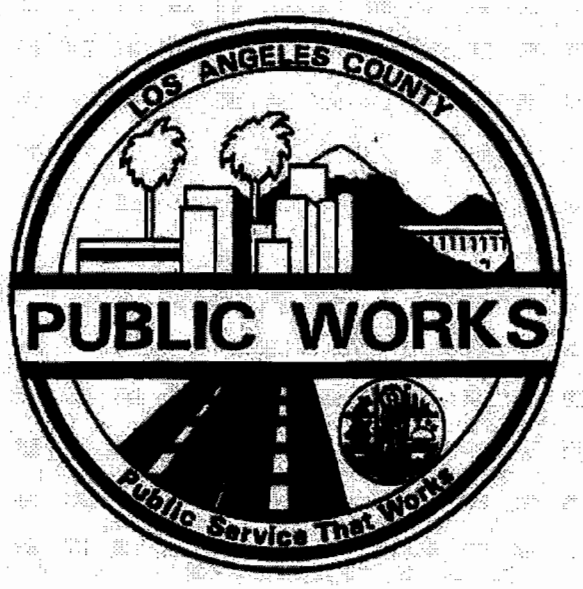
County of Los Angeles

Tentative Tract Map No. 053653
Regional Hydrology Study

Final Draft
June 2006



COUNTY OF LOS ANGELES – TENTATIVE TRACT MAP NO. 053653

Regional Hydrology Study

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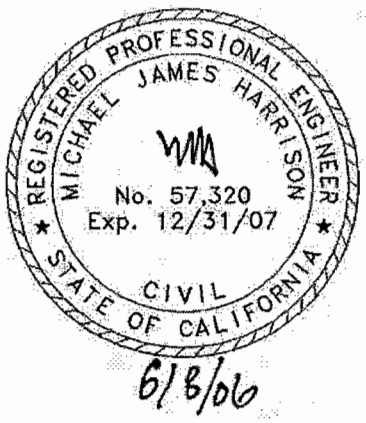

Prepared by _____

Mike Harrison, P.E.
RCE #57,320, Expires: December 31, 2007

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Nomenclature

'	feet
"	inch
<	less than
>	greater than
ac	acre
ac-ft	acre - feet
APN	County Assessor's parcel number
ARC	antecedent runoff condition
BMPs	best management practices
C	Rational Method runoff coefficient
Caltrans	California Department of Transportation
CDMG	California Division of Mines & Geology
cfs	cubic feet per second
City	City of Santa Clarita
CMP	corrugated metal pipe
CN	SCS curve number
Cnl	open channel
Consultant	Diamond West Engineering
County	County of Los Angeles
C_p	pan coefficient
d/s	downstream
DWR	California Department of Water Resources
E	evaporation
EGL	energy grade line
FEMA	Federal Emergency Management Agency
FIP	Finance and Implementation Plan
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
ft	feet
ft/s	feet per second
g	acceleration due to gravity
gpm	U.S. gallons per minute
gpd	U.S. gallons per day
gpd/ft^2	U.S. gallons per day per square foot
H	total hydraulic head
h	horizontal
HEC	Hydrologic Engineering Center
HEC-HMS	HEC-HMS Computer Program
HEC-RAS	HEC-RAS Computer Program
HGL	hydraulic grade line
hr	hour
i	rainfall intensity
i_a	initial abstraction
i.d.	inside diameter
imp	impervious
in	inch
L_o	overland flow path length
MAP	Mean annual precipitation
max	maximum
MEP	maximum extent practicable
mi	mile
min	minimum
misc	miscellaneous
msl	mean sea level
MWC	municipal water company
MWD	municipal water district
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
o.d.	outside diameter
O&M	Operations and maintenance
ped.	Pedestrian
Q	flow quantity
Qty	quantity
R.C.E.	California, Registered Civil Engineer
RCP	reinforced concrete pipe
req'd	required
RWQCB	California Regional Water Quality Control Board
s	second
SCS	Soil Conservation Service
sf	square feet
SUSMP	County, Standard Urban Storm Water Mitigation Plan
t_c	storm duration (time of concentration)
t_p	time from start of storm to peak runoff
t_r	rain storm duration
T	transmissivity
TR-20	SCS Technical Release Number 20
TR-55	SCS Technical Release Number 55
UMP	Urban Management Plan
u/s	upstream
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
V	volume
v	vertical
w.s.	water surface

Executive Summary

The purpose of this report is to facilitate the planning and implementation of drainage infrastructure improvements to accommodate storm water runoff in the general vicinity of the proposed Tentative Tract Map No. 053653.

This report includes an evaluation of existing land use projections in the watershed, existing drainage patterns, alternative storm drainage solutions, potential utility relocation requirements, potential right-of-way issues, and environmental issues. Additionally, this report will identify a lead drainage alternative(s). The results of this report will be the basis for subsequent storm drainage improvements solely for the Tract.

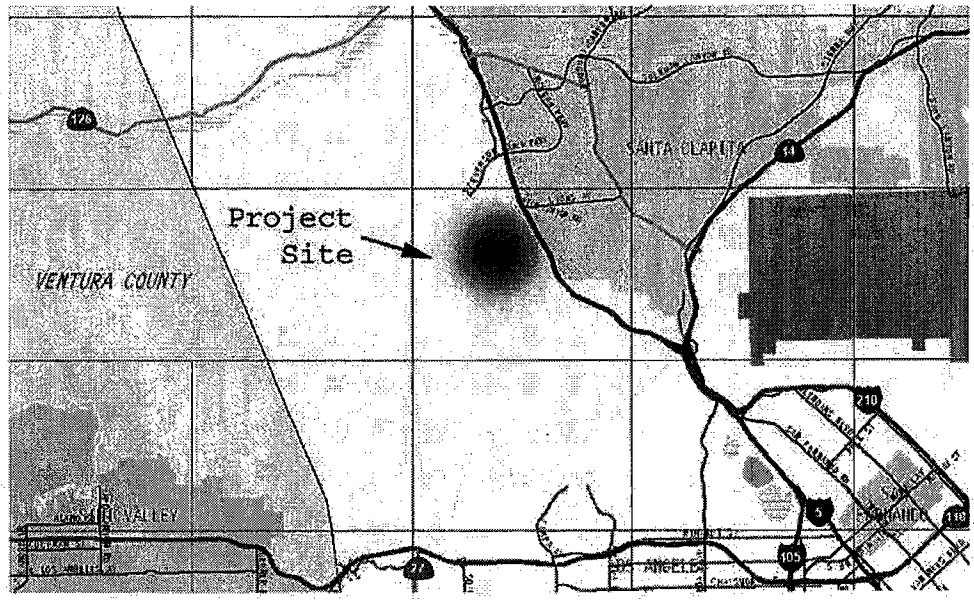
The project (Tract No. 053653) is located on the west side of the City of Santa Clarita roughly between Lyons Avenue, Calgrove Boulevard, and adjacent to and west of the The Old Road (see Figure 1). The project is situated on APN 2826-022-025, -026, -027, & 2826-023-014 which according to the County Assessor contains roughly 232 acres. The vicinity of the detailed study area is the northerly ridge of Towsley Canyon on the south, the southerly ridge of Dewitt Canyon on the north, and The Old Road on the east (see Figure 2 and Appendix 1, Exhibit A). The detailed study area contains roughly 890 acres and is located entirely in the County. The existing land use in the study area contains mainly open space with a small portion of residential and commercial zoning (see Appendix 1, Exhibit B).

This report addresses the impacts from a 2-year and 50-year, 24-hour design storm event. Its intended use is for the development of drainage infrastructure solely by the project.

Authorization

This report has been performed at the request of D.R. Horton to redetermine the existing drainage patterns and any storm drainage impacts from the proposed development on the study area. Previous studies by Diamond West Engineering and RBF were for a larger project area. It is not the intent of this report to suggest remediation for any regional drainage issues outside of the project area.

Figure 1. Regional Location Map



The following information is contained within this report:

1. A description of the existing drainage conditions for the study area.

2. A recommended drainage infrastructure plan showing the locations and sizes of the primary components of the drainage infrastructure that will be needed to accommodate or alleviate storm water runoff generated by the proposed project. See Exhibit J in Appendix 1 and the approved Tentative Map for more information. Drainage infrastructure elements evaluated include:

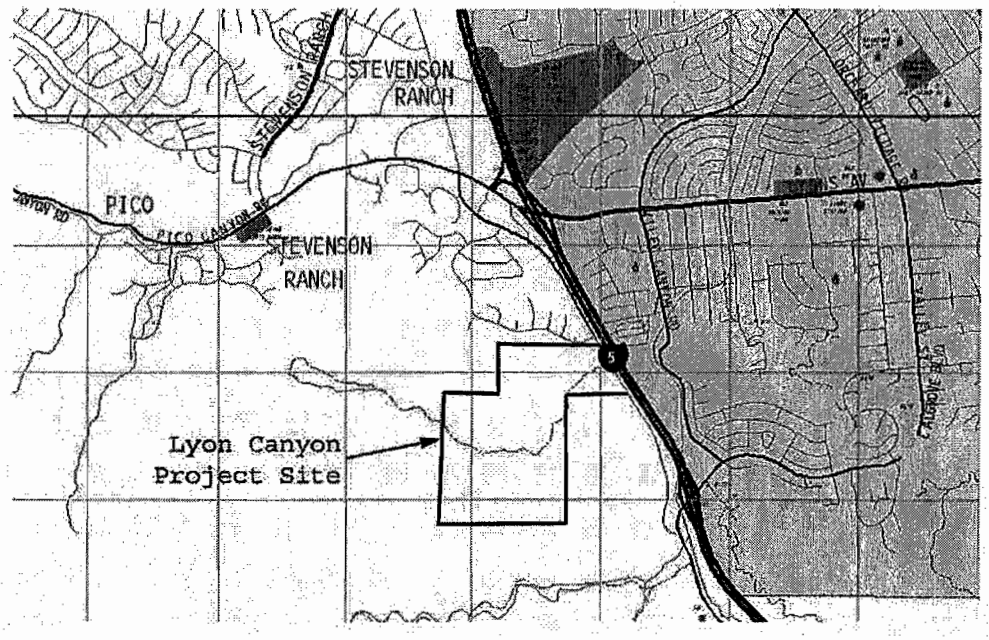
    - storm drain pipes and/or open channels
    - storm drain culverts
    - storm water impoundments & debris basins (and inlets)

3. Watershed catchment boundaries and hydrologic information that support the drainage infrastructure plan. The County Modified Rational (MODRAT) computer model has been used as the basis for hydrologic evaluations. Discharges expected at numerous key points of concentration have been estimated using the MODRAT computer model for the 50-year, 24-hour storm event.

4. Hydraulic analyses that examine the functional characteristics of the proposed drainage infrastructure. The hydraulic capacities of the proposed storm drains have been evaluated using standard formulas. Volumetric analysis of runoff hydrographs have been evaluated using WMS.

5. Cost estimates for the components of the recommended drainage infrastructure plan(s) are not provided.

Figure 2. Vicinity Map



Study Approach

The Lyons Canyon project was originally submitted to the City of Santa Clarita for review and possible annexation in 2002. Pursuant to the State CEQA Guidelines, the City first circulated a NOP in March 2003. Due to change in project description, another NOP was circulated in December 2003. Subsequently, the project was withdrawn from the City in May 2005. The project area has now been redesigned and entitlement applications were submitted to the County in June 2005. This is the basis for this study report.

The project site is vacant with current on-site structures such as fencing, an abandoned water tank, water wells, and irrigation lines. Other utility structures, such as Southern California Edison electrical distribution lines, are adjacent to or traverse portions of the site.

The project site is currently located within unincorporated Los Angeles County, and is designated as Non-Urban 2 (N2) and Hillside Management (HM) in the Santa Clarita Valley Areawide General Plan, and Non-Urban (R) and Significant Ecological Area (SEA) in the County General Plan. The subject property is zoned as Heavy Agricultural (A-2-2/A-2-1).

The general lay of the land drains from southwest to northeast. Most of the project area drains under The Old Road and Interstate 5 through a double 8-foot by 8-foot box culvert. This culvert ties into a channel that eventually connects to the South Fork of the Santa Clara River. The entire length of the culvert is currently about 75% full of sediment and debris buildup. This existing condition could have adverse drainage impacts on adjacent properties during moderate or even small rainfall events. The

results contained herein for existing and proposed capacity of this structure will assume the facility if free and clear of any sediment accumulation.

Both Diamond West Engineering and RBF completed similar hydrologic studies based on previous project designs. Both MORA and MODRAT are acronyms for the Modified Rational Method. They both refer to different sets of hydrologic equations used (and approved) by the County. The previous hydrology reports both used a DOS-based MORA program called FO604.

The MODRAT equations can be found in a program called WMS. WMS is a GIS-based program. The MODRAT parameters and equations are more current than MORA, and WMS is the preferred program at the County.

Summary of objectives and hydrologic conditions

The proposed study area was broken into 48 sub-basins (as shown in Appendix 1, Exhibit G. This includes both on-site and off-site areas. The main objective of this study is to design drainage infrastructure that will not change the historic runoff patterns that are experienced by adjacent properties. With a free discharge and clear of any sediment buildup, the existing double 8-foot by 8-foot culvert has a discharge capacity of about 1,800 cfs without overtopping The Old Road.

Because of the fire hazard in the surrounding area the drainage infrastructure design should consider the effects of burned and bulked runoff from the project area. Drainage facilities should be designed accordingly to accommodate these runoff conditions. Based on conversations with County staff, all debris from the design runoff event is required to be retained on-site. The most feasible way to accomplish this is by installing debris basins according to County design standards.

Two debris basins are planned as shown in Appendix 1, Exhibit J. These basins will retain the debris from the two main branches of off-site run-on to the project area. In addition to the benefits they provide for water quality, they will also serve as combination storm water detention basins. Table 1 shows the difference between existing and proposed runoff conditions (without detention).

Table 1. Pre- vs. Post-Development Runoff

Concentration Point	50-yr, 24-hr (burned & bulked) Flow Rate (cfs)	
	Existing Condition	Proposed Condition
double 8-foot by 8-foot box culvert	1,950	1,425
48-inch CMP culvert	183	120
30-inch CMP culvert	190	190

The proposed roadway grading at the two debris basins is creating a significant amount of storage for storm water runoff. Both basins have a total storage capacity of over 30 acre-feet at the spillway elevations. Assuming an average design rainfall of 8.4-inches and a 50% runoff yield, the runoff from the entire watershed would be about 312 acre-feet. Removing the bulked flow, reducing the potential burned area with the development, and the detaining affects of the debris basins will reduce the runoff for the proposed condition at the double 8-foot by 8-foot culvert from the existing condition. The information shown in this report actually shows an increase in runoff from the project area under burned runoff conditions. This will not occur since the debris basins will act as detention basins. It should also be noted that the existing condition design (burned and bulked) flow rate would inundate The Old Road around the double box culvert.

The purpose of the spillway within each debris basin is to keep it from becoming a jurisdictional dam under the California Division of Safety of Dams (DSOD). The main requirements to remain non-jurisdictional are the storage height needs to be less than 25-feet tall and the potential storage volume is less than 50 acre-feet. The storage height, according to County Public Works, is measured from the spillway elevation to the lowest natural grade on the downstream side of the embankment.

The following items outline the approval process by the DSOD if a basin is determined to be a jurisdictional dam.

- ✓ Submit an application for water rights with the State Water Resources Control Board as required.
- ✓ Hold a pre-application meeting with DSOD to streamline the review process.
- ✓ File an application for the construction of a dam and pay a filing fee.
- ✓ Submit 90% plans and specifications.
- ✓ Submit the environmental documentation as prepared by the lead agency or provide the information required for the DSOD to prepare the environmental documents as the lead agency.
- ✓ Final review and approval of the construction documents.
- ✓ Construct the facilities and obtain a Certificate of Approval from the DSOD.
- ✓ Pay annual fees.

This process could add significant time to the overall project schedule.

Peak Flow Standard

By using the debris basins, the developed runoff from the project area satisfies the peak flow standard. See Appendix 1, Exhibits A and G and Appendix 4 and 5 for the 2-year and 50-year, 24-hour storm events.

Project Setting

The project (Tract No. 053653) is located in and on the west side of the City of Santa Clarita roughly between Lyons Avenue, Calgrove Boulevard, and adjacent to and west of the The Old Road (see Figure 2). The detailed study area contains roughly 890 acres and is located entirely in the County. The existing land use in the study area contains open space and a small portion of residential and commercial zoning (see Appendix 1, Exhibit B).

The existing utilities in the area are a water system, a gas distribution system, an electric service system, and a telephone/fiber optic system. There are production domestic water wells within one mile of the study area. There are no existing storm drainage infrastructure facilities to adequately serve the project area.

BASIS OF CONTROL

The horizontal coordinates shown herein are based on the California Coordinate System of 1983, Zone V in U.S. Survey Feet.

EXISTING WATERSHED CHARACT-ERISTICS

The detailed study area consists of approximately 890 acres that is divided into 48 sub-basin watersheds (as shown in Appendix 1, Exhibits A & G). These watersheds are defined by the physical constraints and topographic features that exist and points of interest in the study area. The land uses within the study area consist of open space, residential and commercial zoning. The natural slopes within the sub-basin areas vary roughly from 5% to over 40%.

Storm water runoff generated from the detailed study area generally drains northeasterly as overland flow and as concentrated flow. Concentrated flow generally occurs within the lower elevations. The overland flow from the sub-basins cascades down the respective low points. At each low point, the storm water is either detained, or is further conveyed through downstream sub-basins to the north and east.

The runoff leaves the project area through a series of culverts that cross The Old Road and Interstate 5. A majority of the runoff is conveyed by a double 8-foot by 8-foot box culvert located at the northeast corner of the project area. This culvert is currently about 75% full of sediment and debris buildup and does not have enough discharge capacity to convey the existing design runoff event without flooding The Old Road. The runoff from the project area eventually joins the South Fork of the Santa Clara River.

Flood Insurance Study

The detailed study area is located on the following FEMA FIRM.

Los Angeles County, California (Unincorporated Areas), community panel number 065043 0460 B, December 2, 1980. The detailed study area is located in Zone A and Zone C.

Zone C and Zone X are defined as areas of minimal flooding or outside the 500-year floodplain. Zone A is defined as areas of 100-year flood with base flood elevations and factors not determined.

Any construction in Zone A will require a Conditional Letter of Map Revision from FEMA prior to issuance of grading permits. A Letter of Map Revision will be required prior to building occupancy.

Native Soil Properties

The soil types within the study area were identified from the current County Hydrology Manual. Individual soil types are given unique values ranging from 1-180. There are four soil types within the study area, 20, 91, 93, and 97. Soil values can be seen in Appendix 1, Exhibit D.

EXISTING GROUNDWATER CONDITIONS

The depth to the seasonal high groundwater table is assumed not high enough to be significant. Additional design requirements may be required if it is found to encroach on any new drainage infrastructure, appurtenances, or excavations.

Proposed Drainage Study Approach

The purpose of this hydrology study is to facilitate the planning and implementation of drainage infrastructure improvements to accommodate storm water runoff in the general vicinity of the project area. Additional study objectives include:

- Develop a phased plan that alleviates localized flooding.
- Provide study services consistent with City and County standards.
- Develop phased solutions where the capital improvements can be funded incrementally.
- Develop phased solutions that maximize the cost to benefit ratio.
- Develop solutions that limit O&M costs.
- Develop phased solutions that can fit or be adapted in the ultimate, area-wide solution.
- Involve City and County staff in the development and implementation of the phased solutions.
- Develop phased solutions that will minimize any disturbance to the City, County, and surrounding community.
- Site and operate storm drainage facilities in such a manner that minimizes adverse environmental impacts.

DESIGN ANALYSIS

The approach to design process is to explore a range of solutions. The drainage design presented in this report has been developed based on evaluations of the following constraints:

- Watershed characteristics
- Topography
- Existing land use & its adaptability
- Location of transportation corridors
- Property boundaries & acquisition
- Logical points of drainage outfall
- Agency objectives
- Retrofitting opportunities
- Design level of protection
- Environmental impacts
- Financing (expenses)
- Structure relocation
- Operation and maintenance
- Regulatory compliance
- Agency compliance

- Hydrologic criteria
- Hydraulic capacities & characteristics
- Flexibility of service area

Formulation of the infrastructure design was characterized by an evaluation of all of the above constraints, their level of importance to the successful completion of the project, and their interrelationships with each other.

Debris/Storage Basin Approach

Based on the above mentioned constraints, the proposed design is to develop a series of storm water impoundments to remove accumulated debris and to provide storm water detention to help relieve downstream drainage infrastructure. As requested by the County, the discharge information contained herein does not account for the affects of the detention basins. But it should be recognized that they will exist. These basins need to be designed such that the storage height is less than 25-feet and the storage volume is less than 50 acre-feet to remain as non-jurisdictional dams according to County Public Works and the DSOD.

UTILITY CONFLICT ANALYSIS

The location of the utilities shown herein is for information only. The location, type, size, and/or depths indicated were obtained from sources of varying reliability. The consultant is not responsible or liable for the accuracy or completeness of those records. All utilities should be field verified as to their actual location, type, size, and depth prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, structure or other utilities subject to concerns for safety, displacement, and/or damage by reason of such operations.

The existing utilities in the area are a water system, a gas distribution system, an electric service system, and a telephone/fiber optic system. There are production domestic water wells within one mile of the study area. Ground water monitoring should be considered at any domestic well within one mile of a proposed storm water impoundment. There are no existing storm drainage infrastructure facilities to adequately serve the project area.

For the most part, the drainage collection system has been placed away or adjacent to existing utilities. In reviewing record information, it does not appear that there are any major crossing conflicts. Any conflicts will need to be addressed during the preparation of the construction documents for those facilities.

RIGHT-OF-WAY ANALYSIS

The property boundaries shown herein are based upon record information. Field verification should be performed during the construction process for any drainage improvements defined herein.

There are no planned right-of-way acquisitions for drainage purposes. Nor are there any planned drainage easements or agreements for the development of the project.

LAND USE ANALYSIS

The County and City General Plan and Zoning Code regulate land use in the study area. Generally, existing land use in the area is consistent with these policy documents. There are no known pending formal applications in the County or City to change land use within the study area. No provisions have been made for changes in future land use within the study area.

ENVIRONMENT -AL ANALYSIS

A Specific Plan EIR is being prepared by others.

Proposed Drainage Description

In order to adequately evaluate the impacts and requirements of the proposed project, the existing drainage conditions were analyzed. Research efforts were made to identify any drainage studies that documented the existing drainage conditions for the study area. The results of these efforts did not find any study that adequately documented those conditions. The purpose of this drainage study is to document the impacts of certain rainfall events on the study area. This information will be the basis of comparison between pre-development and post-development of storm drainage infrastructure improvements.

This proposed drainage description will analyze the effects of the 2-year and 50-year, 24-hour storm events within the study area.

RELATED DOCUMENTS

The Consultant pursued the City, County, and Caltrans for any drainage reports on the study area. The following documents were found which identified potential drainage improvements within the study area.

Drainage Concept / SUSMP Study, 2004

This plan was completed in June 2004 by Diamond West Engineering. The purpose of the study was to evaluate the impacts of the Lyons Canyon Ranch project as it was currently designed. Since that time the project design has changed.

Hydrology and Water Quality Technical Appendix, 2004

This plan was completed in November 2004 by RBF. The purpose of the study was to evaluate the impacts of the Lyons Canyon Ranch project when it was considered to be annexed to the City. Since then the project has been redesigned and it will remain in the County.

METHODOLOGY

Due to the complex nature of the sub-basins, a hydrograph method was chosen to estimate the design storm runoff. The complex aspects of the sub-basins include consideration of available storage and varying times of travel. The Modified Rational Method, as defined in the current County Hydrology Manual was employed to generate the effective runoff within each sub-basin.

The County Hydrology Manual utilizes a Modified Rational Method approach for its hydrologic calculations. The Rational Method is understood to provide peak discharge relative to rainfall intensity. It is not generally preferred in watershed catchments where ponding of storm water occurs. Additionally, it does not typically provide a reasonable relationship between peak storm water discharge and storm water runoff volume. This phenomenon can be seen in Figure 3. As seen on the synthetic rainfall distribution, the County method yields little runoff before or after the peak. This typically produces a sharp, narrow peak, which ultimately requires less storage volume for detention basin analysis.

Because the MODRAT method is considered the 'standard of practice' for this area it will be used to generate the regional hydrology contained herein.

Equation 1. Rational Method

$$Q = CiA$$

Where
- C = runoff coefficient
- i = rainfall intensity (in/hr)
- A = drainage area (ac)

Equation 2. Manning Equation

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

Where
- V = average velocity (ft/s)
- n = pipe roughness coefficient
- R = hydraulic radius (ft)
- S = head loss per unit length of pipe (ft/ft)

The rainfall intensity was taken from County Standards. The runoff coefficient in the rational formula is dependent on the soil type, antecedent moisture condition, recurrence interval, land use, slope, amount of urban development, rainfall intensity, surface and channel roughness, and duration of storm. Equation 3 provides a relationship between all of these factors and was used to calculate the runoff coefficients.

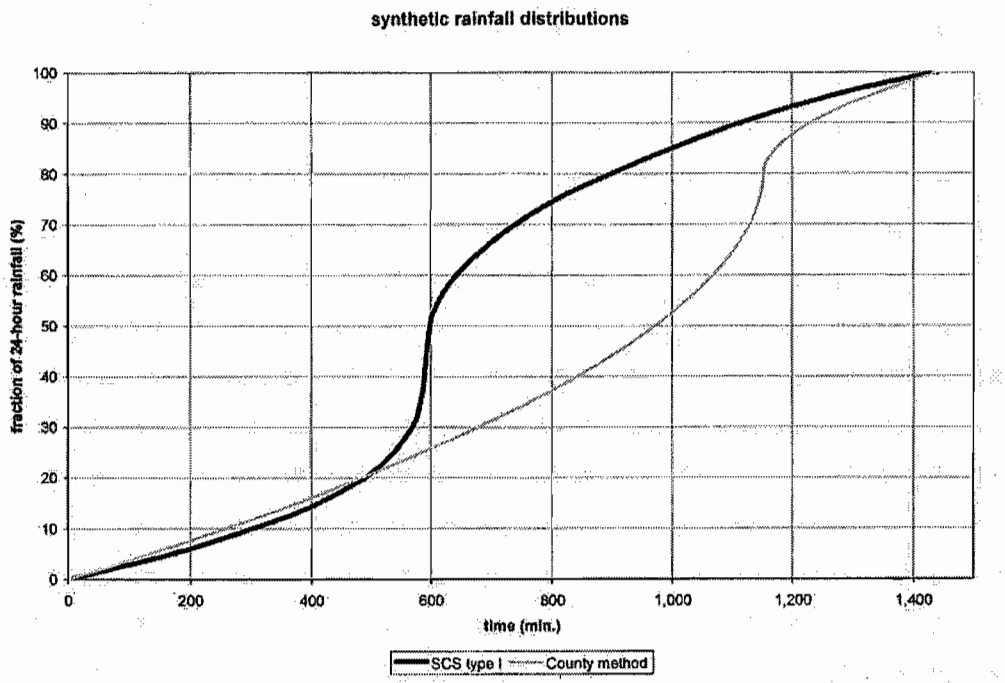
Equation 3. Rational Runoff Coefficient

$$C = 7.2\left(10^{-7}\right)CN^{3}T^{0.05}\left[\left((0.01CN)^{0.6}\right)\right]^{-S^{0.2}}\left(0.001CN^{1.48}\right)^{(0.15-0.11)}\left[(P+1)/2\right]^{0.7}$$

Where
- CN = SCS composite curve number
- T = recurrence interval (years)
- S = average sub-basin land slope (%)
- I = rainfall intensity of recurrence interval (in/hr)
- P = percent impervious (decimal)

The average rainfall for the design storm event for the study area per the County Hydrology Manual is about 8.4 inches. With this data and normal antecedent moisture conditions, the runoff yield is roughly 36%. According to County staff a runoff yield analysis is not required with the current hydrologic methods.

Figure 3. synthetic rainfall distribution comparison



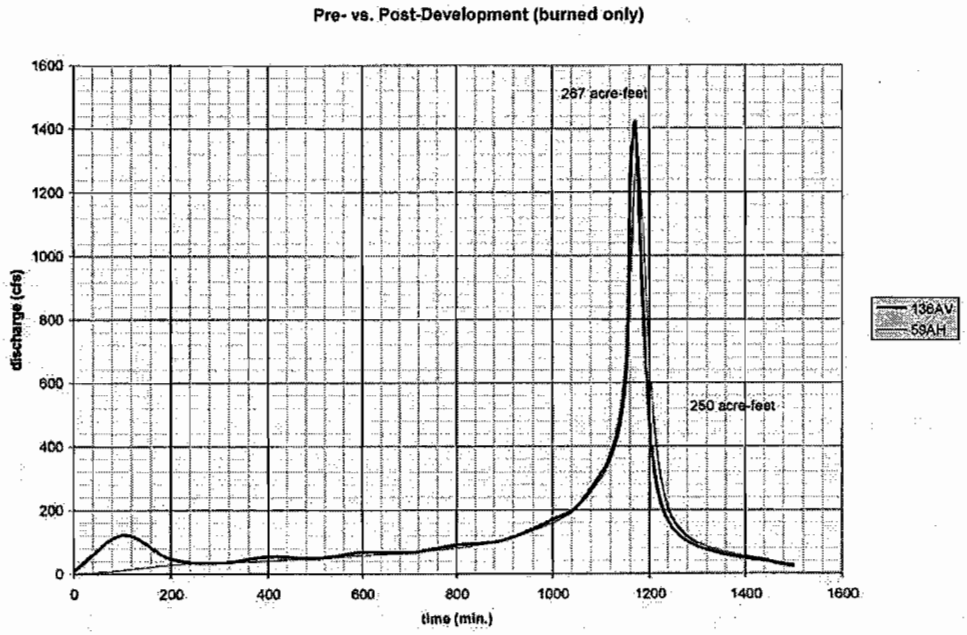
Hydrologic Model

The computer models MODRAT was used to simulate, combine, and route outflow hydrographs within each watershed. The simulation of the hydrologic data is generated by the development of the synthetic unit hydrograph, 50-year design storm pattern, and the runoff hydrograph.

See Figure 4 for a graph of pre-developed vs. post-developed hydrographs at the existing double 8-foot by 8-foot box culvert. The total volume of runoff for both scenarios can be increased 1-3% because the runoff is still occurring at the end of the design storm.

The development of the synthetic unit hydrograph involves the identification of several watershed characteristics including composite curve numbers, soil cover, percent impervious, antecedent moisture conditions, land use, basin area, initial abstractions, hydraulic length, basin slope, and lag time. These parameters are calculated in the following steps:

Figure 4. Pre- v. Post-Development Hydrograph at Double Box Culvert



- The sub-basin watershed boundaries were delineated by WMS on the USGS map.

- Rainfall excess is that part of the total precipitation depth that appears as surface flow during and after a storm event. Rainfall excess equals to total rainfall depth minus losses due to interception by vegetation, infiltration into the soil, and surface depression storage. This process is defined internally in the MODRAT method. The information is based on:

  1. Soil data from the current County Hydrology Manual
  2. Zoning designations in the City and County

- The catchment time of concentration is defined as the time from the center of mass of net rainfall and the center of mass of runoff. The time of concentration for each sub-basin was identified from the County method. This method is shown in equation 4.

Equation 4. Time of Concentration

$$T_c = 10^{-0.507} * (C_d * I)^{-0.519} * L^{0.483} * S^{-0.135}$$

Where
- T_c = time of concentration in minutes
- C_d = developed runoff coefficient
- I = rainfall intensity in inches per hour
- L = hydrologic length of the catchment in feet
- S = average watershed land slope in feet per feet

- To adequately define the unit hydrograph, the unit time period of the synthetic critical storm pattern should generally be 30 percent of the basin time of concentration and should use multiples of 1 minute. The unit time period utilized in this report is 1 minute.

- See Appendix catchment soil characteristics, catchment hydrologic characteristics, and hydrograph plots for various locations.

Bulking Analysis

A bulking analysis was performed for the proposed burned runoff conditions by County methods. The entire study area is in debris potential area #3 (see Appendix 1, Exhibit F). Table 2 shows the minimum required size for the debris basins and desilting inlets.

Table 2. Proposed Watershed Debris Analysis

node	area (ac.)	bulking factor	bulking rate (cy/sm)	yield (cy)	note
40A	549	1.48	64,000	54,900	basin #1
115AQ	195	1.52	87,000	26,535	basin #2
131U	6	1.62	140,000	1,315	inlet #8
43F	7	1.62	140,000	1,535	inlet #6
53I	10	1.62	140,000	2,190	inlet #1
79P	10	1.62	140,000	2,190	inlet #2
75O	9	1.62	140,000	1,970	inlet #3
72N	4	1.62	140,000	875	inlet #4
70M	5	1.62	140,000	1,100	inlet #5
140X	4	1.62	140,000	875	inlet #7

The yield results for the inlets should be considered somewhat arbitrary because the curves for Plate 2 and 5 from the County Sedimentation Manual have a minimum drainage area of 64 acres.

Upon final design the debris inlets should be sized according to Table 2.

Flow Routing

Flow routing methods for storage areas (reservoirs), channel, and sheet flow were estimated from proposed dimensions and parameters. The Modified Puls method was used to route flow through storage areas. The MODRAT method was used to route

flow through existing open channels and sub-basins. Proposed dimensions were used for all open channel routing. The discharge relationship from the storage areas used the Normal Depth method with similar dimensions. See Appendix 1 for a diagram of the entire watershed hydrologic model.

Hydraulic Model

Manning's Equation and Caltrans HDS No. 5 was used to simulate the hydraulic analysis of the existing and proposed storm drainage conveyance systems. The simulation of the hydraulic system utilized either the design storm event or the capacity of the existing system whichever was less. This capacity was defined from street grades, curb inlets, and assumed maximum energy gradients.

The main branch of Lyons Canyon will be diverted at debris basin #1. The remainder of downstream existing watershed is collected in a culvert near debris basin #2. A HEC-RAS model was developed for both existing and proposed conditions to show that adjacent properties are not adversely affected by the new culvert.

ASSUMPTIONS

The rainfall and runoff parameters are based on the County Hydrology Manual and the County Design Standards.

Rainfall

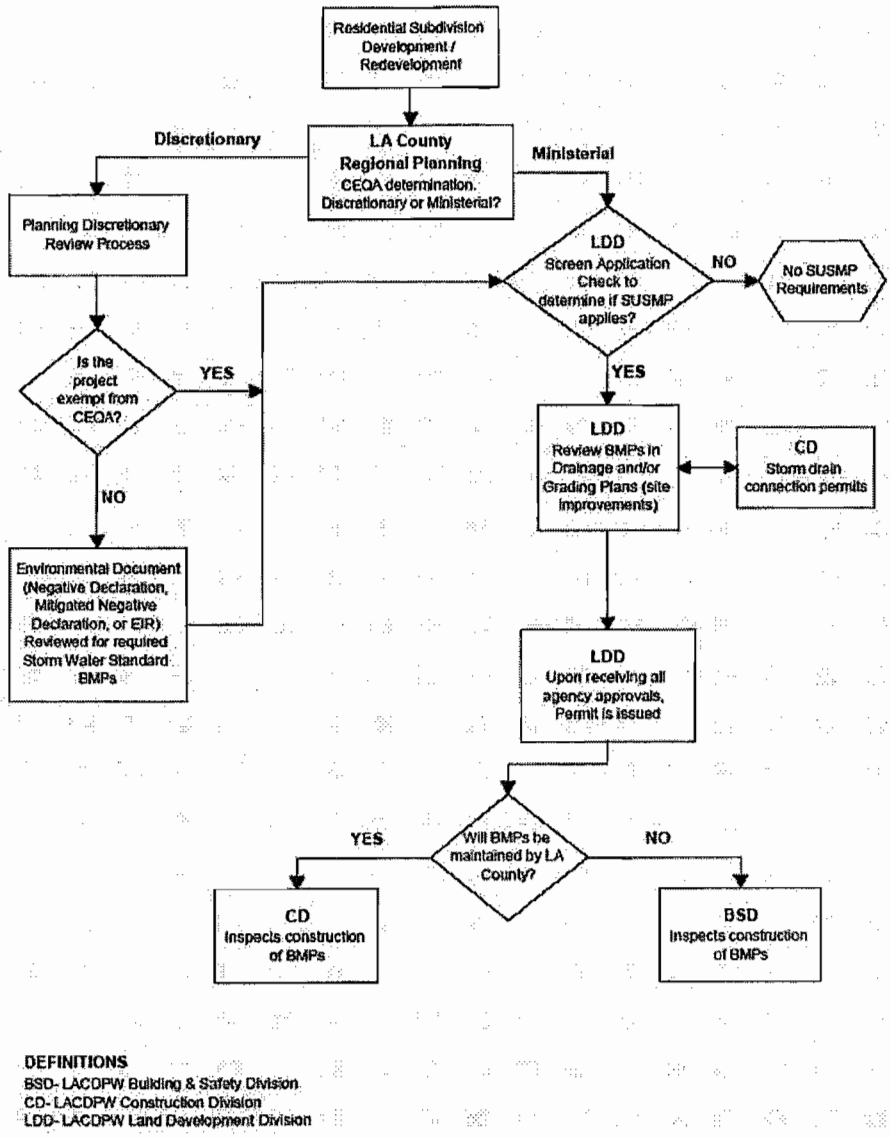
According to the isohyetal rainfall map in the County Hydrology Manual, the study area has an average 50-year, 24-hour rainfall depth of about 8.4 inches.

The mean annual precipitation is identified from DWR, Bulletin No. 195, October 1976. According to Plate 3, the MAP is about 18-inches. Plate 4 reports the mean annual 24-hour storm at roughly 3.5-inches.

SUSMP

The regulation governing the development of the project area is the County Standard Urban Storm Water Mitigation Plan (SUSMP). The project would fall under the subdivision development section. See Figure 5 for the permitting and inspection process for a residential development in the County. The subdivision improvements would need to be designed and installed according to this process.

Figure 5. SUSMP permitting & inspection process



Source control measures are recommended for implementation during specific project design, construction, and operations phases. These measures should include conserving natural areas, minimizing storm water pollutant of concern, protecting slopes and channels, providing storm drain stenciling and signage, properly design and construct outdoor material and refuse storage areas, and properly design and construct parking lots.

In addition to source control measures, treatment control Best Management Practices (BMPs) will need to be provided to remove the pollutants of concerns from the runoff

before leaving the site. Treatment control BMPs will require ongoing maintenance. BMPs can be provided in a variety of ways that can vary from catch basin filters, to proprietary treatment devices placed in the main storm drain infrastructure, to grass swale filters, to extended impoundment facilities that allow sedimentation of pollutants to occur. For large watersheds the use of catch basin filtration is not practical due to the number of installations necessary and the ongoing maintenance required. Debris basins (which could be considered extended detention basins or T-6 basins), debris inlets, catch basin filtration inserts, and centralized off-line devices (or water quality treatment devices) were selected as the initial BMPs. Due to the relatively long confinement period fencing (around each basin) is recommended to protect the facilities.

The other alternative BMPs identified above could be used in-lieu of the water quality devices and debris basins but they may not mitigate the increased peak runoff from the new development or help alleviate any adverse drainage conditions downstream of the project area.

See Table 3 for the proposed water quality devices. The SUSMP Manual specifies that 0.75 inches of rainfall be mitigated for water quality purposes. See Appendix 6 for the peak mitigated flow calculations.

Table 3. Water Quality Treatment Devices

Device #	node	Q_{pm} (cfs)
Off-line Device #1	94FJ	11.4
Off-line Device #2	99A+119S+123T	3.1
C.B. Insert #1	98A	1.0
C.B. Insert #2	128A	2.3
C.B. Insert #3	143Y	1.2

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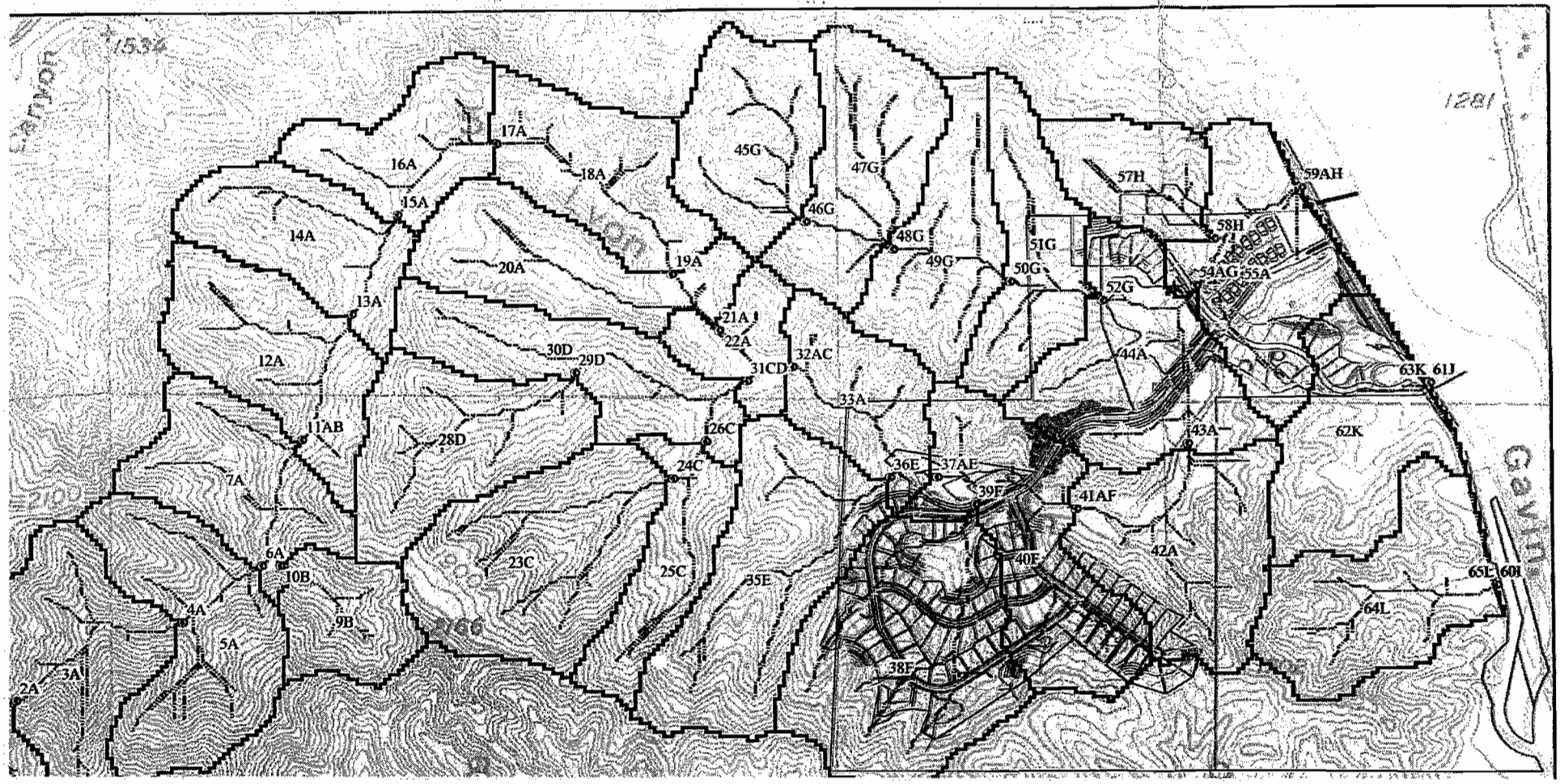
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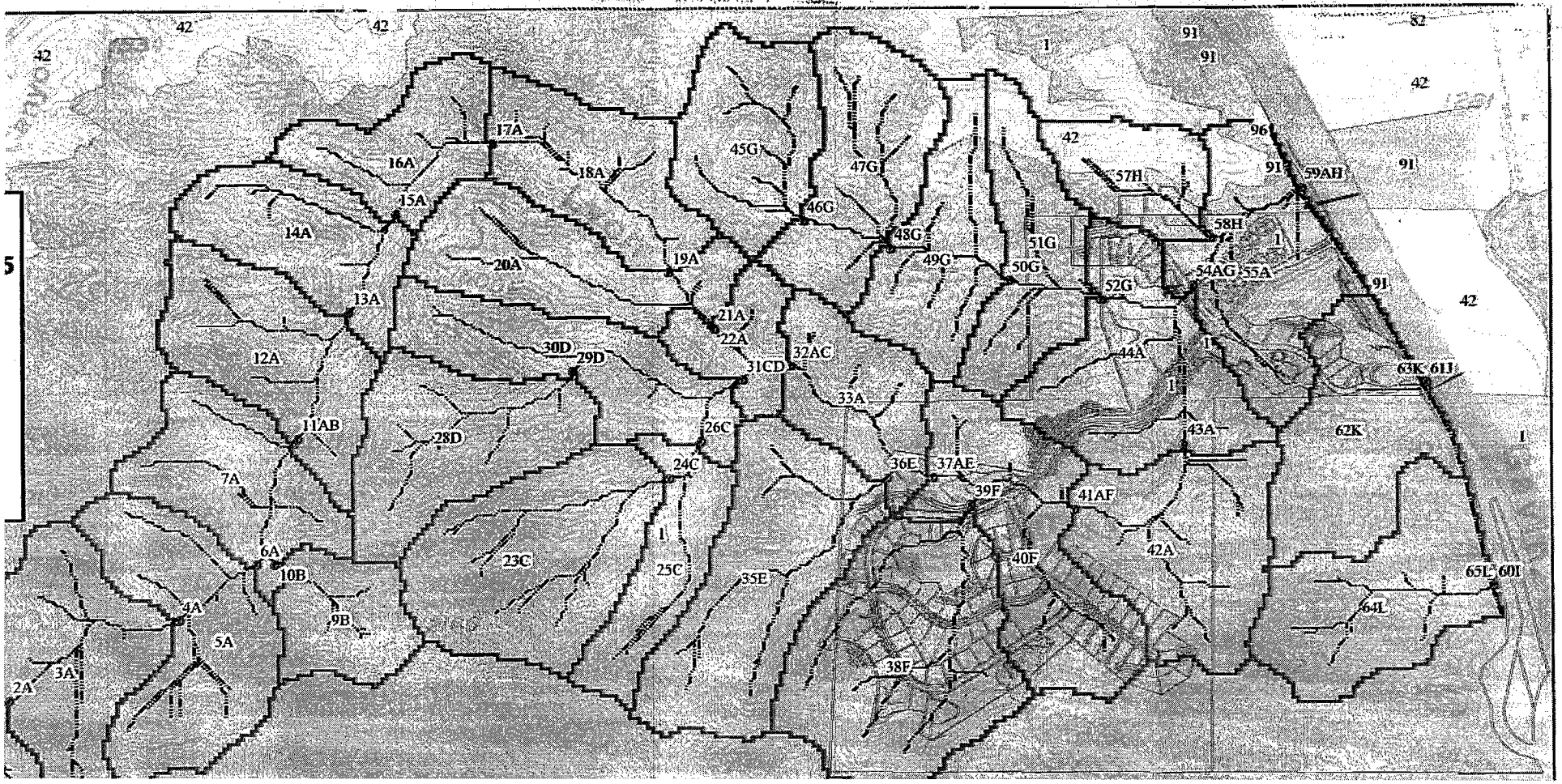
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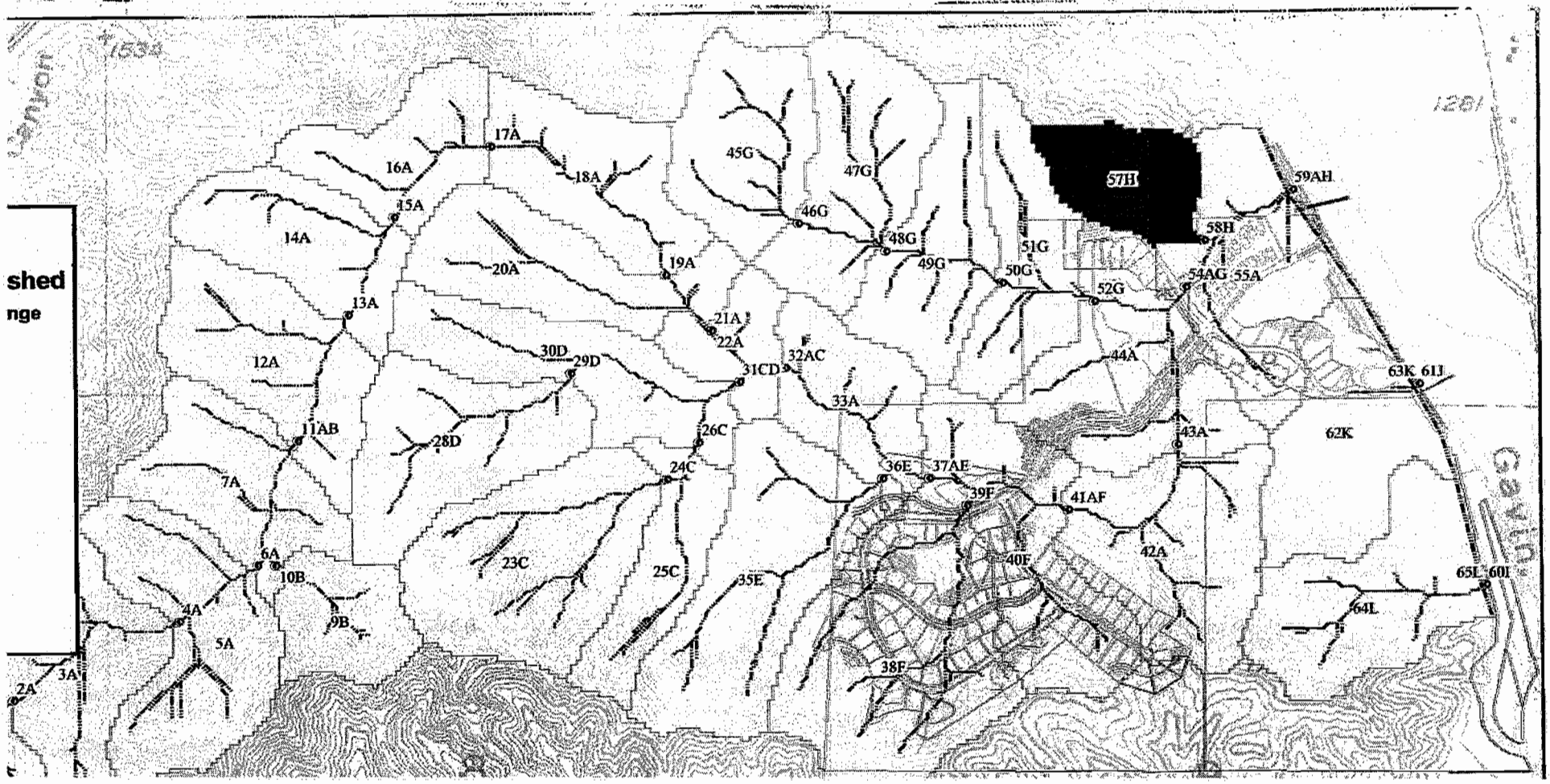
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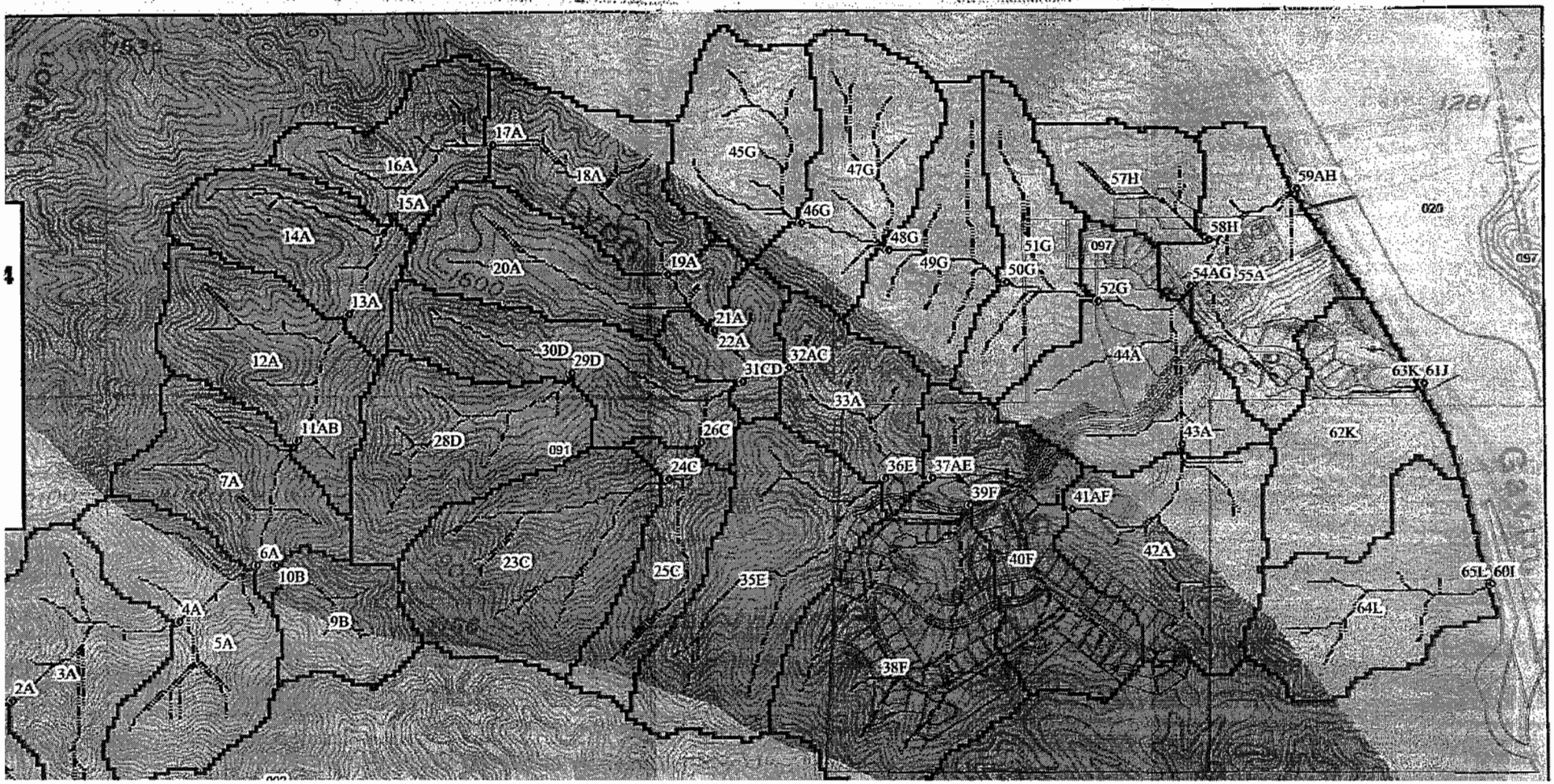
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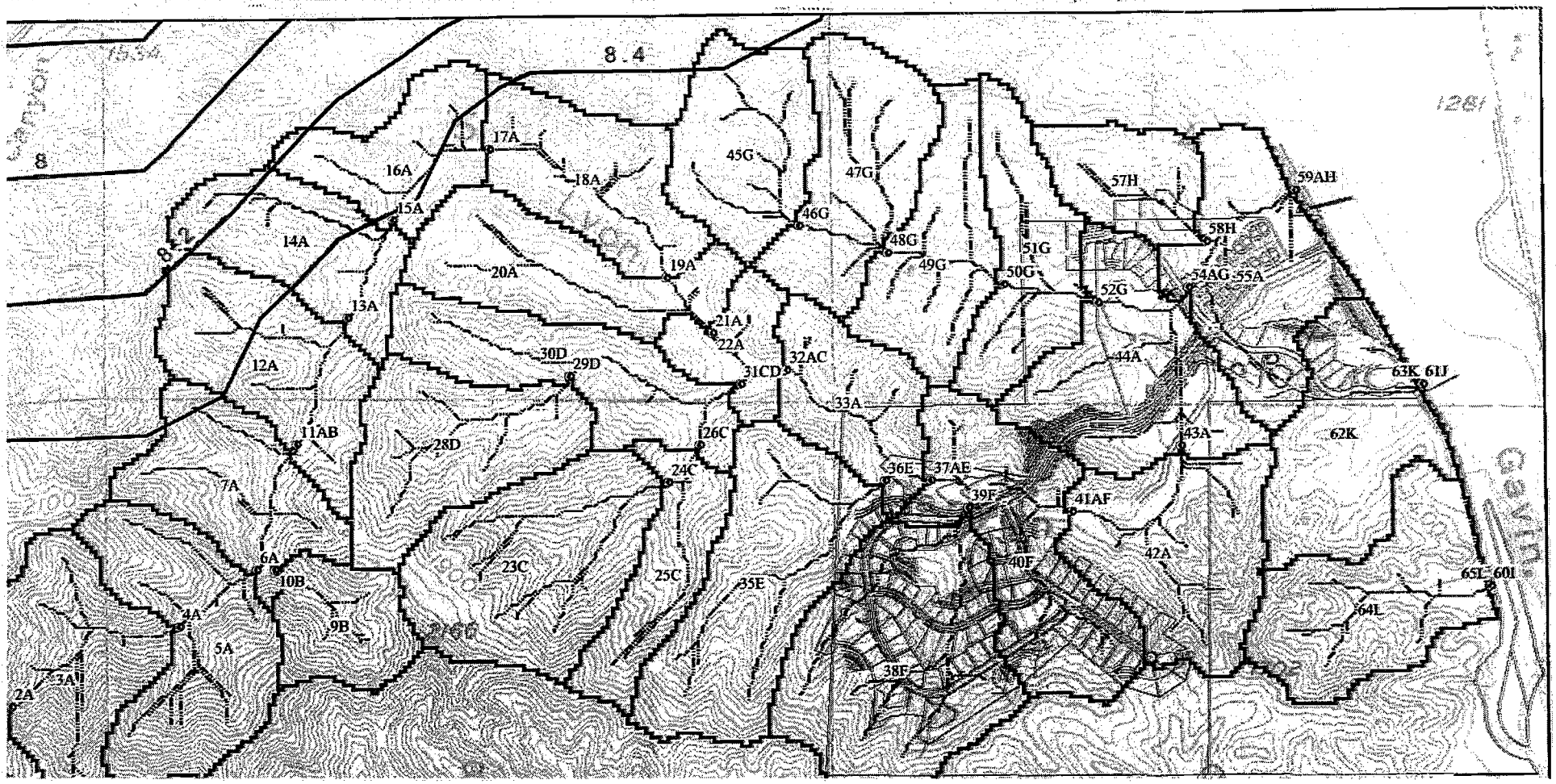
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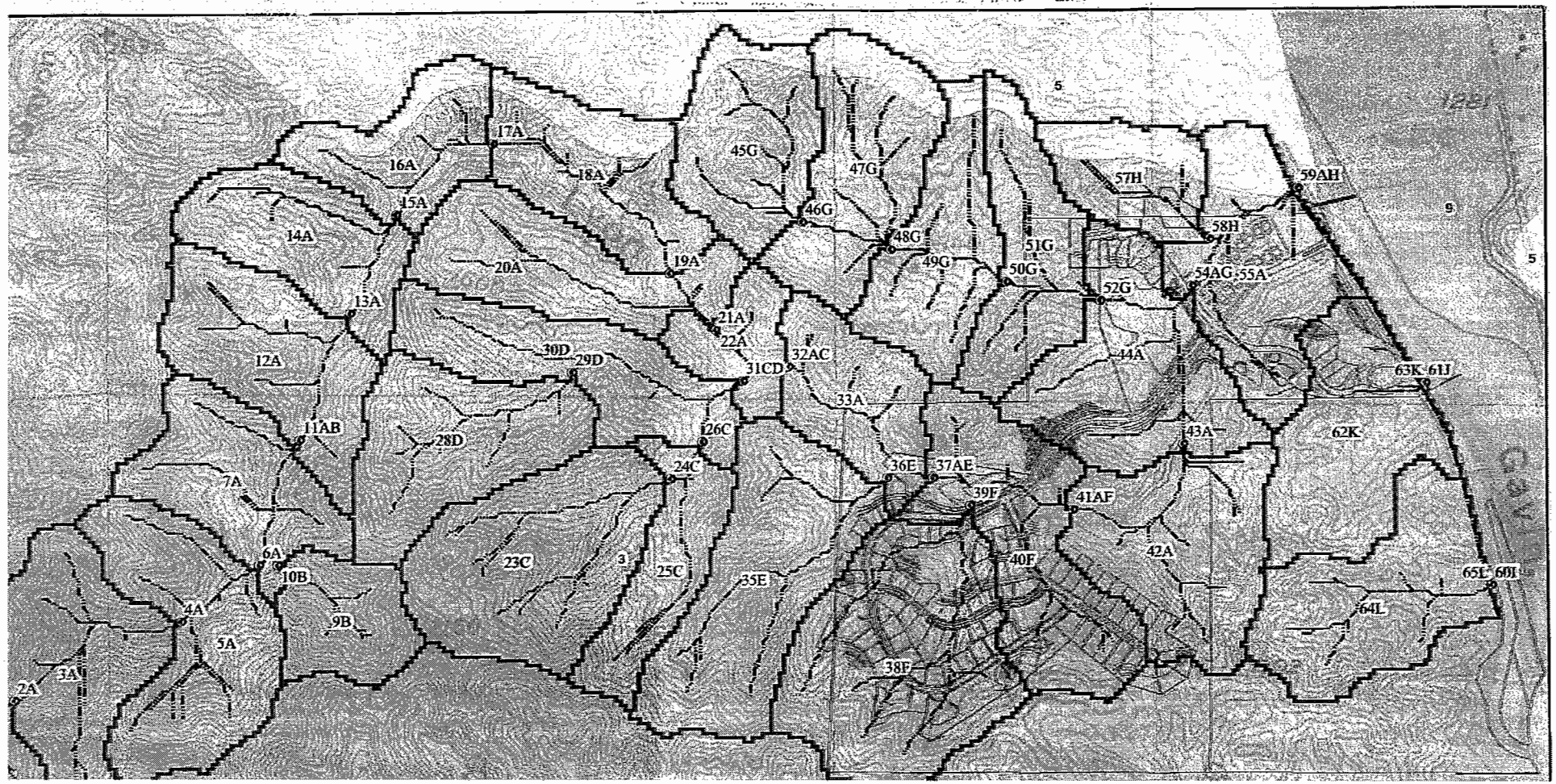
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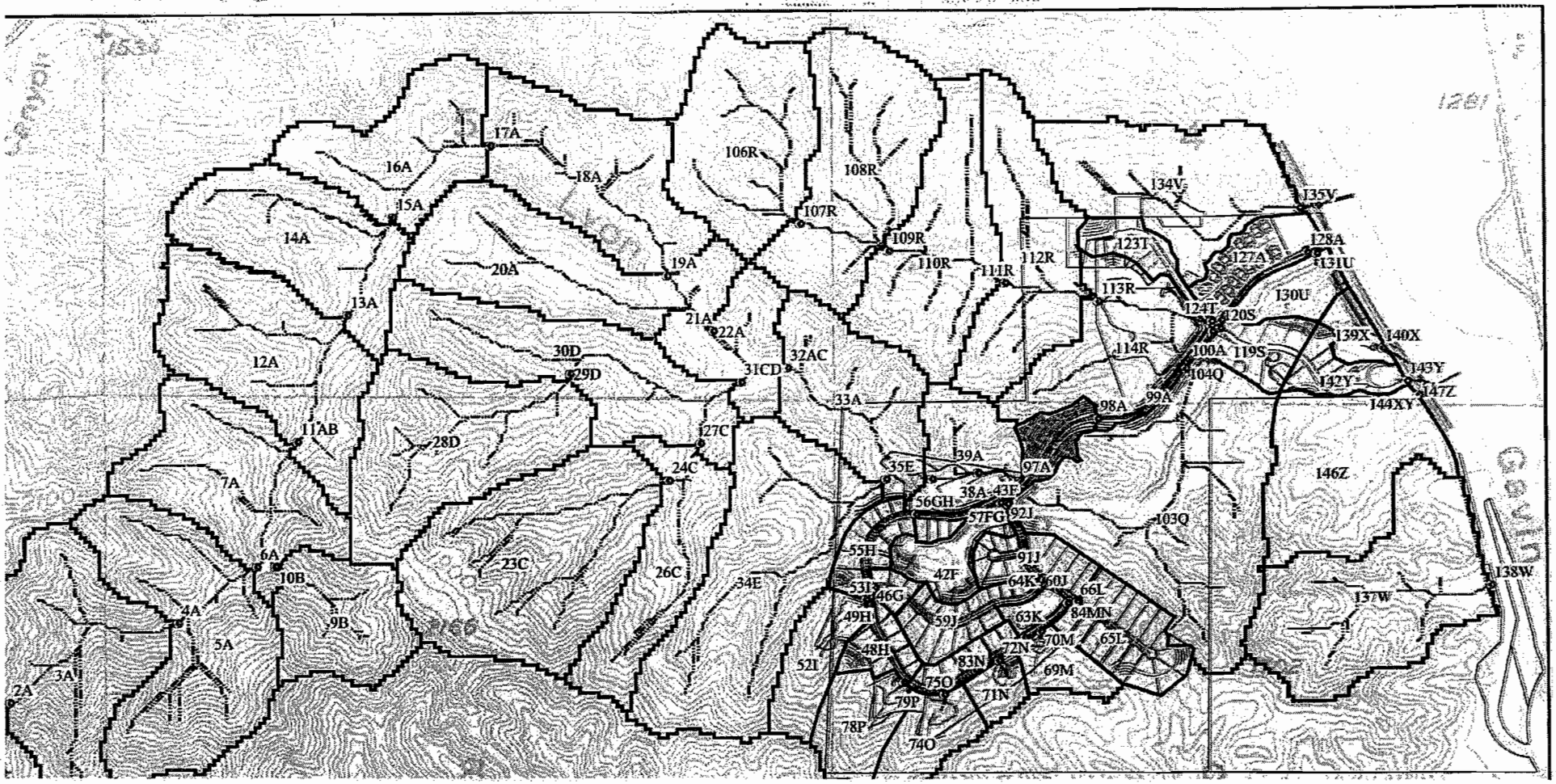
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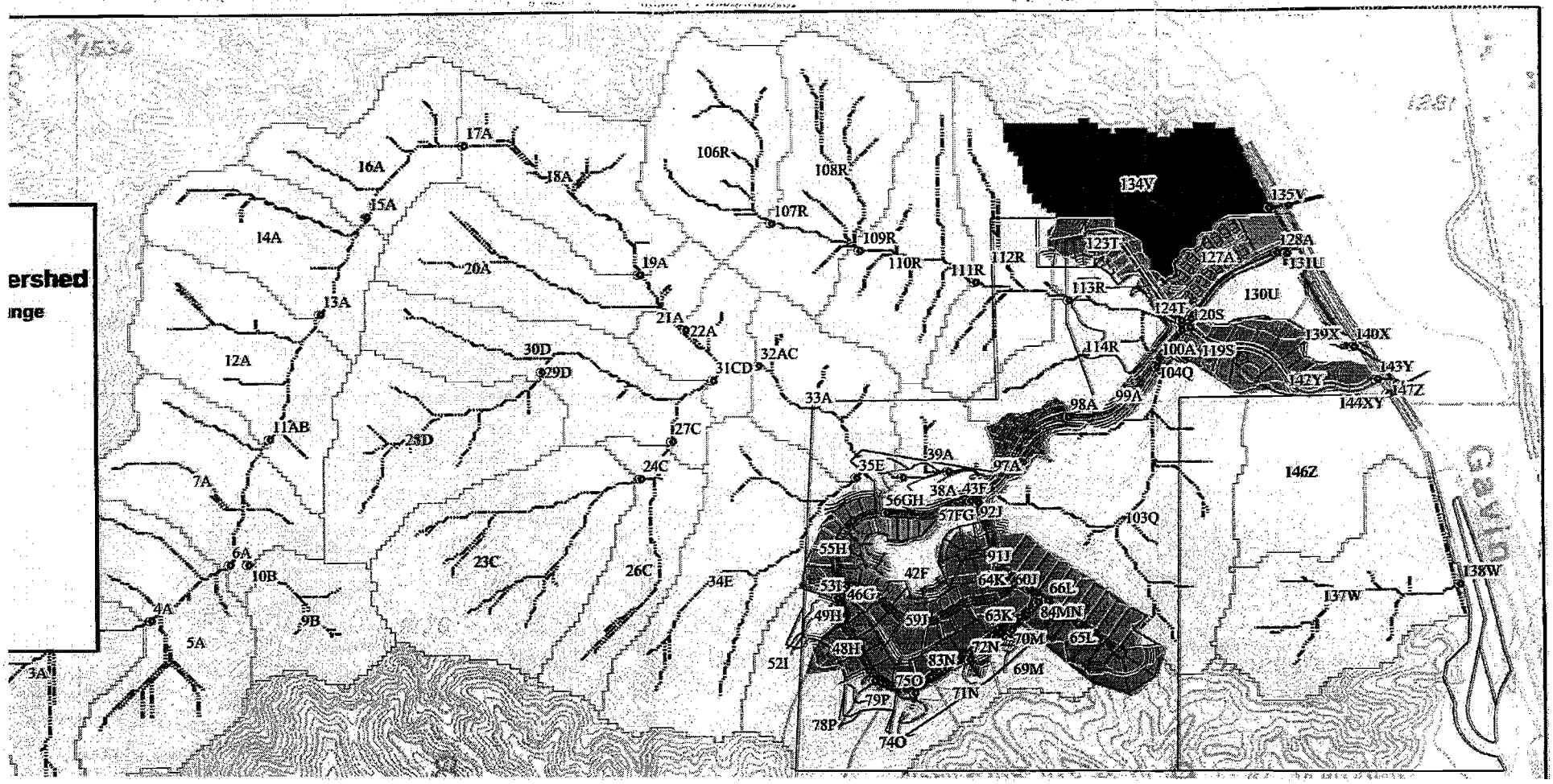
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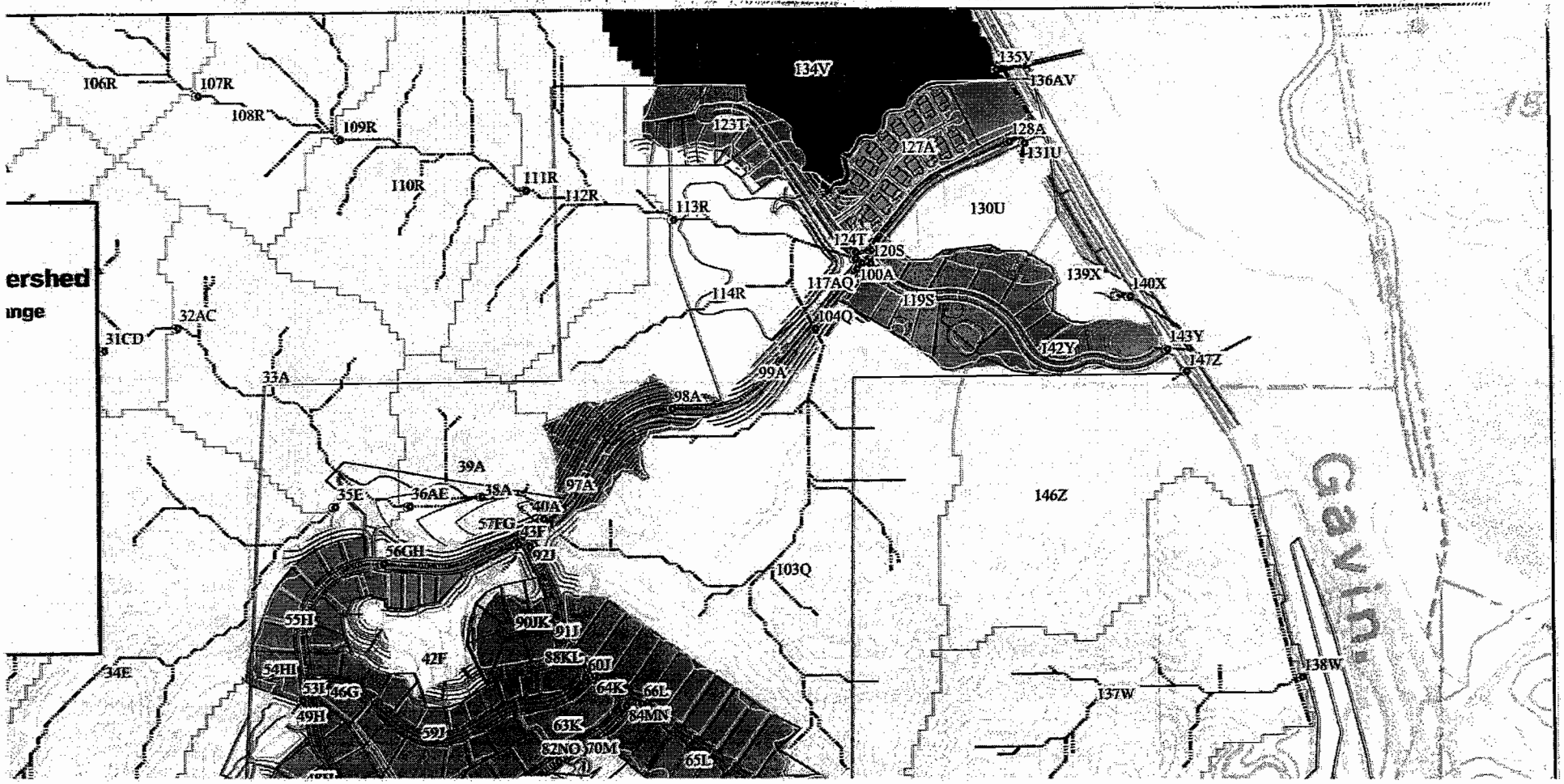
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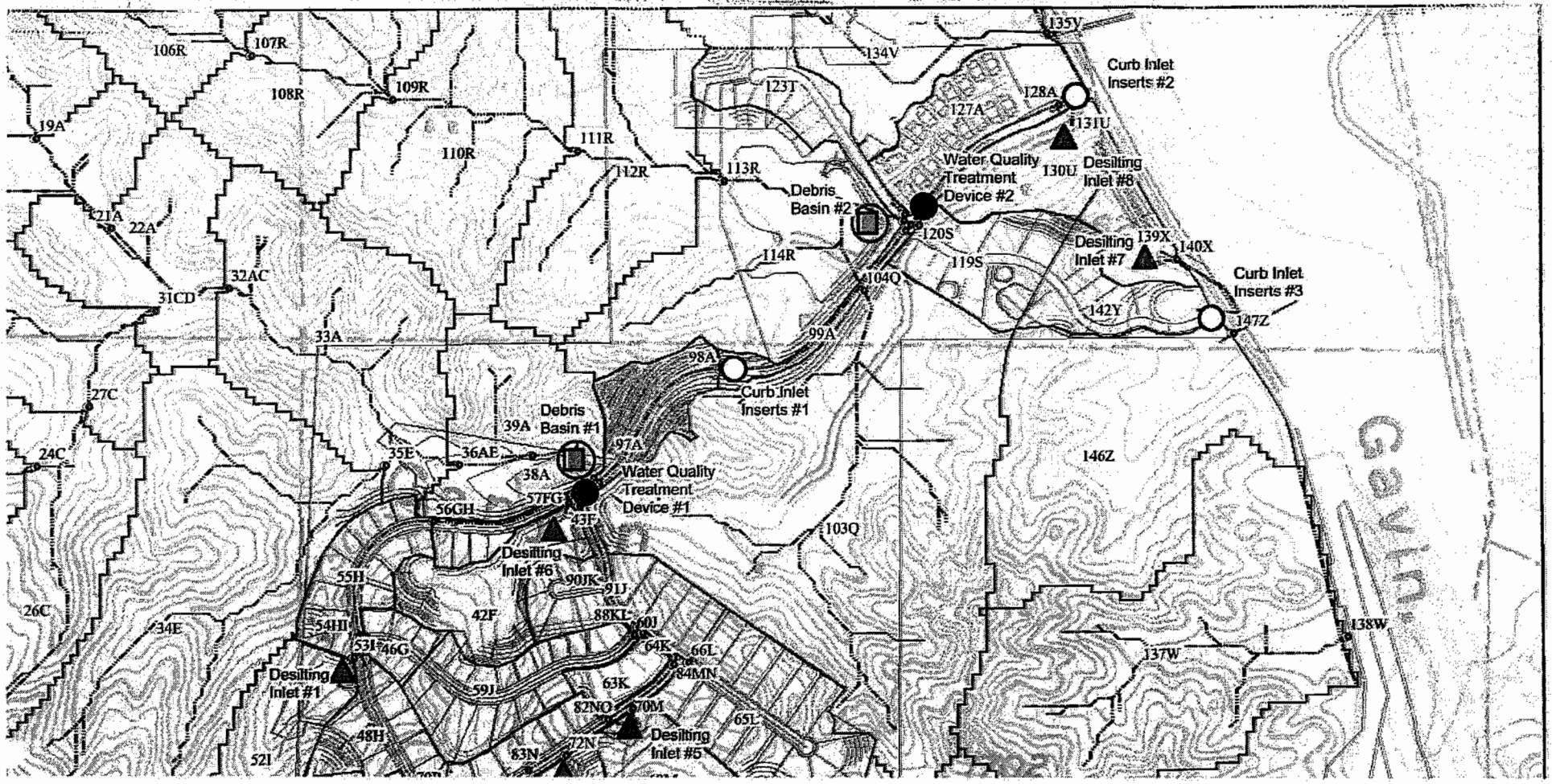
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Inlet #5
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Appendix 2
Existing Structures

Culvert Calculator Report
24 CSP

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	1,319.00	ft	Headwater Depth/Height	4.00	
Computed Headwater Elev	1,319.00	ft	Discharge	19.53	cfs
Inlet Control HW Elev.	1,314.20	ft	Tailwater Elevation	1,311.00	ft
Outlet Control HW Elev.	1,319.00	ft	Control Type	Outlet Control	

Grades					
Upstream Invert	1,311.00	ft	Downstream Invert	1,306.50	ft
Length	270.00	ft	Constructed Slope	0.016667	ft/ft

Hydraulic Profile					
Profile	PressureProfile		Depth, Downstream	4.50	ft
Slope Type	N/A		Normal Depth	N/A	ft
Flow Regime	N/A		Critical Depth	1.59	ft
Velocity Downstream	6.22	ft/s	Critical Slope	0.026963	ft/ft

Section					
ction Shape	Circular		Mannings Coefficient	0.024	
ction Material	CMP		Span	2.00	ft
Section Size	24 Inch		Rise	2.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,319.00	ft	Upstream Velocity Head	0.60	ft
Ke	0.90		Entrance Loss	0.54	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,314.20	ft	Flow Control	N/A	
Inlet Type	Projecting		Area Full	3.1	ft²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Culvert Calculator Report
30 CSP

Solve For: Discharge

Culvert Summary			
Allowable HW Elevation	1,340.00 ft	Headwater Depth/Height	1.20
Computed Headwater Elev	1,340.00 ft	Discharge	24.34 cfs
Inlet Control HW Elev.	1,339.89 ft	Tailwater Elevation	1,337.00 ft
Outlet Control HW Elev.	1,340.00 ft	Control Type	Outlet Control

Grades			
Upstream Invert	1,337.00 ft	Downstream Invert	1,336.30 ft
Length	65.00 ft	Constructed Slope	0.010769 ft/ft

Hydraulic Profile			
Profile	M2	Depth, Downstream	1.68 ft
Slope Type	Mild	Normal Depth	2.21 ft
Flow Regime	Subcritical	Critical Depth	1.68 ft
Velocity Downstream	6.94 ft/s	Critical Slope	0.019080 ft/ft

Section			
Section Shape	Circular	Mannings Coefficient	0.024
Section Material	CMP	Span	2.50 ft
Section Size	30 inch	Rise	2.50 ft
Number Sections	1		

Outlet Control Properties			
Outlet Control HW Elev.	1,340.00 ft	Upstream Velocity Head	0.48 ft
Ke	0.90	Entrance Loss	0.43 ft

Inlet Control Properties			
Inlet Control HW Elev.	1,339.89 ft	Flow Control	N/A
Inlet Type	Projecting	Area Full	4.9 ft²
K	0.03400	HDS 5 Chart	2
M	1.50000	HDS 5 Scale	3
C	0.05530	Equation Form	1
Y	0.54000		

Culvert Calculator Report
48 CSP

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	1,314.00	ft	Headwater Depth/Height	2.22	
Computed Headwater Elev	1,314.00	ft	Discharge	122.97	cfs
Inlet Control HW Elev.	1,312.54	ft	Tailwater Elevation	1,305.00	ft
Outlet Control HW Elev.	1,314.00	ft	Control Type	Outlet Control	

Grades					
Upstream Invert	1,305.10	ft	Downstream Invert	1,304.00	ft
Length	140.00	ft	Constructed Slope	0.007857	ft/ft

Hydraulic Profile					
Profile	CompositeM2PressureProfile		Depth, Downstream	3.33	ft
Slope Type	Mild		Normal Depth	N/A	ft
Flow Regime	Subcritical		Critical Depth	3.33	ft
Velocity Downstream	10.99	ft/s	Critical Slope	0.024273	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.024	
Section Material	CMP		Span	4.00	ft
Section Size	48 inch		Rise	4.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	1,314.00	ft	Upstream Velocity Head	1.49	ft
Ke	0.90		Entrance Loss	1.34	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,312.54	ft	Flow Control	N/A	
Inlet Type	Projecting		Area Full	12.6	ft²
K	0.03400		HDS 5 Chart	2	
M	1.50000		HDS 5 Scale	3	
C	0.05530		Equation Form	1	
Y	0.54000				

Rating Table Report
2-8x8 RCB

Range Data:

	Minimum	Maximum	Increment	
Allowable HW E	1,296.00	1,310.00	1.00	ft

HW Elev. (ft)	Discharge (cfs)
1,296.00	0.00
1,297.00	40.94
1,298.00	115.81
1,299.00	212.76
1,300.00	327.56
1,301.00	457.78
1,302.00	601.76
1,303.00	758.31
1,304.00	926.48
1,305.00	1,105.51
1,306.00	1,294.79
1,307.00	1,421.27
1,308.00	1,560.88
1,309.00	1,705.44
1,310.00	1,838.66

Culvert Calculator Report
2-8x8 RCB

Solve For: Discharge

Culvert Summary					
Allowable HW Elevation	1,308.00	ft	Headwater Depth/Height	1.50	
Computed Headwater Elev	1,308.00	ft	Discharge	1,538.21	cfs
Inlet Control HW Elev.	1,308.00	ft	Tailwater Elevation	1,296.00	ft
Outlet Control HW Elev.	1,307.22	ft	Control Type	Inlet Control	

Grades					
Upstream Invert	1,296.00	ft	Downstream Invert	1,293.00	ft
Length	300.00	ft	Constructed Slope	0.010000	ft/ft

Hydraulic Profile					
Profile	S2		Depth, Downstream	5.16	ft
Slope Type	Steep		Normal Depth	4.95	ft
Flow Regime	Supercritical		Critical Depth	6.60	ft
Velocity Downstream	18.65	ft/s	Critical Slope	0.004814	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	8.00	ft
Section Size	8 x 8 ft		Rise	8.00	ft
Number Sections	2				

Outlet Control Properties					
Outlet Control HW Elev.	1,307.22	ft	Upstream Velocity Head	3.30	ft
Ke	0.40		Entrance Loss	1.32	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,308.00	ft	Flow Control	N/A	
Inlet Type	30 to 75° wingwall flares		Area Full	128.0	ft²
K	0.02600		HDS 5 Chart	8	
M	1.00000		HDS 5 Scale	1	
C	0.03470		Equation Form	1	
Y	0.86000				

4. SEDIMENT CONTROL

This Section discusses the type of structure acceptable to the Department for sediment control. The type of structure depends on the volume of sediment computed to be delivered to the site. This, in turn, depends on the Debris (sediment) Potential Area (DPA) zone for the particular watershed. The following table is used to determine the type of structure. See Section 3 for methods of computing the sediment production volume.

	Type of Structure	
Total Sediment Production (cubic yards)	DPA zone 1-4 requirement	DPA zone 5-11 requirement
20,000 or greater	Debris Basin	Debris Basin
5,000 to 19,999	Debris Basin	Elevated Inlet
1,000 to 4,999	Debris Basin or Elevated Inlet *	Desilting Inlet
250 to 999	Desilting Inlet *	Inlet with bulked flow drain
less than 250	Inlet* with bulked flow drain	Inlet with bulked flow drain

* The use of elevated or desilting inlets and bulked flow drains in DPA zones 1 through 4 will only be approved by the Department in special circumstances. The reason being that the steepness of the watershed, presence of boulders, and higher sediment and mudflow potential result in a greater risk of plugging the storm drain and damaging the desilting wall.

Table 4.1

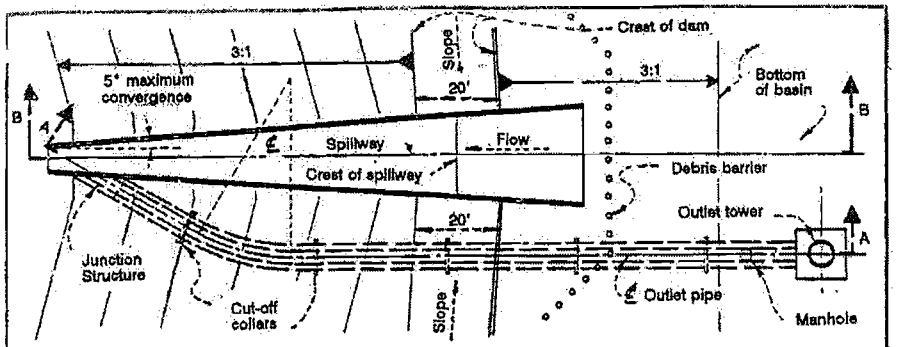
Where sediment production is less than 250 cubic yards, sediment control is generally not needed. Design the conveying storm drain following the closed conduit bulked flow design criteria listed in Section 5.D-2.

As stated in the State Water Code, Division 3, Section 6000-6452, certain dams are under State jurisdiction (refer to Figure 4.1). The State may have additional requirements for the design of the facility.

A. GENERAL DESIGN CONSIDERATIONS

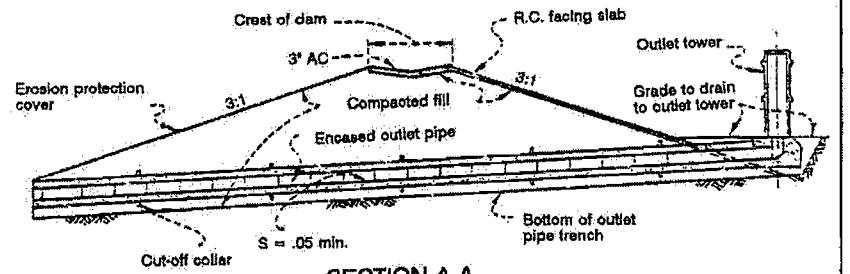
A-1. Location and Alignment

Locate all sediment retaining facilities in the existing watercourse. Align dams perpendicular to the original flow paths (see Figure 4.2(a)). In order to insure maximum capacity, place the longer

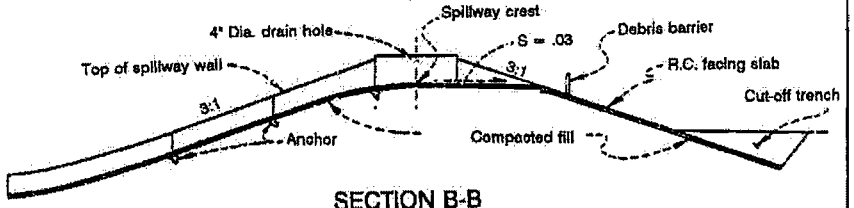


PLAN

TYPICAL SPILLWAY AND OUTLET WORKS



SECTION A-A



SECTION B-B

TYPICAL DEBRIS BASIN

FIGURE 4.4

Table 4.2

	Debris Basin[1]	Elevated Inlet See Figure 4.5	
General Location		Locate both facilities such that should an overflow occur a street or other safe path is avail sediment.	
Horizontal alignment	Locate in the original watercourse where the dam is perpendicular to the flow path (see Figure 4.2(a)). Longer dimension of the basin shall fall along the flow l		
Outlet Tower and Conduit	Refer to the section on Outlet Works in the Department's Debris Dams and Basins Design Manual.	A standard concrete outlet tower and conduit is required (see the Debris Dams and Basin Design Manual), except in phased upstream development where corrugated metal pipe (CMP) tower with a concrete base may be substituted.[2]	A corrugat required u
Gage Boards	Gage boards are required on basins under State Jurisdiction. Sediment lines painted on towers, marking from the lowest port invert suffice for all others. See the section on Gage Board Pipe Support in the Department's Debris Dams and Basins Design Manual.	Gage boards or sediment lines painted on towers, marking from the lowest port invert can	
Earth Embankment	Upstream and downstream embankment slopes less than or equal to 3H:1V. Steeper slopes require complete geotechnical stability analysis. Also refer to the section on Earthen Dam Design in the Department's Debris Dams and Basins Design Manual.	Maximum berm slope is 3H:1V. Steeper slopes require complete geotechnical stability analysis. Also refer to the section on Earth Dam Design in the Department's Debris Dams and Basins Design Manual.	Protect the desilting w concrete fa acceptable
Embankment Crest	The top width of the berm over the inlet shall be 20-feet paved 3 inches of asphalt concrete. A berm width of 15-feet may be approved if geological analysis is		
Facing Slab	6-inch concrete or gunite with No. 5 reinforcing steel at 18-inch spacing each way. See section on Earthen Dam Design, Protection for Dam Slopes in the Department's Debris Dams and Basins Design Manual.	A 6-inch thick reinforced concrete facing slab with reinforcing steel (no wire mesh) exte placed concrete is acceptable). Provide facing slabs around the basin wall if cut and fill r	
Trash Barriers	Refer to the section on Debris Barrier in the Department's Debris Dams and Basins Design Manual.	A swinging trash rack is required for conduits greater than 48-inches in diameter. A sloping trash rack per LACDPW[4] 3089-0 can be used for smaller conduits. Trash posts spaced at 4-feet or 2/3 the diameter of the conduit, whichever is smaller, are also required at all elevated inlets.	A sloping trash post conduit ar
Access Roads	Access roads with 12 ft wide paving (3-inch asphalt concrete on 4-inch crushed aggregate base) within a 15-ft easement with minimum radius of 40 feet can be used for structures with capacity less than 20,000 cubic yards. See section on Access to Dam and Basin in the Department's Debris Dams and Basins Design Manual.	Provide a vehicular access road into the basin at least 12-feet wide within a 15-feet easen concrete over 4 inches of crushed aggregate base.	

Footnotes:

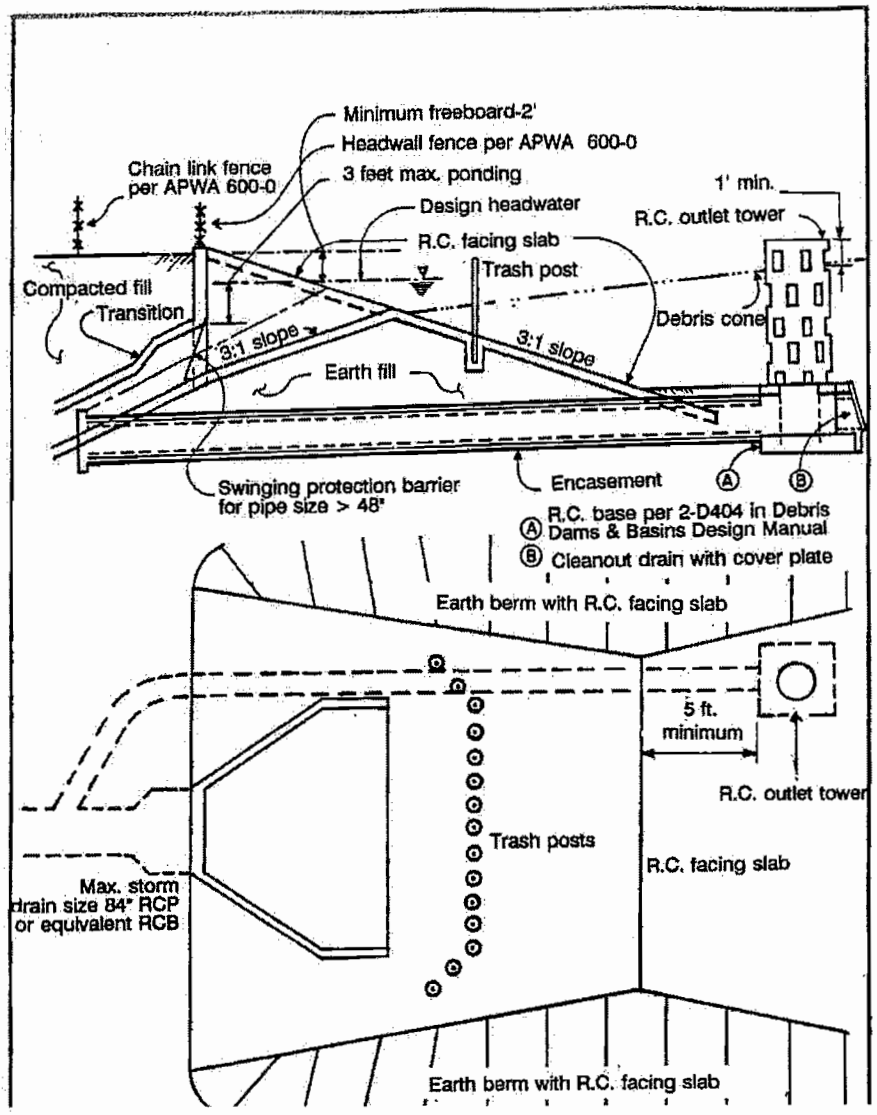
1 Criteria listed in this table for debris basins amends the criteria given in the Department's Debris Dams and Basins Design Manual.

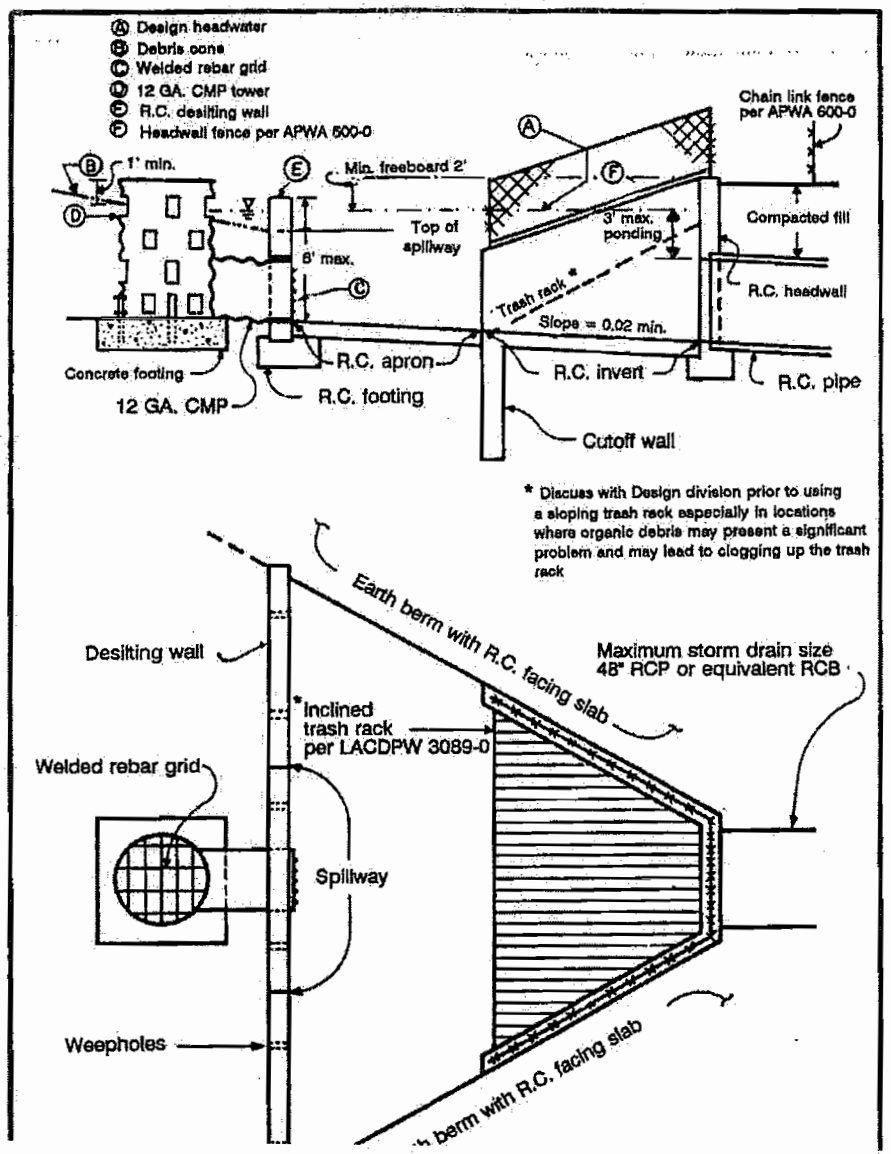
2 The tower base can be modified to include a cleanout drain with a cover plate to allow flushing of the conduit. Extend the encasement on the conduit to the junction with from the intersection of the upstream face and the design headwater elevation meets the conduit, whichever is lesser.

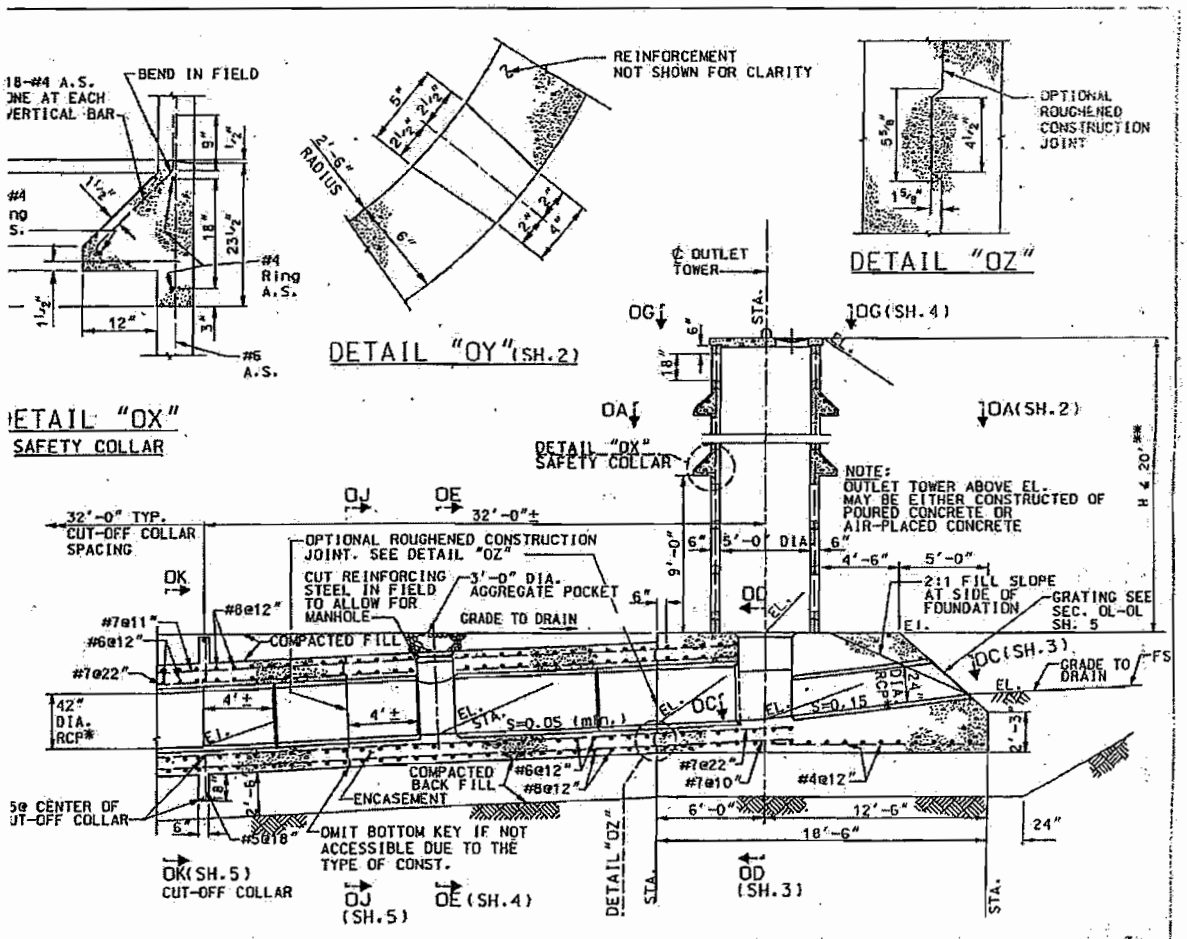
3 Discuss with Design Division prior to using a sloping trash rack especially in locations where organic debris may present a significant problem and may lead to clogging up

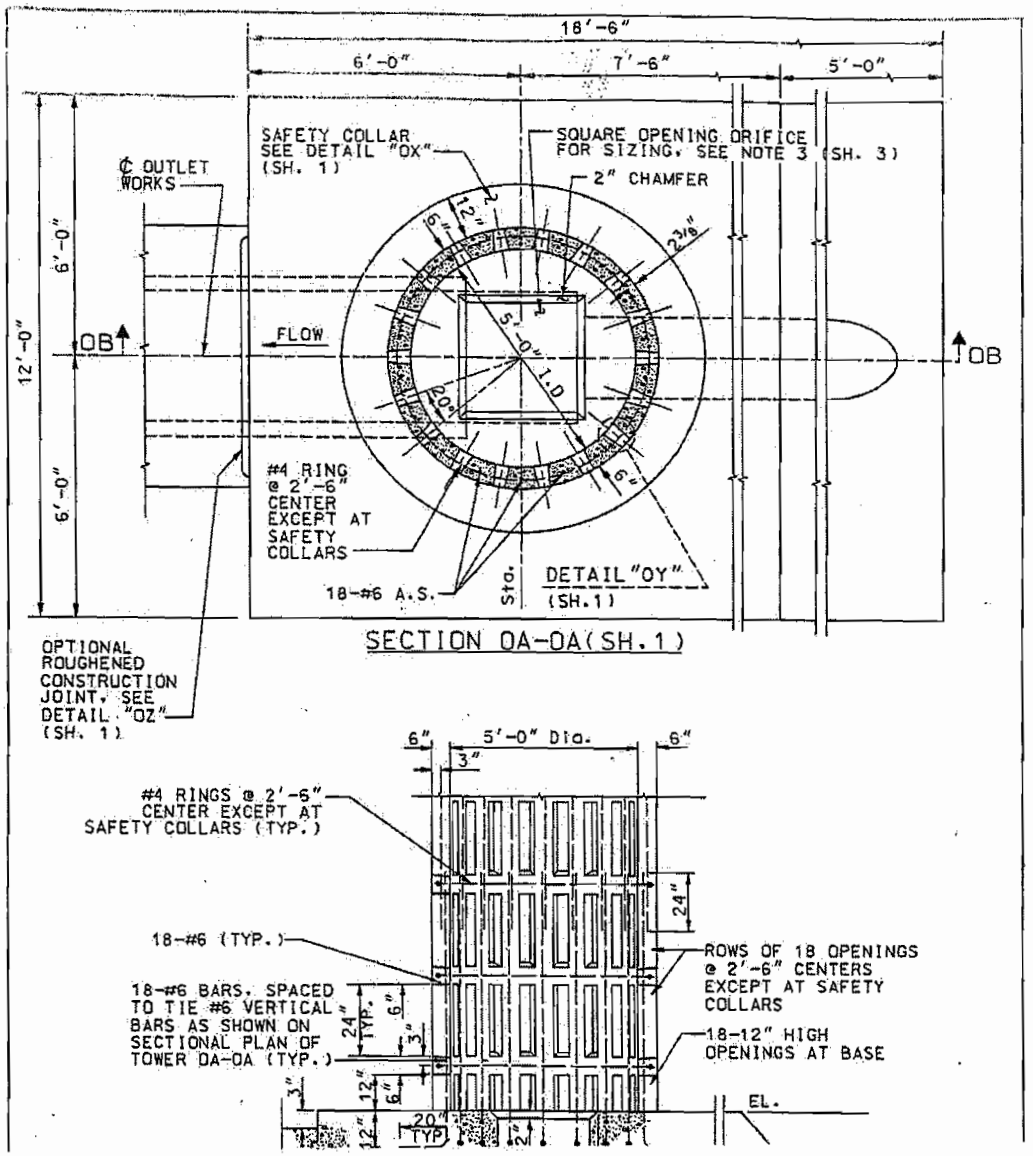
4 Standard plans designated by an LACDPW number refer to the Department's Standard Plan Manual (1992 Edition).

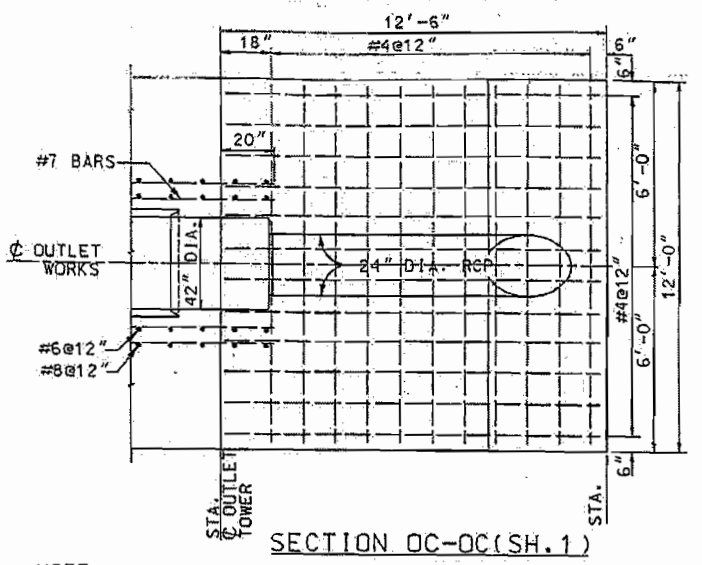
5 Standard plans designated by an APWA number refer to the Standard Plans for Public Works Construction Manual by the American Public Works Association, 1985 Editior


Minimum freeboard-2'
Headwall fence per APWA 600-0
Chain link fence per APWA 600-0
3 feet max. ponding
1' min.
Design headwater
R.C. outlet tower
R.C. facing slab
Trash post
Compacted fill
Transition
3:1 slope
3:1 slope
Debris cone
Earth fill
Swinging protection barrier for pipe size > 48"
Encasement
Ⓐ
Ⓑ
Ⓐ R.C. base per 2-D404 in Debris Dams & Basins Design Manual
Ⓑ Cleanout drain with cover plate
Earth berm with R.C. facing slab
5 ft. minimum
R.C. outlet tower
Trash posts
R.C. facing slab
Max. storm drain size 84" RCP or equivalent RCB
Earth berm with R.C. facing slab


Ⓐ Design headwater
Ⓑ Debris cone
Ⓒ Welded rebar grid
Ⓓ 12 GA. CMP tower
Ⓔ R.C. desilting wall
Ⓕ Headwall fence per APWA 600-0
1' min.
Min. freeboard 2'
Top of spillway
6' max.
3' max. ponding
Chain link fence per APWA 600-0
Compacted fill
R.C. headwall
Trash rack *
Slope = 0.02 min.
Concrete footing
12 GA. CMP
R.C. footing
R.C. apron
R.C. invert
R.C. pipe
Cutoff wall
* Discuss with Design division prior to using a sloping trash rack especially in locations where organic debris may present a significant problem and may lead to clogging up the trash rack
Earth berm with R.C. facing slab
Desilting wall
Maximum storm drain size 48" RCP or equivalent RCB
*Inclined trash rack per LACDPW 3089-0
Welded rebar grid
Spillway
Weepholes
berm with R.C. facing slab


BEND IN FIELD
#4 Ring A.S.
#6 A.S.
DETAIL "OX"
SAFETY COLLAR
REINFORCEMENT NOT SHOWN FOR CLARITY
2'-6" RADIUS
DETAIL "OY" (SH.2)
OPTIONAL ROUGHENED CONSTRUCTION JOINT
DETAIL "OZ"
℄ OUTLET TOWER
OG
OG (SH.4)
OA
OA (SH.2)
DETAIL "OX" SAFETY COLLAR
NOTE: OUTLET TOWER ABOVE EL. MAY BE EITHER CONSTRUCTED OF POURED CONCRETE OR AIR-PLACED CONCRETE
OJ
OE
32'-0" TYP. CUT-OFF COLLAR SPACING
32'-0"±
OPTIONAL ROUGHENED CONSTRUCTION JOINT. SEE DETAIL "OZ"
CUT REINFORCING STEEL IN FIELD TO ALLOW FOR MANHOLE
3'-0" DIA. AGGREGATE POCKET
GRADE TO DRAIN
OK
OD
2:1 FILL SLOPE AT SIDE OF FOUNDATION
GRATING SEE SEC. OL-OL SH. 5
OC (SH.3)
GRADE TO DRAIN
#7@11"
#6@12"
#8@12"
#7@22"
COMPACTED FILL
42" DIA. RCP*
24" DIA. RCP*
S=0.05 (min.)
S=0.15
#7@22"
#7@10"
#4@12"
#6@12"
#8@12"
COMPACTED BACK FILL
ENCASEMENT
#5@18"
OMIT BOTTOM KEY IF NOT ACCESSIBLE DUE TO THE TYPE OF CONST.
5@ CENTER OF UT-OFF COLLAR
OK (SH.5)
CUT-OFF COLLAR
OJ (SH.5)
OE (SH.4)
DETAIL "OZ"
OD (SH.3)
SECTION THROUGH OUTLET WORKS
* - 2000 D - MIN. INTERIOR STEEL COVER 1 3/4"
** - FOR DESIGN H > 20' CONSULT PUBLIC WORKS' DESIGN DIVISION

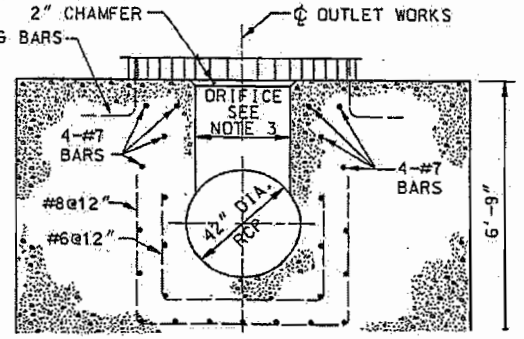

18'-6"
6'-0"
7'-6"
5'-0"
SAFETY COLLAR SEE DETAIL "OX" (SH. 1)
SQUARE OPENING ORIFICE FOR SIZING, SEE NOTE 3 (SH. 3)
℄ OUTLET WORKS
2" CHAMFER
12'-0"
6'-0"
OB
FLOW
5'-0"
1.0
#4 RING @ 2'-6" CENTER EXCEPT AT SAFETY COLLARS
18-#6 A.S.
Sta.
DETAIL "OY" (SH.1)
OPTIONAL ROUGHENED CONSTRUCTION JOINT, SEE DETAIL "OZ" (SH. 1)
SECTION OA-OA(SH.1)
6"
5'-0" Dia.
3"
#4 RINGS @ 2'-6" CENTER EXCEPT AT SAFETY COLLARS (TYP.)
24"
18-#6 (TYP.)
ROWS OF 18 OPENINGS @ 2'-6" CENTERS EXCEPT AT SAFETY COLLARS
18-#6 BARS, SPACED TO TIE #6 VERTICAL BARS AS SHOWN ON SECTIONAL PLAN OF TOWER OA-OA (TYP.)
18-12" HIGH OPENINGS AT BASE
EL.
20" TYP.



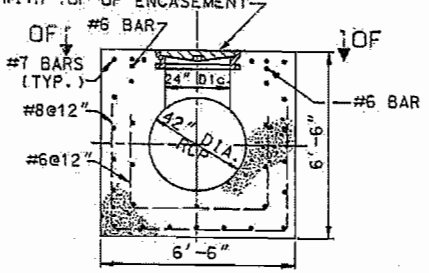
SECTION OC-OC(SH.1)

NOTE:

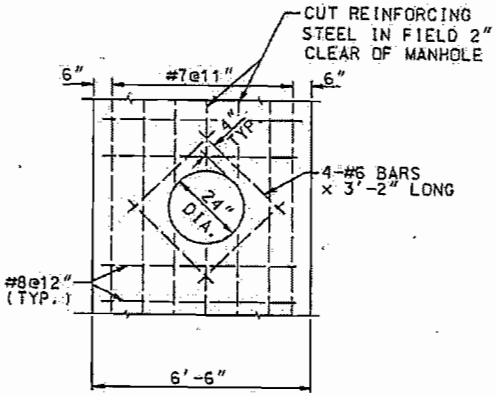
1. THE 42" RCP SHALL BE SECURELY ANCHORED WHILE CONCRETE ENCASEMENT IS BEING PLACED
2. THE LONGITUDINAL #7 BARS SHOWN IN THE OUTLET PIPE ENCASEMENT ARE DESIGNED FOR HARD GRADE STEEL ONLY. IF MEDIUM GRADE STEEL IS USED IN PLACE OF HARD GRADE STEEL, THE SIZE OR NUMBER OF LONGITUDINAL BARS MUST BE INCREASED TO PROVIDE A TOTAL STEEL AREA EQUAL TO 1.275 TIMES THE TOTAL AREA OF LONGITUDINAL BARS SHOWN HEREON.
3. THE ORIFICE OPENING SIZE SHALL BE SIZED FOR NON-PRESSURE FLOW AT MAXIMUM HEAD WITH A MINIMUM DISCHARGE OF 150 CFS



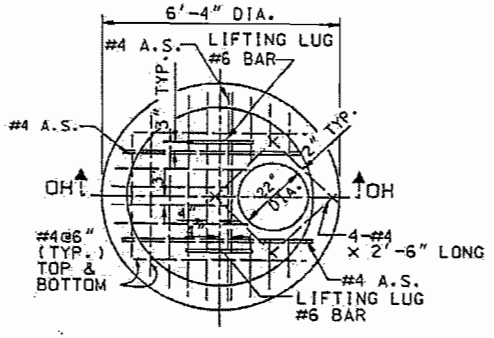
MANHOLE FRAME AND COVER AS PER STD. PLAN 630-1.
DRILL 50 -5/8" DIA. HOLES THROUGH COVER IN A UNIFORM PATTERN. NO HOLES ARE TO BE DRILLED THROUGH THE RIBS OF THE COVER BOTTOM. MAKE TOP OF COVER FLUSH WITH TOP OF ENCASEMENT



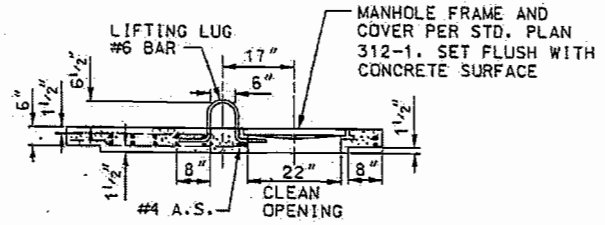
SECTION OE-OE (SH. 1)

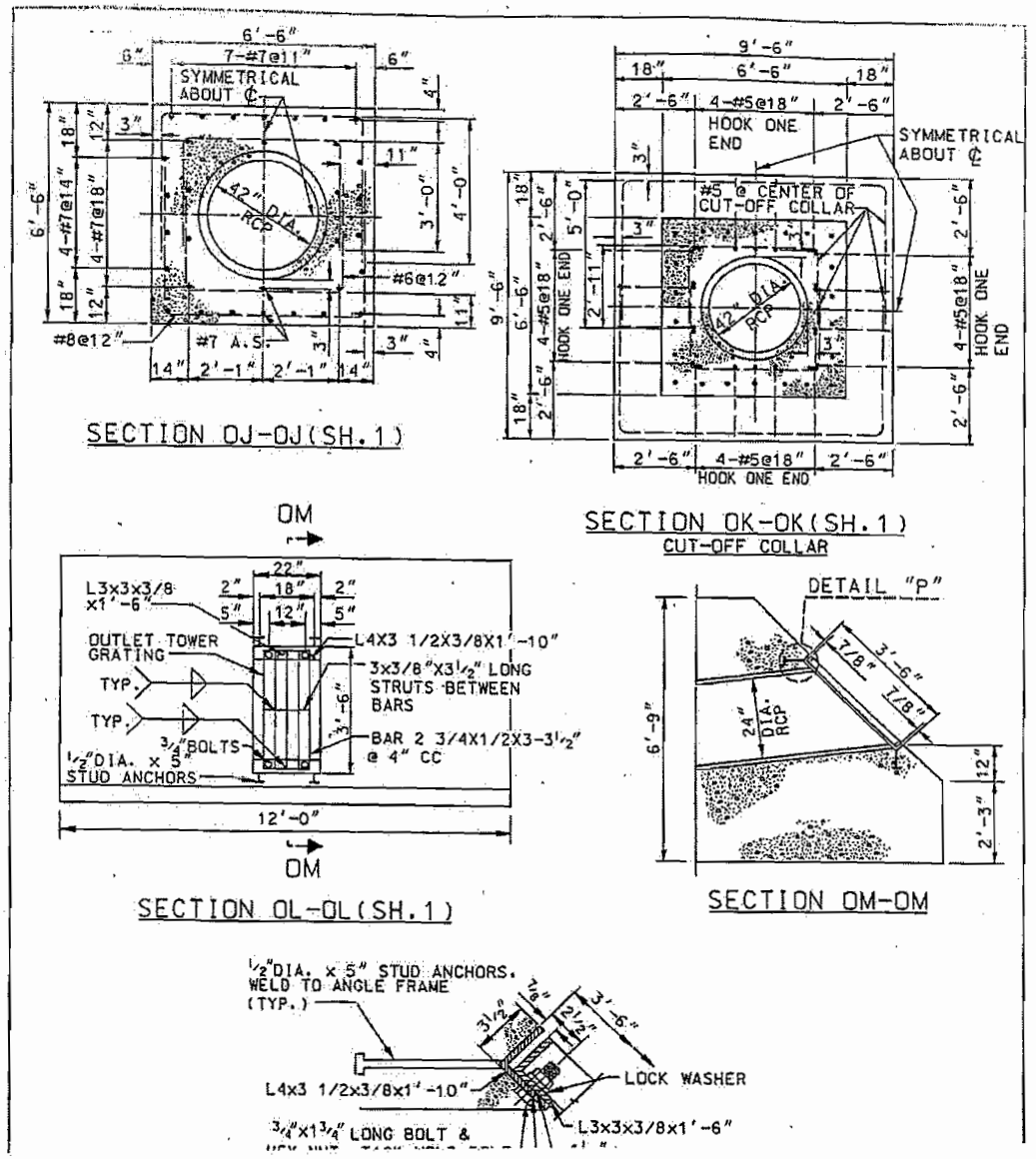


SECTION OF-OF



PLAN OG-OG (SH. 1)
SHOWING OUTLET TOWER COVER




6'-6"
7-#7@11"
SYMMETRICAL ABOUT ℄
42" DIA. RCP
#6@12"
#8@12"
#7 A.S.
14"
2'-1"
2'-1"
14"
SECTION OJ-OJ(SH.1)
9'-6"
6'-6"
18"
2'-6"
4-#5@18"
HOOK ONE END
SYMMETRICAL ABOUT ℄
#5 @ CENTER OF CUT-OFF COLLAR
42" DIA. RCP
HOOK ONE END
SECTION OK-OK(SH.1)
CUT-OFF COLLAR
OM
22"
L3x3x3/8 x1'-6"
OUTLET TOWER GRATING
TYP.
3/4"BOLTS
1/2"DIA. x 5" STUD ANCHORS
L4X3 1/2X3/8X1'-10"
3x3/8"X3 1/2" LONG STRUTS BETWEEN BARS
BAR 2 3/4X1/2X3-3 1/2" @ 4" CC
12'-0"
SECTION OL-OL(SH.1)
DETAIL "P"
7/8"
24" DIA. RCP
6'-9"
SECTION OM-OM
1/2"DIA. x 5" STUD ANCHORS. WELD TO ANGLE FRAME (TYP.)
L4x3 1/2x3/8x1'-10"
LOCK WASHER
3/4"x1 3/4" LONG BOLT &
L3x3x3/8x1'-6"

Appendix 4

Existing Burned Watershed

50-Years, 24-hour event

Appendix 4
Existing Burned Watershed
50-Years, 24-hour event

File name: [illegible] Run date: Mon Jan 30 08:27:50 2006

Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1	1A	37.6	122.35	37.6	122.35	8.940	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1	2A	0.0	0.00	37.8	122.35	9.119	1	1517	0.14568	0.00	0.00	0	293	0	8.51	0.00
1	3A	41.0	125.10	78.8	227.97	16.836	0	0	0.00000	0.00	0.00	0	293	9	8.51	0.01
1	4A	0.0	0.00	78.8	227.97	16.859	1	727	0.10127	0.00	0.00	0	293	0	8.51	0.00
1	5A	40.6	131.54	119.4	337.56	25.493	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1	6A	0.0	0.00	119.4	337.56	25.553	1	1016	0.07674	0.00	0.00	0	293	0	8.51	0.00
1	7A	30.4	103.68	149.8	410.67	35.069	0	0	0.00000	0.00	0.00	0	291	8	8.51	0.01
1	9B	17.8	70.51	17.8	70.51	5.573	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1	10B	0.0	0.00	17.8	70.51	5.646	1	1044	0.07760	0.00	0.00	0	291	0	8.51	0.00
1	11AB	17.8	62.41	167.6	473.08	40.783	1	1044	0.06035	0.00	0.00	0	291	0	8.51	0.00
1	12A	34.8	117.68	202.4	535.88	51.537	0	0	0.00000	0.00	0.00	0	291	8	8.44	0.01
1	13A	0.0	0.00	202.4	535.88	51.599	1	832	0.04569	0.00	0.00	0	291	0	8.44	0.00
1	14A	28.3	94.27	230.7	556.16	60.145	0	0	0.00000	0.00	0.00	0	291	8	8.33	0.01
1	15A	0.0	0.00	230.7	556.16	60.206	1	978	0.04602	0.00	0.00	0	291	0	8.33	0.00
1	16A	23.8	75.61	254.5	571.25	67.517	0	0	0.00000	0.00	0.00	0	291	9	8.41	0.01
1	17A	0.0	0.00	254.5	571.25	67.575	1	1815	0.04297	0.00	0.00	0	291	0	8.41	0.00
1	18A	30.8	93.67	285.3	572.13	77.177	0	0	0.00000	0.00	0.00	0	291	10	8.49	0.01
1	19A	0.0	0.00	285.3	572.13	77.188	1	534	0.02809	0.00	0.00	0	291	0	8.49	0.00
1	20A	32.0	92.89	317.3	590.21	87.196	0	0	0.00000	0.00	0.00	0	291	11	8.51	0.01
1	21A	0.0	0.00	317.3	590.21	87.210	1	666	0.04052	0.00	0.00	0	291	0	8.51	0.00
1	22A	13.3	52.69	330.6	593.34	91.374	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1	23C	46.5	149.55	46.5	149.55	14.558	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1	24C	0.0	0.00	46.5	149.55	14.634	1	419	0.05016	0.00	0.00	0	291	0	8.51	0.00
1	25C	21.3	68.51	67.8	214.46	21.303	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1	26C	0.0	0.00	67.8	214.46	21.345	1	611	0.04440	0.00	0.00	0	291	0	8.51	0.00
1	28D	35.9	115.44	35.9	115.44	11.236	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1	29D	0.0	0.00	35.9	115.44	11.342	1	1490	0.04037	0.00	0.00	0	291	0	8.51	0.00
1	30D	33.1	91.88	69.0	179.63	21.697	0	0	0.00000	0.00	0.00	0	291	12	8.51	0.01
1	31CD	69.0	179.63	136.8	386.81	43.068	1	372	0.04261	0.00	0.00	0	291	0	8.51	0.00
1	32AC	136.8	384.67	467.4	896.02	134.513	1	1490	0.02349	0.00	0.00	0	291	0	8.51	0.00
1	33A	23.9	76.87	491.3	889.96	141.996	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1	35E	48.0	146.36	48.0	146.36	15.026	0	0	0.00000	0.00	0.00	0	291	10	8.51	0.01
1	36E	0.0	0.00	48.0	146.36	15.112	1	386	0.02852	0.00	0.00	0	291	0	8.51	0.00
1	37AE	48.0	144.21	539.3	950.49	157.121	1	1116	0.02420	0.00	0.00	0	291	0	8.51	0.00
1	38F	56.8	173.22	56.8	173.22	17.784	0	0	0.00000	0.00	0.00	0	291	10	8.51	0.01
1	39F	0.0	0.00	56.8	173.22	17.907	1	898	0.02450	0.00	0.00	0	291	0	8.51	0.00
1	40F	41.5	126.56	98.3	273.31	30.901	0	0	0.00000	0.00	0.00	0	291	10	8.51	0.01
1	41AF	98.3	273.31	637.6	1089.38	188.023	1	1289	0.02947	0.00	0.00	0	291	0	8.51	0.00
1	42A	40.1	129.01	677.7	1104.25	200.584	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1	43A	0.0	0.00	677.7	1104.25	200.542	1	1207	0.02167	0.00	0.00	0	291	0	8.51	0.00
1	44A	41.5	120.58	719.2	1112.45	209.820	0	0	0.00000	0.00	0.00	0	297	10	8.51	0.01
1	45G	29.7	96.86	29.7	96.86	6.640	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.01
1	46G	0.0	0.00	29.7	96.86	6.713	1	711	0.05487	0.00	0.00	0	297	0	8.51	0.00
1	47G	33.8	110.51	63.5	194.11	14.546	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.03
1	48G	0.0	0.00	63.5	194.11	14.602	1	923	0.01842	0.00	0.00	0	297	0	8.51	0.00
1	49G	28.4	93.09	91.9	233.63	21.416	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.05
1	50G	0.0	0.00	91.9	233.63	21.451	1	716	0.03914	0.00	0.00	0	297	0	8.51	0.00
1	51G	27.4	84.77	119.3	283.06	28.248	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.07
1	52G	0.0	0.00	119.3	283.06	28.291	1	777	0.02590	0.00	0.00	0	297	0	8.51	0.00
1	54AG	119.3	273.70	838.5	1310.17	238.037	1	1121	0.01452	0.00	0.00	0	297	0	8.51	0.00
1	55A	37.4	104.35	875.9	1316.96	247.450	0	0	0.00000	0.00	0.00	0	297	11	8.51	0.08
1	57H	18.4	64.03	18.4	64.03	5.255	0	0	0.00000	0.00	0.00	0	97	7	8.51	0.23
1	58H	0.0	0.00	18.4	64.03	5.338	1	774	0.01588	0.00	0.00	0	97	0	8.51	0.00
1	59AH	18.4	52.72	894.3	1333.67	247.604	0	0	0.00000	0.00	0.00	0	97	0	8.51	0.00
1	60I	0.0	0.00	0.0	0.00	0.000	0	0	0.00000	0.00	0.00	0	97	0	8.51	0.00
1	61J	0.0	0.00	0.0	0.00	0.000	0	0	0.00000	0.00	0.00	0	97	0	8.51	0.00
1	62K	36.5	112.51	36.5	112.51	8.611	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.04
1	63K	0.0	0.00	36.5	112.51	8.611	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00
1	64L	38.0	116.68	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.01
1	65L	0.0	0.00	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00

Normal End of MODRAT

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 11AF STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	3.80	200	5.88	300	8.00	400	7.20
500	7.96	600	9.40	700	10.76	800	13.43	900	17.94
1000	27.84	1050	37.20	1100	57.9.	1110	64.79	1120	74.45
1130	89.24	1131	90.99	1132	92.78	1133	94.63	1134	96.62
1135	98.75	1136	100.99	1137	103.40	1138	105.97	1139	108.73
1140	111.69	1141	114.90	1142	118.38	1143	122.15	1144	126.32
1145	130.90	1146	135.95	1147	141.48	1148	147.64	1149	154.54
1150	162.34	1151	171.32	1152	181.87	1153	194.38	1154	210.06
1155	231.26	1156	276.56	1157	313.12	1158	350.10	1159	405.72
1160	442.18	1161	464.44	1162	473.08	1163	466.35	1164	425.84
1165	382.21	1166	337.66	1167	296.91	1168	259.26	1169	224.79
1170	194.76	1171	170.00	1172	149.80	1173	132.89	1174	119.19
1175	107.94	1176	98.58	1177	90.76	1178	84.15	1179	78.62
1180	73.77	1181	69.48	1182	65.77	1183	62.50	1184	59.55
1185	56.96	1186	54.61	1187	52.50	1188	50.60	1189	48.83
1190	47.17	1191	45.62	1192	44.16	1193	42.83	1194	41.55
1195	40.37	1196	39.26	1197	38.18	1198	37.16	1199	36.21
1200	35.32	1201	34.48	1202	33.71	1203	32.97	1204	32.23
1205	31.53	1206	30.82	1207	30.16	1208	29.52	1209	28.91
1210	28.30	1211	27.73	1212	27.16	1213	26.64	1214	26.14
1215	25.68	1216	25.21	1217	24.77	1218	24.34	1219	23.90
1220	23.50	1221	23.08	1222	22.70	1223	22.33	1224	21.96
1225	21.61	1226	21.25	1227	20.93	1228	20.61	1229	20.29
1230	19.98	1231	19.67	1232	19.41	1233	19.12	1234	18.85
1235	18.58	1236	18.33	1237	18.09	1238	17.84	1239	17.61
1240	17.38	1241	17.17	1242	16.97	1243	16.78	1244	16.57
1245	16.38	1246	16.21	1247	16.02	1248	15.84	1249	15.65
1250	15.49	1251	15.31	1252	15.15	1253	14.98	1254	14.82
1255	14.66	1256	14.52	1257	14.36	1258	14.20	1259	14.06
1260	13.92	1261	13.79	1262	13.65	1263	13.52	1264	13.38
1265	13.26	1266	13.14	1267	13.01	1268	12.90	1269	12.78
1270	12.67	1271	12.57	1272	12.46	1273	12.35	1274	12.24
1275	12.15	1276	12.03	1277	11.94	1278	11.84	1279	11.74
1280	11.65	1281	11.54	1282	11.46	1283	11.37	1284	11.29
1285	11.20	1286	11.11	1287	11.03	1288	10.95	1289	10.88
1290	10.80	1291	10.72	1292	10.65	1293	10.57	1294	10.50
1295	10.43	1296	10.37	1297	10.30	1298	10.24	1299	10.18
1300	10.11	1310	9.54	1320	9.01	1330	8.49	1340	8.03
1350	7.59	1360	7.19	1370	6.82	1380	6.50	1390	6.21
1400	5.95	1420	5.49	1440	5.08	1460	2.99	1500	1.13

Total Runoff = 40.714 Acre-ft.
Peak Q = 473.08 CFS
Time to Peak = 1162 Minutes

Why are

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 11RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	3.80	200	5.97	300	5.85	400	7.18
500	7.86	600	9.33	700	10.64	800	13.24	900	17.63
1000	27.26	1050	36.18	1100	55.77	1110	61.92	1120	70.39
1130	83.37	1131	84.91	1132	86.44	1133	88.03	1134	89.71
1135	91.50	1136	93.38	1137	95.37	1138	97.47	1139	99.71
1140	102.10	1141	104.67	1142	107.42	1143	110.39	1144	113.61
1145	117.11	1146	120.94	1147	125.16	1148	129.82	1149	134.97
1150	140.68	1151	147.09	1152	154.35	1153	162.68	1154	172.43
1155	184.13	1156	198.86	1157	221.16	1158	253.89	1159	293.95
1160	339.84	1161	386.43	1162	425.19	1163	451.24	1164	462.71
1165	454.04	1166	426.72	1167	390.89	1168	352.72	1169	315.75
1170	280.92	1171	248.73	1172	219.75	1173	194.73	1174	173.21
1175	154.90	1176	139.37	1177	126.24	1178	115.09	1179	105.61
1180	97.51	1181	90.56	1182	84.65	1183	79.42	1184	74.74
1185	70.66	1186	67.08	1187	63.83	1188	60.99	1189	58.40
1190	56.09	1191	54.04	1192	52.11	1193	50.29	1194	48.59
1195	46.99	1196	45.49	1197	44.09	1198	42.77	1199	41.54
1200	40.37	1201	39.26	1202	38.21	1203	37.22	1204	36.33
1205	35.53	1206	34.75	1207	33.99	1208	33.25	1209	32.53
1210	31.82	1211	31.14	1212	30.48	1213	29.84	1214	29.23
1215	28.63	1216	28.05	1217	27.52	1218	27.04	1219	26.56
1220	26.10	1221	25.65	1222	25.20	1223	24.76	1224	24.34
1225	23.92	1226	23.52	1227	23.13	1228	22.74	1229	22.37
1230	22.01	1231	21.66	1232	21.32	1233	20.99	1234	20.67
1235	20.36	1236	20.06	1237	19.76	1238	19.48	1239	19.20
1240	18.93	1241	18.67	1242	18.42	1243	18.17	1244	17.93
1245	17.71	1246	17.51	1247	17.31	1248	17.11	1249	16.92
1250	16.73	1251	16.54	1252	16.35	1253	16.17	1254	15.99
1255	15.81	1256	15.64	1257	15.47	1258	15.30	1259	15.13
1260	14.97	1261	14.81	1262	14.66	1263	14.50	1264	14.35
1265	14.21	1266	14.07	1267	13.93	1268	13.79	1269	13.66
1270	13.53	1271	13.40	1272	13.28	1273	13.16	1274	13.05
1275	12.94	1276	12.83	1277	12.72	1278	12.61	1279	12.50
1280	12.39	1281	12.29	1282	12.19	1283	12.08	1284	11.98
1285	11.88	1286	11.79	1287	11.69	1288	11.60	1289	11.51
1290	11.42	1291	11.33	1292	11.25	1293	11.16	1294	11.08
1295	11.00	1296	10.92	1297	10.84	1298	10.77	1299	10.69
1300	10.63	1310	9.99	1320	9.43	1330	8.92	1340	8.42
1350	7.96	1360	7.54	1370	7.15	1380	6.80	1390	6.48
1400	6.19	1420	5.71	1440	5.29	1460	4.09	1500	1.73

Total Runoff = 40.783 Acre-ft.
Peak Q = 462.71 CFS
Time to Peak = 1164 Minutes

these hydrographs included?

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 32AC STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.60	100	10.50	200	18.87	300	20.37	400	24.65
500	28.72	600	34.04	700	39.41	800	47.82	900	61.83
1000	91.91	1050	118.70	1100	174.43	1110	191.30	1120	213.66
1130	246.48	1131	250.26	1132	254.10	1133	258.19	1134	262.46
1135	266.96	1136	271.69	1137	276.69	1138	281.94	1139	287.51
1140	293.41	1141	299.69	1142	306.41	1143	313.63	1144	321.40
1145	329.81	1146	338.87	1147	348.76	1148	359.62	1149	371.56

1150	394.70	1151	399.38	1152	415.96	1153	435.76	1154	458.17
1155	[illegible]	1156	535.04	1157	590.68	1158	650.69	1159	710.18
1160	[illegible]	1161	[illegible]	1162	[illegible]	1163	855.85	1164	874.80
1165	[illegible]	1166	[illegible]	1167	893.7[illegible]	1168	863.6[illegible]	1169	[illegible]
1170	[illegible]	1171	[illegible]	1172	755.5[illegible]	1173	736.5[illegible]	1174	[illegible]
1175	689.37	1176	661.00	1177	630.63	1178	598.5[illegible]	1179	566.11
1180	533.95	1181	502.47	1182	472.31	1183	443.80	1184	417.03
1185	392.04	1186	266.59	1187	347.11	1188	327.43	1189	309.20
1190	292.05	1191	277.41	1192	260.44	1193	250.65	1194	238.93
1195	228.16	1196	218.25	1197	205.15	1198	200.83	1199	193.19
1200	186.01	1201	179.29	1202	173.07	1203	167.27	1204	161.81
1205	156.80	1206	152.10	1207	143.70	1208	143.74	1209	139.94
1210	136.32	1211	132.87	1212	129.55	1213	126.36	1214	123.34
1215	120.42	1216	117.60	1217	114.88	1218	112.30	1219	109.81
1220	107.46	1221	105.21	1222	103.16	1223	101.25	1224	99.42
1225	97.67	1226	95.66	1227	94.31	1228	92.71	1229	91.15
1230	89.64	1231	88.15	1232	86.73	1233	85.33	1234	83.98
1235	82.68	1236	81.45	1237	80.30	1238	79.18	1239	78.11
1240	77.06	1241	76.05	1242	75.05	1243	74.07	1244	73.11
1245	72.16	1246	71.23	1247	70.31	1248	69.43	1249	68.55
1250	67.70	1251	66.86	1252	66.05	1253	65.25	1254	64.47
1255	63.70	1256	62.94	1257	62.20	1258	61.48	1259	60.79
1260	60.10	1261	59.43	1262	58.78	1263	58.15	1264	57.52
1265	56.92	1266	56.37	1267	55.83	1268	55.32	1269	54.80
1270	54.30	1271	53.81	1272	53.32	1273	52.86	1274	52.38
1275	51.93	1276	51.47	1277	51.02	1278	50.59	1279	50.14
1280	49.72	1281	49.29	1282	48.88	1283	48.47	1284	48.06
1285	47.67	1286	47.27	1287	46.89	1288	46.51	1289	46.14
1290	45.77	1291	45.41	1292	45.06	1293	44.71	1294	44.37
1295	44.05	1296	43.73	1297	43.42	1298	43.11	1299	42.81
1300	42.52	1310	39.79	1320	37.35	1330	35.07	1340	32.86
1350	30.80	1360	28.88	1370	27.10	1380	25.50	1390	24.03
1400	22.70	1420	20.38	1440	18.38	1460	13.79	1500	7.12

Total Runoff = 134.442 Acre-ft.
Peak Q = 896.02 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 32RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.60	100	8.29	200	18.06	300	20.15	400	23.96
500	28.31	600	33.27	700	38.90	800	46.72	900	60.40
1000	88.76	1050	114.21	1100	165.32	1110	180.22	1120	199.04
1130	226.08	1131	229.27	1132	232.51	1133	235.77	1134	239.14
1135	242.64	1136	246.29	1137	250.18	1138	254.25	1139	258.51
1140	263.00	1141	267.72	1142	272.69	1143	277.96	1144	283.54
1145	289.48	1146	295.83	1147	302.63	1148	309.96	1149	317.88
1150	326.47	1151	335.84	1152	346.13	1153	357.47	1154	370.06
1155	384.22	1156	400.41	1157	419.49	1158	443.92	1159	477.23
1160	520.52	1161	571.84	1162	628.37	1163	685.50	1164	736.29
1165	777.37	1166	811.00	1167	838.54	1168	859.72	1169	872.94
1170	874.76	1171	863.47	1172	843.32	1173	821.00	1174	799.92
1175	780.11	1176	760.31	1177	739.83	1178	717.47	1179	693.14
1180	667.23	1181	639.55	1182	611.35	1183	582.39	1184	553.67
1185	525.28	1186	497.77	1187	471.22	1188	446.06	1189	422.21
1190	399.71	1191	378.59	1192	358.86	1193	340.46	1194	323.35
1195	307.46	1196	292.73	1197	279.07	1198	266.42	1199	254.69
1200	243.85	1201	233.88	1202	224.55	1203	215.78	1204	207.53
1205	200.02	1206	192.95	1207	186.26	1208	180.17	1209	174.41
1210	169.03	1211	164.12	1212	159.44	1213	154.99	1214	150.75
1215	146.72	1216	142.87	1217	139.20	1218	135.69	1219	132.32
1220	129.10	1221	126.01	1222	123.04	1223	120.19	1224	117.46
1225	115.01	1226	112.72	1227	110.50	1228	108.36	1229	106.30
1230	104.33	1231	102.42	1232	100.58	1233	98.80	1234	97.08
1235	95.41	1236	93.80	1237	92.23	1238	90.70	1239	89.35
1240	88.02	1241	86.72	1242	85.45	1243	84.22	1244	83.02
1245	81.85	1246	80.72	1247	79.62	1248	78.54	1249	77.49
1250	76.47	1251	75.46	1252	74.48	1253	73.52	1254	72.58
1255	71.66	1256	70.75	1257	69.87	1258	69.01	1259	68.16
1260	67.33	1261	66.52	1262	65.72	1263	64.94	1264	64.18
1265	63.43	1266	62.70	1267	61.99	1268	61.29	1269	60.66
1270	60.05	1271	59.44	1272	58.85	1273	58.27	1274	57.71
1275	57.15	1276	56.61	1277	56.08	1278	55.56	1279	55.05
1280	54.54	1281	54.05	1282	53.57	1283	53.09	1284	52.62
1285	52.16	1286	51.71	1287	51.26	1288	50.82	1289	50.39
1290	49.96	1291	49.54	1292	49.12	1293	48.72	1294	48.31
1295	47.92	1296	47.53	1297	47.16	1298	46.81	1299	46.45
1300	46.11	1310	42.92	1320	40.17	1330	37.74	1340	35.48
1350	33.31	1360	31.29	1370	29.37	1380	27.61	1390	26.01
1400	24.52	1420	22.00	1440	19.82	1460	17.02	1500	10.11

Total Runoff = 134.513 Acre-ft.
Peak Q = 874.76 CFS
Time to Peak = 1170 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 37AE STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	10.93	200	21.36	300	23.81	400	28.43
500	33.55	600	39.51	700	46.06	800	55.51	900	71.69
1000	105.66	1050	136.03	1100	197.83	1110	216.27	1120	240.12
1130	274.66	1131	278.73	1132	282.88	1133	287.10	1134	291.50
1135	296.12	1136	300.94	1137	306.08	1138	311.50	1139	317.20
1140	323.25	1141	329.65	1142	336.46	1143	343.72	1144	351.49
1145	359.86	1146	368.90	1147	378.62	1148	389.22	1149	400.77
1150	413.49	1151	427.65	1152	443.67	1153	461.96	1154	483.43
1155	509.99	1156	554.03	1157	600.32	1158	649.01	1159	693.81
1160	738.69	1161	786.52	1162	836.27	1163	883.60	1164	920.40
1165	932.75	1166	945.63	1167	950.49	1168	947.63	1169	944.00
1170	935.21	1171	917.06	1172	892.08	1173	866.07	1174	842.04
1175	819.75	1176	797.86	1177	775.54	1178	751.55	1179	725.80
1180	698.58	1181	669.71	1182	640.42	1183	610.46	1184	580.80
1185	551.56	1186	523.26	1187	495.98	1188	470.14	1189	445.65
1190	422.56	1191	400.89	1192	380.64	1193	361.76	1194	344.23
1195	327.91	1196	312.78	1197	298.73	1198	285.67	1199	273.55
1200	262.34	1201	251.99	1202	242.28	1203	233.15	1204	224.56

1205	216.70	1206	209.31	1207	202.32	1208	195.95	1209	189.91
1210	184.26	1211	[illegible]	1212	174.12	1213	169.44	1214	164.97
1215	[illegible]	1216	[illegible]	1217	152.[illegible]	1218	149.03	1219	145.47
1220	[illegible]	1221	[illegible]	1222	[illegible]	1223	132.[illegible]	1224	129.70
1225	127.[illegible]	1226	124.6[illegible]	1227	122.[illegible]	1228	119.9[illegible]	1229	117.77
1230	115.66	1231	113.61	1232	111.6[illegible]	1233	109.[illegible]	1234	107.89
1235	106.12	1236	104.38	1237	102.6[illegible]	1238	101.09	1239	99.59
1240	98.16	1241	96.74	1242	95.3[illegible]	1243	94.06	1244	92.74
1245	91.47	1246	90.25	1247	89.0[illegible]	1248	87.85	1249	86.75
1250	85.64	1251	84.55	1252	83.4[illegible]	1253	82.44	1254	81.42
1255	80.42	1256	79.44	1257	78.48	1258	77.55	1259	76.63
1260	75.73	1261	74.85	1262	73.99	1263	73.15	1264	72.31
1265	71.51	1266	70.72	1267	69.94	1268	69.19	1269	68.49
1270	67.82	1271	67.16	1272	66.51	1273	65.88	1274	65.25
1275	64.65	1276	64.05	1277	63.47	1278	62.89	1279	62.33
1280	61.78	1281	61.24	1282	60.71	1283	60.18	1284	59.67
1285	59.17	1286	58.66	1287	58.18	1288	57.69	1289	57.21
1290	56.75	1291	56.28	1292	55.83	1293	55.38	1294	54.93
1295	54.50	1296	54.07	1297	53.66	1298	53.27	1299	52.88
1300	52.50	1310	48.96	1320	45.89	1330	43.08	1340	40.45
1350	37.92	1360	35.59	1370	33.40	1380	31.40	1390	29.57
1400	27.88	1420	24.98	1440	22.49	1460	18.09	1500	10.51

Total Runoff = 157.107 Acre-ft.
Peak Q = 950.49 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 37RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	9.24	200	20.60	300	23.59	400	27.90
500	33.16	600	38.93	700	45.59	800	54.66	900	70.49
1000	103.17	1050	132.39	1100	190.64	1110	207.58	1120	228.82
1130	259.04	1131	262.56	1132	266.07	1133	269.67	1134	273.46
1135	277.46	1136	281.62	1137	285.93	1138	290.43	1139	295.13
1140	300.09	1141	305.31	1142	310.83	1143	316.67	1144	322.85
1145	329.43	1146	336.45	1147	343.97	1148	352.05	1149	360.78
1150	370.22	1151	380.50	1152	391.76	1153	404.18	1154	418.07
1155	433.79	1156	451.98	1157	474.26	1158	504.22	1159	542.72
1160	586.74	1161	633.39	1162	681.12	1163	730.37	1164	780.94
1165	830.31	1166	872.45	1167	903.07	1168	923.82	1169	936.44
1170	941.97	1171	942.21	1172	937.18	1173	925.73	1174	908.33
1175	887.25	1176	864.87	1177	842.74	1178	820.85	1179	798.94
1180	776.42	1181	752.74	1182	727.95	1183	701.87	1184	674.88
1185	647.31	1186	619.30	1187	591.59	1188	564.02	1189	537.37
1190	511.40	1191	486.55	1192	462.94	1193	440.53	1194	419.31
1195	399.33	1196	380.56	1197	362.99	1198	346.55	1199	331.17
1200	316.81	1201	303.39	1202	290.86	1203	279.18	1204	268.37
1205	258.26	1206	248.63	1207	239.53	1208	231.07	1209	223.23
1210	215.78	1211	208.86	1212	202.42	1213	196.30	1214	190.74
1215	185.49	1216	180.45	1217	175.62	1218	170.99	1219	166.57
1220	162.33	1221	158.28	1222	154.40	1223	150.68	1224	147.11
1225	143.69	1226	140.41	1227	137.26	1228	134.27	1229	131.69
1230	129.17	1231	126.72	1232	124.35	1233	122.06	1234	119.84
1235	117.69	1236	115.61	1237	113.61	1238	111.67	1239	109.79
1240	107.97	1241	106.20	1242	104.51	1243	103.02	1244	101.56
1245	100.12	1246	98.71	1247	97.32	1248	95.97	1249	94.65
1250	93.36	1251	92.11	1252	90.88	1253	89.69	1254	88.52
1255	87.38	1256	86.27	1257	85.18	1258	84.11	1259	83.07
1260	82.04	1261	81.04	1262	80.06	1263	79.11	1264	78.17
1265	77.25	1266	76.35	1267	75.47	1268	74.60	1269	73.75
1270	72.93	1271	72.12	1272	71.32	1273	70.61	1274	69.93
1275	69.25	1276	68.59	1277	67.93	1278	67.28	1279	66.64
1280	66.02	1281	65.40	1282	64.80	1283	64.21	1284	63.63
1285	63.06	1286	62.50	1287	61.95	1288	61.41	1289	60.88
1290	60.36	1291	59.84	1292	59.34	1293	58.84	1294	58.35
1295	57.87	1296	57.39	1297	56.93	1298	56.47	1299	56.01
1300	55.56	1310	51.70	1320	48.33	1330	45.32	1340	42.62
1350	40.02	1360	37.60	1370	35.32	1380	33.18	1390	31.26
1400	29.45	1420	26.35	1440	23.71	1460	20.40	1500	12.78

Total Runoff = 157.121 Acre-ft.
Peak Q = 942.21 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 43A STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.40	100	12.28	200	26.00	300	30.36	400	35.82
500	42.77	600	50.20	700	58.81	800	70.53	900	90.78
1000	132.62	1050	169.94	1100	244.40	1110	266.35	1120	294.07
1130	333.51	1131	338.10	1132	342.72	1133	347.48	1134	352.48
1135	357.78	1136	363.28	1137	369.02	1138	375.08	1139	381.42
1140	388.12	1141	395.18	1142	402.67	1143	410.62	1144	419.10
1145	428.21	1146	438.01	1147	448.44	1148	459.74	1149	472.06
1150	485.61	1151	500.63	1152	517.56	1153	536.73	1154	559.20
1155	587.43	1156	640.05	1157	678.19	1158	713.49	1159	753.16
1160	794.70	1161	841.05	1162	891.14	1163	940.22	1164	982.83
1165	1000.10	1166	1031.27	1167	1064.10	1168	1085.76	1169	1098.41
1170	1104.25	1171	1102.51	1172	1093.92	1173	1080.71	1174	1064.48
1175	1045.25	1176	1023.11	1177	998.43	1178	972.56	1179	946.30
1180	920.57	1181	895.02	1182	869.84	1183	844.38	1184	818.44
1185	792.03	1186	764.74	1187	737.29	1188	709.25	1189	681.38
1190	653.63	1191	626.26	1192	599.43	1193	573.39	1194	548.40
1195	524.44	1196	501.59	1197	479.78	1198	459.10	1199	439.53
1200	421.08	1201	403.69	1202	387.30	1203	371.91	1204	357.46
1205	343.86	1206	331.11	1207	319.28	1208	308.06	1209	297.32
1210	287.11	1211	277.69	1212	268.75	1213	260.28	1214	252.41
1215	245.00	1216	237.94	1217	231.60	1218	225.50	1219	219.65
1220	214.02	1221	208.63	1222	203.43	1223	198.48	1224	193.68
1225	189.12	1226	184.71	1227	180.50	1228	176.46	1229	172.56
1230	168.82	1231	165.29	1232	162.18	1233	159.17	1234	156.23
1235	153.42	1236	150.68	1237	148.01	1238	145.43	1239	142.93
1240	140.53	1241	138.18	1242	135.92	1243	133.73	1244	131.59
1245	129.56	1246	127.74	1247	125.98	1248	124.25	1249	122.56
1250	120.90	1251	119.28	1252	117.69	1253	116.14	1254	114.63
1255	113.14	1256	111.71	1257	110.29	1258	108.90	1259	107.55

1260	106.23	1261	104.94	1262	103.68	1263	102.46	1264	101.24
1265	100.04	1266	98.85	1267	97.76	1268	96.68	1269	95.56
1270	94.44	1271	93.46	1272	92.43	1273	91.46	1274	90.45
1275	89.45	1276	88.51	1277	87.58	1278	86.62	1279	85.64
1280	85.34	1281	84.55	1282	83.77	1283	83.01	1284	82.26
1285	81.53	1286	80.79	1287	80.09	1288	79.34	1289	78.69
1290	78.02	1291	77.34	1292	76.69	1293	76.05	1294	75.41
1295	74.80	1296	74.18	1297	73.57	1298	72.99	1299	72.40
1300	71.84	1310	66.77	1320	62.43	1330	58.44	1340	54.91
1350	51.55	1360	48.40	1370	45.48	1380	42.74	1390	40.23
1400	37.92	1420	33.84	1440	30.42	1460	26.98	1500	15.96

Total Runoff = 200.584 Acre-ft.
Peak Q = 1104.25 CFS
Time to Peak = 1170 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 43RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.40	100	10.26	200	24.72	300	30.05	400	35.12
500	42.19	600	49.45	700	58.11	800	69.47	900	89.14
1000	129.43	1050	165.16	1100	235.27	1110	255.34	1120	280.10
1130	314.50	1131	318.49	1132	322.48	1133	326.55	1134	330.79
1135	335.24	1136	339.87	1137	344.71	1138	349.76	1139	355.03
1140	360.55	1141	366.33	1142	372.41	1143	378.80	1144	385.55
1145	392.69	1146	400.27	1147	408.35	1148	417.00	1149	426.28
1150	436.24	1151	447.00	1152	458.71	1153	471.57	1154	485.83
1155	501.82	1156	520.09	1157	541.98	1158	572.39	1159	609.94
1160	648.14	1161	687.54	1162	729.03	1163	773.35	1164	820.98
1165	870.31	1166	916.62	1167	955.23	1168	989.07	1169	1021.76
1170	1050.25	1171	1071.99	1172	1086.43	1173	1093.51	1174	1093.59
1175	1087.68	1176	1077.05	1177	1062.60	1178	1044.82	1179	1024.31
1180	1001.65	1181	977.76	1182	953.26	1183	928.70	1184	903.99
1185	879.45	1186	854.54	1187	829.57	1188	803.98	1189	778.17
1190	751.91	1191	725.45	1192	699.02	1193	672.66	1194	646.55
1195	621.08	1196	595.94	1197	571.70	1198	548.33	1199	525.90
1200	504.41	1201	483.88	1202	464.35	1203	445.77	1204	428.16
1205	411.48	1206	395.69	1207	380.78	1208	366.69	1209	353.42
1210	340.90	1211	329.15	1212	318.05	1213	307.42	1214	297.26
1215	287.60	1216	278.70	1217	270.19	1218	262.09	1219	254.61
1220	247.52	1221	240.79	1222	234.67	1223	228.75	1224	223.00
1225	217.45	1226	212.09	1227	206.92	1228	201.95	1229	197.16
1230	192.55	1231	188.12	1232	183.87	1233	179.77	1234	175.84
1235	172.12	1236	168.62	1237	165.50	1238	162.54	1239	159.65
1240	156.82	1241	154.06	1242	151.37	1243	148.76	1244	146.22
1245	143.76	1246	141.37	1247	139.05	1248	136.80	1249	134.64
1250	132.59	1251	130.67	1252	128.93	1253	127.20	1254	125.51
1255	123.83	1256	122.19	1257	120.58	1258	119.00	1259	117.46
1260	115.94	1261	114.46	1262	113.00	1263	111.56	1264	110.19
1265	108.83	1266	107.51	1267	106.21	1268	104.93	1269	103.69
1270	102.47	1271	101.28	1272	100.11	1273	98.96	1274	97.84
1275	96.74	1276	95.67	1277	94.61	1278	93.58	1279	92.57
1280	91.59	1281	90.65	1282	89.77	1283	88.95	1284	88.15
1285	87.35	1286	86.55	1287	85.77	1288	84.99	1289	84.23
1290	83.47	1291	82.73	1292	81.99	1293	81.27	1294	80.56
1295	79.86	1296	79.17	1297	78.49	1298	77.83	1299	77.17
1300	76.53	1310	70.74	1320	66.03	1330	61.75	1340	57.91
1350	54.47	1360	51.17	1370	48.13	1380	45.27	1390	42.59
1400	40.17	1420	35.81	1440	32.19	1460	27.82	1500	18.71

Total Runoff = 200.542 Acre-ft.
Peak Q = 1093.59 CFS
Time to Peak = 1174 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 52G STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	2.87	200	4.00	300	3.98	400	4.55
500	4.89	600	5.59	700	6.36	800	7.72	900	11.18
1000	19.65	1050	27.00	1100	42.48	1110	47.32	1120	53.92
1130	63.85	1131	65.01	1132	66.21	1133	67.45	1134	68.78
1135	70.23	1136	71.74	1137	73.32	1138	75.00	1139	76.78
1140	78.70	1141	80.76	1142	82.99	1143	85.40	1144	88.03
1145	90.92	1146	94.12	1147	97.55	1148	101.34	1149	105.56
1150	110.35	1151	115.87	1152	122.40	1153	130.13	1154	139.76
1155	152.86	1156	182.26	1157	203.58	1158	222.84	1159	239.80
1160	252.10	1161	263.44	1162	274.17	1163	281.97	1164	283.06
1165	260.01	1166	240.80	1167	227.42	1168	214.74	1169	200.66
1170	185.11	1171	169.23	1172	153.57	1173	138.88	1174	125.56
1175	113.87	1176	103.60	1177	94.57	1178	86.70	1179	79.86
1180	73.93	1181	68.74	1182	64.22	1183	60.25	1184	56.77
1185	53.71	1186	50.92	1187	48.38	1188	46.14	1189	44.10
1190	42.23	1191	40.57	1192	39.02	1193	37.66	1194	36.40
1195	35.20	1196	34.09	1197	33.01	1198	31.96	1199	30.97
1200	30.02	1201	29.11	1202	28.24	1203	27.43	1204	26.66
1205	25.91	1206	25.22	1207	24.57	1208	24.00	1209	23.43
1210	22.88	1211	22.35	1212	21.83	1213	21.33	1214	20.84
1215	20.37	1216	19.91	1217	19.46	1218	19.02	1219	18.60
1220	18.18	1221	17.82	1222	17.46	1223	17.13	1224	16.78
1225	16.46	1226	16.12	1227	15.81	1228	15.51	1229	15.21
1230	14.92	1231	14.63	1232	14.35	1233	14.08	1234	13.80
1235	13.56	1236	13.30	1237	13.06	1238	12.81	1239	12.58
1240	12.36	1241	12.14	1242	11.93	1243	11.72	1244	11.51
1245	11.31	1246	11.12	1247	10.94	1248	10.76	1249	10.58
1250	10.41	1251	10.27	1252	10.12	1253	9.98	1254	9.84
1255	9.71	1256	9.59	1257	9.47	1258	9.34	1259	9.23
1260	9.12	1261	9.00	1262	8.90	1263	8.79	1264	8.69
1265	8.59	1266	8.49	1267	8.39	1268	8.30	1269	8.20
1270	8.12	1271	8.03	1272	7.94	1273	7.86	1274	7.78
1275	7.70	1276	7.62	1277	7.55	1278	7.48	1279	7.41
1280	7.35	1281	7.29	1282	7.23	1283	7.17	1284	7.11
1285	7.06	1286	7.00	1287	6.96	1288	6.90	1289	6.85
1290	6.81	1291	6.75	1292	6.71	1293	6.66	1294	6.62
1295	6.58	1296	6.53	1297	6.49	1298	6.45	1299	6.40
1300	6.37	1310	6.00	1320	5.69	1330	5.42	1340	5.18
1350	4.96	1360	4.76	1370	4.58	1380	4.42	1390	4.27
1400	4.14	1420	3.89	1440	3.69	1460	2.17	1500	1.04

Total Runoff = 28.249 Acre-ft
Peak Q = 265.66 CFS
Time to Peak = 1164 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 52RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	2.37	200	4.03	300	5.89	400	8.53
500	4.82	600	5.52	700	6.27	800	7.57	900	10.82
1000	18.93	1050	29.98	1100	40.44	1110	44.77	1120	50.46
1130	58.93	1131	59.94	1132	60.94	1133	61.97	1134	63.04
1135	64.18	1136	65.38	1137	66.65	1138	68.00	1139	69.43
1140	70.94	1141	72.53	1142	74.23	1143	76.05	1144	78.00
1145	80.10	1146	82.38	1147	84.86	1148	87.59	1149	90.58
1150	93.85	1151	97.48	1152	101.53	1153	106.13	1154	111.46
1155	117.77	1156	125.48	1157	136.05	1158	152.61	1159	173.77
1160	195.03	1161	215.07	1162	232.57	1163	247.58	1164	260.49
1165	270.48	1166	273.70	1167	267.30	1168	255.09	1169	242.00
1170	229.22	1171	216.36	1172	202.91	1173	188.88	1174	174.99
1175	160.99	1176	147.80	1177	135.49	1178	124.34	1179	114.30
1180	105.27	1181	97.21	1182	90.03	1183	83.64	1184	77.95
1185	72.89	1186	68.38	1187	64.37	1188	60.83	1189	57.61
1190	54.65	1191	51.95	1192	49.58	1193	47.37	1194	45.37
1195	43.57	1196	41.90	1197	40.44	1198	39.07	1199	37.77
1200	36.55	1201	35.38	1202	34.26	1203	33.19	1204	32.17
1205	31.20	1206	30.26	1207	29.38	1208	28.53	1209	27.73
1210	26.96	1211	26.27	1212	25.66	1213	25.07	1214	24.49
1215	23.93	1216	23.38	1217	22.85	1218	22.33	1219	21.83
1220	21.34	1221	20.86	1222	20.40	1223	19.95	1224	19.51
1225	19.12	1226	18.76	1227	18.40	1228	18.05	1229	17.71
1230	17.37	1231	17.04	1232	16.71	1233	16.39	1234	16.08
1235	15.78	1236	15.48	1237	15.19	1238	14.90	1239	14.63
1240	14.36	1241	14.09	1242	13.83	1243	13.58	1244	13.33
1245	13.09	1246	12.86	1247	12.63	1248	12.41	1249	12.20
1250	11.99	1251	11.78	1252	11.58	1253	11.39	1254	11.20
1255	11.02	1256	10.87	1257	10.72	1258	10.57	1259	10.43
1260	10.29	1261	10.15	1262	10.01	1263	9.88	1264	9.76
1265	9.63	1266	9.51	1267	9.39	1268	9.28	1269	9.16
1270	9.05	1271	8.95	1272	8.84	1273	8.74	1274	8.64
1275	8.54	1276	8.44	1277	8.35	1278	8.26	1279	8.17
1280	8.08	1281	8.00	1282	7.91	1283	7.83	1284	7.76
1285	7.68	1286	7.61	1287	7.55	1288	7.48	1289	7.42
1290	7.36	1291	7.30	1292	7.24	1293	7.19	1294	7.13
1295	7.08	1296	7.02	1297	6.97	1298	6.92	1299	6.87
1300	6.82	1310	6.39	1320	6.03	1330	5.72	1340	5.45
1350	5.21	1360	4.99	1370	4.79	1380	4.61	1390	4.45
1400	4.30	1420	4.04	1440	3.82	1460	3.11	1500	1.53

Total Runoff = 28.291 Acre-ft.
Peak Q = 273.70 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 54AG STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.80	100	13.70	200	29.91	300	35.20	400	41.02
500	48.55	600	56.71	700	66.40	800	79.54	900	103.79
1000	155.29	1050	200.81	1100	291.30	1110	317.75	1120	351.07
1130	398.30	1131	403.79	1132	409.32	1133	414.99	1134	420.92
1135	427.17	1136	433.71	1137	440.57	1138	447.77	1139	455.33
1140	463.30	1141	471.73	1142	480.64	1143	490.09	1144	500.17
1145	510.93	1146	522.53	1147	534.98	1148	548.33	1149	562.88
1150	578.81	1151	596.43	1152	616.17	1153	638.63	1154	664.63
1155	696.87	1156	752.39	1157	797.26	1158	845.58	1159	903.39
1160	960.47	1161	1016.24	1162	1070.06	1163	1122.71	1164	1174.58
1165	1221.76	1166	1239.17	1167	1256.43	1168	1273.25	1169	1289.78
1170	1303.28	1171	1310.17	1172	1309.59	1173	1301.33	1174	1286.41
1175	1265.58	1176	1240.92	1177	1213.39	1178	1183.69	1179	1152.45
1180	1120.16	118)	1087.66	1182	1055.47	1183	1024.06	1184	993.25
1185	963.26	1186	933.51	1187	904.18	1188	874.75	1189	845.44
1190	815.95	1191	786.54	1192	757.50	1193	728.73	1194	700.41
1195	672.94	1196	645.94	1197	620.06	1198	595.09	1199	571.12
1200	548.19	1201	526.26	1202	505.42	1203	485.57	1204	466.76
1205	448.94	1206	432.05	1207	416.09	1208	401.01	1209	386.79
1210	373.36	1211	360.80	1212	348.94	1213	337.60	1214	326.74
1215	316.41	1216	306.84	1217	297.72	1218	288.99	1219	280.89
1220	273.23	1221	265.92	1222	259.26	1223	252.80	1224	246.53
1225	240.51	1226	234.71	1227	229.11	1228	223.72	1229	218.51
1230	213.50	1231	208.67	1232	204.03	1233	199.54	1234	195.25
1235	191.16	1236	187.32	1237	183.85	1238	180.54	1239	177.31
1240	174.16	1241	171.10	1242	168.09	1243	165.19	1244	162.36
1245	159.60	1246	156.93	1247	154.34	1248	151.83	1249	149.42
1250	147.12	1251	144.96	1252	142.98	1253	141.01	1254	139.10
1255	137.23	1256	135.41	1257	133.63	1258	131.89	1259	130.18
1260	128.50	1261	126.86	1262	125.26	1263	123.69	1264	122.16
1265	120.66	1266	119.19	1267	117.75	1268	116.35	1269	114.98
1270	113.63	1271	112.32	1272	111.03	1273	109.77	1274	108.53
1275	107.32	1276	106.13	1277	104.97	1278	103.83	1279	102.72
1280	101.64	1281	100.60	1282	99.63	1283	98.72	1284	97.82
1285	96.93	1286	96.06	1287	95.20	1288	94.35	1289	93.51
1290	92.68	1291	91.87	1292	91.06	1293	90.27	1294	89.50
1295	88.73	1296	87.98	1297	87.24	1298	86.51	1299	85.80
1300	85.09	1310	78.79	1320	73.64	1330	68.97	1340	64.80
1350	61.06	1360	57.49	1370	54.20	1380	51.12	1390	48.23
1400	45.63	1420	40.94	1440	37.04	1460	30.93	1500	20.23

Total Runoff = 238.111 Acre-ft.
Peak Q = 1310.17 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 54RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.80	100	11.30	200	28.16	300	34.86	400	40.16
500	47.90	600	55.80	700	65.56	800	78.24	900	101.63

1000	153.08	1050	194.37	1100	279.43	1110	303.57	1120	333.16
[illegible]	[illegible]	[illegible]	370.72	[illegible]	[illegible]	[illegible]	398.38	1134	393.40
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	409.62	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1145	468.20	1146	475.05	1147	486.63	1148	496.93	1149	505.44
1150	517.65	1151	529.57	1152	543.11	1153	557.99	1154	574.34
1155	592.61	1156	613.32	1157	637.49	1158	669.70	1159	709.96
1160	754.07	1161	803.56	1162	858.10	1163	915.07	1164	972.75
1165	1030.05	1166	1086.35	1167	1138.88	1168	1161.48	1169	1213.18
1170	1238.49	1171	1259.89	1172	1277.87	1173	1291.41	1174	1299.19
1175	1300.44	1176	1295.02	1177	1283.33	1178	1266.42	1179	1245.24
1180	1220.81	1181	1193.89	1182	1165.17	1183	1135.14	1184	1104.74
1185	1074.12	1186	1043.90	1187	1014.04	1188	984.70	1189	955.72
1190	927.09	1191	898.58	1192	870.29	1193	841.92	1194	813.86
1195	785.95	1196	758.36	1197	731.27	1198	704.54	1199	678.44
1200	653.10	1201	628.57	1202	604.87	1203	582.05	1204	560.11
1205	539.11	1206	519.00	1207	499.82	1208	481.52	1209	464.10
1210	447.53	1211	431.78	1212	416.83	1213	402.66	1214	389.36
1215	376.75	1216	364.65	1217	353.03	1218	341.91	1219	331.63
1220	321.75	1221	312.27	1222	303.48	1223	295.10	1224	287.06
1225	279.76	1226	272.77	1227	266.00	1228	259.46	1229	253.14
1230	247.04	1231	241.15	1232	235.46	1233	229.98	1234	224.68
1235	219.57	1236	214.64	1237	209.89	1238	205.32	1239	200.93
1240	196.86	1241	193.24	1242	189.71	1243	186.29	1244	182.96
1245	179.72	1246	176.56	1247	173.48	1248	170.48	1249	167.57
1250	164.73	1251	161.97	1252	159.29	1253	156.70	1254	154.19
1255	151.94	1256	149.81	1257	147.73	1258	145.70	1259	143.71
1260	141.77	1261	139.87	1262	138.01	1263	136.20	1264	134.42
1265	132.68	1266	130.98	1267	129.31	1268	127.68	1269	126.09
1270	124.52	1271	123.00	1272	121.50	1273	120.04	1274	118.60
1275	117.20	1276	115.83	1277	114.48	1278	113.17	1279	111.88
1280	110.62	1281	109.38	1282	108.17	1283	106.98	1284	105.82
1285	104.69	1286	103.59	1287	102.56	1288	101.63	1289	100.71
1290	99.81	1291	98.91	1292	98.02	1293	97.15	1294	96.28
1295	95.43	1296	94.59	1297	93.76	1298	92.94	1299	92.13
1300	91.34	1310	84.15	1320	78.18	1330	73.19	1340	68.62
1350	64.56	1360	60.88	1370	57.38	1380	54.17	1390	51.14
1400	48.31	1420	43.40	1440	39.16	1460	34.33	1500	23.75

Total Runoff = 238.037 Acre-ft.
Peak Q = 1300.44 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59AH STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	3.20	100	13.50	200	30.72	300	37.50	400	43.05
500	51.00	600	59.24	700	69.41	800	82.77	900	107.93
1000	161.46	1050	208.55	1100	301.07	1110	327.72	1120	360.80
1130	406.98	1131	412.34	1132	417.75	1133	423.27	1134	429.02
1135	435.05	1136	441.33	1137	447.91	1138	454.78	1139	461.96
1140	469.53	1141	477.49	1142	485.92	1143	494.81	1144	504.28
1145	514.35	1146	525.09	1147	536.66	1148	548.95	1149	562.25
1150	576.75	1151	592.66	1152	610.31	1153	630.26	1154	652.94
1155	680.53	1156	726.87	1157	763.15	1158	798.93	1159	842.87
1160	892.07	1161	946.11	1162	1002.32	1163	1058.10	1164	1111.75
1165	1161.70	1166	1205.83	1167	1227.67	1168	1252.45	1169	1274.75
1170	1292.99	1171	1308.70	1172	1321.98	1173	1331.64	1174	1336.19
1175	1334.71	1176	1326.97	1177	1313.33	1178	1294.52	1179	1271.72
1180	1245.87	1181	1217.69	1182	1187.84	1183	1156.79	1184	1125.46
1185	1093.99	1186	1063.02	1187	1032.45	1188	1002.45	1189	972.90
1190	943.72	1191	914.71	1192	885.95	1193	857.15	1194	828.68
1195	800.37	1196	772.42	1197	744.97	1198	717.90	1199	691.42
1200	665.73	1201	640.85	1202	616.84	1203	593.73	1204	571.49
1205	550.22	1206	529.86	1207	510.42	1208	491.90	1209	474.24
1210	457.44	1211	441.48	1212	426.32	1213	411.95	1214	398.45
1215	385.66	1216	373.37	1217	361.59	1218	350.31	1219	339.85
1220	329.82	1221	320.20	1222	311.26	1223	302.76	1224	294.57
1225	287.15	1226	280.02	1227	273.14	1228	266.48	1229	260.04
1230	253.83	1231	247.82	1232	242.04	1233	236.44	1234	231.03
1235	225.84	1236	220.81	1237	215.98	1238	211.30	1239	206.82
1240	202.67	1241	198.97	1242	195.37	1243	191.86	1244	188.45
1245	185.14	1246	181.91	1247	178.75	1248	175.69	1249	172.72
1250	169.82	1251	167.00	1252	164.26	1253	161.60	1254	159.03
1255	156.73	1256	154.56	1257	152.43	1258	150.36	1259	148.33
1260	146.35	1261	144.40	1262	142.51	1263	140.66	1264	138.84
1265	137.07	1266	135.34	1267	133.63	1268	131.97	1269	130.35
1270	128.75	1271	127.19	1272	125.67	1273	124.18	1274	122.72
1275	121.30	1276	119.89	1277	118.53	1278	117.19	1279	115.87
1280	114.59	1281	113.33	1282	112.10	1283	110.89	1284	109.70
1285	108.55	1286	107.43	1287	106.39	1288	105.43	1289	104.50
1290	103.57	1291	102.65	1292	101.75	1293	100.86	1294	99.97
1295	99.10	1296	98.25	1297	97.40	1298	96.56	1299	95.74
1300	94.93	1310	87.59	1320	81.48	1330	76.37	1340	71.69
1350	67.53	1360	63.76	1370	60.17	1380	56.89	1390	53.79
1400	50.89	1420	45.86	1440	41.52	1460	35.26	1500	24.29

Total Runoff = 252.795 Acre-ft.
Peak Q = 1336.19 CFS
Time to Peak = 1174 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59RES STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	10.30	200	27.52	300	34.30	400	39.85
500	47.80	600	56.04	700	66.21	800	79.57	900	104.73
1000	158.26	1050	205.35	1100	299.20	1110	325.02	1120	357.66
1130	402.60	1131	407.47	1132	412.70	1133	418.09	1134	423.65
1135	429.44	1136	435.49	1137	441.80	1138	448.39	1139	455.28
1140	463.02	1141	471.05	1142	479.20	1143	487.75	1144	496.78
1145	506.37	1146	516.59	1147	527.52	1148	539.22	1149	551.75
1150	565.33	1151	580.16	1152	596.48	1153	615.37	1154	636.49
1155	660.84	1156	695.34	1157	735.32	1158	772.22	1159	811.68
1160	856.90	1161	907.31	1162	964.12	1163	1021.65	1164	1076.72
1165	1128.88	1166	1176.53	1167	1211.45	1168	1236.28	1169	1259.99
1170	1280.72	1171	1297.46	1172	1309.63	1173	1321.32	1174	1329.89
1175	1333.67	1176	1331.75	1177	1323.86	1178	1310.30	1179	1290.98

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
1180	1263.04	1181	1235.90	1182	1207.14	1183	1176.91	1184	1145.84
1185	1114.49	1186	1083.19	1187	1052.33	1188	1021.97	1189	992.12
1190	962.69	1191	933.55	1192	906.14	1193	878.10	1194	849.58
1195	[illegible]	1196	[illegible]	1197	765.19	1198	737.97	1199	711.16
1200	684.93	1201	659.46	1202	634.82	1203	611.04	1204	588.83
1205	567.42	1206	546.47	1207	526.32	1208	507.06	1209	488.70
1210	471.20	1211	454.88	1212	440.39	1213	425.71	1214	411.55
1215	398.08	1216	385.26	1217	372.98	1218	361.22	1219	350.07
1220	339.55	1221	329.51	1222	320.31	1223	311.51	1224	303.01
1225	294.98	1226	287.44	1227	280.26	1228	273.35	1229	266.67
1230	260.23	1231	254.01	1232	248.00	1233	242.21	1234	236.61
1235	231.20	1236	225.99	1237	220.97	1238	216.12	1239	208.72
1240	200.77	1241	200.87	1242	193.47	1243	193.76	1244	186.55
1245	187.04	1246	180.01	1247	180.65	1248	173.79	1249	174.62
1250	167.92	1251	168.90	1252	162.35	1253	163.50	1254	157.13
1255	158.63	1256	152.66	1257	154.33	1258	148.46	1259	150.23
1260	144.45	1261	146.30	1262	140.61	1263	142.56	1264	136.94
1265	138.98	1266	133.44	1267	135.53	1268	130.07	1269	132.25
1270	126.85	1271	129.09	1272	123.77	1273	126.08	1274	120.82
1275	123.20	1276	117.99	1277	120.43	1278	115.29	1279	117.77
1280	112.69	1281	115.23	1282	110.20	1283	112.79	1284	107.80
1285	110.45	1286	105.53	1287	108.29	1288	103.53	1289	106.40
1290	101.67	1291	104.55	1292	99.85	1293	102.76	1294	98.07
1295	101.01	1296	96.35	1297	99.30	1298	94.66	1299	97.64
1300	93.03	1310	85.69	1320	79.58	1330	74.47	1340	69.79
1350	65.63	1360	61.86	1370	58.27	1380	54.99	1390	51.89
1400	48.99	1420	43.96	1440	39.61	1460	33.36	1500	22.39

Total Runoff = 247.604 Acre-ft.
Peak Q = 1333.67 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	10.30	200	27.52	300	34.30	400	39.85
500	47.80	600	56.04	700	66.21	800	79.57	900	104.73
1000	158.26	1050	205.35	1100	299.20	1110	325.02	1120	357.66
1130	402.60	1131	407.47	1132	412.70	1133	418.09	1134	423.65
1135	429.44	1136	435.49	1137	441.80	1138	448.39	1139	455.28
1140	463.02	1141	471.05	1142	479.20	1143	487.75	1144	496.78
1145	506.37	1146	516.59	1147	527.52	1148	539.22	1149	551.75
1150	565.33	1151	580.16	1152	596.48	1153	615.37	1154	636.49
1155	660.84	1156	695.34	1157	735.32	1158	772.22	1159	811.68
1160	856.90	1161	907.31	1162	964.12	1163	1021.65	1164	1076.72
1165	1128.88	1166	1176.53	1167	1211.45	1168	1236.28	1169	1259.99
1170	1280.72	1171	1297.46	1172	1309.63	1173	1321.32	1174	1329.89
1175	1333.67	1176	1331.75	1177	1323.86	1178	1310.30	1179	1290.98
1180	1263.04	1181	1235.90	1182	1207.14	1183	1176.91	1184	1145.84
1185	1114.49	1186	1083.19	1187	1052.33	1188	1021.97	1189	992.12
1190	962.69	1191	933.55	1192	906.14	1193	878.10	1194	849.58
1195	821.17	1196	792.98	1197	765.19	1198	737.97	1199	711.16
1200	684.93	1201	659.46	1202	634.82	1203	611.04	1204	588.83
1205	567.42	1206	546.47	1207	526.32	1208	507.06	1209	488.70
1210	471.20	1211	454.88	1212	440.39	1213	425.71	1214	411.55
1215	398.08	1216	385.26	1217	372.98	1218	361.22	1219	350.07
1220	339.55	1221	329.51	1222	320.31	1223	311.51	1224	303.01
1225	294.98	1226	287.44	1227	280.26	1228	273.35	1229	266.67
1230	260.23	1231	254.01	1232	248.00	1233	242.21	1234	236.61
1235	231.20	1236	225.99	1237	220.97	1238	216.12	1239	208.72
1240	200.77	1241	200.87	1242	193.47	1243	193.76	1244	186.55
1245	187.04	1246	180.01	1247	180.65	1248	173.79	1249	174.62
1250	167.92	1251	168.90	1252	162.35	1253	163.50	1254	157.13
1255	158.63	1256	152.66	1257	154.33	1258	148.46	1259	150.23
1260	144.45	1261	146.30	1262	140.61	1263	142.56	1264	136.94
1265	138.98	1266	133.44	1267	135.53	1268	130.07	1269	132.25
1270	126.85	1271	129.09	1272	123.77	1273	126.08	1274	120.82
1275	123.20	1276	117.99	1277	120.43	1278	115.29	1279	117.77
1280	112.69	1281	115.23	1282	110.20	1283	112.79	1284	107.80
1285	110.45	1286	105.53	1287	108.29	1288	103.53	1289	106.40
1290	101.67	1291	104.55	1292	99.85	1293	102.76	1294	98.07
1295	101.01	1296	96.35	1297	99.30	1298	94.66	1299	97.64
1300	93.03	1310	85.69	1320	79.58	1330	74.47	1340	69.79
1350	65.63	1360	61.86	1370	58.27	1380	54.99	1390	51.89
1400	48.99	1420	43.96	1440	39.61	1460	33.36	1500	22.39

Total Runoff = 247.604 Acre-ft.
Peak Q = 1333.67 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 60I STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.00	200	0.00	300	0.00	400	0.00
500	0.00	600	0.00	700	0.00	800	0.00	900	0.00
1000	0.00	1050	0.00	1100	0.00	1110	0.00	1120	0.00
1130	0.00	1131	0.00	1132	0.00	1133	0.00	1134	0.00
1135	0.00	1136	0.00	1137	0.00	1138	0.00	1139	0.00
1140	0.00	1141	0.00	1142	0.00	1143	0.00	1144	0.00
1145	0.00	1146	0.00	1147	0.00	1148	0.00	1149	0.00
1150	0.00	1151	0.00	1152	0.00	1153	0.00	1154	0.00
1155	0.00	1156	0.00	1157	0.00	1158	0.00	1159	0.00
1160	0.00	1161	0.00	1162	0.00	1163	0.00	1164	0.00
1165	0.00	1166	0.00	1167	0.00	1168	0.00	1169	0.00
1170	0.00	1171	0.00	1172	0.00	1173	0.00	1174	0.00
1175	0.00	1176	0.00	1177	0.00	1178	0.00	1179	0.00
1180	0.00	1181	0.00	1182	0.00	1183	0.00	1184	0.00
1185	0.00	1186	0.00	1187	0.00	1188	0.00	1189	0.00
1190	0.00	1191	0.00	1192	0.00	1193	0.00	1194	0.00
1195	0.00	1196	0.00	1197	0.00	1198	0.00	1199	0.00
1200	0.00	1201	0.00	1202	0.00	1203	0.00	1204	0.00
1205	0.00	1206	0.00	1207	0.00	1208	0.00	1209	0.00
1210	0.00	1211	0.00	1212	0.00	1213	0.00	1214	0.00
1215	0.00	1216	0.00	1217	0.00	1218	0.00	1219	0.00
1220	0.00	1221	0.00	1222	0.00	1223	0.00	1224	0.00
1225	0.00	1226	0.00	1227	0.00	1228	0.00	1229	0.00
1230	0.00	1231	0.00	1232	0.00	1233	0.00	1234	0.00

1235	0.00	1236	0.00	1237	0.00	1238	0.00	1239	0.00
1240	0.00	1241	0.00	1242	0.00	1243	0.00	1244	0.00
1245	0.00	1246	0.00	1247	0.00	1248	0.00	1249	0.00
1250	0.00	1251	0.00	1252	0.00	1253	0.00	1254	0.00
1255	0.00	1256	0.00	1257	0.00	1258	0.00	1259	0.00
1260	0.00	1261	0.00	1262	0.00	1263	0.00	1264	0.00
1265	0.00	1266	0.00	1267	0.00	1268	0.00	1269	0.00
1270	0.00	1271	0.00	1272	0.00	1273	0.00	1274	0.00
1275	0.00	1276	0.00	1277	0.00	1278	0.00	1279	0.00
1280	0.00	1281	0.00	1282	0.00	1283	0.00	1284	0.00
1285	0.00	1286	0.00	1287	0.00	1288	0.00	1289	0.00
1290	0.00	1291	0.00	1292	0.00	1293	0.00	1294	0.00
1295	0.00	1296	0.00	1297	0.00	1298	0.00	1299	0.00
1300	0.00	1310	0.00	1320	0.00	1330	0.00	1340	0.00
1350	0.00	1360	0.00	1370	0.00	1380	0.00	1390	0.00
1400	0.00	1420	0.00	1440	0.00	1460	0.00	1500	0.00

Total Runoff = 0.000 Acre-ft.
Peak Q = 0.00 CFS
Time to Peak = 1239952 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 61J STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.00	200	0.00	300	0.00	400	0.00
500	0.00	600	0.00	700	0.00	800	0.00	900	0.00
1000	0.00	1050	0.00	1100	0.00	1110	0.00	1120	0.00
1130	0.00	1131	0.00	1132	0.00	1133	0.00	1134	0.00
1135	0.00	1136	0.00	1137	0.00	1138	0.00	1139	0.00
1140	0.00	1141	0.00	1142	0.00	1143	0.00	1144	0.00
1145	0.00	1146	0.00	1147	0.00	1148	0.00	1149	0.00
1150	0.00	1151	0.00	1152	0.00	1153	0.00	1154	0.00
1155	0.00	1156	0.00	1157	0.00	1158	0.00	1159	0.00
1160	0.00	1161	0.00	1162	0.00	1163	0.00	1164	0.00
1165	0.00	1166	0.00	1167	0.00	1168	0.00	1169	0.00
1170	0.00	1171	0.00	1172	0.00	1173	0.00	1174	0.00
1175	0.00	1176	0.00	1177	0.00	1178	0.00	1179	0.00
1180	0.00	1181	0.00	1182	0.00	1183	0.00	1184	0.00
1185	0.00	1186	0.00	1187	0.00	1188	0.00	1189	0.00
1190	0.00	1191	0.00	1192	0.00	1193	0.00	1194	0.00
1195	0.00	1196	0.00	1197	0.00	1198	0.00	1199	0.00
1200	0.00	1201	0.00	1202	0.00	1203	0.00	1204	0.00
1205	0.00	1206	0.00	1207	0.00	1208	0.00	1209	0.00
1210	0.00	1211	0.00	1212	0.00	1213	0.00	1214	0.00
1215	0.00	1216	0.00	1217	0.00	1218	0.00	1219	0.00
1220	0.00	1221	0.00	1222	0.00	1223	0.00	1224	0.00
1225	0.00	1226	0.00	1227	0.00	1228	0.00	1229	0.00
1230	0.00	1231	0.00	1232	0.00	1233	0.00	1234	0.00
1235	0.00	1236	0.00	1237	0.00	1238	0.00	1239	0.00
1240	0.00	1241	0.00	1242	0.00	1243	0.00	1244	0.00
1245	0.00	1246	0.00	1247	0.00	1248	0.00	1249	0.00
1250	0.00	1251	0.00	1252	0.00	1253	0.00	1254	0.00
1255	0.00	1256	0.00	1257	0.00	1258	0.00	1259	0.00
1260	0.00	1261	0.00	1262	0.00	1263	0.00	1264	0.00
1265	0.00	1266	0.00	1267	0.00	1268	0.00	1269	0.00
1270	0.00	1271	0.00	1272	0.00	1273	0.00	1274	0.00
1275	0.00	1276	0.00	1277	0.00	1278	0.00	1279	0.00
1280	0.00	1281	0.00	1282	0.00	1283	0.00	1284	0.00
1285	0.00	1286	0.00	1287	0.00	1288	0.00	1289	0.00
1290	0.00	1291	0.00	1292	0.00	1293	0.00	1294	0.00
1295	0.00	1296	0.00	1297	0.00	1298	0.00	1299	0.00
1300	0.00	1310	0.00	1320	0.00	1330	0.00	1340	0.00
1350	0.00	1360	0.00	1370	0.00	1380	0.00	1390	0.00
1400	0.00	1420	0.00	1440	0.00	1460	0.00	1500	0.00

Total Runoff = 0.000 Acre-ft.
Peak Q = 0.00 CFS
Time to Peak = 1239952 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 63K STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.11	200	1.19	300	1.28	400	1.40
500	1.55	600	1.74	700	2.01	800	2.45	900	3.65
1000	6.41	1050	8.84	1100	14.14	1110	15.96	1120	18.54
1130	22.44	1131	22.89	1132	23.38	1133	23.90	1134	24.45
1135	25.08	1136	25.71	1137	26.37	1138	27.12	1139	27.90
1140	28.78	1141	29.72	1142	30.77	1143	31.90	1144	33.15
1145	34.57	1146	36.17	1147	37.82	1148	39.66	1149	41.78
1150	44.29	1151	47.31	1152	51.07	1153	55.65	1154	61.76
1155	71.14	1156	100.07	1157	111.58	1158	112.51	1159	111.10
1160	108.13	1161	103.74	1162	97.60	1163	89.22	1164	77.36
1165	46.16	1166	31.64	1167	26.98	1168	24.04	1169	21.93
1170	20.15	1171	18.66	1172	17.44	1173	16.40	1174	15.53
1175	14.77	1176	14.09	1177	13.40	1178	12.75	1179	12.19
1180	11.69	1181	11.22	1182	10.81	1183	10.43	1184	10.07
1185	9.75	1186	9.45	1187	9.17	1188	8.91	1189	8.67
1190	8.44	1191	8.23	1192	8.02	1193	7.85	1194	7.67
1195	7.48	1196	7.34	1197	7.15	1198	6.94	1199	6.73
1200	6.54	1201	6.36	1202	6.18	1203	6.02	1204	5.88
1205	5.72	1206	5.58	1207	5.43	1208	5.31	1209	5.18
1210	5.06	1211	4.95	1212	4.82	1213	4.72	1214	4.61
1215	4.52	1216	4.43	1217	4.34	1218	4.25	1219	4.16
1220	4.07	1221	4.00	1222	3.91	1223	3.85	1224	3.77
1225	3.71	1226	3.63	1227	3.57	1228	3.52	1229	3.45
1230	3.39	1231	3.33	1232	3.27	1233	3.22	1234	3.15
1235	3.12	1236	3.06	1237	3.01	1238	2.96	1239	2.91
1240	2.87	1241	2.82	1242	2.79	1243	2.75	1244	2.70
1245	2.65	1246	2.62	1247	2.58	1248	2.55	1249	2.51
1250	2.48	1251	2.44	1252	2.41	1253	2.37	1254	2.35
1255	2.33	1256	2.31	1257	2.29	1258	2.28	1259	2.26
1260	2.24	1261	2.22	1262	2.21	1263	2.20	1264	2.18
1265	2.17	1266	2.15	1267	2.13	1268	2.12	1269	2.10
1270	2.09	1271	2.08	1272	2.06	1273	2.05	1274	2.03
1275	2.02	1276	2.01	1277	2.00	1278	1.98	1279	1.97
1280	1.96	1281	1.95	1282	1.93	1283	1.92	1284	1.91
1285	1.90	1286	1.89	1287	1.88	1288	1.87	1289	1.86

1290	1.85	1291	1.83	1292	1.83	1293	1.81	1294	1.80
[illegible]	1.80	[illegible]	1.79	1297	1.77	[illegible]	1.77	1299	1.76
[illegible]	[illegible]	[illegible]	[illegible]	1320	1.56	[illegible]	1.42	1340	1.46
[illegible]	[illegible]	[illegible]	[illegible]	1370	1.30	[illegible]	1.27	1390	1.23
[illegible]	[illegible]	[illegible]	1.13	1440	1.07	1460	0.00	1500	.00

Total Runoff = 8.611 Acre-ft.
Peak Q = 112.51 CFS
Time to Peak = 1150 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT : ESL STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.98	200	1.08	300	1.15	400	1.25
500	1.40	600	1.52	700	1.65	800	2.29	900	3.52
1000	6.38	1050	8.09	1100	14.37	1110	16.26	1120	18.93
1130	22.98	1131	23.44	1132	23.96	1133	24.49	1134	25.07
1135	25.71	1136	26.37	1137	27.06	1138	27.83	1139	28.65
1140	29.56	1141	30.54	1142	31.62	1143	32.80	1144	34.10
1145	35.58	1146	37.24	1147	38.95	1148	40.87	1149	43.07
1150	45.68	1151	48.82	1152	52.74	1153	57.50	1154	63.85
1155	73.61	1156	103.73	1157	115.71	1158	116.68	1159	115.21
1160	112.12	1161	107.55	1162	101.16	1163	92.43	1164	80.09
1165	47.62	1166	32.53	1167	27.69	1168	24.64	1169	22.46
1170	20.61	1171	19.06	1172	17.79	1173	16.72	1174	15.82
1175	15.03	1176	14.33	1177	13.60	1178	12.94	1179	12.36
1180	11.84	1181	11.35	1182	10.92	1183	10.53	1184	10.16
1185	9.83	1186	9.52	1187	9.23	1188	8.96	1189	8.71
1190	8.47	1191	8.26	1192	8.04	1193	7.86	1194	7.68
1195	7.49	1196	7.34	1197	7.14	1198	6.92	1199	6.71
1200	6.51	1201	6.32	1202	6.13	1203	5.97	1204	5.82
1205	5.66	1206	5.51	1207	5.35	1208	5.23	1209	5.09
1210	4.97	1211	4.86	1212	4.72	1213	4.63	1214	4.51
1215	4.41	1216	4.32	1217	4.22	1218	4.13	1219	4.04
1220	3.95	1221	3.87	1222	3.78	1223	3.72	1224	3.63
1225	3.58	1226	3.49	1227	3.43	1228	3.38	1229	3.31
1230	3.25	1231	3.18	1232	3.13	1233	3.07	1234	3.01
1235	2.97	1236	2.91	1237	2.86	1238	2.81	1239	2.76
1240	2.72	1241	2.67	1242	2.63	1243	2.59	1244	2.54
1245	2.49	1246	2.46	1247	2.42	1248	2.38	1249	2.35
1250	2.31	1251	2.28	1252	2.24	1253	2.21	1254	2.18
1255	2.16	1256	2.15	1257	2.13	1258	2.11	1259	2.09
1260	2.08	1261	2.06	1262	2.04	1263	2.03	1264	2.01
1265	2.00	1266	1.99	1267	1.97	1268	1.96	1269	1.94
1270	1.93	1271	1.91	1272	1.90	1273	1.89	1274	1.87
1275	1.86	1276	1.85	1277	1.83	1278	1.82	1279	1.81
1280	1.80	1281	1.79	1282	1.77	1283	1.76	1284	1.75
1285	1.75	1286	1.73	1287	1.72	1288	1.71	1289	1.70
1290	1.69	1291	1.68	1292	1.67	1293	1.66	1294	1.65
1295	1.64	1296	1.63	1297	1.62	1298	1.61	1299	1.60
1300	1.60	1310	1.51	1320	1.44	1330	1.37	1340	1.32
1350	1.26	1360	1.21	1370	1.17	1380	1.13	1390	1.09
1400	1.06	1420	1.00	1440	0.94	1460	0.00	1500	0.00

Total Runoff = 8.501 Acre-ft.
Peak Q = 116.68 CFS
Time to Peak = 1150 Minutes

** LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS **
** MODIFIED RATIONAL METHOD HYDROLOGY **
** RESERVOIR ROUTING OUTPUT **

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 59AH STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 1296.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 59AH

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
1296.00	0.00	0.00
1297.00	0.00	40.90
1298.00	0.00	115.80
1299.00	0.00	212.80
1300.00	0.16	327.60
1301.00	0.33	457.80
1302.00	0.49	601.80
1303.00	0.65	758.30
1304.00	0.82	926.50
1305.00	0.98	1105.50
1306.00	1.15	1294.80
1307.00	1.31	1414.60
1308.00	1.47	1538.20
1309.00	1.64	1670.80
1310.00	1.80	1793.70

RESERVOIR DISCHARGE DATA: 59AH Known discharge 1

ELEVATION (ft.)	OUTFLOW (cfs)
1296.00	0.00
1297.00	40.90
1298.00	115.80
1299.00	212.80
1300.00	327.60
1301.00	457.80
1302.00	601.80
1303.00	758.30
1304.00	926.50
1305.00	1105.50
1306.00	1294.80
1307.00	1414.60
1308.00	1538.20
1309.00	1670.80
1310.00	1793.70

how was this discharge table obtained?

RESERVOIR ROUTING TABLE at 59AH

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	3.20	0.00	1296.00	0.00
100	13.50	10.30	1296.25	0.00
200	30.72	27.52	1296.67	0.00
300	37.50	34.30	1296.84	0.00
400	43.05	39.85	1296.97	0.00
500	51.00	47.80	1297.09	0.00
600	59.24	56.04	1297.20	0.00
700	69.41	66.21	1297.34	0.00
800	82.77	79.57	1297.52	0.00
900	107.93	104.73	1297.85	0.00
1000	161.46	158.26	1298.44	0.00
1050	208.55	205.35	1298.92	0.00
1100	301.07	299.20	1299.75	0.12
1110	327.72	325.02	1299.98	0.16
1120	360.80	357.66	1300.23	0.20
1130	406.98	402.60	1300.58	0.26

1132	412.34	407.47	1300.61	0.26
1133	417.15	412.70	1300.65	0.27
1134	423.27	418.09	1300.70	0.28
1135	429.02	423.65	1300.74	0.29
1136	435.05	429.44	1300.78	0.29
1137	441.33	435.49	1300.83	0.30
1138	447.91	441.80	1300.88	0.31
1139	454.78	448.39	1300.93	0.32
1140	461.96	455.28	1300.98	0.33
1141	469.53	463.02	1301.04	0.34
1142	477.49	471.05	1301.09	0.34
1143	485.92	479.20	1301.15	0.35
1144	494.81	487.75	1301.21	0.36
1145	504.28	496.78	1301.27	0.37
1146	514.35	506.37	1301.34	0.38
1147	525.09	516.59	1301.41	0.40
1148	536.66	527.52	1301.48	0.41
1149	548.95	539.22	1301.57	0.42
1150	562.25	551.75	1301.65	0.43
1151	576.75	565.33	1301.75	0.45
1152	592.66	580.16	1301.85	0.47
1153	610.31	596.48	1301.96	0.48
1154	630.26	615.37	1302.09	0.50
1155	652.94	636.49	1302.22	0.53
1156	680.53	660.84	1302.38	0.55
1157	726.87	695.34	1302.60	0.59
1158	763.15	735.32	1302.85	0.63
1159	798.93	772.22	1303.08	0.66
1160	842.87	811.68	1303.32	0.70
1161	892.07	856.90	1303.59	0.75
1162	946.11	907.31	1303.89	0.80
1163	1002.32	964.12	1304.21	0.85
1164	1058.10	1021.65	1304.53	0.91
1165	1111.75	1076.72	1304.84	0.95
1166	1161.70	1128.88	1305.12	1.00
1167	1205.83	1176.53	1305.38	1.04
1168	1227.67	1211.45	1305.56	1.08
1169	1252.45	1236.28	1305.69	1.10
1170	1274.75	1259.99	1305.82	1.12
1171	1292.99	1280.72	1305.93	1.14
1172	1308.70	1297.46	1306.02	1.15
1173	1321.98	1309.63	1306.12	1.17
1174	1331.64	1321.32	1306.22	1.19
1175	1336.19	1329.89	1306.29	1.20
1176	1334.71	1333.67	1306.32	1.20
1177	1326.97	1331.75	1306.31	1.20
1178	1313.33	1323.86	1306.24	1.19
1179	1294.52	1310.30	1306.13	1.17
1180	1271.72	1290.98	1305.98	1.15
1181	1245.87	1263.04	1305.83	1.12
1182	1217.69	1235.90	1305.69	1.10
1183	1187.84	1207.14	1305.54	1.07
1184	1156.79	1176.91	1305.38	1.04
1185	1125.46	1145.84	1305.21	1.02
1186	1093.99	1114.49	1305.05	0.99
1187	1063.02	1083.19	1304.88	0.96
1188	1032.45	1052.33	1304.70	0.93
1189	1002.45	1021.97	1304.53	0.91
1190	972.90	992.12	1304.37	0.88
1191	943.72	962.69	1304.20	0.85
1192	914.71	933.55	1304.04	0.83
1193	885.95	906.14	1303.88	0.80
1194	857.15	878.10	1303.71	0.77
1195	828.68	849.58	1303.54	0.74

1196	800.37	821.17	1303.47	0.71
1197	772.47	792.98	1303.21	0.69
1197	744.97	765.19	1303.04	0.66
1198	717.90	737.97	1302.87	0.63
1199	691.42	711.16	1302.70	0.60
1200	665.73	684.93	1302.53	0.57
1201	640.85	659.46	1302.37	0.55
1202	616.84	634.82	1302.21	0.52
1203	593.73	611.04	1302.06	0.50
1204	571.49	588.83	1301.91	0.48
1205	550.22	567.42	1301.76	0.45
1206	529.86	546.47	1301.62	0.43
1207	510.42	526.32	1301.48	0.41
1208	491.90	507.06	1301.34	0.38
1209	474.24	488.70	1301.21	0.36
1210	457.44	471.20	1301.09	0.34
1211	441.48	454.88	1300.98	0.33
1212	426.32	440.39	1300.87	0.31
1213	411.95	425.71	1300.75	0.29
1214	398.45	411.55	1300.64	0.27
1215	385.66	398.08	1300.54	0.25
1216	373.37	385.26	1300.44	0.24
1217	361.59	372.98	1300.35	0.22
1218	350.31	361.22	1300.26	0.20
1219	339.85	350.07	1300.17	0.19
1220	329.82	339.55	1300.09	0.18
1221	320.20	329.51	1300.01	0.16
1222	311.26	320.31	1299.94	0.15
1223	302.76	311.51	1299.86	0.14
1224	294.57	303.01	1299.79	0.13
1225	287.15	294.98	1299.72	0.11
1226	280.02	287.44	1299.65	0.10
1227	273.14	280.26	1299.59	0.09
1228	266.48	273.35	1299.53	0.08
1229	260.04	266.67	1299.47	0.08
1230	253.83	260.23	1299.41	0.07
1231	247.82	254.01	1299.36	0.06
1232	242.04	248.00	1299.31	0.05
1233	236.44	242.21	1299.26	0.04
1234	231.03	236.61	1299.21	0.03
1235	225.84	231.20	1299.16	0.03
1236	220.81	225.99	1299.11	0.02
1237	215.98	220.97	1299.07	0.01
1238	211.30	216.12	1299.03	0.00
1239	206.82	208.72	1298.96	0.00
1240	202.67	200.77	1298.88	0.00
1241	198.97	200.87	1298.88	0.00
1242	195.37	193.47	1298.80	0.00
1243	191.86	193.76	1298.80	0.00
1244	188.45	186.55	1298.73	0.00
1245	185.14	187.04	1298.73	0.00
1246	181.91	180.01	1298.66	0.00
1247	178.75	180.65	1298.67	0.00
1248	175.69	173.79	1298.60	0.00
1249	172.72	174.62	1298.61	0.00
1250	169.82	167.92	1298.54	0.00
1251	167.00	168.90	1298.55	0.00
1252	164.26	162.35	1298.48	0.00
1253	161.60	163.50	1298.49	0.00
1254	159.03	157.13	1298.43	0.00
1255	156.73	158.63	1298.44	0.00
1256	154.56	152.66	1298.38	0.00
1257	152.43	154.33	1298.40	0.00
1258	150.36	148.46	1298.34	0.00

[illegible]	148.33	150.23	[illegible]98.35	0.00
[illegible]	[illegible]	144.45	1298.30	0.00
1261	144.40	146.30	1298.31	0.00
1262	142.51	140.61	1298.26	0.00
1263	140.66	142.56	1298.28	0.00
1264	138.84	136.94	1298.22	0.00
1265	137.07	138.98	1298.24	0.00
1266	135.34	133.44	1298.18	0.00
1267	133.63	135.53	1298.20	0.00
1268	131.97	130.07	1298.15	0.00
1269	130.35	132.25	1298.17	0.00
1270	128.75	126.85	1298.11	0.00
1271	127.19	129.09	1298.14	0.00
1272	125.67	123.77	1298.08	0.00
1273	124.18	126.08	1298.11	0.00
1274	122.72	120.82	1298.05	0.00
1275	121.30	123.20	1298.08	0.00
1276	119.89	117.99	1298.02	0.00
1277	118.53	120.43	1298.05	0.00
1278	117.19	115.29	1297.99	0.00
1279	115.87	117.77	1298.02	0.00
1280	114.59	112.69	1297.96	0.00
1281	113.33	115.23	1297.99	0.00
1282	112.10	110.20	1297.93	0.00
1283	110.89	112.79	1297.96	0.00
1284	109.70	107.80	1297.89	0.00
1285	108.55	110.45	1297.93	0.00
1286	107.43	105.53	1297.86	0.00
1287	106.39	108.29	1297.90	0.00
1288	105.43	103.53	1297.84	0.00
1289	104.50	106.40	1297.87	0.00
1290	103.57	101.67	1297.81	0.00
1291	102.65	104.55	1297.85	0.00
1292	101.75	99.85	1297.79	0.00
1293	100.86	102.76	1297.83	0.00
1294	99.97	98.07	1297.76	0.00
1295	99.10	101.01	1297.80	0.00
1296	98.25	96.35	1297.74	0.00
1297	97.40	99.30	1297.78	0.00
1298	96.56	94.66	1297.72	0.00
1299	95.74	97.64	1297.76	0.00
1300	94.93	93.03	1297.70	0.00
1310	87.59	85.69	1297.60	0.00
1320	81.48	79.58	1297.52	0.00
1330	76.37	74.47	1297.45	0.00
1340	71.69	69.79	1297.39	0.00
1350	67.53	65.63	1297.33	0.00
1360	63.76	61.86	1297.28	0.00
1370	60.17	58.27	1297.23	0.00
1380	56.89	54.99	1297.19	0.00
1390	53.79	51.89	1297.15	0.00
1400	50.89	48.99	1297.11	0.00
1420	45.86	43.96	1297.04	0.00
1440	41.52	39.61	1296.97	0.00

Arc Travel Time Data Computed in WMS
Tue Aug 02 13:53:56 2005

BASIN 1A AREA 37.83 acres

ARC 23 Travel Time
8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2081.96 ft
S	Slope	0.3564
%I	Percent impervious	1.00
SN	Soil number	293
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	4.07

Time of Concentration for 1A 8.00 min.

BASIN 3A AREA 41.02 acres

ARC 22 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2523.32 ft
S	Slope	0.3107
%I	Percent impervious	1.00
SN	Soil number	293
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.79
i	Rainfall intensity	3.85

Time of Concentration for 3A 9.00 min.

BASIN 5A AREA 40.57 acres

ARC 26 Travel Time
8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2128.74 ft
S	Slope	0.3711
%I	Percent impervious	1.00
SN	Soil number	293
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	4.07

Time of Concentration for 5A 8.00 min.

```
------------------------------------------------------------------------
BASIN 7A    AREA 30.39 acres
------------------------------------------------------------------------

ARC 37    Travel Time
8.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      1941.62 ft
      S   Slope                       0.2112
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.51
      Cd  Soil runoff coefficient     0.84
      i   Rainfall intensity          4.07
------------------------------------------------------------------------
Time of Concentration for 7A    8.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 10B    AREA 17.78 acres
------------------------------------------------------------------------

ARC 13    Travel Time
6.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      1277.71 ft
      S   Slope                       0.2653
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.51
      Cd  Soil runoff coefficient     0.85
      i   Rainfall intensity          4.66
------------------------------------------------------------------------
Time of Concentration for 10B    6.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 12A    AREA 34.81 acres
------------------------------------------------------------------------

ARC 18    Travel Time
8.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      1723.78 ft
      S   Slope                       0.1833
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.44
      Cd  Soil runoff coefficient     0.84
      i   Rainfall intensity          4.04
------------------------------------------------------------------------
Time of Concentration for 12A    8.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 14A    AREA 28.28 acres
------------------------------------------------------------------------

ARC 11    Travel Time
```

8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1941.62 ft
S	Slope	0.1767
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.33
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.98

Time of Concentration for 14A 8.00 min.

BASIN 16A AREA 23.76 acres

ARC 38 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1834.36 ft
S	Slope	0.1172
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.41
Cd	Soil runoff coefficient	0.83
i	Rainfall intensity	3.81

Time of Concentration for 16A 9.00 min.

BASIN 18A AREA 30.80 acres

ARC 27 Travel Time
10.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2189.22 ft
S	Slope	0.1019
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.49
Cd	Soil runoff coefficient	0.83
i	Rainfall intensity	3.66

Time of Concentration for 18A 10.00 min.

BASIN 20A AREA 31.98 acres

ARC 55 Travel Time
11.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2490.25 ft
S	Slope	0.1000
%I	Percent impervious	1.00

SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.83
i	Rainfall intensity	3.50

Time of Concentration for 20A 11.00 min.

BASIN 22A AREA 13.34 acres

ARC 28 Travel Time
6.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1200.21 ft
S	Slope	0.1325
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.85
i	Rainfall intensity	4.66

Time of Concentration for 22A 6.00 min.

BASIN 23C AREA 46.52 acres

ARC 24 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2332.88 ft
S	Slope	0.2310
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.85

Time of Concentration for 23C 9.00 min.

BASIN 27C AREA 21.32 acres

ARC 25 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2255.38 ft
S	Slope	0.2310
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.85

Time of Concentration for 27C 9.00 min.

BASIN 28D AREA 35.89 acres

ARC 35 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2335.23 ft
S	Slope	0.2188
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.85

Time of Concentration for 28D 9.00 min.

BASIN 30D AREA 33.06 acres

ARC 12 Travel Time
12.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2924.96 ft
S	Slope	0.1180
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.83
i	Rainfall intensity	3.36

Time of Concentration for 30D 12.00 min.

BASIN 33A AREA 23.89 acres

ARC 14 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1994.08 ft
S	Slope	0.1023
%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.85

Time of Concentration for 33A 9.00 min.

BASIN 36E AREA 47.95 acres

```
ARC 34    Travel Time
10.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      2808.70 ft
      S   Slope                       0.1901
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.51
      Cd  Soil runoff coefficient     0.83
      i   Rainfall intensity          3.67
------------------------------------------------------------------------
Time of Concentration for 36E    10.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 38F    AREA 56.77 acres
------------------------------------------------------------------------

ARC 44    Travel Time
10.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      2514.32 ft
      S   Slope                       0.1714
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.51
      Cd  Soil runoff coefficient     0.83
      i   Rainfall intensity          3.67
------------------------------------------------------------------------
Time of Concentration for 38F    10.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 40F    AREA 41.49 acres
------------------------------------------------------------------------

ARC 29    Travel Time
9.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      2103.69 ft
      S   Slope                       0.1155
      %I  Percent impervious          1.00
      SN  Soil number                 291
      RD  Rainfall depth              8.51
      Cd  Soil runoff coefficient     0.84
      i   Rainfall intensity          3.85
------------------------------------------------------------------------
Time of Concentration for 40F    9.00 min.
------------------------------------------------------------------------

------------------------------------------------------------------------
BASIN 42A    AREA 40.09 acres
------------------------------------------------------------------------

ARC 32    Travel Time
9.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      2043.21 ft
      S   Slope                       0.1581
```

%I	Percent impervious	1.00
SN	Soil number	291
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.84
i	Rainfall intensity	3.85

Time of Concentration for 42A 9.00 min.

BASIN 44A AREA 41.55 acres

ARC 31 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2090.96 ft
S	Slope	0.1345
%I	Percent impervious	1.00
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	3.85

Time of Concentration for 44A 9.00 min.

BASIN 45G AREA 29.66 acres

ARC 30 Travel Time
8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1748.83 ft
S	Slope	0.1744
%I	Percent impervious	1.00
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	4.07

Time of Concentration for 45G 8.00 min.

BASIN 47G AREA 33.81 acres

ARC 39 Travel Time
8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1814.99 ft
S	Slope	0.1868
%I	Percent impervious	2.98
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	4.07

Time of Concentration for 47G 8.00 min.

BASIN 49G AREA 28.41 acres

ARC 57 Travel Time
8.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	1680.32 ft
S	Slope	0.1660
%I	Percent impervious	5.35
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.81
i	Rainfall intensity	4.07

Time of Concentration for 49G 8.00 min.

BASIN 53G AREA 27.35 acres

ARC 59 Travel Time
9.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2085.29 ft
S	Slope	0.1506
%I	Percent impervious	7.34
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	3.85

Time of Concentration for 53G 9.00 min.

BASIN 55A AREA 37.38 acres

ARC 16 Travel Time
11.00 min.
TYPE: LACDPW TC
EQN: (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)

L	Length	2283.30 ft
S	Slope	0.0720
%I	Percent impervious	7.65
SN	Soil number	297
RD	Rainfall depth	8.51
Cd	Soil runoff coefficient	0.80
i	Rainfall intensity	3.51

Time of Concentration for 55A 11.00 min.

BASIN 58H AREA 18.36 acres

```
ARC 33    Travel Time
7.00 min.
  TYPE:  LACDPW TC
   EQN:  (10.0^-0.507) * ((Cd*i)^-0.519) * (L^0.483) * (S^-0.135)
      L   Length                      1566.42 ft
      S   Slope                       0.1705
     %I   Percent impervious          23.32
     SN   Soil number                 97
     RD   Rainfall depth              8.51
     Cd   Soil runoff coefficient     0.81
      i   Rainfall intensity          4.33
-------------------------------------------------------------------------
Time of Concentration for 58H    7.00 min.
-------------------------------------------------------------------------
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Appendix 4
Existing Burned Watershed
2-Year, 24-hour event

File name: C:\Work\1493\10 - H & H Study\Civil-Survey\wpr\1493EC11.lac Run date: Mon Jan 30 09:43:36 2006

Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION		SUBAREA AREA	SUBAREA C	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1	1A	37.8	37.20	37.8	37.20	1.741	0	0	0.00000	0.00	0.00	0	293	8	3.29	0.01
1	2A	0.0	0.00	37.8	37.20	1.898	1	1517	0.14566	0.00	0.00	0	293	0	3.29	0.00
1	3A	41.0	37.52	78.8	61.45	3.782	0	0	0.00000	0.00	0.00	0	293	9	3.29	0.01
1	4A	0.0	0.00	78.8	61.45	3.791	1	727	0.10127	0.00	0.00	0	293	0	3.29	0.00
1	5A	40.6	39.95	119.4	87.54	5.661	0	0	0.00000	0.00	0.00	0	293	8	3.29	0.01
1	6A	0.0	0.00	119.4	87.54	5.673	1	1016	0.07674	0.00	0.00	0	293	0	3.29	0.00
1	7A	30.4	35.54	149.8	104.85	7.607	0	0	0.00000	0.00	0.00	0	291	8	3.29	0.01
1	9B	17.8	24.40	17.8	24.40	1.134	0	0	0.00000	0.00	0.00	0	291	6	3.29	0.01
1	10B	0.0	0.00	17.8	24.40	1.483	1	1044	0.07760	0.00	0.00	0	291	0	3.29	0.00
1	11AB	17.8	19.77	167.6	124.62	9.108	1	1044	0.06035	0.00	0.00	0	291	0	3.29	0.00
1	12A	34.8	40.32	202.4	126.10	11.294	0	0	0.00000	0.00	0.00	0	291	8	3.27	0.01
1	13A	0.0	0.00	202.4	126.10	11.309	1	832	0.04569	0.00	0.00	0	291	0	3.27	0.00
1	14A	28.3	32.27	230.7	127.96	13.045	0	0	0.00000	0.00	0.00	0	291	8	3.22	0.01
1	15A	0.0	0.00	230.7	127.96	13.062	1	978	0.04602	0.00	0.00	0	291	0	3.22	0.00
1	16A	23.8	25.75	254.5	129.54	14.547	0	0	0.00000	0.00	0.00	0	291	9	3.26	0.01
1	17A	0.0	0.00	254.5	129.54	14.559	1	1815	0.04297	0.00	0.00	0	291	0	3.26	0.00
1	18A	30.8	31.68	285.3	127.93	16.509	0	0	0.00000	0.00	0.00	0	291	10	3.29	0.01
1	19A	0.0	0.00	285.3	127.93	16.513	1	534	0.02809	0.00	0.00	0	291	0	3.29	0.00
1	20A	32.0	31.18	317.3	130.21	18.543	0	0	0.00000	0.00	0.00	0	291	11	3.29	0.01
1	21A	0.0	0.00	317.3	130.21	18.549	1	666	0.04052	0.00	0.00	0	291	0	3.29	0.00
1	22A	13.3	18.23	330.6	130.39	19.396	0	0	0.00000	0.00	0.00	0	291	6	3.29	0.01
1	23C	46.5	51.05	46.5	51.05	2.958	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1	24C	0.0	0.00	46.5	51.05	3.033	1	419	0.05016	0.00	0.00	0	291	0	3.29	0.00
1	25C	21.3	23.38	67.8	71.92	4.388	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1	26C	0.0	0.00	67.8	71.92	4.400	1	611	0.04440	0.00	0.00	0	291	0	3.29	0.00
1	28D	35.9	39.40	35.9	39.40	2.283	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1	29D	0.0	0.00	35.9	39.40	2.417	1	1490	0.04037	0.00	0.00	0	291	0	3.29	0.00
1	30D	33.1	30.62	69.0	52.93	4.516	0	0	0.00000	0.00	0.00	0	291	12	3.29	0.01
1	31CD	69.0	52.93	136.8	120.70	8.927	1	372	0.04261	0.00	0.00	0	291	0	3.29	0.00
1	32AC	136.8	119.52	467.4	228.69	28.350	1	1490	0.02349	0.00	0.00	0	291	0	3.29	0.00
1	33A	23.9	26.24	491.3	216.15	29.871	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1	35E	48.0	49.52	48.0	49.52	3.050	0	0	0.00000	0.00	0.00	0	291	10	3.30	0.01
1	36E	0.0	0.00	48.0	49.52	3.120	1	386	0.02852	0.00	0.00	0	291	0	3.30	0.00
1	37AE	48.0	47.72	539.3	229.22	33.006	1	1116	0.02420	0.00	0.00	0	291	0	3.30	0.00
1	38F	56.8	58.61	56.8	58.61	3.610	0	0	0.00000	0.00	0.00	0	291	10	3.30	0.01
1	39F	0.0	0.00	56.8	58.61	3.687	1	898	0.02450	0.00	0.00	0	291	0	3.30	0.00
1	40F	41.5	42.82	98.3	84.13	6.325	0	0	0.00000	0.00	0.00	0	291	10	3.30	0.01
1	41AF	98.3	84.13	637.6	252.73	39.351	1	1289	0.02947	0.00	0.00	0	291	0	3.30	0.00
1	42A	40.1	44.04	677.7	254.52	41.903	0	0	0.00000	0.00	0.00	0	291	9	3.30	0.01
1	43A	0.0	0.00	677.7	254.52	41.914	1	1207	0.02167	0.00	0.00	0	291	0	3.30	0.00
1	44A	41.5	38.15	719.2	253.46	43.861	0	0	0.00000	0.00	0.00	0	297	10	3.30	0.01
1	45G	29.7	31.26	29.7	31.26	1.397	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.01
1	46G	0.0	0.00	29.7	31.26	1.646	1	711	0.05487	0.00	0.00	0	297	0	3.29	0.00
1	47G	33.8	35.82	63.5	58.23	3.369	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.03
1	48G	0.0	0.00	63.5	58.23	3.382	1	923	0.01842	0.00	0.00	0	297	0	3.29	0.00
1	49G	28.4	30.31	91.9	56.35	4.942	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.05
1	50G	0.0	0.00	91.9	56.35	4.951	1	716	0.03914	0.00	0.00	0	297	0	3.29	0.00
1	51G	27.4	27.55	119.3	67.45	6.563	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.07
1	52G	0.0	0.00	119.3	67.45	6.569	1	777	0.02590	0.00	0.00	0	297	0	3.30	0.00
1	54AG	119.3	63.41	838.5	297.16	50.419	1	1121	0.01452	0.00	0.00	0	297	0	3.30	0.00
1	55A	37.4	33.26	875.9	295.50	52.689	0	0	0.00000	0.00	0.00	0	297	11	3.30	0.08
1	57H	18.4	21.37	18.4	21.37	1.615	0	0	0.00000	0.00	0.00	0	97	7	3.29	0.23
1	58H	0.0	0.00	18.4	21.37	1.675	1	774	0.01588	0.00	0.00	0	97	0	3.29	0.00
1	59AH	18.4	15.23	894.3	298.65	49.554	0	0	0.00000	0.00	0.00	0	97	0	3.29	0.00
1	60I	0.0	0.00	0.0	0.00	0.000	0	0	0.00000	0.00	0.00	0	97	0	3.29	0.00
1	61J	0.0	0.00	0.0	0.00	0.000	0	0	0.00000	0.00	0.00	0	97	0	3.29	0.00
1	62K	36.5	36.31	36.5	36.31	1.932	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.04
1	63K	0.0	0.00	36.5	36.31	1.932	0	0	0.00000	0.00	0.00	0	297	0	3.30	0.00
1	64L	38.0	37.39	38.0	37.39	1.786	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.01
1	65L	0.0	0.00	38.0	37.39	1.786	0	0	0.00000	0.00	0.00	0	297	0	3.30	0.00

Normal End of MODRAT

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 11AB STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	1.44	200	1.68	300	1.65	400	1.79
500	1.84	600	1.99	700	2.16	800	2.48	900	3.00
1000	4.26	1050	6.05	1100	10.14	1110	11.49	1120	13.57
1130	17.04	1131	17.49	1132	17.95	1133	18.44	1134	18.95
1135	19.50	1136	20.08	1137	20.71	1138	21.41	1139	22.16
1140	22.98	1141	23.86	1142	24.76	1143	25.72	1144	26.80
1145	27.97	1146	29.25	1147	30.66	1148	32.22	1149	33.99
1150	36.01	1151	38.37	1152	41.10	1153	44.36	1154	48.55
1155	54.31	1156	67.53	1157	75.91	1158	83.79	1159	95.34
1160	107.20	1161	116.96	1162	122.96	1163	124.62	1164	116.61
1165	110.53	1166	103.32	1167	94.31	1168	85.83	1169	77.72
1170	69.78	1171	62.54	1172	55.86	1173	49.88	1174	44.69
1175	40.11	1176	36.07	1177	32.55	1178	29.46	1179	26.78
1180	24.45	1181	22.42	1182	20.60	1183	18.99	1184	17.59
1185	16.35	1186	15.25	1187	14.27	1188	13.42	1189	12.64
1190	11.93	1191	11.28	1192	10.67	1193	10.14	1194	9.65
1195	9.20	1196	8.78	1197	8.41	1198	8.06	1199	7.74
1200	7.45	1201	7.17	1202	6.92	1203	6.69	1204	6.48
1205	6.28	1206	6.10	1207	5.92	1208	5.75	1209	5.60
1210	5.45	1211	5.31	1212	5.17	1213	5.05	1214	4.94
1215	4.84	1216	4.74	1217	4.64	1218	4.55	1219	4.46
1220	4.38	1221	4.30	1222	4.22	1223	4.15	1224	4.08
1225	4.02	1226	3.95	1227	3.89	1228	3.84	1229	3.78
1230	3.73	1231	3.68	1232	3.63	1233	3.58	1234	3.53
1235	3.49	1236	3.45	1237	3.41	1238	3.37	1239	3.33
1240	3.29	1241	3.26	1242	3.22	1243	3.19	1244	3.15
1245	3.12	1246	3.09	1247	3.06	1248	3.03	1249	3.00
1250	2.98	1251	2.95	1252	2.92	1253	2.90	1254	2.87
1255	2.85	1256	2.83	1257	2.81	1258	2.78	1259	2.76
1260	2.74	1261	2.72	1262	2.70	1263	2.69	1264	2.67
1265	2.65	1266	2.63	1267	2.61	1268	2.59	1269	2.58
1270	2.56	1271	2.54	1272	2.53	1273	2.51	1274	2.49
1275	2.48	1276	2.46	1277	2.45	1278	2.43	1279	2.42
1280	2.41	1281	2.39	1282	2.38	1283	2.37	1284	2.35
1285	2.34	1286	2.33	1287	2.32	1288	2.30	1289	2.29
1290	2.28	1291	2.27	1292	2.26	1293	2.25	1294	2.24
1295	2.22	1296	2.21	1297	2.20	1298	2.19	1299	2.18
1300	2.17	1310	2.08	1320	2.00	1330	1.93	1340	1.87
1350	1.83	1360	1.79	1370	1.75	1380	1.72	1390	1.69
1400	1.67	1420	1.62	1440	1.58	1460	1.21	1500	0.87

Total Runoff = 9.091 Acre-ft.
Peak Q = 124.62 CFS
Time to Peak = 1163 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 11RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	1.31	200	1.69	300	1.63	400	1.77
500	1.83	600	1.97	700	2.14	800	2.43	900	2.94
1000	4.10	1050	5.67	1100	9.39	1110	10.50	1120	12.10
1130	14.73	1131	15.07	1132	15.40	1133	15.75	1134	16.11
1135	16.49	1136	16.90	1137	17.35	1138	17.83	1139	18.34
1140	18.88	1141	19.47	1142	20.10	1143	20.79	1144	21.55
1145	22.35	1146	23.22	1147	24.16	1148	25.18	1149	26.30
1150	27.54	1151	28.90	1152	30.44	1153	32.18	1154	34.19
1155	36.54	1156	39.38	1157	42.98	1158	48.82	1159	57.02
1160	65.77	1161	75.64	1162	87.00	1163	98.42	1164	108.25
1165	114.72	1166	116.46	1167	114.44	1168	110.34	1169	104.69
1170	97.95	1171	90.95	1172	83.79	1173	76.86	1174	70.31
1175	64.14	1176	58.45	1177	53.13	1178	48.45	1179	44.21
1180	40.40	1181	36.98	1182	33.93	1183	31.19	1184	28.75
1185	26.57	1186	24.61	1187	22.85	1188	21.28	1189	19.86
1190	18.58	1191	17.42	1192	16.40	1193	15.47	1194	14.61
1195	13.81	1196	13.07	1197	12.40	1198	11.80	1199	11.23
1200	10.72	1201	10.25	1202	9.81	1203	9.42	1204	9.05
1205	8.71	1206	8.38	1207	8.07	1208	7.78	1209	7.51
1210	7.25	1211	7.01	1212	6.79	1213	6.58	1214	6.38
1215	6.19	1216	6.02	1217	5.85	1218	5.71	1219	5.58
1220	5.45	1221	5.33	1222	5.21	1223	5.10	1224	4.99
1225	4.89	1226	4.79	1227	4.70	1228	4.60	1229	4.52
1230	4.44	1231	4.36	1232	4.28	1233	4.21	1234	4.14
1235	4.08	1236	4.02	1237	3.97	1238	3.91	1239	3.85
1240	3.80	1241	3.75	1242	3.70	1243	3.65	1244	3.61
1245	3.56	1246	3.52	1247	3.47	1248	3.43	1249	3.39
1250	3.35	1251	3.32	1252	3.28	1253	3.25	1254	3.21
1255	3.18	1256	3.15	1257	3.11	1258	3.08	1259	3.06
1260	3.03	1261	3.00	1262	2.97	1263	2.95	1264	2.92
1265	2.90	1266	2.88	1267	2.86	1268	2.84	1269	2.81
1270	2.79	1271	2.77	1272	2.75	1273	2.73	1274	2.71
1275	2.69	1276	2.67	1277	2.66	1278	2.64	1279	2.62
1280	2.60	1281	2.59	1282	2.57	1283	2.55	1284	2.54
1285	2.52	1286	2.50	1287	2.49	1288	2.47	1289	2.46
1290	2.45	1291	2.43	1292	2.42	1293	2.40	1294	2.39
1295	2.38	1296	2.37	1297	2.35	1298	2.34	1299	2.33
1300	2.32	1310	2.20	1320	2.11	1330	2.03	1340	1.95
1350	1.90	1360	1.85	1370	1.80	1380	1.77	1390	1.73
1400	1.70	1420	1.65	1440	1.61	1460	1.45	1500	1.02

Total Runoff = 9.108 Acre-ft.
Peak Q = 116.46 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 32AC STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.60	100	2.83	200	3.99	300	4.28	400	4.59
500	4.90	600	5.38	700	6.00	800	7.01	900	8.60
1000	12.19	1050	17.84	1100	31.93	1110	36.00	1120	41.30
1130	49.20	1131	50.14	1132	51.09	1133	52.10	1134	53.18
1135	54.33	1136	55.54	1137	56.83	1138	58.22	1139	59.70
1140	61.29	1141	62.97	1142	64.78	1143	66.73	1144	68.84
1145	71.08	1146	73.47	1147	76.03	1148	78.81	1149	81.86

1150	85.23	1151	89.00	1152	93.24	1153	98.39	1154	104.18
1155	111.64	1156	124.71	1157	138.10	1158	152.82	1159	167.47
1160	181.84	1161	195.79	1162	204.76	1163	214.60	1164	222.74
1165	227.33	1166	228.69	1167	226.76	1168	219.90	1169	207.73
1170	194.54	1171	184.41	1172	177.11	1173	171.87	1174	168.06
1175	165.42	1176	163.56	1177	162.21	1178	161.12	1179	160.07
1180	158.86	1181	157.29	1182	155.24	1183	152.64	1184	149.49
1185	145.80	1186	141.65	1187	137.10	1188	132.27	1189	127.27
1190	122.22	1191	117.15	1192	112.12	1193	107.19	1194	102.38
1195	97.71	1196	93.23	1197	88.93	1198	84.80	1199	80.80
1200	77.03	1201	73.40	1202	70.00	1203	66.78	1204	63.75
1205	60.89	1206	58.20	1207	55.67	1208	53.28	1209	51.03
1210	48.90	1211	46.93	1212	45.05	1213	43.27	1214	41.59
1215	39.99	1216	38.48	1217	37.06	1218	35.71	1219	34.44
1220	33.25	1221	32.13	1222	31.05	1223	30.02	1224	29.03
1225	28.13	1226	27.26	1227	26.43	1228	25.64	1229	24.92
1230	24.22	1231	23.56	1232	22.93	1233	22.36	1234	21.80
1235	21.27	1236	20.75	1237	20.25	1238	19.76	1239	19.28
1240	18.83	1241	18.38	1242	17.95	1243	17.53	1244	17.13
1245	16.75	1246	16.37	1247	16.01	1248	15.67	1249	15.33
1250	15.02	1251	14.71	1252	14.41	1253	14.13	1254	13.88
1255	13.65	1256	13.43	1257	13.21	1258	13.00	1259	12.80
1260	12.60	1261	12.41	1262	12.22	1263	12.04	1264	11.86
1265	11.69	1266	11.52	1267	11.35	1268	11.19	1269	11.04
1270	10.89	1271	10.74	1272	10.60	1273	10.46	1274	10.33
1275	10.21	1276	10.09	1277	9.98	1278	9.87	1279	9.76
1280	9.66	1281	9.55	1282	9.46	1283	9.36	1284	9.26
1285	9.17	1286	9.07	1287	8.98	1288	8.89	1289	8.81
1290	8.72	1291	8.64	1292	8.55	1293	8.47	1294	8.39
1295	8.32	1296	8.24	1297	8.16	1298	8.09	1299	8.02
1300	7.95	1310	7.36	1320	6.88	1330	6.47	1340	6.13
1350	5.83	1360	5.57	1370	5.34	1380	5.15	1390	4.97
1400	4.82	1420	4.56	1440	4.36	1460	3.75	1500	2.87

Total Runoff = 28.323 Acre-ft.
Peak Q = 228.69 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 32RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.60	100	2.44	200	3.75	300	4.23	400	4.51
500	4.84	600	5.26	700	5.87	800	6.78	900	8.28
1000	11.48	1050	15.96	1100	27.93	1110	31.32	1120	35.45
1130	41.18	1131	41.86	1132	42.57	1133	43.29	1134	44.03
1135	44.78	1136	45.56	1137	46.38	1138	47.23	1139	48.11
1140	49.04	1141	50.04	1142	51.11	1143	52.23	1144	53.43
1145	54.72	1146	56.09	1147	57.56	1148	59.14	1149	60.84
1150	62.67	1151	64.65	1152	66.78	1153	69.09	1154	71.61
1155	74.37	1156	77.43	1157	80.87	1158	84.82	1159	89.49
1160	95.71	1161	104.04	1162	114.38	1163	126.33	1164	139.61
1165	153.28	1166	166.54	1167	179.14	1168	190.58	1169	200.21
1170	207.49	1171	211.93	1172	213.02	1173	210.81	1174	206.19
1175	200.38	1176	194.34	1177	188.58	1178	183.41	1179	178.86
1180	175.00	1181	171.84	1182	169.18	1183	166.92	1184	164.91
1185	163.02	1186	161.10	1187	159.04	1188	156.81	1189	154.28
1190	151.41	1191	148.20	1192	144.67	1193	140.90	1194	136.97
1195	132.83	1196	128.54	1197	124.25	1198	119.95	1199	115.61
1200	111.28	1201	107.13	1202	103.01	1203	99.03	1204	95.14
1205	91.37	1206	87.72	1207	84.22	1208	80.85	1209	77.62
1210	74.53	1211	71.58	1212	68.77	1213	66.08	1214	63.53
1215	61.10	1216	58.78	1217	56.59	1218	54.50	1219	52.51
1220	50.61	1221	48.81	1222	47.13	1223	45.49	1224	43.94
1225	42.46	1226	41.03	1227	39.66	1228	38.35	1229	37.14
1230	35.98	1231	34.86	1232	33.78	1233	32.80	1234	31.87
1235	30.96	1236	30.09	1237	29.30	1238	28.52	1239	27.78
1240	27.05	1241	26.36	1242	25.69	1243	25.04	1244	24.42
1245	23.81	1246	23.23	1247	22.67	1248	22.12	1249	21.60
1250	21.08	1251	20.59	1252	20.11	1253	19.65	1254	19.20
1255	18.77	1256	18.35	1257	17.95	1258	17.55	1259	17.18
1260	16.84	1261	16.53	1262	16.23	1263	15.94	1264	15.66
1265	15.38	1266	15.12	1267	14.86	1268	14.61	1269	14.37
1270	14.13	1271	13.90	1272	13.68	1273	13.46	1274	13.25
1275	13.05	1276	12.85	1277	12.65	1278	12.46	1279	12.28
1280	12.10	1281	11.93	1282	11.77	1283	11.62	1284	11.48
1285	11.34	1286	11.20	1287	11.06	1288	10.93	1289	10.80
1290	10.67	1291	10.55	1292	10.43	1293	10.31	1294	10.20
1295	10.09	1296	9.98	1297	9.87	1298	9.76	1299	9.66
1300	9.56	1310	8.65	1320	7.96	1330	7.39	1340	6.92
1350	6.53	1360	6.18	1370	5.88	1380	5.63	1390	5.40
1400	5.20	1420	4.87	1440	4.61	1460	4.33	1500	3.48

Total Runoff = 28.350 Acre-ft.
Peak Q = 213.02 CFS
Time to Peak = 1172 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 37AE STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	3.02	200	4.35	300	4.87	400	5.20
500	5.60	600	6.13	700	6.86	800	7.96	900	9.78
1000	13.73	1050	19.70	1100	34.95	1110	39.35	1120	44.95
1130	53.02	1131	54.00	1132	55.00	1133	56.05	1134	57.13
1135	58.27	1136	59.47	1137	60.73	1138	62.07	1139	63.49
1140	65.00	1141	66.62	1142	68.32	1143	70.13	1144	72.07
1145	74.15	1146	76.36	1147	78.74	1148	81.34	1149	84.20
1150	87.39	1151	90.96	1152	95.01	1153	99.59	1154	105.07
1155	112.02	1156	124.53	1157	135.81	1158	147.59	1159	158.34
1160	167.24	1161	175.69	1162	184.38	1163	193.28	1164	201.98
1165	205.68	1166	212.40	1167	219.12	1168	223.07	1169	225.86
1170	228.17	1171	229.22	1172	227.92	1173	223.93	1174	217.96
1175	211.09	1176	204.19	1177	197.71	1178	191.92	1179	186.87
1180	182.56	1181	179.01	1182	176.00	1183	173.38	1184	171.08
1185	168.91	1186	166.73	1187	164.41	1188	161.92	1189	159.14
1190	156.04	1191	152.61	1192	148.87	1193	144.91	1194	140.79
1195	136.47	1196	132.03	1197	127.60	1198	123.17	1199	118.71
1200	114.26	1201	109.99	1202	105.76	1203	101.68	1204	97.71

1205	93.85	1206	90.13	1207	86.55	1208	83.11	1209	79.82
1210	76.67	1211	73.68	1212	70.83	1213	68.11	1214	65.51
1215	63.05	1216	60.70	1217	58.47	1218	56.35	1219	54.33
1220	52.41	1221	50.59	1222	48.87	1223	47.22	1224	45.64
1225	44.14	1226	42.69	1227	41.30	1228	39.96	1229	38.74
1230	37.55	1231	36.41	1232	35.32	1233	34.32	1234	33.37
1235	32.45	1236	31.56	1237	30.75	1238	29.96	1239	29.20
1240	28.47	1241	27.76	1242	27.07	1243	26.41	1244	25.77
1245	25.16	1246	24.56	1247	23.99	1248	23.43	1249	22.89
1250	22.37	1251	21.86	1252	21.37	1253	20.90	1254	20.44
1255	20.00	1256	19.57	1257	19.15	1258	18.75	1259	18.36
1260	18.01	1261	17.70	1262	17.39	1263	17.09	1264	16.80
1265	16.52	1266	16.24	1267	15.98	1268	15.72	1269	15.47
1270	15.22	1271	14.99	1272	14.76	1273	14.53	1274	14.32
1275	14.10	1276	13.90	1277	13.70	1278	13.50	1279	13.31
1280	13.13	1281	12.94	1282	12.78	1283	12.63	1284	12.47
1285	12.33	1286	12.18	1287	12.04	1288	11.90	1289	11.77
1290	11.64	1291	11.51	1292	11.38	1293	11.26	1294	11.14
1295	11.02	1296	10.90	1297	10.79	1298	10.68	1299	10.57
1300	10.47	1310	9.52	1320	8.78	1330	8.18	1340	7.67
1350	7.25	1360	6.88	1370	6.55	1380	6.28	1390	6.03
1400	5.81	1420	5.46	1440	5.19	1460	4.73	1500	3.88

Total Runoff = 32.990 Acre-ft.
Peak Q = 229.22 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 37RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	2.77	200	4.13	300	4.80	400	5.14
500	5.54	600	6.04	700	6.74	800	7.79	900	9.52
1000	13.18	1050	18.23	1100	31.79	1110	35.68	1120	40.41
1130	46.91	1131	47.67	1132	48.45	1133	49.23	1134	50.03
1135	50.87	1136	51.76	1137	52.68	1138	53.66	1139	54.69
1140	55.78	1141	56.92	1142	58.12	1143	59.38	1144	60.73
1145	62.16	1146	63.68	1147	65.30	1148	67.03	1149	68.88
1150	70.86	1151	73.00	1152	75.31	1153	77.84	1154	80.63
1155	83.75	1156	87.26	1157	91.27	1158	96.09	1159	102.62
1160	111.15	1161	121.04	1162	131.61	1163	142.22	1164	152.55
1165	162.67	1166	172.67	1167	182.03	1168	190.32	1169	198.02
1170	205.21	1171	211.43	1172	216.53	1173	220.57	1174	223.38
1175	224.59	1176	223.93	1177	221.47	1178	217.61	1179	212.81
1180	207.55	1181	202.21	1182	197.05	1183	192.25	1184	187.88
1185	184.00	1186	180.54	1187	177.49	1188	174.73	1189	172.16
1190	169.70	1191	167.26	1192	164.74	1193	162.05	1194	159.21
1195	156.14	1196	152.83	1197	149.34	1198	145.69	1199	141.85
1200	137.88	1201	133.89	1202	129.81	1203	125.68	1204	121.64
1205	117.58	1206	113.54	1207	109.62	1208	105.77	1209	102.04
1210	98.39	1211	94.86	1212	91.44	1213	88.14	1214	84.96
1215	81.90	1216	78.95	1217	76.13	1218	73.43	1219	70.84
1220	68.36	1221	65.99	1222	63.72	1223	61.55	1224	59.48
1225	57.50	1226	55.61	1227	53.80	1228	52.09	1229	50.46
1230	48.89	1231	47.38	1232	45.91	1233	44.49	1234	43.13
1235	41.86	1236	40.64	1237	39.47	1238	38.35	1239	37.28
1240	36.30	1241	35.34	1242	34.42	1243	33.54	1244	32.74
1245	31.96	1246	31.19	1247	30.44	1248	29.72	1249	29.01
1250	28.32	1251	27.66	1252	27.01	1253	26.38	1254	25.77
1255	25.18	1256	24.61	1257	24.06	1258	23.52	1259	23.00
1260	22.49	1261	22.00	1262	21.53	1263	21.07	1264	20.62
1265	20.19	1266	19.78	1267	19.38	1268	19.01	1269	18.70
1270	18.39	1271	18.09	1272	17.80	1273	17.50	1274	17.22
1275	16.94	1276	16.67	1277	16.41	1278	16.15	1279	15.90
1280	15.65	1281	15.41	1282	15.18	1283	14.95	1284	14.73
1285	14.51	1286	14.30	1287	14.10	1288	13.90	1289	13.70
1290	13.52	1291	13.36	1292	13.20	1293	13.04	1294	12.89
1295	12.74	1296	12.59	1297	12.45	1298	12.31	1299	12.17
1300	12.03	1310	10.82	1320	9.84	1330	9.07	1340	8.44
1350	7.90	1360	7.46	1370	7.07	1380	6.73	1390	6.43
1400	6.17	1420	5.75	1440	5.42	1460	5.08	1500	4.26

Total Runoff = 33.006 Acre-ft.
Peak Q = 224.59 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 43A STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.40	100	3.55	200	5.04	300	5.92	400	6.41
500	6.93	600	7.59	700	8.50	800	9.87	900	12.08
1000	16.83	1050	23.63	1100	41.38	1110	46.59	1120	53.05
1130	62.12	1131	63.19	1132	64.31	1133	65.45	1134	66.62
1135	67.87	1136	69.18	1137	70.55	1138	72.01	1139	73.56
1140	75.21	1141	76.95	1142	78.72	1143	80.58	1144	82.58
1145	84.74	1146	87.06	1147	89.55	1148	92.27	1149	95.23
1150	98.52	1151	102.21	1152	106.39	1153	111.07	1154	116.71
1155	124.16	1156	139.78	1157	149.32	1158	155.15	1159	162.09
1160	170.21	1161	178.00	1162	185.44	1163	193.45	1164	201.53
1165	202.33	1166	209.85	1167	219.96	1168	228.42	1169	234.51
1170	239.32	1171	243.76	1172	247.67	1173	250.70	1174	252.76
1175	253.97	1176	254.52	1177	254.44	1178	253.61	1179	251.88
1180	249.13	1181	245.38	1182	240.79	1183	235.54	1184	229.94
1185	224.20	1186	218.55	1187	213.07	1188	207.90	1189	203.11
1190	198.67	1191	194.59	1192	190.89	1193	187.44	1194	184.16
1195	181.00	1196	177.92	1197	174.85	1198	171.70	1199	168.43
1200	165.07	1201	161.59	1202	157.96	1203	154.27	1204	150.46
1205	146.57	1206	142.66	1207	138.68	1208	134.67	1209	130.64
1210	126.72	1211	122.80	1212	118.98	1213	115.22	1214	111.55
1215	107.96	1216	104.47	1217	101.07	1218	97.77	1219	94.58
1220	91.50	1221	88.52	1222	85.65	1223	82.88	1224	80.22
1225	77.66	1226	75.20	1227	72.83	1228	70.56	1229	68.38
1230	66.29	1231	64.28	1232	62.37	1233	60.56	1234	58.80
1235	57.12	1236	55.48	1237	53.89	1238	52.35	1239	50.86
1240	49.49	1241	48.15	1242	46.86	1243	45.61	1244	44.41
1245	43.32	1246	42.25	1247	41.22	1248	40.21	1249	39.31
1250	38.43	1251	37.57	1252	36.74	1253	35.92	1254	35.13
1255	34.35	1256	33.60	1257	32.86	1258	32.14	1259	31.44

1260	30.76	1261	30.10	1262	29.46	1263	28.84	1264	28.23
1265	27.64	1266	27.07	1267	26.52	1268	25.98	1269	25.45
1270	24.94	1271	24.45	1272	23.97	1273	23.51	1274	23.06
1275	22.68	1276	22.33	1277	21.98	1278	21.64	1279	21.31
1280	20.98	1281	20.66	1282	20.35	1283	20.04	1284	19.74
1285	19.45	1286	19.16	1287	18.88	1288	18.61	1289	18.34
1290	18.08	1291	17.83	1292	17.58	1293	17.33	1294	17.10
1295	16.87	1296	16.64	1297	16.42	1298	16.23	1299	16.04
1300	15.86	1310	14.23	1320	12.89	1330	11.78	1340	10.92
1350	10.18	1360	9.56	1370	9.04	1380	8.58	1390	8.18
1400	7.83	1420	7.25	1440	6.79	1460	6.02	1500	5.04

Total Runoff = 41.903 Acre-ft.
Peak Q = 254.52 CFS
Time to Peak = 1176 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 43RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.40	100	3.25	200	4.78	300	5.77	400	6.33
500	6.83	600	7.48	700	8.34	800	9.64	900	11.74
1000	16.12	1050	21.86	1100	37.41	1110	41.93	1120	47.38
1130	54.71	1131	55.55	1132	56.42	1133	57.29	1134	58.18
1135	59.10	1136	60.07	1137	61.07	1138	62.12	1139	63.23
1140	64.39	1141	65.61	1142	66.88	1143	68.23	1144	69.66
1145	71.16	1146	72.75	1147	74.42	1148	76.18	1149	78.06
1150	80.06	1151	82.21	1152	84.53	1153	87.05	1154	89.81
1155	92.87	1156	96.29	1157	100.17	1158	104.74	1159	111.10
1160	119.37	1161	128.02	1162	136.24	1163	144.54	1164	152.95
1165	161.39	1166	169.87	1167	178.19	1168	185.51	1169	192.34
1170	199.96	1171	208.11	1172	215.92	1173	223.00	1174	229.34
1175	234.97	1176	239.84	1177	243.88	1178	247.05	1179	249.41
1180	250.99	1181	251.80	1182	251.80	1183	250.95	1184	249.22
1185	246.63	1186	243.27	1187	239.27	1188	234.80	1189	230.01
1190	225.08	1191	220.11	1192	215.23	1193	210.51	1194	206.00
1195	201.74	1196	197.77	1197	194.01	1198	190.46	1199	187.06
1200	183.80	1201	180.61	1202	177.44	1203	174.28	1204	171.05
1205	167.79	1206	164.45	1207	161.03	1208	157.55	1209	153.99
1210	150.39	1211	146.75	1212	143.08	1213	139.35	1214	135.64
1215	131.97	1216	128.29	1217	124.64	1218	121.04	1219	117.55
1220	114.11	1221	110.75	1222	107.47	1223	104.26	1224	101.15
1225	98.12	1226	95.18	1227	92.33	1228	89.56	1229	86.89
1230	84.31	1231	81.82	1232	79.41	1233	77.08	1234	74.85
1235	72.69	1236	70.61	1237	68.61	1238	66.69	1239	64.84
1240	63.06	1241	61.36	1242	59.72	1243	58.12	1244	56.59
1245	55.09	1246	53.64	1247	52.23	1248	50.87	1249	49.58
1250	48.36	1251	47.17	1252	46.03	1253	44.92	1254	43.87
1255	42.90	1256	41.95	1257	41.03	1258	40.13	1259	39.29
1260	38.48	1261	37.69	1262	36.91	1263	36.15	1264	35.40
1265	34.66	1266	33.94	1267	33.24	1268	32.55	1269	31.88
1270	31.22	1271	30.58	1272	29.95	1273	29.35	1274	28.75
1275	28.17	1276	27.61	1277	27.06	1278	26.53	1279	26.01
1280	25.51	1281	25.03	1282	24.57	1283	24.13	1284	23.71
1285	23.31	1286	22.92	1287	22.59	1288	22.27	1289	21.95
1290	21.63	1291	21.32	1292	21.02	1293	20.72	1294	20.42
1295	20.13	1296	19.84	1297	19.56	1298	19.29	1299	19.02
1300	18.75	1310	16.47	1320	14.83	1330	13.42	1340	12.25
1350	11.33	1360	10.56	1370	9.89	1380	9.34	1390	8.85
1400	8.43	1420	7.74	1440	7.19	1460	6.63	1500	5.51

Total Runoff = 41.914 Acre-ft.
Peak Q = 251.80 CFS
Time to Peak = 1182 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 52G STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	1.02	200	1.27	300	1.27	400	1.37
500	1.43	600	1.55	700	1.68	800	1.89	900	2.26
1000	3.07	1050	3.87	1100	5.74	1110	6.36	1120	7.51
1130	9.63	1131	9.92	1132	10.22	1133	10.54	1134	10.87
1135	11.25	1136	11.65	1137	12.08	1138	12.57	1139	13.11
1140	13.70	1141	14.34	1142	14.95	1143	15.61	1144	16.33
1145	17.12	1146	17.97	1147	18.90	1148	19.94	1149	21.12
1150	22.48	1151	24.08	1152	25.98	1153	28.15	1154	30.95
1155	34.91	1156	44.20	1157	49.67	1158	53.71	1159	58.77
1160	62.91	1161	65.42	1162	66.77	1163	67.45	1164	67.28
1165	61.49	1166	58.61	1167	56.79	1168	55.77	1169	55.32
1170	54.61	1171	53.19	1172	51.10	1173	48.56	1174	45.86
1175	43.02	1176	40.06	1177	37.21	1178	34.38	1179	31.68
1180	29.19	1181	26.94	1182	24.88	1183	23.00	1184	21.29
1185	19.74	1186	18.33	1187	17.06	1188	15.91	1189	14.86
1190	13.92	1191	13.06	1192	12.28	1193	11.57	1194	10.92
1195	10.33	1196	9.79	1197	9.30	1198	8.84	1199	8.43
1200	8.05	1201	7.70	1202	7.37	1203	7.07	1204	6.79
1205	6.52	1206	6.26	1207	6.04	1208	5.83	1209	5.63
1210	5.45	1211	5.28	1212	5.12	1213	4.97	1214	4.84
1215	4.71	1216	4.59	1217	4.47	1218	4.36	1219	4.26
1220	4.15	1221	4.06	1222	3.97	1223	3.88	1224	3.79
1225	3.71	1226	3.64	1227	3.56	1228	3.49	1229	3.43
1230	3.37	1231	3.31	1232	3.26	1233	3.21	1234	3.15
1235	3.11	1236	3.06	1237	3.01	1238	2.97	1239	2.93
1240	2.89	1241	2.84	1242	2.81	1243	2.77	1244	2.74
1245	2.70	1246	2.67	1247	2.64	1248	2.61	1249	2.58
1250	2.55	1251	2.52	1252	2.50	1253	2.47	1254	2.44
1255	2.42	1256	2.39	1257	2.37	1258	2.35	1259	2.32
1260	2.30	1261	2.28	1262	2.26	1263	2.24	1264	2.22
1265	2.20	1266	2.18	1267	2.16	1268	2.14	1269	2.12
1270	2.10	1271	2.09	1272	2.07	1273	2.05	1274	2.04
1275	2.02	1276	2.01	1277	1.99	1278	1.98	1279	1.96
1280	1.95	1281	1.94	1282	1.92	1283	1.91	1284	1.90
1285	1.88	1286	1.87	1287	1.86	1288	1.85	1289	1.84
1290	1.83	1291	1.81	1292	1.80	1293	1.79	1294	1.78
1295	1.77	1296	1.76	1297	1.75	1298	1.74	1299	1.73
1300	1.73	1310	1.65	1320	1.58	1330	1.53	1340	1.49
1350	1.44	1360	1.41	1370	1.37	1380	1.35	1390	1.32
1400	1.29	1420	1.25	1440	1.21	1460	0.83	1500	0.56

Total Runoff = 6.563 Acre-ft.
Peak Q = 67.45 CFS
Time to Peak = 1163 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 52RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.86	200	1.27	300	1.25	400	1.36
500	1.42	600	1.53	700	1.66	800	1.86	900	2.20
1000	2.95	1050	3.66	1100	5.27	1110	5.75	1120	6.46
1130	7.79	1131	7.97	1132	8.16	1133	8.35	1134	8.55
1135	8.76	1136	8.99	1137	9.23	1138	9.49	1139	9.78
1140	10.09	1141	10.44	1142	10.81	1143	11.22	1144	11.68
1145	12.18	1146	12.72	1147	13.30	1148	13.93	1149	14.60
1150	15.34	1151	16.15	1152	17.03	1153	18.03	1154	19.17
1155	20.49	1156	22.04	1157	23.91	1158	26.39	1159	30.34
1160	35.60	1161	41.12	1162	46.47	1163	51.68	1164	56.18
1165	59.73	1166	62.28	1167	63.41	1168	62.88	1169	61.48
1170	59.96	1171	58.60	1172	57.48	1173	56.47	1174	55.36
1175	53.99	1176	52.30	1177	50.36	1178	48.21	1179	45.89
1180	43.55	1181	41.13	1182	38.66	1183	36.21	1184	33.93
1185	31.76	1186	29.72	1187	27.81	1188	26.05	1189	24.40
1190	22.87	1191	21.46	1192	20.15	1193	18.94	1194	17.83
1195	16.80	1196	15.86	1197	14.99	1198	14.18	1199	13.44
1200	12.75	1201	12.11	1202	11.52	1203	10.97	1204	10.47
1205	10.00	1206	9.56	1207	9.17	1208	8.79	1209	8.44
1210	8.10	1211	7.79	1212	7.49	1213	7.21	1214	6.94
1215	6.70	1216	6.48	1217	6.27	1218	6.06	1219	5.88
1220	5.71	1221	5.55	1222	5.40	1223	5.25	1224	5.12
1225	4.99	1226	4.86	1227	4.74	1228	4.62	1229	4.51
1230	4.40	1231	4.30	1232	4.20	1233	4.11	1234	4.02
1235	3.93	1236	3.85	1237	3.77	1238	3.71	1239	3.64
1240	3.58	1241	3.52	1242	3.46	1243	3.40	1244	3.34
1245	3.29	1246	3.24	1247	3.19	1248	3.14	1249	3.09
1250	3.05	1251	3.01	1252	2.97	1253	2.93	1254	2.89
1255	2.86	1256	2.82	1257	2.79	1258	2.75	1259	2.72
1260	2.69	1261	2.66	1262	2.63	1263	2.60	1264	2.57
1265	2.54	1266	2.52	1267	2.49	1268	2.46	1269	2.44
1270	2.41	1271	2.39	1272	2.36	1273	2.34	1274	2.32
1275	2.30	1276	2.28	1277	2.25	1278	2.23	1279	2.22
1280	2.20	1281	2.18	1282	2.16	1283	2.14	1284	2.13
1285	2.11	1286	2.09	1287	2.08	1288	2.06	1289	2.05
1290	2.03	1291	2.02	1292	2.00	1293	1.99	1294	1.97
1295	1.96	1296	1.95	1297	1.93	1298	1.92	1299	1.91
1300	1.90	1310	1.79	1320	1.70	1330	1.63	1340	1.57
1350	1.52	1360	1.47	1370	1.43	1380	1.40	1390	1.37
1400	1.34	1420	1.29	1440	1.25	1460	1.12	1500	0.73

Total Runoff = 6.569 Acre-ft.
Peak Q = 63.41 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 54AG STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.80	100	4.38	200	6.33	300	7.33	400	8.02
500	8.61	600	9.42	700	10.47	800	12.05	900	14.62
1000	20.04	1050	26.80	1100	44.71	1110	50.02	1120	56.95
1130	66.96	1131	68.17	1132	69.42	1133	70.70	1134	72.02
1135	73.41	1136	74.88	1137	76.43	1138	78.06	1139	79.81
1140	81.68	1141	83.67	1142	85.74	1143	87.85	1144	90.13
1145	92.59	1146	95.23	1147	98.06	1148	101.11	1149	104.45
1150	108.13	1151	112.24	1152	116.90	1153	122.06	1154	128.16
1155	136.06	1156	151.39	1157	161.70	1158	169.27	1159	179.23
1160	191.85	1161	204.62	1162	216.35	1163	227.49	1164	237.37
1165	245.22	1166	244.93	1167	249.63	1168	254.46	1169	258.71
1170	264.00	1171	270.19	1172	276.42	1173	282.11	1174	287.07
1175	291.19	1176	294.24	1177	296.22	1178	297.16	1179	297.10
1180	296.27	1181	294.58	1182	292.06	1183	288.70	1184	284.64
1185	279.83	1186	274.39	1187	268.44	1188	262.16	1189	255.69
1190	249.19	1191	242.78	1192	236.56	1193	230.61	1194	224.96
1195	219.65	1196	214.70	1197	210.05	1198	205.68	1199	201.51
1200	197.55	1201	193.70	1202	189.93	1203	186.19	1204	182.45
1205	178.70	1206	174.91	1207	171.08	1208	167.21	1209	163.29
1210	159.34	1211	155.38	1212	151.39	1213	147.37	1214	143.38
1215	139.46	1216	135.55	1217	131.67	1218	127.86	1219	124.18
1220	120.55	1221	117.02	1222	113.58	1223	110.23	1224	106.97
1225	103.80	1226	100.73	1227	97.75	1228	94.86	1229	92.07
1230	89.38	1231	86.77	1232	84.26	1233	81.84	1234	79.50
1235	77.25	1236	75.08	1237	73.00	1238	71.01	1239	69.09
1240	67.24	1241	65.47	1242	63.77	1243	62.11	1244	60.51
1245	58.96	1246	57.45	1247	55.99	1248	54.57	1249	53.23
1250	51.96	1251	50.73	1252	49.54	1253	48.39	1254	47.30
1255	46.28	1256	45.30	1257	44.34	1258	43.41	1259	42.53
1260	41.69	1261	40.86	1262	40.05	1263	39.25	1264	38.47
1265	37.70	1266	36.95	1267	36.22	1268	35.50	1269	34.80
1270	34.11	1271	33.45	1272	32.79	1273	32.16	1274	31.54
1275	30.94	1276	30.35	1277	29.78	1278	29.22	1279	28.69
1280	28.16	1281	27.66	1282	27.18	1283	26.73	1284	26.29
1285	25.86	1286	25.46	1287	25.10	1288	24.76	1289	24.43
1290	24.10	1291	23.77	1292	23.45	1293	23.13	1294	22.82
1295	22.51	1296	22.21	1297	21.91	1298	21.62	1299	21.33
1300	21.05	1310	18.65	1320	16.91	1330	15.41	1340	14.17
1350	13.18	1360	12.36	1370	11.64	1380	11.04	1390	10.52
1400	10.05	1420	9.30	1440	8.70	1460	7.75	1500	6.24

Total Runoff = 50.431 Acre-ft.
Peak Q = 297.16 CFS
Time to Peak = 1178 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 54RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.80	100	3.94	200	5.97	300	7.16	400	7.89
500	8.51	600	9.26	700	10.29	800	11.77	900	14.20

1000	19.18	1050	24.93	1100	40.33	1110	44.82	1120	50.35
1130	58.02	1131	58.93	1132	59.86	1133	60.81	1134	61.77
1135	62.76	1136	63.80	1137	64.89	1138	66.02	1139	67.21
1140	68.47	1141	69.79	1142	71.17	1143	72.65	1144	74.18
1145	75.82	1146	77.56	1147	79.40	1148	81.34	1149	83.39
1150	85.59	1151	87.93	1152	90.45	1153	93.18	1154	96.14
1155	99.40	1156	103.02	1157	107.08	1158	111.74	1159	117.62
1160	125.34	1161	134.18	1162	143.32	1163	153.18	1164	164.03
1165	175.74	1166	187.84	1167	199.88	1168	211.28	1169	220.73
1170	228.28	1171	235.14	1172	241.42	1173	247.36	1174	253.34
1175	259.46	1176	265.58	1177	271.48	1178	276.97	1179	281.86
1180	285.99	1181	289.26	1182	291.62	1183	293.07	1184	293.65
1185	293.36	1186	292.22	1187	290.28	1188	287.56	1189	284.13
1190	280.05	1191	275.40	1192	270.30	1193	264.86	1194	259.21
1195	253.45	1196	247.67	1197	241.97	1198	236.40	1199	231.03
1200	225.87	1201	220.96	1202	216.25	1203	211.80	1204	207.53
1205	203.40	1206	199.45	1207	195.60	1208	191.79	1209	188.04
1210	184.36	1211	180.65	1212	176.93	1213	173.23	1214	169.51
1215	165.77	1216	162.05	1217	158.29	1218	154.57	1219	150.84
1220	147.11	1221	143.37	1222	139.71	1223	136.08	1224	132.48
1225	128.97	1226	125.54	1227	122.17	1228	118.86	1229	115.67
1230	112.52	1231	109.46	1232	106.48	1233	103.58	1234	100.76
1235	98.02	1236	95.37	1237	92.80	1238	90.30	1239	87.88
1240	85.54	1241	83.28	1242	81.09	1243	78.97	1244	76.93
1245	74.96	1246	73.06	1247	71.22	1248	69.45	1249	67.73
1250	66.09	1251	64.50	1252	62.95	1253	61.44	1254	59.98
1255	58.57	1256	57.19	1257	55.85	1258	54.56	1259	53.31
1260	52.15	1261	51.02	1262	49.93	1263	48.87	1264	47.84
1265	46.87	1266	45.96	1267	45.07	1268	44.19	1269	43.34
1270	42.52	1271	41.74	1272	40.97	1273	40.21	1274	39.47
1275	38.73	1276	38.00	1277	37.29	1278	36.59	1279	35.91
1280	35.23	1281	34.58	1282	33.93	1283	33.30	1284	32.68
1285	32.08	1286	31.50	1287	30.92	1288	30.37	1289	29.83
1290	29.30	1291	28.80	1292	28.31	1293	27.83	1294	27.38
1295	26.95	1296	26.54	1297	26.14	1298	25.77	1299	25.44
1300	25.11	1310	22.08	1320	19.59	1330	17.72	1340	16.14
1350	14.81	1360	13.75	1370	12.86	1380	12.09	1390	11.44
1400	10.88	1420	9.97	1440	9.25	1460	8.54	1500	6.99

Total Runoff = 50.419 Acre-ft.
Peak Q = 293.65 CFS
Time to Peak = 1184 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59AH STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	3.20	100	4.75	200	6.81	300	8.05	400	8.83
500	9.52	600	10.36	700	11.51	800	13.16	900	15.85
1000	21.34	1050	27.58	1100	44.04	1110	48.95	1120	55.26
1130	64.39	1131	65.50	1132	66.65	1133	67.83	1134	69.04
1135	70.31	1136	71.64	1137	73.04	1138	74.52	1139	76.07
1140	77.74	1141	79.50	1142	81.38	1143	83.24	1144	85.22
1145	87.35	1146	89.63	1147	92.10	1148	94.75	1149	97.62
1150	100.77	1151	104.25	1152	108.17	1153	112.55	1154	117.58
1155	123.99	1156	136.48	1157	144.62	1158	150.19	1159	156.40
1160	164.20	1161	173.50	1162	183.44	1163	193.61	1164	204.14
1165	214.49	1166	223.64	1167	226.54	1168	233.54	1169	240.46
1170	245.83	1171	250.75	1172	255.42	1173	259.93	1174	264.69
1175	269.80	1176	275.07	1177	280.23	1178	285.06	1179	289.37
1180	292.98	1181	295.79	1182	297.74	1183	298.82	1184	299.07
1185	298.49	1186	297.10	1187	294.92	1188	292.00	1189	288.38
1190	284.12	1191	279.32	1192	274.07	1193	268.50	1194	262.73
1195	256.85	1196	250.97	1197	245.17	1198	239.52	1199	234.06
1200	228.82	1201	223.85	1202	219.07	1203	214.55	1204	210.22
1205	206.04	1206	202.04	1207	198.13	1208	194.28	1209	190.49
1210	186.76	1211	183.01	1212	179.25	1213	175.52	1214	171.76
1215	167.99	1216	164.23	1217	160.44	1218	156.69	1219	152.93
1220	149.17	1221	145.41	1222	141.73	1223	138.07	1224	134.45
1225	130.92	1226	127.46	1227	124.07	1228	120.76	1229	117.53
1230	114.36	1231	111.28	1232	108.29	1233	105.37	1234	102.53
1235	99.78	1236	97.11	1237	94.52	1238	92.01	1239	89.57
1240	87.22	1241	84.94	1242	82.74	1243	80.61	1244	78.56
1245	76.57	1246	74.66	1247	72.81	1248	71.02	1249	69.30
1250	67.64	1251	66.04	1252	64.48	1253	62.96	1254	61.49
1255	60.06	1256	58.68	1257	57.33	1258	56.03	1259	54.77
1260	53.60	1261	52.46	1262	51.36	1263	50.29	1264	49.25
1265	48.28	1266	47.36	1267	46.46	1268	45.58	1269	44.72
1270	43.89	1271	43.10	1272	42.33	1273	41.56	1274	40.80
1275	40.06	1276	39.33	1277	38.61	1278	37.90	1279	37.21
1280	36.53	1281	35.87	1282	35.22	1283	34.58	1284	33.96
1285	33.35	1286	32.76	1287	32.18	1288	31.62	1289	31.07
1290	30.54	1291	30.03	1292	29.53	1293	29.06	1294	28.60
1295	28.16	1296	27.74	1297	27.34	1298	26.97	1299	26.63
1300	26.29	1310	23.22	1320	20.69	1330	18.78	1340	17.17
1350	15.80	1360	14.71	1370	13.80	1380	13.01	1390	12.34
1400	11.76	1420	10.80	1440	10.06	1460	8.94	1500	7.39

Total Runoff = 54.363 Acre-ft.
Peak Q = 299.07 CFS
Time to Peak = 1184 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59RES STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.55	200	3.61	300	4.85	400	5.63
500	6.32	600	7.16	700	8.31	800	9.96	900	12.65
1000	18.14	1050	24.38	1100	40.84	1110	45.75	1120	52.06
1130	61.19	1131	62.70	1132	63.45	1133	71.03	1134	65.84
1135	73.51	1136	68.44	1137	76.24	1138	71.32	1139	79.27
1140	74.54	1141	82.70	1142	78.18	1143	86.44	1144	82.02
1145	90.55	1146	86.43	1147	95.30	1148	91.55	1149	100.82
1150	97.57	1151	107.45	1152	104.97	1153	115.75	1154	114.38
1155	127.19	1156	133.28	1157	147.82	1158	146.99	1159	159.60
1160	161.00	1161	176.70	1162	180.24	1163	196.81	1164	200.94
1165	214.42	1166	217.49	1167	222.52	1168	227.49	1169	233.78
1170	239.98	1171	245.48	1172	250.51	1173	255.25	1174	259.92
1175	264.77	1176	269.84	1177	275.01	1178	280.06	1179	284.79

1180	289.01	1181	292.57	1182	295.34	1183	297.29	1184	298.39
1185	298.65	1186	298.08	1187	296.71	1188	294.56	1189	291.67
1190	288.08	1191	283.88	1192	279.13	1193	273.94	1194	268.43
1195	262.72	1196	256.89	1197	251.06	1198	245.30	1199	239.67
1200	234.23	1201	229.01	1202	224.01	1203	219.25	1204	214.71
1205	205.41	1206	202.66	1207	197.51	1208	194.91	1209	189.86
1210	187.38	1211	182.39	1212	179.87	1213	174.90	1214	172.39
1215	167.36	1216	164.86	1217	159.81	1218	157.31	1219	152.31
1220	149.79	1221	144.78	1222	142.35	1223	137.45	1224	135.07
1225	130.29	1226	128.08	1227	123.45	1228	121.38	1229	116.90
1230	114.99	1231	110.66	1232	108.91	1233	104.75	1234	103.15
1235	99.15	1236	97.73	1237	93.90	1238	92.63	1239	88.95
1240	87.84	1241	84.32	1242	83.36	1243	79.99	1244	79.18
1245	75.95	1246	75.28	1247	72.19	1248	71.65	1249	68.67
1250	68.27	1251	65.42	1252	65.10	1253	62.34	1254	62.12
1255	59.44	1256	59.30	1257	56.71	1258	56.65	1259	54.15
1260	54.22	1261	51.84	1262	51.98	1263	49.67	1264	49.88
1265	47.65	1266	47.98	1267	45.84	1268	46.20	1269	44.09
1270	44.51	1271	42.48	1272	42.95	1273	40.94	1274	41.43
1275	39.44	1276	39.95	1277	37.99	1278	38.53	1279	36.59
1280	37.16	1281	35.24	1282	35.84	1283	33.96	1284	34.58
1285	32.73	1286	33.38	1287	31.56	1288	32.24	1289	30.45
1290	31.16	1291	29.40	1292	30.16	1293	28.43	1294	29.22
1295	27.54	1296	28.36	1297	26.71	1298	27.59	1299	26.01
1300	26.92	1310	23.85	1320	21.31	1330	19.40	1340	17.79
1350	16.43	1360	15.34	1370	14.43	1380	13.63	1390	12.96
1400	12.38	1420	11.43	1440	10.68	1460	9.56	1500	8.01

Total Runoff = 49.554 Acre-ft.
Peak Q = 298.65 CFS
Time to Peak = 1185 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 59RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.55	200	3.61	300	4.85	400	5.63
500	6.32	600	7.16	700	8.31	800	9.96	900	12.65
1000	18.14	1050	24.38	1100	40.84	1110	45.75	1120	52.06
1130	61.19	1131	68.70	1132	63.45	1133	71.03	1134	65.84
1135	73.51	1136	68.44	1137	76.24	1138	71.32	1139	79.27
1140	74.54	1141	82.70	1142	78.18	1143	86.44	1144	82.02
1145	90.55	1146	86.43	1147	95.30	1148	91.55	1149	100.82
1150	97.57	1151	107.45	1152	104.97	1153	115.75	1154	114.38
1155	127.19	1156	133.28	1157	147.82	1158	146.99	1159	159.60
1160	161.00	1161	176.70	1162	180.24	1163	196.81	1164	200.94
1165	214.42	1166	217.49	1167	222.52	1168	227.49	1169	233.78
1170	239.98	1171	245.48	1172	250.51	1173	255.25	1174	259.92
1175	264.77	1176	269.84	1177	275.01	1178	280.06	1179	284.79
1180	289.01	1181	292.57	1182	295.34	1183	297.29	1184	298.39
1185	298.65	1186	298.08	1187	296.71	1188	294.56	1189	291.67
1190	288.08	1191	283.88	1192	279.13	1193	273.94	1194	268.43
1195	262.72	1196	256.89	1197	251.06	1198	245.30	1199	239.67
1200	234.23	1201	229.01	1202	224.01	1203	219.25	1204	214.71
1205	205.41	1206	202.66	1207	197.51	1208	194.91	1209	189.86
1210	187.38	1211	182.39	1212	179.87	1213	174.90	1214	172.39
1215	167.36	1216	164.86	1217	159.81	1218	157.31	1219	152.31
1220	149.79	1221	144.78	1222	142.35	1223	137.45	1224	135.07
1225	130.29	1226	128.08	1227	123.45	1228	121.38	1229	116.90
1230	114.99	1231	110.66	1232	108.91	1233	104.75	1234	103.15
1235	99.15	1236	97.73	1237	93.90	1238	92.63	1239	88.95
1240	87.84	1241	84.32	1242	83.36	1243	79.99	1244	79.18
1245	75.95	1246	75.28	1247	72.19	1248	71.65	1249	68.67
1250	68.27	1251	65.42	1252	65.10	1253	62.34	1254	62.12
1255	59.44	1256	59.30	1257	56.71	1258	56.65	1259	54.15
1260	54.22	1261	51.84	1262	51.98	1263	49.67	1264	49.88
1265	47.65	1266	47.98	1267	45.84	1268	46.20	1269	44.09
1270	44.51	1271	42.48	1272	42.95	1273	40.94	1274	41.43
1275	39.44	1276	39.95	1277	37.99	1278	38.53	1279	36.59
1280	37.16	1281	35.24	1282	35.84	1283	33.96	1284	34.58
1285	32.73	1286	33.38	1287	31.56	1288	32.24	1289	30.45
1290	31.16	1291	29.40	1292	30.16	1293	28.43	1294	29.22
1295	27.54	1296	28.36	1297	26.71	1298	27.59	1299	26.01
1300	26.92	1310	23.85	1320	21.31	1330	19.40	1340	17.79
1350	16.43	1360	15.34	1370	14.43	1380	13.63	1390	12.96
1400	12.38	1420	11.43	1440	10.68	1460	9.56	1500	8.01

Total Runoff = 49.554 Acre-ft.
Peak Q = 298.65 CFS
Time to Peak = 1185 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 60I STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.00	200	0.00	300	0.00	400	0.00
500	0.00	600	0.00	700	0.00	800	0.00	900	0.00
1000	0.00	1050	0.00	1100	0.00	1110	0.00	1120	0.00
1130	0.00	1131	0.00	1132	0.00	1133	0.00	1134	0.00
1135	0.00	1136	0.00	1137	0.00	1138	0.00	1139	0.00
1140	0.00	1141	0.00	1142	0.00	1143	0.00	1144	0.00
1145	0.00	1146	0.00	1147	0.00	1148	0.00	1149	0.00
1150	0.00	1151	0.00	1152	0.00	1153	0.00	1154	0.00
1155	0.00	1156	0.00	1157	0.00	1158	0.00	1159	0.00
1160	0.00	1161	0.00	1162	0.00	1163	0.00	1164	0.00
1165	0.00	1166	0.00	1167	0.00	1168	0.00	1169	0.00
1170	0.00	1171	0.00	1172	0.00	1173	0.00	1174	0.00
1175	0.00	1176	0.00	1177	0.00	1178	0.00	1179	0.00
1180	0.00	1181	0.00	1182	0.00	1183	0.00	1184	0.00
1185	0.00	1186	0.00	1187	0.00	1188	0.00	1189	0.00
1190	0.00	1191	0.00	1192	0.00	1193	0.00	1194	0.00
1195	0.00	1196	0.00	1197	0.00	1198	0.00	1199	0.00
1200	0.00	1201	0.00	1202	0.00	1203	0.00	1204	0.00
1205	0.00	1206	0.00	1207	0.00	1208	0.00	1209	0.00
1210	0.00	1211	0.00	1212	0.00	1213	0.00	1214	0.00
1215	0.00	1216	0.00	1217	0.00	1218	0.00	1219	0.00
1220	0.00	1221	0.00	1222	0.00	1223	0.00	1224	0.00
1225	0.00	1226	0.00	1227	0.00	1228	0.00	1229	0.00
1230	0.00	1231	0.00	1232	0.00	1233	0.00	1234	0.00

1235	0.00	1236	0.00	1237	0.00	1238	0.00	1239	0.00
1240	0.00	1241	0.00	1242	0.00	1243	0.00	1244	0.00
1245	0.00	1246	0.00	1247	0.00	1248	0.00	1249	0.00
1250	0.00	1251	0.00	1252	0.00	1253	0.00	1254	0.00
1255	0.00	1256	0.00	1257	0.00	1258	0.00	1259	0.00
1260	0.00	1261	0.00	1262	0.00	1263	0.00	1264	0.00
1265	0.00	1266	0.00	1267	0.00	1268	0.00	1269	0.00
1270	0.00	1271	0.00	1272	0.00	1273	0.00	1274	0.00
1275	0.00	1276	0.00	1277	0.00	1278	0.00	1279	0.00
1280	0.00	1281	0.00	1282	0.00	1283	0.00	1284	0.00
1285	0.00	1286	0.00	1287	0.00	1288	0.00	1289	0.00
1290	0.00	1291	0.00	1292	0.00	1293	0.00	1294	0.00
1295	0.00	1296	0.00	1297	0.00	1298	0.00	1299	0.00
1300	0.00	1310	0.00	1320	0.00	1330	0.00	1340	0.00
1350	0.00	1360	0.00	1370	0.00	1380	0.00	1390	0.00
1400	0.00	1420	0.00	1440	0.00	1460	0.00	1500	0.00

Total Runoff = 0.000 Acre-ft.
Peak Q = 0.00 CFS
Time to Peak = 1239952 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 61J STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.00	200	0.00	300	0.00	400	0.00
500	0.00	600	0.00	700	0.00	800	0.00	900	0.00
1000	0.00	1050	0.00	1100	0.00	1110	0.00	1120	0.00
1130	0.00	1131	0.00	1132	0.00	1133	0.00	1134	0.00
1135	0.00	1136	0.00	1137	0.00	1138	0.00	1139	0.00
1140	0.00	1141	0.00	1142	0.00	1143	0.00	1144	0.00
1145	0.00	1146	0.00	1147	0.00	1148	0.00	1149	0.00
1150	0.00	1151	0.00	1152	0.00	1153	0.00	1154	0.00
1155	0.00	1156	0.00	1157	0.00	1158	0.00	1159	0.00
1160	0.00	1161	0.00	1162	0.00	1163	0.00	1164	0.00
1165	0.00	1166	0.00	1167	0.00	1168	0.00	1169	0.00
1170	0.00	1171	0.00	1172	0.00	1173	0.00	1174	0.00
1175	0.00	1176	0.00	1177	0.00	1178	0.00	1179	0.00
1180	0.00	1181	0.00	1182	0.00	1183	0.00	1184	0.00
1185	0.00	1186	0.00	1187	0.00	1188	0.00	1189	0.00
1190	0.00	1191	0.00	1192	0.00	1193	0.00	1194	0.00
1195	0.00	1196	0.00	1197	0.00	1198	0.00	1199	0.00
1200	0.00	1201	0.00	1202	0.00	1203	0.00	1204	0.00
1205	0.00	1206	0.00	1207	0.00	1208	0.00	1209	0.00
1210	0.00	1211	0.00	1212	0.00	1213	0.00	1214	0.00
1215	0.00	1216	0.00	1217	0.00	1218	0.00	1219	0.00
1220	0.00	1221	0.00	1222	0.00	1223	0.00	1224	0.00
1225	0.00	1226	0.00	1227	0.00	1228	0.00	1229	0.00
1230	0.00	1231	0.00	1232	0.00	1233	0.00	1234	0.00
1235	0.00	1236	0.00	1237	0.00	1238	0.00	1239	0.00
1240	0.00	1241	0.00	1242	0.00	1243	0.00	1244	0.00
1245	0.00	1246	0.00	1247	0.00	1248	0.00	1249	0.00
1250	0.00	1251	0.00	1252	0.00	1253	0.00	1254	0.00
1255	0.00	1256	0.00	1257	0.00	1258	0.00	1259	0.00
1260	0.00	1261	0.00	1262	0.00	1263	0.00	1264	0.00
1265	0.00	1266	0.00	1267	0.00	1268	0.00	1269	0.00
1270	0.00	1271	0.00	1272	0.00	1273	0.00	1274	0.00
1275	0.00	1276	0.00	1277	0.00	1278	0.00	1279	0.00
1280	0.00	1281	0.00	1282	0.00	1283	0.00	1284	0.00
1285	0.00	1286	0.00	1287	0.00	1288	0.00	1289	0.00
1290	0.00	1291	0.00	1292	0.00	1293	0.00	1294	0.00
1295	0.00	1296	0.00	1297	0.00	1298	0.00	1299	0.00
1300	0.00	1310	0.00	1320	0.00	1330	0.00	1340	0.00
1350	0.00	1360	0.00	1370	0.00	1380	0.00	1390	0.00
1400	0.00	1420	0.00	1440	0.00	1460	0.00	1500	0.00

Total Runoff = 0.000 Acre-ft.
Peak Q = 0.00 CFS
Time to Peak = 1239952 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 63K STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.31	200	0.32	300	0.35	400	0.37
500	0.41	600	0.45	700	0.51	800	0.59	900	0.73
1000	1.01	1050	1.31	1100	2.03	1110	2.32	1120	3.03
1130	4.28	1131	4.44	1132	4.63	1133	4.82	1134	5.03
1135	5.28	1136	5.52	1137	5.79	1138	6.09	1139	6.41
1140	6.78	1141	7.18	1142	7.50	1143	7.83	1144	8.20
1145	8.62	1146	9.09	1147	9.63	1148	10.25	1149	11.00
1150	11.89	1151	12.98	1152	14.32	1153	15.84	1154	17.96
1155	21.39	1156	31.50	1157	35.95	1158	36.31	1159	35.76
1160	34.59	1161	32.88	1162	30.61	1163	27.64	1164	23.51
1165	12.56	1166	7.76	1167	6.04	1168	4.88	1169	4.09
1170	3.51	1171	3.07	1172	2.71	1173	2.42	1174	2.25
1175	2.13	1176	2.02	1177	1.93	1178	1.84	1179	1.77
1180	1.70	1181	1.64	1182	1.58	1183	1.53	1184	1.48
1185	1.44	1186	1.40	1187	1.36	1188	1.32	1189	1.29
1190	1.26	1191	1.23	1192	1.20	1193	1.18	1194	1.15
1195	1.13	1196	1.11	1197	1.08	1198	1.06	1199	1.04
1200	1.03	1201	1.01	1202	0.99	1203	0.98	1204	0.96
1205	0.95	1206	0.93	1207	0.92	1208	0.91	1209	0.89
1210	0.88	1211	0.87	1212	0.86	1213	0.85	1214	0.83
1215	0.82	1216	0.82	1217	0.81	1218	0.80	1219	0.79
1220	0.78	1221	0.77	1222	0.76	1223	0.75	1224	0.74
1225	0.74	1226	0.73	1227	0.72	1228	0.72	1229	0.71
1230	0.70	1231	0.70	1232	0.69	1233	0.68	1234	0.68
1235	0.67	1236	0.67	1237	0.66	1238	0.65	1239	0.65
1240	0.64	1241	0.64	1242	0.63	1243	0.63	1244	0.62
1245	0.62	1246	0.61	1247	0.61	1248	0.60	1249	0.60
1250	0.60	1251	0.59	1252	0.59	1253	0.58	1254	0.58
1255	0.57	1256	0.57	1257	0.57	1258	0.56	1259	0.56
1260	0.56	1261	0.55	1262	0.55	1263	0.55	1264	0.54
1265	0.54	1266	0.54	1267	0.53	1268	0.53	1269	0.53
1270	0.52	1271	0.52	1272	0.52	1273	0.52	1274	0.51
1275	0.51	1276	0.51	1277	0.50	1278	0.50	1279	0.50
1280	0.50	1281	0.49	1282	0.49	1283	0.49	1284	0.49
1285	0.48	1286	0.48	1287	0.48	1288	0.48	1289	0.47

1290	0.47	1291	0.47	1292	0.47	1293	0.46	1294	0.46
1295	0.46	1296	0.46	1297	0.46	1298	0.45	1299	0.45
1300	0.45	1310	0.43	1320	0.41	1330	0.40	1340	0.39
1350	0.37	1360	0.36	1370	0.35	1380	0.34	1390	0.33
1400	0.32	1420	0.31	1440	0.30	1460	0.00	1500	0.00

Total Runoff = 1.932 Acre-ft.
Peak Q = 36.31 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 65L STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.25	200	0.26	300	0.28	400	0.30
500	0.33	600	0.37	700	0.43	800	0.50	900	0.63
1000	0.89	1050	1.18	1100	1.87	1110	2.16	1120	2.88
1130	4.16	1131	4.33	1132	4.52	1133	4.73	1134	4.95
1135	5.20	1136	5.45	1137	5.73	1138	6.04	1139	6.38
1140	6.76	1141	7.18	1142	7.51	1143	7.85	1144	8.22
1145	8.66	1146	9.15	1147	9.70	1148	10.35	1149	11.12
1150	12.04	1151	13.17	1152	14.56	1153	16.13	1154	18.34
1155	21.89	1156	32.38	1157	37.01	1158	37.39	1159	36.81
1160	35.60	1161	33.82	1162	31.46	1163	28.37	1164	24.09
1165	12.73	1166	7.77	1167	5.99	1168	4.78	1169	3.97
1170	3.37	1171	2.91	1172	2.55	1173	2.25	1174	2.09
1175	1.97	1176	1.86	1177	1.77	1178	1.69	1179	1.61
1180	1.55	1181	1.49	1182	1.43	1183	1.38	1184	1.34
1185	1.30	1186	1.26	1187	1.22	1188	1.19	1189	1.15
1190	1.12	1191	1.10	1192	1.07	1193	1.05	1194	1.02
1195	1.00	1196	0.98	1197	0.96	1198	0.94	1199	0.92
1200	0.90	1201	0.89	1202	0.87	1203	0.86	1204	0.84
1205	0.83	1206	0.82	1207	0.80	1208	0.79	1209	0.78
1210	0.77	1211	0.76	1212	0.74	1213	0.73	1214	0.72
1215	0.72	1216	0.71	1217	0.70	1218	0.69	1219	0.68
1220	0.67	1221	0.66	1222	0.65	1223	0.65	1224	0.64
1225	0.63	1226	0.63	1227	0.62	1228	0.62	1229	0.61
1230	0.60	1231	0.60	1232	0.59	1233	0.58	1234	0.58
1235	0.57	1236	0.57	1237	0.56	1238	0.56	1239	0.55
1240	0.55	1241	0.54	1242	0.54	1243	0.53	1244	0.53
1245	0.52	1246	0.52	1247	0.52	1248	0.51	1249	0.51
1250	0.50	1251	0.50	1252	0.50	1253	0.49	1254	0.49
1255	0.49	1256	0.48	1257	0.48	1258	0.48	1259	0.47
1260	0.47	1261	0.47	1262	0.46	1263	0.46	1264	0.46
1265	0.45	1266	0.45	1267	0.45	1268	0.45	1269	0.44
1270	0.44	1271	0.44	1272	0.43	1273	0.43	1274	0.43
1275	0.43	1276	0.42	1277	0.42	1278	0.42	1279	0.42
1280	0.41	1281	0.41	1282	0.41	1283	0.41	1284	0.41
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.39
1290	0.39	1291	0.39	1292	0.39	1293	0.39	1294	0.38
1295	0.38	1296	0.38	1297	0.38	1298	0.38	1299	0.38
1300	0.37	1310	0.36	1320	0.34	1330	0.33	1340	0.32
1350	0.31	1360	0.30	1370	0.29	1380	0.28	1390	0.27
1400	0.26	1420	0.25	1440	0.24	1460	0.00	1500	0.00

Total Runoff = 1.786 Acre-ft.
Peak Q = 37.39 CFS
Time to Peak = 1158 Minutes

** LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS **
** MODIFIED RATIONAL METHOD HYDROLOGY **
** RESERVOIR ROUTING OUTPUT **

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 59AH STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 1296.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 59AH

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
1296.00	0.00	0.00
1297.00	0.00	40.90
1298.00	0.00	115.80
1299.00	0.00	212.80
1300.00	0.16	327.60
1301.00	0.33	457.80
1302.00	0.49	601.80
1303.00	0.65	758.30
1304.00	0.82	926.50
1305.00	0.98	1105.50
1306.00	1.15	1294.80
1307.00	1.31	1414.60
1308.00	1.47	1538.20
1309.00	1.64	1670.80
1310.00	1.80	1793.70

RESERVOIR DISCHARGE DATA: 59AH Known discharge 1

ELEVATION (ft.)	OUTFLOW (cfs)
1296.00	0.00
1297.00	40.90
1298.00	115.80
1299.00	212.80
1300.00	327.60
1301.00	457.80
1302.00	601.80
1303.00	758.30
1304.00	926.50
1305.00	1105.50
1306.00	1294.80
1307.00	1414.60
1308.00	1538.20
1309.00	1670.80
1310.00	1793.70

RESERVOIR ROUTING TABLE at 59AH

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	3.20	0.00	1296.00	0.00
100	4.75	1.55	1296.04	0.00
200	6.81	3.61	1296.09	0.00
300	8.05	4.85	1296.12	0.00
400	8.83	5.63	1296.14	0.00
500	9.52	6.32	1296.15	0.00
600	10.36	7.16	1296.18	0.00
700	11.51	8.31	1296.20	0.00
800	13.16	9.96	1296.24	0.00
900	15.85	12.65	1296.31	0.00
1000	21.34	18.14	1296.44	0.00
1050	27.58	24.38	1296.60	0.00
1100	44.04	40.84	1297.00	0.00
1110	48.95	45.75	1297.06	0.00
1120	55.26	52.06	1297.15	0.00
1130	64.39	61.19	1297.27	0.00

1131	65.50	68.70	1297.37	0.00
1132	66.65	63.45	1297.30	0.00
1133	67.83	71.03	1297.40	0.00
1134	69.04	65.84	1297.33	0.00
1135	70.31	73.51	1297.44	0.00
1136	71.64	68.44	1297.37	0.00
1137	73.04	76.24	1297.47	0.00
1138	74.52	71.32	1297.41	0.00
1139	76.07	79.27	1297.51	0.00
1140	77.74	74.54	1297.45	0.00
1141	79.50	82.70	1297.56	0.00
1142	81.38	78.18	1297.50	0.00
1143	83.24	86.44	1297.61	0.00
1144	85.22	82.02	1297.55	0.00
1145	87.35	90.55	1297.66	0.00
1146	89.63	86.43	1297.61	0.00
1147	92.10	95.30	1297.73	0.00
1148	94.75	91.55	1297.68	0.00
1149	97.62	100.82	1297.80	0.00
1150	100.77	97.57	1297.76	0.00
1151	104.25	107.45	1297.89	0.00
1152	108.17	104.97	1297.86	0.00
1153	112.55	115.75	1298.00	0.00
1154	117.58	114.38	1297.98	0.00
1155	123.99	127.19	1298.12	0.00
1156	136.48	133.28	1298.18	0.00
1157	144.62	147.82	1298.33	0.00
1158	150.19	146.99	1298.32	0.00
1159	156.40	159.60	1298.45	0.00
1160	164.20	161.00	1298.47	0.00
1161	173.50	176.70	1298.63	0.00
1162	183.44	180.24	1298.66	0.00
1163	193.61	196.81	1298.84	0.00
1164	204.14	200.94	1298.88	0.00
1165	214.49	214.42	1299.01	0.00
1166	223.64	217.49	1299.04	0.01
1167	226.54	222.52	1299.08	0.01
1168	233.54	227.49	1299.13	0.02
1169	240.46	233.78	1299.18	0.03
1170	245.83	239.98	1299.24	0.04
1171	250.75	245.48	1299.28	0.05
1172	255.42	250.51	1299.33	0.05
1173	259.93	255.25	1299.37	0.06
1174	264.69	259.92	1299.41	0.07
1175	269.80	264.77	1299.45	0.07
1176	275.07	269.84	1299.50	0.08
1177	280.23	275.01	1299.54	0.09
1178	285.06	280.06	1299.59	0.09
1179	289.37	284.79	1299.63	0.10
1180	292.98	289.01	1299.66	0.11
1181	295.79	292.57	1299.69	0.11
1182	297.74	295.34	1299.72	0.12
1183	298.82	297.29	1299.74	0.12
1184	299.07	298.39	1299.75	0.12
1185	298.49	298.65	1299.75	0.12
1186	297.10	298.08	1299.74	0.12
1187	294.92	296.71	1299.73	0.12
1188	292.00	294.56	1299.71	0.11
1189	288.38	291.67	1299.69	0.11
1190	284.12	288.08	1299.66	0.10
1191	279.32	283.88	1299.62	0.10
1192	274.07	279.13	1299.58	0.09
1193	268.50	273.94	1299.53	0.09
1194	262.73	268.43	1299.48	0.08

1195	256.85	262.72	1299.43	0.07
1196	250.97	256.89	1299.38	0.06
1197	245.17	251.06	1299.33	0.05
1198	239.52	245.30	1299.28	0.05
1199	234.06	239.67	1299.23	0.04
1200	228.82	234.23	1299.19	0.03
1201	223.85	229.01	1299.14	0.02
1202	219.07	224.01	1299.10	0.02
1203	214.55	219.25	1299.06	0.01
1204	210.22	214.71	1299.02	0.00
1205	206.04	205.41	1298.92	0.00
1206	202.04	202.66	1298.90	0.00
1207	198.13	197.51	1298.84	0.00
1208	194.28	194.91	1298.82	0.00
1209	190.49	189.86	1298.76	0.00
1210	186.76	187.38	1298.74	0.00
1211	183.01	182.39	1298.69	0.00
1212	179.25	179.87	1298.66	0.00
1213	175.52	174.90	1298.61	0.00
1214	171.76	172.39	1298.58	0.00
1215	167.99	167.36	1298.53	0.00
1216	164.23	164.86	1298.51	0.00
1217	160.44	159.81	1298.45	0.00
1218	156.69	157.31	1298.43	0.00
1219	152.93	152.31	1298.38	0.00
1220	149.17	149.79	1298.35	0.00
1221	145.41	144.78	1298.30	0.00
1222	141.73	142.35	1298.27	0.00
1223	138.07	137.45	1298.22	0.00
1224	134.45	135.07	1298.20	0.00
1225	130.92	130.29	1298.15	0.00
1226	127.46	128.08	1298.13	0.00
1227	124.07	123.45	1298.08	0.00
1228	120.76	121.38	1298.06	0.00
1229	117.53	116.90	1298.01	0.00
1230	114.36	114.99	1297.99	0.00
1231	111.28	110.66	1297.93	0.00
1232	108.29	108.91	1297.91	0.00
1233	105.37	104.75	1297.85	0.00
1234	102.53	103.15	1297.83	0.00
1235	99.78	99.15	1297.78	0.00
1236	97.11	97.73	1297.76	0.00
1237	94.52	93.90	1297.71	0.00
1238	92.01	92.63	1297.69	0.00
1239	89.57	88.95	1297.64	0.00
1240	87.22	87.84	1297.63	0.00
1241	84.94	84.32	1297.58	0.00
1242	82.74	83.36	1297.57	0.00
1243	80.61	79.99	1297.52	0.00
1244	78.56	79.18	1297.51	0.00
1245	76.57	75.95	1297.47	0.00
1246	74.66	75.28	1297.46	0.00
1247	72.81	72.19	1297.42	0.00
1248	71.02	71.65	1297.41	0.00
1249	69.30	68.67	1297.37	0.00
1250	67.64	68.27	1297.37	0.00
1251	66.04	65.42	1297.33	0.00
1252	64.48	65.10	1297.32	0.00
1253	62.96	62.34	1297.29	0.00
1254	61.49	62.12	1297.28	0.00
1255	60.06	59.44	1297.25	0.00
1256	58.68	59.30	1297.25	0.00
1257	57.33	56.71	1297.21	0.00
1258	56.03	56.65	1297.21	0.00

1259	54.77	54.15	1297.18	0.00
1260	53.60	54.22	1297.18	0.00
1261	52.46	51.84	1297.15	0.00
1262	51.36	51.98	1297.15	0.00
1263	50.29	49.67	1297.12	0.00
1264	49.25	49.88	1297.12	0.00
1265	48.28	47.65	1297.09	0.00
1266	47.36	47.98	1297.09	0.00
1267	46.46	45.84	1297.07	0.00
1268	45.58	46.20	1297.07	0.00
1269	44.72	44.09	1297.04	0.00
1270	43.89	44.51	1297.05	0.00
1271	43.10	42.48	1297.02	0.00
1272	42.33	42.95	1297.03	0.00
1273	41.56	40.94	1297.00	0.00
1274	40.80	41.43	1297.01	0.00
1275	40.06	39.44	1296.96	0.00
1276	39.33	39.95	1296.98	0.00
1277	38.61	37.99	1296.93	0.00
1278	37.90	38.53	1296.94	0.00
1279	37.21	36.59	1296.89	0.00
1280	36.53	37.16	1296.91	0.00
1281	35.87	35.24	1296.86	0.00
1282	35.22	35.84	1296.88	0.00
1283	34.58	33.96	1296.83	0.00
1284	33.96	34.58	1296.85	0.00
1285	33.35	32.73	1296.80	0.00
1286	32.76	33.38	1296.82	0.00
1287	32.18	31.56	1296.77	0.00
1288	31.62	32.24	1296.79	0.00
1289	31.07	30.45	1296.74	0.00
1290	30.54	31.16	1296.76	0.00
1291	30.03	29.40	1296.72	0.00
1292	29.53	30.16	1296.74	0.00
1293	29.06	28.43	1296.70	0.00
1294	28.60	29.22	1296.71	0.00
1295	28.16	27.54	1296.67	0.00
1296	27.74	28.36	1296.69	0.00
1297	27.34	26.71	1296.65	0.00
1298	26.97	27.59	1296.67	0.00
1299	26.63	26.01	1296.64	0.00
1300	26.29	26.92	1296.66	0.00
1310	23.22	23.85	1296.58	0.00
1320	20.69	21.31	1296.52	0.00
1330	18.78	19.40	1296.47	0.00
1340	17.17	17.79	1296.43	0.00
1350	15.80	16.43	1296.40	0.00
1360	14.71	15.34	1296.37	0.00
1370	13.80	14.43	1296.35	0.00
1380	13.01	13.63	1296.33	0.00
1390	12.34	12.96	1296.32	0.00
1400	11.76	12.38	1296.30	0.00
1420	10.80	11.43	1296.28	0.00
1440	10.06	10.68	1296.26	0.00

Appendix 5
Proposed Burned Watershed
2-Year, 24-hour event

File name: C:\Work\1493\10 - H & H Study\Civil-Survey\wpr\1493EC610.lac Run date: Sun May 21 13:22:44 2006

Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1 1A	37.8	37.20	37.8	37.20	1.741	0	0	0.00000	0.00	0.00	0	293	8	3.29	0.01
1 2A	0.0	0.00	37.8	37.20	1.898	1	1517	0.14568	0.00	0.00	0	293	0	3.29	0.00
1 3A	41.0	37.52	78.8	61.45	3.782	0	0	0.00000	0.00	0.00	0	293	9	3.29	0.01
1 4A	0.0	0.00	78.8	61.45	3.791	1	727	0.10127	0.00	0.00	0	293	0	3.29	0.00
1 5A	40.6	39.95	119.4	87.54	5.661	0	0	0.00000	0.00	0.00	0	293	8	3.29	0.01
1 6A	0.0	0.00	119.4	87.54	5.673	1	1016	0.07674	0.00	0.00	0	293	0	3.29	0.00
1 7A	30.4	35.54	149.8	104.85	7.607	0	0	0.00000	0.00	0.00	0	291	8	3.29	0.01
1 9B	17.8	24.40	17.8	24.40	1.134	0	0	0.00000	0.00	0.00	0	291	6	3.29	0.01
1 10B	0.0	0.00	17.8	24.40	1.483	1	1044	0.07760	0.00	0.00	0	291	0	3.29	0.00
1 11AB	17.8	19.77	167.6	124.62	9.108	1	1044	0.06035	0.00	0.00	0	291	0	3.29	0.00
1 12A	34.8	40.32	202.4	126.10	11.294	0	0	0.00000	0.00	0.00	0	291	8	3.27	0.01
1 13A	0.0	0.00	202.4	126.10	11.389	1	832	0.04569	0.00	0.00	0	291	0	3.27	0.00
1 14A	28.3	32.27	230.7	127.96	13.045	0	0	0.00000	0.00	0.00	0	291	8	3.22	0.01
1 15A	0.0	0.00	230.7	127.96	13.062	1	978	0.04602	0.00	0.00	0	291	0	3.22	0.00
1 16A	23.8	25.75	254.5	129.54	14.547	0	0	0.00000	0.00	0.00	0	291	9	3.26	0.01
1 17A	0.0	0.00	254.5	129.54	14.559	1	1815	0.04297	0.00	0.00	0	291	0	3.26	0.00
1 18A	30.8	31.68	285.3	127.93	16.509	0	0	0.00000	0.00	0.00	0	291	10	3.29	0.01
1 19A	0.0	0.00	285.3	127.93	16.513	1	534	0.02809	0.00	0.00	0	291	0	3.29	0.00
1 20A	32.0	31.18	317.3	130.21	18.543	0	0	0.00000	0.00	0.00	0	291	11	3.29	0.01
1 21A	0.0	0.00	317.3	130.21	18.549	1	666	0.04052	0.00	0.00	0	291	0	3.29	0.00
1 22A	13.3	18.23	330.6	130.39	19.396	0	0	0.00000	0.00	0.00	0	291	6	3.29	0.01
1 23C	46.5	51.05	46.5	51.05	2.958	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1 24C	0.0	0.00	46.5	51.05	3.033	1	419	0.05016	0.00	0.00	0	291	0	3.29	0.00
1 26C	21.3	23.38	67.8	71.92	4.388	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1 27C	0.0	0.00	67.8	71.92	4.400	1	611	0.04440	0.00	0.00	0	291	0	3.29	0.00
1 28D	35.9	39.40	35.9	39.40	2.283	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.01
1 29D	0.0	0.00	35.9	39.40	2.417	1	1490	0.04037	0.00	0.00	0	291	0	3.29	0.00
1 30D	33.1	30.62	69.0	52.93	4.516	0	0	0.00000	0.00	0.00	0	291	12	3.29	0.01
1 31CD	69.0	52.93	136.8	120.70	8.927	1	372	0.04261	0.00	0.00	0	291	0	3.29	0.00
1 32AC	136.8	119.52	467.4	228.69	28.350	1	1490	0.02349	0.00	0.00	0	291	0	3.29	0.00
1 33A	23.6	25.97	491.0	216.15	29.894	0	0	0.00000	0.00	0.00	0	291	9	3.29	0.02
1 34E	46.5	48.09	46.5	48.09	3.039	0	0	0.00000	0.00	0.00	0	291	10	3.30	0.02
1 35E	0.0	0.00	46.5	48.09	3.104	1	386	0.02852	0.00	0.00	0	291	0	3.30	0.00
1 36AE	46.5	46.29	537.5	228.96	33.017	1	332	0.00306	0.00	0.00	0	291	0	3.30	0.00
1 38A	0.0	0.00	537.5	225.45	33.020	1	329	0.05090	0.00	0.00	0	291	0	3.30	0.00
1 39A	11.5	15.83	549.0	226.16	33.795	0	0	0.00000	0.00	0.00	0	291	6	3.30	0.03
1 40A	0.0	0.00	549.0	226.16	33.795	5	31	0.11340	8.00	0.00	0	291	0	3.30	0.00
1 42F	6.7	9.22	6.7	9.22	0.451	0	0	0.00000	0.00	0.00	0	291	6	3.30	0.03
1 43F	0.0	0.00	6.7	9.22	1.612	4	51	0.06492	3.00	0.00	0	291	0	3.30	0.00
1 46G	1.8	2.86	1.8	2.86	0.240	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 47G	0.0	0.00	1.8	2.86	0.857	4	769	0.01284	3.00	0.00	0	91	0	3.30	0.00
1 48H	4.6	7.30	4.6	7.30	0.613	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 49H	0.0	0.00	4.6	7.30	0.983	4	72	0.04449	3.00	0.00	0	91	0	3.30	0.00
1 52I	9.2	14.03	9.2	14.03	0.620	0	0	0.00000	0.00	0.00	0	291	5	3.30	0.03
53I	0.0	0.00	9.2	14.03	1.115	4	95	0.04754	3.00	0.00	0	291	0	3.30	0.00
54HI	9.2	13.89	13.8	21.12	2.100	4	744	0.00841	3.00	0.00	0	291	0	3.30	0.00
55H	5.4	8.57	19.2	26.20	2.820	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 56GH	19.2	26.20	21.0	28.52	3.678	4	653	0.11082	3.00	0.00	0	91	0	3.30	0.00
1 57FG	21.0	27.97	27.7	36.01	4.690	4	80	0.07155	3.00	0.00	0	91	0	3.30	0.00
1 59J	7.2	11.42	7.2	11.42	0.960	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 60J	0.0	0.00	7.2	11.42	1.158	4	238	0.02252	3.00	0.00	0	91	0	3.30	0.00
1 63K	1.9	3.01	1.9	3.01	0.253	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 64K	0.0	0.00	1.9	3.01	0.860	4	35	0.06272	3.00	0.00	0	91	0	3.30	0.00
1 65L	11.3	16.28	11.3	16.28	1.506	0	0	0.00000	0.00	0.00	0	91	6	3.30	0.42
1 66L	0.0	0.00	11.3	16.28	1.568	4	157	0.09276	3.00	0.00	0	91	0	3.30	0.00
1 69M	5.1	7.78	5.1	7.78	0.344	0	0	0.00000	0.00	0.00	0	291	5	3.30	0.03
1 70N	0.0	0.00	5.1	7.78	0.954	4	286	0.11042	3.00	0.00	0	291	0	3.30	0.00
1 71N	3.4	5.18	3.4	5.18	0.229	0	0	0.00000	0.00	0.00	0	291	5	3.30	0.03
1 72N	0.0	0.00	3.4	5.18	0.894	4	252	0.24596	3.00	0.00	0	291	0	3.30	0.00
1 74O	8.9	13.57	8.9	13.57	0.600	0	0	0.00000	0.00	0.00	0	291	5	3.30	0.03
1 75O	0.0	0.00	8.9	13.57	1.103	4	292	0.03686	3.00	0.00	0	291	0	3.30	0.00
1 78P	9.1	13.87	9.1	13.87	0.613	0	0	0.00000	0.00	0.00	0	291	5	3.30	0.03
1 79P	0.0	0.00	9.1	13.87	1.112	3	573	0.01071	36-6	0.00	0	291	0	3.30	0.00
1 80OP	9.1	10.72	18.0	17.86	2.217	3	416	0.00822	36-6	0.00	0	291	0	3.30	0.00
1 82NO	18.0	15.86	21.4	18.77	3.112	3	394	0.13587	36-6	0.00	0	291	0	3.30	0.00
1 83N	3.4	5.39	24.8	17.49	3.566	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 84MN	24.8	17.49	28.9	24.36	4.520	4	136	0.01825	3.00	0.00	0	91	0	3.30	0.00
1 86LM	29.9	24.20	41.2	39.77	6.089	4	119	0.20094	3.50	0.00	0	91	0	3.30	0.00
1 88KL	41.2	39.76	43.1	42.50	6.949	4	210	0.01907	3.50	0.00	0	91	0	3.30	0.00
1 90JK	43.1	42.36	50.3	53.17	8.109	4	411	0.02096	3.50	0.00	0	91	0	3.30	0.00
1 91J	6.3	8.99	56.6	61.29	8.949	0	0	0.00000	0.00	0.00	0	91	5	3.30	0.42
1 92J	0.0	0.00	56.6	61.29	8.950	4	113	0.07622	3.50	0.00	0	91	0	3.30	0.00
1 94EJ	56.6	61.03	84.3	96.38	13.640	4	43	0.18522	3.50	0.00	0	91	0	3.30	0.00
1 96AE	84.3	96.36	633.3	247.49	47.437	4	793	0.09222	7.00	0.00	0	91	0	3.30	0.00
1 97A	6.0	0.00	639.3	247.41	47.437	0	0	0.00000	0.00	0.00	0	91	9	3.30	0.65
1 98A	0.0	0.00	639.3	247.41	47.441	4	1096	0.12277	7.00	0.00	0	91	0	3.30	0.00
1 99A	1.7	2.49	641.0	247.40	47.734	0	0	0.00000	0.00	0.00	0	97	6	3.30	0.65
1 100A	0.0	0.00	641.0	247.40	47.734	4	33	0.04180	7.00	0.00	0	97	0	3.30	0.00
1 103Q	54.2	47.23	54.2	47.23	2.754	0	0	0.00000	0.00	0.00	0	297	11	3.30	0.03
1 104Q	0.0	0.00	54.2	47.23	2.822	1	704	0.00728	0.00	0.00	0	297	0	3.30	0.00
1 106R	29.7	31.26	29.7	31.26	1.397	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.01
1 107R	0.0	0.00	29.7	31.26	1.646	1	711	0.05487	0.00	0.00	0	297	0	3.29	0.00
1 108R	33.8	35.82	63.5	58.23	3.369	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.01
1 109R	0.0	0.00	63.5	58.23	3.382	1	323	0.01842	0.00	0.00	0	297	0	3.29	0.00
1 110R	28.4	30.31	91.9	56.35	4.942	0	0	0.00000	0.00	0.00	0	297	8	3.29	0.05
1 111R	0.0	0.00	91.9	56.35	4.951	1	716	0.03914	0.00	0.00	0	297	0	3.29	0.00
1 112R	27.3	27.45	119.2	67.37	6.557	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.07
1 113R	0.0	0.00	119.2	67.37	6.564	1	656	0.01484	0.00	0.00	0	297	0	3.30	0.00
1 114R	21.8	0.00	141.0	59.72	6.564	0	0	0.00000	0.00	0.00	0	297	10	3.30	0.04
1 115QX	141.0	59.72	195.2	97.23	9.386	5	56	0.04947	8.00	0.00	0	297	0	3.30	0.00
1 117AQ	195.2	97.21	836.2	332.32	57.121	4	73	0.03185	7.00	0.00	0	297	0	3.30	0.00
1 118R	6.2	9.31	6.2	9.31	0.791	0	0	0.00000	0.00	0.00	0	97	8	3.30	0.42
1 120S	0.0	0.00	6.2	9.31	1.037	1	63	0.05293	0.00	0.00	0	97	0	3.30	0.00
1 121RS	6.2	9.05	842.4	333.93	58.159	4	37	0.01303	7.00	0.00	0	97	0	3.30	0.00
1 122E	4.9	7.36	4.9	7.36	0.617	0	0	0.00000	0.00	0.00	0	97	5	3.29	0.42
1 123E	0.0	0.00	4.9	7.36	0.964	4	21	0.06210	3.00	0.00	0	97	0	3.29	0.00
1 126EF	4.9	7.22	847.3	753.66	59.131	0	0	0.00000	0.00	0.00	0	97	0	3.30	0.00
1 127A	0.0	15.71	868.0	534.50	60.489	0	0	0.00000	0.00	0.00	0	97	0	3.30	0.00
1 128A	0.0	0.00	868.0	534.50	60.491	4	441	0.00009	0.00	0.00	0	97	0	3.30	0.00

1	130U	6.0	6.08	6.0	6.08	0.280	0	0	0.00000	0.00	0.00	0	220	6	3.30	0.03
1	131U	0.0	0.00	6.0	6.08	0.903	4	104	0.02343	3.00	0.00	0	220	0	3.30	0.00
1	132RU	6.0	6.00	861.0	334.88	61.399	4	408	0.03138	7.00	0.00	0	220	0	3.30	0.00
1	134V	29.4	34.14	29.4	34.14	2.580	0	0	0.00000	0.00	0.00	0	97	7	3.29	0.23
1	135V	0.0	0.00	29.4	34.14	2.637	5	138	0.01237	10.00	0.00	0	97	0	3.29	0.00
1	136AV	29.4	34.07	890.4	337.23	64.036	0	0	0.00000	0.00	0.00	0	97	0	3.29	0.00
	137W	38.0	37.39	38.0	37.39	1.786	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.01
	38W	0.0	0.00	38.0	37.39	1.786	0	0	0.00000	0.00	0.00	0	297	0	3.30	0.00
	139X	3.5	4.91	3.5	4.91	0.179	0	0	0.00000	0.00	0.00	0	297	5	3.30	0.03
1	140X	0.0	0.00	3.5	4.91	0.878	4	410	0.01225	3.00	0.00	0	297	0	3.30	0.00
1	142Y	5.2	7.81	5.2	7.81	0.655	0	0	0.00000	0.00	0.00	0	97	5	3.30	0.42
1	143Y	0.0	0.00	5.2	7.81	0.990	4	146	0.02238	3.00	0.00	0	97	0	3.30	0.00
1	144XY	5.2	7.63	8.7	11.90	1.859	0	84	0.01104	0.00	0.00	0	97	0	3.30	0.00
1	146Z	27.4	27.16	27.4	27.16	1.396	0	0	0.00000	0.00	0.00	0	297	9	3.30	0.03
1	147Z	0.0	0.00	27.4	27.16	1.612	4	120	0.02073	3.00	0.00	0	297	0	3.30	0.00
1	148XZ	27.4	27.04	36.1	38.85	3.470	0	0	0.00000	0.00	0.00	0	297	0	3.30	0.00

Normal End of MODRAT

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40A STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	2.87	200	4.26	300	4.95	400	5.30
500	5.71	600	6.23	700	6.96	800	8.04	900	9.82
	13.60	1050	18.97	1100	32.85	1110	36.94	1120	41.86
	48.73	1131	49.50	1132	50.31	1133	51.17	1134	52.05
[illegible]	52.95	1136	53.90	1137	54.90	1138	55.96	1139	57.08
1140	58.26	1141	59.48	1142	60.77	1143	62.13	1144	63.59
1145	65.14	1146	66.80	1147	68.59	1148	70.52	1149	72.62
1150	74.90	1151	77.40	1152	80.13	1153	83.23	1154	86.86
1155	91.27	1156	99.59	1157	105.22	1158	109.56	1159	114.59
1160	120.91	1161	128.22	1162	133.26	1163	141.76	1164	151.85
1165	161.77	1166	171.58	1167	181.10	1168	189.78	1169	197.58
1170	204.84	1171	211.43	1172	216.94	1173	221.30	1174	224.46
1175	226.16	1176	226.04	1177	224.02	1178	220.36	1179	215.56
1180	210.14	1181	204.53	1182	199.08	1183	193.99	1184	189.37
1185	185.25	1186	181.64	1187	178.45	1188	175.60	1189	173.03
1190	170.58	1191	168.17	1192	165.70	1193	163.13	1194	160.36
1195	157.35	1196	154.13	1197	150.71	1198	147.07	1199	143.27
1200	139.36	1201	135.32	1202	131.26	1203	127.17	1204	123.05
1205	118.99	1206	114.95	1207	110.99	1208	107.12	1209	103.32
1210	99.66	1211	96.09	1212	92.63	1213	89.30	1214	86.08
1215	82.99	1216	80.01	1217	77.16	1218	74.42	1219	71.80
1220	69.29	1221	66.89	1222	64.60	1223	62.41	1224	60.31
1225	58.31	1226	56.39	1227	54.57	1228	52.83	1229	51.18
1230	49.59	1231	48.06	1232	46.60	1233	45.17	1234	43.79
1235	42.48	1236	41.24	1237	40.07	1238	38.93	1239	37.85
1240	36.83	1241	35.86	1242	34.94	1243	34.05	1244	33.22
1245	32.42	1246	31.67	1247	30.94	1248	30.21	1249	29.49
1250	28.79	1251	28.11	1252	27.46	1253	26.82	1254	26.20
1255	25.61	1256	25.03	1257	24.46	1258	23.92	1259	23.39
1260	22.88	1261	22.38	1262	21.90	1263	21.44	1264	20.99
1265	20.55	1266	20.13	1267	19.73	1268	19.36	1269	19.02
1270	18.70	1271	18.41	1272	18.12	1273	17.84	1274	17.55
1275	17.27	1276	16.99	1277	16.72	1278	16.46	1279	16.20
1280	15.95	1281	15.71	1282	15.47	1283	15.24	1284	15.01
1285	14.79	1286	14.58	1287	14.37	1288	14.17	1289	13.97
1290	13.79	1291	13.61	1292	13.45	1293	13.30	1294	13.15
1295	13.00	1296	12.85	1297	12.70	1298	12.56	1299	12.42
1300	12.28	1310	11.06	1320	10.07	1330	9.29	1340	8.64
1350	8.09	1360	7.64	1370	7.24	1380	6.89	1390	6.59
1400	6.33	1420	5.89	1440	5.55	1460	5.10	1500	4.28

Total Runoff = 33.795 Acre-ft.
Peak Q = 226.16 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	2.87	200	4.26	300	4.95	400	5.30
	5.71	600	6.23	700	6.96	800	8.04	900	9.82
	13.59	1050	18.86	1100	32.83	1110	36.92	1120	41.84
[illegible]	48.71	1131	49.47	1132	50.29	1133	51.14	1134	52.02
1135	52.92	1136	53.87	1137	54.86	1138	55.92	1139	57.04
1140	58.22	1141	59.43	1142	60.72	1143	62.08	1144	63.53
1145	65.08	1146	66.75	1147	68.53	1148	70.46	1149	72.54
1150	74.82	1151	77.31	1152	80.03	1153	83.12	1154	86.77
1155	91.13	1156	99.33	1157	105.12	1158	109.39	1159	114.48
1160	120.69	1161	128.05	1162	133.13	1163	141.49	1164	151.60
1165	161.51	1166	171.37	1167	180.85	1168	189.60	1169	197.38
1170	204.69	1171	211.26	1172	216.84	1173	221.19	1174	224.41
1175	226.11	1176	226.06	1177	224.06	1178	220.46	1179	215.66
1180	210.28	1181	204.65	1182	199.22	1183	194.09	1184	189.48
1185	185.33	1186	181.73	1187	178.52	1188	175.68	1189	173.08
1190	170.65	1191	168.22	1192	165.76	1193	163.19	1194	160.44
1195	157.43	1196	154.22	1197	150.80	1198	147.18	1199	143.36
1200	139.47	1201	135.43	1202	131.37	1203	127.29	1204	123.17
1205	119.10	1206	115.06	1207	111.10	1208	107.23	1209	103.43
1210	99.77	1211	96.19	1212	92.74	1213	89.40	1214	86.18
1215	83.08	1216	80.13	1217	77.24	1218	74.53	1219	71.88
1220	69.39	1221	66.97	1222	64.69	1223	62.47	1224	60.39
1225	58.37	1226	56.47	1227	54.63	1228	52.90	1229	51.23
1230	49.66	1231	48.11	1232	46.66	1233	45.22	1234	43.84
1235	42.53	1236	41.29	1237	40.11	1238	38.98	1239	37.89
1240	36.87	1241	35.89	1242	34.98	1243	34.09	1244	33.25
1245	32.46	1246	31.71	1247	30.97	1248	30.24	1249	29.53
1250	28.83	1251	28.15	1252	27.49	1253	26.85	1254	26.24
1255	25.64	1256	25.06	1257	24.49	1258	23.95	1259	23.42
1260	22.91	1261	22.41	1262	21.93	1263	21.46	1264	21.01
1265	20.57	1266	20.15	1267	19.75	1268	19.36	1269	19.04
1270	18.72	1271	18.43	1272	18.14	1273	17.86	1274	17.57
1275	17.28	1276	17.01	1277	16.74	1278	16.47	1279	16.22
1280	15.97	1281	15.72	1282	15.48	1283	15.25	1284	15.03
1285	14.81	1286	14.59	1287	14.38	1288	14.18	1289	13.98
1290	13.80	1291	13.62	1292	13.46	1293	13.31	1294	13.16
1295	13.01	1296	12.86	1297	12.71	1298	12.57	1299	12.42
1300	12.29	1310	11.06	1320	10.07	1330	9.29	1340	8.64
1350	8.09	1360	7.64	1370	7.24	1380	6.89	1390	6.60
1400	6.33	1420	5.89	1440	5.55	1460	5.11	1500	4.28

Total Runoff = 33.795 Acre-ft.
Peak Q = 226.11 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53I STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
	0.00	100	0.08	200	0.09	300	0.08	400	0.10
	0.11	600	0.13	700	0.15	800	0.17	900	0.22
[illegible]	0.32	1050	0.84	1100	0.90	1110	1.15	1120	1.38
[illegible]	1.75	1131	1.71	1132	1.84	1133	1.98	1134	1.94
1135	2.05	1136	2.13	1137	2.21	1138	2.17	1139	2.47
1140	2.49	1141	2.69	1142	2.69	1143	2.78	1144	2.85
1145	3.05	1146	3.21	1147	3.40	1148	3.62	1149	3.87

1150	4.18	1151	4.54	1152	4.98	1153	5.57	1154	6.41
1155	7.71	1156	12.39	1157	14.03	1158	13.62	1159	12.58
1160	10.81	1161	5.58	1162	3.29	1163	2.66	1164	2.26
1165	1.95	1166	1.72	1167	1.55	1168	1.41	1169	1.30
1170	1.21	1171	1.13	1172	1.06	1173	1.01	1174	0.95
[illegible]	0.91	1176	0.87	1177	0.83	1178	0.80	1179	0.77
	0.73	1181	0.69	1182	0.65	1183	0.62	1184	0.59
	0.56	1186	0.54	1187	0.51	1188	0.49	1189	0.47
[illegible]	0.45	1191	0.43	1192	0.41	1193	0.40	1194	0.38
1195	0.37	1196	0.35	1197	0.34	1198	0.33	1199	0.31
1200	0.31	1201	0.30	1202	0.29	1203	0.29	1204	0.28
1205	0.28	1206	0.27	1207	0.27	1208	0.27	1209	0.26
1210	0.26	1211	0.25	1212	0.25	1213	0.25	1214	0.24
1215	0.24	1216	0.24	1217	0.24	1218	0.23	1219	0.23
1220	0.23	1221	0.22	1222	0.22	1223	0.22	1224	0.22
1225	0.21	1226	0.21	1227	0.21	1228	0.21	1229	0.20
1230	0.20	1231	0.20	1232	0.20	1233	0.20	1234	0.19
1235	0.19	1236	0.19	1237	0.19	1238	0.19	1239	0.19
1240	0.18	1241	0.18	1242	0.18	1243	0.18	1244	0.18
1245	0.18	1246	0.18	1247	0.17	1248	0.17	1249	0.17
1250	0.17	1251	0.17	1252	0.17	1253	0.17	1254	0.16
1255	0.16	1256	0.16	1257	0.16	1258	0.16	1259	0.16
1260	0.16	1261	0.16	1262	0.16	1263	0.16	1264	0.15
1265	0.15	1266	0.15	1267	0.15	1268	0.15	1269	0.15
1270	0.15	1271	0.15	1272	0.15	1273	0.15	1274	0.14
1275	0.14	1276	0.14	1277	0.14	1278	0.14	1279	0.14
1280	0.14	1281	0.14	1282	0.14	1283	0.14	1284	0.14
1285	0.14	1286	0.13	1287	0.13	1288	0.13	1289	0.13
1290	0.13	1291	0.13	1292	0.13	1293	0.13	1294	0.13
1295	0.13	1296	0.13	1297	0.13	1298	0.13	1299	0.13
1300	0.13	1310	0.12	1320	0.11	1330	0.11	1340	0.11
1350	0.10	1360	0.10	1370	0.10	1380	0.09	1390	0.09
1400	0.09	1420	0.08	1440	0.08	1460	0.00	1500	0.00

Total Runoff = 0.620 Acre-ft.
Peak Q = 14.03 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.54	1100	0.99	1110	1.14	1120	1.37
1130	1.74	1131	1.79	1132	1.85	1133	1.90	1134	1.96
1135	2.03	1136	2.11	1137	2.18	1138	2.27	1139	2.37
1140	2.46	1141	2.55	1142	2.65	1143	2.75	1144	2.87
1145	3.01	1146	3.17	1147	3.35	1148	3.56	1149	3.81
1150	4.11	1151	4.45	1152	4.87	1153	5.42	1154	6.21
1155	7.43	1156	11.38	1157	13.88	1158	13.69	1159	12.80
1160	11.15	1161	6.80	1162	3.87	1163	2.87	1164	2.37
1165	2.05	1166	1.78	1167	1.60	1168	1.45	1169	1.33
[illegible]	1.23	1171	1.15	1172	1.08	1173	1.02	1174	0.97
	0.93	1176	0.88	1177	0.85	1178	0.81	1179	0.78
	0.75	1181	0.71	1182	0.67	1183	0.64	1184	0.60
[illegible]	0.57	1186	0.55	1187	0.52	1188	0.50	1189	0.48
1190	0.46	1191	0.44	1192	0.42	1193	0.41	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.115 Acre-ft.
Peak Q = 13.88 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 54K STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.06	100	0.06	200	0.07	300	0.07	400	0.07
500	0.08	600	0.08	700	0.09	800	0.10	900	0.12
1000	0.16	1050	0.28	1100	0.31	1110	0.34	1120	0.40
1130	0.48	1131	0.48	1132	0.50	1133	0.51	1134	0.53
1135	0.54	1136	0.56	1137	0.57	1138	0.59	1139	0.61
1140	0.63	1141	0.65	1142	0.67	1143	0.69	1144	0.72
1145	0.75	1146	0.79	1147	0.83	1148	0.87	1149	0.92
1150	0.99	1151	1.06	1152	1.15	1153	1.26	1154	1.45
1155	1.73	1156	2.69	1157	3.01	1158	2.93	1159	2.72
1160	2.36	1161	1.28	1162	0.80	1163	0.67	1164	0.59
[illegible]	0.52	1166	0.47	1167	0.43	1168	0.40	1169	0.38
	0.36	1171	0.34	1172	0.32	1173	0.31	1174	0.30
	0.28	1176	0.26	1177	0.25	1178	0.24	1179	0.23
[illegible]	0.24	1181	0.24	1182	0.23	1183	0.22	1184	0.22
[illegible]	0.21	1186	0.20	1187	0.20	1188	0.19	1189	0.19
[illegible]	0.18	1191	0.18	1192	0.18	1193	0.17	1194	0.17
[illegible]	0.16	1196	0.16	1197	0.16	1198	0.16	1199	0.16
1200	0.15	1201	0.15	1202	0.15	1203	0.15	1204	0.14

1205	0.14	1206	0.14	1207	0.14	1208	0.14	1209	0.14
1210	0.14	1211	0.13	1212	0.13	1213	0.13	1214	0.13
1215	0.13	1216	0.13	1217	0.13	1218	0.13	1219	0.13
1220	0.12	1221	0.12	1222	0.12	1223	0.12	1224	0.12
1225	0.12	1226	0.12	1227	0.12	1228	0.12	1229	0.12
[illegible]	0.12	1231	0.12	1232	0.11	1233	0.11	1234	0.11
	0.11	1236	0.11	1237	0.11	1238	0.11	1239	0.11
	0.11	1241	0.11	1242	0.11	1243	0.11	1244	0.11
[illegible]	0.11	1246	0.11	1247	0.10	1248	0.10	1249	0.10
1250	0.10	1251	0.10	1252	0.10	1253	0.10	1254	0.10
1255	0.10	1256	0.10	1257	0.10	1258	0.10	1259	0.10
1260	0.10	1261	0.10	1262	0.10	1263	0.10	1264	0.10
1265	0.10	1266	0.10	1267	0.10	1268	0.10	1269	0.09
1270	0.09	1271	0.09	1272	0.09	1273	0.09	1274	0.09
1275	0.09	1276	0.09	1277	0.09	1278	0.09	1279	0.09
1280	0.09	1281	0.09	1282	0.09	1283	0.09	1284	0.09
1285	0.09	1286	0.09	1287	0.09	1288	0.09	1289	0.09
1290	0.09	1291	0.09	1292	0.09	1293	0.09	1294	0.09
1295	0.09	1296	0.09	1297	0.08	1298	0.08	1299	0.08
1300	0.08	1310	0.08	1320	0.08	1330	0.08	1340	0.08
1350	0.07	1360	0.07	1370	0.07	1380	0.07	1390	0.07
1400	0.07	1420	0.06	1440	0.06	1460	0.00	1500	0.00

Total Runoff = 0.253 Acre-ft.
Peak Q = 3.01 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 64RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.40	1110	0.40	1120	0.40
1130	0.48	1131	0.49	1132	0.50	1133	0.51	1134	0.52
1135	0.54	1136	0.55	1137	0.57	1138	0.59	1139	0.61
1140	0.63	1141	0.65	1142	0.67	1143	0.69	1144	0.72
1145	0.75	1146	0.78	1147	0.82	1148	0.87	1149	0.92
1150	0.98	1151	1.05	1152	1.14	1153	1.26	1154	1.43
1155	1.69	1156	2.56	1157	3.00	1158	2.94	1159	2.75
1160	2.39	1161	1.42	1162	0.81	1163	0.72	1164	0.58
1165	0.54	1166	0.47	1167	0.44	1168	0.41	1169	0.40
1170	0.40	1171	0.40	1172	0.40	1173	0.40	1174	0.40
1175	0.40	1176	0.40	1177	0.40	1178	0.40	1179	0.40
1180	0.40	1181	0.40	1182	0.40	1183	0.40	1184	0.40
1185	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
1190	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
[illegible]	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
[illegible]	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.860 Acre-ft.
Peak Q = 3.00 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70M STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.05	200	0.05	300	0.05	400	0.06
500	0.06	600	0.07	700	0.08	800	0.10	900	0.12
1000	0.18	1050	0.30	1100	0.55	1110	0.64	1120	0.78
1130	0.97	1131	1.00	1132	1.03	1133	1.06	1134	1.10
1135	1.14	1136	1.19	1137	1.22	1138	1.28	1139	1.33
1140	1.38	1141	1.43	1142	1.46	1143	1.54	1144	1.61
1145	1.69	1146	1.79	1147	1.88	1148	2.00	1149	2.15
1150	2.32	1151	2.52	1152	2.76	1153	3.09	1154	3.55
1155	4.27	1156	6.87	1157	7.78	1158	7.55	1159	6.98
1160	5.99	1161	3.10	1162	1.82	1163	1.48	1164	1.26
1165	1.08	1166	0.95	1167	0.86	1168	0.78	1169	0.72
1170	0.67	1171	0.63	1172	0.59	1173	0.56	1174	0.53
1175	0.50	1176	0.48	1177	0.46	1178	0.44	1179	0.43
1180	0.41	1181	0.39	1182	0.38	1183	0.36	1184	0.35
1185	0.34	1186	0.32	1187	0.31	1188	0.29	1189	0.28
1190	0.27	1191	0.26	1192	0.25	1193	0.24	1194	0.23
1195	0.22	1196	0.20	1197	0.19	1198	0.18	1199	0.17
1200	0.17	1201	0.16	1202	0.16	1203	0.16	1204	0.15
1205	0.15	1206	0.15	1207	0.15	1208	0.15	1209	0.14
1210	0.14	1211	0.14	1212	0.14	1213	0.14	1214	0.14
1215	0.13	1216	0.13	1217	0.13	1218	0.13	1219	0.13
[illegible]	0.13	1221	0.12	1222	0.12	1223	0.12	1224	0.12
	0.12	1226	0.12	1227	0.12	1228	0.11	1229	0.11
	0.11	1231	0.11	1232	0.11	1233	0.11	1234	0.11
[illegible]	0.11	1236	0.11	1237	0.10	1238	0.10	1239	0.10
1240	0.10	1241	0.10	1242	0.10	1243	0.10	1244	0.10
1245	0.10	1246	0.10	1247	0.10	1248	0.10	1249	0.09
1250	0.09	1251	0.09	1252	0.09	1253	0.09	1254	0.09
1255	0.09	1256	0.09	1257	0.09	1258	0.09	1259	0.09

1260	0.09	1261	0.09	1262	0.09	1263	0.09	1264	0.09
1265	0.08	1266	0.08	1267	0.08	1268	0.08	1269	0.08
1270	0.08	1271	0.08	1272	0.08	1273	0.08	1274	0.08
1275	0.08	1276	0.08	1277	0.08	1278	0.08	1279	0.08
1280	0.08	1281	0.08	1282	0.08	1283	0.08	1284	0.08
1285	0.08	1286	0.07	1287	0.07	1288	0.07	1289	0.07
	0.07	1291	0.07	1292	0.07	1293	0.07	1294	0.07
	0.07	1296	0.07	1297	0.07	1298	0.07	1299	0.07
[illegible]	0.07	1310	0.07	1320	0.06	1330	0.06	1340	0.06
1350	0.06	1360	0.05	1370	0.05	1380	0.05	1390	0.05
1400	0.05	1420	0.05	1440	0.04	1460	0.00	1500	0.00

Total Runoff = 0.344 Acre-ft.
Peak Q = 7.78 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.55	1110	0.63	1120	0.75
1130	0.94	1131	0.97	1132	1.00	1133	1.03	1134	1.06
1135	1.11	1136	1.15	1137	1.20	1138	1.24	1139	1.29
1140	1.35	1141	1.40	1142	1.45	1143	1.51	1144	1.57
1145	1.64	1146	1.73	1147	1.82	1148	1.93	1149	2.06
1150	2.22	1151	2.40	1152	2.61	1153	2.89	1154	3.28
1155	3.84	1156	5.57	1157	7.37	1158	7.60	1159	7.27
1160	6.46	1161	4.59	1162	2.68	1163	1.71	1164	1.40
1165	1.20	1166	1.05	1167	0.98	1168	0.88	1169	0.80
1170	0.73	1171	0.68	1172	0.63	1173	0.59	1174	0.56
1175	0.53	1176	0.50	1177	0.48	1178	0.46	1179	0.44
1180	0.42	1181	0.41	1182	0.40	1183	0.40	1184	0.40
1185	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
1190	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
[illegible]	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.954 Acre-ft.
Peak Q = 7.60 CFS
Time to Peak = 1156 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 72N STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.03	200	0.03	300	0.03	400	0.04
500	0.04	600	0.05	700	0.05	800	0.06	900	0.08
1000	0.12	1050	0.20	1100	0.37	1110	0.42	1120	0.51
1130	0.65	1131	0.67	1132	0.69	1133	0.71	1134	0.73
1135	0.76	1136	0.79	1137	0.82	1138	0.85	1139	0.89
1140	0.92	1141	0.95	1142	0.99	1143	1.03	1144	1.08
1145	1.13	1146	1.19	1147	1.26	1148	1.34	1149	1.43
1150	1.55	1151	1.68	1152	1.84	1153	2.06	1154	2.37
1155	2.85	1156	4.58	1157	5.18	1158	5.03	1159	4.65
1160	4.00	1161	2.06	1162	1.22	1163	0.98	1164	0.84
1165	0.72	1166	0.64	1167	0.57	1168	0.52	1169	0.48
1170	0.45	1171	0.42	1172	0.39	1173	0.37	1174	0.35
1175	0.34	1176	0.32	1177	0.31	1178	0.29	1179	0.28
1180	0.27	1181	0.26	1182	0.24	1183	0.23	1184	0.22
1185	0.21	1186	0.20	1187	0.19	1188	0.18	1189	0.17
1190	0.17	1191	0.16	1192	0.15	1193	0.15	1194	0.14
1195	0.14	1196	0.13	1197	0.13	1198	0.12	1199	0.12
1200	0.11	1201	0.11	1202	0.11	1203	0.11	1204	0.10
1205	0.10	1206	0.10	1207	0.10	1208	0.10	1209	0.10
1210	0.10	1211	0.09	1212	0.09	1213	0.09	1214	0.09
1215	0.09	1216	0.09	1217	0.09	1218	0.08	1219	0.08
1220	0.08	1221	0.08	1222	0.08	1223	0.08	1224	0.08
1225	0.08	1226	0.08	1227	0.08	1228	0.08	1229	0.08
1230	0.07	1231	0.07	1232	0.07	1233	0.07	1234	0.07
1235	0.07	1236	0.07	1237	0.07	1238	0.07	1239	0.07
1240	0.07	1241	0.07	1242	0.07	1243	0.07	1244	0.07
1245	0.07	1246	0.06	1247	0.06	1248	0.06	1249	0.06
1250	0.06	1251	0.06	1252	0.06	1253	0.06	1254	0.06
1255	0.06	1256	0.06	1257	0.06	1258	0.06	1259	0.06
1260	0.06	1261	0.06	1262	0.06	1263	0.06	1264	0.06
1265	0.06	1266	0.06	1267	0.06	1268	0.06	1269	0.06
1270	0.05	1271	0.05	1272	0.05	1273	0.05	1274	0.05
[illegible]	0.05	1276	0.05	1277	0.05	1278	0.05	1279	0.05
	0.05	1281	0.95	1282	0.05	1283	0.05	1284	0.05
	0.05	1286	0.05	1287	0.05	1288	0.05	1289	0.05
[illegible]	0.05	1291	0.05	1292	0.05	1293	0.05	1294	0.05
[illegible]	0.05	1296	0.05	1297	0.05	1298	0.05	1299	0.05
1300	0.05	1310	0.04	1320	0.04	1330	0.04	1340	0.04
1350	0.04	1360	0.04	1370	0.04	1380	0.03	1390	0.03
1400	0.03	1420	0.03	1440	0.03	1460	0.00	1500	0.00

Total Runoff = 0.229 Acre-ft.
Peak Q = 5.18 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
HYDROGRAPH AT 1 72RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.40	1110	0.42	1120	0.50
1130	0.64	1131	0.66	1132	0.68	1133	0.70	1134	0.72
1135	0.75	1136	0.77	1137	0.80	1138	0.83	1139	0.87
1140	0.90	1141	0.93	1142	0.97	1143	1.01	1144	1.05
1145	1.10	1146	1.15	1147	1.21	1148	1.28	1149	1.37
1150	1.46	1151	1.60	1152	1.77	1153	1.97	1154	2.25
1155	2.67	1156	3.93	1157	5.04	1158	5.09	1159	4.80
1160	4.23	1161	2.83	1162	1.51	1163	1.21	1164	0.93
1165	0.79	1166	0.68	1167	0.60	1168	0.54	1169	0.50
1170	0.46	1171	0.43	1172	0.41	1173	0.40	1174	0.40
1175	0.40	1176	0.40	1177	0.40	1178	0.40	1179	0.40
1180	0.40	1181	0.40	1182	0.40	1183	0.40	1184	0.40
1185	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
1190	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.894 Acre-ft.
Peak Q = 5.09 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
HYDROGRAPH AT 1 75O STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.03	200	0.08	300	0.09	400	0.10
500	0.11	600	0.12	700	0.14	800	0.17	900	0.21
1000	0.32	1050	0.52	1100	0.96	1110	1.11	1120	1.33
1130	1.70	1131	1.75	1132	1.80	1133	1.86	1134	1.92
1135	1.99	1136	2.06	1137	2.14	1138	2.23	1139	2.32
1140	2.40	1141	2.49	1142	2.59	1143	2.70	1144	2.82
1145	2.95	1146	3.11	1147	3.29	1148	3.50	1149	3.74
1150	4.05	1151	4.39	1152	4.81	1153	5.39	1154	6.20
1155	7.46	1156	11.99	1157	13.57	1158	13.18	1159	12.17
1160	10.46	1161	5.40	1162	3.16	1163	2.58	1164	2.19
1165	1.88	1166	1.66	1167	1.50	1168	1.36	1169	1.26
1170	1.17	1171	1.09	1172	1.03	1173	0.97	1174	0.92
1175	0.88	1176	0.84	1177	0.80	1178	0.77	1179	0.74
1180	0.71	1181	0.69	1182	0.63	1183	0.60	1184	0.57
1185	0.54	1186	0.52	1187	0.49	1188	0.47	1189	0.45
1190	0.43	1191	0.41	1192	0.40	1193	0.38	1194	0.37
1195	0.35	1196	0.34	1197	0.33	1198	0.32	1199	0.30
1200	0.30	1201	0.29	1202	0.28	1203	0.28	1204	0.27
1205	0.27	1206	0.27	1207	0.26	1208	0.26	1209	0.25
1210	0.25	1211	0.25	1212	0.24	1213	0.24	1214	0.24
1215	0.23	1216	0.23	1217	0.23	1218	0.22	1219	0.22
1220	0.22	1221	0.22	1222	0.21	1223	0.21	1224	0.21
1225	0.21	1226	0.20	1227	0.20	1228	0.20	1229	0.20
1230	0.20	1231	0.19	1232	0.19	1233	0.19	1234	0.19
1235	0.19	1236	0.19	1237	0.18	1238	0.18	1239	0.18
1240	0.18	1241	0.18	1242	0.17	1243	0.17	1244	0.17
1245	0.17	1246	0.17	1247	0.17	1248	0.17	1249	0.17
1250	0.16	1251	0.16	1252	0.16	1253	0.16	1254	0.16
1255	0.16	1256	0.16	1257	0.16	1258	0.16	1259	0.16
1260	0.15	1261	0.15	1262	0.15	1263	0.15	1264	0.15
1265	0.15	1266	0.15	1267	0.15	1268	0.14	1269	0.14
1270	0.14	1271	0.14	1272	0.14	1273	0.14	1274	0.14
1275	0.14	1276	0.14	1277	0.14	1278	0.14	1279	0.14
1280	0.13	1281	0.13	1282	0.13	1283	0.13	1284	0.13
1285	0.13	1286	0.13	1287	0.13	1288	0.13	1289	0.13
1290	0.13	1291	0.13	1292	0.13	1293	0.13	1294	0.13
1295	0.12	1296	0.12	1297	0.12	1298	0.12	1299	0.12
1300	0.12	1310	0.12	1320	0.11	1330	0.11	1340	0.10
1350	0.10	1360	0.09	1370	0.09	1380	0.09	1390	0.09
1400	0.08	1420	0.08	1440	0.08	1460	0.08	1500	0.08

Total Runoff = 0.630 Acre-ft.
Peak Q = 13.57 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 TEST STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40

1000	0.40	1050	0.52	1100	0.95	1110	1.09	1120	1.31
1130	1.65	1131	1.70	1132	1.75	1133	1.80	1134	1.85
1135	1.92	1136	1.98	1137	2.06	1138	2.13	1139	2.22
1140	2.31	1141	2.40	1142	2.49	1143	2.58	1144	2.70
1145	2.84	1146	2.98	1147	3.14	1148	3.33	1149	3.54
1150	3.81	1151	4.11	1152	4.48	1153	4.94	1154	5.60
	6.59	1156	9.25	1157	12.40	1158	13.29	1159	12.79
	11.50	1161	8.57	1162	5.12	1163	3.34	1164	2.56
1165	2.24	1166	1.93	1167	1.69	1168	1.52	1169	1.38
1170	1.27	1171	1.18	1172	1.10	1173	1.04	1174	0.98
1175	0.93	1176	0.89	1177	0.85	1178	0.82	1179	0.78
1180	0.75	1181	0.72	1182	0.69	1183	0.65	1184	0.61
1185	0.58	1186	0.55	1187	0.53	1188	0.51	1189	0.49
1190	0.47	1191	0.45	1192	0.43	1193	0.42	1194	0.41
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.103 Acre-ft.
Peak Q = 13.29 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 79P STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.08	200	0.09	300	0.09	400	0.10
500	0.11	600	0.13	700	0.14	800	0.17	900	0.22
1000	0.32	1050	0.54	1100	0.98	1110	1.14	1120	1.36
1130	1.74	1131	1.79	1132	1.84	1133	1.90	1134	1.96
1135	2.03	1136	2.11	1137	2.19	1138	2.28	1139	2.37
1140	2.48	1141	2.55	1142	2.65	1143	2.76	1144	2.88
1145	3.02	1146	3.18	1147	3.36	1148	3.58	1149	3.83
	4.14	1151	4.49	1152	4.92	1153	5.51	1154	6.34
	7.62	1156	12.26	1157	13.87	1158	13.47	1159	12.45
1160	10.69	1161	6.52	1162	3.25	1163	2.64	1164	2.24
1165	1.93	1166	1.70	1167	1.53	1168	1.39	1169	1.28
1170	1.19	1171	1.12	1172	1.05	1173	0.99	1174	0.94
1175	0.90	1176	0.86	1177	0.82	1178	0.79	1179	0.76
1180	0.72	1181	0.68	1182	0.65	1183	0.61	1184	0.58
1185	0.55	1186	0.53	1187	0.50	1188	0.48	1189	0.46
1190	0.44	1191	0.42	1192	0.41	1193	0.39	1194	0.38
1195	0.36	1196	0.35	1197	0.34	1198	0.32	1199	0.31
1200	0.30	1201	0.29	1202	0.29	1203	0.28	1204	0.28
1205	0.28	1206	0.27	1207	0.27	1208	0.26	1209	0.26
1210	0.25	1211	0.25	1212	0.25	1213	0.24	1214	0.24
1215	0.24	1216	0.23	1217	0.23	1218	0.23	1219	0.23
1220	0.22	1221	0.22	1222	0.22	1223	0.22	1224	0.21
1225	0.21	1226	0.21	1227	0.21	1228	0.20	1229	0.20
1230	0.20	1231	0.20	1232	0.20	1233	0.19	1234	0.19
1235	0.19	1236	0.19	1237	0.19	1238	0.19	1239	0.18
1240	0.18	1241	0.18	1242	0.18	1243	0.18	1244	0.18
1245	0.17	1246	0.17	1247	0.17	1248	0.17	1249	0.17
1250	0.17	1251	0.17	1252	0.17	1253	0.16	1254	0.16
1255	0.16	1256	0.16	1257	0.16	1258	0.16	1259	0.16
1260	0.15	1261	0.15	1262	0.15	1263	0.15	1264	0.15
1265	0.15	1266	0.15	1267	0.15	1268	0.15	1269	0.15
1270	0.15	1271	0.14	1272	0.14	1273	0.14	1274	0.14
1275	0.14	1276	0.14	1277	0.14	1278	0.14	1279	0.14
1280	0.14	1281	0.14	1282	0.14	1283	0.14	1284	0.13
1285	0.13	1286	0.13	1287	0.13	1288	0.13	1289	0.13
1290	0.13	1291	0.13	1292	0.13	1293	0.13	1294	0.13
1295	0.13	1296	0.13	1297	0.13	1298	0.13	1299	0.12
1300	0.12	1310	0.12	1320	0.11	1330	0.11	1340	0.10
1350	0.10	1360	0.10	1370	0.09	1380	0.09	1390	0.09
1400	0.09	1420	0.08	1440	0.08	1460	0.00	1500	0.00

Total Runoff = 0.613 Acre-ft.
Peak Q = 13.87 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 79BT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.50	1100	0.86	1110	0.98	1120	1.13
1130	1.33	1131	1.41	1132	1.45	1133	1.46	1134	1.46
1135	1.55	1136	1.59	1137	1.63	1138	1.67	1139	1.71
1140	1.77	1141	1.82	1142	1.88	1143	1.95	1144	2.02
	2.13	1146	2.19	1147	2.27	1148	2.36	1149	2.48
	2.59	1151	2.69	1152	2.82	1153	2.98	1154	3.18
1155	3.39	1156	3.68	1157	4.09	1158	4.28	1159	4.29
1160	4.20	1161	4.13	1162	4.06	1163	4.00	1164	3.94
1165	3.84	1166	3.68	1167	3.49	1168	3.34	1169	3.21
1170	3.11	1171	3.02	1172	2.94	1173	2.87	1174	2.81
1175	2.76	1176	2.70	1177	2.64	1178	2.59	1179	2.53

1180	1.47	1181	1.36	1182	1.27	1183	1.19	1184	1.12
1185	1.06	1186	1.00	1187	0.95	1188	0.90	1189	0.86
1190	0.81	1191	0.77	1192	0.74	1193	0.70	1194	0.67
1195	0.64	1196	0.61	1197	0.58	1198	0.55	1199	0.53
1200	0.51	1201	0.48	1202	0.47	1203	0.45	1204	0.44
[illegible]	0.43	1206	0.43	1207	0.42	1208	0.42	1209	0.41
	0.41	1211	0.41	1212	0.41	1213	0.40	1214	0.40
	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
[illegible]	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.112 Acre-ft.
Peak Q = 10.72 CFS
Time to Peak = 1164 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104Q STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.42	200	0.45	300	0.48	400	0.51
500	0.56	600	0.62	700	0.70	800	0.82	900	1.02
1000	1.42	1050	1.85	1100	2.86	1110	3.27	1120	4.24
1130	5.99	1131	6.23	1132	6.48	1133	6.75	1134	7.05
1135	7.38	1136	7.72	1137	8.10	1138	8.51	1139	8.95
1140	9.45	1141	9.99	1142	10.60	1143	11.05	1144	11.56
1145	12.12	1146	12.75	1147	13.49	1148	14.31	1149	15.29
1150	16.45	1151	17.87	1152	19.64	1153	21.76	1154	24.44
1155	28.64	1156	41.03	1157	46.46	1158	47.23	1159	47.01
1160	46.17	1161	44.83	1162	43.04	1163	40.77	1164	37.94
1165	34.35	1166	29.17	1167	15.79	1168	10.04	1169	7.69
1170	6.29	1171	5.30	1172	4.58	1173	4.01	1174	3.55
1175	3.26	1176	3.07	1177	2.91	1178	2.77	1179	2.64
1180	2.53	1181	2.43	1182	2.34	1183	2.26	1184	2.18
1185	2.11	1186	2.05	1187	1.99	1188	1.93	1189	1.88
1190	1.83	1191	1.78	1192	1.74	1193	1.70	1194	1.66
1195	1.63	1196	1.59	1197	1.56	1198	1.53	1199	1.50
[illegible]	1.47	1201	1.45	1202	1.42	1203	1.40	1204	1.37
	1.35	1206	1.33	1207	1.31	1208	1.29	1209	1.27
	1.25	1211	1.24	1212	1.22	1213	1.20	1214	1.19
[illegible]	1.17	1216	1.16	1217	1.14	1218	1.13	1219	1.11
1220	1.10	1221	1.09	1222	1.08	1223	1.07	1224	1.05
1225	1.04	1226	1.03	1227	1.02	1228	1.01	1229	1.00
1230	0.99	1231	0.98	1232	0.97	1233	0.96	1234	0.95
1235	0.95	1236	0.94	1237	0.93	1238	0.92	1239	0.91
1240	0.90	1241	0.90	1242	0.89	1243	0.88	1244	0.88
1245	0.87	1246	0.86	1247	0.86	1248	0.85	1249	0.84
1250	0.84	1251	0.83	1252	0.82	1253	0.82	1254	0.81
1255	0.81	1256	0.80	1257	0.79	1258	0.79	1259	0.78
1260	0.78	1261	0.77	1262	0.77	1263	0.76	1264	0.76
1265	0.76	1266	0.75	1267	0.74	1268	0.74	1269	0.74
1270	0.73	1271	0.73	1272	0.72	1273	0.72	1274	0.72
1275	0.71	1276	0.71	1277	0.70	1278	0.70	1279	0.70
1280	0.69	1281	0.69	1282	0.68	1283	0.68	1284	0.68
1285	0.67	1286	0.67	1287	0.67	1288	0.66	1289	0.66
1290	0.66	1291	0.65	1292	0.65	1293	0.65	1294	0.64
1295	0.64	1296	0.64	1297	0.63	1298	0.63	1299	0.63
1300	0.63	1310	0.60	1320	0.57	1330	0.55	1340	0.53
1350	0.52	1360	0.50	1370	0.48	1380	0.47	1390	0.46
1400	0.45	1420	0.43	1440	0.41	1460	0.00	1500	0.00

Total Runoff = 2.754 Acre-ft.
Peak Q = 47.23 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.41	200	0.43	300	0.46	400	0.50
500	0.54	600	0.60	700	0.67	800	0.79	900	0.95
1000	1.29	1050	1.61	1100	2.38	1110	2.57	1120	2.83
1130	3.39	1131	3.47	1132	3.57	1133	3.67	1134	3.78
1135	3.90	1136	4.03	1137	4.16	1138	4.30	1139	4.46
1140	4.63	1141	4.80	1142	4.99	1143	5.20	1144	5.42
1145	5.66	1146	5.92	1147	6.21	1148	6.54	1149	6.91
1150	7.32	1151	7.75	1152	8.21	1153	8.70	1154	9.23
1155	9.92	1156	10.49	1157	11.27	1158	12.28	1159	13.35
1160	14.86	1161	17.70	1162	21.82	1163	25.29	1164	28.61
1165	32.59	1166	34.80	1167	36.93	1168	37.02	1169	37.51
1170	37.24	1171	36.39	1172	34.84	1173	32.53	1174	29.69
1175	26.70	1176	24.06	1177	21.80	1178	19.83	1179	18.52
1180	15.84	1181	14.36	1182	13.05	1183	11.90	1184	10.89
1185	9.99	1186	9.17	1187	8.46	1188	7.84	1189	7.28
1190	6.79	1191	6.34	1192	5.94	1193	5.60	1194	5.29
[illegible]	4.99	1196	4.72	1197	4.46	1198	4.23	1199	4.03
	3.85	1201	3.68	1202	3.52	1203	3.37	1204	3.23
	3.11	1206	3.00	1207	2.89	1208	2.79	1209	2.70
[illegible]	2.62	1211	2.54	1212	2.46	1213	2.39	1214	2.32
[illegible]	2.26	1216	2.19	1217	2.13	1218	2.07	1219	2.02
1220	1.97	1221	1.93	1222	1.88	1223	1.84	1224	1.79
[illegible]	1.75	1226	1.72	1227	1.68	1228	1.65	1229	1.62
1230	1.59	1231	1.56	1232	1.53	1233	1.51	1234	1.48

1235	1.46	1236	1.43	1237	1.41	1238	1.39	1239	1.37
1240	1.35	1241	1.33	1242	1.31	1243	1.29	1244	1.28
1245	1.26	1246	1.24	1247	1.23	1248	1.21	1249	1.20
1250	1.18	1251	1.17	1252	1.15	1253	1.14	1254	1.13
1255	1.11	1256	1.10	1257	1.09	1258	1.08	1259	1.07
[illegible]	1.06	1261	1.04	1262	1.03	1263	1.02	1264	1.01
[illegible]	1.00	1266	0.99	1267	0.98	1268	0.98	1269	0.97
[illegible]	0.96	1271	0.95	1272	0.94	1273	0.93	1274	0.93
[illegible]75	0.92	1276	0.91	1277	0.91	1278	0.90	1279	0.89
1280	0.88	1281	0.88	1282	0.87	1283	0.86	1284	0.86
1285	0.85	1286	0.85	1287	0.84	1288	0.83	1289	0.83
1290	0.82	1291	0.82	1292	0.81	1293	0.80	1294	0.80
1295	0.79	1296	0.79	1297	0.78	1298	0.78	1299	0.78
1300	0.77	1310	0.73	1320	0.69	1330	0.66	1340	0.63
1350	0.60	1360	0.58	1370	0.56	1380	0.54	1390	0.52
1400	0.50	1420	0.48	1440	0.45	1460	0.43	1500	0.41

Total Runoff = 2.822 Acre-ft.
Peak Q = 37.51 CFS
Time to Peak = 1169 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115QR STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	1.22	200	1.68	300	1.72	400	1.84
500	1.96	600	2.11	700	2.32	800	2.62	900	3.12
1000	4.18	1050	5.18	1100	7.43	1110	8.07	1120	8.92
1130	10.54	1131	10.77	1132	11.02	1133	11.28	1134	11.57
1135	11.87	1136	12.18	1137	12.51	1138	12.87	1139	13.25
1140	13.66	1141	14.10	1142	14.57	1143	15.09	1144	15.65
1145	16.27	1146	16.95	1147	17.71	1148	18.54	1149	19.45
1150	20.44	1151	21.51	1152	22.67	1153	23.92	1154	25.30
1155	26.85	1156	28.62	1157	30.68	1158	33.14	1159	36.21
1160	40.77	1161	47.84	1162	56.66	1163	65.72	1164	74.30
1165	81.96	1166	88.22	1167	93.04	1168	96.13	1169	97.23
1170	96.80	1171	95.36	1172	93.08	1173	90.07	1174	86.52
1175	82.70	1176	78.98	1177	75.20	1178	71.43	1179	67.70
1180	64.05	1181	60.45	1182	56.95	1183	53.64	1184	50.41
1185	47.30	1186	44.32	1187	41.54	1188	39.00	1189	36.60
1190	34.40	1191	32.35	1192	30.45	1193	28.70	1194	27.07
1195	25.56	1196	24.15	1197	22.85	1198	21.64	1199	20.53
1200	19.50	1201	18.54	1202	17.65	1203	16.82	1204	16.04
1205	15.32	1206	14.66	1207	14.03	1208	13.45	1209	12.91
1210	12.41	1211	11.94	1212	11.51	1213	11.09	1214	10.69
1215	10.31	1216	9.97	1217	9.63	1218	9.32	1219	9.02
1220	8.73	1221	8.46	1222	8.22	1223	7.98	1224	7.76
1225	7.55	1226	7.36	1227	7.18	1228	7.01	1229	6.84
1230	6.68	1231	6.53	1232	6.38	1233	6.24	1234	6.11
1235	5.97	1236	5.85	1237	5.72	1238	5.61	1239	5.49
1240	5.39	1241	5.29	1242	5.19	1243	5.10	1244	5.00
1245	4.92	1246	4.85	1247	4.77	1248	4.70	1249	4.63
1250	4.56	1251	4.49	1252	4.43	1253	4.36	1254	4.30
[illegible]55	4.24	1256	4.18	1257	4.13	1258	4.08	1259	4.03
[illegible]	3.98	1261	3.93	1262	3.89	1263	3.84	1264	3.80
[illegible]	3.75	1266	3.71	1267	3.67	1268	3.63	1269	3.60
[illegible]70	3.56	1271	3.52	1272	3.49	1273	3.45	1274	3.42
1275	3.39	1276	3.35	1277	3.32	1278	3.29	1279	3.26
1280	3.23	1281	3.20	1282	3.17	1283	3.14	1284	3.12
1285	3.09	1286	3.06	1287	3.04	1288	3.02	1289	2.99
1290	2.97	1291	2.95	1292	2.93	1293	2.90	1294	2.88
1295	2.86	1296	2.84	1297	2.82	1298	2.80	1299	2.78
1300	2.76	1310	2.59	1320	2.45	1330	2.34	1340	2.24
1350	2.16	1360	2.09	1370	2.02	1380	1.96	1390	1.91
1400	1.87	1420	1.78	1440	1.71	1460	1.61	1500	1.24

Total Runoff = 9.383 Acre-ft.
Peak Q = 97.23 CFS
Time to Peak = 1169 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	1.22	200	1.68	300	1.72	400	1.84
500	1.95	600	2.11	700	2.32	800	2.62	900	3.12
1000	4.18	1050	5.18	1100	7.43	1110	8.07	1120	8.91
1130	10.52	1131	10.74	1132	10.99	1133	11.26	1134	11.54
1135	11.84	1136	12.15	1137	12.48	1138	12.83	1139	13.21
1140	13.62	1141	14.05	1142	14.52	1143	15.03	1144	15.59
1145	16.20	1146	16.88	1147	17.62	1148	18.45	1149	19.38
1150	20.37	1151	21.44	1152	22.59	1153	23.83	1154	25.21
1155	26.74	1156	28.50	1157	30.54	1158	32.97	1159	36.01
1160	40.46	1161	47.37	1162	56.15	1163	65.31	1164	73.86
1165	81.53	1166	87.91	1167	92.85	1168	95.99	1169	97.21
1170	96.83	1171	95.44	1172	93.20	1173	90.23	1174	86.69
1175	82.89	1176	79.16	1177	75.39	1178	71.60	1179	67.89
1180	64.23	1181	60.64	1182	57.12	1183	53.84	1184	50.58
1185	47.49	1186	44.50	1187	41.71	1188	39.15	1189	36.76
1190	34.54	1191	32.49	1192	30.56	1193	28.82	1194	27.18
1195	25.66	1196	24.25	1197	22.94	1198	21.72	1199	20.61
1200	19.57	1201	18.61	1202	17.73	1203	16.91	1204	16.12
1205	15.40	1206	14.72	1207	14.10	1208	13.51	1209	12.97
1210	12.46	1211	11.98	1212	11.55	1213	11.13	1214	10.73
1215	10.35	1216	10.00	1217	9.67	1218	9.35	1219	9.05
1220	8.76	1221	8.49	1222	8.24	1223	8.01	1224	7.78
1225	7.57	1226	7.38	1227	7.20	1228	7.02	1229	6.86
1230	6.70	1231	6.55	1232	6.40	1233	6.26	1234	6.12
1235	5.98	1236	5.86	1237	5.74	1238	5.62	1239	5.51
1240	5.40	1241	5.30	1242	5.20	1243	5.11	1244	5.01
1245	4.93	1246	4.86	1247	4.78	1248	4.71	1249	4.63
50	4.57	1251	4.50	1252	4.43	1253	4.37	1254	4.31
[illegible]	4.25	1256	4.19	1257	4.13	1258	4.08	1259	4.03
[illegible]	3.98	1261	3.94	1262	3.89	1263	3.85	1264	3.80
[illegible]45	3.76	1266	3.72	1267	3.68	1268	3.64	1269	3.60
1270	3.56	1271	3.53	1272	3.49	1273	3.46	1274	3.42
1275	3.39	1276	3.36	1277	3.32	1278	3.29	1279	3.26
1280	3.23	1281	3.20	1282	3.17	1283	3.14	1284	3.12
1285	3.09	1286	3.07	1287	3.04	1288	3.02	1289	2.99

1290	2.97	1291	2.95	1292	2.93	1293	2.91	1294	2.89
1295	2.87	1296	2.84	1297	2.82	1298	2.81	1299	2.79
1300	2.77	1310	2.59	1320	2.45	1330	2.34	1340	2.24
1350	2.16	1360	2.09	1370	2.02	1380	1.96	1390	1.91
1400	1.87	1420	1.78	1440	1.71	1460	1.61	1500	1.24

Total Runoff = 9.386 Acre-ft.
Peak Q = 97.21 CFS
Time to Peak = 1169 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 135V STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.63	200	0.66	300	0.70	400	0.74
500	0.79	600	0.85	700	0.94	800	1.05	900	1.22
1000	1.54	1050	1.84	1100	2.45	1110	2.67	1120	3.30
1130	4.37	1131	4.51	1132	4.66	1133	4.84	1134	5.02
1135	5.21	1136	5.42	1137	5.65	1138	5.91	1139	6.18
1140	6.49	1141	6.76	1142	7.02	1143	7.31	1144	7.65
1145	8.02	1146	8.45	1147	8.93	1148	9.50	1149	10.17
1150	10.98	1151	11.98	1152	13.08	1153	14.52	1154	16.57
1155	19.70	1156	30.21	1157	34.14	1158	34.06	1159	32.98
1160	31.14	1161	28.30	1162	23.98	1163	12.88	1164	7.86
1165	6.42	1166	5.29	1167	4.53	1168	3.97	1169	3.54
1170	3.20	1171	2.92	1172	2.69	1173	2.50	1174	2.49
1175	2.41	1176	2.34	1177	2.28	1178	2.22	1179	2.16
1180	2.11	1181	2.06	1182	2.02	1183	1.98	1184	1.94
1185	1.90	1186	1.87	1187	1.83	1188	1.80	1189	1.78
1190	1.75	1191	1.72	1192	1.70	1193	1.67	1194	1.65
1195	1.63	1196	1.61	1197	1.58	1198	1.57	1199	1.55
1200	1.53	1201	1.51	1202	1.50	1203	1.48	1204	1.46
1205	1.45	1206	1.43	1207	1.42	1208	1.41	1209	1.39
1210	1.38	1211	1.37	1212	1.35	1213	1.34	1214	1.33
1215	1.32	1216	1.31	1217	1.30	1218	1.29	1219	1.28
1220	1.26	1221	1.25	1222	1.25	1223	1.24	1224	1.23
1225	1.22	1226	1.21	1227	1.20	1228	1.20	1229	1.19
1230	1.18	1231	1.17	1232	1.16	1233	1.16	1234	1.15
1235	1.14	1236	1.13	1237	1.13	1238	1.12	1239	1.11
1240	1.11	1241	1.10	1242	1.09	1243	1.09	1244	1.08
1245	1.08	1246	1.07	1247	1.06	1248	1.06	1249	1.05
1250	1.05	1251	1.04	1252	1.04	1253	1.03	1254	1.03
1255	1.02	1256	1.02	1257	1.01	1258	1.00	1259	1.00
1260	1.00	1261	0.99	1262	0.99	1263	0.98	1264	0.98
1265	0.98	1266	0.97	1267	0.96	1268	0.96	1269	0.96
1270	0.95	1271	0.95	1272	0.94	1273	0.94	1274	0.94
1275	0.93	1276	0.93	1277	0.93	1278	0.92	1279	0.92
1280	0.91	1281	0.91	1282	0.91	1283	0.91	1284	0.90
1285	0.90	1286	0.89	1287	0.89	1288	0.89	1289	0.88
1290	0.88	1291	0.88	1292	0.87	1293	0.87	1294	0.87
1295	0.87	1296	0.86	1297	0.86	1298	0.86	1299	0.85
1300	0.85	1310	0.83	1320	0.80	1330	0.78	1340	0.76
1350	0.74	1360	0.72	1370	0.70	1380	0.69	1390	0.67
1400	0.66	1420	0.64	1440	0.62	1460	0.00	1500	0.00

Total Runoff = 2.560 Acre-ft.
Peak Q = 34.14 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 135RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.63	200	0.66	300	0.70	400	0.74
500	0.79	600	0.86	700	0.93	800	1.05	900	1.22
1000	1.54	1050	1.83	1100	2.43	1110	2.65	1120	3.24
1130	4.27	1131	4.40	1132	4.54	1133	4.70	1134	4.87
1135	5.06	1136	5.25	1137	5.47	1138	5.70	1139	5.96
1140	6.24	1141	6.53	1142	6.80	1143	7.08	1144	7.38
1145	7.72	1146	8.11	1147	8.55	1148	9.05	1149	9.64
1150	10.34	1151	11.26	1152	12.44	1153	13.77	1154	15.53
1155	18.15	1156	25.23	1157	32.47	1158	34.07	1159	33.49
1160	31.98	1161	29.61	1162	26.01	1163	18.52	1164	10.82
1165	8.13	1166	6.26	1167	5.21	1168	4.45	1169	3.91
1170	3.49	1171	3.15	1172	2.88	1173	2.69	1174	2.57
1175	2.48	1176	2.40	1177	2.33	1178	2.27	1179	2.21
1180	2.15	1181	2.10	1182	2.06	1183	2.01	1184	1.97
1185	1.93	1186	1.90	1187	1.86	1188	1.83	1189	1.80
1190	1.77	1191	1.74	1192	1.72	1193	1.69	1194	1.67
1195	1.65	1196	1.62	1197	1.60	1198	1.59	1199	1.56
1200	1.54	1201	1.52	1202	1.51	1203	1.49	1204	1.48
1205	1.46	1206	1.45	1207	1.43	1208	1.42	1209	1.40
1210	1.39	1211	1.38	1212	1.36	1213	1.35	1214	1.34
1215	1.33	1216	1.32	1217	1.30	1218	1.29	1219	1.28
1220	1.27	1221	1.26	1222	1.25	1223	1.24	1224	1.24
1225	1.23	1226	1.22	1227	1.21	1228	1.20	1229	1.19
1230	1.18	1231	1.18	1232	1.17	1233	1.16	1234	1.15
1235	1.15	1236	1.14	1237	1.13	1238	1.13	1239	1.12
1240	1.11	1241	1.11	1242	1.10	1243	1.09	1244	1.09
1245	1.08	1246	1.07	1247	1.07	1248	1.06	1249	1.06
1250	1.05	1251	1.05	1252	1.04	1253	1.04	1254	1.03
1255	1.02	1256	1.02	1257	1.01	1258	1.01	1259	1.00
1260	1.00	1261	1.00	1262	0.99	1263	0.99	1264	0.98
1265	0.98	1266	0.98	1267	0.97	1268	0.96	1269	0.96
1270	0.96	1271	0.95	1272	0.95	1273	0.94	1274	0.94
1275	0.94	1276	0.93	1277	0.93	1278	0.93	1279	0.92
1280	0.92	1281	0.91	1282	0.91	1283	0.91	1284	0.90
1285	0.90	1286	0.90	1287	0.89	1288	0.89	1289	0.89
1290	0.88	1291	0.88	1292	0.88	1293	0.87	1294	0.87
1295	0.87	1296	0.86	1297	0.86	1298	0.86	1299	0.86
1300	0.85	1310	0.83	1320	0.80	1330	0.78	1340	0.76
1350	0.74	1360	0.72	1370	0.70	1380	0.69	1390	0.68
1400	0.66	1420	0.64	1440	0.62	1460	0.41	1500	0.40

Total Runoff = 2.737 Acre-ft.
Peak Q = 34.07 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY

TOTAL HYDROGRAPH AT 1 136AV STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	8.80	100	11.03	200	13.10	300	13.95	400	14.60
500	15.25	600	16.15	700	17.29	800	19.02	900	21.79
1000	27.68	1050	35.17	1100	54.82	1110	60.87	1120	68.75
	80.43	1131	81.75	1132	83.16	1133	84.67	1134	86.28
	87.99	1136	89.81	1137	91.71	1138	93.72	1139	95.85
1140	98.12	1141	100.51	1142	103.02	1143	105.68	1144	108.52
1145	111.59	1146	114.94	1147	118.59	1148	122.58	1149	126.94
1150	131.90	1151	137.54	1152	143.90	1153	151.08	1154	159.60
1155	170.32	1156	188.92	1157	211.44	1158	230.14	1159	248.78
1160	267.17	1161	281.64	1162	290.34	1163	292.11	1164	291.04
1165	292.70	1166	294.53	1167	298.12	1168	303.74	1169	310.78
1170	318.17	1171	324.77	1172	329.98	1173	333.80	1174	336.26
1175	337.23	1176	336.68	1177	334.59	1178	331.03	1179	325.95
1180	319.30	1181	311.36	1182	302.45	1183	292.97	1184	283.34
1185	273.95	1186	265.02	1187	256.61	1188	248.74	1189	241.58
1190	235.04	1191	229.12	1192	223.71	1193	218.70	1194	213.95
1195	209.36	1196	204.88	1197	200.42	1198	195.82	1199	191.26
1200	186.56	1201	181.78	1202	176.91	1203	171.99	1204	167.12
1205	162.28	1206	157.42	1207	152.67	1208	147.91	1209	143.24
1210	138.71	1211	134.33	1212	130.03	1213	125.79	1214	121.69
1215	117.74	1216	113.88	1217	110.18	1218	106.75	1219	103.48
1220	100.25	1221	97.08	1222	94.04	1223	91.12	1224	88.32
1225	85.61	1226	83.01	1227	80.59	1228	78.33	1229	76.18
1230	74.03	1231	71.87	1232	70.00	1233	68.13	1234	66.38
1235	64.71	1236	63.05	1237	61.45	1238	59.93	1239	58.50
1240	57.16	1241	55.86	1242	54.60	1243	53.40	1244	52.30
1245	51.20	1246	50.15	1247	49.13	1248	48.14	1249	47.19
1250	46.28	1251	45.41	1252	44.57	1253	43.75	1254	42.95
1255	42.16	1256	41.40	1257	40.66	1258	39.94	1259	39.25
1260	38.57	1261	37.92	1262	37.28	1263	36.67	1264	36.07
1265	35.49	1266	34.93	1267	34.40	1268	33.89	1269	33.39
1270	32.90	1271	32.42	1272	31.95	1273	31.51	1274	31.10
1275	30.71	1276	30.34	1277	29.99	1278	29.65	1279	29.32
1280	28.99	1281	28.67	1282	28.36	1283	28.05	1284	27.75
1285	27.46	1286	27.17	1287	26.92	1288	26.68	1289	26.43
1290	26.18	1291	25.92	1292	25.67	1293	25.43	1294	25.19
1295	24.96	1296	24.74	1297	24.53	1298	24.34	1299	24.14
1300	23.96	1310	22.32	1320	20.97	1330	19.85	1340	18.94
1350	18.18	1360	17.52	1370	16.97	1380	16.48	1390	16.05
1400	15.67	1420	15.05	1440	14.57	1460	13.25	1500	11.68

Total Runoff = 64.036 Acre-ft.
Peak Q = 337.23 CFS
Time to Peak = 1175 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 136B STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.25	200	0.28	300	0.28	400	0.30
500	0.33	600	0.37	700	0.43	800	0.59	900	0.63
	0.89	1050	1.18	1100	1.87	1110	2.16	1120	2.88
	4.16	1131	4.33	1132	4.52	1133	4.73	1134	4.95
1135	5.20	1136	5.45	1137	5.73	1138	6.04	1139	6.38
1140	6.76	1141	7.18	1142	7.51	1143	7.85	1144	8.22
1145	8.66	1146	9.15	1147	9.70	1148	10.35	1149	11.12
1150	12.04	1151	13.17	1152	14.56	1153	16.13	1154	18.34
1155	21.89	1156	32.38	1157	37.01	1158	37.39	1159	36.61
1160	35.60	1161	33.82	1162	31.46	1163	28.37	1164	24.09
1165	12.73	1166	7.77	1167	5.99	1168	4.78	1169	3.97
1170	3.37	1171	2.91	1172	2.55	1173	2.25	1174	2.09
1175	1.97	1176	1.86	1177	1.77	1178	1.69	1179	1.61
1180	1.55	1181	1.49	1182	1.43	1183	1.38	1184	1.34
1185	1.30	1186	1.26	1187	1.22	1188	1.19	1189	1.15
1190	1.12	1191	1.10	1192	1.07	1193	1.05	1194	1.02
1195	1.00	1196	0.98	1197	0.96	1198	0.94	1199	0.92
1200	0.90	1201	0.89	1202	0.87	1203	0.86	1204	0.84
1205	0.83	1206	0.82	1207	0.80	1208	0.79	1209	0.78
1210	0.77	1211	0.76	1212	0.74	1213	0.73	1214	0.72
1215	0.72	1216	0.71	1217	0.70	1218	0.69	1219	0.68
1220	0.67	1221	0.66	1222	0.65	1223	0.65	1224	0.64
1225	0.63	1226	0.63	1227	0.62	1228	0.62	1229	0.61
1230	0.60	1231	0.60	1232	0.59	1233	0.59	1234	0.58
1235	0.57	1236	0.57	1237	0.56	1238	0.56	1239	0.55
1240	0.55	1241	0.54	1242	0.54	1243	0.53	1244	0.53
1245	0.52	1246	0.52	1247	0.52	1248	0.51	1249	0.51
1250	0.50	1251	0.50	1252	0.50	1253	0.49	1254	0.49
1255	0.49	1256	0.48	1257	0.48	1258	0.48	1259	0.47
1260	0.47	1261	0.47	1262	0.46	1263	0.46	1264	0.46
1265	0.45	1266	0.45	1267	0.45	1268	0.45	1269	0.44
1270	0.44	1271	0.44	1272	0.43	1273	0.43	1274	0.43
1275	0.43	1276	0.42	1277	0.42	1278	0.42	1279	0.42
1280	0.41	1281	0.41	1282	0.41	1283	0.41	1284	0.41
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.39
1290	0.39	1291	0.39	1292	0.39	1293	0.39	1294	0.38
1295	0.38	1296	0.38	1297	0.38	1298	0.38	1299	0.38
1300	0.37	1310	0.36	1320	0.34	1330	0.33	1340	0.32
1350	0.31	1360	0.30	1370	0.29	1380	0.28	1390	0.27
1400	0.26	1420	0.25	1440	0.24	1460	0.00	1500	0.00

Total Runoff = 1.786 Acre-ft.
Peak Q = 37.39 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 140X STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.37	100	0.03	200	0.15	300	0.05	400	0.03
	0.04	500	0.04	600	0.05	800	0.05	900	0.07
	0.09	1050	0.11	1100	0.19	1110	0.2	1120	0.29
1125	0.43	1131	0.45	1132	0.47	1133	0.49	1134	0.51
1135	0.54	1136	0.57	1137	0.59	1138	0.63	1139	0.67
1140	0.71	1141	0.75	1142	0.78	1143	0.82	1144	0.86
1145	0.90	1146	0.96	1147	1.02	1148	1.08	1149	1.16
1150	1.26	1151	1.38	1152	1.52	1153	1.69	1154	1.91

1155	2.57	1156	4.30	1157	4.91	1158	4.76	1159	4.37
1160	3.71	1161	1.81	1162	0.98	1163	0.76	1164	0.62
1165	0.50	1166	0.42	1167	0.36	1168	0.31	1169	0.27
1170	0.24	1171	0.22	1172	0.21	1173	0.19	1174	0.18
1175	0.18	1176	0.17	1177	0.16	1178	0.15	1179	0.15
[illegible]	0.14	1181	0.14	1182	0.14	1183	0.13	1184	0.13
	0.12	1186	0.12	1187	0.12	1188	0.11	1189	0.11
	0.11	1191	0.11	1192	0.10	1193	0.10	1194	0.10
[illegible]95	0.10	1196	0.10	1197	0.09	1198	0.09	1199	0.09
1200	0.09	1201	0.09	1202	0.09	1203	0.09	1204	0.08
1205	0.08	1206	0.08	1207	0.08	1208	0.08	1209	0.08
1210	0.08	1211	0.08	1212	0.08	1213	0.07	1214	0.07
1215	0.07	1216	0.07	1217	0.07	1218	0.07	1219	0.07
1220	0.07	1221	0.07	1222	0.07	1223	0.07	1224	0.07
1225	0.07	1226	0.06	1227	0.06	1228	0.06	1229	0.06
1230	0.06	1231	0.06	1232	0.06	1233	0.06	1234	0.06
1235	0.06	1236	0.06	1237	0.06	1238	0.06	1239	0.06
1240	0.06	1241	0.06	1242	0.06	1243	0.06	1244	0.06
1245	0.05	1246	0.05	1247	0.05	1248	0.05	1249	0.05
1250	0.05	1251	0.05	1252	0.05	1253	0.05	1254	0.05
1255	0.05	1256	0.05	1257	0.05	1258	0.05	1259	0.05
1260	0.05	1261	0.05	1262	0.05	1263	0.05	1264	0.05
1265	0.05	1266	0.05	1267	0.05	1268	0.05	1269	0.05
1270	0.05	1271	0.05	1272	0.05	1273	0.05	1274	0.05
1275	0.05	1276	0.04	1277	0.04	1278	0.04	1279	0.04
1280	0.04	1281	0.04	1282	0.04	1283	0.04	1284	0.04
1285	0.04	1286	0.04	1287	0.04	1288	0.04	1289	0.04
1290	0.04	1291	0.04	1292	0.04	1293	0.04	1294	0.04
1295	0.04	1296	0.04	1297	0.04	1298	0.04	1299	0.04
1300	0.04	1310	0.04	1320	0.04	1330	0.04	1340	0.03
1350	0.03	1360	0.03	1370	0.03	1380	0.03	1390	0.03
1400	0.03	1420	0.03	1440	0.03	1460	0.00	1500	0.00

Total Runoff = 0.179 Acre-ft.
Peak Q = 4.91 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 140RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.40	1110	0.40	1120	0.40
1130	0.42	1131	0.43	1132	0.43	1133	0.44	1134	0.46
1135	0.48	1136	0.50	1137	0.53	1138	0.55	1139	0.58
1140	0.62	1141	0.65	1142	0.68	1143	0.72	1144	0.75
1145	0.79	1146	0.83	1147	0.88	1148	0.93	1149	0.99
1150	1.07	1151	1.15	1152	1.25	1153	1.37	1154	1.53
1155	1.80	1156	2.18	1157	3.10	1158	4.18	1159	4.62
1160	4.51	1161	4.07	1162	3.12	1163	2.04	1164	1.38
1165	1.05	1166	0.82	1167	0.65	1168	0.53	1169	0.46
1170	0.42	1171	0.41	1172	0.40	1173	0.40	1174	0.40
[illegible]75	0.40	1176	0.40	1177	0.40	1178	0.40	1179	0.40
	0.40	1181	0.40	1182	0.40	1183	0.40	1184	0.40
	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
[illegible]90	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.878 Acre-ft.
Peak Q = 4.62 CFS
Time to Peak = 1159 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143Y STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.17	200	0.18	300	0.19	400	0.20
500	0.21	600	0.23	700	0.25	800	0.29	900	0.33
1000	0.42	1050	0.50	1100	0.67	1110	0.73	1120	0.87
1130	1.03	1131	1.11	1132	1.14	1132	1.17	1134	1.22
1135	1.28	1136	1.29	1137	1.33	1138	1.46	1139	1.43
1140	1.49	1141	1.54	1142	1.59	1143	1.65	1144	1.72
1145	1.80	1146	1.89	1147	1.99	1148	2.11	1149	2.25
1150	2.42	1151	2.62	1152	2.86	1153	3.15	1154	3.54
1155	4.55	1156	6.92	1157	7.81	1158	7.59	1159	7.12
1160	6.05	1161	3.19	1162	1.93	1163	1.53	1164	1.30
1165	1.19	1166	1.06	1167	0.96	1168	0.86	1169	[illegible]
[illegible]0	0.77	1171	0.72	1172	0.70	1173	0.69	1174	0.65
	0.63	1176	0.62	1177	0.60	1178	0.59	1179	[illegible]
	0.56	1181	0.55	1182	0.54	1183	0.53	1184	[illegible]
[illegible]90	0.51	1191	0.50	1192	0.49	1193	0.49	1194	0.48
1195	0.47	1196	0.47	1197	0.46	1198	[illegible]	1199	[illegible]
1200	[illegible]	1206	0.43	1207	0.43	1208	[illegible]	1209	[illegible]
1210	[illegible]	1216	0.41	1217	0.40	1218	0.40	1219	[illegible]
1220	0.39	1226	0.39	1227	0.38	1228	0.38	1229	[illegible]

1210	0.37	1211	0.37	1212	0.36	1213	0.36	1214	0.36
1215	0.36	1216	0.35	1217	0.35	1218	0.35	1219	0.34
1220	0.34	1221	0.34	1222	0.34	1223	0.33	1224	0.33
1225	0.33	1226	0.33	1227	0.32	1228	0.32	1229	0.32
1230	0.32	1231	0.32	1232	0.31	1233	0.31	1234	0.31
[illegible]	0.31	1236	0.31	1237	0.30	1238	0.30	1239	0.30
	0.30	1241	0.30	1242	0.29	1243	0.29	1244	0.29
	0.29	1246	0.29	1247	0.29	1248	0.29	1249	0.28
1250	0.28	1251	0.28	1252	0.28	1253	0.28	1254	0.28
1255	0.28	1256	0.27	1257	0.27	1258	0.27	1259	0.27
1260	0.27	1261	0.27	1262	0.27	1263	0.27	1264	0.26
1265	0.26	1266	0.26	1267	0.26	1268	0.26	1269	0.26
1270	0.26	1271	0.26	1272	0.26	1273	0.25	1274	0.25
1275	0.25	1276	0.25	1277	0.25	1278	0.25	1279	0.25
1280	0.25	1281	0.25	1282	0.25	1283	0.24	1284	0.24
1285	0.24	1286	0.24	1287	0.24	1288	0.24	1289	0.24
1290	0.24	1291	0.24	1292	0.24	1293	0.24	1294	0.23
1295	0.23	1296	0.23	1297	0.23	1298	0.23	1299	0.23
1300	0.23	1310	0.22	1320	0.22	1330	0.21	1340	0.21
1350	0.20	1360	0.19	1370	0.19	1380	0.19	1390	0.18
1400	0.18	1420	0.17	1440	0.17	1460	0.00	1500	0.00

Total Runoff = 0.655 Acre-ft.
Peak Q = 7.81 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.42	1050	0.50	1100	0.67	1110	0.73	1120	0.86
1130	1.06	1131	1.09	1132	1.12	1133	1.15	1134	1.18
1135	1.22	1136	1.26	1137	1.30	1138	1.35	1139	1.40
1140	1.45	1141	1.50	1142	1.55	1143	1.61	1144	1.68
1145	1.75	1146	1.83	1147	1.92	1148	2.03	1149	2.17
1150	2.33	1151	2.51	1152	2.73	1153	3.01	1154	3.40
1155	3.99	1156	5.74	1157	7.50	1158	7.63	1159	7.28
1160	6.46	1161	4.56	1162	2.64	1163	1.83	1164	1.53
1165	1.31	1166	1.15	1167	1.03	1168	0.94	1169	0.87
1170	0.81	1171	0.76	1172	0.72	1173	0.69	1174	0.67
1175	0.65	1176	0.63	1177	0.61	1178	0.60	1179	0.58
1180	0.57	1181	0.56	1182	0.54	1183	0.53	1184	0.52
1185	0.51	1186	0.50	1187	0.50	1188	0.49	1189	0.48
1190	0.48	1191	0.47	1192	0.46	1193	0.46	1194	0.45
1195	0.44	1196	0.44	1197	0.43	1198	0.43	1199	0.42
1200	0.42	1201	0.41	1202	0.41	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
[illegible]	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.980 Acre-ft.
Peak Q = 7.63 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 1472 STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.09	100	0.21	200	0.23	300	0.24	400	0.26
500	0.28	600	0.31	700	0.36	800	0.42	900	0.52
1000	0.72	1050	0.94	1100	1.46	1110	1.69	1120	2.21
1130	3.14	1131	3.26	1132	3.40	1133	3.55	1134	3.71
1135	3.89	1136	4.08	1137	4.26	1138	4.50	1139	4.74
1140	5.02	1141	5.32	1142	5.54	1143	5.80	1144	6.09
1145	6.39	1146	6.75	1147	7.15	1148	7.62	1149	8.19
1150	8.84	1151	9.66	1152	10.67	1153	11.80	1154	13.40
1155	15.96	1156	23.54	1157	25.89	1158	27.16	1159	26.74
1160	25.87	1161	24.59	1162	22.88	1163	20.65	1164	17.55
1165	9.34	1166	5.75	1167	4.46	1168	3.59	1169	3.00
1170	2.57	1171	2.25	1172	1.97	1173	1.75	1174	1.61
1175	1.54	1176	1.46	1177	1.39	1178	1.33	1179	1.27
1180	1.22	1181	1.18	1182	1.14	1183	1.10	1184	1.06
1185	1.03	1186	1.00	1187	0.97	1188	0.95	1189	0.92
1190	0.90	1191	0.88	1192	0.86	1193	0.84	1194	0.82
1195	0.80	1196	0.79	1197	0.77	1198	0.76	1199	0.74
1200	0.73	1201	0.72	1202	0.71	1203	0.69	1204	0.68
1205	0.67	1206	0.66	1207	0.65	1208	0.64	1209	[illegible]
1210	0.62	1211	0.62	1212	0.61	1213	0.60	1214	0.59
1215	0.58	1216	0.58	1217	0.57	1218	0.56	1219	0.56
1220	0.55	1221	0.54	1222	0.54	1223	0.53	1224	0.53
[illegible]	0.52	1226	0.52	1227	0.51	1228	0.51	1229	0.50
	0.50	1231	0.49	1232	0.49	1233	0.49	1234	0.48
[illegible]	0.47	1236	0.47	1237	0.47	1238	0.46	1239	0.46
[illegible]	0.45	1241	0.45	1242	0.45	1243	0.44	1244	0.44
[illegible]	0.43	[illegible]	0.43	[illegible]	0.43	1248	0.43	[illegible]	[illegible]
1250	0.42	1251	0.42	1252	0.41	1253	0.41	[illegible]	[illegible]
[illegible]	0.40	[illegible]	0.40	1257	0.40	1258	0.40	[illegible]	[illegible]
1260	0.39	[illegible]	0.39	1262	0.39	1263	0.38	[illegible]	[illegible]

1265	0.38	1266	0.38	1267	0.37	1268	0.37	1269	0.37
1270	0.37	1271	0.37	1272	0.36	1273	0.36	1274	0.36
1275	0.36	1276	0.36	1277	0.35	1278	0.35	1279	0.35
1280	0.35	1281	0.35	1282	0.34	1283	0.34	1284	0.34
1285	0.34	1286	0.34	1287	0.34	1288	0.33	1289	0.33
1290	0.33	1291	0.33	1292	0.33	1293	0.33	1294	0.32
[illegible]	0.32	1296	0.32	1297	0.32	1298	0.32	1299	0.32
[illegible]	0.32	1310	0.30	1320	0.29	1330	0.28	1340	0.27
1350	0.26	1360	0.25	1370	0.24	1380	0.24	1390	0.23
1400	0.23	1420	0.21	1440	0.21	1460	0.00	1500	0.00

Total Runoff = 1.396 Acre-ft.
Peak Q = 27.16 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 147RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.42	900	0.52
1000	0.72	1050	0.94	1100	1.46	1110	1.67	1120	2.18
1130	3.10	1131	3.21	1132	3.34	1133	3.48	1134	3.64
1135	3.81	1136	3.99	1137	4.20	1138	4.41	1139	4.65
1140	4.91	1141	5.20	1142	5.47	1143	5.71	1144	5.97
1145	6.28	1146	6.62	1147	7.01	1148	7.46	1149	7.99
1150	8.61	1151	9.38	1152	10.33	1153	11.45	1154	12.89
1155	15.20	1156	21.30	1157	26.40	1158	27.04	1159	26.92
1160	26.07	1161	24.94	1162	23.32	1163	21.27	1164	18.43
1165	12.03	1166	6.78	1167	5.00	1168	3.92	1169	3.29
1170	2.76	1171	2.39	1172	2.10	1173	1.88	1174	1.70
1175	1.59	1176	1.51	1177	1.43	1178	1.36	1179	1.31
1180	1.25	1181	1.20	1182	1.16	1183	1.12	1184	1.08
1185	1.05	1186	1.02	1187	0.99	1188	0.96	1189	0.94
1190	0.91	1191	0.89	1192	0.87	1193	0.85	1194	0.83
1195	0.81	1196	0.80	1197	0.78	1198	0.77	1199	0.75
1200	0.74	1201	0.73	1202	0.71	1203	0.70	1204	0.69
1205	0.68	1206	0.67	1207	0.66	1208	0.65	1209	0.64
1210	0.63	1211	0.62	1212	0.61	1213	0.60	1214	0.60
1215	0.59	1216	0.58	1217	0.58	1218	0.57	1219	0.56
1220	0.55	1221	0.55	1222	0.54	1223	0.54	1224	0.53
1225	0.52	1226	0.52	1227	0.51	1228	0.51	1229	0.51
1230	0.50	1231	0.50	1232	0.49	1233	0.49	1234	0.48
1235	0.48	1236	0.47	1237	0.47	1238	0.46	1239	0.46
1240	0.46	1241	0.45	1242	0.45	1243	0.45	1244	0.44
1245	0.44	1246	0.43	1247	0.43	1248	0.43	1249	0.43
1250	0.42	1251	0.42	1252	0.42	1253	0.41	1254	0.41
1255	0.41	1256	0.41	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
[illegible]	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
[illegible]	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.612 Acre-ft.
Peak Q = 27.04 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 148X2 STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.20	100	1.20	200	1.20	300	1.20	400	1.20
500	1.20	600	1.20	700	1.20	800	1.22	900	1.32
1000	1.54	1050	1.83	1100	2.53	1110	2.79	1120	3.43
1130	4.58	1131	4.72	1132	4.89	1133	5.08	1134	5.28
1135	5.51	1136	5.75	1137	6.02	1138	6.31	1139	6.63
1140	6.98	1141	7.35	1142	7.71	1143	8.04	1144	8.40
1145	8.82	1146	9.28	1147	9.81	1148	10.42	1149	11.15
1150	12.01	1151	13.04	1152	14.32	1153	15.84	1154	17.83
1155	20.99	1156	29.23	1157	36.99	1158	38.85	1159	38.82
1160	37.04	1161	33.57	1162	29.08	1163	25.14	1164	21.33
1165	14.39	1166	8.75	1167	6.68	1168	5.38	1169	4.61
1170	3.98	1171	3.56	1172	3.23	1173	2.97	1174	2.77
1175	2.64	1176	2.54	1177	2.44	1178	2.36	1179	2.29
1180	2.22	1181	2.16	1182	2.10	1183	2.05	1184	2.01
1185	1.96	1186	1.92	1187	1.89	1188	1.85	1189	1.82
1190	1.79	1191	1.76	1192	1.73	1193	1.71	1194	1.68
1195	1.66	1196	1.63	1197	1.61	1198	1.59	1199	1.57
1200	1.55	1201	1.54	1202	1.52	1203	1.50	1204	1.49
1205	1.48	1206	1.47	1207	1.46	1208	1.45	1209	1.44
1210	1.43	1211	1.42	1212	1.41	1213	1.40	1214	1.40
1215	1.39	1216	1.38	1217	1.38	1218	1.37	1219	1.36
1220	1.35	1221	1.35	1222	1.34	1223	1.34	1224	1.33
1225	1.32	1226	1.32	1227	1.31	1228	1.31	1229	1.31
1230	1.30	1231	1.30	1232	1.29	1233	1.29	1234	1.28
1235	1.28	1236	1.27	1237	1.27	1238	1.26	1239	1.26
1240	1.26	1241	1.25	1242	1.25	1243	1.25	1244	1.24
1245	1.24	1246	1.23	1247	1.23	1248	1.23	1249	1.23
1250	1.22	1251	1.22	1252	1.22	1253	1.21	1254	1.21
1255	1.21	1256	1.21	1257	1.20	1258	1.20	1259	1.20
1260	1.20	1261	1.20	1262	1.20	1263	1.20	1264	1.20
1265	1.20	1266	1.20	1267	1.20	1268	1.20	1269	1.20
1270	1.20	1271	1.20	1272	1.20	1273	1.20	1274	1.20
1275	1.20	1276	1.20	1277	1.20	1278	1.20	1279	1.20
[illegible]	1.20	1281	1.20	1282	1.20	1283	1.20	1284	[illegible]
[illegible]	1.20	1286	1.20	1287	1.20	1288	1.20	1289	1.20
[illegible]	1.20	1291	1.20	1292	1.20	1293	1.20	1294	[illegible]
[illegible]	1.20	1296	1.20	1297	1.20	1298	1.20	1299	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1350	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1380	[illegible]	[illegible]	[illegible]
1400	1.20	1420	[illegible]	[illegible]	[illegible]	1460	[illegible]	[illegible]	[illegible]

Total Runoff =	3.470 Acre-ft.
Peak Q =	38.85 CFS
Time to Peak =	1158 Minutes

Appendix 5
Proposed Burned Watershed
50-Year, 24-hour event

File name: C:\Work\1493\10 - H & H Study\Civil-Survey\wpr\1493EC600.lac Run date: Sun May 21 13:02:58 2006

Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1 1A	37.8	122.85	37.8	122.85	8.040	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1 2A	0.0	0.00	37.8	122.85	8.119	1	1517	0.14568	0.00	0.00	0	293	0	8.51	0.00
1 3A	41.0	125.18	78.8	227.97	16.836	0	0	0.00000	0.00	0.00	0	293	9	8.51	0.01
1 4A	0.0	0.00	78.8	227.97	16.859	1	727	0.10127	0.00	0.00	0	293	0	8.51	0.00
1 5A	40.6	131.94	119.4	337.56	25.493	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1 6A	0.0	0.00	119.4	337.56	25.553	1	1016	0.07674	0.00	0.00	0	293	0	8.51	0.00
1 7A	30.4	103.68	149.8	410.67	35.069	0	0	0.00000	0.00	0.00	0	291	8	8.51	0.01
1 9B	17.8	70.51	17.8	70.51	5.573	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1 10B	0.0	0.00	17.8	70.51	5.646	1	1044	0.07760	0.00	0.00	0	291	0	8.51	0.00
1 11AB	17.8	62.41	167.6	473.08	40.783	1	1044	0.06035	0.00	0.00	0	291	0	8.51	0.00
1 12A	34.8	117.68	202.4	535.88	51.537	0	0	0.00000	0.00	0.00	0	291	8	8.44	0.01
1 13A	0.0	0.00	202.4	535.88	51.599	1	832	0.04569	0.00	0.00	0	291	0	8.44	0.00
1 14A	28.3	94.27	230.7	556.16	60.145	0	0	0.00000	0.00	0.00	0	291	8	8.33	0.01
1 15A	0.0	0.00	230.7	556.16	60.206	1	978	0.04602	0.00	0.00	0	291	0	8.33	0.00
1 16A	23.8	75.61	254.5	571.25	67.517	0	0	0.00000	0.00	0.00	0	291	9	8.41	0.01
1 17A	0.0	0.00	254.5	571.25	67.575	1	1815	0.04297	0.00	0.00	0	291	0	8.41	0.00
1 18A	30.8	93.67	285.3	572.13	77.177	0	0	0.00000	0.00	0.00	0	291	10	8.49	0.01
1 19A	0.0	0.00	285.3	572.13	77.188	1	534	0.02809	0.00	0.00	0	291	0	8.49	0.00
1 20A	32.0	92.89	317.3	590.21	87.196	0	0	0.00000	0.00	0.00	0	291	11	8.51	0.01
1 21A	0.0	0.00	317.3	590.21	87.210	1	666	0.04052	0.00	0.00	0	291	0	8.51	0.00
1 22A	13.3	52.69	330.6	593.34	91.374	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1 23C	46.5	149.55	46.5	149.55	14.558	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 24C	0.0	0.00	46.5	149.55	14.634	1	419	0.05016	0.00	0.00	0	291	0	8.51	0.00
1 26C	21.3	68.51	67.8	214.46	21.303	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 27C	0.0	0.00	67.8	214.46	21.345	1	611	0.04440	0.00	0.00	0	291	0	8.51	0.00
1 28D	35.9	115.44	35.9	115.44	11.236	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 29D	0.0	0.00	35.9	115.44	11.342	1	1490	0.04037	0.00	0.00	0	291	0	8.51	0.00
1 30D	33.1	91.88	69.0	179.63	21.697	0	0	0.00000	0.00	0.00	0	291	12	8.51	0.01
1 31CD	69.0	179.63	136.8	386.81	43.068	1	372	0.04261	0.00	0.00	0	291	0	8.51	0.00
1 32AC	136.8	384.67	467.4	896.02	134.513	1	1490	0.02349	0.00	0.00	0	291	0	8.51	0.00
1 33A	23.6	75.96	491.0	889.82	141.976	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.02
1 34E	46.5	141.90	46.5	141.90	14.703	0	0	0.00000	0.00	0.00	0	291	10	8.51	0.02
1 35E	0.0	0.00	46.5	141.90	14.769	1	386	0.02652	0.00	0.00	0	291	0	8.51	0.00
1 36AE	46.5	139.76	537.5	947.95	156.789	1	332	0.00306	0.00	0.00	0	291	0	8.51	0.00
1 38A	0.0	0.00	537.5	942.73	156.790	1	329	0.05090	0.00	0.00	0	291	0	8.51	0.00
1 39A	11.5	45.62	549.0	948.08	160.465	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.03
1 40A	0.0	0.00	549.0	948.08	160.465	5	31	0.11340	8.00	0.00	0	291	0	8.51	0.00
1 42F	6.7	26.58	6.7	26.58	2.141	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.03
1 43F	0.0	0.00	6.7	26.58	2.238	4	51	0.06492	3.00	0.00	0	291	0	8.51	0.00
1 46G	1.8	7.88	1.8	7.88	0.761	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 47G	0.0	0.00	1.8	7.88	1.060	4	769	0.01284	3.00	0.00	0	91	0	8.51	0.00
1 48H	4.6	20.13	4.6	20.13	1.945	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 49H	0.0	0.00	4.6	20.13	2.001	4	72	0.04449	3.00	0.00	0	91	0	8.51	0.00
52I	9.2	40.13	9.2	40.13	2.941	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
53I	0.0	0.00	9.2	40.13	2.999	4	95	0.04754	3.00	0.00	0	291	0	8.51	0.00
54HI	9.2	39.84	13.8	59.84	5.005	4	744	0.00841	3.00	0.00	0	291	0	8.51	0.00
1 55H	5.4	23.63	19.2	76.00	7.288	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 56GH	19.2	76.00	21.0	82.68	8.351	4	653	0.11082	3.00	0.00	0	91	0	8.51	0.00
1 57FG	21.0	82.25	27.7	105.56	10.590	4	80	0.07155	3.00	0.00	0	91	0	8.51	0.00
1 59J	7.2	31.50	7.2	31.50	3.045	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 60J	0.0	0.00	7.2	31.50	3.101	4	239	0.02252	3.00	0.00	0	91	0	8.51	0.00
1 63K	1.9	8.31	1.9	8.31	0.803	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 64K	0.0	0.00	1.9	8.31	1.083	4	35	0.06272	3.00	0.00	0	91	0	8.51	0.00
1 65L	11.3	45.09	11.3	45.09	4.778	0	0	0.00000	0.00	0.00	0	91	6	8.51	0.42
1 66L	0.0	0.00	11.3	45.09	4.834	4	157	0.09276	3.00	0.00	0	91	0	8.51	0.00
1 69M	5.1	22.24	5.1	22.24	1.630	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 70M	0.0	0.00	5.1	22.24	1.782	4	286	0.11042	3.00	0.00	0	291	0	8.51	0.00
1 71N	3.4	14.83	3.4	14.83	1.087	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 72N	0.0	0.00	3.4	14.83	1.347	4	252	0.24596	3.00	0.00	0	291	0	8.51	0.00
1 74O	8.9	38.82	8.9	38.82	2.845	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 75O	0.0	0.00	8.9	38.82	2.906	4	292	0.03695	3.00	0.00	0	291	0	8.51	0.00
1 78P	9.1	39.69	9.1	39.69	2.909	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 79P	0.0	0.00	9.1	39.69	2.975	3	573	0.01071	36-6	0.00	0	291	0	8.51	0.00
1 80OP	9.1	31.18	18.0	54.57	5.885	4	418	0.00822	3.00	0.00	0	291	0	8.51	0.00
1 82NO	13.0	53.94	21.4	66.27	7.235	3	394	0.13587	36-6	0.00	0	291	0	8.51	0.00
1 83N	3.4	14.88	24.8	75.84	8.673	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 84MN	24.8	75.84	29.9	94.24	10.457	4	136	0.01825	3.00	0.00	0	91	0	8.51	0.00
1 86LM	29.9	94.12	41.2	134.91	15.291	4	119	0.20094	3.50	0.00	0	91	0	8.51	0.00
1 88KL	41.2	134.73	43.1	142.31	16.377	4	210	0.01907	3.50	0.00	0	91	0	8.51	0.00
1 90JK	43.1	141.39	50.3	170.09	19.484	4	411	0.02095	3.50	0.00	0	91	0	8.51	0.00
1 91J	6.3	27.56	56.6	191.39	22.143	0	0	0.00000	0.00	0.00	0	91	5	8.51	0.42
1 92J	0.0	0.00	56.6	191.39	22.150	4	113	0.07622	3.60	0.00	0	91	0	8.51	0.00
1 94FJ	56.6	190.81	84.3	296.32	32.740	4	43	0.13522	3.50	0.00	0	91	0	8.51	0.00
1 96AF	84.3	296.30	633.3	1024.91	193.214	4	793	0.09222	7.00	0.00	0	91	0	8.51	0.00
1 97A	6.0	27.15	639.3	1024.25	196.953	0	0	0.00000	0.00	0.00	0	91	9	8.51	0.65
1 98A	0.0	0.00	639.3	1024.25	196.970	4	1096	0.12277	7.00	0.00	0	91	0	8.51	0.00
1 99A	1.7	6.81	641.0	1024.69	197.771	0	0	0.00000	0.00	0.00	0	97	6	8.51	0.65
1 100A	0.0	0.00	641.0	1024.69	197.772	4	33	0.04190	7.00	0.00	0	97	0	8.51	0.00
1 103Q	54.2	150.19	54.2	150.19	12.554	0	0	0.00000	0.00	0.00	0	297	11	8.51	0.03
1 104Q	0.0	0.00	54.2	150.19	12.679	1	704	0.00728	0.00	0.00	0	297	0	8.51	0.00
1 106R	29.7	96.86	29.7	96.86	6.640	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.01
1 107R	0.0	0.00	29.7	96.86	6.713	1	711	0.05487	0.00	0.00	0	297	0	8.51	0.00
1 108R	33.8	110.51	63.5	194.11	14.546	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.03
1 109R	0.0	0.00	63.5	194.11	14.602	1	923	0.01342	0.00	0.00	0	297	0	8.51	0.00
1 110R	28.4	97.09	91.9	233.63	21.416	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.05
1 111R	0.0	0.00	91.9	233.63	21.451	1	716	0.03914	[illegible]	0.00	[illegible]	[illegible]	0	8.51	0.00
1 112R	27.3	81.46	119.2	282.84	28.223	0	0	0.00000	0.00	0.00	[illegible]	[illegible]	8	[illegible]	[illegible]
1 113R	[illegible]	[illegible]	119.2	282.84	28.282	1	856	0.01484	0.00	0.00	[illegible]	[illegible]	0	[illegible]	[illegible]
1 114R	[illegible]	[illegible]	141.0	266.99	38.940	0	0	0.00000	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]
1 115QR	[illegible]	[illegible]	195.2	399.73	51.621	5	36	0.04947	[illegible]	0.00	0	297	[illegible]	[illegible]	[illegible]
1 117AQ	[illegible]	[illegible]	836.2	1339.79	249.397	4	[illegible]	0.03195	[illegible]	0.00	0	297	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	6.7	26.35	2.293	[illegible]	[illegible]	0.00000	[illegible]	0.00	0	97	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	6.2	26.35	2.345	[illegible]	[illegible]	[illegible]	3.00	[illegible]	0	97	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	842.4	1403.39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	97	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	4.9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	4.9	20.22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1409.42	[illegible]	[illegible]	[illegible]	0.00000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1409.43	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1	130U	6.0	20.48	6.0	20.48	1.183	0	0	0.00000	0.00	0.00	0	220	6	8.51	0.03
1	131U	0.0	0.00	6.0	20.48	1.438	4	104	0.02343	3.00	0.00	0	220	0	8.51	0.00
1	132AU	6.0	20.26	861.0	1410.34	258.803	4	408	0.03138	7.00	0.00	0	220	0	8.51	0.00
1	134V	29.4	102.31	29.4	102.31	8.397	0	0	0.00000	0.00	0.00	0	97	7	8.51	0.23
1	135V	0.0	0.00	29.4	102.31	8.456	5	138	0.01237	10.00	0.00	0	97	0	8.51	0.00
	136AV	29.4	102.00	890.4	1423.88	267.259	0	0	0.00000	0.00	0.00	0	97	0	8.51	0.00
	37W	38.0	116.68	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.91
	38W	0.0	0.00	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00
1	139X	3.5	14.64	3.5	14.64	0.812	0	0	0.00000	0.00	0.00	0	297	5	8.51	0.03
1	140X	0.0	0.00	3.5	14.64	1.232	4	410	0.01225	3.00	0.00	0	297	0	8.51	0.00
1	142Y	5.2	22.10	5.2	22.10	1.923	0	0	0.00000	0.00	0.00	0	97	5	8.51	0.42
1	143Y	0.0	0.00	5.2	22.10	1.979	4	146	0.02238	3.00	0.00	0	97	0	8.51	0.00
1	144XY	5.2	21.69	8.7	35.41	3.211	0	84	0.01104	0.00	0.00	0	97	0	8.51	0.00
1	146Z	27.4	84.35	27.4	84.35	6.353	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.03
1	147Z	0.0	0.00	27.4	84.35	6.410	4	120	0.02073	3.00	0.00	0	297	0	8.51	0.00
1	148XZ	27.4	83.90	36.1	119.30	9.620	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00

Normal End of MODRAT

1150	13.54	1151	14.55	1152	15.76	1153	17.37	1154	19.65
1155	23.36	1156	35.77	1157	40.13	1158	39.09	1159	36.28
1160	31.45	1161	17.41	1162	11.09	1163	9.22	1164	8.06
1165	7.25	1166	6.65	1167	6.17	1168	5.74	1169	5.38
1170	5.09	1171	4.83	1172	4.61	1173	4.42	1174	4.23
[illegible]	4.06	1176	3.90	1177	3.75	1178	3.62	1179	3.50
	3.39	1181	3.29	1182	3.20	1183	3.12	1184	3.04
	2.96	1186	2.89	1187	2.82	1188	2.76	1189	2.70
1190	2.65	1191	2.59	1192	2.54	1193	2.50	1194	2.45
1195	2.40	1196	2.35	1197	2.30	1198	2.25	1199	2.20
1200	2.16	1201	2.11	1202	2.08	1203	2.04	1204	2.01
1205	1.97	1206	1.94	1207	1.90	1208	1.87	1209	1.84
1210	1.81	1211	1.79	1212	1.76	1213	1.73	1214	1.70
1215	1.68	1216	1.65	1217	1.64	1218	1.61	1219	1.59
1220	1.57	1221	1.55	1222	1.53	1223	1.51	1224	1.49
1225	1.48	1226	1.46	1227	1.44	1228	1.42	1229	1.41
1230	1.39	1231	1.38	1232	1.36	1233	1.34	1234	1.33
1235	1.32	1236	1.31	1237	1.29	1238	1.28	1239	1.27
1240	1.25	1241	1.24	1242	1.23	1243	1.22	1244	1.21
1245	1.20	1246	1.19	1247	1.17	1248	1.16	1249	1.15
1250	1.15	1251	1.14	1252	1.13	1253	1.12	1254	1.11
1255	1.09	1256	1.09	1257	1.08	1258	1.07	1259	1.07
1260	1.06	1261	1.05	1262	1.04	1263	1.04	1264	1.03
1265	1.02	1266	1.01	1267	1.00	1268	1.00	1269	0.99
1270	0.98	1271	0.97	1272	0.97	1273	0.96	1274	0.96
1275	0.95	1276	0.94	1277	0.94	1278	0.93	1279	0.92
1280	0.92	1281	0.91	1282	0.91	1283	0.90	1284	0.90
1285	0.89	1286	0.89	1287	0.89	1288	0.88	1289	0.87
1290	0.86	1291	0.86	1292	0.85	1293	0.85	1294	0.84
1295	0.84	1296	0.84	1297	0.83	1298	0.83	1299	0.82
1300	0.82	1310	0.78	1320	0.73	1330	0.67	1340	0.63
1350	0.59	1360	0.55	1370	0.52	1380	0.49	1390	0.46
1400	0.44	1420	0.39	1440	0.35	1460	0.00	1500	0.00

Total Runoff = 2.941 Acre-ft.
Peak Q = 40.13 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.44	300	0.51	400	0.60
500	0.71	600	0.83	700	0.96	800	1.16	900	1.50
1000	2.24	1050	2.90	1100	4.36	1110	4.88	1120	5.61
1130	6.71	1131	6.85	1132	7.00	1133	7.15	1134	7.31
1135	7.49	1136	7.68	1137	7.88	1138	8.10	1139	8.34
1140	8.60	1141	8.88	1142	9.20	1143	9.55	1144	9.93
1145	10.36	1146	10.80	1147	11.30	1148	11.89	1149	12.57
1150	13.38	1151	14.36	1152	15.55	1153	17.10	1154	19.26
1155	22.76	1156	33.69	1157	39.84	1158	39.24	1159	36.73
1160	32.16	1161	19.92	1162	11.68	1163	9.73	1164	8.16
1165	7.49	1166	6.71	1167	6.31	1168	5.81	1169	5.46
[illegible]	5.15	1171	4.90	1172	4.66	1173	4.46	1174	4.27
	4.10	1176	3.93	1177	3.79	1178	3.65	1179	3.53
	3.42	1181	3.32	1182	3.22	1183	3.14	1184	3.06
1185	2.98	1186	2.91	1187	2.84	1188	2.77	1189	2.72
1190	2.66	1191	2.61	1192	2.56	1193	2.51	1194	2.47
1195	2.42	1196	2.37	1197	2.31	1198	2.26	1199	2.21
1200	2.17	1201	2.13	1202	2.09	1203	2.06	1204	2.02
1205	1.98	1206	1.95	1207	1.91	1208	1.88	1209	1.85
1210	1.82	1211	1.79	1212	1.77	1213	1.74	1214	1.71
1215	1.69	1216	1.66	1217	1.64	1218	1.62	1219	1.59
1220	1.58	1221	1.55	1222	1.53	1223	1.52	1224	1.50
1225	1.48	1226	1.46	1227	1.45	1228	1.43	1229	1.41
1230	1.40	1231	1.38	1232	1.37	1233	1.35	1234	1.33
1235	1.32	1236	1.31	1237	1.30	1238	1.28	1239	1.27
1240	1.26	1241	1.25	1242	1.23	1243	1.22	1244	1.21
1245	1.20	1246	1.19	1247	1.18	1248	1.16	1249	1.16
1250	1.15	1251	1.14	1252	1.13	1253	1.12	1254	1.11
1255	1.10	1256	1.09	1257	1.08	1258	1.07	1259	1.07
1260	1.06	1261	1.05	1262	1.04	1263	1.04	1264	1.03
1265	1.02	1266	1.02	1267	1.01	1268	1.00	1269	0.99
1270	0.98	1271	0.98	1272	0.97	1273	0.96	1274	0.96
1275	0.95	1276	0.94	1277	0.94	1278	0.93	1279	0.93
1280	0.92	1281	0.91	1282	0.91	1283	0.90	1284	0.90
1285	0.89	1286	0.89	1287	0.88	1288	0.88	1289	0.87
1290	0.87	1291	0.86	1292	0.86	1293	0.85	1294	0.85
1295	0.84	1296	0.84	1297	0.83	1298	0.83	1299	0.83
1300	0.82	1310	0.78	1320	0.73	1330	0.68	1340	0.64
1350	0.59	1360	0.55	1370	0.52	1380	0.49	1390	0.46
1400	0.44	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.999 Acre-ft.
Peak Q = 39.84 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 64K STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.17	200	0.18	300	0.20	400	0.22
500	0.24	600	0.27	700	0.30	800	0.35	900	0.42
1000	0.58	1050	0.72	1100	1.03	1110	1.14	1120	1.29
1130	1.52	1131	1.55	1132	1.58	1133	1.61	1134	1.65
1135	1.69	1136	1.73	1137	1.77	1138	1.81	1139	1.86
1140	1.92	1141	1.98	1142	2.04	1143	2.11	1144	2.19
1145	2.28	1146	2.37	1147	2.48	1148	2.60	1149	2.74
1150	2.91	1151	3.12	1152	3.37	1153	3.70	1154	4.16
1155	4.91	1156	7.44	1157	8.31	1158	8.16	1159	7.54
1160	6.56	1161	3.71	1162	2.41	1163	2.03	1164	1.80
1165	1.63	1166	1.50	1167	1.40	1168	1.31	1169	1.24
[illegible]	1.18	1171	1.12	1172	1.08	1173	1.04	1174	1.00
	0.96	1176	0.93	1177	0.90	1178	0.87	1179	0.85
1180	0.82	1181	0.80	1182	0.78	1183	0.77	1184	0.75
1185	0.73	1186	0.72	1187	0.70	1188	0.69	1189	0.68
1190	0.66	1191	0.65	1192	0.64	1193	0.63	1194	0.62
1195	0.61	1196	0.60	1197	0.59	1198	0.58	1199	0.57
1200	0.56	1201	0.55	1202	0.55	1203	0.54	1204	0.53

1205	0.52	1206	0.52	1207	0.51	1208	0.50	1209	0.50
1210	0.49	1211	0.48	1212	0.48	1213	0.47	1214	0.47
1215	0.46	1216	0.46	1217	0.45	1218	0.45	1219	0.44
1220	0.44	1221	0.43	1222	0.43	1223	0.43	1224	0.42
1225	0.42	1226	0.41	1227	0.41	1228	0.41	1229	0.40
[illegible]	0.40	1231	0.40	1232	0.39	1233	0.39	1234	0.39
	0.38	1236	0.38	1237	0.38	1238	0.37	1239	0.37
	0.37	1241	0.37	1242	0.36	1243	0.36	1244	0.36
[illegible]	0.36	1246	0.35	1247	0.35	1248	0.35	1249	0.35
1250	0.34	1251	0.34	1252	0.34	1253	0.34	1254	0.33
1255	0.33	1256	0.33	1257	0.33	1258	0.33	1259	0.33
1260	0.32	1261	0.32	1262	0.32	1263	0.32	1264	0.32
1265	0.31	1266	0.31	1267	0.31	1268	0.31	1269	0.31
1270	0.30	1271	0.30	1272	0.30	1273	0.30	1274	0.30
1275	0.30	1276	0.30	1277	0.30	1278	0.29	1279	0.29
1280	0.29	1281	0.29	1282	0.29	1283	0.29	1284	0.28
1285	0.28	1286	0.28	1287	0.28	1288	0.28	1289	0.28
1290	0.28	1291	0.28	1292	0.27	1293	0.27	1294	0.27
1295	0.27	1296	0.27	1297	0.27	1298	0.27	1299	0.27
1300	0.27	1310	0.26	1320	0.24	1330	0.23	1340	0.22
1350	0.22	1360	0.21	1370	0.20	1380	0.19	1390	0.19
1400	0.18	1420	0.17	1440	0.16	1460	0.00	1500	0.00

Total Runoff = 0.803 Acre-ft.
Peak Q = 8.31 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 64RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.42
1000	0.58	1050	0.72	1100	1.03	1110	1.14	1120	1.29
1130	1.52	1131	1.55	1132	1.58	1133	1.61	1134	1.64
1135	1.68	1136	1.72	1137	1.76	1138	1.81	1139	1.86
1140	1.91	1141	1.97	1142	2.03	1143	2.10	1144	2.18
1145	2.27	1146	2.36	1147	2.47	1148	2.59	1149	2.73
1150	2.90	1151	3.10	1152	3.34	1153	3.67	1154	4.13
1155	4.85	1156	7.20	1157	8.28	1158	8.12	1159	7.58
1160	6.64	1161	3.98	1162	2.47	1163	2.10	1164	1.79
1165	1.66	1166	1.50	1167	1.42	1168	1.31	1169	1.26
1170	1.18	1171	1.14	1172	1.08	1173	1.04	1174	1.00
1175	0.97	1176	0.93	1177	0.90	1178	0.87	1179	0.85
1180	0.83	1181	0.81	1182	0.79	1183	0.77	1184	0.75
1185	0.73	1186	0.72	1187	0.71	1188	0.69	1189	0.68
1190	0.67	1191	0.65	1192	0.64	1193	0.63	1194	0.62
1195	0.61	1196	0.60	1197	0.59	1198	0.58	1199	0.57
1200	0.56	1201	0.56	1202	0.55	1203	0.54	1204	0.53
1205	0.53	1206	0.52	1207	0.51	1208	0.50	1209	0.50
1210	0.49	1211	0.49	1212	0.48	1213	0.47	1214	0.47
1215	0.46	1216	0.46	1217	0.45	1218	0.45	1219	0.44
1220	0.44	1221	0.43	1222	0.43	1223	0.43	1224	0.42
[illegible]	0.42	1226	0.41	1227	0.41	1228	0.41	1229	0.40
	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
[illegible]	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.083 Acre-ft.
Peak Q = 8.28 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70N STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.22	200	0.24	300	0.29	400	0.33
500	0.39	600	0.46	700	0.53	800	0.64	900	0.83
1000	1.25	1050	1.61	1100	2.42	1110	2.71	1120	3.12
1130	3.74	1131	3.81	1132	3.90	1133	3.98	1134	4.07
1135	4.17	1136	4.28	1137	4.39	1138	4.52	1139	4.65
1140	4.79	1141	4.96	1142	5.14	1143	5.33	1144	5.55
1145	5.78	1146	6.03	1147	6.32	1148	6.65	1149	7.04
1150	7.50	1151	8.06	1152	8.74	1153	9.63	1154	10.90
1155	12.95	1156	19.83	1157	22.24	1158	21.67	1159	20.11
1160	17.43	1161	9.65	1162	6.15	1163	5.11	1164	4.47
1165	4.02	1166	3.69	1167	3.42	1168	3.18	1169	2.98
1170	2.82	1171	2.68	1172	2.56	1173	2.45	1174	2.35
1175	2.25	1176	2.16	1177	2.08	1178	2.01	1179	1.94
1180	1.88	1181	1.83	1182	1.77	1183	1.73	1184	1.68
1185	1.64	1186	1.60	1187	1.56	1188	1.52	1189	1.50
1190	1.47	1191	1.44	1192	1.41	1193	1.39	1194	1.36
1195	1.33	1196	1.30	1197	1.27	1198	1.25	1199	1.22
1200	1.20	1201	1.17	1202	1.15	1203	1.13	1204	1.11
1205	1.09	1206	1.08	1207	1.06	1208	1.04	1209	1.02
1210	1.00	1211	0.99	1212	0.97	1213	0.96	1214	0.95
1215	0.93	1216	0.92	1217	0.91	1218	0.89	1219	0.88
[illegible]	0.87	1221	0.86	1222	0.85	1223	0.84	1224	0.83
	0.82	1226	0.81	1227	0.80	1228	0.78	1229	0.78
	0.77	1231	0.76	1232	0.76	1233	0.75	1234	0.74
[illegible]	0.73	1236	0.73	1237	0.72	1238	0.71	1239	0.70
1240	0.70	1241	0.69	1242	0.68	1243	0.68	1244	0.67
1245	0.66	1246	0.66	1247	0.65	1248	0.64	1249	0.64
1250	0.63	1251	0.63	1252	0.63	1253	0.62	1254	0.62
1255	0.61	1256	0.60	1257	0.60	1258	0.59	1259	0.59

1260	0.59	1261	0.58	1262	0.58	1263	0.57	1264	0.57
1265	0.57	1266	0.56	1267	0.56	1268	0.55	1269	0.55
1270	0.54	1271	0.54	1272	0.54	1273	0.53	1274	0.53
1275	0.53	1276	0.52	1277	0.52	1278	0.52	1279	0.51
1280	0.51	1281	0.51	1282	0.50	1283	0.50	1284	0.50
1285	0.49	1286	0.49	1287	0.49	1288	0.49	1289	0.48
	0.48	1291	0.48	1292	0.47	1293	0.47	1294	0.47
	0.46	1296	0.46	1297	0.46	1298	0.46	1299	0.46
300	0.45	1310	0.43	1320	0.40	1330	0.37	1340	0.35
1350	0.33	1360	0.30	1370	0.29	1380	0.27	1390	0.26
1400	0.24	1420	0.22	1440	0.20	1460	0.00	1500	0.00

Total Runoff = 1.630 Acre-ft.
Peak Q = 22.24 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.46	700	0.53	800	0.64	900	0.83
1000	1.24	1050	1.61	1100	2.41	1110	2.70	1120	3.09
1130	3.70	1131	3.77	1132	3.85	1133	3.93	1134	4.01
1135	4.11	1136	4.21	1137	4.32	1138	4.44	1139	4.57
1140	4.72	1141	4.88	1142	5.05	1143	5.24	1144	5.44
1145	5.67	1146	5.91	1147	6.18	1148	6.50	1149	6.86
1150	7.29	1151	7.80	1152	8.42	1153	9.22	1154	10.37
1155	12.10	1156	17.20	1157	21.65	1158	21.84	1159	20.71
1160	18.41	1161	12.79	1162	7.64	1163	5.84	1164	4.76
1165	4.30	1166	3.90	1167	3.58	1168	3.33	1169	3.11
1170	2.92	1171	2.77	1172	2.63	1173	2.51	1174	2.41
1175	2.31	1176	2.21	1177	2.13	1178	2.05	1179	1.98
1180	1.92	1181	1.86	1182	1.81	1183	1.76	1184	1.71
1185	1.67	1186	1.63	1187	1.59	1188	1.55	1189	1.52
1190	1.49	1191	1.46	1192	1.43	1193	1.40	1194	1.38
1195	1.35	1196	1.32	1197	1.29	1198	1.26	1199	1.24
1200	1.22	1201	1.20	1202	1.17	1203	1.15	1204	1.13
1205	1.11	1206	1.09	1207	1.07	1208	1.05	1209	1.04
1210	1.02	1211	1.00	1212	0.99	1213	0.97	1214	0.96
1215	0.95	1216	0.93	1217	0.92	1218	0.91	1219	0.89
1220	0.88	1221	0.87	1222	0.86	1223	0.85	1224	0.84
1225	0.83	1226	0.82	1227	0.81	1228	0.80	1229	0.79
1230	0.78	1231	0.77	1232	0.76	1233	0.76	1234	0.75
1235	0.74	1236	0.73	1237	0.73	1238	0.72	1239	0.71
1240	0.70	1241	0.70	1242	0.69	1243	0.68	1244	0.68
1245	0.67	1246	0.66	1247	0.66	1248	0.65	1249	0.64
1250	0.64	1251	0.64	1252	0.63	1253	0.63	1254	0.62
1255	0.61	1256	0.61	1257	0.60	1258	0.60	1259	0.59
1260	0.59	1261	0.59	1262	0.58	1263	0.58	1264	0.57
1265	0.57	1266	0.57	1267	0.56	1268	0.56	1269	0.55
1270	0.55	1271	0.54	1272	0.54	1273	0.54	1274	0.53
1275	0.53	1276	0.53	1277	0.52	1278	0.52	1279	0.52
1280	0.51	1281	0.51	1282	0.51	1283	0.50	1284	0.50
	0.50	1286	0.49	1287	0.49	1288	0.49	1289	0.49
	0.48	1291	0.48	1292	0.48	1293	0.47	1294	0.47
296	0.47	1296	0.47	1297	0.46	1298	0.46	1299	0.46
1300	0.46	1310	0.43	1320	0.41	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.702 Acre-ft.
Peak Q = 21.84 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 72N STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.14	200	0.16	300	0.19	400	0.22
500	0.26	600	0.31	700	0.36	800	0.43	900	0.56
1000	0.83	1050	1.07	1100	1.62	1110	1.81	1120	2.08
1130	2.49	1131	2.54	1132	2.60	1133	2.65	1134	2.71
1135	2.78	1136	2.85	1137	2.93	1138	3.01	1139	3.10
1140	3.20	1141	3.31	1142	3.42	1143	3.55	1144	3.70
1145	3.85	1146	4.02	1147	4.21	1148	4.43	1149	4.69
1150	5.00	1151	5.38	1152	5.82	1153	6.42	1154	7.26
1155	8.63	1156	13.22	1157	14.83	1158	14.45	1159	13.41
1160	11.62	1161	6.43	1162	4.10	1163	3.41	1164	2.98
1165	2.68	1166	2.46	1167	2.28	1168	2.12	1169	1.99
1170	1.88	1171	1.79	1172	1.70	1173	1.63	1174	1.56
1175	1.50	1176	1.44	1177	1.39	1178	1.34	1179	1.29
1180	1.25	1181	1.22	1182	1.18	1183	1.15	1184	1.12
1185	1.09	1186	1.07	1187	1.04	1188	1.02	1189	1.00
1190	0.98	1191	0.96	1192	0.94	1193	0.92	1194	0.91
1195	0.89	1196	0.87	1197	0.85	1198	0.83	1199	0.81
1200	0.80	1201	0.78	1202	0.77	1203	0.75	1204	0.74
1205	0.73	1206	0.72	1207	0.70	1208	0.69	1209	0.68
1210	0.67	1211	0.66	1212	0.65	1213	0.64	1214	0.63
1215	0.62	1216	0.61	1217	0.61	1218	0.60	1219	0.59
1220	0.58	1221	0.57	1222	0.56	1223	0.56	1224	0.55
1225	0.55	1226	0.54	1227	0.53	1228	0.53	1229	0.52
1230	0.51	1231	0.51	1232	0.50	1233	0.50	1234	0.49
1235	0.49	1236	0.48	1237	0.48	1238	0.47	1239	0.47
1240	0.46	1241	0.46	1242	0.45	1243	0.45	1244	0.45
1245	0.44	1246	0.44	1247	0.43	1248	0.43	1249	0.43
1250	0.42	1251	0.42	1252	0.42	1253	0.41	1254	0.41
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.39
1260	0.39	1261	0.39	1262	0.39	1263	0.38	1264	0.38
1265	0.38	1266	0.37	1267	0.37	1268	0.37	1269	0.37
1270	0.36	1271	0.36	1272	0.36	1273	0.36	1274	0.35
1275	0.35	1276	0.35	1277	0.35	1278	0.34	1279	0.34
	0.34	1281	0.34	1282	0.34	1283	0.33	1284	0.33
	0.33	1286	0.33	1287	0.33	1288	0.32	1289	0.32
1290	0.32	1291	0.32	1292	0.32	1293	0.31	1294	0.31
1295	0.31	1296	0.31	1297	0.31	1298	0.31	1299	0.30
1300	0.26	1310	0.24	1320	0.22	1330	0.20	1340	0.18
1350	0.17	1360	0.16	1370	0.15	1380	0.14	1390	0.13
1400	0.12	1420	0.11	1440	0.10	1460	0.00	1500	0.00

Total Runoff = 1.087 Acre-ft.
Peak Q = 14.83 CFS
Time to Peak = 1157 Minutes

TIED RATIONAL METHOD HYDROLOGY
HYDROGRAPH AT I 72RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

ME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.43	900	0.56
1000	0.83	1050	1.07	1100	1.61	1110	1.80	1120	2.07
1130	2.48	1131	2.52	1132	2.58	1133	2.63	1134	2.69
1135	2.76	1136	2.83	1137	2.90	1138	2.98	1139	3.07
1140	3.16	1141	3.27	1142	3.38	1143	3.51	1144	3.65
1145	3.80	1146	3.96	1147	4.14	1148	4.35	1149	4.60
1150	4.89	1151	5.24	1152	5.66	1153	6.20	1154	6.98
1155	8.23	1156	11.81	1157	14.63	1158	14.52	1159	13.73
1160	12.11	1161	9.10	1162	4.79	1163	3.65	1164	3.12
1165	2.79	1166	2.53	1167	2.34	1168	2.18	1169	2.04
1170	1.92	1171	1.82	1172	1.74	1173	1.66	1174	1.60
1175	1.55	1176	1.48	1177	1.42	1178	1.37	1179	1.32
1180	1.28	1181	1.24	1182	1.21	1183	1.17	1184	1.14
1185	1.11	1186	1.08	1187	1.06	1188	1.03	1189	1.01
1190	0.99	1191	0.97	1192	0.95	1193	0.93	1194	0.92
1195	0.90	1196	0.88	1197	0.86	1198	0.84	1199	0.82
1200	0.81	1201	0.79	1202	0.78	1203	0.76	1204	0.75
1205	0.74	1206	0.72	1207	0.71	1208	0.70	1209	0.69
1210	0.67	1211	0.66	1212	0.65	1213	0.65	1214	0.64
1215	0.63	1216	0.62	1217	0.61	1218	0.60	1219	0.59
1220	0.58	1221	0.58	1222	0.57	1223	0.56	1224	0.55
1225	0.55	1226	0.54	1227	0.54	1228	0.53	1229	0.52
1230	0.52	1231	0.51	1232	0.51	1233	0.50	1234	0.49
1235	0.49	1236	0.49	1237	0.48	1238	0.47	1239	0.47
1240	0.47	1241	0.46	1242	0.46	1243	0.45	1244	0.45
1245	0.44	1246	0.44	1247	0.44	1248	0.43	1249	0.43
1250	0.43	1251	0.42	1252	0.42	1253	0.42	1254	0.41
1255	0.41	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.347 Acre-ft.
Peak Q = 14.63 CFS
Time to Peak = 1157 Minutes

TIED RATIONAL METHOD HYDROLOGY
L HYDROGRAPH AT 1 75O STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.38	200	0.42	300	0.49	400	0.58
500	0.69	600	0.80	700	0.93	800	1.12	900	1.46
1000	2.17	1050	2.81	1100	4.23	1110	4.73	1120	5.45
1130	6.52	1131	6.66	1132	6.80	1133	6.94	1134	7.10
1135	7.28	1136	7.47	1137	7.67	1138	7.89	1139	8.12
1140	8.37	1141	8.65	1142	8.96	1143	9.30	1144	9.68
1145	10.09	1146	10.53	1147	11.02	1148	11.61	1149	12.28
1150	13.09	1151	14.07	1152	15.25	1153	16.80	1154	19.01
1155	22.60	1156	34.61	1157	38.82	1158	37.82	1159	35.10
1160	30.43	1161	16.84	1162	10.73	1163	8.92	1164	7.80
1165	7.01	1166	6.43	1167	5.97	1168	5.55	1169	5.21
1170	4.92	1171	4.67	1172	4.46	1173	4.27	1174	4.09
1175	3.93	1176	3.77	1177	3.63	1178	3.50	1179	3.39
1180	3.28	1181	3.19	1182	3.09	1183	3.01	1184	2.94
1185	2.86	1186	2.80	1187	2.73	1188	2.67	1189	2.61
1190	2.56	1191	2.51	1192	2.46	1193	2.42	1194	2.37
1195	2.32	1196	2.27	1197	2.22	1198	2.17	1199	2.13
1200	2.09	1201	2.05	1202	2.01	1203	1.98	1204	1.94
1205	1.91	1206	1.88	1207	1.84	1208	1.81	1209	1.78
1210	1.75	1211	1.73	1212	1.70	1213	1.68	1214	1.65
1215	1.63	1216	1.60	1217	1.59	1218	1.56	1219	1.54
1220	1.52	1221	1.50	1222	1.48	1223	1.46	1224	1.44
1225	1.43	1226	1.41	1227	1.40	1228	1.38	1229	1.36
1230	1.34	1231	1.33	1232	1.32	1233	1.30	1234	1.29
1235	1.28	1236	1.27	1237	1.25	1238	1.24	1239	1.23
1240	1.21	1241	1.20	1242	1.19	1243	1.18	1244	1.17
1245	1.16	1246	1.15	1247	1.14	1248	1.13	1249	1.12
1250	1.11	1251	1.10	1252	1.09	1253	1.08	1254	1.07
1255	1.06	1256	1.05	1257	1.04	1258	1.04	1259	1.03
1260	1.03	1261	1.01	1262	1.01	1263	1.00	1264	0.99
1265	0.99	1266	0.98	1267	0.97	1268	0.96	1269	0.96
1270	0.95	1271	0.94	1272	0.94	1273	0.93	1274	0.93
1275	0.92	1276	0.91	1277	0.91	1278	0.90	1279	0.89
1280	0.89	1281	0.88	1282	0.88	1283	0.87	1284	0.87
1285	0.86	1286	0.86	1287	0.85	1288	0.85	1289	0.84
1290	0.84	1291	0.83	1292	0.83	1293	0.82	1294	0.82
1295	0.81	1296	0.81	1297	0.80	1298	0.80	1299	0.80
1300	0.79	1310	0.75	1320	0.70	1330	0.65	1340	0.61
1350	0.57	1360	0.53	1370	0.50	1380	0.47	1390	0.45
1400	0.42	1420	0.38	1440	0.34	1460	0.00	1500	0.00

Total Runoff = 2.645 Acre-ft.
Peak Q = 38.82 CFS
Time to Peak = 1157 Minutes

TIED RATIONAL METHOD HYDROLOGY
AL HYDROGRAPH AT 1 [illegible]RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.0[illegible]

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.49	400	0.58
500	0.69	600	0.80	700	0.93	800	1.12	900	1.46

1000	2.16	1050	2.80	1100	4.20	1110	4.69	1120	5.39
1130	6.44	1131	6.56	1132	6.70	1133	6.84	1134	6.99
1135	7.16	1136	7.34	1137	7.53	1138	7.73	1139	7.96
1140	8.20	1141	8.47	1142	8.77	1143	9.09	1144	9.44
1145	9.84	1146	10.26	1147	10.72	1148	11.25	1149	11.87
1*50	12.60	1151	13.49	1152	14.58	1153	15.94	1154	17.82
	20.73	1156	28.78	1157	36.99	1158	38.04	1159	36.47
	32.59	1161	23.69	1162	14.30	1163	10.27	1164	8.50
..5	7.58	1166	6.66	1167	6.31	1168	5.85	1169	5.46
1170	5.16	1171	4.88	1172	4.64	1173	4.43	1174	4.24
1175	4.06	1176	3.90	1177	3.75	1178	3.61	1179	3.48
1180	3.37	1181	3.27	1182	3.17	1183	3.08	1184	3.00
1185	2.93	1186	2.85	1187	2.79	1188	2.73	1189	2.67
1190	2.61	1191	2.56	1192	2.51	1193	2.46	1194	2.42
1195	2.37	1196	2.33	1197	2.27	1198	2.23	1199	2.18
1200	2.13	1201	2.09	1202	2.05	1203	2.01	1204	1.98
1205	1.95	1206	1.91	1207	1.88	1208	1.84	1209	1.81
1210	1.78	1211	1.75	1212	1.73	1213	1.70	1214	1.68
1215	1.65	1216	1.63	1217	1.61	1218	1.58	1219	1.56
1220	1.54	1221	1.52	1222	1.50	1223	1.48	1224	1.46
1225	1.45	1226	1.43	1227	1.41	1228	1.40	1229	1.38
1230	1.36	1231	1.35	1232	1.33	1233	1.32	1234	1.30
1235	1.29	1236	1.28	1237	1.27	1238	1.25	1239	1.24
1240	1.23	1241	1.21	1242	1.20	1243	1.19	1244	1.18
1245	1.17	1246	1.16	1247	1.15	1248	1.14	1249	1.13
1250	1.12	1251	1.11	1252	1.10	1253	1.09	1254	1.08
1255	1.07	1256	1.06	1257	1.05	1258	1.04	1259	1.04
1260	1.03	1261	1.02	1262	1.02	1263	1.01	1264	1.00
1265	0.99	1266	0.99	1267	0.98	1268	0.97	1269	0.96
1270	0.96	1271	0.95	1272	0.94	1273	0.94	1274	0.93
1275	0.93	1276	0.92	1277	0.91	1278	0.91	1279	0.90
1280	0.89	1281	0.89	1282	0.88	1283	0.88	1284	0.87
1285	0.87	1286	0.86	1287	0.86	1288	0.85	1289	0.85
1290	0.84	1291	0.84	1292	0.83	1293	0.83	1294	0.82
1295	0.82	1296	0.81	1297	0.81	1298	0.80	1299	0.80
1300	0.80	1310	0.76	1320	0.71	1330	0.66	1340	0.62
1350	0.58	1360	0.54	1370	0.51	1380	0.48	1390	0.45
1400	0.43	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.906 Acre-ft.
Peak Q = 38.04 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 79P STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.38	200	0.43	300	0.50	400	0.59
500	0.70	600	0.82	700	0.95	800	1.15	900	1.49
1000	2.22	1050	2.87	1100	4.32	1110	4.84	1120	5.57
1130	6.67	1131	6.80	1132	6.95	1133	7.10	1134	7.26
1135	7.45	1136	7.64	1137	7.84	1138	8.06	1139	8.30
1140	8.56	1141	8.85	1142	9.17	1143	9.51	1144	9.90
1*45	10.32	1146	10.78	1147	11.27	1148	11.87	1149	12.56
	13.39	1151	14.39	1152	15.59	1153	17.18	1154	19.44
	23.10	1156	35.38	1157	39.69	1158	38.67	1159	35.89
..0	31.11	1161	17.22	1162	10.97	1163	9.12	1164	7.97
1165	7.17	1166	6.57	1167	6.10	1168	5.67	1169	5.32
1170	5.03	1171	4.79	1172	4.56	1173	4.37	1174	4.19
1175	4.01	1176	3.85	1177	3.71	1178	3.58	1179	3.46
1180	3.36	1181	3.26	1182	3.16	1183	3.08	1184	3.00
1185	2.92	1186	2.86	1187	2.79	1188	2.73	1189	2.67
1190	2.62	1191	2.56	1192	2.51	1193	2.47	1194	2.43
1195	2.37	1196	2.32	1197	2.27	1198	2.22	1199	2.17
1200	2.14	1201	2.09	1202	2.06	1203	2.02	1204	1.99
1205	1.95	1206	1.91	1207	1.88	1208	1.85	1209	1.82
1210	1.79	1211	1.77	1212	1.74	1213	1.72	1214	1.69
1215	1.66	1216	1.64	1217	1.62	1218	1.59	1219	1.57
1220	1.55	1221	1.53	1222	1.51	1223	1.50	1224	1.48
1225	1.46	1226	1.44	1227	1.43	1228	1.41	1229	1.39
1230	1.38	1231	1.36	1232	1.35	1233	1.33	1234	1.32
1235	1.30	1236	1.30	1237	1.28	1238	1.27	1239	1.25
1240	1.24	1241	1.23	1242	1.22	1243	1.21	1244	1.20
1245	1.18	1246	1.17	1247	1.16	1248	1.15	1249	1.14
1250	1.14	1251	1.12	1252	1.12	1253	1.11	1254	1.09
1255	1.08	1256	1.08	1257	1.07	1258	1.06	1259	1.05
1260	1.05	1261	1.04	1262	1.03	1263	1.03	1264	1.01
1265	1.01	1266	1.00	1267	0.99	1268	0.99	1269	0.98
1270	0.97	1271	0.96	1272	0.96	1273	0.95	1274	0.95
1275	0.94	1276	0.93	1277	0.93	1278	0.92	1279	0.91
1280	0.91	1281	0.90	1282	0.90	1283	0.89	1284	0.89
1285	0.88	1286	0.88	1287	0.87	1288	0.87	1289	0.86
1290	0.86	1291	0.85	1292	0.85	1293	0.84	1294	0.83
1295	0.83	1296	0.83	1297	0.82	1298	0.82	1299	0.81
1300	0.81	1310	0.77	1320	0.72	1330	0.68	1340	0.63
1350	0.58	1360	0.54	1370	0.52	1380	0.45	1390	0.46
1400	0.43	1420	0.39	1440	0.35	1460	0.00	1500	0.00

Total Runoff = 2.909 Acre-ft.
Peak Q = 39.69 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 73RI STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.10	100	0.40	200	0.43	300	0.50	400	0.58
500	0.69	600	0.81	700	0.94	800	1.12	900	1.45
1000	2.14	1050	2.75	1100	4.05	1110	4.45	1120	5.01
1130	5.84	1131	5.93	1132	6.07	1133	6.17	1134	6.28
1135	6.40	1136	6.52	1137	6.65	1138	6.79	1139	6.92
[illegible]	7.09	1141	7.27	1142	7.45	1143	7.65	1144	7.87
	8.12	1146	8.37	1147	8.65	1148	8.97	1149	9.32
	9.7[illegible]	1151	10.13	1152	10.62	1153	11.19	1154	11.83
[illegible]	12.66	[illegible]	13.46	1157	11.30	1158	15.46	1159	[illegible]
[illegible]	[illegible]	[illegible]	26.01	[illegible]	29.65	1163	[illegible]	[illegible]	[illegible]
1165	[illegible]	1166	[illegible]	[illegible]	18.81	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	10.27	1172	[illegible]	1173	[illegible]	[illegible]	[illegible]
[illegible]	6.95	[illegible]	6.32	[illegible]	5.86	1178	[illegible]	[illegible]	[illegible]

1180	4.87	1181	4.63	1182	4.41	1183	4.22	1184	4.05
1185	3.90	1186	3.76	1187	3.63	1188	3.51	1189	3.40
1190	3.30	1191	3.20	1192	3.11	1193	3.03	1194	2.95
1195	2.88	1196	2.81	1197	2.76	1198	2.70	1199	2.65
1200	2.60	1201	2.55	1202	2.49	1203	2.44	1204	2.39
[illegible]	2.34	1206	2.30	1207	2.25	1208	2.21	1209	2.17
	2.13	1211	2.09	1212	2.06	1213	2.02	1214	1.99
	1.95	1216	1.92	1217	1.89	1218	1.86	1219	1.83
[illegible]20	1.80	1221	1.77	1222	1.75	1223	1.72	1224	1.69
1225	1.67	1226	1.65	1227	1.62	1228	1.60	1229	1.58
1230	1.56	1231	1.54	1232	1.52	1233	1.50	1234	1.48
1235	1.47	1236	1.45	1237	1.43	1238	1.42	1239	1.40
1240	1.39	1241	1.37	1242	1.36	1243	1.34	1244	1.33
1245	1.32	1246	1.30	1247	1.29	1248	1.28	1249	1.26
1250	1.25	1251	1.24	1252	1.23	1253	1.22	1254	1.20
1255	1.19	1256	1.18	1257	1.17	1258	1.16	1259	1.15
1260	1.14	1261	1.13	1262	1.12	1263	1.11	1264	1.11
1265	1.10	1266	1.09	1267	1.08	1268	1.07	1269	1.06
1270	1.06	1271	1.05	1272	1.04	1273	1.03	1274	1.03
1275	1.02	1276	1.01	1277	1.00	1278	1.00	1279	0.99
1280	0.98	1281	0.97	1282	0.97	1283	0.96	1284	0.95
1285	0.95	1286	0.94	1287	0.94	1288	0.93	1289	0.92
1290	0.92	1291	0.91	1292	0.91	1293	0.90	1294	0.90
1295	0.89	1296	0.89	1297	0.88	1298	0.88	1299	0.87
1300	0.86	1310	0.82	1320	0.78	1330	0.73	1340	0.68
1350	0.63	1360	0.59	1370	0.54	1380	0.51	1390	0.48
1400	0.46	1420	0.42	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.975 Acre-ft.
Peak Q = 31.18 CFS
Time to Peak = 1163 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104Q STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.56	200	1.68	300	1.81	400	1.98
500	2.19	600	2.48	700	2.86	800	3.50	900	5.26
1000	9.31	1050	12.98	1100	20.57	1110	23.21	1120	26.91
1130	32.53	1131	33.16	1132	33.88	1133	34.60	1134	35.38
1135	36.23	1136	37.11	1137	38.07	1138	39.11	1139	40.20
1140	41.40	1141	42.70	1142	44.14	1143	45.69	1144	47.43
1145	49.36	1146	51.50	1147	53.95	1148	56.45	1149	59.29
1150	62.64	1151	66.62	1152	71.50	1153	77.77	1154	85.58
1155	97.53	1156	132.79	1157	148.06	1158	150.19	1159	148.59
1160	147.26	1161	143.52	1162	138.49	1163	132.06	1164	123.96
1165	113.55	1166	99.00	1167	80.73	1168	42.80	1169	37.03
1170	33.32	1171	30.46	1172	28.08	1173	26.11	1174	24.48
1175	23.12	1176	21.95	1177	20.93	1178	19.86	1179	18.91
1180	18.06	1181	17.29	1182	16.60	1183	15.96	1184	15.38
1185	14.86	1186	14.38	1187	13.92	1188	13.49	1189	13.12
1190	12.76	1191	12.41	1192	12.09	1193	11.81	1194	11.52
1195	11.25	1196	11.00	1197	10.75	1198	10.50	1199	10.18
[illegible]00	9.88	1201	9.58	1202	9.31	1203	9.07	1204	8.81
	8.58	1206	8.36	1207	8.13	1208	7.95	1209	7.74
	7.56	1211	7.38	1212	7.21	1213	7.05	1214	6.88
[illegible]5	6.72	1216	6.57	1217	6.44	1218	6.31	1219	6.17
1220	6.04	1221	5.91	1222	5.79	1223	5.70	1224	5.56
1225	5.48	1226	5.36	1227	5.27	1228	5.17	1229	5.07
1230	4.99	1231	4.89	1232	4.83	1233	4.73	1234	4.63
1235	4.57	1236	4.49	1237	4.43	1238	4.34	1239	4.26
1240	4.20	1241	4.14	1242	4.08	1243	4.00	1244	3.95
1245	3.89	1246	3.83	1247	3.76	1248	3.70	1249	3.66
1250	3.61	1251	3.56	1252	3.50	1253	3.45	1254	3.39
1255	3.36	1256	3.34	1257	3.31	1258	3.28	1259	3.26
1260	3.24	1261	3.20	1262	3.18	1263	3.16	1264	3.14
1265	3.12	1266	3.10	1267	3.07	1268	3.05	1269	3.03
1270	3.01	1271	2.98	1272	2.96	1273	2.95	1274	2.92
1275	2.91	1276	2.89	1277	2.86	1278	2.85	1279	2.83
1280	2.81	1281	2.79	1282	2.78	1283	2.76	1284	2.74
1285	2.73	1286	2.70	1287	2.70	1288	2.68	1289	2.66
1290	2.65	1291	2.63	1292	2.62	1293	2.60	1294	2.58
1295	2.57	1296	2.56	1297	2.54	1298	2.53	1299	2.51
1300	2.50	1310	2.38	1320	2.26	1330	2.17	1340	2.08
1350	2.00	1360	1.92	1370	1.85	1380	1.79	1390	1.74
1400	1.69	1420	1.59	1440	1.51	1460	0.00	1500	0.00

Total Runoff = 12.554 Acre-ft.
Peak Q = 150.19 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	1.16	200	1.74	300	1.72	400	1.96
500	2.12	600	2.42	700	2.76	800	3.35	900	4.86
1000	8.58	1050	11.81	1100	18.45	1110	20.38	1120	23.00
1130	26.96	1131	27.45	1132	27.95	1133	28.46	1134	28.99
1135	29.52	1136	30.08	1137	30.67	1138	31.26	1139	31.92
1140	32.60	1141	33.33	1142	34.11	1143	34.95	1144	35.85
1145	36.92	1146	37.86	1147	39.00	1148	40.24	1149	41.61
1150	43.12	1151	44.81	1152	46.69	1153	48.79	1154	51.14
1155	53.83	1156	57.02	1157	60.95	1158	65.02	1159	74.85
1160	88.64	1161	103.67	1162	115.37	1163	123.91	1164	129.72
1165	132.90	1166	133.82	1167	132.74	1168	128.10	1169	124.94
1170	117.70	1171	107.25	1172	94.72	1173	82.89	1174	72.74
1175	64.40	1176	57.63	1177	51.82	1178	47.01	1179	42.94
1180	39.47	1181	36.49	1182	33.92	1183	31.70	1184	29.75
1185	28.02	1186	26.44	1187	25.00	1188	23.74	1189	22.58
1190	21.53	1191	20.61	1192	19.76	1193	19.00	1194	18.28
5	17.63	1196	17.01	1197	16.43	1198	15.88	1199	15.37
[illegible]	14.89	1201	14.43	1202	14.01	1203	13.61	1204	13.23
[illegible]	12.87	1206	12.53	1207	12.22	1208	11.93	1209	11.66
[illegible]0	11.36	1211	11.08	1212	10.81	1213	10.55	1214	10.29
[illegible]	[illegible]	1216	9.79	1217	9.55	1218	[illegible]	[illegible]	[illegible]
1220	8.97	1221	8.71	1222	8.50	1223	[illegible]	[illegible]	[illegible]
1225	[illegible]	1226	[illegible]	1227	.67	1228	[illegible]	[illegible]	[illegible]
1230	[illegible]	1231	[illegible]	1232	[illegible]	1233	[illegible]	[illegible]	[illegible]

1235	6.51	1236	6.38	1237	6.26	1238	6.14	1239	6.02
1240	5.91	1241	5.80	1242	5.69	1243	5.59	1244	5.49
1245	5.39	1246	5.29	1247	5.20	1248	5.11	1249	5.03
1250	4.95	1251	4.88	1252	4.81	1253	4.74	1254	4.67
1255	4.60	1256	4.53	1257	4.47	1258	4.40	1259	4.33
1260	4.27	1261	4.21	1262	4.15	1263	4.09	1264	4.03
	3.97	1266	3.92	1267	3.86	1268	3.81	1269	3.76
	3.72	1271	3.67	1272	3.63	1273	3.59	1274	3.55
1275	3.51	1276	3.48	1277	3.44	1278	3.41	1279	3.38
1280	3.35	1281	3.32	1282	3.30	1283	3.27	1284	3.24
1285	3.22	1286	3.19	1287	3.17	1288	3.14	1289	3.12
1290	3.10	1291	3.07	1292	3.05	1293	3.03	1294	3.01
1295	2.99	1296	2.97	1297	2.95	1298	2.93	1299	2.91
1300	2.89	1310	2.72	1320	2.57	1330	2.44	1340	2.33
1350	2.22	1360	2.13	1370	2.05	1380	1.97	1390	1.90
1400	1.84	1420	1.73	1440	1.63	1460	1.47	1500	0.79

Total Runoff = 12.679 Acre-ft.
Peak Q = 133.82 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115QR STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	80.73	200	5.71	300	5.63	400	6.43
500	6.94	600	7.88	700	9.01	800	10.84	900	15.52
1000	27.15	1050	37.31	1100	57.97	1110	64.02	1120	71.98
1130	83.81	1131	85.23	1132	86.70	1133	88.18	1134	89.71
1135	91.29	1136	92.94	1137	94.67	1138	96.50	1139	98.43
1140	100.48	1141	102.66	1142	104.98	1143	107.44	1144	110.08
1145	112.90	1146	115.95	1147	119.25	1148	122.86	1149	126.81
1150	131.15	1151	135.95	1152	141.27	1153	147.21	1154	153.92
1155	161.66	1156	170.81	1157	182.03	1158	197.42	1159	221.60
1160	254.40	1161	289.44	1162	320.36	1163	346.49	1164	368.11
1165	385.20	1166	397.01	1167	399.73	1168	392.14	1169	378.30
1170	360.62	1171	339.06	1172	314.70	1173	290.34	1174	267.03
1175	245.63	1176	225.52	1177	207.16	1178	190.27	1179	175.18
1180	161.64	1181	149.48	1182	138.61	1183	128.91	1184	120.24
1185	112.46	1186	105.45	1187	99.14	1188	93.50	1189	88.41
1190	83.83	1191	79.72	1192	75.93	1193	72.46	1194	69.28
1195	66.41	1196	63.74	1197	61.28	1198	59.06	1199	56.98
1200	55.09	1201	53.32	1202	51.65	1203	50.05	1204	48.52
1205	47.07	1206	45.68	1207	44.36	1208	43.12	1209	41.92
1210	40.76	1211	39.65	1212	38.59	1213	37.57	1214	36.61
1215	35.76	1216	34.93	1217	34.13	1218	33.35	1219	32.58
1220	31.86	1221	31.16	1222	30.48	1223	29.82	1224	29.17
1225	28.54	1226	27.92	1227	27.33	1228	26.76	1229	26.24
1230	25.75	1231	25.26	1232	24.78	1233	24.31	1234	23.85
1235	23.40	1236	22.96	1237	22.53	1238	22.10	1239	21.69
1240	21.29	1241	20.89	1242	20.51	1243	20.14	1244	19.77
1245	19.41	1246	19.06	1247	18.73	1248	18.40	1249	18.08
1250	17.78	1251	17.48	1252	17.19	1253	16.91	1254	16.63
1255	16.36	1256	16.10	1257	15.84	1258	15.59	1259	15.35
	15.13	1261	14.93	1262	14.73	1263	14.53	1264	14.33
	14.14	1266	13.96	1267	13.77	1268	13.60	1269	13.43
1270	13.26	1271	13.10	1272	12.94	1273	12.79	1274	12.64
1275	12.50	1276	12.36	1277	12.22	1278	12.09	1279	11.96
1280	11.84	1281	11.71	1282	11.60	1283	11.48	1284	11.37
1285	11.26	1286	11.15	1287	11.04	1288	10.94	1289	10.84
1290	10.75	1291	10.66	1292	10.57	1293	10.49	1294	10.41
1295	10.33	1296	10.25	1297	10.17	1298	10.10	1299	10.02
1300	9.95	1310	9.30	1320	8.76	1330	8.30	1340	7.90
1350	7.55	1360	7.23	1370	6.93	1380	6.67	1390	6.43
1400	6.22	1420	5.83	1440	5.51	1460	4.82	1500	2.62

Total Runoff = 51.618 Acre-ft.
Peak Q = 399.73 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	80.66	200	5.85	300	5.52	400	6.54
500	6.83	600	7.99	700	8.90	800	10.95	900	15.41
1000	27.26	1050	37.19	1100	58.05	1110	63.87	1120	72.03
1130	83.63	1131	85.27	1132	86.53	1133	88.20	1134	89.56
1135	91.28	1136	92.79	1137	94.64	1138	96.36	1139	98.39
1140	100.34	1141	102.60	1142	104.84	1143	107.37	1144	109.93
1145	112.81	1146	115.79	1147	119.14	1148	122.68	1149	126.66
1150	130.95	1151	135.77	1152	141.03	1153	146.98	1154	153.63
1155	161.36	1156	170.49	1157	181.61	1158	196.86	1159	220.70
1160	253.29	1161	288.32	1162	319.44	1163	345.63	1164	367.49
1165	384.69	1166	396.70	1167	399.69	1168	392.49	1169	378.72
1170	361.24	1171	339.74	1172	315.52	1173	291.08	1174	267.92
1175	246.29	1176	226.22	1177	207.73	1178	190.87	1179	175.66
1180	162.15	1181	149.96	1182	139.03	1183	129.30	1184	120.59
1185	112.78	1186	105.74	1187	99.44	1188	93.75	1189	88.66
1190	84.03	1191	79.94	1192	76.18	1193	72.68	1194	69.49
1195	66.57	1196	63.91	1197	61.42	1198	59.21	1199	57.10
1200	55.21	1201	53.43	1202	51.76	1203	50.15	1204	48.63
1205	47.16	1206	45.77	1207	44.45	1208	43.20	1209	41.99
1210	40.84	1211	39.72	1212	38.66	1213	37.64	1214	36.67
1215	35.81	1216	34.99	1217	34.18	1218	33.40	1219	32.63
1220	31.91	1221	31.21	1222	30.53	1223	29.86	1224	29.23
1225	28.58	1226	27.97	1227	27.37	1228	26.80	1229	26.28
1230	25.78	1231	25.29	1232	24.81	1233	24.34	1234	23.88
1235	23.43	1236	22.99	1237	22.56	1238	22.14	1239	21.72
1240	21.32	1241	20.92	1242	20.54	1243	20.17	1244	19.80
1245	19.44	1246	19.09	1247	18.75	1248	18.42	1249	18.10
1250	17.80	1251	17.50	1252	17.21	1253	16.93	1254	16.65
1255	16.39	1256	16.12	1257	15.86	1258	15.61	1259	15.37
	15.15	1261	14.94	1262	14.74	1263	14.54	1264	14.35
	14.16	1266	13.97	1267	13.79	1268	13.61	1269	13.44
	13.27	1271	13.11	1272	12.96	1273	12.80	1274	12.65
	12.51	1276	12.37	1277	12.23	1278	12.10	1279	11.97
	11.85	1281	11.72	1282	11.61	1283	11.49	1284	11.38
	11.27	1286	11.16	1287	11.05	1288	10.95	1289	10.85

1290	10.75	1291	10.66	1292	10.58	1293	10.50	1294	10.41
1295	10.33	1296	10.26	1297	10.18	1298	10.10	1299	10.03
1300	9.96	1310	9.31	1320	8.77	1330	8.31	1340	7.90
1350	7.55	1360	7.23	1370	6.94	1380	6.67	1390	6.43
1400	6.22	1420	5.83	1440	5.51	1460	4.82	1500	2.62

Total Runoff = 51.621 Acre-ft.
Peak Q = 399.69 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 136AV STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	8.80	100	122.16	200	46.69	300	34.93	400	53.92
500	46.67	600	68.58	700	67.09	800	91.00	900	106.34
1000	170.57	1050	210.20	1100	315.88	1110	338.65	1120	379.98
1130	430.58	1131	436.95	1132	443.68	1133	450.60	1134	457.58
1135	464.75	1136	472.22	1137	480.11	1138	488.40	1139	497.13
1140	506.34	1141	516.09	1142	526.37	1143	537.29	1144	548.96
1145	561.48	1146	574.76	1147	588.89	1148	604.21	1149	620.73
1150	638.35	1151	655.05	1152	677.56	1153	731.92	1154	766.93
1155	814.74	1156	890.32	1157	985.11	1158	1069.47	1159	1150.28
1160	1226.38	1161	1278.24	1162	1319.96	1163	1346.78	1164	1325.61
1165	1363.48	1166	1366.00	1167	1416.43	1168	1412.07	1169	1423.88
1170	1421.46	1171	1404.88	1172	1378.74	1173	1346.88	1174	1310.13
1175	1271.66	1176	1237.97	1177	1199.28	1178	1154.30	1179	1106.58
1180	1067.40	1181	1028.68	1182	992.33	1183	955.82	1184	920.46
1185	885.05	1186	850.37	1187	816.20	1188	782.23	1189	748.71
1190	716.16	1191	684.74	1192	654.36	1193	636.22	1194	624.18
1195	601.25	1196	568.41	1197	538.11	1198	512.80	1199	489.24
1200	468.39	1201	448.67	1202	430.53	1203	413.42	1204	397.62
1205	382.69	1206	368.82	1207	355.84	1208	343.55	1209	332.04
1210	321.29	1211	311.00	1212	301.53	1213	292.54	1214	284.05
1215	276.07	1216	268.52	1217	261.40	1218	254.70	1219	248.33
1220	242.23	1221	236.37	1222	230.74	1223	225.35	1224	220.17
1225	215.20	1226	210.46	1227	206.00	1228	201.78	1229	197.54
1230	193.49	1231	189.64	1232	186.02	1233	182.62	1234	179.36
1235	176.22	1236	173.17	1237	170.21	1238	167.34	1239	164.68
1240	162.01	1241	159.46	1242	156.97	1243	154.56	1244	152.20
1245	149.91	1246	147.70	1247	145.60	1248	143.57	1249	141.61
1250	139.70	1251	137.83	1252	136.00	1253	134.22	1254	132.48
1255	130.77	1256	129.13	1257	127.58	1258	126.14	1259	124.70
1260	122.83	1261	122.15	1262	120.55	1263	119.20	1264	117.83
1265	116.51	1266	115.21	1267	113.94	1268	112.70	1269	111.48
1270	110.29	1271	109.12	1272	108.00	1273	106.91	1274	105.84
1275	104.79	1276	103.75	1277	102.76	1278	101.80	1279	100.88
1280	99.97	1281	99.09	1282	98.22	1283	97.36	1284	96.52
1285	95.69	1286	94.88	1287	94.08	1288	93.31	1289	92.54
1290	91.79	1291	91.05	1292	90.33	1293	89.62	1294	88.93
1295	88.24	1296	87.57	1297	86.91	1298	86.27	1299	85.63
1300	85.01	1310	79.43	1320	74.71	1330	70.41	1340	66.60
1350	63.10	1360	59.80	1370	56.72	1380	53.89	1390	51.32
[illegible]	48.91	1420	44.73	1440	41.19	1460	33.76	1500	22.50

Total Runoff = 267.259 Acre-ft.
Peak Q = 1423.88 CFS
Time to Peak = 1169 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 138W STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.98	200	1.06	300	1.15	400	1.25
500	1.40	600	1.58	700	1.85	800	2.29	900	3.52
1000	6.38	1050	8.89	1100	14.37	1110	16.26	1120	19.93
1130	22.98	1131	23.44	1132	23.96	1133	24.49	1134	25.07
1135	25.71	1136	26.37	1137	27.06	1138	27.83	1139	28.65
1140	29.56	1141	30.54	1142	31.62	1143	32.80	1144	34.10
1145	35.58	1146	37.24	1147	38.95	1148	40.67	1149	43.07
1150	45.88	1151	48.82	1152	52.74	1153	57.50	1154	63.85
1155	73.61	1156	103.73	1157	115.71	1158	116.68	1159	115.21
1160	112.12	1161	107.55	1162	101.16	1163	92.43	1164	80.09
1165	47.62	1166	32.53	1167	27.69	1168	24.64	1169	22.46
1170	20.81	1171	19.06	1172	17.79	1173	16.72	1174	15.82
1175	15.03	1176	14.33	1177	13.60	1178	12.94	1179	12.36
1180	11.84	1181	11.35	1182	10.92	1183	10.53	1184	10.16
1185	9.83	1186	9.52	1187	9.23	1188	8.96	1189	8.71
1190	8.47	1191	8.26	1192	8.04	1193	7.86	1194	7.68
1195	7.49	1196	7.34	1197	7.14	1198	6.92	1199	6.71
1200	6.51	1201	6.32	1202	6.13	1203	5.97	1204	5.82
1205	5.66	1206	5.51	1207	5.35	1208	5.23	1209	5.09
1210	4.97	1211	4.86	1212	4.72	1213	4.63	1214	4.51
1215	4.41	1216	4.32	1217	4.22	1218	4.13	1219	4.04
1220	3.95	1221	3.87	1222	3.78	1223	3.72	1224	3.63
1225	3.59	1226	3.49	1227	3.43	1228	3.38	1229	3.31
1230	3.25	1231	3.18	1232	3.13	1233	3.07	1234	3.01
1235	2.97	1236	2.91	1237	2.86	1238	2.81	1239	2.76
1240	2.72	1241	2.67	1242	2.63	1243	2.59	1244	2.54
1245	2.49	1246	2.46	1247	2.42	1248	2.38	1249	2.35
1250	2.31	1251	2.28	1252	2.24	1253	2.21	1254	2.18
1255	2.16	1256	2.15	1257	2.13	1258	2.11	1259	2.09
1260	2.08	1261	2.06	1262	2.04	1263	2.03	1264	2.01
1265	2.00	1266	1.99	1267	1.97	1268	1.96	1269	1.94
1270	1.93	1271	1.91	1272	1.90	1273	1.88	1274	1.87
1275	1.86	1276	1.85	1277	1.83	1278	1.82	1279	1.81
1280	1.80	1281	1.79	1282	1.77	1283	1.76	1284	1.75
1285	1.75	1286	1.73	1287	1.72	1288	1.71	1289	1.70
1290	1.69	1291	1.68	1292	1.67	1293	1.66	1294	1.65
1295	1.64	1296	1.63	1297	1.62	1298	1.61	1299	1.60
1300	1.60	1310	1.51	1320	1.44	1330	1.37	1340	1.32
[illegible]	1.26	1360	1.21	1370	1.17	1380	1.13	1390	1.09
[illegible]	1.05	1420	1.00	1440	0.94	1460	0.80	1500	0.60

Total Runoff = [illegible] Acre-ft.
Peak Q = [illegible] CFS
Time to Peak = 1156 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY

TOTAL HYDROGRAPH AT 1 140X STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.10	200	0.11	300	0.12	400	0.13
500	0.14	600	0.16	700	0.19	800	0.23	900	0.34
1000	0.62	1050	0.85	1100	1.37	1110	1.56	1120	1.83
	2.22	1131	2.27	1132	2.33	1133	2.38	1134	2.44
	2.51	1136	2.58	1137	2.65	1138	2.73	1139	2.82
1140	2.92	1141	3.02	1142	3.14	1143	3.27	1144	3.42
1145	3.57	1146	3.74	1147	3.93	1148	4.15	1149	4.41
1150	4.72	1151	5.10	1152	5.56	1153	6.17	1154	7.01
1155	8.36	1156	13.07	1157	14.64	1158	14.26	1159	13.25
1160	11.45	1161	6.18	1162	3.82	1163	3.13	1164	2.70
1165	2.41	1166	2.19	1167	2.02	1168	1.86	1169	1.73
1170	1.63	1171	1.54	1172	1.46	1173	1.39	1174	1.33
1175	1.26	1176	1.20	1177	1.15	1178	1.10	1179	1.06
1180	1.02	1181	0.99	1182	0.95	1183	0.92	1184	0.89
1185	0.87	1186	0.84	1187	0.82	1188	0.80	1189	0.78
1190	0.76	1191	0.74	1192	0.72	1193	0.71	1194	0.69
1195	0.67	1196	0.65	1197	0.63	1198	0.62	1199	0.60
1200	0.58	1201	0.57	1202	0.55	1203	0.54	1204	0.53
1205	0.51	1206	0.50	1207	0.49	1208	0.47	1209	0.46
1210	0.45	1211	0.44	1212	0.43	1213	0.43	1214	0.41
1215	0.41	1216	0.40	1217	0.39	1218	0.38	1219	0.37
1220	0.37	1221	0.36	1222	0.35	1223	0.35	1224	0.34
1225	0.33	1226	0.33	1227	0.32	1228	0.32	1229	0.31
1230	0.30	1231	0.30	1232	0.30	1233	0.29	1234	0.28
1235	0.28	1236	0.28	1237	0.27	1238	0.27	1239	0.26
1240	0.26	1241	0.25	1242	0.25	1243	0.25	1244	0.24
1245	0.24	1246	0.24	1247	0.23	1248	0.23	1249	0.23
1250	0.22	1251	0.22	1252	0.22	1253	0.22	1254	0.21
1255	0.21	1256	0.21	1257	0.21	1258	0.21	1259	0.21
1260	0.20	1261	0.20	1262	0.20	1263	0.20	1264	0.20
1265	0.20	1266	0.20	1267	0.19	1268	0.19	1269	0.19
1270	0.19	1271	0.19	1272	0.19	1273	0.19	1274	0.19
1275	0.18	1276	0.18	1277	0.18	1278	0.18	1279	0.18
1280	0.18	1281	0.18	1282	0.18	1283	0.17	1284	0.17
1285	0.17	1286	0.17	1287	0.17	1288	0.17	1289	0.17
1290	0.17	1291	0.17	1292	0.17	1293	0.16	1294	0.16
1295	0.16	1296	0.16	1297	0.16	1298	0.16	1299	0.16
1300	0.16	1310	0.15	1320	0.14	1330	0.14	1340	0.13
1350	0.13	1360	0.12	1370	0.12	1380	0.11	1390	0.11
1400	0.11	1420	0.10	1440	0.10	1460	0.00	1500	0.00

Total Runoff = 0.812 Acre-ft.
Peak Q = 14.64 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 140RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
	0.61	1050	0.84	1100	1.34	1110	1.51	1120	1.77
	2.14	1131	2.18	1132	2.23	1133	2.28	1134	2.33
1135	2.38	1136	2.44	1137	2.51	1138	2.58	1139	2.66
1140	2.74	1141	2.82	1142	2.92	1143	3.03	1144	3.16
1145	3.31	1146	3.46	1147	3.62	1148	3.80	1149	4.00
1150	4.24	1151	4.52	1152	4.89	1153	5.34	1154	5.90
1155	6.68	1156	8.28	1157	11.27	1158	13.72	1159	14.13
1160	13.33	1161	11.45	1162	8.25	1163	5.38	1164	3.88
1165	3.15	1166	2.76	1167	2.46	1168	2.23	1169	2.04
1170	1.89	1171	1.76	1172	1.65	1173	1.56	1174	1.49
1175	1.43	1176	1.36	1177	1.30	1178	1.24	1179	1.18
1180	1.13	1181	1.09	1182	1.05	1183	1.01	1184	0.98
1185	0.94	1186	0.91	1187	0.89	1188	0.86	1189	0.84
1190	0.81	1191	0.79	1192	0.77	1193	0.75	1194	0.73
1195	0.72	1196	0.70	1197	0.68	1198	0.67	1199	0.65
1200	0.63	1201	0.61	1202	0.59	1203	0.58	1204	0.56
1205	0.55	1206	0.53	1207	0.52	1208	0.51	1209	0.50
1210	0.48	1211	0.47	1212	0.46	1213	0.45	1214	0.44
1215	0.43	1216	0.42	1217	0.41	1218	0.41	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.232 Acre-ft.
Peak Q = 14.13 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143Y STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.44	200	0.48	300	0.49	400	0.50
	0.55	600	0.60	700	0.66	800	0.74	900	0.92
	1.35	1050	1.72	1100	2.53	1110	2.81	1120	3.22
1130	3.82	1131	3.90	1132	3.98	1133	4.06	1134	4.15
1135	4.25	1136	4.36	1137	4.47	1138	4.60	1139	4.74
1140	4.90	1141	5.08	1142	5.29	1143	5.53	1144	5.81
1145	6.13	1146	6.50	1147	6.91	1148	7.38	1149	7.92
1150	8.53	1151	9.19	1152	9.78	1153	9.87	1154	9.53

1155	12.90	1156	19.79	1157	22.10	1158	21.54	1159	20.06
1160	17.43	1161	9.70	1162	6.20	1163	5.18	1164	4.55
1165	4.10	1166	3.77	1167	3.51	1168	3.27	1169	3.08
1170	2.92	1171	2.78	1172	2.66	1173	2.55	1174	2.45
1175	2.36	1176	2.27	1177	2.19	1178	2.11	1179	2.05
[illegible]	1.99	1181	1.94	1182	1.88	1183	1.84	1184	1.79
[illegible]	1.75	1186	1.71	1187	1.67	1188	1.64	1189	1.60
[illegible]	1.57	1191	1.54	1192	1.52	1193	1.49	1194	1.47
[illegible]	1.44	1196	1.41	1197	1.38	1198	1.35	1199	1.32
1200	1.31	1201	1.28	1202	1.26	1203	1.24	1204	1.22
1205	1.20	1206	1.18	1207	1.16	1208	1.14	1209	1.13
1210	1.11	1211	1.10	1212	1.08	1213	1.07	1214	1.05
1215	1.04	1216	1.02	1217	1.01	1218	1.00	1219	0.99
1220	0.97	1221	0.96	1222	0.95	1223	0.94	1224	0.93
1225	0.92	1226	0.91	1227	0.90	1228	0.89	1229	0.88
1230	0.87	1231	0.87	1232	0.86	1233	0.85	1234	0.84
1235	0.83	1236	0.83	1237	0.82	1238	0.81	1239	0.80
1240	0.80	1241	0.79	1242	0.78	1243	0.78	1244	0.77
1245	0.76	1246	0.76	1247	0.75	1248	0.74	1249	0.74
1250	0.74	1251	0.73	1252	0.72	1253	0.72	1254	0.72
1255	0.71	1256	0.71	1257	0.70	1258	0.70	1259	0.70
1260	0.70	1261	0.69	1262	0.69	1263	0.69	1264	0.68
1265	0.68	1266	0.68	1267	0.67	1268	0.67	1269	0.67
1270	0.66	1271	0.66	1272	0.66	1273	0.66	1274	0.66
1275	0.65	1276	0.65	1277	0.65	1278	0.64	1279	0.64
1280	0.64	1281	0.64	1282	0.63	1283	0.63	1284	0.63
1285	0.63	1286	0.63	1287	0.62	1288	0.62	1289	0.62
1290	0.62	1291	0.61	1292	0.61	1293	0.61	1294	0.61
1295	0.60	1296	0.60	1297	0.60	1298	0.60	1299	0.60
1300	0.60	1310	0.58	1320	0.56	1330	0.54	1340	0.53
1350	0.52	1360	0.50	1370	0.49	1380	0.48	1390	0.47
1400	0.46	1420	0.45	1440	0.43	1460	0.00	1500	0.00

Total Runoff = 1.923 Acre-ft.
Peak Q = 22.10 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.44	200	0.46	300	0.49	400	0.52
500	0.55	600	0.60	700	0.66	800	0.74	900	0.94
1000	1.35	1050	1.71	1100	2.52	1110	2.80	1120	3.19
1130	3.79	1131	3.86	1132	3.94	1133	4.02	1134	4.11
1135	4.20	1136	4.31	1137	4.42	1138	4.54	1139	4.67
1140	4.80	1141	4.95	1142	5.12	1143	5.30	1144	5.51
1145	5.73	1146	5.97	1147	6.24	1148	6.56	1149	6.93
1150	7.35	1151	7.87	1152	8.50	1153	9.31	1154	10.42
1155	12.16	1156	17.32	1157	21.68	1158	21.69	1159	20.59
1160	18.31	1161	12.60	1162	7.47	1163	5.64	1164	4.84
1165	4.31	1166	3.95	1167	3.65	1168	3.40	1169	3.18
1170	3.01	1171	2.86	1172	2.72	1173	2.61	1174	2.51
[illegible]	2.41	1176	2.32	1177	2.24	1178	2.16	1179	2.09
[illegible]	2.03	1181	1.97	1182	1.92	1183	1.87	1184	1.82
[illegible]	1.78	1186	1.73	1187	1.70	1188	1.66	1189	1.63
1190	1.60	1191	1.56	1192	1.53	1193	1.51	1194	1.48
1195	1.46	1196	1.43	1197	1.40	1198	1.37	1199	1.34
1200	1.32	1201	1.30	1202	1.27	1203	1.25	1204	1.23
1205	1.21	1206	1.19	1207	1.17	1208	1.16	1209	1.14
1210	1.12	1211	1.11	1212	1.09	1213	1.08	1214	1.06
1215	1.05	1216	1.03	1217	1.02	1218	1.01	1219	0.99
1220	0.98	1221	0.97	1222	0.96	1223	0.95	1224	0.94
1225	0.93	1226	0.92	1227	0.91	1228	0.90	1229	0.89
1230	0.88	1231	0.87	1232	0.86	1233	0.85	1234	0.85
1235	0.84	1236	0.83	1237	0.83	1238	0.82	1239	0.81
1240	0.80	1241	0.79	1242	0.79	1243	0.79	1244	0.78
1245	0.77	1246	0.76	1247	0.76	1248	0.75	1249	0.74
1250	0.74	1251	0.73	1252	0.73	1253	0.73	1254	0.72
1255	0.71	1256	0.71	1257	0.71	1258	0.71	1259	0.70
1260	0.70	1261	0.70	1262	0.69	1263	0.69	1264	0.69
1265	0.68	1266	0.68	1267	0.68	1268	0.67	1269	0.67
1270	0.67	1271	0.67	1272	0.66	1273	0.66	1274	0.66
1275	0.65	1276	0.65	1277	0.65	1278	0.65	1279	0.64
1280	0.64	1281	0.64	1282	0.64	1283	0.63	1284	0.63
1285	0.63	1286	0.63	1287	0.62	1288	0.62	1289	0.62
1290	0.62	1291	0.62	1292	0.61	1293	0.61	1294	0.61
1295	0.61	1296	0.60	1297	0.60	1298	0.60	1299	0.60
1300	0.60	1310	0.58	1320	0.56	1330	0.54	1340	0.53
1350	0.52	1360	0.50	1370	0.49	1380	0.48	1390	0.47
1400	0.46	1420	0.45	1440	0.43	1460	0.40	1500	0.40

Total Runoff = 1.979 Acre-ft.
Peak Q = 21.69 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 1472 STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.79	200	0.85	300	0.92	400	1.00
500	1.11	600	1.25	700	1.45	800	1.78	900	2.67
1000	4.74	1050	6.56	1100	10.53	1110	11.59	1120	13.83
1130	16.75	1131	17.09	1132	17.46	1133	17.85	1134	18.26
1135	18.73	1136	19.29	1137	19.70	1138	20.22	1139	20.85
1140	21.51	1141	22.22	1142	23.00	1143	23.83	1144	24.79
1145	25.85	1146	27.05	1147	28.28	1148	29.67	1149	31.26
1150	33.15	1151	35.41	1152	38.22	1153	41.67	1154	46.25
1155	53.29	1156	75.01	1157	93.65	1158	94.35	1159	[illegible]
1160	81.06	1161	[illegible]	1162	73.16	1163	[illegible]	1164	[illegible]
1165	34.55	1166	23.68	1167	20.16	1168	17.36	1169	16.39
[illegible]	15.04	[illegible]	12.32	1172	13.03	1173	12.23	[illegible]	11.57
[illegible]	11.31	1176	10.49	[illegible]	9.57	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	8.70	[illegible]	8.24	[illegible]	8.03	[illegible]	7.75	[illegible]	[illegible]
[illegible]	7.24	[illegible]	7.32	[illegible]	7.31	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	6.22	[illegible]	[illegible]	[illegible]	5.95	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.90	[illegible]	[illegible]	[illegible]	[illegible]

1210	3.73	1211	3.64	1212	3.55	1213	3.48	1214	3.39
1215	3.32	1216	3.25	1217	3.19	1218	3.12	1219	3.05
1220	2.99	1221	2.93	1222	2.87	1223	2.82	1224	2.76
1225	2.72	1226	2.65	1227	2.61	1228	2.57	1229	2.52
1230	2.48	1231	2.43	1232	2.39	1233	2.35	1234	2.30
[illegible]	2.27	1236	2.23	1237	2.20	1238	2.16	1239	2.12
[illegible]	2.09	1241	2.05	1242	2.03	1243	2.00	1244	1.96
[illegible]	1.93	1246	1.90	1247	1.87	1248	1.85	1249	1.82
1250	1.79	1251	1.77	1252	1.74	1253	1.72	1254	1.70
1255	1.68	1256	1.67	1257	1.66	1258	1.65	1259	1.63
1260	1.62	1261	1.61	1262	1.60	1263	1.59	1264	1.57
1265	1.56	1266	1.55	1267	1.54	1268	1.53	1269	1.52
1270	1.51	1271	1.50	1272	1.49	1273	1.48	1274	1.47
1275	1.46	1276	1.45	1277	1.44	1278	1.43	1279	1.42
1280	1.41	1281	1.40	1282	1.39	1283	1.39	1284	1.38
1285	1.37	1286	1.36	1287	1.35	1288	1.35	1289	1.34
1290	1.33	1291	1.32	1292	1.32	1293	1.31	1294	1.30
1295	1.29	1296	1.28	1297	1.28	1298	1.27	1299	1.26
1300	1.26	1310	1.20	1320	1.14	1330	1.09	1340	1.05
1350	1.00	1360	0.97	1370	0.93	1380	0.91	1390	0.88
1400	0.85	1420	0.80	1440	0.76	1460	0.00	1500	0.00

Total Runoff = 6.353 Acre-ft.
Peak Q = 84.35 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 147BT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.79	200	0.85	300	0.91	400	1.00
500	1.11	600	1.26	700	1.45	800	1.78	900	2.67
1000	4.73	1050	6.54	1100	10.50	1110	11.65	1120	13.77
1130	16.66	1131	16.99	1132	17.35	1133	17.74	1134	18.15
1135	18.60	1136	19.08	1137	19.57	1138	20.11	1139	20.69
1140	21.33	1141	22.03	1142	22.79	1143	23.63	1144	24.54
1145	25.58	1146	26.75	1147	27.98	1148	29.33	1149	30.87
1150	32.69	1151	34.87	1152	37.55	1153	40.87	1154	45.18
1155	51.66	1156	69.64	1157	92.83	1158	83.90	1159	83.81
1160	81.43	1161	78.62	1162	74.14	1163	68.32	1164	59.96
1165	40.52	1166	25.40	1167	21.31	1168	18.36	1169	16.90
1170	15.37	1171	14.26	1172	13.26	1173	12.47	1174	11.77
1175	11.16	1176	10.65	1177	10.15	1178	9.65	1179	9.21
1180	8.82	1181	8.46	1182	8.14	1183	7.85	1184	7.57
1185	7.33	1186	7.10	1187	6.88	1188	6.68	1189	6.50
1190	6.32	1191	6.16	1192	6.01	1193	5.86	1194	5.73
1195	5.60	1196	5.48	1197	5.35	1198	5.20	1199	5.04
1200	4.89	1201	4.75	1202	4.62	1203	4.49	1204	4.38
1205	4.27	1206	4.16	1207	4.05	1208	3.95	1209	3.86
1210	3.77	1211	3.66	1212	3.59	1213	3.51	1214	3.43
1215	3.35	1216	3.29	1217	3.22	1218	3.15	1219	3.08
1220	3.01	1221	2.95	1222	2.89	1223	2.84	1224	2.79
1225	2.73	1226	2.68	1227	2.63	1228	2.59	1229	2.54
[illegible]	2.50	1231	2.45	1232	2.41	1233	2.37	1234	2.32
[illegible]	2.29	1236	2.25	1237	2.21	1238	2.18	1239	2.14
[illegible]	2.11	1241	2.07	1242	2.04	1243	2.01	1244	1.98
1245	1.95	1246	1.91	1247	1.89	1248	1.86	1249	1.83
1250	1.81	1251	1.78	1252	1.76	1253	1.73	1254	1.71
1255	1.69	1256	1.68	1257	1.67	1258	1.65	1259	1.64
1260	1.63	1261	1.62	1262	1.60	1263	1.59	1264	1.58
1265	1.57	1266	1.56	1267	1.55	1268	1.54	1269	1.53
1270	1.51	1271	1.50	1272	1.49	1273	1.48	1274	1.47
1275	1.46	1276	1.45	1277	1.44	1278	1.44	1279	1.43
1280	1.42	1281	1.41	1282	1.40	1283	1.39	1284	1.38
1285	1.37	1286	1.37	1287	1.36	1288	1.35	1289	1.34
1290	1.34	1291	1.33	1292	1.32	1293	1.31	1294	1.30
1295	1.30	1296	1.29	1297	1.28	1298	1.27	1299	1.27
1300	1.26	1310	1.20	1320	1.14	1330	1.09	1340	1.05
1350	1.01	1360	0.97	1370	0.93	1380	0.91	1390	0.88
1400	0.85	1420	0.80	1440	0.76	1460	0.42	1500	0.40

Total Runoff = 6.410 Acre-ft.
Peak Q = 83.90 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 148XZ STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.20	100	1.63	200	1.71	300	1.80	400	1.92
500	2.06	600	2.26	700	2.51	800	2.92	900	4.00
1000	6.69	1050	9.09	1100	14.36	1110	16.16	1120	18.73
1130	22.59	1131	23.04	1132	23.52	1133	24.04	1134	24.58
1135	25.19	1136	25.83	1137	26.50	1138	27.23	1139	28.01
1140	28.87	1141	29.81	1142	30.84	1143	31.96	1144	33.21
1145	34.62	1146	36.18	1147	37.84	1148	39.69	1149	41.79
1150	44.28	1151	47.26	1152	50.94	1153	55.52	1154	61.50
1155	70.50	1156	95.24	1157	115.79	1158	119.30	1159	116.53
1160	113.06	1161	102.67	1162	89.87	1163	79.34	1164	68.67
1165	47.98	1166	32.11	1167	27.42	1168	23.99	1169	22.13
1170	20.26	1171	18.87	1172	17.63	1173	16.63	1174	15.78
1175	15.03	1176	14.34	1177	13.69	1178	13.05	1179	12.49
1180	11.98	1181	11.52	1182	11.10	1183	10.72	1184	10.37
1185	10.04	1186	9.75	1187	9.47	1188	9.20	1189	8.96
1190	8.73	1191	8.52	1192	8.31	1193	8.13	1194	7.95
1195	7.77	1196	7.61	1197	7.43	1198	7.23	1199	7.03
1200	6.84	1201	6.66	1202	6.49	1203	6.33	1204	6.18
1205	6.03	1206	5.89	1207	5.75	1208	5.62	1209	5.49
1210	5.37	1211	5.26	1212	5.14	1213	5.03	1214	4.93
1215	4.83	1216	4.74	1217	4.65	1218	4.56	1219	4.48
1220	4.40	1221	4.33	1222	4.25	1223	4.19	1224	4.12
[illegible]	4.06	1226	4.00	1227	3.94	1228	3.88	1229	3.83
[illegible]	3.78	1231	3.72	1232	3.67	1233	3.62	1234	3.57
[illegible]	3.52	1236	3.48	1237	3.44	1238	3.40	1239	3.36
[illegible]	3.31	1241	3.27	1242	3.23	1243	3.19	1244	3.16
[illegible]	3.11	1246	3.08	1247	3.04	1248	3.01	1249	2.98
[illegible]	2.95	1251	2.92	1252	2.89	1253	2.86	1254	2.83
[illegible]	2.81	1256	2.78	1257	2.75	1258	2.74	1259	2.72
[illegible]	2.71	1261	2.71	1262	2.70	1263	2.69	1264	2.67

1265	2.65	1266	2.64	1267	2.63	1268	2.61	1269	2.60
1270	2.58	1271	2.57	1272	2.55	1273	2.54	1274	2.53
1275	2.52	1276	2.51	1277	2.49	1278	2.48	1279	2.47
1280	2.46	1281	2.45	1282	2.44	1283	2.42	1284	2.41
1285	2.40	1286	2.39	1287	2.38	1288	2.37	1289	2.36
1290	2.35	1291	2.34	1292	2.33	1293	2.32	1294	2.31
	2.30	1296	2.29	1297	2.28	1298	2.27	1299	2.27
	2.26	1310	2.18	1320	2.10	1330	2.04	1340	1.98
1350	1.92	1360	1.87	1370	1.83	1380	1.79	1390	1.75
1400	1.72	1420	1.65	1440	1.59	1460	1.22	1500	1.20

Total Runoff = 9.620 Acre-ft.
Peak Q = 119.30 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40A STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	9.64	200	21.19	300	24.18	400	28.64
500	33.98	600	39.91	700	46.69	800	56.00	900	72.16
[illegible]	105.59	1050	135.47	1100	195.14	1110	212.64	1120	234.54
[illegible]	265.81	1131	269.36	1132	273.04	1133	276.84	1134	280.77
[illegible]	284.92	1136	289.26	1137	293.78	1138	298.49	1139	303.42
1140	308.62	1141	314.10	1142	319.92	1143	326.08	1144	332.64
1145	339.64	1146	347.08	1147	355.07	1148	363.70	1149	373.08
1150	383.31	1151	394.56	1152	406.97	1153	420.93	1154	436.99
1155	456.38	1156	487.11	1157	513.40	1158	540.73	1159	574.82
1160	614.43	1161	655.82	1162	689.16	1163	731.79	1164	780.39
1165	829.34	1166	872.95	1167	905.77	1168	927.71	1169	941.13
1170	947.42	1171	948.08	1172	943.60	1173	933.01	1174	916.24
1175	895.16	1176	872.40	1177	849.70	1178	827.49	1179	805.47
1180	782.97	1181	759.57	1182	734.86	1183	709.05	1184	682.11
1185	654.58	1186	626.64	1187	598.67	1188	571.18	1189	544.20
1190	518.15	1191	493.10	1192	469.24	1193	446.64	1194	425.23
1195	405.04	1196	386.05	1197	368.23	1198	351.56	1199	335.96
1200	321.39	1201	307.78	1202	295.07	1203	283.23	1204	272.22
1205	261.95	1206	252.28	1207	243.04	1208	234.41	1209	226.47
1210	218.97	1211	211.91	1212	205.37	1213	199.24	1214	193.49
1215	188.29	1216	183.20	1217	178.30	1218	173.61	1219	169.11
1220	164.83	1221	160.72	1222	156.79	1223	153.03	1224	149.42
1225	145.97	1226	142.64	1227	139.46	1228	136.47	1229	133.74
1230	131.30	1231	128.81	1232	126.41	1233	124.07	1234	121.81
1235	119.63	1236	117.53	1237	115.50	1238	113.52	1239	111.62
1240	109.77	1241	107.99	1242	106.29	1243	104.71	1244	103.30
1245	101.85	1246	100.41	1247	99.00	1248	97.63	1249	96.29
1250	94.98	1251	93.71	1252	92.46	1253	91.25	1254	90.07
1255	88.91	1256	87.78	1257	86.67	1258	85.59	1259	84.54
1260	83.51	1261	82.49	1262	81.50	1263	80.53	1264	79.58
1265	78.65	1266	77.74	1267	76.84	1268	75.97	1269	75.11
1270	74.27	1271	73.44	1272	72.65	1273	71.91	1274	71.22
1275	70.56	1276	69.87	1277	69.21	1278	68.55	1279	67.90
1280	67.26	1281	66.63	1282	66.03	1283	65.42	1284	64.83
1285	64.26	1286	63.68	1287	63.13	1288	62.58	1289	62.04
1290	61.51	1291	60.99	1292	60.48	1293	59.97	1294	59.48
1295	58.99	1296	58.51	1297	58.03	1298	57.57	1299	57.11
1300	56.65	1310	52.74	1320	49.31	1330	46.23	1340	43.48
1350	40.82	1360	38.37	1370	36.04	1380	33.87	1390	31.92
1400	30.08	1420	26.93	1440	24.23	1460	20.50	1500	12.84

Total Runoff = 160.465 Acre-ft.
Peak Q = 948.08 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	9.64	200	21.18	300	24.18	400	28.64
[illegible]	33.98	600	39.91	700	46.69	800	55.99	900	72.16
[illegible]	105.58	1050	135.46	1100	195.11	1110	212.61	1120	234.48
[illegible]	265.75	1131	269.31	1132	272.97	1133	276.77	1134	280.70
1135	284.84	1136	289.18	1137	293.69	1138	298.40	1139	303.32
1140	308.52	1141	313.99	1142	319.80	1143	325.96	1144	332.51
1145	339.50	1146	346.93	1147	354.91	1148	363.54	1149	372.90
1150	383.12	1151	394.35	1152	406.74	1153	420.66	1154	436.69
1155	456.01	1156	486.47	1157	513.04	1158	540.13	1159	574.27
1160	613.63	1161	655.17	1162	688.56	1163	731.10	1164	779.61
1165	828.60	1166	872.29	1167	905.33	1168	927.39	1169	940.97
1170	947.34	1171	948.07	1172	943.70	1173	933.19	1174	916.53
1175	895.49	1176	872.76	1177	850.04	1178	827.84	1179	805.80
1180	783.34	1181	759.94	1182	739.26	1183	709.46	1184	682.58
1185	655.07	1186	627.12	1187	599.17	1188	571.66	1189	544.69
1190	518.80	1191	493.56	1192	469.66	1193	447.05	1194	425.61
1195	405.41	1196	386.39	1197	368.57	1198	351.86	1199	336.26
1200	321.66	1201	308.06	1202	295.31	1203	283.47	1204	272.43
1205	262.17	1206	252.48	1207	243.24	1208	234.59	1209	226.68
1210	219.13	1211	212.08	1212	205.51	1213	199.39	1214	193.62
1215	188.43	1216	183.32	1217	178.43	1218	173.72	1219	169.23
1220	164.92	1221	160.83	1222	156.88	1223	153.13	1224	149.50
1225	146.06	1226	142.72	1227	139.55	1228	136.54	1229	133.82
1230	131.36	1231	128.89	1232	126.47	1233	124.14	1234	121.86
1235	119.70	1236	117.58	1237	115.56	1238	113.57	1239	111.67
1240	109.82	1241	108.05	1242	106.33	1243	104.76	1244	103.33
1245	101.90	1246	100.45	1247	99.05	1248	97.66	1249	96.33
1250	95.02	1251	93.75	1252	92.50	1253	91.29	1254	90.10
1255	88.95	1256	87.81	1257	86.71	1258	85.62	1259	84.57
1260	83.54	1261	82.53	1262	81.53	1263	80.56	1264	79.61
1265	78.68	1266	77.76	1267	76.87	1268	75.99	1269	75.14
1270	74.29	1271	73.47	1272	72.67	1273	71.93	1274	71.25
1275	70.58	1276	69.90	1277	69.23	1278	68.57	1279	67.92
1280	67.28	1281	66.65	1282	66.05	1283	65.44	1284	64.85
1285	64.28	1286	63.70	1287	63.15	1288	62.60	1289	62.06
1290	61.53	1291	61.01	1292	60.50	1293	59.99	1294	59.49
1295	59.01	1296	58.52	1297	58.05	1298	57.58	1299	57.12
1300	56.67	1310	52.75	1320	49.32	1330	46.24	1340	43.49
1350	40.83	1360	38.38	1370	36.04	1380	33.88	1390	31.93
1400	30.09	1420	26.93	1440	24.24	1460	20.52	1500	12.85

Total Runoff = 160.465 Acre-ft.
Peak Q = 948.07 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53I STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
[illegible]	0.00	100	0.35	200	0.44	300	0.51	400	0.60
[illegible]	0.71	800	0.83	700	0.96	800	1.16	900	1.51
[illegible]	2.25	1050	2.91	1100	4.37	1110	4.89	1120	5.63
1130	6.78	1131	6.88	1132	7.03	1133	7.16	1134	7.34
1135	7.53	1136	7.72	1137	7.92	1138	8.15	1139	8.39
1140	8.65	1141	8.94	1142	9.27	1143	9.61	1144	10.01
1145	10.43	1146	10.98	1147	11.40	1148	12.00	1149	12.68

Appendix 6
Proposed Burned Watershed
Peak Mitigated Flow–Q_{pm}

File name: C:\Work\1493\10 - H & H Study\Civil-Survey\wpr\1493EC615.lac Run date: Sun May 21 14:02:14 2006

Los Angeles County Flood Control District
Modified Rational Method Hydrology

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
			Storm Day 4	Storm Frequency 50											
1 1A	37.8	122.85	37.8	122.85	8.040	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1 2A	0.0	0.00	37.8	122.85	8.119	1	1517	0.14568	0.00	0.00	0	293	0	8.51	0.00
1 3A	41.0	125.18	78.8	227.97	16.836	0	0	0.00000	0.00	0.00	0	293	9	8.51	0.01
1 4A	0.0	0.00	78.8	227.97	16.859	1	727	0.10127	0.00	0.00	0	293	0	8.51	0.00
1 5A	40.6	131.94	119.4	337.56	25.493	0	0	0.00000	0.00	0.00	0	293	8	8.51	0.01
1 6A	0.0	0.00	119.4	337.56	25.553	1	1016	0.07674	0.00	0.00	0	293	0	8.51	0.00
1 7A	30.4	103.68	149.8	410.67	35.069	0	0	0.00000	0.00	0.00	0	291	8	8.51	0.01
1 9B	17.8	70.51	17.8	70.51	5.573	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1 10B	0.0	0.00	17.8	70.51	5.646	1	1044	0.07760	0.00	0.00	0	291	0	8.51	0.00
1 11AB	17.8	62.41	167.6	473.08	40.783	1	1044	0.06035	0.00	0.00	0	291	0	8.51	0.00
1 12A	34.8	117.68	202.4	535.88	51.537	0	0	0.00000	0.00	0.00	0	291	8	8.44	0.01
1 13A	0.0	0.00	202.4	535.88	51.599	1	832	0.04569	0.00	0.00	0	291	0	8.44	0.00
1 14A	28.3	94.27	230.7	556.16	60.145	0	0	0.00000	0.00	0.00	0	291	8	8.33	0.01
1 15A	0.0	0.00	230.7	556.16	60.206	1	978	0.04602	0.00	0.00	0	291	0	8.33	0.00
1 16A	23.8	75.61	254.5	571.25	67.517	0	0	0.00000	0.00	0.00	0	291	9	8.41	0.01
1 17A	0.0	0.00	254.5	571.25	67.575	1	1815	0.04297	0.00	0.00	0	291	0	8.41	0.00
1 18A	30.8	93.67	285.3	572.13	77.177	0	0	0.00000	0.00	0.00	0	291	10	8.49	0.01
1 19A	0.0	0.00	285.3	572.13	77.188	1	534	0.02809	0.00	0.00	0	291	0	8.49	0.00
1 20A	32.0	92.89	317.3	590.21	87.196	0	0	0.00000	0.00	0.00	0	291	11	8.51	0.01
1 21A	0.0	0.00	317.3	590.21	87.210	1	666	0.04052	0.00	0.00	0	291	0	8.51	0.00
1 22A	13.3	52.69	330.6	593.34	91.374	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.01
1 23C	46.5	149.55	46.5	149.55	14.558	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 24C	0.0	0.00	46.5	149.55	14.634	1	419	0.05016	0.00	0.00	0	291	0	8.51	0.00
1 26C	21.3	68.51	67.8	214.46	21.303	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 27C	0.0	0.00	67.8	214.46	21.345	1	611	0.04440	0.00	0.00	0	291	0	8.51	0.00
1 28D	35.9	115.44	35.9	115.44	11.236	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.01
1 29D	0.0	0.00	35.9	115.44	11.342	1	1490	0.04037	0.00	0.00	0	291	0	8.51	0.00
1 30D	33.1	91.88	69.0	179.63	21.697	0	0	0.00000	0.00	0.00	0	291	12	8.51	0.01
1 31CD	69.0	179.63	136.8	386.81	43.068	1	372	0.04261	0.00	0.00	0	291	0	8.51	0.00
1 32AC	136.8	384.67	467.4	896.02	134.513	1	1490	0.02349	0.00	0.00	0	291	0	8.51	0.00
1 33A	23.6	75.96	491.0	889.82	141.976	0	0	0.00000	0.00	0.00	0	291	9	8.51	0.02
1 34E	46.5	141.90	46.5	141.90	14.703	0	0	0.00000	0.00	0.00	0	291	10	8.51	0.02
1 35E	0.0	0.00	46.5	141.90	14.789	1	386	0.02852	0.00	0.00	0	291	0	8.51	0.00
1 36AE	46.5	139.76	537.5	947.95	156.789	1	332	0.00306	0.00	0.00	0	291	0	8.51	0.00
1 38A	0.0	0.00	537.5	942.73	156.790	1	329	0.05090	0.00	0.00	0	291	0	8.51	0.00
1 39A	11.5	45.62	549.0	948.08	160.465	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.03
1 40A	0.0	0.00	549.0	948.08	160.465	5	31	0.11340	8.00	0.00	0	291	0	8.51	0.00
1 42F	6.7	26.58	6.7	26.58	2.141	0	0	0.00000	0.00	0.00	0	291	6	8.51	0.03
1 43F	0.0	0.00	6.7	26.58	2.238	4	51	0.06492	3.00	0.00	0	291	0	8.51	0.00
1 46G	1.8	0.50	1.8	0.50	0.049	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 47G	0.0	0.00	1.8	0.50	0.827	4	769	0.01284	3.00	0.00	0	91	0	0.75	0.00
1 48H	4.6	1.28	4.6	1.28	0.126	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 49H	0.0	0.00	4.6	1.28	0.832	4	72	0.04449	3.00	0.00	0	91	0	0.75	0.00
1 52I	9.2	40.13	9.2	40.13	2.941	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
53I	0.0	0.00	9.2	40.13	2.999	4	95	0.04754	3.00	0.00	0	291	0	8.51	0.00
54HI	9.2	39.64	13.8	41.11	3.837	4	744	0.00841	3.00	0.00	0	291	0	8.51	0.00
55H	5.4	1.51	19.2	39.87	3.984	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 56GH	19.2	39.87	21.0	40.30	4.812	4	653	0.11082	3.00	0.00	0	91	0	0.75	0.00
1 57FG	21.0	39.56	27.7	62.87	7.051	4	80	0.07155	3.00	0.00	0	91	0	0.75	0.00
1 59J	7.2	2.01	7.2	2.01	0.197	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 60J	0.0	0.00	7.2	2.01	0.840	4	238	0.02252	3.00	0.00	0	91	0	0.75	0.00
1 63K	1.9	0.53	1.9	0.53	0.052	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 64K	0.0	0.00	1.9	0.53	0.827	4	35	0.06272	3.00	0.00	0	91	0	0.75	0.00
1 65L	11.3	2.81	11.3	2.81	0.308	0	0	0.00000	0.00	0.00	0	91	6	0.75	0.42
1 66L	0.0	0.00	11.3	2.81	0.856	4	157	0.09276	3.00	0.00	0	91	0	0.75	0.00
1 69M	5.1	22.24	5.1	22.24	1.630	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 70M	0.0	0.00	5.1	22.24	1.782	4	266	0.11042	3.00	0.00	0	291	0	8.51	0.00
1 71N	3.4	14.83	3.4	14.83	1.087	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 72N	0.0	0.00	3.4	14.83	1.347	4	252	0.24596	3.00	0.00	0	291	0	8.51	0.00
1 74O	8.9	38.82	8.9	38.82	2.845	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 75O	0.0	0.00	8.9	38.82	2.906	4	292	0.03686	3.00	0.00	0	291	0	8.51	0.00
1 78P	9.1	39.69	9.1	39.69	2.909	0	0	0.00000	0.00	0.00	0	291	5	8.51	0.03
1 79P	0.0	0.00	9.1	39.69	2.975	3	573	0.01071	36-6	0.00	0	291	0	8.51	0.00
1 80OP	9.1	31.19	18.0	54.57	5.885	4	416	0.00822	3.00	0.00	0	291	0	8.51	0.00
1 82NO	18.0	53.94	21.4	64.27	7.235	3	394	0.13587	36-6	0.00	0	291	0	8.51	0.00
1 83N	3.4	0.95	24.8	65.61	7.328	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 84MN	24.8	65.61	29.9	83.20	9.112	4	136	0.01825	3.00	0.00	0	91	0	0.75	0.00
1 86LM	29.9	82.68	41.2	85.14	9.968	4	119	0.20094	3.50	0.00	0	91	0	0.75	0.00
1 89KL	41.2	84.99	43.1	85.40	10.797	4	210	0.01907	3.50	0.00	0	91	0	0.75	0.00
1 90JK	43.1	84.20	50.3	85.98	11.640	4	411	0.02096	3.50	0.00	0	91	0	0.75	0.00
1 91J	6.3	1.76	56.6	86.09	11.812	0	0	0.00000	0.00	0.00	0	91	5	0.75	0.42
1 92J	0.0	0.00	56.6	86.09	11.812	4	113	0.07622	3.50	0.00	0	91	0	0.75	0.00
1 94FJ	56.6	95.99	84.3	146.09	18.964	4	43	0.18522	3.50	0.00	0	91	0	0.75	0.00
1 96AF	84.3	146.09	633.3	998.32	179.335	4	793	0.09222	7.00	0.00	0	91	0	0.75	0.00
1 97A	6.0	0.00	639.3	997.96	179.335	0	0	0.00000	0.00	0.00	0	91	9	0.75	0.65
1 98A	6.0	0.00	639.3	997.96	179.341	4	1096	0.12277	7.00	0.00	0	91	0	0.75	0.00
1 99A	1.7	0.46	641.0	997.31	179.406	0	0	0.00000	0.00	0.00	0	97	6	0.75	0.65
1 100A	0.0	0.00	641.0	997.31	179.406	4	33	0.04190	7.00	0.00	0	97	0	0.75	0.00
1 103Q	54.2	150.19	54.2	150.19	12.554	0	0	0.00000	0.00	0.00	0	297	11	8.51	0.03
1 104Q	0.0	0.00	54.2	150.19	12.679	1	504	0.00728	0.00	0.00	0	297	0	8.51	0.00
1 106R	29.7	96.86	29.7	96.86	6.640	0	0	0.00000	0.00	0.00	0	297	8	8.51	0.01
1 107R	0.0	0.00	29.7	96.86	6.723	1	711	0.05487	0.00	0.00	0	297	0	8.51	0.00
1 108R	35.8	110.81	65.5	194.11	14.546	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.03
1 109R	0.0	0.00	65.5	194.11	14.602	1	923	0.01542	0.00	0.00	0	297	0	8.51	0.00
1 110R	22.4	93.[illegible]	[illegible]	[illegible]	[illegible]	0	0	0.00000	0.00	0.00	0	297	[illegible]	8.51	[illegible]
1 111R	0.0	0.00	[illegible]	233.63	[illegible]	1	71[illegible]	[illegible]	0.00	0.00	0	297	[illegible]	8.51	[illegible]
1 112R	27.5	84.[illegible]	[illegible]	282.84	28.223	0	0	0.00000	0.00	0.00	0	297	[illegible]	8.51	[illegible]
1 113R	[illegible]	[illegible]	[illegible]	292.34	[illegible]	1	636	0.01464	0.00	0.00	0	297	[illegible]	8.51	[illegible]
1 114R	[illegible]	[illegible]	141.[illegible]	366.99	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	0	297	[illegible]	[illegible]	[illegible]
1 115QR	[illegible]	[illegible]	195.7	389.73	[illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]
1 117RQ	[illegible]	[illegible]	[illegible]	1377.32	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1 119S	[illegible]	[illegible]	[illegible]	1.45	[illegible]	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1.45	[illegible]	4	[illegible]	[illegible]	3.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1.43	662.4	1376.99	[illegible]	4	[illegible]	[illegible]	7.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1.15	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1.15	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	855.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1	130U	6.0	0.61	6.0	0.61	0.036	0	0	0.00000	0.00	0.00	0	220	6	0.75	0.03
1	131U	0.0	0.00	6.0	0.61	0.827	4	104	0.02343	3.00	0.00	0	220	0	0.75	0.00
1	132AU	6.0	0.60	861.0	1365.42	233.920	4	408	0.03138	7.00	0.00	0	220	0	0.75	0.00
1	134V	29.4	102.31	29.4	102.31	8.397	0	0	0.00000	0.00	0.00	0	97	7	8.51	0.23
1	135V	0.0	0.00	29.4	102.31	8.456	5	138	0.01237	10.00	0.00	0	97	0	8.51	0.00
1	136AV	29.4	102.00	890.4	1380.04	242.376	0	0	0.00000	0.00	0.00	0	97	0	8.51	0.00
	37W	38.0	116.68	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.01
	38W	0.0	0.00	38.0	116.68	8.501	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00
	139X	3.5	14.64	3.5	14.64	0.812	0	0	0.00000	0.00	0.00	0	297	5	8.51	0.03
1	140X	0.0	0.00	3.5	14.64	1.232	4	410	0.01225	3.00	0.00	0	297	0	8.51	0.00
1	142Y	5.2	1.22	5.2	1.22	0.140	0	0	0.00000	0.00	0.00	0	97	5	0.75	0.42
1	143Y	0.0	0.00	5.2	1.22	0.832	4	146	0.02238	3.00	0.00	0	97	0	0.75	0.00
1	144XY	5.2	1.19	8.7	15.26	2.064	0	84	0.01104	0.00	0.00	0	97	0	0.75	0.00
1	146Z	27.4	84.35	27.4	84.35	6.353	0	0	0.00000	0.00	0.00	0	297	9	8.51	0.03
1	147Z	0.0	0.00	27.4	84.35	8.410	4	120	0.02073	3.00	0.00	0	297	0	8.51	0.00
1	148XZ	27.4	83.90	36.1	99.07	8.473	0	0	0.00000	0.00	0.00	0	297	0	8.51	0.00

Normal End of MODRAT

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40A STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	9.64	200	21.19	300	24.18	400	28.64
500	33.98	600	39.91	700	46.69	800	56.00	900	72.16
	105.59	1050	135.47	1100	195.14	1110	212.64	1120	234.54
	265.81	1131	269.38	1132	273.04	1133	276.84	1134	280.77
[illegible]	284.92	1136	289.26	1137	293.78	1138	298.49	1139	303.42
1140	308.62	1141	314.10	1142	319.92	1143	326.08	1144	332.64
1145	339.64	1146	347.08	1147	355.07	1148	363.70	1149	373.08
1150	383.31	1151	394.56	1152	406.97	1153	420.93	1154	436.99
1155	456.38	1156	487.11	1157	513.40	1158	540.73	1159	574.82
1160	614.43	1161	655.82	1162	689.16	1163	731.79	1164	780.39
1165	829.34	1166	872.95	1167	905.77	1168	927.71	1169	941.13
1170	947.42	1171	948.08	1172	943.60	1173	933.01	1174	916.24
1175	895.16	1176	872.40	1177	849.70	1178	827.49	1179	805.47
1180	782.97	1181	759.57	1182	734.86	1183	709.05	1184	682.11
1185	654.58	1186	626.64	1187	598.67	1188	571.18	1189	544.20
1190	518.15	1191	493.10	1192	469.24	1193	446.64	1194	425.23
1195	405.04	1196	386.05	1197	368.23	1198	351.56	1199	335.96
1200	321.39	1201	307.78	1202	295.07	1203	283.23	1204	272.22
1205	261.95	1206	252.28	1207	243.04	1208	234.41	1209	226.47
1210	218.97	1211	211.91	1212	205.37	1213	199.24	1214	193.49
1215	188.29	1216	183.20	1217	178.30	1218	173.61	1219	169.11
1220	164.83	1221	160.72	1222	156.79	1223	153.03	1224	149.42
1225	145.97	1226	142.64	1227	139.46	1228	136.47	1229	133.74
1230	131.30	1231	128.81	1232	126.41	1233	124.07	1234	121.81
1235	119.63	1236	117.53	1237	115.50	1238	113.52	1239	111.62
1240	109.77	1241	107.99	1242	106.29	1243	104.71	1244	103.30
1245	101.85	1246	100.41	1247	99.00	1248	97.63	1249	96.29
1250	94.98	1251	93.71	1252	92.46	1253	91.25	1254	90.07
1255	88.91	1256	87.78	1257	86.67	1258	85.59	1259	84.54
1260	83.51	1261	82.49	1262	81.50	1263	80.53	1264	79.58
1265	78.65	1266	77.74	1267	76.84	1268	75.97	1269	75.11
1270	74.27	1271	73.44	1272	72.65	1273	71.91	1274	71.22
1275	70.56	1276	69.87	1277	69.21	1278	68.55	1279	67.90
1280	67.26	1281	66.63	1282	66.03	1283	65.42	1284	64.83
1285	64.26	1286	63.68	1287	63.13	1288	62.58	1289	62.04
1290	61.51	1291	60.99	1292	60.48	1293	59.97	1294	59.48
1295	58.99	1296	58.51	1297	58.03	1298	57.57	1299	57.11
1300	56.65	1310	52.74	1320	49.31	1330	46.23	1340	43.48
1350	40.82	1360	38.37	1370	36.04	1380	33.87	1390	31.92
1400	30.08	1420	26.93	1440	24.23	1460	20.50	1500	12.84

Total Runoff = 160.465 Acre-ft.
Peak Q = 948.08 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 40RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	2.00	100	9.64	200	21.18	300	24.18	400	28.64
	33.98	600	39.91	700	46.69	800	56.00	900	72.16
	105.58	1050	135.46	1100	195.11	1110	212.61	1120	234.48
[illegible]	265.75	1131	269.31	1132	272.97	1133	276.77	1134	280.70
1135	284.84	1136	289.18	1137	293.69	1138	298.40	1139	303.32
1140	308.52	1141	313.99	1142	319.80	1143	325.96	1144	332.51
1145	339.50	1146	346.93	1147	354.91	1148	363.54	1149	372.90
1150	383.12	1151	394.35	1152	406.74	1153	420.66	1154	436.69
1155	456.01	1156	486.47	1157	513.04	1158	540.13	1159	574.27
1160	613.63	1161	655.17	1162	688.56	1163	731.10	1164	779.61
1165	828.60	1166	872.29	1167	905.33	1168	927.38	1169	940.97
1170	947.34	1171	948.07	1172	943.70	1173	933.19	1174	916.53
1175	895.49	1176	872.76	1177	850.04	1178	827.84	1179	805.80
1180	783.34	1181	759.94	1182	735.26	1183	709.46	1184	682.58
1185	655.07	1186	627.12	1187	599.17	1188	571.66	1189	544.69
1190	518.60	1191	493.56	1192	469.86	1193	447.05	1194	425.61
1195	405.41	1196	386.39	1197	368.57	1198	351.86	1199	336.26
1200	321.66	1201	308.05	1202	295.31	1203	283.47	1204	272.43
1205	262.17	1206	252.48	1207	243.24	1208	234.59	1209	226.66
1210	219.13	1211	212.08	1212	205.51	1213	199.39	1214	193.62
1215	188.43	1216	183.32	1217	178.43	1218	173.72	1219	169.23
1220	164.92	1221	160.83	1222	156.88	1223	153.13	1224	149.50
1225	146.06	1226	142.72	1227	139.55	1228	136.54	1229	133.92
1230	131.36	1231	128.89	1232	126.47	1233	124.14	1234	121.86
1235	119.70	1236	117.58	1237	115.56	1238	113.57	1239	111.67
1240	109.82	1241	108.05	1242	106.33	1243	104.76	1244	103.33
1245	101.90	1246	100.45	1247	99.05	1248	97.66	1249	96.33
1250	95.02	1251	93.75	1252	92.50	1253	91.29	1254	90.10
1255	88.95	1256	87.81	1257	86.71	1258	85.62	1259	84.57
1260	83.54	1261	82.53	1262	81.53	1263	80.56	1264	79.61
1265	78.68	1266	77.76	1267	76.87	1268	75.99	1269	75.14
1270	74.29	1271	73.47	1272	72.67	1273	71.93	1274	71.25
1275	70.58	1276	69.90	1277	69.23	1278	68.57	1279	67.92
1280	67.28	1281	66.65	1282	66.05	1283	65.44	1284	64.85
1285	64.28	1286	63.70	1287	63.15	1288	62.60	1289	62.06
1290	61.53	1291	61.01	1292	60.50	1293	59.99	1294	59.49
1295	59.01	1296	58.52	1297	58.05	1298	57.58	1299	57.12
1300	56.67	1310	52.75	1320	49.32	1330	46.24	1340	43.49
1350	40.83	1360	38.38	1370	36.04	1380	33.88	1390	31.93
1400	30.09	1420	26.93	1440	24.24	1460	20.52	1500	12.85

Total Runoff = 160.465 Acre-ft.
Peak Q = 948.07 CFS
Time to Peak = 1171 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53I STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
[illegible]	0.00	100	0.39	200	0.44	300	0.51	400	0.60
5	0.71	600	0.83	700	0.96	800	1.16	900	1.51
[illegible]	2.25	1050	2.81	1100	4.37	1110	4.68	1120	5.63
1130	6.34	1131	6.45	1132	6.63	1133	7.18	1134	7.34
1135	7.53	1136	7.72	1137	7.92	1138	8.15	1139	8.39
1140	8.65	1141	8.94	1142	9.27	1143	9.63	1144	10.01
1145	10.43	1146	10.89	1147	11.40	1148	12.00	1149	12.69

1150	13.54	1151	14.55	1152	15.76	1153	17.37	1154	19.65
1155	23.36	1156	35.77	1157	40.13	1158	39.09	1159	36.28
1160	31.45	1161	17.41	1162	11.09	1163	9.22	1164	8.06
1165	7.25	1166	6.65	1167	6.17	1168	5.74	1169	5.38
1170	5.09	1171	4.83	1172	4.61	1173	4.42	1174	4.23
1175	4.06	1176	3.90	1177	3.75	1178	3.62	1179	3.50
	3.39	1181	3.29	1182	3.20	1183	3.12	1184	3.04
	2.96	1186	2.89	1187	2.82	1188	2.76	1189	2.70
	2.65	1191	2.59	1192	2.54	1193	2.50	1194	2.45
1195	2.40	1196	2.35	1197	2.30	1198	2.25	1199	2.20
1200	2.16	1201	2.11	1202	2.08	1203	2.04	1204	2.01
1205	1.97	1206	1.94	1207	1.90	1208	1.87	1209	1.84
1210	1.81	1211	1.79	1212	1.76	1213	1.73	1214	1.70
1215	1.68	1216	1.65	1217	1.64	1218	1.61	1219	1.59
1220	1.57	1221	1.55	1222	1.53	1223	1.51	1224	1.49
1225	1.48	1226	1.46	1227	1.44	1228	1.42	1229	1.41
1230	1.39	1231	1.38	1232	1.36	1233	1.34	1234	1.33
1235	1.32	1236	1.31	1237	1.29	1238	1.28	1239	1.27
1240	1.25	1241	1.24	1242	1.23	1243	1.22	1244	1.21
1245	1.20	1246	1.19	1247	1.17	1248	1.16	1249	1.15
1250	1.15	1251	1.14	1252	1.13	1253	1.12	1254	1.11
1255	1.09	1256	1.09	1257	1.08	1258	1.07	1259	1.07
1260	1.06	1261	1.05	1262	1.04	1263	1.04	1264	1.03
1265	1.02	1266	1.01	1267	1.00	1268	1.00	1269	0.99
1270	0.98	1271	0.97	1272	0.97	1273	0.96	1274	0.96
1275	0.95	1276	0.94	1277	0.94	1278	0.93	1279	0.92
1280	0.92	1281	0.91	1282	0.91	1283	0.90	1284	0.90
1285	0.89	1286	0.89	1287	0.88	1288	0.88	1289	0.87
1290	0.86	1291	0.86	1292	0.85	1293	0.85	1294	0.84
1295	0.84	1296	0.84	1297	0.83	1298	0.83	1299	0.82
1300	0.82	1310	0.78	1320	0.73	1330	0.67	1340	0.63
1350	0.59	1360	0.55	1370	0.52	1380	0.49	1390	0.46
1400	0.44	1420	0.39	1440	0.35	1460	0.00	1500	0.00

Total Runoff = 2.941 Acre-ft.
Peak Q = 40.13 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 53RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.44	300	0.51	400	0.60
500	0.71	600	0.83	700	0.96	800	1.16	900	1.50
1000	2.24	1050	2.90	1100	4.36	1110	4.88	1120	5.61
1130	6.71	1131	6.85	1132	7.00	1133	7.15	1134	7.31
1135	7.49	1136	7.68	1137	7.88	1138	8.10	1139	8.34
1140	8.60	1141	8.88	1142	9.20	1143	9.55	1144	9.93
1145	10.36	1146	10.80	1147	11.30	1148	11.89	1149	12.57
1150	13.38	1151	14.36	1152	15.55	1153	17.10	1154	19.26
1155	22.76	1156	33.69	1157	39.84	1158	39.24	1159	36.73
1160	32.16	1161	19.92	1162	11.69	1163	9.73	1164	8.16
1165	7.49	1166	6.71	1167	6.31	1168	5.81	1169	5.48
1170	5.15	1171	4.90	1172	4.66	1173	4.46	1174	4.27
	4.10	1176	3.93	1177	3.79	1178	3.65	1179	3.53
	3.42	1181	3.32	1182	3.22	1183	3.14	1184	3.06
	2.98	1186	2.91	1187	2.84	1188	2.77	1189	2.72
1190	2.66	1191	2.61	1192	2.56	1193	2.51	1194	2.47
1195	2.42	1196	2.37	1197	2.31	1198	2.26	1199	2.21
1200	2.17	1201	2.13	1202	2.09	1203	2.06	1204	2.02
1205	1.98	1206	1.95	1207	1.91	1208	1.88	1209	1.85
1210	1.82	1211	1.79	1212	1.77	1213	1.74	1214	1.71
1215	1.69	1216	1.66	1217	1.64	1218	1.62	1219	1.59
1220	1.58	1221	1.55	1222	1.53	1223	1.52	1224	1.50
1225	1.48	1226	1.46	1227	1.45	1228	1.43	1229	1.41
1230	1.40	1231	1.38	1232	1.37	1233	1.35	1234	1.33
1235	1.32	1236	1.31	1237	1.30	1238	1.28	1239	1.27
1240	1.26	1241	1.25	1242	1.23	1243	1.22	1244	1.21
1245	1.20	1246	1.19	1247	1.18	1248	1.16	1249	1.16
1250	1.15	1251	1.14	1252	1.13	1253	1.12	1254	1.11
1255	1.10	1256	1.09	1257	1.08	1258	1.07	1259	1.07
1260	1.06	1261	1.05	1262	1.04	1263	1.04	1264	1.03
1265	1.02	1266	1.02	1267	1.01	1268	1.00	1269	0.99
1270	0.98	1271	0.98	1272	0.97	1273	0.96	1274	0.96
1275	0.95	1276	0.94	1277	0.94	1278	0.93	1279	0.93
1280	0.92	1281	0.91	1282	0.91	1283	0.90	1284	0.90
1285	0.89	1286	0.89	1287	0.88	1288	0.88	1289	0.87
1290	0.87	1291	0.86	1292	0.86	1293	0.85	1294	0.85
1295	0.84	1296	0.84	1297	0.83	1298	0.83	1299	0.83
1300	0.82	1310	0.78	1320	0.73	1330	0.68	1340	0.64
1350	0.59	1360	0.55	1370	0.52	1380	0.49	1390	0.46
1400	0.44	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.999 Acre-ft.
Peak Q = 39.84 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 64R STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.01	200	0.01	300	0.02	400	0.02
500	0.02	600	0.02	700	0.02	800	0.02	900	0.03
1000	0.03	1050	0.04	1100	0.06	1110	0.06	1120	0.07
1130	0.08	1131	0.08	1132	0.08	1133	0.09	1134	0.08
1135	0.09	1136	0.09	1137	0.09	1138	0.09	1139	0.09
1140	0.10	1141	0.10	1142	0.10	1143	0.10	1144	0.11
1145	0.11	1146	0.12	1147	0.12	1148	0.13	1149	0.13
1150	0.14	1151	0.15	1152	0.16	1153	0.19	1154	0.22
1155	0.28	1156	0.46	1157	0.53	1158	0.51	1159	0.47
1160	0.39	1161	0.19	1162	0.12	1163	0.10	1164	0.09
1165	0.08	1166	0.08	1167	0.07	1168	0.07	1169	0.07
	0.06	1171	0.06	1172	0.06	1173	0.06	1174	0.06
	0.05	1176	0.05	1177	0.05	1178	0.05	1179	0.05
1180	0.05	1181	0.05	1182	0.04	1183	0.04	1184	0.04
1185	0.04	1186	0.04	1187	0.04	1188	0.04	1189	0.04
1190	0.04	1191	0.04	1192	0.04	1193	0.04	1194	0.04
1195	0.03	1196	0.04	1197	0.04	1198	0.03	1199	0.03
1200	0.03	1201	0.03	1202	0.03	1203	0.03	1204	0.03

1205	0.03	1206	0.03	1207	0.03	1208	0.03	1209	0.03
1210	0.03	1211	0.03	1212	0.03	1213	0.03	1214	0.03
1215	0.03	1216	0.03	1217	0.03	1218	0.03	1219	0.03
1220	0.03	1221	0.03	1222	0.03	1223	0.03	1224	0.03
1225	0.03	1226	0.03	1227	0.03	1228	0.03	1229	0.03
1230	0.03	1231	0.03	1232	0.03	1233	0.03	1234	0.03
	0.03	1236	0.03	1237	0.03	1238	0.03	1239	0.02
	0.02	1241	0.02	1242	0.02	1243	0.02	1244	0.02
	0.02	1246	0.02	1247	0.02	1248	0.02	1249	0.02
1250	0.02	1251	0.02	1252	0.02	1253	0.02	1254	0.02
1255	0.02	1256	0.02	1257	0.02	1258	0.02	1259	0.02
1260	0.02	1261	0.02	1262	0.02	1263	0.02	1264	0.02
1265	0.02	1266	0.02	1267	0.02	1268	0.02	1269	0.02
1270	0.02	1271	0.02	1272	0.02	1273	0.02	1274	0.02
1275	0.02	1276	0.02	1277	0.02	1278	0.02	1279	0.02
1280	0.02	1281	0.02	1282	0.02	1283	0.02	1284	0.02
1285	0.02	1286	0.02	1287	0.02	1288	0.02	1289	0.02
1290	0.02	1291	0.02	1292	0.02	1293	0.02	1294	0.02
1295	0.02	1296	0.02	1297	0.02	1298	0.02	1299	0.02
1300	0.02	1310	0.02	1320	0.02	1330	0.02	1340	0.02
1350	0.02	1360	0.02	1370	0.02	1380	0.02	1390	0.02
1400	0.01	1420	0.01	1440	0.01	1460	0.00	1500	0.00

Total Runoff = 0.052 Acre-ft.
Peak Q = 0.53 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 64RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.40	1110	0.40	1120	0.40
1130	0.40	1131	0.40	1132	0.40	1133	0.40	1134	0.40
1135	0.40	1136	0.40	1137	0.40	1138	0.40	1139	0.40
1140	0.40	1141	0.40	1142	0.40	1143	0.40	1144	0.40
1145	0.40	1146	0.40	1147	0.40	1148	0.40	1149	0.40
1150	0.40	1151	0.40	1152	0.40	1153	0.40	1154	0.40
1155	0.40	1156	0.45	1157	0.52	1158	0.52	1159	0.47
1160	0.41	1161	0.40	1162	0.40	1163	0.40	1164	0.40
1165	0.40	1166	0.40	1167	0.40	1168	0.40	1169	0.40
1170	0.40	1171	0.40	1172	0.40	1173	0.40	1174	0.40
1175	0.40	1176	0.40	1177	0.40	1178	0.40	1179	0.40
1180	0.40	1181	0.40	1182	0.40	1183	0.40	1184	0.40
1185	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
1190	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.827 Acre-ft.
Peak Q = 0.52 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70M STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.22	200	0.24	300	0.28	400	0.33
500	0.39	600	0.46	700	0.53	800	0.64	900	0.83
1000	1.25	1050	1.61	1100	2.42	1110	2.71	1120	3.12
1130	3.74	1131	3.81	1132	3.90	1133	3.98	1134	4.07
1135	4.17	1136	4.28	1137	4.39	1138	4.52	1139	4.65
1140	4.79	1141	4.96	1142	5.14	1143	5.33	1144	5.55
1145	5.78	1146	6.03	1147	6.32	1148	6.65	1149	7.04
1150	7.50	1151	8.06	1152	8.74	1153	9.63	1154	10.90
1155	12.95	1156	19.53	1157	22.24	1158	21.87	1159	20.11
1160	17.43	1161	9.65	1162	6.15	1163	5.11	1164	4.47
1165	4.02	1166	3.68	1167	3.42	1168	3.18	1169	2.98
1170	2.82	1171	2.68	1172	2.56	1173	2.45	1174	2.35
1175	2.25	1176	2.16	1177	2.08	1178	2.01	1179	1.94
1180	1.88	1181	1.83	1182	1.77	1183	1.73	1184	1.68
1185	1.64	1186	1.60	1187	1.56	1188	1.53	1189	1.50
1190	1.47	1191	1.44	1192	1.41	1193	1.39	1194	1.36
1195	1.33	1196	1.30	1197	1.27	1198	1.25	1199	1.22
1200	1.20	1201	1.17	1202	1.15	1203	1.13	1204	1.11
1205	1.09	1206	1.08	1207	1.05	1208	1.04	1209	1.02
1210	1.00	1211	0.99	1212	0.97	1213	0.96	1214	0.95
1215	0.93	1216	0.92	1217	0.91	1218	0.89	1219	0.88
1220	0.87	1221	0.86	1222	0.85	1223	0.84	1224	0.83
	0.82	1226	0.81	1227	0.80	1228	0.79	1229	0.78
	0.77	1231	0.76	1232	0.76	1233	0.75	1234	0.74
1240	0.73	1236	0.72	1237	0.72	1238	0.71	1239	0.70
1241	0.70	1241	0.69	1242	0.68	1243	0.68	1244	0.67
1245	0.66	1246	0.66	1247	0.65	1248	0.64	1249	0.64
1250	0.63	1251	0.63	1252	0.62	1253	0.62	1254	0.61
1255	0.61	1256	0.60	1257	0.60	1258	0.59	1259	0.59

1260	0.59	1261	0.58	1262	0.58	1263	0.57	1264	0.57
1265	0.57	1266	0.56	1267	0.56	1268	0.55	1269	0.55
1270	0.54	1271	0.54	1272	0.54	1273	0.53	1274	0.53
1275	0.53	1276	0.52	1277	0.52	1278	0.52	1279	0.51
1280	0.51	1281	0.51	1282	0.50	1283	0.50	1284	0.50
1285	0.49	1286	0.49	1287	0.49	1288	0.49	1289	0.48
	0.48	1291	0.48	1292	0.47	1293	0.47	1294	0.47
	0.46	1296	0.46	1297	0.46	1298	0.46	1299	0.46
	0.45	1310	0.43	1320	0.40	1330	0.37	1340	0.35
1350	0.33	1360	0.30	1370	0.29	1380	0.27	1390	0.26
1400	0.24	1420	0.22	1440	0.20	1460	0.00	1500	0.00

Total Runoff = 1.630 Acre-ft.
Peak Q = 22.24 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 70RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.46	700	0.53	800	0.64	900	0.83
1000	1.24	1050	1.61	1100	2.41	1110	2.70	1120	3.09
1130	3.70	1131	3.77	1132	3.85	1133	3.93	1134	4.01
1135	4.11	1136	4.21	1137	4.32	1138	4.44	1139	4.57
1140	4.72	1141	4.88	1142	5.05	1143	5.24	1144	5.44
1145	5.67	1146	5.91	1147	6.18	1148	6.50	1149	6.86
1150	7.29	1151	7.80	1152	8.42	1153	9.22	1154	10.37
1155	12.16	1156	17.20	1157	21.65	1158	21.84	1159	20.71
1160	18.41	1161	12.79	1162	7.64	1163	5.64	1164	4.76
1165	4.30	1166	3.90	1167	3.58	1168	3.33	1169	3.11
1170	2.92	1171	2.77	1172	2.63	1173	2.51	1174	2.41
1175	2.31	1176	2.21	1177	2.13	1178	2.05	1179	1.98
1180	1.92	1181	1.86	1182	1.81	1183	1.76	1184	1.71
1185	1.67	1186	1.63	1187	1.59	1188	1.55	1189	1.52
1190	1.49	1191	1.46	1192	1.43	1193	1.40	1194	1.38
1195	1.35	1196	1.32	1197	1.29	1198	1.26	1199	1.24
1200	1.22	1201	1.20	1202	1.17	1203	1.15	1204	1.13
1205	1.11	1206	1.09	1207	1.07	1208	1.05	1209	1.04
1210	1.02	1211	1.00	1212	0.99	1213	0.97	1214	0.96
1215	0.95	1216	0.93	1217	0.92	1218	0.91	1219	0.89
1220	0.88	1221	0.87	1222	0.86	1223	0.85	1224	0.84
1225	0.83	1226	0.82	1227	0.81	1228	0.80	1229	0.79
1230	0.78	1231	0.77	1232	0.76	1233	0.76	1234	0.75
1235	0.74	1236	0.73	1237	0.73	1238	0.72	1239	0.71
1240	0.70	1241	0.70	1242	0.69	1243	0.68	1244	0.68
1245	0.67	1246	0.66	1247	0.66	1248	0.65	1249	0.64
1250	0.64	1251	0.64	1252	0.63	1253	0.63	1254	0.62
1255	0.61	1256	0.61	1257	0.60	1258	0.60	1259	0.59
1260	0.59	1261	0.59	1262	0.58	1263	0.58	1264	0.57
1265	0.57	1266	0.57	1267	0.56	1268	0.56	1269	0.55
1270	0.55	1271	0.54	1272	0.54	1273	0.54	1274	0.53
1275	0.53	1276	0.53	1277	0.52	1278	0.52	1279	0.52
1280	0.51	1281	0.51	1282	0.51	1283	0.50	1284	0.50
	0.50	1286	0.49	1287	0.49	1288	0.49	1289	0.49
	0.48	1291	0.48	1292	0.48	1293	0.47	1294	0.47
	0.47	1296	0.47	1297	0.46	1298	0.46	1299	0.46
1300	0.46	1310	0.43	1320	0.41	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.782 Acre-ft.
Peak Q = 21.84 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 72N STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.14	200	0.16	300	0.19	400	0.22
500	0.26	600	0.31	700	0.36	800	0.43	900	0.56
1000	0.83	1050	1.07	1100	1.62	1110	1.81	1120	2.08
1130	2.49	1131	2.54	1132	2.60	1133	2.65	1134	2.71
1135	2.78	1136	2.85	1137	2.93	1138	3.01	1139	3.10
1140	3.20	1141	3.31	1142	3.42	1143	3.55	1144	3.70
1145	3.85	1146	4.02	1147	4.21	1148	4.43	1149	4.69
1150	5.00	1151	5.38	1152	5.82	1153	6.42	1154	7.26
1155	8.63	1156	13.22	1157	14.83	1158	14.45	1159	13.41
1160	11.62	1161	6.43	1162	4.10	1163	3.41	1164	2.96
1165	2.68	1166	2.46	1167	2.28	1168	2.12	1169	1.99
1170	1.88	1171	1.79	1172	1.70	1173	1.63	1174	1.56
1175	1.50	1176	1.44	1177	1.39	1178	1.34	1179	1.29
1180	1.25	1181	1.22	1182	1.18	1183	1.15	1184	1.12
1185	1.09	1186	1.07	1187	1.04	1188	1.02	1189	1.00
1190	0.98	1191	0.96	1192	0.94	1193	0.92	1194	0.91
1195	0.89	1196	0.87	1197	0.85	1198	0.83	1199	0.81
1200	0.80	1201	0.78	1202	0.77	1203	0.75	1204	0.74
1205	0.73	1206	0.72	1207	0.70	1208	0.69	1209	0.68
1210	0.67	1211	0.66	1212	0.65	1213	0.64	1214	0.63
1215	0.62	1216	0.61	1217	0.61	1218	0.60	1219	0.59
1220	0.58	1221	0.57	1222	0.56	1223	0.56	1224	0.55
1225	0.55	1226	0.54	1227	0.53	1228	0.53	1229	0.52
1230	0.51	1231	0.51	1232	0.50	1233	0.50	1234	0.49
1235	0.49	1236	0.48	1237	0.48	1238	0.47	1239	0.47
1240	0.46	1241	0.46	1242	0.46	1243	0.45	1244	0.45
1245	0.44	1246	0.44	1247	0.43	1248	0.43	1249	0.43
1250	0.42	1251	0.42	1252	0.42	1253	0.41	1254	0.41
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.39
1260	0.39	1261	0.39	1262	0.39	1263	0.38	1264	0.38
1265	0.38	1266	0.37	1267	0.37	1268	0.37	1269	0.37
1270	0.36	1271	0.36	1272	0.36	1273	0.36	1274	0.35
1275	0.35	1276	0.35	1277	0.35	1278	0.34	1279	0.34
	0.34	1281	0.34	1282	0.34	1283	0.33	1284	0.33
	0.33	1286	0.33	1287	0.33	1288	0.33	1289	0.32
	0.32	1291	0.32	1292	0.32	1293	0.31	1294	0.31
1295	0.31	1296	0.31	1297	0.31	1298	0.31	1299	0.30
1300	0.30	1310	0.29	1320	0.27	1330	0.25	1340	0.23
1350	0.22	1360	0.20	1370	0.19	1380	0.18	1390	0.17
1400	0.16	1420	0.15	1440	0.13	1460	0.00	1500	0.00

Total Runoff = 1.087 Acre-ft.
Peak Q = 14.83 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
HYDROGRAPH AT 1 72RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.43	900	0.56
1000	0.83	1050	1.07	1100	1.61	1110	1.80	1120	2.07
1130	2.48	1131	2.52	1132	2.58	1133	2.63	1134	2.69
1135	2.76	1136	2.83	1137	2.90	1138	2.98	1139	3.07
1140	3.16	1141	3.27	1142	3.38	1143	3.51	1144	3.65
1145	3.80	1146	3.96	1147	4.14	1148	4.35	1149	4.60
1150	4.89	1151	5.24	1152	5.66	1153	6.20	1154	6.98
1155	8.23	1156	11.81	1157	14.63	1158	14.52	1159	13.73
1160	12.11	1161	8.10	1162	4.79	1163	3.65	1164	3.12
1165	2.79	1166	2.53	1167	2.34	1168	2.18	1169	2.04
1170	1.92	1171	1.82	1172	1.74	1173	1.66	1174	1.60
1175	1.55	1176	1.48	1177	1.42	1178	1.37	1179	1.32
1180	1.28	1181	1.24	1182	1.21	1183	1.17	1184	1.14
1185	1.11	1186	1.08	1187	1.06	1188	1.03	1189	1.01
1190	0.99	1191	0.97	1192	0.95	1193	0.93	1194	0.92
1195	0.90	1196	0.88	1197	0.86	1198	0.84	1199	0.82
1200	0.81	1201	0.79	1202	0.78	1203	0.76	1204	0.75
1205	0.74	1206	0.72	1207	0.71	1208	0.70	1209	0.69
1210	0.67	1211	0.66	1212	0.65	1213	0.65	1214	0.64
1215	0.63	1216	0.62	1217	0.61	1218	0.60	1219	0.59
1220	0.58	1221	0.58	1222	0.57	1223	0.56	1224	0.55
1225	0.55	1226	0.54	1227	0.54	1228	0.53	1229	0.52
1230	0.52	1231	0.51	1232	0.51	1233	0.50	1234	0.49
1235	0.49	1236	0.49	1237	0.48	1238	0.47	1239	0.47
1240	0.47	1241	0.46	1242	0.46	1243	0.45	1244	0.45
1245	0.44	1246	0.44	1247	0.44	1248	0.43	1249	0.43
1250	0.43	1251	0.42	1252	0.42	1253	0.42	1254	0.41
1255	0.41	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.347 Acre-ft.
Peak Q = 14.63 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 75D STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.38	200	0.42	300	0.49	400	0.58
500	0.69	600	0.80	700	0.93	800	1.12	900	1.46
1000	2.17	1050	2.81	1100	4.23	1110	4.73	1120	5.45
1130	6.52	1131	6.66	1132	6.80	1133	6.94	1134	7.10
1135	7.28	1136	7.47	1137	7.67	1138	7.89	1139	8.12
1140	8.37	1141	8.65	1142	8.96	1143	9.30	1144	9.68
1145	10.09	1146	10.53	1147	11.02	1148	11.61	1149	12.28
1150	13.09	1151	14.07	1152	15.25	1153	16.80	1154	19.01
1155	22.60	1156	34.61	1157	38.82	1158	37.82	1159	35.10
1160	30.43	1161	16.94	1162	10.73	1163	8.92	1164	7.80
1165	7.01	1166	6.43	1167	5.97	1168	5.55	1169	5.21
1170	4.92	1171	4.67	1172	4.46	1173	4.27	1174	4.09
1175	3.93	1176	3.77	1177	3.63	1178	3.50	1179	3.39
1180	3.28	1181	3.19	1182	3.09	1183	3.01	1184	2.94
1185	2.86	1186	2.80	1187	2.73	1188	2.67	1189	2.61
1190	2.56	1191	2.51	1192	2.46	1193	2.42	1194	2.37
1195	2.32	1196	2.27	1197	2.22	1198	2.17	1199	2.13
1200	2.09	1201	2.05	1202	2.01	1203	1.98	1204	1.94
1205	1.91	1206	1.88	1207	1.84	1208	1.81	1209	1.78
1210	1.75	1211	1.73	1212	1.70	1213	1.68	1214	1.65
1215	1.63	1216	1.60	1217	1.59	1218	1.56	1219	1.54
1220	1.52	1221	1.50	1222	1.48	1223	1.46	1224	1.44
1225	1.43	1226	1.41	1227	1.40	1228	1.38	1229	1.36
1230	1.34	1231	1.33	1232	1.32	1233	1.30	1234	1.29
1235	1.28	1236	1.27	1237	1.25	1238	1.24	1239	1.23
1240	1.21	1241	1.20	1242	1.19	1243	1.18	1244	1.17
1245	1.16	1246	1.15	1247	1.14	1248	1.12	1249	1.12
1250	1.11	1251	1.10	1252	1.09	1253	1.08	1254	1.07
1255	1.06	1256	1.05	1257	1.04	1258	1.04	1259	1.03
1260	1.03	1261	1.01	1262	1.01	1263	1.00	1264	0.99
1265	0.99	1266	0.98	1267	0.97	1268	0.96	1269	0.96
1270	0.95	1271	0.94	1272	0.94	1273	0.93	1274	0.93
1275	0.92	1276	0.91	1277	0.91	1278	0.90	1279	0.89
1280	0.89	1281	0.88	1282	0.88	1283	0.87	1284	0.87
1285	0.86	1286	0.86	1287	0.85	1288	0.85	1289	0.84
1290	0.84	1291	0.83	1292	0.83	1293	0.82	1294	0.82
1295	0.81	1296	0.81	1297	0.80	1298	0.80	1299	0.80
1300	0.79	1310	0.75	1320	0.70	1330	0.65	1340	0.61
1350	0.57	1360	0.53	1370	0.50	1380	0.47	1390	0.45
1400	0.42	1420	0.38	1440	0.34	1460	0.00	1500	0.00

Total Runoff = 2.845 Acre-ft.
Peak Q = 38.82 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 75RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.41	100	0.39	200	0.42	300	0.49	400	0.58
500	0.69	600	0.80	700	0.93	800	1.12	900	1.46

1000	2.16	1050	2.80	1100	4.20	1110	4.69	1120	5.39
1130	6.44	1131	6.56	1132	6.70	1133	6.84	1134	6.99
1135	7.16	1136	7.34	1137	7.53	1138	7.73	1139	7.96
1140	8.20	1141	8.47	1142	8.77	1143	9.09	1144	9.44
1145	9.84	1146	10.26	1147	10.72	1148	11.25	1149	11.87
1150	12.60	1151	13.49	1152	14.58	1153	15.94	1154	17.82
	20.73	1156	28.78	1157	36.99	1158	38.04	1159	36.47
	32.59	1161	23.69	1162	14.30	1163	10.27	1164	8.50
	7.58	1166	6.86	1167	6.31	1168	5.85	1169	5.46
1170	5.16	1171	4.88	1172	4.64	1173	4.43	1174	4.24
1175	4.06	1176	3.90	1177	3.75	1178	3.61	1179	3.48
1180	3.37	1181	3.27	1182	3.17	1183	3.08	1184	3.00
1185	2.93	1186	2.85	1187	2.79	1188	2.73	1189	2.67
1190	2.61	1191	2.56	1192	2.51	1193	2.46	1194	2.42
1195	2.37	1196	2.33	1197	2.27	1198	2.23	1199	2.18
1200	2.13	1201	2.09	1202	2.05	1203	2.01	1204	1.98
1205	1.95	1206	1.91	1207	1.88	1208	1.84	1209	1.81
1210	1.78	1211	1.75	1212	1.73	1213	1.70	1214	1.68
1215	1.65	1216	1.63	1217	1.61	1218	1.58	1219	1.56
1220	1.54	1221	1.52	1222	1.50	1223	1.48	1224	1.46
1225	1.45	1226	1.43	1227	1.41	1228	1.40	1229	1.38
1230	1.36	1231	1.35	1232	1.33	1233	1.32	1234	1.30
1235	1.29	1236	1.28	1237	1.27	1238	1.25	1239	1.24
1240	1.23	1241	1.21	1242	1.20	1243	1.19	1244	1.18
1245	1.17	1246	1.16	1247	1.15	1248	1.14	1249	1.13
1250	1.12	1251	1.11	1252	1.10	1253	1.09	1254	1.08
1255	1.07	1256	1.06	1257	1.05	1258	1.04	1259	1.04
1260	1.03	1261	1.02	1262	1.02	1263	1.01	1264	1.00
1265	0.99	1266	0.99	1267	0.98	1268	0.97	1269	0.96
1270	0.96	1271	0.95	1272	0.94	1273	0.94	1274	0.93
1275	0.93	1276	0.92	1277	0.91	1278	0.91	1279	0.90
1280	0.89	1281	0.89	1282	0.88	1283	0.88	1284	0.87
1285	0.87	1286	0.86	1287	0.86	1288	0.85	1289	0.85
1290	0.84	1291	0.84	1292	0.83	1293	0.83	1294	0.82
1295	0.82	1296	0.81	1297	0.81	1298	0.80	1299	0.80
1300	0.80	1310	0.76	1320	0.71	1330	0.66	1340	0.62
1350	0.58	1360	0.54	1370	0.51	1380	0.48	1390	0.45
1400	0.43	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.906 Acre-ft.
Peak Q = 38.04 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 79P STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.38	200	0.43	300	0.50	400	0.59
500	0.70	600	0.82	700	0.95	800	1.15	900	1.49
1000	2.22	1050	2.87	1100	4.32	1110	4.94	1120	5.57
1130	6.67	1131	6.80	1132	6.95	1133	7.10	1134	7.26
1135	7.45	1136	7.64	1137	7.84	1138	8.06	1139	8.30
1140	8.56	1141	8.85	1142	9.17	1143	9.51	1144	9.90
1145	10.32	1146	10.78	1147	11.27	1148	11.87	1149	12.56
	13.39	1151	14.39	1152	15.59	1153	17.18	1154	19.44
	23.10	1156	35.38	1157	39.69	1158	38.67	1159	35.89
	31.11	1161	17.22	1162	10.97	1163	9.12	1164	7.97
1165	7.17	1166	6.57	1167	6.10	1168	5.67	1169	5.32
1170	5.03	1171	4.76	1172	4.56	1173	4.37	1174	4.19
1175	4.01	1176	3.85	1177	3.71	1178	3.58	1179	3.46
1180	3.36	1181	3.26	1182	3.16	1183	3.08	1184	3.00
1185	2.92	1186	2.86	1187	2.79	1188	2.73	1189	2.67
1190	2.62	1191	2.56	1192	2.51	1193	2.47	1194	2.43
1195	2.37	1196	2.32	1197	2.27	1198	2.22	1199	2.17
1200	2.14	1201	2.09	1202	2.06	1203	2.02	1204	1.99
1205	1.95	1206	1.92	1207	1.88	1208	1.85	1209	1.82
1210	1.79	1211	1.77	1212	1.74	1213	1.72	1214	1.69
1215	1.66	1216	1.64	1217	1.62	1218	1.59	1219	1.57
1220	1.55	1221	1.53	1222	1.51	1223	1.50	1224	1.48
1225	1.46	1226	1.44	1227	1.43	1228	1.41	1229	1.39
1230	1.38	1231	1.36	1232	1.35	1233	1.33	1234	1.32
1235	1.30	1236	1.30	1237	1.28	1238	1.27	1239	1.25
1240	1.24	1241	1.23	1242	1.22	1243	1.21	1244	1.20
1245	1.18	1246	1.17	1247	1.16	1248	1.15	1249	1.14
1250	1.14	1251	1.12	1252	1.12	1253	1.11	1254	1.09
1255	1.08	1256	1.08	1257	1.07	1258	1.06	1259	1.05
1260	1.05	1261	1.04	1262	1.03	1263	1.03	1264	1.01
1265	1.01	1266	1.00	1267	0.99	1268	0.99	1269	0.98
1270	0.97	1271	0.96	1272	0.96	1273	0.95	1274	0.95
1275	0.94	1276	0.93	1277	0.93	1278	0.92	1279	0.91
1280	0.91	1281	0.90	1282	0.90	1283	0.89	1284	0.89
1285	0.88	1286	0.88	1287	0.87	1288	0.87	1289	0.86
1290	0.86	1291	0.85	1292	0.85	1293	0.84	1294	0.83
1295	0.83	1296	0.83	1297	0.82	1298	0.82	1299	0.81
1300	0.81	1310	0.77	1320	0.72	1330	0.66	1340	0.63
1350	0.58	1360	0.54	1370	0.52	1380	0.48	1390	0.46
1400	0.43	1420	0.39	1440	0.35	1460	0.00	1500	0.00

Total Runoff = 2.909 Acre-ft.
Peak Q = 39.69 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 79RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.43	300	0.50	400	0.56
500	0.69	600	0.81	700	0.94	800	1.13	900	1.45
1000	2.14	1050	2.75	1100	4.05	1110	4.45	1120	5.01
1130	5.86	1131	5.96	1132	6.07	1133	6.17	1134	6.28
1135	6.40	1136	6.52	1137	6.65	1138	6.78	1139	6.93
1140	7.09	1141	7.27	1142	7.45	1143	7.65	1144	7.87
	8.11	1146	8.37	1147	8.65	1148	8.97	1149	9.33
	9.70	1151	10.13	1152	10.62	1153	11.18	1154	11.83
	12.88	1156	13.46	1157	14.30	1158	15.36	1159	[illegible]
1160	[illegible]	1161	[illegible]	1162	[illegible]	1163	[illegible]	1164	[illegible]
1165	27.57	1166	22.53	1167	19.35	1168	[illegible]	1169	14.75
1170	[illegible]	1171	[illegible]	1172	9.46	1173	8.39	1174	7.53
1175	6.85	1176	6.31	1177	5.86	1178	5.46	1179	[illegible]

1180	4.87	1181	4.63	1182	4.41	1183	4.22	1184	4.05
1185	3.90	1186	3.76	1187	3.63	1188	3.51	1189	3.40
1190	3.30	1191	3.20	1192	3.11	1193	3.03	1194	2.95
1195	2.88	1196	2.81	1197	2.76	1198	2.70	1199	2.65
1200	2.60	1201	2.55	1202	2.49	1203	2.44	1204	2.39
1205	2.34	1206	2.30	1207	2.25	1208	2.21	1209	2.17
	2.13	1211	2.09	1212	2.06	1213	2.02	1214	1.99
	1.95	1216	1.92	1217	1.89	1218	1.86	1219	1.83
	1.80	1221	1.77	1222	1.75	1223	1.72	1224	1.69
1225	1.67	1226	1.65	1227	1.62	1228	1.60	1229	1.58
1230	1.56	1231	1.54	1232	1.52	1233	1.50	1234	1.48
1235	1.47	1236	1.45	1237	1.43	1238	1.42	1239	1.40
1240	1.39	1241	1.37	1242	1.36	1243	1.34	1244	1.33
1245	1.32	1246	1.30	1247	1.29	1248	1.28	1249	1.26
1250	1.25	1251	1.24	1252	1.23	1253	1.22	1254	1.20
1255	1.19	1256	1.18	1257	1.17	1258	1.16	1259	1.15
1260	1.14	1261	1.13	1262	1.12	1263	1.11	1264	1.11
1265	1.10	1266	1.09	1267	1.08	1268	1.07	1269	1.06
1270	1.06	1271	1.05	1272	1.04	1273	1.03	1274	1.03
1275	1.02	1276	1.01	1277	1.00	1278	1.00	1279	0.99
1280	0.98	1281	0.97	1282	0.97	1283	0.96	1284	0.95
1285	0.95	1286	0.94	1287	0.94	1288	0.93	1289	0.92
1290	0.92	1291	0.91	1292	0.91	1293	0.90	1294	0.90
1295	0.89	1296	0.89	1297	0.88	1298	0.88	1299	0.87
1300	0.86	1310	0.82	1320	0.78	1330	0.73	1340	0.68
1350	0.63	1360	0.59	1370	0.56	1380	0.51	1390	0.48
1400	0.46	1420	0.42	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 2.975 Acre-ft.
Peak Q = 31.18 CFS
Time to Peak = 1163 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104Q STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.56	200	1.69	300	1.81	400	1.98
500	2.19	600	2.48	700	2.86	800	3.50	900	5.26
1000	9.31	1050	12.88	1100	20.57	1110	23.21	1120	26.91
1130	32.53	1131	33.18	1132	33.88	1133	34.60	1134	35.38
1135	36.23	1136	37.11	1137	38.07	1138	39.11	1139	40.20
1140	41.40	1141	42.70	1142	44.14	1143	45.69	1144	47.43
1145	49.36	1146	51.50	1147	53.95	1148	56.45	1149	59.29
1150	62.64	1151	66.62	1152	71.50	1153	77.77	1154	85.58
1155	97.53	1156	132.79	1157	148.06	1158	150.19	1159	149.59
1160	147.26	1161	143.52	1162	138.49	1163	132.06	1164	123.96
1165	113.55	1166	99.00	1167	80.73	1168	42.80	1169	37.03
1170	33.32	1171	30.46	1172	28.06	1173	26.11	1174	24.48
1175	23.12	1176	21.95	1177	20.93	1178	19.86	1179	18.91
1180	18.06	1181	17.29	1182	16.60	1183	15.96	1184	15.38
1185	14.86	1186	14.38	1187	13.92	1188	13.49	1189	13.12
1190	12.76	1191	12.41	1192	12.09	1193	11.81	1194	11.52
1195	11.25	1196	11.00	1197	10.75	1198	10.50	1199	10.18
1200	9.88	1201	9.58	1202	9.31	1203	9.07	1204	8.91
	8.58	1206	8.36	1207	8.13	1208	7.95	1209	7.74
	7.56	1211	7.38	1212	7.21	1213	7.05	1214	6.88
	6.72	1216	6.57	1217	6.44	1218	6.31	1219	6.17
1220	6.04	1221	5.91	1222	5.79	1223	5.70	1224	5.56
1225	5.48	1226	5.36	1227	5.27	1228	5.17	1229	5.07
1230	4.99	1231	4.89	1232	4.83	1233	4.73	1234	4.63
1235	4.57	1236	4.49	1237	4.43	1238	4.34	1239	4.26
1240	4.20	1241	4.14	1242	4.08	1243	4.00	1244	3.95
1245	3.89	1246	3.83	1247	3.76	1248	3.70	1249	3.66
1250	3.61	1251	3.56	1252	3.50	1253	3.45	1254	3.39
1255	3.36	1256	3.34	1257	3.31	1258	3.28	1259	3.26
1260	3.24	1261	3.20	1262	3.18	1263	3.16	1264	3.14
1265	3.12	1266	3.10	1267	3.07	1268	3.05	1269	3.03
1270	3.01	1271	2.98	1272	2.96	1273	2.95	1274	2.92
1275	2.91	1276	2.88	1277	2.86	1278	2.85	1279	2.83
1280	2.81	1281	2.79	1282	2.78	1283	2.76	1284	2.74
1285	2.73	1286	2.70	1287	2.70	1288	2.68	1289	2.66
1290	2.65	1291	2.63	1292	2.62	1293	2.60	1294	2.58
1295	2.57	1296	2.56	1297	2.54	1298	2.53	1299	2.51
1300	2.50	1310	2.38	1320	2.26	1330	2.17	1340	2.08
1350	2.00	1360	1.92	1370	1.85	1380	1.79	1390	1.74
1400	1.69	1420	1.59	1440	1.51	1460	0.00	1500	0.00

Total Runoff = 12.854 Acre-ft.
Peak Q = 150.19 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 104RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	1.16	200	1.74	300	1.72	400	1.96
500	2.12	600	2.42	700	2.76	800	3.35	900	4.80
1000	8.58	1050	11.81	1100	18.45	1110	20.38	1120	23.00
1130	26.96	1131	27.45	1132	27.95	1133	28.46	1134	28.99
1135	29.52	1136	30.08	1137	30.67	1138	31.28	1139	31.92
1140	32.60	1141	33.33	1142	34.11	1143	34.95	1144	35.85
1145	36.82	1146	37.86	1147	39.00	1148	40.24	1149	41.61
1150	43.12	1151	44.81	1152	46.69	1153	48.79	1154	51.14
1155	53.83	1156	57.02	1157	60.95	1158	66.02	1159	74.85
1160	88.64	1161	103.67	1162	115.37	1163	123.91	1164	129.72
1165	132.90	1166	133.82	1167	132.74	1169	129.80	1169	124.94
1170	117.76	1171	107.25	1172	94.72	1173	82.88	1174	72.74
1175	64.49	1176	57.63	1177	51.82	1178	47.01	1179	42.94
1180	39.47	1181	36.49	1182	33.92	1183	31.70	1184	29.78
1185	28.02	1186	26.44	1187	25.00	1188	23.74	1189	22.59
1190	21.53	1191	20.61	1192	19.76	1193	19.00	1194	18.20
1195	17.43	1196	17.01	1197	16.43	1198	15.90	1199	15.37
	14.89	1201	14.43	1202	14.01	1203	13.61	1204	13.13
	12.87	1206	12.53	1207	12.22	1208	11.93	1209	11.64
	11.36	1211	11.09	1212	10.84	1213	10.55	1214	10.29
	10.02	1216	9.79	1217	9.55	1218	9.32	1219	9.10
1220	8.89	1221	8.71	1222	8.52	1223	8.35	1224	8.17
1225	8.03	1226	7.83	1227	7.67	1228	7.51	1229	7.35
1230	7.20	1231	7.05	1232	6.91	1233	6.77	1234	6.64

1235	6.51	1236	6.38	1237	6.26	1238	6.14	1239	6.02
1240	5.91	1241	5.80	1242	5.69	1243	5.59	1244	5.49
1245	5.39	1246	5.29	1247	5.20	1248	5.11	1249	5.03
1250	4.96	1251	4.88	1252	4.81	1253	4.74	1254	4.67
1255	4.60	1256	4.53	1257	4.47	1258	4.40	1259	4.33
1260	4.27	1261	4.21	1262	4.15	1263	4.09	1264	4.03
	3.97	1266	3.92	1267	3.86	1268	3.81	1269	3.76
	3.72	1271	3.67	1272	3.63	1273	3.59	1274	3.55
	3.51	1276	3.48	1277	3.44	1278	3.41	1279	3.38
1280	3.35	1281	3.32	1282	3.30	1283	3.27	1284	3.24
1285	3.22	1286	3.19	1287	3.17	1288	3.14	1289	3.12
1290	3.10	1291	3.07	1292	3.05	1293	3.03	1294	3.01
1295	2.99	1296	2.97	1297	2.95	1298	2.93	1299	2.91
1300	2.89	1310	2.72	1320	2.57	1330	2.44	1340	2.33
1350	2.22	1360	2.13	1370	2.05	1380	1.97	1390	1.90
1400	1.84	1420	1.73	1440	1.63	1460	1.47	1500	0.79

Total Runoff = 12.679 Acre-ft.
Peak Q = 133.82 CFS
Time to Peak = 1166 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115QR STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	80.73	200	5.71	300	5.63	400	6.43
500	6.94	600	7.88	700	9.01	800	10.84	900	15.52
1000	27.15	1050	37.31	1100	57.97	1110	64.02	1120	71.98
1130	83.81	1131	85.23	1132	86.70	1133	88.18	1134	89.71
1135	91.29	1136	92.94	1137	94.67	1138	96.50	1139	98.43
1140	100.48	1141	102.66	1142	104.98	1143	107.44	1144	110.08
1145	112.90	1146	115.95	1147	119.25	1148	122.86	1149	126.81
1150	131.15	1151	135.95	1152	141.27	1153	147.21	1154	153.92
1155	161.66	1156	170.81	1157	182.03	1158	197.42	1159	221.60
1160	254.40	1161	289.44	1162	320.36	1163	346.49	1164	368.11
1165	385.20	1166	397.01	1167	399.73	1168	392.14	1169	378.30
1170	360.62	1171	339.06	1172	314.70	1173	290.34	1174	267.03
1175	245.63	1176	225.52	1177	207.16	1178	190.27	1179	175.18
1180	161.64	1181	149.48	1182	138.61	1183	128.91	1184	120.24
1185	112.46	1186	105.45	1187	99.14	1188	93.50	1189	88.41
1190	83.83	1191	79.72	1192	75.93	1193	72.46	1194	69.28
1195	66.41	1196	63.74	1197	61.28	1198	59.06	1199	56.98
1200	55.09	1201	53.32	1202	51.65	1203	50.05	1204	48.52
1205	47.07	1206	45.68	1207	44.36	1208	43.12	1209	41.92
1210	40.76	1211	39.65	1212	38.59	1213	37.57	1214	36.61
1215	35.76	1216	34.93	1217	34.13	1218	33.35	1219	32.58
1220	31.86	1221	31.16	1222	30.48	1223	29.82	1224	29.17
1225	28.54	1226	27.92	1227	27.33	1228	26.76	1229	26.24
1230	25.75	1231	25.26	1232	24.78	1233	24.31	1234	23.85
1235	23.40	1236	22.96	1237	22.53	1238	22.10	1239	21.69
1240	21.29	1241	20.89	1242	20.51	1243	20.14	1244	19.77
1245	19.41	1246	19.06	1247	18.73	1248	18.40	1249	18.08
1250	17.78	1251	17.48	1252	17.19	1253	16.91	1254	16.63
1255	16.36	1256	16.10	1257	15.84	1258	15.59	1259	15.35
	15.13	1261	14.93	1262	14.73	1263	14.53	1264	14.33
	14.14	1266	13.96	1267	13.77	1268	13.60	1269	13.43
1270	13.26	1271	13.10	1272	12.94	1273	12.79	1274	12.64
1275	12.50	1276	12.36	1277	12.22	1278	12.09	1279	11.96
1280	11.84	1281	11.71	1282	11.60	1283	11.48	1284	11.37
1285	11.26	1286	11.15	1287	11.04	1288	10.94	1289	10.84
1290	10.75	1291	10.66	1292	10.57	1293	10.48	1294	10.41
1295	10.33	1296	10.25	1297	10.17	1298	10.10	1299	10.02
1300	9.95	1310	9.30	1320	8.78	1330	8.30	1340	7.90
1350	7.55	1360	7.23	1370	6.93	1380	6.67	1390	6.43
1400	6.22	1420	5.83	1440	5.51	1460	4.92	1500	2.62

Total Runoff = 51.618 Acre-ft.
Peak Q = 399.73 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 115RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.80	100	80.66	200	5.85	300	5.52	400	6.54
500	6.83	600	7.99	700	8.90	800	10.95	900	15.41
1000	27.26	1050	37.19	1100	58.05	1110	63.87	1120	72.03
1130	83.63	1131	85.27	1132	86.53	1133	88.20	1134	89.56
1135	91.28	1136	92.78	1137	94.64	1138	96.36	1139	98.39
1140	100.34	1141	102.60	1142	104.84	1143	107.37	1144	109.93
1145	112.81	1146	115.79	1147	119.14	1148	122.68	1149	126.66
1150	130.95	1151	135.77	1152	141.03	1153	146.98	1154	153.63
1155	161.36	1156	170.49	1157	181.61	1158	196.86	1159	220.70
1160	253.29	1161	288.32	1162	319.44	1163	345.60	1164	367.49
1165	384.68	1166	396.70	1167	399.69	1168	392.49	1169	378.72
1170	361.24	1171	339.74	1172	315.52	1173	291.08	1174	267.82
1175	246.28	1176	226.22	1177	207.73	1178	190.87	1179	175.66
1180	162.15	1181	149.96	1182	139.03	1183	129.30	1184	120.59
1185	112.78	1186	105.74	1187	99.44	1188	93.75	1189	88.66
1190	84.03	1191	79.94	1192	76.18	1193	72.66	1194	69.49
1195	66.57	1196	63.91	1197	61.42	1198	59.21	1199	57.10
1200	55.21	1201	53.43	1202	51.76	1203	50.15	1204	48.63
1205	47.16	1206	45.77	1207	44.45	1208	43.20	1209	41.99
1210	40.84	1211	39.74	1212	38.66	1213	37.64	1214	36.67
1215	35.81	1216	34.99	1217	34.18	1218	33.40	1219	32.63
1220	31.91	1221	31.21	1222	30.52	1223	29.86	1224	29.22
1225	28.58	1226	27.97	1227	27.37	1228	26.80	1229	26.28
1230	25.78	1231	25.29	1232	24.81	1233	24.34	1234	23.89
1235	23.43	1236	22.99	1237	22.56	1238	22.14	1239	21.73
1240	21.32	1241	20.92	1242	20.54	1243	20.17	1244	19.80
1245	19.44	1246	19.09	1247	18.75	1248	18.42	1249	18.11
1250	17.80	1251	17.50	1252	17.21	1253	16.93	1254	16.65
5	16.38	1256	16.12	1257	15.86	1258	16.61	1259	15.37
9	15.13	1261	14.94	1262	14.74	1263	14.54	1264	14.35
1265	14.16	1266	13.97	1267	13.79	1268	13.61	1269	13.44
1270	13.27	1271	13.11	1272	12.96	1273	12.80	1274	12.65
1275	12.51	1276	12.37	1277	12.23	1278	12.10	1279	11.97
1280	11.85	1281	11.72	1282	11.61	1283	11.49	1284	11.37
1285	11.26	1286	11.16	1287	11.05	1288	10.95	1289	10.85

1290	10.75	1291	10.66	1292	10.58	1293	10.50	1294	10.41
1295	10.33	1296	10.26	1297	10.18	1298	10.10	1299	10.03
1300	9.96	1310	9.31	1320	8.77	1330	8.31	1340	7.90
1350	7.55	1360	7.23	1370	6.94	1380	6.67	1390	6.43
1400	6.22	1420	5.83	1440	5.51	1460	4.82	1500	2.62

Total Runoff = 51.621 Acre-ft.
Peak Q = 399.69 CFS
Time to Peak = 1167 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 135V STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	1.63	200	1.71	300	1.80	400	1.91
500	2.04	600	2.20	700	2.42	800	2.75	900	3.75
1000	5.96	1050	7.93	1100	12.21	1110	13.71	1120	15.84
1130	19.04	1131	19.42	1132	19.84	1133	20.29	1134	20.76
1135	21.27	1136	21.80	1137	22.37	1138	23.02	1139	23.68
1140	24.43	1141	25.24	1142	26.11	1143	27.09	1144	28.19
1145	29.40	1146	30.70	1147	32.11	1148	33.73	1149	35.61
1150	37.87	1151	40.58	1152	43.89	1153	48.06	1154	53.85
1155	62.62	1156	91.33	1157	102.31	1158	102.08	1159	99.09
1160	93.93	1161	86.37	1162	74.75	1163	43.31	1164	28.97
1165	24.27	1166	21.46	1167	19.47	1168	17.95	1169	16.61
1170	15.50	1171	14.57	1172	13.81	1173	13.13	1174	12.52
1175	11.99	1176	11.44	1177	10.96	1178	10.52	1179	10.11
1180	9.76	1181	9.43	1182	9.12	1183	8.85	1184	8.59
1185	8.35	1186	8.14	1187	7.91	1188	7.72	1189	7.54
1190	7.37	1191	7.21	1192	7.05	1193	6.91	1194	6.78
1195	6.64	1196	6.49	1197	6.32	1198	6.17	1199	6.02
1200	5.87	1201	5.73	1202	5.62	1203	5.49	1204	5.39
1205	5.27	1206	5.16	1207	5.04	1208	4.96	1209	4.86
1210	4.76	1211	4.68	1212	4.58	1213	4.52	1214	4.44
1215	4.36	1216	4.28	1217	4.22	1218	4.14	1219	4.08
1220	4.00	1221	3.94	1222	3.89	1223	3.84	1224	3.77
1225	3.72	1226	3.67	1227	3.62	1228	3.58	1229	3.52
1230	3.47	1231	3.42	1232	3.38	1233	3.34	1234	3.29
1235	3.25	1236	3.22	1237	3.18	1238	3.14	1239	3.08
1240	3.06	1241	3.03	1242	2.99	1243	2.95	1244	2.92
1245	2.89	1246	2.86	1247	2.83	1248	2.79	1249	2.76
1250	2.74	1251	2.71	1252	2.69	1253	2.66	1254	2.65
1255	2.64	1256	2.63	1257	2.61	1258	2.59	1259	2.58
1260	2.58	1261	2.56	1262	2.55	1263	2.54	1264	2.53
1265	2.52	1266	2.51	1267	2.49	1268	2.49	1269	2.47
1270	2.46	1271	2.45	1272	2.44	1273	2.43	1274	2.42
1275	2.41	1276	2.40	1277	2.39	1278	2.38	1279	2.38
1280	2.36	1281	2.35	1282	2.34	1283	2.34	1284	2.33
1285	2.32	1286	2.31	1287	2.30	1288	2.30	1289	2.28
1290	2.28	1291	2.27	1292	2.26	1293	2.25	1294	2.24
1295	2.24	1296	2.23	1297	2.22	1298	2.22	1299	2.20
1300	2.20	1310	2.13	1320	2.06	1330	2.00	1340	1.96
1350	1.91	1360	1.86	1370	1.82	1380	1.78	1390	1.74
1400	1.71	1420	1.64	1440	1.59	1460	0.00	1500	0.00

Total Runoff = 8.397 Acre-ft.
Peak Q = 102.31 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 135RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	1.62	200	1.72	300	1.79	400	1.92
500	2.03	600	2.21	700	2.41	800	2.76	900	3.73
1000	5.95	1050	7.88	1100	12.14	1110	13.63	1120	15.71
1130	18.89	1131	19.24	1132	19.63	1133	20.07	1134	20.53
1135	21.02	1136	21.55	1137	22.10	1138	22.71	1139	23.37
1140	24.08	1141	24.86	1142	25.70	1143	26.63	1144	27.68
1145	28.84	1146	30.11	1147	31.47	1148	32.99	1149	34.80
1150	36.99	1151	39.56	1152	42.65	1153	46.51	1154	51.73
1155	59.45	1156	81.67	1157	100.35	1158	102.00	1159	100.18
1160	95.46	1161	88.76	1162	78.50	1163	54.84	1164	33.85
1165	26.77	1166	22.68	1167	20.48	1168	18.68	1169	17.28
1170	16.06	1171	15.05	1172	14.20	1173	13.49	1174	12.85
1175	12.28	1176	11.84	1177	11.34	1178	10.86	1179	10.42
1180	10.03	1181	9.68	1182	9.36	1183	9.07	1184	8.79
1185	8.54	1186	8.31	1187	8.08	1188	7.87	1189	7.69
1190	7.51	1191	7.34	1192	7.18	1193	7.02	1194	6.89
1195	6.75	1196	6.61	1197	6.45	1198	6.29	1199	6.14
1200	5.99	1201	5.84	1202	5.71	1203	5.59	1204	5.48
1205	5.36	1206	5.25	1207	5.14	1208	5.03	1209	4.94
1210	4.84	1211	4.75	1212	4.66	1213	4.58	1214	4.50
1215	4.42	1216	4.34	1217	4.27	1218	4.20	1219	4.13
1220	4.06	1221	4.00	1222	3.93	1223	3.88	1224	3.82
1225	3.76	1226	3.71	1227	3.66	1228	3.61	1229	3.57
1230	3.51	1231	3.46	1232	3.42	1233	3.38	1234	3.33
1235	3.28	1236	3.24	1237	3.21	1238	3.17	1239	3.13
1240	3.08	1241	3.05	1242	3.02	1243	2.99	1244	2.95
1245	2.91	1246	2.88	1247	2.85	1248	2.82	1249	2.79
1250	2.76	1251	2.73	1252	2.71	1253	2.68	1254	2.66
1255	2.65	1256	2.64	1257	2.62	1258	2.61	1259	2.59
1260	2.58	1261	2.57	1262	2.56	1263	2.55	1264	2.54
1265	2.53	1266	2.52	1267	2.51	1268	2.49	1269	2.48
1270	2.47	1271	2.46	1272	2.46	1273	2.44	1274	2.43
1275	2.42	1276	2.41	1277	2.40	1278	2.39	1279	2.38
1280	2.37	1281	2.36	1282	2.35	1283	2.34	1284	2.34
1285	2.33	1286	2.32	1287	2.31	1288	2.30	1289	2.29
1290	2.29	1291	2.27	1292	2.27	1293	2.26	1294	2.25
1295	2.24	1296	2.23	1297	2.23	1298	2.22	1299	2.21
1300	2.20	1310	2.14	1320	2.07	1330	2.01	1340	1.96
1350	1.91	1360	1.86	1370	1.82	1380	1.78	1390	1.74
1400	1.71	1420	1.65	1440	1.59	1460	0.47	1500	0.40

Total Runoff = 8.456 Acre-ft.
Peak Q = 102.00 CFS
Time to Peak = 1153 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY

TOTAL HYDROGRAPH AT 1 136AV STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	8.80	100	93.35	200	40.33	300	32.90	400	47.47
500	45.28	600	60.94	700	61.88	800	81.37	900	97.28
1000	153.80	1050	191.21	1100	285.03	1110	305.98	1120	341.73
	386.02	1131	391.55	1132	397.43	1133	403.35	1134	409.34
	415.55	1136	422.04	1137	428.78	1138	435.83	1139	443.23
	451.03	1141	459.24	1142	467.88	1143	477.08	1144	487.01
1145	497.52	1146	508.75	1147	520.72	1148	533.54	1149	547.45
1150	562.64	1151	579.18	1152	597.30	1153	617.62	1154	640.42
1155	665.43	1156	723.80	1157	802.72	1158	851.88	1159	914.58
1160	982.05	1161	1057.26	1162	1126.52	1163	1169.93	1164	1204.08
1165	1242.95	1166	1298.64	1167	1351.73	1168	1366.08	1169	1379.45
1170	1380.04	1171	1365.37	1172	1342.66	1173	1312.01	1174	1280.61
1175	1247.06	1176	1212.76	1177	1166.50	1178	1121.61	1179	1080.53
1180	1040.77	1181	1003.65	1182	967.55	1183	932.54	1184	897.76
1185	863.08	1186	829.19	1187	795.69	1188	762.06	1189	729.01
1190	696.99	1191	666.29	1192	645.52	1193	628.62	1194	607.77
1195	577.42	1196	546.09	1197	519.89	1198	494.42	1199	472.70
1200	451.71	1201	432.81	1202	414.67	1203	398.11	1204	382.47
1205	368.05	1206	354.38	1207	341.64	1208	329.65	1209	318.47
1210	307.75	1211	297.75	1212	288.31	1213	279.53	1214	271.50
1215	263.71	1216	256.31	1217	249.37	1218	242.84	1219	236.65
1220	230.71	1221	225.00	1222	219.53	1223	214.29	1224	209.26
1225	204.42	1226	199.78	1227	195.33	1228	191.10	1229	187.11
1230	183.33	1231	179.62	1232	176.16	1233	172.87	1234	169.72
1235	166.68	1236	163.73	1237	160.86	1238	158.07	1239	155.37
1240	152.75	1241	150.26	1242	147.95	1243	145.61	1244	143.36
1245	141.19	1246	139.11	1247	137.10	1248	135.15	1249	133.26
1250	131.42	1251	129.62	1252	127.86	1253	126.15	1254	124.48
1255	122.85	1256	121.27	1257	119.72	1258	118.20	1259	116.72
1260	115.29	1261	113.88	1262	112.52	1263	111.19	1264	109.89
1265	108.63	1266	107.39	1267	106.17	1268	104.98	1269	103.82
1270	102.68	1271	101.57	1272	100.48	1273	99.43	1274	98.44
1275	97.53	1276	96.68	1277	95.80	1278	94.93	1279	94.16
1280	93.27	1281	92.43	1282	91.60	1283	90.76	1284	89.98
1285	89.19	1286	88.41	1287	87.66	1288	86.91	1289	86.18
1290	85.47	1291	84.77	1292	84.08	1293	83.40	1294	82.74
1295	82.09	1296	81.46	1297	80.83	1298	80.22	1299	79.61
1300	79.02	1310	73.72	1320	69.28	1330	65.28	1340	61.72
1350	58.45	1360	55.39	1370	52.55	1380	49.86	1390	47.45
1400	45.20	1420	41.27	1440	38.00	1460	32.76	1500	22.76

Total Runoff = 242.376 Acre-ft.
Peak Q = 1380.04 CFS
Time to Peak = 1170 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 136B STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.98	200	1.06	300	1.15	400	1.25
500	1.40	600	1.59	700	1.85	800	2.29	900	3.52
	6.38	1050	8.69	1100	14.37	1110	16.26	1120	18.93
	23.98	1131	23.44	1132	23.96	1133	24.49	1134	25.07
	25.71	1136	26.37	1137	27.06	1138	27.83	1139	28.65
1140	29.56	1141	30.54	1142	31.62	1143	32.80	1144	34.10
1145	35.59	1146	37.24	1147	39.95	1148	40.87	1149	43.07
1150	45.68	1151	48.82	1152	52.74	1153	57.50	1154	63.85
1155	73.61	1156	103.73	1157	115.71	1158	116.88	1159	115.21
1160	112.12	1161	107.55	1162	101.16	1163	92.43	1164	80.09
1165	47.62	1166	32.53	1167	27.69	1168	24.64	1169	22.46
1170	20.61	1171	19.06	1172	17.79	1173	16.72	1174	15.82
1175	15.03	1176	14.33	1177	13.60	1178	12.94	1179	12.36
1180	11.84	1181	11.35	1182	10.92	1183	10.53	1184	10.16
1185	9.83	1186	9.52	1187	9.23	1188	8.96	1189	8.71
1190	8.47	1191	8.26	1192	8.04	1193	7.86	1194	7.68
1195	7.49	1196	7.34	1197	7.14	1198	6.92	1199	6.71
1200	6.51	1201	6.32	1202	6.13	1203	5.97	1204	5.82
1205	5.68	1206	5.51	1207	5.35	1208	5.23	1209	5.09
1210	4.97	1211	4.86	1212	4.72	1213	4.63	1214	4.51
1215	4.41	1216	4.32	1217	4.22	1218	4.13	1219	4.04
1220	3.95	1221	3.87	1222	3.78	1223	3.72	1224	3.63
1225	3.56	1226	3.49	1227	3.43	1228	3.35	1229	3.31
1230	3.25	1231	3.18	1232	3.13	1233	3.07	1234	3.01
1235	2.97	1236	2.91	1237	2.86	1238	2.81	1239	2.76
1240	2.72	1241	2.67	1242	2.63	1243	2.59	1244	2.54
1245	2.49	1246	2.46	1247	2.42	1248	2.38	1249	2.35
1250	2.31	1251	2.28	1252	2.24	1253	2.21	1254	2.18
1255	2.16	1256	2.15	1257	2.13	1258	2.11	1259	2.09
1260	2.08	1261	2.06	1262	2.04	1263	2.03	1264	2.01
1265	2.00	1266	1.98	1267	1.97	1268	1.96	1269	1.94
1270	1.93	1271	1.91	1272	1.90	1273	1.89	1274	1.87
1275	1.86	1276	1.85	1277	1.83	1278	1.82	1279	1.81
1280	1.80	1281	1.79	1282	1.77	1283	1.76	1284	1.75
1285	1.75	1286	1.73	1287	1.72	1288	1.71	1289	1.70
1290	1.69	1291	1.68	1292	1.67	1293	1.66	1294	1.65
1295	1.64	1296	1.63	1297	1.62	1298	1.61	1299	1.60
1300	1.60	1310	1.51	1320	1.44	1330	1.37	1340	1.32
1350	1.26	1360	1.21	1370	1.17	1380	1.13	1390	1.09
1400	1.06	1420	1.00	1440	0.94	1460	0.86	1500	0.00

Total Runoff = 9.501 Acre-ft.
Peak Q = 116.88 CFS
Time to Peak = 1159 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 140X STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.10	200	0.11	300	0.12	400	0.13
	0.14	500	0.16	600	0.19	800	0.23	900	0.36
	0.66	1100	1.49	1110	1.68	1120	1.96	1130	2.43
	3.27	1131	3.33	1132	3.39	1133	3.45	1134	3.52
	3.59	1135	3.67	1136	3.75	1137	3.84	1138	3.93
	4.03	1140	4.14	1141	4.26	1142	4.39	1143	4.53
	4.68	1145	4.84	1146	5.03	1147	5.23	1148	5.45
	5.69	1150	5.96	1151	6.26	1152	6.61	1153	7.01

1155	8.36	1156	13.07	1157	14.64	1158	14.26	1159	13.25
1160	11.45	1161	6.18	1162	3.82	1163	3.13	1164	2.70
1165	2.41	1166	2.19	1167	2.02	1168	1.86	1169	1.73
1170	1.63	1171	1.54	1172	1.46	1173	1.39	1174	1.33
1175	1.26	1176	1.20	1177	1.15	1178	1.10	1179	1.06
1180	1.02	1181	0.99	1182	0.95	1183	0.92	1184	0.89
	0.87	1186	0.84	1187	0.82	1188	0.80	1189	0.78
	0.76	1191	0.74	1192	0.72	1193	0.71	1194	0.69
	0.67	1196	0.65	1197	0.63	1198	0.62	1199	0.60
1200	0.58	1201	0.57	1202	0.55	1203	0.54	1204	0.53
1205	0.51	1206	0.50	1207	0.49	1208	0.47	1209	0.46
1210	0.45	1211	0.44	1212	0.43	1213	0.43	1214	0.41
1215	0.41	1216	0.40	1217	0.39	1218	0.38	1219	0.37
1220	0.37	1221	0.36	1222	0.35	1223	0.35	1224	0.34
1225	0.33	1226	0.33	1227	0.32	1228	0.32	1229	0.31
1230	0.30	1231	0.30	1232	0.30	1233	0.29	1234	0.28
1235	0.28	1236	0.28	1237	0.27	1238	0.27	1239	0.26
1240	0.26	1241	0.25	1242	0.25	1243	0.25	1244	0.24
1245	0.24	1246	0.24	1247	0.23	1248	0.23	1249	0.23
1250	0.22	1251	0.22	1252	0.22	1253	0.22	1254	0.21
1255	0.21	1256	0.21	1257	0.21	1258	0.21	1259	0.21
1260	0.20	1261	0.20	1262	0.20	1263	0.20	1264	0.20
1265	0.20	1266	0.20	1267	0.19	1268	0.19	1269	0.19
1270	0.19	1271	0.19	1272	0.19	1273	0.19	1274	0.19
1275	0.18	1276	0.18	1277	0.18	1278	0.18	1279	0.18
1280	0.18	1281	0.18	1282	0.18	1283	0.17	1284	0.17
1285	0.17	1286	0.17	1287	0.17	1288	0.17	1289	0.17
1290	0.17	1291	0.17	1292	0.17	1293	0.16	1294	0.16
1295	0.16	1296	0.16	1297	0.16	1298	0.16	1299	0.16
1300	0.16	1310	0.15	1320	0.14	1330	0.14	1340	0.13
1350	0.13	1360	0.12	1370	0.12	1380	0.11	1390	0.11
1400	0.11	1420	0.10	1440	0.10	1460	0.00	1500	0.00

Total Runoff = 0.812 Acre-ft.
Peak Q = 14.64 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 140RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.61	1050	0.84	1100	1.34	1110	1.51	1120	1.77
1130	2.14	1131	2.18	1132	2.23	1133	2.28	1134	2.33
1135	2.38	1136	2.44	1137	2.51	1138	2.58	1139	2.66
1140	2.74	1141	2.82	1142	2.92	1143	3.03	1144	3.16
1145	3.31	1146	3.46	1147	3.62	1148	3.80	1149	4.00
1150	4.24	1151	4.52	1152	4.89	1153	5.34	1154	5.90
1155	6.68	1156	8.28	1157	11.27	1158	13.72	1159	14.13
1160	13.33	1161	11.45	1162	8.25	1163	5.38	1164	3.88
1165	3.15	1166	2.76	1167	2.46	1168	2.23	1169	2.04
1170	1.89	1171	1.76	1172	1.65	1173	1.56	1174	1.49
1175	1.43	1176	1.36	1177	1.30	1178	1.24	1179	1.18
	1.13	1181	1.09	1182	1.05	1183	1.01	1184	0.98
	0.94	1186	0.91	1187	0.89	1188	0.86	1189	0.84
	0.81	1191	0.79	1192	0.77	1193	0.75	1194	0.73
1195	0.72	1196	0.70	1197	0.68	1198	0.67	1199	0.65
1200	0.63	1201	0.61	1202	0.59	1203	0.58	1204	0.56
1205	0.55	1206	0.53	1207	0.52	1208	0.51	1209	0.50
1210	0.48	1211	0.47	1212	0.46	1213	0.45	1214	0.44
1215	0.43	1216	0.42	1217	0.41	1218	0.41	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
1235	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
1240	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
1245	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 1.232 Acre-ft.
Peak Q = 14.13 CFS
Time to Peak = 1159 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143Y STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.04	200	0.04	300	0.04	400	0.05
500	0.05	600	0.05	700	0.06	800	0.06	900	0.08
1000	0.10	1050	0.11	1100	0.15	1110	0.17	1120	0.19
1130	0.21	1131	0.22	1132	0.22	1133	0.23	1134	0.23
1135	0.23	1136	0.24	1137	0.24	1138	0.25	1139	0.26
1140	0.26	1141	0.27	1142	0.28	1143	0.29	1144	0.30
1145	0.30	1146	0.32	1147	0.33	1148	0.34	1149	0.35
1150	0.38	1151	0.41	1152	0.44	1153	0.48	1154	0.53
1155	0.62	1156	1.03	1157	1.22	1158	1.17	1159	1.08
1160	0.96	1161	0.48	1162	0.32	1163	0.28	1164	0.25
1165	0.23	1166	0.21	1167	0.20	1168	0.19	1169	0.18
1170	0.17	1171	0.16	1172	0.16	1173	0.15	1174	0.15
	0.14	1176	0.14	1177	0.14	1178	0.13	1179	0.13
	0.13	1181	0.13	1182	0.12	1183	0.12	1184	0.12
	0.11	1186	0.11	1187	0.11	1188	0.11	1189	0.11
1190	0.11	1191	0.10	1192	0.10	1193	0.10	1194	0.10
1195	0.10	1196	0.10	1197	0.10	1198	0.10	1199	0.10
1200	0.09	1201	0.09	1202	0.09	1203	0.09	1204	0.09
1205	0.09	1206	0.09	1207	0.09	1208	0.09	1209	0.09

1210	0.08	1211	0.08	1212	0.08	1213	0.08	1214	0.08
1215	0.08	1216	0.08	1217	0.08	1218	0.08	1219	0.08
1220	0.08	1221	0.08	1222	0.08	1223	0.08	1224	0.08
1225	0.07	1226	0.07	1227	0.07	1228	0.07	1229	0.07
1230	0.07	1231	0.07	1232	0.07	1233	0.07	1234	0.07
1235	0.07	1236	0.07	1237	0.07	1238	0.07	1239	0.07
	0.07	1241	0.07	1242	0.07	1243	0.07	1244	0.07
	0.07	1246	0.07	1247	0.07	1248	0.06	1249	0.06
	0.06	1251	0.06	1252	0.06	1253	0.06	1254	0.06
1255	0.06	1256	0.06	1257	0.06	1258	0.06	1259	0.06
1260	0.06	1261	0.06	1262	0.06	1263	0.06	1264	0.06
1265	0.06	1266	0.06	1267	0.06	1268	0.06	1269	0.06
1270	0.06	1271	0.06	1272	0.06	1273	0.06	1274	0.06
1275	0.06	1276	0.06	1277	0.06	1278	0.06	1279	0.06
1280	0.06	1281	0.06	1282	0.06	1283	0.06	1284	0.06
1285	0.06	1286	0.06	1287	0.05	1288	0.05	1289	0.05
1290	0.05	1291	0.05	1292	0.05	1293	0.05	1294	0.05
1295	0.05	1296	0.05	1297	0.05	1298	0.05	1299	0.05
1300	0.05	1310	0.05	1320	0.05	1330	0.05	1340	0.05
1350	0.05	1360	0.04	1370	0.04	1380	0.04	1390	0.04
1400	0.04	1420	0.04	1440	0.04	1460	0.00	1500	0.00

Total Runoff = 0.140 Acre-ft.
Peak Q = 1.22 CFS
Time to Peak = 1157 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 143RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.40	200	0.40	300	0.40	400	0.40
500	0.40	600	0.40	700	0.40	800	0.40	900	0.40
1000	0.40	1050	0.40	1100	0.40	1110	0.40	1120	0.40
1130	0.40	1131	0.40	1132	0.40	1133	0.40	1134	0.40
1135	0.40	1136	0.40	1137	0.40	1138	0.40	1139	0.40
1140	0.40	1141	0.40	1142	0.40	1143	0.40	1144	0.40
1145	0.40	1146	0.40	1147	0.40	1148	0.40	1149	0.40
1150	0.40	1151	0.40	1152	0.41	1153	0.43	1154	0.47
1155	0.55	1156	0.77	1157	1.07	1158	1.19	1159	1.13
1160	0.99	1161	0.74	1162	0.49	1163	0.43	1164	0.41
1165	0.40	1166	0.40	1167	0.40	1168	0.40	1169	0.40
1170	0.40	1171	0.40	1172	0.40	1173	0.40	1174	0.40
1175	0.40	1176	0.40	1177	0.40	1178	0.40	1179	0.40
1180	0.40	1181	0.40	1182	0.40	1183	0.40	1184	0.40
1185	0.40	1186	0.40	1187	0.40	1188	0.40	1189	0.40
1190	0.40	1191	0.40	1192	0.40	1193	0.40	1194	0.40
1195	0.40	1196	0.40	1197	0.40	1198	0.40	1199	0.40
1200	0.40	1201	0.40	1202	0.40	1203	0.40	1204	0.40
1205	0.40	1206	0.40	1207	0.40	1208	0.40	1209	0.40
1210	0.40	1211	0.40	1212	0.40	1213	0.40	1214	0.40
1215	0.40	1216	0.40	1217	0.40	1218	0.40	1219	0.40
1220	0.40	1221	0.40	1222	0.40	1223	0.40	1224	0.40
1225	0.40	1226	0.40	1227	0.40	1228	0.40	1229	0.40
1230	0.40	1231	0.40	1232	0.40	1233	0.40	1234	0.40
	0.40	1236	0.40	1237	0.40	1238	0.40	1239	0.40
	0.40	1241	0.40	1242	0.40	1243	0.40	1244	0.40
	0.40	1246	0.40	1247	0.40	1248	0.40	1249	0.40
1250	0.40	1251	0.40	1252	0.40	1253	0.40	1254	0.40
1255	0.40	1256	0.40	1257	0.40	1258	0.40	1259	0.40
1260	0.40	1261	0.40	1262	0.40	1263	0.40	1264	0.40
1265	0.40	1266	0.40	1267	0.40	1268	0.40	1269	0.40
1270	0.40	1271	0.40	1272	0.40	1273	0.40	1274	0.40
1275	0.40	1276	0.40	1277	0.40	1278	0.40	1279	0.40
1280	0.40	1281	0.40	1282	0.40	1283	0.40	1284	0.40
1285	0.40	1286	0.40	1287	0.40	1288	0.40	1289	0.40
1290	0.40	1291	0.40	1292	0.40	1293	0.40	1294	0.40
1295	0.40	1296	0.40	1297	0.40	1298	0.40	1299	0.40
1300	0.40	1310	0.40	1320	0.40	1330	0.40	1340	0.40
1350	0.40	1360	0.40	1370	0.40	1380	0.40	1390	0.40
1400	0.40	1420	0.40	1440	0.40	1460	0.40	1500	0.40

Total Runoff = 0.832 Acre-ft.
Peak Q = 1.19 CFS
Time to Peak = 1159 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 147Z STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.00	100	0.79	200	0.85	300	0.92	400	1.00
500	1.11	600	1.25	700	1.45	800	1.79	900	2.47
1000	4.74	1050	6.56	1100	10.53	1110	11.89	1120	13.83
1130	16.75	1131	17.09	1132	17.46	1133	17.85	1134	18.26
1135	18.73	1136	19.20	1137	19.70	1138	20.26	1139	20.85
1140	21.51	1141	22.22	1142	23.00	1143	23.85	1144	24.79
1145	25.85	1146	27.05	1147	28.29	1148	29.67	1149	31.26
1150	33.15	1151	35.41	1152	38.23	1153	41.67	1154	46.25
1155	53.29	1156	75.01	1157	83.65	1158	84.35	1159	83.29
1160	81.06	1161	77.27	1162	73.16	1163	66.87	1164	57.96
1165	34.55	1166	23.66	1167	20.16	1168	17.96	1169	16.38
1170	15.04	1171	13.92	1172	13.00	1173	12.23	1174	11.57
1175	11.01	1176	10.49	1177	9.97	1178	9.49	1179	9.07
1180	8.70	1181	8.34	1182	8.03	1183	7.75	1184	7.48
1185	7.24	1186	7.02	1187	6.81	1188	6.61	1189	6.43
1190	6.26	1191	6.10	1192	5.95	1193	5.82	1194	5.68
1195	5.54	1196	5.44	1197	5.29	1196	5.13	1199	4.98
1200	4.84	1201	4.70	1202	4.57	1203	4.44	1204	4.34
1205	4.22	1206	4.12	1207	4.00	1208	3.91	1209	3.82
1210	3.73	1211	3.64	1212	3.55	1213	3.48	1214	3.39
1215	3.32	1216	3.25	1217	3.19	1218	3.12	1219	3.05
1220	2.99	1221	2.93	1222	2.87	1223	2.82	1224	2.76
1225	2.72	1226	2.65	1227	2.61	1228	2.57	1229	2.52
	2.48	1231	2.43	1232	2.38	1233	2.35	1234	2.30
	2.27	1234	2.23	1237	2.20	1238	2.16	1239	2.12
	2.09	1241	2.05	1242	2.03	1243	2.00	1244	1.96
1245	1.93	1246	1.90	1247	1.87	1248	1.84	1249	1.82
1250	1.79	1251	1.77	1252	1.74	1253	1.72	1254	1.70
1255	1.68	1256	1.67	1257	1.65	1258	1.63	1259	1.63
1260	1.62	1261	1.61	1262	1.60	1263	1.59	1264	1.57

1265	1.56	1266	1.55	1267	1.54	1268	1.53	1269	1.52
1270	1.51	1271	1.50	1272	1.49	1273	1.48	1274	1.47
1275	1.46	1276	1.45	1277	1.44	1278	1.43	1279	1.42
1280	1.41	1281	1.40	1282	1.39	1283	1.39	1284	1.38
1285	1.37	1286	1.36	1287	1.35	1288	1.35	1289	1.34
1290	1.33	1291	1.32	1292	1.32	1293	1.31	1294	1.30
	1.29	1296	1.28	1297	1.28	1298	1.27	1299	1.26
	1.26	1310	1.20	1320	1.14	1330	1.09	1340	1.05
	1.00	1360	0.97	1370	0.93	1380	0.91	1390	0.88
1400	0.85	1420	0.80	1440	0.76	1460	0.00	1500	0.00

Total Runoff = 6.353 Acre-ft.
Peak Q = 84.35 CFS
Time to Peak = 1158 Minutes

MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 147RT STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	0.40	100	0.79	200	0.85	300	0.91	400	1.00
500	1.11	600	1.26	700	1.45	800	1.78	900	2.67
1000	4.73	1050	6.54	1100	10.50	1110	11.85	1120	13.77
1130	15.66	1131	16.99	1132	17.36	1133	17.74	1134	18.15
1135	18.60	1136	19.08	1137	19.57	1138	20.11	1139	20.69
1140	21.33	1141	22.03	1142	22.79	1143	23.63	1144	24.54
1145	25.58	1146	26.75	1147	27.98	1148	29.33	1149	30.87
1150	32.69	1151	34.87	1152	37.55	1153	40.87	1154	45.18
1155	51.66	1156	69.64	1157	82.83	1158	83.90	1159	83.81
1160	81.43	1161	78.62	1162	74.14	1163	68.32	1164	59.96
1165	40.52	1166	25.40	1167	21.31	1168	18.36	1169	16.90
1170	15.37	1171	14.26	1172	13.26	1173	12.47	1174	11.77
1175	11.18	1176	10.65	1177	10.15	1178	9.65	1179	9.21
1180	8.82	1181	8.46	1182	8.14	1183	7.85	1184	7.57
1185	7.33	1186	7.10	1187	6.88	1188	6.68	1189	6.50
1190	6.32	1191	6.16	1192	6.01	1193	5.86	1194	5.73
1195	5.60	1196	5.48	1197	5.35	1198	5.20	1199	5.04
1200	4.89	1201	4.75	1202	4.62	1203	4.49	1204	4.38
1205	4.27	1206	4.16	1207	4.05	1208	3.95	1209	3.86
1210	3.77	1211	3.68	1212	3.59	1213	3.51	1214	3.43
1215	3.35	1216	3.29	1217	3.22	1218	3.15	1219	3.08
1220	3.01	1221	2.95	1222	2.89	1223	2.84	1224	2.79
1225	2.73	1226	2.68	1227	2.63	1228	2.59	1229	2.54
1230	2.50	1231	2.45	1232	2.41	1233	2.37	1234	2.32
1235	2.29	1236	2.25	1237	2.21	1238	2.18	1239	2.14
1240	2.11	1241	2.07	1242	2.04	1243	2.01	1244	1.98
1245	1.95	1246	1.91	1247	1.89	1248	1.86	1249	1.83
1250	1.81	1251	1.79	1252	1.76	1253	1.73	1254	1.71
1255	1.69	1256	1.68	1257	1.67	1258	1.65	1259	1.64
1260	1.63	1261	1.62	1262	1.60	1263	1.59	1264	1.58
1265	1.57	1266	1.56	1267	1.55	1268	1.54	1269	1.53
1270	1.51	1271	1.50	1272	1.49	1273	1.48	1274	1.47
1275	1.46	1276	1.45	1277	1.44	1278	1.44	1279	1.43
1280	1.42	1281	1.41	1282	1.40	1283	1.39	1284	1.38
1285	1.37	1286	1.37	1287	1.36	1288	1.35	1289	1.34
	1.34	1291	1.33	1292	1.32	1293	1.31	1294	1.30
	1.30	1296	1.29	1297	1.28	1298	1.27	1299	1.27
	1.26	1310	1.20	1320	1.14	1330	1.09	1340	1.05
1380	1.01	1360	0.97	1370	0.93	1380	0.91	1390	0.88
1400	0.85	1420	0.80	1440	0.76	1460	0.42	1500	0.40

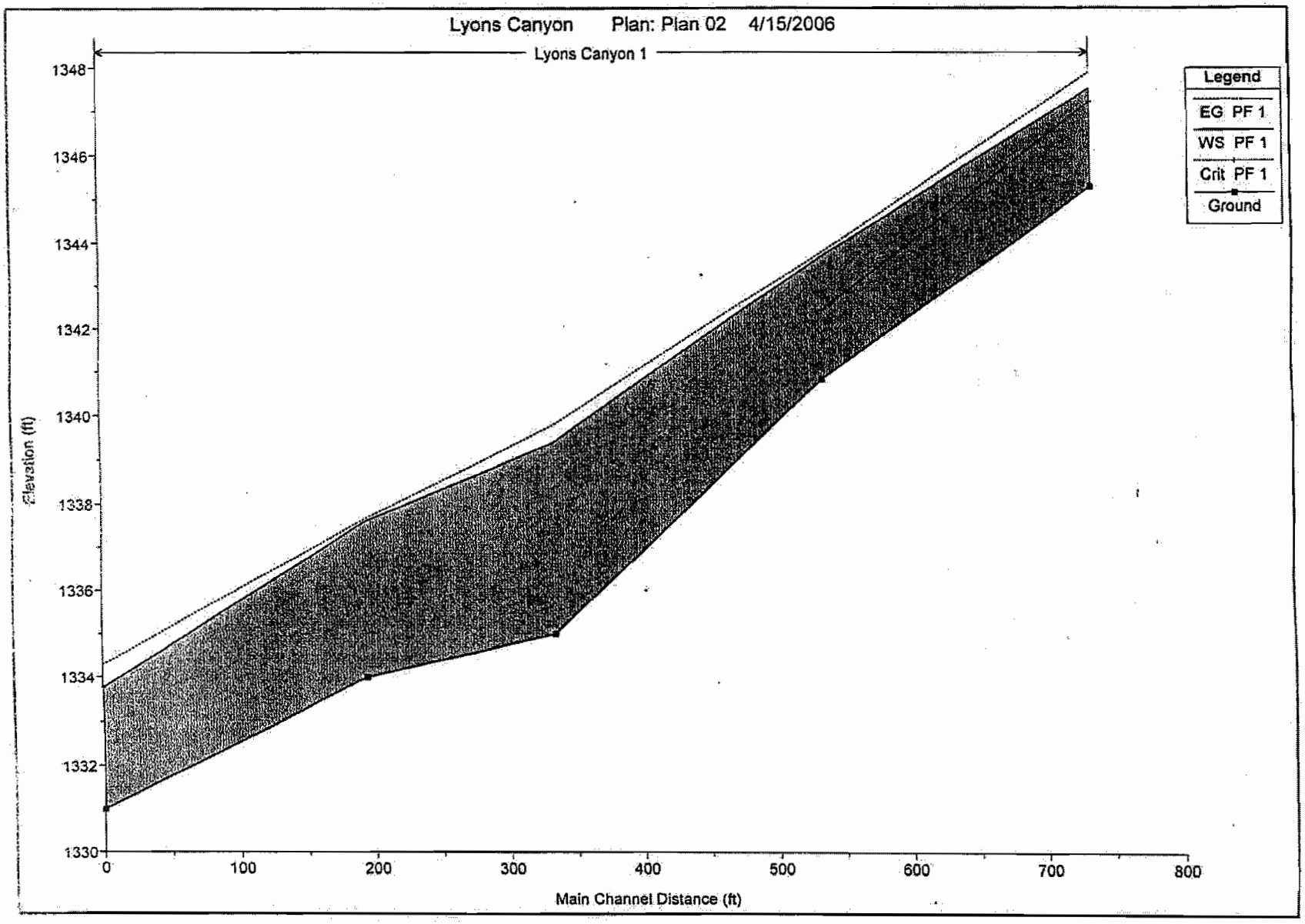
Total Runoff = 6.410 Acre-ft.
Peak Q = 83.90 CFS
Time to Peak = 1156 Minutes

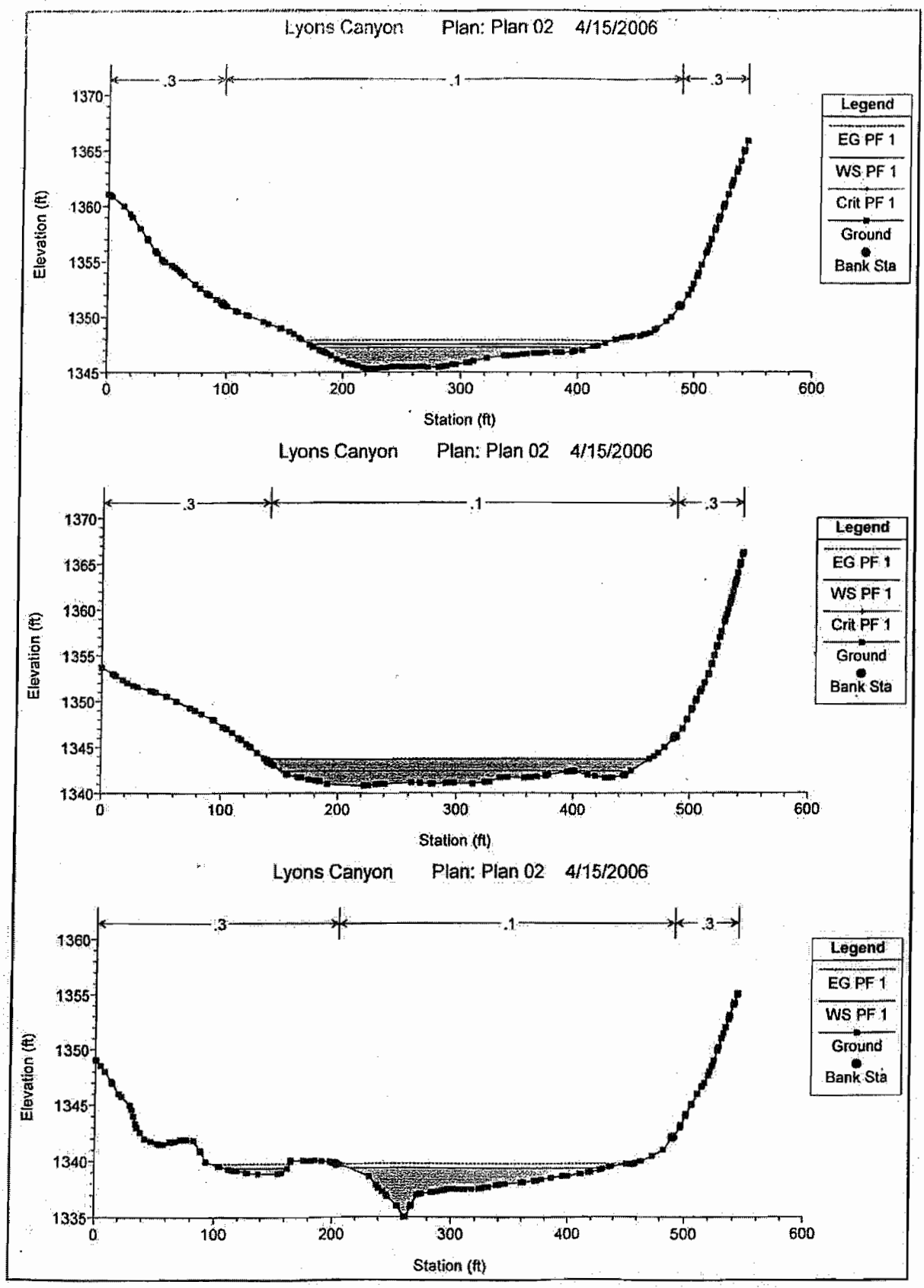
MODIFIED RATIONAL METHOD HYDROLOGY
TOTAL HYDROGRAPH AT 1 148XE STORM DAY 4 STORM FREQ. 50 REDUCTION FACTOR = 1.000

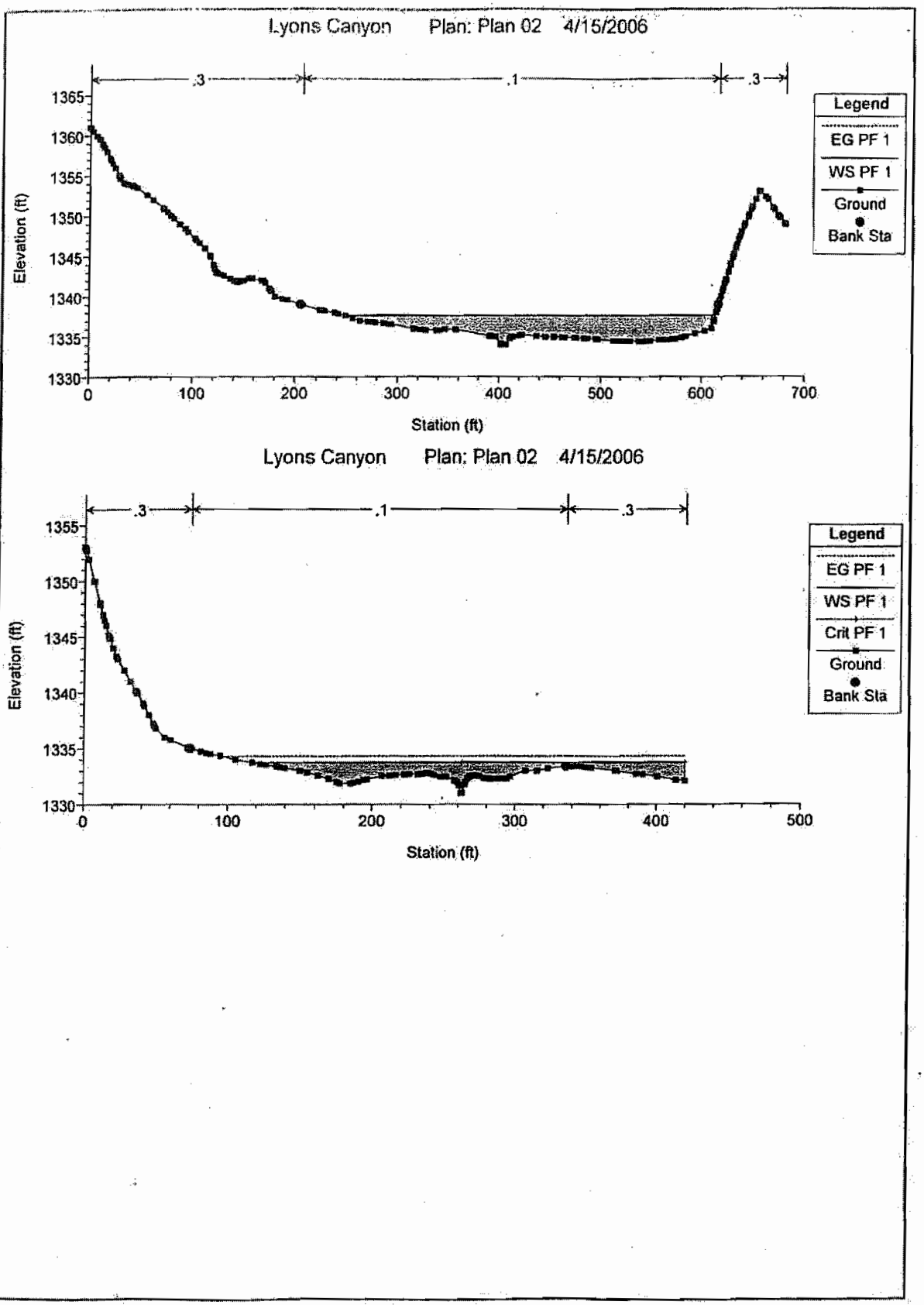
TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	1.20	100	1.59	200	1.65	300	1.71	400	1.80
500	1.91	600	2.06	700	2.25	800	2.58	900	3.47
1000	5.74	1050	7.78	1100	12.24	1110	13.76	1120	15.94
1130	19.20	1131	19.58	1132	19.98	1133	20.42	1134	20.88
1135	21.38	1136	21.92	1137	22.48	1138	23.09	1139	23.75
1140	24.47	1141	25.25	1142	26.11	1143	27.06	1144	28.13
1145	29.29	1146	30.61	1147	32.00	1148	33.53	1149	35.27
1150	37.32	1151	39.79	1152	42.85	1153	46.64	1154	51.54
1155	58.88	1156	78.69	1157	95.17	1158	98.80	1159	99.07
1160	95.75	1161	90.80	1162	82.89	1163	74.13	1164	64.25
1165	44.09	1166	28.58	1167	24.17	1168	20.99	1169	19.34
1170	17.66	1171	16.42	1172	15.31	1173	14.42	1174	13.66
1175	13.01	1176	12.42	1177	11.85	1178	11.29	1179	10.80
1180	10.36	1181	9.95	1182	9.58	1183	9.26	1184	8.98
1185	8.67	1186	8.41	1187	8.17	1188	7.94	1189	7.73
1190	7.54	1191	7.35	1192	7.18	1193	7.02	1194	6.87
1195	6.72	1196	6.58	1197	6.43	1198	6.26	1199	6.09
1200	5.93	1201	5.76	1202	5.62	1203	5.47	1204	5.35
1205	5.22	1206	5.10	1207	4.97	1208	4.86	1209	4.75
1210	4.65	1211	4.55	1212	4.45	1213	4.36	1214	4.27
1215	4.19	1216	4.11	1217	4.03	1218	3.96	1219	3.88
1220	3.82	1221	3.75	1222	3.69	1223	3.64	1224	3.59
1225	3.53	1226	3.48	1227	3.43	1228	3.38	1229	3.34
1230	3.30	1231	3.25	1232	3.21	1233	3.17	1234	3.13
1235	3.09	1236	3.05	1237	3.01	1238	2.98	1239	2.94
1240	2.91	1241	2.87	1242	2.84	1243	2.81	1244	2.78
1245	2.75	1246	2.71	1247	2.69	1248	2.66	1249	2.63
1250	2.61	1251	2.58	1252	2.56	1253	2.53	1254	2.51
1255	2.49	1256	2.48	1257	2.47	1258	2.45	1259	2.44
1260	2.43	1261	2.42	1262	2.40	1263	2.39	1264	2.38
1265	2.37	1266	2.36	1267	2.35	1268	2.34	1269	2.33
1270	2.31	1271	2.30	1272	2.29	1273	2.28	1274	2.27
1275	2.26	1276	2.25	1277	2.24	1278	2.24	1279	2.23
1280	2.22	1281	2.21	1282	2.20	1283	2.19	1284	2.19
	2.17	1286	2.17	1287	2.16	1288	2.15	1289	2.14
	2.13	1291	2.13	1292	2.12	1293	2.11	1294	2.10
	2.09	1296	2.09	1297	2.08	1298	2.07	1299	2.07
	2.06				1.84	1330			
1350	1.80	1360	1.77	1370	1.73	1380	1.70	1390	1.67
1400	1.63	1420	1.58	1440	1.52	1460	1.00	1500	0.97

Total Runoff =	8.473 Acre-ft.
Peak Q =	99.07 CFS
Time to Peak =	1159 Minutes

Appendix 7
HEC-RAS Existing Analysis


Lyons Canyon Plan: Plan 02 4/15/2006
Lyons Canyon 1
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
1348
1346
1344
1342
1340
1338
1336
1334
1332
1330
0
100
200
300
400
500
600
700
800
Main Channel Distance (ft)


Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
1370
1365
1360
1355
1350
1345
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
1370
1365
1360
1355
1350
1345
1340
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
1360
1355
1350
1345
1340
1335
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
1365
1360
1355
1350
1345
1340
1335
1330
0
100
200
300
400
500
600
700
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
1355
1350
1345
1340
1335
1330
0
100
200
300
400
500
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

HEC-RAS Version 3.1.2 April 2004
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X     X
X     X  X        X            X   X     X   X    X
XXXXXXX  XXXX     X       XXX  XXXX      XXXXXX    XXXX
X     X  X        X            X  X      X    X        X
X     X  X        X    X       X   X     X    X        X
X     X  XXXXXX    XXXX        X    X    X    X   XXXXX
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PROJECT DATA
Project Title: Lyons Canyon
Project File : 149NYR00.prj
Run Date and Time: 4/15/2006 2:15:32 PM

Project in English units

PLAN DATA

Plan Title: Plan 02
Plan File : C:\HEC Data\RAS\149NYR00.p02

Geometry Title: Lyons Canyon
Geometry File : C:\HEC Data\RAS\149NYR00.g01

Flow Title : Flow 01
Flow File : C:\HEC Data\RAS\149NYR00.f01

Plan Summary Information:

Number of:	Cross Sections	= 5	Multiple Openings	=	0
	Culverts	= 0	Inline Structures	=	0
	Bridges	= 0	Lateral Structures	=	0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Flow 01
Flow File : C:\HEC Data\RAS\149NYR00.f01

Flow Data (cfs)

River	Reach	RS	PF 1
Lyons Canyon	1	5	1625

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Lyons Canyon	1	PF 1		Normal S = 2.5

GEOMETRY DATA

Geometry Title: Lyons Canyon
Geometry File : C:\HEC Data\RAS\149NYR00.g01

CROSS SECTION

RIVER: Lyons Canyon
REACH: 1 RS: 5

INPUT
Description:
Station Elevation Data num= 161

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1361.1	1.71	1361	2.81	1360.92	3.54	1360.86	12.9	1360
18.6	1359.3	20.41	1359	26.74	1358	32.44	1357.12	33.28	1357
33.43	1356.98	33.52	1356.96	39.52	1356	40.97	1355.77	44.71	1355.25
45.92	1355.09	47.52	1355	53.04	1354.7	55.37	1354.55	57.61	1354.38
59.87	1354.17	61.25	1354	63.95	1353.8	73.52	1353	77.52	1352.6
83.03	1352.2	83.92	1352.13	85.97	1352	91.71	1351.62	96.84	1351.26
98.61	1351.13	100.3	1351	107.62	1350.6	109.47	1350.49	116.9	1350.21
118.86	1350.14	132.05	1349.6	136.47	1349.4	146.67	1349	147.36	1348.97
147.66	1348.96	154.44	1348.7	158.28	1348.46	163.2	1348.13	164.91	1348
171.87	1347.51	174.64	1347.3	180.01	1347	182.1	1346.89	184.36	1346.8
185.98	1346.7	189.7	1346.51	194.81	1346.18	200.18	1346	204.81	1345.79
205.8	1345.8	208.38	1345.73	211.98	1345.61	213.06	1345.61	217.62	1345.43
220.02	1345.3	220.8	1345.31	222.3	1345.29	223.38	1345.29	226.23	1345.31
228.53	1345.3	230.31	1345.33	235.59	1345.41	238.15	1345.4	242.8	1345.48

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	73.74	.1	335.91	.3

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
73.74	335.91	0	0	0	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Lyons Canyon

Reach	River Sta.	n1	n2	n3
1	5	.3	.1	.3
1	4	.3	.1	.3
1	3	.3	.1	.3
1	2	.3	.1	.3
1	1	.3	.1	.3

SUMMARY OF REACH LENGTHS

River: Lyons Canyon

Reach	River Sta.	Left	Channel	Right
1	5	200	200	200
1	4	200	200	200
1	3	114.85	140	280.81
1	2	258.89	195	325.03
1	1	0	0	0

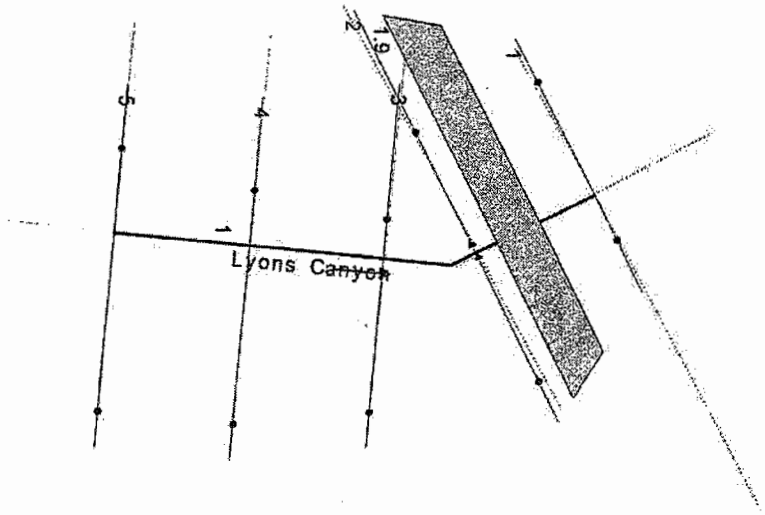
SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Lyons Canyon

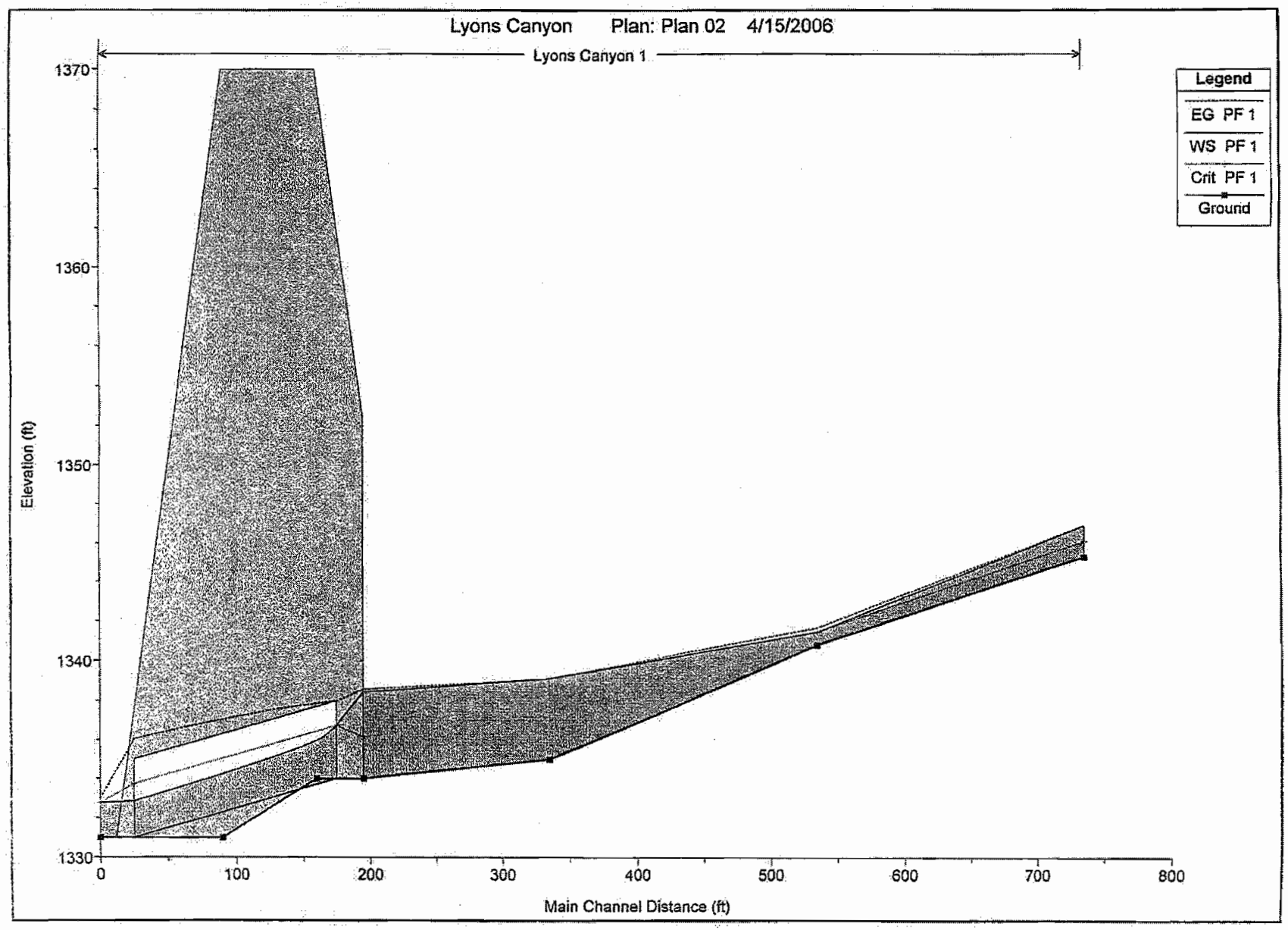
Reach	River Sta.	Contr.	Expan.
1	5	.1	.3
1	4	.1	.3
1	3	.1	.3
1	2	.1	.3
1	1	.1	.3

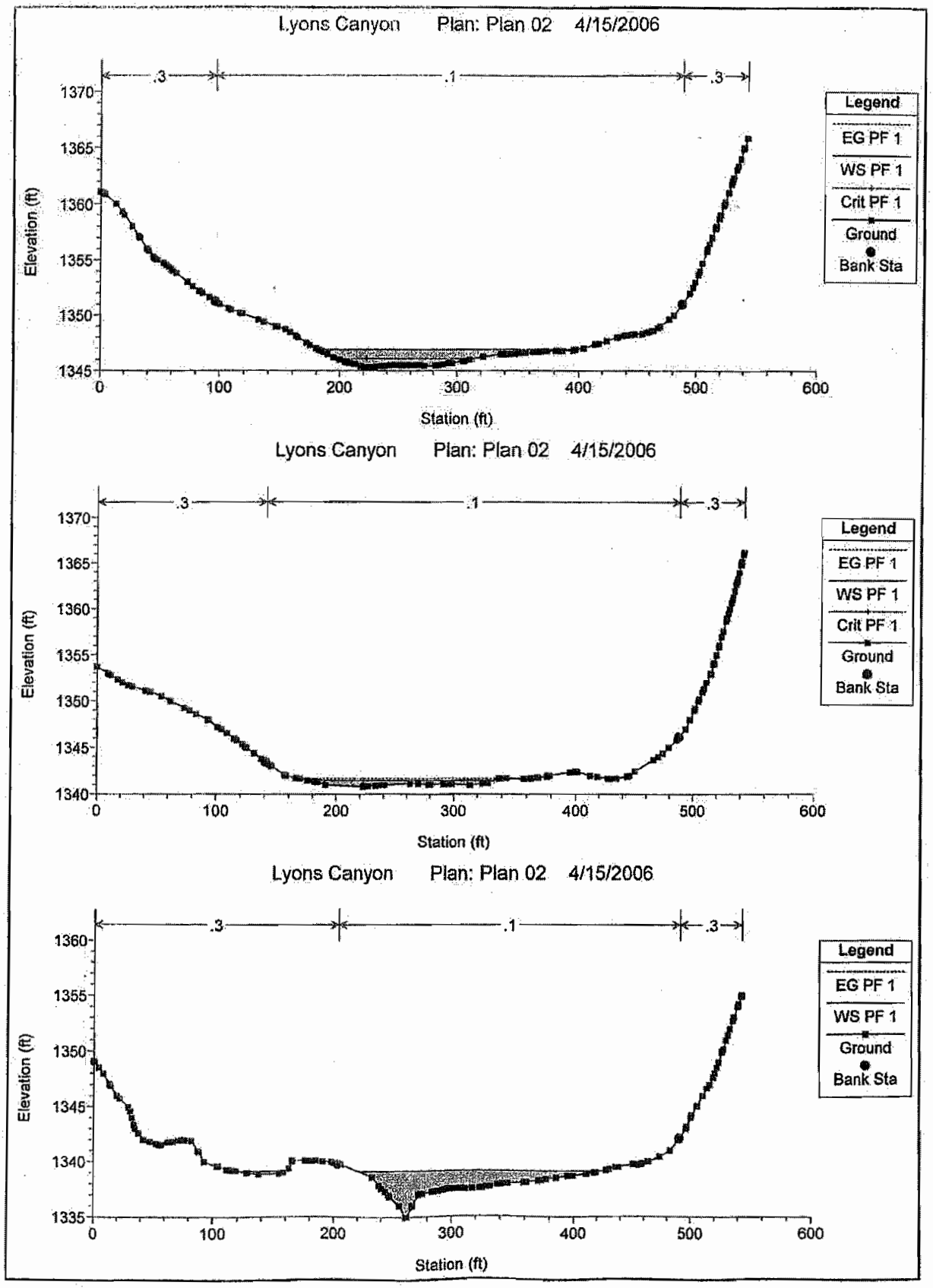
Profile Output Table - Standard Table 1

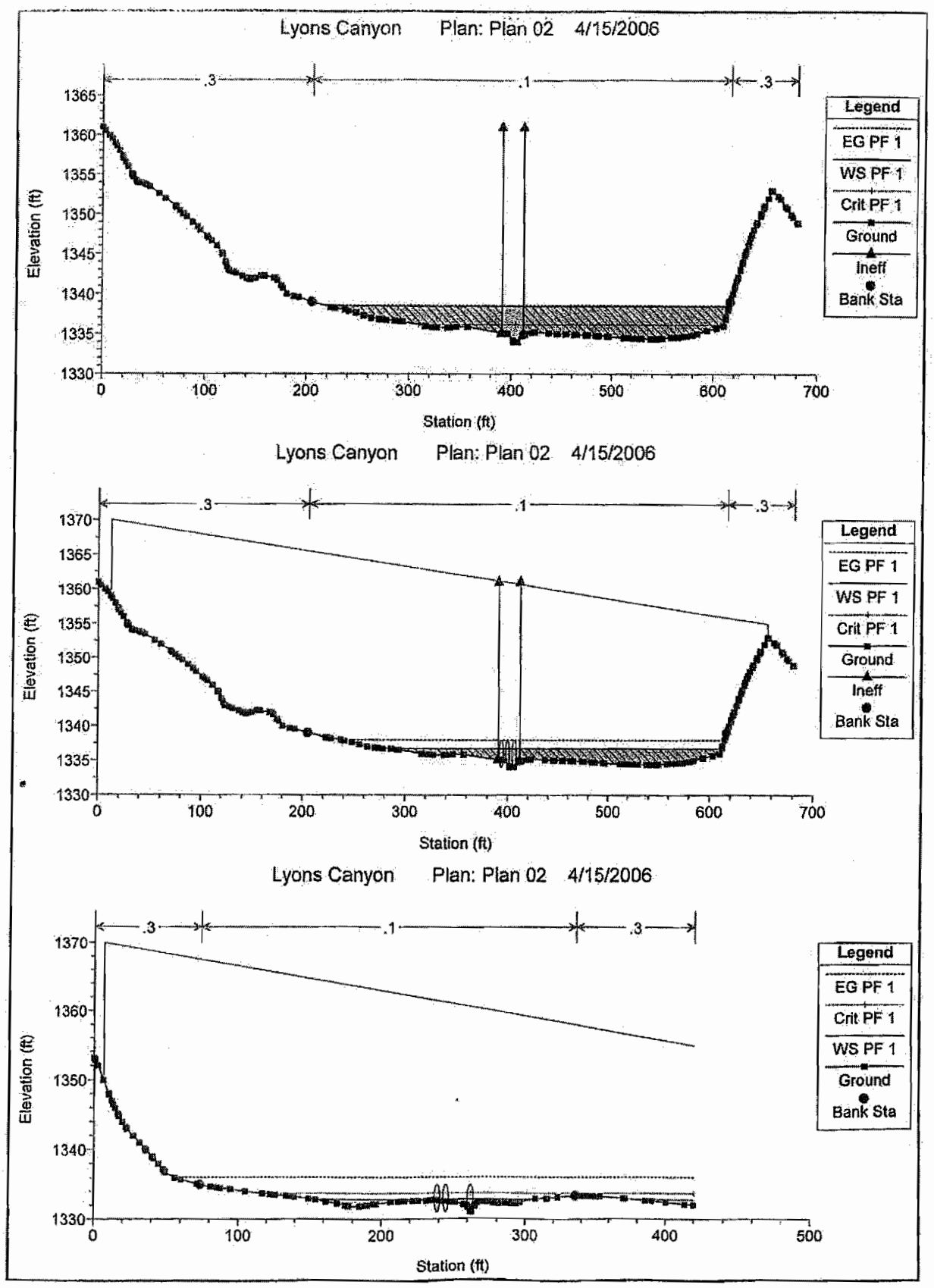
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow
Area	Top Width	Froude # Chl	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq
			ft)	(ft)						
1	5	PF 1	1625.00	1345.29	1347.53	1347.24	1347.89	0.070619	4.83	
336.71	249.10	0.73								
1	4	PF 1	1625.00	1340.80	1343.69	1342.42	1343.77	0.009423	2.37	
685.76	327.50	0.29								
1	3	PF 1	1625.00	1335.00	1339.39		1339.77	0.066177	4.97	
342.98	271.09	0.72								
1	2	PF 1	1625.00	1334.00	1337.62		1337.68	0.006047	1.98	
820.06	364.56	0.23								
1	1	PF 1	1625.00	1331.00	1333.76	1333.76	1334.29	0.144394	6.06	
323.41	303.88	1.01								

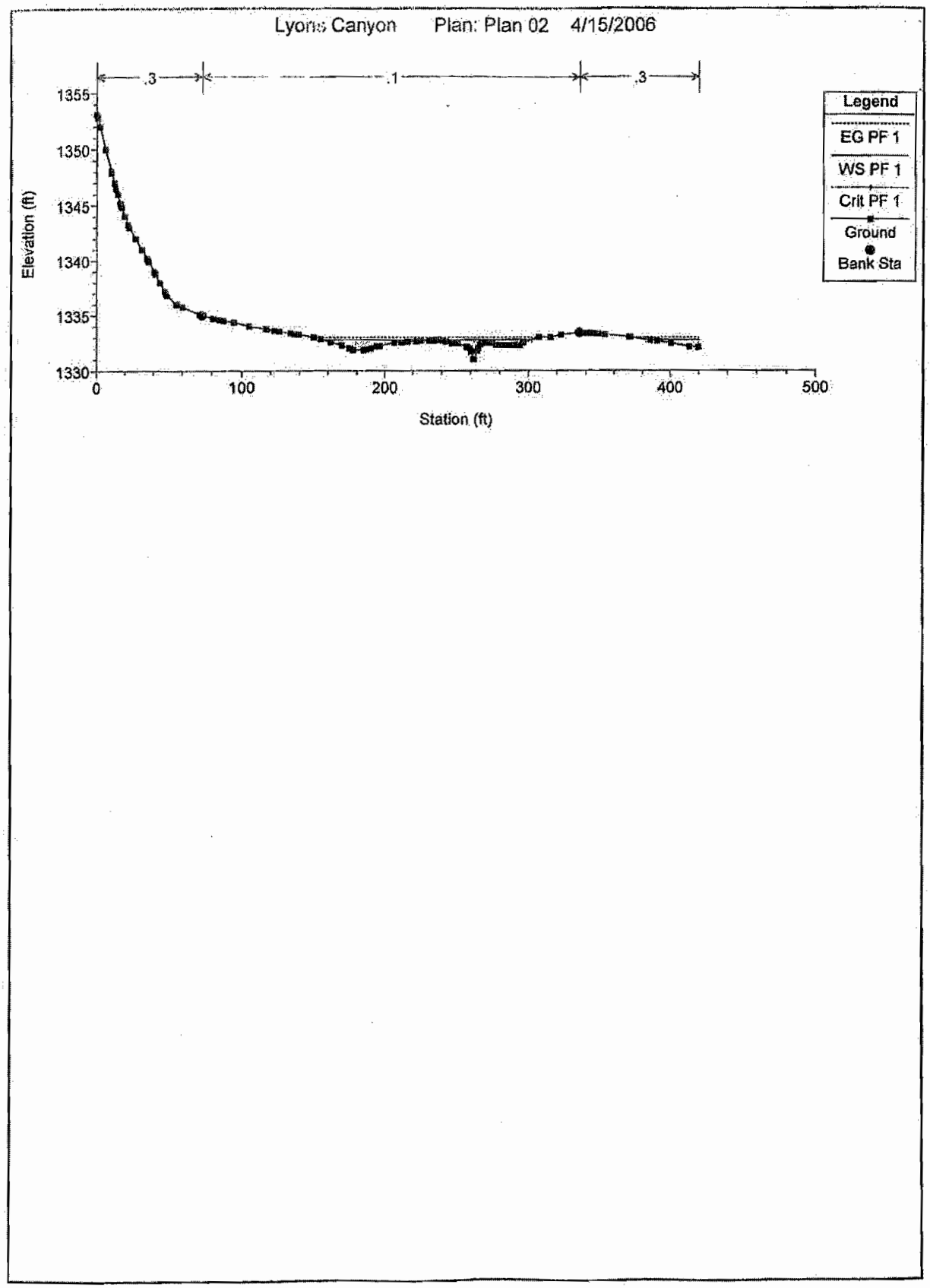
Appendix 7
HEC-RAS Proposed Analysis


5
4
3
2
1.9
1
7
1
Lyons Canyon


Lyons Canyon Plan: Plan 02 4/15/2006
Lyons Canyon 1
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
1370
1360
1350
1340
1330
0
100
200
300
400
500
600
700
800
Main Channel Distance (ft)


Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
1370
1365
1360
1355
1350
1345
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
1370
1365
1360
1355
1350
1345
1340
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
1360
1355
1350
1345
1340
1335
Elevation (ft)
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Lyons Canyon Plan: Plan 02 4/15/2006
Lyons Canyon Plan: Plan 02 4/15/2006


Lyons Canyon Plan: Plan 02 4/15/2006
.3
.1
.3
1355
1350
1345
1340
1335
1330
Elevation (ft)
0
100
200
300
400
500
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

HEC-RAS Version 3.1.2 April 2004
U.S. Army Corp of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X     X
X     X  X        X            X   X    X    X    X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X            X  X     X    X        X
X     X  X        X    X       X   X    X    X        X
X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: Lyons Canyon
Project File : 149HYR01.prj
Run Date and Time: 4/15/2006 9:54:41 AM

Project in English units

PLAN DATA

Plan Title: Plan 02
Plan File : C:\HEC Data\RAS\149HYR01.p02

Geometry Title: Lyons Canyon
Geometry File : C:\HEC Data\RAS\149HYR01.g01

Flow Title : Flow 01
Flow File : C:\HEC Data\RAS\149HYR01.f01

Plan Summary Information:
Number of: Cross Sections = 5 Multiple Openings = 0
Culverts = 1 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Flow 01
Flow File : C:\HEC Data\RAS\149HYR01.f01

Flow Data (cfs)

River	Reach	RS	PF 1
Lyons Canyon	1	5	245

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Lyons Canyon	1	PF 1		Normal S = .2

GEOMETRY DATA

Geometry Title: Lyons Canyon
Geometry File : C:\HEC Data\RAS\149HYR01.g01

CROSS SECTION

RIVER: Lyons Canyon
REACH: 1 RS: 5

INPUT
Description:
Station Elevation Data num= 161

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1361.1	1.71	1361	2.81	1360.92	3.54	1360.86	12.9	1360
18.6	1359.3	20.41	1359	26.74	1358	32.44	1357.12	33.28	1357
33.43	1356.98	33.52	1356.96	39.52	1356	40.97	1355.77	44.71	1355.25
45.92	1355.09	47.52	1355	53.04	1354.7	55.37	1354.55	57.61	1354.38
59.87	1354.17	61.25	1354	63.95	1353.8	73.52	1353	77.52	1352.6
83.03	1352.2	83.92	1352.13	85.97	1352	91.71	1351.62	96.04	1351.26
98.61	1351.13	100.3	1351	107.62	1350.6	109.47	1350.49	116.9	1350.21
118.86	1350.14	132.05	1349.6	136.47	1349.4	146.67	1349	147.36	1348.97
147.66	1348.96	154.44	1348.7	158.28	1348.46	163.2	1348.13	164.91	1348
171.87	1347.51	174.64	1347.3	180.01	1347	182.1	1346.89	184.36	1346.8
185.98	1346.7	189.7	1346.51	194.81	1346.18	200.18	1346	204.81	1345.79
205.8	1345.8	208.38	1345.73	211.98	1345.61	213.06	1345.61	217.62	1345.43
220.02	1345.3	220.8	1345.31	222.3	1345.29	223.38	1345.29	226.23	1345.31
228.53	1345.3	230.31	1345.33	235.59	1345.41	238.15	1345.4	242.8	1345.48

248.05	1345.5	251.94	1345.48	256.63	1345.49	260.34	1345.47	265.25	1345.48
269.82	1345.5	272.52	1345.43	281.82	1345.45	284.57	1345.49	288.06	1345.56
292.88	1345.7	296.32	1345.68	305.09	1345.87	306.28	1345.88	307.36	1345.88
311.85	1346	322.21	1346.26	336.81	1346.47	337.52	1346.5	320.56	1346.45
339.87	1346.45	342.38	1346.48	345.95	1346.5	347.77	1346.5	352.73	1346.59
356.5	1346.64	362.61	1346.67	366.09	1346.7	367.8	1346.7	369.2	1346.73
371.78	1346.74	374.07	1346.74	381.23	1346.78	383.29	1346.8	383.76	1346.79
386.77	1346.76	395.78	1346.83	397.66	1346.9	404.27	1347	404.42	1347
413.7	1347.35	417.29	1347.4	423.95	1347.66	432.68	1347.97	432.93	1347.98
433.53	1348	438.27	1348.14	440.34	1348.19	442.07	1348.22	445.05	1348.24
447.48	1348.3	454.07	1348.32	457.68	1348.45	459.98	1348.48	462.47	1348.59
463.91	1348.6	467.15	1348.84	467.64	1348.87	469.29	1349	476.99	1349.63
480.95	1350	487.23	1350.88	488.11	1351	489.21	1351.14	494.56	1352
497.31	1352.5	499.22	1353	502.11	1353.67	503.17	1354	505.51	1354.69
509.18	1355.76	510.01	1356	511.4	1356.41	513.44	1357	516.24	1357.8
516.88	1358	519.25	1358.69	520.35	1359	523.32	1359.85	523.83	1360
524.38	1360.17	527.29	1361	529.76	1361.76	530.61	1362	531.43	1362.3
534.02	1363	535.11	1363.34	537.45	1364	540.03	1364.88	540.48	1365
543.18	1365.84								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	96.84	.1	488.11	.3

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
96.84	488.11	200	200	.1	.3

CROSS SECTION

RIVER: Lyons Canyon
REACH: 1 RS: 4

INPUT
Description:
Station Elevation Data num= 137

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1353.7	8.99	1353	10.17	1352.92	11.83	1352.79	17.7	1352.32
21.54	1352	26.54	1351.72	29.87	1351.55	41.09	1351.14	42.28	1351.1
44.8	1351	53.99	1350.53	62.02	1350	73.82	1349.28	78.08	1349
83.66	1348.61	93.27	1348	93.44	1348	94	1347.93	101.65	1347.2
104.7	1347	109.22	1346.57	115	1346	116.99	1345.82	121.68	1345.36
124.16	1345.1	125.14	1345	131.17	1344.4	137.51	1343.81	141.14	1343.46
144.28	1343.13	145.74	1343	156.53	1342.06	157.23	1342	157.41	1341.99
166.54	1341.73	169.68	1341.7	175.6	1341.49	181.06	1341.38	181.88	1341.36
182.12	1341.34	183.77	1341.3	184.47	1341.29	190.94	1341	222.89	1340.8
223.76	1340.84	226.79	1340.85	233.71	1340.92	237.74	1341	240.99	1340.99
262.9	1341.11	270.08	1341.1	279.08	1341.02	280.54	1341.02	291.3	1341.1
292.03	1341.12	292.73	1341.13	296.72	1341.11	297.73	1341.11	298.39	1341.1
313.91	1341	324.21	1341.17	325.17	1341.18	326.76	1341.2	328.68	1341.2
337.33	1341.66	338.82	1341.68	343.68	1341.72	357.79	1341.63	362.72	1341.7
363.7	1341.65	368.74	1341.78	369.18	1341.76	369.41	1341.76	376.04	1341.9
376.97	1341.94	378.72	1341.99	378.82	1342	395.65	1342.35	399.78	1342.4
399.94	1342.44	400.24	1342.44	400.51	1342.43	401.34	1342.39	412.68	1342
418.83	1341.89	427.86	1341.68	430	1341.66	434.9	1341.7	443.77	1341.91
445.65	1342	450.46	1342.44	466.5	1343.7	470.66	1344	474.2	1344.39
479.29	1345	486.19	1345.85	487.35	1346	488.4	1346.15	494.13	1347
497.61	1347.96	497.75	1348	501.27	1349	502	1349.21	504.79	1350
505.56	1350.22	508.34	1351	509.47	1351.32	511.81	1352	515.01	1352.89
515.37	1353	517.6	1354	517.7	1354	517.92	1354.1	519.82	1355
521.86	1355.9	522.07	1356	522.25	1356.08	524.27	1357	525.61	1357.59
528.07	1358.7	528.79	1359	529.84	1359.46	531.04	1360	532.64	1360.69
533.33	1361	533.93	1361.32	535.36	1362	536.65	1362.7	537.24	1363
537.85	1363.3	539.12	1364	540.62	1364.85	540.89	1365	541.26	1365.21
542.72	1366	543.18	1366.25						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	141.14	.1	488.4	.3

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
141.14	488.4	200	200	.1	.3

CROSS SECTION

RIVER: Lyons Canyon
REACH: 1 RS: 3

INPUT
Description:
Station Elevation Data num= 173

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1349.1	.78	1349	4.25	1348.55	7.99	1348	13.43	1347.1
14.04	1347	14.56	1346.91	19.99	1346	22.17	1345.76	29.63	1345
31.3	1344.6	32.78	1344	34.53	1343.35	35.53	1343	38.41	1342.58
42.12	1342	47.33	1341.8	52.69	1341.63	54.64	1341.55	55.31	1341.54
55.65	1341.5	55.74	1341.53	56.17	1341.51	56.44	1341.5	56.85	1341.53
57.3	1341.55	62.59	1341.74	64.2	1341.78	67.26	1341.8	71.55	1341.94
74.57	1341.97	75.73	1341.97	75.79	1341.98	75.87	1341.98	76.08	1342
76.31	1341.97	76.41	1341.97	76.9	1341.92	82.62	1341.9	88.05	1341
88.61	1340.88	93	1340	103.6	1339.6	104.79	1339.6	111.89	1339.31
113.51	1339.27	114.21	1339.25	115.57	1339.24	117.67	1339.2	119.06	1339.2
127.51	1339.02	128.37	1339	137.78	1338.9	154.65	1338.92	158.04	1339
162.82	1339.37	165.47	1340	165.67	1340.1	176.15	1340.08	176.73	1340.08
181.81	1340.07	185.25	1340.1	190.94	1340.03	198.39	1340	199.84	1339.94
200.21	1339.93	200.67	1339.9	203.86	1339.8	206.45	1339.77	232.35	1339.64
238.25	1337.87	240.23	1337.6	243.66	1337.32	246.46	1337	247.26	1336.86
255.49	1336	261.01	1335	262.48	1335	266.78	1335.93	267.32	1336.06
272.29	1337	274.12	1337.06	274.65	1337.06	275	1337.1	275.66	1337.07
283.89	1337.25	285.77	1337.28	288.99	1337.32	292.73	1337.4	294.57	1337.45
296.85	1337.54	297.67	1337.56	297.99	1337.56	299.43	1337.5	303.68	1337.53
305.24	1337.53	307.99	1337.55	308.85	1337.55	311.7	1337.5	317.46	1337.56
323.27	1337.58	325.6	1337.61	328.57	1337.7	333.8	1337.73	338.19	1337.89
339.49	1337.91	341.2	1337.94	341.84	1338	346.07	1338	359.58	1338.11
360.51	1338.1	360.77	1338.11	361.97	1338.14	370.82	1338.25	373.37	1338.3
377.59	1338.4	385.69	1338.52	395.34	1338.7	396	1338.71	400.08	1338.7
410.56	1338.89	411.53	1338.9	417.87	1339	419.45	1339.03	419.8	1339
428.16	1339.24	430.7	1339.32	436.24	1339.48	437.19	1339.5	438.25	1339.5

450.85	1339.76	452.02	1339.75	452.9	1339.74	455.54	1339.73	456.48	1339.7		
457.53	1339.75	458.22	1339.81	458.62	1339.83	462.89	1340	464.28	1340		
473.67	1340.45	482.77	1341	489.79	1341.97	490.03	1342	490.7	1342.1		
496.19	1343	496.82	1343.19	500.6	1344	501.17	1344.2	505.43	1345		
505.9	1345.1	510.35	1346	513.92	1346.67	516	1347	519.02	1347.64		
520.37	1348	522.06	1348.49	523.55	1349	526.44	1349.9	526.77	1350		
527.54	1350.22	529.9	1351	531.39	1351.45	533.14	1352	535.7	1352.76		
536.46	1353	536.78	1353.1	539.76	1354	539.84	1354	540.54	1354.24		
542.67	1354.91	542.97	1355	545.18	1355.06						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	203.86	.1	490.7	.3

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
203.86	490.7	114.85	140	280.81	.1	.3

CROSS SECTION

RIVER: Lyons Canyon
REACH: 1 RS: 2

INPUT
Description:
Station Elevation Data num= 186

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1361	2.31	1360.57	6.37	1360	9.06	1359.59	11.99	1359
13.58	1358.6	16.25	1358	19.21	1357.24	20.18	1357	21.89	1356.58
24.36	1356	28.08	1355.08	28.41	1355	28.93	1354.87	29.78	1354.68
32.46	1354.2	33.59	1354.02	34.08	1354	36.1	1353.93	40.22	1353.84
41.66	1353.7	42.66	1353.67	45.13	1353.47	54.57	1352.59	60.75	1352
70.63	1351	71.73	1350.86	74.92	1350.49	77.81	1350.1	79.03	1350
81.61	1349.69	87.23	1349	92.3	1348.42	95.1	1348	101.73	1347.2
103.28	1347	106.34	1346.65	111.6	1346	116.53	1345.1	116.96	1345
117.17	1344.92	120.06	1344	121.61	1343.43	123.06	1343	124.3	1342.92
127.64	1342.76	130.52	1342.6	136.68	1342.23	140.32	1342	140.62	1341.99
140.68	1341.93	143.2	1341.82	143.4	1341.8	144.68	1341.8	146.76	1341.93
148.81	1341.97	149.96	1342	154.59	1342.26	155.97	1342.3	157.52	1342.25
158.14	1342.24	167.48	1342	169.09	1342	170.93	1341.73	174.66	1341
176.49	1340.68	180.16	1340	187.26	1339.7	192.65	1339.59	205.51	1339
223.27	1338.34	224.41	1338.3	227.93	1338.21	237.57	1338	241.32	1337.87
248.33	1337.65	255.67	1337.3	263.15	1337	270.84	1336.86	273.87	1336.81
278.55	1336.75	286.43	1336.7	291.53	1336.59	294.02	1336.56	316.27	1336
317.11	1335.98	322.93	1335.89	327.64	1335.84	338.2	1335.8	340.72	1335.81
346.72	1335.91	357.63	1335.9	390.79	1335.1	391.89	1335.12	396.29	1335.01
396.64	1335	401.9	1334.13	402.51	1334	406.56	1334	410.94	1334.76
412.3	1335	413.89	1335	420.4	1335.15	422.69	1335.22	423.32	1335.22
437.14	1335.1	445.41	1335.01	446.16	1335	453.94	1334.96	454.38	1335
462.43	1334.92	463.37	1334.92	465.1	1334.9	474.23	1334.85	475.89	1334.83
483.87	1334.77	486.88	1334.74	495.15	1334.7	497.11	1334.64	512.51	1334.5
517.29	1334.48	521.99	1334.47	526.95	1334.44	529.63	1334.44	538.78	1334.38
542.54	1334.38	546.28	1334.4	550.2	1334.44	559.11	1334.57	562.4	1334.59
566.49	1334.58	571.78	1334.69	574.47	1334.7	580.81	1334.86	584.74	1334.99
584.95	1335	593.94	1335.41	603.47	1335.71	610.04	1336	611.87	1336.85
612.2	1337	612.45	1337.12	614.4	1338	615.36	1338.45	616.57	1339
617.67	1339.5	618.93	1340	620.51	1340.69	621.24	1341	622.64	1341.61
623.61	1342	623.96	1342.15	626.06	1343	627.85	1343.81	628.33	1344
630.2	1344.8	630.7	1345	631.45	1345.31	633.2	1346	634.15	1346.46
635.5	1347	636.86	1347.37	638.65	1348	641.09	1348.69	642.06	1349
645.09	1349.8	645.65	1350	646.01	1350.11	648.14	1350.75	648.99	1351
649.17	1351.1	652.68	1352	655.67	1352.95	655.93	1353	656.21	1353.05
656.56	1353	661.99	1352.32	664.38	1352.01	664.44	1352	664.53	1351.98
669.28	1351	671.03	1350.73	674.37	1350	676.28	1349.69	680.33	1349
681.14	1348.9								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	205.51	.1	616.57	.3

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
205.51	616.57	258.89	195	325.03	.1	.3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	390.79		F
411.82	681.14		F

CULVERT

RIVER: Lyons Canyon
REACH: 1 RS: 1.9

INPUT
Description:
Distance from Upstream XS = 35
Deck/Roadway Width = 70
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates

num=	2				
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
11.99	1370	1370	655.67	1355	1355

Upstream Bridge Cross Section Data
Station Elevation Data num= 186

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1361	2.31	1360.57	6.37	1360	9.06	1359.59	11.99	1359
13.58	1358.6	16.25	1358	19.21	1357.24	20.18	1357	21.89	1356.58
24.36	1356	28.08	1355.08	28.41	1355	28.93	1354.87	29.78	1354.68
32.46	1354.2	33.59	1354.02	34.08	1354	36.1	1353.93	40.22	1353.84
41.66	1353.7	42.66	1353.67	45.13	1353.47	54.57	1352.59	60.75	1352
70.63	1351	71.73	1350.86	74.92	1350.49	77.81	1350.1	79.03	1350
81.61	1349.69	87.23	1349	92.3	1348.42	95.1	1348	101.73	1347.2
103.28	1347	106.34	1346.65	111.6	1346	116.53	1345.1	116.96	1345
117.17	1344.92	120.06	1344	121.61	1343.43	123.06	1343	124.3	1342.92
127.64	1342.76	130.52	1342.6	136.68	1342.23	140.32	1342	140.62	1341.99
140.68	1341.93	143.2	1341.82	143.4	1341.8	144.68	1341.8	146.76	1341.93
148.81	1341.97	149.96	1342	154.59	1342.26	155.97	1342.3	157.52	1342.25
158.14	1342.24	167.48	1342	169.09	1342	170.93	1341.73	174.66	1341

176.49	1340.68	189.16	1340	187.26	1339.7	192.65	1339.59	205.51	1339
223.27	1338.34	224.41	1338.3	227.93	1338.21	237.57	1338	241.32	1337.87
248.33	1337.65	255.67	1337.3	263.15	1337	270.84	1336.86	273.87	1336.81
278.55	1336.75	286.43	1336.7	291.53	1336.59	294.02	1336.56	316.27	1336
317.11	1335.98	322.93	1335.89	327.64	1335.84	338.2	1335.8	340.72	1335.81
346.72	1335.91	357.63	1335.9	390.79	1335.1	391.89	1335.12	396.29	1335.01
396.64	1335	401.9	1334.13	402.51	1334	406.56	1334	410.94	1334.76
412.3	1335	413.89	1335	420.4	1335.15	422.69	1335.22	423.32	1335.22
437.14	1335.1	445.41	1335.01	446.16	1335	453.94	1334.96	454.38	1335
462.43	1334.92	463.37	1334.92	465.1	1334.9	474.23	1334.85	475.89	1334.83
483.87	1334.77	486.88	1334.74	495.15	1334.7	497.11	1334.64	512.51	1334.5
517.29	1334.48	521.99	1334.47	526.95	1334.44	529.83	1334.44	538.78	1334.38
542.54	1334.38	546.28	1334.4	550.2	1334.44	559.11	1334.57	562.4	1334.59
566.49	1334.58	571.78	1334.69	574.47	1334.7	580.81	1334.86	584.74	1334.99
584.95	1335	593.94	1335.41	603.47	1335.71	610.04	1336	611.87	1336.05
612.2	1337	612.45	1337.12	614.4	1338	615.36	1338.45	616.57	1339
617.67	1339.5	618.93	1340	620.53	1340.69	621.24	1341	622.64	1341.61
623.61	1342	623.96	1342.15	626.06	1343	627.85	1343.81	628.33	1344
630.2	1344.8	630.7	1345	631.45	1345.31	633.2	1346	634.15	1346.46
635.5	1347	636.86	1347.37	638.65	1348	641.09	1348.69	642.06	1349
645.09	1349.8	645.65	1350	646.01	1350.11	648.14	1350.75	648.99	1351
649.17	1351.1	652.68	1352	655.67	1352.95	655.93	1353	656.21	1353.05
656.56	1353	661.99	1352.32	664.38	1352.01	664.44	1352	664.53	1351.98
669.28	1351	671.03	1350.73	674.37	1350	676.28	1349.69	680.33	1349
681.14	1349.9								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	205.51	.1	616.57	.3

Bank Sta: Left Right Coeff Contr. Expan.
205.51 616.57 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	390.79		F
411.82	681.14		F

Downstream Deck/Roadway Coordinates
num= 2

Sta Hi Cord	Lo Cord	Sta Hi Cord	Lo Cord
6.38	1370	1370	420.01	1355	1355

Downstream Bridge Cross Section Data
Station Elevation Data num= 118

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	1353.1	.08	1353.11	.31	1353	.74	1352.79	2.38	1352
6.38	1350	10.28	1348.07	10.56	1347.93	12.55	1347	13.51	1346.5
14.78	1346	16.57	1345.18	17.13	1345	17.65	1344.83	19.85	1344
22.25	1343.25	23.14	1343	27.52	1342	32.04	1341	35.62	1340.17
36.36	1340	36.72	1339.91	40.7	1339	41.52	1338.78	44.75	1338
47.92	1337.2	48.68	1337	49.65	1336.8	56.08	1336	60.44	1335.76
71.95	1335.09	73.41	1335.01	73.55	1335	73.74	1334.99	73.87	1334.99
81.17	1334.72	84.99	1334.59	88	1334.5	94.78	1334.36	105.12	1334
117.02	1333.74	122.5	1333.6	126.21	1333.52	133.95	1333.39	136.02	1333.32
139.63	1333.26	149.73	1333	149.83	1333	154.53	1332.85	161.82	1332.56
169.58	1332.27	175.04	1332	177.22	1331.87	185.13	1331.85	186.71	1331.91
190.33	1332	194.24	1332.2	196.78	1332.21	206.82	1332.52	211.75	1332.54
212.22	1332.56	216.35	1332.6	222.45	1332.63	225.83	1332.68	231.78	1332.68
234.38	1332.71	234.85	1332.7	236.44	1332.75	237.6	1332.79	237.82	1332.79
239.02	1332.75	240.67	1332.7	243.05	1332.61	247.2	1332.47	251.42	1332.46
257.27	1332.13	257.67	1332.1	257.9	1332.13	259.7	1332	260.48	1331.7
262.06	1331	262.71	1331	264.76	1331.77	265.39	1332	266.79	1332.3
267.81	1332.5	268.27	1332.47	272.26	1332.53	273.32	1332.53	274.14	1332.5
274.91	1332.49	277.9	1332.32	278.97	1332.29	280.21	1332.28	281.3	1332.3
282.28	1332.25	286.14	1332.28	289.76	1332.28	291.88	1332.3	293.68	1332.26
296.29	1332.46	307.45	1333	315.63	1333	323.17	1333.21	335.91	1333.4
340.71	1333.35	343.39	1333.37	343.69	1333.36	345.55	1333.36	349.11	1333.3
353.6	1333.26	370.76	1333.02	371.8	1333	385.79	1332.7	390.43	1332.65
400.46	1332.46	413.74	1332.15	420.01	1332.11				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.3	73.74	.1	335.91	.3

Bank Sta: Left Right Coeff Contr. Expan.
73.74 335.91 .1 .3

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
Downstream Embankment side slope = 2 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .95
Elevation at which weir flow begins = 1355
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	4	

FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 1 - Square edge entrance with headwall
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
	20	150	.013	.013	0	.5	1

Number of Barrels = 3
Upstream Elevation = 1334
Centerline Stations

Sta.	Sta.	Sta.
394	400	406.56

Downstream Elevation = 1331
Centerline Stations

Sta.	Sta.	Sta.
239	245	262.06

CULVERT OUTPUT Profile #PF 1 Culv Group: Culvert #1

Q Culv Group (cfs)	245.00	Culv Full Len (ft)	
# Barrels	3	Culv Vel US (ft/s)	8.91
Q Barrel (cfs)	81.67	Culv Vel DS (ft/s)	14.32

Up (ft)	1334.00
Lo (ft)	1331.00
(ft)	1.93
(ft)	3.06
s (ft)	0.62
fs)	
Lft (ft)	
Rgt (ft)	
erg	
Depth (ft)	
Depth (ft)	
Area (sq ft)	
ir Flow (ft)	1361.18

percritical.

ev	Sta	Elev	Sta	Elev
53	.74	1352.79	2.38	1352
33	12.55	1347	13.51	1346.5
45	17.65	1344.83	19.85	1344
42	32.04	1341	35.62	1340.17
39	41.52	1338.78	44.75	1338
8	56.08	1336	60.44	1335.76
35	73.74	1334.99	73.87	1334.99
.5	94.78	1334.36	105.12	1334
52	133.95	1333.39	136.02	1333.32
33	154.53	1332.85	161.82	1332.56
87	185.13	1331.85	186.71	1331.91
21	206.82	1332.52	211.75	1332.54
63	225.83	1332.68	231.78	1332.68
75	237.6	1332.79	237.82	1332.79
61	247.2	1332.47	251.42	1332.46
13	259.7	1332	260.48	1331.7
77	265.39	1332	266.79	1332.3
53	273.32	1332.53	274.14	1332.5
29	280.21	1332.28	281.3	1332.3
28	291.88	1332.3	293.68	1332.26
33	323.17	1333.21	335.91	1333.4
36	345.55	1333.36	349.11	1333.3
33	385.79	1332.7	390.43	1332.65
11				

l	Right	Coeff Contr.	Expan.
0	0	.1	.3

n2	n3
.1	.3
.1	.3
.1	.3
.1	.3
.1	.3

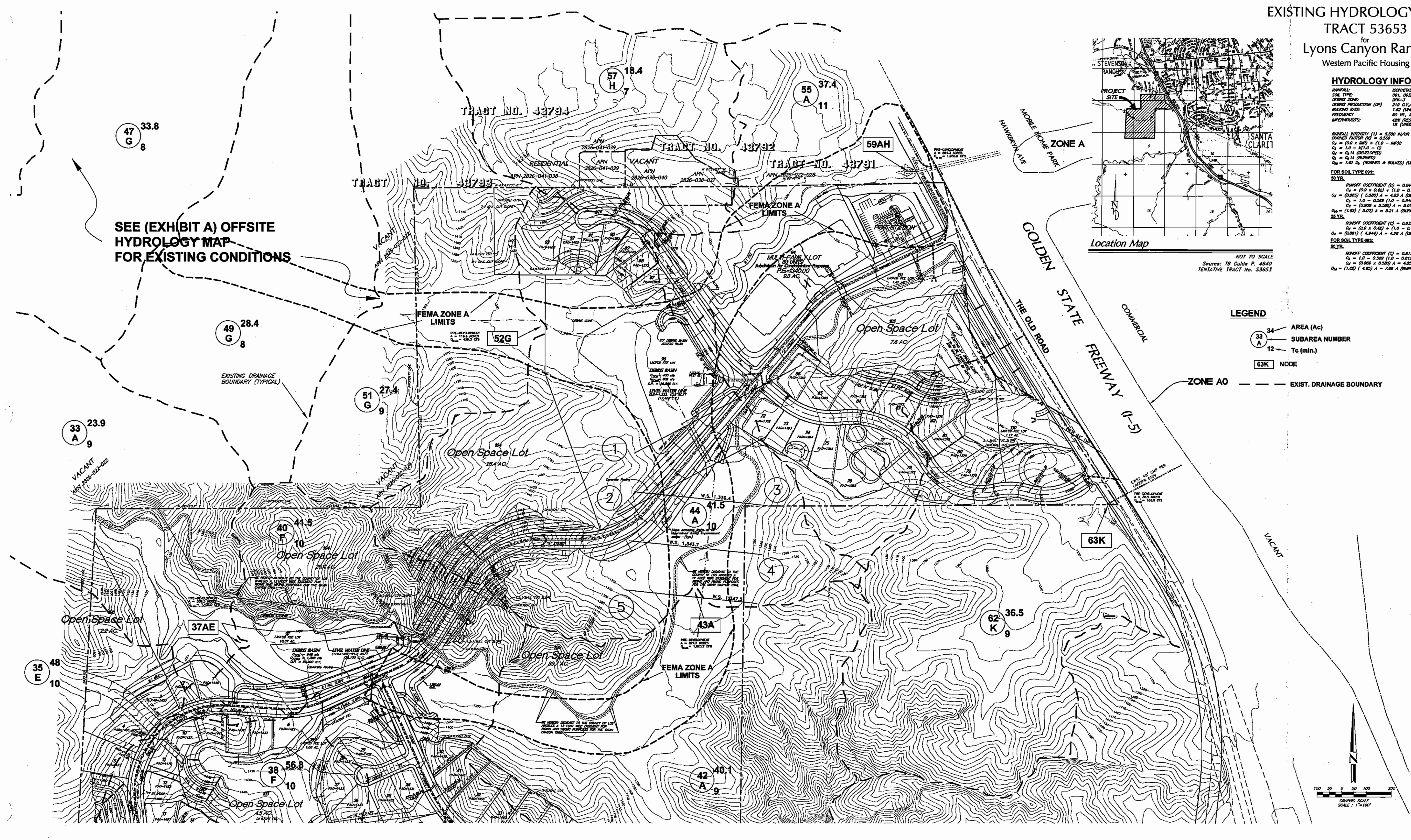
Channel	Right
200	200
200	200
140	280.81
195	325.03
0	0

ENTS

Expan.
.3
.3
.3
3
.3

v	E.G. Slope (Ft/ft)	Vel Chnl (ft/s)	Flow
1	0.009749	1.33	
58	0.195536	3.70	
14	0.002574	0.91	
58	0.006712	3.00	
98	0.209580	3.81	

EXISTING HYDROLOGY STUDY
TRACT 53653
for
Lyons Canyon Ranch
Western Pacific Housing



HYDROLOGY INFORMATION

RAINFALL:	ISOHYETAL METHOD
SOIL TYPE:	091, 093, 097
DEBRIS ZONE:	DPA-3
DEBRIS PRODUCTION (DP)	219 C.Y./AC. (UNDER 64 AC.)
BULKING RATE:	1.62 (UNDER 64 AC.)
FREQUENCY	50 YR., 25 YR. (DEVELOPED AND CONTINUOUS GRADE)
IMPERVIOUS(P):	42% (RESIDENTIAL) 1% (UNDEVELOPED)

RAINFALL INTENSITY (I) = 5.580 IN/HR (50 YR.), 4.944 IN/HR (25 YR)
BURNED FACTOR (K) = 0.569
C_d = (0.9 x IMP) + (1.0 − IMP)C
C_b = 1.0 − K(1.0 − C)
Q_d = C_b IA (DEVELOPED)
Q_b = C_b IA (BURNED)
Q_{bb} = 1.62 Q_b (BURNED & BULKED) (UNDER 64 AC.)

FOR SOIL TYPE 091:

50 YR.

RUNOFF COEFFICIENT (C) = 0.840
C_d = (0.9 x 0.42) + (1.0 − 0.42)0.840 = 0.865
Q_d = (0.865) (5.580) A = 4.83 A (DEVELOPED)
C_b = 1.0 − 0.569 (1.0 − 0.840) = 0.909
C_d = (0.909 x 5.580) A = 5.07 A (BURNED)
Q_{bb} = (1.62) (5.07) A = 8.21 A (BURNED & BULKED) (UNDER 64 AC.)

25 YR.

RUNOFF COEFFICIENT (C) = 0.833
C_d = (0.9 x 0.42) + (1.0 − 0.42)0.833 = 0.861
Q_d = (0.861) (4.944) A = 4.26 A (DEVELOPED)

FOR SOIL TYPE 093:

50 YR.

RUNOFF COEFFICIENT (C) = 0.812
C_b = 1.0 − 0.569 (1.0 − 0.812) = 0.893
Q_d = (0.869 x 5.580) A = 4.85 A (BURNED)
Q_{bb} = (1.62) (4.85) A = 7.86 A (BURNED & BULKED) (UNDER 64 AC.)

DIAMOND WEST
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PLAN REVISION DESCRIPTIONS

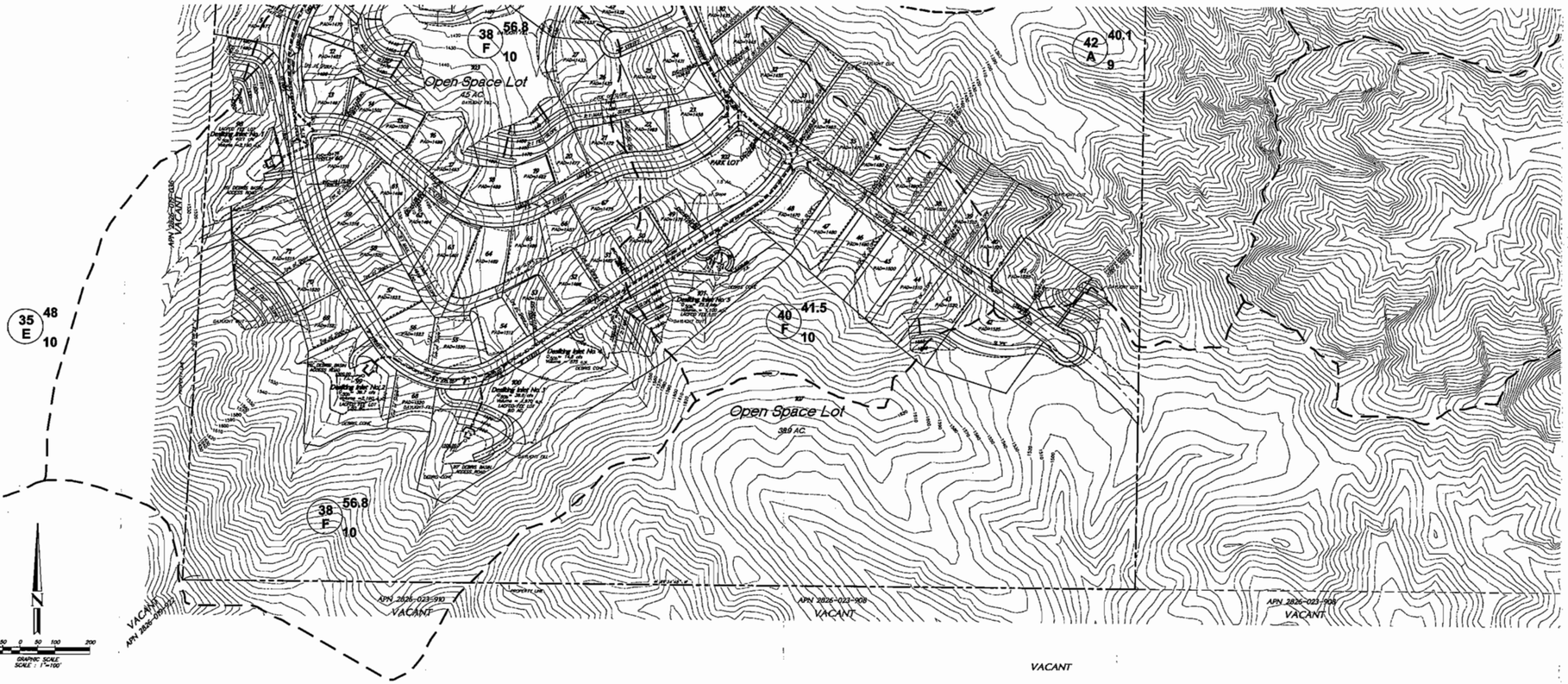
Western Pacific Housing

PREPARED BY OR UNDER THE DIRECTION OF:

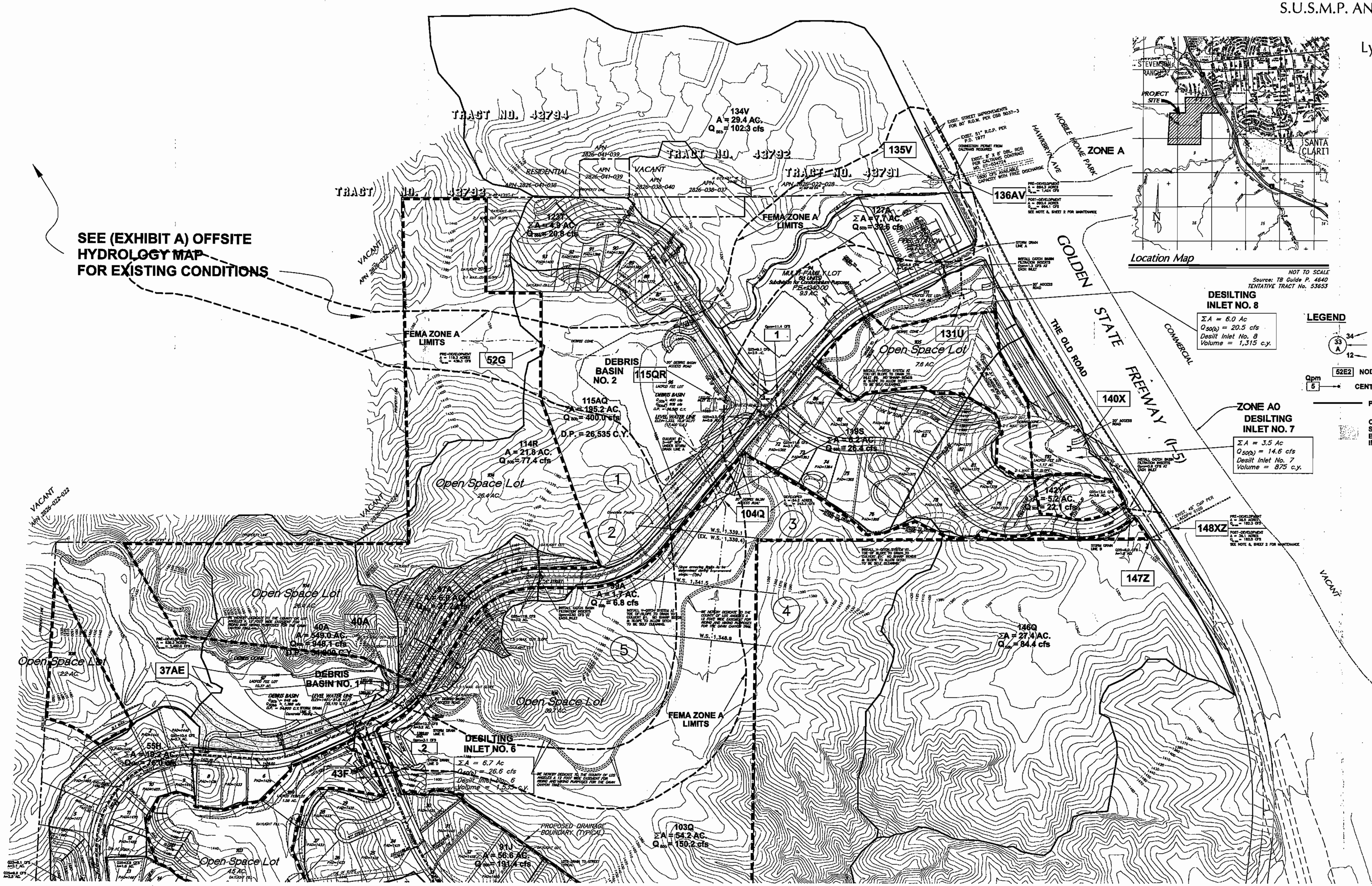
EXISTING HYDROLOGY STUDY TRACT 53653
Lyons Canyon Ranch
Western Pacific Housing

DESCRIPTION:	BY
DESIGNED:	D.W.E.I.
DRAWN:	D.W.E.I.
CHECKED:	I.S.A.
SUPERVISED:	I.S.A.
PROJ. ENGINEER:	D.A.L.
DRAWING SCALE:	1"=100'
DWEI JOB NUMBER:	6000-149

SHEET NO.
1
OF 2 SHEETS


38
F
56.8
10
Open Space Lot
45 AC.
42
A
40.1
9
35
E
48
10
40
F
41.5
10
Open Space Lot
38.9 AC.
38
F
56.8
10
VACANT
APN 2826-023-910
VACANT
APN 2826-023-908
VACANT
APN 2826-023-906
VACANT
VACANT
APN 2826-023-911
VACANT
N
100 50 0 50 100 200
GRAPHIC SCALE
SCALE : 1"=100'

S.U.S.M.P. AND DRAINAGE CONCEPT PLAN
TRACT 53653
for
Lyons Canyon Ranch
Western Pacific Housing



SEE (EXHIBIT A) OFFSITE HYDROLOGY MAP FOR EXISTING CONDITIONS
TRACT NO. 43794
TRACT NO. 43792
TRACT NO. 43791
TRACT NO. 43793
134V
A = 29.4 AC.
Q = 102.3 cfs
135V
136AV
ZONE A
MOBILE HOME PARK
HAWKBRYN AVE
GOLDEN STATE FREEWAY (I-5)
THE OLD ROAD
COMMERCIAL
VACANT
RESIDENTIAL
FEMA ZONE A LIMITS
127A
ΣA = 7.7 AC.
Q = 32.6 cfs
122T
ΣA = 4.9 AC.
Q = 20.8 cfs
52G
DEBRIS BASIN NO. 2
115QR
115AQ
ΣA = 195.2 AC.
Q = 400.0 cfs
D.P. = 26,535 C.Y.
114R
A = 21.8 AC.
Q = 77.4 cfs
Open Space Lot
131U
MULTI-FAMILY LOT
DESILTING INLET NO. 8
ΣA = 6.0 Ac
Q50(b) = 20.5 cfs
Desilt Inlet No. 8
Volume = 1,315 c.y.
140X
ZONE A0
DESILTING INLET NO. 7
ΣA = 3.5 Ac
Q50(b) = 14.6 cfs
Desilt Inlet No. 7
Volume = 875 c.y.
138S
ΣA = 6.2 AC.
Q = 26.4 cfs
142Y
A = 5.2 AC.
Q = 22.1 cfs
148XZ
147Z
104Q
39A
A = 1.7 AC.
Q = 6.8 cfs
40A
A = 549.0 AC.
Q = 948.1 cfs
D.P. = 54,000 C.Y.
37AE
DEBRIS BASIN NO. 1
146Q
ΣA = 27.4 AC.
Q = 84.4 cfs
FEMA ZONE A LIMITS
DESILTING INLET NO. 6
ΣA = 6.7 Ac
Q50(b) = 26.6 cfs
Desilt Inlet No. 6
Volume = 1,535 C.Y.
55H
43F
103Q
ΣA = 54.2 AC.
Q = 150.2 cfs
81J
A = 56.6 AC.
Q = 191.4 cfs
PROPOSED DRAINAGE BOUNDARY (TYPICAL)
Location Map
PROJECT SITE
STEVENSON RANCH
SANTA CLARITA
NOT TO SCALE
Source: TB Guide P. 4640
TENTATIVE TRACT No. 53653
GRAPHIC SCALE
SCALE : 1"=100'

HYDROLOGY INFORMATION

RAINFALL:	ISOHYETAL METHOD
SOIL TYPE:	091, 093, 097
DEBRIS ZONE:	DPA-3
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C_b = 1.0 − 0.569 (1.0 − 0.840) = 0.909
C_d = (0.909 x 5.580) A = 5.07 A (BURNED)
Q_{bb} = (1.62) (5.07) A = 8.21 A (BURNED & BULKED) (UNDER 64 AC.)

25 YR. Q25 = 0.878 x Q50

RUNOFF COEFFICIENT (C) = 0.833
C_d = (0.9 x 0.42) + (1.0 − 0.42)0.833 = 0.861
Q_d = (0.861) (4.944) A = 4.26 A (DEVELOPED)

FOR SOIL TYPE 093:

50 YR.

RUNOFF COEFFICIENT (C) = 0.812
C_b = 1.0 − 0.569 (1.0 − 0.812) = 0.893
Q_d = (0.869 x 5.580) A = 4.85 A (BURNED)
Q_{bb} = (1.62) (4.85) A = 7.86 A (BURNED & BULKED) (UNDER 64 AC.)

LEGEND

34 — AREA (Ac)
33 / A — SUBAREA NUMBER
12 — Tc (min.)
52E2 — NODE DESIGNATION
Qpm 5 — CENTRALIZED OFF-LINE DEVICE
PROP. DRAINAGE BOUNDARY
CONCRETE FACING AND SLOPE ARMORING LIMITS TO BE DETERMINED DURING IMPROVEMENT STAGE. (TYP.)

DIAMOND WEST
engineering a better tomorrow
Diamond West Engineering Inc.
4764 Park Granada, Suite 202
Calabasas, California 91302

PLAN REVISION DESCRIPTIONS

Western Pacific Housing
LOS ANGELES / VENTURA COUNTY DIVISION
A D.R. HORTON COMPANY
5701 CENTER DRIVE WEST, SUITE 900
LOS ANGELES, CALIFORNIA 90045
TEL 310-665-3700
FAX 310-665-3799

PREPARED BY OR UNDER THE DIRECTION OF:

Michael Hardison P.E. 57520
6/8/06
DATE:

S.U.S.M.P. AND DRAINAGE CONCEPT PLAN
TRACT 53653
Lyons Canyon Ranch
Western Pacific Housing

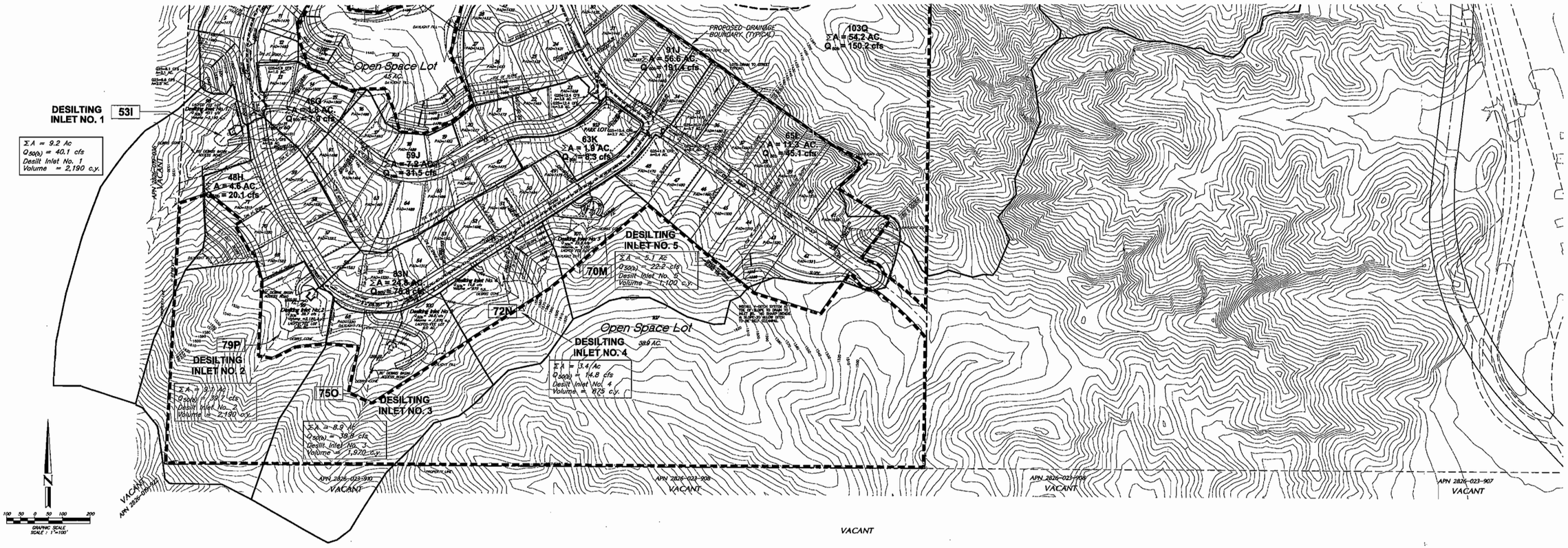
DESCRIPTION:	BY
DESIGNED:	D.W.E.I.
DRAWN:	D.W.E.I.
CHECKED:	I.S.A.
SUPERVISED:	I.S.A.
PROJ. ENGINEER:	D.A.L.
DRAWING SCALE:	1"=100'
DWEI JOB NUMBER:	6000-149

SHEET NO.

1

OF 2 SHEETS

S.U.S.M.P. AND DRAINAGE CONCEPT PLAN
TRACT 53653
for
Lyons Canyon Ranch
Western Pacific Housing

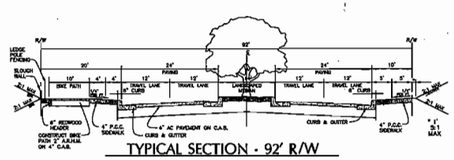


DRAINAGE CONCEPT NOTES

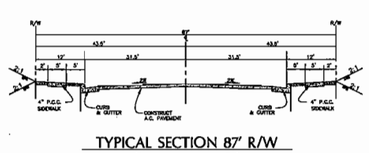
1. HYDROLOGY INFORMATION AND STORM DRAIN ALIGNMENTS SHOWN ARE NOT NECESSARILY APPROVED.
2. COMPLIANCE OF ALL STREET DRAINAGE REQUIREMENTS WILL BE MET TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS
3. NECESSARY EASEMENTS WILL BE DEDICATED FOR THE STORM DRAIN SYSTEM TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS
4. MAINTENANCE ACCESS WILL BE PROVIDED TO ALL INLETS AND OUTLETS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS
5. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5, (EXCEPT AS NOTED)
6. AN OFFSITE DRAINAGE COVENANT FOR ACCEPTANCE OF DRAINAGE (AND DRAINAGE FACILITIES) MAY BE REQUIRED WHERE INDICATED
7. A NOTE OF FLOOD HAZARD WILL BE REQUIRED WHERE INDICATED OF THIS PLAN
8. LACFCD TO MAINTAIN ALL DEBRIS BASINS AND DESILTING INLETS. CALTRANS TO MAINTAIN PUBLIC RIGHT-OF-WAY FACILITIES LOCATED IN THE OLD ROAD. HOA TO MAINTAIN ALL OTHER ON-SITE DRAINAGE FACILITIES.
   HOA TO MAINTAIN ALL OTHER ON-SITE DRAINAGE FACILITIES.
9. A SOIL REPORT WILL BE REQUIRED TO VERIFY THAT A 7-DAY PERCOLATION RATE CAN BE OBTAINED
10. OPEN SPACE LOTS TO MAINTAIN NATURAL CONTOURS.
11. ALL OPEN SWALES TO BE DESIGNED TO AVOID SHARP BENDS AND BE SELF CLEANING.
12. ALL MANUFACTURED SLOPES TO BE LANDSCAPED AND MAINTAINED BY THE HOA.
13. ANY DEVELOPMENT IN A ZONE A DESIGNATION REQUIRES A CONDITIONAL LETTER OF MAP REVISION FROM FEMA PRIOR TO ISSUANCE OF GRADING PERMITS. A LETTER OF MAP REVISION WILL BE REQUIRED PRIOR TO BUILDING OCCUPANCY.
14. ALL DRAINAGE PLANS AND DETAILS TO BE REVIEWED AND APPROVED AT IMPROVEMENT PLAN CHECK.

BEST MANAGEMENT PRACTICES (BMP'S) LIST

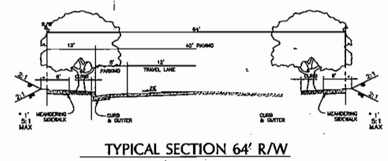
1. LOT RUNOFF TO BE INFILTRATED FROM THE GRADED PAD AREAS THROUGH ON-SITE POROUS SOILS
2. SLOPE PROTECTION – CONVEY RUNOFF FROM THE TOPS OF SLOPES AND STABILIZE DISTURBED SLOPES WITH LANDSCAPING PER COUNTY STANDARD
3. VEGETATIVE SLOPES WITH NATIVE OR DROUGH TOLERANT VEGETATION TO MINIMIZE EROSION
4. ALL CATCH BASINS AND INLETS SHALL BE STENCILED WITH "WARNING DRAIN TO OCEAN" NOTES & SYMBOLS PER NPDES BMP STANDARDS OR AS APPROVED BY D.P.W.
5. RUNOFF FROM STREETS SHALL BE COLLECTED INTO CATCH BASINS WITH PIPE DRAINS TO THE PROPOSED CONTINUOUS DEFLECTIVE SEPARATION UNIT PRIOR TO OUTLET INTO EXISTING SYSTEM
6. RIP RAP AT THE OUTLETS OF STORM DRAINS, CULVERTS, CONDUITS TO MINIMIZE EROSION
7. SOFT BOTTOM CHANNEL – INFILTRATE THE RUNOFF FROM DEVELOPED AREA THROUGH RIVER BED
8. STREET RUNOFF IS COLLECTED INTO CATCH BASINS AND STORM DRAIN PIPES OUTLET ONTO NATURAL ALLUVIAL CANYONS AND/OR CANYON WASH ALLUVIUM SERVING AS INFILTRATION SURFACES
9. EXISTING CANYON WASH – INFILTRATE THE RUNOFF FROM DEVELOPED AREA THROUGH RIVER BED
10. CONCRETE LINED TO STABILIZE PERMANENT RIVER BANK



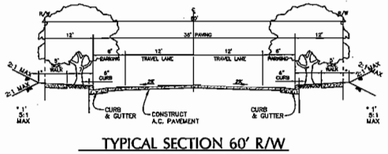
TYPICAL SECTION - 92' R/W
(THE OLD ROAD NORTH OF CALGROVE BLVD)
NOT TO SCALE



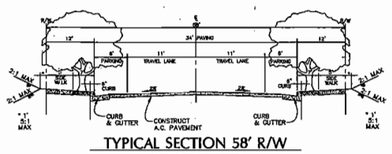
TYPICAL SECTION 87' R/W
(STREET ENTRANCE)
NOT TO SCALE



TYPICAL SECTION 64' R/W
(



TYPICAL SECTION 60' R/W
("A", "B", "C", "D", "E" STREET)
NOT TO SCALE



TYPICAL SECTION 58' R/W
("F", "O" STREET)
NOT TO SCALE

LEGEND

- 34 — AREA (Ac)
- 33 / A — SUBAREA NUMBER
- 12 — Tc (min.)
- 52E2 — NODE DESIGNATION
- Qpm / 5 — CENTRALIZED OFF-LINE DEVICE
- PROP. DRAINAGE BOUNDARY
- CONCRETE FACING AND SLOPE ARMORING LIMITS TO BE DETERMINED DURING IMPROVEMENT STAGE. (TYP.)

DIAMOND WEST
engineering a better tomorrow
Diamond West Engineering Inc.
4780 Park Granada, Suite 200
Calabasas, California 91302
Tel(818)880-2400 Fax(818)880-4114
E-mail: dwe@diamondwest.net

PLAN REVISION DESCRIPTIONS

Western Pacific Housing
LOS ANGELES / VENTURA COUNTY DIVISION
A D.R. HORTON COMPANY
8424 COMMERCE CENTER DRIVE, SUITE 200
SAN DIEGO, CALIFORNIA 92121
TEL 858-549-3700
FAX 858-549-3706

PREPARED BY OR UNDER THE DIRECTION OF:

Michael Hoffman P.E. 37320

S.U.S.M.P. AND DRAINAGE CONCEPT PLAN
TRACT 53653
Lyons Canyon Ranch
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DESCRIPTION:	BY
DESIGNED:	D.W.E.I.
DRAWN:	D.W.E.I.
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PROJ. ENGINEER:	D.A.L.
DRAWING SCALE:	1"=100'
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SHEET NO.

2

OF 2 SHEETS