCCIÓN

Nuestra compañía fue contratada por la firma NN Construction Inc. y por conducto del Ingeniero Alejandro Nazario, para desarrollar una inspección a la estructura de referencia, y determinar la presencia y la concentración de materiales de construcción con contenido de Asbesto (MCA) y de Pintura en Base de Plomo (PBP). El producto de la inspección realizada en el lugar de referencia se presenta en este Informe con nuestros hallazgos y los resultados de las muestras tomadas.

Los días 3-5 de Junio de 2020 visitamos la estructura de referencia y se levantaron los datos que aquí se describen. Las muestras se tomaron por inspectores de Asbesto y de Plomo, certificados por la Junta de Calidad Ambiental, JCA (Apéndice A). Las muestras para la determinación de minerales de Asbesto fueron analizadas por un laboratorio certificado por la National Voluntary Laboratory Accreditation Program (NVLAP, por sus siglas en ingles). Las muestras para la determinación de la presencia de plomo en pintura se tomaron mediante el uso de un instrumento conocido como “XRF”, (X-Ray Fluorescence, por sus siglas en ingles), y por un Inspector contratado y certificado por la JCA. Los datos analíticos presentados cumplieron con los requisitos del Programa de Control de Calidad del laboratorio de referencia.

Los hallazgos del estudio se presentan a continuación.

2.0 PROTOCOLO DE EVALUACIÓN

La evaluación se desarrolló con el propósito de identificar las necesidades de la propiedad en el proceso de renovación. Por tal razón, la cantidad de muestras obtenidas, la selección de la localización de los puntos de muestreo, y la frecuencia de las muestras, se basó exclusivamente en el objetivo del estudio. No obstante, se preservaron las guías de muestreo publicadas por las agencias reguladoras (EPA, DRN&A, HUD) y la presunción de que materiales similares en la misma área, son considerados como homogéneos.

Durante la evaluación, inspeccionamos todos los materiales de la estructura, que pudieran contener mineral de asbesto (MCA) y de pintura con base de plomo (PBP).

3.0 RESUMEN DE HALLAZGOS

Nuestro reporte ha sido organizado de forma consistente con las guías publicadas por las agencias reguladoras. La inspección y evaluación se desarrolló siguiendo las guías actualizadas para la determinación de la presencia y la concentración de materiales sospechosos de contener Material con Contenido de Asbesto (MCA) y de Pintura con Base de Plomo (PBP), según las definiciones publicadas por la Agencia de Protección Ambiental Federal (EPA, por sus siglas en ingles), y por el Departamento de Recursos Naturales y Ambientales (DRN&A).

Se tomaron muestras representativas de todos los componentes y sustratos de la estructura. Las muestras se enviaron a el laboratorio de referencia SLG, Inc., para los análisis de Asbesto. La certificación del laboratorio se presenta en el Apéndice A.

3.1 Hallazgos para los Materiales con Contenido de Asbesto (MCA)

Se tomo muestra representativa de los materiales de construcción con posibilidad de tener mineral de asbesto. Solo identificamos Material Misceláneo conocido como Losa de Piso de Vinilo, Adhesivo de Piso ("Black Mastic"), Caulking de Tablillas, Caulking de Puertas, Sócalo de Piso, Adhesivo del Sócalo de Piso, Mastic de Fregadero, y Estucado de Techo. Los hallazgos demuestran (Apéndice C) que solo el Adhesivo de Piso contiene mineral de asbesto en concentraciones de 0.25% a 2.25%.

Tabla Núm. 1 Hallazgos Positivos para la Presencia de Materiales de Construcción con Contenido de Asbesto (MCA).

CASA LINDA DEL SUR APARTMENT COMPLEX ANALYTICAL RESULTS			
Sample ID	**Sample Location**	**Sample Description**	**MCA Results**
ASB-01-VFT	Apt. S-109	Beige, Homogeneous	None Detected
ASB-01-Mastic	Kitchen	No Mastic Found	**NA**
ASB-05-VFT	Apt. N-101	Beige, Homogeneous	None Detected
ASB-05-Mastic	Living Room	White, Soft, Homogenous	None Detected
ASB-10-VFT	Apt. C-206	Beige, Homogeneous	None Detected
ASB-10-Mastic	Kitchen	Black, Bituminous, Homogenous	**0.25 % Chrysotile**
ASB-15-VFT	Apt. S-207	Beige, Homogeneous	None Detected
ASB-15-Mastic	Living Room	Tan, Brittle, Homogenous	None Detected
ASB-19-VFT	Apt. C-211	Beige, Homogeneous	None Detected
ASB-19-Mastic	Living Room	Black/Tan, Bituminous, Homogenous	**1.50 % Chrysotile**
ASB-24-VFT	Apt. N-317	Beige, Homogeneous	None Detected
ASB-24-Mastic	Bedroom 1	Black, Bituminous, Homogenous	**2.25 % Chrysotile**
ASB-29-VFT	Apt. S-306	Beige, Homogeneous	None Detected
ASB-29-Mastic	Kitchen	Black, Bituminous, Homogenous	**0.25 % Chrysotile**
ASB-34-VFT	Apt. N-404	Beige, Homogeneous	None Detected
ASB-34-Mastic	Living Room	Black, Soft, Homogenous	None Detected
ASB-41-VFT	Hallway 1st Floor	Beige, Homogeneous	None Detected
ASB-41-Mastic	North Tower	Black, Bituminous, Homogenous	**0.25 % Chrysotile**
MCA se define como aquel material que contiene mineral de asbesto en concentración mayor de un porciento (**>1%**), analizado por el método de Microscopia de Luz Polarizada.			

3.2 Hallazgos de Pintura en Base de Plomo (PBP)

El análisis de las muestras obtenidas demuestra la presencia de Plomo en varios lugares de la estructura. Los hallazgos positivos se presentan en la Tabla Núm. 2. El Apéndice D contiene la Evidencia Pictórica de las áreas con hallazgos positivos para PBP.

Tabla Núm. 2 Hallazgos de Áreas con Resultados Positivos para la Presencia de Pintura con Base de Plomo (PBP).

Área de Apartamentos:

Structure	Room	Components	Substrate	Color	Quantity
C-309	Kitchen	Middle Wall B, C, D	Ceramic	Lt. Brown	32 sq.ft
N-9G	Kitchen	Middle Wall A, B, C, D	Ceramic	Cream	28 sq.ft
S-311	Kitchen	Middle Wall D	Ceramic	Cream	9 sq.ft
S-401	Balcony	Floor Tile	Ceramic	Cream	28 sq.ft

Áreas Comunes:

1st Floor Lobby	Floor Tile	Ceramic	Beige	475 sq.ft
1st Floor Lobby	Baseboard	Ceramic	Beige	96 ln.ft
1st Floor Lobby	Wall C	Ceramic	Brown	168 sq.ft
1st Floor Mail Area	Floor Tile	Ceramic	Beige	81 sq.ft
	Baseboard	Ceramic	Beige	32 ln.ft
1st Floor Activity Area	Floor Tile	Ceramic	Beige	1560 sq.ft
	Baseboard	Ceramic	Beige	160 ln.ft

Áreas de Administracion:

1st Floor Kitchen	Floor Tile	Ceramic	Beige	90 sq.ft
	Baseboard	Ceramic	Beige	36 ln.ft
Main Area	Floor Tile	Ceramic	Beige	400 sq.ft
	Baseboard	Ceramic	Beige	80 ln.ft

Estudios anteriores (Apéndice D2) demostraron la presencia de PBP en la pintura color amarillo en el estacionamiento (Wheel Stop & Curbs); Engineering Solutions, February 2019.

4.0 CONCLUSIÓN

Los resultados de los análisis de las muestras tomadas de los materiales de construcción de la estructura de referencia demuestran que ésta contiene Materiales de Construcción con Contenido de Asbesto (MCA) en el Mastic de las Losas de Piso. También se demostró la presencia de Pintura con Base de Plomo (PBP) en las Losas de Cerámica instaladas en los apartamentos y en las Areas Comunes.

Por lo tanto, se emite una "**Certificación de Hallazgos Positivos para la presencia de MCA** y una "**Certificación de Hallazgos Positivos para la presencia de PBP**" para la estructura de Casa Linda del Sur en la Carretera 177 en Bayamón, Puerto Rico.

5.0 CONFIDENCIALIDAD

Los datos generados durante nuestra evaluación, los hallazgos y resultados de análisis de las muestras, se mantienen como información privilegiada y confidencial. Ninguno de estos datos será revelado, examinado o compartido con personas ajenas al proyecto.

Solamente, y mediante autorización escrita por el titular del proyecto, se entregará copia de este informe.

6.0 DELIMITACIÓN DEL ESTUDIO

Nuestro estudio se limita a la estructura descrita en este informe y a la fecha del informe. Nuestra empresa no garantiza que la condición del material descrito e identificado se mantendrá en la condición encontrada.

APÉNDICE A

CERTIFICACIÓN DE LA EMPRESA Y EL PERSONAL A CARGO DEL ESTUDIO

APÉNDICE B

DOCUMENTACION DE TRANSPORTACION DE MUESTRAS

APÉNDICE C-1

RESULTADOS DEL LABORATORIO DE REFERENCIA PARA ASBESTO

APÉNDICE C-2

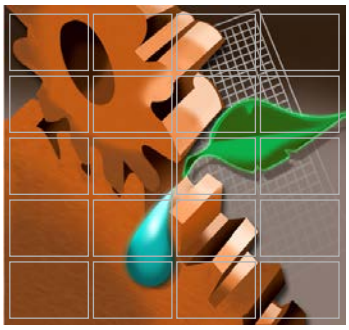
RESULTADOS DEL LABORATORIO DE REFERENCIA PARA PLOMO

APÉNDICE D

DIAGRAMA DE LOCALIZACION DE LA PINTURA CON BASE DE PLOMO

APÉNDICE E

GLOSARIO DE TERMINOS USADOS EN LA INDUSTRIA DE ASBESTO



Engineering Solution Firm
PMB 332 PO Box 4960
Caguas, PR, 00726

ASBESTOS-CONTAINING MATERIALS AND LEAD-BASED PAINT SURVEY

Casa Linda del Sur Apartments Common Areas
(1st, 2nd and 3rd Floor Hallways,
First Floor Main Lobby, Terrace and Parking Areas)
Road PR-177
Bayamón, PR

February 23, 2019
For: Casa Linda del Sur Apartments
Prepared by: Edwin A. Ayala.

Introduction

Casa Linda del Sur retained Edwin A. Ayala. to perform an Asbestos-Containing Materials (ACM) and Lead-Based Paint (LBP) survey in Casa Linda Apartment Common Areas (1st, 2nd and 3rd Floor Hallways, First Floor Main Lobby, Terrace and Parking Areas) located at road PR-177, Bayamón. The location map is shown in the appendix A.

The purpose of the survey was to determine the presence of ACM and/or LBP in the structure prior to the final demolition and disposal.

This survey was by conducted by EQB certify inspectors on February 23, 2019, copies of his credentials are included in appendix B.

Lead Based Paint Procedure

Hazard of lead in paint has been defined by the Department of Housing and Urban Development as 1.0 mg/cm^2 as measured by XRF instrument or Atomic Absorption Spectroscopy (AAS) or 0.5% by weight or 5,000 ppm as measured by AAS or Inductive Coupled Plasma (ICP). The same level was adopted by EPA regulations published in 1992, under Title X.

The survey was performed following the methodology established in the HUD Guidelines for the Evaluation and Control of Lead Based Paint in Housing (2012 revision) and the PREQB Lead Based Paint Abatement Control Regulation.

The structure inspection was conducted by a PR lead-based paint inspector using the following six steps:

1. List all testing combinations, including those that are painted, stained, shellacked, varnished, coated, or wallpaper which covers painted surfaces.
2. Select testing combinations. (XRF testing is required for at least one location per testing combination, except for interior and exterior walls, where four readings should be taken, one on each wall.)
3. Perform XRF testing (including the calibration check readings).
4. Collect and analyze paint-chip samples for testing combinations that cannot be tested with XRF or that had inconclusive XRF result,
5. Classify XRF and paint-chip results.
6. Preparation final report

The surfaces evaluation was performed as follows:

- If the lead concentration measured by the XRF Spectrum Analyzer is less than 1.0 mg/cm^2 it is considered negative.
- If the lead concentration measured by the XRF Spectrum Analyzer is equal or greater than 1.0 mg/cm^2 it is considered positive.

To each functional space of the property a name was assigned according to the use of that space. If no name could be assigned then a code letter or number was assigned. The room numbers will be assigned clockwise as you enter the structure and go towards the left always. Each wall surface was named with letters beginning with wall A the wall facing street; the wall at your left will be wall B, the wall at front wall C and the wall at you right will be wall D.

Lead Based Paint Results

A total of **One hundred twenty nine (129)** testing combinations were tested using NITON 300XLp Series X-Ray Fluorescence instrument (XRF) manufactured by NITON Corporation. Using EPA Method 6200, the XRF instrument was set at Standard Paint Mode showing reading "Positive" or "Negative" with a 95% confidence level reading. Results are presented in mg/cm^2.

The XRF results are shown in Appendix C. Lead Based Paint were found in some wall tiles at lobby area, some wheel stops and concrete curbs at parking area. Table 1 summarizes the positive XRF results. Lead based Paint photo log is shown in the Appendix D.

Table 1 : Lead Based Paint Summary

READING NO	RESULTS	COMPONENT	SUBSTRATE	SIDE	CONDITION	COLOR	SITE	FLOOR	ROOM	AMOUNT
360	POSITIVE	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDA SUR	FIRST	LOBBY	160
361	POSITIVE	WALL	CERAMIC	C	FAIR	BROWN	CASA LINDA SUR	FIRST	LOBBY	
447	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	SOUTH PARKING	ALL YELLOW CONCRETE CURBS
452	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	SOUTH PARKING	ALL YELLOW WHEEL STOP
456	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW WHEEL STOP
457	POSITIVE	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW WHEEL STOP
462	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW CONCRETE CURBS
463	POSITIVE	CURB	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDA SUR	FIRST	MAIN PARKING	ALL YELLOW CONCRETE CURBS

LBP Total Area = 160 ft^2 of wall tiles, all wheel stop and concrete curbs. The LBP area must be verified by the contractors.

Asbestos Containing Material Survey

Asbestos-Containing Building Material (ACBM) is defined as any material or product which contains more than 1 percent asbestos. The sample test must be performed by a laboratory which has received interim accreditation for polarized light microscopy (PLM) analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program. The asbestos inspection and bulk sampling procedures to be implemented was based on the guidelines established by the ASTM E2356-14 Standard Practice for Comprehensive Building Asbestos Surveys. Field information is organized according to the E2356 concept of Homogeneous Area (HA). A HA is defined as a suspect material of similar age, appearance, function, and texture. Each material will be grouped together as a specific HA, sampled, and then assessed for condition.

The structure inspection was conducted by a Puerto Rico Certificate inspector using the following tasks:

1. Visual determination as to the extent of visible and accessible suspect materials and conditions of the material;
2. Collection and analysis of suspect building materials for asbestos content;
3. A physical "Hand Pressure" test for determining friability and condition of suspect materials;
4. An assessment of suspect friable and non-friable materials and locations;
5. Quantification of the amount of suspect friable and non-friable materials in their respective locations;
6. Identification of all suspect materials sampled on the appropriate building floor plan diagram with the sample number; and
7. Preparation of a Chain of Custody (AES International Laboratory).
8. Preparation Final report.

Asbestos Containing Material Result

During the survey, inspectors found Suspected Asbestos Containing Material. A total of 14 bulks (Vinyl Floor Tiles, White Ceiling Pearltek, Black Caulking, and Baseboard Mastic) samples were collected in the structure. Based on the laboratory results, all Vinyl Floor Tiles in the hallways (Common Areas) must be considered as ACBM. Table 2 summarizes the Asbestos-Containing Building Material (ACBM). Laboratory asbestos results and the photo logs are shown in the Appendix E.

Table 2: Asbestos Containing Material Analysis Results

SAMPLE ID	RESULTS	DESCRIPTION AND LOCATION	AHERA	NESHAP	AREA (ft^2)	CONDITION
Casalinda-EA-01	2 % CHRYSOTILE	3rd FLOOR NORTH AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1	3,200	GOOD NO DAMAGED
Casalinda-EA-05	2 % CHRYSOTILE	2nd FLOOR SOUTH AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1		GOOD NO DAMAGED
Casalinda-EA-09	2 % CHRYSOTILE	1st FLOOR CENTER AREA BEIGE VINYL FLOOR TILE 12" x 12" WITH BLACK MASTIC	N/A	1		GOOD NO DAMAGED

Please do not hesitate to contact us, if you have any questions or comments regarding the results of this particular Asbestos-Containing Materials and Lead-Based Paint Survey.

Cordially;



Edwin A. Ayala

ACM Inspector ASB-0418-240-SI

LBP Inspector 3204-1018-LI-002

APPENDIX A
LOCATION MAP


SITE
Av. Lomas Verdes
Casa Linda del Sur Apartments
American Military Academy
Av. Casa Linda
Baldwin School of Puerto Rico
Colegio Marista de Guaynabo
GUAYNABO BAYAMON
Calle 1
Calle 2
Calle 3
Calle 4
Calle 5
Calle 6
Calle 11
Calle 14
Calle 15
Calle A
Cll 6
Cll 12
Cll 13
Cll 16
Av. Nte

Location



Third Floor Area



Second Floor Area



First Floor Area

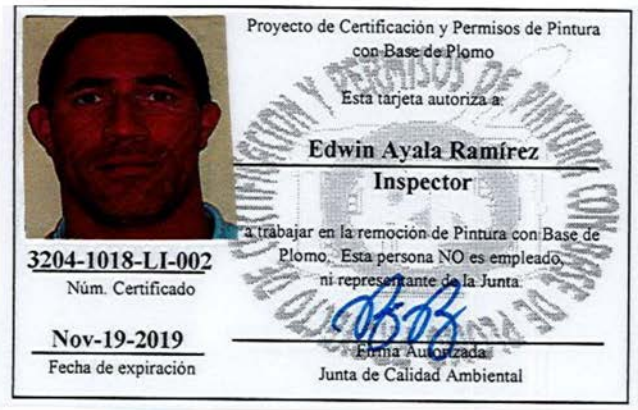


Parking Area

APPENDIX B
INSPECTOR CREDENTIALS

ENGINEERING SOLUTION FIRM ID





APPENDIX C
XRF SAMPLING DATA

Thermo
ELECTRON CORPORATION

NITON Corporation
900 Middlesex Turnpike
Billerica, MA 01821

Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
1	352	2019-02-23 11:24	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 0.85
2	**353**	**2019-02-23 11:24**	**Positive**			**CALIBRATE**							**1.10 ± 0.10**	**1.10 ± 0.10**	**< LOD : 0.89**
3	**354**	**2019-02-23 11:25**	**Positive**			**CALIBRATE**							**1.00 ± 0.10**	**1.00 ± 0.10**	**< LOD : 0.60**
4	355	2019-02-23 13:36	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
5	356	2019-02-23 13:37	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
6	357	2019-02-23 13:37	Negative	CEILING	CONCRETE	UPPER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
7	358	2019-02-23 13:38	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
8	359	2019-02-23 13:38	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	LOBBY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.82
9	**360**	**2019-02-23 13:38**	**Positive**	**WALL**	**CERAMIC**	**C**	**FAIR**	**BROWN**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**LOBBY**	**< LOD : 10.35**	**< LOD : 10.35**	**< LOD : 32.55**
10	**361**	**2019-02-23 13:39**	**Positive**	**WALL**	**CERAMIC**	**C**	**FAIR**	**BROWN**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**LOBBY**	**< LOD : 19.50**	**< LOD : 12.75**	**< LOD : 19.50**
11	362	2019-02-23 13:41	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
12	363	2019-02-23 13:41	Negative	WALL	DRYWALL	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 2.16
13	364	2019-02-23 13:42	Negative	WALL	DRYWALL	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.40
14	365	2019-02-23 13:42	Negative	WALL	CONCRETE	C	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
15	366	2019-02-23 13:42	Negative	CEILING	DRYWALL	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	MAIL	< LOD : 0.03	< LOD : 0.03	< LOD : 2.13
16	367	2019-02-23 13:43	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	MAIL	0.60 ± 0.30	0.60 ± 0.30	< LOD : 4.05
17	368	2019-02-23 13:44	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.60 ± 0.30	0.60 ± 0.30	< LOD : 5.25
18	369	2019-02-23 13:45	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
19	370	2019-02-23 13:45	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
20	371	2019-02-23 13:45	Negative	WALL	CONCRETE	B	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.61
21	372	2019-02-23 13:46	Negative	WALL	CONCRETE	C	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.74
22	373	2019-02-23 13:46	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
23	374	2019-02-23 13:46	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
24	375	2019-02-23 13:47	Negative	WALL	CONCRETE	D	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
25	376	2019-02-23 13:47	Negative	WALL	CONCRETE	D	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.85
26	377	2019-02-23 13:47	Negative	WALL	CONCRETE	A	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
27	378	2019-02-23 13:47	Negative	WALL	CONCRETE	A	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
28	379	2019-02-23 13:48	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.70 ± 0.30	0.70 ± 0.30	< LOD : 2.40
29	380	2019-02-23 13:48	Negative	BASEBOARD	CERAMIC	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	0.70 ± 0.30	0.70 ± 0.30	< LOD : 2.40
30	381	2019-02-23 13:49	Negative	DOOR	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.04	< LOD : 0.04	< LOD : 4.80
31	382	2019-02-23 13:49	Negative	DOOR FRAME	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.05	< LOD : 0.05	< LOD : 4.32
32	383	2019-02-23 13:50	Negative	DOOR FRAME	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.62
33	384	2019-02-23 13:50	Negative	DOOR	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.47
34	385	2019-02-23 13:50	Negative	WINDOW	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.74

Thermo
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900 Middlesex Turnpike
Billerica, MA 01821

Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
35	386	2019-02-23 13:50	Negative	WINDOW	METAL	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.67
36	387	2019-02-23 13:52	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
37	388	2019-02-23 13:52	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
38	389	2019-02-23 13:52	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
39	390	2019-02-23 13:53	Negative	COLUMN	CONCRETE	A	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
40	391	2019-02-23 13:53	Negative	FLOOR	CONCRETE	LOWER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
41	392	2019-02-23 13:54	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	TERRACE	< LOD : 0.03	< LOD : 0.03	< LOD : 2.00
42	393	2019-02-23 13:55	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	HALLWAY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
43	394	2019-02-23 13:56	Negative	WALL	CONCRETE	A	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	HALLWAY	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
44	395	2019-02-23 13:56	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
45	396	2019-02-23 13:56	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
46	397	2019-02-23 13:57	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 2.01
47	398	2019-02-23 13:57	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTER	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
48	399	2019-02-23 13:57	Negative	WALL	CONCRETE	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.05
49	400	2019-02-23 13:58	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
50	401	2019-02-23 13:58	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.78
51	402	2019-02-23 13:58	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 1.61	< LOD : 0.05	< LOD : 1.61
52	403	2019-02-23 13:58	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.99
53	404	2019-02-23 13:59	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.99
54	405	2019-02-23 13:59	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
55	406	2019-02-23 13:59	Negative	WALL	CONCRETE	C	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.18
56	407	2019-02-23 13:59	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.94
57	408	2019-02-23 14:00	Negative	WALL	CONCRETE	D	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.96
58	409	2019-02-23 14:00	Negative	WALL	CONCRETE	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
59	410	2019-02-23 14:00	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
60	411	2019-02-23 14:01	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
61	412	2019-02-23 14:01	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
62	413	2019-02-23 14:01	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
63	414	2019-02-23 14:02	Negative	WALL	CONCRETE	A	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.87
64	415	2019-02-23 14:02	Negative	WALL	CONCRETE	B	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.76
65	416	2019-02-23 14:02	Negative	WALL	CONCRETE	C	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
66	417	2019-02-23 14:02	Negative	WALL	CONCRETE	D	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
67	418	2019-02-23 14:03	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.65	< LOD : 0.65	< LOD : 9.30
68	419	2019-02-23 14:03	Negative	DOOR	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.04	< LOD : 0.04	< LOD : 4.85

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Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
69	420	2019-02-23 14:03	Negative	DOOR FRAME	WOOD	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 4.48
70	421	2019-02-23 14:04	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY NORTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
71	422	2019-02-23 14:05	Negative	CEILING	CONCRETE	UPPER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
72	423	2019-02-23 14:05	Negative	WALL	CONCRETE	A	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
73	424	2019-02-23 14:06	Negative	WALL	CONCRETE	B	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.93
74	425	2019-02-23 14:06	Negative	WALL	CONCRETE	C	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.90
75	426	2019-02-23 14:06	Negative	WALL	CONCRETE	D	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.98
76	427	2019-02-23 14:06	Negative	FLOOR	CERAMIC	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.53	< LOD : 0.53	< LOD : 8.96
77	428	2019-02-23 14:07	Negative	DOOR	WOOD	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 5.05
78	429	2019-02-23 14:07	Negative	DOOR FRAME	WOOD	LOWER	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	LAUNDRY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 5.05
79	430	2019-02-23 14:08	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
80	431	2019-02-23 14:08	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
81	432	2019-02-23 14:08	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
82	433	2019-02-23 14:09	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.00
83	434	2019-02-23 14:09	Negative	WALL	CONCRETE	D	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.88
84	435	2019-02-23 14:09	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
85	436	2019-02-23 14:09	Negative	WALL	CONCRETE	B	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.93
86	437	2019-02-23 14:09	Negative	DOOR	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.50
87	438	2019-02-23 14:09	Negative	DOOR	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.40
88	439	2019-02-23 14:10	Negative	WINDOW	METAL	B	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	HALLWAY SOUTH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.75
89	440	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.96
90	441	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
91	442	2019-02-23 14:11	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
92	443	2019-02-23 14:11	Negative	WALL	CONCRETE	C	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.82
93	444	2019-02-23 14:11	Negative	WALL	CONCRETE	C	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	HALLWAY CENTRAL	< LOD : 0.03	< LOD : 0.03	< LOD : 1.86
94	445	2019-02-23 14:12	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.20
95	446	2019-02-23 14:13	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
96	**447**	**2019-02-23 14:13**	**Positive**	**CURB**	**CONCRETE**	**LOWER**	**FAIR**	**TAN**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**SOUTH PARKING**	**1.60 ± 0.50**	**0.40 ± 0.10**	**1.60 ± 0.50**
97	448	2019-02-23 14:14	Negative	CURB	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.05	< LOD : 0.05	< LOD : 1.84
98	449	2019-02-23 14:15	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
99	450	2019-02-23 14:15	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.35
100	451	2019-02-23 14:16	Negative	FLOOR LINE	CONCRETE	LOWER	FAIR	TAN	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.88
101	**452**	**2019-02-23 14:17**	**Positive**	**WHEELSTOP**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**SOUTH PARKING**	**1.50 ± 0.50**	**< LOD ; 0.03**	**1.50 ± 0.50**
102	453	2019-02-23 14:18	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	0.80 ± 0.50

Thermo
ELECTRON CORPORATION

NITON Corporation
900 Middlesex Turnpike
Billerica, MA 01821

Index	Reading No	Time	Results	Component	Substrate	Side	Condition	Color	Site	Inspector	Floor	Room	PbC	PbL	PbK
103	454	2019-02-23 14:19	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	SOUTH PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 2.03
104	455	2019-02-23 14:21	Negative	WHEELSTOP	CONCRETE	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.89
105	**456**	**2019-02-23 14:21**	**Positive**	**WHEELSTOP**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**MAIN PARKING**	**2.40 ± 1.20**	**2.40 ± 1.20**	**< LOD : 5.40**
106	**457**	**2019-02-23 14:22**	**Positive**	**WHEELSTOP**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**MAIN PARKING**	**< LOD : 7.65**	**< LOD : 7.65**	**< LOD : 13.80**
107	458	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	1.10 ± 0.50
108	459	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	0.06 ± 0.03	0.06 ± 0.03	< LOD : 1.20
109	460	2019-02-23 14:23	Negative	FLOOR LINE	ASPHALT	LOWER	FAIR	YELLOW	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.17	< LOD : 0.17	< LOD : 1.65
110	461	2019-02-23 14:24	Negative	CURB	CONCRETE	LOWER	FAIR	WHITE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.95
111	**462**	**2019-02-23 14:24**	**Positive**	**CURB**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**MAIN PARKING**	**2.80 ± 1.80**	**2.80 ± 1.80**	**< LOD : 10.80**
112	**463**	**2019-02-23 14:25**	**Positive**	**CURB**	**CONCRETE**	**LOWER**	**FAIR**	**YELLOW**	**CASA LINDASUR**	**E AYALA**	**FIRST**	**MAIN PARKING**	**2.10 ± 0.90**	**2.10 ± 0.90**	**< LOD : 4.20**
113	464	2019-02-23 14:26	Null	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	0.03 ± 0.02	0.03 ± 0.02	1.20 ± 0.30
114	465	2019-02-23 14:27	Null	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	1.20 ± 0.50
115	466	2019-02-23 14:27	Negative	FLOOR	CONCRETE	LOWER	FAIR	BLUE	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
116	467	2019-02-23 14:27	Negative	FLOOR	CONCRETE	LOWER	FAIR	GRAY	CASA LINDASUR	E AYALA	FIRST	MAIN PARKING	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
117	468	2019-02-23 14:28	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.90
118	469	2019-02-23 14:28	Negative	WALL	CONCRETE	C	FAIR	GREEN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.65
119	470	2019-02-23 14:28	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.50
120	471	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.80
121	472	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.92
122	473	2019-02-23 14:29	Negative	WALL	CONCRETE	A	FAIR	BEIGE	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.91
123	474	2019-02-23 14:30	Negative	DOOR	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 3.17
124	475	2019-02-23 14:30	Negative	DOOR	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.42
125	476	2019-02-23 14:30	Negative	WINDOW	METAL	A	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 2.79
126	477	2019-02-23 14:30	Negative	CEILING	CONCRETE	UPPER	FAIR	BROWN	CASA LINDASUR	E AYALA	FIRST	PORCH	< LOD : 0.03	< LOD : 0.03	< LOD : 1.83
127	**478**	**2019-02-23 14:31**	**Positive**			**CALIBRATE**							**1.10 ± 0.10**	**1.10 ± 0.10**	**< LOD : 0.90**
128	479	2019-02-23 14:32	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 1.11
129	480	2019-02-23 14:32	Negative			CALIBRATE							0.90 ± 0.10	0.90 ± 0.10	< LOD : 1.05

APPENDIX D

LEAD BASED PAINT PHOTO LOG



360-361



447

All yellow concrete curbs must be considered LBP



452

All yellow wheel stop must be considered LBP



456

All yellow wheel stop must be considered LBP



457

All yellow wheel stop must be considered LBP



462

All yellow concrete curbs must be considered LBP



463

All yellow concrete curbs must be considered LBP

APPENDIX E

ASBESTOS LABORATORY RESULTS

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate Street, 2nd. Floor, Santurce, P.R. 00907
PH. (787) 722-0220 Fax (787) 724-5788

NVLAP LAB CODE 200051-0

Job ID: B19020027

Revised

REPORT NUMBER

RP19032209

POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLE ANALYSIS REPORT

Client Name:	Engineering Solution Firm	Date Collected:	02/24/2019
Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.01 B19020027.01.A Casalinda-EA-01 Layer % of Total :100%	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 3	Binders/Paint 65 Sand/Aggregates 25 Bitumen 5
Date Analyzed: 03/05/2019 Sample Location: Third Floor North Area VFT Beige 12'x 12" Comments:					
B19020027.02 B19020027.02.A Casalinda-EA-02 Layer % of Total :100%	Semi Hard with Paint, Mica and Fibers White	No		Cellulose 8	Vermiculite/Mica 10 Binders/Paint 82
Date Analyzed: 03/05/2019 Sample Location: Third Floor North Area White Pearltek Ceiling Comments: Paint Included As Binders					
B19020027.03 B19020027.03.A Casalinda-EA-03 Layer % of Total :100%	Semi Hard, Glue With Fibers Brown	No		Cellulose 4	Glue 96
Date Analyzed: 03/06/2019 Sample Location: Third Floor North Area Black Mastic Baseboard Comments:					
B19020027.04 B19020027.04.A Casalinda-EA-04 Layer % of Total :100%	Semi Hard , Glue with Paint and Fibers Black	No		Cellulose 5	Glue 85 Binders/Paint 10
Date Analyzed: 03/06/2019 Sample Location: Third Floor North Area Window Caulking Comments:					

MICROANALYST: _____ [Karen Acosta]

QUALITY CONTROL: _____ [Elme Rivera]

PLM IS NOT CONSISTENTLY RELIABLE IN DETECTING SMALL CONCENTRATION OF ASBESTOS IN FLOOR TILES AND SIMILAR NONFRIABLE MATERIALS. QUANTITATIVE TEM IS CURRENTLY THE ONLY METHOD THAT CAN BE USED TO GET THE CONCLUSIVE ASBESTOS CONTENT. THIS REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL AND NOT WITHOUT WRITTEN APPROVAL OF THE LABORATORY. THIS REPORT SHALL NOT BE USED TO CLAIM ENDORSEMENT BY NVLAP OR ANY AGENCY OF OF THE US GOVERNMENT. ANALYSIS OF FLOOR TILE IS NOT COVERED BY THE CURRENT NEW YORK ELAP CERTIFICATION. EPA METHOD 600/M4-82-020: INTERIM METHOD FOR THE DETERMINATION OF ASBESTOS IN BULK INSULATION SAMPLES.

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Client Name:	Engineering Solution Firm	Date Collected:	02/24/2019
Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.05 B19020027.05.A Casalinda-EA-05 Layer % of Total :100%	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 2	Binders/Paint 69 Sand/Aggregates 22 Bitumen 5
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area VFT Beige 12"x 12" Comments:					
B19020027.06 B19020027.06.A Casalinda-EA-06 Layer % of Total :100%	Semi Hard with Mica and Fibers White	Yes	Chrysotile .5	Cellulose 10	Vermiculite/Mica 20 Binders/Paint 70
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area White Pearltek Ceiling Comments:					
B19020027.07 B19020027.07.A Casalinda-EA-07 Layer % of Total :100%	Semi Hard, Glue and Fibers Brown	No		Cellulose 6	Glue 94
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area Black Mastic Baseboard Comments:					
B19020027.08 B19020027.08.A Casalinda-EA-08 Layer % of Total :100%	Semi Hard, Glue with Paint and Fibers Black	No		Cellulose 4	Glue 88 Binders/Paint 8
Date Analyzed: 03/06/2019 Sample Location: Second Floor South Area Window Caulking Comments: Paint Included As Binders					

MICROANALYST: KA [Karen Acosta]

QUALITY CONTROL: ER [Elme Rivera]

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Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
B19020027.09 B19020027.09.A Casalinda-EA-09 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area VFT Beige 12" x 12" Comments:	Hard, Compact, Parlty Granular with Black Mastic Other - and Fibers Cream	Yes	Chrysotile 2	Cellulose 2	Binders/Paint 68 Sand/Aggregates 24 Bitumen 4
B19020027.10 B19020027.10.A Casalinda-EA-10 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Pearltek Ceiling Comments:	Semi Hard with Mica and Fibers White	No		Cellulose 8	Vermiculite/Mica 15 Binders/Paint 77
B19020027.11 B19020027.11.A Casalinda-EA-11 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Acoustic Ceiling Comments: Paint Included As Binders	Semi Hard, Fibrous with Perlite and Paint Gray	No		Cellulose 18 Synthetic 20 Mineral Wool 22	Perlite 15 Binders/Paint 25
B19020027.12 B19020027.12.A Casalinda-EA-12 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area White Acoustic Ceiling Comments:	Semi Hard, Fibrous with Perlite and Paint Gray	No		Cellulose 14 Synthetic 15 Mineral Wool 20	Perlite 10 Binders/Paint 41

MICROANALYST: KA
[Karen Acosta]

QUALITY CONTROL: ER
[Elme Rivera]

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NVLAP LAB CODE 200051-0

Job ID: B19020027

REPORT NUMBER

RP19032209

Revised

POLARIZED LIGHT MICROSCOPY (PLM) BULK SAMPLE ANALYSIS REPORT

Client Name:	Engineering Solution Firm	Date Collected:	02/24/2019
Project Name:	Project #: 2019-017- Casa Linda Sur Apartment	Date Received:	02/25/2019
Project ID:			

RESULT OF ANALYSIS (BY % AREA VISUAL ESTIMATE)

Lab Sample ID / Client Sample ID	Sample Description	Asbestos Detected	Asbestos Fibers	Other Fibers	Non - Fibrous Material
Paint Included As Binders					
B19020027.13 B19020027.13.A Casalinda-EA-13 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area Black Mastic Baseboard Comments:	Semi Hard, Glue with Aggregates and Fibers Brown	No		Cellulose 4	Glue 71 Sand/Aggregates 25
B19020027.14 B19020027.14.A Casalinda-EA-14 Layer % of Total :100% Date Analyzed: 03/06/2019 Sample Location: First Floor Center Area Window Caulking Comments:	Semi Hard, Glue with Paint and Fibers Brown	No		Cellulose 3	Glue 82 Binders/Paint 15

Comments:

FOR ALL HETEROGENEOUS AND LAYERED SAMPLES EASILY SEPARATED INTO SUBLAYERS, EACH COMPONENT IS ANALYZED AND REPORTED SEPARATELY.

SAMPLE WAS ANALYZED BY PLM USING DISPERSION STAINING TECHNIQUES IN ACCORDANCE WITH US EPA METHOD: 600/M4-82/020 of Dec. 1982 and 600/R-93/116 OF JULY 93.

MICROANALYST: ICA
[Karen Acosta]

QUALITY CONTROL: ER
[Elme Rivera]

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ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate, 2nd. Floor, Santurce, P.R. 00907
Ph: (787) 722-0220 Fax: (787) 724-5788

Transmittal Sheet for Bulk Sample Analysis

Client Name: Engineering Solution Firm, Corp.
Address: PMB 332 PO Box 4960, Caguas, PR, 00726
Contact: Edwin A. Ayala
Phone/Fax: (787)691-4440

Project Name: 2019-017 Casa Linda Sur Aprtament
Site Location: PR-177, Bayamón
Samplers Name: Edwin A. Ayala
Company: ESF

Chain of Custody Record

COC-BULK-011/REV 1/06

Sample I. D.	Sample Description (i.e. Location, Name, etc.)	Collected		Analysis Required		Comments	Laboratory I.D.
		Date	Time	PLM	Other		
Casalinda-EA-01	Third Floor North Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			19020027.01
Casalinda-EA-02	Third Floor North Area white Pearltek Ceiling	24-2-19	2:00pm	X			02
Casalinda-EA-03	Third Floor North Area Black Mastic Baseboard	24-2-19	2:00pm	X			03
Casalinda-EA-04	Third Floor North Area Window Caulking	24-2-19	2:00pm	X			04
Casalinda-EA-05	Second Floor South Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			05
Casalinda-EA-06	Second Floor South area white Pearltek Ceiling	24-2-19	2:00pm	X			06
Casalinda-EA-07	Second Floor South area Black Mastic Baseboard	24-2-19	2:00pm	X			07
Casalinda-EA-08	Second Floor South area Window Caulking	24-2-19	2:00pm	X			08
Casalinda-EA-09	First Floor Center Area VFT Beige 12" x 12"	24-2-19	2:00pm	X			09
Casalinda-EA-10	First Floor Center area white Pearltek Ceiling	24-2-19	2:00pm	X			10
Casalinda-EA-11	First Floor Center area white Acoustic Ceiling	24-2-19	2:00pm	X			11
Casalinda-EA-12	First Floor Center area white Acoustic Ceiling	24-2-19	2:00pm	X			12
Casalinda-EA-13	First Floor Center area Black Mastic Baseboard	24-2-19	2:00pm	X			13
Casalinda-EA-14	First Floor Center area window caulking	24-2-19	2:00pm	X			14

Turnaround Time: Normal: ☐ Rush: ☐

Relinquished By:		**Delivered Directly to Lab:**	Job ID:B19020027
Date/ Time:	24-2-19 5:00pm		
Received By:	Nimesis Nieves	**Method of Shipment:**	
Date/ Time:	2/25/19 7:00		
Relinquished By:		**Lab. Recipient:**	Engineering Solution Firm
Date/ Time:			
Received By:		**Date:**	
Date/ Time:			

SanAir Technologies Laboratory

SanAir ID Number
19012983
FINAL REPORT
3/22/2019 3:51:13 PM

Name: Analytical Environmental Services International
Address: 611 Monserrate Street, 2nd Floor
San Juan, PR 00907
Phone: 787-722-0220

Project Number:
P.O. Number:
Project Name: B19020027
Collected Date: 2/24/2019
Received Date: 3/21/2019 9:35:00 AM

Analyst: Sobrino, Sandra

Asbestos Bulk TEM EPA NOB EPA 600/R-93/116

Sample	Appearance	% Other Material	% Non-Asbestos Fibers	Asbestos Types	% Total Asbestos
Casalinda-EA-06 19012983-001 Second Floor South Area White Pearltek Ceiling	Non-Fibrous Homogeneous White	100%		None Detected	

Analyst: Sandra Sobrino
Analysis Date: 3/22/2019

Approved Signatory:
Date: 3/22/2019

19012983

ANALYTICAL ENVIRONMENTAL SERVICES INTERNATIONAL, INC.
611 Monserrate, 2nd. Floor, Santurce, P.R. 00907
Ph: (787) 722-0220 Fax: (787) 724-5788

NVLAP®
NVLAP LAB CODE 200051-0
TESTING

Transmittal Sheet for Bulk Sample Analysis

Client Name: CLT1003
Address:
Contact:
Phone/Fax:

Project Name: B19020027
Site Location:
Samplers Name:
Company:

Chain of Custody Record

Sample I. D.	Sample Description (i.e. Location, Name, etc.)	Collected		Analysis Required		Comments	Laboratory I.D.
		Date	Time	TEM	Other		
Casalinda-EA-06	Second Floor South area white Pearltek Ceiling	24-2-19	2:00PM	X			B19020027.06

Turnaround Time: Normal: [ ] Rush: [X]

Relinquished By:		**Delivered Directly to Lab:** [ ]	**Shipped:** [X]
Date/ Time:	3/20/19 3:00		
Received By:		**Method of Shipment:**	Fedex
Date/ Time:			
Relinquished By:		**Lab. Recipient:**	SanAir
Date/ Time:			
Received By:		**Date:**	#######
Date/ Time:			

COC-BULK-011/REV2/1

MAR 21 2019 9:35AM



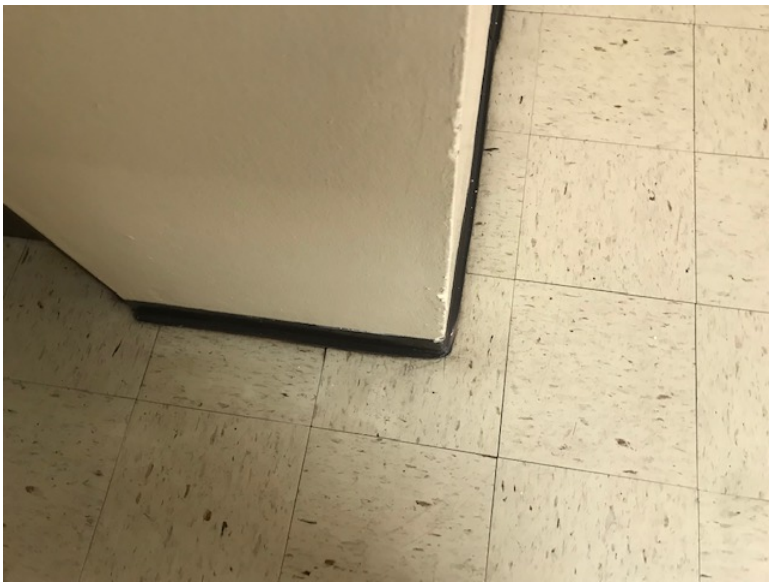
Casalinda-EA-01



Casalinda-EA-02



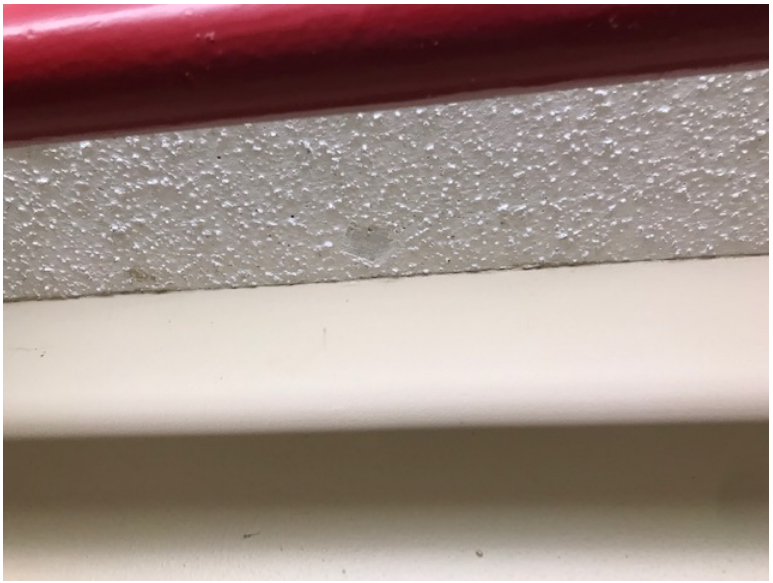
Casalinda-EA-03



Casalinda-EA-04



Casalinda-EA-05



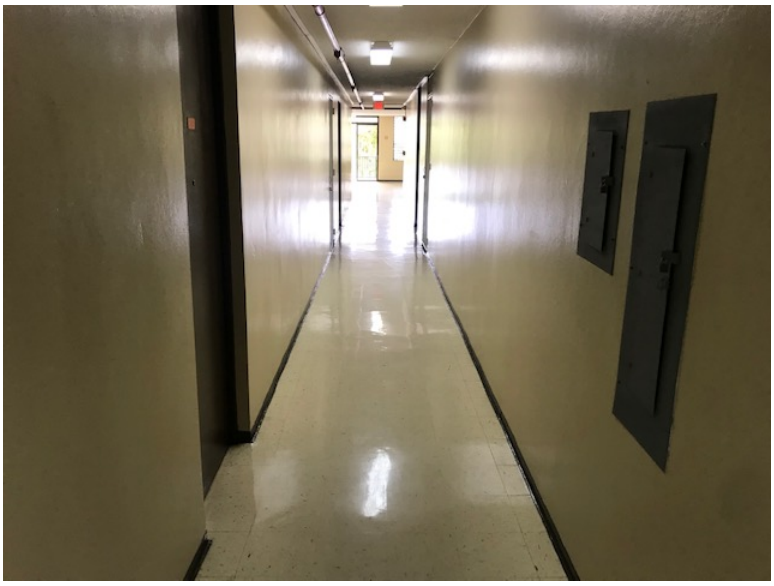
Casalinda-EA-06



Casalinda-EA-07



Casalinda-EA-08



Casalinda-EA-09



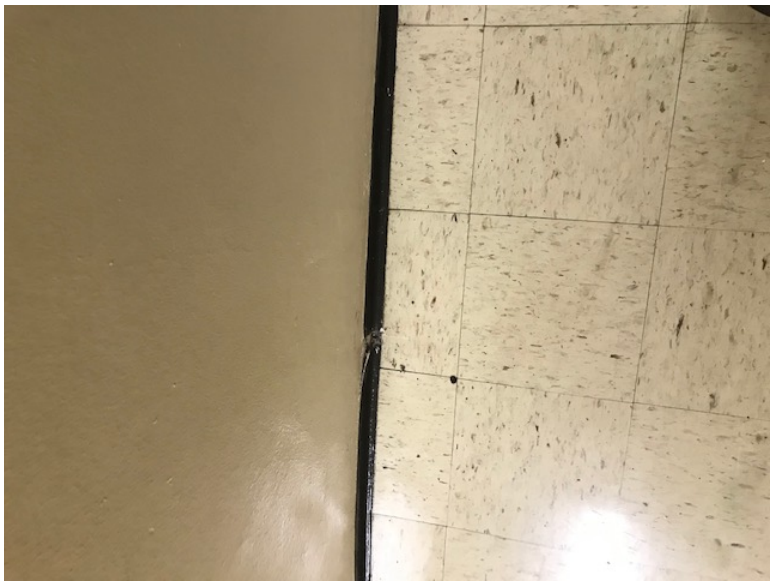
Casalinda-EA-10



Casalinda-EA-11



Casalinda-EA-12



Casalinda-EA-13

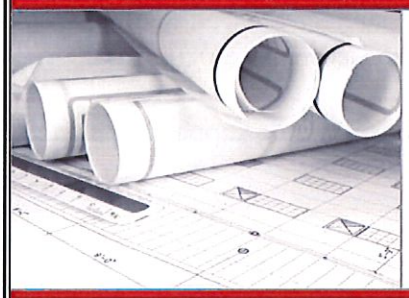


Casalinda-EA-14

Exhibit P

NOISE SURVEY REPORT

AT
CASA LINDA
BAYAMÓN, P.R.



ShareTech
GROUP ENGINEERING, P.S.C.





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Caguas, P.R. 00725
www.sharetechgroup.com

October 20, 2020

Axel Nazario
Blanco Enterprises, Inc.
PO Box 10569
San Juan, P. R. 00922-0563
Email: anazario@nn-construction.com
Phone: 787-396-8361

RE: Environmental Noise Survey for Casa Linda at Bayamón, Puerto Rico

Dear Mr. Nazario,

Enclosed please find professional consulting services report for subject environmental noise survey conducted at the location of Casa Linda in Bayamón, P.R., on October 9, 2020.

We appreciate the opportunity to service you and look forward to continuing supporting Blanco Enterprises, Inc. in the near future.

If you have any questions, do not hesitate to contact us.

Sincerely,

Enisette Ortiz
EHS Coordinator
ShareTech Group

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EXECUTIVE SUMMARY

This report summarizes the results obtained from environmental noise survey conducted at Casa Linda on Bayamón, P.R. (See figure #1 for location) during October 9, 2020.



Figure #1- Survey Location for Casa Linda (Satellite Photo)

The results from this survey are summarized on Table # 4 and 5. The interpretation of the results is presented on page 15, and the conclusions and recommendations on page 16.

The LDN represents the 24 hours average sound level. For daytime period the Time – Weighted Average LDN is 52.7 dB. For nighttime period the Time – Weighted Average LDN is 63.6 dB.

Based on the data collected during the noise survey at daytime and nighttime, the Calculated Time – Weighted LDN Average $_{24\ hours}$ is 57.0 dB reveal a LDN level acceptable using the acceptability criterion of 65 dB for exterior.

INTRODUCTION

ShareTech Group was contracted by Blanco Enterprises Inc. on September 24, 2020 to perform a limited and specific-scope noise survey during day and night periods at their project located at Los Filtros Avenue PR-177 in the municipality of Bayamón. The study was carried out to measure the noise levels at selected locations at the perimeter of the Project to confirm compliance with the established HUD Noise criteria (24 CFR 51).

HUD defines the day period with hours in a range between 7:00 am and 10:00 pm and the night period in a range between 10:01 pm until 6:59 am. Refer to Table I on next page for the HUD noise criteria.

This study was carried out considering the Environmental Quality Board (EQB) regulatory requirements. Results were compared with the EQB established noise limits during night and day periods based on the residential nature of the buildings in the area. Day and night periods for environmental noise control limits are defined in the Puerto Rico's Environmental Quality Board (EQB) Noise Control Regulation, refer to Table III on Appendix 6 referenced from said regulation.

The area under study is classified as high density residential (R-A), as established by the Puerto Rico Planning Board, known in Spanish as "Junta de Planificación". Table I on the next page shows the HUD Site Acceptability Standards for Day – Night Average Sound Level in decibels. An exterior noise level of 65 dB or lower is considered acceptable by HUD.

The HUD exterior noise standards refer to the degree of acceptability of the noise environment at the site. Noise environment is determined by the additional sound levels of those generated by buildings or other facilities containing noise sensitive uses.

The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quite outdoor space is required in an area ancillary to the principal use on the site.

The noise environment inside a building is considered acceptable if: (i) The noise environment external to the building complies with these standards, and (ii) the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

Under HUD, the Site Acceptability Standards for Day – Night sound level (in decibels) is presented below:

Table #1 – HUD Site Acceptability Standards

Acceptable or Unacceptable	Day-night average sound level (in decibels)	Special approvals and requirements
Acceptable	Not exceeding 65 dB (1)	None.
Normally Unacceptable	Above 65 dB but not exceeding 75 dB	Special Approvals (2)
		Environmental Review (3).
		Attenuation (4).
Unacceptable	Above 75 dB	Special Approvals (2).
		Environmental Review (3).
		Attenuation (5).

Notes:

(1) Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to §51.105(a).
(2) See §51.104(b) for requirements.
(3) See §51.104(b) for requirements.
(4) 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See §51.104(a).)
(5) Attenuation measures to be submitted for approval on a case-by-case basis.

This report includes the results of the noise levels during the daytime period as well as during the nighttime period.

METHODOLOGY & EQUIPMENT

The noise survey was conducted in accordance with the requirements under HUD 24 CFR 51 and by EQB's Noise Pollution Control Regulation entitled "Reglamento para el Control de la Contaminación de Ruido" Appendix 1. The following tasks were performed as part of this survey:

Task 1) As stated earlier, the noise survey was also conducted in accordance to the requirements of EQB's Noise Pollution Control Regulation entitled *"Reglamento para el Control de la Contaminación de Ruido"* and with *HUD Noise criteria (Appendix 1) as stated under 24 CFR 51* using one (1) calibrated sound level meter under the required American National Standards Institute (ANSI) Specifications. Two 3M Sound Pro Series DL Sound Level Meters was used to carry out this study.

The noise survey was conducted during the early morning periods at hours considered within both, the HUD and EQB daytime and nighttime regulatory definition on Friday, October 9, 2020. Four (4) noise measurement locations were surveyed during the daytime and nighttime periods on that day. A rain event occurred during the noise survey.

The noise survey was carried out using two (2) calibrated sound level meters which meets the "American National Standards Institute" (ANSI) specification for Type 1, sound level meters on its latest revision (See Figure #2). Sound Pro Series DL Sound Level Meters manufactured by 3M (Quest Technologies) were used. Refer to Appendix 3 for data on calibration of the sound level meter instruments. The instruments are equipped with software and data logger and generate the data used to prepare this report. The raw data is included under Appendix 4.



Figure #2- Sound Level Meter Photo

The sequence followed for conducting the noise survey is described below:

- The noise level measurements for the nighttime period were started at around 05:40 a.m. and finished approximately 06:44 a.m. The EQB nighttime noise period is encompassed between 10:01 p.m. and 06:59 a.m. Refer to table #II for details.

- The measurements for the daytime period were started at around 07:01 a.m. and finished approximately 08:04 a.m. The EQB daytime noise period is encompassed between 07:000 a.m. and 10:00 p.m. Refer to table #III for details.

- The sound level meters were calibrated pre and post the measurement using calibrator model AC-300. Refer to Appendix 2 for equipment calibration data.

The readings were collected using two (2) calibrated Sound Level Meters Model Sound-Pro DL:

- Meter 1 – Serial Number: BLL100004 (Calibrator serial number: AC300001324)
- Meter 2 – Serial Number: BLP080003 (Calibrator serial number: AC300005899)

The monitoring stations (MS) or locations of this noise survey at Casa Linda perimeter are described in the table shown above. Refer to Figure #3 for these locations.

Table #2- Noise Survey Data Collected on Nighttime Period

Meter	Monitoring Station (MS)	Time	Run Time	Description – Refer to figure #3 for locations
1	1	05:42:01 am	00:30:09	Located at south-east side.
2	2	05:340:46 am	00:30:03	Located at north-east side.
1	3	06:14:02 am	00:30:11	Located at north-west side.
2	4	06:12:36 am	00:30:12	Located at south-west side.

Table #3- Noise Survey Data Collected on Daytime Period

Meter	Monitoring Station (MS)	Time	Run Time	Description- Refer to figure #3 for locations
1	1	07:02:30 am	00:30:26	Located at south-east side.
2	2	07:01:54 am	00:30:12	Located at north-east side.
1	3	07:33:59 am	00:30:12	Located at north-west side.
2	4	07:33:26 am	00:30:03	Located at south-west side.



Figure #3- Monitoring Station Locations on Casa Linda Aerial Photo

The monitoring stations (MS) for daytime and nighttime period are described as:

- **Monitoring Station #1:** Located at south-east side. Refer to Figure #3, the green pin.
- **Monitoring Station #2:** Located at north-east side. Refer to Figure #3, the red pin.
- **Monitoring Station #3:** Located at north-west side. Refer to Figure #3, the yellow pin.
- **Monitoring Station #4:** Located at south-west side. Refer to Figure #3, the blue pin.

***Note:** A rain event occurred during the noise survey. See Appendix 4 for Field Notes.



Figure #5- Monitoring Stations #1 location (South-East Side).



Figure #6- Monitoring Stations #2 location (North-East Side).



Figure #7- Monitoring Stations #3 location (North-West Side).



Figure #8- Monitoring Stations #4 location (South-West Side).

Task 2) Preparation of Report - This report summarizes the results of the noise survey and was prepared for client use and discussions as they consider pertinent. Report includes findings, explanation of existing particular conditions during this noise survey, and interpretations of results, conclusions and recommendations, as applicable. **Appendix 3** includes the noise level measurements data and associated graphs as collected by the sound level meters, data logged and retrieved at the end of the study.

REPORT OF RESULTS

On October 9, 2020, a noise survey was performed during the day and night periods establish by EQB. A rain event occurred during the noise survey. The levels of this survey will be compared to the levels established on the regulation.

The detailed results of this survey are illustrated in Appendix 3. A summary was prepared using LDN values for each monitoring station. The LDN represents the day / night sound level, this measurement is a 24 – hour average sound level where 10 dB is added to all the readings that occur between 10 pm and 7 am. The results of this survey are presented in tables #4 & 5, and in figure #9.

Table #4- Readings Recorded by the Sound Level Meters (Nighttime Period)

Monitoring Stations (MS)	LDN
Monitoring Station 1	64.2 dB
Monitoring Station 2	67.0 dB
Monitoring Station 3	65.0 dB
Monitoring Station 4	58.2 dB
Average Nighttime LDN	**63.6 dB**

Table #5- Readings Recorded by the Sound Level Meters (Daytime Period)

Monitoring Stations (MS)	LDN
Monitoring Station 1	51.2 dB
Monitoring Station 2	53.1 dB
Monitoring Station 3	53.0 dB
Monitoring Station 4	53.5 dB
Average Daytime LDN	**52.7 dB**

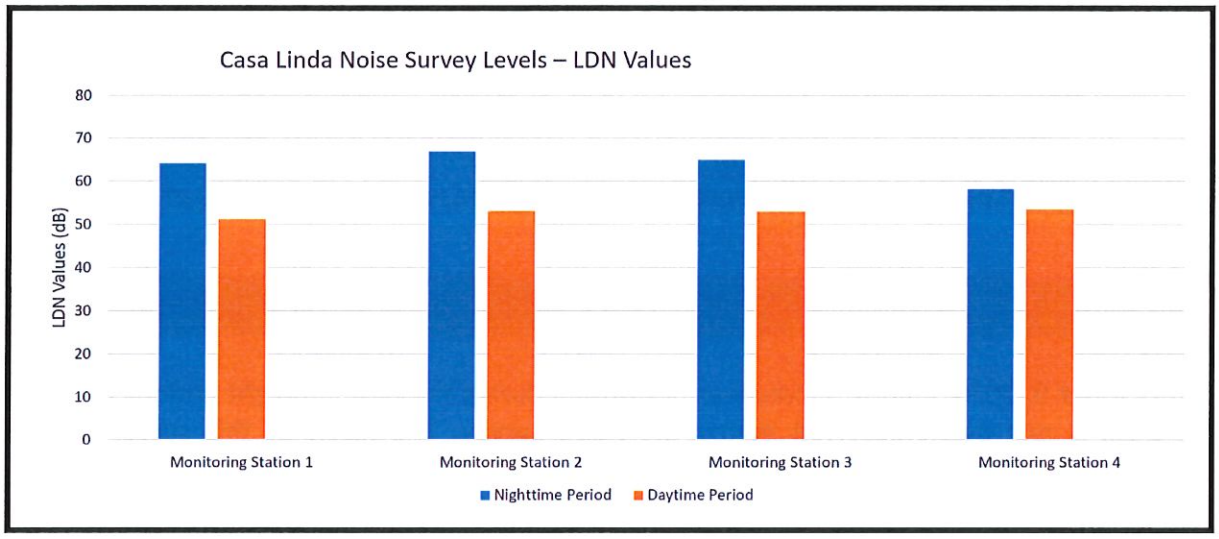


Figure #9- Monitoring Stations LDN Values.

A Calculated Time-Weighted Average for 24 hours is presented below:

*Weighted Average 24 hours = ((15/24) * Daytime Period LDN) + ((9/24) * Nighttime Period LDN)*

*= ((15/24) * 52.7 dB) + ((9/24) * 63.6 dB)*

= 33.0 dB + 24.0 dB

Calculated Time-Weighted LDN Average 24 hours = 57.0 dB

INTERPRETATION OF RESULTS

The EQB's Noise Pollution Control Regulation entitled *"Reglamento para el Control de la Contaminación de Ruido"* and *HUD Noise criteria (Appendix 1) under 24 CFR 51* established the guidelines for an exterior noise level of 65 dB or lower is considered acceptable by HUD.

The LDN represents the 24 hours average sound level. For daytime period the Time – Weighted Average LDN is 52.7 dB. For nighttime period the Time – Weighted Average LDN is 63.6 dB.

Based on the data collected during the noise survey at daytime and nighttime, the Calculated Time – Weighted LDN Average $_{24\ hours}$ is 57.0 dB reveal a LDN level acceptable using the acceptability criterion of 65 dB for exterior.

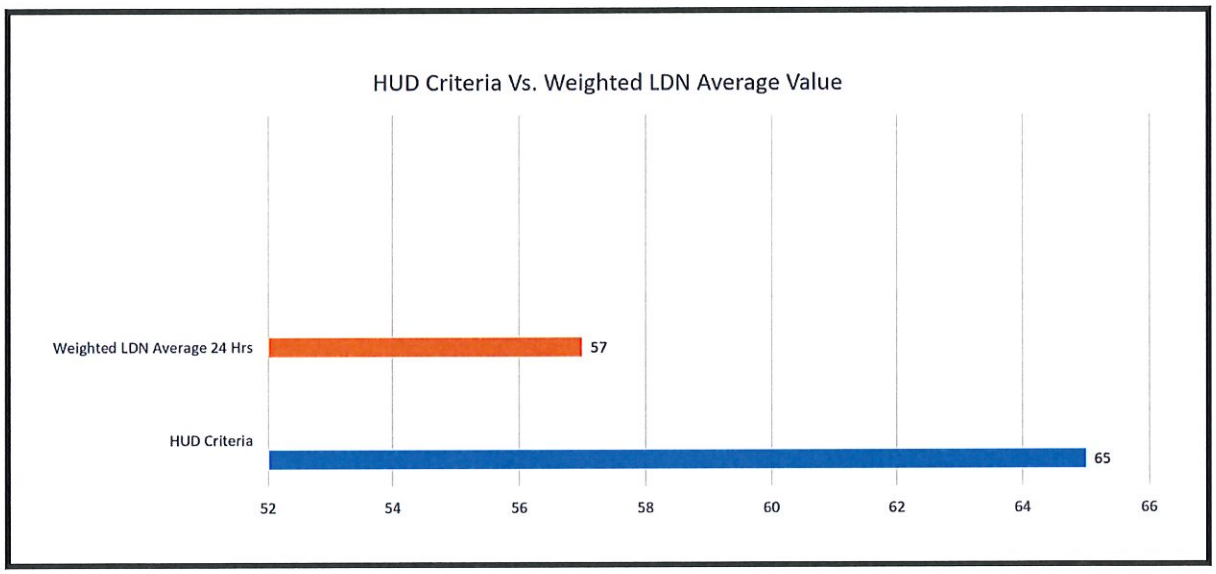


Figure #10- HUD Criteria -vs- Weighted LDN Average Value.

CONCLUSIONS AND RECOMMENDATIONS

The HUD noise acceptability criterion of 65 dB for exterior of the Casa Linda was met and, in our opinion, no further restrictions or controls are applicable to this project.

ACRONYMS

SPL - Sound Pressure Level will be displayed, with the selected weighting and response characteristics. The value displayed is the maximum SPL during the previous second. (SPL is also always shown in the display bar indicator.)

LEQ - The average integrated sound level accumulated while in the RUN mode is shown in the numeric display. LEQ indicates that a 3dB exchange rate was used for the measurements.

LAVG - The same type of measurement as LEQ, except that a 4, 5 or 6dB exchange rate was used. The display will be correct for the exchange rate selected.

TWA - Time Weighted Average. The average level accumulated during a study, but calculated with an eight-hour integration time.

LMAX - The Maximum SPL obtained while in the RUN mode is shown in the numeric display. With PEAK response selected, this functions as a Peak Hold.

LMIN - The Minimum Sound Pressure Level obtained while in the RUN mode is shown in the numeric display.

LN - The SPL exceeded for N of the time during a study. Four user selectable values are calculated. The default values are L5, L10, L50 and L90. The values may be changed in the PARA Setup Menu.

LDN - Day/Night Sound Level. The average sound pressure over a 24 hour study, with additional factors for time of day. Sound pressures between the hours of 10 pm and 7 am are increased by 10dB prior to being averaged. A 3dB exchange rate should be used and is generally assumed.

CNEL - Community Noise Exposure Level. The average sound pressure over a 24 hour study, with additional factors for time of day. Sound pressures between the hours of 7 pm and 10 pm are increased by 5dB prior to being averaged. Sound pressures between the hours of 10 pm and 7 am are increased by 10dB prior to being averaged. A 3dB exchange rate should be used and is generally assumed. If an exchange rate other than 3dB is selected via the Setup Menu, CNEL will not be calculated and the display will show.

% OL - Percentage of time during the study that an overload (OL) condition occurred. Overload indicates that the signal has exceeded the measuring range.

SEL - Sound Exposure in Pascal-squared seconds or Pascal-squared hours, switching from Pa2S to Pa2H at 3600 Pa2S. The display will show if the exchange rate is not 3dB.

SEL - The Sound Exposure Level is the constant Sound level which, if lasting for one Second, would deliver the same amount of acoustical energy as that accumulated over the entire Study

RTMS or **RTHM** - The total RUN time will be displayed. Time may be displayed in MIN:SEC and HRS:MIN. The MIN:SEC display f or a Study that lasts over one hour will wrap around to 00:00. The HRS:MIN display will count to 99:59 and then wrap around to 00:00 but the actual time will be stored in memory.

LPK - The Peak Level. The output of a second peak detector may be viewed as LPK or logged. The frequency weighting is independent of the main RMS detector and may be set in the PAPA setup menu as 2PK. The selection of whether or not to log peaks is made in the LOG Setup Menu. The weighting selection (A, C or LIN) is made in the PAPA Setup Menu. While viewing LPK the weighting of the second peak detector is displayed, and the Weighting and Response keys are disabled.

LLOG - The LEQ (or LAVG) last logged during a study. Data is logged at a user defined interval. This feature may be used to display a timed LEQ for the previous logging interval. This display updates at the end of each logging interval. The display will show LLOG " if LEQ is not being logged.

TAKM - The time integration of individual Taktmaximal values. Taktmaximal is the maximum level (LMAX) encountered over either a 3 or 5 second interval. 3 or 5 second Taktmaximal is selected in the PAPA Setup Menu. Individual Taktmaximal (LMAX) values may be logged by setting the logging interval to 3 or 5 seconds in the LOG Setup Menu. Taktmaximal measurements are required by some countries' noise regulations. A Taktmaximal measurement calculates a higher average level for highly impulsive sounds than does a LEQ measurement. TAKN is affected by the Exchange Rate and should be run with an Exchange Rate of 3dB.

BATT - Displays the voltage of the weaker of the two 9 volt batteries to give an indication of remaining life. The low battery indication (DAT) on the display occurs at approximately 6.8 volts.

LC-A - An optional second RMS detector may be used to provide a simultaneous C-A weighted LEQ or LAVG of the measured sound. Refer to section 3.6 C-A Option".

DEFINITIONS

Dba- Sound level in decibels read on the A scale of sound-level meter. The A scale of a sound discriminates against very low frequencies (as does the human ear) and is therefore better for measuring general sound levels.

dBC- Sound level in decibels read on the C scale of sound-level meter. The C scale discriminates very little against very low frequencies.

Decibel (dB)- A unit used to express sound-power level (L and sound-pressure level (Lv). Sound power is the total acoustic output of a sound source in watts (W). By definition, sound-power level, in decibels, is: $L_w = 10 \log W/W_o$, where W is the sound power of the source and W_o is the reference sound power of 10^{-12}. Because the decibel is also used to describe other physical quantities, such as electrical current and electrical voltage, the correct reference quantity must be specified.

Far field- In noise measurements, this refers to the distance from the noise source where the sound-pressure level decreases 6 dBA for each doubling of distance (inverse square law).

Filter- A device for separating components of a signal on the basis of its frequency. It allows components in one or more frequency bands to pass relatively unattenuated, and it greatly attenuates components in other frequency bands.

Free sound field (free field)- A field in a homogeneous, isotropic medium free from boundaries. In practice it is a field in which the effects of the boundaries ire negligible over the region of interest.

Frequency (in Hz)- Rate at which pressure oscillations are produced One hertz is equivalent to one cycle per second A subjective characteristic of sound related to frequency is pitch.

Hearing conservation- The prevention or minimizing of noise-induced deafness through the use of hearing protection devices, the control of noise through engineering methods, annual audiometric tests, and employee training.

Hearing level- The deviation in decibels of an individual's threshold from the zero reference of the audiometer.

Near Field- In noise measurements, refers to a field in the immediate vicinity of the noise source where the sound-pressure level does not follow the inverse square law.

Noise- Any unwanted sound.

Pink noise- Noise that has been weighted, especially at the low end of the spectrum, so that the energy per band (usually octave band) is approximately constant over the spectrum.

Sound absorption coefficient- The ratio of the sound energy absorbed by the surface of a medium (or material) exposed to a sound field (or to sound radiation) to the sound energy incident on that surface.

Sound analyzer- A device for measuring the band-pressure level or pressure-spectrum level of a sound as a function of frequency.

Sound level- A weighted sound-pressure level obtained by the use of metering characteristics and the eighting A, B, or C specified in ANSI S1.4.

Sound-level meter and octave-band analyzer- Instruments for measuring sound-pressure levels in decibels referenced to 0.0002 microbars. Readings can also be made in specific octave bands, usually beginning at 75 Hz and continuing through 10,000 Hz.

Sound-pressure level, SPL- The level, in decibels, of a sound is 20 times the logarithm to the base 10 of the ratio of the pressure of this sound to the reference pres sure, which must be explicitly stated.

Sound transmission- The word sound usually means sound waves traveling in air. However, sound waves also travel in solids and liquids. These sound waves may be transmitted to air to make sound we can hear.

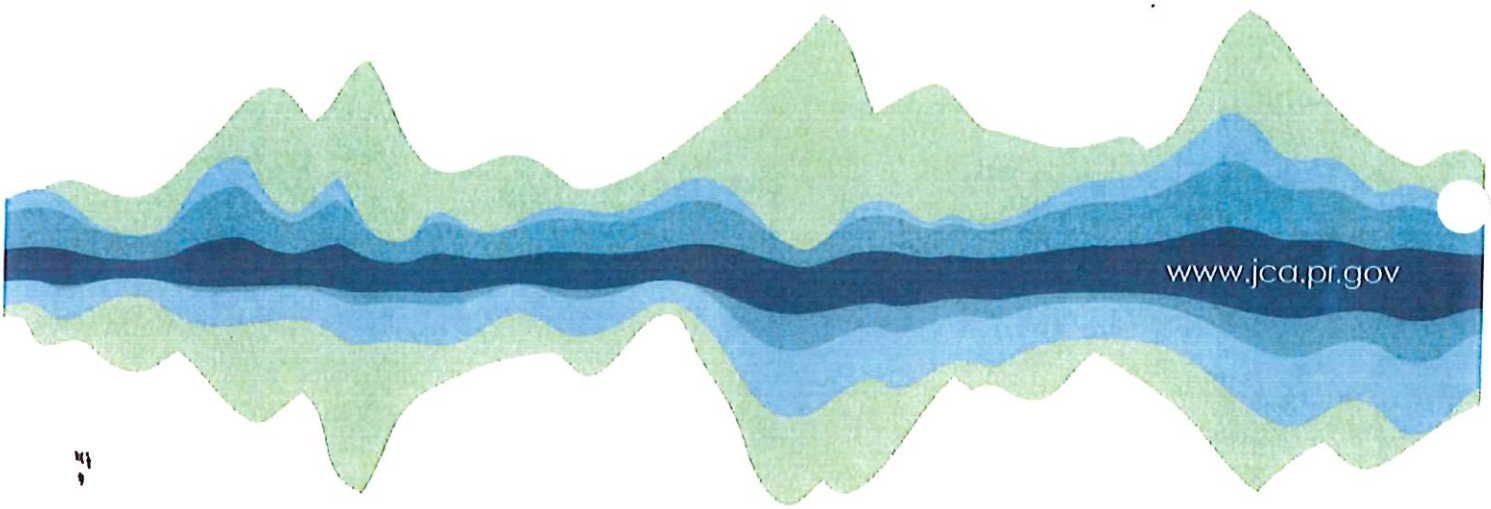
APPENDIX 1: "REGLAMENTO PARA EL CONTROL DE LA CONTAMINACIÓN DE RUIDO"

DEPARTAMENTO DE ESTADO

Número: 8019
Fecha: 9 de mayo de 2011
Aprobado: Hon. Kenneth D. McClintock
Secretario de Estado

Por: Eduardo Arosemena Muñoz
Secretario Auxiliar de Servicios

Reglamento para el control de la CONTAMINACIÓN por RUIDOS



GOBIERNO DE PUERTO RICO • OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL
40 AÑOS PROTEGIENDO TU AMBIENTE

PUERTO RICO VERDE
GOBIERNO DE PUERTO RICO

DEPARTAMENTO DE ESTADO
CERTIFICACIONES
Y
REGLAMENTOS
11 MAY -5 PM 2:55

JUNTA DE CALIDAD AMBIENTAL

VOLANTE SUPLETORIO

Título del Reglamento:	Reglamento para el Control de la Contaminación por Ruidos
Fecha de aprobación	5 de mayo de 2011 (Resolución R-11-7-1)
Aprobación:	Junta de Gobierno en pleno compuesta por: Sr. Reynaldo Matos Miembro Asociado Lcda. Blanche Gonzalez Hodge Miembro Asociado Lcdo. Pedro J. Nieves Miranda Presidente
Fecha de publicación del Aviso Público:	1 de mayo de 2010, periódico El Vocero 1 de mayo de 2010, periódico Primera Hora 11 de septiembre de 2010, periódico Primera Hora 11 de septiembre de 2010, periódico El Vocero
Agencia que lo aprobó:	Junta de Calidad Ambiental Edificio Agencias Ambientales Cruz A. Matos Urb. San José Industrial Park 1375 Avenida Ponce de León San Juan, Puerto Rico 00926-2604
Referencia sobre autoridad estatutaria para promulgar el reglamento:	Ley sobre Política Pública Ambiental, Ley Núm. 416 de 22 de septiembre de 2004, según enmendada

Reglamento Número: _____

Fecha de Radicación en el Departamento de Estado: _____

Fecha de Vigencia: _____

Reglamento a enmendarse: Reglamento para el Control de la Contaminación por Ruidos, Reglamento Núm. 3418 de 25 de febrero de 1987.

CERTIFICACIÓN

Certifico que el procedimiento de reglamentación seguido en este caso se llevó a tenor con las disposiciones de la Ley de Procedimiento Administrativo Uniforme, Ley Núm. 170 de 12 de agosto de 1988, según enmendada, y que el reglamento a que hace referencia este Volante Supletorio fue debidamente revisado y no contiene errores sustantivos, tipográficos o clericales. Además, Certifico que con el Volante Supletorio se acompaña copia de los avisos de prensa publicados.

Lcda. Edmée Zeidan Cuebas
Secretaria de la Junta de Gobierno de la Junta de Calidad Ambiental

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PARTE I: DISPOSICIONES GENERALES

REGLA 1 – TÍTULO

Estas Reglas se conocerán como Reglamento para el Control de la Contaminación por Ruidos.

REGLA 2 – BASE LEGAL

Este Reglamento es promulgado bajo la autoridad conferida a la Junta de Calidad Ambiental de Puerto Rico, en adelante la JCA, mediante la Ley sobre Política Pública Ambiental, Ley Núm. 416 del 22 de septiembre de 2004, según enmendada, y de conformidad con las disposiciones de la Ley de Procedimiento Administrativo Uniforme, Ley Núm. 170 del 22 de agosto de 1988, según enmendada.

REGLA 3 – ENMIENDA AL REGLAMENTO PARA EL CONTROL DE LA CONTAMINACIÓN POR RUIDO

Este Reglamento enmienda el Reglamento para el Control de la Contaminación por Ruidos, Reglamento Núm. 3418 de 25 de febrero de 1987.

REGLA 4 – PROPÓSITO

Los propósitos de este Reglamento son:

A. Establecer las normas y requisitos para el control, disminución o eliminación de ruidos que puedan resultar nocivos a la salud y perturbar el bienestar público.

B. Establecer los requisitos para los niveles de emisiones de ruido entre zonas y para la administración y procedimientos relacionados con la valoración de los niveles sonoros.

REGLA 5 – VIGENCIA DEL REGLAMENTO

A. Este Reglamento comenzará a regir a los treinta (30) días de su radicación en el Departamento de Estado.

B. Todos los asuntos que hayan sido presentados con antelación a la vigencia de este Reglamento y que se encuentren pendientes ante la JCA o un tribunal con jurisdicción y competencia, continuarán su curso de acuerdo a lo establecido en el Reglamento Núm. 3418 de 24 de febrero de 1987.

REGLA 6 – CLÁUSULA DE SEPARABILIDAD

Si cualquier disposición del presente Reglamento fuese declarada ilegal o inconstitucional por un tribunal con jurisdicción y competencia, tal decisión no afectará las demás disposiciones del mismo, las cuales se mantendrán en pleno efecto y vigor, considerándose cada una por separado.

REGLA 7 – DISPOSICIONES CONFLICTIVAS O CONTRADICTORIAS

Cuando dos o más disposiciones de este Reglamento sean aplicables a la misma situación de hechos y éstas resultaran ser contradictorias o conflictivas entre sí, se aplicará la disposición que sea más restrictiva.

REGLA 8-9 –RESERVADAS

PARTE II: DEFINICIONES

REGLA 10 – DEFINICIONES

Para propósitos de este Reglamento, los siguientes términos tendrán los significados que se expresan a continuación y deberá entenderse que el singular incluye el plural y el masculino incluye el femenino:

A. **Aerogenerador** – es un aparato que convierte la energía eólica en energía eléctrica mediante un generador accionado por el viento, conocido también como turbina eólica. Sus componentes estructurales y mecánicos incluyen una torre, góndola (en inglés, "*nacelle*"), generador, sistema de control y cimientos, entre otros.

B. **Amortiguador de sonido ("*muffler*")** – es cualquier dispositivo o artefacto utilizado para reducir el sonido producido por la emisión de gases provenientes de un motor de combustión interna.

C. **Bocina de aire** – es cualquier artefacto que se utilice para producir una señal de sonido y para lo cual se utilice gas comprimido.

D. Construcción – es cualquier actividad relacionada a la instalación de un equipo generador de sonido, movimiento de terreno, demolición, remoción o disposición, excavación y operaciones de terminaciones en edificios, predios, derechos de vías, estructuras públicas o privadas o propiedad similar.

E. Contaminación por ruido – es cualquier emisión de sonido que exceda los niveles de ruido permitidos en este Reglamento.

F. Decibelio o Decibel (dB) – es una unidad para medir la intensidad del sonido, la cual es igual a veinte (20) veces el logaritmo de base 10 de la razón entre la presión del sonido y la presión de referencia, la que es 20 micro pascales (μPa).

G. dB(A) – es la unidad de medida utilizada para comparar magnitudes del total de la presión de sonido cuando se usa la escala de medición "A" del sonómetro y usando una presión de referencia de 20 micro pascales (μPa).

H. Demolición – es la destrucción, remoción o desmantelamiento intencional de estructuras de forma total o parcial, tales como, pero sin limitarse a, edificios públicos o privados, superficies de vía u otros similares.

I. Día de la semana – es cualquier día natural de la semana.

J. Emergencia – es cualquier determinación hecha por el Director Ejecutivo de la JCA o la Junta de Gobierno de la JCA, mediante Resolución al respecto, ante un evento particular, sobre cualquier situación o serie de situaciones que ponen en peligro real o inminente a cualquier persona, propiedad o recurso, y para el cual se requiere atención inmediata. Se entenderá también como emergencia, cualquier anormalidad causada por un evento natural o tecnológico, tales como huracán, tornado, tormenta, inundación, terremoto, maremoto, derrumbe de tierra, sequía, incendio, explosión, accidente o materiales peligrosos, entre otros; cualquier grave perturbación del orden público o un ataque por fuerza enemiga a través de sabotaje o mediante el uso de bombas, artillería o explosivo de cualquier género o por medio atómico, radiológico, químico o bacteriológico, así como también por cualquier otro medio que utilice el enemigo en cualquier parte de Puerto Rico y que amerite que se movilicen y se utilicen recursos humanos y económicos extraordinarios a nivel estatal y municipal para remediar los daños causados o evitar los que puedan surgir en ese estado o para prevenir o disminuir la amenaza de que la emergencia pueda convertirse en un desastre.

K. Emisión de Sonido – es la emanación de sonido a la atmósfera por una

fuente emisora.

L. **Espectro sonoro** – es la descripción de un sonido en términos de sus componentes de frecuencia. Se utiliza el análisis en bandas de 1/1 octava, 1/3 octava y el análisis de Fourier (FFT).

M. **Fuente emisora** – es cualquier objeto o artefacto originador de ondas sonoras, sea de tipo estacionario, móvil o portátil.

N. **Góndola** (*"nacelle"*) – es la estructura en la cima de la torre de un aerogenerador que contiene todos los componentes generatrices del aerogenerador, incluyendo el multiplicador y el generador eléctrico, entre otros.

O. **Junta de Calidad Ambiental (JCA)** – es la agencia del Gobierno de Puerto Rico creada por la Ley Núm. 416 de 22 de septiembre de 2004, según enmendada, conocida como la Ley sobre Política Pública Ambiental.

P. **Junta de Gobierno de la JCA** – es el organismo rector de la Junta de Calidad Ambiental, el cual se compone de tres miembros nombrados por el Gobernador con el consejo y consentimiento del Senado y se compone de un Presidente, un Vice-Presidente y un Miembro Asociado. Un Miembro Alterno, que también es nombrado por el Gobernador, podrá sustituir a cualquiera de los miembros asociados cuando uno de estos no se encuentre presente.

Q. K_I – es la penalización por ruidos impulsivos ($L_{Im} - L_{eq}$).

R. K_t – es la penalización por tonos prominentes.

S. L_{10} – es el nivel de sonido en la escala A, dB (A), que es excedido en un diez por ciento (10%) del tiempo para un determinado periodo bajo consideración.

T. L_{90} – representa el nivel que ha superado el 90% del tiempo de medida. Es indicativo de los valores bajos de ruido.

U. L_{Im} – es el nivel máximo de presión observado con detección de "impulsos".

V. **L equivalente (L_{eq})** – es el nivel sonoro continuo equivalente; es decir, el nivel constante, dB(A), que puede producir la misma energía sonora (medida en escala A) que un sonido variante especificado en un tiempo establecido.

W. **L equivalente tiempo ($L_{eq\,T}$)** – es el nivel sonoro continuo equivalente. Éste se

define como el valor del nivel de presión en dB en ponderación A de un sonido estable que en un intervalo de tiempo (T) posee la misma presión sonora cuadrática media (P_{rms}: valor eficaz) que el sonido que se mide y cuyo nivel varía con el tiempo.

X. **L_{JCA}** – el nivel máximo permitido a la fuente por este Reglamento, excluyendo la influencia del ruido de fondo.

Y. **Límite de propiedad** – es límite de la colindancia del predio donde ubica la fuente originadora de sonido.

Z. **Medición de Sonido** – es la recopilación de datos sonoros de acuerdo a los procedimientos establecidos por la Junta de Calidad Ambiental.

AA. **Nivel de presión acústica (*"Sound Pressure Level" o SPL)*** – es la cantidad en decibeles que se obtiene como resultado del cálculo matemático que consiste del producto de 20 por el logaritmo de base 10 de la razón entre la presión acústica registrada (P) y el valor de la presión acústica de referencia (P_{ref}) que equivale a 2×10^{-5} Newtons/m^2; esto es, "$20 \cdot \log_{10} (P/P_{ref})$".

BB. **Nivel de sonido o nivel sonoro** – es el nivel de presión de sonido medido mediante las características de medición y escalas A, B o C, tal como lo especifica la última revisión de *"Specification for Sound Level Meters"* de la *"American National Standards Institute"* (ANSI).

CC. **Ondas de sonido** – son las variaciones periódicas ondulatorias de sonido en la densidad y en la presión del medio.

DD. **Onda sonora** – es la variación en la presión de un medio (típicamente, el aire) y que se propaga a una velocidad característica.

EE. **Parte responsable** – es toda persona natural o jurídica que sea dueño u operador de la fuente emisora del ruido causando un incumplimiento con este Reglamento.

FF. **Periodo diurno** – es el periodo comprendido entre las 7:00 a.m. y las 10:00 p.m. de cualquier día de la semana.

GG. **Periodo nocturno** – es el periodo comprendido entre las 10:01 p.m. de un día y las 6:59 a.m. del día siguiente.

HH. **Persona** – es toda persona, natural o jurídica, o grupo de personas privadas o públicas, incluyendo agencias e instrumentalidades del gobierno, municipios u otras similares.

II. **Predio originador de sonido** – es el sitio, local o lugar de origen de ondas sonoras o cualquier área geográfica, incluyendo todos los terrenos y cuerpos de agua contiguos. Éste comprende todas las fuentes individuales de sonido que estén localizadas dentro de los límites de dicha propiedad, ya sean de tipo estacionario, móvil o portátil.

JJ. **Predio originador de sonido existente** – es cualquier predio originador de sonido existente a la fecha de vigencia de este Reglamento.

KK. **Predio originador de sonido nuevo o modificado** – es cualquier predio originador de sonido que sea establecido en una fecha posterior a la vigencia de este Reglamento, o que existiendo sea modificado de alguna manera.

LL. **Presión acústica** – son las variaciones en la fuerza por unidad de área, medida en Newtons/metro^2, que se observa en un medio durante la propagación de una onda acústica. Para el caso del medio "aire", se registran variaciones por encima y por debajo de la presión atmosférica local.

MM. **Presión de onda sonora**– se representa como "Lp" y se expresa en decibeles. Esta cantidad se obtiene como resultado de un cálculo matemático que consiste del producto de 20 por el logaritmo de base 10 de la razón entre la presión de sonido (P) y una presión de referencia (P_{ref}) de 20 micro pascales (μPa); esto es, $Lp = 20 \log_{10} (P/P_{ref.})$.

NN. **Rotor** – está compuesto por varias palas y es el que transforma la energía cinética del viento en un momento torsor en el eje del equipo.

OO. **Ruido** – es un sonido que excede las limitaciones (valores) establecidos en este Reglamento. El sonido podría o no resultar indeseable y afectar psicológicamente y/o fisiológicamente al ser humano.

PP. **Ruido continuo** – es aquel ruido que se manifiesta ininterrumpidamente durante más de tres minutos. Dentro de esta categoría se diferencian las siguientes tres situaciones:

1. **Ruido continuo fluctuante** – es aquel ruido cuyo nivel de presión acústica, (SPL), varía entre unos límites que difieren en más de 6 dB(A) cuando se utiliza la respuesta rápida (*"fast"*) del sonómetro.

2. **Ruido continuo uniforme** – es aquel ruido cuyo nivel de presión acústica, (SPL), varía entre unos límites que difieren en menos de 3 dB(A) cuando se utiliza la respuesta rápida (*"fast"*) del sonómetro.

3. **Ruido continuo variable** – es aquel ruido cuyo nivel de presión acústica, (SPL), varía entre unos límites que van desde 3 a 6 dB(A) cuando se utiliza la respuesta rápida (*"fast"*) del sonómetro.

QQ. Ruido de fondo ambiental – es el ruido existente en un ambiente dado y que se compone, usualmente, de sonidos de diversas fuentes, cercanas y lejanas. Se excluye la fuente de ruido que da lugar a la querella.

RR. Ruido de fondo despreciable – es un ruido de fondo cuyo nivel está sobre los 10 dB de diferencia al de la fuente sonora que se desea medir.

SS. Ruido de fondo elevado – es un ruido de fondo cuya diferencia es menor de 3 dB cuando se compara con el ruido de la fuente sonora.

TT. Ruido esporádico – es aquel ruido que se manifiesta interrumpidamente durante un periodo de tiempo igual o menor de tres (3) minutos.

UU. Ruido esporádico aleatorio – es aquel ruido esporádico que se produce de forma totalmente impredecible.

VV. Ruido esporádico intermitente – es aquel ruido esporádico que se repite en periodos de tiempo que son posibles de determinar.

WW. Ruido estridente – es un ruido agudo, desapacible y chirriante.

XX. Ruido impulsivo – es un ruido procedente de un sonido impulsivo.

YY. Ruido perturbador – es un ruido que atenta contra la paz y/o tranquilidad de una persona y que viola las disposiciones de este Reglamento.

ZZ. Sistema de generación de energía eólica – es un sistema compuesto de uno o más aerogeneradores y sus obras accesorias. Para propósito de este Reglamento, este sistema podrá clasificarse en uno de tres grupos básicos conforme a las siguientes definiciones:

1. **Sistema de generación de energía eólica de escala pequeña** – es aquel que en total tiene una capacidad nominal para generar hasta veinte (20) kilowatts (kW) de electricidad.

2. **Sistemas de generación de energía eólica de escala mediana o distribuida** – es aquel que se compone de uno (1) a cinco (5) aerogeneradores y que en total tiene una capacidad nominal para generar más de veinte (20) kilowatts (kW) de electricidad, pero en el que

ninguno de los aerogeneradores tiene la capacidad para generar individualmente más de un (1) megawatt (MW) de electricidad.

3. **Sistemas de generación de energía eólica de gran escala o escala industrial** – es aquel que se compone de más de cinco (5) aerogeneradores o que, de estar compuesto por menos de cinco (5) aerogeneradores, incluye al menos un (1) aerogenerador que tiene la capacidad individual para generar un (1) megawatt (MW) de electricidad o más.

AAA. Sonido – es un fenómeno físico en el cual la materia se pone en vibración y genera una onda acústica en un medio particular que es captada por un receptor. Éste se puede describir usando diversas características, tales como: longitud de onda, velocidad de propagación, nivel sonoro, contenido espectral y duración.

BBB. Sonido impulsivo – es un sonido de muy corta duración, generalmente de una fracción de segundo y con una abrupta subida y rápida disminución de presión acústica. Ejemplos típicos de este tipo de sonido son las explosiones, impactos de martillo, descargas de armas de fuego, entre otros.

CCC. Sonido indeseable – es aquel sonido que excede los niveles permitidos en este Reglamento.

DDD. Sonómetro – es un instrumento que se usa para medir los niveles de sonido, de acuerdo con el *"Specification for Sound Level Meters" Type* 1 y 2, o la última revisión aprobada de la *"American National Standards Institute"* (ANSI). Incluye el sonómetro de precisión calibrada y el sonómetro integrado de precisión.

EEE. Tono – es un sonido caracterizado por una sola frecuencia e incluye cualquier sonido que pueda ser percibido como un tono único o una sucesión de tonos.

FFF. Torre – es una estructura que soporta la góndola y el rotor en un aerogenerador.

GGG. Vehículo de motor – es cualquier vehículo impulsado o movido sobre el terreno por un motor. Incluye vehículos tales como, pero sin limitarse a, vehículos de pasajeros, camiones, camiones de arrastre, arrastres de acampar, vehículos de carreras, vehículos de recreación y motocicletas.

HHH. Vía pública – es cualquier vía, calle, carretera, autopista, avenida, callejón, acera o espacio similar destinado al uso público.

III. Vibración – es un movimiento oscilatorio de cuerpos materiales y que es descrito por las variables de velocidad, aceleración y amplitud.

JJJ. Zona – cualquiera de las áreas en la que el ser humano lleva a cabo diversas actividades y que han sido clasificadas en este Reglamento como: zona de tranquilidad, zona residencial, zona comercial o zona industrial.

KKK. Zona Comercial – área donde se agrupan locales comerciales no habitados por humanos y en los que se vende toda clase de mercancía o se brindan servicios misceláneos.En esta zona se permiten niveles superiores a los permitidos en las zonas residenciales, pero inferiores a los niveles de ruido en las zonas industriales. Esta definición incluye, pero no se limita, a áreas tales como las siguientes: establecimientos comerciales de alimentos, estaciones de servicios de vehículos, recreación y entretenimiento, servicios comunales.

LLL. Zona de Tranquilidad - área previamente designada por el gobierno estatal, municipal o federal, en la que haya necesidad de una tranquilidad excepcional.

MMM. Zona Industrial – área de terreno subdividida y desarrollada, de acuerdo con un plan general, para el uso de una cantidad de empresas industriales en la cual los seres humanos van a permanecer por largos periodos de tiempo. Las actividades económicas que envuelve esta zona, son de tal naturaleza que se anticipan niveles mayores de ruido que en las otras zonas.

NNN. Zona Residencial – área en la cual los seres humanos habitan y donde los niveles de ruido pueden interferir con el disfrute de la propiedad. Ésta incluye todas las residencias, terrenos y estructuras. Dicha zona aplica también a cualquier sitio dentro de los límites de la propiedad, según sea aplicable.

PARTE III: DISPOSICIONES ADMINISTRATIVAS

REGLA 11 – DERECHO DE UN FUNCIONARIO A ACCEDER, INSPECCIONAR, EXAMINAR O LLEVAR A CABO CUALQUIER ACCIÓN PERTINENTE

A. La JCA, representada por sus miembros, agentes o empleados, podrá acceder, inspeccionar, examinar y llevar a cabo cualquier otra acción autorizada por este Reglamento, por la Ley sobre Política Pública Ambiental, *supra*, por la Ley de Procedimiento Administrativo Uniforme, *supra*, o por un Tribunal con jurisdicción y competencia. Estas acciones podrán llevarse a

cabo en cualquier local, equipo, instalación y/o documentos de cualquier persona, entidad, firma, agencia o instrumentalidad gubernamental sujeta a su jurisdicción. Estas gestiones serán realizadas con el fin de investigar, inspeccionar o tomar aquellas medidas que se estimen necesarias para asegurar las mejores condiciones ambientales, verificar el cumplimiento con las disposiciones de este Reglamento y tomar las medidas de sonido que la JCA estime necesarias.

B. En caso de que a un funcionario de la JCA que esté identificado como tal, se le niegue el acceso o se le impida realizar una inspección o cualquier acción autorizada en ley, la JCA podrá expedir una orden administrativa u obtener una orden judicial, según los procedimientos dispuestos por la Ley sobre Política Pública Ambiental, *supra*, la Ley de Procedimiento Administrativo Uniforme, *supra*, o cualquier otra ley especial.

C. Cualquier solicitud de documentos que se encuentre dentro del ámbito jurisdiccional de la JCA que sea hecha por un funcionario de esta agencia y que esté debidamente identificado y autorizado para llevar a cabo una inspección o cualquier asunto comprendido en la Ley de Política Pública Ambiental, *supra*, o en este Reglamento, tendrá que ser provista dentro de un término no mayor de cuarenta y ocho (48) horas o aquel período de tiempo que disponga la JCA.

REGLA 12 – INFORMACIÓN DISPONIBLE AL PÚBLICO

A. Toda información recibida por la JCA estará disponible para ser inspeccionada y copiada por el público, según dispuesto en la Ley sobre Política Pública Ambiental, *supra*, en este Reglamento o en cualquier mecanismo que para ello se apruebe por la JCA.

B. Cualquier persona que someta información y documentos a la JCA, podrá reclamar confidencialidad para toda o parte de la información o documento sometido. Dicha solicitud deberá realizarse por escrito y expondrá todas las razones por las cuales se solicita la confidencialidad.

C. Cualquier información o documento presentado a la JCA sin haberse presentado la correspondiente solicitud de confidencialidad conforme a lo aquí dispuesto, estará disponible al público sin restricción alguna. La JCA adjudicará los reclamos de confidencialidad de conformidad con la Ley sobre Política Pública Ambiental, *supra*, o cualquier mecanismo que a tales efectos apruebe la Junta de Gobierno de la JCA.

REGLA 13 – NOTIFICACIÓN DE VIOLACIÓN Y ÓRDENES ADMINISTRATIVAS

A. Siempre que la JCA encuentre que una o más disposiciones de este Reglamento han sido violadas o haya motivos fundados para pensar que han sido violadas, la JCA podrá, a su discreción, expedir por escrito una notificación de violación en contra del alegado infractor. Toda notificación especificará en qué consistió la violación y/o los aspectos que están fuera de cumplimiento con esta reglamentación.

B. La notificación de la que habla el inciso anterior especificará los requisitos y las condiciones que la JCA determine necesarios y podrá incluir términos de tiempo para lograr cumplimiento. No obstante lo antes mencionado e independientemente de que se haya expedido una notificación de violación, la JCA podrá expedir una Orden Administrativa de Hacer, Mostrar Causa y/o, Cese y Desista, así como cualquier otra acción o provisión disponible en la Ley sobre Política Pública Ambiental, *supra*.

REGLA 14 – PENALIDADES

A. Cualquier violación a este Reglamento estará sujeta a las penalidades según establecidas en la Ley sobre Política Pública Ambiental, *supra*.

B. La imposición de penalidades se realizará luego de finalizado un proceso de vista administrativa, el que se conducirá según las disposiciones de la Ley de Procedimiento Administrativo Uniforme, *supra*, la Ley sobre Política Pública Ambiental, *supra*, y el reglamento aprobado por la JCA para la celebración de procedimientos y/o vistas administrativas.

REGLA 15 – ESTORBO PÚBLICO

Ninguna parte de este Reglamento deberá entenderse como que autoriza o legaliza la creación o mantenimiento de un estorbo público, según ha sido definido por las leyes estatales y federales.

REGLA 16 – ACCIONES LEGALES DE CIUDADANOS

Ninguna parte de este Reglamento deberá entenderse como un límite a las acciones legales civiles que pudiesen llevar los ciudadanos, según se establece en el Artículo 19 de la Ley sobre Política Pública Ambiental, *supra*.

REGLA 17 – RESPONSABILIDAD DE CUMPLIMIENTO

Este Reglamento no limita el derecho de persona alguna para exigir o lograr el cumplimiento con sus requisitos o para proveer los servicios requeridos al

contratar con terceros. Sin embargo, tales contratos no relevarán a ninguna persona de la obligación de cumplir con este Reglamento.

REGLA 18-19- RESERVADAS

PARTE IV: PROHIBICIONES Y REQUISITOS GENERALES

REGLA 20- PROHIBICIONES GENERALES

A. Acciones prohibidas

Queda prohibida cualquier acción u omisión en violación a los requisitos establecidos en este Reglamento. Por tanto, ninguna persona causará o permitirá que se produzca la contaminación por ruido debido a la emisión de cualquier sonido en violación a este Reglamento.

B. Información Falsa o Errónea.

Ninguna persona podrá someter por sí o por una tercera persona, información falsa o errónea a la JCA. Tampoco podrá incluir o permitir que se incluya información falsa en algún documento sometido a la JCA en virtud de este Reglamento.

C. Interferencia

Ninguna persona causará o permitirá:

1. La interferencia, alteración, remoción o destrucción de cualquier equipo de control de ruido, excepto que no sea para propósitos de reparación o reposición.

2. La interferencia intencional o alteración de cualquier instrumento, artefacto o área de localización debidamente rotulada, que haya sido localizado por o para la JCA con el propósito de llevar a cabo cualquier tipo de medición de sonido.

3. El uso de un producto al cual le haya sido removido o dejado inoperante el sistema de control de ruido, cualquier elemento de diseño de éste o su rótulo de nivel de sonido.

D. Registros o Récords

La JCA podrá requerir del dueño o persona responsable de cualquier predio originador de sonido o fuente emisora de sonido, que establezca y mantenga un registro sobre la emisión de los mismos, así como preparar aquellos informes que, a juicio de la JCA, sean necesarios.

E. Mediciones

Todas las mediciones y los análisis de datos se harán de acuerdo con los métodos y procedimientos adoptados o aceptados por la JCA conforme a este Reglamento.

F. Equipo

Todo equipo para el control de la contaminación por ruidos deberá instalarse, conservarse y operarse en forma satisfactoria y razonable de acuerdo con las especificaciones del fabricante, de la *"American National Standards Institute"* (ANSI), *Specification for Sound Level Meter*, S1.4-1971, o su última revisión, así como con aquellos requisitos establecidos por la JCA.

REGLA 21 – RUIDOS PROHIBIDOS

A. Las siguientes acciones, entre otras, se declaran como ruidos contaminantes, excesivos, perturbadores y estridentes y están prohibidos por este Reglamento:

1. Bocinas y sirenas

Ninguna persona ocasionará o permitirá, innecesariamente, el sonar de bocinas y sirenas de cualquier vehículo de motor en una vía pública o predio originador de sonido, excepto como una señal de peligro o en casos de emergencia, según definido en este Reglamento.

2. Radios, instrumentos musicales, velloneras, amplificadores y artefactos similares

Ninguna persona operará o permitirá la operación de cualquier radio, instrumento musical, vellonera, amplificador o cualquier artefacto similar para la producción o reproducción de sonido, de tal forma que ocasione contaminación por ruido a través del límite de propiedad, en violación de los límites fijados en este Reglamento.

3. Altoparlantes exteriores, megáfonos y artefactos similares

Ninguna persona usará u operará o permitirá el uso u operación de cualquier altoparlante, megáfono o artefacto similar en una posición fija o movible en el exterior de cualquier estructura o vehículo de motor, en exceso de los niveles máximos permitidos bajo este Reglamento. No podrán usarse dichos artefactos durante el periodo nocturno.

4. Construcción

Ninguna persona usará u operará o permitirá el uso u operación de cualquier equipo para la construcción, reparación o trabajos de demolición, de forma que se produzca contaminación por ruido, según se define en este Reglamento. Además, se prohíbe el uso u operación de dicho equipo durante el periodo nocturno, excepto para realizar obras en casos de emergencia, según definido en este Reglamento.

Esta Sección no aplicará al uso de herramientas domésticas, sujeto a este Reglamento.

5. Vehículos de motor

a. Ninguna persona operará o permitirá la operación de un vehículo de motor en una vía pública en cualquier momento de forma tal que los niveles de presión de sonido emitidos por el vehículo excedan los niveles máximos permisibles establecidos en este Reglamento. Tampoco se permitirá la operación de un vehículo de motor que no esté equipado por un sistema, aparato o artefacto amortiguador de sonido que opere eficientemente.

b. Ninguna persona dejará operando o permitirá la operación de cualquier vehículo de motor o cualquier equipo auxiliar de arrastre estacionado en una vía pública o predio de estacionamiento público o privado, a una distancia menor de 150 pies de la zona designada como residencial o tranquilidad durante el periodo nocturno. Esta prohibición abarca todo equipo que forme parte del vehículo de motor, tales como, pero no limitados a, equipo de refrigeración o equipo similar.

6. Eventos de vehículos de motor de carreras

Ninguna persona realizará o permitirá la realización de pruebas o carreras de vehículos de motor, en violación de las normas establecidas

en este Reglamento. Dicha prohibición está exceptuada para aquellas pistas autorizadas en forma prescrita por la JCA.

7. Vehículos de recolección de desperdicios sólidos

a. Ninguna persona operará o permitirá la operación del mecanismo de compactar desperdicios sólidos en cualquier vehículo de motor, de tal forma que durante el ciclo de compactación se exceda el nivel de presión de sonido de 76 dB(A) medido a una distancia de 23 pies o su equivalente, desde cualquier punto del vehículo.

b. Ninguna persona recolectará o permitirá la recolección de desperdicios sólidos en las zonas residenciales y de tranquilidad entre las 10:00 p.m. de un día a las 6:00 a.m. del siguiente día.

8. Alarmas

Ninguna persona sonará o permitirá el sonar de cualquier alarma exterior en cualquier edificio o vehículo a menos que tal alarma cese su operación dentro de diez (10) minutos luego de ser activada y cuya finalidad tenga el propósito de alertar una emergencia u acto criminal.

9. Maquinaria, equipo, abanicos y acondicionador de aire

Ninguna persona operará o permitirá la operación de maquinaria, equipo, abanicos y acondicionadores de aire de tal forma que excedan los límites máximos de niveles de presión de sonido establecidos en este Reglamento.

10. Reparación y prueba de vehículos de motor

La reparación, remodelación, reconstrucción, fabricación o prueba de cualquier vehículo de motor o motocicletas estará sujeta a los niveles máximos permisibles de sonidos fijados en este Reglamento.

11. Equipo de motor doméstico (*Domestic Power Tools*)

Ninguna persona operará o permitirá la operación de equipos de motor tales como: sierras, lijadoras, taladros, máquinas de cortar grama y equipo de jardín o herramientas de cualquier naturaleza, usados primordialmente para propósitos domésticos en el exterior e interior de residencias, durante las horas que comprende el periodo nocturno. Tampoco se podrá operar o permitir la operación de tal equipo de motor

en cualquier momento, de tal forma que viole las disposiciones de este Reglamento.

12. Venta por pregono

Ninguna persona venderá o permitirá la venta de cualquier producto pregonando en cualquier área, mediante el uso de sistemas de amplificación, de forma que la emisión de sonidos exceda los niveles máximos permisibles especificados en este Reglamento. Además, queda prohibida la venta por pregono durante el periodo nocturno.

13. Vibración

Ninguna persona operará o permitirá la operación de cualquier artefacto que genere vibraciones causadas por ondas sonoras o presión de sonido que puedan percibirse sin instrumentos, o que esté sobre los límites de percepción de una persona, en o más allá de los límites de cualquier propiedad contigua a la fuente originadora.

B. Zona de Tranquilidad – Ninguna persona emitirá o permitirá la emisión de cualquier ruido innecesario, inesperado o inusitado, en violación a este Reglamento, en zonas donde sea necesaria tranquilidad mientras la misma está en uso. El área designada como zona de tranquilidad deberá estar provista de señales y rótulos conspicuos que hayan sido desplegados en calles adyacentes o contiguas, indicando que la misma es una zona de tranquilidad.

REGLA 22-23 – RESERVADAS

PARTE V: CLASIFICACIÓN DE ZONAS Y LOS NIVELES DE EMISIÓN DE SONIDOS ENTRE ZONAS

REGLA 24 – APLICABILIDAD

Esta Parte aplica a la fuente emisora o predio originador de cualquier sonido que pueda cruzar los límites de propiedad y exceder los niveles establecidos en la Tabla I, según medido en la zona receptora apropiada.

REGLA 25 – CLASIFICACIÓN DE ZONAS

A. Zona I: Residencial – Incluye, pero no se limita, a áreas tales como las siguientes:

1. **Residencias**

   a. permanentes
   b. rurales o campestres
   c. de verano

2. **Viviendas comerciales**

   a. hoteles y moteles
   b. apartamentos alquilados
   c. parques de casas móviles
   d. campamentos
   e. cabañas
   f. casa de huéspedes
   g. dormitorios estudiantiles

3. **Servicios a la comunidad**

   a. orfanatos
   b. instituciones correccionales
   c. instituciones de caridad

B. Zona II: Comercial – Incluye, pero no se limita, a áreas tales como:

1. **Establecimientos comerciales de alimentos**

   a. restaurantes
   b. comedores
   c. cafeterías
   d. heladerías
   e. clubes nocturnos
   f. cafetería al aire libre o rodante
   g. carnicerías
   h. supermercados

2. **Estaciones de servicios de vehículos**

   a. gasolineras
   b. venta y renta de vehículos de motor

c. estacionamientos de vehículos públicos y privados
d. centro de lavado de vehículos de motor
e. servicios de reparación (hojalatería, pintura y mecánica, electrónica)
f. servicio de accesorios para vehículos de motor

3. Comerciales

a. funeraria
b. clínicas veterinarias
c. barberías
d. salones de Belleza
e. lavanderías
f. oficinas
g. farmacias
h. centros comerciales

4. Recreación y entretenimiento

a. teatros
b. estadios
c. hipódromos
d. campos de golf
e. lugares de diversiones y recreación
f. playas, Ríos, Lagos y Lagunas
g. plazas públicas
h. gimnasios
i. salones de bailes y discotecas

5. Servicios comunales

a. iglesias
b. centros culturales
c. cotos de caza y pesca
d. bosques estatales o nacionales

C. Zona III: Industrial – Incluye, pero no se limita, a áreas tales como:

1. Establecimientos de carga y descarga

a. ferreterías
b. almacenes, madereras, tiendas de ventas al por mayor
c. terminal de camiones
d. muelles
e. depósito de materiales de construcción

f. instalación de desperdicios sólidos no peligrosos o peligrosos

2. **Área industrial: propiedades utilizadas en la fabricación de bienes de consumo**

   a. minería
   b. industrias livianas y pesadas
   c. petroquímicas
   d. refinerías
   e. extracción y procesamiento de materiales de la corteza terrestre
   f. siderúrgicas
   g. canteras
   h. central termoeléctrica
   i. farmacéuticas
   j. procesamiento agroquímicos
   k. almacenamiento de tanques de gas

3. **Agricultura: área utilizada en la producción de cultivos de cosechas y/o crianza de animales**

   a. granjas avícolas, conejos, porcinos y apicultura (abejas)
   b. vaquerías
   c. invernaderos
   d. graneros
   e. siembra, cultivo
   f. caballerizas

D. Zona IV: Tranquilidad – Incluye, pero no se limita, a áreas tales como:

1. Hospitales
2. Clínicas
3. Hospitales de salud mental
4. Tribunales de justicia
5. Asilos de ancianos
6. Escuelas
7. Guardería o cuidos infantiles

REGLA 26 – LÍMITE DE NIVELES DE SONIDO

Ninguna persona emitirá o permitirá la emisión de cualquier sonido, el cual al cruzar el límite de propiedad del predio originador de sonido, pueda exceder los niveles establecidos en la Tabla I de este Reglamento, según medido en la zona receptora apropiada de acuerdo con las definiciones de este Reglamento.

REGLA 27 – LÍMITES DE NIVELES DE SONIDO PARA AEROGENERADORES O SISTEMAS DE GENERACIÓN DE ENERGÍA EÓLICA

A fin de establecer los límites de sonido para los casos en que la fuente emisora de sonido es un aerogenerador o sistema de generación de energía eólica, según definido en este Reglamento, se aplicará la Tabla I con los siguientes ajustes:

A. Cuando la fuente emisora es un aerogenerador o sistema de generación de energía eólica y la zona receptora es una Zona I (residencial), para el periodo nocturno con un nivel de sonido establecido de 50 dB(A), se realizará el ajuste de añadir 5 dB(A), a fin de que el nivel de sonido en estos casos sea de 55 dB(A).

B. Cuando la fuente emisora es un aerogenerador o sistema de generación de energía eólica y la zona receptora es una Zona IV (tranquilidad) para el periodo nocturno con un nivel de sonido establecido de 50 dB(A), se realizará el ajuste de añadir 5 dB(A), a fin de que el nivel de sonido en estos casos sea de 55 dB(A).

TABLA I
LIMITE DE NIVELES DE SONIDO
dB(A)
Nivel de Sonido Excedido en 10 % del Periodo de Medición (L_{10})

FUENTE EMISORA	ZONAS RECEPTORAS							
	Zona I (Residencial)		Zona II (Comercial)		Zona III (Industrial)		Zona IV (Tranquilidad)	
	D	N	D	N	D	N	D	N
Zona I (Residencial)	60	50	65	55	70	60	55	50
Zona II (Comercial)	65	50	70	60	75	65	55	50
Zona III (Industrial)	65	50	70	65	75	75	55	50
Zona IV (Tranquilidad)	65	50	70	65	75	75	55	50

Nota: "**D**" implica el periodo diurno y "**N**" implica el periodo nocturno.

REGLA 28 – MONITOREO

A. A los únicos fines de orientar sobre la reglamentación de la JCA a una potencial fuente de ruidos que se presume podría emitir ruidos en violación a este Reglamento, personal de la JCA podrá requerir el encendido de la fuente, siempre y cuando la misma esté instalada o construida. Dicho encendido se solicitará con el fin de evaluar los niveles de sonido que genera la fuente. De no estar en cumplimiento con este Reglamento, la JCA podrá emitir una Notificación de Cortesía apercibiéndole de las violaciones a las que se expone de encontrarse operando la fuente.

B. La JCA podrá requerir de cualquier predio originador de sonido o fuente emisora de ruido, que instale, opere y mantenga un equipo de monitoreo, así como la preparación y radicación de informes sobre la misma.

REGLA 29 – EXCEPCIONES A LAS PROHIBICIONES

A. Durante el periodo diurno

Las prohibiciones establecidas en esta Regla aplicarán a las fuentes emisoras o predio originador de cualquier sonido que pueda cruzar los límites de la propiedad. Las siguientes acciones, cuando se lleven a cabo durante el periodo diurno (7:00 a.m. a 10:00 p.m.), estarán exentas de los requisitos establecidos en este Reglamento:

1. los sonidos emitidos por los proyectos temporeros para la reparación y mantenimiento de hogares y sus dependencias,

2. los sonidos emitidos durante la instalación y reparación de servicios públicos esenciales, y

3. los sonidos emitidos por un disparo de armas livianas de fuego en polígonos de tiro autorizados.

B. Emergencias

No se considerará contaminación por ruido aquel sonido que, generado en exceso de los niveles autorizados en este Reglamento, sea realizado al efectuarse un trabajo de emergencia, según definido en este Reglamento, para proteger la salud, seguridad o bienestar inmediato de la comunidad o individuos, o restauración de la propiedad como medida de seguridad luego de un desastre. Nada de lo contenido en este inciso se entenderá como que permite al personal de emergencia, policías, bomberos o conductores de

ambulancias y otros similares a producir ruidos durante el cumplimiento de sus deberes cuando tales ruidos sean claramente innecesarios.

C. Excepciones generales

Las siguientes situaciones se considerarán como excepciones adicionales a la prohibición de ruidos, según definido en este Reglamento:

1. los sonidos emitidos por artefactos para la prevención de accidentes;

2. los sonidos emitidos por asambleas, actos públicos y paradas no rutinarias;

3. los sonidos emitidos por el disparo de armas livianas de fuego durante la temporada de caza siempre que se produzcan en áreas designadas para esos fines;

4. los sonidos emitidos por las calderas de refinerías de petróleo y las plantas generatrices de electricidad durante el encendido de esas calderas;

5. los sonidos emitidos por campanas, campanarios y/o carillones que se extienden hasta quince (15) minutos;

6. el sonido emitido por la voz humana no amplificada;

7. el sonido emitido por los animales;

8. el sonido emitido por el encendido de plantas de emergencia como parte del proceso de calentamiento, siempre que no exceda los diez (10) minutos; y

9. el sonido emitido por los aeroplanos, ya que el mismo está regulado por la Ley Federal de la Administración Federal de Aviación (Federal Aviation Administration) y las normas de ruido establecidas por la Agencia Federal de Protección Ambiental (*Environmental Protection Agency*) para la manufactura de nuevos productos.

D. La mejor tecnología de control

Nada de lo contenido en esta sección se entenderá como que impedirá a la JCA requerir la instalación de la mejor tecnología de control de ruido disponible en el mercado para aquellas actividades que se declaran exentas de las disposiciones de este Reglamento.

REGLA 30 – CONSEJO ASESOR PARA ASUNTOS RELIGIOSOS

El Director Ejecutivo de la JCA constituirá un Consejo Asesor sobre Asuntos Religiosos para asesorar a la JCA en el establecimiento de la política pública ambiental que de alguna manera incida en el derecho constitucional de libre culto que les asiste a las instituciones religiosas en Puerto Rico. Este Consejo Asesor estará compuesto, entre otros, por líderes de organizaciones religiosas debidamente establecidas en Puerto Rico. Dicho Consejo Asesor establecerá su organización interna.

REGLA 31 – CRITERIOS PARA LA TOMA DE MEDICIONES

Los siguientes criterios serán utilizados para identificar condiciones que requieren la mitigación de ruidos relacionados al tránsito en las vías públicas, siempre que éstos sean la fuente emisora más prominente. Esta evaluación requiere la determinación del nivel equivalente, L_{eq} 1hr (1HL), correspondiente a la hora del día o de la noche en que se registra el mayor impacto de ruido, según se describe en la Tabla II.

TABLA II
CRITERIOS PARA LA TOMA DE MEDICIONES

CATEGORÍA	1HL	DESCRIPCIÓN DE USOS Y ACTIVIDADES
A	57 dBA (exterior)	Lugares que requieren tranquilidad excepcional y preservación del ambiente
B	67 dBA (exterior)	Viviendas, hoteles, parques, iglesias, escuelas, bibliotecas, hospitales
C	72 dBA (exterior)	Desarrollos no incluidos en A y B, y comercios e industrias
D	(No hay límites establecidos)	Tierras no desarrolladas
E	52 dBA (interior)	Viviendas, hoteles, edificios públicos, iglesias, escuelas, bibliotecas, hospitales, auditorios, edificios comerciales

Estos criterios son cónsonos con las recomendaciones de la Administración Federal de Carreteras (*Federal Highway Administration*). Como los límites indicados no representan condiciones normales aceptables, se recomienda en cada caso la implantación de mitigación de ruidos que provean atenuación mínima del orden de 10 dB(A).

REGLA 32-33- RESERVADAS

PARTE VI: VALORACIÓN DE LOS NIVELES SONOROS

REGLA 34 – APLICABILIDAD

Esta Parte aplicará a todo procedimiento en el que se valorará el nivel sonoro, incluyendo el equipo utilizado.

REGLA 35 – CONSIDERACIONES GENERALES SOBRE EQUIPO SONOMÉTRICO

A. El sonómetro deberá cumplir con las normas de la *American National Standards Institute* para instrumentos Tipo I o Tipo II, las cuales están disponibles en la Biblioteca de la JCA.

B. El sonómetro tiene que estar en total funcionamiento y deberá tener baterías con la carga suficiente para evitar que el aparato indique necesidad de reemplazo de baterías durante una medición.

C. El sonómetro tiene que ser verificado en su calibración antes y después de cada medición sonométrica.

REGLA 36 – PROTOCOLO PARA MEDICIONES SONOMÉTRICAS

A. Se utilizará un sonómetro para determinar el nivel de sonido L_{10}. Se determinará el valor de L_{10} registrado en un intervalo no menor de treinta (30) minutos de duración. Deberá considerarse si la fuente emisora opera el mínimo de tres (3) minutos, que es el nivel de sonido correspondiente al L_{10} del periodo de medición. Se podrán tomar muestras adicionales para asegurarse que dichas medidas son representativas de las emisiones de la fuente, según medidas en la zona receptora correspondiente.

B. Se empleará la escala de ponderación de frecuencias A (*"A-weighting"*) en todas las mediciones. Los niveles de sonido se indicarán en dB(A).

C. La respuesta del detector del sonómetro (*"response"*) se colocará en la posición de integración rápida (*"fast"*) y si las oscilaciones de la lectura fueran superiores a 4 ó 5 dB(A), se cambiará a respuesta lenta (*"slow"*).

REGLA 37 – RUIDO DE FONDO

A. Consideraciones

1. El ruido de fondo no debe "ahogar" la señal que es de interés.

2. El nivel de la señal (fuente emisora) debe ser por lo menos de 3 dB superior al ruido de fondo.

3. Si el nivel de ruido de fondo es 3 dB menos que la fuente generante, no se realizará una medición de precisión del efecto de la fuente sonora.

4. La medición de ruido de fondo se realizará en términos de la estadística L_{spl}, según medido durante un intervalo continuo no menor de tres (3) minutos de duración.

5. Se podrán tomar muestras adicionales del nivel de ruido de fondo para asegurar que las medidas obtenidas son representativas del ambiente acústico existente en el lugar.

6. Si el operador de la fuente causante del ruido no acata la solicitud del funcionario de la JCA para detener el equipo o las actividades ruidosas durante el tiempo requerido para realizar las mediciones de ruido de fondo o el operador de la fuente no se encuentra en la facilidad, o por situaciones de emergencia y/o seguridad no sea posible detener el equipo o las actividades ruidosas, no se incluirá ajuste alguno por ruido de fondo. Bajo estas circunstancias se asumirá que los niveles de ruido observados son causados enteramente por la fuente emisora. Dicho hecho se hará constar como parte del informe realizado.

B. Procedimiento a seguir en condiciones de un nivel de ruido de fondo elevado:

1. Se tomará la medida del nivel de sonido con la fuente de ruido funcionando (L_{sn}).

2. Se tomará la medida del nivel de ruido de fondo con la fuente detenida (L_n).

3. Se calculará la diferencia entre ambas lecturas: ($L_{sn} - L_n$).

C. Procedimiento para medir el nivel sonoro de una fuente emisora bajo condiciones de un ruido de fondo.

1. Medir el nivel de sonido total (L_{s+n}) con la fuente de ruido funcionando, medido según indicado en este Reglamento.

2. Medir L_{10} del nivel de ruido de fondo (L_n) con la fuente apagada, medido según indicado en este Reglamento.

3. Determinar la diferencia entre ambas lecturas ($L_{s+n} - L_n$).

4. Determinar la diferencia entre los niveles de la fuente y el ruido de fondo (L_s).

5. Realizar la corrección correspondiente, según se describe en el siguiente inciso, y comparar dicho nivel corregido con los límites regulatorios correspondientes, según especificados en este Reglamento, a fin de evaluar el cumplimiento con el mismo.

D. Condiciones para calcular la corrección correspondiente a fin de ajustar el nivel de ruido medido en la presencia de ruido de fondo.

1. Si el L_s es menor de 3 dB, el nivel de ruido de fondo es muy alto para una medición precisa del efecto de la fuente sonora.

2. Si el L_s está entre 3 y 10 dB, será necesaria una corrección al nivel de sonido de la fuente.

3. Si el L_s es mayor de 10 dB, no se requiere una corrección al nivel medido de la fuente de ruido.

4. Si el ruido de fondo es despreciable, se puede registrar directamente el nivel de ruido de dicha fuente (L_s) y determinar si cumple o no con el nivel reglamentario.

E. Corrección cuando el ruido de fondo es inferior al límite establecido en este Reglamento.

Cuando el ruido de fondo es inferior al límite establecido en la Tabla I de este Reglamento, es importante realizar la siguiente corrección, de manera que se incluya el efecto del ruido de fondo:

TABLA III
CORRECCIÓN AL NIVEL DE RUIDO DE FONDO

Nivel de ruido de fondo L_n relativo a L_{JCA}	Nivel total permitido
De 0 hasta 3 dB	L_{JCA} + 3 dB
Mayor de 3 hasta 6 dB	L_{JCA} + 2 dB
Mayor de 6 hasta 10 dB	L_{JCA} + 1 dB
Mayor de 10 dB	L_{JCA} + 0 dB

REGLA 38 – CONSIDERACIONES GENERALES SOBRE EL LUGAR DE MEDICIÓN

A. La medición de nivel sonoro se llevará a cabo en un lugar en que su valor sea más alto y, si fuera preciso, en el momento y situación en que las molestias sean más intensas para los afectados o querellantes.

B. Las mediciones se tomarán en diferentes puntos en el área exterior del predio receptor, típicamente en las colindancias. En caso de edificios o apartamentos, los balcones y ventanas pueden ser utilizados para estos propósitos. Se utilizarán los valores del nivel sonoro registrados en espacios interiores (habitaciones, pasillos, entre otros), cuando no haya otro espacio adecuado para la realización de la medición.

C. Los dueños de las fuentes emisoras, ubicadas tanto al aire libre como en establecimientos y locales interiores, facilitarán a los técnicos de la JCA el acceso a sus instalaciones o fuente de emisión de ruidos y pondrán en funcionamiento dichas fuentes emisoras a las distintas velocidades, cargas y marchas que les indique el personal técnico de la JCA. El dueño u operador podrá presenciar el proceso operativo en todos sus detalles.

REGLA 39 – PRECAUCIONES EN LA METODOLOGÍA

A fin de reducir los posibles errores de medición, se adoptarán las siguientes precauciones:

A. Contra el efecto de pantalla: el técnico se situará en el plano normal (perpendicular) al eje del micrófono y lo más separado del mismo que sea posible, en forma compatible con la lectura del indicador de medida del sonómetro.

B. Contra el efecto de las reflexiones sonoras: para evitar la influencia de ondas estacionarias o reflejadas, se situará el sonómetro, de ser posible, a más de 1.2 metros (4 pies) de cualquier pared o superficie reflectante. Es importante ilustrar, mediante un dibujo o plano, la colocación del sonómetro con relación a dichas superficies.

C. Contra el efecto del viento: el técnico, cuando estime que la velocidad del viento es superior a 1.5 metros/segundo (3 mph), empleará una pantalla (*"windscreen"*) contra el viento. Para velocidades superiores a 3 metros/segundos (7 mph), se desistirá de la medición.

REGLA 40 – PROCEDIMIENTO PARA LA REALIZACIÓN DE ESTUDIOS SONOROS

A. Se realizarán estudios detallados en circunstancias especiales donde se requiera una caracterización exhaustiva de una fuente de ruido con características especiales. Cada estudio será diseñado por personal técnico de la JCA tomando en consideración todos los aspectos reglamentarios.

B. Cuando existan tonos prominentes o ruidos impulsivos, el nivel máximo permitido quedará medido según

$$L_{JCA} = L_{eq} + K_I + K_t,$$

donde

L_{JCA} es el nivel máximo permitido a la fuente por este Reglamento, excluyendo la influencia del ruido de fondo,

L_{eq} es el nivel equivalente de sonido observado,

K_I es la penalización por ruidos impulsivos ($L_{Im} - L_{eq}$) y en el que L_{Im} es el nivel máximo de presión observado con detección de "impulsos", y

K_t es la penalización por tonos prominentes.

C. Para la evaluación de ruidos de impulso, se efectuarán mediciones breves de cinco (5) segundos de duración con el sonómetro en el modo de detección de impulsos "I". De este modo, se determinará la diferencia entre el nivel de los impulsos L_{Im} y el valor de L_{eq} correspondiente a dicho intervalo. No se tendrán en cuenta valores de K_I iguales o inferiores a 2dB y la penalización máxima será de 5 dB.

REGLA 41 – MÉTODOS ALTERNOS DE MEDICIÓN

Cualquier persona que solicite autorización para utilizar un método analítico o una prueba alterna a lo establecido en este Reglamento, solicitará y demostrará a satisfacción de la JCA, que el método propuesto es igual o superior al establecido en este Reglamento en términos de precisión, exactitud

y sensibilidad de los procedimientos y equipos utilizados. De igual forma, debe demostrar que el equipo a utilizarse ha sido calibrado y que tal calibración se encuentra vigente.

REGLA 42-43- RESERVADAS

PARTE VII: PLANES DE CUMPLIMIENTO, DISPENSAS Y AUTORIZACIONES DE EMERGENCIA

REGLA 44 – PLANES DE CUMPLIMIENTO

A. Aplicabilidad

Los Planes de Cumplimiento son aplicables a fuentes emisoras o predios originadores de sonido que estén en violación de cualquiera de los requisitos de este Reglamento. La aprobación de los mismos no limita la facultad de la JCA para requerir acciones específicas con relación a tales violaciones. Estos planes no son aplicables a la Parte IV de este Reglamento.

B. Prohibición de operar

Ninguna persona podrá construir, operar o permitir la construcción u operación de una fuente emisora de sonido en violación a cualquier requisito de este Reglamento, a menos que el dueño u operador de la fuente de emisión opere conforme a un Plan de Cumplimiento o Dispensa aprobada por la JCA.

C. Requisitos del Plan de Cumplimiento

El Plan de Cumplimiento será presentado ante la Junta de Gobierno de la JCA y cumplirá con los siguientes requisitos:

1. Deberán ser firmados por el dueño u operador de una fuente emisora de sonido o ruido cuando se haya comenzado una acción para la cual se requiera cumplimiento con los requisitos de este Reglamento.

2. Establecerá acciones de progreso para alcanzar las metas específicas y para la instalación de los controles necesarios mediante la construcción y modificación de su fuente emisora, así como la fecha límite en las que serán alcanzadas estas acciones de progreso.

3. Establecerá fechas límites para alcanzar cumplimiento con cada requisito que esté violando. El tiempo final de cumplimiento para el control de la contaminación por ruido que se requiera para llevar a cabo los objetivos del Plan, será él más corto que pueda lograrse, pero en ningún caso, mayor de noventa (90) días laborables.

4. Notificará, mediante informes periódicos a la JCA, su cumplimiento con las acciones de progreso y las metas especificas.

D. Normas para la aprobación de los Planes de Cumplimiento

1. El solicitante demostrará, a satisfacción de la JCA, que el Plan de Cumplimiento:

   a. no causará incumplimiento con los requisitos de la Ley sobre Política Pública Ambiental, *supra*;

   b. establecerá pautas para el cumplimiento final de las metas propuestas tan rápidamente como sea factible;

   c. establecerá pautas para medir las acciones de progreso y el logro de metas temporales que brindan la protección máxima para la salud humana y el ambiente.

2. La JCA actuará sobre el Plan de Cumplimiento propuesto dentro de un término razonable que no deberá exceder de noventa (90) días laborables.

E. Modificación o revocación de la aprobación de un Plan de Cumplimiento

1. La JCA podrá modificar o revocar un Plan de Cumplimiento previamente aprobado cuando se den las siguientes situaciones:

   a. cuando sea necesario para la protección de la salud humana y el ambiente;

   b. cuando exista una condición de emergencia;

   c. cuando se identifique alguna información que altere el razonamiento seguido en la concesión del Plan de Cumplimiento;

   d. cuando se proponga un cambio significativo en el el Plan de Cumplimiento aprobado; y

e. cuando la JCA así lo determine necesario.

2. Si la JCA decide denegar la solicitud de modificación o revocación, enviará por escrito al peticionario una denegatoria exponiendo las razones de su decisión de acuerdo a lo establecido en la Ley de Procedimiento Administrativo Uniforme, *supra*, y la Ley sobre Política Pública Ambiental, *supra*.

REGLA 45– DISPENSAS

A. Autorización para Dispensas

La Junta de Gobierno de la JCA podrá dispensar del estricto cumplimiento de los requisitos establecidos en este Reglamento únicamente mediante el trámite establecido en esta Regla.

B. Solicitud de Dispensa

Toda solicitud de dispensa presentada ante la Junta de Gobierno de la JCA incluirá lo siguiente:

1. una descripción de la Regla para la cual se solicita dispensa, exponiendo claramente la naturaleza y alcance de lo que se propone;

2. una exposición por escrito de las razones para la petición de aprobación de la dispensa, e incluirá una explicación de por qué no será factible el cumplimiento;

3. un estudio acústico de los niveles de ruido en los límites de la propiedad;

4. una expresión del término por el cual estará solicitando la dispensa;

5. evidencia de la implementación de la mejor tecnología disponible en el mercado para el cumplimiento con los límites establecidos en este Reglamento; y

6. cualquier otra información que la JCA determine necesaria para evaluar dicha solicitud.

C. Normas para conceder dispensas

La solicitud de dispensa será aprobada solamente si el solicitante demuestra a satisfacción de la Junta de Gobierno de la JCA que ha cumplido con los siguientes requisitos:

1. que la implementación de la mejor tecnología disponible no es suficiente para cumplir con las disposiciones de este Reglamento;

2. que la dispensa no causará impacto adverso significativo sobre la salud humana o el ambiente; y

3. que existen circunstancias especiales que justifiquen la concesión de la dispensa.

D. Acción sobre la solicitud de Dispensa

1. La Junta de Gobierno de la JCA, *motu proprio* o a solicitud de parte debidamente fundamentada, podrá, discrecionalmente, celebrar una vista administrativa previo al otorgamiento de una dispensa, según los requisitos que para ello se disponen en este Reglamento.

2. La Junta de Gobierno de la JCA notificará por escrito al solicitante de la dispensa o la solicitud de vista, si la misma fue concedida o denegada.

3. En la notificación sobre la dispensa de la que habla el inciso anterior, la Junta de Gobierno de la JCA expondrá las razones que tuvo para la acción tomada.

E. Condiciones para la Concesión de Dispensas

Al conceder una dispensa, la Junta de Gobierno de la JCA podrá imponer las condiciones que considere necesarias para la protección de la salud, seguridad y bienestar público.

F. Periodo de Vigencia

1. Una dispensa se mantendrá en vigor por el periodo de tiempo que determine la Junta de Gobierno de la JCA, el cual no podrá exceder de cuatro (4) años. Para gestionar la renovación o extensión de la misma, el dueño u operador del predio originador de sonido deberá radicar una solicitud a tales efectos con por lo menos noventa (90) días de anticipación a la fecha en que la dispensa original expire.

2. Cualquier solicitud de renovación o extensión deberá ser presentada durante el término concedido. Posterior a esa fecha, el solicitante tendrá que presentar una nueva solicitud de dispensa de conformidad con este Reglamento. Dicha renovación, extensión o nueva dispensa no podrá exceder de doce (12) meses de vigencia.

3. A partir de la fecha en que se radique la solicitud de dispensa, renovación o extensión de una dispensa, la Junta de Gobierno de la JCA deberá actuar sobre la misma, de acuerdo a las reglas y reglamentos vigentes.

REGLA 46 – AVISOS PÚBLICOS Y VISTAS PÚBLICAS PARA EL TRÁMITE DE LAS DISPENSAS

A. Avisos Públicos

1. Todo aviso público relacionado con un asunto pendiente ante la JCA bajo este Reglamento, especificará la fecha, hora y lugar donde los documentos estarán disponibles para inspección pública. Estos documentos incluirán cualquier determinación preliminar de la JCA.

2. Todo aviso público indicará el periodo de tiempo durante el que las personas interesadas podrán someter comentarios escritos o solicitar, de forma fundamentada, vistas públicas. El aviso especificará la fecha, hora y el lugar de cada vista pública, así como horario de duración de la vista y término de espera para declararla desierta de no comparecer público.

3. Todo aviso público será publicado por lo menos treinta (30) días antes de que la JCA tome cualquier determinación final con respecto a cualquier asunto pendiente ante su consideración, a menos que por una situación de emergencia la JCA determine que, en el mejor interés público, sea necesario que se haga una determinación final en un periodo de tiempo más corto.

4. El aviso público podrá publicarse en un (1) periódico de circulación general en Puerto Rico o por cualquier otro método que disponga la Junta de Gobierno de la JCA. En los casos en que los avisos públicos sean para considerar una solicitud de dispensa y/o autorización ante la JCA, el solicitante de la misma sufragará cualquier costo relacionado a su publicación, previo a que sea publicado.

5. La JCA podrá publicar avisos adicionales o avisos de cualquier otra índole en la forma que considere apropiada.

B. Vistas Públicas

1. La JCA podrá celebrar, a su discreción, una vista pública sobre el otorgamiento de una dispensa o cualquier otro asunto pendiente ante ella, mediante solicitud debidamente fundamentada por cualquier persona interesada o cuando la JCA determine que la celebración de

una vista pública ayudará a evaluar la situación ante su consideración. La JCA no celebrará vistas públicas sin publicar un aviso notificando la celebración de la misma.Para determinar si se concede la celebración de vistas públicas, la Junta de Gobierno de la JCA tomará en consideración los siguientes factores:

a. la magnitud y naturaleza de la solicitud y la cuantía de la inversión necesaria;

b. el grado de interés de parte del público en la acción a llevarse a cabo; y

c. el grado de interés de parte de la JCA y de otras agencias gubernamentales en la acción a llevarse a cabo, entre otros factores relevantes.

2. La Junta de Gobierno de la JCA podrá presidir la vista pública por sí o a través de un panel examinador.

3. La vista pública deberá iniciarse a la hora indicada en el aviso público y de no haber presente ninguna persona interesada en deponer en la misma, ésta podrá darse por culminada luego de una (1) hora de la hora indicada en el aviso público. El horario de duración de la vista estará incluido en el aviso público.

4. El registro de deponentes de la vista pública estará disponible para inspección del público en general.

C. Los comentarios recibidos

Todos los comentarios recibidos durante el periodo de participación pública serán evaluados por la JCA al momento de tomar una determinación final sobre el asunto en cuestión, según la Ley sobre Política Pública Ambiental, *supra*, y Ley de Procedimiento Administrativo Uniforme, *supra*.

D. Decisión final

Luego de celebrada una vista pública, la Junta de Gobierno de la JCA preparará una resolución que detalle su decisión final. Esta resolución deberá cumplir con los requisitos de notificación, según dispuestos en la Ley sobre Política Pública Ambiental, *supra*, y Ley de Procedimiento Administrativo Uniforme, *supra*, así como en cualquier otra legislación aplicable.

REGLA 47 – REVOCACIÓN DE PLAN DE CUMPLIMIENTO, DISPENSAS O AUTORIZACIONES

La JCA podrá decretar el cese de operaciones o revocar un Plan de Cumplimiento o dispensa que haya sido encontrado en violación de este Reglamento o de las condiciones del mismo, de acuerdo a la Ley sobre Política Pública Ambiental, *supra*, la Ley de Procedimiento Administrativo Uniforme, *supra*, y el Reglamento de Procedimiento de Vistas Administrativas, *supra*. La Orden de Cese será efectiva hasta tanto la fuente emisora se encuentre en cumplimiento con este Reglamento y así lo disponga la JCA mediante Resolución al respecto en la que ordene el dejar sin efecto dicha Orden o así lo ordene un tribunal con jurisdicción y competencia.

REGLA 48 – AUTORIZACIÓN DE EMERGENCIA

A. Autorización en caso de emergencia

1. Si la Junta de Gobierno de la JCA encuentra que existe un peligro significativo e inminente para la salud humana o el ambiente, podrá expedir una autorización de emergencia para personas o fuentes emisoras no autorizadas.

2. Estas autorizaciones podrán incluir dispensas a reglas específicas de este Reglamento, según se establece en la Regla sobre dispensas.

B. Disposiciones para autorizaciones de emergencias

Las autorizaciones para casos de emergencias cumplirán con los siguientes requisitos:

1. Según las circunstancias, éstas podrán ser verbales o escritas. Si la autorización es verbal, inmediatamente deberá producirse una autorización escrita, la cual se expedirá dentro de un término de cinco (5) días después de concedida la autorización verbal.

2. No tendrán una duración mayor de noventa (90) días.

3. Especificarán claramente la fuente emisora.

4. Incorporarán, hasta el máximo factible que no sea inconsistente con la situación de emergencia, todos los requisitos de este Reglamento.

5. Podrán ser revocadas por la Junta de Gobierno de la JCA en cualquier momento, si se determina que dicha revocación es necesaria para

proteger la salud humana o el ambiente.

GOBIERNO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

A tenor y de acuerdo con la Ley sobre Política Pública Ambiental, Ley Núm. 416 de 22 de septiembre de 2004, según enmendada, ha sido enmendado por la **Resolución R-11-7-1** de la Junta de Gobierno de la Junta de Calidad Ambiental el

REGLAMENTO PARA EL CONTROL DE LA CONTAMINACIÓN POR RUIDOS

Estas enmiendas al Reglamento establecen las normas y requisitos para el control, disminución o eliminación de ruidos que puedan resultar nocivos a la salud y perturbar el bienestar público. Establece, además, los requisitos para los niveles de emisiones de ruido entre zonas, así como la administración y procedimientos relacionados con la valoración de los niveles sonoros.

Aprobado: 5 de mayo de 2011

En virtud de la Sección 2.8 de la Ley Núm. 170 de 12 de agosto de 1988, según enmendada, conocida como Ley de Procedimiento Administrativo Uniforme, (3 L.P.R.A sección 2128), este Reglamento entra en vigencia a los treinta (30) días a partir de su radicación en el Departamento de Estado,

Sr. Reynaldo Matos Jiménez
Miembro Asociado

Lcda. Blanche Gonzalez Hodge
Miembro Asociado

Lcdo. Pedro J. Nieves Miranda
Presidente

ELECTRONIC CODE OF FEDERAL REGULATIONS

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Title 24: Housing and Urban Development

PART 51—ENVIRONMENTAL CRITERIA AND STANDARDS

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AUTHORITY: 42 U.S.C. 3535(d), unless otherwise noted.

SOURCE: 44 FR 40861, July 12, 1979, unless otherwise noted.

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Subpart A—General Provisions

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§51.1 Purpose.

The Department of Housing and Urban Development is providing program Assistant Secretaries and administrators and field offices with environmental standards, criteria and guidelines for determining project acceptability and necessary mitigating measures to insure that activities assisted by the Department achieve the goal of a suitable living environment.

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§51.2 Authority.

This part implements the Department's responsibilities under: The National Housing Act (12 U.S.C. 1701 *et seq.*); sec. 2 of the Housing Act of 1949 (42 U.S.C. 1441); secs. 2 and 7(d) of the Department of Housing and Urban Development Act (42 U.S.C. 3531 and 3535(d)); the National Environmental Policy Act of 1969 (42 U.S.C. 4321); and the other statutes that are referred to in this part.

[61 FR 13333, Mar. 26, 1996]

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§51.3 Responsibilities.

The Assistant Secretary for Community Planning and Development is responsible for administering HUD's environmental criteria and standards as set forth in this part. The Assistant Secretary for Community Planning and Development may be assisted by HUD officials in implementing the responsibilities established by this part. HUD will identify these HUD officials and their specific responsibilities through FEDERAL REGISTER notice.

[61 FR 13333, Mar. 26, 1996]

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§51.4 Program coverage.

Environmental standards shall apply to all HUD actions except where special provisions and exemptions are contained in each subpart.

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Subpart B—Noise Abatement and Control

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§51.100 Purpose and authority.

(a) It is the purpose of this subpart B to:

(1) Call attention to the threat of noise pollution;

(2) Encourage the control of noise at its source in cooperation with other Federal departments and agencies;

(3) Encourage land use patterns for housing and other noise sensitive urban needs that will provide a suitable separation between them and major noise sources;

(4) Generally prohibit HUD support for new construction of noise sensitive uses on sites having unacceptable noise exposure;

(5) Provide policy on the use of structural and other noise attenuation measures where needed; and

(6) Provide policy to guide implementation of various HUD programs.

(b) *Authority.* Specific authorities for noise abatement and control are contained in the Noise Control Act of 1972, as amended (42 U.S.C. 4901 *et seq.*); and the General Services Administration, Federal Management Circular 75-2; *Compatible Land Uses at Federal Airfields.*

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

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§51.101 General policy.

(a) It is HUD's general policy to provide minimum national standards applicable to HUD programs to protect citizens against excessive noise in their communities and places of residence.

(1) *Planning assistance.* HUD requires that grantees give adequate consideration to noise exposures and sources of noise as an integral part of the urban environment when HUD assistance is provided for planning purposes, as follows:

(i) Particular emphasis shall be placed on the importance of compatible land use planning in relation to airports, highways and other sources of high noise.

(ii) Applicants shall take into consideration HUD environmental standards impacting the use of land.

(2) *Activities subject to 24 CFR part 58.* (i) Responsible entities under 24 CFR part 58 must take into consideration the noise criteria and standards in the environmental review process and consider ameliorative actions when noise sensitive land development is proposed in noise exposed areas. Responsible entities shall address deviations from the standards in their environmental reviews as required in 24 CFR part 58.

(ii) Where activities are planned in a noisy area, and HUD assistance is contemplated later for housing and/or other noise sensitive activities, the responsible entity risks denial of the HUD assistance unless the HUD standards are met.

(3) *HUD support for new construction.* HUD assistance for the construction of new noise sensitive uses is prohibited generally for projects with unacceptable noise exposures and is discouraged for projects with normally unacceptable noise exposure. (Standards of acceptability are contained in §51.103(c).) This policy applies to all HUD programs providing assistance, subsidy or insurance for housing, manufactured home parks, nursing homes, hospitals, and all programs providing assistance or insurance for land development, redevelopment or any other provision of facilities and services which are directed to making land available for housing or noise sensitive development. The policy does not apply to research demonstration projects which do not result in new construction or reconstruction, flood insurance, interstate land sales egistration, or any action or emergency assistance under disaster assistance provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster.

(4) *HUD support for existing construction.* Noise exposure by itself will not result in the denial of HUD support for the resale and purchase of otherwise acceptable existing buildings. However, environmental noise is a marketability factor which HUD will consider in determining the amount of insurance or other assistance that may be given.

(5) *HUD support of modernization and rehabilitation.* For modernization projects located in all noise exposed areas, HUD shall encourage noise attenuation features in alterations. For major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure. In Unacceptable noise zones, HUD shall strongly encourage conversion of noise-exposed sites to land uses compatible with the high noise levels.

(6) *Research, guidance and publications.* HUD shall maintain a continuing program designed to provide new knowledge of noise abatement and control to public and private bodies, to develop improved methods for anticipating noise encroachment, to develop noise abatement measures through land use and building construction practices, and to foster better understanding of the consequences of noise. It shall be HUD's policy to issue guidance documents periodically to assist HUD personnel in assigning an acceptability category to projects in accordance with noise exposure standards, in evaluating noise attenuation measures, and in advising local agencies about noise abatement strategies. The guidance documents shall be updated periodically in accordance with advances in the state-of-the-art.

(7) *Construction equipment, building equipment and appliances.* HUD shall encourage the use of quieter construction equipment and methods in population centers, the use of quieter equipment and appliances in buildings, and the use of appropriate noise abatement techniques in the design of residential structures with potential noise problems.

(8) *Exterior noise goals.* It is a HUD goal that exterior noise levels do not exceed a day-night average sound level of 55 decibels. This level is recommended by the Environmental Protection Agency as a goal for outdoors in residential areas. The levels recommended by EPA are not standards and do not take into account cost or feasibility. For the purposes of this regulation and to meet other program objectives, sites with a day-night average sound level of 65 and below are acceptable and are allowable (see Standards in §51.103(c)).

(9) *Interior noise goals.* It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels. Attenuation measures to meet these interior goals shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms. Minimum attenuation requirements are prescribed in §51.104(a).

(10) *Acoustical privacy in multifamily buildings.* HUD shall require the use of building design and acoustical treatment to afford acoustical privacy in multifamily buildings pursuant to requirements of the Minimum Property Standards.

[44 FR 40861, July 12, 1979, as amended at 50 FR 9268, Mar. 7, 1985; 61 FR 13333, Mar. 26, 1996]

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§51.102 Responsibilities.

(a) *Surveillance of noise problem areas.* Appropriate field staff shall maintain surveillance of potential noise problem areas and advise local officials, developers, and planning groups of the unacceptability of sites because of noise exposure at the earliest possible time in the decision process. Every attempt shall be made to insure that applicants' site choices are consistent with the policy and standards contained herein.

(b) *Notice to applicants.* At the earliest possible stage, HUD program staff shall:

(1) Determine the suitability of the acoustical environment of proposed projects;

(2) Notify applicants of any adverse or questionable situations; and

(3) Assure that prospective applicants are apprised of the standards contained herein so that future site choices will be consistent with these standards.

(c) *Interdepartmental coordination.* HUD shall foster appropriate coordination between field offices and other departments and agencies, particularly the Environmental Protection Agency, the Department of Transportation, Department of Defense representatives, and the Department of Veterans Affairs. HUD staff shall utilize the acceptability standards in commenting on the prospective impacts of transportation facilities and other noise generators in the Environmental Impact Statement review process.

[44 FR 40861, July 12, 1979, as amended at 54 FR 39525, Sept. 27, 1989; 61 FR 13333, Mar. 26, 1996]

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§51.103 Criteria and standards.

These standards apply to all programs as indicated in §51.101.

(a) *Measure of external noise environments.* The magnitude of the external noise environment at a site is determined by the value of the day-night average sound level produced as the result of the accumulation of noise from all sources contributing to the external noise environment at the site. Day-night average sound level, abbreviated as DNL and symbolized as L_{dn}, is the 24-hour average sound level, in decibels, obtained after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m. Mathematical expressions for average sound level and day-night average sound level are stated in the Appendix I to this subpart.

(b) *Loud impulsive sounds.* On an interim basis, when loud impulsive sounds, such as explosions or sonic booms, are experienced at a site, the day-night average sound level produced by the loud impulsive sounds alone shall have 8 decibels added to it in assessing the acceptability of the site (see appendix I to this subpart). Alternatively, the C-weighted day-night average sound level (L_{Cdn}) may be used without the 8 decibel addition, as indicated in §51.106(a)(3). Methods for assessing the contribution of loud impulsive sounds to day-night average sound level at a site and mathematical expressions for determining whether a sound is classed as "loud impulsive" are provided in the appendix I to this subpart.

(c) *Exterior standards.* (1) The degree of acceptability of the noise environment at a site is determined by the sound levels external to buildings or other facilities containing noise sensitive uses. The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site.

(2) The noise environment inside a building is considered acceptable if: (i) The noise environment external to the building complies with these standards, and (ii) the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

SITE ACCEPTABILITY STANDARDS

	Day-night average sound level (in decibels)	Special approvals and requirements
Acceptable	Not exceeding 65 dB(1)	None.
Normally Unacceptable	Above 65 dB but not exceeding 75 dB	Special Approvals (2)
		Environmental Review (3).

		Attenuation (4).
Unacceptable	Above 75 dB	Special Approvals (2).
		Environmental Review (3).
		Attenuation (5).

Notes: (1) Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to §51.105(a).

(2) See §51.104(b) for requirements.

(3) See §51.104(b) for requirements.

(4) 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See §51.104(a).)

(5) Attenuation measures to be submitted to the Assistant Secretary for CPD for approval on a case-by-case basis.

[44 FR 40861, July 12, 1979, as amended at 49 FR 12214, Mar. 29, 1984]

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§51.104 Special requirements.

(a)(1) *Noise attenuation.* Noise attenuation measures are those required in addition to attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation. Measures that reduce external noise at a site shall be used wherever practicable in preference to the incorporation of additional noise attenuation in buildings. Building designs and construction techniques that provide more noise attenuation than typical construction may be employed also to meet the noise attenuation requirements.

(2) *Normally unacceptable noise zones and unacceptable noise zones.* Approvals in Normally Unacceptable Noise Zones require a minimum of 5 decibels additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 decibels but does not exceed 75 decibels. Noise attenuation measures in Unacceptable Noise Zones require the approval of the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58. (See §51.104(b)(2).)

(b) *Environmental review requirements.* Environmental reviews shall be conducted pursuant to the requirements of 24 CFR parts 50 and 58, as applicable, or other environmental regulations issued by the Department. These requirements are hereby modified for all projects proposed in the Normally Unacceptable and Unacceptable noise exposure zones as follows:

(1) *Normally unacceptable noise zone.* (i) All projects located in the Normally Unacceptable Noise Zone require a Special Environmental Clearance except an EIS is required for a proposed project located in a largely undeveloped area, or where the HUD action is likely to encourage the establishment of incompatible land use in this noise zone.

(ii) When an EIS is required, the concurrence of the Program Assistant Secretary is also required before a project can be approved. For the purposes of this paragraph, an area will be considered as largely undeveloped unless the area within a 2-mile radius of the project boundary is more than 50 percent developed for urban uses and infrastructure (particularly water and sewers) is available and has capacity to serve the project.

(iii) All other projects in the Normally Unacceptable zone require a Special Environmental Clearance, except where an EIS is required for other reasons pursuant to HUD environmental policies.

(2) *Unacceptable noise zone.* An EIS is required prior to the approval of projects with unacceptable noise exposure. Projects in or partially in an Unacceptable Noise Zone shall be submitted to the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58, for approval. The Assistant Secretary or the Certifying Officer may waive the EIS requirement in cases where noise is the only environmental issue and no outdoor noise sensitive activity will take place on the site. In such cases, an environmental review shall be made pursuant to the requirements of 24 CFR parts 50 or 58, as appropriate.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

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§51.105 Exceptions.

(a) *Flexibility for non-acoustic benefits.* Where it is determined that program objectives cannot be achieved on sites meeting the acceptability standard of 65 decibels, the Acceptable Zone may be shifted to L_{dn} 70 on a case-by-case basis if all the following conditions are satisfied:

(1) The project does not require an Environmental Impact Statement under provisions of §51.104 (b)(1) and noise is the only environmental issue.

(2) The project has received a Special Environmental Clearance and has received the concurrence of the Environmental Clearance Officer.

(3) The project meets other program goals to provide housing in proximity to employment, public facilities and transportation.

(4) The project is in conformance with local goals and maintains the character of the neighborhood.

(5) The project sponsor has set forth reasons, acceptable to HUD, as to why the noise attenuation measures that would normally be required for new construction in the L_{dn} 65 to L_{dn} 70 zone cannot be met.

(6) Other sites which are not exposed to noise above L_{dn} 65 and which meet program objectives are generally not available.

The above factors shall be documented and made part of the project file.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.106 Implementation.

(a) *Use of available data.* HUD field staff shall make maximum use of noise data prepared by others when such data are determined to be current and adequately projected into the future and are in terms of the following:

(1) *Sites in the vicinity of airports.* The noise environment around airports is described sometimes in terms of Noise Exposure Forecasts, abbreviated as NEF or, in the State of California, as Community Noise Equivalent Level, abbreviated as CNEL. The noise environment for sites in the vicinity of airports for which day-night average sound level data are not available may be evaluated from NEF or CNEL analyses using the following conversions to DNL:

DNL≈NEF+35

DNL≈CNEL

(2) *Sites in the vicinity of highways.* Highway projects receiving Federal aid are subject to noise analyses under the procedures of the Federal Highway Administration. Where such analyses are available they may be used to assess sites subject to the requirements of this standard. The Federal Highway Administration employs two alternate sound level descriptors: (i) The A-weighted sound level not exceeded more than 10 percent of the time for the highway design hour traffic flow, symbolized as L_{10}; or (ii) the equivalent sound level for the design hour, symbolized as L_{eq}. The day-night average sound level may be estimated from the design hour L_{10} or L_{eq} values by the following relationships, provided heavy trucks do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10 p.m. and 7 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours:

DNL≈L_{10} (design hour)—3 decibels

DNL≈L_{eq} (design hour) decibels

Where the auto/truck mix and time of day relationships as stated in this section do not exist, the HUD Noise Assessment Guidelines or other noise analysis shall be used.

(3) *Sites in the vicinity of installations producing loud impulsive sounds.* Certain Department of Defense installations produce loud impulsive sounds from artillery firing and bombing practice ranges. Noise analyses for these facilities sometimes encompass sites that may be subject to the requirements of this standard. Where such analyses are available they may be used on an interim basis to establish the acceptability of sites under this standard. The Department of Defense uses day-night average sound level based on C-weighted sound level, symbolized L_{Cdn}, for the analysis of loud impulsive sounds. Where such analyses are provided, the 8 decibel addition specified in §51.103(b), is not required, and the same numerical values of day-night average sound level used on an interim basis to determine site suitability for non-impulsive sounds apply to the L_{Cdn}.

(4) *Use of areawide acoustical data.* HUD encourages the preparation and use of areawide acoustical information, such as noise contours for airports. Where such new or revised contours become available for airports (civil or military) and military installations they shall first be referred to the HUD State Office (Environmental Officer) for review, evaluation and decision on appropriateness for use by HUD. The HUD State Office shall submit revised contours to the Assistant Secretary for Community Planning and Development for review, evaluation and decision whenever the area affected is changed by 20 percent or more, or whenever it is determined that the new contours will have a significant effect on HUD programs, or whenever the contours are not provided in a methodology acceptable under §51.106(a)(1) or in other cases where the HUD State Office determines that Headquarters review is warranted. For other areawide acoustical data, review is required only where existing areawide data are being utilized and where such data have been changed to reflect changes in the measurement methodology or underlying noise source assumptions. Requests for determination on usage of new or revised areawide data shall include the following:

(i) Maps showing old, if applicable, and new noise contours, along with brief description of data source and methodology.

(ii) Impact on existing and prospective urbanized areas and on development activity.

(iii) Impact on HUD-assisted projects currently in processing.

(iv) Impact on future HUD program activity. Where a field office has determined that immediate approval of new areawide data is necessary and warranted in limited geographic areas, the request for approval should state the circumstances warranting such approval. Actions on proposed projects shall not be undertaken while new areawide noise data are being considered for HUD use except where the proposed location is affected in the same manner under both the old and new noise data.

(b) *Site assessments.* Compliance with the standards contained in §51.103(c) shall, where necessary, be determined using noise assessment guidelines, handbooks, technical documents and procedures issued by the Department.

(c) *Variations in site noise levels.* In many instances the noise environment will vary across a site, with portions of the site being in an Acceptable noise environment and other portions in a Normally Unacceptable noise environment. The standards in §51.103(c) shall apply to the portions of a building or buildings used for residential purposes and for ancillary noise sensitive open spaces.

(d) *Noise measurements.* Where noise assessments result in a finding that the site is borderline or questionable, or is controversial, noise measurements may be performed. Where it is determined that noise measurements are required, such measurements will be conducted in accordance with methods and measurement criteria established by the Department. Locations for noise measurements will depend on the location of noise sensitive uses that are nearest to the predominant noise source (see §51.103(c)).

(e) *Projections of noise exposure.* In addition to assessing existing exposure, future conditions should be projected. To the extent possible, noise exposure shall be projected to be representative of conditions that are expected to exist at a time at least 10 years beyond the date of the project or action under review.

(f) *Reduction of site noise by use of berms and/or barriers.* If it is determined by adequate analysis that a berm and/or barrier will reduce noise at a housing site, and if the barrier is existing or there are assurances that it will be in place prior to occupancy, the environmental noise analysis for the site may reflect the benefits afforded by the berm and/or barrier. In the environmental review process under §51.104(b), the location height and design of the berm and/or barrier shall be evaluated to determine its effectiveness, and impact on design and aesthetic quality, circulation and other environmental factors.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

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Appendix I to Subpart B of Part 51—Definition of Acoustical Quantities

1. *Sound Level.* The quantity in decibels measured with an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971. Fast time-averaging and A-frequency weighting are to be used, unless others are specified. The sound level meter with the A-weighting is progressively less sensitive to sounds of frequency below 1,000 hertz (cycles per second), somewhat as is the ear. With fast time averaging the sound level meter responds particularly to recent sounds almost as quickly as does the ear in judging the loudness of a sound.

2. *Average Sound Level.* Average sound level, in decibels, is the level of the mean-square A-weighted sound pressure during the stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals.

Day-night average sound level, abbreviated as DNL, and symbolized mathematically as L_{dn} is defined as:

$$L_{dn} = 10 \log_{10}\left[\frac{1}{86400}\left(\int_{0000}^{0700} 10^{(L_A(t)+10)/10}\,dt + \int_{0700}^{2200} 10^{L_A(t)/10}\,dt + \int_{2200}^{2400} 10^{(L_A(t)+10)/10}\,dt\right)\right]$$

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Time t is in seconds, so the limits shown in hours and minutes are actually interpreted in seconds. $L_A(t)$ is the time varying value of A-weighted sound level, the quantity in decibels measured by an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4-1971.

3. *Loud Impulsive Sounds.* When loud impulsive sounds such as sonic booms or explosions are anticipated contributors to the noise environment at a site, the contribution to day-night average sound level produced by the loud impulsive sounds shall have 8 decibels added to it in assessing the acceptability of a site.

A loud impulsive sound is defined for the purpose of this regulation as one for which:

(i) The sound is definable as a discrete event wherein the sound level increases to a maximum and then decreases in a total time interval of approximately one second or less to the ambient background level that exists without the sound; and

(ii) The maximum sound level (obtained with slow averaging time and A-weighting of a Type 1 sound level meter whose characteristics comply with ANSI S1.4-1971) exceeds the sound level prior to the onset of the event by at least 6 decibels; and

(iii) The maximum sound level obtained with fast averaging time of a sound level meter exceeds the maximum value obtained with slow averaging time by at least 4 decibels.

[44 FR 40861, July 12, 1979; 49 FR 10253, Mar. 20, 1984; 49 FR 12214, Mar. 29, 1984]

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Subpart C—Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature

AUTHORITY: 42 U.S.C. 3535(d).

SOURCE: 49 FR 5103, Feb. 10, 1984, unless otherwise noted.

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§51.200 Purpose.

The purpose of this subpart C is to:

(a) Establish safety standards which can be used as a basis for calculating acceptable separation distances (ASD) for HUD-assisted projects from specific, stationary, hazardous operations which store, handle, or process hazardous substances;

(b) Alert those responsible for the siting of HUD-assisted projects to the inherent potential dangers when such projects are located in the vicinity of such hazardous operations;

(c) Provide guidance for identifying those hazardous operations which are most prevalent;

(d) Provide the technical guidance required to evaluate the degree of danger anticipated from explosion and thermal radiation (fire); and

(e) Provide technical guidance required to determine acceptable separation distances from such hazards.

[49 FR 5103, Feb. 10, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.201 Definitions.

The terms *Department* and *Secretary* are defined in 24 CFR part 5.

Acceptable separation distance (ASD)—means the distance beyond which the explosion or combustion of a hazard is not likely to cause structures or individuals to be subjected to blast overpressure or thermal radiation flux levels in excess of the safety standards in §51.203. The ASD is determined by applying the safety standards established by this subpart C to the guidance set forth in HUD Guidebook, "Siting of HUD-Assisted Projects Near Hazardous Facilities."

Blast overpressure—means the pressure, in pounds per square inch, in excess of normal atmospheric pressure on the surrounding medium caused by an explosion.

Danger zone—means the land area circumscribed by the radius which delineates the ASD of a given hazard.

Hazard—means any stationary container which stores, handles or processes hazardous substances of an explosive or fire prone nature. The term "hazard" does not include pipelines for the transmission of hazardous substances, if such pipelines are located underground or comply with applicable Federal, State and local safety standards. Also excepted are: (1) Containers with a capacity of 100 gallons or less when they contain common liquid industrial fuels, such as gasoline, fuel oil, kerosene and crude oil since they generally would pose no danger in terms of thermal radiation of blast overpressure to a project; and (2) facilities which are shielded from a proposed HUD-assisted project by the topography, because these topographic features effectively provide a mitigating measure already in place.

Hazardous substances—means petroleum products (petrochemicals) and chemicals that can produce blast overpressure or thermal radiation levels in excess of the standards set forth in §51.203. A specific list of hazardous substance is found in appendix I to this subpart.

HUD-assisted project—the development, construction, rehabilitation, modernization or conversion with HUD subsidy, grant assistance, loan, loan guarantee, or mortgage insurance, of any project which is intended for residential, institutional, recreational, commercial or industrial use. For purposes of this subpart the terms "rehabilitation" and "modernization" refer only to such repairs and renovation of a building or buildings as will result in an increased number of people being exposed to hazardous operations by increasing residential densities, converting the type of use of a building to habitation, or making a vacant building habitable.

Thermal radiation level—means the emission and propagation of heat energy through space or a material medium, expressed in BTU per square foot per hour (BTU/ft.^{2} hr.).

[49 FR 5103, Feb. 10, 1984, as amended at 61 FR 5204, Feb. 9, 1996; 61 FR 13334, Mar. 26, 1996]

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§51.202 Approval of HUD-assisted projects.

(a) The Department will not approve an application for assistance for a proposed project located at less than the acceptable separation distance from a hazard, as defined in §51.201, unless appropriate mitigating measures, as defined in §51.205, are implemented, or unless mitigating measures are already in place.

(b) In the case of all applications for proposed HUD-assisted projects, the Department shall evaluate projected development plans in the vicinity of these projects to determine whether there are plans to install a hazardous operation in close proximity to the proposed project. If the evaluation shows that such a plan exists, the Department shall not approve assistance for the project unless the Department obtains satisfactory assurances that adequate mitigating measures will be taken when the hazardous operation is installed.

[49 FR 5103, Feb. 10, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.203 Safety standards.

The following standards shall be used in determining the acceptable separation distance of a proposed HUD-assisted project from a hazard:

(a) *Thermal Radiation Safety Standard.* Projects shall be located so that:

(1) The allowable thermal radiation flux level at the building shall not exceed 10,000 BTU/sq. ft. per hr.;

(2) The allowable thermal radiation flux level for outdoor, unprotected facilities or areas of congregation shall not exceed 450 BTU/sq. ft. per hour.

(b) *Blast Overpressure Safety Standard.* Projects shall be located so that the maximum allowable blast overpressure at both buildings and outdoor, unprotected facilities or areas shall not exceed 0.5 psi.

(c) If a hazardous substance constitutes both a thermal radiation and blast overpressure hazard, the ASD for each hazard shall be calculated, and the larger of the two ASDs shall be used to determine compliance with this subpart.

(d) Background information on the standards and the logarithmic thermal radiation and blast overpressure charts that provide assistance in determining acceptable separation distances are contained in appendix II to this subpart C.

[49 FR 5103, Feb. 10, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.204 HUD-assisted hazardous facilities.

In reviewing applications for proposed HUD-assisted projects involving the installation of hazardous facilities, the Department shall ensure that such hazardous facilities are located at an acceptable separation distance from residences and from any other facility or area where people may congregate or be present. The mitigating measures listed in §51.205 may be taken into account in determining compliance with this section.

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§51.205 Mitigating measures.

Application of the standards for determining an Acceptable Separation Distance (ASD) for a HUD-assisted project from a potential hazard of an explosion or fire prone nature is predicated on level topography with no intervening object(s) between the hazard and the project. Application of the standards can be eliminated or modified if:

(a) The nature of the topography shields the proposed project from the hazard.

(b) An existing permanent fire resistant structure of adequate size and strength will shield the proposed project from the hazard.

(c) A barrier is constructed surrounding the hazard, at the site of the project, or in between the potential hazard and the proposed project.

(d) The structure and outdoor areas used by people are designed to withstand blast overpressure and thermal radiation anticipated from the potential hazard (e.g., the project is of masonry and steel or reinforced concrete and steel construction).

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§51.206 Implementation.

This subpart C shall be implemented for each proposed HUD-assisted project by the HUD approving official or responsible entity responsible for review of the project. The implementation procedure will be part of the environmental review process in accordance with the procedures set forth in 24 CFR parts 50 and 58.

[61 FR 13334, Mar. 26, 1996]

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§51.207 Special circumstances.

The Secretary or the Secretary's designee may, on a case-by-case basis, when circumstances warrant, require the application of this subpart C with respect to a substance not listed in appendix I to this subpart C that would create thermal or overpressure effect in excess of that listed in §51.203.

[61 FR 13334, Mar. 26, 1996]

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§51.208 Reservation of administrative and legal rights.

Publication of these standards does not constitute a waiver of any right: (a) Of HUD to disapprove a project proposal if the siting is too close to a potential hazard not covered by this subpart, and (b) of HUD or any person or other entity to seek to abate or to collect damages occasioned by a nuisance, whether or not covered by the subpart.

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Appendix I to Subpart C of Part 51—Specific Hazardous Substances

The following is a list of specific petroleum products and chemicals defined to be hazardous substances under §51.201.

HAZARDOUS LIQUIDS

Acetic Acid	Ethyl Benzene
Acetic Anhydride	Ethyl Dichloride
Acetone	Ethyl Ether
Acrylonitrile	Gasoline
Amyl Acetate	Heptane
Amyl Alcohol	Hexane
Benzene	Isobutyl Acetate
Butyl Acetate	Isobutyl Alcohol
Butyl Acrylate	Isopropyl Acetate
Butyl Alcohol	Isopropyl Alcohol
Carbon Bisulfide	Jet Fuel and Kerosene
Carbon Disulfide	Methyl Alcohol
Cellosolve	Methyl Amyl Alcohol
Cresols	Methyl Cellosolve
Crude Oil (Petroleum)	Methyl Ethyl Ketone
Cumene	Naptha
Cyclohexane	Pentane
No. 2 Diesel Fuel	Propylene Oxide
Ethyl Acetate	Toluene
Ethyl Acrylate	Vinyl Acetate
Ethyl Alcohol	Xylene

HAZARDOUS GASES

Acetaldehyde	Hydrogen

Butadiene	Liquefied Natural Gas (LNG)
Butane	Liquefied Petroleum Gas (LPG)
Ethene	Propane
Ethylene	Propylene
Ethylene Oxide	Vinyl Chloride

(Primary Source: "Urban Development Siting with respect to Hazardous Commercial/Industrial Facilities," by Rolf Jensen and Associates, Inc., April 1982)

[49 FR 5105, Feb. 10, 1984; 49 FR 12214, Mar. 29, 1984]

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Appendix II to Subpart C of Part 51—Development of Standards; Calculation Methods

I. Background Information Concerning the Standards

(a) *Thermal Radiation:*

(1) *Introduction.* Flammable products stored in above ground containers represent a definite, potential threat to human life and structures in the event of fire. The resulting fireball emits thermal radiation which is absorbed by the surroundings. Combustible structures, such as wooden houses, may be ignited by the thermal radiation being emitted. The radiation can cause severe burn, injuries and even death to exposed persons some distance away from the site of the fire.

(2) *Criteria for Acceptable Separation Distance (ASD).* Wooden buildings, window drapes and trees generally ignite spontaneously when exposed for a relatively long period of time to thermal radiation levels of approximately 10,000 Btu/hr. sq. ft. It will take 15 to 20 minutes for a building to ignite at that degree of thermal intensity. Since the reasonable response time for fire fighting units in urbanized areas is approximately five to ten minutes, a standard of 10,000 BTU/hr. sq. ft. is considered an acceptable level of thermal radiation for buildings.

People in outdoor areas exposed to a thermal radiation flux level of approximately 1,500 Btu/ft^2 hr will suffer intolerable pain after 15 seconds. Longer exposure causes blistering, permanent skin damage, and even death. Since it is assumed that children and the elderly could not take refuge behind walls or run away from the thermal effect of the fire within the 15 seconds before skin blistering occurs, unprotected (outdoor) areas, such as playgrounds, parks, yards, school grounds, etc., must be placed at such a distance from potential fire locations so that the radiation flux level is well below 1500 Btu/ft^2 hr. An acceptable flux level, particularly for elderly people and children, is 450 Btu/ft^2 hr. The skin can be exposed to this degree of thermal radiation for 3 minutes or longer with no serious detrimental effect. The result would be the same as a bad sunburn. Therefore, the standard for areas in which there will be exposed people, e.g. outdoor recreation areas such as playgrounds and parks, is set at 450 Btu/hr. sq. ft. Areas covered also include open space ancillary to residential structures, such as yard areas and vehicle parking areas.

(3) *Acceptable Separation Distance From a Potential Fire Hazard.* This is the actual setback required for the safety of occupied buildings and their inhabitants, and people in open spaces (exposed areas) from a potential fire hazard. The specific distance required for safety from such a hazard depends upon the nature and the volume of the substance. The Technical Guidebook entitled "Urban Development Siting With Respect to Hazardous/Commercial Industrial Facilities," which supplements this regulation, contains the technical guidance required to compute Acceptable Separation Distances (ASD) for those flammable substances most often encountered.

(b) *Blast Overpressure:* The Acceptable Separation Distance (ASD) for people and structures from materials prone to explosion is dependent upon the resultant blast measured in pounds per square inch (psi) overpressure. It has been determined by the military and corroborated by two independent studies conducted for the Department of Housing and Urban Development that 0.5 psi is the acceptable level of blast overpressure for both buildings and occupants, because a frame structure can normally withstand that level of external exertion with no serious structural damage, and it is

unlikely that human beings inside the building would normally suffer any serious injury. Using this as the safety standard for blast overpressure, nomographs have been developed from which an ASD can be determined for a given quantify of hazardous substance. These nomographs are contained in the handbook with detailed instructions on their use.

(c) *Hazard evaluation:* The Acceptable Separation Distances for buildings, which are determined for thermal radiation and blast overpressure, delineate separate identifiable danger zones for each potential accident source. For some materials the fire danger zone will have the greatest radius and cover the largest area, while for others the explosion danger zone will be the greatest. For example, conventional petroleum fuel products stored in unpressurized tanks do not emit blast overpressure of dangerous levels when ignited. In most cases, hazardous substances will be stored in pressurized containers. The resulting blast overpressure will be experienced at a greater distance than the resulting thermal radiation for the standards set in Section 51.203. In any event the hazard requiring the greatest separation distance will prevail in determining the location of HUD-assisted projects.

The standards developed for the protection of people and property are given in the following table.

	Thermal radiation	**Blast overpressure**
Amount of acceptable exposure allowed for building structures	10,000 BTU/ft^{2}hr	0.5 psi.
Amount of acceptable exposure allowed for people in open areas	450 BTU/ft^{2}hr	0.5 psi.

Problem Example

The following example is given as a guide to assist in understanding how the procedures are used to determine an acceptable separation distance. The technical data are found in the HUD Guidebook. Liquid propane is used in the example since it is both an explosion and a fire hazard.

In this hypothetical case a proposed housing project is to be located 850 feet from a 30,000 gallon liquid propane (LPG) tank. The objective is to determine the acceptable separation distance from the LPG tank. Since propane is both explosive and fire prone it will be necessary to determine the ASD for both explosion and for fire. The greatest of the two will govern. There is no dike around the tank in this example.

Nomographs from the technical Guidebook have been reproduced to facilitate the solving of the problem.

ASD For Explosion

Use Figure 1 to determine the acceptable separation distance for explosion.

The graph depicted on Figure 1 is predicated on a blast overpressure of 0.5 psi.

The ASD in feet can be determined by applying the quantity of the hazard (in gallons) to the graph.

In this case locate the 30,000 gallon point on the horizontal axis and draw a vertical line from that point to the intersection with the straight line curve. Then draw a horizontal line from the point where the lines cross to the left vertical axis where the ACCEPTABLE SEPARATION DISTANCE of 660 feet is found.

Therefore the ASD for explosion is 660 feet

Since the proposed project site is located 850 feet from the tank it is located at a safe distance with regards to blast overpressure.

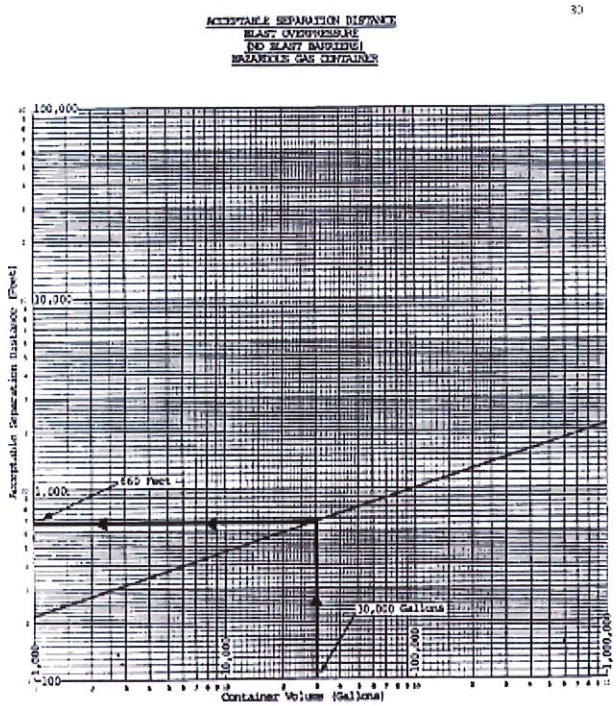

Figure 1

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ASD For Fire

To determine the ASD for fire it will be necessary to first find the fire width (diameter of the fireball) on Figure 2. Then apply this to Figure 3 to determine the ASD.

Since there are two safety standards for fire: (a) 10,000 BTU/ft^{2}hr. for buildings; and (b) 450 BTU/ft^{2}hr. for people in exposed areas, it will be necessary to determine an ASD for each.

To determine the fire width locate the 30,000 gallon point on the horizontal axis on *Figure 2* and draw a vertical line to the straight line curve. Then draw a horizontal line from the point where the lines cross to the left vertical axis where the FIRE WIDTH is found to be *350 feet.*

Now locate the 350 ft. point on the horizontal axis of *Figure 3* and draw a vertical line from that point to curves 1 and 2. Then draw horizontal lines from the points where the lines cross to the left vertical axis where the ACCEPTABLE SEPARATION DISTANCES of *240 feet* for buildings and *1,150 feet* for exposure to people is found.

Based on this the proposed project site is located at a safe distance from a potential fireball. However, exposed playgrounds or other exposed areas of congregation must be at least 1,150 feet from the tank, or be appropriately shielded from a potential fireball.

(Source: HUD Handbook, "Urban Development Siting With Respect to Hazardous Commercial/Industrial Facilities.")

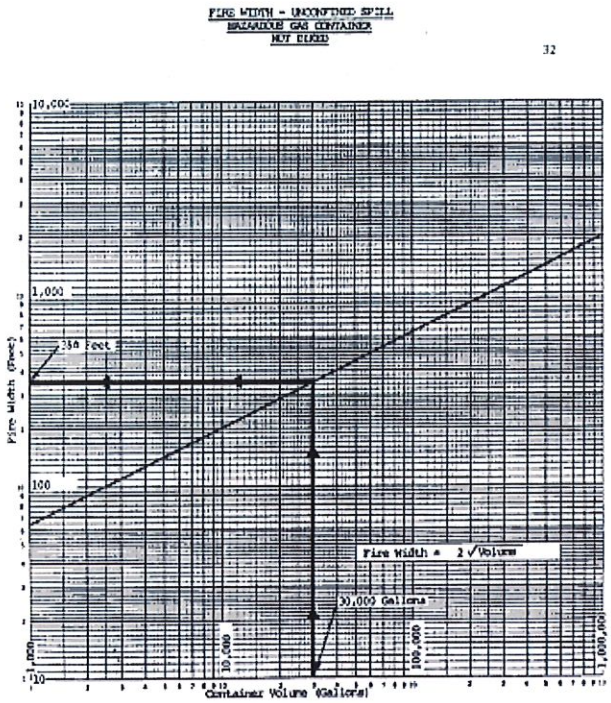

Figure 2

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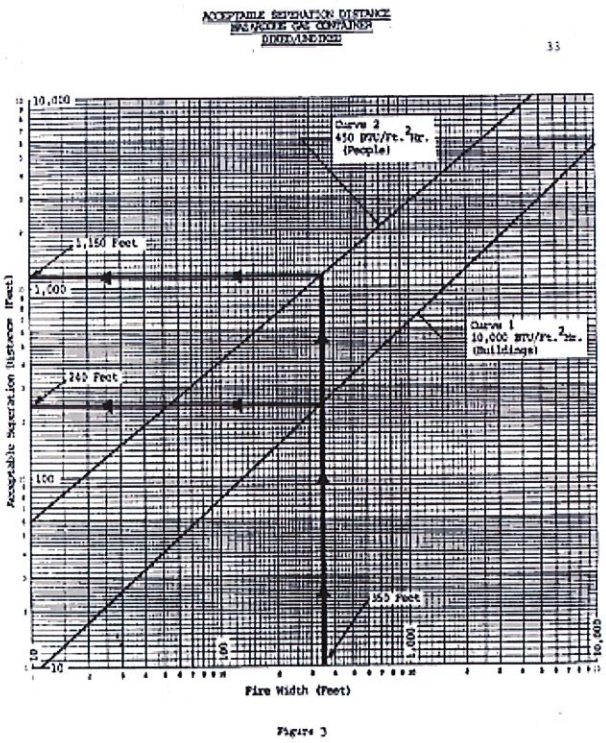

Figure 3

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[49 FR 5105, Feb. 10, 1984; 49 FR 12214, Mar. 29, 1984]

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Subpart D—Siting of HUD Assisted Projects in Runway Clear Zones at Civil Airports and Clear Zones and Accident Potential Zones at Military Airfields

AUTHORITY: Sec. 2, Housing Act of 1949, as amended, 42 U.S.C. 1441, affirmed by sec. 2, HUD Act of 1969, Pub. L. 90-448; sec. 7(d), HUD Act of 1965, 42 U.S.C. 3535(d); OMB, Fed'l Mgmt. Cir. 75-2: Compatible Land Uses At Federal Airfields.

SOURCE: 49 FR 880, Jan. 6, 1984, unless otherwise noted.

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§51.300 Purpose.

It is the purpose of this subpart to promote compatible land uses around civil airports and military airfields by identifying suitable land uses for Runway Clear Zones at civil airports and Clear Zones and Accident Potential Zones at military airfields and by establishing them as standards for providing HUD assistance, subsidy or insurance.

[49 FR 880, Jan. 6, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.301 Definitions.

For the purposes of this regulation, the following definitions apply:

(a) *Accident Potential Zone.* An area at military airfields which is beyond the Clear Zone. The standards for the Accident Potential Zones are set out in Department of Defense Instruction 4165.57, "Air Installations Compatible Use Zones," November 8, 1977, 32 CFR part 256. There are no Accident Potential Zones at civil airports.

(b) *Airport Operator.* The civilian or military agency, group or individual which exercises control over the operations of the civil airport or military airfield.

(c) *Civil Airport.* An existing commercial service airport as designated in the National Plan of Integrated Airport Systems prepared by the Federal Aviation Administration in accordance with section 504 of the Airport and Airway Improvement Act of 1982.

(d) *Runway Clear Zones and Clear Zones.* Areas immediately beyond the ends of a runway. The standards for Runway Clear Zones for civil airports are established by FAA regulation 14 CFR part 152. The standards for Clear Zones for military airfields are established by DOD Instruction 4165.57, 32 CFR part 256.

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§51.302 Coverage.

(a) These policies apply to HUD programs which provide assistance, subsidy or insurance for construction, land development, community development or redevelopment or any other provision of facilities and services which are designed to make land available for construction. When the HUD assistance, subsidy or insurance is used to make land available for construction rather than for the actual construction, the provision of the HUD assistance, subsidy or insurance shall be dependent upon whether the facility to be built is itself acceptable in accordance with the standards in §51.303.

(b) These policies apply not only to new construction but also to substantial or major modernization and rehabilitation and to any other program which significantly prolongs the physical or economic life of existing facilities or which, in the case of Accident Potential Zones:

(1) Changes the use of the facility so that it becomes one which is no longer acceptable in accordance with the standards contained in §51.303(b);

(2) Significantly increases the density or number of people at the site; or

(3) Introduces explosive, flammable or toxic materials to the area.

(c) Except as noted in §51.303(a)(3), these policies do not apply to HUD programs where the action only involves the purchase, sale or rental of an existing property without significantly prolonging the physical or economic life of the property.

(d) The policies do not apply to research or demonstration projects which do not result in new construction or reconstruction, to interstate land sales registration, or to any action or emergency assistance which is provided to save lives, protect property, protect public health and safety, or remove debris and wreckage.

[49 FR 880, Jan. 6, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.303 General policy.

It is HUD's general policy to apply standards to prevent incompatible development around civil airports and military airfields.

(a) HUD policy for actions in Runway Clear Zones and Clear Zones.

(1) HUD policy is not to provide any assistance, subsidy or insurance for projects and actions covered by this part except as stated in §51.303(a)(2) below.

(2) If a project proposed for HUD assistance, subsidy or insurance is one which will not be frequently used or occupied by people, HUD policy is to provide assistance, subsidy or insurance only when written assurances are provided to HUD by the airport operator to the effect that there are no plans to purchase the land involved with such facilities as part of a Runway Clear Zone or Clear Zone acquisition program.

(3) Special notification requirements for Runway Clear Zones and Clear Zones. In all cases involving HUD assistance, subsidy, or insurance for the purchase or sale of an existing property in a Runway Clear Zone or Clear Zone, HUD (or the responsible entity or recipient under 24 CFR part 58) shall advise the buyer that the property is in a Runway Clear Zone or Clear Zone, what the implications of such a location are, and that there is a possibility that the property may, at a later date, be acquired by the airport operator. The buyer must sign a statement acknowledging receipt of this information.

(b) HUD policy for actions in Accident Potential Zones at Military Airfields. HUD policy is to discourage the provision of any assistance, subsidy or insurance for projects and actions in the Accident Potential Zones. To be approved, projects must be generally consistent with the recommendations in the *Land Use Compatibility Guidelines For Accident Potential Zones* chart contained in DOD Instruction 4165.57, 32 CFR part 256.

[49 FR 880, Jan. 6, 1984, as amended at 61 FR 13334, Mar. 26, 1996]

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§51.304 Responsibilities.

(a) The following persons have the authority to approve actions in Accident Potential Zones:

(1) For programs subject to environmental review under 24 CFR part 58: the Certifying Officer of the responsible entity as defined in 24 CFR part 58.

(2) For all other HUD programs: the HUD approving official having approval authority for the project.

(b) The following persons have the authority to approve actions in Runway Clear Zones and Clear Zones:

(1) For programs subject to environmental review under 24 CFR part 58: The Certifying Officer of the responsible entity as defined in 24 CFR part 58.

(2) For all other HUD programs: the Program Assistant Secretary.

[61 FR 13335, Mar. 26, 1996]

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§51.305 Implementation.

(a) Projects already approved for assistance. This regulation does not apply to any project approved for assistance prior to the effective date of the regulation whether the project was actually under construction at that date or not.

(b) Acceptable data on Runway Clear Zones, Clear Zones and Accident Potential Zones. The only Runway Clear Zones, Clear Zones and Accident Potential Zones which will be recognized in applying this part are those provided by the airport operators and which for civil airports are defined in accordance with FAA regulations 14 CFR part 152 or for military airfields, DOD Instruction 4165.57, 32 CFR part 256. All data, including changes, related to the dimensions of Runway Clear Zones for civil airports shall be verified with the nearest FAA Airports District Office before use by HUD.

(c) Changes in Runway Clear Zones, Clear Zones, and Accident Potential Zones. If changes in the Runway Clear Zones, Clear Zones or Accident Potential Zones are made, the field offices shall immediately adopt these revised zones for use in reviewing proposed projects.

(d) The decision to approve projects in the Runway Clear Zones, Clear Zones and Accident Potential Zones must be documented as part of the enviornmental assessment or, when no assessment is required, as part of the project file.

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For questions concerning e-CFR programming and delivery issues, email webteam@gpo.gov.

APPENDIX 2: EQUIPMENT DATA CALIBRATION

Meter #1

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 4081-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2489.07

ilac-MRA

Certificate/SO Number: 17-C6T3Y-20-1 Revision 0

Manufacturer: 3M Company
Model Number: Soundpro SE/DL
Description: Sound Level Meter
Serial Number: BLL100004
ID: NONE

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Feb 07, 2020
Calibration Date: Feb 07, 2020
Due Date: Feb 07, 2021

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC28066-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2011) as follows:
-The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as: greater than the high limit and/or less than the low limit.
-Single measurement results in the acceptance zone are to identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
-When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on seperate report(s).

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level (A Weight)							
AWeight	114dB	±(1 dB)	96.9	98.9	98.1 dB		3.1 : 1
125Hz	114dB	±(1 dB)	104.4	106.4	105.6 dB		2.9 : 1
250Hz	114dB	±(1 dB)	109.8	111.8	110.8 dB		2.8 : 1

Date Received: February 05, 2020
Service Level : R6

Certificate - Page 1 of 3

Customer Number: 1-593031-000

OPS-F20-013R5 08/26/2019 FP001R8 9/23/2019

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 4057-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2469.07

ilac-MRA

Certificate/SO Number: 17-C6M0R-260-1 Revision 0

Manufacturer: 3M Company
Model Number: AC-300
Description: Sound Level Calibrator
Serial Number: AC-300001324
ID: NONE

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Jan 20, 2020
Calibration Date: Jan 20, 2020
Due Date: Jan 20, 2021

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC62139-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2011) as follows:
-The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as greater than the high limit and/or less than the low limit.
-Single measurement results in the acceptance zone are be identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
-When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-16. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level							
	114.0dB	±(0.4 dB)	113.6	114.4	114.0 dB		1.1 : 1
1000Hz							
	114.0dB	±(0.4 dB)	113.6	114.4	114.0 dB		1.1 : 1
250Hz							

Field not applicable.

Date Received: January 17, 2020
Service Level: R3

Customer Number: 1-593031-000

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CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 4067-1

ANAB ACCREDITED CALIBRATION LABORATORY ANAB AC-2489.07

ilac-MRA

Certificate/SO Number: 17-C6M0R-260-1 Revision 0

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
13414	General Radio	1986	Sound Level Calibrator	24-Sep-19	31-Mar-20	CAS-405612-X0D4F 0-901	AF/AL
18985	Simpson Electric Company	886-2	Sound Level Meter	1-Mar-19	31-Mar-20	17-&18985-721-1	AF/AL
21848	Agilent/HP	53131A	Frequency Counter, 2 Channel	11-Apr-19	30-Apr-20	17-&21848-23-1	AF/AL
O10277	Extech Instrument Corporation	407732	Sound Level Meter, Type-2	27-Sep-19	30-Sep-20	17-&O10277-13-1	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp/ RH Asset
67.95°F /19.97°C	44.40%	O10253-1

Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit(calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

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CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 4081-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2489.07

ilac-MRA

Certificate/SO Number: 17-C6T3Y-20-1 Revision 0

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
13414	General Radio	1986	Sound Level Calibrator	24-Sep-19	31-Mar-20	CAS-405612-X0D4F 0-901	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset
68.20°F /20.1°C	51.10%	O10253-1

Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit(calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

Calibrated At:
8334B Arrow Ridge Blvd.
Charlotte, NC 28273

Facility Responsible:
8334B Arrow Ridge Blvd.
Charlotte, NC 28273
800-828-1470

Calibrated By:
Electronically Signed By:
Tracy Dye
Tracy Dye — Feb 07, 2020
Calibration Technician — 11:23:57 -05:00

Reviewed By:
Electronically Signed By:
Adam McCrea
Adam McCrea — Feb 07, 2020
Lab Manager — 11:30:39 -05:00

Unit Barcode: 0900B335889

Date Received: February 05, 2020
Service Level: R6

Customer Number: 1-593031-000

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CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2489.07

ilac-MRA

PO Number: 4081-1

Certificate/SO Number: 17-C6T3Y-20-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level (A Weight)							
500Hz	114dB	±(1 dB)	113.0	115.0	113.9 dB		2.7 : 1
1000Hz	114dB	±(1 dB)	114.2	116.2	115.3 dB		2.7 : 1
2000Hz	114dB	±(1 dB)	114.0	116.0	114.4 dB		1.6 : 1
4000Hz							
Sound Level (C Weight)							
C Weight	114dB	±(1 dB)	113.0	115.0	113.9 dB		2.7 : 1
125Hz	114dB	±(1 dB)	113.0	115.0	114.1 dB		2.7 : 1
250Hz	114dB	±(1 dB)	113.0	115.0	114.0 dB		2.7 : 1
500Hz	114dB	±(1 dB)	113.0	115.0	113.8 dB		2.7 : 1
1000Hz	114dB	±(1 dB)	113.0	115.0	113.9 dB		2.7 : 1
2000Hz	114dB	±(1 dB)	113.0	115.0	113.6 dB		1.6 : 1
4000Hz							
Sound Level Test							
Level Test	74dB	±(1 dB)	73.0	75.0	74.5 dB		2.2 : 1
1kHz	84dB	±(1 dB)	83.0	85.0	83.9 dB		2.2 : 1
1kHz	94dB	±(1 dB)	93.0	95.0	94.1 dB		2.2 : 1
1kHz	104dB	±(1 dB)	103.0	105.0	103.8 dB		2.2 : 1
1kHz	114dB	±(1 dB)	113.0	115.0	113.7 dB		2.7 : 1
1kHz							

Field not applicable.

Date Received: February 05, 2020
Service Level : R6

Customer Number: 1-593031-000
OPS-F20-013R5 08/26/2019 FP001R6 9/23/2019

Villa Blanca Industrial Park Plaza Bairoa Suite 215
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www.sharetechgroup.com

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 4057-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2469.07

ilac-MRA

Certificate/SO Number: 17-C6M0R-260-1 Revision 0

Calibrated At:	Facility Responsible:	Calibrated By:	Reviewed By:
8334B Arrow Ridge Blvd. Charlotte, NC 28273	8334B Arrow Ridge Blvd. Charlotte, NC 28273 800-828-1470	Electronically Signed By: Tracy Dye Tracy Dye — Jan 20, 2020 07:37:21 -05:00 Calibration Technician	Electronically Signed By: Eric Hubrich for Adam McCrea — Jan 20, 2020 08:27:48 -05:00 Lab Manager

Unit Barcode: 0900B333287

Date Received: January 17, 2020
Service Level: R3

Customer Number: 1-593031-000

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
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Meter #2

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

ANAB ACCREDITED ACCREDITED CALIBRATION LABORATORY ANAB AC-2469.07

ilac-MRA

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 3887-1

Certificate/SO Number: 17-C5I5K-260-1 Revision 0

Manufacturer: 3M Company
Model Number: SoundPro DL-1-1/3
Description: Sound Level Meter, Type-1
Serial Number: BLP080003
ID: NONE

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Oct 30, 2019
Calibration Date: Oct 30, 2019
Due Date: Oct 30, 2020

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC28066-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on the certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2011) as follows:
- The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as: greater than the high limit and/or less than the low limit.
- Single measurement results in the acceptance zone are be identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
- When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level (A Weight)							
A Weight	114dB	±(1 dB)	95.9	98.9	97.4 dB		3.1 : 1
125Hz	114dB	±(1 dB)	104.4	108.4	104.9 dB		2.9 : 1
250Hz	114dB	±(1 dB)	109.8	111.8	110.2 dB		2.8 : 1

Date Received: October 23, 2019
Service Level: R6

Customer Number: 1-593031-000

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
www.sharetechgroup.com

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2489.07

ilac-MRA

PO Number: 3887-1

Certificate/SO Number: 17-C5I5K-260-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level (A Weight)							
500Hz	114dB	±(1 dB)	113.0	115.0	113.4 dB		2.7 : 1
1000Hz	114dB	±(1 dB)	114.2	116.2	114.5 dB		2.7 : 1
2000Hz	114dB	±(1 dB)	114.0	116.0	114.3 dB		1.6 : 1
4000Hz							
Sound Level (C Weight)							
C Weight	114dB	±(1 dB)	113.0	115.0	113.3 dB		2.7 : 1
125Hz	114dB	±(1 dB)	113.0	115.0	113.3 dB		2.7 : 1
250Hz	114dB	±(1 dB)	113.0	115.0	113.3 dB		2.7 : 1
500Hz	114dB	±(1 dB)	113.0	115.0	113.5 dB		2.7 : 1
1000Hz	114dB	±(1 dB)	113.0	115.0	113.4 dB		2.7 : 1
2000Hz	114dB	±(1 dB)	113.0	115.0	113.3 dB		1.6 : 1
4000Hz							
Sound Level Test							
Level Test	74dB	±(1 dB)	73.0	75.0	73.4 dB		2.2 : 1
1kHz	84dB	±(1 dB)	83.0	85.0	83.3 dB		2.2 : 1
1kHz	94dB	±(1 dB)	93.0	95.0	93.3 dB		2.2 : 1
1kHz	104dB	±(1 dB)	103.0	105.0	103.3 dB		2.2 : 1
1kHz	114dB	±(1 dB)	113.0	115.0	113.4 dB		2.7 : 1
1kHz							

Field not applicable.

Date Received: October 23, 2019
Service Level : R6

Customer Number: 1-593031-000
OPS-F20-013R5 08/26/2019 FP001R6 9/23/2019

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
www.sharetechgroup.com

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 3887-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2469.07

ilac-MRA

Certificate/SO Number: 17-C5I5K-260-1 Revision 0

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
13414	General Radio	1986	Sound Level Calibrator	24-Sep-19	31-Mar-20	CAS-405612-X0D4F 0-901	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset
67.14°F /19.52°C	62.60%	010253-1

Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit(calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

Calibrated At:
8334B Arrow Ridge Blvd.
Charlotte, NC 28273

Facility Responsible:
8334B Arrow Ridge Blvd
Charlotte, NC 28273
800-828-1470

Calibrated By:
Electronically Signed By:
Tracy Dye

Tracy Dye	Oct 30, 2019
Calibration Technician	09:47:04 -04:00

Reviewed By:
Electronically Signed By:
Adam McCrea

Adam McCrea	Oct 30, 2019
Lab Manager	09:54:48 -04:00

Unit Barcode: 600B0202121

Date Received: October 23, 2019
Service Level: R6

Customer Number: 1-593031-000

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
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CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 3887-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2489.07

Certificate/SO Number: 17-C5I5K-240-1 Revision 0

Manufacturer: 3M Company
Model Number: AC-300
Description: Sound Level Calibrator
Serial Number: AC300005899
ID: NONE

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Oct 30, 2019
Calibration Date: Oct 30, 2019
Due Date: Oct 30, 2020

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC02139-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2011) as follows:
-The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as: greater than the high limit and/or less than the low limit.
-Single measurement results in the acceptance zone are be identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
-When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Source Level							
1000Hz	114.0dB	±(0.4 dB)	113.6	114.4	114.1 dB		1.1 : 1
250Hz	114.0dB	±(0.4 dB)	113.6	114.4	114.1 dB		1.1 : 1

Date Received: October 23, 2019
Service Level: R5

Customer Number: 1-593031-000

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Caguas, P.R. 00725
www.sharetechgroup.com

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 3887-1

ANAB ACCREDITED CALIBRATION LABORATORY ANAB AC-2439.07

ilac-MRA

Certificate/SO Number: 17-C5I5K-240-1 Revision 0

As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	TUR
Frequency (Hz) Measure							
Frequency	1000Hz	±(0.5% Rdg)	995	1005	1000 Hz		
	250.0Hz	±(0.5% Rdg)	248.7	251.3	250.4 Hz		

Field not applicable.

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
13414	General Radio	1986	Sound Level Calibrator	24-Sep-19	31-Mar-20	CAS-405612-X0D4F0-901	AF/AL
18985	Simpson Electric Company	886-2	Sound Level Meter	1-Mar-19	31-Mar-20	17-&18985-721-1	AF/AL
O10051	HP	53132A opt 010	Frequency Counter, 2 Channel	27-Dec-18	31-Dec-19	17-&O10051-24-2	AF/AL
O10277	Extech Instrument Corporation	407732	Sound Level Meter, Type-2	27-Sep-19	30-Sep-20	17-&O10277-13-1	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp/ RH Asset
66.67°F /19.26°C	61.40%	O10253-1

Date Received: October 23, 2019
Service Level: R6

Customer Number: 1-593031-000
OPS-F20-013R5 08/26/2019 FP001R6 9/23/2019

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
www.sharetechgroup.com

CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: RAECO RENTS LLC
135 BERNICE DRIVE
BENSENVILLE, IL 60106

PO Number: 3887-1

ANAB ACCREDITED CALIBRATION LABORATORY
ANAB AC-2469.07

ilac-MRA

Certificate/SO Number: 17-C5I5K-240-1 Revision 0

Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit(calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio: ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

Calibrated At:
8334B Arrow Ridge Blvd.
Charlotte, NC 28273

Facility Responsible:
8334B Arrow Ridge Blvd
Charlotte, NC 28273
800-828-1470

Calibrated By:
Electronically Signed By:
Tracy Dye

Tracy Dye	Oct 30, 2019
Calibration Technician	09:24:30 -04:00

Reviewed By:
Electronically Signed By:
Adam McCrea

Adam McCrea	Oct 30, 2019
Lab Manager	09:32:15 -04:00

Unit Barcode: 900802021222

Date Received: October 23, 2019
Service Level: R6

Customer Number: 1-593031-000

Villa Blanca Industrial Park Plaza Bairoa Suite 215
Caguas, P.R. 00725
www.sharetechgroup.com

APPENDIX 3: NOISE LEVEL MEASUREMENT AND GRAPHS

Session Report

10/9/2020

Information Panel

Name	Monitoring Station #1- Daytime Period
Start Time	10/9/2020 7:02:30 AM
Stop Time	10/9/2020 7:32:56 AM
Device Name	BLL100004
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:26
Description	Located at South- east Site of the Casa Linda del Sur Apartments Located at South-East side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	51.2 dB	L10	1	52.3 dB
Takt	1	53.3 dB	LDN	1	51.2 dB
L90	1	49.7 dB	Rtime	1	00:30:26
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

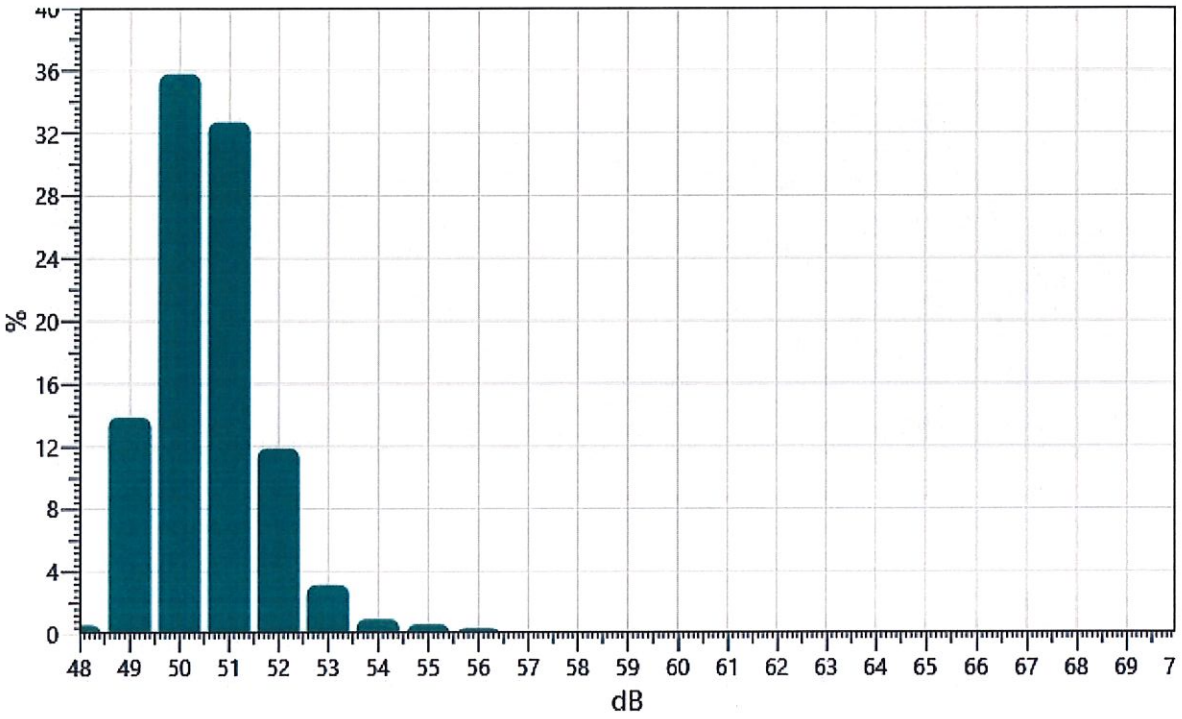
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
48:	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.10	0.15	0.26	0.56
49:	0.34	0.53	0.68	0.89	1.07	1.39	1.67	2.07	2.39	2.81	13.84
50:	3.41	3.56	2.20	3.19	3.26	3.64	3.98	4.16	4.09	4.29	35.78
51:	4.40	4.12	4.07	3.78	3.51	3.29	2.89	2.56	2.17	1.90	32.70
52:	1.74	1.64	1.49	1.33	1.20	1.11	0.99	0.88	0.78	0.69	11.86
53:	0.59	0.55	0.29	0.35	0.31	0.30	0.24	0.20	0.17	0.13	3.12
54:	0.14	0.13	0.11	0.09	0.09	0.08	0.08	0.08	0.06	0.08	0.94
55:	0.08	0.06	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.06	0.59
56:	0.06	0.06	0.04	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.34
57:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.11
58:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.07
59:	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.05
60:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

61:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
62:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Statistics Chart

Monitoring Station #1- Daytime Period: Statistics Chart

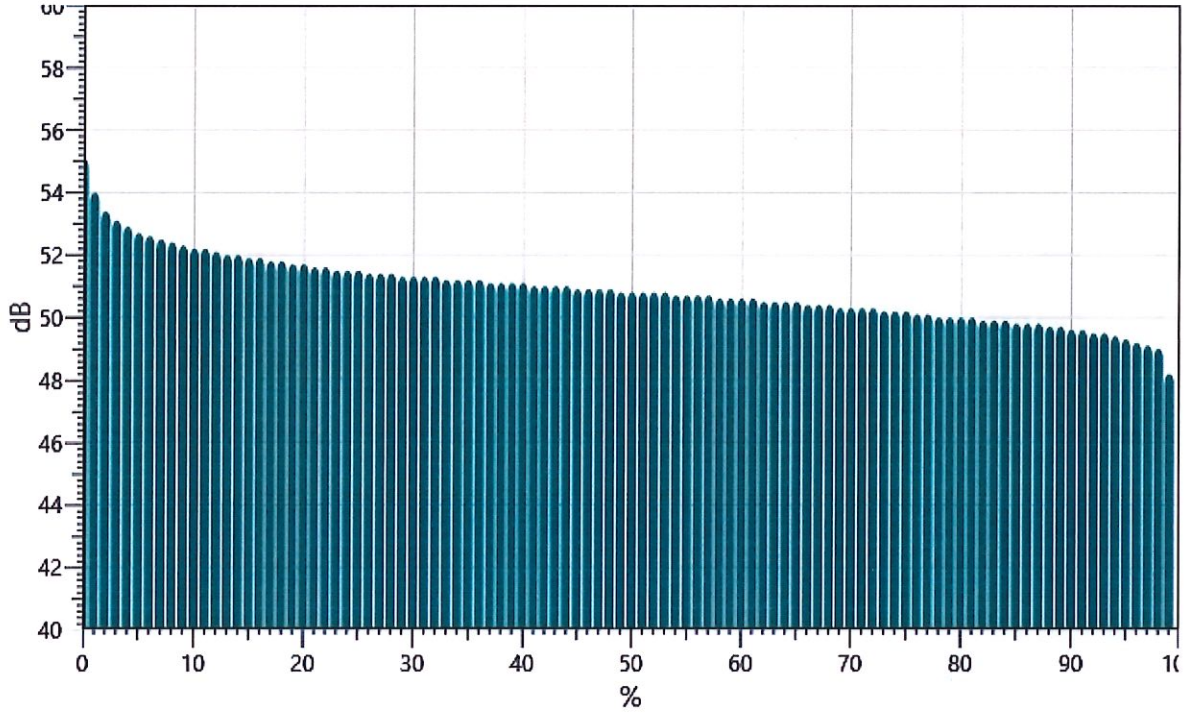


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		55.1	54.0	53.4	53.1	52.9	52.7	52.6	52.5	52.4
10%:	52.3	52.2	52.2	52.1	52.0	52.0	51.9	51.9	51.8	51.8
20%:	51.7	51.7	51.6	51.6	51.5	51.5	51.5	51.4	51.4	51.4
30%:	51.3	51.3	51.3	51.3	51.2	51.2	51.2	51.2	51.1	51.1
40%:	51.1	51.1	51.0	51.0	51.0	51.0	50.9	50.9	50.9	50.9
50%:	50.8	50.8	50.8	50.8	50.8	50.7	50.7	50.7	50.7	50.6
60%:	50.6	50.6	50.6	50.5	50.5	50.5	50.5	50.4	50.4	50.4
70%:	50.3	50.3	50.3	50.3	50.2	50.2	50.2	50.1	50.1	50.0
80%:	50.0	50.0	50.0	49.9	49.9	49.9	49.8	49.8	49.8	49.7
90%:	49.7	49.6	49.6	49.5	49.5	49.4	49.3	49.2	49.1	49.0
100%:	48.2									

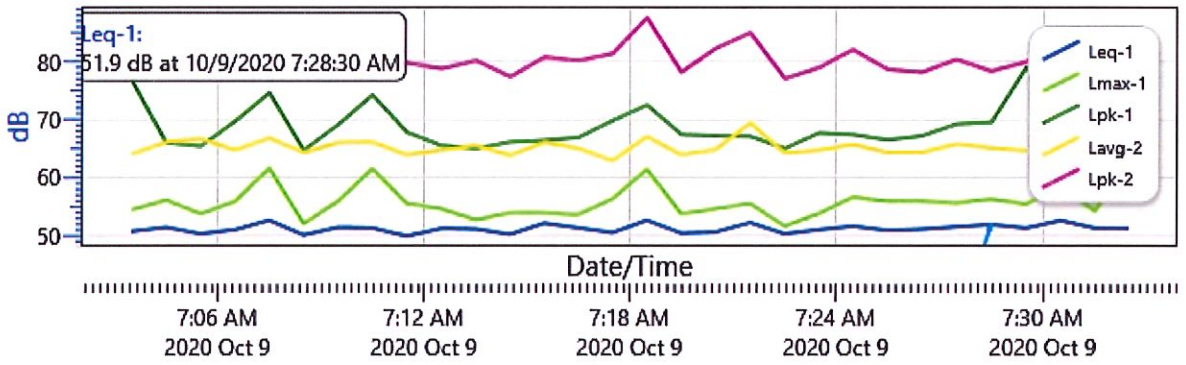
Exceedance Chart

Monitoring Station #1- Daytime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #1- Daytime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #1 - Nighttime Period
Start Time	10/9/2020 5:42:01 AM
Stop Time	10/9/2020 6:12:10 AM
Device Name	BLL100004
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:09
Description	Located at South-East side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	64.2 dB	L10	1	55.1 dB
Takt	1	62.1 dB	LDN	1	64.2 dB
L90	1	51.5 dB	Rtime	1	00:30:09
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

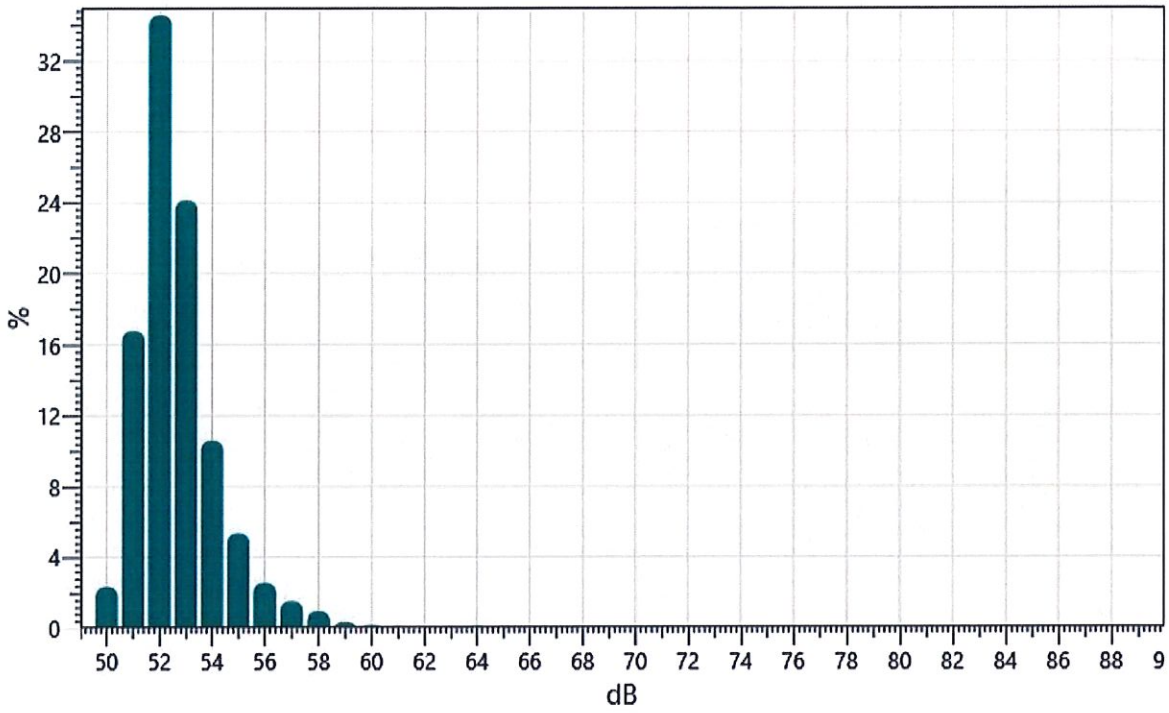
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
49:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
50:	0.01	0.03	0.03	0.06	0.11	0.20	0.28	0.41	0.55	0.65	2.34
51:	0.78	0.88	1.18	1.33	1.54	1.81	2.09	2.23	2.37	2.57	16.77
52:	2.75	2.96	2.96	3.14	3.53	3.71	3.80	3.96	4.00	3.76	34.57
53:	3.75	3.69	2.12	2.72	2.43	2.27	2.05	1.89	1.69	1.51	24.13
54:	1.45	1.29	1.18	1.11	1.07	1.00	0.95	0.91	0.83	0.79	10.58
55:	0.75	0.68	0.62	0.59	0.51	0.49	0.48	0.40	0.41	0.40	5.34
56:	0.36	0.38	0.22	0.25	0.27	0.25	0.20	0.22	0.19	0.19	2.55
57:	0.18	0.18	0.15	0.15	0.14	0.16	0.15	0.14	0.13	0.14	1.52
58:	0.13	0.11	0.12	0.11	0.09	0.09	0.09	0.09	0.07	0.06	0.95
59:	0.06	0.05	0.03	0.03	0.03	0.04	0.03	0.02	0.03	0.03	0.34
60:	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.18
61:	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.14

62:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
63:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
64:	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.15
65:	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
66:	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
67:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
68:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
69:	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
70:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
71:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Statistics Chart

Monitoring Station #1 - Nighttime Period: Statistics Chart

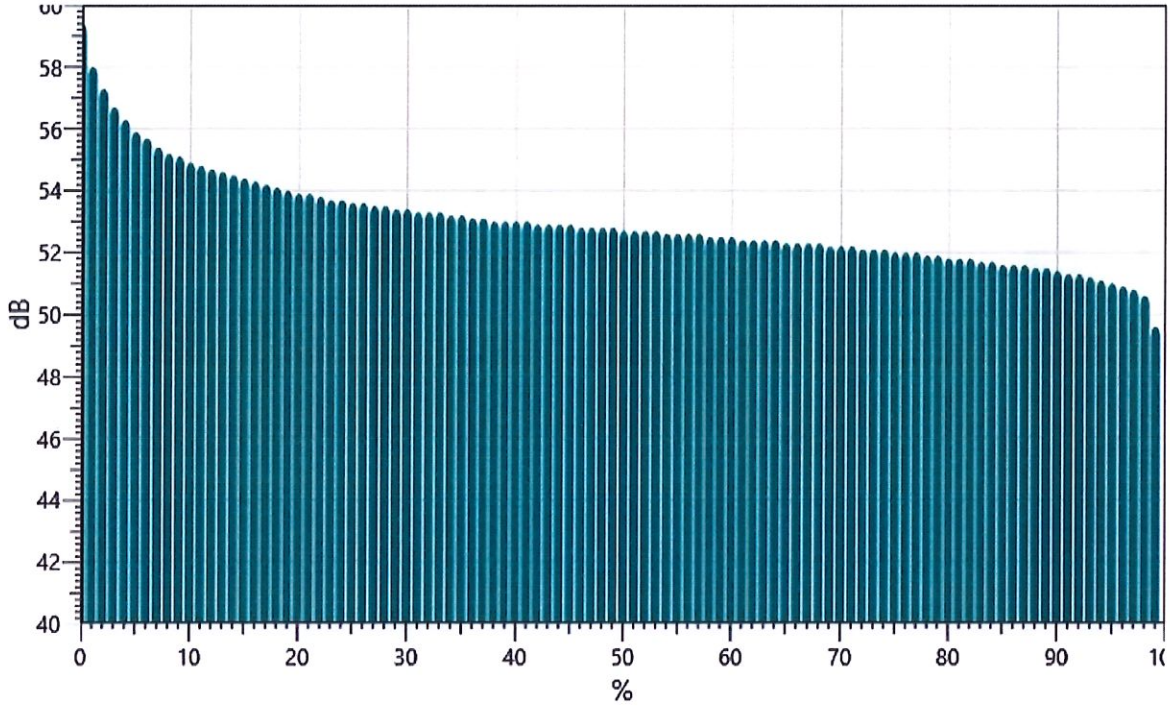


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		59.4	58.0	57.3	56.7	56.3	55.9	55.7	55.4	55.2
10%:	55.1	54.9	54.8	54.7	54.6	54.5	54.4	54.3	54.2	54.1
20%:	54.0	53.9	53.9	53.8	53.7	53.7	53.6	53.6	53.5	53.5
30%:	53.4	53.4	53.3	53.3	53.3	53.2	53.2	53.1	53.1	53.0
40%:	53.0	53.0	53.0	52.9	52.9	52.9	52.9	52.8	52.8	52.8
50%:	52.8	52.7	52.7	52.7	52.7	52.6	52.6	52.6	52.6	52.5
60%:	52.5	52.5	52.4	52.4	52.4	52.4	52.3	52.3	52.3	52.3
70%:	52.2	52.2	52.2	52.1	52.1	52.1	52.0	52.0	52.0	51.9
80%:	51.9	51.8	51.8	51.8	51.7	51.7	51.6	51.6	51.6	51.5
90%:	51.5	51.4	51.3	51.3	51.2	51.1	51.0	50.9	50.8	50.6
100%:	49.6									

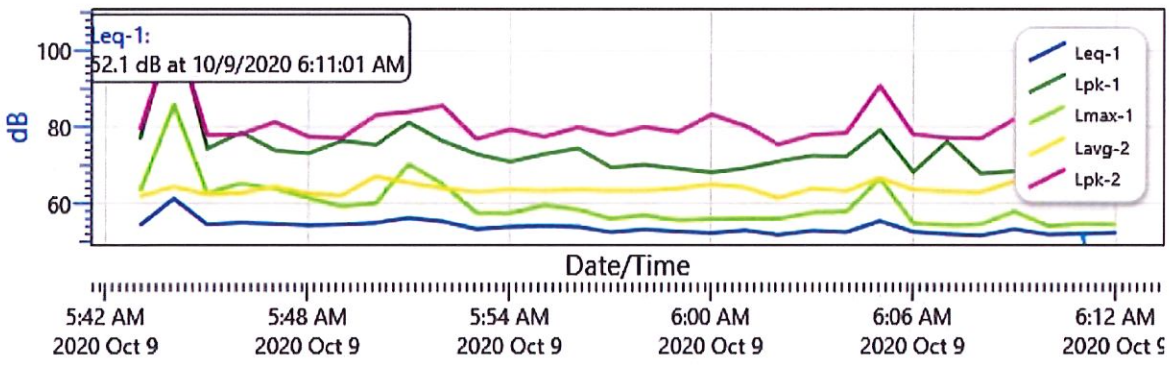
Exceedance Chart

Monitoring Station #1 - Nighttime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #1 - Nighttime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #2- Daytime Period
Start Time	10/9/2020 7:01:54 AM
Stop Time	10/9/2020 7:32:06 AM
Device Name	BLP080003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:12
Description	Located at North-East Side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	53.1 dB	L10	1	54.7 dB
Takt	1	55.4 dB	LDN	1	53.1 dB
L90	1	50.5 dB	Rtime	1	00:30:12
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

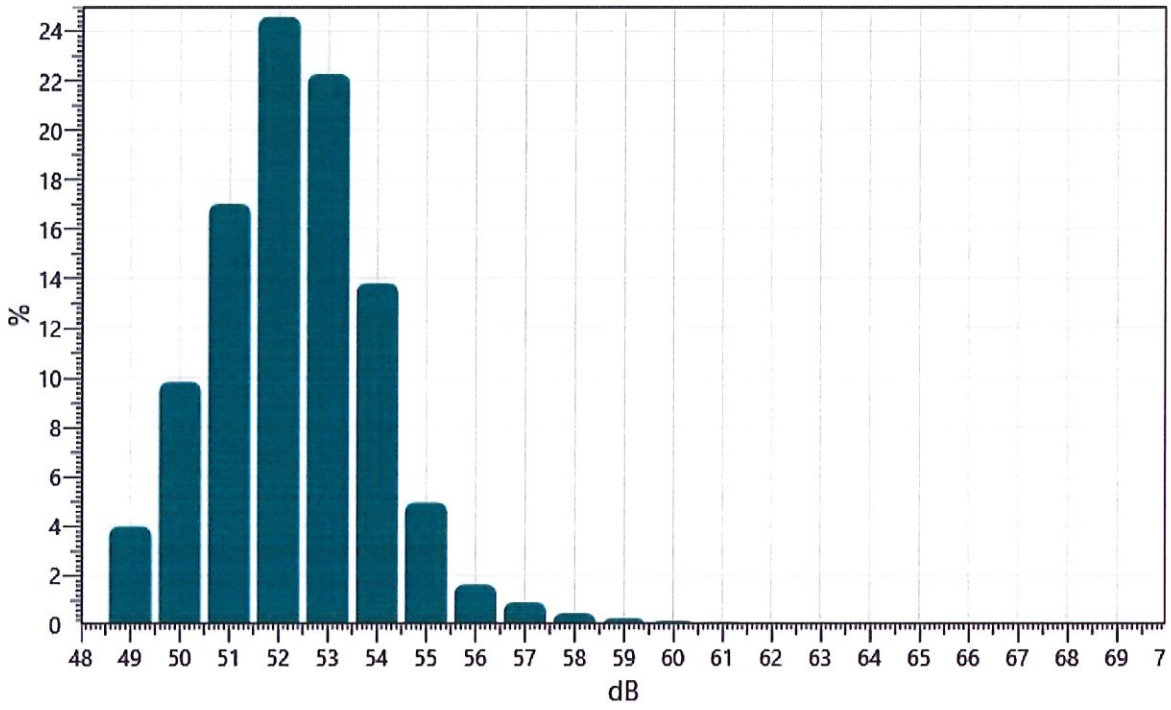
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
48:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.05	0.07
49:	0.10	0.16	0.14	0.30	0.40	0.52	0.52	0.58	0.58	0.65	3.96
50:	0.74	0.77	0.81	0.85	0.94	1.09	1.10	1.15	1.11	1.27	9.83
51:	1.38	1.39	1.43	1.47	1.64	1.61	1.79	1.95	2.13	2.22	17.02
52:	2.33	2.72	1.82	2.42	2.35	2.47	2.53	2.57	2.67	2.68	24.57
53:	2.70	2.67	2.52	2.40	2.27	2.15	2.03	2.00	1.80	1.74	22.26
54:	1.73	1.73	1.74	1.63	1.44	1.35	1.16	1.12	0.98	0.91	13.80
55:	0.87	0.76	0.48	0.54	0.53	0.43	0.37	0.37	0.30	0.28	4.94
56:	0.27	0.22	0.20	0.14	0.13	0.12	0.12	0.14	0.13	0.13	1.61
57:	0.14	0.12	0.10	0.11	0.08	0.08	0.07	0.06	0.07	0.06	0.89
58:	0.07	0.07	0.05	0.05	0.05	0.03	0.04	0.03	0.03	0.03	0.45
59:	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.25
60:	0.02	0.02	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.15

61:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
62:	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.04
63:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03
64:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
65:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Statistics Chart

Monitoring Station #2- Daytime Period: Statistics Chart



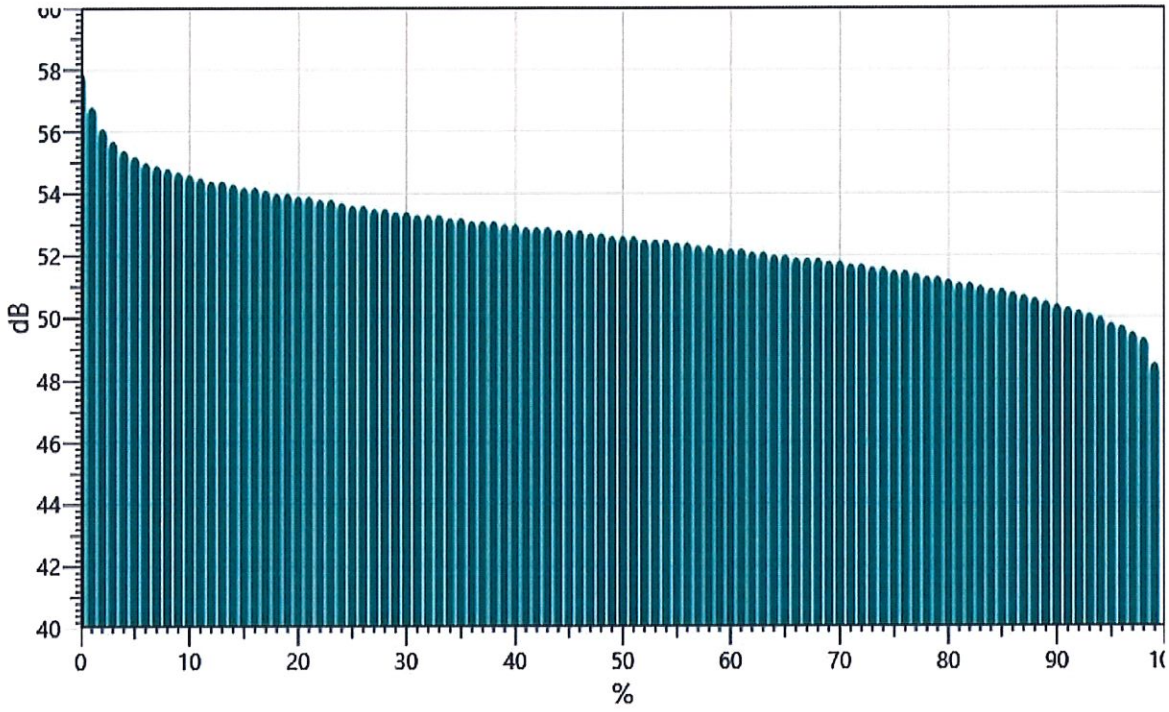
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		57.9	56.8	56.1	55.7	55.4	55.2	55.0	54.9	54.8
10%:	54.7	54.6	54.5	54.4	54.4	54.3	54.2	54.2	54.1	54.0
20%:	54.0	53.9	53.9	53.8	53.8	53.7	53.6	53.6	53.5	53.5
30%:	53.4	53.4	53.3	53.3	53.3	53.2	53.2	53.1	53.1	53.1
40%:	53.0	53.0	52.9	52.9	52.9	52.8	52.8	52.8	52.7	52.7
50%:	52.6	52.6	52.6	52.5	52.5	52.5	52.4	52.4	52.3	52.3
60%:	52.2	52.2	52.2	52.1	52.1	52.0	52.0	51.9	51.9	51.9
70%:	51.8	51.8	51.7	51.7	51.6	51.6	51.5	51.5	51.4	51.3
80%:	51.3	51.2	51.1	51.1	51.0	50.9	50.9	50.8	50.7	50.6
90%:	50.5	50.4	50.3	50.2	50.1	50.0	49.8	49.7	49.5	49.3

100%: 48.5

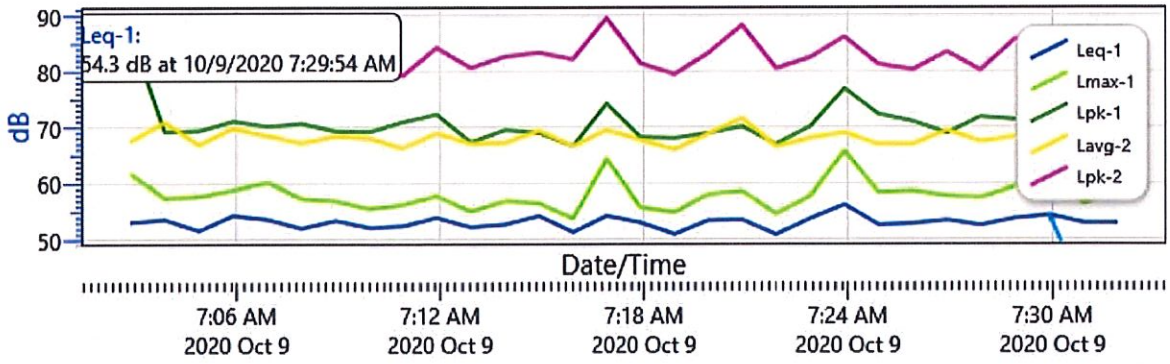
Exceedance Chart

Monitoring Station #2- Daytime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #2- Daytime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #2- Nighttime Period
Start Time	10/9/2020 5:40:46 AM
Stop Time	10/9/2020 6:10:49 AM
Device Name	BLP080003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:03
Description	Located at North-East side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	67 dB	L10	1	59.4 dB
Takt	1	62.7 dB	LDN	1	67 dB
L90	1	52.6 dB	Rtime	1	00:30:03
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

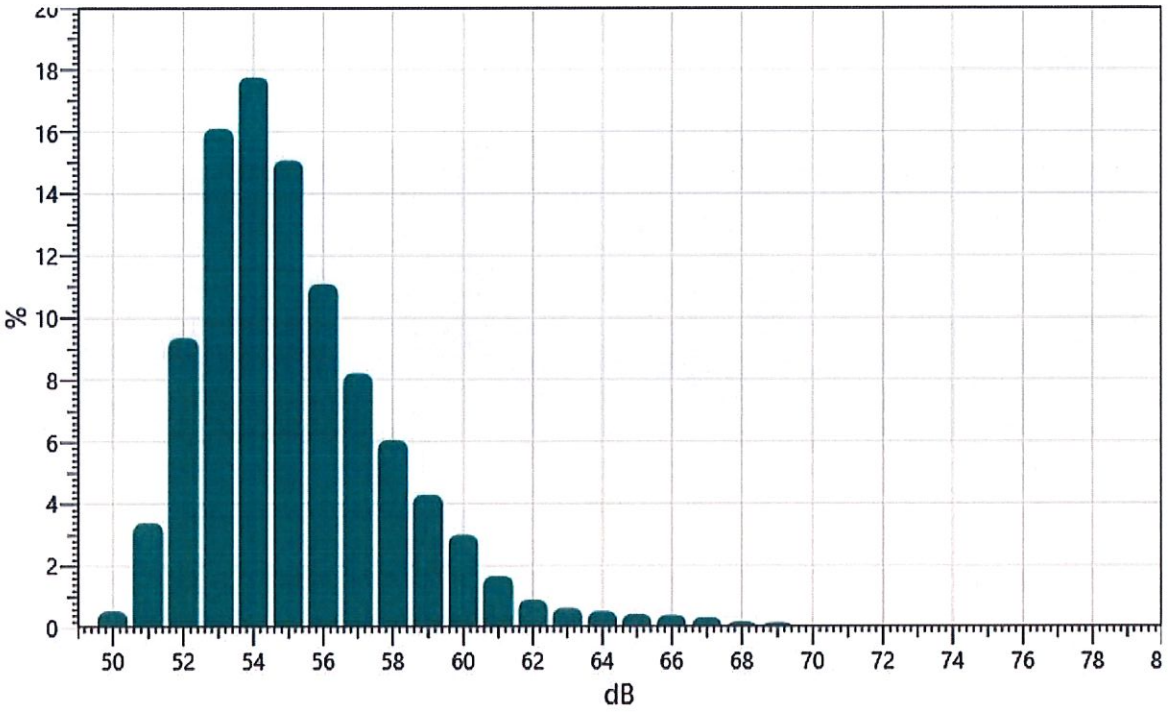
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
49:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50:	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.08	0.12	0.12	0.53
51:	0.17	0.23	0.23	0.23	0.28	0.29	0.35	0.43	0.54	0.63	3.37
52:	0.73	0.86	0.59	0.88	0.93	0.96	1.05	1.04	1.12	1.19	9.34
53:	1.32	1.36	1.42	1.57	1.59	1.65	1.78	1.85	1.81	1.76	16.11
54:	1.73	1.77	1.78	1.80	1.78	1.74	1.78	1.81	1.86	1.72	17.76
55:	1.82	1.85	1.19	1.60	1.55	1.49	1.51	1.42	1.34	1.31	15.08
56:	1.25	1.26	1.20	1.14	1.10	1.09	1.03	1.02	1.01	0.98	11.08
57:	0.95	0.90	0.86	0.84	0.82	0.73	0.78	0.77	0.77	0.78	8.20
58:	0.78	0.79	0.54	0.61	0.60	0.57	0.58	0.55	0.50	0.52	6.05
59:	0.52	0.45	0.46	0.43	0.43	0.45	0.41	0.37	0.39	0.37	4.28
60:	0.34	0.32	0.34	0.30	0.32	0.28	0.28	0.27	0.27	0.26	2.99
61:	0.22	0.25	0.19	0.11	0.17	0.16	0.16	0.14	0.13	0.14	1.66

62:	0.11	0.10	0.10	0.09	0.09	0.07	0.09	0.08	0.08	0.07	0.89
63:	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.05	0.06	0.63
64:	0.07	0.06	0.05	0.04	0.05	0.05	0.06	0.05	0.05	0.05	0.52
65:	0.05	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.03	0.43
66:	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.39
67:	0.04	0.04	0.04	0.01	0.03	0.04	0.03	0.03	0.03	0.03	0.31
68:	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.17
69:	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.15
70:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
71:	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02

Statistics Chart

Monitoring Station #2- Nighttime Period: Statistics Chart



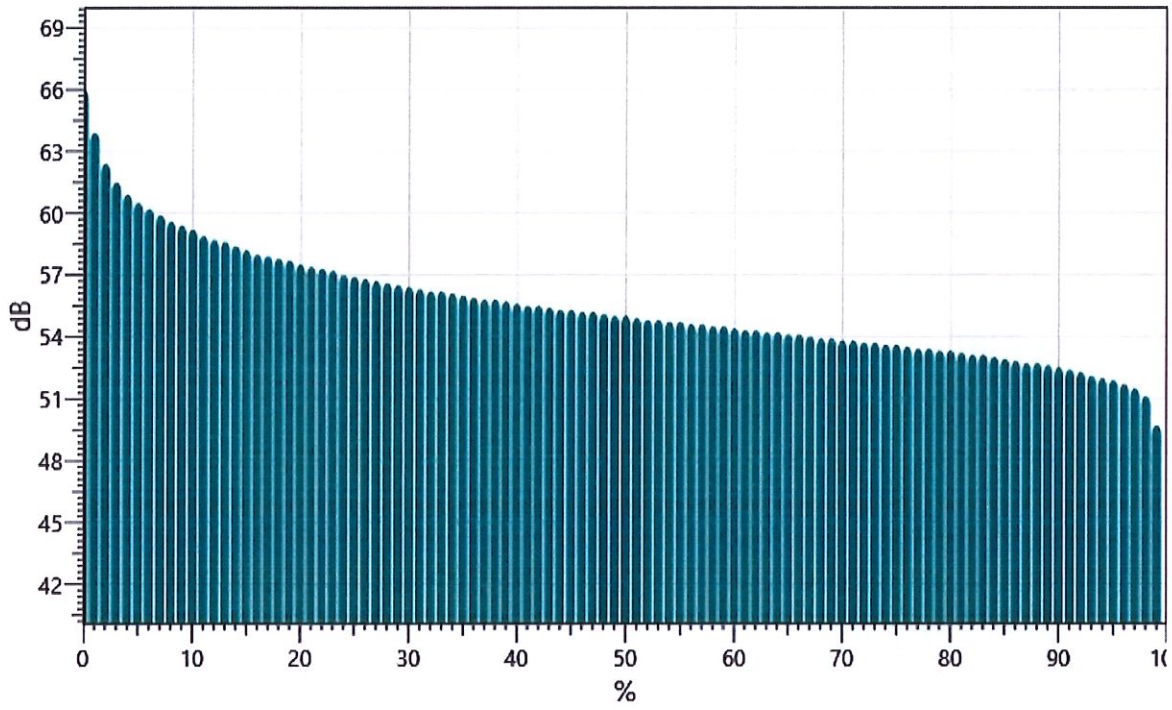
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		66.0	63.9	62.4	61.5	60.9	60.5	60.2	59.9	59.6
10%:	59.4	59.2	58.9	58.7	58.6	58.4	58.2	58.0	57.9	57.8
20%:	57.7	57.5	57.4	57.3	57.2	57.0	56.9	56.8	56.7	56.6
30%:	56.5	56.4	56.3	56.2	56.2	56.1	56.0	55.9	55.8	55.8
40%:	55.7	55.6	55.5	55.5	55.4	55.3	55.3	55.2	55.2	55.1

50%:	55.0	55.0	54.9	54.8	54.8	54.7	54.7	54.6	54.6	54.5
60%:	54.5	54.4	54.3	54.3	54.2	54.2	54.1	54.1	54.0	53.9
70%:	53.9	53.8	53.8	53.7	53.7	53.6	53.6	53.5	53.4	53.4
80%:	53.3	53.3	53.2	53.1	53.1	53.0	52.9	52.8	52.7	52.7
90%:	52.6	52.5	52.4	52.3	52.1	52.0	51.9	51.7	51.5	51.1
100%:	49.7									

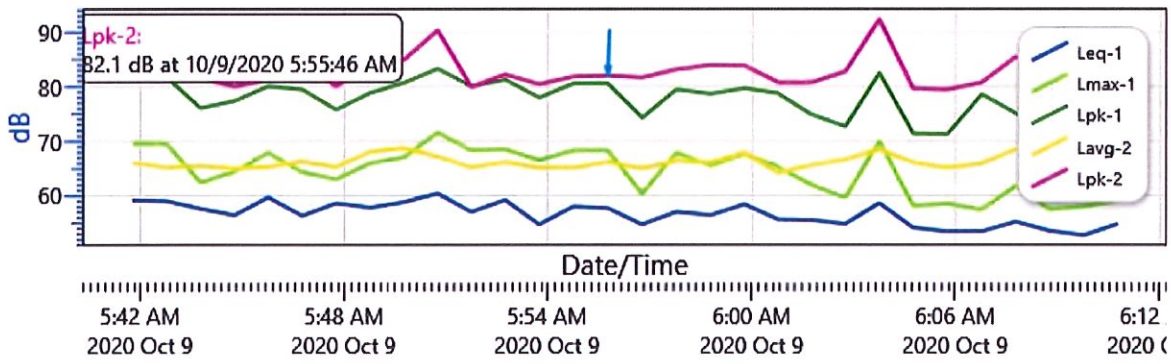
Exceedance Chart

Monitoring Station #2- Nighttime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #2- Nighttime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #3- Daytime Period
Start Time	10/9/2020 7:33:59 AM
Stop Time	10/9/2020 8:04:11 AM
Device Name	BLL100004
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:12
Description	Located at North-West side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	53 dB	L10	1	54.6 dB
Takt	1	56.9 dB	LDN	1	53 dB
L90	1	47 dB	Rtime	1	00:30:12
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

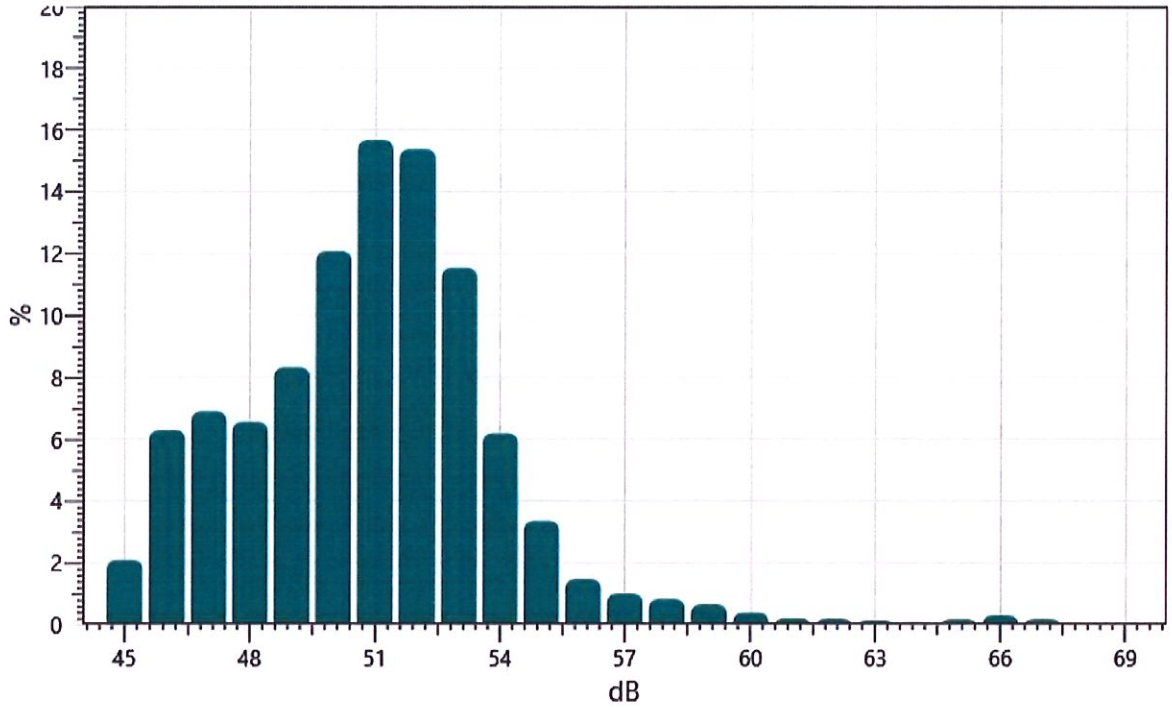
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
44:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.04	0.08
45:	0.06	0.09	0.13	0.17	0.18	0.21	0.24	0.30	0.34	0.36	2.09
46:	0.42	0.50	0.54	0.61	0.59	0.65	0.62	0.71	0.80	0.84	6.29
47:	0.90	0.90	0.53	0.73	0.62	0.63	0.68	0.68	0.61	0.63	6.90
48:	0.63	0.58	0.64	0.64	0.68	0.60	0.68	0.66	0.73	0.71	6.55
49:	0.71	0.77	0.83	0.89	0.83	0.77	0.83	0.87	0.89	0.93	8.32
50:	1.04	1.20	0.76	1.14	1.07	1.15	1.27	1.36	1.55	1.52	12.07
51:	1.56	1.60	1.65	1.69	1.63	1.52	1.49	1.50	1.51	1.52	15.67
52:	1.66	1.55	1.58	1.48	1.52	1.46	1.48	1.55	1.60	1.50	15.38
53:	1.55	1.53	0.94	1.31	1.20	1.03	1.07	0.98	0.99	0.93	11.54
54:	0.85	0.85	0.75	0.71	0.58	0.54	0.54	0.48	0.44	0.43	6.18
55:	0.43	0.43	0.43	0.41	0.37	0.32	0.28	0.23	0.24	0.22	3.35
56:	0.22	0.18	0.12	0.17	0.15	0.14	0.13	0.12	0.12	0.12	1.47

57:	0.11	0.10	0.11	0.11	0.10	0.10	0.10	0.09	0.10	0.08	1.00
58:	0.09	0.09	0.10	0.10	0.09	0.08	0.08	0.06	0.08	0.07	0.83
59:	0.05	0.08	0.05	0.08	0.06	0.08	0.07	0.07	0.06	0.06	0.66
60:	0.06	0.05	0.06	0.05	0.04	0.04	0.03	0.03	0.02	0.01	0.39
61:	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.20
62:	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.03	0.01	0.02	0.18
63:	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.13
64:	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.08
65:	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.17
66:	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.04	0.04	0.04	0.30
67:	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.01	0.01	0.00	0.18
68:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Statistics Chart

Monitoring Station #3- Daytime Period: Statistics Chart



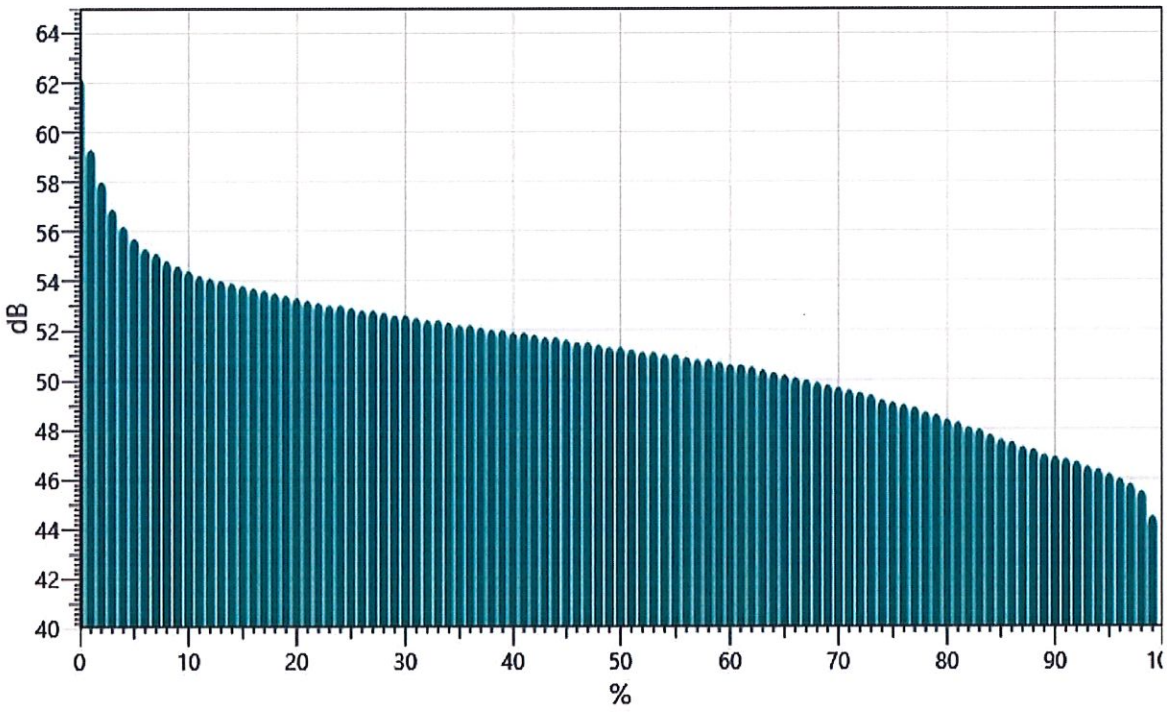
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		62.2	59.3	58.0	56.9	56.2	55.7	55.3	55.1	54.8
10%:	54.6	54.4	54.2	54.1	54.0	53.9	53.8	53.7	53.6	53.5

20%:	53.4	53.3	53.2	53.1	53.0	53.0	52.9	52.8	52.8	52.7
30%:	52.6	52.6	52.5	52.4	52.4	52.3	52.2	52.2	52.1	52.0
40%:	52.0	51.9	51.9	51.8	51.7	51.7	51.6	51.5	51.5	51.4
50%:	51.3	51.3	51.2	51.1	51.1	51.0	51.0	50.9	50.8	50.8
60%:	50.7	50.6	50.6	50.5	50.4	50.3	50.2	50.1	50.0	49.9
70%:	49.8	49.7	49.6	49.5	49.4	49.2	49.1	49.0	48.9	48.7
80%:	48.6	48.4	48.3	48.1	48.0	47.8	47.6	47.5	47.3	47.2
90%:	47.0	46.9	46.8	46.7	46.5	46.4	46.2	46.0	45.8	45.5
100%:	44.5									

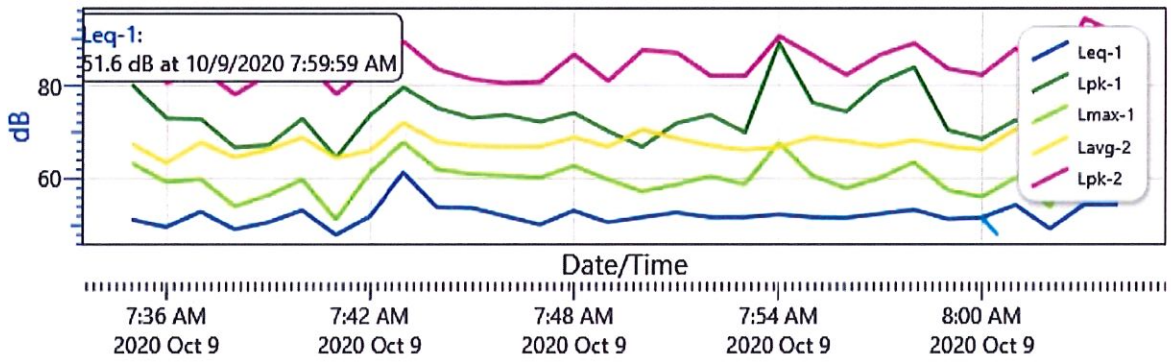
Exceedance Chart

Monitoring Station #3- Daytime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #3- Daytime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #3 - Nighttime Period
Start Time	10/9/2020 6:14:02 AM
Stop Time	10/9/2020 6:44:13 AM
Device Name	BLL100004
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:11
Description	Located at North-West side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	65 dB	L10	1	55.4 dB
Takt	1	61.6 dB	LDN	1	65 dB
L90	1	48.8 dB	Rtime	1	00:30:11
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

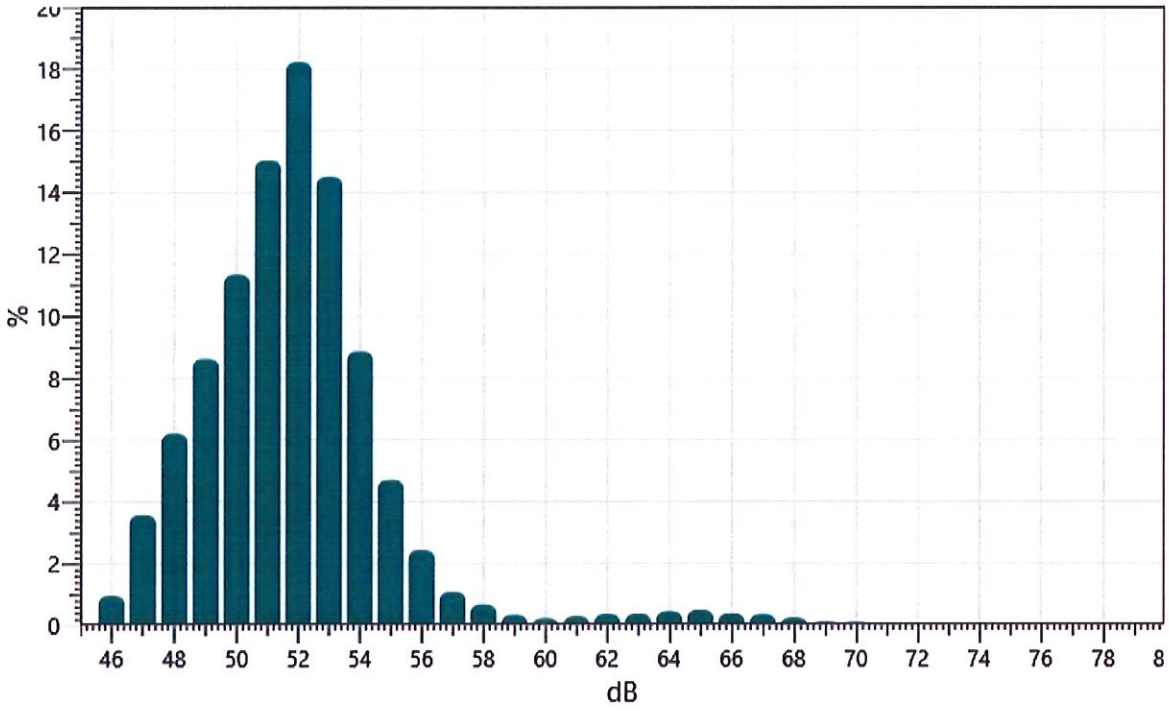
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
45:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
46:	0.01	0.02	0.03	0.03	0.06	0.08	0.13	0.17	0.22	0.22	0.96
47:	0.23	0.25	0.18	0.27	0.33	0.35	0.41	0.46	0.55	0.54	3.57
48:	0.53	0.54	0.54	0.59	0.60	0.63	0.60	0.69	0.71	0.78	6.20
49:	0.74	0.79	0.79	0.78	0.78	0.81	0.87	0.91	0.98	1.17	8.62
50:	1.16	1.29	0.77	1.11	1.08	1.15	1.12	1.16	1.24	1.25	11.34
51:	1.29	1.32	1.31	1.42	1.47	1.55	1.68	1.62	1.65	1.72	15.04
52:	1.72	1.83	1.82	1.81	1.94	1.78	1.76	1.89	1.81	1.86	18.22
53:	1.85	1.91	1.16	1.52	1.50	1.40	1.36	1.29	1.26	1.26	14.51
54:	1.21	1.15	1.08	0.99	0.87	0.81	0.74	0.70	0.71	0.62	8.86
55:	0.56	0.58	0.51	0.49	0.46	0.47	0.42	0.41	0.39	0.40	4.71
56:	0.35	0.34	0.21	0.27	0.27	0.22	0.22	0.21	0.17	0.17	2.43
57:	0.14	0.14	0.13	0.11	0.10	0.11	0.08	0.09	0.10	0.08	1.08

58:	0.07	0.09	0.09	0.06	0.07	0.07	0.07	0.05	0.06	0.06	0.67
59:	0.03	0.05	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.02	0.33
60:	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.22
61:	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.05	0.05	0.29
62:	0.04	0.03	0.03	0.04	0.03	0.04	0.04	0.03	0.04	0.04	0.35
63:	0.04	0.03	0.04	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.36
64:	0.04	0.03	0.04	0.03	0.04	0.04	0.05	0.06	0.05	0.05	0.44
65:	0.06	0.06	0.03	0.06	0.05	0.04	0.06	0.04	0.05	0.04	0.49
66:	0.04	0.03	0.04	0.04	0.05	0.03	0.03	0.04	0.03	0.03	0.38
67:	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.04	0.34
68:	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.23
69:	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
70:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
71:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
72:	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05
73:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

Statistics Chart

Monitoring Station #3 - Nighttime Period: Statistics Chart

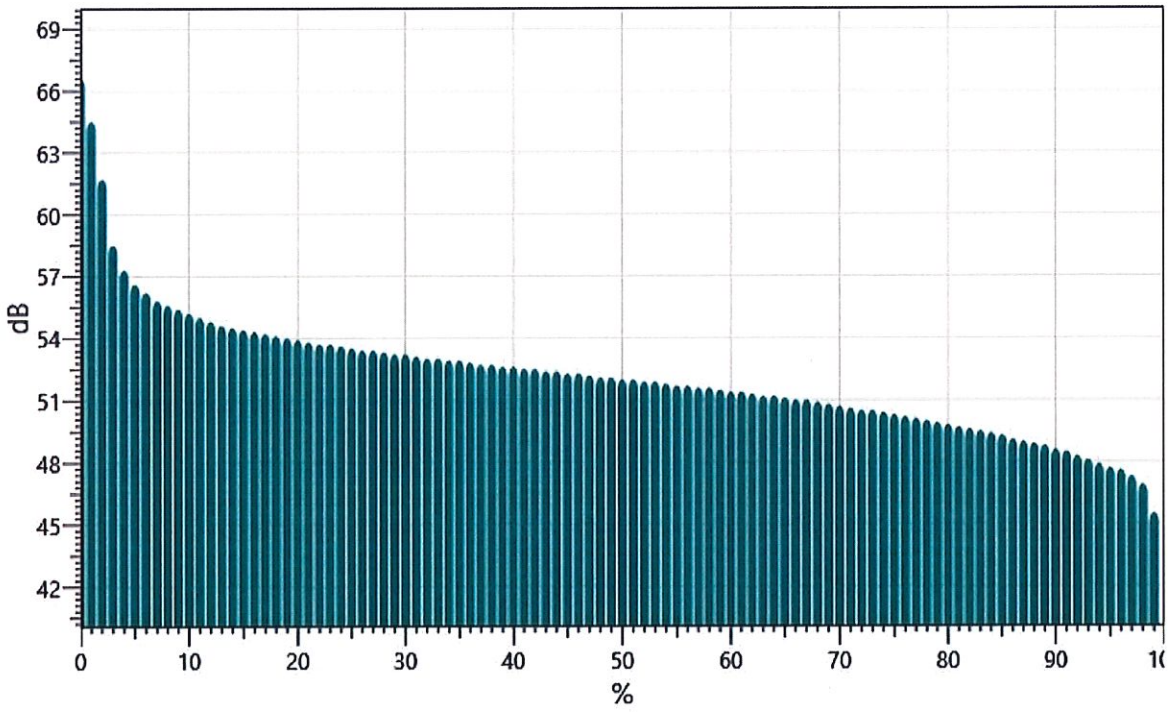


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		66.6	64.5	61.7	58.5	57.3	56.6	56.2	55.8	55.6
10%:	55.4	55.2	55.0	54.8	54.6	54.5	54.4	54.3	54.2	54.1
20%:	54.0	53.9	53.8	53.7	53.7	53.6	53.5	53.4	53.4	53.3
30%:	53.2	53.2	53.1	53.0	53.0	52.9	52.9	52.8	52.7	52.7
40%:	52.6	52.6	52.5	52.5	52.4	52.4	52.3	52.3	52.2	52.1
50%:	52.1	52.0	52.0	51.9	51.9	51.8	51.7	51.7	51.6	51.6
60%:	51.5	51.4	51.4	51.3	51.2	51.2	51.1	51.0	51.0	50.9
70%:	50.8	50.7	50.6	50.5	50.5	50.4	50.3	50.2	50.1	50.0
80%:	49.9	49.8	49.7	49.6	49.5	49.4	49.3	49.1	49.0	48.9
90%:	48.8	48.6	48.5	48.3	48.1	47.9	47.7	47.6	47.3	46.9
100%:	45.5									

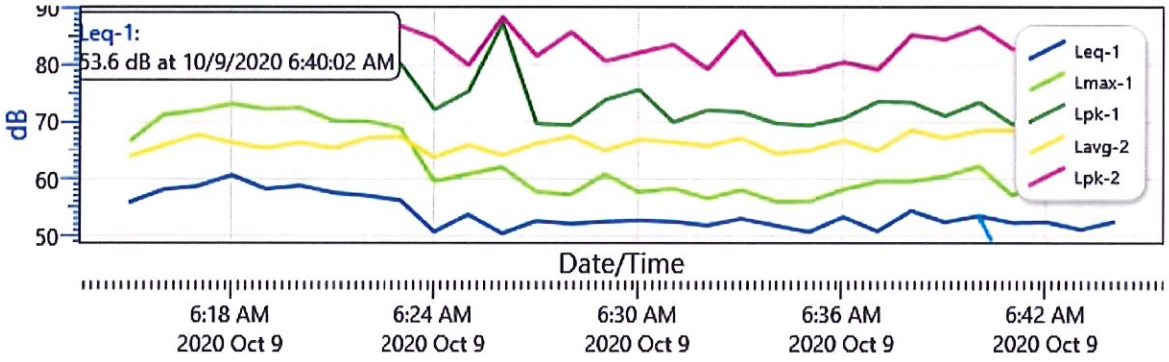
Exceedance Chart

Monitoring Station #3 - Nighttime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #3 - Nighttime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #4 - Daytime Period
Start Time	10/9/2020 7:33:26 AM
Stop Time	10/9/2020 8:03:29 AM
Device Name	BLP080003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Run Time	00:30:03
Description	Located at South-West side of Casa Linda

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
CNEL	1	53.5 dB	L10	1	55.3 dB
Takt	1	55.9 dB	LDN	1	53.5 dB
L90	1	46.7 dB	Rtime	1	00:30:03
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

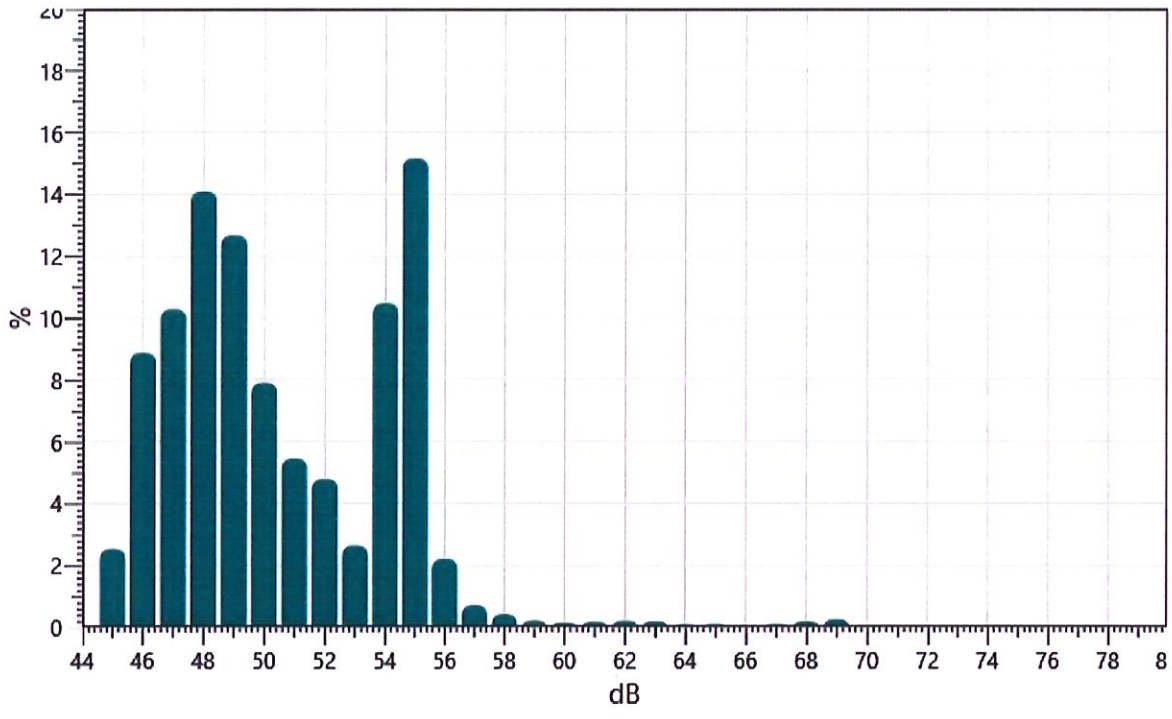
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
44:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45:	0.01	0.04	0.03	0.08	0.14	0.22	0.30	0.41	0.57	0.74	2.53
46:	0.87	0.97	0.65	0.95	0.88	0.94	0.93	0.91	0.90	0.88	8.87
47:	0.90	0.88	0.87	0.90	0.98	1.07	1.11	1.15	1.17	1.27	10.28
48:	1.31	1.28	1.24	1.27	1.32	1.33	1.52	1.66	1.61	1.56	14.10
49:	1.60	1.50	1.00	1.29	1.42	1.36	1.28	1.15	1.09	1.00	12.67
50:	1.00	0.94	0.90	0.88	0.85	0.77	0.75	0.65	0.61	0.55	7.90
51:	0.52	0.51	0.53	0.59	0.55	0.62	0.58	0.52	0.52	0.52	5.45
52:	0.54	0.53	0.37	0.57	0.55	0.50	0.52	0.47	0.40	0.35	4.79
53:	0.31	0.32	0.31	0.31	0.31	0.26	0.22	0.23	0.19	0.18	2.64
54:	0.20	0.23	0.24	0.24	0.24	0.42	0.88	1.67	2.89	3.46	10.47
55:	3.12	2.53	1.46	1.78	1.74	1.49	1.19	0.78	0.59	0.49	15.16
56:	0.38	0.35	0.29	0.25	0.27	0.21	0.14	0.12	0.11	0.10	2.21

57:	0.11	0.09	0.09	0.08	0.08	0.05	0.06	0.05	0.05	0.05	0.71
58:	0.06	0.08	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.41
59:	0.03	0.02	0.03	0.01	0.01	0.03	0.03	0.02	0.02	0.02	0.22
60:	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.01	0.01	0.01	0.15
61:	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.18
62:	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.21
63:	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.19
64:	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.10
65:	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.11
66:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.07
67:	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.11
68:	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.02	0.03	0.03	0.19
69:	0.03	0.03	0.05	0.03	0.03	0.01	0.02	0.02	0.02	0.02	0.26
70:	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Statistics Chart

Monitoring Station #4 - Daytime Period: Statistics Chart



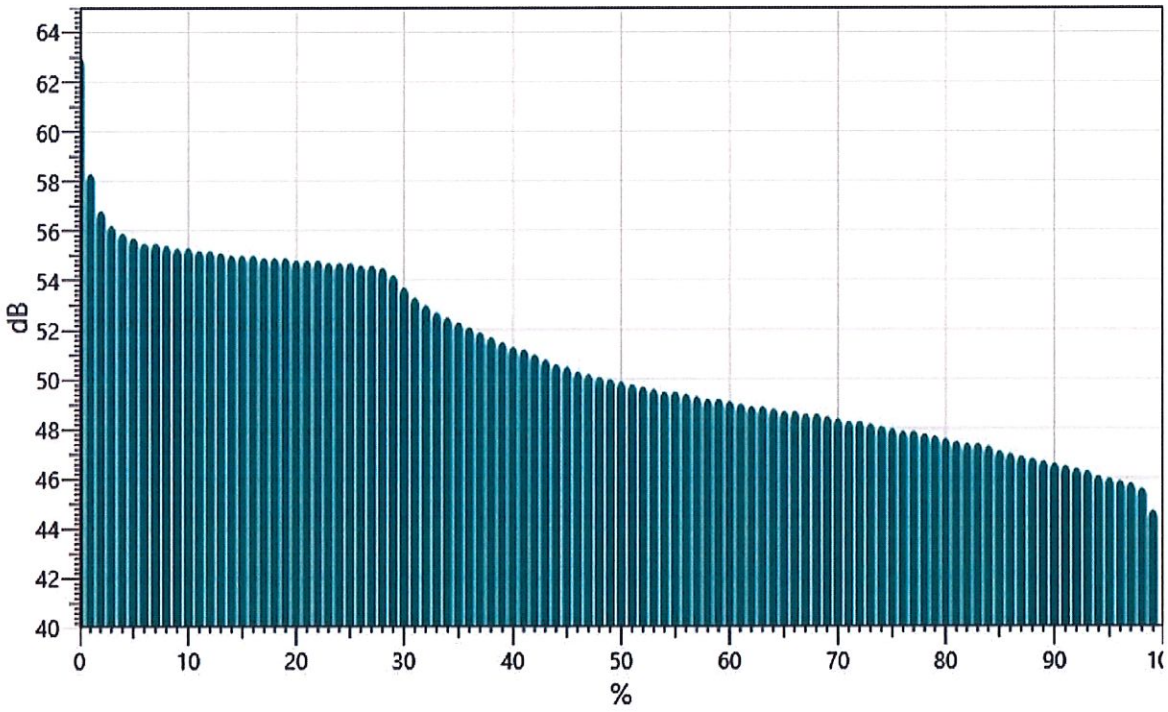
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		63.0	58.3	56.8	56.2	55.9	55.7	55.5	55.5	55.4

10%:	55.3	55.3	55.2	55.2	55.1	55.0	55.0	55.0	54.9	54.9
20%:	54.9	54.8	54.8	54.8	54.7	54.7	54.7	54.6	54.6	54.5
30%:	54.2	53.7	53.3	53.0	52.7	52.5	52.3	52.1	51.9	51.7
40%:	51.5	51.3	51.2	51.0	50.8	50.6	50.5	50.3	50.2	50.1
50%:	50.0	49.9	49.8	49.7	49.6	49.5	49.5	49.4	49.3	49.2
60%:	49.2	49.1	49.0	48.9	48.9	48.8	48.7	48.7	48.6	48.6
70%:	48.5	48.4	48.3	48.3	48.2	48.1	48.0	47.9	47.9	47.8
80%:	47.7	47.6	47.5	47.4	47.4	47.3	47.1	47.0	46.9	46.8
90%:	46.7	46.6	46.5	46.4	46.3	46.1	46.0	45.9	45.8	45.6
100%:	44.7									

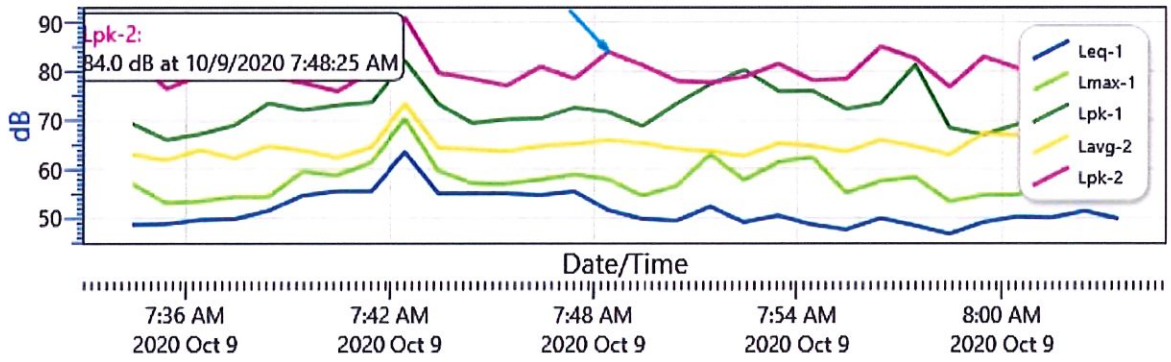
Exceedance Chart

Monitoring Station #4 - Daytime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #4 - Daytime Period: Logged Data Chart



Session Report

10/9/2020

Information Panel

Name	Monitoring Station #4- Nighttime Period
Start Time	10/9/2020 6:12:36 AM
Stop Time	10/9/2020 6:42:48 AM
Device Name	BLP080003
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	Located at South-West side of Casa Linda
Run Time	00:30:12

Summary Data Panel

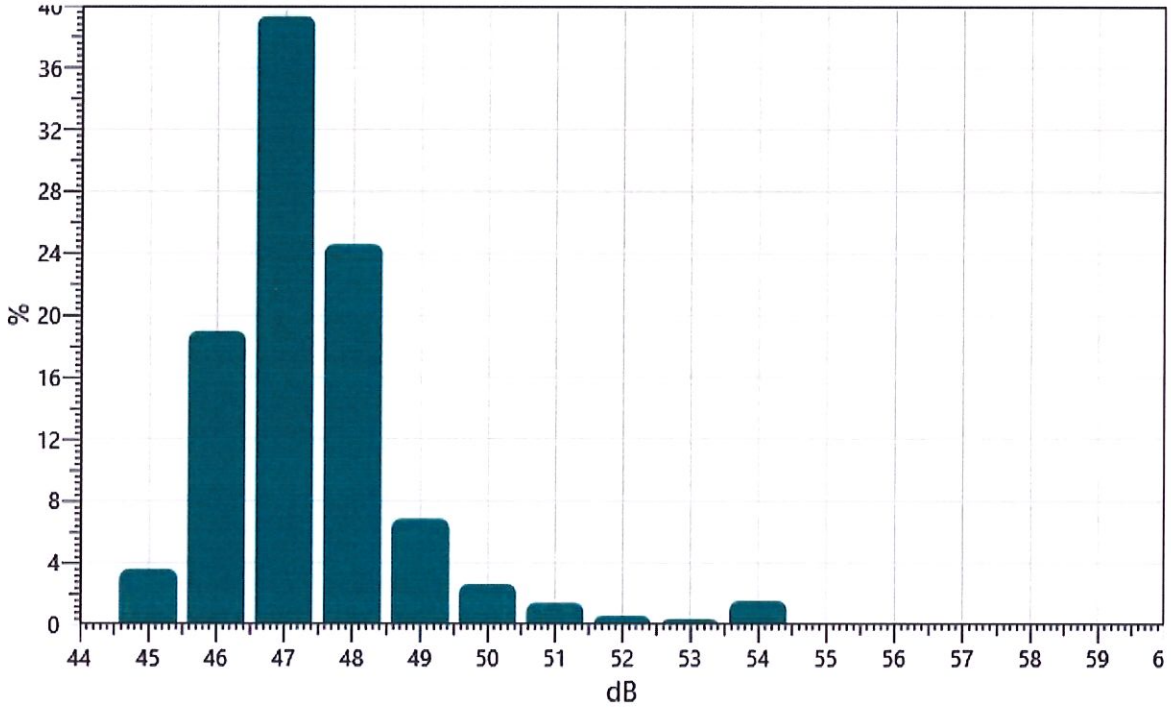
Description	Meter	Value	Description	Meter	Value
CNEL	1	58.2 dB	L10	1	49.2 dB
Takt	1	50.5 dB	LDN	1	58.2 dB
L90	1	46.3 dB	Rtime	1	00:30:12
Exchange Rate	1	3 dB	Response	1	FAST
Weighting	1	A	Criterion Level	1	90 dB

Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
44:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
45:	0.02	0.04	0.09	0.20	0.27	0.36	0.51	0.60	0.66	0.82	3.57
46:	1.09	1.25	0.96	1.53	1.71	2.03	2.30	2.57	2.72	2.80	18.96
47:	3.14	3.47	3.65	3.80	4.06	4.16	4.38	4.44	4.26	3.96	39.32
48:	3.72	3.37	3.05	2.89	2.56	2.25	1.98	1.78	1.61	1.39	24.59
49:	1.18	1.10	0.64	0.71	0.66	0.64	0.57	0.48	0.46	0.41	6.85
50:	0.35	0.34	0.32	0.30	0.25	0.23	0.22	0.24	0.20	0.18	2.62
51:	0.17	0.17	0.15	0.16	0.17	0.14	0.12	0.13	0.12	0.09	1.42
52:	0.11	0.08	0.05	0.05	0.06	0.06	0.06	0.05	0.04	0.04	0.59
53:	0.05	0.06	0.05	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.38
54:	0.07	0.12	0.22	0.20	0.26	0.24	0.18	0.13	0.07	0.06	1.55
55:	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.11
56:	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02

Statistics Chart

Monitoring Station #4- Nighttime Period: Statistics Chart

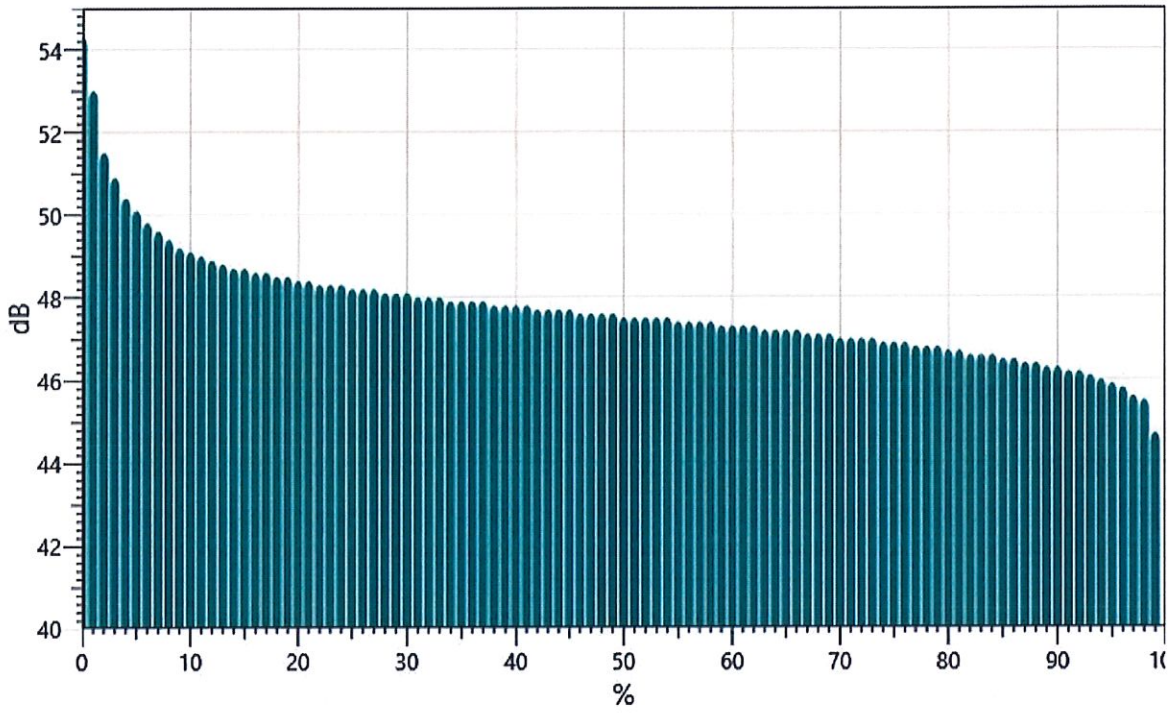


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		54.3	53.0	51.5	50.9	50.4	50.1	49.8	49.6	49.4
10%:	49.2	49.1	49.0	48.9	48.8	48.7	48.7	48.6	48.6	48.5
20%:	48.5	48.4	48.4	48.3	48.3	48.3	48.2	48.2	48.2	48.1
30%:	48.1	48.1	48.0	48.0	48.0	47.9	47.9	47.9	47.9	47.8
40%:	47.8	47.8	47.8	47.7	47.7	47.7	47.7	47.6	47.6	47.6
50%:	47.6	47.5	47.5	47.5	47.5	47.5	47.4	47.4	47.4	47.4
60%:	47.3	47.3	47.3	47.3	47.2	47.2	47.2	47.2	47.1	47.1
70%:	47.1	47.0	47.0	47.0	47.0	46.9	46.9	46.9	46.8	46.8
80%:	46.8	46.7	46.7	46.6	46.6	46.6	46.5	46.5	46.4	46.4
90%:	46.3	46.3	46.2	46.2	46.1	46.0	45.9	45.8	45.6	45.5
100%:	44.7									

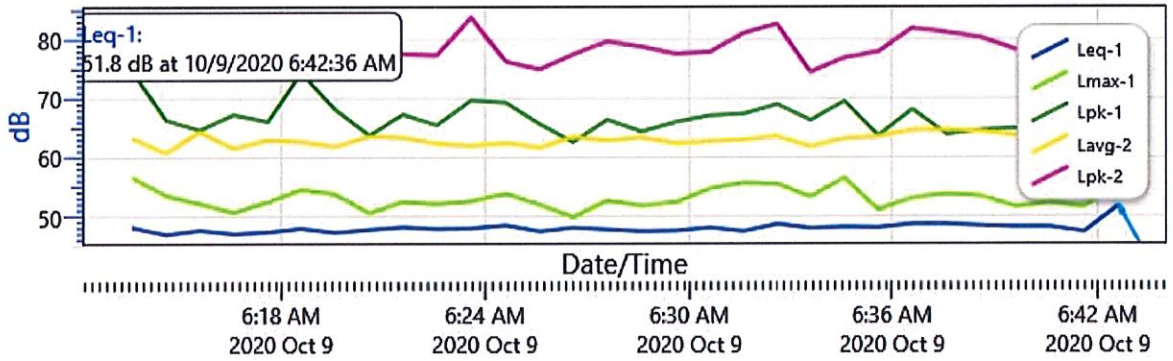
Exceedance Chart

Monitoring Station #4- Nighttime Period: Exceedance Chart



Logged Data Chart

Monitoring Station #4- Nighttime Period: Logged Data Chart



APPENDIX 4: FIELD NOTES

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Noise Survey Field Notes Form

Project Name: Blanco Enterprise Inc. - Casa Linda del Sur Apartments Bayamón, Puerto Rico

Project Location: Bayamón, Puerto Rico
Calibrator Serial Number: AC-300001324
Calibration Value: 114 dB
Equipment Serial Number: BLL100004

Daytime Measures

Monitoring Station (MS)	Location	Comments
Station # 1	Located at South- Easth Side of the Casa Linda	Coord: 18.3833, -66.1255
Station # 3	Located at North- West Side of the Casa Linda	Coord: 18.3837, -66.1258

Nighttime Measures

Monitoring Station (MS)	Location	Comments
Station # 1	Located at South- Easth Side of the Casa Linda	Coord: 18.3833, -66.1255
Station # 3	Located at North- West Side of the Casa Linda	Coord: 18.3837, -66.1258

Weather: The weaters was cloudy

Traffic: The traffic was moderated

Neighboring: Around it has residential buildings

Other surroundings noise: Birds, passing motor vehicles, planes flying through the area.

Others: At 7:45 am it began to rain. There was constant noise from cars because the area is close to the avenue.

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Noise Survey Field Notes Form

Project Name: Blanco Enterprise Inc. - Casa Linda del Sur Apartments Bayamón, Puerto Rico

Project Location: Bayamón, Puerto Rico
Calibrator Serial Number: AC-300005899
Calibration Value: 114 dB
Equipment Serial Number: BLL100003

Daytime Measures

Monitoring Station (MS)	Location	Comments
Station # 2	Located at North- East Side of the Casa Linda	Coord: 18.3836, -66.1253
Station # 4	Located at South- West Side of the Casa Linda	Coord: 18.2259, -66.0732

Nighttime Measures

Monitoring Station (MS)	Location	Comments
Station # 2	Located at North- East Side of the Casa Linda	Coord: 18.3836, -66.1253
Station # 4	Located at South- West Side of the Casa Linda	Coord: 18.2259, -66.0732

Weather: The weaters was cloudy

Traffic: The traffic was moderated

Adyacent roads or street: Around it has residential buildings

Other surroundings noise: Birds, passing motor vehicles, planes flying through the area.

Others: At 7:45 am it began to rain. There was constant noise from cars because the area is close to the avenue.

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Casa Linda del Sur Apartments Sound Survey

Item #	Description
	Equipment #1
	Nighttime Period
	Station #1 (5:40 AM @ 6:10 AM) (Al Sureste del predio)
	Aves cantando en todo momento.
	Auto en movimiento (5:50 am, 6:03 AM)
	Station #3 (6:12 AM @ 6:42 AM) (Al Noreste del predio)
	Gallos cantando constantemente y autos en movimientos debido a que la avenida se encuentra cerca
	del área.
	Daytime Period
	Station #1 (7:01 AM @ 7:31 AM) (Al Sureste del predio)
	Autos en movimiento
	Station # 3 (7:32 AM @ 8:02 AM) (Al Noroeste del predio)
	Gallos cantando constantemente y autos en movimientos debido a que la avenida se encuentra cerca
	del área.
	Avión pasando (7:42 AM)

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Casa Linda del Sur Apartments Sound Survey

Item #	Description
	Equipment #2
	Nighttime Period
	Station #2 (5:40 AM @ 6:10 AM) (Al Norteste del predio)
	Aves cantando en todo momento.
	Autos en movimiento
	Station #4 (6:12 AM @ 7:42 AM) (Al Suroeste del predio)
	Aves cantando en todo momento.
	Autos en movimiento
	Perros ladrando
	Daytime Period
	Station #1 (7:01 AM @ 7:31 AM) (Al Norteste del predio)
	Movimiento constante de autos pasando por el área
	Aves cantando en todo momento.
	Station # 3 (7:34 AM @ 8:04 AM) (Al Suroeste del predio)
	Movimiento constante de autos pasando por el área
	Aves cantando en todo momento.
	Persona hablando

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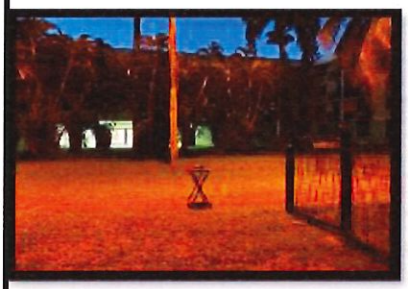
Casa Linda del Sur Apartments Sound Survey

Photos

Station #1 Nightime Measures (5:40 AM @ 6:10 AM)







Station #3 Nightime Measures (6:12 AM @ 6:42 AM)







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Casa Linda del Sur Apartments Sound Survey

Photos

Station #1 Daytime Measures (7:01 AM @ 7:31 AM)







Station #3 Daytime Measures (7:32 AM @ 8:02 AM)







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Casa Linda del Sur Apartments Sound Survey

Photos

Station # 2 Nightime Measures (5:40 AM @ 6:10 AM)







Station # 4 Nightime Measures (6:12 AM @ 6:42 AM)







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Casa Linda del Sur Apartments Sound Survey

Photos

Station #2 Daytime Measures (7:01 AM @ 7:31 AM)







Station #4 Daytime Measures (7:34 AM @ 8:04 AM)







Exhibit Q

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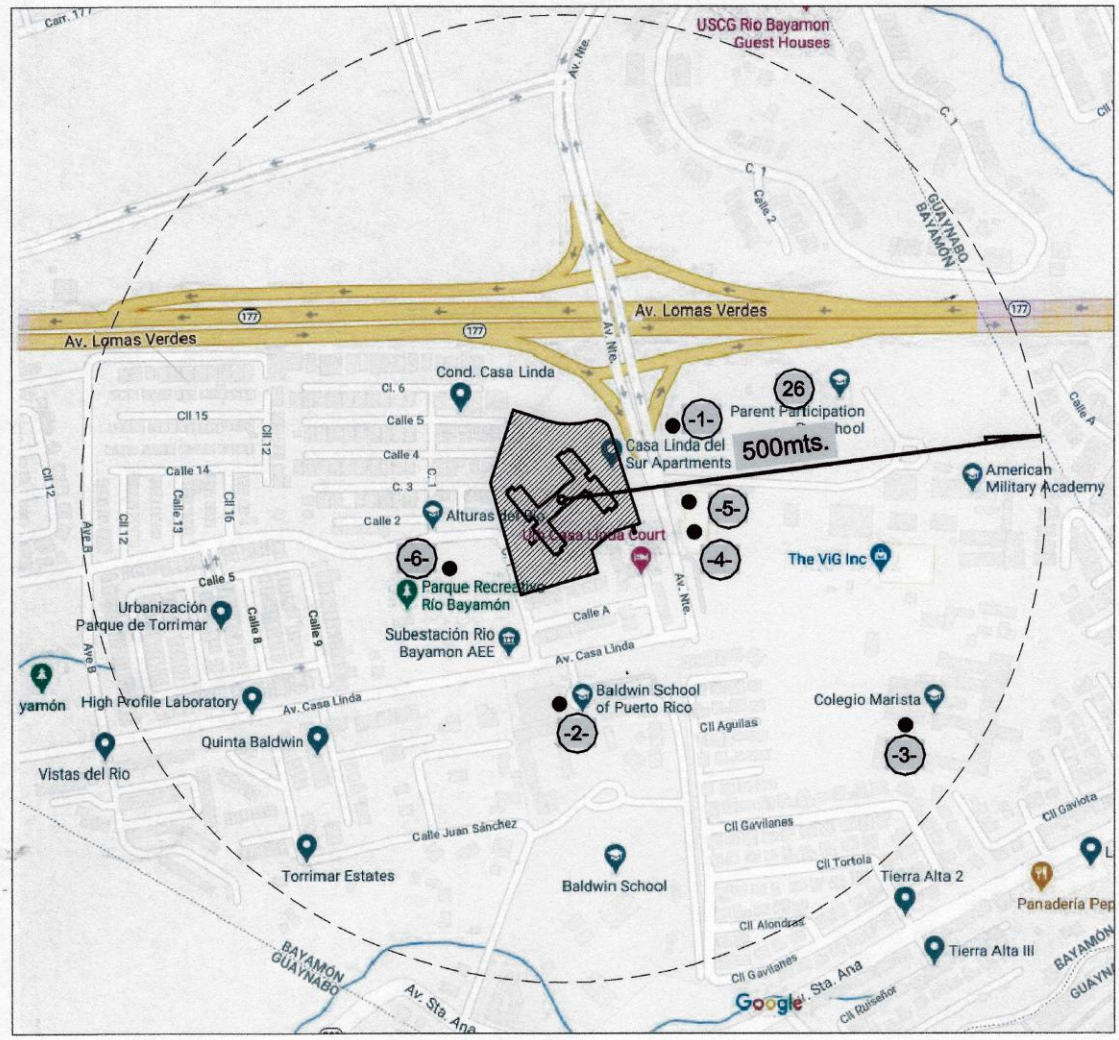
EMAIL: S3SOUSASURVEYING@GMAIL.COM

CASA LINDA DEL SUR APARTMENTS CENSUS TRACTS OUTSIDE AN URBAN AREA RADIUS OF 500 & 1,500 METERS



SCALE 1:6,000m.

CASA LINDA DEL SUR APARTMENTS
CENSUS TRACT OUTSIDE AN URBAN AREA
RADIO OF 500 METERS

NORTE AVENUE, BAYAMON, P.R.

North

LUIS SOUSA GALLARDO PLS

1864, SUITE no. 2
PONCE DE LEON AVENUE
SAN JUAN, PUERTO RICO

P.O. BOX 190755, SAN JUAN
PUERTO RICO 00919-0755

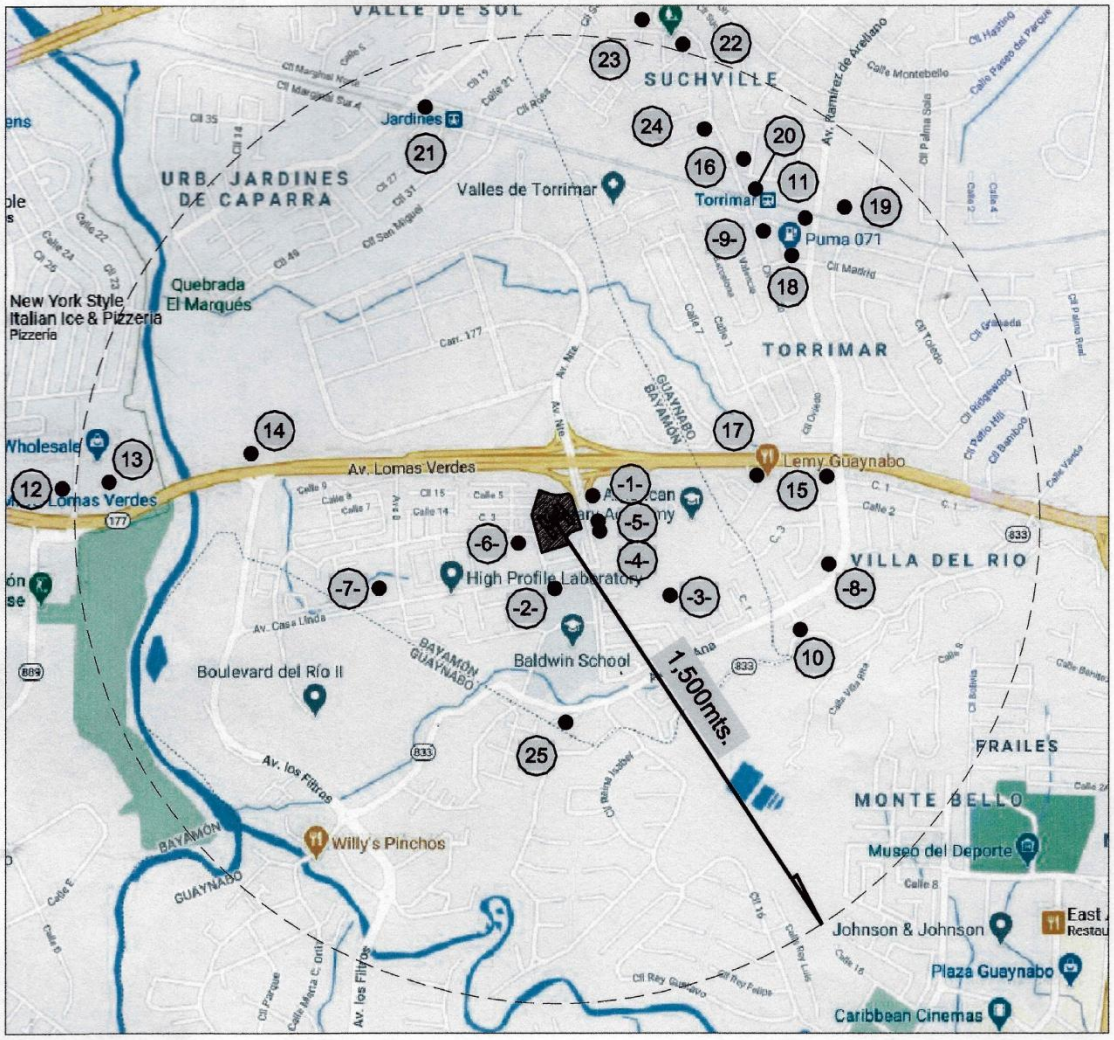
office (787) 283-3000
cel (939) 640-3000
s3sousasurveying@gmail.com

Certification:

Luis Sousa Gallardo, P.L.S.
Surveyor Lic. no. 7528
Dated: October 14, 2020

PROJECT LOCATED WITHIN OF RADIO 500 METERS

ID NUMBER	LOCAL NAME	ADDRESS	DISTANCE WALKABLE FROM "CASA LINDA DEL SUR"
-1-	American Military Academy	Road 177, AV. Lomas Verdes, KM 6.8 San Juan 00969	0.16 miles= 250 meters
-2-	Baldwin School of Puerto Rico	Carr. 833, KM 13.1, Los Filtros, Bayamón P.R. 00969	0.22 miles= 350 meters
-3-	Colegio Marista	Colegio Marista, 6 Calle Marcelino Champagnat, Guaynabo, Bayamón 00969	1.08miles= 1,735 meters
-4-	Clinica Salud	Ave. Casa Linda #1, Suite 101, Carr. 177 Los Filtros KM 2.0, 00959	0.02 miles= 30 meters
-5-	Farmacia Cristina	Carr 177 Los Filtros Km 2.0, Av. Casa Linda #101, Bayamón, 00959	0.02 miles= 30 meters
-6-	Parque Recreativo Rio Bayamón	Calle 2, Bayamón, 00959	0.35miles= 560 meters
-26-	Parent Participaton School	America Military Academy PR-177, Guaynabo, P.R. 00969	0.26 miles= 425 meters



SCALE 1:18,000m.

CASA LINDA DEL SUR APARTMENTS
CENSUS TRACT OUTSIDE AN URBAN AREA
RADIO OF 1,500 METERS

NORTE AVENUE, BAYAMON, P.R.

North

LUIS SOUSA GALLARDO PLS

1864, SUITE no. 2
PONCE DE LEON AVENUE
SAN JUAN, PUERTO RICO

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PUERTO RICO 00919-0755

office (787) 283-3000
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s3sousasurveying@gmail.com

Certification:

Luis Sousa Gallardo, P.L.S.
Surveyor Lic. no. 7528
Dated: October 14, 2020

PROJECT LOCATED WITHIN OF RADIO 1500 METERS

ID NUMBER	LOCAL NAME	ADDRESS	DISTANCE WALKABLE FROM "CASA LINDA DEL SUR"
-1-	American Military Academy	Road 177, AV. Lomas Verdes, KM 6.8 San Juan, P.R. 00969	0.16 miles= 250 meters
-2-	Baldwin School of Puerto Rico	Carr. 833, KM 13.1, Los Filtros, Bayamón P.R. 00969	0.22 miles= 350 meters
-3-	Colegio Marista	Colegio Marista, 6 Calle Marcelino Champagnat, Guaynabo, Bayamón P.R. 00969	1.08miles= 1,735 meters
-4-	Clinica Salus	Ave. Casa Linda #1, Suite 101, Carr. 177 Los Filtros KM 2.0, P.R. 00959	0.02 miles= 30 meters
-5-	Farmacia Cristina	Carr 177 Los Filtros Km 2.0, Av. Casa Linda #101, Bayamón, P.R.00959	0.02 miles= 30 meters
-6-	Parque Recreativo Rio Bayamón	Calle 2, Bayamón, P.R. 00959	0.35miles= 560 meters
-7-	Parque Rio Bayamón	Parque Rio Bayamon, 48 Calle 22, Bayamón, P.R. 00959	0.54 miles= 870 meters
-8-	Mi Casa Montessori (Escuela Montessori)	Mi Casa Montessori, Alturas de Ana 5-11, Av. Sta. Ana, Guaynabo P.R.	0.79 miles= 1,280 meters
-9-	Centro Educativo Subiry	Urb. Gardenville, D 23 Calle Buen Samaritano, Guaynabo, 00966	1.16 miles= 1,870 meters
-10-	Plaza Alta Shopping Center *10a-Mozza Steakhouse and Pizzeria* *10b-Panadería Pepín* *10c-Torrimar Pediatrics* *10d-Farmacia Plaza* *10e-Laboratorio*	262 Av. Sta. Ana, Guaynabo, Bayamón P.R. 00969 " " " " " " " " " " " " " " " " " "	1.07 miles= 1,730 meters

	Santa Ana	“ ”	
-11-	Lemy-Restaurante	Av Lomas Verdes, Guaynabo, P.R.	0.47 miles= 760 meters
-12-	Centro Comercial Los Filtros	UNDER CONSTRUCTION 24St.,Bayamón,P.R. 00959	1.20 miles= 1,930 meters
-13-	Costco Wholesale	125 “A” St., Bayamón, P.R. 00959	1.21 miles= 1,950 meters
-14-	Plaza Rio Bayamón	Juan Sanchez, PR-177	0.81 miles= 1,300 meters
-15-	Pueblo (Altomar) Supermarket	Santa Ana, AV Los Filtros, Guaynabo, 00971	0.62 miles= 1,000 meters
-16-	Supermercado GardenMar (Supermarket)	Cll Brazil, Guaynabo, P.R. 00966	1.42 miles= 2,280 meters
-17-	Shell (Gas Station)	Av. Lomas Verdes, Guaynabo, 00969	0.47 miles= 760 meters
-18-	Puma (Gas Station)	Madrid St., Guaynabo, P.R. 00966	1.01 miles = 1,630 meters
-19-	Torrimar Sports Complex	20 Cll Ramírez De Arellano, Guaynabo, P.R. 00966	1.24 miles= 2,000 meters
-20-	Urban Station, (Torrimar)	Torrimar Guaynabo, P.R. 00966	1.09 miles= 1,750 meters
-21-	Urban Station (Jardines)	Calle Marginal Norte # 21, Bayamon Gardens, P.R.	2.29 miles= 3,680 meters
-22-	Los Angeles Memorial Park	14-24 Calle Oreste Sevilla, PR-880 Guaynabo, P.R. 00966	1.58 miles cementery=2,540 meters
-23-	Police Station, Juan Domingo Precinct	43 Cll San Miguel, PR-880, Guaynabo, P.R. 00966	1.73 miles= 2,790 meters

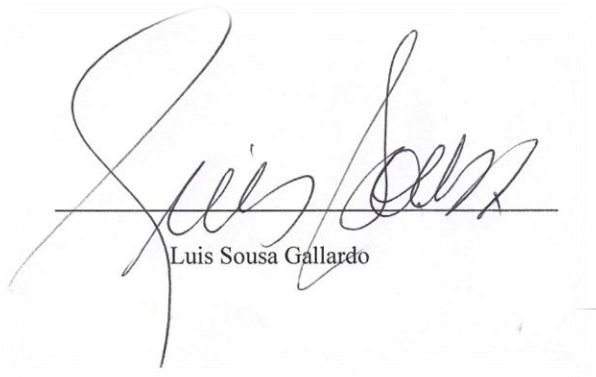
-24-	Christian Church (Discipulos de Cristo)	Bo. Juan Domingo, 1 Cll Iglesia #15, PR-880, Guaynabo, P.R. 00966	1.40 miles= 2,250 meters
-25-	Parish Mary Mother of Mercy	150 Av. Sta. Ana, Guaynabo, Bayamón P.R. 00969	1.39 miles= 2,240 meters
-26-	Parent Participation School	American Militay Academy	0.26 miles= 425 meters
-27-	Rivera Urban Park	Norte AV. Bayamon, P.R. 00959	0.57 miles= 920 meters

NOTES:

1. NO ACTIVITY WAS FOUND WITHIN A ONE MILE RADIUS OF A:
   - JUNK YARD
   - LANDFILL OR DUMPSITE
   - INDUSTRIAL SITE
   - AIRPORT
   - WASTEWATER TREATMENT PLANT

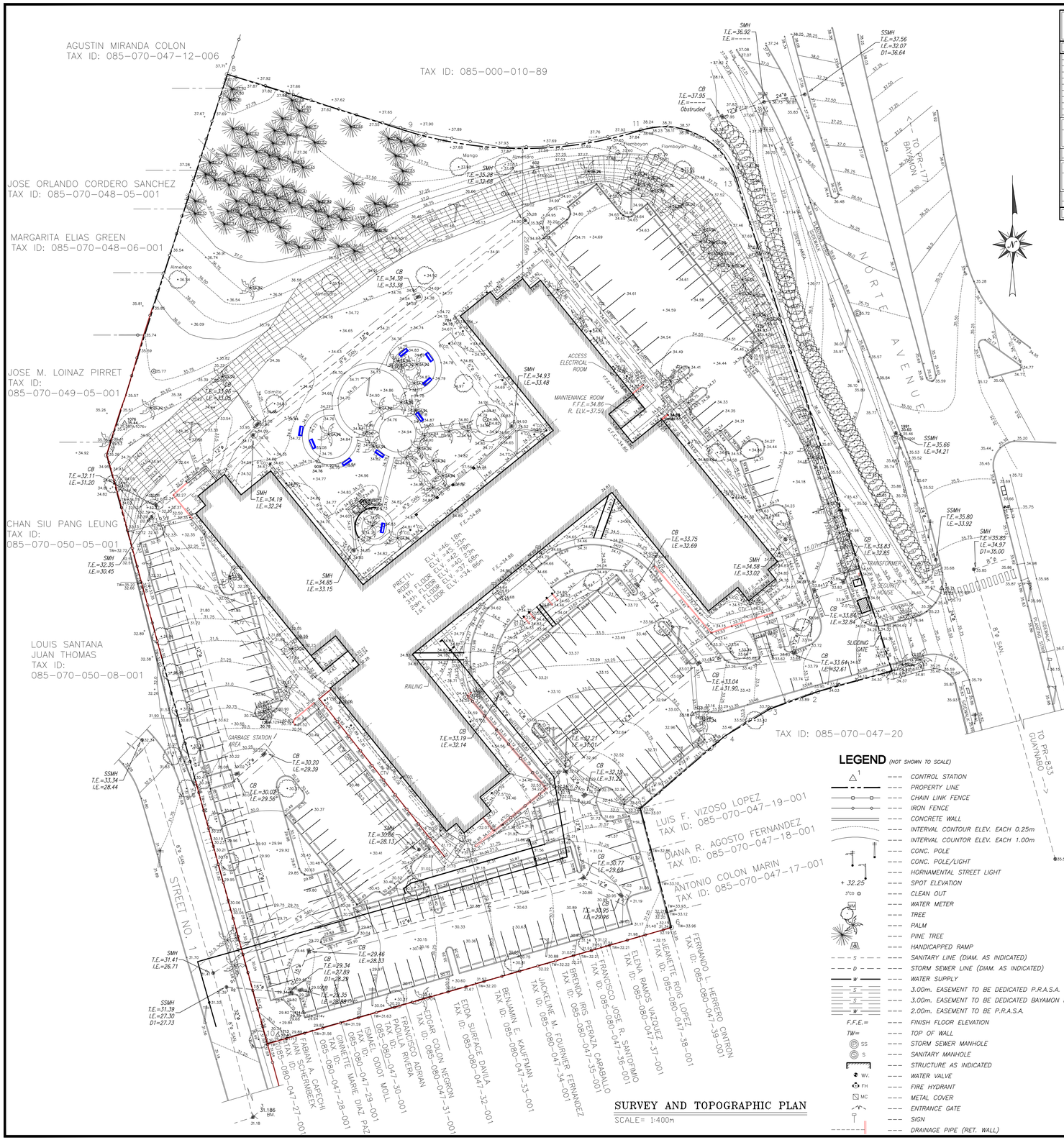
2. NO ACTIVITY ADJOINING A PROPERTY CONTAINS
   - GAS STATION
   - AUTO REPAIR
   - TIRE REPAIR SHOP
   - WOODWORKING SHOP

CERTIFICO CORRECTO:



Luis Sousa Gallardo

Exhibit R



LEGEND *(NOT SHOWN TO SCALE)*

- CONTROL STATION
- PROPERTY LINE
- CHAIN LINK FENCE
- IRON FENCE
- CONCRETE WALL
- INTERVAL CONTOUR ELEV. EACH 0.25m
- INTERVAL COUNTOR ELEV. EACH 1.00m
- CONC. POLE
- CONC. POLE/LIGHT
- HORNAMENTAL STREET LIGHT
- SPOT ELEVATION
- CLEAN OUT
- WATER METER
- TREE
- PALM
- PINE TREE
- HANDICAPPED RAMP
- SANITARY LINE (DIAM. AS INDICATED)
- STORM SEWER LINE (DIAM. AS INDICATED)
- WATER SUPPLY
- 3.00m. EASEMENT TO BE DEDICATED P.R.A.S.A.
- 3.00m. EASEMENT TO BE DEDICATED BAYAMON MUNICIPAL
- 2.00m. EASEMENT TO BE P.R.A.S.A.
- FINISH FLOOR ELEVATION
- TOP OF WALL
- STORM SEWER MANHOLE
- SANITARY MANHOLE
- STRUCTURE AS INDICATED
- WATER VALVE
- FIRE HYDRANT
- METAL COVER
- ENTRANCE GATE
- SIGN
- DRAINAGE PIPE (RET. WALL)

SURVEY DATA

POINT	LINE	(Y) NORTH	(X) EAST	DISTANCE	BEARINGS	DESCRIPTION
1	---	260836. 7450	232636. 5898	---	---	Galv. steel pipe
2	1-2	260832. 6718	232621. 8783	15. 265	S 74° 31' 27" W	Galv. steel pipe
3	2-3	260829. 2214	232612. 3964	10. 090	S 70° 00' 14" W	Galv. steel pipe
4	3-4	260823. 8743	232603. 5247	10. 359	S 58° 55' 18" W	Galv. steel pipe
5	4-5	260809. 5858	232586. 9003	21. 921	S 49° 19' 17" W	Galv. steel pipe
6	5-6	260786. 1180	232593. 0250	24. 254	S 14° 37' 37" E	Galv. steel pipe
7	6-10	260763. 1910	232513. 2266	83. 087	S 73° 58' 12" W	Galv. steel pipe
8	10-7	260879. 3515	232481. 5555	120. 401	N 15° 15' 04" W	Galv. steel pipe
9	7-8	260954. 5610	232505. 3665	78. 889	N 17° 34' 03" E	Galv. steel pipe
9	8-9	260943. 5101	232540. 2727	36. 614	S 72° 25' 58" E	PC. Galv. steel pipe
	Center	261017. 3211	232563. 6402	---	---	Center coord
	CURVE DATA	ANGLE 37° 08' 49"	RADIUS 77. 422	TANGENT 24. 520	EXTERNA 3. 790	ARC LENGHT 47. 493
11	9-11	260943. 5153	232587. 0243	46. 752	N 89° 59' 37" E	PC. Galv. steel pipe
	Center	260929. 2155	232591. 5549	---	---	Center coord
	CURVE DATA	ANGLE 89° 59' 46"	RADIUS 15. 000	TANGENT 14. 999	EXTERNA 6. 213	ARC LENGHT 23. 561
13	11-13	260933. 7472	232605. 8544	21. 213	S 62° 34' 55" E	PT. Galv. steel pipe
1	13-1	260836. 7450	232636. 5898	101. 755	S 12° 34' 51" E	Galv. steel pipe
AREA = 19896. 1314 SQ. Mt. =0= 5. 0621 CDAS.						

PARENT PARCEL LEGAL DESCRIPTION:

(SPANISH LANGUAGE):

FINCA: Numero 59,466, inscrita al folio 196 del tomo 1,320 de Bayamon Sur, Registro de la Propiedad de Puerto Rico, Seccion I de Bayamon.

DESCRIPCIÓN:

URBANA: Tract of land located at Juan Sanchez Ward in the Municipality of Bayamon, Puerto Rico, comprising an area of 19,896.1294 square meters, equivalent to five cuerdas and six hundred twenty-one ten thousandth of a cuerda, equivalent to two hundred fourteen thousand, one hundred fifty nine square feet and two thousand nine hundred seventy eight ten thousand of a square foot, equivalent to four acres and nine thousand one hundred sixty four ten thousanths of an acre; bounded at the NORTH, SOUTH, EAST and WEST, by land property of the Puerto Rico Land Administration.

ORIGEN REGISTRAL:

Se segrega de la finca numero 59,454, inscrita al folio 136 del tomo 1,320 de Bayamon Sur.

PLENO DOMINIO:

Consta inscrito al folio 196 del tomo 1,320 de bayamon Sur, a favor de Casa Linda del Sur Associates, cuya entidad adquirio por segregacion y compraventa a la Corporacion de Renovacion Urbana y Vivienda de Puerto Rico, mediante la escritura numero 2, otorgada en San Juan, Puerto Rico, el dia 14 de enero de 1982, ante el notario Pedro R. Vazquez, finca numero 59,466, inscripcion 1ra.

Surveyor Notes:

1. Plane coordinates are based on the P. R. Lambert Coordinates system Nad83(2011). state plane north zone. Datum to refer National Geodetic Survey base station "SANABRIA", GPS control, Y=265276.022m, X=230024.231m. observation date December 21, 2018.
2. The Boundaries line and survey data obtained of Finak Survey Plan, by Octavio J. Gandara Civil Engineer lic. 5044, date April 26, 1984,
3. All azimuths are grid: reckoned clockwise from True North.
4. All elevations are referred to Mean Sea Level System. are referred to vertical datum Bench Mark "Bridge" which is elevation is 16.205m located on the north west sidewalk of PR-177 bridge over Bayamon river stablished by P.R. Highway Authority for Rio Bayamon Community.
5. Distances are shown in metric system, unless otherwise indicated.
6. Survey accuracy (Crandall) is 1: 17465.0
7. Three (3) direct position angle and three (3) angle repetition in the reverse position to be measured.
8. The equipment used to obtain field data was: Total station "Trimble" calibrations each/1 second by manufactured were adjusted & inspection performed this survey results by Conde presicion instruments.
9. There is no observed evidence of current earth moving work, building construction or building additions.
10. There is no observed evidence of site use as a solid waste dump, sump or sanitary landfill.
11. Survey data obtained in field month of December 2018. and can only considered the existing conditions.
12. The Cadastral number of the property is: 085-070-047-13-000 according to the "Centro de Recaudacion de Impuesto (CRIM)" agency.
13. The property has direct access to Norte avenue, dedicated public street.
14. The according Municipality of Bayamon (Territorial zoning office) the calification is RA (Hight density residential).
15. Utility Note: The underground utilities shown have been located from the field survey information and existing drawings. Rhe surveyors make mo guarantee that the underground utility shown comprise all such utilities in the area, either in service or abandoned. The surveyor futher does not warrant that the underground utilities shown are the exact location indicated although he does certify that they area located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

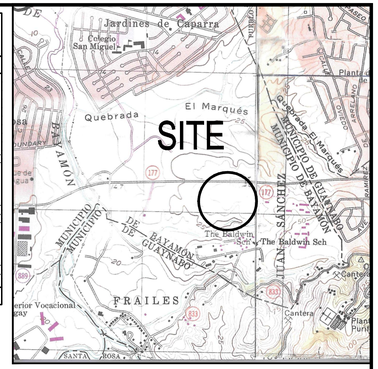
Surveyor's Certification :

To Casa Linda del Sur Associates and each of their respective successors and/or assigns

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 10(a), 13, 14, 16, 17, 18, 19, and 20 of Table A thereof. The field work was completed on December 28, 2018.

Date: February 26, 2018
Update: April 29, 2020

Luis Sousa Gallardo, P.L.S.
Register Surveyor Lic. no. 7528


Jardines de Caparra
El Cotorro
San Miguel
Quebrada
El Marqués
SITE
BAYAMON
MUNICIPIO DE BAYAMON
MUNICIPIO DE GUAYNABO
The Baldwin
The Baldwin Sch
FRAILES
Cantera
Plantio Puri
Plantio
Quebrada El Marqués
MUNICIPIO DE BAYAMON
JUAN SANCHEZ
Cantera
Cantera
Cantera

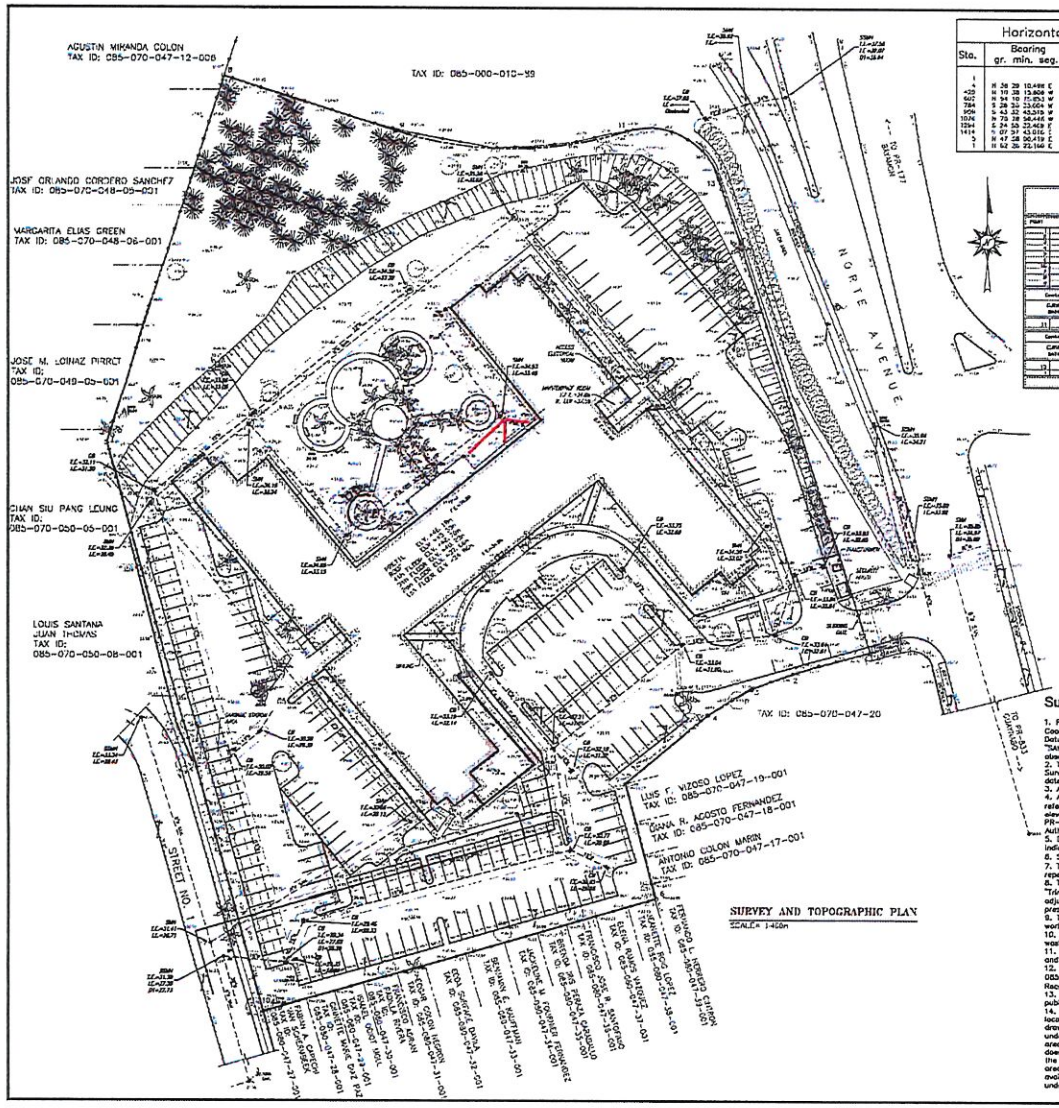

ADGUSTIN MIRANDA COLON
TAX ID: 085-070-047-12-008
TAX ID: 085-000-012-99
JOSE ORLANDO CORDERO SANCHEZ
TAX ID: 085-070-048-05-001
MARGARITA ELIAS GREEN
TAX ID: 085-070-048-06-001
JOSE M. LOINAZ PIRRET
TAX ID:
085-070-049-03-001
CHAN SIU PANG LEUNG
TAX ID:
085-070-050-05-001
LOUIS SANTANA
JUAN THOMAS
TAX ID:
085-070-050-08-001
NORTE AVENUE
STREET NO. 1
TAX ID: 085-070-047-20
LUIS F. VIZOSO LOPEZ
TAX ID: 085-070-047-19-001
DIANA R. ACOSTA FERNANDEZ
TAX ID: 085-070-047-18-001
ANTONIO COLON MARIN
TAX ID: 085-070-047-17-001
FRANCISCO L. HOPGOOD CAMPOS
TAX ID: 085-070-047-31-001
EDGARD

Exhibit S

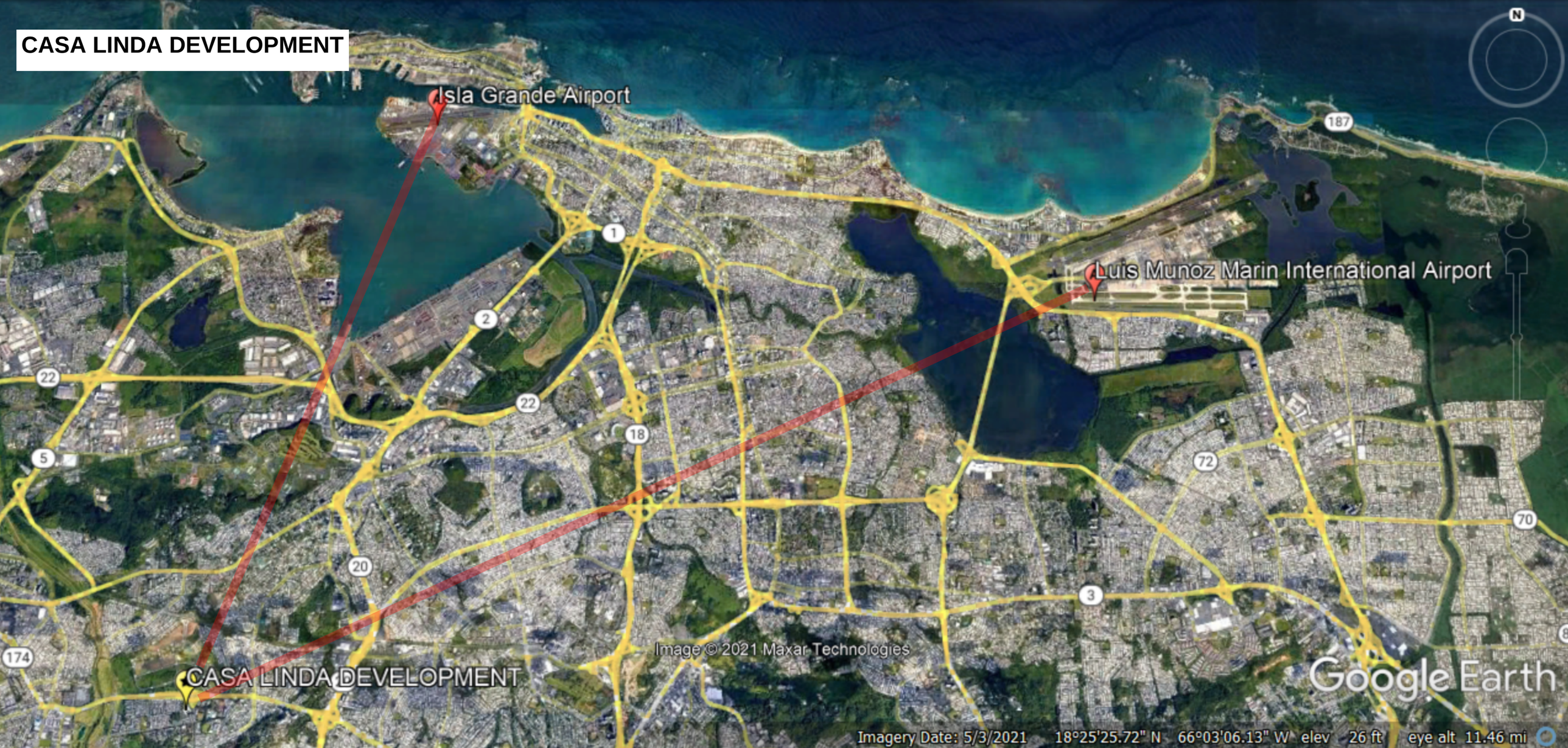

CASA LINDA DEVELOPMENT
Isla Grande Airport
Luis Munoz Marin International Airport
CASA LINDA DEVELOPMENT
Image © 2021 Maxar Technologies
Google Earth
Imagery Date: 5/3/2021 18°25'25.72" N 66°03'06.13" W elev 26 ft eye alt 11.46 mi

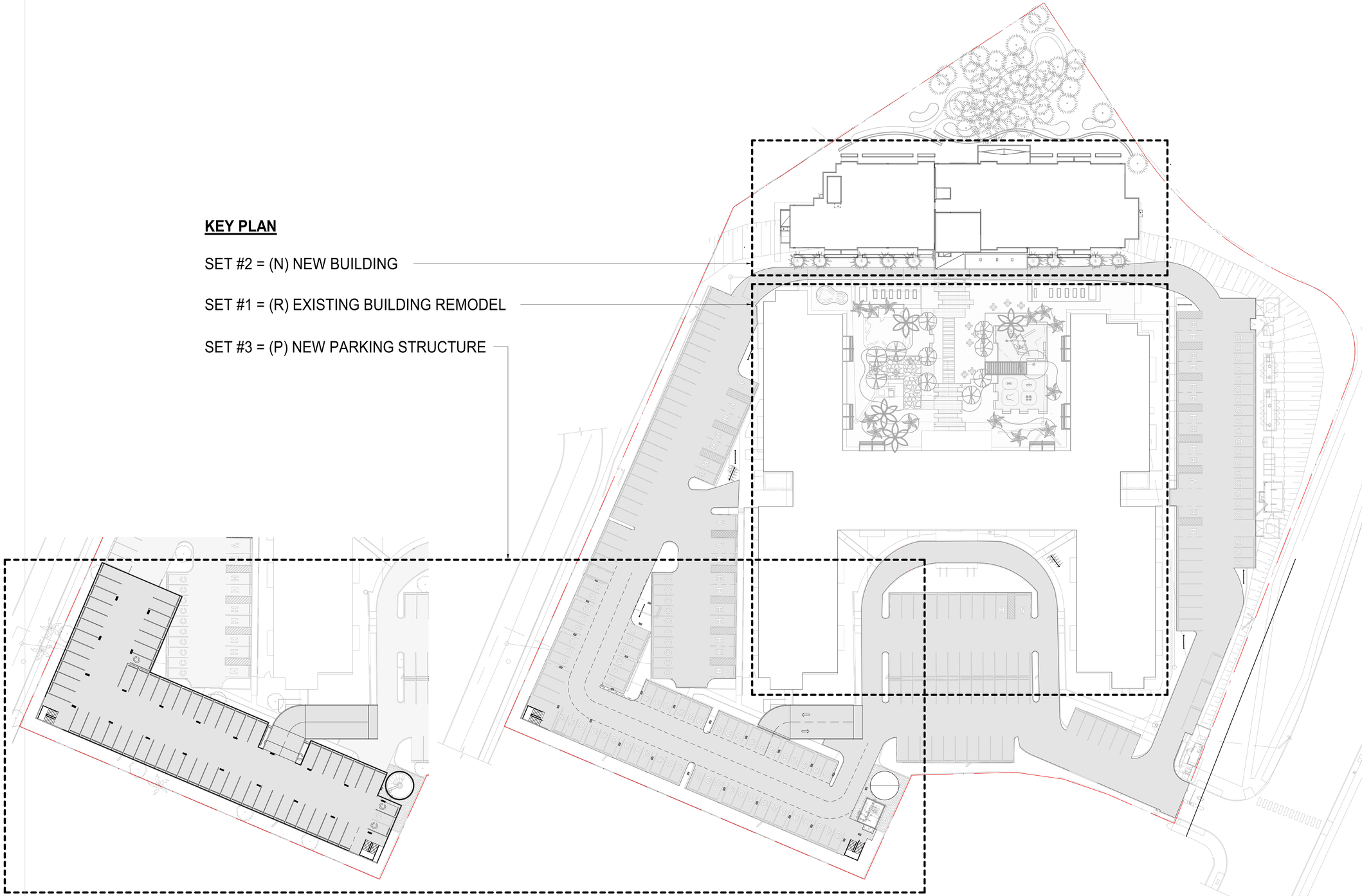
Exhibit T

KEY PLAN

SET #2 = (N) NEW BUILDING

SET #1 = (R) EXISTING BUILDING REMODEL

SET #3 = (P) NEW PARKING STRUCTURE



2 ELEVATED PARKING - LEVEL 2
1/32" = 1'-0"

1 SITE PLAN - GROUND LEVEL
1/32" = 1'-0"



Marvel Architects
Marvel Marchand

161 CALLE SAN JORGE SAN JUAN, PR 00911
787.289.9494

OWNER
QUANTA URBAN DEVELOPERS, CORP.

STRUCTURAL ENGINEER
JOAQUIN DE MARI MONSERRATE
INGENIERO ESTRUCTURAL, PSC

ELECTRICAL ENGINEER
ALFONSO LAZARO
JUAN R. REQUENA ASOCIADOS, CSP

PLUMBING ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

CIVIL ENGINEER
RAFAEL FERNANDEZ BAUZA
DG3A DESIGN GROUP, PSC

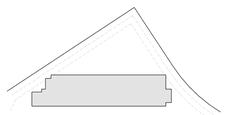
MECHANICAL ENGINEER
JORGE A. TORRES SCANDALI
CONSULTING ENGINEER, PSC

ISSUE RECORD	DESCRIPTION
2020.05.08	50% DD
2020.06.12	100% DD
2020.06.30	PERMIT

REV	DATE	DESCRIPTION

JONATHAN J. MARVEL FULLER
ARQUITECTO LICENCIADO
LIC. #21788
EXP. 29/SEPT./2020
PUERTO RICO

YO , **JONATHAN J. MARVEL FULLER**, DISEÑADOR, LICENCIA NUM. **21738**, CERTIFICO QUE SOY EL PROFESIONAL QUE CONFECCIONÓ Y/O DISEÑÓ Y/O PREPARÓ ESTOS PLANOS Y LAS ESPECIFICACIONES COMPLEMENTARIAS. TAMBIÉN CERTIFICO QUE ENTIENDO QUE DICHOS PLANOS CUMPLEN CON LAS DISPOSICIONES APLICABLES DEL REGLAMENTO CONJUNTO Y LAS DISPOCISIONES APLICABLES DE LOS REGLAMENTOS Y CÓDIGOS DE CONSTRUCCIÓN VIGENTES DE LAS AGENCIAS , JUNTAS REGLAMENTADORAS O CORPORACIONES PÚBLICAS CON JURISDICCIÓN. RECONOSCO QUE CUALQUIER DECLARACIÓN FALSA O FALSIFICACIÓN DE LOS HECHOS QUE SE HAYA PRODUCIDO POR DESCONOCIMINETO O POR NEGLIGENCIA YA SEA POR MI, MIS AGENTES O EMPLEADOS, O POR OTRAS PERSONAS CON MI CONOCIMIENTO, ME HACEN RESPONSABLE DE CUALQUIER ACCIÓN JUDICIAL Y DICIPLINARIA POR LA OGPe.



KEY PLAN:NTS

#1811A

CASA LINDA

AVE. NORTE + LOMAS VERDES
BAYAMON, PR

SITE KEY PLAN REMODEL, NEW BLDG, PARKING

SCALE: 1/32" = 1'-0"

DRAWING #:
T-003

© MARVEL ARCHITECTS, PLLC 2018

Exhibit U

AEE 15.2-793
Rev. 9/09

ESTADO LIBRE ASOCIADO DE PUERTO RICO
AUTORIDAD DE ENERGÍA ELÉCTRICA DE PUERTO RICO

NÚM. CERTIFICACIÓN:

CERTIFICACIÓN DE PLANOS DE CONSTRUCCIÓN ELÉCTRICA

En armonía con las disposiciones de la Ley Núm. 7 del 19 de julio de 1985 y de la Ley Núm. 173 del 12 de agosto de 1988, según enmendadas, yo, Alfonso J. Lázaro (Nombre y Apellidos) certifico que:

Soy mayor de edad, Casado (Estado civil), vecino de San Juan (Municipio), Puerto Rico; que soy Ingeniero (Ingeniero o Arquitecto) autorizado a ejercer la profesión en Puerto Rico con licencia número 11483 y soy miembro activo del colegio de mi profesión.

En el ejercicio de la profesión diseñé la fase eléctrica del proyecto de construcción descrita como :

Nombre Proyecto	Casa Linda	
Núm. AEE: 27-7-135		Carga (kVA): 500
Dirección Física	Carr. 177, Ave. Los Foltros	
	Bayamón, P.R. 00959	

Estoy autorizado por el dueño del proyecto a radicar esta certificación ante la AEE.

Dueño Proyecto	Casa Linda, LLC.
Dirección Postal	P.O. Box 10563
	San Juan, P.R. 00922

Radico esta certificación ante la AEE para:

✓	Endoso de los planos de diseño eléctrico que tienen evaluación vigente desde el 13 septiembre 2021.
	Revisión número ____ de los planos de diseño eléctrico previamente endosados por la AEE. Se incluye memorial explicativo.

La fase eléctrica del proyecto preparada o diseñada por mí, según se incluye en los planos, documentos y especificaciones que acompañan esta certificación, está conforme con los reglamentos, códigos, normas, patrones y comunicados técnicos vigentes aplicables promulgados, aprobados o adoptados por la AEE, la Junta de Planificación y la Administración de Reglamentos y Permisos, así como con las políticas públicas y leyes aplicables.

Acepto que el endoso de estos planos, documentos y especificaciones por parte de la AEE no constituye un relevo de la responsabilidad profesional que conlleva esta certificación.

Sustitución del Diseñador: Este proyecto fue endosado anteriormente a _____ (Ingeniero o Arquitecto), por lo que se incluye el relevo de responsabilidad expedido por éste.

Firma: Digitally signed by Alfonso J Lazaro San Miguel Date: 2021.10.11 17:49:45 -04'00'

Fecha: 08 de octubre de 2021

Dirección: PO Box 191587
San Juan, PR 00919-1587

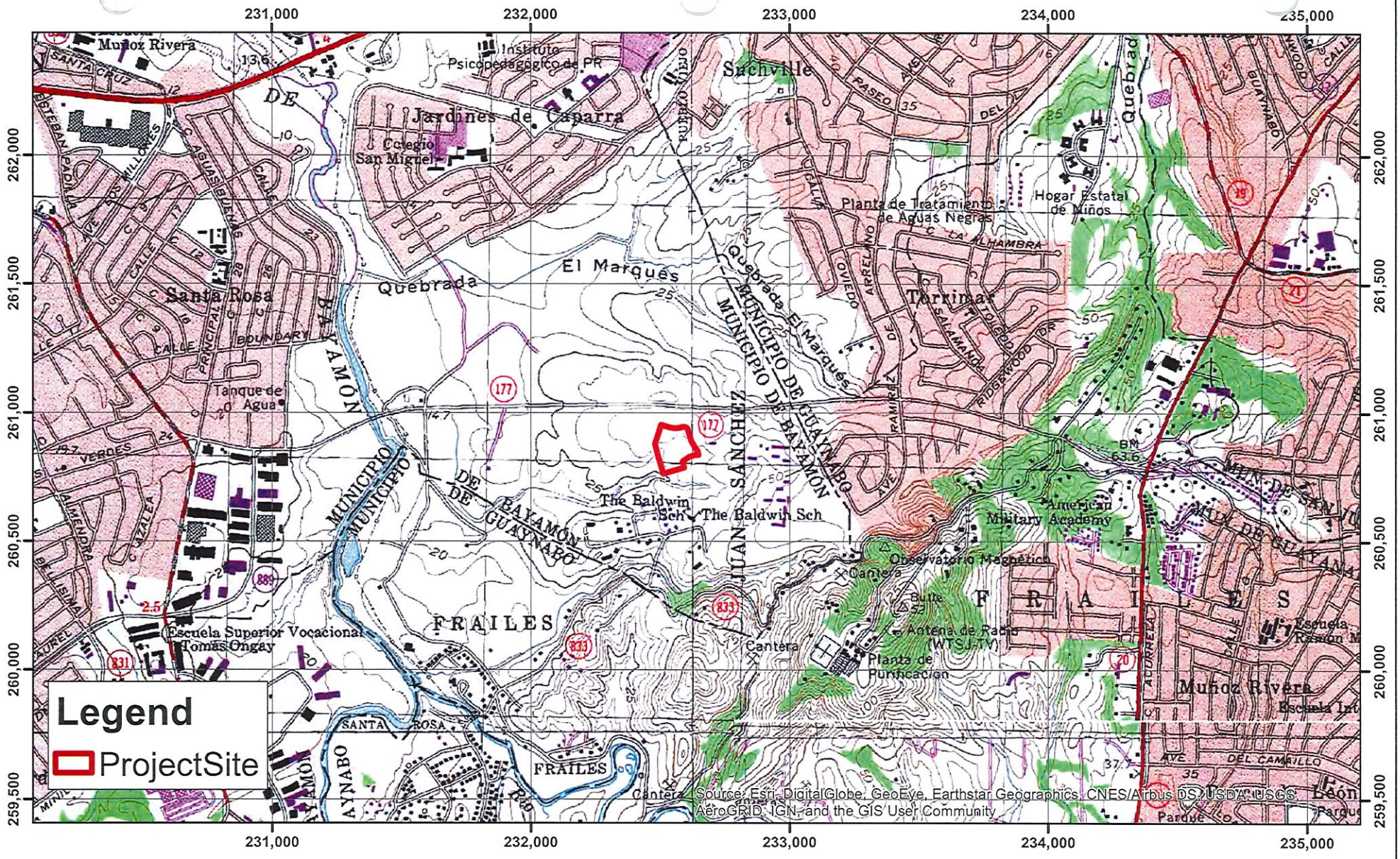
ENDOSO DE LA AEE

Firma: Rafael A. Meléndez-Santiago

Nombre: Digitally signed by Rafael A. Meléndez-Santiago

Fecha: Date: 2021.10.18 07:40:18 -04'00'

Exhibit V



Coordinate System: NAD 1983 StatePlane Puerto Rico Virgin Islands FIPS 5200 | Units: Meter

1:20,000

490 245 0 490 Meters



Location Map

Casa Linda, Bayamon, PR

N W E S

Date: 6/10/2020

PMG AND ASSOCIATES

Document Path: M:\32301-Casa-Linda\GIS\MXD\32301_LOC.MAP_R00.mxd