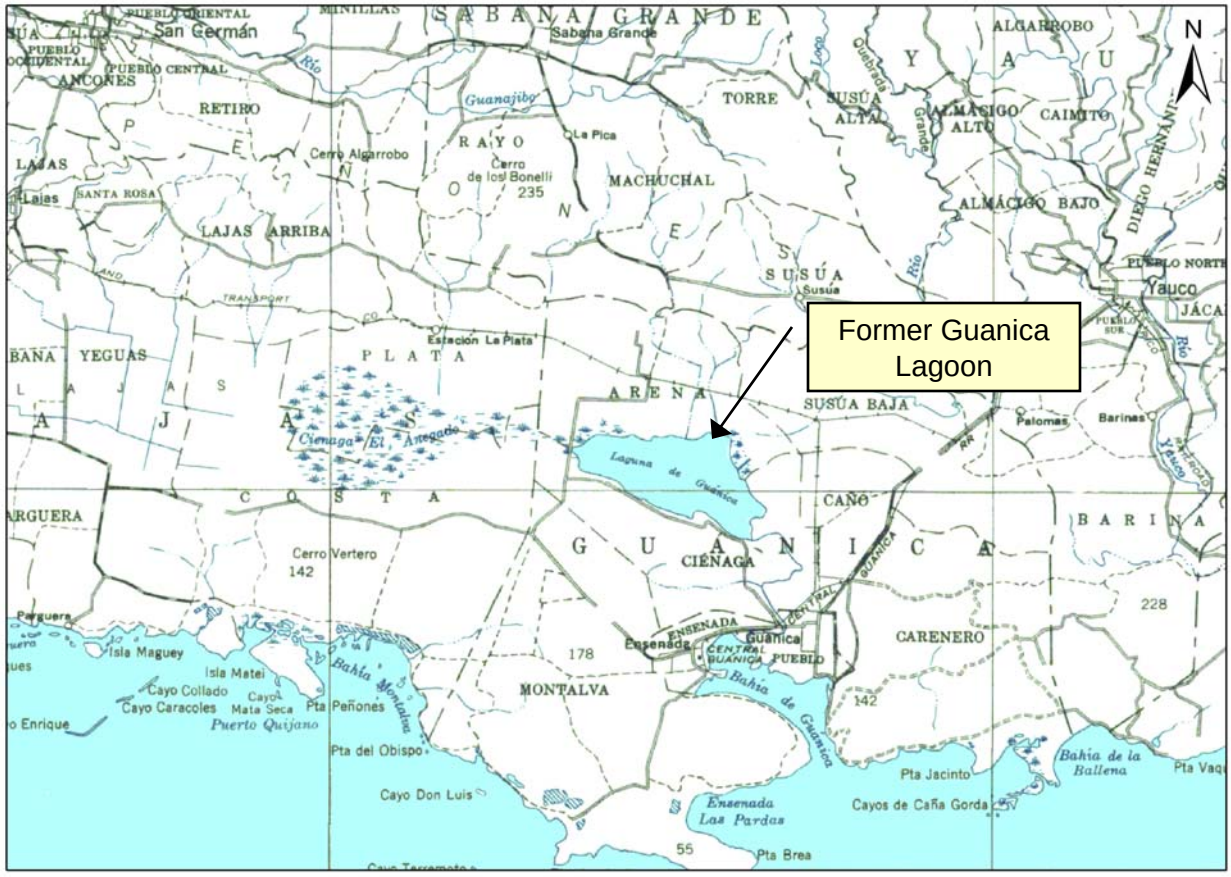
HYDROLOGIC-HYDRAULIC STUDY OF LAGUNA GUANICA RESTORATION IMPACTS ON REGULATORY FLOOD LEVELS, GUANICA, PUERTO RICO



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1. INTRODUCTION

1.1 Project Description and Location

Laguna Guánica is a natural freshwater wetland and lagoon located in Barrio Arena in the municipality of Guánica, in southwestern Puerto Rico. Prior to drainage the Laguna Guánica system actually consisted of two major components, Laguna Guánica and Cienaga El Anegado, a freshwater herbaceous marsh dominated by cattail (*Typha dominguensis*). The location of both areas is shown in Figure 1.

These wetlands were drained in 1955 as part of an agricultural development project in the Lajas Valley. Due to poor soils and other limitations the area of the former lagoon and its associated wetlands has never enjoyed high agricultural productivity, and the present land use is predominately poor quality pasture. The National Oceanic and Atmospheric Administration (NOAA) desires to restore water levels in the Laguna Guánica area to re-establish natural wetland conditions and functions insofar as possible so that the lagoon and its associated peripheral wetlands may be restored to a freshwater wildlife habitat. Following restoration, the lagoon system would complement other wildlife resources in the region including the salt flats at Cabo Rojo, Laguna Cartagena, and the Boquerón Forest and Wildlife Preserve. The restored lagoon could also produce socioeconomic benefits such as ecotourism opportunities, and both passive and active recreation such as nature observation and fishing.

NOAA desires to restore the Laguna de Guánica into a wetland and wildlife habitat. As a limitation, it is desired to restore water levels in the lagoon area without causing flooding of the Cienaga el Anegado area immediately upstream of the Guánica Lagoon, due to land acquisition limitations which have not yet been resolved in that area. Several types of problems must be addressed for the successful restoration of the lagoon and the maximization of its value as wildlife habitat.

1.2 Scope and Purpose of Study

This study analyzes regulatory flooding conditions in the Laguna Guánica area, to determine to what extent restoration of historical water levels in Laguna Guánica will affect regulatory flood levels. Regulatory flood levels may be affected by water control structures constructed along the Lajas Valley drainage canal, and by the change in the initial water level in the lagoon at the start of the flood.

Laguna Guánica is a flood prone area which acts as a detention storage for water draining from Lajas Valley as well as Río Loco. Restoration of Laguna Guánica by refilling it with water can be expected to reduce the amount of storage volume available to hold floodwaters. The water control structure constructed in the Lajas Valley drainage canal to control water levels in the lagoon may also have a significant impact on flood levels. This analysis was performed to determine the impact of changed lagoon water levels and of water control structures on regulatory flood levels in Lajas Valley and along Río Loco.

The study area for the analysis of flooding impacts consists of the eastern drainage of Lajas Valley and the Río Loco watershed into which Laguna Guánica drains. The Southwest Puerto Rico (SWPR) Project supplies water to Loco Reservoir for hydropower generation and irrigation supply. The configuration of the SWPR Project and the watersheds which contribute water to this system are shown in Figure 2. However, the rate of water diversion by the SWPR Project is too small to have a significant impact on flood flows, and therefore watersheds above the Río Loco watersheds are not considered in this analysis of regulatory flood levels.

1.3 Authorization

The Center for Watershed Protection has authorized preparation of this report through a written agreement with Gregory L. Morris Engineering, P.S.C.

1.4 Personnel Involved in the Project

The following parties were involved in the preparation of this report:

Client:	Center for Watershed Protection
Report Preparers:	Gregory L. Morris, Ph.D., P.E
	José D. Miranda, M.E.C.E., P.E.
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2. PRIOR STUDIES

A number of prior studies have been conducted in the Lajas Valley and Río Loco, but none have specifically addressed the issue of restoration of Laguna Guánica. Several of the more important studies from the standpoint of regional hydrology and drainage issues are listed below.

- Hydrology. Numerous studies have been published on the hydrology of Lajas Valley. Studies by the United States Geological Survey (USGS) (Anderson, 1977; Graves, 1991) have focused on ground water supply. A group of earlier studies have focused on the drainage problems which had to be solved to effectively irrigate the Lajas Valley (Israelsen, 1954; Willardson, 1958; and Vázquez and Ortiz-Vélez, 1967). Soils in the area of Laguna Guánica and El Anegado generally have poorer drainage characteristics and more severe salinization problems than soils elsewhere in the Lajas Valley.
- Flooding. The USGS published a flood of Lajas Valley (Johnson, 1974) based on historical flooding in 1928 and 1963, and the flood atlas of the Eloisa storm in 1975 (Johnson and González, 1982) included the eastern limit of Laguna Guánica. Both the Federal Emergency Management Agency (FEMA) and the Planning Board have published floodable area maps based on the flood atlas, but a detailed study has not been undertaken in the Lajas Valley. However, a detailed study has been performed in Río Loco. At present the U.S. Army Corps of Engineers has a flood control project in the area of the Río Loco floodplain in Guánica, but this project does not affect the area of Laguna Guánica or other areas of Lajas Valley.

In addition to these studies, climatological and hydrologic data are available from the USGS, the U.S. Weather Bureau, and from the Electrical Energy Authority, operator of the Southwest Puerto Rico Project which supplies irrigation water to the valley.

Our firm also performed a HH study in 1998 for the Department of Natural and Environmental Resources (DNER) titled "*Hydrologic and Hydraulic Analysis: Guánica Lagoon Restoration Impacts on Regulatory Flood Levels*". The hydrologic analysis used rainfall data taken from the now-obsolete Technical Paper-42 (TP-42) (1961) to analyze existing and proposed conditions in Laguna Guánica. The hydraulic analysis was performed with a 1-dimensional, unsteady flow hydraulic model (ICPR) based on field survey data provided by Surveyor Reyes M. Ayala of DNER. The location of these survey cross-sections is shown in Figure 3. Channel geometry for the Río Loco was taken from the FEMA HEC-2 model for the Flood Insurance Study of that river.

3. STUDY APPROACH AND METHODOLOGY

3.1 Description of System

The area of the former Laguna Guánica and El Anegado wetland at the eastern end of the Lajas Valley covers nearly 3,000 acres. This land is undeveloped, with cover being mostly pasture and brush. The former El Anegado area is separated from the former lagoon area by a mild constriction in the width of the valley. Terrain elevation does not vary significantly at the transition from the Anegado area to the lagoon. Ground elevations within the former lagoon vary gradually from about 1.5 m at its center to 3.4 m at its limits (3.4 m was the water level in the lagoon according to the USGS topographic quadrangle published in 1949). The minimum land surface elevation in the lagoon area is 1.0 m above sea level. The East Lajas Valley Drainage Channel crosses the areas formerly occupied by the lagoon and El Anegado, and drains toward the east into Río Loco at a location approximately 2.3 miles upstream of the Caribbean Sea, as shown in Figure 4. The drainage channel is well defined and clear of large debris throughout its length, and there is a continuous maintenance program. The narrowing of the valley at its eastern end, between Barrio Laguna and Barrio Fuig, acts as a hydraulic control for water draining from the lagoon area toward the sea. Río Loco has been channelized from the sea to the grade control weir just above its confluence with the Lajas Valley drainage channel. However, this channel was designed for drainage purposes, and has little effect on flooding conditions, as previously discussed in Section 1.2.

3.2 Problem Conceptualization

In the study area there are two floodable areas: the Lajas Valley including the area formerly flooded by Laguna Guánica, and the floodplain of Río Loco. During severe floods both of these areas are interconnected in the floodable area separating Barrio Laguna and Barrio Fuig, as seen in Figure 5.

Laguna Guánica and other low-lying areas of the Lajas Valley act as detention storage for the 56 mi^2 Lajas Valley watershed tributary to the point of confluence of Río Loco with the Lajas Valley drainage canal. By comparison, the area of the Río Loco watershed tributary to this same point is only 23 mi^2. Detention storage within the Lajas Valley is important for reducing flood peaks entering Río Loco and by filling the lagoon area back to historical water levels the storage volume available for flood detention will be reduced. This impact of the restoration project on flood levels can be simulated by varying the starting water surface in the Laguna Guánica area.

Río Loco is an alluvial river-floodplain valley constrained by steep hills which run along either side of the valley. The Loco dam and reservoir regulates the upper 8.5 mi^2 of its watershed. Loco reservoir is a relatively small regulating reservoir which receives water diverted from north coast reservoirs and discharged from hydropower station #2, and it delivers water to the forebay of the Lajas Valley irrigation canal. Loco dam has an ungated

spillway, and the reservoir is normally at a high level, especially during wet periods. As such it offers essentially no flood storage benefits. The flow entering Loco reservoir from the hydropower station is very small compared to peak flood discharges. Therefore, it is not necessary to account for reservoir regulation in computing flood flows along Río Loco. Flow along Río Loco can be modeled as one-dimensional.

Because the area of the confluence between Río Loco and Lajas Valley is submerged by floodwaters, flow may occur in either direction depending on the relative water levels. It is also possible for flow to occur in one direction during one part of the storm hydrograph, and flow in the opposite direction during a different portion of the storm. In fact, Anderson (1977) noted that during the 1963 flood, waters from Río Loco entered the area of Laguna Guánica (which at that time had been drained). Thus, modeling will have to accommodate the possibility for bi-directional flow between Río Loco and Lajas Valley.

3.3 Modeling Approach

The system to be analyzed consists of Laguna Guánica and its tributary watershed, Río Loco and its tributary watershed, and the confluence between Laguna Guánica and Río Loco. Hydraulic models were constructed to cover Río Loco from the sea upstream to a point above its confluence with Laguna Guánica, and the floodable area of the eastern portion of Lajas Valley which includes Laguna Guánica, El Anegado, and the valley floor further west of El Anegado, which is also floodable. Flood levels within the Laguna Guánica and along the Río Loco influence each other's hydraulic behavior. Because of this the hydraulic analysis for Río Loco was incorporated into the same model used to simulate the eastern Lajas Valley which includes the Laguna Guánica area.

The ICPR (Streamline Technologies v3.0, Winter Park, Florida) unsteady flow hydrologic-hydraulic modeling system used in the analysis dynamically routes stormwater through open channels, closed conduits and storage areas. Hydrographs are calculated by the Natural Resources Conservation Service's (NRCS) unit hydrograph (UH) methodology. The program's solution algorithm allows it to simulate a variety of complex conveyance systems. Each node in ICPR represents a control volume. Change in storage for each node is calculated based on the difference between inflows and outflows at each time step during the simulation period. The change in storage is used to determine elevations at each node at the end of each time step. Flow through each link is calculated from the known elevations at each end of the link and the hydraulic properties of the link.

Because Río Loco and Lajas Valley have a well-defined and rather narrow confluence zone, and because each is itself rather long and narrow, the system geometry is suited to modeling using a one-dimensional approach. An unsteady flow model is required to accommodate the detention storage effects in Lajas Valley, and to also accommodate the potential for bi-directional flow in the area of the confluence between Río Loco and Lajas Valley.

The largest flood of record is the flood of September 13, 1928. Water levels in the 1928 flood have been published in the USGS flood atlas HA 532, but there are no rainfall or discharge data for this event. Therefore, this event cannot be used for model verification.

The existing conditions model was calibrated using the historical events of August 3, 1963 and then verified using the September 16, 1975 (Eloisa) event. Both of these events occurred after construction of the Lajas Valley drainage channel, and both rainfall and water level data are available for both events. These historical simulations verified the performance of the model during the period when the lagoon area when it was drained and the Lajas Valley drainage canal was in operation. The verified model was then used to simulate the 100-year hydrograph and flood levels.

Future conditions were simulated to differ from existing conditions in two ways: (1) the lagoon will be refilled with water, and (2) a water control structure will be constructed within Río Loco below its confluence with the drainage channel. The existing condition model was modified to include the hydraulic structure needed to fill up the lagoon, and different starting water surface elevations were used to simulate different water levels in the lagoon at the start of the 100-year rainfall event. Different starting water surface elevations in the lagoon were simulated to examine the sensitivity of flood levels to the variation in detention volume in the lagoon area.

This report updates previous ICPR modeling to incorporate recent rainfall data obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 published October 26, 2006.

3.4 Regulatory Limitations

Our previous HH study, based on an earlier version of Regulation #13, analyzed the proposed lagoon restoration with an allowable increase in base flood elevation of 0.3 meters.

According to the Puerto Rico Planning Board Regulation #13, revised January 7, 2010, the proposed lagoon restoration shall not increase base flood elevations (100-year event) throughout the Lajas Valley more than 0.15 meters. This analysis revises the earlier HH study to determine the proposed lagoon water level which will not increase base flood elevations more than 0.15m.

4. HYDROLOGIC ANALYSIS

The total drainage area of Laguna Guánica watershed is approximately 56 square miles. The NRCS UH methodology, as implemented in the ICPR model, was used to generate runoff hydrographs. Runoff hydrographs generated by this method are based on rainfall depth and duration (see Table 1), value of Curve Number (based on soil type and land use), watershed area and time of concentration, and Antecedent Moisture Condition.

4.1 Watershed Limits

The Laguna Guánica watershed covers approximately 35,775 acres, and was divided into eleven sub-basins which were analyzed separately for hydrologic modeling purposes. The Río Loco watershed covers approximately 14,800 acres and was divided into six sub-basins. The northernmost Río Loco sub-basin (WS-1) drains into Loco Reservoir. Runoff from this watershed reaches Río Loco only as reservoir spillage during high runoff events. Loco dam has an ungated overflow (ogee-type) spillway. The watershed tributary to the dam is undeveloped, other than rural housing. Land use in sub-basins which drain into the Río Loco below the dam are a combination of pasture and row crops, brush, and urban areas. All Laguna Guánica sub-basins are substantially undeveloped, with land cover being mostly pasture, brush and secondary forest. There are no reservoirs in the Laguna Guánica watershed. The flows generated by large-discharge flood events are much larger than the flows which pass through the 2.44 m diameter hydropower tunnel discharging into Loco reservoir from Luchietti reservoir, or the capacity of the irrigation canal from Loco dam leading to Lajas Valley. Flows in the SWPR Project were ignored in this analysis because they are insignificant. Figure 6 shows studied the watersheds of Laguna Guanica and Río Loco.

4.2 Rainfall Depths

Hyetographs were constructed for the drainage areas using the 100-year rainfall depths as reported in NOAA's Atlas 14. Table 1 presents 100-year rainfall depths used to construct the hyetograph. Appendix A includes the NOAA Atlas-14 rainfall data used in the analysis and the rainfall distribution calculations.

Table 1: 100-year Rainfall Durations and Depths, NOAA Atlas 14

Duration (hours)	100-yr Rainfall Depth	
	inches	centimeters
0.5	2.7	6.9
1	4.0	10.2
2	5.7	14.5
3	6.5	16.6
6	8.9	22.5
12	12.17	30.9
24	16.3	41.4

4.3 Time of Concentration

The time of concentration is the time required for a drop of water falling on the most distant point of the watershed to influence discharge at the watershed exit. The time of concentration was calculated using Soil Conservation method (TR-55). For sheet flow calculation the following equation was used:

$$t_c = \frac{0.007 * (n * L)^{0.8}}{P_2^{0.5} * S^{0.4}}$$

where:

t_c = time of concentration (minutes)

n = Manning's roughness coefficient

L = flow length (ft)

P_2 = 2-year, 24-hour rainfall: 4.36 in

S = slope of hydraulic grade line (land slope, ft/ft)

For shallow concentrated flow calculation the following equation was used:

$$t_c = \frac{L}{60 \times V}$$

where:

t_c = time of concentration (minutes)

L = flow length (ft)

V = average velocity of flow (ft/s)

For channel flow, Manning's equation was used to calculate velocity:

$$V = \frac{1.49 * R^{2/3} * S^{1/2}}{n}$$

where:

V = channel velocity (ft/s)

R = channel hydraulic radius (ft)

S = channel slope

n = Manning's roughness coefficient

The travel time along the channel was calculated with the following equation:

$$t_c = \frac{L}{60 * V}$$

where:

t_c = time of concentration (minutes)

L = channel length (ft)

V = average velocity of flow (ft/s)

Slopes and distances were obtained from the topographic quadrangle map. Because the discharge from watershed WS-1 depends on reservoir release, the time of concentration of this watershed was estimated through calibration.

4.4 Soil Types and Curve Number

The Curve Number represents the runoff potential within a watershed and is estimated based on soil type (hydrologic soil group), land use and Antecedent Moisture Condition (AMC). In this study an AMC-II was used. The soil types within the watersheds were obtained from Soil Survey Geographic data base (SSURGO), which contains the most detailed level of soil mapping performed by the NRCS. The computed Time of Concentration and Curve Number for each of the analyzed sub-basins are shown in Table 2. Figure 7 shows the Hydrologic Soil Group within the studied watersheds. Curve Number calculations are included in Appendix B.

Table 2: Calculated Times of Concentration and Curve Number

Watershed	Area (acres)	Time of Concentration (min)	Curve Number
WS-A	820	54.2	84
WS-B	4,468	77.2	84
WS-C	2,622	130.5	84
WS-D	1,723	117.4	83
WS-E	4,209	109.8	83
WS-F	4,305	108.7	83
WS-G	1,625	116.2	83
WS-H	4,346	148.2	84
WS-I	2,525	61.5	84
WS-J	5,118	75.5	84
WS-K	4,098	60.7	84
WS-1	5,397	59.0	80
WS-2	2,058	54.8	81
WS-3	1,942	61.5	83
WS-4	757	78.5	83
WS-5	1,781	54.3	77
WS-6	1,932	54.0	81

4.5 Design Hydrology

The 24-hour, 100-year peak discharges from each of the analyzed watersheds are summarized in Table 3.

Table 3: 100-year Peak Discharges for Analyzed Watersheds

Watershed	100-yr Peak Discharge	
	ft^3/s	m^3/s
WS-A	4,740	134
WS-B	22,629	641
WS-C	6,068	172
WS-D	3,945	112
WS-E	10,502	298
WS-F	10,603	300
WS-G	4,279	121
WS-H	9,484	268
WS-I	8,564	242
WS-J	20,980	594
WS-K	16,011	453
WS-1	20,103	569
WS-2	8,495	241
WS-3	8,680	245
WS-4	2,757	78
WS-5	6,132	173
WS-6	7,297	207

5. HYDRAULIC ANALYSIS

Flooding in the Laguna Guánica area is characterized by backwater and flow reversal effects between the lagoon and Río Loco, along the constricted area between Barrio Laguna and Barrio Fuig (as documented by Anderson, 1977). Because the flood hydrograph along Río Loco rises quickly, during the early part of the flood Río Loco discharges into the lagoon. Afterwards, water from the lagoon drains to Río Loco, and out to the sea.

Friction losses were computed using the Manning equation and average conveyance method, and expansion and contraction losses were determined using velocity headloss coefficients. Manning's n-values used in the analysis are shown in Table 4.

Table 4: Manning's n-values used in Hydraulic Model

Location	n-value
Vegetated Main Channel	0.035
Vegetated Overbanks	0.080

Channel and floodplain reaches were simulated as irregular cross-sections based on surveyed channel and floodplain geometry, supplemented with data from the USGS topographic quadrangle. All simulations reported here were performed using the 100-year storm hydrographs computed within the ICPR hydrology module.

For all modeling the water level in Bahía Guánica was set at 2.1 m, which is the 100-year storm surge elevation, and held constant over the duration of the simulation. This is an extremely conservative assumption, since the 100-year storm surge elevation and the 100-year rainfall will not occur simultaneously with an annual probability of 1%.

For the existing condition model the starting water surface elevation in Río Loco and in the East Lajas Valley Drainage Channel was set at 2.1 m, or equal to the channel invert if higher than 2.1 m. Under future conditions the lagoon's desired water surface elevation was used as the initial water surface elevation in the area upstream of the proposed water control structure, or the channel invert if higher.

The hydraulic model covers a distance of 8.1 mi (13 km) along Río Loco, extending from the Caribbean Sea upstream to the Loco Reservoir, and includes as a tributary 9.8 mi (15.8 km) along the East Lajas Valley drainage channel which discharges to Río Loco at a point approximately 2.5 mi (4 km) upstream from the ocean. Model node locations are shown in Figure 8. A schematic of the model's link-node configuration is presented Figure 9.

Channel geometry along Río Loco was defined using cross-section data taken from the effective FEMA HEC-2 model. Channel geometry along the East Lajas Valley Drainage Channel was defined using the survey data provided by the DNER surveyor. Because the survey data did not cover the entire floor of Lajas Valley, which is a floodable area, the

field survey data was supplemented with topographic data from USGS topographic quadrangles. To represent the bi-directional flow pattern at the confluence between the Río Loco and the East Lajas Valley drainage channel, the connection between the Río Loco and the area of the Laguna Guánica was defined as a weir. For the proposed condition, the weir structure in the drainage channel was located at node "XS-CONT3".

5.1 Model Verification

The ability of the ICPR hydrologic and hydraulic model to accurately simulate flood levels within the Río Loco – Lajas Valley system was verified by simulating two historical events for which both rainfall and water level data were available. In this discussion the term "verification" refers to the overall simulation activity which checks that the model produces results that are consistent with historically observed behavior. The term "calibration" refers to a process in which specific components of the model are adjusted to match some historically observed condition, such as a peak discharge, roughness coefficients, or water level.

Historical flood atlas data does not report water levels along Río Loco and within Laguna Guánica for the same event. Two separate events were simulated to verify the Río Loco and the Lajas Valley portions of the model. Data available for the event of August 3, 1963 describes flood levels within the Lajas Valley, but does not report flood levels along Río Loco. In contrast, the Eloisa event in 1975 gives flood levels along Río Loco but not in the Laguna Guánica area. Earlier events (such as the 1928 flood) do not have rainfall data. Also, we do not know the initial water level in the lagoon at the beginning of the 1928 event, nor was the Lajas Valley drainage canal constructed at that time. These factors make it poorly suited for verification purposes, especially since data from more recent and better-documented events are available.

1963 Event

The hydrologic and hydraulic model for existing conditions (Appendix C) was verified using the following data for the event of August 3, 1963: the National Weather Service observed daily rainfall within the eastern Lajas Valley watershed (Lajas station), the corresponding discharge measured at a point along the Río Loco which lies 2.3 km upstream of the ocean, and the water surface elevations along the East Lajas Valley Drainage Channel. Water levels and flow for this event were published by the USGS in Flood Atlas HA-532 "Floods in the Eastern Lajas Valley and the Lower Río Loco Basin, Southwestern Puerto Rico". The runoff hydrograph for the Loco Reservoir watershed (WS-1) was calibrated against the known Loco dam discharges. With this information, the calculated time of concentration and calculated time of concentration for each of the sub-basins was calibrated to produce simulated peak discharges and maximum stages similar to the observed ones (Table 5).

Table 5: Observed and Calculated Discharge (ft^3/s) at Río Loco for 1963 event

Observed Flow	Calculated Flow	Percent Difference
1,750	1,849	5.7%

Characteristics of the observed and simulated maximum stages are compared in Table 6 Differences between observed and simulated hydrographs at nodes C, B, and LAGOON are attributed to the difference in invert elevations between those reported in the USGS Flood Atlas HA-532 and the higher (existing condition) invert elevations measured at these same locations by recent survey data.

Table 6: Simulation of event of August 3, 1963

Node	Distance from mouth of Drainage Canal (m)	Water Surface Elevation (m)		Difference
		Observed	Calculated	
LAGOON	0	3.0	3.37	12.0 %
NODE B	700	3.2	3.36	5.0 %
NODE C	1,700	3.3	3.37	1.8 %
NODE D	2,900	3.4	3.37	-0.9 %
NODE E	4,500	3.5	3.48	-0.6 %
NODE F	5,400	3.9	4.07	4.4 %
NODE G	7,200	4.0	4.13	3.3 %
NODE H	8,000	4.1	4.18	2.0 %
NODE I	11,000	4.6	4.53	-1.5 %

1975 (Eloisa) Event

Data available in the USGS Flood Atlas WRI 81-480 for the event of September 16, 1975 (Eloisa) provides maximum stages along Río Loco. Flood levels are not reported within the Lajas Valley for this event. The model previously verified for the event of August 3, 1963 was rerun using the National Weather Service observed daily rainfalls for the Eloisa event at the Lajas Substation (for watersheds within the Lajas Valley) and the Sabana Grande Substation (for watersheds draining to Río Loco); and a rainfall distribution developed using the observed precipitation intensity at Maricao for the same (Eloisa) event. Simulated maximum stages along the Río Loco for this run result similar to the

observed maximum stages for the Eloisa event (Table 7) , verifying the Río Loco portion of the model. 1975 Event Model output id given in Appendix D.

Table 7: Peak Stage Verification to event of September 16, 1975 (Eloisa)

Node	Distance from mouth of Río Loco (m)	Water Surface Elevation (m)		Difference (m)
		Observed	Calculated	
OCEAN	0	N/A	--	--
DS-116	1,000	N/A	--	--
FUNNEL	3,520	5.80	5.92	0.12
DS-332	3,920	8.90	8.87	-0.03
D-OLD116	5,440	16.3	16.39	0.09
PALOMAS	8,640	32.00	32.33	0.33
MAGUEYES	10,640	37.00	36.28	-0.73
SUSUA	12,040	45.00	45.56	0.56

N/A = Data not Available

5.2 Duplicate Effective Model

FEMA has designated the Laguna Guánica and Río Loco as floodable areas, but has only performed a detailed flood analysis for the areas along Río Loco. Therefore, a duplicate FEMA effective model could only be produced for the Río Loco. There is no FEMA model for the Laguna Guánica area.

The FEMA effective model for Río Loco is a HEC-2 model which does not include the bi-directional connection with Laguna Guánica. The interaction between Río Loco and Laguna Guánica must be analyzed to simulate the true behavior of the Laguna Guánica-Río Loco system. Because the HEC-2 model is incapable of simulating flow reversal, modeling was performed within ICPR to simulate the Laguna Guánica and the Río Loco systems together. To duplicate FEMA effective levels, the ICPR model was run shutting off the Río Loco connection with the Laguna Guánica, and using the same peak flows used the FEMA model. Table 8 compares the FEMA effective and ICPR simulated flood levels along the Río Loco. Duplicate Effective Model output is given in Appendix E.

Table 8: Comparison of Flood Levels along Río Loco, Duplicate Effective FEMA Model

Node	Distance from mouth of Río Loco (m)	Water Surface Elevation (m)		Difference (m)
		FEMA	Calculated	
OCEAN	0	2.1	2.1	0.0
DS-116	1,000	3.2	3.2	0.0
US-116	1,020	3.8	4.1	0.3
LAGOON	3,450	7.0	7.0	0.0
FUNNEL	3,520	7.7	7.6	-0.1
DS-332	4,020	8.7	8.7	0.0
US-332	4,040	8.9	9.0	0.1

5.3 Existing Condition Model

The verified model constructed within the ICPR environment was used to simulate the existing condition 100-year flow. Storage effects control the behavior of Laguna Guánica. Both short-duration (12-hour) and long-duration (48-hour) 100-year events were analyzed in addition to the 24-hour, 100-year event for comparison purposes. Peak discharges from the lagoon for each of these 100-year events are summarized in Table 8. Hydrologic modeling results for the existing condition are given in Appendix-C.

Table 9: Peak 100-year Discharges (ft^3/s) for 12-, 24-, and 48-hour Storms

Description	12-hr storm		24-hr storm		48-hr storm	
	Existing	Future	Existing	Future	Existing	Future
Inflow from Río Loco to Lagoon	9,824	8,084	14,227	15,633	17,182	17,427
Inflow from Lajas Valley to Lagoon	8,791	7,646	19,885	23,517	24,034	28,700
Outflow from Lagoon to Río Loco	0	1,384	3,188	4,270	6,494	7,343

Note: The future condition simulation uses an initial lagoon water surface elevation of 3.1 m

5.4 Proposed Condition Model

The proposed condition model incorporated a water control structure in Río Loco plus higher starting water surface elevations in the lagoon. Two starting water surface elevations were analyzed in the lagoon, 2.7 m and 3.1 m. The peak 100-year flood levels throughout the study area are presented in Table 10 for the existing condition (lagoon empty) and for two different water levels in the lagoon (2.7 and 3.1 m) at the beginning of the rainfall that causes flooding. Input and output files for the proposed condition modeling are given in Appendix F. The original lagoon water level of 3.4 m-msl was also analyzed. This level causes increases higher than the 0.15 m allowed by current Planning Board Regulations.

As can be seen in Table 10, restoration of the lagoon to a level of 3.1 m-msl will increase the 100-year regulatory flood level by a maximum of 0.15 meters, while flood levels in Río Loco are significantly affected only in the river reach adjacent to the connection with Laguna Guánica (a maximum increase of 0.15 m). Flood elevations increase in this area because filling of Laguna Guánica will reduce the volume available for the storage of floodwaters. The lowest elevation houses in Barrio Laguna are lower than the 100-year flood elevation under the existing condition.

Table 10: Peak 100-year flood elevations (m-msl), Río Loco and Laguna Guánica, for Different Initial Water Levels in the Lagoon

Site	Existing Condition (lagoon empty)	2.7 m Lagoon Level		3.1 m Lagoon Level		3.4 m Lagoon Level	
		100-yr level	Diff.	100-yr level	Diff.	100-yr level	Diff.
Río Loco							
PALOMAS	32.09	32.09	0	32.09	0	32.09	0
U-OLD116	18.19	18.19	0	18.19	0	18.19	0
D-OLD116	16.18	16.18	0	16.18	0	16.18	0
US-332	9.61	9.61	0	9.61	0	9.61	0
DS-332	8.64	8.64	0	8.64	0	8.64	0
FUNNEL	5.51	5.61	0.10	5.66	0.15	5.69	0.18
US-116	2.50	2.56	0.06	2.59	0.09	2.62	0.12
DS-116	2.32	2.36	0.04	2.38	0.06	2.39	0.07

Site	Existing Condition (lagoon empty)	2.7 m Lagoon Level		3.1 m Lagoon Level		3.4 m Lagoon Level	
		100-yr level	Diff.	100-yr level	Diff.	100-yr level	Diff.
Laguna Guánica							
LAGOON	5.53	5.63	0.10	5.68	0.15	5.72	0.19
NODE B	5.53	5.63	0.10	5.68	0.15	5.72	0.19
NODE C	5.53	5.63	0.10	5.68	0.15	5.72	0.19
NODE D	5.53	5.63	0.10	5.68	0.15	5.72	0.19
NODE E	5.53	5.64	0.11	5.68	0.15	5.72	0.19
NODE F	5.54	5.64	0.10	5.69	0.15	5.73	0.19
NODE G	5.54	5.64	0.10	5.69	0.15	5.73	0.19

Note: Difference is in relation to the Existing Condition model

6. SUMMARY AND CONCLUSIONS

1. The previous HH analysis performed by our firm in 1998 for DNER, "*Hydrologic and Hydraulic Analysis: Guánica Lagoon Restoration Impacts on Regulatory Flood Levels*", used rainfall data taken from the now-obsolete Technical Paper-42 (TP-42) to analyze existing and proposed conditions in Laguna Guánica and Lajas Vallley for an allowable increase in base flood elevations of 0.3.m.
2. According to Puerto Rico Planning Board Regulation #13, revised January 7, 2010, the proposed lagoon restoration shall not increase base flood elevations (100-year event) throughout the Lajas Valley more than 0.15 meters. Our previous HH study, based on an earlier version of Regulation #13, analyzed the proposed lagoon restoration with an allowable increase in base flood elevation of 0.3 meters. The present analysis revises the earlier HH study to determine the proposed lagoon water level which will not increase base flood elevations more than 0.15 m.
3. This report also updates previous modeling to incorporate recent rainfall data obtained from the NOAA Atlas 14 published October 26, 2006.
4. Restoration of a water level of either 2.7 or 3.1 m in the lagoon will not produce an increase in the regulatory 100-year flood elevation greater than the 0.15 m permitted under the provisions of Planning Board Regulation #13, "Regulation of Areas Subject to Flooding", dated January 10, 2010.
5. Filling the lagoon to its original water level of 3.4 m-msl will produce an increase in Base Flood Elevation of more than the 0.15 m, not complying with state regulation.

7. REFERENCES

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Figures

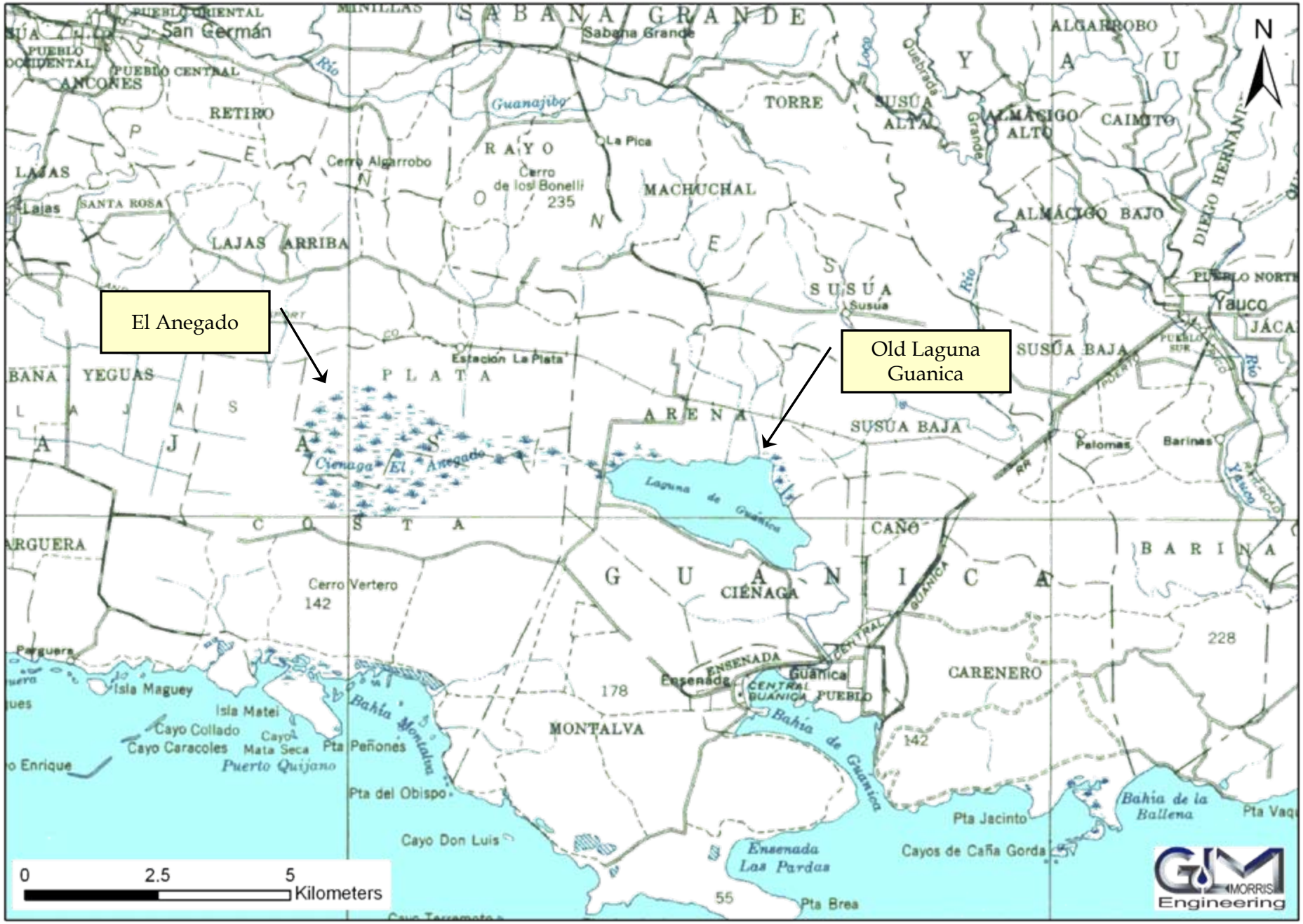


Figure 1: Location of Laguna Guanica and El Anegado in the southwestern area of Puerto Rico.

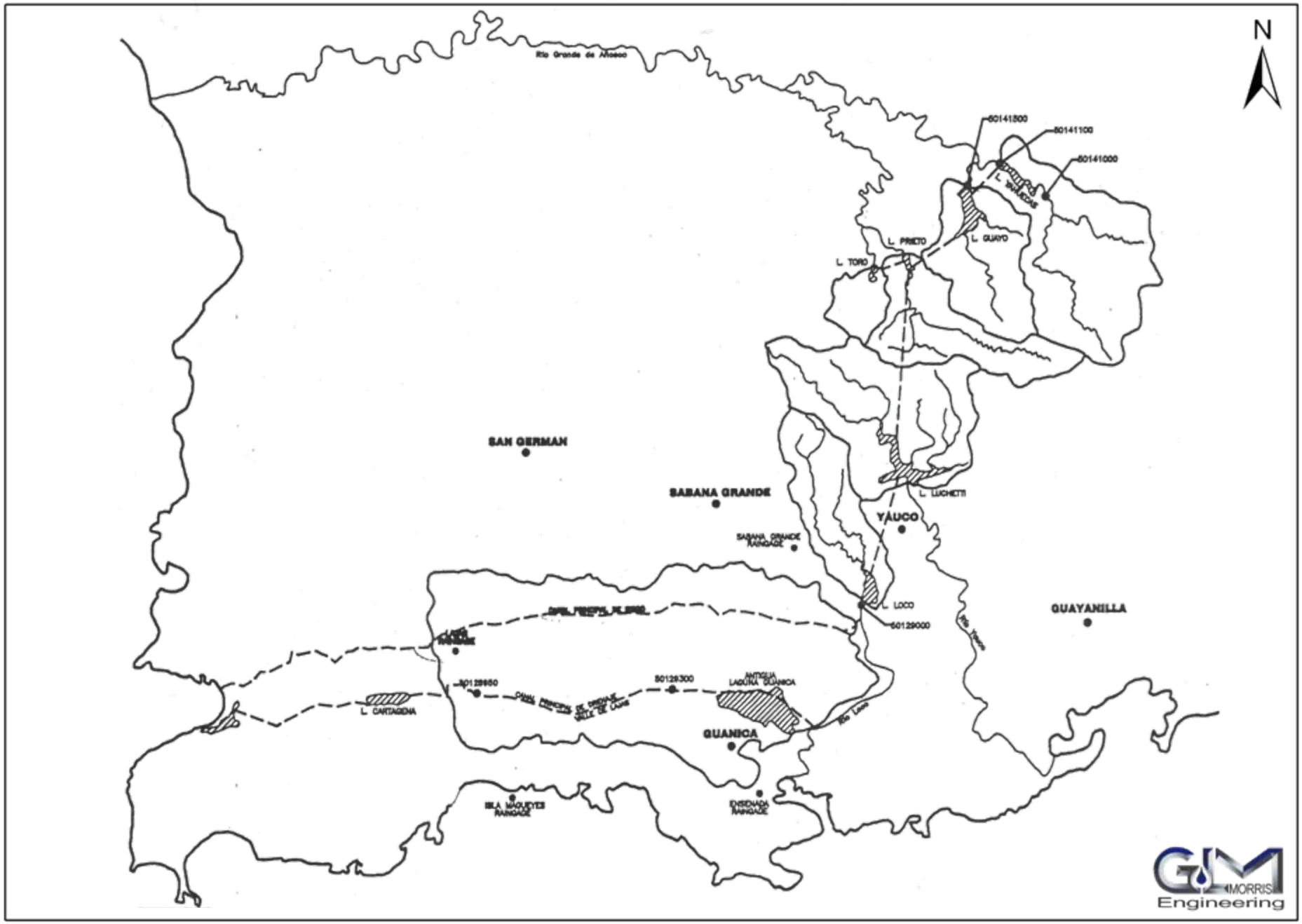


Figure 2: Southwest Puerto Rico Project configuration and watershed.

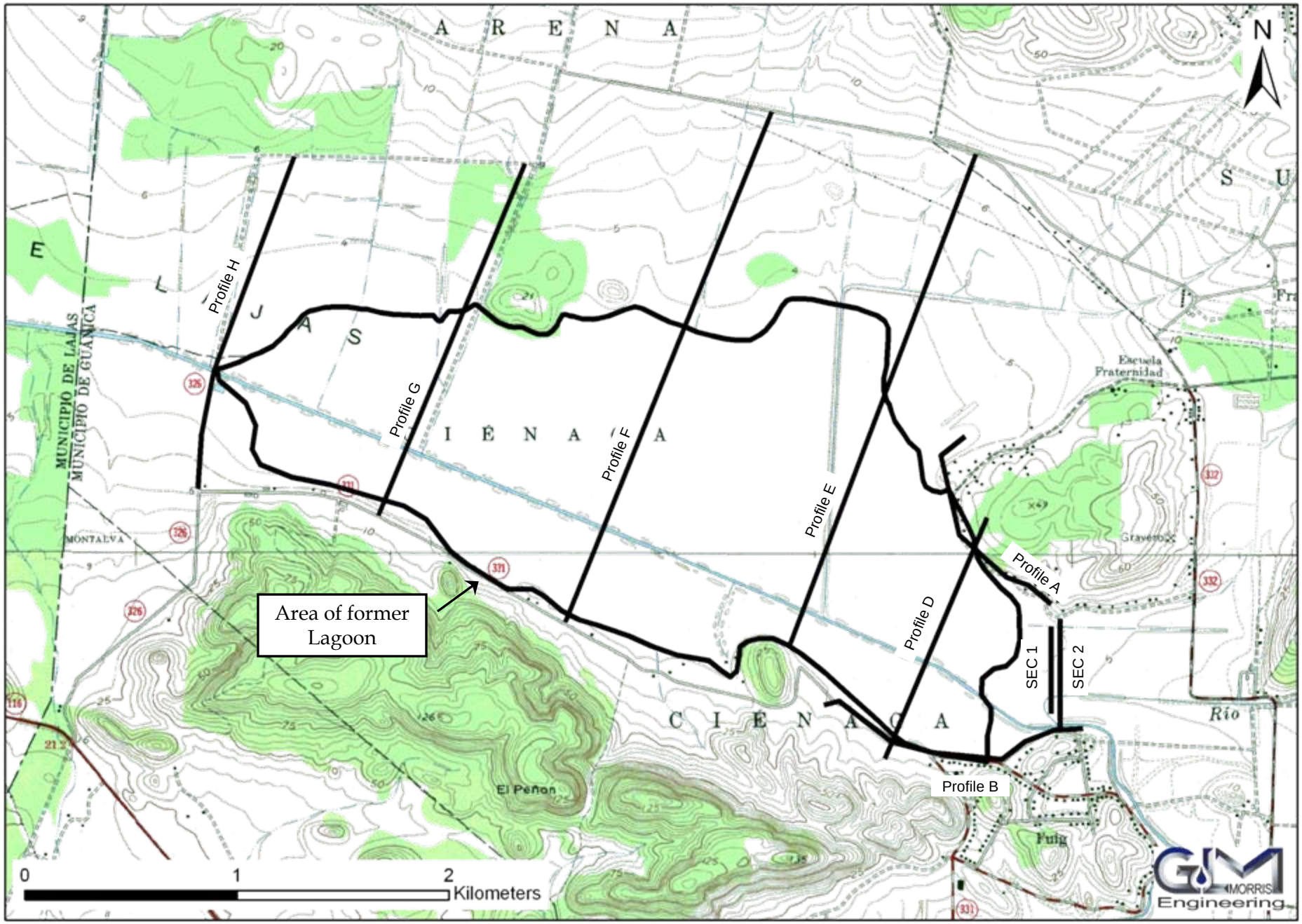


Figure 3: Location of Survey Cross Section performed by DNRE in 1998.

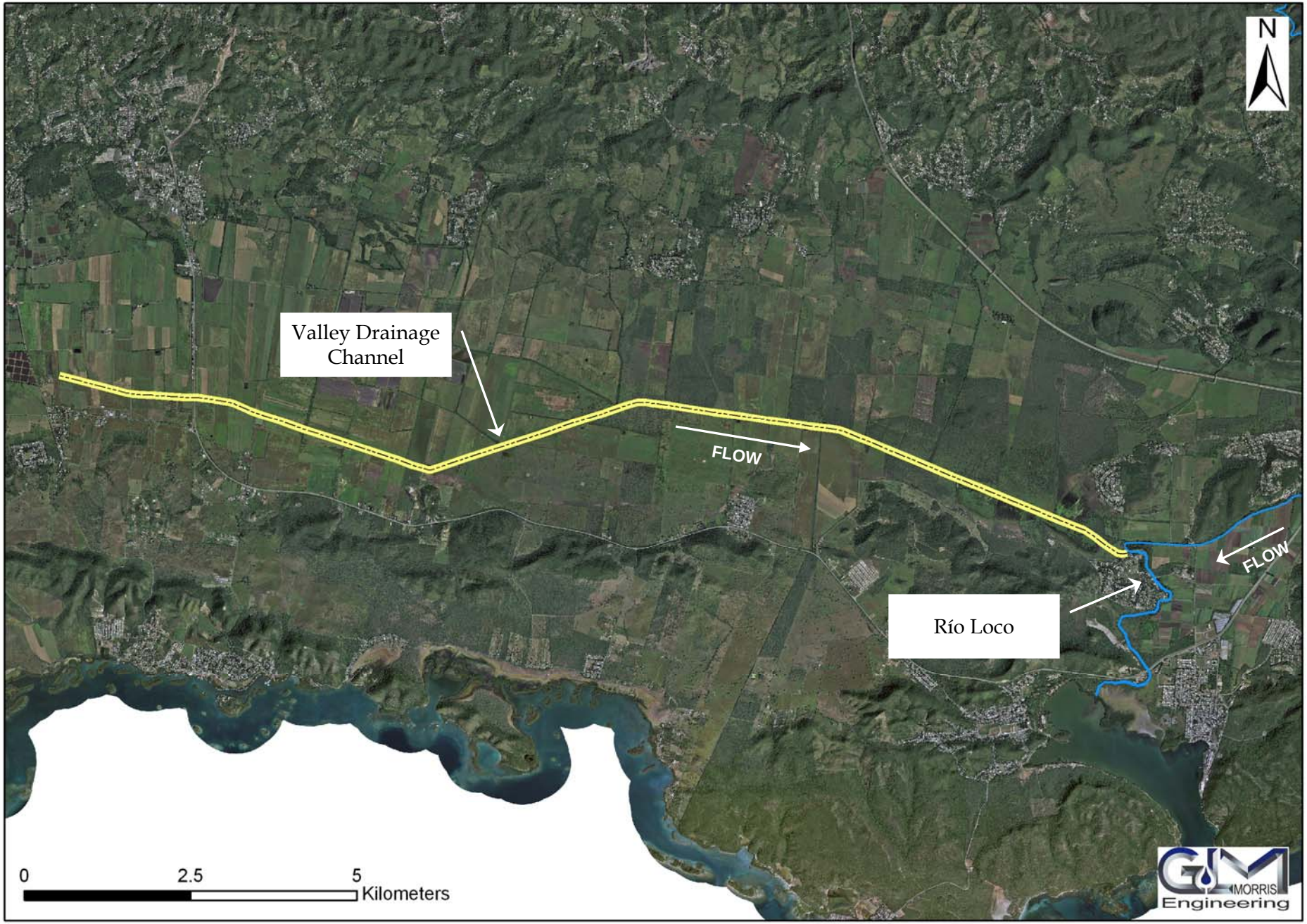


Figure 4: Location of Valley Drainage Channel.

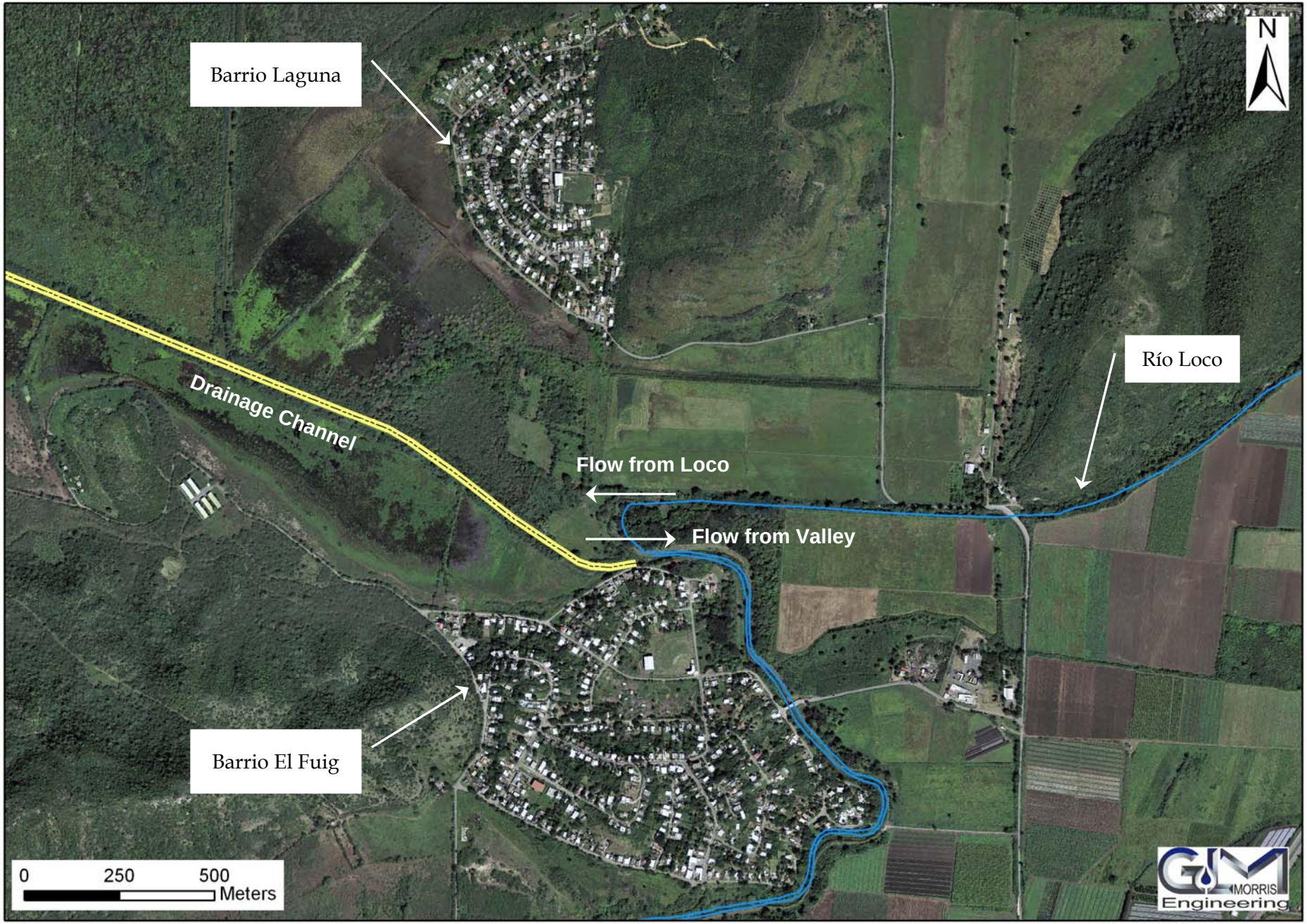


Figure 5: Area of flow interconnection between Lajas Valley and Río Loco.

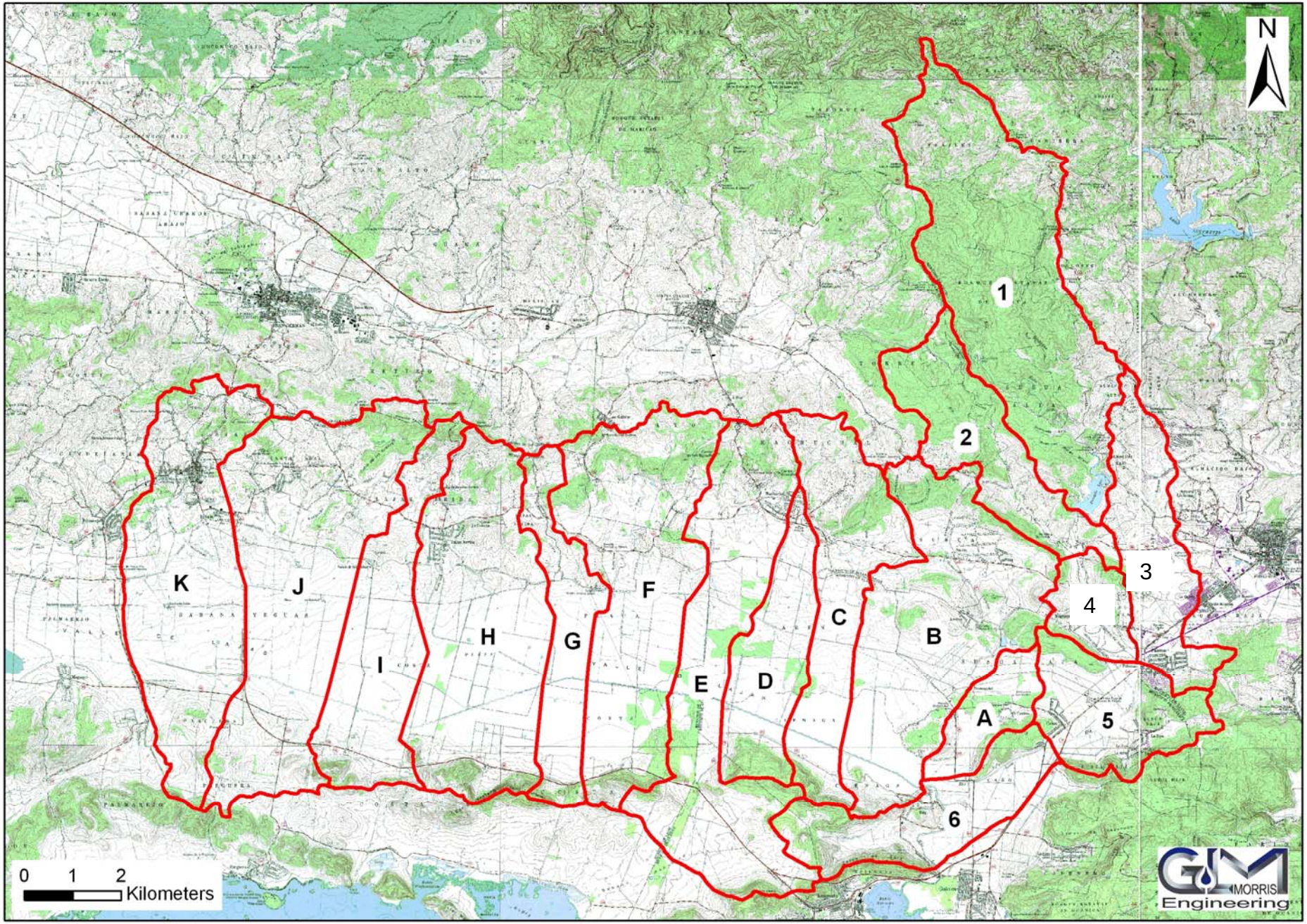


Figure 6: Guanica Lagoon and Río Loco Watersheds.

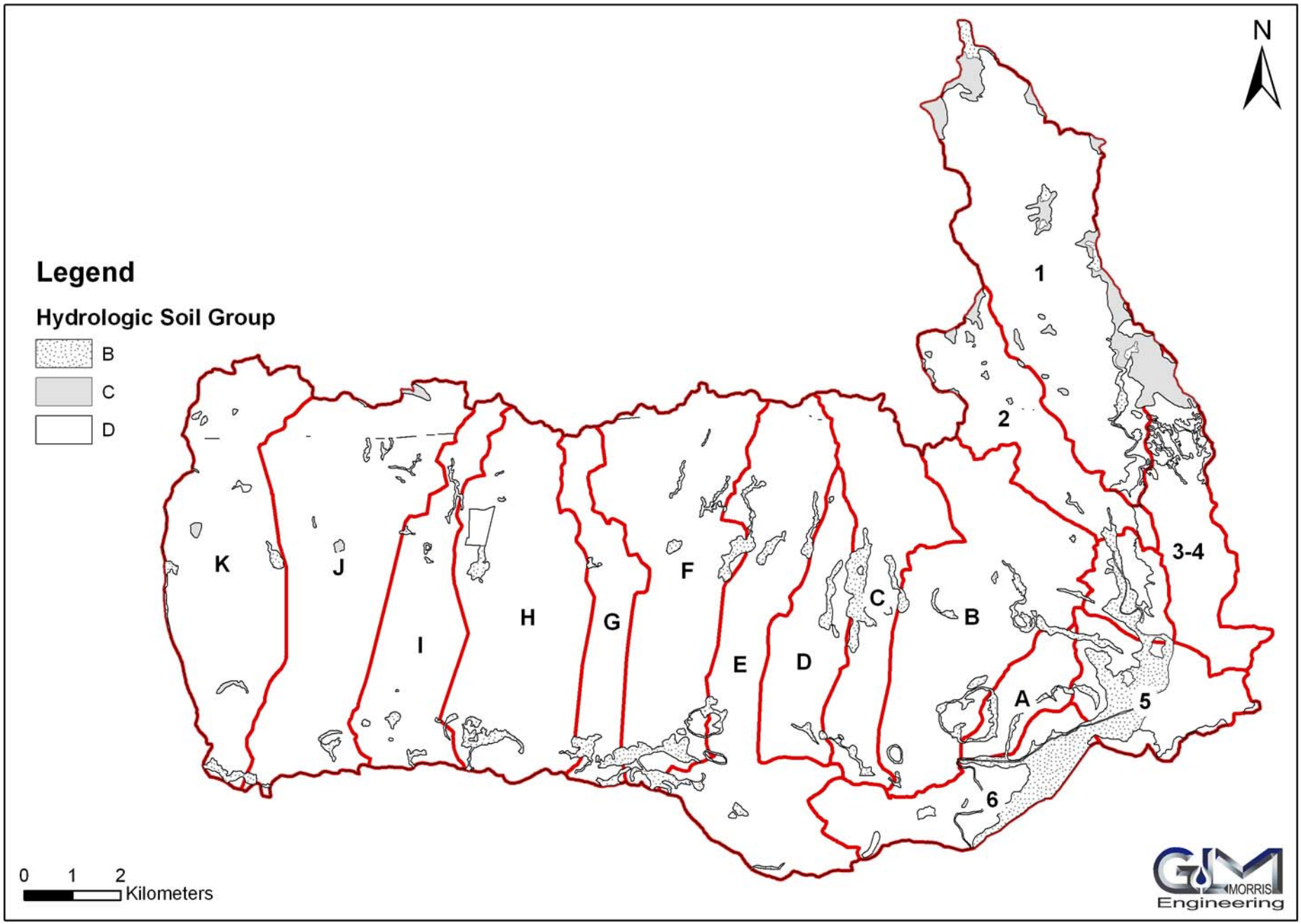


Figure 7: Studied watersheds hydrologic soil group.

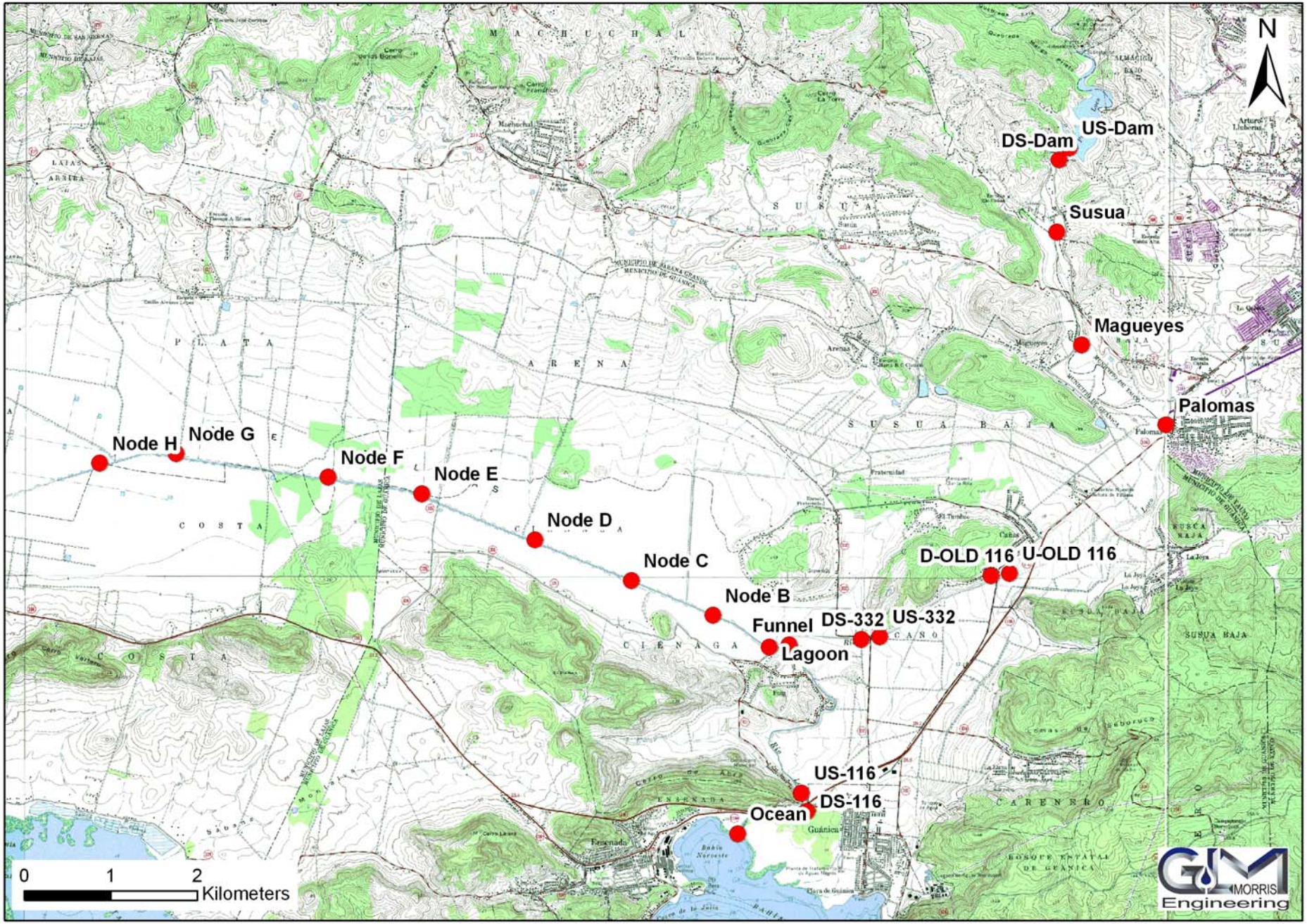


Figure 8: ICPR Model Node Location.

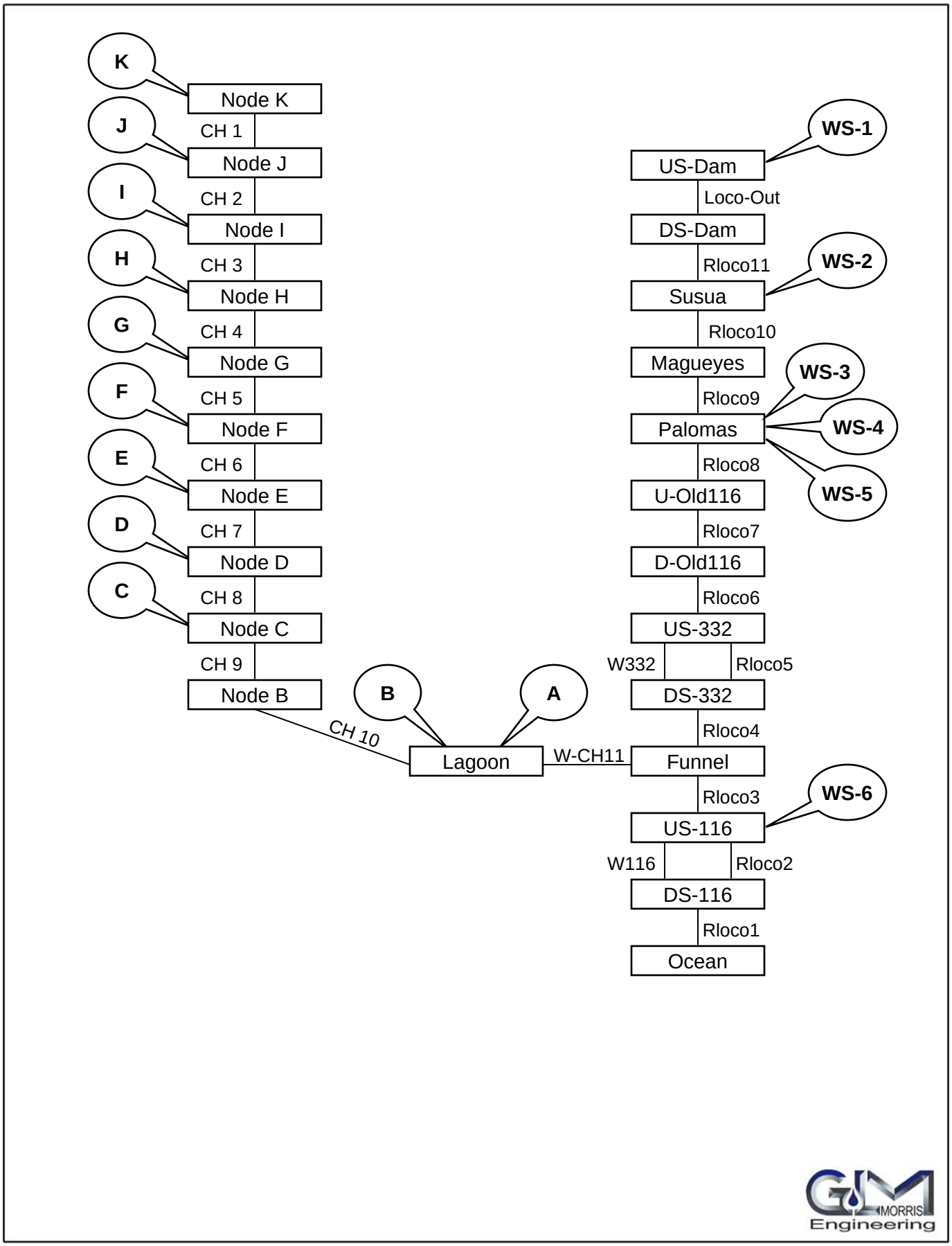


Figure 9: Schematic of link-node diagram used to simulate existing conditions.

Appendix A

NOAA Atlas-14 Rainfall Data and Rainfall Distribution Calculations

MORRIS ENGINEERING

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Puerto Rico & U.S. Virgin Islands 18.021 N 66.99 W 16 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 3, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Tue Mar 29 2011

Confidence Limits | Seasonality | Related Info | GIS data | Maps | Docs | Return to State Map

Precipitation Frequency Estimates (inches)

AEP* (1-in-Y)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.54	0.74	0.95	1.53	2.27	2.87	3.00	3.44	3.76	4.36	5.35	5.79	6.28	6.71	8.07	9.19	10.95	12.72
5	0.67	0.92	1.18	1.89	2.81	3.67	3.93	4.73	5.48	6.67	8.17	8.73	9.33	9.86	11.50	12.93	15.05	17.32
10	0.75	1.02	1.32	2.11	3.12	4.17	4.54	5.65	6.83	8.56	10.50	11.05	11.61	12.11	13.86	15.42	17.70	20.28
25	0.84	1.14	1.47	2.35	3.49	4.80	5.33	6.87	8.78	11.34	13.96	14.37	14.80	15.18	16.96	18.61	21.01	23.93
50	0.90	1.23	1.58	2.53	3.75	5.27	5.93	7.84	10.40	13.70	16.92	17.18	17.43	17.62	19.32	20.99	23.41	26.57
100	0.96	1.31	1.68	2.70	4.00	5.72	6.54	8.85	12.17	16.31	20.21	20.30	20.50	20.71	21.75	23.39	25.79	29.16
200	1.02	1.39	1.79	2.86	4.25	6.17	7.15	9.91	14.10	19.19	23.86	24.10	24.34	24.58	24.83	25.85	28.16	31.73
500	1.10	1.50	1.92	3.08	4.57	6.76	7.99	11.39	16.92	23.46	29.29	29.58	29.88	30.18	30.48	30.79	31.35	35.14
1000	1.16	1.58	2.03	3.24	4.81	7.21	8.65	12.57	19.25	27.05	33.90	34.24	34.58	34.92	35.27	35.63	35.98	37.71

* These precipitation frequency estimates are based on an annual maxima series. **AEP** is the Annual Exceedance Probability.
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting forces estimates near zero to appear as zero.

* Upper bound of the 90% confidence interval Precipitation Frequency Estimates (inches)

AEP** (1-in-Y)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.59	0.80	1.03	1.65	2.45	3.10	3.28	3.84	4.30	5.04	6.33	6.74	7.22	7.69	9.16	10.40	12.29	14.24
5	0.73	0.99	1.27	2.04	3.03	3.98	4.29	5.28	6.26	7.69	9.66	10.17	10.69	11.21	12.98	14.56	16.85	19.36
10	0.81	1.11	1.42	2.28	3.38	4.53	4.97	6.32	7.84	9.85	12.42	12.85	13.28	13.76	15.63	17.37	19.79	22.63
25	0.91	1.24	1.59	2.55	3.78	5.25	5.88	7.77	10.18	13.07	16.57	16.78	16.95	17.26	19.14	20.99	23.50	26.72
50	0.98	1.34	1.72	2.75	4.07	5.78	6.59	8.96	12.20	15.86	20.17	20.17	20.37	20.58	21.87	23.74	26.23	29.73
100	1.05	1.43	1.84	2.95	4.37	6.33	7.34	10.23	14.50	18.99	24.26	24.50	24.75	25.00	25.25	26.56	29.00	32.73
200	1.12	1.53	1.96	3.14	4.66	6.89	8.13	11.64	17.06	22.50	28.88	29.17	29.46	29.76	30.05	30.36	31.79	35.75
500	1.21	1.66	2.13	3.40	5.05	7.62	9.21	13.62	20.88	27.72	35.80	36.16	36.52	36.89	37.26	37.63	38.01	39.81
1000	1.28	1.76	2.25	3.61	5.35	8.20	10.07	15.23	24.09	32.15	41.80	42.22	42.64	43.07	43.50	43.94	44.38	44.82

* The **upper** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
** These precipitation frequency estimates are based on an annual maxima series. **AEP** is the Annual Exceedance Probability.
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

* Lower bound of the 90% confidence interval Precipitation Frequency Estimates (inches)

AEP** (1-in-Y)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.50	0.69	0.88	1.41	2.10	2.63	2.75	3.09	3.30	3.82	4.59	5.02	5.50	5.91	7.14	8.14	9.77	11.36
5	0.62	0.85	1.09	1.74	2.59	3.36	3.59	4.22	4.78	5.82	6.96	7.55	8.16	8.66	10.17	11.43	13.40	15.44
10	0.69	0.95	1.21	1.94	2.88	3.82	4.14	5.00	5.89	7.41	8.86	9.47	10.11	10.61	12.22	13.61	15.73	18.04

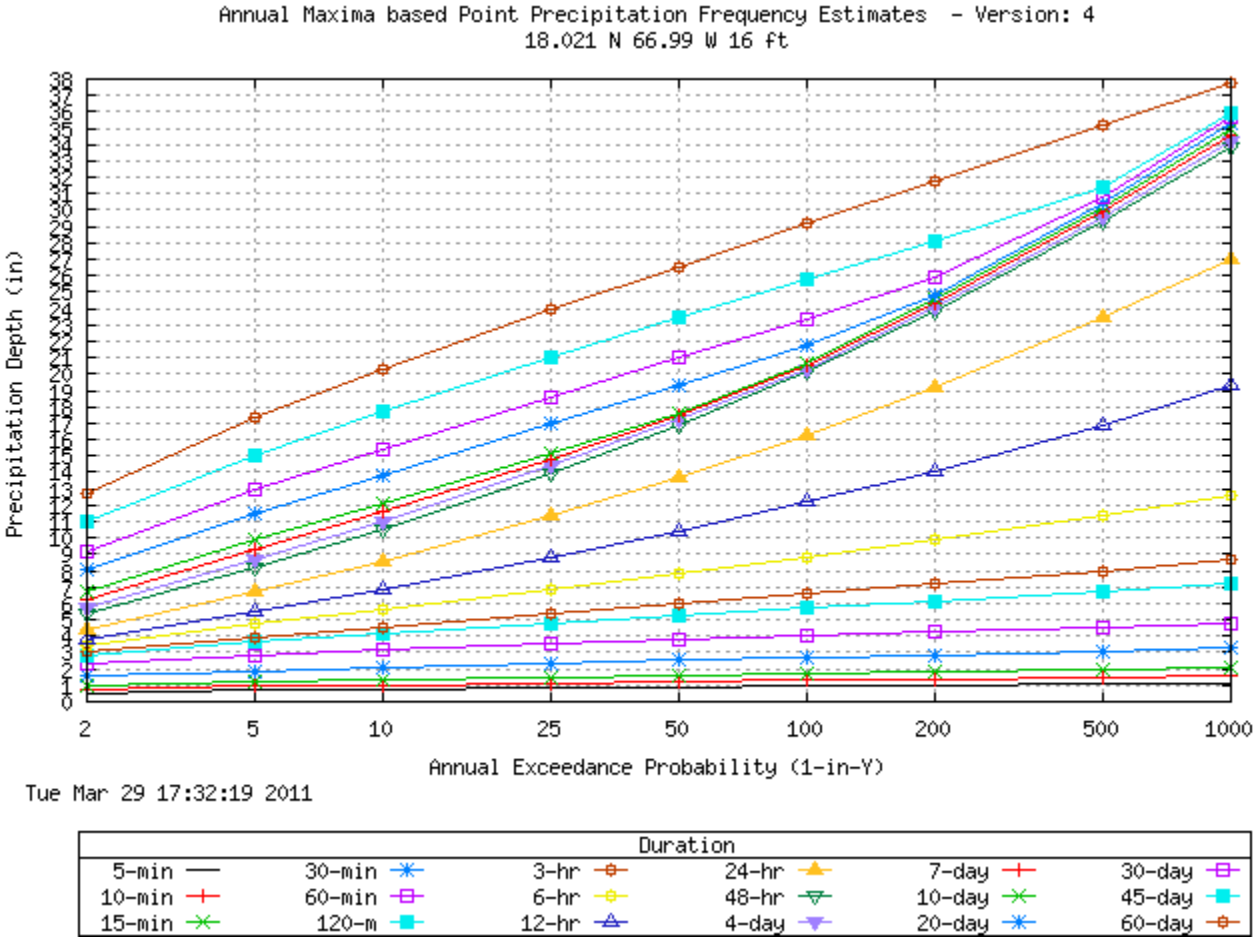
25	0.78	1.06	1.36	2.18	3.23	4.40	4.83	6.03	7.44	9.70	11.62	12.17	12.75	13.20	14.87	16.35	18.60	21.20
50	0.83	1.14	1.46	2.34	3.47	4.81	5.34	6.79	8.66	11.58	13.87	14.40	14.89	15.21	16.86	18.36	20.66	23.48
100	0.89	1.21	1.56	2.49	3.70	5.19	5.84	7.55	9.93	13.61	16.32	16.81	17.16	17.36	18.85	20.35	22.67	25.69
200	0.94	1.29	1.65	2.64	3.92	5.59	6.34	8.36	11.31	15.82	18.96	19.42	19.55	19.58	20.81	22.37	24.65	27.85
500	1.01	1.38	1.77	2.83	4.20	6.09	7.01	9.45	13.21	19.00	22.80	23.18	23.41	23.65	23.89	24.93	27.22	30.61
1000	1.06	1.45	1.86	2.98	4.41	6.46	7.53	10.30	14.72	21.60	25.94	26.25	26.52	26.78	27.05	27.32	29.10	32.68

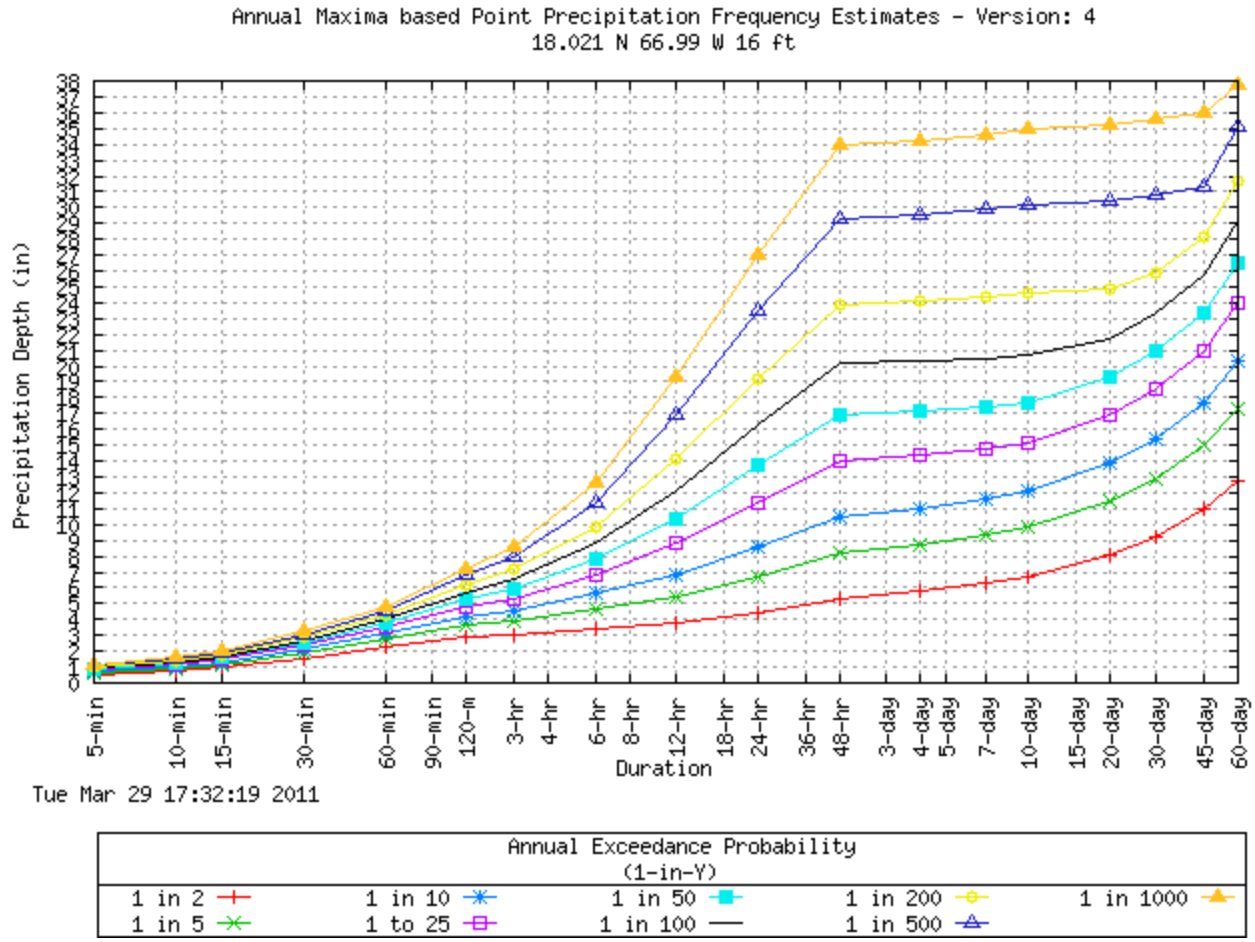
* The **lower** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **less** than.

** These precipitation frequency estimates are based on an annual maxima series. **AEP** is the Annual Exceedance Probability.

Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Text version of tables





Related Information

Maps & Aerials

Click here to see topographic maps and aerial photographs available for this location from Microsoft Research Maps

Climate Data Sources

National Climatic Data Center (NCDC) database

Locate NCDC climate stations within:

+/-30 minutes or +/-1 degree of this location. Digital ASCII data can be obtained directly from **NCDC**.

Note: Precipitation frequency results are based on analysis of precipitation data from a variety of sources, but largely NCDC. The following links provide general information about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study, please refer to the matching documentation available at the PF Document page

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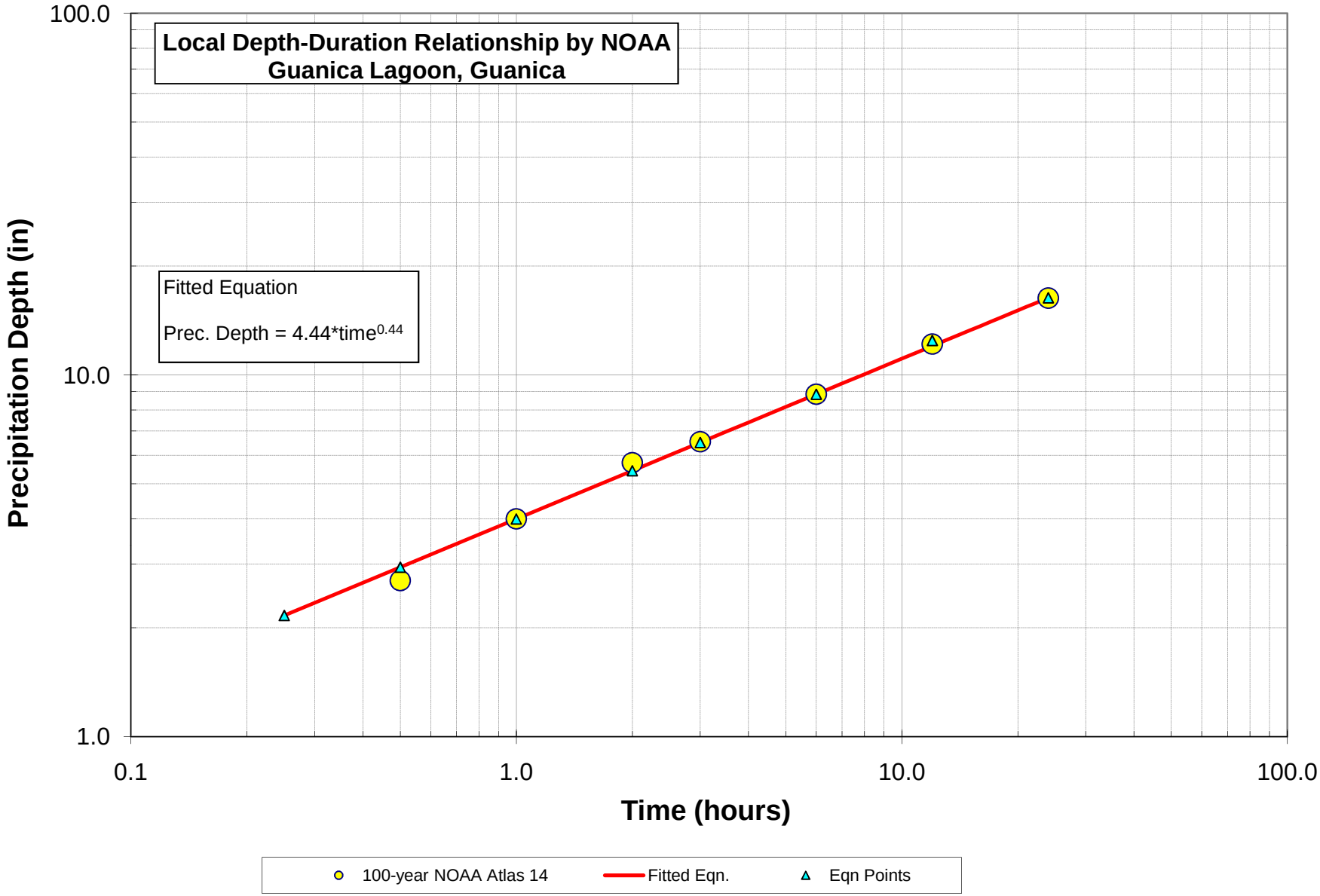
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Hydrologic Development
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov


Local Depth-Duration Relationship by NOAA
Guanica Lagoon, Guanica
Fitted Equation
Prec. Depth = 4.44*time^0.44
Precipitation Depth (in)
100.0
10.0
1.0
0.1
1.0
10.0
100.0
Time (hours)
100-year NOAA Atlas 14
Fitted Eqn.
Eqn Points

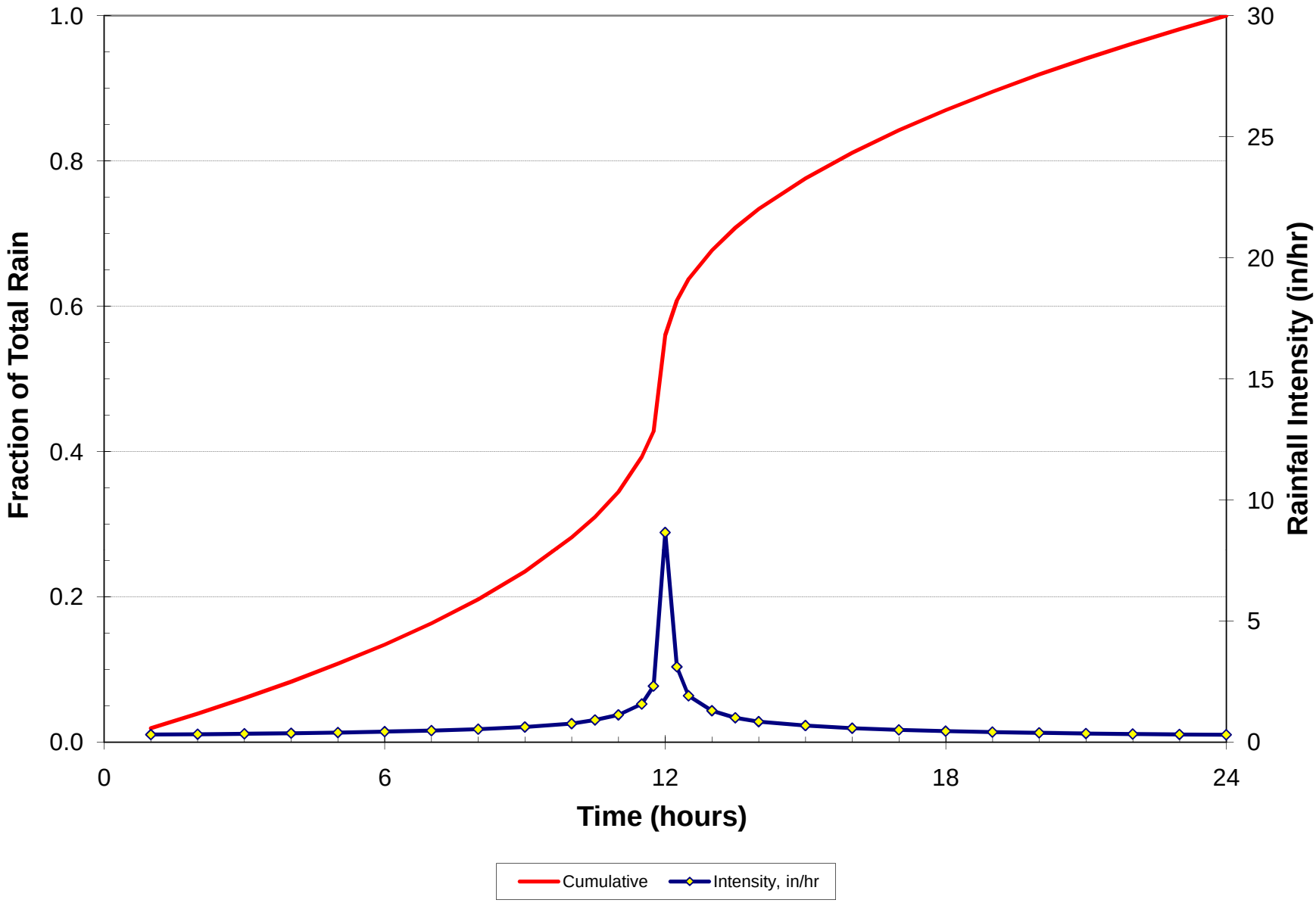
Sequential Depth Hyetograph - Distribution #1 (15 minute)

Local Distribution for: Guanica Lagoon, Guanica

Hour	Ordered Intensities	Incremental Depth (decimal)	Incremental Depth (inches)	Cumulative Depth (decimal)	Cumulative Depth (inches)	Intensity (inch/hr)
0		0	0	0	0	
1	23	0.019	0.313	0.019	0.313	0.313
2	21	0.020	0.329	0.039	0.642	0.329
3	19	0.021	0.349	0.061	0.991	0.349
4	17	0.023	0.372	0.083	1.363	0.372
5	15	0.024	0.400	0.108	1.763	0.400
6	13	0.027	0.434	0.134	2.197	0.434
7	11	0.029	0.478	0.164	2.675	0.478
8	9	0.033	0.538	0.197	3.214	0.538
9	7	0.038	0.625	0.235	3.839	0.625
10	5	0.047	0.768	0.282	4.607	0.768
10.5	3.5	0.028	0.460	0.310	5.067	0.920
11	2.5	0.035	0.565	0.344	5.632	1.130
11.5	1.5	0.048	0.787	0.393	6.419	1.574
11.75	0.75	0.035	0.579	0.428	6.998	2.316
12	0.25	0.132	2.164	0.560	9.162	8.658
12.25	0.5	0.048	0.778	0.608	9.940	3.112
12.5	1	0.029	0.479	0.637	10.419	1.915
13	2	0.040	0.651	0.677	11.069	1.301
13.5	3	0.031	0.505	0.708	11.574	1.010
14	4	0.026	0.425	0.734	11.999	0.849
15	6	0.042	0.686	0.776	12.685	0.686
16	8	0.035	0.577	0.811	13.263	0.577
17	10	0.031	0.506	0.842	13.769	0.506
18	12	0.028	0.455	0.870	14.223	0.455
19	14	0.025	0.416	0.895	14.639	0.416
20	16	0.024	0.385	0.919	15.024	0.385
21	18	0.022	0.360	0.941	15.384	0.360
22	20	0.021	0.339	0.962	15.723	0.339
23	22	0.020	0.321	0.981	16.044	0.321
24	24	0.019	0.305	1.000	16.349	0.305

ICPR input

Hour	Cumulative depth (decimal)
0	0
0.041667	0.0191353
0.083333	0.0392893
0.125	0.0606296
0.166667	0.0833748
0.208333	0.1078183
0.25	0.1343699
0.291667	0.1636323
0.333333	0.1965555
0.375	0.2347983
0.416667	0.2817779
0.4375	0.3099094
0.458333	0.3444678
0.479167	0.3926084
0.489583	0.4280208
0.5	0.5604104
0.510417	0.6079949
0.520833	0.6372703
0.541667	0.6770682
0.5625	0.7079535
0.583333	0.7339242
0.625	0.7759106
0.666667	0.811216
0.708333	0.8421582
0.75	0.8699733
0.791667	0.89541
0.833333	0.9189616
0.875	0.9409731
0.916667	0.9616965
0.958333	0.9813227
1	1


1.0
0.8
0.6
0.4
0.2
0.0
Fraction of Total Rain
30
25
20
15
10
5
0
Rainfall Intensity (in/hr)
0
6
12
18
24
Time (hours)
Cumulative
Intensity, in/hr

Appendix B

Time of Concentration and Curve Number Calculations

MORRIS ENGINEERING

Time of Concentration: A

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	120	90	0.328	4.36	0.100	---	---	0.32	---	4.77	0.08
2 Shallow Conc. Flow	538	90	80	0.019	---	---	n	---	0.7	---	13.47	0.22
3 Channel Flow (Manning)	818	80	17	0.077	---	0.040	---	1.3	1.3	0.36	10.49	0.17
4 Channel Flow (Manning)	3000	17	4	0.004	---	0.040	---	1.3	2.0	0.55	25.51	0.43
Total Distance	4,447								**Total Time of Conc.**		**54.2**	**0.90**

Time of Concentration: B

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	220	200	0.219	4.36	0.100	---	---	0.27	---	5.61	0.09
2 Shallow Conc. Flow	202	200	180	0.099	---	---	n	---	1.5	---	2.19	0.04
3 Channel Flow (Manning)	918	180	100	0.087	---	0.040	---	2.5	1.3	0.26	11.77	0.20
4 Channel Flow (Manning)	1313	100	60	0.030	---	0.040	---	2.5	3.0	0.61	7.29	0.12
5 Channel Flow (Manning)	2375	60	25	0.015	---	0.040	---	1.2	3.4	1.00	11.55	0.19
6 Channel Flow (Manning)	1932	25	7	0.009	---	0.040	---	2.5	4.4	0.90	7.24	0.12
7 Channel Flow (Manning)	2835	7	4	0.001	---	0.040	---	2.5	1.5	0.30	31.54	0.53
Total Distance	9,666								**Total Time of Conc.**		**77.2**	**0.76**

Time of Concentration: C

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	300	280	0.219	4.36	0.100	---	---	0.27	---	5.61	0.09
2 Shallow Conc. Flow	892	280	90	0.213	---	---	n	---	2.3	---	6.60	0.11
3 Channel Flow (Manning)	2999	90	8	0.027	---	0.080	---	0.3	0.9	0.54	53.96	0.90
4 Channel Flow (Manning)	2103	8	4	0.002	---	0.080	---	1.0	0.5	0.17	64.29	1.07
Total Distance	6,085								**Total Time of Conc.**		**130.5**	**2.17**

Time of Concentration: D

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44			0.080	4.36	0.150	---	---	0.13	---	11.61	0.19
2 Shallow Conc. Flow	692	80	45	0.051	---	---	y	---	1.4	---	8.24	0.14
3 Channel Flow (Manning)	1195	45	20	0.021	---	0.080	---	1.0	1.8	0.58	11.02	0.18
4 Channel Flow (Manning)	1056	20	15	0.005	---	0.080	---	1.0	0.9	0.27	20.46	0.34

5	Channel Flow (Manning)	3000	15	4	0.004	---	0.080	---	1.0	0.8	0.24	66.06	1.10
	Total Distance	6,034								**Total Time of Conc.**		**117.4**	**1.96**

Time of Concentration: E

Segment		Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1	Sheet Flow (L<300 ft)	91.44	161	144	0.186	4.36	0.150	---	---	0.18	---	8.28	0.14
2	Shallow Conc. Flow	157.23121	144	128	0.102	---	---	N	---	1.6	---	1.68	0.03
3	Channel Flow (Manning)	739.59159	128	90	0.051	---	0.080	---	1.5	3.7	0.97	3.32	0.06
4	Channel Flow (Manning)	1574.7446	90	40	0.032	---	0.080	---	0.5	1.4	0.63	18.70	0.31
5	Channel Flow (Manning)	1873.3	40	18	0.012		0.050		0.5	1.4	0.62	22.87	0.38
6	Channel Flow (Manning)	1057.4	18	9.5	0.008	---	0.050	---	0.5	1.1	0.51	15.60	0.26
7	Channel Flow (Manning)	1694.2	9.5	4	0.003	---	0.050	---	0.5	0.7	0.32	39.33	0.66
	Total Distance	7,188								**Total Time of Conc.**		**109.8**	**1.83**

Time of Concentration: F

Segment		Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1	Sheet Flow (L<300 ft)	91.44			0.374	4.36	0.150	---	---	0.24	---	6.26	0.10
2	Shallow Conc. Flow	538	160	80	0.149	---	---	n	---	1.9	---	4.76	0.08
3	Channel Flow (Manning)	4300	80	10	0.016	---	0.080	---	1.0	1.6	0.51	44.94	0.75
4	Channel Flow (Manning)	2110	10	4	0.003	---	0.080	---	1.0	0.7	0.21	52.76	0.88
	Total Distance	7,039								**Total Time of Conc.**		**108.7**	**1.81**

Time of Concentration: G

Segment		Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1	Sheet Flow (L<300 ft)	91.44			0.476	4.36	0.150	---	---	0.27	---	5.69	0.09
2	Shallow Conc. Flow	851	150	50	0.118	---	---	n	---	1.7	---	8.48	0.14
3	Channel Flow (Manning)	1195	50	20	0.025	---	0.080	---	0.3	0.9	0.52	22.44	0.37
4	Channel Flow (Manning)	2290	20	11	0.004	---	0.080	---	1.5	1.0	0.27	37.17	0.62
5	Channel Flow (Manning)	2300	11	4	0.003	---	0.080	---	1.5	0.9	0.24	42.42	0.71
	Total Distance	6,727								**Total Time of Conc.**		**116.2**	**1.94**

Time of Concentration: H

Segment		Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)

1	Sheet Flow (L<300 ft)	91.44	250	170	0.875	4.36	0.150	---	---	0.34	---	4.46	0.07
2	Shallow Conc. Flow	342	170	90	0.234	---	---	n	---	2.4	---	2.41	0.04
3	Channel Flow (Manning)	1870	90	25	0.035	---	0.080	---	1.0	2.3	0.74	13.37	0.22
4	Channel Flow (Manning)	1056	25	15	0.009	---	0.080	---	1.5	1.6	0.42	11.04	0.18
5	Channel Flow (Manning)	473	15	6	0.019	---	0.080	---	1.5	2.3	0.59	3.49	0.06
6	Channel Flow (Manning)	2918	6	4	0.001	---	0.080	---	1.5	0.4	0.11	113.41	1.89
	Total Distance	6,750								**Total Time of Conc.**		**148.2**	**2.47**

Time of Concentration: I

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	203	190	0.142	4.36	0.150	---	---	0.17	---	9.22	0.15
2 Shallow Conc. Flow	763	190	78	0.147	---	---	N	---	1.9	---	6.80	0.11
3 Channel Flow (Manning)	1446	78	30	0.033	---	0.060	---	1.0	3.0	0.97	7.94	0.13
4 Channel Flow (Manning)	420	30	25	0.012	---	0.050	---	2.0	3.5	0.78	2.02	0.03
5 Channel Flow (Manning)	910	25	16	0.010	---	0.050	---	2.0	3.2	0.71	4.80	0.08
6 Channel Flow (Manning)	3351	16	5	0.003	---	0.050	---	2.0	1.8	0.41	30.70	0.51
Total Distance	6,981								**Total Time of Conc.**		**61.5**	**1.02**

Time of Concentration: J

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	160	150	0.109	4.36	0.150	---	---	0.15	---	10.24	0.17
2 Shallow Conc. Flow	766.00	150	115	0.046	---	---	N	---	1.0	---	12.23	0.20
3 Channel Flow (Manning)	822.00	115	80	0.043	---	0.050	---	0.1	0.9	0.90	15.41	0.26
4 Channel Flow (Manning)	2839.00	80	30	0.018	---	0.050	---	2.0	4.2	0.95	11.23	0.19
5 Channel Flow (Manning)	4282.00	30	7	0.005	---	0.050	---	2.5	2.7	0.55	26.43	0.44
Total Distance	8,800								**Total Time of Conc.**		**75.5**	**1.26**

Time of Concentration: K

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	132	118	0.153	4.36	0.150	---	---	0.17	---	8.95	0.15
2 Shallow Conc. Flow	402.00	118	95	0.057	---	---	N	---	1.2	---	5.74	0.10
3 Channel Flow (Manning)	1330.00	95	60	0.026	---	0.050	---	0.8	2.8	1.00	7.93	0.13
4 Channel Flow (Manning)	2036.00	60	30	0.015	---	0.050	---	2.0	3.9	0.87	8.81	0.15
5 Channel Flow (Manning)	4451.00	30	9	0.005	---	0.050	---	2.5	2.5	0.51	29.32	0.49
Total Distance	8,310								**Total Time of Conc.**		**60.7**	**1.01**

Time of Concentration: 2

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	370	350	0.219	4.36	0.150	---	---	0.20	---	7.76	0.13
2 Shallow Conc. Flow	556	350	220	0.234	---	---	n	---	2.4	---	3.93	0.07
3 Channel Flow (Manning)	2690	220	90	0.048	---	0.080	---	1.0	2.7	0.88	16.32	0.27
4 Channel Flow (Manning)	4058	90		0.012	---	0.080	---	2.5	2.5	0.51	26.81	0.45
Total Distance	7,395								**Total Time of Conc.**		**54.8**	**0.91**

Time of Concentration: 3

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	300	240	0.656	4.36	0.150	---	---	0.30	---	5.00	0.08
2 Shallow Conc. Flow	250	240	150	0.360	---	---	n	---	2.9	---	1.42	0.02
3 Channel Flow (Manning)	1038	150	90	0.058	---	0.050	---	0.1	0.8	0.99	21.18	0.35
4 Channel Flow (Manning)	2413	90	50	0.017	---	0.050	---	2.0	4.1	0.92	9.84	0.16
5 Channel Flow (Manning)	4120	50		0.006	---	0.050	---	2.5	2.9	0.58	24.06	0.40
Total Distance	7,912								**Total Time of Conc.**		**61.5**	**1.03**

Time of Concentration: 4

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	130	110	0.219	4.36	0.150	---	---	0.20	---	7.76	0.13
2 Shallow Conc. Flow	289	110	80	0.104	---	---	n	---	0.5	---	9.63	0.16
3 Channel Flow (Manning)	1834	80		0.022	---	0.050	---	0.1	0.5	0.60	61.13	1.02
Total Distance	2,214								**Total Time of Conc.**		**78.5**	**1.31**

Time of Concentration: 5

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	190		0.286	4.36	0.150	---	---	0.22	---	6.97	0.12
2 Shallow Conc. Flow	480.00	160	80	0.167	---	---	N	---	2.0	---	4.01	0.07
3 Channel Flow (Manning)	3009.00	80	15	0.022	---	0.080	---	0.5	1.2	0.52	43.33	0.72
Total Distance	3,580								**Total Time of Conc.**		**54.3**	**0.91**

Time of Concentration: 6

Segment	Length (m)	U/S Elev (m)	D/S Elev (m)	Slope	2-yr Precip (in)	n-value	Paved? (Y or N)	Avg. Flow Depth (m)	Vel (m/s)	Froude No	Tc (min)	Tc (hrs)
1 Sheet Flow (L<300 ft)	91.44	135	95	0.437	4.36	0.150	---	---	0.26	---	5.88	0.10
2 Shallow Conc. Flow	516	95	45	0.097	---	---	n	---	1.5	---	5.66	0.09
3 Channel Flow (Manning)	3229	45		0.014	---	0.080	---	1.0	1.5	0.47	36.47	0.61
4 Channel Flow (Manning)	752	0		0.011	---	0.080	---	2.0	2.1	0.47	6.02	0.10
Total Distance	4,588								**Total Time of Conc.**		**54.0**	**0.90**

Watershed 1

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ce	MrF2	B	60	189060	11343572	CN	**79.5**
Bosque Ce	CbF2	D	79	599	47357		
Bosque Ce	CbF2	D	79	59146	4672542		
Bosque Ce	QuF2	C	73	29966	2187489		
Pasto y A	MrF2	B	69	33	2301		
Pasto y A	MrF2	B	69	11916	822236		
Urbano	MrF2	B	85	504	42862		
Urbano	MrF2	B	85	621	52762		
Pasto y A	QuF2	C	79	226	17818		
Pasto y A	MrF2	B	69	616	42486		
Urbano	DeF	D	92	5779	531627		
Urbano	DeC	D	92	9744	896435		
Agua	DeF	D	100	31314	3131390		
Agua	Vo	D	100	32466	3246553		
Agua	W	D	100	209216	20921569		
Agua	JaC2	D	100	3869	386900		
Urbano	DeF	D	92	9087	835964		
Bosque Ab	DeF	D	82	2278	186834		
Bosque Ab	DeF	D	82	167420	13728480		
Bosque Ab	QuE2	C	76	2492	189386		
Bosque Ab	ToA	B	65	827	53786		
Bosque Ab	QuD2	C	76	128702	9781381		
Bosque Ab	QuD2	C	76	19681	1495751		
Bosque Ab	MoF2	B	65	13386	870120		
Bosque Ab	DeD	D	82	1870	153347		
Urbano	DeF	D	92	18356	1688782		
Urbano	RsF2	C	90	56	5052		
Urbano	DeF	D	92	25590	2354278		
Urbano	QuE2	C	90	141591	12743206		
Urbano	MoD2	B	85	6292	534794		
Urbano	QuD2	C	90	3856	347083		
Urbano	RsE2	C	90	6174	555691		
Urbano	QuD2	C	90	69655	6268929		
Urbano	QuD2	C	90	37158	3344237		
Urbano	RsF2	C	90	75459	6791266		
Urbano	So	D	92	20275	1865256		
Urbano	CbF2	D	92	8409	773635		
Suelo sin	So	D	82	16495	1352607		
Suelo sin	So	D	82	15463	1267987		
Urbano	CbF2	D	92	101203	9310692		
Urbano	MxE2	D	92	21410	1969761		
Urbano	MxE2	D	92	5190	477506		
Urbano	McF2	D	92	26148	2405657		
Urbano	RsE2	C	90	12690	1142104		
Urbano	QuE2	C	90	565	50810		
Urbano	HmE2	C	90	15345	1381078		
Urbano	CbF2	D	92	1712	157480		
Urbano	MxE2	D	92	10864	999513		
Urbano	QuE2	C	90	6439	579470		
Urbano	QuF2	C	90	6877	618974		
Urbano	CbF2	D	92	10466	962844		
Urbano	QuF2	C	90	137	12366		
Urbano	CbF2	D	92	33348	3067986		
Pasto y A	So	D	84	28353	2381626		
Pasto y A	CbF2	D	84	539094	45283934		
Pasto y A	QuF2	C	79	8353	659890		
Pasto y A	HmE2	C	79	6852	541328		
Pasto y A	MxE2	D	84	55527	4664253		
Urbano	CbF2	D	92	4859	446985		
Urbano	QuF2	C	90	13496	1214650		
Urbano	QuE2	C	90	18250	1642540		
Bosque Ce	DeF	D	79	192433	15202236		
Bosque Ce	Vo	D	79	923873	72985986		
Bosque Ce	DeF	D	79	7516	593803		
Bosque Ce	Vo	D	79	132819	10492670		
Bosque Ce	W	D	79	40612	3208385		
Bosque Ce	Sa	B	60	12373	742368		
Bosque Ce	Sa	B	60	5194	311658		
Bosque Ce	DeF	D	79	25298	1998578		
Bosque Ce	JaC2	D	79	11140	880072		
Bosque Ce	JaD2	D	79	2522	199210		
Bosque Ce	DeC	D	79	866	68429		

Bosque Ce	So	D	79	11004017	869317304
Bosque Ce	MrF2	B	60	1407	84427
Bosque Ce	CbF2	D	79	2147604	169660683
Bosque Ce	QuF2	C	73	544778	39768790
Bosque Ce	QuF2	C	73	34201	2496644
Bosque Ce	QuE2	C	73	7279	531338
Bosque Ce	HmE2	C	73	42153	3077162
Bosque Ce	So	D	79	291	22982
Bosque Ce	MxE2	D	79	9105	719284
Bosque Ce	MxE2	D	79	52434	4142296
Bosque Ce	MxE2	D	79	12966	1024278
Bosque Ce	MxE2	D	79	9268	732152
Bosque Ce	NcD2	B	60	53785	3227070
Bosque Ce	RsE2	C	73	211480	15438009
Bosque Ce	McF2	D	79	50300	3973681
Bosque Ce	NcD2	B	60	21769	1306160
Bosque Ce	RsF2	C	73	367028	26793015
Bosque Ce	RsE2	C	73	71366	5209743
Bosque Ce	NcD2	B	60	17325	1039483
Bosque Ce	RsD2	C	73	26217	1913875
Bosque Ce	DeF	D	79	55091	4352194
Bosque Ce	RsD2	C	73	11228	819618
Bosque Ce	CbF2	D	79	99335	7847504
Bosque Ce	RsD2	C	73	33743	2463224
Bosque Ce	RsD2	C	73	38230	2790757
Bosque Ce	QuE2	C	73	13719	1001488
Bosque Ce	RsE2	C	73	12712	927969
Bosque Ce	MoD2	B	60	26645	1598678
Bosque Ce	ToA	B	60	131120	7867197
Bosque Ce	RsE2	C	73	36588	2670914
Bosque Ce	RsD2	C	73	4688	342229
Bosque Ce	RsD2	C	73	9542	696588
Bosque Ce	RsD2	C	73	19572	1428760
Bosque Ce	MoF2	B	60	12619	757129
Bosque Ce	DeD	D	79	447	35316
Pasto y A	So	D	84	5062	425181
Pasto y A	CbF2	D	84	1282883	107762166
Pasto y A	QuF2	C	79	5424	428531
Pasto y A	So	D	84	141605	11894786
Pasto y A	MxE2	D	84	298151	25044713
Pasto y A	QuE2	C	79	7177	567013
Pasto y A	HmE2	C	79	27519	2173973
Pasto y A	MxE2	D	84	77757	6531548
Pasto y A	MwE2	C	79	130	10264
Pasto y A	MxE2	D	84	40908	3436289
Pasto y A	So	D	84	70	5861
Pasto y A	RsE2	C	79	17896	1413795
Pasto y A	NcD2	B	69	71932	4963282
Pasto y A	RsD2	C	79	12145	959445
Pasto y A	DeF	D	84	3003	252241
Pasto y A	CbF2	D	84	35883	3014164
Pasto y A	HuE	C	79	15297	1208494
Pasto y A	QuE2	C	79	139921	11053727
Pasto y A	MoD2	B	69	13037	899559
Pasto y A	QuD2	C	79	24262	1916711
Pasto y A	DeF	D	84	406732	34165452
Pasto y A	Vo	D	84	201841	16954673
Pasto y A	W	D	84	25443	2137178
Pasto y A	JaC2	D	84	273	22896
Pasto y A	JaD2	D	84	11893	999045
Pasto y A	DeC	D	84	1370	115042
Pasto y A	Vo	D	84	2709	227519
Pasto y A	FvB	D	84	13517	1135393
Pasto y A	DeC	D	84	21208	1781492
Bosque Ce	CbF2	D	79	0.2	19
Bosque Ce	CbF2	D	79	0.2	19
Bosque Ce	QuF2	C	73	0.7	53
Bosque Ce	QuF2	C	73	0.7	53
Pasto y A	QuF2	C	79	0.0	2
Bosque Ce	QuF2	C	73	0.0	2
Bosque Ce	Vo	D	79	1.7	133
Bosque Ce	So	D	79	1.7	133
Bosque Ce	Vo	D	79	0.0	2
Bosque Ce	ToA	B	60	0.0	1

Watershed 2

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A
Urbano	DeF	D	92	3775	347302
Urbano	DeC	D	92	8681	798645
Urbano	Vo	D	92	33188	3053305
Urbano	Sa	B	85	4884	415151
Urbano	JaB	D	92	6179	568465
Urbano	DeD	D	92	4254	391389
Urbano	FvB	D	92	1611	148202
Urbano	JaC2	D	92	1404	129192
Bosque Ce	DeF	D	79	15392	1215944
Bosque Ce	JaC2	D	79	109	8650
Bosque Ce	SgF	D	79	383898	30327948
Bosque Ce	Sa	B	60	1242	74511
Bosque Ce	JaC2	D	79	4351	343707
Bosque Ce	JcC	D	79	3453	272805
Bosque Ce	DeF	D	79	432	34100
Urbano	DeF	D	92	96232	8853302
Urbano	JaC2	D	92	3282	301909
Urbano	DeD	D	92	13664	1257050
Urbano	JaD2	D	92	18929	1741462
Urbano	JaB	D	92	3642	335074
Urbano	Sa	B	85	4476	380430
Urbano	DeD	D	92	3152	289962
Agua	W	D	100	717	71739
Bosque Ce	DeF	D	79	285	22546
Bosque Ce	SgF	D	79	36952	2919217
Suelo sin	So	D	82	5521	452753
Suelo sin	RsD2	C	76	4807	365321
Suelo sin	So	D	82	2665	218561
Bosque Ce	DeF	D	79	137658	10874950
Bosque Ce	Vo	D	79	143870	11365740
Bosque Ce	DeF	D	79	24925	1969079
Bosque Ce	Vo	D	79	91122	7198624
Bosque Ce	Vo	D	79	433586	34253272
Bosque Ce	JaC2	D	79	21051	1663011
Bosque Ce	DeF	D	79	41503	3278742
Bosque Ce	DeD	D	79	321	25394
Bosque Ce	So	D	79	3278703	259017556
Bosque Ce	QuF2	C	73	53864	3932056
Bosque Ce	QuE2	C	73	64552	4712287
Bosque Ce	QuE2	C	73	46432	3389563
Bosque Ce	RsD2	C	73	27563	2012129
Bosque Ce	RsD2	C	73	2702	197238
Bosque Ce	RsE2	C	73	13264	968245
Bosque Ce	RsD2	C	73	3062	223523
Bosque Ce	RsD2	C	73	7979	582433
Bosque Ce	RsD2	C	73	5467	399104
Bosque Ce	RsD2	C	73	25181	1838194
Bosque Ce	RsD2	C	73	14739	1075955
Bosque Ce	RsD2	C	73	2575	187951
Bosque Ce	RsD2	C	73	12022	877578
Bosque Ce	DeF	D	79	30845	2436779
Bosque Ce	RsD2	C	73	10591	773110
Pasto y A	DeF	D	84	674367	56646790
Pasto y A	Vo	D	84	132548	11134006
Pasto y A	DeF	D	84	891470	74883499
Pasto y A	Vo	D	84	49136	4127384
Pasto y A	Vo	D	84	55020	4621702
Pasto y A	W	D	84	1758	147650
Pasto y A	DeD	D	84	3430	288096
Pasto y A	DeD	D	84	33772	2836865
Pasto y A	JaC2	D	84	237150	19920642
Pasto y A	DeF	D	84	15815	1328484
Pasto y A	JaC2	D	84	79894	6711127
Pasto y A	DeD	D	84	92007	7728604
Pasto y A	SgF	D	84	8611	723333
Pasto y A	JaB	D	84	7229	607198
Pasto y A	Vo	D	84	2779	233422

CN **80.7**

Pasto y A	JaD2	D	84	19799	1663098
Pasto y A	DeD	D	84	29922	2513467
Pasto y A	SgF	D	84	36447	3061555
Pasto y A	DeD	D	84	7556	634700
Pasto y A	DeC	D	84	6022	505884
Pasto y A	DeD	D	84	21428	1799957
Pasto y A	DeC	D	84	8111	681304
Pasto y A	JaB	D	84	12144	1020100
Pasto y A	Sa	B	69	24747	1707556
Pasto y A	DeD	D	84	2093	175798
Pasto y A	JaD2	D	84	49736	4177830
Pasto y A	DeC	D	84	47230	3967351
Pasto y A	JaC2	D	84	66615	5595643
Pasto y A	Vo	D	84	96003	8064259
Pasto y A	JaC2	D	84	13538	1137186
Pasto y A	Sa	B	69	60980	4207639
Pasto y A	JaB	D	84	44263	3718077
Pasto y A	DeD	D	84	15779	1325448
Pasto y A	JcC	D	84	5518	463518
Pasto y A	DeD	D	84	420	35259
Pasto y A	DeF	D	84	9960	836643
Pasto y A	FvB	D	84	5287	444147
Pasto y A	JaC2	D	84	6	498

Watershed 3-4

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Suelo sin	DeF	D	82	640	52478	CN	82.55
Urbano	W	D	92	6924	637051		
Urbano	Lr	D	92	85117	7830761		
Urbano	Se	B	85	78190	6646112		
Urbano	Se	B	85	10460	889082		
Urbano	PzC	B	85	9585	814731		
Urbano	SgF	D	92	42553	3914913		
Urbano	PzC	B	85	28016	2381371		
Urbano	PzB	B	85	36301	3085566		
Urbano	Sa	B	85	14079	1196742		
Bosque Ab	Lr	D	82	108189	8871491		
Bosque Ab	Se	B	65	591	38391		
Urbano	DeF	D	92	1028	94532		
Urbano	DeF	D	92	43876	4036570		
Urbano	Se	B	85	1612	137046		
Urbano	W	D	92	317	29192		
Urbano	DeC	D	92	22938	2110322		
Urbano	Se	B	85	1288	109508		
Bosque Ce	DeC	D	79	10540	832665		
Bosque Ce	DeF	D	79	41584	3285175		
Bosque Ce	Lr	D	79	205860	16262938		
Bosque Ce	Se	B	60	145	8713		
Bosque Ce	PzC	B	60	11160	669584		
Urbano	FvB	D	92	1464	134656		
Urbano	JaC2	D	92	3504	322374		
Urbano	DeD	D	92	5437	500202		
Urbano	DeF	D	92	5842	537477		
Bosque Ce	SgF	D	79	17536	1385372		
Bosque Ce	DeC	D	79	1123	88754		
Bosque Ce	DeF	D	79	14	1105		
Urbano	DeC	D	92	216	19859		
Urbano	DeF	D	92	25635	2358387		
Urbano	DeF	D	92	29489	2712973		
Urbano	DeF	D	92	63032	5798954		
Urbano	QuE2	C	90	226557	20390093		
Urbano	QuD2	C	90	33152	2983672		
Urbano	W	D	92	1326	122011		
Urbano	Sa	B	85	5212	443036		
Bosque Ce	DeF	D	79	3129	247163		
Pasto y A	DeF	D	84	25307	2125823		
Pasto y A	QuE2	C	79	1491	117753		
Pasto y A	W	D	84	2589	217472		
Pasto y A	Sa	B	69	7362	507945		
Pasto y A	DeF	D	84	404193	33952180		
Pasto y A	SgF	D	84	29078	2442570		
Pasto y A	DeC	D	84	5200	436803		
Pasto y A	Vo	D	84	18567	1559606		
Pasto y A	Sa	B	69	57971	4000023		
Pasto y A	DeF	D	84	378786	31817992		
Pasto y A	FvB	D	84	6673	560500		
Pasto y A	JaC2	D	84	13400	1125589		
Pasto y A	Vo	D	84	37403	3141822		
Pasto y A	DeD	D	84	18324	1539252		
Pasto y A	DeF	D	84	2582	216850		
Pasto y A	DeC	D	84	28698	2410627		
Pasto y A	DeF	D	84	15789	1326266		
Pasto y A	FvB	D	84	25839	2170494		
Pasto y A	JaC2	D	84	50349	4229296		
Pasto y A	Se	B	69	43348	2991035		
Pasto y A	DeF	D	84	2768	232546		
Pasto y A	W	D	84	59370	4987066		
Pasto y A	Lr	D	84	46219	3882430		
Pasto y A	Se	B	69	132996	9176723		
Pasto y A	PzC	B	69	1481	102182		
Pasto y A	DeC	D	84	7536	632999		
Pasto y A	Se	B	69	83276	5746055		
Pasto y A	Sa	B	69	57717	3982471		
Pasto y A	SgF	D	84	188	15763		
Pasto y A	Sa	B	69	125593	8665905		
Pasto y A	DeF	D	84	93627	7864671		
Pasto y A	QuE2	C	79	115790	9147379		
Pasto y A	QuD2	C	79	29897	2361859		

Bosque Ce	SgF	D	79	152488	12046582
Bosque Ce	PzB	B	60	41	2489
Bosque Ce	Sa	B	60	333	19972
Pasto y A	DeF	D	84	200817	16868605
Pasto y A	DeF	D	84	15606	1310865
Pasto y A	QuE2	C	79	37156	2935352
Pasto y A	QuD2	C	79	11785	930981
Urbano	DeF	D	92	133717	12302001
Urbano	DeF	D	92	25662	2360888
Urbano	QuE2	C	90	3434	309042
Urbano	QuD2	C	90	33003	2970298

Watershed 5

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Urbano	DeF	D	92	4782	439906	**CN**	**76.74**
Urbano	Sa	B	85	740	62899		
Urbano	DeF	D	92	745	68505		
Pasto y A	Sa	B	69	191782	13232930		
Pasto y A	FrA	D	84	20606	1730896		
Pasto y A	JaC	D	84	37573	3156137		
Pasto y A	DeF	D	84	9475	795865		
Bosque Ce	Lr	D	79	99031	7823422		
Bosque Ce	Sa	B	60	11946	716732		
Bosque Ce	FrA	D	79	1727	136428		
Bosque Ce	JaC	D	79	13490	1065686		
Bosque Ce	DeF	D	79	289135	22841653		
Bosque Ce	Lr	D	79	76168	6017291		
Bosque Ce	SgF	D	79	58054	4586285		
Urbano	Sa	B	85	33627	2858298		
Urbano	FvB	D	92	258	23711		
Urbano	SNS	D	92	50736	4667756		
Urbano	W	D	92	993	91355		
Urbano	SgF	D	92	3868	355855		
Urbano	Sa	B	85	35585	3024746		
Urbano	Ca	D	92	10551	970711		
Urbano	FvB	D	92	22497	2069689		
Pasto y A	W	D	84	62633	5261176		
Pasto y A	Sa	B	69	1281888	88450256		
Pasto y A	Ca	D	84	145270	12202669		
Pasto y A	FvB	D	84	181668	15260147		
Pasto y A	DeC	D	84	1080	90687		
Pasto y A	SNS	D	84	4500	377972		
Pasto y A	FrB	D	84	1	101		
Pasto y A	SgF	D	84	1526	128159		
Pasto y A	FrB	D	84	22715	1908077		
Pasto y A	Sa	B	69	275398	19002464		
Pasto y A	SgF	D	84	18281	1535596		
Pasto y A	Sa	B	69	55966	3861625		
Pasto y A	PzC	B	69	14438	996251		
Pasto y A	PzB	B	69	61323	4231312		
Pasto y A	PzC	B	69	31184	2151663		
Pasto y A	Ca	D	84	52384	4400274		
Pasto y A	FrB	D	84	64227	5395057		
Pasto y A	FvB	D	84	18016	1513367		
Bosque Ce	SgF	D	79	451013	35630046		
Bosque Ce	SgD	D	79	112932	8921592		
Bosque Ce	Sa	B	60	731	43836		
Bosque Ce	PzC	B	60	2803	168154		
Bosque Ce	PzB	B	60	995	59726		
Bosque Ce	PzC	B	60	11832	709900		
Urbano	Sa	B	85	27794	2362532		
Urbano	Ca	D	92	76386	7027515		
Urbano	DeC	D	92	595	54785		
Urbano	FrB	D	92	50606	4655707		
Urbano	PzC	B	85	92718	7881065		
Urbano	SgF	D	92	122353	11256458		
Urbano	SgD	D	92	13021	1197969		
Urbano	FrB	D	92	68202	6274558		
Bosque Ce	Lr	D	79	31423	2482418		

Watershed 6

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ab	Lr	D	82	42633	3495875	**CN**	**80.5**
Suelo sin	Lr	D	82	19369	1588272		
Bosque Ce	W	D	79	5116	404144.2		
Bosque Ce	Va	D	79	2725	215314		
Bosque Ce	Fe	D	79	8341	658904.8		
Bosque Ce	JcB	D	79	10530	831882.2		
Bosque Ce	JaC2	D	79	2175	171796.7		
Bosque Ce	DeF	D	79	124743	9854699		
Bosque Ce	JcC	D	79	21875	1728131		
Bosque Ce	DeD	D	79	2525	199447.9		
Bosque Ce	JcC	D	79	59	4633.582		
Bosque Ce	Va	D	79	6765	534430.2		
Bosque Ce	GPQ	D	79	13031	1029440		
Bosque Ce	Lr	D	79	215715	17041455		
Bosque Ce	SgF	D	79	2751	217361.7		
Urbano	Sa	B	85	824	70067.97		
Urbano	Va	D	92	9857	906874.3		
Urbano	DeF	D	92	43260	3979941		
Urbano	Sa	B	85	26033	2212801		
Urbano	W	D	92	16326	1502018		
Urbano	Va	D	92	559	51424.75		
Urbano	Va	D	92	6885	633396.9		
Urbano	DeF	D	92	1179	108500.2		
Urbano	Va	D	92	63071	5802533		
Urbano	JaC2	D	92	78584	7229708		
Urbano	DeF	D	92	32290	2970682		
Urbano	JcC	D	92	33471	3079371		
Urbano	DeF	D	92	100992	9291303		
Urbano	DeF	D	92	80859	7438996		
Urbano	JaB	D	92	15308	1408318		
Urbano	DeD	D	92	57507	5290614		
Urbano	JcB	D	92	12131	1116013		
Urbano	LFD	D	92	9611	884200.8		
Urbano	Va	D	92	728	66952.54		
Urbano	JaC2	D	92	8246	758622.9		
Urbano	DeD	D	92	2684	246890		
Urbano	DeD	D	92	2674	246000.9		
Bosque Ab	SgF	D	82	306757	25154076		
Bosque Ab	JcB	D	82	119449	9794781		
Bosque Ab	DeD	D	82	33245	2726050		
Bosque Ab	JcC	D	82	2312	189582.3		
Bosque Ab	JcC	D	82	19942	1635204		
Bosque Ab	JcC	D	82	65407	5363388		
Bosque Ab	JaC	D	82	85054	6974469		
Bosque Ab	JaB	D	82	143987	11806946		
Bosque Ab	SgF	D	82	14157	1160907		
Bosque Ab	DeF	D	82	13015	1067239		
Bosque Ab	DeD	D	82	136519	11194538		
Bosque Ab	JcC	D	82	1579	129483.3		
Bosque Ab	DeF	D	82	30372	2490508		
Bosque Ab	DeF	D	82	187174	15348238		
Bosque Ab	JaD2	D	82	70935	5816637		
Bosque Ab	DeD	D	82	11614	952382.4		
Bosque Ab	DeD	D	82	5281	433066.7		
Bosque Ab	JaC	D	82	2879	236087.8		
Bosque Ab	GPQ	D	82	42	3431.596		
Bosque Ab	Lr	D	82	21411	1755663		
Bosque Ab	SgF	D	82	10596	868910.3		
Urbano	DeF	D	92	53	4908.566		
Urbano	DeD	D	92	47	4327.603		
Urbano	JaC2	D	92	9	834.7689		
Urbano	DeF	D	92	520	47802.01		
Urbano	Sa	B	85	10936	929557		
Urbano	DeF	D	92	5780	531783.9		
Urbano	DeD	D	92	10071	926551		
Urbano	Va	D	92	145	13322.48		
Urbano	PzC	B	85	5574	473814.4		
Urbano	Lr	D	92	5047	464319.4		
Urbano	Sa	B	85	296	25144.79		
Bosque Ab	SgF	D	82	24075	1974190		
Bosque Ab	Lr	D	82	78437	6431871		
Urbano	Sa	B	85	2956	251251.9		
Urbano	SgF	D	92	50253	4623319		

Urbano	PzC	B	85	10198	866788.9
Bosque Ce	SgF	D	79	89137	7041853
Bosque Ce	Lr	D	79	1755	138634
Bosque Ce	PzC	B	60	18	1080.571
Bosque Ce	SgF	D	79	69999	5529927
Bosque Ce	DeD	D	79	13858	1094803
Bosque Ce	JcC	D	79	611	48243.09
Bosque Ce	JcC	D	79	3429	270871.8
Bosque Ce	SgF	D	79	15349	1212591
Pasto y A	JcB	D	84	3374	283396.4
Pasto y A	DeD	D	84	644	54056.1
Pasto y A	JcC	D	84	2136	179410.5
Pasto y A	JaC	D	84	130	10892.44
Pasto y A	W	D	84	116764	9808138
Pasto y A	Sa	B	69	17357	1197639
Pasto y A	Va	D	84	8068	677700.9
Pasto y A	SgF	D	84	42010	3528811
Pasto y A	PzC	B	69	8095	558569.7
Pasto y A	Sa	B	69	1670143	1.15E+08
Pasto y A	SgF	D	84	270138	22691573
Pasto y A	Lr	D	84	49531	4160590
Pasto y A	PzC	B	69	6190	427134.7
Pasto y A	DeF	D	84	130	10936.77
Pasto y A	DeD	D	84	1470	123491.6
Pasto y A	PzC	B	69	17346	1196866
Pasto y A	Sa	B	69	14731	1016425
Pasto y A	JaC2	D	84	171	14331.21
Pasto y A	Sa	B	69	36671	2530330
Pasto y A	Va	D	84	1013981	85174368
Pasto y A	DeF	D	84	78029	6554438
Pasto y A	Va	D	84	4127	346708.5
Pasto y A	JcC	D	84	28467	2391243
Pasto y A	DeF	D	84	12316	1034569
Pasto y A	DeD	D	84	12964	1088941
Pasto y A	JcB	D	84	13223	1110733
Pasto y A	DeD	D	84	10683	897386.9
Pasto y A	JcB	D	84	46746	3926624
Pasto y A	LFD	D	84	1186	99653.37
Pasto y A	JcC	D	84	189830	15945725
Pasto y A	Va	D	84	51117	4293807
Pasto y A	DeF	D	84	27574	2316203
Pasto y A	JaC2	D	84	1927	161902.3
Pasto y A	DeD	D	84	9048	760051.7
Pasto y A	DeF	D	84	250	21031.02
Pasto y A	DeD	D	84	6739	566048.5
Pasto y A	DeD	D	84	5167	434048.4
Pasto y A	GPQ	D	84	65949	5539755
Pasto y A	Fe	D	84	96411	8098539
Pasto y A	DeD	D	84	13404	1125958
Pasto y A	DeF	D	84	132616	11139705
Pasto y A	FvB	D	84	77689	6525903
Pasto y A	FrB	D	84	11712	983833.3
Pasto y A	FrB	D	84	14710	1235630
Pasto y A	JcB	D	84	141371	11875151
Pasto y A	DeD	D	84	21255	1785425
Pasto y A	JaC2	D	84	9589	805467.5
Pasto y A	JaC2	D	84	16619	1395979
Pasto y A	DeF	D	84	99505	8358444
Pasto y A	JcC	D	84	11043	927580.8
Pasto y A	DeD	D	84	8185	687512.5
Pasto y A	JcC	D	84	74369	6247021
Pasto y A	Va	D	84	8530	716535
Pasto y A	GPQ	D	84	57440	4824957
Pasto y A	JaC2	D	84	4316	362524.6
Pasto y A	Lr	D	84	1659	139317.1
Pasto y A	SgF	D	84	247	20747.3
Bosque Ce	DeF	D	79	9592	757731.1
Bosque Ce	DeD	D	79	397	31345.62
Bosque Ce	SgF	D	79	161476	12756593
Bosque Ce	SgF	D	79	22192	1753142
Pasto y A	W	D	84	4357	366029.1
Pasto y A	Sa	B	69	11688	806458.7
Pasto y A	SgF	D	84	5894	495122.8
Pasto y A	FrB	D	84	22	1827.602
Pasto y A	Sa	B	69	3756	259157.8

Urbano	Sa	B	85	258	21914.94
Urbano	SgF	D	92	190637	17538573

Watershed A

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Urbano	Va	D	92	2596	238861	**CN**	**83.3**
Urbano	PzC	B	85	17976	1527924		
Urbano	Lr	D	92	4427	407276		
Bosque Ab	SgF	D	82	1190	97575		
Bosque Ab	Lr	D	82	35409	2903513		
Bosque Ce	SgF	D	79	4478	353785		
Bosque Ce	PzC	B	60	1122	67314		
Bosque Ce	Lr	D	79	63994	5055506		
Pasto y A	W	D	84	1413	118729		
Pasto y A	Va	D	84	380865	31992637		
Pasto y A	PzC	B	69	69115	4768938		
Pasto y A	SgF	D	84	84991	7139280		
Pasto y A	PzC	B	69	17785	1227149		
Pasto y A	Lr	D	84	3487	292867		
Pasto y A	Sa	B	69	18842	1300129		
Bosque Ce	SgF	D	79	133208	10523435		
Bosque Ce	PzC	B	60	91	5440		
Bosque Ce	Lr	D	79	14485	1144329		
Bosque Ce	SgF	D	79	50585	3996213		
Bosque Ce	SgD	D	79	4093	323361		
Urbano	Va	D	92	14	1300		
Urbano	Fe	D	92	5747	528705		
Urbano	PzC	B	85	13116	1114823		
Urbano	SgF	D	92	3737	343804		
Urbano	FrB	D	92	260	23943		
Urbano	FrA	D	92	30038	2763534		
Urbano	Ca	D	92	28745	2644512		
Pasto y A	FrA	D	84	114463	9614903		
Pasto y A	Ca	D	84	795476	66819971		
Pasto y A	DeC	D	84	34163	2869726		
Pasto y A	Fe	D	84	202075	16974274		
Pasto y A	FrB	D	84	8311	698085		
Pasto y A	Va	D	84	246530	20708481		
Pasto y A	SgF	D	84	15155	1272980		
Pasto y A	PzC	B	69	83880	5787719		
Pasto y A	SgF	D	84	108009	9072753		
Pasto y A	PzC	B	69	50270	3468620		
Pasto y A	Lr	D	84	4224	354842		
Pasto y A	PzB	B	69	18576	1281716		
Pasto y A	FrB	D	84	85214	7157977		
Pasto y A	PzC	B	69	22797	1572973		
Pasto y A	FrA	D	84	30836	2590225		
Pasto y A	Ca	D	84	54793	4602635		
Bosque Ce	SgF	D	79	21216	1676063		
Bosque Ce	PzB	B	60	805	48316		
Bosque Ce	PzC	B	60	5111	306649		
Urbano	Ca	D	92	97071	8930514		
Urbano	DeC	D	92	803	73887		
Urbano	FrB	D	92	125106	11509719		
Urbano	PzC	B	85	23997	2039704		
Urbano	Va	D	92	13729	1263048		
Urbano	SgF	D	92	87465	8046754		
Urbano	PzB	B	85	16765	1425034		
Urbano	SgD	D	92	23207	2135021		
Urbano	PzC	B	85	36453	3098514		

Watershed B

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Urbano	W	D	92	624	57401.05	**CN**	**83.68**
Urbano	Ag	D	92	977	89904.46		
Urbano	Va	D	92	21714	1997718		
Urbano	Fe	D	92	3338	307103.7		
Urbano	FrA	D	92	14166	1303239		
Urbano	Va	D	92	243	22345.01		
Urbano	JaC2	D	92	16580	1525335		
Urbano	DeF	D	92	20184	1856945		
Urbano	JcC	D	92	4548	418378.3		
Urbano	DeF	D	92	21142	1945069		
Bosque Ab	PzC	B	65	9013	585821		
Bosque Ab	SgF	D	82	52532	4307585		
Bosque Ab	FrA	D	82	242	19865.26		
Bosque Ab	JcB	D	82	51610	4232035		
Bosque Ab	SgF	D	82	85407	7003411		
Bosque Ab	PzC	B	65	21	1365.54		
Bosque Ab	FrA	D	82	13920	1141453		
Bosque Ab	FrA	D	82	1180	96799.23		
Bosque Ab	DeF	D	82	44277	3630699		
Bosque Ab	DeF	D	82	207198	16990210		
Bosque Ab	PzC	B	65	23712	1541303		
Bosque Ab	JcC	D	82	12924	1059756		
Urbano	PzC	B	85	40048	3404055		
Urbano	SgF	D	92	26643	2451125		
Pasto y A	W	D	84	4675	392735.2		
Pasto y A	Ag	D	84	968765	81376294		
Pasto y A	Fe	D	84	17068	1433706		
Pasto y A	Va	D	84	205284	17243815		
Pasto y A	PzC	B	69	15605	1076720		
Pasto y A	SgF	D	84	52962	4448805		
Pasto y A	Sa	B	69	119	8185.081		
Pasto y A	JcB	D	84	34462	2894779		
Pasto y A	SgF	D	84	6343	532783.6		
Pasto y A	PzC	B	69	31234	2155173		
Pasto y A	SgF	D	84	5520	463704.9		
Pasto y A	Fe	D	84	33450	2809801		
Pasto y A	FrA	D	84	14223	1194739		
Pasto y A	FrA	D	84	73840	6202592		
Pasto y A	Sa	B	69	984	67920.91		
Pasto y A	Va	D	84	1241	104263.5		
Pasto y A	DeF	D	84	29115	2445642		
Pasto y A	JcC	D	84	11893	998997.2		
Urbano	Va	D	92	355	32667.36		
Urbano	Ag	D	92	5064	465879.5		
Urbano	PzC	B	85	43718	3716009		
Urbano	SgF	D	92	133247	12258755		
Urbano	Va	D	92	268	24651.07		
Urbano	PzC	B	85	10612	902029.7		
Urbano	SgF	D	92	824	75763.48		
Urbano	Va	D	92	9213	847602.7		
Urbano	Fe	D	92	295	27128.79		
Urbano	Sa	B	85	1820	154677.6		
Urbano	PzC	B	85	21474	1825323		
Urbano	SgF	D	92	59184	5444936		
Agua	SgF	D	100	13399	1339863		
Urbano	Lr	D	92	15175	1396070		
Urbano	PzC	B	85	13279	1128752		
Urbano	SgF	D	92	192	17668.08		
Urbano	DeC	D	92	4222	388439.6		
Bosque Ab	Lr	D	82	32884	2696466		
Urbano	JaC2	D	92	30191	2777602		
Urbano	Lr	D	92	12	1059.726		
Urbano	Sa	B	85	404	34360.12		
Urbano	JcC	D	92	673	61961.38		
Urbano	SgF	D	92	41766	3842470		
Urbano	DeF	D	92	568	52294.99		
Urbano	JcB	D	92	9876	908547.2		
Urbano	Se	B	85	32543	2766191		
Urbano	JaB	D	92	13990	1287049		
Urbano	Sa	B	85	6683	568024.6		
Urbano	JaC2	D	92	7692	707637.8		
Urbano	FvB	D	92	94966	8736915		

Urbano	JcC	D	92	32182	2960708
Urbano	JaB	D	92	7123	655309.6
Urbano	JcC	D	92	5818	535297
Urbano	PzC	B	85	660	56089.43
Urbano	SgF	D	92	31109	2862007
Urbano	SgF	D	92	30098	2768978
Urbano	FrB	D	92	51030	4694729
Urbano	JcB	D	92	20014	1841329
Urbano	DeD	D	92	3446	317005.5
Urbano	Va	D	92	13968	1285031
Urbano	JcC	D	92	15937	1466188
Urbano	SgD	D	92	2392	220079
Urbano	DeD	D	92	7283	670017.8
Urbano	PzC	B	85	28131	2391149
Urbano	SgF	D	92	112690	10367456
Urbano	SgF	D	92	2603	239518.5
Urbano	Sa	B	85	1576	133951.4
Urbano	PzB	B	85	25568	2173304
Urbano	PzC	B	85	37610	3196817
Bosque Ab	JaC2	D	82	151043	12385489
Bosque Ab	FrA	D	82	24019	1969590
Bosque Ab	DeF	D	82	9851	807786
Bosque Ab	DeF	D	82	66881	5484231
Bosque Ab	SgF	D	82	90213	7397435
Bosque Ab	JaB	D	82	31430	2577279
Bosque Ab	PzC	B	65	2326	151192.7
Bosque Ab	SgF	D	82	11055	906473.6
Bosque Ab	FvA	D	82	1120	91877.7
Bosque Ab	SgF	D	82	45371	3720442
Pasto y A	DeF	D	84	7554	634494.4
Pasto y A	Lr	D	84	75050	6304222
Pasto y A	JcC	D	84	49616	4167724
Pasto y A	JaB	D	84	75	6332.392
Pasto y A	DeF	D	84	14326	1203416
Pasto y A	Va	D	84	13435	1128549
Pasto y A	JcB	D	84	40797	3426944
Pasto y A	JaB	D	84	7887	662543
Pasto y A	JaC2	D	84	1813	152329.7
Pasto y A	FvB	D	84	14633	1229132
Pasto y A	JcC	D	84	2111	177305.2
Pasto y A	PzC	B	69	5527	381381.7
Bosque Ce	FrB	D	79	283	22341.57
Bosque Ce	FvB	D	79	100917	7972482
Bosque Ce	DeF	D	79	2085	164675.6
Bosque Ce	JcC	D	79	32285	2550502
Bosque Ce	JaB	D	79	25413	2007648
Bosque Ce	DeF	D	79	211077	16675093
Bosque Ce	Lr	D	79	134629	10635725
Bosque Ce	FrB	D	79	17681	1396764
Bosque Ce	Sa	B	60	13392	803491.4
Bosque Ce	JaC2	D	79	38010	3002776
Bosque Ce	JcC	D	79	4034	318672.6
Bosque Ce	JaB	D	79	11615	917556.6
Bosque Ce	JaD2	D	79	11920	941667.6
Bosque Ce	SgF	D	79	53741	4245578
Bosque Ce	DeF	D	79	62247	4917475
Bosque Ce	Va	D	79	7007	553571.3
Bosque Ce	JcB	D	79	181	14280.6
Bosque Ce	SgD	D	79	14514	1146590
Bosque Ce	Se	B	60	2327	139615.7
Urbano	DeF	D	92	50244	4622411
Urbano	SgF	D	92	9456	869991.1
Urbano	JaC	D	92	412112	37914303
Urbano	FrB	D	92	511704	47076733
Urbano	JaB	D	92	12337	1134987
Urbano	DeD	D	92	6074	558822.1
Urbano	JaC2	D	92	45276	4165432
Urbano	FvB	D	92	7710	709284.5
Bosque Ce	DeF	D	79	18997	1500765
Bosque Ce	SgF	D	79	257647	20354109
Bosque Ce	DeF	D	79	39164	3093983
Bosque Ce	JaC2	D	79	21218	1676223
Bosque Ce	SgF	D	79	37433	2957200
Bosque Ce	DeF	D	79	445190	35170048

Bosque Ce	JaC2	D	79	806	63660.28
Bosque Ce	JaC2	D	79	8001	632110.6
Bosque Ce	SgF	D	79	123634	9767075
Bosque Ce	SgF	D	79	208876	16501180
Bosque Ce	JaC2	D	79	844	66696.26
Bosque Ce	JaC	D	79	8543	674926.7
Urbano	DeF	D	92	18637	1714568
Urbano	JaC2	D	92	339	31198.42
Urbano	FrA	D	92	92713	8529640
Urbano	Sa	B	85	17770	1510478
Urbano	FrB	D	92	7796	717194.4
Urbano	Va	D	92	3543	325921.1
Urbano	FvA	D	92	16165	1487143
Urbano	FvA	D	92	15592	1434493
Urbano	Fe	D	92	2067	190147.2
Urbano	Ca	D	92	16213	1491598
Urbano	FrA	D	92	24760	2277909
Urbano	FvB	D	92	10081	927444.5
Urbano	FrA	D	92	470	43197.54
Bosque Ce	DeF	D	79	46581	3679866
Bosque Ce	Vo	D	79	24857	1963715
Pasto y A	FrA	D	84	292166	24541962
Pasto y A	Sa	B	69	35670	2461258
Pasto y A	FrB	D	84	1188	99817.11
Pasto y A	Va	D	84	631447	53041570
Pasto y A	FvA	D	84	8005	672442.2
Pasto y A	FvA	D	84	28845	2422964
Pasto y A	Fe	D	84	1487607	1.25E+08
Pasto y A	Ca	D	84	198662	16687646
Pasto y A	FrA	D	84	69483	5836586
Pasto y A	FvB	D	84	31079	2610633
Pasto y A	FrA	D	84	100638	8453630
Pasto y A	Ca	D	84	121545	10209749
Pasto y A	Ag	D	84	944777	79361302
Pasto y A	Gc	D	84	372745	31310605
Pasto y A	Fe	D	84	54914	4612802
Pasto y A	Sa	B	69	60339	4163416
Pasto y A	PzC	B	69	56496	3898195
Pasto y A	SgF	D	84	275531	23144564
Pasto y A	DeF	D	84	667140	56039735
Pasto y A	Vo	D	84	77	6426.252
Pasto y A	JaC2	D	84	42937	3606722
Pasto y A	JaC2	D	84	35397	2973356
Pasto y A	SgF	D	84	3724	312787.8
Pasto y A	SgF	D	84	2030	170534.7
Pasto y A	JaC2	D	84	21887	1838526
Pasto y A	SgF	D	84	170712	14339814
Pasto y A	JaC	D	84	97769	8212577
Pasto y A	DeD	D	84	41321	3470942
Pasto y A	JaC	D	84	185323	15567160
Pasto y A	JaB	D	84	325958	27380434
Pasto y A	FrB	D	84	436079	36630662
Pasto y A	JaB	D	84	39486	3316858
Pasto y A	JaD2	D	84	407	34210.07
Pasto y A	JcB	D	84	29482	2476470
Pasto y A	SgD	D	84	7237	607866.6
Pasto y A	DeD	D	84	5806	487736
Pasto y A	JaC2	D	84	8372	703244.8
Pasto y A	JaC2	D	84	26306	2209696
Pasto y A	PzC	B	69	10379	716129.7
Pasto y A	DeD	D	84	44847	3767181
Pasto y A	DeF	D	84	169810	14264062
Pasto y A	SgF	D	84	34557	2902775
Pasto y A	FvB	D	84	69477	5836038
Pasto y A	DeD	D	84	36639	3077668
Pasto y A	DeF	D	84	3192	268123.7
Pasto y A	JcB	D	84	5852	491606.2
Pasto y A	JcB	D	84	32195	2704385
Pasto y A	FvA	D	84	27984	2350630
Pasto y A	DeF	D	84	9538	801197.1
Pasto y A	JaC2	D	84	505270	42442694
Pasto y A	DeC	D	84	5586	469220.5
Pasto y A	SgF	D	84	15045	1263780
Pasto y A	JcC	D	84	30138	2531588

Pasto y A	DeF	D	84	13812	1160228
Pasto y A	JaB	D	84	30298	2545025
Pasto y A	DeD	D	84	16056	1348719
Pasto y A	DeF	D	84	27149	2280494
Pasto y A	JaC2	D	84	22245	1868603
Pasto y A	Lr	D	84	24881	2089965
Pasto y A	DeF	D	84	208718	17532337
Pasto y A	FrB	D	84	6820	572858.1
Pasto y A	SgF	D	84	70719	5940368
Pasto y A	FrA	D	84	619393	52029042
Pasto y A	Sa	B	69	18312	1263542
Pasto y A	JaC2	D	84	342	28713.6
Pasto y A	JaD2	D	84	44016	3697380
Pasto y A	DeF	D	84	26141	2195834
Pasto y A	FrB	D	84	41033	3446744
Pasto y A	DeF	D	84	65022	5461809
Pasto y A	SgF	D	84	142828	11997517
Pasto y A	SgF	D	84	24914	2092738
Pasto y A	PzB	B	69	18191	1255200
Pasto y A	JcC	D	84	13118	1101899
Pasto y A	SgF	D	84	21602	1814559
Pasto y A	DeF	D	84	14333	1203945
Pasto y A	Se	B	69	1798	124045.4
Pasto y A	PzB	B	69	9311	642493.1
Pasto y A	DeF	D	84	77690	6525971
Pasto y A	Sa	B	69	2318	159917.6
Pasto y A	FvB	D	84	2348	197236.3
Pasto y A	SgF	D	84	269139	22607635
Pasto y A	Sa	B	69	12636	871881.3
Pasto y A	PzC	B	69	74919	5169440
Pasto y A	JcC	D	84	5027	422261.4
Pasto y A	SgF	D	84	2226	187018.7
Pasto y A	SgF	D	84	19737	1657868
Pasto y A	FrB	D	84	81946	6883465
Pasto y A	Va	D	84	44538	3741171
Pasto y A	SgD	D	84	2508	210701.4
Pasto y A	PzC	B	69	279	19264.56
Pasto y A	FvA	D	84	128421	10787371
Pasto y A	SgF	D	84	2848	239198.5
Pasto y A	SgF	D	84	119	9963.644
Pasto y A	FvA	D	84	7548	634031.6
Pasto y A	Sa	B	69	8203	566038.5
Pasto y A	PzB	B	69	27012	1863834
Pasto y A	SgF	D	84	15569	1307767
Pasto y A	PzB	B	69	12353	852385.6
Pasto y A	DeC	D	84	11854	995697.8
Pasto y A	Sa	B	69	5257	362699.4
Pasto y A	Ca	D	84	44981	3778388
Pasto y A	Ca	D	84	47678	4004993
Pasto y A	FrB	D	84	26796	2250859
Pasto y A	PzC	B	69	4479	309030.1
Pasto y A	FrA	D	84	18872	1585213
Pasto y A	FvB	D	84	1430	120104.7
Bosque Ce	PzC	B	60	19123	1147393
Bosque Ce	SgF	D	79	493207	38963320
Bosque Ce	Va	D	79	242	19121.34
Bosque Ce	SgD	D	79	3207	253373.1
Bosque Ce	PzB	B	60	57935	3476072
Bosque Ce	Sa	B	60	1719	103110.2
Bosque Ce	PzC	B	60	2180	130812.2

Watershed C

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ab	JcB	D	82	92732	7604040	**CN**	**83.19**
Bosque Ab	SgF	D	82	152224	12482340		
Bosque Ab	PzC	B	65	81608	5304512		
Bosque Ab	FrA	D	82	32719	2682923		
Bosque Ab	DeF	D	82	25129	2060560		
Bosque Ab	PzC	B	65	3674	238831.5		
Bosque Ab	JcC	D	82	2933	240536.6		
Bosque Ce	Fe	D	79	2195	173404.4		
Bosque Ce	JcB	D	79	25602	2022536		
Bosque Ce	SgF	D	79	282556	22321910		
Bosque Ce	JcC	D	79	5220	412403.7		
Bosque Ce	AcE	B	60	4672	280312.1		
Bosque Ce	PzC	B	60	23493	1409579		
Bosque Ce	JcC	D	79	630	49758.85		
Pasto y A	Gc	D	84	20953	1760068		
Pasto y A	Ag	D	84	254847	21407126		
Pasto y A	Fe	D	84	141076	11850420		
Pasto y A	JcB	D	84	25841	2170644		
Pasto y A	AcD	B	69	5792	399620.7		
Pasto y A	PzC	B	69	8625	595108.9		
Pasto y A	FrA	D	84	29815	2504482		
Urbano	DeF	D	92	86731	7979236		
Urbano	JaC	D	92	38349	3528086		
Urbano	FvB	D	92	16345	1503765		
Urbano	DeD	D	92	51100	4701245		
Urbano	DeC	D	92	102560	9435516		
Urbano	DeD	D	92	87191	8021531		
Urbano	JaC	D	92	2775	255314.5		
Urbano	SgF	D	92	3052	280741.5		
Urbano	SgD	D	92	5285	486214.7		
Urbano	SgF	D	92	3434	315945.5		
Urbano	DeF	D	92	34	3089.872		
Urbano	DeC	D	92	12045	1108119		
Urbano	DeD	D	92	8738	803889.2		
Urbano	DeD	D	92	16642	1531026		
Urbano	JaB	D	92	19113	1758351		
Urbano	DeD	D	92	1332	122516		
Urbano	Sa	B	85	16	1365.99		
Urbano	JaB	D	92	3524	324237.4		
Bosque Ab	DeF	D	82	8866	727022.5		
Bosque Ab	DeC	D	82	7209	591170.7		
Bosque Ab	DeD	D	82	41122	3371999		
Bosque Ab	FvB	D	82	3806	312120.5		
Bosque Ab	DeF	D	82	21178	1736573		
Bosque Ab	FrB	D	82	60	4889.3		
Bosque Ab	JaC	D	82	7586	622042.6		
Bosque Ab	SgD	D	82	23697	1943191		
Bosque Ab	SgF	D	82	8394	688281		
Bosque Ab	DeF	D	82	6420	526447.5		
Bosque Ab	DeC	D	82	149	12233.62		
Bosque Ce	DeF	D	79	423733	33474906		
Bosque Ce	DeD	D	79	2935	231854.3		
Bosque Ce	SgF	D	79	356501	28163616		
Bosque Ce	JaC2	D	79	6182	488340.6		
Bosque Ce	DeD	D	79	15478	1222733		
Bosque Ce	DeF	D	79	930	73489.07		
Bosque Ce	DeD	D	79	427	33727.68		
Bosque Ce	JaC	D	79	9274	732679.5		
Bosque Ce	SgF	D	79	24948	1970906		
Bosque Ce	DeF	D	79	39865	3149337		
Bosque Ce	DeD	D	79	7400	584583.1		
Bosque Ce	DeD	D	79	43382	3427215		
Bosque Ce	DeC	D	79	28087	2218861		
Bosque Ce	DeD	D	79	6770	534828.9		
Bosque Ce	JaC	D	79	7965	629271.5		
Bosque Ce	FvB	D	79	7967	629429.8		
Bosque Ce	DeF	D	79	9067	716259.8		
Bosque Ce	DeF	D	79	57060	4507711		
Bosque Ce	FvB	D	79	2283	180359.6		
Bosque Ce	DeF	D	79	6843	540590		
Urbano	DeF	D	92	60137	5532603		
Urbano	DeD	D	92	2181	200678.8		

Urbano	DeF	D	92	79388	7303697
Urbano	DeD	D	92	55799	5133518
Bosque Ab	So	D	82	5346	438400.8
Bosque Ab	DeF	D	82	3757	308069.9
Urbano	DeF	D	92	393150	36169788
Urbano	DeD	D	92	249207	22927039
Urbano	DeC	D	92	14899	1370739
Urbano	DeF	D	92	9203	846717.9
Urbano	DeC	D	92	22159	2038654
Urbano	JaC2	D	92	114509	10534832
Urbano	DeD	D	92	17732	1631312
Urbano	FvB	D	92	45167	4155377
Urbano	DeD	D	92	21439	1972368
Urbano	DeC	D	92	4876	448602.7
Urbano	DeD	D	92	59	5430.372
Urbano	JaC	D	92	455	41871.61
Urbano	DeF	D	92	13282	1221953
Urbano	DeF	D	92	3298	303419.8
Urbano	FrB	D	92	2540	233680.3
Urbano	FvB	D	92	2568	236286.2
Urbano	SgD	D	92	4044	372082.2
Urbano	Sa	B	85	21048	1789066
Urbano	FvA	D	92	89	8173.126
Urbano	FrB	D	92	3471	319314.2
Urbano	FrA	D	92	7616	700651.7
Urbano	FvA	D	92	19142	1761075
Urbano	Ca	D	92	20445	1880966
Urbano	Sa	B	85	3548	301560.7
Pasto y A	DeF	D	84	529243	44456448
Pasto y A	Vo	D	84	53542	4497542
Pasto y A	DeF	D	84	46814	3932410
Pasto y A	DeD	D	84	135453	11378069
Pasto y A	DeC	D	84	29019	2437585
Pasto y A	DeD	D	84	525	44062.37
Pasto y A	DeC	D	84	12547	1053990
Pasto y A	DeD	D	84	120022	10081853
Pasto y A	JaC2	D	84	9616	807732.9
Pasto y A	SgF	D	84	5735	481764.2
Pasto y A	DeF	D	84	201818	16952728
Pasto y A	DeD	D	84	100454	8438144
Pasto y A	So	D	84	7233	607604.3
Pasto y A	DeF	D	84	60895	5115166
Pasto y A	MvC	D	84	34661	2911505
Pasto y A	DeD	D	84	23960	2012639
Pasto y A	DeF	D	84	33852	2843575
Pasto y A	Sa	B	69	224441	15486402
Pasto y A	FrA	D	84	80696	6778480
Pasto y A	FvA	D	84	78886	6626401
Pasto y A	DeD	D	84	16586	1393200
Pasto y A	Ca	D	84	46645	3918217
Pasto y A	Va	D	84	46331	3891765
Pasto y A	Va	D	84	25454	2138146
Pasto y A	Sa	B	69	6523	450071
Pasto y A	Sc	B	69	333631	23020508
Pasto y A	FrA	D	84	110485	9280724
Pasto y A	Fe	D	84	651845	54755004
Pasto y A	Gc	D	84	358027	30074301
Pasto y A	Ag	D	84	733585	61621114
Pasto y A	JaC	D	84	18236	1531860
Pasto y A	DeF	D	84	14179	1191036
Pasto y A	DeF	D	84	33331	2799819
Pasto y A	JaD2	D	84	17229	1447247
Pasto y A	Gc	D	84	315235	26479728
Pasto y A	Fe	D	84	4570	383899.6
Pasto y A	DeF	D	84	65678	5516913
Pasto y A	SgF	D	84	2360	198202.1
Pasto y A	JaC	D	84	508091	42679626
Pasto y A	FvB	D	84	39300	3301213
Pasto y A	DeD	D	84	95027	7982290
Pasto y A	DeC	D	84	65689	5517861
Pasto y A	DeD	D	84	3156	265123.3
Pasto y A	DeF	D	84	23	1963.747
Pasto y A	DeC	D	84	992	83337.97
Pasto y A	DeD	D	84	43271	3634770

Pasto y A	DeD	D	84	348	29248.47
Pasto y A	JaB	D	84	73104	6140696
Pasto y A	JaD2	D	84	17420	1463314
Pasto y A	DeD	D	84	27240	2288147
Pasto y A	JaB	D	84	38255	3213396
Pasto y A	DeD	D	84	10654	894942.1
Pasto y A	FrB	D	84	20194	1696298
Pasto y A	Sa	B	69	109667	7567056
Pasto y A	JaB	D	84	122871	10321127
Pasto y A	FvA	D	84	46927	3941875
Pasto y A	FrB	D	84	235276	19763208
Pasto y A	JaC2	D	84	16300	1369163
Pasto y A	DeF	D	84	61469	5163379
Pasto y A	DeD	D	84	46376	3895597
Pasto y A	JaD2	D	84	35854	3011703
Pasto y A	JaC2	D	84	44550	3742180
Pasto y A	SgF	D	84	9871	829136.8
Pasto y A	Sc	B	69	86570	5973351
Pasto y A	JcC	D	84	18771	1576783
Pasto y A	FrA	D	84	7460	626673.9
Pasto y A	FrB	D	84	10295	864760.2
Pasto y A	FvA	D	84	50614	4251570
Pasto y A	DeF	D	84	57162	4801601
Pasto y A	SgF	D	84	3618	303881.9
Pasto y A	Ca	D	84	36083	3030981
Pasto y A	SgF	D	84	6439	540880.2
Pasto y A	Sa	B	69	5026	346789.1
Pasto y A	DeF	D	84	1	44.26565
Pasto y A	DeF	D	84	1	44.26565
Pasto y A	DeF	D	84	0	8.458309
Pasto y A	DeD	D	84	0	8.458309
Pasto y A	Vo	D	84	0	13.39304
Pasto y A	So	D	84	0	13.39304
Pasto y A	Vo	D	84	0	10.10758
Pasto y A	DeF	D	84	0	10.10758
Pasto y A	DeF	D	84	0	4.440056
Pasto y A	DeD	D	84	0	4.440056
Pasto y A	DeF	D	84	1	42.25516
Pasto y A	DeF	D	84	1	42.25516

Watershed D

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ce	Fe	D	79	1	78	**CN**	**82.50**
Bosque Ce	JcB	D	79	27945	2207668		
Bosque Ce	JcC	D	79	35983	2842657		
Bosque Ce	SgF	D	79	710821	56154852		
Bosque Ce	PzC	B	60	45035	2702076		
Bosque Ce	JcC	D	79	36689	2898399		
Bosque Ce	AcE	B	60	16872	1012314		
Bosque Ce	DeF	D	79	2184	172528		
Pasto y A	Ft	D	84	620	52044		
Pasto y A	FrA	D	84	12116	1017747		
Pasto y A	JcC	D	84	52277	4391269		
Pasto y A	SgF	D	84	7324	615216		
Pasto y A	JcB	D	84	52550	4414227		
Pasto y A	DeF	D	84	12688	1065808		
Pasto y A	SgF	D	84	2266	190377		
Pasto y A	Fe	D	84	677	56900		
Pasto y A	JcB	D	84	287	24147		
Bosque Ce	Fe	D	79	19	1522		
Bosque Ce	Ft	D	79	5173	408681		
Bosque Ce	JcB	D	79	32532	2570063		
Bosque Ce	JcC	D	79	38393	3033056		
Bosque Ce	SgF	D	79	51509	4069238		
Bosque Ce	PzC	B	60	10246	614784		
Bosque Ab	FrB	D	82	3609	295913		
Bosque Ab	SgD	D	82	2309	189314		
Bosque Ab	SgF	D	82	14060	1152885		
Bosque Ab	DeF	D	82	17797	1459385		
Bosque Ab	DeC	D	82	440	36095		
Urbano	DeD	D	92	66438	6112319		
Urbano	DeC	D	92	60326	5549959		
Urbano	DeF	D	92	4733	435474		
Urbano	FvB	D	92	9484	872551		
Urbano	JaC	D	92	27583	2537594		
Urbano	DeF	D	92	30273	2785125		
Urbano	Sa	B	85	8532	725235		
Urbano	FrA	D	92	44539	4097621		
Urbano	JaB	D	92	3233	297400		
Urbano	FrB	D	92	11755	1081500		
Urbano	FrB	D	92	483	44445		
Urbano	DeF	D	92	777	71456		
Urbano	DeC	D	92	948	87185		
Urbano	FrB	D	92	3737	343801		
Urbano	FrA	D	92	11447	1053162		
Urbano	Sa	B	85	802	68189		
Urbano	FvA	D	92	29230	2689193		
Pasto y A	DeD	D	84	95	7957		
Pasto y A	FvB	D	84	86146	7236240		
Pasto y A	Sc	B	69	9207	635307		
Pasto y A	FrB	D	84	10607	891028		
Pasto y A	FrA	D	84	11147	936345		
Pasto y A	Sa	B	69	183010	12627691		
Pasto y A	FvA	D	84	611583	51372989		
Pasto y A	Ca	D	84	1179754	99099319		
Pasto y A	FvA	D	84	2994	251456		
Pasto y A	Fe	D	84	443184	37227433		
Pasto y A	Sa	B	69	229292	15821163		
Pasto y A	Va	D	84	213124	17902428		
Pasto y A	JaC	D	84	82818	6956705		
Pasto y A	DeD	D	84	75259	6321756		
Pasto y A	DeF	D	84	51621	4336164		
Pasto y A	Fe	D	84	4705	395223		
Pasto y A	Gc	D	84	1137621	95560156		
Pasto y A	Ag	D	84	352621	29620164		
Pasto y A	JaC	D	84	11475	963882		
Pasto y A	DeF	D	84	1081	90764		
Pasto y A	DeF	D	84	27388	2300596		
Pasto y A	Fe	D	84	209516	17599351		
Pasto y A	Ft	D	84	110070	9245839		
Pasto y A	FrA	D	84	13465	1131082		
Pasto y A	JcB	D	84	40254	3381372		
Pasto y A	JcC	D	84	11945	1003368		
Pasto y A	SgF	D	84	1323	111136		

Pasto y A	JcB	D	84	4394	369120
Pasto y A	PzC	B	69	869	59969
Pasto y A	FvB	D	84	160569	13487809
Pasto y A	Sa	B	69	73	5009
Pasto y A	FrA	D	84	21525	1808088
Pasto y A	JaB	D	84	1703	143045
Pasto y A	FrB	D	84	21346	1793092
Pasto y A	DeF	D	84	3215	270034
Pasto y A	DeC	D	84	20577	1728460
Pasto y A	FrB	D	84	55660	4675414
Pasto y A	FrA	D	84	9434	792434
Pasto y A	FvA	D	84	55773	4684967

Watershed E

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ce	JaB	D	79	108215	8548964	**CN**	**82.843**
Bosque Ce	DeF	D	79	53152	4198995		
Bosque Ce	JaD2	D	79	70	5499.381		
Bosque Ce	FvA	D	79	37453	2958802		
Bosque Ce	JaC	D	79	33329	2632964		
Bosque Ce	JcC	D	79	36084	2850613		
Bosque Ce	SgF	D	79	29355	2319013		
Bosque Ce	DeD	D	79	39339	3107809		
Bosque Ce	SgF	D	79	131776	10410282		
Bosque Ce	PzD	B	60	23294	1397646		
Bosque Ce	JcC	D	79	8535	674273.1		
Urbano	FvA	D	92	1846	169787.2		
Urbano	JaB	D	92	99640	9166919		
Urbano	JcC	D	92	11730	1079143		
Urbano	DeD	D	92	3090	284252.9		
Urbano	JcB	D	92	497	45769.81		
Urbano	PzD	B	85	388	32949.4		
Urbano	SgF	D	92	7929	729472.6		
Urbano	JcC	D	92	3904	359170.6		
Bosque Ab	JcB	D	82	167169	13707831		
Bosque Ab	FvA	D	82	4962	406862.7		
Bosque Ab	PzC	B	65	6960	452373.3		
Bosque Ab	PzD	B	65	11717	761583.1		
Bosque Ab	SgF	D	82	140070	11485703		
Bosque Ab	SgF	D	82	56	4564.179		
Bosque Ab	JcC	D	82	103112	8455143		
Bosque Ab	PzD	B	65	68896	4478248		
Bosque Ab	PzC	B	65	34039	2212563		
Bosque Ab	SgF	D	82	43753	3587759		
Bosque Ab	FrB	D	82	40430	3315273		
Bosque Ab	JcB	D	82	73923	6061705		
Bosque Ab	PzC	B	65	27257	1771692		
Bosque Ab	JcC	D	82	16342	1340050		
Bosque Ab	DeF	D	82	9512	780017.8		
Bosque Ab	SgF	D	82	21613	1772243		
Bosque Ab	DeC	D	82	15489	1270099		
Bosque Ab	JaB	D	82	93031	7628535		
Bosque Ab	DeD	D	82	4997	409787.5		
Bosque Ab	FrB	D	82	87547	7178823		
Bosque Ab	JcC	D	82	7144	585797		
Bosque Ab	FrB	D	82	7296	598252.2		
Bosque Ab	JaB	D	82	1577	129298.3		
Bosque Ab	JaC2	D	82	29077	2384344		
Bosque Ce	SgF	D	79	27687	2187290		
Bosque Ab	SgF	D	82	38220	3134029		
Bosque Ab	DeD	D	82	41905	3436244		
Bosque Ab	JcC	D	82	30126	2470353		
Bosque Ab	JcC	D	82	5993	491400.4		
Bosque Ab	FrA	D	82	48	3955.261		
Bosque Ab	JaC	D	82	65050	5334100		
Bosque Ab	JaB	D	82	237597	19482926		
Bosque Ab	DeF	D	82	38421	3150533		
Bosque Ab	DeD	D	82	10174	834308.4		
Bosque Ab	DeF	D	82	29945	2455525		
Bosque Ab	JaD2	D	82	31153	2554561		
Bosque Ab	DeD	D	82	2159	177053.9		
Bosque Ab	JaC	D	82	60741	4980725		
Bosque Ab	FvA	D	82	32686	2680267		
Bosque Ab	JaC	D	82	22251	1824542		
Bosque Ab	SgF	D	82	3194	261926.2		
Bosque Ce	JcC	D	79	530	41896.55		
Bosque Ce	SgF	D	79	346897	27404894		
Bosque Ce	JcB	D	79	335	26489		
Bosque Ce	DeF	D	79	17	1324.322		
Bosque Ce	DeD	D	79	25507	2015084		
Bosque Ce	JcC	D	79	12019	949526.3		
Pasto y A	Ft	D	84	6808	571880.5		
Pasto y A	PzC	B	69	21432	1478794		
Pasto y A	FrA	D	84	300187	25215706		
Pasto y A	SgF	D	84	36471	3063530		
Pasto y A	JcC	D	84	148531	12476589		
Pasto y A	SgF	D	84	27892	2342907		

Pasto y A	JcB	D	84	428137	35963534
Pasto y A	JcB	D	84	152657	12823222
Pasto y A	FvA	D	84	477745	40130547
Pasto y A	DeF	D	84	41717	3504251
Pasto y A	SgF	D	84	8818	740735.6
Pasto y A	PzC	B	69	20388	1406802
Pasto y A	SgF	D	84	39394	3309086
Pasto y A	JcC	D	84	795	66801.85
Pasto y A	SgF	D	84	20791	1746455
Pasto y A	DeD	D	84	24151	2028706
Pasto y A	JcC	D	84	3795	318789.7
Pasto y A	DeF	D	84	715	60019.14
Pasto y A	DeD	D	84	17695	1486399
Pasto y A	JcC	D	84	24511	2058929
Pasto y A	FrA	D	84	164176	13790788
Pasto y A	DeF	D	84	35655	2995032
Pasto y A	JaC	D	84	200012	16801004
Pasto y A	JaB	D	84	1011854	84995706
Pasto y A	DeF	D	84	9245	776557
Pasto y A	DeD	D	84	17220	1446505
Pasto y A	DeF	D	84	27051	2272265
Pasto y A	FvB	D	84	15304	1285577
Pasto y A	FrA	D	84	104363	8766457
Pasto y A	PzB	B	69	46624	3217051
Pasto y A	DeD	D	84	61339	5152450
Pasto y A	PzB	B	69	16590	1144741
Pasto y A	JaC	D	84	31275	2627141
Pasto y A	JaC2	D	84	50847	4271133
Pasto y A	JaC	D	84	53964	4532935
Pasto y A	JaC2	D	84	50095	4207940
Pasto y A	JaC2	D	84	78002	6552144
Pasto y A	JcC	D	84	205241	17240220
Pasto y A	JcB	D	84	13960	1172620
Pasto y A	DeD	D	84	965	81053.09
Pasto y A	SgF	D	84	138038	11595177
Pasto y A	PzD	B	69	8802	607320.3
Bosque Ce	FrA	D	79	4815	380381.9
Bosque Ce	JcC	D	79	31539	2491574
Bosque Ce	JcB	D	79	11727	926429.8
Bosque Ce	JcB	D	79	84811	6700099
Bosque Ce	FvA	D	79	37824	2988097
Bosque Ce	JcC	D	79	43128	3407110
Bosque Ce	SgF	D	79	27612	2181375
Bosque Ce	JcC	D	79	16022	1265745
Bosque Ce	SgF	D	79	11252	888945.8
Bosque Ce	DeF	D	79	4428	349839.7
Bosque Ce	JaB	D	79	57653	4554602
Bosque Ce	FrB	D	79	7661	605209.9
Bosque Ce	FvB	D	79	53086	4193805
Bosque Ce	JaB	D	79	9730	768696.2
Bosque Ce	JaC2	D	79	28836	2278054
Urbano	JaB	D	92	254	23409.13
Bosque Ce	SgD	D	79	2566	202726.3
Bosque Ce	SgF	D	79	35099	2772849
Bosque Ce	DeF	D	79	529766	41851490
Bosque Ce	Vo	D	79	80955	6395471
Bosque Ce	DeD	D	79	3762	297195.4
Bosque Ce	JaC2	D	79	27	2147.699
Bosque Ce	Vo	D	79	8864	700277.6
Bosque Ce	DeD	D	79	13398	1058481
Bosque Ce	DeF	D	79	136960	10819824
Bosque Ce	DeD	D	79	6452	509694.7
Bosque Ce	SgF	D	79	42033	3320645
Bosque Ce	DeD	D	79	66881	5283589
Urbano	DeF	D	92	25995	2391502
Urbano	JaC2	D	92	5588	514106.2
Urbano	DeD	D	92	10565	972022.9
Urbano	DeF	D	92	28160	2590685
Urbano	DeD	D	92	14628	1345737
Urbano	DeF	D	92	1806	166196.1
Urbano	DeD	D	92	27334	2514767
Urbano	DeF	D	92	32822	3019605
Urbano	DeC	D	92	3464	318679.4
Urbano	DeF	D	92	252999	23275879

Urbano	DeD	D	92	6476	595817.6
Urbano	DeD	D	92	1244	114410.2
Urbano	DeD	D	92	25156	2314325
Urbano	DeC	D	92	10831	996469.4
Urbano	FrB	D	92	493	45329.16
Urbano	FvB	D	92	9180	844567.1
Urbano	DeC	D	92	174950	16095378
Urbano	JaD2	D	92	1139	104780.8
Urbano	DeF	D	92	5901	542852.8
Urbano	DeD	D	92	45815	4215006
Urbano	JaC	D	92	4815	443013.5
Urbano	JaB	D	92	8682	798764.5
Urbano	FrB	D	92	3276	301380.6
Urbano	FvB	D	92	15067	1386167
Urbano	JaC	D	92	21989	2023015
Urbano	FvB	D	92	4973	457560.9
Urbano	Sc	B	85	15509	1318240
Urbano	JaB	D	92	3904	359148.5
Urbano	FvB	D	92	5047	464367.6
Urbano	JaB	D	92	524	48182.9
Urbano	FvA	D	92	9622	885259.5
Urbano	FrA	D	92	5414	498109
Pasto y A	DeF	D	84	387518	32551550
Pasto y A	Vo	D	84	41734	3505657
Pasto y A	DeD	D	84	51807	4351819
Pasto y A	JaC2	D	84	74094	6223877
Pasto y A	DeC	D	84	8760	735809.1
Pasto y A	DeD	D	84	17348	1457238
Pasto y A	DeC	D	84	9033	758784.5
Pasto y A	DeD	D	84	20440	1716951
Pasto y A	DeD	D	84	320	26877.78
Pasto y A	DeD	D	84	63890	5366801
Pasto y A	SgF	D	84	15586	1309182
Pasto y A	DeC	D	84	11544	969700.5
Pasto y A	JaD2	D	84	14598	1226273
Pasto y A	DeD	D	84	992	83324.43
Pasto y A	JaC	D	84	2851	239510.3
Pasto y A	DeF	D	84	132490	11129193
Pasto y A	So	D	84	11485	964758.5
Pasto y A	DeD	D	84	40542	3405497
Pasto y A	DeC	D	84	2881	241968.9
Pasto y A	DeC	D	84	1635	137323.2
Pasto y A	DeF	D	84	136323	11451120
Pasto y A	DeD	D	84	804	67543.52
Pasto y A	DeD	D	84	117325	9855286
Pasto y A	FrB	D	84	96041	8067468
Pasto y A	JaC2	D	84	44815	3764434
Pasto y A	DeC	D	84	17247	1448725
Pasto y A	DeC	D	84	40511	3402932
Pasto y A	JaB	D	84	36295	3048754
Pasto y A	DeC	D	84	21010	1764848
Pasto y A	Sa	B	69	153212	10571612
Pasto y A	JaB	D	84	39243	3296389
Pasto y A	FrB	D	84	88184	7407426
Pasto y A	FvB	D	84	100052	8404352
Pasto y A	JaB	D	84	60482	5080528
Pasto y A	DeD	D	84	29093	2443810
Pasto y A	DeF	D	84	28438	2388765
Pasto y A	JaD2	D	84	27966	2349107
Pasto y A	FrB	D	84	311052	26128355
Pasto y A	FvB	D	84	25517	2143433
Pasto y A	FvB	D	84	12869	1081037
Pasto y A	JaC	D	84	17922	1505434
Pasto y A	DeF	D	84	16388	1376578
Pasto y A	Sc	B	69	89487	6174636
Pasto y A	JaB	D	84	33	2812.164
Pasto y A	FvB	D	84	27450	2305769
Pasto y A	FvB	D	84	587	49276.39
Pasto y A	JcB	D	84	9669	812193.8
Pasto y A	FvB	D	84	52857	4439981
Pasto y A	FvB	D	84	48745	4094585
Pasto y A	JaC	D	84	18772	1576828
Pasto y A	DeC	D	84	7179	603008
Pasto y A	PzC	B	69	4323	298294.4

Pasto y A	DeD	D	84	1837	154309
Pasto y A	SgD	D	84	47146	3960247
Pasto y A	FvA	D	84	69025	5798073
Pasto y A	FrA	D	84	226852	19055549
Pasto y A	JaB	D	84	27588	2317374
Pasto y A	SgF	D	84	3129	262858.7
Pasto y A	DeC	D	84	35143	2951971
Pasto y A	DeF	D	84	2634	221254.2
Pasto y A	SgD	D	84	5343	448832.3
Pasto y A	FrA	D	84	146997	12347767
Pasto y A	Fe	D	84	25379	2131875
Pasto y A	DeD	D	84	13513	1135098
Pasto y A	FrB	D	84	9535	800905
Pasto y A	DeD	D	84	50672	4256437
Pasto y A	FrB	D	84	1315	110501.5
Pasto y A	Sc	B	69	128527	8868369
Pasto y A	Ag	D	84	17211	1445720
Pasto y A	Ca	D	84	594842	49966720
Pasto y A	FvA	D	84	166687	14001714
Pasto y A	JaC2	D	84	48376	4063595
Pasto y A	DeF	D	84	60685	5097502
Pasto y A	Fe	D	84	1591255	1.34E+08
Pasto y A	Ag	D	84	16796	1410893
Pasto y A	JaC	D	84	31127	2614653
Pasto y A	DeF	D	84	20911	1756551
Pasto y A	DeF	D	84	125950	10579759
Pasto y A	FvA	D	84	104403	8769826
Pasto y A	JaC	D	84	39704	3335107
Pasto y A	DeD	D	84	23664	1987791
Pasto y A	DeF	D	84	36491	3065233
Pasto y A	Gc	D	84	476733	40045544
Pasto y A	Fe	D	84	245270	20602691
Pasto y A	Ft	D	84	316377	26575682
Pasto y A	FrA	D	84	28187	2367737
Pasto y A	FrB	D	84	111604	9374712
Pasto y A	PzC	B	69	92141	6357716
Pasto y A	FrA	D	84	215000	18060039
Pasto y A	SgF	D	84	52071	4373960
Pasto y A	DeC	D	84	26746	2246704
Pasto y A	DeD	D	84	43038	3615208
Pasto y A	JaC	D	84	41	3441.546
Pasto y A	JaB	D	84	13579	1140621
Pasto y A	FvB	D	84	66958	5624465
Pasto y A	JaC	D	84	24	2001.002
Pasto y A	FvB	D	84	6425	539729.5
Pasto y A	Sc	B	69	23455	1618416
Pasto y A	JaB	D	84	22760	1911811
Pasto y A	FvB	D	84	29097	2444114
Pasto y A	JaB	D	84	1394	117137.5
Pasto y A	FrB	D	84	14	1145.877
Pasto y A	FvA	D	84	7555	634579.6
Pasto y A	FrA	D	84	1998	167863
Pasto y A	DeF	D	84	0	5.366039
Pasto y A	DeF	D	84	0	5.366039
Pasto y A	DeF	D	84	0	0.229206
Pasto y A	So	D	84	0	0.229206
Pasto y A	Vo	D	84	0	2.141752
Pasto y A	DeF	D	84	0	2.141752
Pasto y A	Vo	D	84	0	27.57731
Pasto y A	So	D	84	0	27.57731

Watershed F

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Urbano	JcB	D	92	9148	841645.4	**CN**	**82.8**
Urbano	PzD	B	85	1601	136079		
Urbano	SgF	D	92	26	2406.658		
Urbano	JcC	D	92	126	11624.58		
Bosque Ab	JcB	D	82	121	9948.294		
Bosque Ab	PzC	B	65	23800	1546995		
Bosque Ab	PzB	B	65	1158	75261.39		
Bosque Ab	PzD	B	65	81013	5265833		
Bosque Ab	SgF	D	82	132368	10854181		
Bosque Ab	SgF	D	82	32113	2633306		
Bosque Ab	PzC	B	65	8738	567946		
Bosque Ab	PzD	B	65	4038	262489.5		
Bosque Ab	SgF	D	82	117943	9671350		
Bosque Ab	PzD	B	65	29293	1904020		
Bosque Ab	PzC	B	65	36643	2381827		
Bosque Ab	SgF	D	82	7564	620237.1		
Bosque Ce	PzC	B	60	17621	1057242		
Bosque Ce	PzD	B	60	1078	64696.05		
Bosque Ce	SgF	D	79	5159	407536.8		
Bosque Ce	JcB	D	79	14935	1179846		
Bosque Ce	PzC	B	60	33867	2032035		
Bosque Ce	PzB	B	60	4782	286920		
Bosque Ce	PzD	B	60	67343	4040591		
Bosque Ce	SgF	D	79	175781	13886698		
Pasto y A	PzC	B	69	11641	803235.9		
Pasto y A	FrA	D	84	13792	1158518		
Pasto y A	SgF	D	84	57250	4808986		
Pasto y A	JcB	D	84	111588	9373429		
Pasto y A	PzC	B	69	3987	275133.5		
Pasto y A	JcC	D	84	27554	2314522		
Pasto y A	PzC	B	69	10638	734053.4		
Pasto y A	SgF	D	84	11964	1004983		
Urbano	Ag	D	92	1129	103854.3		
Urbano	PzC	B	85	3849	327135.2		
Urbano	FrA	D	92	78194	7193829		
Urbano	SgF	D	92	5420	498646		
Urbano	AcD	B	85	19595	1665554		
Urbano	PzC	B	85	69927	5943827		
Urbano	AcD	B	85	17646	1499903		
Urbano	AcE	B	85	28442	2417596		
Urbano	PzB	B	85	15340	1303868		
Urbano	PzD	B	85	801	68118.94		
Pasto y A	Ag	D	84	230721	19380538		
Pasto y A	FrA	D	84	12199	1024716		
Pasto y A	FrA	D	84	2574	216175.9		
Pasto y A	PzC	B	69	48223	3327377		
Pasto y A	FrB	D	84	160773	13504900		
Pasto y A	PzB	B	69	77781	5366870		
Pasto y A	AcD	B	69	13645	941475.6		
Urbano	Ag	D	92	15338	1411110		
Urbano	PzC	B	85	7537	640624.3		
Urbano	FrA	D	92	31192	2869670		
Urbano	SgF	D	92	9125	839488.3		
Urbano	JaC	D	92	2569	236308.8		
Urbano	DeD	D	92	34348	3160019		
Urbano	JaC	D	92	2693	247727.9		
Urbano	FrB	D	92	6398	588610.5		
Urbano	FvA	D	92	12986	1194675		
Urbano	JaC2	D	92	86688	7975272		
Urbano	DeF	D	92	77413	7121981		
Urbano	FrA	D	92	30630	2817986		
Urbano	DeD	D	92	12674	1165995		
Urbano	DeF	D	92	46471	4275313		
Bosque Ce	Sa	B	60	4095	245706.2		
Bosque Ce	PzC	B	60	2453	147165.2		
Bosque Ce	SgD	D	79	53	4179.307		
Bosque Ce	SgF	D	79	99817	7885514		
Bosque Ce	DeF	D	79	6925	547088.5		
Urbano	Sa	B	85	8704	739855		
Urbano	SgD	D	92	8142	749043.1		
Urbano	PzC	B	85	2019	171576.5		
Urbano	SgF	D	92	3794	349058.6		

Urbano	DeC	D	92	317	29173.9
Urbano	FvB	D	92	28195	2593950
Urbano	DeD	D	92	15769	1450736
Urbano	DeF	D	92	100609	9256008
Urbano	JaC2	D	92	2565	236018.1
Urbano	DeF	D	92	53988	4966910
Urbano	FrA	D	92	198	18170.37
Urbano	DeD	D	92	299	27493.07
Urbano	FvA	D	92	320	29482.39
Urbano	FrB	D	92	66	6029.735
Urbano	DeC	D	92	10786	992288.3
Urbano	DeC	D	92	537	49406.31
Urbano	DeC	D	92	3350	308172.2
Urbano	FrB	D	92	10848	998037
Urbano	FvA	D	92	12892	1186049
Urbano	FrB	D	92	580	53355.55
Urbano	Sa	B	85	5568	473272.1
Urbano	FrB	D	92	8196	754063.8
Urbano	DeF	D	92	3	276.9444
Bosque Ce	JaC2	D	79	16316	1288975
Bosque Ce	DeD	D	79	868	68599.96
Bosque Ce	DeF	D	79	47011	3713891
Bosque Ce	SgF	D	79	361297	28542453
Bosque Ab	SgF	D	82	92425	7578866
Bosque Ab	DeF	D	82	41397	3394537
Bosque Ab	JaC2	D	82	53137	4357232
Bosque Ab	FrB	D	82	36880	3024170
Urbano	DeF	D	92	693	63747.48
Urbano	JaC2	D	92	91003	8372263
Urbano	DeF	D	92	27852	2562394
Urbano	SgF	D	92	48461	4458423
Urbano	DeD	D	92	59652	5488013
Urbano	DeF	D	92	19658	1808501
Urbano	JaC2	D	92	28302	2603787
Urbano	FrB	D	92	14110	1298139
Urbano	DeF	D	92	8425	775117.3
Bosque Ce	DeF	D	79	369347	29178418
Bosque Ce	JaC2	D	79	50887	4020095
Bosque Ce	JaB	D	79	474	37477.09
Bosque Ce	DeD	D	79	4527	357599.6
Bosque Ce	FvB	D	79	10512	830466.5
Bosque Ce	SgF	D	79	847495	66952142
Bosque Ce	JaC2	D	79	2062	162926.1
Bosque Ce	DeC	D	79	2844	224653.8
Bosque Ce	DeC	D	79	7971	629730.3
Bosque Ce	DeD	D	79	21889	1729200
Bosque Ce	Sa	B	60	10279	616718.5
Bosque Ce	DeF	D	79	52355	4136069
Bosque Ce	DeD	D	79	10540	832623.7
Bosque Ce	JaB	D	79	4514	356645.1
Bosque Ce	DeF	D	79	2337	184634.2
Bosque Ce	DeD	D	79	6566	518733.9
Bosque Ce	DeF	D	79	96904	7655448
Urbano	DeF	D	92	24223	2228518
Bosque Ce	DeF	D	79	96580	7629796
Bosque Ce	Vo	D	79	16753	1323451
Bosque Ce	DeD	D	79	8936	705968.7
Bosque Ce	DeF	D	79	11800	932196
Bosque Ce	So	D	79	52126	4117971
Bosque Ce	DeF	D	79	331	26128.23
Urbano	DeF	D	92	1739	160009.5
Urbano	DeF	D	92	7354	676539.9
Pasto y A	DeF	D	84	194	16293.69
Pasto y A	DeF	D	84	15569	1307825
Pasto y A	DeF	D	84	421201	35380845
Pasto y A	DeC	D	84	28014	2353184
Pasto y A	JaC2	D	84	53918	4529078
Pasto y A	DeF	D	84	55426	4655787
Pasto y A	DeD	D	84	26128	2194719
Pasto y A	JaB	D	84	11722	984640
Pasto y A	DeD	D	84	37104	3116732
Pasto y A	FvB	D	84	11167	937990.3
Pasto y A	SgF	D	84	72700	6106813
Pasto y A	JaC2	D	84	19243	1616375

Pasto y A	DeD	D	84	43306	3637675
Pasto y A	DeC	D	84	8974	753815
Pasto y A	DeC	D	84	30065	2525420
Pasto y A	DeD	D	84	23058	1936832
Pasto y A	DeC	D	84	10818	908671.3
Pasto y A	Sa	B	69	390	26917.44
Pasto y A	DeF	D	84	171082	14370922
Pasto y A	DeD	D	84	2022	169852.2
Pasto y A	JaB	D	84	4345	364983.8
Pasto y A	DeF	D	84	3350	281414.8
Pasto y A	DeD	D	84	72306	6073737
Pasto y A	JaC2	D	84	135537	11385076
Pasto y A	FrB	D	84	725738	60962008
Pasto y A	FrB	D	84	70638	5933575
Pasto y A	DeD	D	84	96560	8111011
Pasto y A	SgD	D	84	7122	598240.8
Pasto y A	DeC	D	84	23721	1992586
Pasto y A	SgF	D	84	12940	1086924
Pasto y A	SgD	D	84	99825	8385266
Pasto y A	DeD	D	84	17859	1500186
Pasto y A	FvB	D	84	24961	2096765
Pasto y A	Sa	B	69	47699	3291254
Pasto y A	DeC	D	84	34856	2927881
Pasto y A	DeC	D	84	61941	5203030
Pasto y A	FrA	D	84	180787	15186082
Pasto y A	JaC	D	84	31041	2607439
Pasto y A	FvB	D	84	19449	1633752
Pasto y A	SgF	D	84	33099	2780327
Pasto y A	FrB	D	84	40215	3378051
Pasto y A	FvA	D	84	40879	3433836
Pasto y A	DeD	D	84	17045	1431766
Pasto y A	Sa	B	69	214046	14769175
Pasto y A	FvA	D	84	168845	14182978
Pasto y A	FrB	D	84	62512	5251043
Pasto y A	Sa	B	69	41066	2833524
Pasto y A	JaC	D	84	39360	3306224
Pasto y A	SgF	D	84	7142	599927.1
Pasto y A	DeD	D	84	11829	993675.7
Pasto y A	FrB	D	84	23270	1954642
Pasto y A	SgD	D	84	52652	4422736
Pasto y A	FrB	D	84	181066	15209505
Pasto y A	JaB	D	84	25262	2122020
Pasto y A	FvB	D	84	8031	674611.6
Pasto y A	JaB	D	84	22803	1915491
Pasto y A	DeF	D	84	13766	1156379
Pasto y A	JaB	D	84	61161	5137499
Pasto y A	DeF	D	84	8953	752025.2
Pasto y A	PzC	B	69	10574	729620.8
Pasto y A	SgF	D	84	19890	1670773
Pasto y A	Ca	D	84	147628	12400741
Pasto y A	JaC2	D	84	64903	5451866
Pasto y A	DeC	D	84	1285	107981.9
Pasto y A	PzC	B	69	19726	1361080
Pasto y A	DeD	D	84	2349	197337.3
Pasto y A	SgD	D	84	14606	1226899
Pasto y A	JcC	D	84	35833	3009984
Pasto y A	DeF	D	84	134402	11289729
Pasto y A	SgF	D	84	24525	2060137
Pasto y A	SgF	D	84	25987	2182922
Pasto y A	DeC	D	84	5435	456574.8
Pasto y A	FvB	D	84	12833	1078005
Pasto y A	DeD	D	84	26748	2246865
Pasto y A	DeF	D	84	19236	1615864
Pasto y A	FrA	D	84	14554	1222523
Pasto y A	JaC2	D	84	31089	2611446
Pasto y A	DeF	D	84	89775	7541086
Pasto y A	FrA	D	84	402	33764.17
Pasto y A	FrA	D	84	479705	40295195
Pasto y A	DeD	D	84	70895	5955141
Pasto y A	FvA	D	84	25064	2105344
Pasto y A	JaB	D	84	13469	1131399
Pasto y A	FrB	D	84	88302	7417394
Pasto y A	DeC	D	84	15785	1325927
Pasto y A	DeC	D	84	4185	351499.6

Pasto y A	JaC	D	84	21527	1808251
Pasto y A	JaC	D	84	16457	1382416
Pasto y A	DeD	D	84	46675	3920731
Pasto y A	Ag	D	84	2521580	2.12E+08
Pasto y A	Sa	B	69	61760	4261443
Pasto y A	DeD	D	84	22851	1919456
Pasto y A	FvA	D	84	135133	11351148
Pasto y A	Fe	D	84	27785	2333919
Pasto y A	DeD	D	84	135	11319.17
Pasto y A	JaC	D	84	25563	2147266
Pasto y A	Ca	D	84	407825	34257282
Pasto y A	JaC2	D	84	7765	652256.4
Pasto y A	Fe	D	84	549918	46193123
Pasto y A	DeF	D	84	65794	5526698
Pasto y A	Fe	D	84	120292	10104519
Pasto y A	Gc	D	84	30724	2580843
Pasto y A	Ca	D	84	27796	2334869
Pasto y A	Ag	D	84	345594	29029871
Pasto y A	Ag	D	84	377783	31733803
Pasto y A	Fe	D	84	119403	10029826
Pasto y A	Gc	D	84	933201	78388869
Pasto y A	DeF	D	84	0	12.38039
Pasto y A	FrA	D	84	5043	423597.6
Pasto y A	FvA	D	84	41554	3490547
Pasto y A	Ag	D	84	68918	5789109
Pasto y A	Gc	D	84	21448	1801616
Pasto y A	Fe	D	84	84181	7071234
Pasto y A	FrA	D	84	99873	8389367
Pasto y A	PzC	B	69	48210	3326465
Pasto y A	FrA	D	84	10954	920132
Pasto y A	SgF	D	84	91882	7718081
Pasto y A	DeF	D	84	569183	47811340
Pasto y A	DeD	D	84	52536	4413029

Watershed G

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ab	PzC	B	65	15145	984393	**CN**	**83.00**
Bosque Ab	PzC	B	65	7188	467236		
Bosque Ab	SgF	D	82	19171	1572040		
Bosque Ab	PzD	B	65	5882	382348		
Bosque Ab	PzC	B	65	187	12145		
Bosque Ab	JcC	D	82	12887	1056707		
Bosque Ab	SgD	D	82	4145	339878		
Bosque Ab	FrB	D	82	249	20403		
Bosque Ab	SgF	D	82	25327	2076834		
Bosque Ab	FrB	D	82	9628	789512		
Bosque Ab	DeD	D	82	3778	309793		
Bosque Ab	JcC	D	82	18509	1517743		
Bosque Ab	PzD	B	65	2336	151828		
Bosque Ab	PzC	B	65	4668	303390		
Bosque Ab	PzD	B	65	41223	2679465		
Bosque Ab	SgF	D	82	25257	2071077		
Bosque Ab	DeF	D	82	5197	426121		
Bosque Ab	PzC	B	65	14745	958421		
Bosque Ab	SgD	D	82	7164	587467		
Bosque Ce	PzC	B	60	19378	1162679		
Bosque Ce	SgF	D	79	105133	8305534		
Bosque Ce	PzD	B	60	9	531		
Bosque Ce	PzD	B	60	2060	123628		
Bosque Ce	SgD	D	79	529	41766		
Bosque Ce	SgF	D	79	94645	7476989		
Bosque Ce	FrB	D	79	37	2895		
Bosque Ce	DeD	D	79	3269	258218		
Bosque Ce	JcC	D	79	18870	1490735		
Bosque Ce	PzD	B	60	7778	466666		
Bosque Ce	PzD	B	60	7365	441880		
Bosque Ce	SgD	D	79	9847	777933		
Bosque Ce	DeF	D	79	4911	387974		
Bosque Ce	PzC	B	60	10150	608988		
Pasto y A	Ag	D	84	165822	13929086		
Pasto y A	FrA	D	84	86031	7226566		
Pasto y A	JcB	D	84	267	22404		
Pasto y A	PzC	B	69	30176	2082164		
Pasto y A	PzB	B	69	74295	5126333		
Pasto y A	FrB	D	84	38829	3261658		
Pasto y A	PzC	B	69	69694	4808866		
Pasto y A	SgF	D	84	21	1732		
Pasto y A	FrB	D	84	19984	1678697		
Pasto y A	JcB	D	84	34041	2859464		
Pasto y A	FvB	D	84	77796	6534856		
Pasto y A	AcD	B	69	10312	711527		
Pasto y A	PzD	B	69	2400	165575		
Pasto y A	PzD	B	69	27721	1912758		
Pasto y A	PzC	B	69	7336	506165		
Pasto y A	JcC	D	84	7630	640933		
Pasto y A	SgD	D	84	3695	310395		
Pasto y A	FrB	D	84	10936	918602		
Urbano	FvA	D	92	12035	1107262		
Urbano	JaC2	D	92	6831	628475		
Urbano	DeD	D	92	383	35237		
Urbano	FrA	D	92	17528	1612597		
Urbano	FrA	D	92	552	50747		
Urbano	JaB	D	92	8714	801687		
Urbano	DeD	D	92	25443	2340740		
Urbano	DeC	D	92	4253	391245		
Urbano	JaC2	D	92	8751	805129		
Urbano	FrA	D	92	6048	556371		
Urbano	FrA	D	92	29	2684		
Urbano	JaB	D	92	40276	3705413		
Urbano	DeD	D	92	72375	6658497		
Urbano	DeF	D	92	100812	9274705		
Urbano	Ca	D	92	15	1355		
Bosque Ce	JaC2	D	79	4387	346609		
Bosque Ce	DeD	D	79	178	14032		
Bosque Ce	DeF	D	79	20654	1631677		
Bosque Ce	JaC2	D	79	10768	850707		
Bosque Ce	JaB	D	79	12545	991061		
Bosque Ce	DeD	D	79	904	71443		

Bosque Ce	JaB	D	79	26	2040
Bosque Ce	SgF	D	79	53110	4195692
Bosque Ce	DeD	D	79	231	18265
Bosque Ce	DeF	D	79	52579	4153733
Pasto y A	JaC2	D	84	2270	190643
Pasto y A	DeF	D	84	342872	28801288
Pasto y A	DeD	D	84	66842	5614762
Pasto y A	DeF	D	84	6810	572066
Pasto y A	JaC2	D	84	99362	8346393
Pasto y A	JaB	D	84	20184	1695427
Pasto y A	DeD	D	84	31895	2679213
Pasto y A	JaB	D	84	27478	2308189
Pasto y A	JaC	D	84	30018	2521474
Pasto y A	FrB	D	84	35792	3006568
Pasto y A	DeD	D	84	28942	2431161
Pasto y A	JaC	D	84	102932	8646262
Pasto y A	DeF	D	84	26180	2199096
Pasto y A	FrB	D	84	98856	8303943
Pasto y A	DeF	D	84	16791	1410479
Pasto y A	JaB	D	84	6236	523788
Pasto y A	JaD2	D	84	19610	1647277
Pasto y A	DeF	D	84	154322	12963032
Pasto y A	JaC2	D	84	124348	10445243
Pasto y A	DeF	D	84	211990	17807124
Pasto y A	FvA	D	84	94905	7971986
Pasto y A	FrA	D	84	26332	2211852
Pasto y A	JaC2	D	84	27845	2338949
Pasto y A	DeD	D	84	75569	6347769
Pasto y A	FrA	D	84	278108	23361033
Pasto y A	Ag	D	84	1980211	########
Pasto y A	JaB	D	84	34760	2919854
Pasto y A	DeC	D	84	7096	596057
Pasto y A	FrA	D	84	16393	1377053
Pasto y A	Fe	D	84	482373	40519368
Pasto y A	JaB	D	84	23039	1935250
Pasto y A	Ca	D	84	1424	119657
Pasto y A	Sa	B	69	28111	1939632
Pasto y A	Ca	D	84	116324	9771240
Pasto y A	FvA	D	84	167	14043
Pasto y A	Ag	D	84	16504	1386369
Pasto y A	Ag	D	84	77362	6498449
Pasto y A	Gc	D	84	134408	11290233
Pasto y A	FrA	D	84	68781	5777624

Watershed H

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Bosque Ce	JcB	D	79	1227	96900.93	**CN**	**83.4**
Bosque Ce	JcC	D	79	7608	601024.9		
Bosque Ce	SgF	D	79	218716	17278571		
Bosque Ce	JaC	D	79	6953	549277.3		
Bosque Ce	PzD	B	60	22944	1376648		
Bosque Ce	DeD	D	79	32683	2581982		
Bosque Ce	SgD	D	79	305	24081.24		
Bosque Ce	DeF	D	79	13103	1035171		
Bosque Ab	JcB	D	82	2932	240443.2		
Bosque Ab	JcC	D	82	22971	1883661		
Bosque Ab	JaC	D	82	9386	769618.1		
Bosque Ab	DeD	D	82	813	66706.06		
Pasto y A	Ag	D	84	65432	5496306		
Pasto y A	FrA	D	84	70330	5907744		
Pasto y A	JcB	D	84	132621	11140199		
Pasto y A	JcC	D	84	105469	8859359		
Pasto y A	PzC	B	69	22251	1535321		
Pasto y A	PzD	B	69	9157	631861		
Urbano	SgF	D	92	431	39645.82		
Urbano	JcB	D	92	10144	933210.4		
Urbano	PzB	B	85	136	11579.69		
Bosque Ce	JcB	D	79	37253	2942951		
Bosque Ce	PzD	B	60	4073	244360.3		
Bosque Ce	JcC	D	79	5035	397788.2		
Bosque Ce	SgF	D	79	285649	22566302		
Bosque Ce	JaC	D	79	12657	999920.1		
Bosque Ce	SgD	D	79	22736	1796158		
Bosque Ce	DeD	D	79	18413	1454654		
Bosque Ce	DeD	D	79	22324	1763616		
Bosque Ce	DeF	D	79	135	10680.49		
Urbano	SgF	D	92	5143	473195.9		
Pasto y A	Ag	D	84	44463	3734922		
Pasto y A	PzC	B	69	53	3668.152		
Pasto y A	PzC	B	69	3915	270111.2		
Pasto y A	SgF	D	84	63825	5361289		
Pasto y A	SgD	D	84	10297	864938		
Pasto y A	SgD	D	84	122	10236.11		
Pasto y A	JcB	D	84	36290	3048396		
Pasto y A	FrB	D	84	85240	7160118		
Pasto y A	PzB	B	69	111027	7660851		
Pasto y A	FrA	D	84	123616	10383781		
Pasto y A	JcC	D	84	8723	732700.5		
Pasto y A	PzC	B	69	103407	7135075		
Pasto y A	JcB	D	84	132575	11136340		
Pasto y A	PzD	B	69	73033	5039309		
Pasto y A	JcC	D	84	34705	2915251		
Pasto y A	SgF	D	84	305470	25659497		
Pasto y A	SgF	D	84	71556	6010714		
Pasto y A	JaC	D	84	60107	5048986		
Pasto y A	SgD	D	84	48434	4068440		
Pasto y A	DeD	D	84	75	6289.334		
Pasto y A	DeD	D	84	46706	3923268		
Pasto y A	SgD	D	84	4257	357620.1		
Agua	Ag	D	100	193	19298.55		
Agua	Gc	D	100	8046	804621.9		
Urbano	Sc	B	85	1126	95696.66		
Urbano	FrB	D	92	44412	4085947		
Urbano	DeD	D	92	40	3674.79		
Urbano	FrA	D	92	3747	344730.6		
Urbano	Sn	D	92	143	13145.34		
Urbano	Ca	D	92	846	77801.46		
Urbano	Ca	D	92	6096	560860.6		
Urbano	JcC	D	92	14140	1300880		
Urbano	SNS	D	92	317281	29189857		
Urbano	FvA	D	92	8619	792919.9		
Urbano	SgF	D	92	4216	387838.9		
Urbano	DeF	D	92	14912	1371922		
Urbano	FrB	D	92	116	10665.84		
Urbano	JcC	D	92	134	12334.79		
Bosque Ce	DeF	D	79	262824	20763098		
Bosque Ce	JaC2	D	79	11337	895630.7		
Bosque Ce	DeD	D	79	10269	811254.5		

Bosque Ce	DeD	D	79	10818	854642.5
Bosque Ce	SgF	D	79	46847	3700910
Bosque Ce	Sa	B	60	6698	401859.6
Bosque Ce	SgD	D	79	4747	375043
Bosque Ce	SgF	D	79	42577	3363572
Bosque Ce	FrB	D	79	146	11511.22
Urbano	DeF	D	92	47326	4353998
Urbano	DeD	D	92	8593	790575.5
Urbano	JaC2	D	92	6257	575678.2
Urbano	DeD	D	92	2746	252665.1
Urbano	JaD2	D	92	58	5312.045
Pasto y A	DeF	D	84	705646	59274271
Pasto y A	DeD	D	84	10980	922316.2
Pasto y A	JaC2	D	84	19726	1656967
Pasto y A	DeD	D	84	49007	4116554
Pasto y A	JaC2	D	84	10626	892570.5
Pasto y A	DeD	D	84	10943	919202.6
Pasto y A	Sc	B	69	12712	877126.2
Pasto y A	JaC	D	84	41290	3468386
Pasto y A	DeD	D	84	3343	280789.3
Pasto y A	JaD2	D	84	991	83212.17
Pasto y A	DeD	D	84	3760	315866
Pasto y A	FrB	D	84	29111	2445361
Pasto y A	SgF	D	84	21365	1794695
Pasto y A	DeF	D	84	14901	1251710
Pasto y A	SgD	D	84	8946	751475.3
Pasto y A	SgF	D	84	2847	239118.6
Pasto y A	Lr	D	84	4159	349336.9
Pasto y A	DeF	D	84	19956	1676300
Pasto y A	DeD	D	84	23030	1934479
Pasto y A	JaC	D	84	8016	673353
Pasto y A	JaC2	D	84	2258	189645.7
Pasto y A	JaC2	D	84	15375	1291473
Pasto y A	DeD	D	84	12521	1051794
Pasto y A	FrB	D	84	125872	10573238
Pasto y A	JaD2	D	84	11776	989153.4
Pasto y A	JaB	D	84	31842	2674701
Pasto y A	JaB	D	84	44420	3731298
Pasto y A	JcB	D	84	24518	2059520
Pasto y A	JcC	D	84	46806	3931662
Pasto y A	FrA	D	84	1885	158298
Pasto y A	DeD	D	84	7778	653364.1
Pasto y A	DeC	D	84	19026	1598206
Pasto y A	FrB	D	84	45756	3843515
Pasto y A	JcC	D	84	21278	1787376
Pasto y A	JaD2	D	84	31753	2667258
Pasto y A	DeD	D	84	7675	644662.5
Pasto y A	DeF	D	84	433236	36391848
Pasto y A	FrA	D	84	78034	6554818
Pasto y A	Sn	D	84	14041	1179404
Pasto y A	Sa	B	69	8855	610965.8
Pasto y A	Ca	D	84	199861	16788356
Pasto y A	Ca	D	84	184898	15531452
Pasto y A	DeD	D	84	210705	17699204
Pasto y A	JcC	D	84	3419	287221.2
Pasto y A	SNS	D	84	16044	1347670
Pasto y A	FvA	D	84	50436	4236634
Pasto y A	DeD	D	84	109966	9237145
Pasto y A	DeF	D	84	5642	473957.4
Pasto y A	DeC	D	84	149952	12595947
Pasto y A	JaB	D	84	27966	2349183
Pasto y A	DeF	D	84	75530	6344502
Pasto y A	DeD	D	84	14634	1229281
Pasto y A	Ag	D	84	4199037	3.53E+08
Pasto y A	FvB	D	84	51085	4291145
Pasto y A	Sc	B	69	158308	10923253
Pasto y A	JaB	D	84	6358	534036.5
Pasto y A	FrB	D	84	158033	13274735
Pasto y A	Fe	D	84	60321	5066930
Pasto y A	DeF	D	84	50015	4201283
Pasto y A	Ag	D	84	19376	1627605
Pasto y A	Fe	D	84	298707	25091355
Pasto y A	FvA	D	84	76084	6391089
Pasto y A	JaB	D	84	22407	1882186

Pasto y A	FrA	D	84	5151	432660.8
Pasto y A	Fe	D	84	7622	640257.7
Pasto y A	Ca	D	84	27247	2288732
Pasto y A	FrA	D	84	63315	5318470
Pasto y A	Gc	D	84	585831	49209833
Pasto y A	FvA	D	84	83178	6986943
Pasto y A	Gc	D	84	1036	87062.36
Pasto y A	Ca	D	84	93184	7827440
Pasto y A	FrA	D	84	21583	1813008
Pasto y A	FrB	D	84	13066	1097574
Pasto y A	PzC	B	69	26874	1854304
Pasto y A	PzC	B	69	35578	2454848
Pasto y A	SgF	D	84	2724	228788.6
Pasto y A	SgF	D	84	30939	2598848
Pasto y A	PzB	B	69	595	41072.74
Pasto y A	SgD	D	84	5276	443175.1
Pasto y A	SgD	D	84	8980	754328.7
Pasto y A	FrB	D	84	16757	1407566
Pasto y A	PzB	B	69	672	46369.55
Pasto y A	DeF	D	84	141157	11857199
Pasto y A	Lo	D	84	21472	1803622
Pasto y A	Lo	D	84	1689	141892.5
Bosque Ce	DeF	D	79	25993	2053411
Bosque Ce	Lo	D	79	5375	424594
Bosque Ce	Lo	D	79	761	60153.03
Bosque Ce	DeF	D	79	1970	155653.8
Bosque Ce	JaC2	D	79	4700	371326.6
Bosque Ce	DeF	D	79	79678	6294599
Pasto y A	DeF	D	84	287738	24170008
Pasto y A	JaC2	D	84	13116	1101770
Pasto y A	JaC	D	84	74901	6291705
Pasto y A	FrB	D	84	105559	8866964
Pasto y A	JaC	D	84	134470	11295494
Pasto y A	DeF	D	84	17947	1507506
Pasto y A	JaD2	D	84	7903	663819.7
Pasto y A	DeF	D	84	389330	32703760
Pasto y A	DeD	D	84	69269	5818571
Pasto y A	SgF	D	84	23251	1953123
Pasto y A	JaD2	D	84	54606	4586891
Pasto y A	DeC	D	84	6073	510148.4
Pasto y A	DeD	D	84	177046	14871895
Pasto y A	FrA	D	84	1416	118977.7
Pasto y A	DeC	D	84	43209	3629565
Pasto y A	Ag	D	84	2345027	1.97E+08
Pasto y A	DeD	D	84	9989	839091
Pasto y A	DeD	D	84	159775	13421086
Pasto y A	FrA	D	84	2734	229621.3
Pasto y A	Fe	D	84	418857	35183958
Pasto y A	Ca	D	84	6480	544307.7
Pasto y A	Sa	B	69	2454	169333.7
Pasto y A	FvA	D	84	42859	3600194
Pasto y A	Gc	D	84	317734	26689655
Pasto y A	FrA	D	84	56	4731.788
Pasto y A	DeF	D	84	5831	489832.1
Pasto y A	Lo	D	84	333	27982.08
Pasto y A	DeF	D	84	0	12.82672
Pasto y A	DeF	D	84	0	12.82672

Watershed I

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A	CN
Bosque Ce	SgF	D	79	32134	2538553	**83.4**
Bosque Ce	SgD	D	79	23030	1819374	
Bosque Ce	SgD	D	79	8880	701520.5	
Bosque Ce	SgF	D	79	96117	7593223	
Bosque Ce	PzC	B	60	6421	385286.6	
Urbano	FrB	D	92	94	8670.643	
Urbano	JcB	D	92	12054	1109009	
Bosque Ce	DeF	D	79	24230	1914189	
Bosque Ce	SgF	D	79	87404	6904951	
Bosque Ce	FvB	D	79	633	50017.52	
Bosque Ce	SgD	D	79	119	9370.296	
Urbano	JcB	D	92	11175	1028091	
Bosque Ce	FrB	D	79	3	245.2566	
Urbano	FrB	D	92	665	61166.08	
Urbano	PzC	B	85	3548	301560.6	
Urbano	SgF	D	92	6184	568942.2	
Urbano	FrB	D	92	6472	595413.1	
Urbano	PzB	B	85	1488	126469.4	
Urbano	JcB	D	92	9616	884650	
Urbano	JcC	D	92	3395	312368	
Pasto y A	FvA	D	84	3653	306826.4	
Pasto y A	FrB	D	84	14485	1216737	
Pasto y A	FrB	D	84	102018	8569507	
Pasto y A	PzC	B	69	9635	664843.9	
Pasto y A	PzB	B	69	3000	207020.3	
Pasto y A	SgF	D	84	22659	1903359	
Pasto y A	PzC	B	69	3821	263622.6	
Pasto y A	JcB	D	84	544380	45727895	
Pasto y A	PzB	B	69	171	11769.86	
Pasto y A	SgD	D	84	23408	1966273	
Pasto y A	SgF	D	84	4747	398761.5	
Pasto y A	DeC	D	84	9553	802410.3	
Pasto y A	JcC	D	84	77499	6509914	
Pasto y A	DeF	D	84	71614	6015542	
Pasto y A	DeD	D	84	5062	425226.4	
Pasto y A	GPQ	D	84	4571	383924.3	
Pasto y A	SgF	D	84	150750	12662959	
Pasto y A	DeD	D	84	10039	843278.5	
Pasto y A	FvB	D	84	46663	3919676	
Pasto y A	SgF	D	84	65065	5465465	
Pasto y A	JcC	D	84	27790	2334337	
Pasto y A	PzC	B	69	46109	3181555	
Pasto y A	DeC	D	84	7148	600428.4	
Pasto y A	JcC	D	84	13787	1158080	
Pasto y A	SgD	D	84	22171	1862333	
Pasto y A	SgD	D	84	39140	3287744	
Pasto y A	SgD	D	84	26443	2221238	
Pasto y A	PzC	B	69	765	52789.36	
Pasto y A	FvB	D	84	1	125.025	
Urbano	FrA	D	92	3325	305889.5	
Urbano	JaB	D	92	6348	584018.8	
Urbano	JaC2	D	92	247	22727.38	
Urbano	FrA	D	92	101	9277.057	
Urbano	JaB	D	92	13929	1281476	
Urbano	SgF	D	92	693	63768.62	
Urbano	DeF	D	92	2900	266810.3	
Urbano	FvB	D	92	2318	213252.3	
Urbano	DeD	D	92	1035	95174.06	
Urbano	DeF	D	92	7355	676639	
Urbano	DeD	D	92	14500	1333976	
Urbano	FvB	D	92	3	309.48	
Urbano	JaD2	D	92	76	7027.517	
Urbano	DeF	D	92	39587	3641998	
Urbano	JaC2	D	92	851	78266.42	
Urbano	DeD	D	92	9811	902568	
Urbano	JaD2	D	92	6854	630596.4	
Urbano	JaB	D	92	722	66400.17	
Urbano	DeF	D	92	25	2260.503	
Pasto y A	DeF	D	84	153864	12924552	
Pasto y A	DeD	D	84	10100	848393.5	
Pasto y A	DeF	D	84	84289	7080257	
Pasto y A	FvB	D	84	12703	1067024	

Pasto y A	JaD2	D	84	5139	431670.8
Pasto y A	JaC2	D	84	14200	1192824
Pasto y A	DeD	D	84	35685	2997522
Pasto y A	DeD	D	84	72790	6114340
Pasto y A	JaC2	D	84	30617	2571830
Pasto y A	DeD	D	84	10852	911553.8
Pasto y A	DeC	D	84	24578	2064583
Pasto y A	DeF	D	84	5728	481113.3
Pasto y A	JaC2	D	84	43231	3631411
Pasto y A	JaB	D	84	23770	1996710
Pasto y A	Sc	B	69	82994	5726595
Pasto y A	DeD	D	84	15570	1307856
Pasto y A	FrA	D	84	41358	3474080
Pasto y A	JaD2	D	84	32451	2725872
Pasto y A	DeD	D	84	7707	647419.8
Pasto y A	JaC2	D	84	5769	484606.6
Pasto y A	JaB	D	84	44347	3725184
Pasto y A	DeC	D	84	8055	676655.6
Pasto y A	SgF	D	84	6886	578429.1
Pasto y A	FrB	D	84	499	41925.98
Pasto y A	DeF	D	84	13484	1132693
Pasto y A	Lr	D	84	4849	407334.4
Pasto y A	DeD	D	84	7355	617821.1
Pasto y A	Lr	D	84	9359	786118.5
Pasto y A	JaB	D	84	4268	358509
Pasto y A	JaC2	D	84	11458	962498.7
Pasto y A	DeD	D	84	485	40709.05
Pasto y A	DeF	D	84	29934	2514482
Pasto y A	JaC2	D	84	26926	2261760
Pasto y A	DeD	D	84	4359	366148.5
Pasto y A	FrA	D	84	13687	1149689
Pasto y A	JaC	D	84	958	80462.54
Pasto y A	DeC	D	84	1307	109812.4
Pasto y A	FrA	D	84	19868	1668878
Pasto y A	JaB	D	84	243252	20433177
Pasto y A	DeD	D	84	311	26159.51
Pasto y A	FrA	D	84	160338	13468403
Pasto y A	FrA	D	84	3873	325337.7
Pasto y A	Ca	D	84	781012	65605013
Pasto y A	FrA	D	84	17630	1480888
Pasto y A	Sn	D	84	17896	1503297
Pasto y A	FvA	D	84	21913	1840699
Pasto y A	FrB	D	84	123663	10387667
Pasto y A	DeF	D	84	9131	766982.9
Pasto y A	JaC2	D	84	18664	1567794
Pasto y A	DeF	D	84	3418	287074.7
Pasto y A	SgF	D	84	36332	3051882
Pasto y A	DeD	D	84	4864	408575.9
Pasto y A	JaC2	D	84	5405	454016.4
Pasto y A	DeD	D	84	4365	366625.5
Pasto y A	SgD	D	84	14140	1187778
Pasto y A	PzB	B	69	20048	1383284
Pasto y A	JaC	D	84	11916	1000964
Pasto y A	JaB	D	84	6114	513597.4
Pasto y A	SgD	D	84	14384	1208243
Pasto y A	SgF	D	84	12827	1077498
Pasto y A	FrB	D	84	11848	995216.8
Pasto y A	JaB	D	84	28244	2372516
Pasto y A	SgD	D	84	6825	573287.5
Pasto y A	JcC	D	84	8238	692012.2
Pasto y A	SgF	D	84	4187	351683.9
Pasto y A	SgD	D	84	14494	1217520
Pasto y A	SgD	D	84	21657	1819206
Pasto y A	Ag	D	84	3668411	3.08E+08
Pasto y A	SgD	D	84	4326	363390.1
Pasto y A	PzC	B	69	18092	1248356
Pasto y A	Fe	D	84	30020	2521674
Pasto y A	SgD	D	84	7245	608603.3
Pasto y A	FrA	D	84	14008	1176670
Pasto y A	Fe	D	84	5497	461758.1
Pasto y A	SgD	D	84	8199	688723.3
Pasto y A	PzB	B	69	9776	674565.3
Pasto y A	FrA	D	84	444534	37340888
Pasto y A	Gc	D	84	103683	8709405

Pasto y A	FrA	D	84	2328	195557.5
Pasto y A	FrA	D	84	243	20392.32
Pasto y A	FvA	D	84	25355	2129817
Pasto y A	Ca	D	84	174013	14617066
Pasto y A	W	D	84	1993	167393.1
Pasto y A	FrB	D	84	332791	27954470
Pasto y A	Ca	D	84	7173	602514.1
Pasto y A	FrA	D	84	258865	21744624
Pasto y A	PzC	B	69	33573	2316547
Pasto y A	FrB	D	84	167794	14094682
Pasto y A	PzC	B	69	213	14678.75
Pasto y A	SgF	D	84	2653	222854.1
Pasto y A	PzB	B	69	20194	1393366
Pasto y A	PzB	B	69	6712	463150.4
Pasto y A	PzC	B	69	15464	1067002
Pasto y A	JcB	D	84	18987	1594869
Pasto y A	SgD	D	84	128	10760.34
Pasto y A	DeF	D	84	68404	5745965
Pasto y A	Lo	D	84	6553	550419.4
Pasto y A	Lo	D	84	5431	456189.2
Pasto y A	DeD	D	84	6591	553674.3
Bosque Ce	DeF	D	79	164940	13030285
Bosque Ce	Lo	D	79	216564	17108538
Bosque Ce	Lo	D	79	17925	1416085
Bosque Ce	DeD	D	79	2639	208464.5

Watershed J

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A		
Urbano	JaB	D	92	4810	442524.1	**CN**	**83.6**
Urbano	DeD	D	92	24	2174.533		
Bosque Ce	PzD	B	60	24832	1489902		
Bosque Ce	SgF	D	79	25683	2028936		
Bosque Ce	SgF	D	79	22875	1807150		
Bosque Ce	SgD	D	79	8557	676032.3		
Bosque Ce	SgF	D	79	11581	914928.9		
Bosque Ce	JaD2	D	79	389	30746.17		
Bosque Ce	SgD	D	79	12371	977312.4		
Bosque Ce	JaC	D	79	136	10772.06		
Bosque Ce	SgF	D	79	334	26357.64		
Pasto y A	FvA	D	84	104667	8792052		
Pasto y A	JaC	D	84	240080	20166713		
Pasto y A	JaB	D	84	204457	17174349		
Pasto y A	JcB	D	84	65317	5486649		
Pasto y A	JaC	D	84	21011	1764922		
Pasto y A	DeD	D	84	11390	956746.1		
Pasto y A	DeD	D	84	147172	12362459		
Pasto y A	JaB	D	84	15132	1271048		
Pasto y A	JaC	D	84	12130	1018950		
Pasto y A	SgD	D	84	1776	149207.7		
Pasto y A	SgF	D	84	43078	3618542		
Pasto y A	SgF	D	84	4881	410041.8		
Pasto y A	DeC	D	84	2650	222636.9		
Pasto y A	PzC	B	69	32314	2229655		
Pasto y A	SgF	D	84	8342	700716		
Pasto y A	SgF	D	84	60042	5043568		
Pasto y A	DeD	D	84	1787	150129		
Pasto y A	DeD	D	84	143330	12039732		
Pasto y A	PzD	B	69	18496	1276210		
Pasto y A	SgF	D	84	184198	15472598		
Pasto y A	DeD	D	84	54836	4606197		
Pasto y A	PzC	B	69	49910	3443782		
Pasto y A	DeD	D	84	55645	4674168		
Pasto y A	SgF	D	84	30284	2543894		
Pasto y A	SgF	D	84	5324	447199.2		
Pasto y A	JaC	D	84	9559	802975.7		
Pasto y A	SgF	D	84	12727	1069089		
Pasto y A	JaB	D	84	108874	9145400		
Pasto y A	SgD	D	84	4139	347708.4		
Pasto y A	JaC2	D	84	15208	1277501		
Pasto y A	JaC2	D	84	42882	3602068		
Pasto y A	JaC	D	84	28846	2423035		
Pasto y A	JaD2	D	84	43224	3630855		
Pasto y A	JaC	D	84	63088	5299422		
Pasto y A	DeD	D	84	20451	1717846		
Pasto y A	JaC2	D	84	96873	8137320		
Pasto y A	PzD	B	69	33761	2329529		
Pasto y A	DeD	D	84	279478	23476180		
Pasto y A	JcB	D	84	15291	1284477		
Pasto y A	JaC	D	84	20838	1750425		
Pasto y A	JaC	D	84	6658	559231.8		
Pasto y A	JaC2	D	84	24247	2036758		
Pasto y A	DeD	D	84	14060	1181071		
Pasto y A	DeF	D	84	1290	108371.6		
Pasto y A	DeD	D	84	11679	981078		
Pasto y A	JaB	D	84	167	13992.96		
Pasto y A	DeF	D	84	15916	1336952		
Pasto y A	JaC	D	84	291	24429.82		
Pasto y A	JaB	D	84	2483	208551.9		
Pasto y A	SgF	D	84	3858	324042.8		
Agua	FvA	D	100	23336	2333627		
Agua	JcB	D	100	3689	368863.7		
Urbano	JaC	D	92	12907	1187417		
Urbano	DeD	D	92	2964	272708.6		
Urbano	FvA	D	92	8003	736243.9		
Urbano	FrA	D	92	7512	691079.4		
Urbano	JaB	D	92	4696	432001		
Urbano	JcB	D	92	5284	486129		
Urbano	JaC	D	92	4946	455023.6		
Urbano	FrA	D	92	5320	489401.3		
Urbano	FvA	D	92	5330	490374.3		

Urbano	JcB	D	92	76	6991.465
Urbano	FvA	D	92	12828	1180199
Bosque Ce	FrB	D	79	26212	2070780
Bosque Ce	Ca	D	79	3406	269065
Bosque Ce	FrA	D	79	16935	1337886
Bosque Ce	JaD2	D	79	13802	1090357
Bosque Ce	JaD2	D	79	27618	2181803
Urbano	FrB	D	92	23695	2179901
Urbano	JaB	D	92	1550	142628.1
Urbano	DeC	D	92	76	6961.311
Urbano	JaC	D	92	16584	1525753
Urbano	DeD	D	92	2368	217900.9
Urbano	DeF	D	92	20208	1859178
Urbano	JaC2	D	92	720	66272.1
Urbano	DeF	D	92	8394	772247.4
Urbano	DeC	D	92	813	74833.47
Urbano	JaC	D	92	64	5921.758
Urbano	DeD	D	92	899	82684.25
Bosque Ce	FrB	D	79	22914	1810204
Bosque Ce	Sn	D	79	653	51590.64
Bosque Ce	JaC	D	79	3	230.3638
Bosque Ce	FrB	D	79	6916	546400
Bosque Ce	SgF	D	79	99660	7873113
Bosque Ce	SgD	D	79	34493	2724953
Bosque Ce	JaC	D	79	5282	417275.5
Bosque Ce	SgF	D	79	15260	1205539
Bosque Ce	JaC	D	79	17433	1377174
Bosque Ce	PcB	D	79	29979	2368362
Bosque Ce	JaD2	D	79	9522	752207
Bosque Ce	JaB	D	79	2180	172212.4
Urbano	DeD	D	92	2531	232821
Urbano	JaB	D	92	946	87036.57
Urbano	Sa	B	85	1835	155933.6
Urbano	JaC	D	92	4046	372244.3
Urbano	JaC	D	92	1882	173099.9
Urbano	JaD2	D	92	4137	380645.7
Urbano	JaC2	D	92	47	4281.213
Urbano	DeD	D	92	7402	680954
Urbano	FvA	D	92	16211	1491405
Urbano	FrB	D	92	10016	921507.6
Urbano	JaD2	D	92	3363	309386.9
Urbano	JaB	D	92	6894	634293.5
Urbano	JaB	D	92	600	55201.38
Urbano	Sa	B	85	2682	227988.6
Urbano	JaC2	D	92	15257	1403685
Urbano	DeD	D	92	6	579.9134
Urbano	DeF	D	92	20877	1920641
Urbano	FrA	D	92	4419	406523.1
Urbano	JaB	D	92	13777	1267458
Urbano	JaC2	D	92	1949	179284
Urbano	Sa	B	85	2312	196516.9
Urbano	JcB	D	92	813	74834.93
Urbano	JaB	D	92	771	70923.85
Urbano	JaC2	D	92	1919	176521.6
Urbano	FrA	D	92	2360	217134.6
Urbano	DeD	D	92	3043	279981.4
Urbano	DeF	D	92	5371	494089.7
Urbano	JaD2	D	92	199	18273.56
Urbano	DeD	D	92	3197	294112.9
Urbano	DeF	D	92	1999	183908.9
Urbano	JaB	D	92	982	90374.57
Urbano	JaC	D	92	343	31526.49
Urbano	Sc	B	85	7087	602374.8
Urbano	DeC	D	92	13258	1219710
Urbano	DeF	D	92	714	65651.85
Urbano	JaC	D	92	18663	1717002
Urbano	DeC	D	92	19159	1762665
Urbano	JaC	D	92	130181	11976694
Urbano	DeC	D	92	299	27535.47
Urbano	DeD	D	92	463	42600.29
Urbano	DeD	D	92	43205	3974859
Urbano	FrA	D	92	68775	6327316
Urbano	Ca	D	92	3186	293149
Urbano	FrA	D	92	19359	1781004

Urbano	DeC	D	92	8103	745498.8
Urbano	JaC	D	92	118	10866.15
Urbano	Sa	B	85	5918	503060.6
Urbano	JaC	D	92	6359	585071.8
Urbano	DeC	D	92	645	59338.4
Urbano	JaC	D	92	6809	626429.5
Urbano	DeD	D	92	2171	199708.9
Urbano	DeC	D	92	10379	954898.4
Urbano	DeF	D	92	1696	155986.5
Urbano	DeD	D	92	21061	1937598
Urbano	DeC	D	92	11537	1061378
Urbano	DeF	D	92	20770	1910874
Urbano	DeD	D	92	106	9794.647
Urbano	DeF	D	92	23689	2179427
Urbano	DeD	D	92	618	56813.26
Urbano	DeC	D	92	11461	1054398
Bosque Ce	JaC	D	79	3046	240665
Bosque Ce	DeD	D	79	29917	2363431
Bosque Ce	DeF	D	79	665	52544.06
Bosque Ce	Lo	D	79	235637	18615356
Bosque Ce	DeD	D	79	23292	1840075
Bosque Ce	DeF	D	79	10920	862642.5
Bosque Ce	DeF	D	79	4608	364039.3
Bosque Ce	DeD	D	79	31858	2516806
Bosque Ce	DeC	D	79	2131	168373.6
Bosque Ce	DeF	D	79	2870	226708
Bosque Ce	JaC	D	79	1179	93165.85
Urbano	DeF	D	92	17458	1606129
Urbano	MxF2	D	92	2752	253180.8
Urbano	Lo	D	92	1222	112466.2
Pasto y A	DeD	D	84	138	11632.45
Pasto y A	DeF	D	84	65042	5463535
Pasto y A	DeD	D	84	12280	1031493
Pasto y A	JaD2	D	84	12418	1043138
Pasto y A	DeF	D	84	2592	217748.6
Pasto y A	Lr	D	84	3498	293808.8
Pasto y A	DeF	D	84	27979	2350278
Pasto y A	DeD	D	84	180555	15166607
Pasto y A	JaC	D	84	96808	8131861
Pasto y A	DeD	D	84	34914	2932801
Pasto y A	DeC	D	84	12811	1076131
Pasto y A	JaB	D	84	6289	528239.5
Pasto y A	JaC	D	84	230466	19359170
Pasto y A	DeC	D	84	10028	842389.6
Pasto y A	Sa	B	69	28456	1963460
Pasto y A	DeD	D	84	8639	725712.2
Pasto y A	JaC	D	84	38343	3220810
Pasto y A	DeD	D	84	21594	1813908
Pasto y A	DeD	D	84	7739	650108
Pasto y A	Sc	B	69	30564	2108892
Pasto y A	DeC	D	84	25380	2131937
Pasto y A	JaC	D	84	28950	2431840
Pasto y A	DeD	D	84	26393	2216982
Pasto y A	DeC	D	84	16517	1387453
Pasto y A	DeF	D	84	5210	437665
Pasto y A	FrB	D	84	8163	685732.5
Pasto y A	JaC	D	84	5515	463248.9
Pasto y A	FrA	D	84	196452	16501970
Pasto y A	DeD	D	84	18443	1549181
Pasto y A	FrA	D	84	18962	1592779
Pasto y A	DeF	D	84	21795	1830802
Pasto y A	FrA	D	84	13229	1111264
Pasto y A	FvA	D	84	20803	1747424
Pasto y A	JaD2	D	84	11605	974835.2
Pasto y A	Ca	D	84	24068	2021740
Pasto y A	DeD	D	84	20399	1713556
Pasto y A	DeC	D	84	5162	433627.1
Pasto y A	JaB	D	84	31306	2629731
Pasto y A	FrA	D	84	6822	573066.2
Pasto y A	DeD	D	84	21541	1809474
Pasto y A	DeD	D	84	45054	3784547
Pasto y A	JaC	D	84	1259	105762.2
Pasto y A	DeF	D	84	26989	2267115
Pasto y A	FrA	D	84	27887	2342532

Pasto y A	DeD	D	84	5788	486229.7
Pasto y A	DeD	D	84	103273	8674967
Pasto y A	DeF	D	84	5077	426492.7
Pasto y A	JaB	D	84	20317	1706636
Pasto y A	DeC	D	84	12781	1073606
Pasto y A	JaC2	D	84	64623	5428341
Pasto y A	JaB	D	84	50195	4216352
Pasto y A	FrA	D	84	27695	2326391
Pasto y A	DeC	D	84	19201	1612865
Pasto y A	FrA	D	84	11995	1007597
Pasto y A	Sa	B	69	33427	2306456
Pasto y A	FrB	D	84	37697	3166553
Pasto y A	JaC	D	84	127053	10672476
Pasto y A	SgF	D	84	4154	348930.5
Pasto y A	JaC2	D	84	3325	279309.5
Pasto y A	FrA	D	84	914884	76850235
Pasto y A	JcB	D	84	14146	1188253
Pasto y A	DeD	D	84	42636	3581394
Pasto y A	JaD2	D	84	10168	854094.2
Pasto y A	JaC	D	84	7425	623670.3
Pasto y A	JaC	D	84	58097	4880142
Pasto y A	DeD	D	84	90185	7575499
Pasto y A	DeD	D	84	23759	1995778
Pasto y A	JaB	D	84	18220	1530439
Pasto y A	JaC2	D	84	12248	1028871
Pasto y A	DeC	D	84	1066	89556.29
Pasto y A	Sn	D	84	343312	28838220
Pasto y A	FvA	D	84	25593	2149810
Pasto y A	DeD	D	84	24956	2096301
Pasto y A	DeF	D	84	8695	730369.3
Pasto y A	FrB	D	84	495747	41642713
Pasto y A	SgF	D	84	7664	643743.5
Pasto y A	FrA	D	84	6862	576432.8
Pasto y A	Sn	D	84	39686	3333655
Pasto y A	JaD2	D	84	26632	2237047
Pasto y A	JaD2	D	84	7502	630145.6
Pasto y A	DeD	D	84	17597	1478150
Pasto y A	DeF	D	84	20446	1717438
Pasto y A	JaC	D	84	25348	2129205
Pasto y A	JaD2	D	84	15040	1263361
Pasto y A	FrB	D	84	22149	1860477
Pasto y A	FrB	D	84	45823	3849094
Pasto y A	SgD	D	84	5640	473757.8
Pasto y A	DeD	D	84	1583	133006.8
Pasto y A	JaB	D	84	70759	5943733
Pasto y A	SgF	D	84	3803	319480.3
Pasto y A	JaC	D	84	12558	1054863
Pasto y A	FrA	D	84	79294	6660658
Pasto y A	Sa	B	69	6483	447313.3
Pasto y A	JaB	D	84	11429	960069.1
Pasto y A	JaC	D	84	8827	741477.4
Pasto y A	FrB	D	84	47546	3993825
Pasto y A	DeF	D	84	16061	1349089
Pasto y A	FrA	D	84	83022	6973834
Pasto y A	SgF	D	84	242	20310.98
Pasto y A	DeC	D	84	5771	484764.6
Pasto y A	SgD	D	84	10206	857320.9
Pasto y A	JaB	D	84	6744	566473.2
Pasto y A	JaB	D	84	12064	1013403
Pasto y A	JaC	D	84	38203	3209050
Pasto y A	JaC	D	84	18687	1569676
Pasto y A	DeD	D	84	5332	447915.7
Pasto y A	JaD2	D	84	16458	1382482
Pasto y A	SgD	D	84	8073	678133.4
Pasto y A	JaB	D	84	72214	6066003
Pasto y A	DeD	D	84	7398	621395.2
Pasto y A	Sn	D	84	9592	805710.3
Pasto y A	DeF	D	84	4021	337730.4
Pasto y A	JaC	D	84	9610	807270.4
Pasto y A	FrA	D	84	54676	4592785
Pasto y A	Sn	D	84	100412	8434599
Pasto y A	JaC2	D	84	5911	496548.9
Pasto y A	Ca	D	84	1435120	1.21E+08
Pasto y A	JaC	D	84	37072	3114086

Pasto y A	SgF	D	84	2365	198662.1
Pasto y A	PcB	D	84	5854	491764.9
Pasto y A	FrB	D	84	25676	2156808
Pasto y A	JaD2	D	84	3632	305127.2
Pasto y A	SgD	D	84	13309	1117924
Pasto y A	FrA	D	84	96	8069.33
Pasto y A	Ca	D	84	210132	17651054
Pasto y A	DeD	D	84	9357	785981.3
Pasto y A	JaB	D	84	9024	758006
Pasto y A	JaC	D	84	10966	921131.7
Pasto y A	DeD	D	84	5491	461207.5
Pasto y A	JaD2	D	84	7590	637554.4
Pasto y A	FrB	D	84	71672	6020483
Pasto y A	JaC2	D	84	2740	230123.6
Pasto y A	FrA	D	84	58465	4911044
Pasto y A	DeF	D	84	9532	800706.9
Pasto y A	SgD	D	84	8287	696086.5
Pasto y A	DeC	D	84	4566	383528.9
Pasto y A	JaD2	D	84	5347	449132.2
Pasto y A	Sa	B	69	9424	650258
Pasto y A	PzB	B	69	3335	230091.5
Pasto y A	JaD2	D	84	4067	341639.7
Pasto y A	Sn	D	84	4162	349589.8
Pasto y A	FrB	D	84	15472	1299630
Pasto y A	Ag	D	84	3966441	3.33E+08
Pasto y A	Sn	D	84	106210	8921608
Pasto y A	PaC2	C	79	29078	2297198
Pasto y A	MaD2	C	79	13268	1048153
Pasto y A	FrA	D	84	12372	1039214
Pasto y A	PcB	D	84	14782	1241701
Pasto y A	Sn	D	84	19457	1634380
Pasto y A	Ca	D	84	72233	6067593
Pasto y A	Sn	D	84	16042	1347543
Pasto y A	Sn	D	84	16763	1408123
Pasto y A	FrA	D	84	32966	2769151
Pasto y A	FrA	D	84	39826	3345371
Pasto y A	Gc	D	84	32573	2736139
Pasto y A	FrA	D	84	81428	6839987
Pasto y A	Ca	D	84	121415	10198902
Pasto y A	FvA	D	84	357389	30020692
Pasto y A	FrA	D	84	278511	23394918
Pasto y A	FvB	D	84	3528	296340.9
Pasto y A	FvA	D	84	356497	29945708
Pasto y A	Ca	D	84	59854	5027731
Pasto y A	FrB	D	84	93117	7821839
Pasto y A	JaC	D	84	256064	21509405
Pasto y A	FrB	D	84	8491	713222.1
Pasto y A	JaC2	D	84	24417	2050998
Pasto y A	JaB	D	84	75663	6355696
Pasto y A	JcB	D	84	38267	3214392
Pasto y A	JaC	D	84	64590	5425594
Pasto y A	DeD	D	84	64174	5390592
Pasto y A	DeD	D	84	67882	5702084
Pasto y A	JaB	D	84	4760	399812.4
Pasto y A	JaC	D	84	64	5414.841
Pasto y A	DeF	D	84	362998	30491863
Pasto y A	Lo	D	84	24253	2037278
Pasto y A	DeD	D	84	328849	27623308
Pasto y A	DeF	D	84	61520	5167689
Pasto y A	DeD	D	84	146811	12332090
Pasto y A	DeC	D	84	69196	5812434
Pasto y A	DeC	D	84	113272	9514831
Pasto y A	DeF	D	84	2603	218614.4
Pasto y A	DeD	D	84	72864	6120602
Pasto y A	Lo	D	84	2656	223136.6
Pasto y A	DeC	D	84	14599	1226293
Pasto y A	DeC	D	84	12947	1087559
Pasto y A	Lo	D	84	2896	243228.9
Pasto y A	DeF	D	84	4078	342576.3
Pasto y A	DeD	D	84	824	69237.17
Pasto y A	DeF	D	84	1948	163603.5
Pasto y A	DeC	D	84	36597	3074127
Pasto y A	DeF	D	84	1622	136210.9
Pasto y A	JaC	D	84	6417	539012.4

Pasto y A	JaC	D	84	4581	384843.1
Pasto y A	DeD	D	84	2845	238988.1
Pasto y A	DeD	D	84	7732	649505.3
Bosque Ce	DeF	D	79	3077	243078.6
Bosque Ce	JaD2	D	79	2583	204026.1
Bosque Ce	DeF	D	79	5584	441137
Bosque Ce	Lr	D	79	65387	5165569
Bosque Ce	DeF	D	79	93946	7421754
Bosque Ce	JaD2	D	79	8133	642489.2
Bosque Ce	DeD	D	79	20	1567.003
Bosque Ce	DeD	D	79	2689	212415.5
Bosque Ce	JaB	D	79	105	8276.37
Bosque Ce	MxE2	D	79	18498	1461329
Bosque Ce	HuE	C	73	82402	6015322
Bosque Ce	DeF	D	79	310347	24517377
Bosque Ce	MxF2	D	79	384576	30381470
Bosque Ce	DeD	D	79	9972	787806.7
Bosque Ce	Lo	D	79	338698	26757175
Bosque Ce	AcE	B	60	9159	549525.4
Bosque Ce	DeD	D	79	14375	1135663
Bosque Ce	DeC	D	79	129349	10218560
Bosque Ce	Lo	D	79	176257	13924306
Bosque Ce	DeD	D	79	1141	90149.71
Bosque Ce	DeF	D	79	8787	694160.1
Bosque Ce	DeF	D	79	3229	255078.4
Urbano	DeD	D	92	48	4411.566
Urbano	FrA	D	92	4511	415029.6
Urbano	JaC	D	92	1954	179747.8
Urbano	DeD	D	92	47719	4390163
Urbano	Sn	D	92	45766	4210453
Urbano	FrB	D	92	2737	251833.2
Urbano	JaC	D	92	16826	1548027
Urbano	FrB	D	92	15145	1393299
Urbano	FrA	D	92	2254	207361.5
Urbano	JaB	D	92	8152	750002.5
Urbano	JaB	D	92	1463	134571.6
Urbano	FrB	D	92	75158	6914578
Urbano	JaC	D	92	8661	796847.8
Urbano	FrA	D	92	42242	3886295
Urbano	Ca	D	92	52548	4834407
Urbano	SgD	D	92	54159	4982599
Urbano	PcB	D	92	11742	1080308
Urbano	Ag	D	92	33813	3110841
Urbano	Sn	D	92	13874	1276442
Bosque Ce	JaC	D	79	0	0.758597
Bosque Ce	DeD	D	79	0	0.758597
Bosque Ce	JaC	D	79	0	2.429263
Bosque Ce	JaC	D	79	0	2.429263
Pasto y A	JaC	D	84	0	1.660397
Pasto y A	DeD	D	84	0	1.660397
Pasto y A	DeC	D	84	0	1.699647
Pasto y A	DeD	D	84	0	1.699647
Pasto y A	DeC	D	84	0	21.32544
Pasto y A	DeC	D	84	0	21.32544
Pasto y A	DeD	D	84	0	4.362711
Pasto y A	DeC	D	84	0	4.362711
Pasto y A	DeD	D	84	0	9.681561
Pasto y A	DeD	D	84	0	9.681561
Pasto y A	DeD	D	84	0	28.08506
Pasto y A	DeD	D	84	0	28.08506
Pasto y A	DeD	D	84	0	12.40397
Pasto y A	DeD	D	84	0	12.40397
Pasto y A	DeD	D	84	0	1.607265
Pasto y A	DeC	D	84	0	1.607265
Pasto y A	Sc	B	69	0	10.41132
Pasto y A	DeC	D	84	0	12.67465
Pasto y A	Sc	B	69	0	0.094584
Pasto y A	DeD	D	84	0	0.115145
Pasto y A	DeC	D	84	0	16.0514
Pasto y A	DeC	D	84	0	16.0514
Pasto y A	DeC	D	84	0	4.16702
Pasto y A	JaC	D	84	0	4.16702

Watershed K

Land use	Soil type	Soil group	CN	Area (m^2)	CN*A
Bosque Ce	PzC	B	60	2581	154880
Bosque Ce	PzD	B	60	75162	4509749
Bosque Ce	SgF	D	79	92161	7280727
Pasto y A	JaC	D	84	345725	29040928
Pasto y A	DeD	D	84	43343	3640774
Pasto y A	JaB	D	84	9288	780208.6
Pasto y A	JaC2	D	84	3168	266116
Pasto y A	JaC2	D	84	17905	1504030
Pasto y A	JaC2	D	84	38467	3231206
Pasto y A	SgF	D	84	4717	396216
Pasto y A	JaD2	D	84	14301	1201279
Pasto y A	SgF	D	84	26273	2206961
Pasto y A	DeF	D	84	71985	6046716
Pasto y A	JaC2	D	84	9041	759470.1
Pasto y A	JaD2	D	84	7219	606389.7
Pasto y A	JcB	D	84	119	9997.228
Pasto y A	SgF	D	84	5007	420607.8
Pasto y A	DeD	D	84	13262	1114032
Pasto y A	JaB	D	84	62667	5264007
Pasto y A	DeF	D	84	17724	1488832
Pasto y A	DeD	D	84	8141	683836.1
Pasto y A	DeD	D	84	7204	605134.8
Pasto y A	JaB	D	84	68862	5784438
Pasto y A	SgF	D	84	3380	283943.3
Pasto y A	PzC	B	69	45001	3105064
Pasto y A	DeD	D	84	4759	399735.2
Pasto y A	JaC2	D	84	33396	2805229
Pasto y A	PzD	B	69	22859	1577302
Pasto y A	JaC2	D	84	18721	1572542
Pasto y A	JaC2	D	84	13486	1132849
Urbano	Ft	D	92	32	2943.288
Urbano	FrA	D	92	146796	13505230
Urbano	FvA	D	92	30414	2798074
Urbano	FvA	D	92	4676	430157
Agua	Ag	D	100	6472	647150.6
Urbano	Ag	D	92	9443	868789.8
Urbano	Ag	D	92	21157	1946431
Agua	FrA	D	100	3936	393600.1
Agua	Sc	B	100	1360	136013
Agua	Sn	D	100	1858	185829.4
Agua	FrA	D	100	3708	370822.1
Agua	Sc	B	100	1512	151223.8
Urbano	Ca	D	92	1719	158155.2
Urbano	FrA	D	92	35055	3225049
Urbano	Sc	B	85	91	7726.889
Bosque Ce	FrA	D	79	38888	3072156
Bosque Ce	FrA	D	79	23797	1879989
Urbano	Sn	D	92	1433	131798.2
Urbano	JaC	D	92	1655	152289.3
Urbano	SgD	D	92	1715	157812.2
Urbano	FrA	D	92	11197	1030099
Urbano	JaB	D	92	2415	222200.4
Urbano	FrA	D	92	7220	664242.2
Urbano	SgF	D	92	1178	108380.1
Urbano	Ca	D	92	3531	324863.7
Urbano	JaC	D	92	13280	1221744
Suelo sin	JaC	D	82	4917	403155.7
Suelo sin	JaB	D	82	2757	226043.9
Suelo sin	Sn	D	82	3468	284404.1
Suelo sin	SgD	D	82	2754	225848.6
Bosque Ab	JaC	D	82	7306	599096.9
Bosque Ab	FrA	D	82	14028	1150320
Bosque Ab	FrB	D	82	3761	308416.2
Bosque Ab	JaB	D	82	21730	1781873
Bosque Ab	Ca	D	82	40490	3320172
Bosque Ab	Sn	D	82	7695	631008.1
Bosque Ab	SgD	D	82	42129	3454549
Bosque Ab	FrA	D	82	6514	534186.6
Bosque Ab	FrB	D	82	9598	787017.7
Bosque Ab	FrB	D	82	4240	347676.5
Urbano	JaC	D	92	9656	888388.3
Urbano	SgF	D	92	4662	428943

CN **84**

Urbano	FrA	D	92	25	2318.239
Urbano	JaD2	D	92	14633	1346194
Urbano	FrB	D	92	4330	398314.9
Urbano	SgF	D	92	248	22798.85
Bosque Ce	JaC	D	79	91396	7220285
Bosque Ce	DeD	D	79	2906	229557.5
Bosque Ce	Sa	B	60	1320	79209.61
Bosque Ce	DeD	D	79	14581	1151906
Bosque Ce	SgD	D	79	13784	1088960
Bosque Ce	MaE2	C	73	5603	409031.8
Bosque Ce	SgF	D	79	195828	15470425
Bosque Ce	SgD	D	79	4978	393269.1
Bosque Ce	FrA	D	79	25107	1983437
Bosque Ce	SgD	D	79	36212	2860734
Bosque Ce	JaD2	D	79	3242	256144.7
Bosque Ce	FrB	D	79	1930	152483.4
Bosque Ce	FrB	D	79	13869	1095625
Bosque Ce	SgF	D	79	26014	2055145
Bosque Ce	Ca	D	79	8751	691322.6
Bosque Ce	JaC	D	79	5714	451405.1
Bosque Ce	JaC	D	79	27369	2162131
Bosque Ce	DeF	D	79	3848	303989.9
Bosque Ce	SgF	D	79	3499	276396.2
Bosque Ce	Lo	D	79	373404	29498917
Bosque Ce	DeD	D	79	7250	572756.7
Bosque Ce	DeC	D	79	16811	1328089
Bosque Ce	DeD	D	79	26526	2095542
Bosque Ce	DeF	D	79	43602	3444582
Bosque Ce	DeF	D	79	11193	884262.3
Bosque Ce	DeD	D	79	17104	1351248
Bosque Ce	DeF	D	79	17475	1380495
Urbano	Lo	D	92	32229	2965022
Pasto y A	DeF	D	84	9648	810408.4
Pasto y A	DeD	D	84	13058	1096875
Urbano	DeF	D	92	30031	2762812
Urbano	DeD	D	92	6191	569529
Urbano	DeD	D	92	48950	4503359
Pasto y A	JaC	D	84	8593	721830.3
Pasto y A	DeD	D	84	91151	7656718
Pasto y A	JaC	D	84	51954	4364142
Pasto y A	JaD2	D	84	23645	1986203
Pasto y A	DeF	D	84	21395	1797158
Pasto y A	DeF	D	84	2665	223822.4
Pasto y A	DeF	D	84	19711	1655756
Pasto y A	JaC	D	84	10395	873183.3
Pasto y A	FrA	D	84	14302	1201327
Pasto y A	DeC	D	84	11679	981058.9
Pasto y A	JaC	D	84	52239	4388112
Pasto y A	DeF	D	84	13263	1114057
Pasto y A	JaB	D	84	9262	778046.8
Pasto y A	Sa	B	69	1015	70042.63
Pasto y A	DeF	D	84	9049	760137.6
Pasto y A	SgF	D	84	1552	130402.7
Pasto y A	FrA	D	84	202240	16988153
Pasto y A	SgD	D	84	24403	2049854
Pasto y A	JaB	D	84	5871	493128.2
Pasto y A	FrB	D	84	40957	3440398
Pasto y A	SgD	D	84	447	37509.34
Pasto y A	JaB	D	84	18250	1532980
Pasto y A	SgD	D	84	1266	106306.5
Pasto y A	Ca	D	84	19922	1673417
Pasto y A	FrB	D	84	1944	163277
Pasto y A	SgD	D	84	2113	177494.3
Pasto y A	SgF	D	84	2124	178392.5
Pasto y A	Ca	D	84	195063	16385275
Pasto y A	JaC	D	84	24526	2060149
Pasto y A	JaC	D	84	24072	2022078
Pasto y A	FvA	D	84	18689	1569883
Pasto y A	FrA	D	84	1163835	97762119
Pasto y A	FrA	D	84	107205	9005242
Pasto y A	FrB	D	84	27640	2321761
Pasto y A	FrA	D	84	256506	21546495
Pasto y A	Ca	D	84	68592	5761725
Pasto y A	FrB	D	84	9765	820227.8

Pasto y A	JaB	D	84	16491	1385250
Pasto y A	Ca	D	84	118852	9983540
Pasto y A	SgD	D	84	285	23937.52
Pasto y A	Sn	D	84	56746	4766703
Pasto y A	SgD	D	84	2290	192319.7
Pasto y A	PcB	D	84	26035	2186949
Pasto y A	SgD	D	84	13764	1156206
Pasto y A	MaD2	C	79	53324	4212612
Pasto y A	PcC2	D	84	31036	2607051
Pasto y A	Sn	D	84	18656	1567118
Pasto y A	Ag	D	84	3042647	2.56E+08
Pasto y A	Sn	D	84	7246	608661
Pasto y A	Sa	B	69	76898	5305936
Pasto y A	Sn	D	84	50403	4233868
Pasto y A	Sc	B	69	82752	5709865
Pasto y A	Ca	D	84	13626	1144599
Pasto y A	Sn	D	84	166874	14017382
Pasto y A	Sn	D	84	29647	2490327
Pasto y A	Ca	D	84	140912	11836622
Pasto y A	Gc	D	84	357682	30045318
Pasto y A	Ft	D	84	167554	14074528
Pasto y A	FvA	D	84	47709	4007574
Pasto y A	Ft	D	84	205930	17298135
Pasto y A	Ag	D	84	44270	3718669
Pasto y A	FrA	D	84	1072137	90059518
Pasto y A	FvA	D	84	22600	1898427
Pasto y A	Ca	D	84	55130	4630904
Pasto y A	FvA	D	84	111796	9390835
Pasto y A	FvA	D	84	64116	5385729
Pasto y A	FvB	D	84	137772	11572829
Pasto y A	AmC2	C	79	62479	4935867
Pasto y A	FvB	D	84	50420	4235317
Pasto y A	GuF	D	84	82100	6896428
Pasto y A	FrB	D	84	1	57.84872
Pasto y A	DeF	D	84	128216	10770131
Pasto y A	JaC	D	84	221398	18597435
Pasto y A	JaC2	D	84	65128	5470728
Pasto y A	JaC2	D	84	59937	5034683
Pasto y A	GuF	D	84	43348	3641217
Pasto y A	JaC2	D	84	34216	2874142
Pasto y A	GuF	D	84	65951	5539916
Pasto y A	DeD	D	84	4810	404016.1
Pasto y A	JaB	D	84	32313	2714278
Pasto y A	JaC2	D	84	43749	3674883
Pasto y A	JaC2	D	84	15370	1291072
Pasto y A	JaC2	D	84	9206	773278.8
Pasto y A	DeF	D	84	130734	10981615
Pasto y A	Lo	D	84	4680	393159.5
Pasto y A	DeC	D	84	28009	2352795
Pasto y A	Lo	D	84	29	2460.699
Pasto y A	DeF	D	84	16626	1396600
Pasto y A	DeD	D	84	48170	4046240
Pasto y A	DeF	D	84	55553	4666475
Pasto y A	AcE	B	69	12398	855486.6
Pasto y A	DeC	D	84	8353	701693.5
Pasto y A	AcE	B	69	6602	455542.9
Pasto y A	JaC	D	84	131639	11057677
Pasto y A	DeD	D	84	24062	2021204
Pasto y A	DeD	D	84	28407	2386221
Pasto y A	DeC	D	84	5660	475414.5
Pasto y A	DeF	D	84	5708	479498.4
Pasto y A	DeF	D	84	27492	2309368
Bosque Ce	DeF	D	79	92105	7276279
Bosque Ce	DeF	D	79	40293	3183117
Bosque Ce	Lo	D	79	504831	39881651
Bosque Ce	DeD	D	79	31942	2523452
Bosque Ce	Lo	D	79	9484	749259.2
Bosque Ce	DeD	D	79	41649	3290273
Bosque Ce	MwE2	C	73	7849	573002.4
Bosque Ce	DeF	D	79	11926	942171.6
Bosque Ce	DeD	D	79	23740	1875465
Bosque Ce	JaC	D	79	464	36673.37
Pasto y A	DeF	D	84	176600	14834369
Pasto y A	Lo	D	84	57164	4801738

Pasto y A	DeD	D	84	71742	6026343
Pasto y A	DeD	D	84	109394	9189062
Pasto y A	DeF	D	84	357	29947.86
Pasto y A	DeC	D	84	36878	3097776
Urbano	JaC	D	92	5967	548994.9
Urbano	DeD	D	92	93913	8639988
Urbano	JaC	D	92	546425	50271075
Urbano	JaD2	D	92	19227	1768873
Urbano	DeF	D	92	2259	207867.1
Urbano	DeF	D	92	1555	143024.4
Urbano	DeD	D	92	1467	134925.5
Urbano	JaC	D	92	911	83820.66
Urbano	DeF	D	92	9838	905134.5
Urbano	SgF	D	92	128	11797.05
Urbano	JaC	D	92	166518	15319648
Urbano	DeD	D	92	34827	3204090
Urbano	DeF	D	92	32545	2994133
Urbano	JaB	D	92	21956	2019920
Urbano	DeD	D	92	8848	814051.9
Urbano	DeF	D	92	31622	2909246
Urbano	SgD	D	92	5473	503538.7
Urbano	DeD	D	92	28559	2627426
Urbano	FrA	D	92	39582	3641538
Urbano	SNS	D	92	38516	3543428
Urbano	JaB	D	92	49223	4528529
Urbano	SgD	D	92	9331	858461.4
Urbano	JaB	D	92	33043	3039980
Urbano	Sn	D	92	8587	789988.6
Urbano	FrB	D	92	93992	8647288
Urbano	JaD2	D	92	5290	486672
Urbano	SgD	D	92	12838	1181102
Urbano	JaC	D	92	32339	2975207
Urbano	JaC	D	92	4352	400399.9
Urbano	JaD2	D	92	1711	157407
Urbano	FrA	D	92	18767	1726527
Urbano	FrA	D	92	41982	3862379
Urbano	Ca	D	92	8317	765133.5
Urbano	SgD	D	92	409	37618.76
Urbano	Ag	D	92	112002	10304181
Urbano	Sa	B	85	17284	1469145
Urbano	Sn	D	92	30073	2766726
Urbano	DeF	D	92	90454	8321741
Urbano	DeF	D	92	10295	947178.9
Urbano	Lo	D	92	222700	20488394
Urbano	DeD	D	92	77576	7136976
Urbano	DeC	D	92	599	55106.2
Urbano	Lo	D	92	13745	1264505
Urbano	DeF	D	92	18351	1688256
Urbano	DeD	D	92	69872	6428241
Urbano	DeF	D	92	102616	9440626
Urbano	AcE	B	85	6715	570737.9
Urbano	DeF	D	92	2096	192841.8
Urbano	DeC	D	92	5396	496465.3
Urbano	DeD	D	92	5826	535949.9
Urbano	AcE	B	85	10310	876386.8
Urbano	JaC	D	92	97919	9008589
Urbano	DeD	D	92	2652	243987.9
Urbano	DeD	D	92	6515	599420
Urbano	DeF	D	92	3707	341051.9

Appendix C

Input data and Results of ICPR
August 3, 1963 and Existing Condition Models

MORRIS ENGINEERING

```
================================================================================
==== Basins ====================================================================
================================================================================

        Name: WS-1                    Node: US-DAM                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 59.00
            Area(ha): 2184.100                 Time Shift(hrs): 0.00
        Curve Number: 78.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 50.00
            Area(ha): 832.800                  Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 41.00
            Area(ha): 785.900                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-4                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 65.00
            Area(ha): 306.300                  Time Shift(hrs): 0.00
        Curve Number: 82.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-5                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 67.00
            Area(ha): 720.700                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 56.00
            Area(ha): 781.900                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-A                    Node: LAGOON                Status: Onsite
       Group: INACTIVE                Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 25.00
```

```
            Area(ha): 331.800               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-B                     Node: LAGOON                Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 33.00
            Area(ha): 1808.100              Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-C                     Node: NODEC                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 145.00
            Area(ha): 1061.100              Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-D                     Node: NODED                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 148.00
            Area(ha): 697.300               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-E                     Node: NODEE                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 125.00
            Area(ha): 1703.300              Time Shift(hrs): 0.00
        Curve Number: 79.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-F                     Node: NODEF                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 128.00
            Area(ha): 1742.200              Time Shift(hrs): 0.00
        Curve Number: 79.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-G                     Node: NODEG                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 100.00
            Area(ha): 657.600               Time Shift(hrs): 0.00
        Curve Number: 71.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
         Name: WS-H                     Node: NODEH                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
```

```
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 140.00
              Area(ha): 1758.800                Time Shift(hrs): 0.00
          Curve Number: 71.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
          Name: WS-I                     Node: NODEI                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: UH484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 65.00
              Area(ha): 1021.800                Time Shift(hrs): 0.00
          Curve Number: 73.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
          Name: WS-J                     Node: NODEJ                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: UH484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 50.00
              Area(ha): 2071.200                Time Shift(hrs): 0.00
          Curve Number: 79.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
          Name: WS-K                     Node: NODEK                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: UH484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 55.00
              Area(ha): 1658.400                Time Shift(hrs): 0.00
          Curve Number: 79.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


==================================================================================================
==== Nodes =======================================================================================
==================================================================================================

       Name: D-OLD116            Base Flow(cms): 0.000          Init Stage(m): 11.950
      Group: LOCO                                               Warn Stage(m): 0.000
       Type: Stage/Area


        Stage(m)        Area(ha)
---------------- ---------------
          11.950          0.1000
          13.000          0.2000

--------------------------------------------------------------------------------------------------
       Name: DS-116              Base Flow(cms): 0.000          Init Stage(m): -2.130
      Group: VALLEY                                             Warn Stage(m): 0.000
       Type: Stage/Area


        Stage(m)        Area(ha)
---------------- ---------------
          -2.130          0.1000
          -1.000          0.2000

--------------------------------------------------------------------------------------------------
       Name: DS-332              Base Flow(cms): 0.000          Init Stage(m): 5.920
      Group: LOCO                                               Warn Stage(m): 0.000
       Type: Stage/Area


        Stage(m)        Area(ha)
---------------- ---------------
           5.920          0.1000
           8.000          0.2000

--------------------------------------------------------------------------------------------------
       Name: DS-DAM              Base Flow(cms): 0.000          Init Stage(m): 49.410
      Group: LOCO                                               Warn Stage(m): 0.000
```

Type: Stage/Area

Stage(m)	Area(ha)
49.410	0.1000
52.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	1.0000
1.200	15.0000
2.500	20.0000

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: NODEB Base Flow(cms): 0.000 Init Stage(m): 0.256
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.256	0.1000
3.000	0.2000

Name: NODEC Base Flow(cms): 0.000 Init Stage(m): 0.032
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.032	0.1000
3.000	0.2000

Name: NODED Base Flow(cms): 0.000 Init Stage(m): 0.137
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.137	0.1000
4.000	0.2000

Name: NODEE Base Flow(cms): 0.000 Init Stage(m): 0.092
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.092	0.1000
4.000	0.2000

Name: NODEF Base Flow(cms): 0.000 Init Stage(m): 0.290
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.000	5.0000
4.000	15.0000

Name: NODEG Base Flow(cms): 0.000 Init Stage(m): 0.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.500	0.1000
4.000	0.2000

Name: NODEH Base Flow(cms): 0.000 Init Stage(m): 0.800
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.800	0.1000
4.000	0.2000

Name: NODEI Base Flow(cms): 0.000 Init Stage(m): 1.200
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.200	0.1000
4.000	0.2000

Name: NODEJ Base Flow(cms): 0.000 Init Stage(m): 3.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
3.500	0.1000
5.500	0.2000

Name: NODEK Base Flow(cms): 0.000 Init Stage(m): 5.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.500	0.1000
7.500	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

Name: US-DAM Base Flow(cms): 0.000 Init Stage(m): 70.100
Group: LOCO Warn Stage(m): 74.680
Type: Stage/Area

Stage(m)	Area(ha)
54.860	0.8094
56.390	2.0234
57.910	4.0469
59.440	6.4750
60.960	8.9031
62.480	10.9266
64.010	13.7594
65.530	16.5922
67.060	19.4250
68.580	23.0672
70.100	26.3047
71.630	29.9469
73.150	34.3984
74.680	38.4453

==========
==== Cross Sections ====
==========

Name: TRANSV-1 Group: VALLEY

Encroachment: No

UPSTREAM OF STRUCTURE AT RIO LOCO

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000
1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000

1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000
6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000
1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000

2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000
906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000
966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000

1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000
1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000
1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000

1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000
1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000

1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000
1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000
2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000

2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000
1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000
1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
20.000	9.250	0.015000
70.000	8.500	0.015000
120.000	8.000	0.015000
360.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000
1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000

1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000
2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N
990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000
1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000
2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N

1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000
2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000
3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000

1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000
1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000
2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000
2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.080	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000
3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000

1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000
620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000

300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR3 Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
306.376	0.627	0.050000
313.766	-1.030	0.050000
317.552	0.627	0.050000
319.596	1.566	0.050000
350.000	4.987	0.080000
375.000	3.700	0.080000
425.000	4.000	0.080000
500.000	5.000	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000

0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

Operating Tables

Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40
70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81
70.680	36.71
70.710	39.64

Pipes

Name: ROCO5 From Node: US-332 Length(m): 20.00
Group: LOCO To Node: DS-332 Count: 5
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.20
Exit Loss Coef: 0.10
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(cm):	182.88	182.88
Rise(cm):	182.88	182.88
Invert(m):	5.920	5.520
Manning's N:	0.012000	0.012000
Top Clip(cm):	0.000	0.000
Bot Clip(cm):	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

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==== Channels ==========
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         Name: CH1                 From Node: NODEK              Length(m): 1800.00
        Group: INACTIVE              To Node: NODEJ                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 5.500          3.500                                 Flow: Both
  TClpInitZ(m): 15.000        15.000                   Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.200
   Bot Clip(m):                                           Exit Loss Coef: 0.300
     Main XSec: XS-JK          XS-JK                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
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```
         Name: CH10                From Node: NODEB              Length(m): 1000.00
        Group: INACTIVE              To Node: LAGOON                 Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.256          -1.030                                Flow: Both
  TClpInitZ(m): 15.000        15.000                   Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: TRANSV-D       TRANSV-D                 Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
         Name: CH2                 From Node: NODEJ              Length(m): 1800.00
        Group: INACTIVE              To Node: NODEI                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 3.500          1.200                                 Flow: Both
  TClpInitZ(m): 15.000        15.000                   Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-IJ          XS-IJ                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
         Name: CH3                 From Node: NODEI              Length(m): 3000.00
        Group: INACTIVE              To Node: NODEH                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 1.200          0.800                                 Flow: Both
```

TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-HI	XS-HI	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH4	From Node: NODEH	Length(m):	1200.00
Group:	INACTIVE	To Node: NODEG	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.800	0.500	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-GH	XS-GH	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH5	From Node: NODEG	Length(m):	1800.00
Group:	INACTIVE	To Node: NODEF	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.500	0.290	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-FG	XS-FG	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH6	From Node: NODEF	Length(m):	1200.00
Group:	INACTIVE	To Node: NODEE	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.290	0.092	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-H	XS-H	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

```
---------------------------------------------------------------------------------------------------
         Name: CH7                 From Node: NODEE              Length(m): 1600.00
        Group: INACTIVE              To Node: NODED                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.092          0.040                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-G       TRANSV-G                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH8                 From Node: NODED              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEC                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.040          0.032                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-F       TRANSV-F                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH9                 From Node: NODEC              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEB                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.032          0.256                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-E       TRANSV-E                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: RLOCO1              From Node: DS-116             Length(m): 1000.00
        Group: VALLEY                To Node: OCEAN                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): -2.130         -3.080                                Flow: Both
 TClpInitZ(m): 10.000         10.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-43          XS-43                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
```

```
     Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO10             From Node: SUSUA               Length(m): 1400.00
         Group: LOCO                  To Node: MAGUEYES               Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): 40.700         33.890                               Flow: Both
  TClpInitZ(m): 50.000         45.000                       Contraction Coef: 0.000
   Manning's N:                                                 Expansion Coef: 0.000
   Top Clip(m):                                             Entrance Loss Coef: 0.100
   Bot Clip(m):                                                 Exit Loss Coef: 0.100
     Main XSec: XS-13           XS-13                       Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
     Aux XSec1:                                            Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO11             From Node: DS-DAM              Length(m): 1050.00
         Group: LOCO                  To Node: SUSUA                  Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): 49.410         40.700                               Flow: Both
  TClpInitZ(m): 60.000         50.000                       Contraction Coef: 0.000
   Manning's N:                                                 Expansion Coef: 0.000
   Top Clip(m):                                             Entrance Loss Coef: 0.100
   Bot Clip(m):                                                 Exit Loss Coef: 0.100
     Main XSec: XS-1            XS-1                        Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
     Aux XSec1:                                            Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116              Length(m): 20.00
         Group: VALLEY                To Node: DS-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                               Flow: Both
  TClpInitZ(m): 3.800          3.800                        Contraction Coef: 0.000
   Manning's N:                                                 Expansion Coef: 0.000
   Top Clip(m):                                             Entrance Loss Coef: 0.100
   Bot Clip(m):                                                 Exit Loss Coef: 0.100
     Main XSec: XS-40           XS-40                       Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
     Aux XSec1:                                            Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: FUNNEL              Length(m): 2500.00
         Group: VALLEY                To Node: US-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                               Flow: Both
  TClpInitZ(m): 10.000         10.000                       Contraction Coef: 0.000
   Manning's N:                                                 Expansion Coef: 0.000
   Top Clip(m):                                             Entrance Loss Coef: 0.100
```

```
   Bot Clip(m):                                          Exit Loss Coef: 0.100
     Main XSec: XS-38          XS-39                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                    Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332             Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.220          3.660                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-35          XS-35                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116           Length(m): 1500.00
         Group: LOCO                  To Node: US-332                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                Flow: Both
  TClpInitZ(m): 20.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-25          XS-25                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------------
          Name: RLOCO7              From Node: U-OLD116           Length(m): 700.00
         Group: LOCO                  To Node: D-OLD116              Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 15.330         11.950                               Flow: Both
  TClpInitZ(m): 25.000         21.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-30          XS-30                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------------
          Name: RLOCO8              From Node: PALOMAS            Length(m): 2500.00
         Group: LOCO                  To Node: U-OLD116              Count: 1
```

```
               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 27.360         15.330                               Flow: Both
 TClpInitZ(m): 40.000         35.000                 Contraction Coef: 0.000
  Manning's N:                                          Expansion Coef: 0.000
  Top Clip(m):                                       Entrance Loss Coef: 0.100
  Bot Clip(m):                                           Exit Loss Coef: 0.100
    Main XSec: XS-22           XS-22                   Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                    Inlet Ctrl Spec: Use dn
    Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO9              From Node: MAGUEYES            Length(m): 2000.00
         Group: LOCO                  To Node: PALOMAS                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 33.890         27.360                               Flow: Both
 TClpInitZ(m): 45.000         40.000                 Contraction Coef: 0.000
  Manning's N:                                          Expansion Coef: 0.000
  Top Clip(m):                                       Entrance Loss Coef: 0.100
  Bot Clip(m):                                           Exit Loss Coef: 0.100
    Main XSec: XS-16           XS-16                   Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                    Inlet Ctrl Spec: Use dn
    Aux XSec1:                                        Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


=================================================================================================
==== Weirs ======================================================================================
=================================================================================================

         Name: W-CH11              From Node: LAGOON
        Group: INACTIVE              To Node: FUNNEL
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                       XSec: XS-WEIR3
                  Invert(m): -1.030
        Control Elevation(m): -1.030
       Struct Opening Dim(m): 9999.00
                                      TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
          Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
         Name: W116                From Node: US-116
        Group: VALLEY                To Node: DS-116
         Flow: Both                    Count: 1
         Type: Vertical: Paved      Geometry: Irregular

                       XSec: XS-116
                  Invert(m): 5.200
        Control Elevation(m): 5.200
       Struct Opening Dim(m): 9999.00
                                      TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
          Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
         Name: W332                From Node: US-332
        Group: LOCO                  To Node: DS-332
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular
```

```
                    XSec: XS-332
                Invert(m): 9.000
      Control Elevation(m): 9.000
     Struct Opening Dim(m): 9999.00
                                          TABLE
           Bottom Clip(m): 0.000
              Top Clip(m): 0.000
       Weir Discharge Coef: 2.850
    Orifice Discharge Coef: 0.600



================================================================================================
==== Rating Curves ============================================================================
================================================================================================

       Name: LOCO-OUT            From Node: US-DAM                 Count: 1
      Group: VALLEY                To Node: DS-DAM                  Flow: Positive

            TABLE           ELEV ON(m)      ELEV OFF(m)
        #1: LOCO-DAM        70.100          70.100
        #2:                 0.000           0.000
        #3:                 0.000           0.000
        #4:                 0.000           0.000



================================================================================================
==== Hydrology Simulations ====================================================================
================================================================================================

        Name: 10-yr
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\10-yr.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 21.74

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

------------------------------------------------------------------------------------------------
        Name: 100-YEAR
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YEAR.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 41.43

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

------------------------------------------------------------------------------------------------
        Name: 100yr-12
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YR12.R32

     Override Defaults: Yes
   Storm Duration(hrs): 12.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 30.91

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

------------------------------------------------------------------------------------------------
        Name: 100yr-48
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YR48.R32

     Override Defaults: Yes
   Storm Duration(hrs): 48.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 51.33

Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.00

------------------------------------------------------------------------------------------------
        Name: 2-yr
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\2-yr.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
```

```
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 11.07

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: 25-yr
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\25-yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 28.80

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: 5-yr
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\5-yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 16.94

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: 50-yr
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\50-yr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 34.80

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: Calibrun
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\CALIBRUN.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 13.36

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

===============================================================================================
==== Routing Simulations ======================================================================
===============================================================================================

         Name: 10-yr              Hydrology Sim: 10-yr
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\10-yr.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes
```

```
         Name: 100-YEAR            Hydrology Sim: 100-YEAR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YEAR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 100.0000
       Boundary Stages:                        Boundary Flows:

HYDRAULICS RESULTS
100-YEAR, 24-HOUR STORM


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


---------------------------------------------------------------------------------------------------
         Name: 100yr-12            Hydrology Sim: 100yr-12
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YR12.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
12.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


---------------------------------------------------------------------------------------------------
         Name: 100yr-48            Hydrology Sim: 100yr-48
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\100-YR48.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
48.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


---------------------------------------------------------------------------------------------------
         Name: 2-yr                Hydrology Sim: 2-yr
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\2-yr.I32
```

```
     Execute: Yes         Restart: No            Patch: No
 Alternative: No

        Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
   Time Step Optimizer: 0.000
       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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


-------------------------------------------------------------------------------------------------
        Name: 25-yr               Hydrology Sim: 25-yr
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\25-yr.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

        Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
   Time Step Optimizer: 0.000
       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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


-------------------------------------------------------------------------------------------------
        Name: 5-yr                Hydrology Sim: 5-yr
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\5-yr.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

        Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
   Time Step Optimizer: 0.000
       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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


-------------------------------------------------------------------------------------------------
        Name: 50-yr               Hydrology Sim: 50-yr
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\50-yr.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

        Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
```

```
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


-------------------------------------------------------------------------------------------------------
         Name: Calibrun            Hydrology Sim: Calibrun
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Existing cond 28july11 cal\CALIBRUN.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(m): 0.30                     Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes
```

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
100-YEAR	WS-1	LOCO	12.58	569.26	33.912	7406638
100-YEAR	WS-2	LOCO	12.42	240.56	34.695	2889412
100-YEAR	WS-3	LOCO	12.33	244.47	33.174	2607124
100-YEAR	WS-4	LOCO	12.58	78.07	35.439	1085494
100-YEAR	WS-5	LOCO	12.67	173.19	33.155	2389490
100-YEAR	WS-6	LOCO	12.50	206.63	33.133	2590632
100-YEAR	WS-A	INACTIVE	12.17	134.22	34.630	1149038
100-YEAR	WS-B	INACTIVE	12.25	640.79	34.615	6258787
100-YEAR	WS-C	INACTIVE	13.58	171.82	34.673	3679137
100-YEAR	WS-D	INACTIVE	13.58	111.71	34.674	2417815
100-YEAR	WS-E	INACTIVE	13.33	297.60	34.307	5843438
100-YEAR	WS-F	INACTIVE	13.33	300.48	34.302	5976027
100-YEAR	WS-G	INACTIVE	13.00	120.90	31.151	2048484
100-YEAR	WS-H	INACTIVE	13.50	267.98	31.151	5478862
100-YEAR	WS-I	INACTIVE	12.58	242.49	31.980	3267696
100-YEAR	WS-J	INACTIVE	12.42	594.08	34.319	7108184
100-YEAR	WS-K	INACTIVE	12.50	453.37	34.310	5689958
Calibrun	WS-1	LOCO	12.58	131.22	7.449	1627003
Calibrun	WS-2	LOCO	12.50	57.86	7.931	660481
Calibrun	WS-3	LOCO	12.33	53.46	6.993	549582
Calibrun	WS-4	LOCO	12.67	19.66	8.419	257875
Calibrun	WS-5	LOCO	12.67	37.88	6.989	503705
Calibrun	WS-6	LOCO	12.58	45.07	6.984	546106
Calibrun	WS-A	INACTIVE	12.17	32.48	7.916	262654
Calibrun	WS-B	INACTIVE	12.25	154.73	7.912	1430502
Calibrun	WS-C	INACTIVE	13.58	41.00	7.926	841001
Calibrun	WS-D	INACTIVE	13.67	26.64	7.926	552680
Calibrun	WS-E	INACTIVE	13.33	69.46	7.689	1309634
Calibrun	WS-F	INACTIVE	13.42	70.15	7.688	1339350
Calibrun	WS-G	INACTIVE	13.08	22.93	5.881	386726
Calibrun	WS-H	INACTIVE	13.58	50.51	5.881	1034334
Calibrun	WS-I	INACTIVE	12.67	49.03	6.318	645603
Calibrun	WS-J	INACTIVE	12.50	139.68	7.692	1593090
Calibrun	WS-K	INACTIVE	12.50	106.68	7.690	1275236

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
D-OLD116	LOCO	100-YEAR	13.47	53.09	0.00	0.0072	4892052	13.41	16023.83	13.50	15614.67
DS-116	VALLEY	100-YEAR	24.00	7.61	0.00	0.0061	6073903	24.00	7438.68	24.00	7382.77
DS-332	LOCO	100-YEAR	13.70	28.34	0.00	0.0098	1613816	13.62	15383.42	13.70	15314.67
DS-DAM	LOCO	100-YEAR	16.00	167.07	0.00	0.0030	154003	7.41	1399.87	16.00	1399.87
FUNNEL	VALLEY	100-YEAR	24.00	18.07	0.00	0.0094	4199329	23.99	7363.73	24.00	7465.04
LAGOON	INACTIVE	100-YEAR	24.00	18.14	0.00	-0.0069	10521157	21.31	21762.65	24.00	3433.46
MAGUEYES	LOCO	100-YEAR	12.83	118.15	0.00	0.0034	2268767	12.58	9485.40	12.83	8148.77
NODEB	INACTIVE	100-YEAR	24.00	18.14	0.00	0.0058	21820527	24.00	3678.87	21.31	19931.20
NODEC	INACTIVE	100-YEAR	24.00	18.14	0.00	0.0074	29885950	13.62	6262.47	24.00	3678.87
NODED	INACTIVE	100-YEAR	24.00	18.14	0.00	0.0053	27316425	13.60	10233.62	20.86	3233.28
NODEE	INACTIVE	100-YEAR	24.00	18.15	0.00	0.0060	17657486	13.33	11945.93	13.61	6292.33
NODEF	INACTIVE	100-YEAR	24.00	18.17	0.00	0.0064	33717642	13.25	8652.39	17.24	2843.74
NODEG	INACTIVE	100-YEAR	24.00	18.17	0.00	0.0074	43657555	15.30	11701.79	16.51	3826.18
NODEH	INACTIVE	100-YEAR	24.00	18.17	0.00	0.0095	59805751	14.06	24350.43	15.39	10339.71
NODEI	INACTIVE	100-YEAR	24.00	18.18	0.00	0.0098	53912377	12.88	28123.41	14.71	16582.03
NODEJ	INACTIVE	100-YEAR	13.16	26.26	0.00	0.0098	25613986	12.50	29973.64	13.39	21736.96
NODEK	INACTIVE	100-YEAR	12.90	30.93	0.00	-0.0083	8585134	12.50	16010.26	12.96	11687.82
OCEAN	VALLEY	100-YEAR	0.00	6.89	6.89	0.0000	7362796	24.00	7382.77	0.00	0.00
PALOMAS	LOCO	100-YEAR	12.86	105.27	0.00	0.0059	9552091	12.50	17186.07	12.86	15215.18
SUSUA	LOCO	100-YEAR	12.58	148.91	0.00	0.0076	1895403	12.42	9894.82	12.58	9485.40
U-OLD116	LOCO	100-YEAR	13.41	59.67	0.00	-0.0098	2167807	12.75	21113.99	13.41	16023.83
US-116	VALLEY	100-YEAR	24.00	8.19	0.00	0.0085	1669767	24.00	7465.04	24.00	7438.68
US-332	LOCO	100-YEAR	13.63	31.52	0.00	0.0083	5314139	13.50	15614.67	13.62	15383.42
US-DAM	LOCO	100-YEAR	24.00	266.95	245.01	0.0098	6041516	12.58	20102.99	7.41	1399.87
D-OLD116	LOCO	Calibrun	13.63	50.96	0.00	-0.0090	3750913	13.65	7918.03	14.17	4864.43
DS-116	VALLEY	Calibrun	24.00	6.93	0.00	0.0061	4474092	24.00	1849.02	24.00	1846.40
DS-332	LOCO	Calibrun	14.66	24.79	0.00	0.0098	568463	14.30	6183.05	14.66	4274.50
DS-DAM	LOCO	Calibrun	15.57	167.07	0.00	-0.0062	144661	12.26	1399.87	15.57	1399.87
FUNNEL	VALLEY	Calibrun	24.00	11.01	0.00	0.0089	707957	14.37	2035.89	24.00	1849.48
LAGOON	INACTIVE	Calibrun	24.00	11.04	0.00	0.0061	9153899	12.17	2486.66	24.00	154.15
MAGUEYES	LOCO	Calibrun	12.94	115.74	0.00	0.0036	1097120	12.73	3118.39	12.94	2994.46
NODEB	INACTIVE	Calibrun	24.00	11.04	0.00	0.0066	13651946	23.06	1266.05	0.00	0.00
NODEC	INACTIVE	Calibrun	24.00	11.04	0.00	0.0094	16667916	14.08	2075.16	23.06	1266.05
NODED	INACTIVE	Calibrun	24.00	11.05	0.00	0.0093	16301767	14.26	3052.25	17.57	1116.62
NODEE	INACTIVE	Calibrun	24.00	11.41	0.00	0.0082	8902473	13.33	3160.32	14.70	2269.43
NODEF	INACTIVE	Calibrun	24.00	13.35	0.00	0.0082	18436513	13.00	2309.61	24.00	1443.97
NODEG	INACTIVE	Calibrun	24.00	13.55	0.00	0.0094	25993339	20.53	2211.76	23.04	1506.26
NODEH	INACTIVE	Calibrun	24.00	13.70	0.00	0.0094	46731452	13.94	4322.22	20.64	2057.52
NODEI	INACTIVE	Calibrun	16.57	14.86	0.00	0.0098	40287761	12.92	5304.49	17.27	3234.82
NODEJ	INACTIVE	Calibrun	13.84	23.42	0.00	0.0098	13324783	12.58	7192.70	14.49	4165.95
NODEK	INACTIVE	Calibrun	12.89	27.93	0.00	0.0080	1865698	12.50	3767.42	13.06	2974.28
OCEAN	VALLEY	Calibrun	0.00	6.89	6.89	0.0000	7362796	24.00	1846.40	0.00	0.00
PALOMAS	LOCO	Calibrun	13.29	101.81	0.00	0.0061	1502541	12.64	4844.76	13.22	3866.27
SUSUA	LOCO	Calibrun	12.73	145.50	0.00	0.0073	693099	12.50	3437.00	12.73	3118.39
U-OLD116	LOCO	Calibrun	13.59	54.41	0.00	-0.0098	561475	13.04	4876.77	13.65	7918.03
US-116	VALLEY	Calibrun	24.00	6.97	0.00	0.0098	495344	24.00	1849.48	24.00	1849.02
US-332	LOCO	Calibrun	14.55	30.23	0.00	-0.0098	3328476	14.17	4864.43	14.30	6183.05
US-DAM	LOCO	Calibrun	14.22	235.41	245.01	-0.0053	3262661	12.58	4634.01	12.26	1399.87

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
D-OLD116	LOCO	100yr-12	7.50	52.98	0.00	0.0071	4879791	7.40	15286.37	7.54	14829.83
DS-116	VALLEY	100yr-12	12.00	7.13	0.00	0.0061	4976658	12.00	4503.25	12.00	4433.77
DS-332	LOCO	100yr-12	7.76	28.21	0.00	0.0098	1593882	7.68	14626.80	7.76	14566.25
DS-DAM	LOCO	100yr-12	10.03	167.07	0.00	0.0031	154283	4.28	1399.87	10.03	1399.87
FUNNEL	VALLEY	100yr-12	12.00	15.84	0.00	0.0089	2792737	6.46	5208.24	12.00	4531.39
LAGOON	INACTIVE	100yr-12	12.00	15.80	0.00	0.0084	10197070	6.17	8796.13	0.00	0.00
MAGUEYES	LOCO	100yr-12	6.86	118.08	0.00	0.0027	2251712	6.62	9358.79	6.86	7969.76
NODEB	INACTIVE	100yr-12	12.00	15.80	0.00	0.0056	19773361	11.86	649.59	12.00	2533.59
NODEC	INACTIVE	100yr-12	12.00	15.80	0.00	0.0039	27345966	8.15	7202.31	11.86	649.59
NODED	INACTIVE	100yr-12	12.00	15.81	0.00	0.0043	24804679	7.84	12284.21	12.00	2055.33
NODEE	INACTIVE	100yr-12	12.00	15.85	0.00	0.0050	15386697	7.42	11037.51	7.90	8566.43
NODEF	INACTIVE	100yr-12	12.00	16.28	0.00	0.0059	31018291	7.17	7788.39	12.00	3719.97
NODEG	INACTIVE	100yr-12	12.00	16.37	0.00	0.0061	40333951	10.26	10581.34	11.52	4824.18
NODEH	INACTIVE	100yr-12	12.00	16.50	0.00	0.0075	58433639	8.46	21780.15	10.35	9539.11
NODEI	INACTIVE	100yr-12	9.05	17.29	0.00	0.0098	55771060	6.98	26245.11	8.98	15772.16
NODEJ	INACTIVE	100yr-12	7.28	26.11	0.00	0.0098	25243804	6.58	29289.02	7.56	20065.12
NODEK	INACTIVE	100yr-12	6.94	30.97	0.00	0.0077	8561680	6.58	15618.89	7.01	11490.46
OCEAN	VALLEY	100yr-12	0.00	6.89	6.89	0.0000	7362796	12.00	4433.77	0.00	0.00
PALOMAS	LOCO	100yr-12	6.92	105.17	0.00	0.0061	9476832	6.56	16692.56	6.92	14740.16
SUSUA	LOCO	100yr-12	6.62	148.87	0.00	0.0074	1892729	6.50	9772.75	6.62	9358.79
U-OLD116	LOCO	100yr-12	7.40	59.31	0.00	-0.0098	2166924	6.81	20370.68	7.40	15286.37
US-116	VALLEY	100yr-12	12.00	7.35	0.00	0.0098	1126222	12.00	4531.39	12.00	4503.25
US-332	LOCO	100yr-12	7.68	31.45	0.00	0.0068	5299027	7.54	14829.83	7.68	14626.80
US-DAM	LOCO	100yr-12	12.00	261.66	245.01	0.0098	5582986	6.58	19575.00	4.28	1399.87
D-OLD116	LOCO	100yr-48	25.32	52.95	0.00	0.0074	4876635	25.17	15050.29	25.36	14629.20
DS-116	VALLEY	100yr-48	48.00	7.97	0.00	0.0061	7195417	48.00	9046.41	48.00	9039.80
DS-332	LOCO	100yr-48	25.58	28.18	0.00	0.0098	1589218	25.50	14443.06	25.58	14390.27
DS-DAM	LOCO	100yr-48	18.43	167.07	0.00	0.0031	147611	16.66	1399.87	18.43	1399.87
FUNNEL	VALLEY	100yr-48	48.00	18.94	0.00	0.0089	4314392	47.92	9290.34	48.00	9048.81
LAGOON	INACTIVE	100yr-48	48.00	19.05	0.00	0.0061	10636193	39.81	24031.09	39.67	6541.07
MAGUEYES	LOCO	100yr-48	24.75	117.93	0.00	0.0044	2194779	24.48	8474.57	24.75	7583.27
NODEB	INACTIVE	100yr-48	48.00	19.04	0.00	0.0057	22018881	34.46	7341.88	39.81	22782.92
NODEC	INACTIVE	100yr-48	48.00	19.05	0.00	0.0071	30331423	40.23	5581.76	34.46	7341.88
NODED	INACTIVE	100yr-48	48.00	19.05	0.00	0.0068	28727307	25.24	6622.83	40.23	4942.62
NODEE	INACTIVE	100yr-48	48.00	19.06	0.00	0.0081	18847578	24.73	9098.10	40.29	4512.97
NODEF	INACTIVE	100yr-48	48.00	19.11	0.00	0.0074	34718507	24.79	7584.63	48.00	3667.14
NODEG	INACTIVE	100yr-48	48.00	19.12	0.00	0.0079	45006171	26.32	8274.93	48.00	2951.64
NODEH	INACTIVE	100yr-48	48.00	19.12	0.00	0.0083	60348390	25.85	21813.93	26.62	6456.64
NODEI	INACTIVE	100yr-48	48.00	19.13	0.00	0.0098	55097428	24.83	25622.59	26.18	13921.45
NODEJ	INACTIVE	100yr-48	25.09	26.05	0.00	0.0098	25040328	24.42	26956.57	25.32	20111.97
NODEK	INACTIVE	100yr-48	24.81	30.71	0.00	-0.0086	8254705	24.42	14273.82	24.88	10748.81
OCEAN	VALLEY	100yr-48	0.00	6.89	6.89	0.0000	7362796	48.00	9039.80	0.00	0.00
PALOMAS	LOCO	100yr-48	24.74	105.09	0.00	0.0058	9409490	24.42	15614.99	24.74	14317.57
SUSUA	LOCO	100yr-48	24.48	148.74	0.00	0.0070	1700139	24.33	8956.50	24.48	8474.57
U-OLD116	LOCO	100yr-48	25.17	59.19	0.00	-0.0098	2166589	24.60	19704.12	25.17	15050.29
US-116	VALLEY	100yr-48	48.00	8.80	0.00	0.0098	1784011	48.00	9048.81	48.00	9046.41
US-332	LOCO	100yr-48	25.51	31.43	0.00	0.0077	5295305	25.36	14629.20	25.50	14443.06
US-DAM	LOCO	100yr-48	37.04	265.35	245.01	0.0098	5903446	24.42	18120.71	16.66	1399.87

Appendix D

Input data and Results of ICPR 1975 (Eloisa) Event Model

MORRIS ENGINEERING

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==== Basins ====================================================================
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        Name: WS-1                    Node: US-DAM                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 59.00
             Area(ha): 2184.100              Time Shift(hrs): 0.00
        Curve Number: 78.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 50.00
             Area(ha): 832.800               Time Shift(hrs): 0.00
        Curve Number: 80.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 41.00
             Area(ha): 785.900               Time Shift(hrs): 0.00
        Curve Number: 76.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-4                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 65.00
             Area(ha): 306.300               Time Shift(hrs): 0.00
        Curve Number: 82.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-5                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 67.00
             Area(ha): 720.700               Time Shift(hrs): 0.00
        Curve Number: 76.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 56.00
             Area(ha): 781.900               Time Shift(hrs): 0.00
        Curve Number: 76.00           Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-A                    Node: LAGOON                Status: Onsite
       Group: INACTIVE                Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File: ELOISA           Storm Duration(hrs): 48.00
   Rainfall Amount(cm): 67.820             Time of Conc(min): 25.00
```

```
            Area(ha): 331.800               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-B                     Node: LAGOON                Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 48.00
  Rainfall Amount(cm): 67.820               Time of Conc(min): 33.00
            Area(ha): 1808.100               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-C                     Node: NODEC                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 67.820               Time of Conc(min): 145.00
            Area(ha): 1061.100               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-D                     Node: NODED                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 148.00
            Area(ha): 697.300               Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-E                     Node: NODEE                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 125.00
            Area(ha): 1703.300               Time Shift(hrs): 0.00
        Curve Number: 79.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-F                     Node: NODEF                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 128.00
            Area(ha): 1742.200               Time Shift(hrs): 0.00
        Curve Number: 79.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-G                     Node: NODEG                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: ELOISA             Storm Duration(hrs): 24.00
  Rainfall Amount(cm): 41.430               Time of Conc(min): 100.00
            Area(ha): 657.600               Time Shift(hrs): 0.00
        Curve Number: 71.00             Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-H                     Node: NODEH                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
```

```
         Rainfall File: ELOISA              Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 140.00
              Area(ha): 1758.800                Time Shift(hrs): 0.00
          Curve Number: 71.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00
```

```
          Name: WS-I                     Node: NODEI                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

         Unit Hydrograph: UH484                   Peaking Factor: 484.0
           Rainfall File: ELOISA              Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 65.00
              Area(ha): 1021.800                Time Shift(hrs): 0.00
          Curve Number: 73.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00
```

```
          Name: WS-J                     Node: NODEJ                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

         Unit Hydrograph: UH484                   Peaking Factor: 484.0
           Rainfall File: ELOISA              Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 50.00
              Area(ha): 2071.200                Time Shift(hrs): 0.00
          Curve Number: 79.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00
```

```
          Name: WS-K                     Node: NODEK                 Status: Onsite
         Group: INACTIVE                 Type: SCS Unit Hydrograph CN

         Unit Hydrograph: UH484                   Peaking Factor: 484.0
           Rainfall File: ELOISA              Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 55.00
              Area(ha): 1658.400                Time Shift(hrs): 0.00
          Curve Number: 79.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00
```

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==== Nodes ==========

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```
       Name: D-OLD116            Base Flow(cms): 0.000          Init Stage(m): 11.950
      Group: LOCO                                             Warn Stage(m): 0.000
       Type: Stage/Area
```

Stage(m)	Area(ha)
11.950	0.1000
13.000	0.2000

```
       Name: DS-116              Base Flow(cms): 0.000          Init Stage(m): -2.130
      Group: VALLEY                                           Warn Stage(m): 0.000
       Type: Stage/Area
```

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

```
       Name: DS-332              Base Flow(cms): 0.000          Init Stage(m): 5.920
      Group: LOCO                                             Warn Stage(m): 0.000
       Type: Stage/Area
```

Stage(m)	Area(ha)
5.920	0.1000
8.000	0.2000

```
       Name: DS-DAM              Base Flow(cms): 0.000          Init Stage(m): 49.410
      Group: LOCO                                             Warn Stage(m): 0.000
```

Type: Stage/Area

Stage(m)	Area(ha)
49.410	0.1000
52.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	1.0000
1.200	15.0000
2.500	20.0000

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: NODEB Base Flow(cms): 0.000 Init Stage(m): 0.256
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.256	0.1000
3.000	0.2000

Name: NODEC Base Flow(cms): 0.000 Init Stage(m): 0.032
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.032	0.1000
3.000	0.2000

Name: NODED Base Flow(cms): 0.000 Init Stage(m): 0.137
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.137	0.1000
4.000	0.2000

Name: NODEE Base Flow(cms): 0.000 Init Stage(m): 0.092
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.092	0.1000
4.000	0.2000

Name: NODEF Base Flow(cms): 0.000 Init Stage(m): 0.290
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.000	5.0000
4.000	15.0000

Name: NODEG Base Flow(cms): 0.000 Init Stage(m): 0.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.500	0.1000
4.000	0.2000

Name: NODEH Base Flow(cms): 0.000 Init Stage(m): 0.800
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.800	0.1000
4.000	0.2000

Name: NODEI Base Flow(cms): 0.000 Init Stage(m): 1.200
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.200	0.1000
4.000	0.2000

Name: NODEJ Base Flow(cms): 0.000 Init Stage(m): 3.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
3.500	0.1000
5.500	0.2000

Name: NODEK Base Flow(cms): 0.000 Init Stage(m): 5.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.500	0.1000
7.500	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

Name: US-DAM Base Flow(cms): 0.000 Init Stage(m): 70.100
Group: LOCO Warn Stage(m): 74.680
Type: Stage/Area

Stage(m)	Area(ha)
54.860	0.8094
56.390	2.0234
57.910	4.0469
59.440	6.4750
60.960	8.9031
62.480	10.9266
64.010	13.7594
65.530	16.5922
67.060	19.4250
68.580	23.0672
70.100	26.3047
71.630	29.9469
73.150	34.3984
74.680	38.4453

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==== Cross Sections ====

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Name: TRANSV-1 Group: VALLEY

Encroachment: No

UPSTREAM OF STRUCTURE AT RIO LOCO

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000
1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000

1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000
6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000
1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000

2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000
906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000
966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000

1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000
1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000
1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000

1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000
1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000

1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000
1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000
2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000

2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000
1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000
1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
20.000	9.250	0.015000
70.000	8.500	0.015000
120.000	8.000	0.015000
360.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000
1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000

1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000
2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N
990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000
1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000
2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N

1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000
2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000
3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000

1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000
1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000
2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000
2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.080	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000
3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000

1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000
620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000

300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR3 Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
306.376	0.627	0.050000
313.766	-1.030	0.050000
317.552	0.627	0.050000
319.596	1.566	0.050000
350.000	4.987	0.080000
375.000	3.700	0.080000
425.000	4.000	0.080000
500.000	5.000	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000

0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

Operating Tables

Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40
70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81
70.680	36.71
70.710	39.64

Pipes

Name: ROCO5 From Node: US-332 Length(m): 20.00
Group: LOCO To Node: DS-332 Count: 5
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.20
Exit Loss Coef: 0.10
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(cm):	182.88	182.88
Rise(cm):	182.88	182.88
Invert(m):	5.920	5.520
Manning's N:	0.012000	0.012000
Top Clip(cm):	0.000	0.000
Bot Clip(cm):	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

==========
==== Channels ==========
==========

```
         Name: CH1                From Node: NODEK              Length(m): 1800.00
        Group: INACTIVE             To Node: NODEJ                  Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 5.500          3.500                                 Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.200
   Bot Clip(m):                                             Exit Loss Coef: 0.300
     Main XSec: XS-JK          XS-JK                     Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                      Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):
```

```
         Name: CH10               From Node: NODEB              Length(m): 1000.00
        Group: INACTIVE             To Node: LAGOON                 Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.256          -1.030                                Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: TRANSV-D       TRANSV-D                  Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                      Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):
```

```
         Name: CH2                From Node: NODEJ              Length(m): 1800.00
        Group: INACTIVE             To Node: NODEI                  Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 3.500          1.200                                 Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-IJ          XS-IJ                     Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                      Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):
```

```
         Name: CH3                From Node: NODEI              Length(m): 3000.00
        Group: INACTIVE             To Node: NODEH                  Count: 1

               UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 1.200          0.800                                 Flow: Both
```

TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-HI	XS-HI	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH4	From Node: NODEH	Length(m):	1200.00
Group:	INACTIVE	To Node: NODEG	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.800	0.500	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-GH	XS-GH	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH5	From Node: NODEG	Length(m):	1800.00
Group:	INACTIVE	To Node: NODEF	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.500	0.290	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-FG	XS-FG	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH6	From Node: NODEF	Length(m):	1200.00
Group:	INACTIVE	To Node: NODEE	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.290	0.092	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-H	XS-H	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

```
---------------------------------------------------------------------------------------------------
         Name: CH7                 From Node: NODEE              Length(m): 1600.00
        Group: INACTIVE              To Node: NODED                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.092          0.040                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-G       TRANSV-G                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH8                 From Node: NODED              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEC                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.040          0.032                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-F       TRANSV-F                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH9                 From Node: NODEC              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEB                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.032          0.256                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-E       TRANSV-E                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: RLOCO1              From Node: DS-116             Length(m): 1000.00
        Group: VALLEY                To Node: OCEAN                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): -2.130         -3.080                                Flow: Both
 TClpInitZ(m): 10.000         10.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-43          XS-43                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000           0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
```

```
     Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO10             From Node: SUSUA               Length(m): 1400.00
         Group: LOCO                  To Node: MAGUEYES               Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): 40.700         33.890                               Flow: Both
  TClpInitZ(m): 50.000         45.000                   Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-13           XS-13                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO11             From Node: DS-DAM              Length(m): 1050.00
         Group: LOCO                  To Node: SUSUA                  Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): 49.410         40.700                               Flow: Both
  TClpInitZ(m): 60.000         50.000                   Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-1            XS-1                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116              Length(m): 20.00
         Group: VALLEY                To Node: DS-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                               Flow: Both
  TClpInitZ(m): 3.800          3.800                    Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-40           XS-40                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: FUNNEL              Length(m): 2500.00
         Group: VALLEY                To Node: US-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                               Flow: Both
  TClpInitZ(m): 10.000         10.000                   Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
```

```
   Bot Clip(m):                                          Exit Loss Coef: 0.100
     Main XSec: XS-38          XS-39                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                    Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332             Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.220          3.660                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-35          XS-35                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116           Length(m): 1500.00
         Group: LOCO                  To Node: US-332                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                Flow: Both
  TClpInitZ(m): 20.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-25          XS-25                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO7              From Node: U-OLD116           Length(m): 700.00
         Group: LOCO                  To Node: D-OLD116              Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 15.330         11.950                               Flow: Both
  TClpInitZ(m): 25.000         21.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: XS-30          XS-30                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                       Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO8              From Node: PALOMAS            Length(m): 2500.00
         Group: LOCO                  To Node: U-OLD116              Count: 1
```

```
               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 27.360         15.330                               Flow: Both
 TClpInitZ(m): 40.000         35.000                  Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: XS-22           XS-22                    Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO9              From Node: MAGUEYES            Length(m): 2000.00
         Group: LOCO                  To Node: PALOMAS                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 33.890         27.360                               Flow: Both
 TClpInitZ(m): 45.000         40.000                  Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: XS-16           XS-16                    Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


=================================================================================================
==== Weirs ======================================================================================
=================================================================================================

         Name: W-CH11              From Node: LAGOON
        Group: INACTIVE              To Node: FUNNEL
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                       XSec: XS-WEIR3
                  Invert(m): -1.030
        Control Elevation(m): -1.030
       Struct Opening Dim(m): 9999.00
                                      TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
         Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
         Name: W116                From Node: US-116
        Group: VALLEY                To Node: DS-116
         Flow: Both                    Count: 1
         Type: Vertical: Paved      Geometry: Irregular

                       XSec: XS-116
                  Invert(m): 5.200
        Control Elevation(m): 5.200
       Struct Opening Dim(m): 9999.00
                                      TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
         Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
         Name: W332                From Node: US-332
        Group: LOCO                  To Node: DS-332
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular
```

```
                    XSec: XS-332
                Invert(m): 9.000
      Control Elevation(m): 9.000
     Struct Opening Dim(m): 9999.00
                                          TABLE
           Bottom Clip(m): 0.000
              Top Clip(m): 0.000
       Weir Discharge Coef: 2.850
    Orifice Discharge Coef: 0.600



================================================================================
==== Rating Curves =============================================================
================================================================================

       Name: LOCO-OUT            From Node: US-DAM                 Count: 1
      Group: VALLEY                To Node: DS-DAM                  Flow: Positive

            TABLE           ELEV ON(m)      ELEV OFF(m)
        #1: LOCO-DAM        70.100          70.100
        #2:                 0.000           0.000
        #3:                 0.000           0.000
        #4:                 0.000           0.000


================================================================================
==== Hydrology Simulations =====================================================
================================================================================

        Name: Eloisa
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Eloisa 29july11\Eloisa.R32

     Override Defaults: No

Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.00

================================================================================
==== Routing Simulations =======================================================
================================================================================

        Name: Eloisa              Hydrology Sim: Eloisa
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Eloisa 29july11\Eloisa.I32

     Execute: Yes         Restart: No            Patch: No
 Alternative: No

        Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
   Time Step Optimizer: 0.000
       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)
--------------- ---------------
48.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes
```

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
Eloisa	WS-1	LOCO	42.08	722.95	59.792	13059152
Eloisa	WS-2	LOCO	42.00	287.41	60.673	5052838
Eloisa	WS-3	LOCO	41.92	277.19	58.993	4636270
Eloisa	WS-4	LOCO	42.17	99.11	61.486	1883307
Eloisa	WS-5	LOCO	42.17	228.74	58.960	4249248
Eloisa	WS-6	LOCO	42.08	261.21	58.920	4606941
Eloisa	WS-A	INACTIVE	41.94	120.37	60.671	2013057
Eloisa	WS-B	INACTIVE	41.95	652.67	60.617	10960176
Eloisa	WS-C	INACTIVE	14.67	264.60	60.746	6445750
Eloisa	WS-D	INACTIVE	22.33	100.50	34.674	2417815
Eloisa	WS-E	INACTIVE	22.08	280.11	34.307	5843438
Eloisa	WS-F	INACTIVE	22.08	280.96	34.302	5976027
Eloisa	WS-G	INACTIVE	21.75	124.51	31.151	2048484
Eloisa	WS-H	INACTIVE	22.25	254.42	31.151	5478862
Eloisa	WS-I	INACTIVE	21.42	269.48	31.980	3267696
Eloisa	WS-J	INACTIVE	21.25	658.43	34.319	7108184
Eloisa	WS-K	INACTIVE	21.25	501.32	34.310	5689958

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
D-OLD116	LOCO	Eloisa	13.13	16.39	0.00	0.0020	461099	42.90	580.73	43.10	573.68
DS-116	VALLEY	Eloisa	13.38	2.48	0.00	0.0019	712767	43.51	280.60	43.91	277.81
DS-332	LOCO	Eloisa	13.19	8.87	0.00	0.0030	160850	43.21	570.11	43.27	568.50
DS-DAM	LOCO	Eloisa	10.75	50.92	0.00	0.0014	13320	24.94	39.64	35.26	39.64
FUNNEL	VALLEY	Eloisa	13.22	5.92	0.00	0.0027	533141	42.21	314.77	43.36	282.12
LAGOON	INACTIVE	Eloisa	13.31	5.86	0.00	0.0019	990295	36.84	702.25	36.77	165.71
MAGUEYES	LOCO	Eloisa	12.92	36.28	0.00	-0.0017	301558	42.13	321.27	42.37	297.95
NODEB	INACTIVE	Eloisa	13.31	5.86	0.00	0.0019	2049246	22.57	306.46	36.84	695.57
NODEC	INACTIVE	Eloisa	13.33	5.86	0.00	0.0029	2824555	22.50	513.88	22.57	306.46
NODED	INACTIVE	Eloisa	13.34	5.85	0.00	0.0027	2675397	22.53	446.71	22.72	264.01
NODEE	INACTIVE	Eloisa	13.38	5.83	0.00	0.0028	1753110	22.17	449.52	22.59	348.18
NODEF	INACTIVE	Eloisa	14.49	5.75	0.00	0.0026	3201466	22.17	341.61	24.86	249.35
NODEG	INACTIVE	Eloisa	14.49	5.75	0.00	0.0025	4150791	24.49	313.86	24.83	225.61
NODEH	INACTIVE	Eloisa	14.49	5.75	0.00	0.0028	5593999	22.42	529.83	24.53	284.11
NODEI	INACTIVE	Eloisa	14.49	5.75	0.00	0.0030	5088547	14.25	660.84	16.58	327.93
NODEJ	INACTIVE	Eloisa	4.41	7.88	0.00	0.0030	2286047	21.33	911.04	24.16	607.66
NODEK	INACTIVE	Eloisa	6.59	9.80	0.00	0.0030	870719	21.25	501.32	21.72	370.68
OCEAN	VALLEY	Eloisa	0.00	2.10	2.10	0.0000	684026	43.91	277.81	0.00	0.00
PALOMAS	LOCO	Eloisa	12.93	32.33	0.00	0.0030	961359	42.08	644.77	42.41	553.72
SUSUA	LOCO	Eloisa	12.84	45.56	0.00	0.0030	179771	42.00	327.05	42.13	321.27
U-OLD116	LOCO	Eloisa	13.07	18.85	0.00	0.0030	625431	42.33	770.30	42.90	580.73
US-116	VALLEY	Eloisa	13.30	2.78	0.00	0.0030	190203	43.36	282.12	43.51	280.60
US-332	LOCO	Eloisa	13.17	9.72	0.00	-0.0030	501987	43.10	573.68	43.21	570.11
US-DAM	LOCO	Eloisa	14.63	87.69	74.68	0.0024	728553	42.08	722.94	24.94	39.64

Appendix E

Input data and Results of ICPR Duplicate Effective Model

```
================================================================================
==== Basins ====================================================================
================================================================================

        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 50.00
            Area(ha): 1356.000                 Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 50.00
            Area(ha): 684.000                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-4                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 65.00
            Area(ha): 1131.000                 Time Shift(hrs): 0.00
        Curve Number: 82.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-5                    Node: US-332                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 66.60
            Area(ha): 358.000                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 56.00
            Area(ha): 900.000                  Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


--------------------------------------------------------------------------------
        Name: WS-A                    Node: DS-116                Status: Onsite
       Group: VALLEY                  Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 25.00
            Area(ha): 1800.000                 Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00


================================================================================
==== Nodes =====================================================================
================================================================================

     Name: D-OLD116           Base Flow(cms): 0.000          Init Stage(m): 11.950
    Group: LOCO                                            Warn Stage(m): 0.000
     Type: Stage/Area
```

Stage(m)	Area(ha)
11.950	0.1000
13.000	0.2000

Name: DS-116 Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: DS-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	0.1000
8.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

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==== Cross Sections ==========
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Name: TRANSV-1 Group: VALLEY
Encroachment: No

UPSTREAM OF STRUCTURE AT RIO LOCO

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000
1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000
1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000

6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000
1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000
2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000

906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000
966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000
1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000

1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000
1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000
1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000

1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000
1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000

1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000
2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000
2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000

1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000
1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
50.000	9.250	0.015000
100.000	8.500	0.015000
155.000	8.000	0.015000
390.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000

1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000
1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000

2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N
990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000

1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000
2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000

2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000
3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000
1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000

1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000
2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000

2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.180	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000
3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000
1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000

620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000
300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-SHEET Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ RIO LOCO(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

==========
==== Operating Tables ==========
==========

Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40

70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81
70.680	36.71
70.710	39.64

==========
==== Pipes ====
==========

Name: RLOCO5 From Node: US-332 Length(m): 20.00
Group: LOCO To Node: DS-332 Count: 5
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Solution Algorithm:	Automatic
Span(cm):	182.88	182.88	Flow:	Both
Rise(cm):	182.88	182.88	Entrance Loss Coef:	0.20
Invert(m):	5.920	5.520	Exit Loss Coef:	0.10
Manning's N:	0.013000	0.013000	Bend Loss Coef:	0.00
Top Clip(cm):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(cm):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			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

==========
==== Channels ====
==========

Name: RLOCO1 From Node: DS-116 Length(m): 1000.00
Group: VALLEY To Node: OCEAN Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(m):	-2.130	-3.080	Solution Algorithm:	Automatic
TClpInitZ(m):	10.000	10.000	Flow:	Both
Manning's N:			Contraction Coef:	0.000
Top Clip(m):			Expansion Coef:	0.000
Bot Clip(m):			Entrance Loss Coef:	0.100
Main XSec:	XS-43	XS-43	Exit Loss Coef:	0.100
AuxElev1(m):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(m):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name: RLOCO10 From Node: SUSUA Length(m): 1400.00
Group: LOCO To Node: MAGUEYES Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(m):	40.700	33.890	Solution Algorithm:	Automatic
TClpInitZ(m):	50.000	45.000	Flow:	Both
Manning's N:			Contraction Coef:	0.000
Top Clip(m):			Expansion Coef:	0.000
Bot Clip(m):			Entrance Loss Coef:	0.100
Main XSec:	XS-13	XS-13	Exit Loss Coef:	0.100
AuxElev1(m):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(m):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(m):				

```
     Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116             Length(m): 20.00
         Group: VALLEY                To Node: DS-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                                Flow: Both
  TClpInitZ(m): 3.800          3.800                   Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-40           XS-40                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                    Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: LAGOON             Length(m): 2500.00
         Group: VALLEY                To Node: US-116                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                                Flow: Both
  TClpInitZ(m): 10.000         10.000                  Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-38           XS-39                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                    Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332             Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.020          3.660                                 Flow: Both
  TClpInitZ(m): 15.000         15.000                  Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-35           XS-35                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                    Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116           Length(m): 1500.00
         Group: LOCO                  To Node: US-332                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                 Flow: Both
  TClpInitZ(m): 20.000         15.000                  Contraction Coef: 0.000
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
```

Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-25	XS-25	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	RLOCO7	From Node: U-OLD116	Length(m):	700.00
Group:	LOCO	To Node: D-OLD116	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(m):	15.330	11.950	Solution Algorithm:	Automatic
TClpInitZ(m):	25.000	21.000	Flow:	Both
Manning's N:			Contraction Coef:	0.000
Top Clip(m):			Expansion Coef:	0.000
Bot Clip(m):			Entrance Loss Coef:	0.100
Main XSec:	XS-30	XS-30	Exit Loss Coef:	0.100
AuxElev1(m):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(m):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	RLOCO8	From Node: PALOMAS	Length(m):	2500.00
Group:	LOCO	To Node: U-OLD116	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(m):	27.360	15.330	Solution Algorithm:	Automatic
TClpInitZ(m):	40.000	35.000	Flow:	Both
Manning's N:			Contraction Coef:	0.000
Top Clip(m):			Expansion Coef:	0.000
Bot Clip(m):			Entrance Loss Coef:	0.100
Main XSec:	XS-22	XS-22	Exit Loss Coef:	0.100
AuxElev1(m):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(m):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	RLOCO9	From Node: MAGUEYES	Length(m):	2000.00
Group:	LOCO	To Node: PALOMAS	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(m):	33.890	27.360	Solution Algorithm:	Automatic
TClpInitZ(m):	45.000	40.000	Flow:	Both
Manning's N:			Contraction Coef:	0.000
Top Clip(m):			Expansion Coef:	0.000
Bot Clip(m):			Entrance Loss Coef:	0.100
Main XSec:	XS-16	XS-16	Exit Loss Coef:	0.100
AuxElev1(m):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(m):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

==========
==== Weirs ==========
==========

```
         Name: W-SHEET             From Node: FUNNEL
        Group: VALLEY                To Node: LAGOON
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                       XSec: XS-SHEET
                  Invert(m): 4.000
        Control Elevation(m): 4.000
       Struct Opening Dim(m): 99999.00
                                         TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
          Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------------
         Name: W116                From Node: US-116
        Group: VALLEY                To Node: DS-116
         Flow: Both                    Count: 1
         Type: Vertical: Paved      Geometry: Irregular

                       XSec: XS-116
                  Invert(m): 5.200
        Control Elevation(m): 5.200
       Struct Opening Dim(m): 9999.00
                                         TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
          Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------------
         Name: W332                From Node: US-332
        Group: LOCO                  To Node: DS-332
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                       XSec: XS-332
                  Invert(m): 8.000
        Control Elevation(m): 8.000
       Struct Opening Dim(m): 9999.00
                                         TABLE
              Bottom Clip(m): 0.000
                 Top Clip(m): 0.000
          Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600



===============================================================================================
==== Hydrology Simulations ====================================================================
===============================================================================================

         Name: 100-YR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Duplicate 2\100-YR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: SCSII-24
    Rainfall Amount(cm): 27.94

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

===============================================================================================
==== Routing Simulations ======================================================================
===============================================================================================

         Name: 100-YR              Hydrology Sim: 100-YR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Duplicate 2\100-YR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 100.0000
       Boundary Stages:                          Boundary Flows:

HYDRAULICS RESULTS
100-YEAR, 24-HOUR STORM
```

Time(hrs)	Print Inc(min)
24.000	5.000

Group	Run
LOCO	Yes
OP_TABLES	Yes
VALLEY	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
100-YR	WS-2	LOCO	12.42	477.11	21.552	2922512
100-YR	WS-3	LOCO	12.42	227.89	20.198	1381539
100-YR	WS-4	LOCO	12.58	340.13	22.223	2513385
100-YR	WS-5	LOCO	12.58	97.88	20.191	722851
100-YR	WS-6	LOCO	12.42	276.42	20.177	1815938
100-YR	WS-A	VALLEY	12.11	964.55	21.512	3872232

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
D-OLD116	LOCO	100-YR	4.08	16.48	0.00	-0.0025	433563	13.24	563.81	13.38	544.08
DS-116	VALLEY	100-YR	3.78	3.22	0.00	0.0017	912416	12.17	983.27	12.40	656.52
DS-332	LOCO	100-YR	4.11	8.74	0.00	0.0030	165671	13.45	574.04	13.52	573.59
FUNNEL	VALLEY	100-YR	4.16	7.59	0.00	-0.0026	138759	13.43	648.86	13.50	636.55
LAGOON	VALLEY	100-YR	4.21	7.00	0.00	-0.0030	561984	13.50	636.55	13.90	600.95
MAGUEYES	LOCO	100-YR	3.92	36.18	0.00	-0.0016	294240	12.51	452.48	12.85	443.10
OCEAN	VALLEY	100-YR	0.00	2.10	2.10	0.0000	725375	12.40	656.52	0.00	0.00
PALOMAS	LOCO	100-YR	3.92	32.12	0.00	0.0030	896138	12.58	614.98	12.85	446.79
SUSUA	LOCO	100-YR	3.81	45.89	0.00	0.0030	168952	12.42	477.10	12.51	452.48
U-OLD116	LOCO	100-YR	4.03	18.75	0.00	-0.0030	611949	12.69	754.63	13.24	563.81
US-116	VALLEY	100-YR	4.37	4.08	0.00	-0.0028	514121	13.90	600.95	14.34	555.99
US-332	LOCO	100-YR	4.11	8.96	0.00	0.0026	396642	13.35	586.62	13.45	574.04

Appendix F

Input data and Results of ICPR Proposed Condition Model

MORRIS ENGINEERING

```
================================================================================
==== Basins ====================================================================
================================================================================

        Name: WS-1                    Node: US-DAM                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 59.00
            Area(ha): 2184.100                  Time Shift(hrs): 0.00
        Curve Number: 78.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 50.00
            Area(ha): 832.800                   Time Shift(hrs): 0.00
        Curve Number: 80.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 41.00
            Area(ha): 785.900                   Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-4                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 65.00
            Area(ha): 306.300                   Time Shift(hrs): 0.00
        Curve Number: 82.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-5                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 67.00
            Area(ha): 720.700                   Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 56.00
            Area(ha): 781.900                   Time Shift(hrs): 0.00
        Curve Number: 76.00              Max Allowable Q(cms): 28316.822
             DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-A                    Node: LAGOON                Status: Onsite
       Group: INACTIVE                Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
```

```
    Rainfall Amount(cm): 41.430               Time of Conc(min): 25.00
              Area(ha): 331.800                 Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-B                     Node: LAGOON                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 33.00
              Area(ha): 1808.100                  Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-C                     Node: NODEC                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 148.00
              Area(ha): 1061.100                  Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-D                     Node: NODED                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 148.00
              Area(ha): 697.300                   Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-E                     Node: NODEE                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 125.00
              Area(ha): 1703.300                  Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-F                     Node: NODEF                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 128.00
              Area(ha): 1742.200                  Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-G                     Node: NODEG                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430                 Time of Conc(min): 100.00
              Area(ha): 657.600                   Time Shift(hrs): 0.00
          Curve Number: 71.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-H                     Node: NODEH                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN
```

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 140.00
Area(ha): 1758.800 Time Shift(hrs): 0.00
Curve Number: 71.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-I Node: NODEI Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 65.00
Area(ha): 1021.800 Time Shift(hrs): 0.00
Curve Number: 73.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-J Node: NODEJ Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 50.00
Area(ha): 2071.200 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-K Node: NODEK Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 55.00
Area(ha): 1658.400 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

==========
==== Nodes ==========
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Name: D-OLD116 Base Flow(cms): 0.000 Init Stage(m): 11.950
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
11.950	0.1000
13.000	0.2000

Name: DS-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: DS-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	0.1000
8.000	0.2000

Name: DS-DAM Base Flow(cms): 0.000 Init Stage(m): 49.410
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
49.410	0.1000
52.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	1.0000
1.200	15.0000
2.500	20.0000

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: NODEB Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.256	0.1000
3.000	0.2000

Name: NODEC Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.032	0.1000
3.000	0.2000

Name: NODED Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.137	0.1000
4.000	0.2000

Name: NODEE Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000

Type: Stage/Area

Stage(m)	Area(ha)
0.092	0.1000
4.000	0.2000

Name: NODEF Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.000	5.0000
4.000	15.0000

Name: NODEG Base Flow(cms): 0.000 Init Stage(m): 2.700
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.500	0.1000
4.000	0.2000

Name: NODEH Base Flow(cms): 0.000 Init Stage(m): 0.800
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.800	0.1000
4.000	0.2000

Name: NODEI Base Flow(cms): 0.000 Init Stage(m): 1.200
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.200	0.1000
4.000	0.2000

Name: NODEJ Base Flow(cms): 0.000 Init Stage(m): 3.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
3.500	0.1000
5.500	0.2000

Name: NODEK Base Flow(cms): 0.000 Init Stage(m): 5.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.500	0.1000
7.500	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

Name: US-DAM Base Flow(cms): 0.000 Init Stage(m): 70.100
Group: LOCO Warn Stage(m): 74.680
Type: Stage/Area

Stage(m)	Area(ha)
54.860	0.8094
56.390	2.0234
57.910	4.0469
59.440	6.4750
60.960	8.9031
62.480	10.9266
64.010	13.7594
65.530	16.5922
67.060	19.4250
68.580	23.0672
70.100	26.3047
71.630	29.9469
73.150	34.3984
74.680	38.4453

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==== Cross Sections ==========
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Name: TRANSV-1 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000

1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000
1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000
6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000

1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000
2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000
906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000

966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000
1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000
1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000

1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000
1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000
1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000
1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000
1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000

2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000
2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000
1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000

1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
20.000	9.250	0.015000
70.000	8.500	0.015000
120.000	8.000	0.015000
360.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000
1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000
1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000
2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N

990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000
1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000

2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000
2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000

Station(m)	Elevation(m)	Manning's N
3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000
1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000
1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000

2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000
2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.080	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000

3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000
1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000
620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N

0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000
300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ oulet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR3 Group: VALLEY
Encroachment: No

STRUCTR @ outlet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000

268.100	4.502	0.080000
300.000	2.734	0.080000
306.376	0.627	0.050000
313.766	-1.030	0.050000
317.552	0.627	0.050000
319.596	1.566	0.050000
350.000	4.987	0.080000
375.000	3.700	0.080000
425.000	4.000	0.080000
500.000	5.000	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ outlet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

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==== Operating Tables ==========
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Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40
70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81

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         70.680           36.71
         70.710           39.64

================================================================================================
==== Pipes =====================================================================================
================================================================================================

         Name: ROCO5               From Node: US-332             Length(m): 20.00
        Group: LOCO                  To Node: DS-332                 Count: 5
                                                            Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Automatic
     Geometry: Circular       Circular                          Flow: Both
     Span(cm): 182.88         182.88                   Entrance Loss Coef: 0.20
     Rise(cm): 182.88         182.88                       Exit Loss Coef: 0.10
    Invert(m): 5.920          5.520                        Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(cm): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(cm): 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


================================================================================================
==== Channels ==================================================================================
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          Name: CH1                 From Node: NODEK              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEJ                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                Solution Algorithm: Automatic
    Invert(m): 5.500          3.500                             Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.200
   Bot Clip(m):                                           Exit Loss Coef: 0.300
     Main XSec: XS-JK          XS-JK                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH10                From Node: NODEB              Length(m): 1000.00
         Group: INACTIVE              To Node: LAGOON                 Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                Solution Algorithm: Automatic
    Invert(m): 0.256          -1.030                            Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: TRANSV-D       TRANSV-D                  Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH2                 From Node: NODEJ              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEI                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                Solution Algorithm: Automatic
    Invert(m): 3.500          1.200                             Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
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   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-IJ          XS-IJ                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH3                From Node: NODEI              Length(m): 3000.00
         Group: INACTIVE             To Node: NODEH                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 1.200          0.800                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-HI          XS-HI                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH4                From Node: NODEH              Length(m): 1200.00
         Group: INACTIVE             To Node: NODEG                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 0.800          0.500                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-GH          XS-GH                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH5                From Node: NODEG              Length(m): 1800.00
         Group: INACTIVE             To Node: NODEF                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 0.500          0.290                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-FG          XS-FG                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
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         Name: CH6                 From Node: NODEF              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEE                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.290          0.092                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-H            XS-H                       Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH7                 From Node: NODEE              Length(m): 1600.00
        Group: INACTIVE              To Node: NODED                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.092          0.040                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-G        TRANSV-G                   Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH8                 From Node: NODED              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEC                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.040          0.032                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-F        TRANSV-F                   Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH9                 From Node: NODEC              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEB                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.032          0.256                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-E        TRANSV-E                   Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
```

```
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO1              From Node: DS-116             Length(m): 1000.00
         Group: VALLEY                To Node: OCEAN                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -3.080                             Flow: Both
  TClpInitZ(m): 10.000         10.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-43           XS-43                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO10             From Node: SUSUA              Length(m): 1400.00
         Group: LOCO                  To Node: MAGUEYES              Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 40.700         33.890                             Flow: Both
  TClpInitZ(m): 50.000         45.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-13           XS-13                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO11             From Node: DS-DAM             Length(m): 1050.00
         Group: LOCO                  To Node: SUSUA                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 49.410         40.700                             Flow: Both
  TClpInitZ(m): 60.000         50.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-1            XS-1                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116             Length(m): 20.00
         Group: VALLEY                To Node: DS-116                Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                             Flow: Both
  TClpInitZ(m): 3.800          3.800                    Contraction Coef: 0.000
```

```
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-40          XS-40                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: FUNNEL              Length(m): 2500.00
         Group: VALLEY                To Node: US-116                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                                 Flow: Both
  TClpInitZ(m): 10.000         10.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-38          XS-39                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332              Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.220          3.660                                  Flow: Both
  TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-35          XS-35                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116            Length(m): 1500.00
         Group: LOCO                  To Node: US-332                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                  Flow: Both
  TClpInitZ(m): 20.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-25          XS-25                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
---------------------------------------------------------------------------------------------------
         Name: RLOCO7              From Node: U-OLD116           Length(m): 700.00
        Group: LOCO                  To Node: D-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 15.330         11.950                                 Flow: Both
 TClpInitZ(m): 25.000         21.000                      Contraction Coef: 0.000
  Manning's N:                                              Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-30           XS-30                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                             Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO8              From Node: PALOMAS            Length(m): 2500.00
        Group: LOCO                  To Node: U-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 27.360         15.330                                 Flow: Both
 TClpInitZ(m): 40.000         35.000                      Contraction Coef: 0.000
  Manning's N:                                              Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-22           XS-22                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                             Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO9              From Node: MAGUEYES           Length(m): 2000.00
        Group: LOCO                  To Node: PALOMAS                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 33.890         27.360                                 Flow: Both
 TClpInitZ(m): 45.000         40.000                      Contraction Coef: 0.000
  Manning's N:                                              Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-16           XS-16                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                        Inlet Ctrl Spec: Use dn
    Aux XSec1:                                             Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



===================================================================================================
==== Weirs ========================================================================================
===================================================================================================

         Name: W-CH11             From Node: LAGOON
        Group: INACTIVE             To Node: FUNNEL
         Flow: Both                   Count: 1
         Type: Vertical: Mavis     Geometry: Irregular

                     XSec: XS-WEIR3
                Invert(m): -1.030
      Control Elevation(m): -1.030
     Struct Opening Dim(m): 9999.00
                                       TABLE
           Bottom Clip(m): 0.000
              Top Clip(m): 0.000
```

```
        Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: W116               From Node: US-116
       Group: VALLEY               To Node: DS-116
        Flow: Both                   Count: 1
        Type: Vertical: Paved     Geometry: Irregular

                      XSec: XS-116
                Invert(m): 5.200
       Control Elevation(m): 5.200
      Struct Opening Dim(m): 9999.00
                                        TABLE
             Bottom Clip(m): 0.000
                Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


--------------------------------------------------------------------------------------------------
        Name: W332               From Node: US-332
       Group: LOCO                 To Node: DS-332
        Flow: Both                   Count: 1
        Type: Vertical: Mavis     Geometry: Irregular

                      XSec: XS-332
                Invert(m): 9.000
       Control Elevation(m): 9.000
      Struct Opening Dim(m): 9999.00
                                        TABLE
             Bottom Clip(m): 0.000
                Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
      Orifice Discharge Coef: 0.600


==================================================================================================
==== Rating Curves ===============================================================================
==================================================================================================

        Name: LOCO-OUT            From Node: US-DAM                  Count: 1
       Group: VALLEY                To Node: DS-DAM                   Flow: Positive

             TABLE           ELEV ON(m)      ELEV OFF(m)
          #1: LOCO-DAM       70.100          70.100
          #2:                0.000           0.000
          #3:                0.000           0.000
          #4:                0.000           0.000


==================================================================================================
==== Hydrology Simulations =======================================================================
==================================================================================================

        Name: 100-YEAR
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100-YEAR.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 41.43

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

--------------------------------------------------------------------------------------------------
        Name: 100yr-12
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100yr-12.R32

     Override Defaults: Yes
   Storm Duration(hrs): 12.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 30.91

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

--------------------------------------------------------------------------------------------------
        Name: 100yr-48
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100yr-48.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 48.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 51.33

Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 100-YEAR            Hydrology Sim: 100-YEAR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100-YEAR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 100.0000
        Boundary Stages:                        Boundary Flows:

HYDRAULICS RESULTS
100-YEAR, 24-HOUR STORM


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------------------------
         Name: 100yr-12            Hydrology Sim: 100yr-12
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100yr-12.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
12.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------------------------
         Name: 100yr-48            Hydrology Sim: 100yr-48
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 2.7m 17Ag11\100yr-48.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
48.000          5.000
```

Group	Run
BASE	Yes
INACTIVE	Yes
LOCO	Yes
OP_TABLES	Yes
VALLEY	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
100-YEAR	WS-1	LOCO	12.58	569.26	33.912	7406638
100-YEAR	WS-2	LOCO	12.42	240.56	34.695	2889412
100-YEAR	WS-3	LOCO	12.33	244.47	33.174	2607124
100-YEAR	WS-4	LOCO	12.58	78.07	35.439	1085494
100-YEAR	WS-5	LOCO	12.67	173.19	33.155	2389490
100-YEAR	WS-6	LOCO	12.50	206.63	33.133	2590632
100-YEAR	WS-A	INACTIVE	12.17	134.22	34.630	1149038
100-YEAR	WS-B	INACTIVE	12.25	640.79	34.615	6258787
100-YEAR	WS-C	INACTIVE	13.58	169.99	34.674	3679254
100-YEAR	WS-D	INACTIVE	13.58	111.71	34.674	2417815
100-YEAR	WS-E	INACTIVE	13.33	297.60	34.307	5843438
100-YEAR	WS-F	INACTIVE	13.33	300.48	34.302	5976027
100-YEAR	WS-G	INACTIVE	13.00	120.90	31.151	2048484
100-YEAR	WS-H	INACTIVE	13.50	267.98	31.151	5478862
100-YEAR	WS-I	INACTIVE	12.58	242.49	31.980	3267696
100-YEAR	WS-J	INACTIVE	12.42	594.08	34.319	7108184
100-YEAR	WS-K	INACTIVE	12.50	453.37	34.310	5689958
100yr-12	WS-1	LOCO	6.58	554.30	23.614	5157642
100yr-12	WS-2	LOCO	6.50	237.10	24.330	2026195
100yr-12	WS-3	LOCO	6.42	237.82	22.933	1802338
100yr-12	WS-4	LOCO	6.67	76.97	25.020	766364
100yr-12	WS-5	LOCO	6.67	166.18	22.921	1651885
100yr-12	WS-6	LOCO	6.58	199.34	22.905	1790937
100yr-12	WS-A	INACTIVE	6.22	136.90	24.378	808849
100yr-12	WS-B	INACTIVE	6.31	645.29	24.325	4398290
100yr-12	WS-C	INACTIVE	7.67	163.20	24.315	2580071
100yr-12	WS-D	INACTIVE	7.67	107.25	24.315	1695489
100yr-12	WS-E	INACTIVE	7.42	285.71	23.974	4083506
100yr-12	WS-F	INACTIVE	7.42	288.33	23.971	4176161
100yr-12	WS-G	INACTIVE	7.08	112.31	21.120	1388863
100yr-12	WS-H	INACTIVE	7.58	246.48	21.120	3714644
100yr-12	WS-I	INACTIVE	6.67	230.15	21.857	2233313
100yr-12	WS-J	INACTIVE	6.50	583.32	23.983	4967334
100yr-12	WS-K	INACTIVE	6.58	442.28	23.976	3976251
100yr-48	WS-1	LOCO	24.42	513.15	43.581	9518465
100yr-48	WS-2	LOCO	24.33	213.98	44.409	3698352
100yr-48	WS-3	LOCO	24.25	214.76	42.811	3364526
100yr-48	WS-4	LOCO	24.50	70.06	45.185	1384025
100yr-48	WS-5	LOCO	24.50	157.27	42.787	3083666
100yr-48	WS-6	LOCO	24.42	186.08	42.758	3343242
100yr-48	WS-A	INACTIVE	24.05	108.99	44.365	1472038
100yr-48	WS-B	INACTIVE	24.13	545.98	44.346	8018257
100yr-48	WS-C	INACTIVE	25.50	157.46	44.382	4709324
100yr-48	WS-D	INACTIVE	25.50	103.47	44.382	3094724
100yr-48	WS-E	INACTIVE	25.25	275.15	43.999	7494323
100yr-48	WS-F	INACTIVE	25.25	278.11	43.992	7664370
100yr-48	WS-G	INACTIVE	24.92	113.38	40.655	2673454
100yr-48	WS-H	INACTIVE	25.42	253.93	40.655	7150402
100yr-48	WS-I	INACTIVE	24.50	222.17	41.544	4244916
100yr-48	WS-J	INACTIVE	24.33	529.55	44.015	9116384
100yr-48	WS-K	INACTIVE	24.42	404.19	44.003	7297481

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
D-OLD116	LOCO	100-YEAR	4.11	16.18	0.00	0.0030	454485	13.41	453.71	13.50	442.12
DS-116	VALLEY	100-YEAR	7.31	2.36	0.00	0.0019	601050	24.00	227.85	24.00	226.22
DS-332	LOCO	100-YEAR	4.18	8.64	0.00	0.0030	149925	13.62	435.57	13.70	433.62
DS-DAM	LOCO	100-YEAR	4.87	50.92	0.00	0.0013	14313	7.41	39.64	15.97	39.64
FUNNEL	VALLEY	100-YEAR	7.31	5.61	0.00	0.0115	397669	23.99	226.52	24.00	228.61
LAGOON	INACTIVE	100-YEAR	7.31	5.63	0.00	0.0014	981448	23.99	652.82	0.00	113.82
MAGUEYES	LOCO	100-YEAR	3.91	36.01	0.00	0.0014	224843	12.58	268.59	12.83	230.74
NODEB	INACTIVE	100-YEAR	7.31	5.63	0.00	0.0011	2034194	16.52	119.59	23.99	607.84
NODEC	INACTIVE	100-YEAR	7.31	5.63	0.00	0.0007	2792738	15.93	135.23	16.52	119.59
NODED	INACTIVE	100-YEAR	7.31	5.63	0.00	0.0007	2566823	13.42	214.35	23.99	96.80
NODEE	INACTIVE	100-YEAR	7.31	5.64	0.00	0.0007	1660267	12.87	273.59	13.39	103.89
NODEF	INACTIVE	100-YEAR	7.31	5.64	0.00	0.0010	3166738	13.08	230.51	24.00	61.35
NODEG	INACTIVE	100-YEAR	7.31	5.64	0.00	0.0013	4103163	15.01	267.45	16.63	64.52
NODEH	INACTIVE	100-YEAR	7.31	5.65	0.00	0.0018	5575058	14.01	677.73	15.13	224.50
NODEI	INACTIVE	100-YEAR	7.31	5.65	0.00	0.0026	5049299	12.89	796.99	14.59	458.89
NODEJ	INACTIVE	100-YEAR	4.01	8.00	0.00	0.0030	2379345	12.50	848.59	13.40	613.06
NODEK	INACTIVE	100-YEAR	3.93	9.43	0.00	0.0029	797173	12.50	453.35	12.96	330.72
OCEAN	VALLEY	100-YEAR	0.00	2.10	2.10	0.0000	684026	24.00	226.22	0.00	0.00
PALOMAS	LOCO	100-YEAR	3.92	32.09	0.00	0.0020	887410	12.50	486.65	12.86	430.83
SUSUA	LOCO	100-YEAR	3.83	45.39	0.00	0.0030	176088	12.42	280.19	12.58	268.59
U-OLD116	LOCO	100-YEAR	4.09	18.19	0.00	-0.0030	201396	12.75	597.86	13.41	453.71
US-116	VALLEY	100-YEAR	7.31	2.56	0.00	0.0020	159025	24.00	228.61	24.00	227.85
US-332	LOCO	100-YEAR	4.15	9.61	0.00	0.0027	493697	13.50	442.12	13.62	435.57
US-DAM	LOCO	100-YEAR	7.31	81.37	74.68	0.0030	561276	12.58	569.25	7.41	39.64
D-OLD116	LOCO	100yr-12	2.29	16.15	0.00	0.0026	453350	7.40	432.91	7.54	419.97
DS-116	VALLEY	100yr-12	3.66	2.21	0.00	0.0019	487777	12.00	153.27	12.00	150.89
DS-332	LOCO	100yr-12	2.37	8.60	0.00	0.0030	148079	7.68	414.21	7.76	412.50
DS-DAM	LOCO	100yr-12	3.07	50.92	0.00	0.0011	14323	4.28	39.64	10.08	39.64
FUNNEL	VALLEY	100yr-12	3.66	5.06	0.00	0.0115	285807	11.99	161.43	12.00	154.25
LAGOON	INACTIVE	100yr-12	3.66	5.06	0.00	0.0018	959432	10.82	237.34	0.00	113.82
MAGUEYES	LOCO	100yr-12	2.09	35.99	0.00	0.0011	209194	6.62	265.02	6.86	225.68
NODEB	INACTIVE	100yr-12	3.66	5.06	0.00	0.0015	1907852	10.59	71.75	10.82	160.73
NODEC	INACTIVE	100yr-12	3.66	5.06	0.00	0.0009	2660607	7.73	167.52	10.59	71.75
NODED	INACTIVE	100yr-12	3.66	5.06	0.00	0.0009	2384424	7.69	274.21	12.00	43.11
NODEE	INACTIVE	100yr-12	3.66	5.06	0.00	0.0008	1518824	7.42	312.31	7.70	167.09
NODEF	INACTIVE	100yr-12	3.66	5.09	0.00	0.0009	2970905	7.17	227.53	12.00	60.24
NODEG	INACTIVE	100yr-12	3.66	5.10	0.00	0.0010	3859698	10.23	248.50	11.38	83.04
NODEH	INACTIVE	100yr-12	3.66	5.11	0.00	0.0013	5476539	8.32	580.49	10.32	218.79
NODEI	INACTIVE	100yr-12	2.85	5.23	0.00	0.0030	5185551	6.98	743.48	9.04	410.39
NODEJ	INACTIVE	100yr-12	2.22	7.96	0.00	0.0030	2345484	6.58	829.48	7.28	567.89
NODEK	INACTIVE	100yr-12	2.12	9.44	0.00	0.0028	795432	6.58	442.28	7.01	325.42
OCEAN	VALLEY	100yr-12	0.00	2.10	2.10	0.0000	684026	12.00	150.89	0.00	0.00
PALOMAS	LOCO	100yr-12	2.11	32.06	0.00	0.0021	880438	6.56	472.68	6.92	417.42
SUSUA	LOCO	100yr-12	2.02	45.38	0.00	0.0030	175841	6.50	276.73	6.62	265.02
U-OLD116	LOCO	100yr-12	2.26	18.08	0.00	-0.0030	201312	6.81	576.86	7.40	432.91
US-116	VALLEY	100yr-12	3.66	2.30	0.00	0.0020	114328	12.00	154.25	12.00	153.27
US-332	LOCO	100yr-12	2.34	9.59	0.00	0.0023	492297	7.54	419.97	7.68	414.21
US-DAM	LOCO	100yr-12	3.66	79.75	74.68	0.0030	518678	6.58	554.29	4.28	39.64
D-OLD116	LOCO	100yr-48	7.72	16.14	0.00	0.0030	453054	25.17	426.16	25.36	414.25
DS-116	VALLEY	100yr-48	14.63	2.45	0.00	0.0019	685610	48.00	264.17	48.00	264.05
DS-332	LOCO	100yr-48	7.80	8.59	0.00	0.0030	147642	25.50	408.97	25.58	407.47
DS-DAM	LOCO	100yr-48	5.62	50.92	0.00	0.0014	13713	16.66	39.64	18.43	39.64
FUNNEL	VALLEY	100yr-48	14.63	5.82	0.00	0.0115	407179	47.92	273.45	48.00	264.22
LAGOON	INACTIVE	100yr-48	14.63	5.86	0.00	0.0029	990131	37.23	737.01	39.37	203.80
MAGUEYES	LOCO	100yr-48	7.54	35.94	0.00	0.0015	203899	24.48	239.97	24.75	214.73
NODEB	INACTIVE	100yr-48	14.63	5.86	0.00	0.0028	2049047	40.62	227.15	37.23	698.85
NODEC	INACTIVE	100yr-48	14.63	5.86	0.00	0.0019	2824742	39.80	163.22	40.62	227.15
NODED	INACTIVE	100yr-48	14.63	5.86	0.00	0.0018	2677020	39.82	145.95	39.80	144.79
NODEE	INACTIVE	100yr-48	14.63	5.86	0.00	0.0010	1755733	25.00	186.53	39.82	133.84
NODEF	INACTIVE	100yr-48	14.63	5.88	0.00	0.0013	3242055	24.92	167.44	48.00	108.86
NODEG	INACTIVE	100yr-48	14.63	5.88	0.00	0.0013	4198275	26.06	196.19	48.00	87.50

Guanica Lagoon Proposed Condition
Starting Water Surface Elevation at 2.7 m-msl

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
NODEH	INACTIVE	100yr-48	14.63	5.88	0.00	0.0016	5613771	25.81	608.60	26.43	139.65
NODEI	INACTIVE	100yr-48	14.63	5.88	0.00	0.0028	5138460	24.83	725.86	26.07	378.11
NODEJ	INACTIVE	100yr-48	7.65	7.94	0.00	-0.0024	2326623	24.42	763.24	27.58	608.14
NODEK	INACTIVE	100yr-48	7.56	9.36	0.00	0.0030	766642	24.42	404.19	24.88	304.24
OCEAN	VALLEY	100yr-48	0.00	2.10	2.10	0.0000	684026	48.00	264.05	0.00	0.00
PALOMAS	LOCO	100yr-48	7.54	32.03	0.00	0.0022	874166	24.42	442.17	24.74	405.42
SUSUA	LOCO	100yr-48	7.46	45.34	0.00	0.0025	157948	24.33	253.61	24.48	239.97
U-OLD116	LOCO	100yr-48	7.67	18.04	0.00	0.0030	201282	24.60	557.95	25.17	426.16
US-116	VALLEY	100yr-48	14.63	2.72	0.00	0.0020	174813	48.00	264.22	48.00	264.17
US-332	LOCO	100yr-48	7.77	9.58	0.00	0.0027	491949	25.36	414.25	25.50	408.97
US-DAM	LOCO	100yr-48	11.29	80.88	74.68	0.0030	548448	24.42	513.13	16.66	39.64

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================================================================================
==== Basins ====================================================================
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        Name: WS-1                    Node: US-DAM                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 59.00
             Area(ha): 2184.100                 Time Shift(hrs): 0.00
         Curve Number: 78.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 50.00
             Area(ha): 832.800                  Time Shift(hrs): 0.00
         Curve Number: 80.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 41.00
             Area(ha): 785.900                  Time Shift(hrs): 0.00
         Curve Number: 76.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-4                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 65.00
             Area(ha): 306.300                  Time Shift(hrs): 0.00
         Curve Number: 82.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-5                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 67.00
             Area(ha): 720.700                  Time Shift(hrs): 0.00
         Curve Number: 76.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
   Rainfall Amount(cm): 41.430                Time of Conc(min): 56.00
             Area(ha): 781.900                  Time Shift(hrs): 0.00
         Curve Number: 76.00              Max Allowable Q(cms): 28316.822
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------------
        Name: WS-A                    Node: LAGOON                Status: Onsite
       Group: INACTIVE                Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
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    Rainfall Amount(cm): 41.430               Time of Conc(min): 25.00
              Area(ha): 331.800                 Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-B                     Node: LAGOON                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 33.00
              Area(ha): 1808.100                Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-C                     Node: NODEC                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 145.00
              Area(ha): 1061.100                Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-D                     Node: NODED                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 148.00
              Area(ha): 697.300                 Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-E                     Node: NODEE                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 125.00
              Area(ha): 1703.300                Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-F                     Node: NODEF                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 128.00
              Area(ha): 1742.200                Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------------
         Name: WS-G                     Node: NODEG                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 100.00
              Area(ha): 657.600                 Time Shift(hrs): 0.00
          Curve Number: 71.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


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         Name: WS-H                     Node: NODEH                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN
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Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 140.00
Area(ha): 1758.800 Time Shift(hrs): 0.00
Curve Number: 71.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-I Node: NODEI Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 65.00
Area(ha): 1021.800 Time Shift(hrs): 0.00
Curve Number: 73.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-J Node: NODEJ Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 50.00
Area(ha): 2071.200 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-K Node: NODEK Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 55.00
Area(ha): 1658.400 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

==========
==== Nodes ==========
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Name: D-OLD116 Base Flow(cms): 0.000 Init Stage(m): 11.950
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
11.950	0.1000
13.000	0.2000

Name: DS-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: DS-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	0.1000
8.000	0.2000

Name: DS-DAM Base Flow(cms): 0.000 Init Stage(m): 49.410
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
49.410	0.1000
52.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	1.0000
1.200	15.0000
2.500	20.0000

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: NODEB Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.256	0.1000
3.000	0.2000

Name: NODEC Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.032	0.1000
3.000	0.2000

Name: NODED Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.137	0.1000
4.000	0.2000

Name: NODEE Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000

Type: Stage/Area

Stage(m)	Area(ha)
0.092	0.1000
4.000	0.2000

Name: NODEF Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.000	5.0000
4.000	15.0000

Name: NODEG Base Flow(cms): 0.000 Init Stage(m): 3.100
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.500	0.1000
4.000	0.2000

Name: NODEH Base Flow(cms): 0.000 Init Stage(m): 0.800
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.800	0.1000
4.000	0.2000

Name: NODEI Base Flow(cms): 0.000 Init Stage(m): 1.200
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.200	0.1000
4.000	0.2000

Name: NODEJ Base Flow(cms): 0.000 Init Stage(m): 3.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
3.500	0.1000
5.500	0.2000

Name: NODEK Base Flow(cms): 0.000 Init Stage(m): 5.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.500	0.1000
7.500	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

Name: US-DAM Base Flow(cms): 0.000 Init Stage(m): 70.100
Group: LOCO Warn Stage(m): 74.680
Type: Stage/Area

Stage(m)	Area(ha)
54.860	0.8094
56.390	2.0234
57.910	4.0469
59.440	6.4750
60.960	8.9031
62.480	10.9266
64.010	13.7594
65.530	16.5922
67.060	19.4250
68.580	23.0672
70.100	26.3047
71.630	29.9469
73.150	34.3984
74.680	38.4453

==========
==== Cross Sections ==========
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Name: TRANSV-1 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000

1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000
1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000
6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000

1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000
2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000
906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000

966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000
1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000
1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000

1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000
1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000
1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000
1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000
1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000

2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000
2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000
1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000

1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
20.000	9.250	0.015000
70.000	8.500	0.015000
120.000	8.000	0.015000
360.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000
1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000
1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000
2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N

990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000
1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000

2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000
2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000

3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000
1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000
1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000

2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000
2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.080	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000

3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000
1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000
620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N

0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000
300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ outlet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR3 Group: VALLEY
Encroachment: No

STRUCTR @ outlet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000

268.100	4.502	0.080000
300.000	2.734	0.080000
306.376	0.627	0.050000
313.766	-1.030	0.050000
317.552	0.627	0.050000
319.596	1.566	0.050000
350.000	4.987	0.080000
375.000	3.700	0.080000
425.000	4.000	0.080000
500.000	5.000	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ oulet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

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==== Operating Tables ==========
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Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40
70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81

```
         70.680           36.71
         70.710           39.64

================================================================================================
==== Pipes =====================================================================================
================================================================================================

         Name: ROCO5               From Node: US-332             Length(m): 20.00
        Group: LOCO                  To Node: DS-332                 Count: 5
                                                            Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Automatic
     Geometry: Circular       Circular                          Flow: Both
     Span(cm): 182.88         182.88                   Entrance Loss Coef: 0.20
     Rise(cm): 182.88         182.88                       Exit Loss Coef: 0.10
    Invert(m): 5.920          5.520                        Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(cm): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(cm): 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


================================================================================================
==== Channels ==================================================================================
================================================================================================

          Name: CH1                 From Node: NODEK              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEJ                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 5.500          3.500                             Flow: Both
 TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                          Entrance Loss Coef: 0.200
  Bot Clip(m):                                              Exit Loss Coef: 0.300
    Main XSec: XS-JK           XS-JK                     Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                      Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH10                From Node: NODEB              Length(m): 1000.00
         Group: INACTIVE              To Node: LAGOON                 Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.256          -1.030                            Flow: Both
 TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                          Entrance Loss Coef: 0.100
  Bot Clip(m):                                              Exit Loss Coef: 0.100
    Main XSec: TRANSV-D        TRANSV-D                  Outlet Ctrl Spec: Use dc or tw
  AuxElev1(m): 0.000           0.000                      Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(m): 0.000           0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH2                 From Node: NODEJ              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEI                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 3.500          1.200                             Flow: Both
 TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
```

```
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-IJ          XS-IJ                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH3                From Node: NODEI              Length(m): 3000.00
         Group: INACTIVE             To Node: NODEH                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 1.200          0.800                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-HI          XS-HI                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH4                From Node: NODEH              Length(m): 1200.00
         Group: INACTIVE             To Node: NODEG                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 0.800          0.500                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-GH          XS-GH                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: CH5                From Node: NODEG              Length(m): 1800.00
         Group: INACTIVE             To Node: NODEF                  Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 0.500          0.290                                Flow: Both
  TClpInitZ(m): 15.000         15.000                     Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-FG          XS-FG                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                      Inlet Ctrl Spec: Use dn
     Aux XSec1:                                        Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
---------------------------------------------------------------------------------------------------
         Name: CH6                 From Node: NODEF              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEE                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.290          0.092                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: XS-H            XS-H                       Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH7                 From Node: NODEE              Length(m): 1600.00
        Group: INACTIVE              To Node: NODED                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.092          0.040                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-G        TRANSV-G                   Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH8                 From Node: NODED              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEC                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.040          0.032                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-F        TRANSV-F                   Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH9                 From Node: NODEC              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEB                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.032          0.256                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
  Manning's N:                                             Expansion Coef: 0.000
  Top Clip(m):                                           Entrance Loss Coef: 0.100
  Bot Clip(m):                                               Exit Loss Coef: 0.100
    Main XSec: TRANSV-E        TRANSV-E                   Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                       Inlet Ctrl Spec: Use dn
    Aux XSec1:                                           Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
```

```
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO1              From Node: DS-116             Length(m): 1000.00
         Group: VALLEY                To Node: OCEAN                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -3.080                             Flow: Both
  TClpInitZ(m): 10.000         10.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-43           XS-43                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO10             From Node: SUSUA              Length(m): 1400.00
         Group: LOCO                  To Node: MAGUEYES              Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 40.700         33.890                             Flow: Both
  TClpInitZ(m): 50.000         45.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-13           XS-13                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO11             From Node: DS-DAM             Length(m): 1050.00
         Group: LOCO                  To Node: SUSUA                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 49.410         40.700                             Flow: Both
  TClpInitZ(m): 60.000         50.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-1            XS-1                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116             Length(m): 20.00
         Group: VALLEY                To Node: DS-116                Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                             Flow: Both
  TClpInitZ(m): 3.800          3.800                    Contraction Coef: 0.000
```

```
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-40          XS-40                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: FUNNEL              Length(m): 2500.00
         Group: VALLEY                To Node: US-116                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                                 Flow: Both
  TClpInitZ(m): 10.000         10.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-38          XS-39                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332              Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.220          3.660                                  Flow: Both
  TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-35          XS-35                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116            Length(m): 1500.00
         Group: LOCO                  To Node: US-332                 Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                  Flow: Both
  TClpInitZ(m): 20.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-25          XS-25                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
---------------------------------------------------------------------------------------------------
         Name: RLOCO7              From Node: U-OLD116           Length(m): 700.00
        Group: LOCO                  To Node: D-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 15.330         11.950                                 Flow: Both
 TClpInitZ(m): 25.000         21.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-30           XS-30                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO8              From Node: PALOMAS            Length(m): 2500.00
        Group: LOCO                  To Node: U-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 27.360         15.330                                 Flow: Both
 TClpInitZ(m): 40.000         35.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-22           XS-22                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO9              From Node: MAGUEYES           Length(m): 2000.00
        Group: LOCO                  To Node: PALOMAS                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 33.890         27.360                                 Flow: Both
 TClpInitZ(m): 45.000         40.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-16           XS-16                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



===================================================================================================
==== Weirs ========================================================================================
===================================================================================================

         Name: W-CH11              From Node: LAGOON
        Group: INACTIVE              To Node: FUNNEL
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Irregular

                     XSec: XS-WEIR3
                Invert(m): -1.030
      Control Elevation(m): -1.030
     Struct Opening Dim(m): 9999.00
                                       TABLE
           Bottom Clip(m): 0.000
              Top Clip(m): 0.000

---------------------------------------------------------------------------------------------------
Guanica Lagoon Propsed Condition
Starting Water Surface Elevation at 3.1 m-msl
```

```
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: W116               From Node: US-116
       Group: VALLEY               To Node: DS-116
        Flow: Both                   Count: 1
        Type: Vertical: Paved     Geometry: Irregular

                      XSec: XS-116
                Invert(m): 5.200
      Control Elevation(m): 5.200
      Struct Opening Dim(m): 9999.00
                                      TABLE
            Bottom Clip(m): 0.000
               Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: W332               From Node: US-332
       Group: LOCO                 To Node: DS-332
        Flow: Both                   Count: 1
        Type: Vertical: Mavis     Geometry: Irregular

                      XSec: XS-332
                Invert(m): 9.000
      Control Elevation(m): 9.000
      Struct Opening Dim(m): 9999.00
                                      TABLE
            Bottom Clip(m): 0.000
               Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


=================================================================================================
==== Rating Curves ==============================================================================
=================================================================================================

        Name: LOCO-OUT            From Node: US-DAM                 Count: 1
       Group: VALLEY                To Node: DS-DAM                  Flow: Positive

             TABLE           ELEV ON(m)      ELEV OFF(m)
          #1: LOCO-DAM       70.100          70.100
          #2:                0.000           0.000
          #3:                0.000           0.000
          #4:                0.000           0.000


=================================================================================================
==== Hydrology Simulations ======================================================================
=================================================================================================

        Name: 100-YEAR
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100-YEAR.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 41.43

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------
        Name: 100yr-12
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100yr-12.R32

     Override Defaults: Yes
   Storm Duration(hrs): 12.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 30.91

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

-------------------------------------------------------------------------------------------------
        Name: 100yr-48
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100yr-48.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 48.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 51.33

Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 100-YEAR            Hydrology Sim: 100-YEAR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100-YEAR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 100.0000
        Boundary Stages:                        Boundary Flows:

HYDRAULICS RESULTS
100-YEAR, 24-HOUR STORM


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------
         Name: 100yr-12            Hydrology Sim: 100yr-12
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100yr-12.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
12.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------
         Name: 100yr-48            Hydrology Sim: 100yr-48
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.1m 17Ag11\100yr-24.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
48.000          5.000
```

Group	Run
BASE	Yes
INACTIVE	Yes
LOCO	Yes
OP_TABLES	Yes
VALLEY	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
100-YEAR	WS-1	LOCO	12.58	569.26	33.912	7406638
100-YEAR	WS-2	LOCO	12.42	240.56	34.695	2889412
100-YEAR	WS-3	LOCO	12.33	244.47	33.174	2607124
100-YEAR	WS-4	LOCO	12.58	78.07	35.439	1085494
100-YEAR	WS-5	LOCO	12.67	173.19	33.155	2389490
100-YEAR	WS-6	LOCO	12.50	206.63	33.133	2590632
100-YEAR	WS-A	INACTIVE	12.17	134.22	34.630	1149038
100-YEAR	WS-B	INACTIVE	12.25	640.79	34.615	6258787
100-YEAR	WS-C	INACTIVE	13.58	171.82	34.673	3679137
100-YEAR	WS-D	INACTIVE	13.58	111.71	34.674	2417815
100-YEAR	WS-E	INACTIVE	13.33	297.60	34.307	5843438
100-YEAR	WS-F	INACTIVE	13.33	300.48	34.302	5976027
100-YEAR	WS-G	INACTIVE	13.00	120.90	31.151	2048484
100-YEAR	WS-H	INACTIVE	13.50	267.98	31.151	5478862
100-YEAR	WS-I	INACTIVE	12.58	242.49	31.980	3267696
100-YEAR	WS-J	INACTIVE	12.42	594.08	34.319	7108184
100-YEAR	WS-K	INACTIVE	12.50	453.37	34.310	5689958
100yr-12	WS-1	LOCO	6.58	554.30	23.614	5157642
100yr-12	WS-2	LOCO	6.50	237.10	24.330	2026195
100yr-12	WS-3	LOCO	6.42	237.82	22.933	1802338
100yr-12	WS-4	LOCO	6.67	76.97	25.020	766364
100yr-12	WS-5	LOCO	6.67	166.18	22.921	1651885
100yr-12	WS-6	LOCO	6.58	199.34	22.905	1790937
100yr-12	WS-A	INACTIVE	6.22	136.90	24.378	808849
100yr-12	WS-B	INACTIVE	6.31	645.29	24.325	4398290
100yr-12	WS-C	INACTIVE	7.67	165.07	24.314	2579989
100yr-12	WS-D	INACTIVE	7.67	107.25	24.315	1695489
100yr-12	WS-E	INACTIVE	7.42	285.71	23.974	4083506
100yr-12	WS-F	INACTIVE	7.42	288.33	23.971	4176161
100yr-12	WS-G	INACTIVE	7.08	112.31	21.120	1388863
100yr-12	WS-H	INACTIVE	7.58	246.48	21.120	3714644
100yr-12	WS-I	INACTIVE	6.67	230.15	21.857	2233313
100yr-12	WS-J	INACTIVE	6.50	583.32	23.983	4967334
100yr-12	WS-K	INACTIVE	6.58	442.28	23.976	3976251
100yr-48	WS-1	LOCO	24.42	513.15	43.581	9518465
100yr-48	WS-2	LOCO	24.33	213.98	44.409	3698352
100yr-48	WS-3	LOCO	24.25	214.76	42.811	3364526
100yr-48	WS-4	LOCO	24.50	70.06	45.185	1384025
100yr-48	WS-5	LOCO	24.50	157.27	42.787	3083666
100yr-48	WS-6	LOCO	24.42	186.08	42.758	3343242
100yr-48	WS-A	INACTIVE	24.05	108.99	44.365	1472038
100yr-48	WS-B	INACTIVE	24.13	545.98	44.346	8018257
100yr-48	WS-C	INACTIVE	25.42	159.21	44.380	4709174
100yr-48	WS-D	INACTIVE	25.50	103.47	44.382	3094724
100yr-48	WS-E	INACTIVE	25.25	275.15	43.999	7494323
100yr-48	WS-F	INACTIVE	25.25	278.11	43.992	7664370
100yr-48	WS-G	INACTIVE	24.92	113.38	40.655	2673454
100yr-48	WS-H	INACTIVE	25.42	253.93	40.655	7150402
100yr-48	WS-I	INACTIVE	24.50	222.17	41.544	4244916
100yr-48	WS-J	INACTIVE	24.33	529.55	44.015	9116384
100yr-48	WS-K	INACTIVE	24.42	404.19	44.003	7297481

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
D-OLD116	LOCO	100-YEAR	4.11	16.18	0.00	0.0030	454489	13.41	453.78	13.50	442.20
DS-116	VALLEY	100-YEAR	7.31	2.38	0.00	0.0019	615285	24.00	235.57	24.00	233.91
DS-332	LOCO	100-YEAR	4.18	8.64	0.00	0.0030	149932	13.62	435.65	13.70	433.71
DS-DAM	LOCO	100-YEAR	4.86	50.92	0.00	0.0012	14316	7.41	39.64	15.95	39.64
FUNNEL	VALLEY	100-YEAR	7.31	5.66	0.00	0.0147	401038	24.00	233.94	24.00	236.34
LAGOON	INACTIVE	100-YEAR	7.31	5.68	0.00	-0.0024	983232	24.00	678.30	0.00	150.87
MAGUEYES	LOCO	100-YEAR	3.91	36.01	0.00	0.0011	224839	12.58	268.60	12.83	230.74
NODEB	INACTIVE	100-YEAR	7.31	5.68	0.00	0.0016	2037307	15.91	80.02	24.00	633.33
NODEC	INACTIVE	100-YEAR	7.31	5.68	0.00	0.0007	2799929	16.68	129.23	15.91	80.02
NODED	INACTIVE	100-YEAR	7.31	5.68	0.00	0.0007	2607486	13.37	187.03	24.00	102.57
NODEE	INACTIVE	100-YEAR	7.31	5.68	0.00	0.0007	1678323	13.17	237.65	24.00	92.74
NODEF	INACTIVE	100-YEAR	7.31	5.69	0.00	0.0007	3181935	13.04	209.33	24.00	66.23
NODEG	INACTIVE	100-YEAR	7.31	5.69	0.00	0.0009	4124119	14.88	237.38	24.00	50.12
NODEH	INACTIVE	100-YEAR	7.31	5.69	0.00	0.0013	5583451	14.00	672.57	15.04	192.33
NODEI	INACTIVE	100-YEAR	7.31	5.69	0.00	0.0030	5067351	12.88	797.48	14.53	453.26
NODEJ	INACTIVE	100-YEAR	4.01	8.00	0.00	0.0028	2379520	12.50	848.40	13.40	612.25
NODEK	INACTIVE	100-YEAR	3.93	9.43	0.00	0.0030	796799	12.50	453.35	12.96	330.49
OCEAN	VALLEY	100-YEAR	0.00	2.10	2.10	0.0000	684026	24.00	233.91	0.00	0.00
PALOMAS	LOCO	100-YEAR	3.92	32.09	0.00	0.0018	887420	12.50	486.65	12.86	430.85
SUSUA	LOCO	100-YEAR	3.83	45.39	0.00	0.0025	176089	12.42	280.20	12.58	268.60
U-OLD116	LOCO	100-YEAR	4.09	18.19	0.00	-0.0030	201395	12.75	597.89	13.41	453.78
US-116	VALLEY	100-YEAR	7.31	2.59	0.00	0.0019	160774	24.00	236.34	24.00	235.57
US-332	LOCO	100-YEAR	4.15	9.61	0.00	0.0027	493702	13.50	442.20	13.62	435.65
US-DAM	LOCO	100-YEAR	7.31	81.37	74.68	0.0030	561276	12.58	569.25	7.41	39.64
D-OLD116	LOCO	100yr-12	2.29	16.15	0.00	0.0030	453349	7.40	432.87	7.54	419.97
DS-116	VALLEY	100yr-12	3.66	2.22	0.00	0.0019	503754	12.00	162.70	12.00	160.29
DS-332	LOCO	100yr-12	2.37	8.60	0.00	0.0030	148079	7.68	414.21	7.76	412.50
DS-DAM	LOCO	100yr-12	3.07	50.92	0.00	0.0011	14323	4.28	39.64	10.08	39.64
FUNNEL	VALLEY	100yr-12	3.66	5.14	0.00	0.0147	300047	11.71	171.12	12.00	163.73
LAGOON	INACTIVE	100yr-12	3.66	5.14	0.00	0.0011	962626	11.98	187.64	0.00	150.87
MAGUEYES	LOCO	100yr-12	2.09	35.99	0.00	0.0011	209191	6.62	265.01	6.86	225.68
NODEB	INACTIVE	100yr-12	3.66	5.14	0.00	0.0010	1965696	11.71	67.90	11.98	120.53
NODEC	INACTIVE	100yr-12	3.66	5.14	0.00	0.0008	2696805	7.60	135.34	11.71	67.90
NODED	INACTIVE	100yr-12	3.66	5.14	0.00	0.0008	2420156	7.55	229.55	11.94	38.64
NODEE	INACTIVE	100yr-12	3.66	5.15	0.00	0.0007	1550751	7.21	291.17	7.52	123.01
NODEF	INACTIVE	100yr-12	3.66	5.16	0.00	0.0011	3003803	7.17	223.94	11.99	44.71
NODEG	INACTIVE	100yr-12	3.66	5.16	0.00	0.0011	3888943	9.97	218.20	11.51	60.39
NODEH	INACTIVE	100yr-12	3.66	5.17	0.00	0.0013	5490556	8.30	578.32	10.05	186.50
NODEI	INACTIVE	100yr-12	2.87	5.23	0.00	0.0027	5192336	6.98	743.65	9.01	404.68
NODEJ	INACTIVE	100yr-12	2.22	7.96	0.00	0.0030	2345637	6.58	829.57	7.28	568.04
NODEK	INACTIVE	100yr-12	2.12	9.44	0.00	0.0030	795467	6.58	442.28	7.01	325.46
OCEAN	VALLEY	100yr-12	0.00	2.10	2.10	0.0000	684026	12.00	160.29	0.00	0.00
PALOMAS	LOCO	100yr-12	2.11	32.06	0.00	0.0021	880429	6.56	472.68	6.92	417.40
SUSUA	LOCO	100yr-12	2.02	45.38	0.00	0.0030	175840	6.50	276.73	6.62	265.01
U-OLD116	LOCO	100yr-12	2.26	18.08	0.00	-0.0030	607236	6.81	576.84	7.40	432.87
US-116	VALLEY	100yr-12	3.66	2.33	0.00	0.0019	119581	12.00	163.73	12.00	162.70
US-332	LOCO	100yr-12	2.34	9.59	0.00	0.0023	492298	7.54	419.97	7.68	414.21
US-DAM	LOCO	100yr-12	3.66	79.75	74.68	0.0030	518681	6.58	554.29	4.28	39.64
D-OLD116	LOCO	100yr-48	7.72	16.14	0.00	0.0030	453052	25.17	426.11	25.36	414.20
DS-116	VALLEY	100yr-48	14.63	2.46	0.00	0.0019	694658	48.00	268.26	48.00	268.17
DS-332	LOCO	100yr-48	7.80	8.59	0.00	-0.0030	147638	25.50	408.92	25.58	407.43
DS-DAM	LOCO	100yr-48	5.62	50.92	0.00	0.0014	13712	16.66	39.64	18.42	39.64
FUNNEL	VALLEY	100yr-48	14.63	5.85	0.00	0.0147	410416	38.75	272.88	48.00	268.31
LAGOON	INACTIVE	100yr-48	14.63	5.88	0.00	0.0027	991015	48.00	814.46	39.15	208.19
MAGUEYES	LOCO	100yr-48	7.54	35.94	0.00	0.0015	203900	24.48	239.97	24.75	214.73
NODEB	INACTIVE	100yr-48	14.63	5.88	0.00	0.0025	2050801	38.80	230.59	48.00	786.56
NODEC	INACTIVE	100yr-48	14.63	5.88	0.00	0.0011	2828110	39.57	166.84	38.80	230.59
NODED	INACTIVE	100yr-48	14.63	5.88	0.00	0.0012	2681132	39.58	149.07	48.00	150.38
NODEE	INACTIVE	100yr-48	14.63	5.89	0.00	0.0010	1758117	25.00	163.16	39.58	136.84
NODEF	INACTIVE	100yr-48	14.63	5.90	0.00	0.0007	3247634	24.92	148.05	48.00	111.42
NODEG	INACTIVE	100yr-48	14.63	5.91	0.00	0.0008	4205941	25.89	179.64	48.00	89.26

Guanica Lagoon Propsed Condition
Starting Water Surface Elevation at 3.1 m-msl

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
NODEH	INACTIVE	100yr-48	14.63	5.91	0.00	0.0010	5617407	25.76	602.37	26.33	119.24
NODEI	INACTIVE	100yr-48	14.63	5.91	0.00	0.0029	5145897	24.83	725.77	26.01	368.22
NODEJ	INACTIVE	100yr-48	7.65	7.94	0.00	-0.0025	2326820	24.42	763.23	27.53	620.07
NODEK	INACTIVE	100yr-48	7.56	9.36	0.00	0.0030	766659	24.42	404.19	24.88	304.24
OCEAN	VALLEY	100yr-48	0.00	2.10	2.10	0.0000	684026	48.00	268.17	0.00	0.00
PALOMAS	LOCO	100yr-48	7.54	32.03	0.00	0.0022	874163	24.42	442.17	24.74	405.41
SUSUA	LOCO	100yr-48	7.46	45.34	0.00	0.0025	157948	24.33	253.61	24.48	239.97
U-OLD116	LOCO	100yr-48	7.67	18.04	0.00	0.0030	201282	24.60	557.94	25.17	426.11
US-116	VALLEY	100yr-48	14.63	2.73	0.00	0.0019	179470	48.00	268.31	48.00	268.26
US-332	LOCO	100yr-48	7.77	9.58	0.00	0.0027	491947	25.36	414.20	25.50	408.92
US-DAM	LOCO	100yr-48	11.29	80.88	74.68	0.0030	548448	24.42	513.12	16.66	39.64

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================================================================================
==== Basins ====================================================================
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        Name: WS-1                    Node: US-DAM                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 59.00
              Area(ha): 2184.100                Time Shift(hrs): 0.00
          Curve Number: 78.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-2                    Node: SUSUA                 Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 50.00
              Area(ha): 832.800                 Time Shift(hrs): 0.00
          Curve Number: 80.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-3                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 41.00
              Area(ha): 785.900                 Time Shift(hrs): 0.00
          Curve Number: 76.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-4                    Node: PALOMAS               Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 65.00
              Area(ha): 306.300                 Time Shift(hrs): 0.00
          Curve Number: 82.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-5                    Node: U-OLD116              Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 67.00
              Area(ha): 720.700                 Time Shift(hrs): 0.00
          Curve Number: 76.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-6                    Node: FUNNEL                Status: Onsite
       Group: LOCO                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: UH484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 56.00
              Area(ha): 781.900                 Time Shift(hrs): 0.00
          Curve Number: 76.00              Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00



--------------------------------------------------------------------------------------------------------
        Name: WS-A                    Node: LAGOON                Status: Onsite
       Group: INACTIVE                Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File: Guanica Lagoon      Storm Duration(hrs): 24.00
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```
    Rainfall Amount(cm): 41.430               Time of Conc(min): 25.00
              Area(ha): 331.800                 Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-B                     Node: LAGOON                 Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 33.00
              Area(ha): 1808.100                Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-C                     Node: NODEC                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 145.00
              Area(ha): 1061.100                Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-D                     Node: NODED                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 148.00
              Area(ha): 697.300                 Time Shift(hrs): 0.00
          Curve Number: 80.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-E                     Node: NODEE                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 125.00
              Area(ha): 1703.300                Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-F                     Node: NODEF                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 128.00
              Area(ha): 1742.200                Time Shift(hrs): 0.00
          Curve Number: 79.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-G                     Node: NODEG                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                    Peaking Factor: 484.0
          Rainfall File: Guanica Lagoon       Storm Duration(hrs): 24.00
    Rainfall Amount(cm): 41.430               Time of Conc(min): 100.00
              Area(ha): 657.600                 Time Shift(hrs): 0.00
          Curve Number: 71.00               Max Allowable Q(cms): 28316.822
               DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
         Name: WS-H                     Node: NODEH                  Status: Onsite
        Group: INACTIVE                 Type: SCS Unit Hydrograph CN
```

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 140.00
Area(ha): 1758.800 Time Shift(hrs): 0.00
Curve Number: 71.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-I Node: NODEI Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 65.00
Area(ha): 1021.800 Time Shift(hrs): 0.00
Curve Number: 73.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-J Node: NODEJ Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 50.00
Area(ha): 2071.200 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

Name: WS-K Node: NODEK Status: Onsite
Group: INACTIVE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH484 Peaking Factor: 484.0
Rainfall File: Guanica Lagoon Storm Duration(hrs): 24.00
Rainfall Amount(cm): 41.430 Time of Conc(min): 55.00
Area(ha): 1658.400 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cms): 28316.822
DCIA(%): 0.00

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==== Nodes ==========
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Name: D-OLD116 Base Flow(cms): 0.000 Init Stage(m): 11.950
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
11.950	0.1000
13.000	0.2000

Name: DS-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: DS-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	0.1000
8.000	0.2000

Name: DS-DAM Base Flow(cms): 0.000 Init Stage(m): 49.410
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
49.410	0.1000
52.000	0.2000

Name: FUNNEL Base Flow(cms): 0.000 Init Stage(m): -1.030
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	0.1000
3.000	0.2000

Name: LAGOON Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-1.030	1.0000
1.200	15.0000
2.500	20.0000

Name: MAGUEYES Base Flow(cms): 0.000 Init Stage(m): 33.890
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
33.890	0.1000
35.000	0.2000

Name: NODEB Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.256	0.1000
3.000	0.2000

Name: NODEC Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.032	0.1000
3.000	0.2000

Name: NODED Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.137	0.1000
4.000	0.2000

Name: NODEE Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000

Type: Stage/Area

Stage(m)	Area(ha)
0.092	0.1000
4.000	0.2000

Name: NODEF Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.000	5.0000
4.000	15.0000

Name: NODEG Base Flow(cms): 0.000 Init Stage(m): 3.400
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.500	0.1000
4.000	0.2000

Name: NODEH Base Flow(cms): 0.000 Init Stage(m): 0.800
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
0.800	0.1000
4.000	0.2000

Name: NODEI Base Flow(cms): 0.000 Init Stage(m): 1.200
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
1.200	0.1000
4.000	0.2000

Name: NODEJ Base Flow(cms): 0.000 Init Stage(m): 3.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
3.500	0.1000
5.500	0.2000

Name: NODEK Base Flow(cms): 0.000 Init Stage(m): 5.500
Group: INACTIVE Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.500	0.1000
7.500	0.2000

Name: OCEAN Base Flow(cms): 0.000 Init Stage(m): 2.100
Group: VALLEY Warn Stage(m): 2.100
Type: Time/Stage

Time(hrs)	Stage(m)
0.00	2.100
24.00	2.100

Name: PALOMAS Base Flow(cms): 0.000 Init Stage(m): 27.360
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
27.360	0.1000
29.000	0.2000

Name: SUSUA Base Flow(cms): 0.000 Init Stage(m): 40.700
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
40.700	0.1000
42.000	0.2000

Name: U-OLD116 Base Flow(cms): 0.000 Init Stage(m): 15.330
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
15.330	0.1000
17.000	0.2000

Name: US-116 Base Flow(cms): 0.000 Init Stage(m): -2.130
Group: VALLEY Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
-2.130	0.1000
-1.000	0.2000

Name: US-332 Base Flow(cms): 0.000 Init Stage(m): 5.920
Group: LOCO Warn Stage(m): 0.000
Type: Stage/Area

Stage(m)	Area(ha)
5.920	1.0000
8.000	5.0000

Name: US-DAM Base Flow(cms): 0.000 Init Stage(m): 70.100
Group: LOCO Warn Stage(m): 74.680
Type: Stage/Area

Stage(m)	Area(ha)
54.860	0.8094
56.390	2.0234
57.910	4.0469
59.440	6.4750
60.960	8.9031
62.480	10.9266
64.010	13.7594
65.530	16.5922
67.060	19.4250
68.580	23.0672
70.100	26.3047
71.630	29.9469
73.150	34.3984
74.680	38.4453

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==== Cross Sections ==========
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Name: TRANSV-1 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.660	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: TRANSV-2 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.892	0.080000
15.000	4.812	0.080000
30.000	4.922	0.080000
45.000	4.522	0.080000
65.000	4.562	0.080000
85.000	4.442	0.080000
103.000	5.194	0.080000
117.000	4.942	0.080000
126.800	1.300	0.050000
127.800	0.302	0.050000
135.800	0.802	0.050000
139.800	2.822	0.050000
145.800	5.622	0.050000
155.800	5.032	0.080000
180.800	4.672	0.080000
205.800	4.492	0.080000
230.800	4.332	0.080000
255.800	4.142	0.080000
280.800	4.000	0.080000

Name: TRANSV-A Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.340	0.080000
92.739	8.477	0.080000
218.161	8.568	0.080000
416.752	9.183	0.080000
521.658	10.658	0.080000
607.270	9.424	0.080000
643.468	6.208	0.080000
683.944	5.967	0.080000
716.619	5.955	0.080000
754.626	5.850	0.080000
799.209	7.164	0.080000
830.127	7.322	0.080000
858.764	6.517	0.080000
913.941	4.694	0.080000
951.216	4.963	0.080000
1053.118	4.623	0.080000

1145.040	4.623	0.080000
1216.842	4.325	0.080000
1286.614	4.082	0.080000
1394.977	4.084	0.080000
1550.500	4.502	0.080000
1600.654	4.601	0.080000
1635.195	4.612	0.080000
1663.137	4.489	0.080000
1689.714	4.664	0.080000
1728.659	5.009	0.080000
1767.269	5.560	0.080000

Name: TRANSV-B Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.987	0.080000
44.519	5.726	0.080000
92.388	5.849	0.080000
146.535	5.772	0.080000
196.393	5.847	0.080000
268.124	6.184	0.080000
330.060	6.451	0.080000
427.739	6.970	0.080000
529.404	7.170	0.080000
593.208	5.365	0.080000
679.170	5.416	0.080000
766.795	6.262	0.080000

Name: TRANSV-D Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	4.082	0.080000
6.210	2.835	0.080000
86.086	2.055	0.080000
190.737	1.984	0.080000
298.831	2.682	0.080000
326.815	2.881	0.080000
433.500	2.930	0.030000
531.678	2.734	0.030000
538.054	0.627	0.030000
545.444	0.256	0.030000
549.230	0.627	0.030000
551.274	1.566	0.030000
943.610	4.987	0.030000
995.546	1.739	0.030000
1095.055	1.021	0.030000
1207.488	0.978	0.030000
1306.938	1.404	0.030000
1314.513	3.518	0.030000
1322.001	3.117	0.080000

Name: TRANSV-E Group: VALLEY
Encroachment: No

657.793

Station(m)	Elevation(m)	Manning's N
0.000	7.284	0.080000
110.848	6.401	0.080000
224.295	5.268	0.080000
334.053	4.875	0.080000
441.817	4.844	0.080000
548.444	3.250	0.080000
650.142	3.856	0.080000
657.793	2.884	0.080000
664.532	4.511	0.080000
670.877	5.874	0.080000
675.706	5.010	0.080000
757.967	4.509	0.080000
845.457	4.217	0.080000
945.771	3.880	0.080000
1046.555	3.623	0.080000
1157.837	3.433	0.080000
1268.689	3.288	0.080000
1382.834	3.273	0.080000
1513.000	2.162	0.080000

1604.684	1.628	0.080000
1706.209	1.785	0.080000
1789.976	1.631	0.080000
1898.522	1.798	0.080000
2006.607	1.810	0.080000
2066.145	2.175	0.080000
2082.704	1.881	0.080000
2086.790	0.808	0.080000
2103.863	0.808	0.080000
2109.079	1.708	0.080000
2204.097	1.659	0.080000
2296.153	2.158	0.050000
2305.514	1.850	0.050000
2310.869	0.640	0.050000
2314.884	0.045	0.050000
2318.655	0.639	0.050000
2319.945	1.514	0.050000
2323.559	1.680	0.050000
2332.208	2.515	0.050000
2337.323	1.773	0.080000
2401.352	1.410	0.080000
2491.005	2.596	0.080000

Name: TRANSV-F Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	7.620	0.080000
12.513	7.563	0.080000
16.171	6.203	0.080000
25.922	5.938	0.080000
31.528	8.388	0.080000
137.460	7.778	0.080000
244.251	6.935	0.080000
348.695	5.734	0.080000
481.527	4.649	0.080000
578.462	4.388	0.080000
676.623	4.237	0.080000
799.895	4.715	0.080000
906.086	4.089	0.080000
1013.125	3.649	0.080000
1086.219	3.460	0.080000
1105.035	3.427	0.080000
1209.869	4.665	0.080000
1388.272	2.813	0.080000
1393.798	3.681	0.080000
1480.442	1.866	0.080000
1599.753	2.951	0.080000
1672.144	1.509	0.080000
1763.374	1.876	0.080000
1925.136	1.729	0.080000
2025.653	1.782	0.080000
2122.313	2.149	0.080000
2126.445	0.827	0.050000
2129.888	0.032	0.050000
2133.660	0.827	0.050000
2137.551	1.858	0.050000
2181.279	2.219	0.050000
2226.890	2.577	0.050000
2355.454	1.664	0.080000
2472.651	1.731	0.080000
2555.019	1.868	0.080000
2634.336	2.294	0.080000
2722.285	5.937	0.080000

Name: TRANSV-G Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	8.507	0.080000
107.813	6.992	0.080000
217.879	6.286	0.080000
330.986	5.298	0.080000
418.321	5.016	0.080000
464.120	2.456	0.080000
480.404	5.798	0.080000
566.809	5.750	0.080000
654.644	4.990	0.080000
743.705	4.219	0.080000
840.025	3.281	0.080000

966.992	2.966	0.080000
1075.056	2.716	0.080000
1149.290	2.730	0.080000
1254.802	2.799	0.080000
1353.521	3.357	0.080000
1423.964	2.635	0.050000
1429.510	1.086	0.050000
1433.189	0.137	0.050000
1436.859	1.066	0.050000
1440.615	2.576	0.050000
1443.053	2.665	0.050000
1448.413	2.717	0.050000
1455.403	3.429	0.050000
1532.816	2.809	0.080000
1626.087	2.375	0.080000
1709.970	3.522	0.080000
1813.850	4.940	0.080000

Name: TRANSV-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	2.891	0.080000
37.206	2.009	0.080000
138.078	2.940	0.080000
235.557	2.294	0.080000
293.737	2.180	0.080000
377.940	1.743	0.080000
472.756	1.916	0.080000
549.616	2.018	0.080000
625.977	2.097	0.080000
694.414	2.168	0.080000
782.425	2.273	0.080000
863.035	2.621	0.080000
988.058	3.368	0.080000
1115.566	4.365	0.080000
1140.609	3.684	0.050000
1145.216	0.615	0.050000
1150.373	0.092	0.050000
1155.954	0.615	0.050000
1161.442	3.916	0.050000
1746.935	6.475	0.050000
1791.484	6.368	0.050000
1916.595	4.967	0.080000
2051.958	4.245	0.080000
2209.374	3.849	0.080000
2225.044	4.469	0.080000
2269.911	4.470	0.080000
2322.843	4.197	0.080000

Name: XS-1 Group: VALLEY
Encroachment: No

SECTION 13.78 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	88.480	0.080000
1010.200	85.740	0.080000
1021.600	82.810	0.080000
1036.400	80.560	0.080000
1042.200	78.120	0.080000
1054.200	72.540	0.080000
1063.600	71.960	0.080000
1071.700	63.850	0.080000
1080.400	64.010	0.080000
1089.000	58.670	0.080000
1102.600	54.890	0.050000
1108.800	53.160	0.050000
1117.700	50.020	0.050000
1123.000	49.840	0.050000
1129.000	49.410	0.050000
1131.900	49.570	0.050000
1139.900	52.340	0.080000
1145.200	52.880	0.080000
1156.200	60.410	0.080000
1162.100	61.360	0.080000
1166.400	61.080	0.080000
1172.300	60.530	0.080000
1177.300	60.440	0.080000
1182.600	59.950	0.080000
1192.800	59.770	0.080000
1197.700	61.010	0.080000

1208.300	62.300	0.080000
1214.600	61.900	0.080000
1222.400	63.120	0.080000
1227.600	64.680	0.080000
1233.700	65.140	0.080000
1247.700	66.900	0.080000
1278.100	67.940	0.080000
1284.300	69.710	0.080000
1297.400	72.570	0.080000
1307.300	73.090	0.080000
1331.100	70.500	0.080000
1343.200	70.100	0.080000
1350.700	72.630	0.080000
1361.100	77.510	0.080000
1370.000	80.010	0.080000

Name: XS-116 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
300.000	6.250	0.015000
450.000	2.500	0.015000
650.000	4.000	0.015000
850.000	4.000	0.015000
950.000	3.000	0.015000
1000.000	3.740	0.015000
1053.900	3.750	0.015000
1085.000	4.500	0.015000

Name: XS-13 Group: VALLEY
Encroachment: No

SECTION 11.68 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	48.160	0.080000
1012.300	46.630	0.080000
1029.300	44.230	0.080000
1050.200	42.760	0.080000
1085.000	41.910	0.080000
1110.200	39.620	0.080000
1137.300	41.030	0.080000
1148.300	40.600	0.080000
1152.100	40.140	0.080000
1174.100	37.700	0.080000
1196.400	37.760	0.080000
1232.400	37.830	0.080000
1243.300	37.430	0.080000
1252.700	37.400	0.080000
1269.300	38.530	0.050000
1275.600	36.270	0.050000
1280.500	35.080	0.050000
1284.000	33.920	0.050000
1287.900	33.890	0.050000
1293.400	35.510	0.050000
1300.300	37.000	0.050000
1305.600	37.370	0.050000
1317.100	37.640	0.080000
1330.000	37.800	0.080000
1352.600	37.190	0.080000
1367.200	37.800	0.080000
1392.100	38.370	0.080000
1404.600	39.470	0.080000
1418.300	42.150	0.080000
1426.800	46.150	0.080000
1435.100	47.340	0.080000
1448.000	50.140	0.080000
1454.700	52.550	0.080000
1464.600	53.710	0.080000
1478.700	56.540	0.080000
1492.100	60.780	0.080000
1510.700	65.200	0.080000
1531.800	74.400	0.080000
1552.800	83.730	0.080000
1581.300	92.870	0.080000

Name: XS-16 Group: VALLEY
Encroachment: No

SECTION 9.75 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	42.560	0.080000
1175.000	44.750	0.080000
1300.000	40.500	0.080000
1350.000	38.500	0.080000
1400.000	38.500	0.080000
1565.000	36.500	0.050000
1567.400	33.050	0.050000
1572.900	30.390	0.050000
1576.300	29.980	0.050000
1584.800	29.130	0.050000
1590.300	28.100	0.050000
1601.900	28.140	0.050000
1609.500	27.410	0.050000
1623.200	28.400	0.050000
1640.900	27.850	0.050000
1647.200	27.360	0.050000
1666.800	30.150	0.080000
1671.100	30.400	0.080000
1674.700	34.500	0.080000
1695.000	32.500	0.080000
1715.000	32.000	0.080000
1800.000	31.500	0.080000
1885.000	31.500	0.080000
2100.000	33.500	0.080000
2120.000	34.250	0.080000

Name: XS-22 Group: VALLEY
Encroachment: No

SECTION 8.56 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	43.130	0.080000
1010.200	42.250	0.080000
1018.400	42.120	0.080000
1030.200	41.390	0.080000
1062.600	40.870	0.080000
1080.100	40.720	0.080000
1120.100	40.560	0.080000
1130.300	39.930	0.080000
1158.200	38.950	0.080000
1192.700	37.670	0.080000
1212.100	36.000	0.080000
1237.600	34.500	0.080000
1244.200	33.650	0.080000
1265.300	32.980	0.080000
1284.700	31.730	0.080000
1294.600	30.880	0.080000
1317.800	29.930	0.080000
1339.100	28.960	0.080000
1366.400	28.160	0.080000
1378.500	27.800	0.050000
1394.800	23.500	0.050000
1402.700	21.180	0.050000
1412.200	21.730	0.050000
1426.900	25.570	0.080000
1438.200	25.450	0.080000
1450.700	25.270	0.080000
1467.600	25.120	0.080000
1496.700	25.240	0.080000
1518.700	25.090	0.080000
1530.100	24.960	0.080000
1552.500	25.180	0.080000
1566.500	25.180	0.080000
1606.800	25.050	0.080000
1633.500	25.240	0.080000
1647.900	25.390	0.080000
1657.900	25.450	0.080000
1661.400	25.300	0.080000
1682.500	25.510	0.080000
1700.300	24.840	0.080000
1758.300	24.990	0.080000
1818.600	25.300	0.080000
1867.700	25.820	0.080000
1894.900	26.060	0.080000
1917.000	26.120	0.080000
1940.700	26.520	0.080000
1972.600	27.190	0.080000
1992.800	27.830	0.080000
2054.800	28.530	0.080000
2118.100	29.140	0.080000
2194.300	30.180	0.080000
2264.400	30.480	0.080000
2385.000	30.630	0.080000

2397.700	31.270	0.080000
2403.800	32.250	0.080000
2410.300	32.160	0.080000
2428.000	32.030	0.080000
2429.000	32.030	0.080000
2430.500	32.000	0.080000
2436.600	31.940	0.080000
2442.500	42.120	0.080000
2453.100	31.550	0.080000
2472.200	32.610	0.080000
2482.400	35.970	0.080000
2495.700	35.970	0.080000
2516.800	42.120	0.080000
2534.300	46.240	0.080000
2554.300	53.800	0.080000

Name: XS-25 Group: VALLEY
Encroachment: No

SECTION 7.35 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	70.350	0.080000
1025.200	65.710	0.080000
1044.400	54.800	0.080000
1080.000	44.710	0.080000
1095.200	41.610	0.080000
1120.200	38.340	0.080000
1150.200	36.090	0.080000
1169.600	34.350	0.080000
1185.100	33.440	0.080000
1217.700	30.360	0.080000
1230.600	29.170	0.080000
1242.600	28.220	0.080000
1273.000	26.460	0.080000
1293.200	25.090	0.080000
1308.700	23.840	0.080000
1338.800	21.700	0.080000
1350.500	20.670	0.080000
1390.300	20.300	0.080000
1420.700	20.180	0.080000
1433.400	20.180	0.080000
1446.700	20.180	0.080000
1476.300	20.180	0.080000
1638.300	20.150	0.080000
1670.500	19.600	0.080000
1682.500	18.620	0.080000
1718.500	18.530	0.080000
1762.000	18.540	0.080000
1802.200	18.650	0.080000
1824.900	18.530	0.080000
1840.800	18.350	0.080000
1878.300	18.290	0.080000
1903.700	18.530	0.050000
1912.700	18.290	0.050000
1918.200	15.030	0.050000
1926.300	18.290	0.050000
1940.000	18.350	0.080000
1975.900	17.830	0.080000
2018.500	17.310	0.080000
2055.800	17.310	0.080000
2087.500	17.800	0.080000
2100.100	19.080	0.080000
2115.800	19.080	0.080000
2135.600	17.860	0.080000
2172.300	17.860	0.080000
2206.400	17.740	0.080000
2238.700	18.500	0.080000
2270.400	19.570	0.080000
2306.200	20.820	0.080000
2342.300	22.560	0.080000
2375.400	24.990	0.080000
2390.500	25.540	0.080000

Name: XS-30 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
600.000	20.000	0.080000
800.000	16.000	0.080000
1000.000	17.500	0.080000
1006.700	0.045	0.050000

1029.000	0.045	0.050000
1031.000	0.045	0.050000
1057.500	0.045	0.050000
1061.000	17.500	0.050000
1135.000	16.500	0.080000
1300.000	20.000	0.080000
2000.000	30.000	0.080000

Name: XS-332 Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
20.000	9.250	0.015000
70.000	8.500	0.015000
120.000	8.000	0.015000
360.000	7.000	0.015000
600.000	6.900	0.015000
900.000	7.000	0.015000
997.000	8.690	0.015000
1020.000	8.730	0.015000

Name: XS-35 Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1487.400	13.230	0.080000
1497.400	12.410	0.080000
1503.800	12.340	0.080000
1510.600	10.550	0.080000
1520.500	10.760	0.080000
1535.900	10.910	0.080000
1577.500	10.640	0.080000
1614.200	10.360	0.080000
1640.800	10.150	0.080000
1666.800	9.880	0.080000
1693.800	9.240	0.080000
1714.600	8.990	0.080000
1740.000	9.750	0.080000
1772.700	10.030	0.080000
1795.800	10.150	0.080000
1832.500	10.030	0.080000
1880.600	10.090	0.080000
1907.300	9.910	0.080000
1958.500	9.780	0.080000
1990.700	9.690	0.080000
2027.600	9.600	0.080000
2056.800	9.390	0.080000
2084.100	9.050	0.080000
2100.300	8.930	0.080000
2130.600	9.140	0.080000
2164.700	9.600	0.080000
2192.900	9.390	0.080000
2227.600	9.140	0.080000
2272.300	8.960	0.080000
2310.500	8.960	0.080000
2350.800	9.110	0.080000
2360.700	9.270	0.080000
2367.700	8.020	0.050000
2374.100	6.400	0.050000
2377.000	5.970	0.050000
2382.900	6.400	0.050000
2392.500	6.920	0.050000
2405.900	7.710	0.080000
2420.000	9.630	0.080000
2442.000	10.270	0.080000
2450.000	10.580	0.080000
2460.500	10.970	0.080000
2473.900	12.280	0.080000
2488.600	13.590	0.080000
2500.300	15.270	0.080000
2516.100	16.760	0.080000
2526.400	19.260	0.080000
2538.300	22.280	0.080000
2547.400	25.790	0.080000
2555.200	29.020	0.080000
2564.200	32.980	0.080000
2574.000	36.670	0.080000
2582.200	39.410	0.080000
2594.000	42.250	0.080000

Name: XS-35OLD Group: VALLEY
Encroachment: No

SECTION 5.50 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	18.340	0.160000
1017.200	17.770	0.160000
1023.200	17.070	0.160000
1054.200	16.180	0.160000
1077.300	15.270	0.160000
1118.200	14.110	0.160000
1143.200	13.500	0.160000
1174.300	12.220	0.160000
1204.300	11.890	0.160000
1230.300	11.830	0.160000
1262.300	11.980	0.160000
1329.300	12.280	0.160000
1363.400	12.100	0.160000
1412.300	11.700	0.160000
1451.600	11.610	0.160000
1467.600	10.550	0.160000
1480.400	13.110	0.160000
1487.400	13.230	0.160000
1497.400	12.410	0.160000
1503.800	12.340	0.160000
1510.600	10.550	0.160000
1520.500	10.760	0.160000
1535.900	10.910	0.160000
1577.500	10.640	0.160000
1614.200	10.360	0.160000
1640.800	10.150	0.160000
1666.800	9.880	0.160000
1693.800	9.240	0.160000
1714.600	8.990	0.160000
1740.000	9.750	0.160000
1772.700	10.030	0.160000
1795.800	10.150	0.160000
1832.500	10.030	0.160000
1880.600	10.090	0.160000
1907.300	9.910	0.160000
1958.500	9.780	0.160000
1990.700	9.690	0.160000
2027.600	9.600	0.160000
2056.800	9.390	0.160000
2084.100	9.050	0.160000
2100.300	8.930	0.160000
2130.600	9.140	0.160000
2164.700	9.600	0.160000
2192.900	9.390	0.160000
2227.600	9.140	0.160000
2272.300	8.960	0.160000
2310.500	8.960	0.160000
2350.800	9.110	0.160000
2360.700	9.270	0.160000
2367.700	8.020	0.550000
2374.100	6.400	0.550000
2377.000	5.970	0.550000
2382.900	6.400	0.550000
2392.500	6.920	0.550000
2405.900	7.710	0.150000
2420.000	9.630	0.150000
2442.000	10.270	0.150000
2450.000	10.580	0.150000
2460.500	10.970	0.150000
2473.900	12.280	0.150000
2488.600	13.590	0.150000
2500.300	15.270	0.150000
2516.100	16.760	0.150000
2526.400	19.260	0.150000
2538.300	22.280	0.150000
2547.400	25.790	0.150000
2555.200	29.020	0.150000
2564.200	32.980	0.150000
2574.000	36.670	0.150000
2582.200	39.410	0.150000
2594.000	42.250	0.150000

Name: XS-36 Group: VALLEY
Encroachment: No

STATION 5.09 (FIS)

Station(m)	Elevation(m)	Manning's N

990.000	8.730	0.080000
997.000	8.690	0.080000
1001.500	5.920	0.050000
1004.400	5.920	0.050000
1010.400	5.920	0.050000
1012.600	5.920	0.050000
1014.600	6.710	0.050000
1020.000	8.730	0.080000

Name: XS-38 Group: VALLEY
Encroachment: No

SECTION 2.85 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	25.020	0.080000
1017.300	23.800	0.080000
1036.200	22.920	0.080000
1054.300	21.610	0.080000
1078.400	20.210	0.080000
1108.200	19.660	0.080000
1133.300	19.200	0.080000
1171.100	18.650	0.080000
1200.400	18.590	0.080000
1227.300	18.090	0.080000
1245.200	17.770	0.080000
1257.700	17.620	0.080000
1280.000	17.070	0.080000
1312.700	16.150	0.080000
1326.600	15.790	0.080000
1354.800	15.450	0.080000
1382.900	15.030	0.080000
1410.000	14.540	0.080000
1435.700	14.020	0.080000
1453.600	13.690	0.080000
1489.700	13.080	0.080000
1511.500	12.650	0.080000
1528.600	12.280	0.080000
1547.600	12.010	0.080000
1572.800	11.580	0.080000
1588.600	11.280	0.080000
1612.600	10.670	0.080000
1636.500	10.150	0.080000
1675.000	9.420	0.080000
1712.200	9.080	0.080000
1758.500	8.900	0.080000
1766.000	8.750	0.080000
1794.800	8.500	0.080000
1828.500	9.020	0.080000
1845.100	9.540	0.080000
1862.400	9.020	0.080000
1878.000	8.840	0.080000
1936.700	8.660	0.080000
2000.400	8.560	0.080000
2032.900	8.410	0.080000
2097.300	8.350	0.080000
2136.100	8.290	0.080000
2150.300	8.260	0.080000
2168.300	8.260	0.080000
2225.700	8.230	0.080000
2275.200	7.830	0.080000
2283.600	7.620	0.080000
2312.100	7.410	0.080000
2370.000	7.410	0.080000
2412.400	7.010	0.080000
2446.100	7.280	0.080000
2485.500	7.250	0.080000
2500.600	7.250	0.080000
2515.000	6.460	0.080000
2536.400	5.850	0.080000
2560.100	5.460	0.080000
2603.400	5.330	0.080000
2625.600	5.360	0.080000
2656.700	5.120	0.080000
2664.600	5.090	0.080000
2682.200	4.910	0.080000
2715.900	4.600	0.080000
2744.500	4.270	0.080000
2794.900	3.960	0.080000
2820.700	4.240	0.080000
2830.400	4.330	0.080000
2853.600	4.330	0.050000
2860.300	0.850	0.050000
2867.300	-1.030	0.050000
2871.800	0.850	0.050000
2880.500	1.250	0.050000

2886.700	2.230	0.050000
2900.700	3.230	0.080000
2906.600	3.230	0.080000
2914.200	3.990	0.080000
2935.500	5.210	0.080000
2960.800	6.800	0.080000
3200.000	9.000	0.080000

Name: XS-39 Group: VALLEY
Encroachment: No

STATION 2.47 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	20.540	0.080000
1008.600	19.450	0.080000
1033.300	18.120	0.080000
1055.400	17.680	0.080000
1083.800	16.950	0.080000
1114.200	15.510	0.080000
1145.600	14.900	0.080000
1174.700	14.200	0.080000
1203.400	13.560	0.080000
1237.500	12.920	0.080000
1264.300	12.160	0.080000
1295.300	11.220	0.080000
1310.800	10.520	0.080000
1340.300	9.750	0.080000
1367.300	8.810	0.080000
1397.600	8.110	0.080000
1428.800	7.410	0.080000
1455.500	7.040	0.080000
1490.300	6.640	0.080000
1533.200	6.400	0.080000
1566.700	5.970	0.080000
1604.700	6.800	0.080000
1630.500	6.680	0.080000
1681.600	6.640	0.080000
1707.200	6.280	0.080000
1737.800	6.280	0.080000
1750.300	7.040	0.080000
1775.000	7.560	0.080000
1824.900	7.650	0.080000
1890.600	7.590	0.080000
1914.400	7.530	0.080000
1946.200	8.350	0.080000
1980.600	8.350	0.080000
2010.800	7.710	0.080000
2053.800	7.380	0.080000
2079.100	7.500	0.080000
2104.600	7.130	0.080000
2130.900	7.010	0.080000
2160.000	6.680	0.080000
2183.300	6.550	0.080000
2195.300	6.070	0.080000
2230.800	5.790	0.080000
2270.400	5.970	0.080000
2316.100	5.760	0.080000
2334.400	5.700	0.080000
2387.600	5.460	0.080000
2434.700	5.610	0.080000
2486.100	5.700	0.080000
2523.100	5.790	0.080000
2551.200	5.700	0.080000
2570.200	5.150	0.080000
2612.300	4.570	0.080000
2660.800	4.050	0.080000
2710.400	3.690	0.080000
2760.900	3.540	0.080000
2820.200	3.540	0.080000
2849.700	3.320	0.080000
2884.600	3.170	0.080000
2920.300	3.200	0.080000
2940.400	2.990	0.080000
2957.800	2.770	0.080000
2975.300	2.680	0.080000
2990.200	3.170	0.050000
3000.000	0.180	0.050000
3006.200	-2.130	0.050000
3016.200	0.180	0.050000
3020.100	2.260	0.050000
3040.600	3.380	0.080000
3052.600	4.510	0.080000
3070.200	5.530	0.080000
3080.300	5.520	0.080000
3090.400	6.160	0.080000

3100.700	7.410	0.080000
3112.700	8.900	0.080000
3120.600	10.970	0.080000
3130.700	11.830	0.080000
3140.600	13.050	0.080000
3150.300	14.510	0.080000
3158.200	15.760	0.080000

Name: XS-40 Group: VALLEY
Encroachment: No

STATION 1.04 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	3.740	0.080000
1005.800	3.680	0.080000
1009.100	2.580	0.050000
1011.300	2.300	0.050000
1015.200	-0.770	0.050000
1018.300	-1.800	0.050000
1024.700	-2.130	0.050000
1035.400	0.620	0.050000
1039.000	1.230	0.050000
1048.200	3.710	0.080000
1053.900	3.750	0.080000

Name: XS-42 Group: VALLEY
Encroachment: No

STATION 0.99 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	6.980	0.080000
1014.200	5.490	0.080000
1030.300	3.050	0.080000
1038.400	3.020	0.080000
1058.600	1.920	0.080000
1076.100	0.960	0.080000
1105.600	1.830	0.080000
1129.400	1.950	0.080000
1154.600	1.830	0.080000
1180.600	2.730	0.080000
1200.200	1.950	0.080000
1220.800	1.800	0.080000
1260.500	1.550	0.080000
1274.800	1.430	0.080000
1306.800	1.520	0.080000
1337.800	1.670	0.080000
1374.900	1.830	0.080000
1404.600	2.010	0.080000
1430.700	2.130	0.080000
1460.300	2.350	0.080000
1502.400	2.620	0.080000
1550.900	2.830	0.080000
1588.600	2.930	0.080000
1612.300	2.930	0.080000
1634.000	2.930	0.080000
1664.300	2.770	0.080000
1718.000	2.530	0.080000
1754.800	2.440	0.080000
1806.200	2.440	0.080000
1840.500	2.470	0.080000
1862.300	2.680	0.080000
1900.100	4.020	0.080000
1930.700	4.110	0.080000
1936.400	4.570	0.080000
1962.700	4.790	0.080000
1970.200	4.940	0.080000
2014.400	4.890	0.080000
2030.200	4.880	0.080000
2043.400	5.330	0.080000
2070.100	5.580	0.080000
2104.100	3.080	0.080000
2144.600	3.050	0.080000
2154.600	3.350	0.080000
2168.400	3.690	0.080000
2177.200	5.120	0.080000
2188.200	5.210	0.080000
2198.800	3.440	0.080000
2210.800	3.350	0.080000
2220.600	4.080	0.080000
2230.800	4.000	0.080000
2242.300	3.320	0.080000
2277.400	3.290	0.080000

2288.000	3.410	0.080000
2300.000	4.300	0.080000
2310.800	2.010	0.050000
2314.700	0.300	0.050000
2335.400	-2.700	0.050000
2353.000	0.300	0.050000
2364.700	2.520	0.080000
2377.900	2.070	0.080000
2388.800	2.770	0.080000
2413.300	5.180	0.080000
2423.100	5.060	0.080000
2443.300	4.420	0.080000
2456.700	4.480	0.080000
2500.000	6.000	0.080000

Name: XS-43 Group: VALLEY
Encroachment: No

STATION 0.38 (FIS)

Station(m)	Elevation(m)	Manning's N
1000.000	12.890	0.080000
1030.200	11.550	0.080000
1070.200	10.390	0.080000
1100.200	9.300	0.080000
1140.700	8.230	0.080000
1193.100	6.370	0.080000
1237.600	5.030	0.080000
1269.300	5.300	0.080000
1306.300	3.720	0.080000
1350.500	2.900	0.080000
1382.100	2.290	0.080000
1410.900	1.070	0.080000
1480.400	1.160	0.080000
1580.600	1.220	0.080000
1672.400	1.310	0.080000
1738.200	1.250	0.080000
1804.500	1.710	0.080000
1825.600	0.910	0.080000
1869.800	0.850	0.080000
1928.000	0.940	0.080000
1988.300	0.910	0.080000
2000.800	0.940	0.080000
2069.000	0.910	0.080000
2115.900	1.220	0.080000
2185.200	1.460	0.080000
2225.700	1.400	0.080000
2264.700	1.400	0.080000
2288.000	1.680	0.080000
2310.000	1.580	0.080000
2345.200	1.310	0.080000
2402.800	1.650	0.080000
2448.600	1.830	0.080000
2462.200	1.710	0.080000
2480.100	1.980	0.080000
2500.600	1.430	0.080000
2530.500	1.520	0.080000
2580.300	1.860	0.080000
2614.600	1.460	0.080000
2656.300	1.710	0.080000
2686.300	1.860	0.080000
2731.400	1.220	0.080000
2757.000	0.730	0.080000
2806.100	1.220	0.080000
2845.600	1.520	0.080000
2903.400	1.830	0.080000
2942.400	1.680	0.080000
2970.100	1.370	0.080000
3000.200	1.490	0.080000
3011.400	1.520	0.080000
3040.800	1.430	0.080000
3079.600	1.620	0.080000
3106.700	1.710	0.080000
3128.700	1.400	0.080000
3150.300	0.210	0.050000
3170.000	-3.080	0.050000
3190.800	0.210	0.050000
3202.900	3.260	0.050000
3220.600	3.510	0.050000
3234.200	3.510	0.080000
3260.100	11.280	0.080000
3276.300	12.800	0.080000
3300.600	12.800	0.080000
3306.500	15.060	0.080000
3328.500	24.200	0.080000
3362.200	31.390	0.080000

3370.000	33.950	0.080000
3393.800	37.760	0.080000
3410.400	41.510	0.080000
3427.700	44.990	0.080000

Name: XS-FG Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
300.000	5.000	0.080000
650.000	4.000	0.080000
1200.000	3.300	0.080000
1206.000	0.400	0.050000
1216.000	0.400	0.050000
1222.000	3.300	0.050000
2050.000	4.000	0.080000
2800.000	5.000	0.080000
2900.000	10.000	0.080000

Name: XS-GH Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	6.000	0.080000
250.000	5.000	0.080000
575.000	4.000	0.080000
1200.000	3.500	0.080000
1206.000	0.700	0.050000
1216.000	0.700	0.050000
1222.000	3.500	0.050000
2100.000	4.000	0.080000
2850.000	5.000	0.080000
3000.000	25.000	0.080000

Name: XS-H Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
275.000	4.000	0.080000
500.000	3.400	0.080000
620.000	3.600	0.080000
625.000	3.684	0.050000
629.606	0.615	0.050000
634.763	0.092	0.050000
640.344	0.615	0.050000
645.832	3.916	0.050000
750.000	4.000	0.080000
850.000	5.000	0.080000

Name: XS-HI Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	5.000	0.080000
350.000	4.000	0.080000
1575.000	3.900	0.080000
1582.000	1.000	0.050000
1592.000	1.000	0.050000
1599.000	3.900	0.050000
2400.000	4.000	0.080000
2600.000	5.000	0.080000
2900.000	25.000	0.080000

Name: XS-IJ Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N

0.000	7.000	0.080000
500.000	6.000	0.080000
1375.000	5.400	0.080000
1383.000	2.300	0.050000
1393.000	2.300	0.050000
1403.000	5.400	0.050000
1775.000	6.000	0.080000
1900.000	10.000	0.080000
2200.000	15.000	0.080000

Name: XS-JK Group: VALLEY
Encroachment: No

Station(m)	Elevation(m)	Manning's N
0.000	10.000	0.080000
300.000	9.000	0.080000
700.000	8.000	0.080000
1050.000	7.500	0.080000
1060.000	4.500	0.050000
1070.000	4.500	0.050000
1080.000	7.500	0.050000
1300.000	8.000	0.080000
1500.000	10.000	0.080000

Name: XS-WEIR Group: VALLEY
Encroachment: No

STRUCTR @ oulet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
425.000	5.000	0.080000
500.000	5.100	0.080000
600.000	15.000	0.080000

Name: XS-WEIR3 Group: VALLEY
Encroachment: No

STRUCTR @ oulet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000

268.100	4.502	0.080000
300.000	2.734	0.080000
306.376	0.627	0.050000
313.766	-1.030	0.050000
317.552	0.627	0.050000
319.596	1.566	0.050000
350.000	4.987	0.080000
375.000	3.700	0.080000
425.000	4.000	0.080000
500.000	5.000	0.080000
600.000	15.000	0.080000

Name: XS-WEIR4 Group: VALLEY
Encroachment: No

STRUCTR @ oultet(=TRANSV-1 W/INVERT 1 FT HIGHER)

Station(m)	Elevation(m)	Manning's N
-50.000	10.000	0.080000
0.000	4.010	0.080000
13.000	4.350	0.080000
28.000	4.630	0.080000
54.000	4.162	0.080000
76.000	4.402	0.080000
98.000	4.702	0.080000
118.000	5.000	0.080000
123.000	6.629	0.080000
129.000	6.890	0.080000
133.500	7.127	0.080000
138.100	3.712	0.050000
143.100	3.960	0.050000
147.100	5.962	0.050000
151.100	7.080	0.050000
168.100	5.162	0.080000
193.100	5.080	0.080000
218.100	4.812	0.080000
243.100	4.732	0.080000
268.100	4.502	0.080000
300.000	2.734	0.080000
326.815	2.881	0.080000
433.500	2.930	0.080000
531.678	2.734	0.050000
538.054	0.627	0.050000
545.440	0.256	0.050000
549.230	0.627	0.050000
551.270	1.566	0.050000
943.610	4.987	0.050000
995.546	1.739	0.080000
1095.055	1.021	0.080000
1207.488	0.978	0.080000
1306.938	1.404	0.080000
1314.513	3.518	0.080000
1322.011	3.117	0.080000

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==== Operating Tables ==========
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Name: LOCO-DAM Group: OP_TABLES
Type: Rating Curve
Function: US Stage vs. Discharge

WEIR DISCHARGE OVER LOCO RES. DAM

US Stage(m)	Discharge(cms)
70.100	0.00
70.110	0.06
70.140	0.55
70.170	1.40
70.200	2.46
70.230	3.70
70.260	5.10
70.290	6.67
70.320	8.37
70.350	10.19
70.380	12.11
70.410	14.14
70.440	16.27
70.470	18.52
70.500	20.86
70.530	23.28
70.560	25.78
70.590	28.37
70.620	31.05
70.650	33.81

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         70.680           36.71
         70.710           39.64

================================================================================================
==== Pipes =====================================================================================
================================================================================================

         Name: ROCO5               From Node: US-332             Length(m): 20.00
        Group: LOCO                  To Node: DS-332                 Count: 5
                                                            Friction Equation: Average Conveyance
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Automatic
     Geometry: Circular       Circular                          Flow: Both
     Span(cm): 182.88         182.88                   Entrance Loss Coef: 0.20
     Rise(cm): 182.88         182.88                       Exit Loss Coef: 0.10
    Invert(m): 5.920          5.520                        Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(cm): 0.000          0.000                        Inlet Ctrl Spec: Use dn
 Bot Clip(cm): 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


================================================================================================
==== Channels ==================================================================================
================================================================================================

          Name: CH1                 From Node: NODEK              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEJ                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 5.500          3.500                             Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.200
   Bot Clip(m):                                             Exit Loss Coef: 0.300
     Main XSec: XS-JK          XS-JK                      Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH10                From Node: NODEB              Length(m): 1000.00
         Group: INACTIVE              To Node: LAGOON                 Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 0.256          -1.030                            Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
   Manning's N:                                            Expansion Coef: 0.000
   Top Clip(m):                                         Entrance Loss Coef: 0.100
   Bot Clip(m):                                             Exit Loss Coef: 0.100
     Main XSec: TRANSV-D       TRANSV-D                   Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


------------------------------------------------------------------------------------------------
          Name: CH2                 From Node: NODEJ              Length(m): 1800.00
         Group: INACTIVE              To Node: NODEI                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 3.500          1.200                             Flow: Both
  TClpInitZ(m): 15.000        15.000                     Contraction Coef: 0.000
```

Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-IJ	XS-IJ	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH3	From Node: NODEI	Length(m):	3000.00
Group:	INACTIVE	To Node: NODEH	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	1.200	0.800	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-HI	XS-HI	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH4	From Node: NODEH	Length(m):	1200.00
Group:	INACTIVE	To Node: NODEG	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.800	0.500	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-GH	XS-GH	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

Name:	CH5	From Node: NODEG	Length(m):	1800.00
Group:	INACTIVE	To Node: NODEF	Count:	1
	UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conveyance
Geometry:	Irregular	Irregular	Solution Algorithm:	Automatic
Invert(m):	0.500	0.290	Flow:	Both
TClpInitZ(m):	15.000	15.000	Contraction Coef:	0.000
Manning's N:			Expansion Coef:	0.000
Top Clip(m):			Entrance Loss Coef:	0.100
Bot Clip(m):			Exit Loss Coef:	0.100
Main XSec:	XS-FG	XS-FG	Outlet Ctrl Spec:	Use dc or tw
AuxElev1(m):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(m):	0.000	0.000		
Aux XSec2:				
Top Width(m):				
Depth(m):				
Bot Width(m):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

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         Name: CH6                 From Node: NODEF              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEE                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.290          0.092                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: XS-H            XS-H                     Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH7                 From Node: NODEE              Length(m): 1600.00
        Group: INACTIVE              To Node: NODED                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.092          0.040                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: TRANSV-G        TRANSV-G                 Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH8                 From Node: NODED              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEC                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.040          0.032                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: TRANSV-F        TRANSV-F                 Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):


---------------------------------------------------------------------------------------------------
         Name: CH9                 From Node: NODEC              Length(m): 1200.00
        Group: INACTIVE              To Node: NODEB                  Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
    Invert(m): 0.032          0.256                                 Flow: Both
 TClpInitZ(m): 15.000         15.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                        Entrance Loss Coef: 0.100
  Bot Clip(m):                                            Exit Loss Coef: 0.100
    Main XSec: TRANSV-E        TRANSV-E                 Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
```

```
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO1              From Node: DS-116             Length(m): 1000.00
         Group: VALLEY                To Node: OCEAN                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -3.080                             Flow: Both
  TClpInitZ(m): 10.000         10.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-43           XS-43                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO10             From Node: SUSUA              Length(m): 1400.00
         Group: LOCO                  To Node: MAGUEYES              Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 40.700         33.890                             Flow: Both
  TClpInitZ(m): 50.000         45.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-13           XS-13                    Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO11             From Node: DS-DAM             Length(m): 1050.00
         Group: LOCO                  To Node: SUSUA                 Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): 49.410         40.700                             Flow: Both
  TClpInitZ(m): 60.000         50.000                   Contraction Coef: 0.000
   Manning's N:                                           Expansion Coef: 0.000
   Top Clip(m):                                        Entrance Loss Coef: 0.100
   Bot Clip(m):                                            Exit Loss Coef: 0.100
     Main XSec: XS-1            XS-1                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000           0.000                     Inlet Ctrl Spec: Use dn
     Aux XSec1:                                          Stabilizer Option: None
   AuxElev2(m): 0.000           0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):


-------------------------------------------------------------------------------------------------
          Name: RLOCO2              From Node: US-116             Length(m): 20.00
         Group: VALLEY                To Node: DS-116                Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                Solution Algorithm: Automatic
     Invert(m): -2.130         -2.130                             Flow: Both
  TClpInitZ(m): 3.800          3.800                    Contraction Coef: 0.000
```

```
   Manning's N:                                          Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-40          XS-40                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO3              From Node: FUNNEL             Length(m): 2500.00
         Group: VALLEY                To Node: US-116                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): -1.030         -2.130                                 Flow: Both
  TClpInitZ(m): 10.000         10.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-38          XS-39                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO4              From Node: DS-332             Length(m): 400.00
         Group: LOCO                  To Node: FUNNEL                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 4.220          3.660                                  Flow: Both
  TClpInitZ(m): 15.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-35          XS-35                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):



-------------------------------------------------------------------------------------------------
          Name: RLOCO6              From Node: D-OLD116           Length(m): 1500.00
         Group: LOCO                  To Node: US-332                Count: 1

                UPSTREAM       DOWNSTREAM                Friction Equation: Average Conveyance
      Geometry: Irregular      Irregular                 Solution Algorithm: Automatic
     Invert(m): 11.950         5.920                                  Flow: Both
  TClpInitZ(m): 20.000         15.000                      Contraction Coef: 0.000
   Manning's N:                                             Expansion Coef: 0.000
   Top Clip(m):                                       Entrance Loss Coef: 0.100
   Bot Clip(m):                                           Exit Loss Coef: 0.100
     Main XSec: XS-25          XS-25                     Outlet Ctrl Spec: Use dc or tw
   AuxElev1(m): 0.000          0.000                       Inlet Ctrl Spec: Use dn
     Aux XSec1:                                         Stabilizer Option: None
   AuxElev2(m): 0.000          0.000
     Aux XSec2:
  Top Width(m):
      Depth(m):
  Bot Width(m):
  LtSdSlp(h/v):
  RtSdSlp(h/v):
```

```
---------------------------------------------------------------------------------------------------
         Name: RLOCO7              From Node: U-OLD116           Length(m): 700.00
        Group: LOCO                  To Node: D-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 15.330         11.950                                 Flow: Both
 TClpInitZ(m): 25.000         21.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-30           XS-30                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO8              From Node: PALOMAS            Length(m): 2500.00
        Group: LOCO                  To Node: U-OLD116               Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 27.360         15.330                                 Flow: Both
 TClpInitZ(m): 40.000         35.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-22           XS-22                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



---------------------------------------------------------------------------------------------------
         Name: RLOCO9              From Node: MAGUEYES           Length(m): 2000.00
        Group: LOCO                  To Node: PALOMAS                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular                  Solution Algorithm: Automatic
    Invert(m): 33.890         27.360                                 Flow: Both
 TClpInitZ(m): 45.000         40.000                   Contraction Coef: 0.000
  Manning's N:                                           Expansion Coef: 0.000
  Top Clip(m):                                         Entrance Loss Coef: 0.100
  Bot Clip(m):                                             Exit Loss Coef: 0.100
    Main XSec: XS-16           XS-16                    Outlet Ctrl Spec: Use dc or tw
 AuxElev1(m): 0.000            0.000                     Inlet Ctrl Spec: Use dn
    Aux XSec1:                                          Stabilizer Option: None
 AuxElev2(m): 0.000            0.000
    Aux XSec2:
 Top Width(m):
     Depth(m):
 Bot Width(m):
 LtSdSlp(h/v):
 RtSdSlp(h/v):



===================================================================================================
==== Weirs ========================================================================================
===================================================================================================

         Name: W-CH11             From Node: LAGOON
        Group: INACTIVE             To Node: FUNNEL
         Flow: Both                   Count: 1
         Type: Vertical: Mavis     Geometry: Irregular

                     XSec: XS-WEIR3
                Invert(m): -1.030
      Control Elevation(m): -1.030
     Struct Opening Dim(m): 9999.00
                                       TABLE
           Bottom Clip(m): 0.000
              Top Clip(m): 0.000

---------------------------------------------------------------------------------------------------

Guanica Lagoon Propsed Condition
Starting Water Surface Elevation at 3.4 m-msl
```

```
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: W116               From Node: US-116
       Group: VALLEY               To Node: DS-116
        Flow: Both                   Count: 1
        Type: Vertical: Paved     Geometry: Irregular

                      XSec: XS-116
                Invert(m): 5.200
      Control Elevation(m): 5.200
      Struct Opening Dim(m): 9999.00
                                        TABLE
            Bottom Clip(m): 0.000
               Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


-------------------------------------------------------------------------------------------------
        Name: W332               From Node: US-332
       Group: LOCO                 To Node: DS-332
        Flow: Both                   Count: 1
        Type: Vertical: Mavis     Geometry: Irregular

                      XSec: XS-332
                Invert(m): 9.000
      Control Elevation(m): 9.000
      Struct Opening Dim(m): 9999.00
                                        TABLE
            Bottom Clip(m): 0.000
               Top Clip(m): 0.000
        Weir Discharge Coef: 2.850
     Orifice Discharge Coef: 0.600


=================================================================================================
==== Rating Curves ==============================================================================
=================================================================================================

        Name: LOCO-OUT            From Node: US-DAM                  Count: 1
       Group: VALLEY                To Node: DS-DAM                   Flow: Positive

             TABLE           ELEV ON(m)      ELEV OFF(m)
          #1: LOCO-DAM       70.100          70.100
          #2:                0.000           0.000
          #3:                0.000           0.000
          #4:                0.000           0.000


=================================================================================================
==== Hydrology Simulations ======================================================================
=================================================================================================

        Name: 100-YEAR
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100-YEAR.R32

     Override Defaults: Yes
   Storm Duration(hrs): 24.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 41.43

Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.00

-------------------------------------------------------------------------------------------------
        Name: 100yr-12
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100yr-12.R32

     Override Defaults: Yes
   Storm Duration(hrs): 12.00
         Rainfall File: Guanica Lagoon
   Rainfall Amount(cm): 30.91

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

-------------------------------------------------------------------------------------------------
        Name: 100yr-48
    Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100yr-48.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 48.00
          Rainfall File: Guanica Lagoon
    Rainfall Amount(cm): 51.33

Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.00

================================================================================
==== Routing Simulations ======================================================
================================================================================

         Name: 100-YEAR            Hydrology Sim: 100-YEAR
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100-YEAR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 100.0000
        Boundary Stages:                        Boundary Flows:

HYDRAULICS RESULTS
100-YEAR, 24-HOUR STORM


Time(hrs)       Print Inc(min)
--------------- ---------------
24.000          5.000

Group           Run
--------------- -----
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------
         Name: 100yr-12            Hydrology Sim: 100yr-12
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100yr-12.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
12.000          5.000

Group           Run
--------------- -----
BASE            Yes
INACTIVE        Yes
LOCO            Yes
OP_TABLES       Yes
VALLEY          Yes


--------------------------------------------------------------------------------
         Name: 100yr-48            Hydrology Sim: 100yr-48
     Filename: P:\Guanica\Water Resources\Guanica Lagoon 2009\ICPR 2011 v2.0\Proposed 3.4m 17Ag11\100yr-24.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

         Max Delta Z(m): 0.30                    Delta Z Factor: 0.01000
    Time Step Optimizer: 0.000
        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)
--------------- ---------------
48.000          5.000
```

Group	Run
BASE	Yes
INACTIVE	Yes
LOCO	Yes
OP_TABLES	Yes
VALLEY	Yes

Simulation	Basin	Group	Time Max hrs	Flow Max cms	Volume cm	Volume m3
100-YEAR	WS-1	LOCO	12.58	569.26	33.912	7406638
100-YEAR	WS-2	LOCO	12.42	240.56	34.695	2889412
100-YEAR	WS-3	LOCO	12.33	244.47	33.174	2607124
100-YEAR	WS-4	LOCO	12.58	78.07	35.439	1085494
100-YEAR	WS-5	LOCO	12.67	173.19	33.155	2389490
100-YEAR	WS-6	LOCO	12.50	206.63	33.133	2590632
100-YEAR	WS-A	INACTIVE	12.17	134.22	34.630	1149038
100-YEAR	WS-B	INACTIVE	12.25	640.79	34.615	6258787
100-YEAR	WS-C	INACTIVE	13.58	171.82	34.673	3679137
100-YEAR	WS-D	INACTIVE	13.58	111.71	34.674	2417815
100-YEAR	WS-E	INACTIVE	13.33	297.60	34.307	5843438
100-YEAR	WS-F	INACTIVE	13.33	300.48	34.302	5976027
100-YEAR	WS-G	INACTIVE	13.00	120.90	31.151	2048484
100-YEAR	WS-H	INACTIVE	13.50	267.98	31.151	5478862
100-YEAR	WS-I	INACTIVE	12.58	242.49	31.980	3267696
100-YEAR	WS-J	INACTIVE	12.42	594.08	34.319	7108184
100-YEAR	WS-K	INACTIVE	12.50	453.37	34.310	5689958
100yr-12	WS-1	LOCO	6.58	554.30	23.614	5157642
100yr-12	WS-2	LOCO	6.50	237.10	24.330	2026195
100yr-12	WS-3	LOCO	6.42	237.82	22.933	1802338
100yr-12	WS-4	LOCO	6.67	76.97	25.020	766364
100yr-12	WS-5	LOCO	6.67	166.18	22.921	1651885
100yr-12	WS-6	LOCO	6.58	199.34	22.905	1790937
100yr-12	WS-A	INACTIVE	6.22	136.90	24.378	808849
100yr-12	WS-B	INACTIVE	6.31	645.29	24.325	4398290
100yr-12	WS-C	INACTIVE	7.67	165.07	24.314	2579989
100yr-12	WS-D	INACTIVE	7.67	107.25	24.315	1695489
100yr-12	WS-E	INACTIVE	7.42	285.71	23.974	4083506
100yr-12	WS-F	INACTIVE	7.42	288.33	23.971	4176161
100yr-12	WS-G	INACTIVE	7.08	112.31	21.120	1388863
100yr-12	WS-H	INACTIVE	7.58	246.48	21.120	3714644
100yr-12	WS-I	INACTIVE	6.67	230.15	21.857	2233313
100yr-12	WS-J	INACTIVE	6.50	583.32	23.983	4967334
100yr-12	WS-K	INACTIVE	6.58	442.28	23.976	3976251
100yr-48	WS-1	LOCO	24.42	513.15	43.581	9518465
100yr-48	WS-2	LOCO	24.33	213.98	44.409	3698352
100yr-48	WS-3	LOCO	24.25	214.76	42.811	3364526
100yr-48	WS-4	LOCO	24.50	70.06	45.185	1384025
100yr-48	WS-5	LOCO	24.50	157.27	42.787	3083666
100yr-48	WS-6	LOCO	24.42	186.08	42.758	3343242
100yr-48	WS-A	INACTIVE	24.05	108.99	44.365	1472038
100yr-48	WS-B	INACTIVE	24.13	545.98	44.346	8018257
100yr-48	WS-C	INACTIVE	25.42	159.21	44.380	4709174
100yr-48	WS-D	INACTIVE	25.50	103.47	44.382	3094724
100yr-48	WS-E	INACTIVE	25.25	275.15	43.999	7494323
100yr-48	WS-F	INACTIVE	25.25	278.11	43.992	7664370
100yr-48	WS-G	INACTIVE	24.92	113.38	40.655	2673454
100yr-48	WS-H	INACTIVE	25.42	253.93	40.655	7150402
100yr-48	WS-I	INACTIVE	24.50	222.17	41.544	4244916
100yr-48	WS-J	INACTIVE	24.33	529.55	44.015	9116384
100yr-48	WS-K	INACTIVE	24.42	404.19	44.003	7297481

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
D-OLD116	LOCO	100-YEAR	4.11	16.18	0.00	0.0030	454486	13.41	453.71	13.50	442.18
DS-116	VALLEY	100-YEAR	7.32	2.39	0.00	0.0019	631284	24.00	242.09	24.00	240.41
DS-332	LOCO	100-YEAR	4.18	8.64	0.00	0.0030	149931	13.62	435.64	13.70	433.69
DS-DAM	LOCO	100-YEAR	4.87	50.92	0.00	0.0012	14309	7.41	39.64	15.99	39.64
FUNNEL	VALLEY	100-YEAR	7.31	5.69	0.00	0.0176	403891	23.97	253.85	24.00	242.82
LAGOON	INACTIVE	100-YEAR	7.31	5.72	0.00	0.0014	984811	24.00	136.19	0.00	185.55
MAGUEYES	LOCO	100-YEAR	3.91	36.01	0.00	0.0010	224836	12.58	268.59	12.83	230.74
NODEB	INACTIVE	100-YEAR	7.31	5.72	0.00	0.0012	2039856	23.97	203.82	24.00	136.19
NODEC	INACTIVE	100-YEAR	7.31	5.72	0.00	0.0006	2805941	23.97	118.24	23.97	203.82
NODED	INACTIVE	100-YEAR	7.31	5.72	0.00	0.0006	2643469	13.33	166.14	24.00	102.10
NODEE	INACTIVE	100-YEAR	7.31	5.72	0.00	0.0006	1709632	13.17	213.60	23.99	97.46
NODEF	INACTIVE	100-YEAR	7.31	5.73	0.00	0.0007	3194674	13.00	190.96	24.00	70.89
NODEG	INACTIVE	100-YEAR	7.32	5.73	0.00	0.0008	4141695	14.76	214.08	24.00	56.13
NODEH	INACTIVE	100-YEAR	7.32	5.73	0.00	0.0015	5590489	14.00	668.03	14.96	167.02
NODEI	INACTIVE	100-YEAR	7.32	5.73	0.00	0.0022	5082495	12.88	797.85	14.47	448.00
NODEJ	INACTIVE	100-YEAR	4.01	8.00	0.00	0.0028	2379578	12.50	848.25	13.40	611.86
NODEK	INACTIVE	100-YEAR	3.93	9.42	0.00	-0.0027	796488	12.50	453.36	12.96	330.30
OCEAN	VALLEY	100-YEAR	0.00	2.10	2.10	0.0000	684026	24.00	240.41	0.00	0.00
PALOMAS	LOCO	100-YEAR	3.92	32.09	0.00	0.0016	887412	12.50	486.65	12.86	430.83
SUSUA	LOCO	100-YEAR	3.83	45.39	0.00	0.0020	176088	12.42	280.20	12.58	268.59
U-OLD116	LOCO	100-YEAR	4.09	18.19	0.00	-0.0030	607327	12.75	597.87	13.41	453.71
US-116	VALLEY	100-YEAR	7.32	2.62	0.00	0.0019	162239	24.00	242.82	24.00	242.09
US-332	LOCO	100-YEAR	4.15	9.61	0.00	0.0027	493701	13.50	442.18	13.62	435.64
US-DAM	LOCO	100-YEAR	7.31	81.37	74.68	0.0030	561274	12.58	569.26	7.41	39.64
D-OLD116	LOCO	100yr-12	2.29	16.15	0.00	0.0030	453348	7.40	432.85	7.54	419.94
DS-116	VALLEY	100yr-12	3.66	2.24	0.00	0.0019	517905	12.00	170.58	12.00	168.12
DS-332	LOCO	100yr-12	2.37	8.60	0.00	0.0030	148077	7.68	414.19	7.76	412.47
DS-DAM	LOCO	100yr-12	3.21	50.92	0.00	0.0012	14243	4.28	39.64	10.52	39.64
FUNNEL	VALLEY	100yr-12	3.66	5.21	0.00	0.0176	308941	0.00	203.82	12.00	171.62
LAGOON	INACTIVE	100yr-12	3.66	5.21	0.00	0.0013	965139	6.17	141.50	0.00	185.55
MAGUEYES	LOCO	100yr-12	2.09	35.99	0.00	0.0009	209191	6.62	265.01	6.86	225.68
NODEB	INACTIVE	100yr-12	3.66	5.21	0.00	0.0012	1981566	0.13	76.56	0.03	126.50
NODEC	INACTIVE	100yr-12	3.66	5.21	0.00	0.0007	2715332	7.58	112.70	0.13	76.56
NODED	INACTIVE	100yr-12	3.66	5.21	0.00	0.0007	2447319	7.53	201.42	0.17	41.22
NODEE	INACTIVE	100yr-12	3.66	5.21	0.00	0.0007	1574827	7.25	253.28	7.51	95.07
NODEF	INACTIVE	100yr-12	3.66	5.21	0.00	0.0009	3028598	7.17	211.68	11.95	29.73
NODEG	INACTIVE	100yr-12	3.66	5.21	0.00	0.0010	3913001	9.88	193.96	11.61	37.67
NODEH	INACTIVE	100yr-12	3.66	5.22	0.00	0.0015	5499529	8.28	576.81	9.95	161.44
NODEI	INACTIVE	100yr-12	3.66	5.25	0.00	0.0026	4935064	6.98	743.70	8.98	399.41
NODEJ	INACTIVE	100yr-12	2.22	7.96	0.00	0.0030	2345694	6.58	829.65	7.28	568.10
NODEK	INACTIVE	100yr-12	2.12	9.44	0.00	0.0030	795525	6.58	442.28	7.01	325.51
OCEAN	VALLEY	100yr-12	0.00	2.10	2.10	0.0000	684026	12.00	168.12	0.00	0.00
PALOMAS	LOCO	100yr-12	2.11	32.06	0.00	0.0021	880434	6.56	472.68	6.92	417.41
SUSUA	LOCO	100yr-12	2.02	45.38	0.00	0.0026	175840	6.50	276.74	6.62	265.01
U-OLD116	LOCO	100yr-12	2.26	18.08	0.00	-0.0030	607234	6.81	576.85	7.40	432.85
US-116	VALLEY	100yr-12	3.66	2.35	0.00	0.0019	122990	12.00	171.62	12.00	170.58
US-332	LOCO	100yr-12	2.34	9.59	0.00	0.0023	492296	7.54	419.94	7.68	414.19
US-DAM	LOCO	100yr-12	3.66	79.75	74.68	0.0030	518680	6.58	554.30	4.28	39.64
D-OLD116	LOCO	100yr-48	7.72	16.14	0.00	0.0030	453053	25.17	426.13	25.36	414.24
DS-116	VALLEY	100yr-48	14.63	2.47	0.00	0.0019	703926	48.00	272.47	48.00	272.41
DS-332	LOCO	100yr-48	7.80	8.59	0.00	0.0030	147642	25.50	408.97	25.58	407.47
DS-DAM	LOCO	100yr-48	5.61	50.92	0.00	0.0015	13712	16.66	39.64	18.42	39.64
FUNNEL	VALLEY	100yr-48	14.62	5.87	0.00	0.0176	412988	38.63	277.17	47.98	272.50
LAGOON	INACTIVE	100yr-48	14.63	5.91	0.00	-0.0030	991977	47.98	828.98	38.97	212.28
MAGUEYES	LOCO	100yr-48	7.54	35.94	0.00	0.0015	204084	24.48	239.97	24.75	214.73
NODEB	INACTIVE	100yr-48	14.62	5.91	0.00	0.0029	2052327	38.63	236.36	47.98	801.04
NODEC	INACTIVE	100yr-48	14.62	5.91	0.00	0.0009	2831126	39.36	170.23	38.63	236.36
NODED	INACTIVE	100yr-48	14.63	5.91	0.00	0.0009	2684853	39.38	151.94	47.98	153.81
NODEE	INACTIVE	100yr-48	14.63	5.91	0.00	0.0009	1760276	25.00	147.63	39.38	139.60
NODEF	INACTIVE	100yr-48	14.63	5.93	0.00	0.0006	3250445	24.92	134.61	48.00	114.13
NODEG	INACTIVE	100yr-48	14.63	5.93	0.00	0.0007	4212159	25.45	170.01	48.00	91.84

Guanica Lagoon Propsed Condition
Starting Water Surface Elevation at 3.4 m-msl

Name	Group	Simulation	Max Time Stage hrs	Max Stage m	Warning Stage m	Max Delta Stage m	Max Surf Area m2	Max Time Inflow hrs	Max Inflow cms	Max Time Outflow hrs	Max Outflow cms
NODEH	INACTIVE	100yr-48	14.63	5.93	0.00	0.0015	5620714	25.74	594.95	26.23	104.48
NODEI	INACTIVE	100yr-48	14.63	5.93	0.00	0.0028	5146963	24.83	725.47	25.95	357.37
NODEJ	INACTIVE	100yr-48	7.65	7.94	0.00	-0.0025	2327107	24.42	763.20	27.47	636.92
NODEK	INACTIVE	100yr-48	7.56	9.36	0.00	0.0030	766759	24.42	404.19	24.88	304.28
OCEAN	VALLEY	100yr-48	0.00	2.10	2.10	0.0000	684026	48.00	272.41	0.00	0.00
PALOMAS	LOCO	100yr-48	7.54	32.03	0.00	0.0022	874157	24.42	442.17	24.74	405.40
SUSUA	LOCO	100yr-48	7.46	45.34	0.00	0.0025	157948	24.33	253.61	24.48	239.97
U-OLD116	LOCO	100yr-48	7.67	18.04	0.00	-0.0030	201283	24.61	557.93	25.17	426.13
US-116	VALLEY	100yr-48	14.63	2.75	0.00	0.0019	184023	47.98	272.50	48.00	272.47
US-332	LOCO	100yr-48	7.77	9.58	0.00	0.0027	491950	25.36	414.24	25.50	408.97
US-DAM	LOCO	100yr-48	11.29	80.88	74.68	0.0030	548448	24.42	513.12	16.66	39.64