Preliminary Hydrology Report

Goodman Logistics Center Fullerton
2001 E. Orangethorpe Ave.

Fullerton, CA. 92834

March 18, 2020
Rev. July 16, 2020

This Preliminary Hydrology Report has been prepared by, and under the direction of, the undersigned, a duly Registered Civil Engineer in the State of California. Except as noted, the undersigned attests to the technical information contained herein, and has judged to be acceptable the qualifications of any technical specialists providing engineering data for this report, upon which findings, conclusions, and recommendations are based.

_____

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Section 1 Purpose and Scope

This hydrology study presents an analysis of the hydrologic effects of the development of 65.5 acre Commercial development, in the City of Fullerton, California.

This hydrology study addresses runoff from the project site and its impact to the existing downstream storm drainage system. The study includes calculations for the 25-year & 100-year storm event for both the existing and proposed condition. The study also details the general project characteristics, the design, criteria and methodology applied to the analysis of the project. The report provides a design analysis for the drainage facilities proposed as part of the project, with the drainage improvements being designed to for the 25 year storm event and proposed buildings being protected from the 100 year storm.

This Hydrology Study fulfills the requirements of the Orange County Hydrology Manual.

The plans and specifications in the Hydrology Study are not for construction purposes; the contractor shall refer to final approved construction documents for plans and specifications.

Section 2 Project Information

2.1 Project Description

The proposed construction involves the development of approximately 65.5 acres for a Warehouse Facility including four manufacturing buildings, parking spaces and landscaping areas.

2.1.1 Project Location

The project is located at 2001 E. Orangethorpe Avenue in Fullerton, California. The site is bordered by E. Orangethorpe Avenue to the south, Kimberly Avenue to the north, S. Acacia Avenue to the west, and S. State College Boulevard to the east. See Figure 1 below.

Figure 1 – Vicinity Map (Not To Scale)

2.2 Hydrologic Setting

This section summarizes the project's size and location in the context of the larger watershed perspective, topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, and other relevant hydrologic and environmental factors to be protected specific to the project area's watershed.

2.2.1 Watershed

The project site is located within Watershed A of the OCFCD Drainage System. The project discharges to the Kimberly Storm Channel which joins the Fullerton Creek Channel. From there, it goes to Coyote Creek; then to the San Gabriel River; and, ultimately, to the Pacific Ocean.

2.2.2 Existing Topography and Facilities

The existing topography of the project site is relatively flat with slopes varying from approximately 0.1% to 2% in paved areas and up to 10% in landscape areas. The existing site is mostly developed with several buildings, above ground storage tanks, landscaping including an orchard, cogeneration plant, and an SCE substation. Site elevations range from 167 to 187 above Mean Sea Level.

2.2.3 Adjacent Land Use

The project is bounded by manufacturing/industrial developments in all directions.

2.2.4 Soil Conditions

The project site location resides within the hydrology soil group A and B.

Group A soils are typically sandy loams. They have a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B soils are typically silt loams and loams. They have a moderate infiltration rate when thoroughly wet. They consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

See Appendix A.

2.2.5 Downstream Conditions

The offsite drainage pattern, from the existing storm drain lines on Kimberly Avenue, diverts flows to the west via a reinforced concrete channel (Kimberly Storm Channel, A03S05) which connects to the Fullerton Creek Channel and leads west. Fullerton Creek Channel then joins Coyote Creek which flows to the San Gabriel River and, ultimately, to the Pacific Ocean.

2.2.6 Existing Drainage Patterns

The site has three outfall locations.

Outfall 1 comprises a majority of the site (drainage areas A), and drains from the southwest to the northwest, ultimately discharging to the 48”RCP public storm drain line on Kimberly Avenue.

Outfall 2 is comprised of the northeast corner of the site (drainage areas C), which drains to the north. All runoff was designed to sheet flow towards valley gutters to a grated inlet that is connected to an existing 24”RCP public storm drain line on Kimberly Avenue.

Outfall 3 is comprised of the southwest corner of the site (drainage areas B), which drains to the west and discharges to the curb and gutter along S. Acacia Avenue. The curb and gutter flows in the northerly direction to a catch basin at the intersection of Kimberly Avenue. The catch basin is connected to an existing 30”CMP public storm drain line.

Drainage area D-1, consist of an area that is currently not a part of the project development but that may be acquired and developed as part of the proposed project improvements. This area has been analyzed separately in the event that the future project area includes this property. More information on impact to the Hydrology and Hydraulics due to the addition of this area is included on Appendix H.

See the existing hydrology map in Appendix B for outfall locations and drainage areas.

2.2.7 Proposed Drainage Patterns

The proposed condition will have the same three outfall locations as the existing.

Outfall 1 is comprised of the majority of the site (drainage areas A/B/C-1 and A/B/C-2), which consists of portions of the building roofs, parking lot area and landscaped islands. The building roofs discharge to the parking lot. Stormwater runoff from the concrete paved surface areas will sheet flow to catch basins/grated inlets that are part of a private storm drain system that

conveys runoff to proposed detention basins. Roof drains will either be directly connected to the private storm drain system or discharge at grade. The private storm drain system drains to three proposed detention basins that were design to capture the design capture volumes (DCV) for stormwater treatment and to mitigate project peak flows. The basins will have an orifice at the bottom that discharges low flows to proposed Modular Wetland Systems for water treatment, and a high flow discharge set above the DCV volume. The high flows and treatment flows are both conveyed thru a main line, Line A, private storm drain system with sizes 24" to 48" that runs north of the site and conveys flows to the existing public 48" RCP pipe that crosses Kimberly and discharges to the Channel.

Outfall 2 is comprised of a portion of the Building 4 roof (drainage area D-1), the eastern and northeastern perimeters of the site (drainage area D-2), and the area of the existing and proposed water easement (drainage area G-1). The building roof will sheet flow to downspouts that discharge into proposed bio-filtration planters. The bio-filtration planters will be equipped with an underdrain and overflow riser which will both comingle and divert treatment flows and overflow out through an underground storm drain pipe which is connected to the existing 24" RCP public storm drain line on Kimberly Avenue. The eastern and northeastern perimeter of the site consists of the proposed landscape buffer adjacent to the proposed sidewalk on State College Boulevard and Kimberly Avenue (drainage area D-2), which sheet flow to the adjacent existing public curb and gutter. The existing curb and gutter on State College Boulevard flows north onto the existing curb and gutter on Kimberly Avenue. The existing curb and gutter on Kimberly Avenue flows west to an existing catch basin that is connected to the existing 24" RCP public storm drain. Drainage area G-1 consists of the existing and proposed water easement. The proposed water easement will sheet flow towards inlets that will connect to the existing 24" RCP public storm drain on Kimberly Avenue.

Outfall 3 is comprised of the southern, western and northwestern perimeters of the site and portions of the Building 1 roof (drainage areas E-1 to E-4 and F-1). The southern perimeter of the site consists of parking lot and landscaped islands (drainage area E-1 and E-2). The parking lot sheet flows to curb and gutter which divert flows to proposed catch basins. Within the catch basin, the low flows will be directed via an on-site storm drain system to the underground detention system of Outfall 1 for treatment. The high flows will be directed via a parkway culvert to the existing curb and gutter on Orangethorpe Avenue which flows west onto the existing curb and gutter on S. Acacia Avenue. The western perimeter of the site includes a portion of the Building 1 roof and the proposed landscape buffer adjacent to the proposed public sidewalk on S. Acacia Avenue (drainage area E-3 and E-4). The building roof will sheet flow to downspouts that discharge into proposed bio-filtration planters similar to the Building 4 roof in Outfall 2 above; however, the underground storm drain pipe will discharge to the

existing curb and gutter on S. Acacia Avenue via a parkway culvert. The proposed landscaping will sheet flow to the existing curb and gutter on S. Acacia Avenue. Drainage areas E-1 to E-4 continue to flow north in the S. Acacia Avenue curb and gutter to an existing catch basin at the intersection of Kimberly which is connected to the existing 30"CMP public storm drain. The northwestern perimeter of the site consists of the proposed landscape buffer adjacent to the proposed sidewalk on Kimberly Avenue (drainage area F-1), which sheet flow to the adjacent existing public curb and gutter. The existing curb and gutter on Kimberly Avenue flows west to an existing catch basin at the intersection of S. Acacia Avenue which is connected to the existing 30"CMP public storm drain.

Drainage area H-1, consist of an area that is currently not a part of the project development but that may be acquired and developed as part of the proposed project improvements. This area has been analyzed separately in the event that the future project area includes this property. More information on impact to the Hydrology and Hydraulics due to the addition of this area is included on Appendix H.

The proposed condition Hydrology map is included in Appendix D of this report. The proposed 25 & 100 year AES files are included in Appendix E of this report.

2.2.8 Impervious Cover

In the existing condition, the property is developed with a 10-acre pervious orchard. In the proposed condition, the orchard will be replaced with impervious area; thus, the increase in impervious area. This increase is not significant compared to the size of the project.

Section 3 Hydrology Design and Criteria

3.1 Design Criteria

This section summarizes the design criteria and methodology applied during the drainage analysis of the project site. The design criteria and methodology follow the Orange County Hydrology Manual requirements.

3.1.1 Rational Method

Computer models were made using AES RATSCX and CH1 software with built-in methodology following the 1986 Orange County Hydrology Criterion. The RATSCX module was used to analyze and route runoff through each subarea using elevations, relative slopes, flow lengths, soil types, and acreage inputs to calculate time of concentration and peak flow rates.

Design input criteria for the model were as follows:

Design Storm:	25 & 100-year storm events
Antecedent Moisture Condition (AMC):	II for 25 year and III for 100 year
SCS Soil Group:	B
Existing Land Use:	"Commercial" (90% impervious)
	"Public Park" (15% impervious) - for Orchard Area
Proposed Land Use:	"Commercial" (90% impervious)

Full on-site AES rational method analysis and values are included Appendix C for the existing condition and Appendix E for the proposed condition.

3.1.2 Small Area Hydrograph

The Small Area Unit Hydrograph (SAH) was prepared to analyze the proposed underground detention basins for the project outfall 1. The SAH analyzes the ability to reduce peak flow runoff for flood control purposes. Per the Orange County Hydrology Manual, the SAH applies to watershed smaller than 640 acres. This analysis was prepared using the FLOODSCX module of AES, which utilizes the time of concentration obtained from the rational method, the rainfall depth, the total tributary area and the loss rates (F_m and $\bar{Y}$) to calculate the watershed hydrograph. The hydrograph is then routed through the proposed basin using the stage-storage-discharge table and the outflow discharge hydrograph is obtained. The small area hydrograph was run for the 25-year and 100- year storm events to analyze the capacity of the

proposed basins and the flow through the storm drain system. The basin calculations and design are describe further in Section 5 of this report.

Section 4 Hydrology and Drainage Analysis

This section summarizes the quantitative hydrologic analysis of the existing and proposed conditions of the site.

4.1 Drainage Delineation

A hydrology map for the existing and proposed conditions are provided in the Appendix B & D of this report, depicting subareas, elevations, and flow lengths corresponding with the node based Rational Method peak flow analysis.

4.2 Summary of Results

The current study provides the existing and proposed condition hydrology analyses for the 25- and 100-year storm event. The proposed peak flows for the 25 and 100 year have been mitigated to prevent project peak flow increase. The following pages is a summary of the final project peak flows per outfall. Also a complete summary table of all project areas is included in Table 1.

Outfall #1- Existing 48" RCP

The total existing peak flows to this outfall consist of 109.9 cfs for the 25 year storm and 142.32 cfs for the 100year. Mitigated flows are **42.50 cfs** for the 25 year and **112.52 cfs** for the 100 year.

Outfall #2- Existing 24" RCP

The total existing peak flows to this outfall consist of 14.61 cfs for the 25 year storm and 19.10 cfs for the 100year. Mitigated flows are **10.12 cfs** for the 25 year and **12.99 cfs** for the 100 year.

Outfall #3- Existing 30" CMP (Two catch basins at corner of Kimberly and Acacia)

The total existing peak flows to this outfall consist of 13.31 cfs for the 25 year storm and 17.4 cfs for the 100year. Mitigated flows are **13.88** for the 25 year and **18.23 cfs** for the 100 year.

SUMMARY OF RESULTS- TABLE 1

Outfall 1-Existing 48" RCP in Kimberly 350ft from Acacia Avenue				
	Existing		**Proposed**	
	ID	Area (AC)	ID	Area (AC)
	A-1	3.66	A-1	8.09
	A-2	4.87	A-2	12.23
	A-3	3.88	B-1	6.94
	A-4	4.59	B-2	12.82
	A-5	5.54	C-1	5.59
	A-6A	2.80	C-2	8.58
	A-6B	7.00		
	A-6C	3.80		
	A-7A	5.30		
	A-7B	5.80		
	A-7C	3.90		
TOTAL (AC)	**51.14**		**54.25**	
25-YEAR CFS	**109.90**		**188.60**	
25-YEAR MITIGATED (CFS)	**N/A**		**42.50**	
100-YEAR (CFS)	**142.32**		**242.94**	
100-YEAR MITIGATED (CFS)	**N/A**		**112.52**	

Outfall 2-Existing 24" RCP IN Kimberly Avenue 925ft from State college Blvd.				
	Existing		**Proposed**	
	ID	Area (AC)	ID	Area (AC)
	C-1	1.07	D-1	2.47
	C-2	3.50	D-2	0.86
	C-3	1.79	G-1	0.36
TOTAL (AC)	**6.36**		**3.69**	
25-YEAR (CFS)	**14.61**		**10.12**	
100-YEAR(CFS)	**19.10**		**12.99**	

Outfall 3-Existing 30" CMP at Intersection of Kimberly Avenue and Acacia Avenue				
	Existing		**Proposed**	
	ID	Area (AC)	ID	Area (AC)
	B-1	1.17	E-1	0.51
	B-2	2.58	E-2	3.65
	B-3	3.30	E-3	1.18
			E-4	0.76
			F-1	0.68
TOTAL (AC)	**7.05**		**6.78**	
25-YEAR (CFS)	**13.31**		**13.88**	
100-YEAR (CFS)	**17.40**		**18.23**	

A total area of 65.5 ac has been analyzed for the existing and proposed conditions.

The total peak flows from the project contributing to the existing Kimberly Storm Channel are **143.74 cfs** for the 100 year storm and **66.50 cfs** for the 25 year. This is a total reduction of 35.08 cfs for the 100 year and 71.32 cfs reduction for the 25 year storm. Total peak flows from outlet 3 have been increased by 0.83 cfs in the 100-year proposed condition, but since overall project peak flows are reduced, the project improvements will not have a negative impact to the existing public storm drain infrastructures.

Section 5 Detention Basin and Hydraulic Design

5.1 Detention Basin Design

Three detention basins are proposed to meet water quality regulations for treatment as well as mitigate peak flows for the project. Each detention basin system will have a Storgate Vault outlet structure that will be designed with a low flow orifice that will discharge to propose Modular Wetland Units for water quality treatment. Each outlet structure will have a weir that will be set at the elevation at which the Design Capture Volume is achieved at each basin. The peak flows will be discharged over the weir to the peak flow orifice. Preliminary calculations for the Outlet structure are included in Appendix F.

The detention basin analysis was prepare using AES Small Unit Hydrograph method for each of the detention basins for areas A, B, and C that discharge to the private main line A that runs north of the site and discharges into Outfall #1. The 25-year and 100 year storm events were analyzed.

StormTech SC740 chambers are being utilized for the proposed underground basins. The stage storage for each basin and detention basin design parameters are included in Appendix F. A summary of the basins results is included below.

Additional calculations to confirm size of the detention basins and outlets structures will be completed with the project final design. The preliminary calculations as shown on this report provides an adequate Basis of Design that demonstrates that the proposed project will not have a negative impact to the public storm drain system downstream of the project.

Basin ID	Basin Volume (CF)	25-Year Unmitigated Peak Discharge (cfs)	25-Year Mitigated Discharge Peak (cfs)	100-Year Unmitigated Peak Discharge (cfs)	100-Year Mitigated Peak Discharge (cfs)
Basin A	71,700	69.38	14.54	89.12	43.67
Basin B	66,600	69.72	14.86	88.55	44.90
Basin C	44,800	50.67	13.10	65.96	23.95

5.1 Hydraulic Design

The Water Surface Pressure Gradient (WSPGW), a software developed by the Los Angeles County Flood Control District and approved by the County of Orange was utilized to calculate the HGL for the main private storm drain line A. WSPG uses the Bernoulli equation to calculate the HGL for each storm drain line utilizing the flow and the boundary conditions.

Since the as-built plans and information obtain for the Kimberly Storm Channel indicate that the channel was design for the 25 year storm, the downstream water surface elevation utilized for the model was set at the top of the channel for both the 100 year and the 25 year storm models of the private main line A. The private storm drain was design to handle the 25 year conditions without pressure flows. The results for the 100 year model results in a pressured flows; however, the 100 year HGL is contained below the proposed finished surface for the entire line except when the finished elevations drop at the dock loading level. The Finished Floor of the buildings is set 4ft above the loading level and therefore the buildings are protected from flooding in the 100 year storm event. In the event that the storm drain system fails due to clogging or any other unforeseen situation, the project grading design allows for the project runoff to pond a maximum of 2.5 ft at the loading docks before flows are conveyed to Kimberly Avenue via sheet flow thru the project driveways.

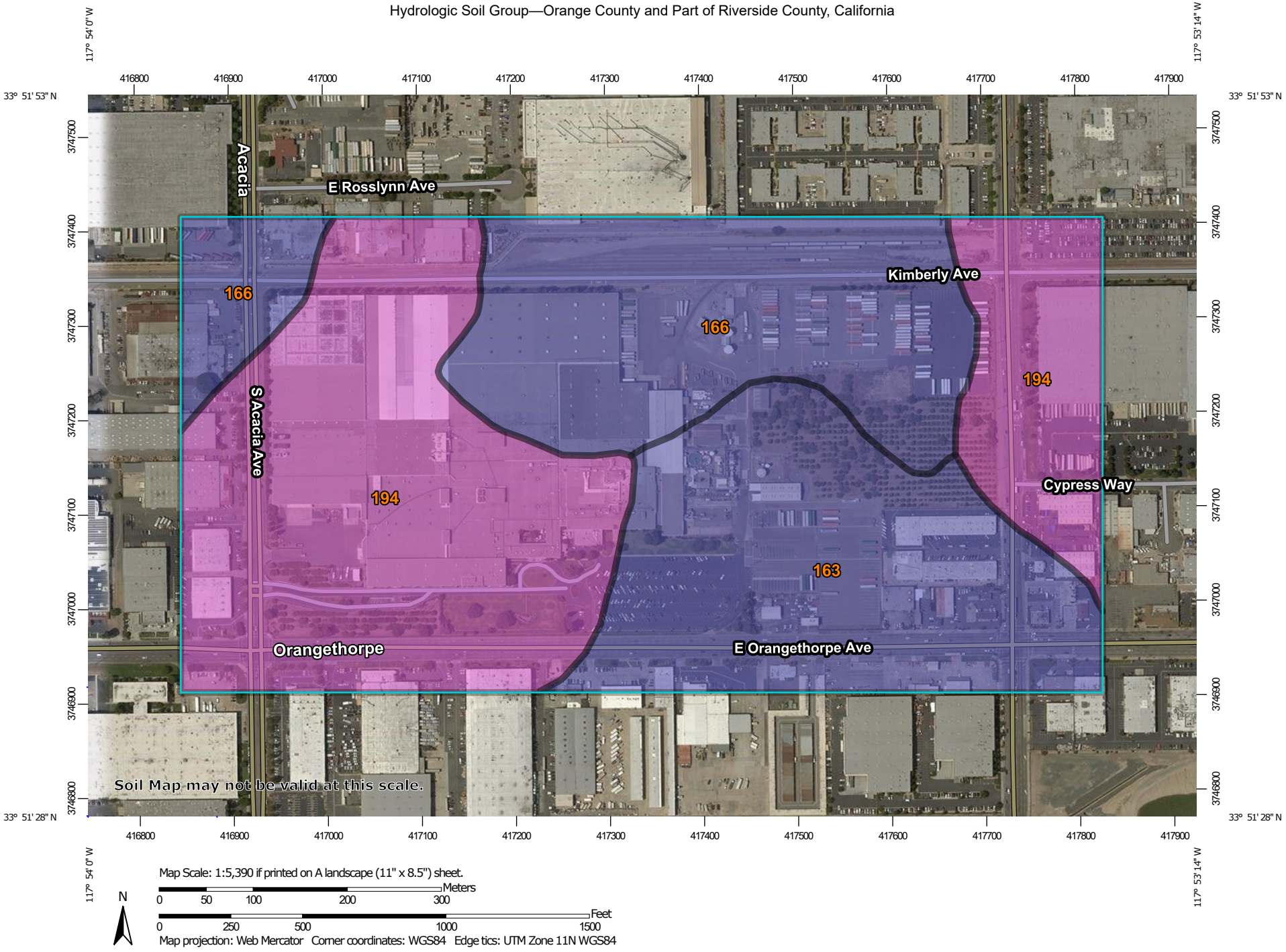
Section 6 Conclusion

Based on the hydrology and Hydraulic results presented on this report, the project will not have a negative impact on the public downstream drainage structures and the buildings will be protected from 100 year storm events. The total peak flows contributing to the Kimberly Channel for the 25 year and 100 year events will be reduced. Three underground detention basins are proposed to mitigate the peak flows increase associated with the proposed improvements.

APPENDIX

Appendix A – Soil Group Map

Soil Group Map


117° 54' 0" W
117° 53' 14" W
33° 51' 53" N
33° 51' 28" N
416800
416900
417000
417100
417200
417300
417400
417500
417600
417700
417800
417900
3747500
3747400
3747300
3747200
3747100
3747000
3746900
3746800
Acacia
E Rosslynn Ave
Kimberly Ave
166
166
194
194
S Acacia Ave
Cypress Way
163
Orangethorpe
E Orangethorpe Ave
Soil Map may not be valid at this scale.
Map Scale: 1:5,390 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Orange County and Part of Riverside County, California
Survey Area Data: Version 12, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 16, 2014—Feb 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
163	Metz loamy sand	B	32.5	26.5%
166	Mocho loam, 0 to 2 percent slopes, warm MAAT, MLRA 19	B	34.8	28.4%
194	San Emigdio fine sandy loam, 0 to 2 percent slopes	A	55.2	45.0%
Totals for Area of Interest			**122.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

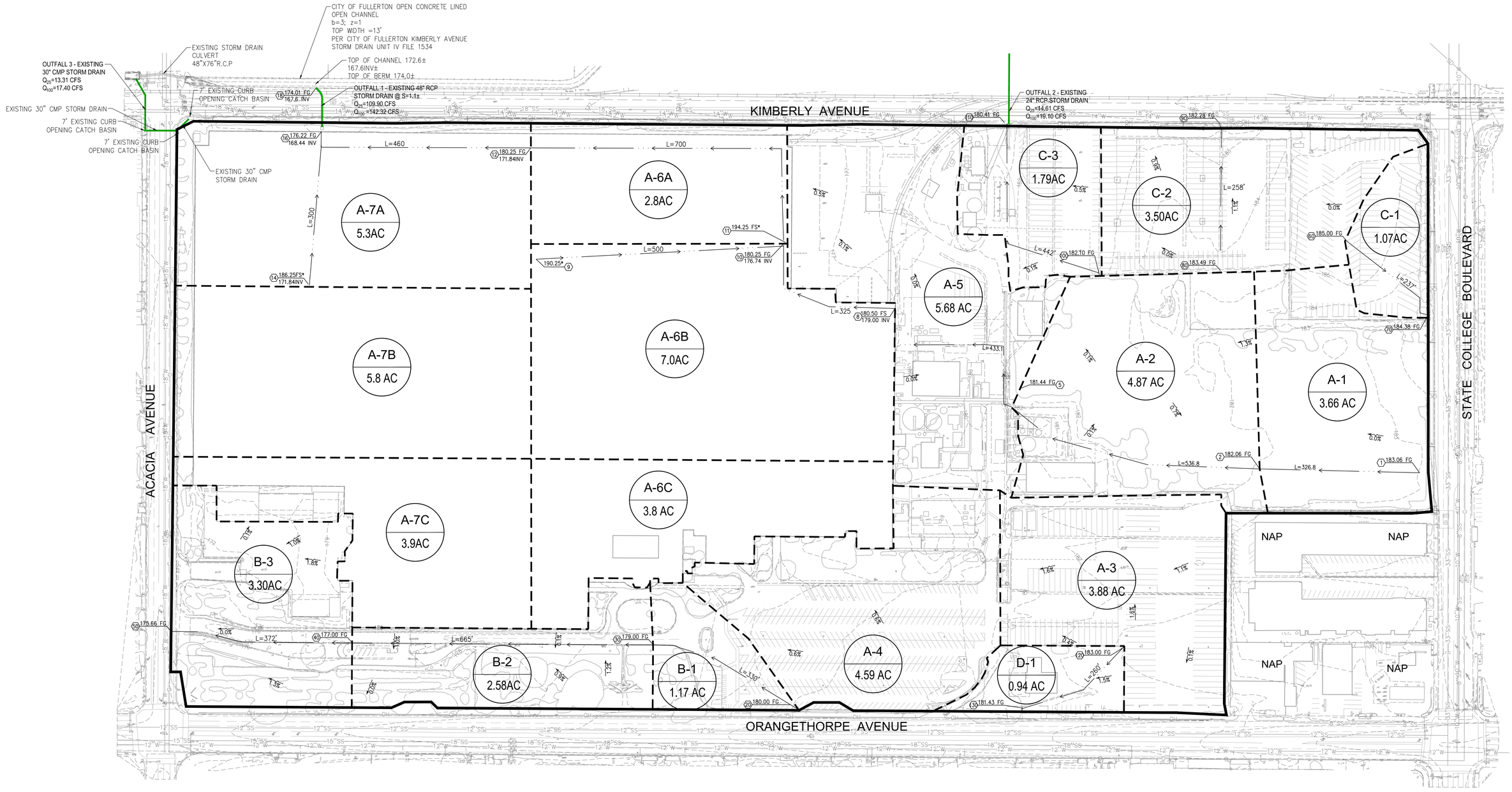
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B – Existing Hydrological Condition

Existing Hydrological Condition



LEGEND

- EXISTING CONTOUR (180)
- FLOW LINE
- SLOPE (0.5%)
- EXISTING STORM DRAIN
- AREA BOUNDARY
- SUB-AREA BOUNDARY
- NODE (#)
- AREA ID (X-#)
- AREA (AC) (#.##AC)

ABBREVIATIONS

EX	EXISTING
FS	FINISHED SURFACE
FG	FINISHED GRADE
INV	INVERT

* ASSUMES ROOF RUNOFF IS 2% FOR HYDROLOGY MODELING PURPOSES

N

0 80' 160'

SCALE: 1" = 80'

EXISTING HYDROLOGY MAP

GOODMAN LOGISTICS CENTER - FULLERTON
FULLERTON, CA

PREPARED FOR:
GOODMAN
06-10-2020

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Appendix C – Existing 25 & 100 Year Storm AES Files

Existing 25 & 100 year AES Files

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**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 48-INCH RCP AREA A        *
* 25-YEAR STORM EVENT  DM                                                *
 ************************************************************************

  FILE NAME: GRMX25A.DAT
  TIME/DATE OF STUDY: 16:29 03/15/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      2.00 IS CODE =  21
```

```
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   326.80
  ELEVATION DATA: UPSTREAM(FEET) =    184.18  DOWNSTREAM(FEET) =    182.23

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.630
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.734
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        3.66      0.30     0.850    56   13.63
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =      8.17
  TOTAL AREA(ACRES) =      3.66   PEAK FLOW RATE(CFS) =      8.17

************************************************************************
  FLOW PROCESS FROM NODE      2.00 TO NODE      5.00 IS CODE =  51
------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    182.23  DOWNSTREAM(FEET) =    181.53
  CHANNEL LENGTH THRU SUBAREA(FEET) =   553.70   CHANNEL SLOPE =  0.0013
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.014   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.184
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  PUBLIC PARK                B        4.87      0.30     0.850    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      12.42
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.39
  AVERAGE FLOW DEPTH(FEET) =   0.25   TRAVEL TIME(MIN.) =   6.64
  Tc(MIN.) =   20.27
  SUBAREA AREA(ACRES) =     4.87       SUBAREA RUNOFF(CFS) =    8.46
  EFFECTIVE AREA(ACRES) =      8.53     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.85
  TOTAL AREA(ACRES) =        8.5         PEAK FLOW RATE(CFS) =      14.81

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.28   FLOW VELOCITY(FEET/SEC.) =   1.49
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      5.00 =     880.50 FEET.

************************************************************************
```

```
 FLOW PROCESS FROM NODE      5.00 TO NODE      8.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    181.53  DOWNSTREAM(FEET) =    180.50
 CHANNEL LENGTH THRU SUBAREA(FEET) =   402.10   CHANNEL SLOPE =  0.0026
 CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR = 0.014   MAXIMUM DEPTH(FEET) =   2.00
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.092
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        5.54      0.30     0.100    56
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      19.95
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   4.17
 AVERAGE FLOW DEPTH(FEET) =   1.13   TRAVEL TIME(MIN.) =   1.61
 Tc(MIN.) =   21.88
 SUBAREA AREA(ACRES) =     5.54       SUBAREA RUNOFF(CFS) =   10.28
 EFFECTIVE AREA(ACRES) =     14.07     AREA-AVERAGED Fm(INCH/HR) =   0.17
 AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.55
 TOTAL AREA(ACRES) =       14.1         PEAK FLOW RATE(CFS) =      24.38

 END OF SUBAREA CHANNEL FLOW HYDRAULICS:
 DEPTH(FEET) =  1.24   FLOW VELOCITY(FEET/SEC.) =   4.38
 LONGEST FLOWPATH FROM NODE      1.00 TO NODE      8.00 =    1282.60 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      8.00 TO NODE      8.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   21.88
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.092
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        3.88      0.30     0.100    56
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    3.88      SUBAREA RUNOFF(CFS) =    7.20
 EFFECTIVE AREA(ACRES) =     17.95   AREA-AVERAGED Fm(INCH/HR) =  0.14
 AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.46
 TOTAL AREA(ACRES) =       18.0       PEAK FLOW RATE(CFS) =      31.58

****************************************************************************
 FLOW PROCESS FROM NODE      8.00 TO NODE      8.00 IS CODE =  81
----------------------------------------------------------------------------
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =   21.88
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.092
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        4.59      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    4.59      SUBAREA RUNOFF(CFS) =    8.52
  EFFECTIVE AREA(ACRES) =     22.54   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.38
  TOTAL AREA(ACRES) =       22.5       PEAK FLOW RATE(CFS) =      40.10

****************************************************************************
  FLOW PROCESS FROM NODE      8.00 TO NODE     10.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   179.00  DOWNSTREAM(FEET) =   176.73
  FLOW LENGTH(FEET) =   325.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  25.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.24
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      40.10
  PIPE TRAVEL TIME(MIN.) =   0.66    Tc(MIN.) =   22.54
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     10.00 =    1607.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   22.54
  RAINFALL INTENSITY(INCH/HR) =   2.06
  AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.38
  EFFECTIVE STREAM AREA(ACRES) =      22.54
  TOTAL STREAM AREA(ACRES) =      22.54
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      40.10

****************************************************************************
  FLOW PROCESS FROM NODE      9.00 TO NODE     10.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   500.00
  ELEVATION DATA: UPSTREAM(FEET) =    190.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.985
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.701
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        7.00      0.30     0.100    56    7.98
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     23.13
  TOTAL AREA(ACRES) =      7.00   PEAK FLOW RATE(CFS) =     23.13

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.98
  RAINFALL INTENSITY(INCH/HR) =   3.70
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       7.00
  TOTAL STREAM AREA(ACRES) =       7.00
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      23.13

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       40.10   22.54    2.057  0.30( 0.12) 0.38      22.5       1.00
      2       23.13    7.98    3.701  0.30( 0.03) 0.10       7.0       9.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       49.36    7.98    3.701  0.30( 0.08) 0.25      15.0       9.00
      2       52.87   22.54    2.057  0.30( 0.09) 0.32      29.5       1.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
```

```
  PEAK FLOW RATE(CFS) =      52.87    Tc(MIN.) =    22.54
  EFFECTIVE AREA(ACRES) =      29.54   AREA-AVERAGED Fm(INCH/HR) =  0.09
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.32
  TOTAL AREA(ACRES) =       29.5
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     10.00 =    1607.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =   22.54
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.057
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.80      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    3.80      SUBAREA RUNOFF(CFS) =    6.93
  EFFECTIVE AREA(ACRES) =     33.34   AREA-AVERAGED Fm(INCH/HR) =  0.09
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.29
  TOTAL AREA(ACRES) =       33.3       PEAK FLOW RATE(CFS) =      59.10

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       61.45    7.98    3.701  0.30( 0.07) 0.22      18.8       9.00
      2       59.10   22.54    2.057  0.30( 0.09) 0.29      33.3       1.00
  NEW PEAK FLOW DATA ARE:
  PEAK FLOW RATE(CFS) =      61.45  Tc(MIN.) =    7.98
  AREA-AVERAGED Fm(INCH/HR) =  0.07  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.22  EFFECTIVE AREA(ACRES) =      18.79

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   176.74  DOWNSTREAM(FEET) =   171.84
  FLOW LENGTH(FEET) =   700.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  39.0 INCH PIPE IS  29.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.20
  ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      61.45
  PIPE TRAVEL TIME(MIN.) =   1.27    Tc(MIN.) =    9.25
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     12.00 =    2307.60 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.25
  RAINFALL INTENSITY(INCH/HR) =   3.40
  AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.22
  EFFECTIVE STREAM AREA(ACRES) =      18.79
  TOTAL STREAM AREA(ACRES) =      33.34
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      61.45

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  ELEVATION DATA: UPSTREAM(FEET) =    194.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.135
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.430
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        2.80      0.30     0.100    56    9.13
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      8.57
  TOTAL AREA(ACRES) =      2.80   PEAK FLOW RATE(CFS) =      8.57

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.13
  RAINFALL INTENSITY(INCH/HR) =   3.43
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       2.80
```

```
  TOTAL STREAM AREA(ACRES) =       2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       8.57

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       61.45    9.25    3.405  0.30( 0.07) 0.22      18.8       9.00
      1       59.10   23.81    1.994  0.30( 0.09) 0.29      33.3       1.00
      2        8.57    9.13    3.430  0.30( 0.03) 0.10       2.8      11.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       69.69    9.13    3.430  0.30( 0.06) 0.20      21.3      11.00
      2       69.96    9.25    3.405  0.30( 0.06) 0.21      21.6       9.00
      3       64.05   23.81    1.994  0.30( 0.08) 0.28      36.1       1.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      69.96    Tc(MIN.) =     9.25
  EFFECTIVE AREA(ACRES) =      21.59   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =       36.1
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     12.00 =    2307.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    9.25
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.405
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.90      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    3.90      SUBAREA RUNOFF(CFS) =   11.85
  EFFECTIVE AREA(ACRES) =     25.49   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =       40.0       PEAK FLOW RATE(CFS) =      76.80

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
  MAINLINE Tc(MIN.) =    9.25
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.405
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        5.80      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    5.80      SUBAREA RUNOFF(CFS) =   17.62
  EFFECTIVE AREA(ACRES) =     31.29   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =       45.8       PEAK FLOW RATE(CFS) =      94.41

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   171.84  DOWNSTREAM(FEET) =   168.44
  FLOW LENGTH(FEET) =   460.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  45.0 INCH PIPE IS  34.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.42
  ESTIMATED PIPE DIAMETER(INCH) =  45.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      94.41
  PIPE TRAVEL TIME(MIN.) =   0.74    Tc(MIN.) =    9.99
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     16.00 =    2767.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.99
  RAINFALL INTENSITY(INCH/HR) =   3.26
  AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.17
  EFFECTIVE STREAM AREA(ACRES) =      31.29
  TOTAL STREAM AREA(ACRES) =      45.84
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      94.41

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     16.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   300.00
  ELEVATION DATA: UPSTREAM(FEET) =    186.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.509
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        5.30      0.30     0.100    56    6.51
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     19.68
  TOTAL AREA(ACRES) =      5.30   PEAK FLOW RATE(CFS) =     19.68

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.51
  RAINFALL INTENSITY(INCH/HR) =   4.15
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       5.30
  TOTAL STREAM AREA(ACRES) =       5.30
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      19.68

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       94.39    9.87    3.282  0.30( 0.05) 0.17      31.0      11.00
      1       94.41    9.99    3.261  0.30( 0.05) 0.17      31.3       9.00
      1       79.30   24.58    1.958  0.30( 0.07) 0.24      45.8       1.00
      2       19.68    6.51    4.155  0.30( 0.03) 0.10       5.3      14.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       98.72    6.51    4.155  0.30( 0.05) 0.16      25.8      14.00
      2      109.90    9.87    3.282  0.30( 0.05) 0.16      36.3      11.00
      3      109.82    9.99    3.261  0.30( 0.05) 0.16      36.6       9.00
      4       88.50   24.58    1.958  0.30( 0.07) 0.23      51.1       1.00
```

```
  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     109.90    Tc(MIN.) =     9.87
  EFFECTIVE AREA(ACRES) =      36.35   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =       51.1
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     16.00 =    2767.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     18.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   168.44  DOWNSTREAM(FEET) =   167.60
  FLOW LENGTH(FEET) =    85.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  45.0 INCH PIPE IS  34.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.06
  ESTIMATED PIPE DIAMETER(INCH) =  45.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =     109.90
  PIPE TRAVEL TIME(MIN.) =   0.12    Tc(MIN.) =    9.99
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     18.00 =    2852.60 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       51.1  TC(MIN.) =      9.99
  EFFECTIVE AREA(ACRES) =     36.35  AREA-AVERAGED Fm(INCH/HR)=  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.162
  PEAK FLOW RATE(CFS)   =     109.90

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       98.72    6.63    4.112  0.30( 0.05) 0.16      25.8      14.00
      2      109.90    9.99    3.261  0.30( 0.05) 0.16      36.3      11.00
      3      109.82   10.11    3.239  0.30( 0.05) 0.16      36.6       9.00
      4       88.50   24.71    1.953  0.30( 0.07) 0.23      51.1       1.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 24-INCH AREA B            *
* 25-YEAR STORM EVENT MD                                                 *
 ************************************************************************

  FILE NAME: GRMX25B.DAT
  TIME/DATE OF STUDY: 16:44 03/11/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     30.00 IS CODE =  21
```

```
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   331.00
  ELEVATION DATA: UPSTREAM(FEET) =    180.00  DOWNSTREAM(FEET) =    179.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.880
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.281
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        1.17      0.30     0.100    56    9.88
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      3.42
  TOTAL AREA(ACRES) =      1.17   PEAK FLOW RATE(CFS) =      3.42

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     40.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    179.00  DOWNSTREAM(FEET) =    177.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   665.00   CHANNEL SLOPE =  0.0030
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.350
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        2.58      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       6.15
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.40
  AVERAGE FLOW DEPTH(FEET) =   0.13   TRAVEL TIME(MIN.) =   7.93
  Tc(MIN.) =   17.81
  SUBAREA AREA(ACRES) =     2.58       SUBAREA RUNOFF(CFS) =    5.39
  EFFECTIVE AREA(ACRES) =      3.75     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        3.8         PEAK FLOW RATE(CFS) =       7.83

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.16   FLOW VELOCITY(FEET/SEC.) =   1.50
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     40.00 =     996.00 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE     40.00 TO NODE     50.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    177.00  DOWNSTREAM(FEET) =    175.66
  CHANNEL LENGTH THRU SUBAREA(FEET) =   372.00   CHANNEL SLOPE =  0.0036
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.127
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.30      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      10.94
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.81
  AVERAGE FLOW DEPTH(FEET) =   0.18   TRAVEL TIME(MIN.) =   3.43
  Tc(MIN.) =   21.24
  SUBAREA AREA(ACRES) =     3.30       SUBAREA RUNOFF(CFS) =    6.23
  EFFECTIVE AREA(ACRES) =      7.05     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        7.1         PEAK FLOW RATE(CFS) =      13.31

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.20   FLOW VELOCITY(FEET/SEC.) =   1.92
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     50.00 =    1368.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.1  TC(MIN.) =     21.24
  EFFECTIVE AREA(ACRES) =      7.05  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      13.31
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
************************************************************************
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                          Analysis prepared by:
```

```
 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                            *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 24-INCH AREA C           *
* 25-YEAR STORM EVENT MD                                                *
 ************************************************************************

  FILE NAME: GRMX25C.DAT
  TIME/DATE OF STUDY: 18:42 03/11/2020
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE     60.00 TO NODE     70.00 IS CODE =  21
```

```
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   237.00
  ELEVATION DATA: UPSTREAM(FEET) =    185.00  DOWNSTREAM(FEET) =    184.38

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.897
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.481
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        1.07      0.30     0.100    56    8.90
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      3.32
  TOTAL AREA(ACRES) =      1.07   PEAK FLOW RATE(CFS) =      3.32

************************************************************************
  FLOW PROCESS FROM NODE     80.00 TO NODE     90.00 IS CODE =  51
------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    183.49  DOWNSTREAM(FEET) =    182.28
  CHANNEL LENGTH THRU SUBAREA(FEET) =   258.00   CHANNEL SLOPE =  0.0047
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.028
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.50      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       8.07
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.73
  AVERAGE FLOW DEPTH(FEET) =   0.14   TRAVEL TIME(MIN.) =   2.49
  Tc(MIN.) =   11.38
  SUBAREA AREA(ACRES) =     3.50       SUBAREA RUNOFF(CFS) =    9.44
  EFFECTIVE AREA(ACRES) =      4.57     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        4.6         PEAK FLOW RATE(CFS) =      12.33

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.18   FLOW VELOCITY(FEET/SEC.) =   2.04
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE     90.00 =     495.00 FEET.

************************************************************************
```

```
  FLOW PROCESS FROM NODE    100.00 TO NODE    110.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    182.10  DOWNSTREAM(FEET) =    180.41
  CHANNEL LENGTH THRU SUBAREA(FEET) =   442.00   CHANNEL SLOPE =  0.0038
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.583
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        1.79      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      14.39
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.00
  AVERAGE FLOW DEPTH(FEET) =   0.21   TRAVEL TIME(MIN.) =   3.69
  Tc(MIN.) =   15.08
  SUBAREA AREA(ACRES) =     1.79       SUBAREA RUNOFF(CFS) =    4.11
  EFFECTIVE AREA(ACRES) =      6.36     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        6.4         PEAK FLOW RATE(CFS) =      14.61

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.21   FLOW VELOCITY(FEET/SEC.) =   2.03
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE    110.00 =     937.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        6.4  TC(MIN.) =     15.08
  EFFECTIVE AREA(ACRES) =      6.36  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      14.61
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 48-INCH RCP AREA A        *
* 100-YEAR STORM EVENT SR                                                *
 ************************************************************************

  FILE NAME: GRMX00A.DAT
  TIME/DATE OF STUDY: 21:28 03/16/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      2.00 IS CODE =  21
```

```
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   326.80
  ELEVATION DATA: UPSTREAM(FEET) =    184.18  DOWNSTREAM(FEET) =    182.23

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.630
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.483
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        3.66      0.30     0.850    76   13.63
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =     10.63
  TOTAL AREA(ACRES) =      3.66   PEAK FLOW RATE(CFS) =     10.63

************************************************************************
  FLOW PROCESS FROM NODE      2.00 TO NODE      5.00 IS CODE =  51
------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    182.23  DOWNSTREAM(FEET) =    181.53
  CHANNEL LENGTH THRU SUBAREA(FEET) =   553.70   CHANNEL SLOPE =  0.0013
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.014   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.816
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  PUBLIC PARK                B        4.87      0.30     0.850    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      16.29
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.51
  AVERAGE FLOW DEPTH(FEET) =   0.30   TRAVEL TIME(MIN.) =   6.13
  Tc(MIN.) =   19.76
  SUBAREA AREA(ACRES) =     4.87       SUBAREA RUNOFF(CFS) =   11.22
  EFFECTIVE AREA(ACRES) =      8.53     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.85
  TOTAL AREA(ACRES) =        8.5         PEAK FLOW RATE(CFS) =      19.66

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.33   FLOW VELOCITY(FEET/SEC.) =   1.62
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      5.00 =     880.50 FEET.

************************************************************************
```

```
 FLOW PROCESS FROM NODE      5.00 TO NODE      8.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    181.53  DOWNSTREAM(FEET) =    180.50
 CHANNEL LENGTH THRU SUBAREA(FEET) =   402.10   CHANNEL SLOPE =  0.0026
 CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
 MANNING'S FACTOR = 0.014   MAXIMUM DEPTH(FEET) =   2.00
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.700
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        5.54      0.30     0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      26.31
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   4.47
 AVERAGE FLOW DEPTH(FEET) =   1.29   TRAVEL TIME(MIN.) =   1.50
 Tc(MIN.) =   21.26
 SUBAREA AREA(ACRES) =     5.54       SUBAREA RUNOFF(CFS) =   13.31
 EFFECTIVE AREA(ACRES) =     14.07     AREA-AVERAGED Fm(INCH/HR) =   0.17
 AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.55
 TOTAL AREA(ACRES) =       14.1         PEAK FLOW RATE(CFS) =      32.08

 END OF SUBAREA CHANNEL FLOW HYDRAULICS:
 DEPTH(FEET) =  1.41   FLOW VELOCITY(FEET/SEC.) =   4.70
 LONGEST FLOWPATH FROM NODE      1.00 TO NODE      8.00 =    1282.60 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      8.00 TO NODE      8.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   21.26
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.700
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        3.88      0.30     0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    3.88      SUBAREA RUNOFF(CFS) =    9.32
 EFFECTIVE AREA(ACRES) =     17.95   AREA-AVERAGED Fm(INCH/HR) =  0.14
 AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.46
 TOTAL AREA(ACRES) =       18.0       PEAK FLOW RATE(CFS) =      41.41

****************************************************************************
 FLOW PROCESS FROM NODE      8.00 TO NODE      8.00 IS CODE =  81
----------------------------------------------------------------------------
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =   21.26
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.700
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        4.59      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    4.59      SUBAREA RUNOFF(CFS) =   11.03
  EFFECTIVE AREA(ACRES) =     22.54   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.38
  TOTAL AREA(ACRES) =       22.5       PEAK FLOW RATE(CFS) =      52.44

********************************************************************************
  FLOW PROCESS FROM NODE      8.00 TO NODE     10.00 IS CODE =  31
--------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   179.00  DOWNSTREAM(FEET) =   176.73
  FLOW LENGTH(FEET) =   325.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  28.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.76
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      52.44
  PIPE TRAVEL TIME(MIN.) =   0.62    Tc(MIN.) =   21.87
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     10.00 =    1607.60 FEET.

********************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =   1
--------------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
================================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   21.87
  RAINFALL INTENSITY(INCH/HR) =   2.66
  AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.38
  EFFECTIVE STREAM AREA(ACRES) =      22.54
  TOTAL STREAM AREA(ACRES) =      22.54
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      52.44

********************************************************************************
  FLOW PROCESS FROM NODE      9.00 TO NODE     10.00 IS CODE =  21
--------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   500.00
  ELEVATION DATA: UPSTREAM(FEET) =    190.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.985
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.732
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        7.00      0.30     0.100    76    7.98
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     29.62
  TOTAL AREA(ACRES) =      7.00   PEAK FLOW RATE(CFS) =     29.62

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.98
  RAINFALL INTENSITY(INCH/HR) =   4.73
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       7.00
  TOTAL STREAM AREA(ACRES) =       7.00
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      29.62

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       52.44   21.87    2.656  0.30( 0.12) 0.38      22.5       1.00
      2       29.62    7.98    4.732  0.30( 0.03) 0.10       7.0       9.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       64.40    7.98    4.732  0.30( 0.08) 0.25      15.2       9.00
      2       68.98   21.87    2.656  0.30( 0.09) 0.32      29.5       1.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
```

```
  PEAK FLOW RATE(CFS) =      68.98    Tc(MIN.) =    21.87
  EFFECTIVE AREA(ACRES) =      29.54   AREA-AVERAGED Fm(INCH/HR) =  0.09
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.32
  TOTAL AREA(ACRES) =       29.5
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     10.00 =    1607.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =   21.87
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.656
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.80      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    3.80      SUBAREA RUNOFF(CFS) =    8.98
  EFFECTIVE AREA(ACRES) =     33.34   AREA-AVERAGED Fm(INCH/HR) =  0.09
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.29
  TOTAL AREA(ACRES) =       33.3       PEAK FLOW RATE(CFS) =      77.07

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       79.89    7.98    4.732  0.30( 0.07) 0.22      19.0       9.00
      2       77.07   21.87    2.656  0.30( 0.09) 0.29      33.3       1.00
  NEW PEAK FLOW DATA ARE:
  PEAK FLOW RATE(CFS) =      79.89  Tc(MIN.) =    7.98
  AREA-AVERAGED Fm(INCH/HR) =  0.07  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.22  EFFECTIVE AREA(ACRES) =      19.03

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     12.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   176.74  DOWNSTREAM(FEET) =   171.84
  FLOW LENGTH(FEET) =   700.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  42.0 INCH PIPE IS  33.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.72
  ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      79.89
  PIPE TRAVEL TIME(MIN.) =   1.20    Tc(MIN.) =    9.19
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     12.00 =    2307.60 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.19
  RAINFALL INTENSITY(INCH/HR) =   4.37
  AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.22
  EFFECTIVE STREAM AREA(ACRES) =      19.03
  TOTAL STREAM AREA(ACRES) =      33.34
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      79.89

****************************************************************************
  FLOW PROCESS FROM NODE     11.00 TO NODE     12.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  ELEVATION DATA: UPSTREAM(FEET) =    194.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.135
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.381
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        2.80      0.30     0.100    76    9.13
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     10.96
  TOTAL AREA(ACRES) =      2.80   PEAK FLOW RATE(CFS) =     10.96

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.13
  RAINFALL INTENSITY(INCH/HR) =   4.38
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       2.80
```

```
  TOTAL STREAM AREA(ACRES) =       2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      10.96

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       79.89    9.19    4.367  0.30( 0.07) 0.22      19.0       9.00
      1       77.07   23.08    2.576  0.30( 0.09) 0.29      33.3       1.00
      2       10.96    9.13    4.381  0.30( 0.03) 0.10       2.8      11.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       90.67    9.13    4.381  0.30( 0.06) 0.21      21.7      11.00
      2       90.82    9.19    4.367  0.30( 0.06) 0.21      21.8       9.00
      3       83.49   23.08    2.576  0.30( 0.08) 0.28      36.1       1.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      90.82    Tc(MIN.) =     9.19
  EFFECTIVE AREA(ACRES) =      21.83   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.21
  TOTAL AREA(ACRES) =       36.1
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     12.00 =    2307.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    9.19
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.367
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.90      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    3.90      SUBAREA RUNOFF(CFS) =   15.22
  EFFECTIVE AREA(ACRES) =     25.73   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =       40.0       PEAK FLOW RATE(CFS) =      99.79

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     12.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
```

```
  MAINLINE Tc(MIN.) =    9.19
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.367
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        5.80      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    5.80      SUBAREA RUNOFF(CFS) =   22.64
  EFFECTIVE AREA(ACRES) =     31.53   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =       45.8       PEAK FLOW RATE(CFS) =     122.43

****************************************************************************
  FLOW PROCESS FROM NODE     12.00 TO NODE     16.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   171.84  DOWNSTREAM(FEET) =   168.44
  FLOW LENGTH(FEET) =   460.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  51.0 INCH PIPE IS  36.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.23
  ESTIMATED PIPE DIAMETER(INCH) =  51.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =     122.43
  PIPE TRAVEL TIME(MIN.) =   0.68    Tc(MIN.) =    9.87
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     16.00 =    2767.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.87
  RAINFALL INTENSITY(INCH/HR) =   4.19
  AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.17
  EFFECTIVE STREAM AREA(ACRES) =      31.53
  TOTAL STREAM AREA(ACRES) =      45.84
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     122.43

****************************************************************************
  FLOW PROCESS FROM NODE     14.00 TO NODE     16.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   300.00
  ELEVATION DATA: UPSTREAM(FEET) =    186.25  DOWNSTREAM(FEET) =    180.25

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.509
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.319
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        5.30      0.30     0.100    76    6.51
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     25.23
  TOTAL AREA(ACRES) =      5.30   PEAK FLOW RATE(CFS) =     25.23

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     16.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.51
  RAINFALL INTENSITY(INCH/HR) =   5.32
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       5.30
  TOTAL STREAM AREA(ACRES) =       5.30
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      25.23

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1      122.41    9.82    4.203  0.30( 0.05) 0.17      31.4      11.00
      1      122.43    9.87    4.191  0.30( 0.05) 0.17      31.5       9.00
      1      103.30   23.79    2.531  0.30( 0.07) 0.24      45.8       1.00
      2       25.23    6.51    5.319  0.30( 0.03) 0.10       5.3      14.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1      128.21    6.51    5.319  0.30( 0.05) 0.16      26.1      14.00
      2      142.32    9.82    4.203  0.30( 0.05) 0.16      36.7      11.00
      3      142.27    9.87    4.191  0.30( 0.05) 0.16      36.8       9.00
      4      115.23   23.79    2.531  0.30( 0.07) 0.23      51.1       1.00
```

```
  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     142.32    Tc(MIN.) =     9.82
  EFFECTIVE AREA(ACRES) =      36.72   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =       51.1
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     16.00 =    2767.60 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     16.00 TO NODE     18.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   168.44  DOWNSTREAM(FEET) =   167.60
  FLOW LENGTH(FEET) =    85.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  51.0 INCH PIPE IS  36.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.99
  ESTIMATED PIPE DIAMETER(INCH) =  51.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =     142.32
  PIPE TRAVEL TIME(MIN.) =   0.11    Tc(MIN.) =    9.93
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE     18.00 =    2852.60 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       51.1  TC(MIN.) =      9.93
  EFFECTIVE AREA(ACRES) =     36.72  AREA-AVERAGED Fm(INCH/HR)=  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.163
  PEAK FLOW RATE(CFS)    =     142.32

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1      128.21    6.62    5.267  0.30( 0.05) 0.16      26.1      14.00
      2      142.32    9.93    4.177  0.30( 0.05) 0.16      36.7      11.00
      3      142.27    9.98    4.165  0.30( 0.05) 0.16      36.8       9.00
      4      115.23   23.91    2.524  0.30( 0.07) 0.23      51.1       1.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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            Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:
```

```
 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 24-INCH AREA B            *
* 100-YEAR STORM EVENT MD                                                *
 ************************************************************************

  FILE NAME: GRMX100B.DAT
  TIME/DATE OF STUDY: 16:52 03/11/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     30.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   331.00
  ELEVATION DATA: UPSTREAM(FEET) =    180.00  DOWNSTREAM(FEET) =    179.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.880
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.188
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        1.17      0.30     0.100    76    9.88
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      4.38
  TOTAL AREA(ACRES) =      1.17   PEAK FLOW RATE(CFS) =      4.38

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     40.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    179.00  DOWNSTREAM(FEET) =    177.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   665.00   CHANNEL SLOPE =  0.0030
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.051
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        2.58      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       7.93
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.52
  AVERAGE FLOW DEPTH(FEET) =   0.16   TRAVEL TIME(MIN.) =   7.29
  Tc(MIN.) =   17.17
  SUBAREA AREA(ACRES) =     2.58       SUBAREA RUNOFF(CFS) =    7.01
  EFFECTIVE AREA(ACRES) =      3.75     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        3.8         PEAK FLOW RATE(CFS) =      10.20

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
```

```
  DEPTH(FEET) =  0.19   FLOW VELOCITY(FEET/SEC.) =   1.63
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     40.00 =     996.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.00 TO NODE     50.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    177.00  DOWNSTREAM(FEET) =    175.66
  CHANNEL LENGTH THRU SUBAREA(FEET) =   372.00   CHANNEL SLOPE =  0.0036
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.772
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.30      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      14.27
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.98
  AVERAGE FLOW DEPTH(FEET) =   0.21   TRAVEL TIME(MIN.) =   3.13
  Tc(MIN.) =   20.31
  SUBAREA AREA(ACRES) =     3.30       SUBAREA RUNOFF(CFS) =    8.14
  EFFECTIVE AREA(ACRES) =      7.05     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        7.1          PEAK FLOW RATE(CFS) =      17.40

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.24   FLOW VELOCITY(FEET/SEC.) =   2.09
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     50.00 =    1368.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.1  TC(MIN.) =     20.31
  EFFECTIVE AREA(ACRES) =      7.05  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      17.40
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                          Analysis prepared by:
```

```
 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY 24-INCH AREA C            *
* 100-YEAR STORM EVENT MD                                                *
 ************************************************************************

  FILE NAME: GRMX100C.DAT
  TIME/DATE OF STUDY: 18:25 03/11/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     60.00 TO NODE     70.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   237.00
  ELEVATION DATA: UPSTREAM(FEET) =    185.00  DOWNSTREAM(FEET) =    184.38

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.897
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.447
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        1.07      0.30     0.100    76    8.90
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      4.25
  TOTAL AREA(ACRES) =      1.07   PEAK FLOW RATE(CFS) =      4.25

****************************************************************************
  FLOW PROCESS FROM NODE     80.00 TO NODE     90.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    183.49  DOWNSTREAM(FEET) =    182.28
  CHANNEL LENGTH THRU SUBAREA(FEET) =   258.00   CHANNEL SLOPE =  0.0047
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.909
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.50      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      10.38
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.91
  AVERAGE FLOW DEPTH(FEET) =   0.16   TRAVEL TIME(MIN.) =   2.25
  Tc(MIN.) =   11.14
  SUBAREA AREA(ACRES) =     3.50       SUBAREA RUNOFF(CFS) =   12.22
  EFFECTIVE AREA(ACRES) =      4.57     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        4.6         PEAK FLOW RATE(CFS) =      15.95

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
```

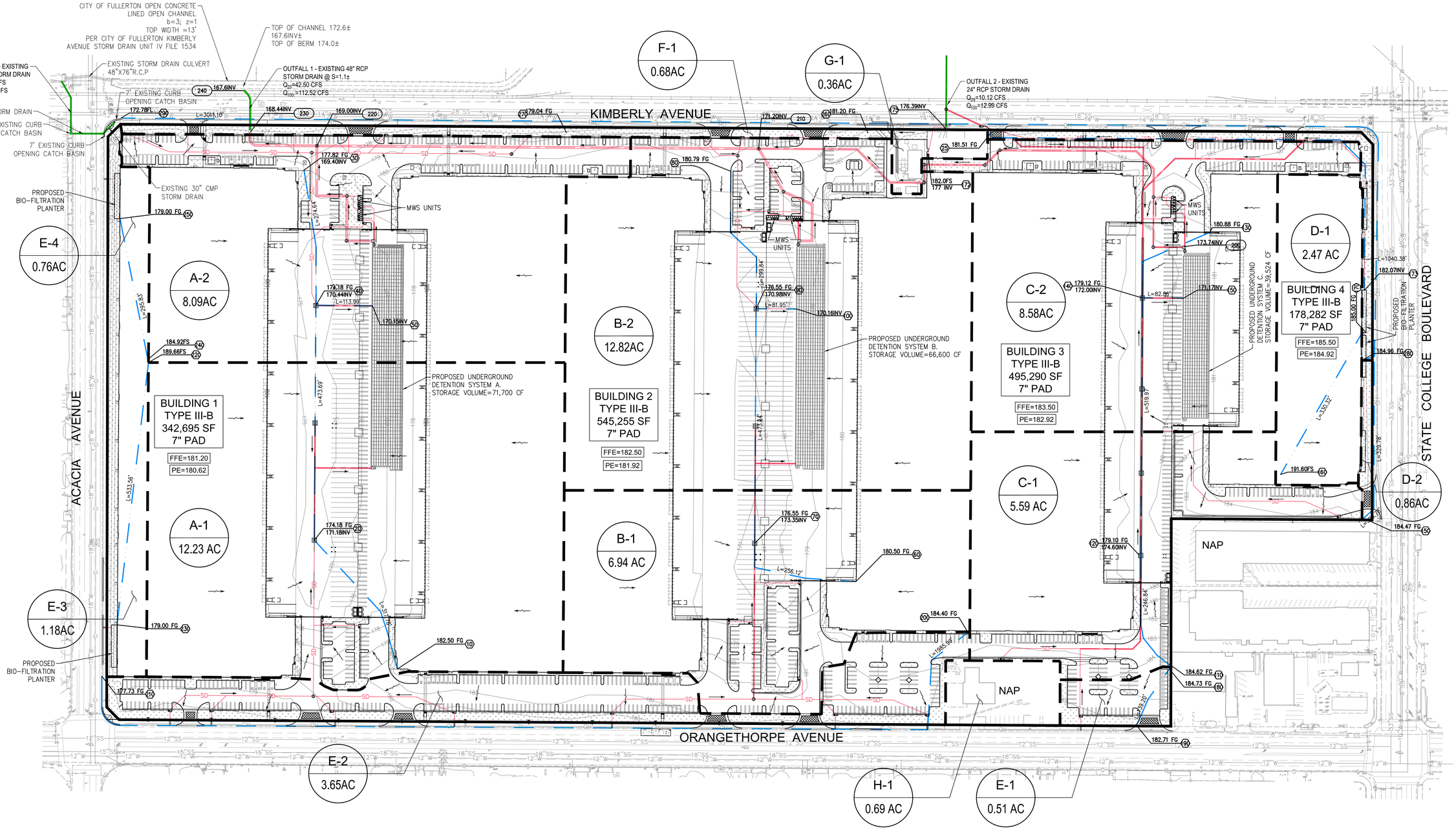
```
  DEPTH(FEET) =  0.21   FLOW VELOCITY(FEET/SEC.) =   2.21
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE     90.00 =     495.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    110.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    182.10  DOWNSTREAM(FEET) =    180.41
  CHANNEL LENGTH THRU SUBAREA(FEET) =   442.00   CHANNEL SLOPE =  0.0038
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.366
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        1.79      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      18.64
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.22
  AVERAGE FLOW DEPTH(FEET) =   0.24   TRAVEL TIME(MIN.) =   3.32
  Tc(MIN.) =   14.46
  SUBAREA AREA(ACRES) =     1.79       SUBAREA RUNOFF(CFS) =    5.37
  EFFECTIVE AREA(ACRES) =      6.36     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        6.4          PEAK FLOW RATE(CFS) =      19.10

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.25   FLOW VELOCITY(FEET/SEC.) =   2.21
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE    110.00 =     937.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        6.4  TC(MIN.) =     14.46
  EFFECTIVE AREA(ACRES) =      6.36  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      19.10
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

Appendix D – Proposed Hydrological Condition

Proposed Hydrological Condition



LEGEND

- PROPOSED CONTOUR
- FLOW LINE
- SURFACE DIRECTION OF FLOW
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN ≤ 12"
- PROPOSED STORM DRAIN > 12"
- STORM DRAIN PIPE FLOW
- AREA BOUNDARY
- SUB-AREA BOUNDARY
- NODE
- X-# AREA ID
- #.##AC AREA (AC)

ABBREVIATIONS

FG	FINISHED GRADE
INV	INVERT
FFE	FINISHED FLOOR ELEVATION
PE	PAD ELEVATION
CF	CUBIC FEET
MWS	MODULAR WETLAND SYSTEM

N

1 of 1

PROPOSED HYDROLOGY MAP

GOODMAN LOGISTICS CENTER - FULLERTON
FULLERTON, CA

PREPARED FOR:
GOODMAN
06-10-2020

TAIT
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Appendix E – Proposed 25 & 100 Year Storm AES Files

Proposed 25 & 100 year AES Files

```
******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA A               *
* 25- YEAR STORM EVENT SR                                             *
 **********************************************************************

  FILE NAME: GRMP25A.DAT
  TIME/DATE OF STUDY: 20:35 03/16/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     20.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   318.00
  ELEVATION DATA: UPSTREAM(FEET) =    182.50  DOWNSTREAM(FEET) =    174.18

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.314
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.227
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B       12.23      0.30     0.100    56    6.31
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     46.20
  TOTAL AREA(ACRES) =     12.23   PEAK FLOW RATE(CFS) =     46.20
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     40.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   171.18  DOWNSTREAM(FEET) =   170.44
  FLOW LENGTH(FEET) =   474.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  42.0 INCH PIPE IS  29.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.50
  ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      46.20
  PIPE TRAVEL TIME(MIN.) =   1.22    Tc(MIN.) =    7.53
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     40.00 =     792.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     40.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.53
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.826
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                B        8.09      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    8.09      SUBAREA RUNOFF(CFS) =   27.64
  EFFECTIVE AREA(ACRES) =     20.32   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       20.3       PEAK FLOW RATE(CFS) =      69.42

****************************************************************************
  FLOW PROCESS FROM NODE     40.00 TO NODE     50.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   170.44  DOWNSTREAM(FEET) =   170.15
  FLOW LENGTH(FEET) =   114.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  42.0 INCH PIPE IS  33.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.46
  ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      69.42
  PIPE TRAVEL TIME(MIN.) =   0.22    Tc(MIN.) =    7.75
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     50.00 =     906.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       20.3  TC(MIN.) =      7.75
  EFFECTIVE AREA(ACRES) =     20.32  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      69.42
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                            *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA B                 *
* 25- YEAR STOM EVENT SR                                                *
 ************************************************************************

  FILE NAME: GRMP25B.DAT
  TIME/DATE OF STUDY: 11:30 06/09/2020
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE     60.00 TO NODE     70.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   256.00
  ELEVATION DATA: UPSTREAM(FEET) =    180.50  DOWNSTREAM(FEET) =    176.55

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.434
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.182
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        6.94      0.30     0.100    56    6.43
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     25.93
  TOTAL AREA(ACRES) =      6.94   PEAK FLOW RATE(CFS) =     25.93
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     70.00 TO NODE     90.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   173.38  DOWNSTREAM(FEET) =   170.98
  FLOW LENGTH(FEET) =   474.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.74
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      25.93
  PIPE TRAVEL TIME(MIN.) =   0.90    Tc(MIN.) =    7.34
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE     90.00 =     730.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     80.00 TO NODE     90.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.34
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.882
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B       12.82      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =   12.82      SUBAREA RUNOFF(CFS) =   44.45
  EFFECTIVE AREA(ACRES) =     19.76   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       19.8       PEAK FLOW RATE(CFS) =      68.51

****************************************************************************
  FLOW PROCESS FROM NODE     90.00 TO NODE    100.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   170.98  DOWNSTREAM(FEET) =   170.16
  FLOW LENGTH(FEET) =    82.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  14.22
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      68.51
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    7.43
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE    100.00 =     812.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       19.8  TC(MIN.) =      7.43
  EFFECTIVE AREA(ACRES) =     19.76  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      68.51
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA C               *
* 25-YEAR STORM EVENT MD                                              *
 **********************************************************************

  FILE NAME: GRMP25C.DAT
  TIME/DATE OF STUDY: 15:04 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  ========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    120.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   247.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.62  DOWNSTREAM(FEET) =    179.10

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.890
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.397
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        5.59      0.30     0.100    56    5.89
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     21.97
  TOTAL AREA(ACRES) =      5.59   PEAK FLOW RATE(CFS) =     21.97
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    140.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   174.60  DOWNSTREAM(FEET) =   172.00
  FLOW LENGTH(FEET) =   520.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  19.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.17
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      21.97
  PIPE TRAVEL TIME(MIN.) =   1.06    Tc(MIN.) =    6.95
  LONGEST FLOWPATH FROM NODE    110.00 TO NODE    140.00 =     767.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.95
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.003
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        8.58      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    8.58      SUBAREA RUNOFF(CFS) =   30.68
  EFFECTIVE AREA(ACRES) =     14.17   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       14.2       PEAK FLOW RATE(CFS) =      50.67

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    150.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   172.00  DOWNSTREAM(FEET) =   171.17
  FLOW LENGTH(FEET) =    83.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.27
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      50.67
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    7.05
  LONGEST FLOWPATH FROM NODE    110.00 TO NODE    150.00 =     850.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       14.2  TC(MIN.) =      7.05
  EFFECTIVE AREA(ACRES) =     14.17  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      50.67
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREAS D AND G (OUTLET 2)  *
* 25-YEAR STORM EVENT MD                                              *
 **********************************************************************

  FILE NAME: GRMP25D.DAT
  TIME/DATE OF STUDY: 15:40 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  ========  ================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    173.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   315.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.47  DOWNSTREAM(FEET) =    184.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   17.722
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.357
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        0.86      0.30     0.850    56   17.72
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =      1.63
  TOTAL AREA(ACRES) =      0.86   PEAK FLOW RATE(CFS) =      1.63
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    173.00 TO NODE    173.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   17.72
  RAINFALL INTENSITY(INCH/HR) =   2.36
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.85
  EFFECTIVE STREAM AREA(ACRES) =       0.86
  TOTAL STREAM AREA(ACRES) =       0.86
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.63

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    170.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    191.60  DOWNSTREAM(FEET) =    185.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.762
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.066
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        2.47      0.30     0.100    56    6.76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      8.97
  TOTAL AREA(ACRES) =      2.47   PEAK FLOW RATE(CFS) =      8.97

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    173.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   182.50  DOWNSTREAM(FEET) =   182.07
  FLOW LENGTH(FEET) =    87.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  14.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.04
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       8.97
  PIPE TRAVEL TIME(MIN.) =   0.29    Tc(MIN.) =    7.05
  LONGEST FLOWPATH FROM NODE    160.00 TO NODE    173.00 =     417.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    173.00 TO NODE    173.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.05
  RAINFALL INTENSITY(INCH/HR) =   3.97
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       2.47
  TOTAL STREAM AREA(ACRES) =       2.47
```

```
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       8.97

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1        1.63   17.72    2.357  0.30( 0.25) 0.85       0.9     150.00
     2        8.97    7.05    3.971  0.30( 0.03) 0.10       2.5     160.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1       10.12    7.05    3.971  0.30( 0.06) 0.19       2.8     160.00
     2        6.92   17.72    2.357  0.30( 0.09) 0.29       3.3     150.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      10.12    Tc(MIN.) =     7.05
 EFFECTIVE AREA(ACRES) =       2.81   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.19
 TOTAL AREA(ACRES) =        3.3
 LONGEST FLOWPATH FROM NODE    160.00 TO NODE    173.00 =     417.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    173.00 TO NODE    175.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   182.07  DOWNSTREAM(FEET) =   176.39
 FLOW LENGTH(FEET) =  1070.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  21.0 INCH PIPE IS  15.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.29
 ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      10.12
 PIPE TRAVEL TIME(MIN.) =   3.37    Tc(MIN.) =   10.42
 LONGEST FLOWPATH FROM NODE    160.00 TO NODE    175.00 =    1487.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    175.00 TO NODE    175.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.42
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.184
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        0.36      0.30      0.100    56
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.36      SUBAREA RUNOFF(CFS) =    1.02
 EFFECTIVE AREA(ACRES) =      3.17   AREA-AVERAGED Fm(INCH/HR) =  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =        3.7       PEAK FLOW RATE(CFS) =      10.12
 NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        3.7  TC(MIN.) =     10.42
 EFFECTIVE AREA(ACRES) =      3.17  AREA-AVERAGED Fm(INCH/HR)=  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.181
 PEAK FLOW RATE(CFS)   =      10.12

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1       10.12   10.42    3.184  0.30( 0.05) 0.18       3.2     160.00
```

```
      2        6.92   21.44    2.116  0.30( 0.08) 0.27       3.7     150.00
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA E               *
* 25-YEAR STORM EVENT MD                                              *
 **********************************************************************

  FILE NAME: GRMP25E.DAT
  TIME/DATE OF STUDY: 14:59 03/13/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  =====  ====== =====  =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    180.00 TO NODE    190.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   139.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.73  DOWNSTREAM(FEET) =    182.71

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.100
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.770
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        0.51      0.30     0.100    56    5.10
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      2.18
  TOTAL AREA(ACRES) =      0.51   PEAK FLOW RATE(CFS) =      2.18
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    210.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    184.40  DOWNSTREAM(FEET) =    177.73
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1985.99   CHANNEL SLOPE =  0.0034
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.558
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.65      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       6.51
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   3.24
  AVERAGE FLOW DEPTH(FEET) =   0.62   TRAVEL TIME(MIN.) =  10.23
  Tc(MIN.) =   15.33
  SUBAREA AREA(ACRES) =     3.65       SUBAREA RUNOFF(CFS) =    8.31
  EFFECTIVE AREA(ACRES) =      4.16     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        4.2         PEAK FLOW RATE(CFS) =       9.47

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.75   FLOW VELOCITY(FEET/SEC.) =   3.59
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    210.00 =    2124.99 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    220.00 TO NODE    230.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    189.66  DOWNSTREAM(FEET) =    179.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   534.00   CHANNEL SLOPE =  0.0200
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.446
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        1.18      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      10.75
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   7.05
  AVERAGE FLOW DEPTH(FEET) =   0.51   TRAVEL TIME(MIN.) =   1.26
  Tc(MIN.) =   16.59
  SUBAREA AREA(ACRES) =     1.18       SUBAREA RUNOFF(CFS) =    2.57
  EFFECTIVE AREA(ACRES) =      5.34     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        5.3         PEAK FLOW RATE(CFS) =      11.61

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.53   FLOW VELOCITY(FEET/SEC.) =   7.17
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    230.00 =    2658.99 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    240.00 TO NODE    250.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    184.92  DOWNSTREAM(FEET) =    179.00
```

```
  CHANNEL LENGTH THRU SUBAREA(FEET) =   296.00   CHANNEL SLOPE =  0.0200
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.392
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        0.76      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      12.42
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   7.35
  AVERAGE FLOW DEPTH(FEET) =   0.55   TRAVEL TIME(MIN.) =   0.67
  Tc(MIN.) =   17.27
  SUBAREA AREA(ACRES) =     0.76       SUBAREA RUNOFF(CFS) =    1.62
  EFFECTIVE AREA(ACRES) =      6.10     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        6.1         PEAK FLOW RATE(CFS) =      12.97

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.56   FLOW VELOCITY(FEET/SEC.) =   7.43
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    250.00 =    2954.99 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        6.1  TC(MIN.) =     17.27
  EFFECTIVE AREA(ACRES) =      6.10  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      12.97
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDTITION HYDROLOGY - AREA F              *
* 25-YEAR STORM EVENT SR                                              *
 **********************************************************************

  FILE NAME: GRMP25F.DAT
  TIME/DATE OF STUDY: 16:09 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    260.00 TO NODE    270.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    181.20  DOWNSTREAM(FEET) =    179.04

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.433
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  2.757
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        0.28      0.30     0.850    56   13.43
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =      0.63
  TOTAL AREA(ACRES) =      0.28   PEAK FLOW RATE(CFS) =      0.63
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    270.00 TO NODE    290.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    179.04  DOWNSTREAM(FEET) =    172.78
  CHANNEL LENGTH THRU SUBAREA(FEET) =   889.00   CHANNEL SLOPE =  0.0070
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  1.747
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  PUBLIC PARK                B        0.40      0.30     0.850    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       0.91
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   0.89
  AVERAGE FLOW DEPTH(FEET) =   0.03   TRAVEL TIME(MIN.) =  16.66
  Tc(MIN.) =   30.10
  SUBAREA AREA(ACRES) =     0.40       SUBAREA RUNOFF(CFS) =    0.54
  EFFECTIVE AREA(ACRES) =      0.68     AREA-AVERAGED Fm(INCH/HR) =   0.26
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.85
  TOTAL AREA(ACRES) =        0.7         PEAK FLOW RATE(CFS) =       0.91

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.04   FLOW VELOCITY(FEET/SEC.) =   0.84
  LONGEST FLOWPATH FROM NODE    260.00 TO NODE    290.00 =    1219.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        0.7  TC(MIN.) =     30.10
  EFFECTIVE AREA(ACRES) =      0.68  AREA-AVERAGED Fm(INCH/HR)=  0.26
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.850
  PEAK FLOW RATE(CFS)   =       0.91
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                            *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA A                 *
* 100-YEAR STORM EVENT SR                                               *
 ************************************************************************

  FILE NAME: GRMP100A.DAT
  TIME/DATE OF STUDY: 20:53 03/16/2020
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     20.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   318.00
  ELEVATION DATA: UPSTREAM(FEET) =    182.50  DOWNSTREAM(FEET) =    174.18

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.314
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.413
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B       12.23      0.30     0.100    76    6.31
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     59.25
  TOTAL AREA(ACRES) =     12.23   PEAK FLOW RATE(CFS) =     59.25
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     40.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   171.18  DOWNSTREAM(FEET) =   170.44
  FLOW LENGTH(FEET) =   474.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  45.0 INCH PIPE IS  32.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.87
  ESTIMATED PIPE DIAMETER(INCH) =  45.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      59.25
  PIPE TRAVEL TIME(MIN.) =   1.15    Tc(MIN.) =    7.46
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     40.00 =     792.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     40.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.46
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.918
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                B        8.09      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    8.09      SUBAREA RUNOFF(CFS) =   35.59
  EFFECTIVE AREA(ACRES) =     20.32   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       20.3       PEAK FLOW RATE(CFS) =      89.40

****************************************************************************
  FLOW PROCESS FROM NODE     40.00 TO NODE     50.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   170.44  DOWNSTREAM(FEET) =   170.15
  FLOW LENGTH(FEET) =   114.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  48.0 INCH PIPE IS  34.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.15
  ESTIMATED PIPE DIAMETER(INCH) =  48.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      89.40
  PIPE TRAVEL TIME(MIN.) =   0.21    Tc(MIN.) =    7.67
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     50.00 =     906.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       20.3  TC(MIN.) =      7.67
  EFFECTIVE AREA(ACRES) =     20.32  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      89.40
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

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************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                            *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA B                 *
* 100 YEAR STORM EVENT SR                                               *
 ************************************************************************

  FILE NAME: GRMP100B.DAT
  TIME/DATE OF STUDY: 14:54 06/09/2020
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  =====  ====== =====  =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE     60.00 TO NODE     70.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   256.00
  ELEVATION DATA: UPSTREAM(FEET) =    180.50  DOWNSTREAM(FEET) =    176.55

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.434
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.355
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        6.94      0.30     0.100    76    6.43
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     33.26
  TOTAL AREA(ACRES) =      6.94   PEAK FLOW RATE(CFS) =     33.26
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     70.00 TO NODE     90.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   173.38  DOWNSTREAM(FEET) =   170.98
  FLOW LENGTH(FEET) =   474.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  30.0 INCH PIPE IS  20.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.32
  ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      33.26
  PIPE TRAVEL TIME(MIN.) =   0.85    Tc(MIN.) =    7.28
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE     90.00 =     730.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     80.00 TO NODE     90.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.28
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.988
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B       12.82      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =   12.82      SUBAREA RUNOFF(CFS) =   57.21
  EFFECTIVE AREA(ACRES) =     19.76   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       19.8       PEAK FLOW RATE(CFS) =      88.18

****************************************************************************
  FLOW PROCESS FROM NODE     90.00 TO NODE    100.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   170.98  DOWNSTREAM(FEET) =   170.16
  FLOW LENGTH(FEET) =    82.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  27.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  15.10
  ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      88.18
  PIPE TRAVEL TIME(MIN.) =   0.09    Tc(MIN.) =    7.37
  LONGEST FLOWPATH FROM NODE     60.00 TO NODE    100.00 =     812.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       19.8  TC(MIN.) =      7.37
  EFFECTIVE AREA(ACRES) =     19.76  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      88.18
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

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******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA C               *
* 100-YEAR STORM EVENT MD                                             *
 **********************************************************************

  FILE NAME: GRMP100C.DAT
  TIME/DATE OF STUDY: 15:08 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    110.00 TO NODE    120.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   247.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.62  DOWNSTREAM(FEET) =    179.10

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.890
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.633
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        5.59      0.30     0.100    76    5.89
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     28.19
  TOTAL AREA(ACRES) =      5.59   PEAK FLOW RATE(CFS) =     28.19
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    140.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   174.60  DOWNSTREAM(FEET) =   172.00
  FLOW LENGTH(FEET) =   520.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.79
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      28.19
  PIPE TRAVEL TIME(MIN.) =   0.99    Tc(MIN.) =    6.88
  LONGEST FLOWPATH FROM NODE    110.00 TO NODE    140.00 =     767.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    130.00 TO NODE    140.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.88
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.155
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        8.58      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    8.58      SUBAREA RUNOFF(CFS) =   39.58
  EFFECTIVE AREA(ACRES) =     14.17   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =       14.2       PEAK FLOW RATE(CFS) =      65.36

****************************************************************************
  FLOW PROCESS FROM NODE    140.00 TO NODE    150.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   172.00  DOWNSTREAM(FEET) =   171.17
  FLOW LENGTH(FEET) =    83.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  14.14
  ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      65.36
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    6.97
  LONGEST FLOWPATH FROM NODE    110.00 TO NODE    150.00 =     850.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       14.2  TC(MIN.) =      6.97
  EFFECTIVE AREA(ACRES) =     14.17  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      65.36
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

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******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREAS D AND G (OUTLET 2)  *
* 100-YEAR SRTORM EVENT SR                                            *
 **********************************************************************

  FILE NAME: GRMP100D.DAT
  TIME/DATE OF STUDY: 15:51 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    150.00 TO NODE    173.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   315.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.47  DOWNSTREAM(FEET) =    184.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   17.722
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.996
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        0.86      0.30     0.850    56   17.72
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =      2.12
  TOTAL AREA(ACRES) =      0.86   PEAK FLOW RATE(CFS) =      2.12
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    173.00 TO NODE    173.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   17.72
  RAINFALL INTENSITY(INCH/HR) =   3.00
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.85
  EFFECTIVE STREAM AREA(ACRES) =       0.86
  TOTAL STREAM AREA(ACRES) =       0.86
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.12

****************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    170.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    191.60  DOWNSTREAM(FEET) =    185.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.762
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.204
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        2.47      0.30     0.100    56    6.76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     11.50
  TOTAL AREA(ACRES) =      2.47   PEAK FLOW RATE(CFS) =     11.50

****************************************************************************
  FLOW PROCESS FROM NODE    170.00 TO NODE    173.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   182.50  DOWNSTREAM(FEET) =   182.07
  FLOW LENGTH(FEET) =    87.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  15.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.40
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      11.50
  PIPE TRAVEL TIME(MIN.) =   0.27    Tc(MIN.) =    7.03
  LONGEST FLOWPATH FROM NODE    160.00 TO NODE    173.00 =     417.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    173.00 TO NODE    173.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.03
  RAINFALL INTENSITY(INCH/HR) =   5.09
  AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =       2.47
  TOTAL STREAM AREA(ACRES) =       2.47
```

```
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      11.50

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        2.12   17.72    2.996  0.30( 0.25) 0.85       0.9     150.00
      2       11.50    7.03    5.090  0.30( 0.03) 0.10       2.5     160.00

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       12.99    7.03    5.090  0.30( 0.06) 0.19       2.8     160.00
      2        8.87   17.72    2.996  0.30( 0.09) 0.29       3.3     150.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      12.99    Tc(MIN.) =     7.03
  EFFECTIVE AREA(ACRES) =       2.81   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =        3.3
  LONGEST FLOWPATH FROM NODE    160.00 TO NODE    173.00 =     417.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    173.00 TO NODE    175.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   182.07  DOWNSTREAM(FEET) =   176.39
  FLOW LENGTH(FEET) =  1070.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.69
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      12.99
  PIPE TRAVEL TIME(MIN.) =   3.13    Tc(MIN.) =   10.16
  LONGEST FLOWPATH FROM NODE    160.00 TO NODE    175.00 =    1487.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    175.00 TO NODE    175.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =   10.16
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.121
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        0.36      0.30     0.100    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.36      SUBAREA RUNOFF(CFS) =    1.33
  EFFECTIVE AREA(ACRES) =      3.17   AREA-AVERAGED Fm(INCH/HR) =  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap =  0.18
  TOTAL AREA(ACRES) =        3.7       PEAK FLOW RATE(CFS) =      12.99
  NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        3.7  TC(MIN.) =     10.16
  EFFECTIVE AREA(ACRES) =      3.17  AREA-AVERAGED Fm(INCH/HR)=  0.05
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.181
  PEAK FLOW RATE(CFS)   =      12.99

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       12.99   10.16    4.121  0.30( 0.05) 0.18       3.2     160.00
```

```
      2        8.87   21.16    2.707  0.30( 0.08) 0.27       3.7     150.00
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
************************************************************************
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                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                            *
* RATIONAL METHOD PROPOSED CONDITION HYDROLOGY - AREA E                 *
* 100-YEAR STORM EVENT MD                                               *
 ************************************************************************

  FILE NAME: GRMP100E.DAT
  TIME/DATE OF STUDY: 14:50 03/13/2020
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE    180.00 TO NODE    190.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   139.00
  ELEVATION DATA: UPSTREAM(FEET) =    184.73  DOWNSTREAM(FEET) =    182.71

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.100
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.117
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        0.51      0.30     0.100    76    5.10
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      2.79
  TOTAL AREA(ACRES) =      0.51   PEAK FLOW RATE(CFS) =      2.79
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    210.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    184.40  DOWNSTREAM(FEET) =    177.73
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1985.99   CHANNEL SLOPE =  0.0034
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.342
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        3.65      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       8.46
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   3.47
  AVERAGE FLOW DEPTH(FEET) =   0.71   TRAVEL TIME(MIN.) =   9.55
  Tc(MIN.) =   14.65
  SUBAREA AREA(ACRES) =     3.65       SUBAREA RUNOFF(CFS) =   10.88
  EFFECTIVE AREA(ACRES) =      4.16     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        4.2         PEAK FLOW RATE(CFS) =      12.40

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.86   FLOW VELOCITY(FEET/SEC.) =   3.84
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    210.00 =    2124.99 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    220.00 TO NODE    230.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    189.66  DOWNSTREAM(FEET) =    179.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   534.00   CHANNEL SLOPE =  0.0200
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.198
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        1.18      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      14.08
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   7.60
  AVERAGE FLOW DEPTH(FEET) =   0.58   TRAVEL TIME(MIN.) =   1.17
  Tc(MIN.) =   15.82
  SUBAREA AREA(ACRES) =     1.18       SUBAREA RUNOFF(CFS) =    3.36
  EFFECTIVE AREA(ACRES) =      5.34     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        5.3         PEAK FLOW RATE(CFS) =      15.22

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.61   FLOW VELOCITY(FEET/SEC.) =   7.80
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    230.00 =    2658.99 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    240.00 TO NODE    250.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    184.92  DOWNSTREAM(FEET) =    179.00
```

```
  CHANNEL LENGTH THRU SUBAREA(FEET) =   296.00   CHANNEL SLOPE =  0.0200
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   2.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.128
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 B        0.76      0.30     0.100    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      16.28
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   7.92
  AVERAGE FLOW DEPTH(FEET) =   0.63   TRAVEL TIME(MIN.) =   0.62
  Tc(MIN.) =   16.44
  SUBAREA AREA(ACRES) =     0.76       SUBAREA RUNOFF(CFS) =    2.12
  EFFECTIVE AREA(ACRES) =      6.10     AREA-AVERAGED Fm(INCH/HR) =   0.03
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.10
  TOTAL AREA(ACRES) =        6.1         PEAK FLOW RATE(CFS) =      17.01

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.64   FLOW VELOCITY(FEET/SEC.) =   8.04
  LONGEST FLOWPATH FROM NODE    180.00 TO NODE    250.00 =    2954.99 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        6.1  TC(MIN.) =     16.44
  EFFECTIVE AREA(ACRES) =      6.10  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =      17.01
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
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                          Analysis prepared by:




 ************************ DESCRIPTION OF STUDY ************************
* KIMBERLY CLARK - FULLERTON                                          *
* RATIONAL METHOD PROPOSED CONDTITION HYDROLOGY - AREA F              *
* 100-YEAR STORM EVENT SR                                             *
 **********************************************************************

  FILE NAME: GRMP100F.DAT
  TIME/DATE OF STUDY: 16:12 06/09/2020
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE    260.00 TO NODE    270.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    181.20  DOWNSTREAM(FEET) =    179.04

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.433
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.512
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  PUBLIC PARK                B        0.28      0.30     0.850    56   13.43
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  SUBAREA RUNOFF(CFS) =      0.82
  TOTAL AREA(ACRES) =      0.28   PEAK FLOW RATE(CFS) =      0.82
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    270.00 TO NODE    290.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    179.04  DOWNSTREAM(FEET) =    172.78
  CHANNEL LENGTH THRU SUBAREA(FEET) =   889.00   CHANNEL SLOPE =  0.0070
  CHANNEL BASE(FEET) =   30.00   "Z" FACTOR =  20.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  2.255
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  PUBLIC PARK                B        0.40      0.30     0.850    56
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.850
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.20
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   0.95
  AVERAGE FLOW DEPTH(FEET) =   0.04   TRAVEL TIME(MIN.) =  15.67
  Tc(MIN.) =   29.10
  SUBAREA AREA(ACRES) =     0.40       SUBAREA RUNOFF(CFS) =    0.72
  EFFECTIVE AREA(ACRES) =      0.68     AREA-AVERAGED Fm(INCH/HR) =   0.26
  AREA-AVERAGED Fp(INCH/HR) =   0.30  AREA-AVERAGED Ap =   0.85
  TOTAL AREA(ACRES) =        0.7         PEAK FLOW RATE(CFS) =       1.22

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.04   FLOW VELOCITY(FEET/SEC.) =   0.97
  LONGEST FLOWPATH FROM NODE    260.00 TO NODE    290.00 =    1219.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        0.7  TC(MIN.) =     29.10
  EFFECTIVE AREA(ACRES) =      0.68  AREA-AVERAGED Fm(INCH/HR)=  0.26
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.850
  PEAK FLOW RATE(CFS)   =       1.22
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

Appendix F – Detention Basin Design Calculations & Details

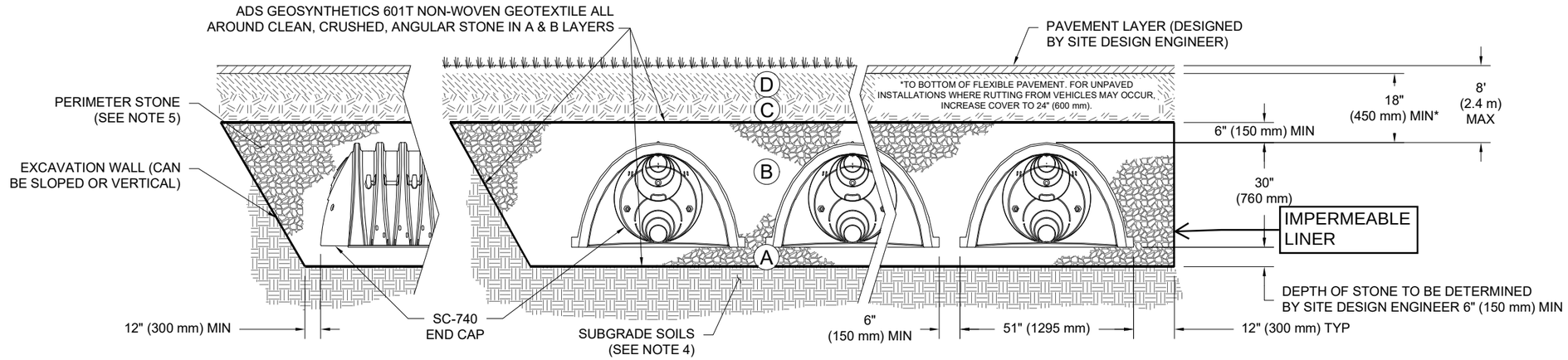
Outfall 1 Detention Basins

(DETENTION BASINS CALCULATIONS ON THIS APPENDIX TO BE UPDATED IN FINAL DESIGN TO INCORPORATE FINAL STORMGATE OUTLET STRUCTURE DISCHARGE RESULTS)

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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THE CONTRACTOR SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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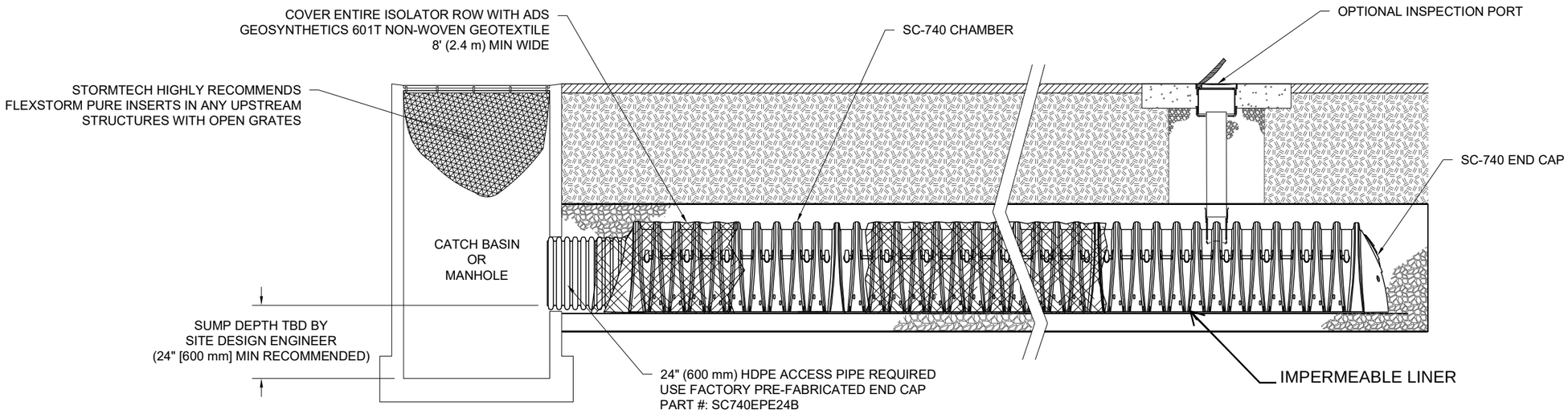

SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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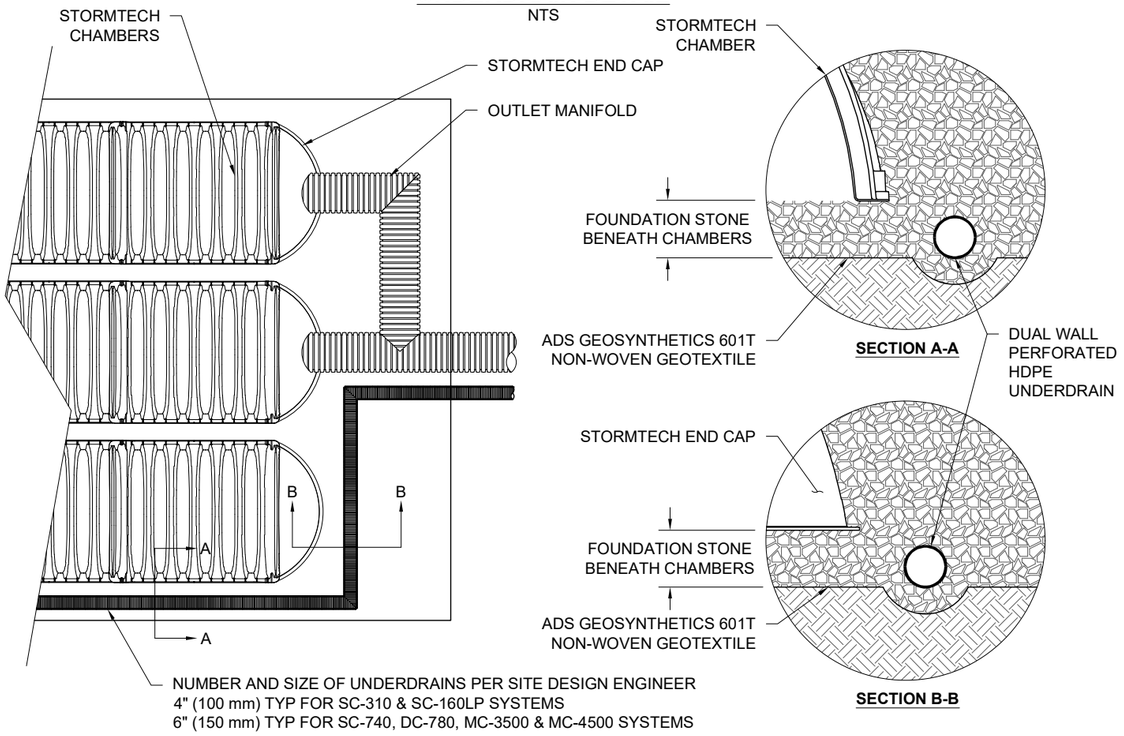
ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE

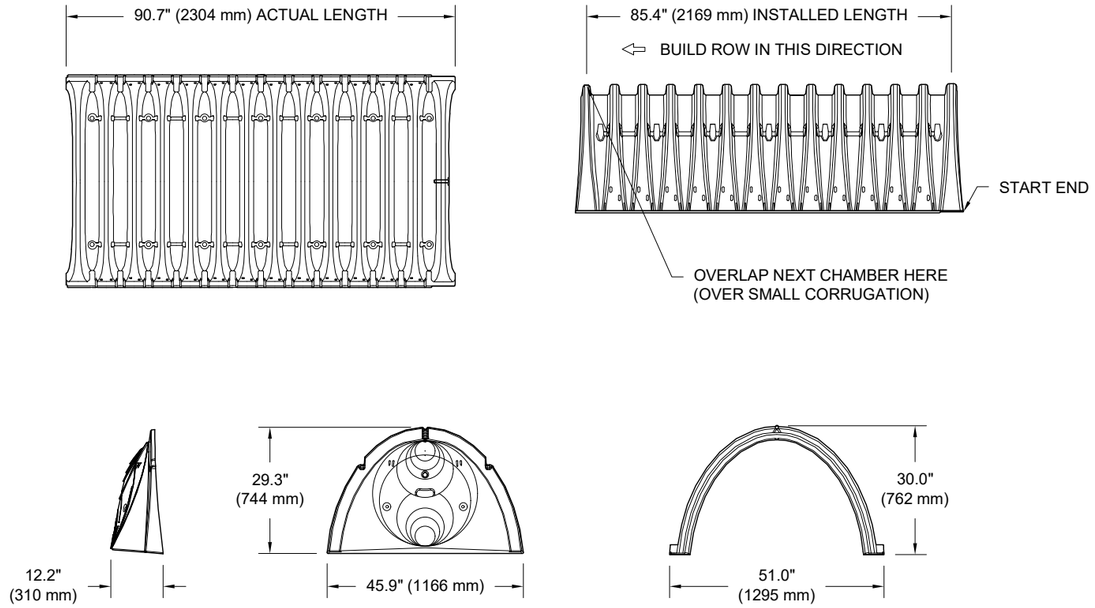
UNDERDRAIN DETAIL

NTS



SC-740 TECHNICAL SPECIFICATION

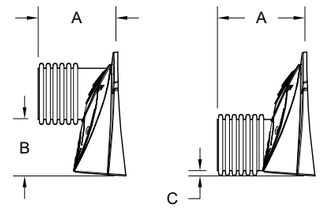
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	EPM NAME EPM NUMBER EPM EMAIL
ADS SALES REP	SALES NAME SALES NUMBER SALES EMAIL
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

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SP8454 DMA B

FULLERTON, CA

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

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IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT

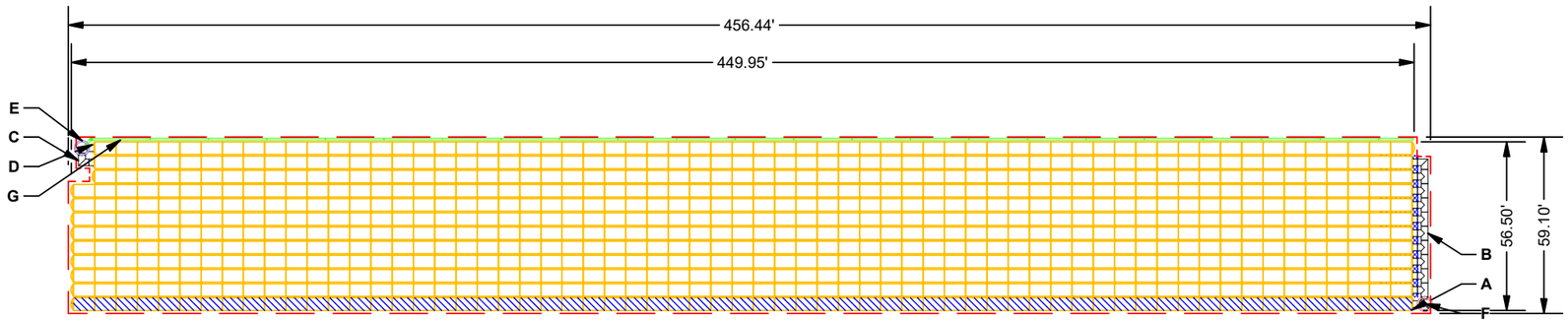
753	STORMTECH SC-740 CHAMBERS
24	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
	INSTALLED SYSTEM VOLUME (CF)
	(PERIMETER STONE INCLUDED)
	(COVER STONE INCLUDED)
	(BASE STONE INCLUDED)
26888	SYSTEM AREA (SF)
1040.05	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5.00
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	4.50
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	4.50
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	4.50
TOP OF STONE:	3.50
TOP OF SC-740 CHAMBER:	3.00
24" x 24" BOTTOM MANIFOLD INVERT:	0.51
24" x 24" BOTTOM MANIFOLD INVERT:	0.51
24" ISOLATOR ROW INVERT:	0.51
24" BOTTOM CONNECTION INVERT:	0.51
BOTTOM OF SC-740 CHAMBER:	0.50
UNDERDRAIN INVERT:	0.00
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PREFABRICATED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	0.10"	
MANIFOLD	B	24" X 24" BOTTOM, ADS N-12	0.10"	
MANIFOLD	C	24" X 24" BOTTOM, ADS N-12	0.10"	
PIPE CONNECTION	D	24" BOTTOM CONNECTION	0.10"	
CONCRETE STRUCTURE	E	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		14.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	F	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		26.6 CFS IN
UNDERDRAIN	G	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADS GEOSYNTHETICS 315WTK WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION

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PROJECT #:

REV	DRW	CHK	DESCRIPTION

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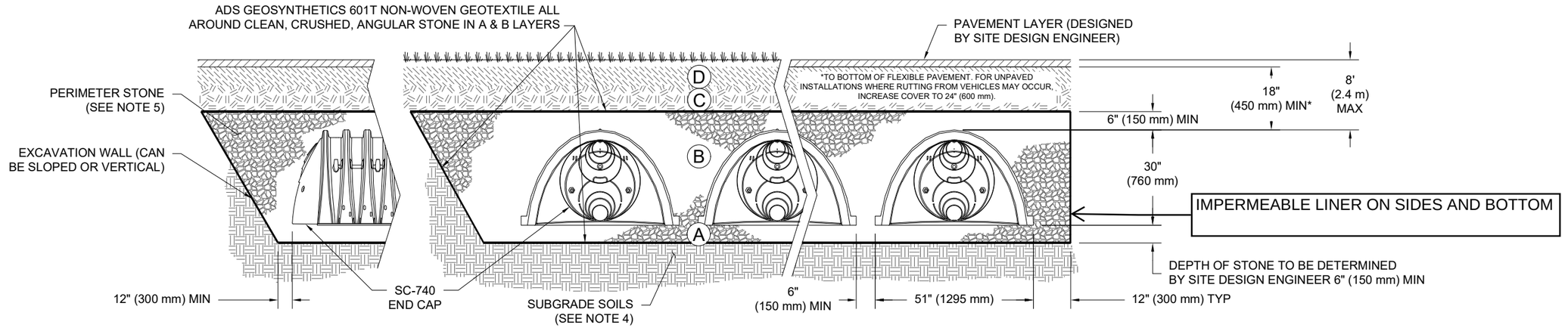
1-800-733-7473

0 50' 100'

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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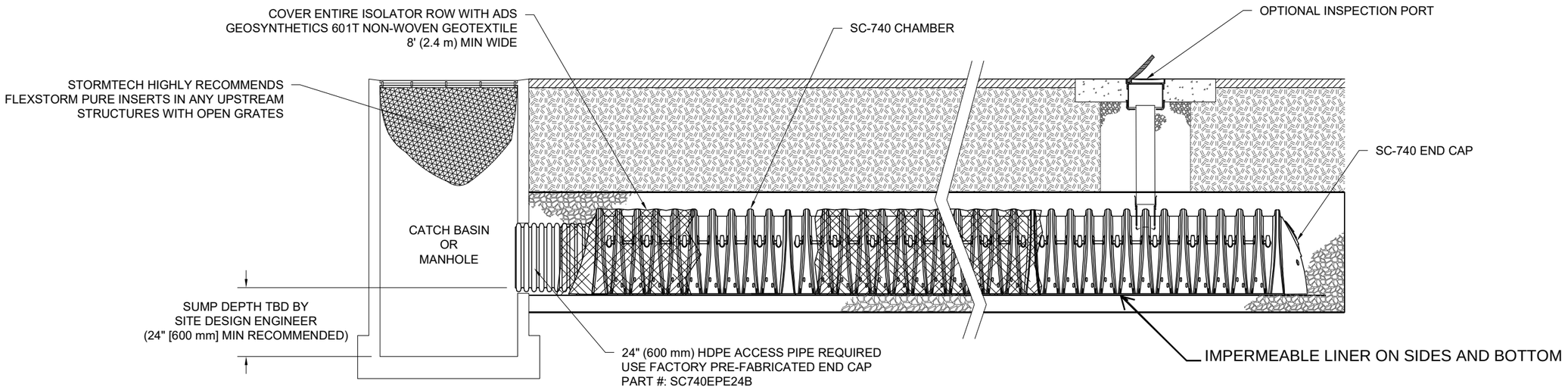

SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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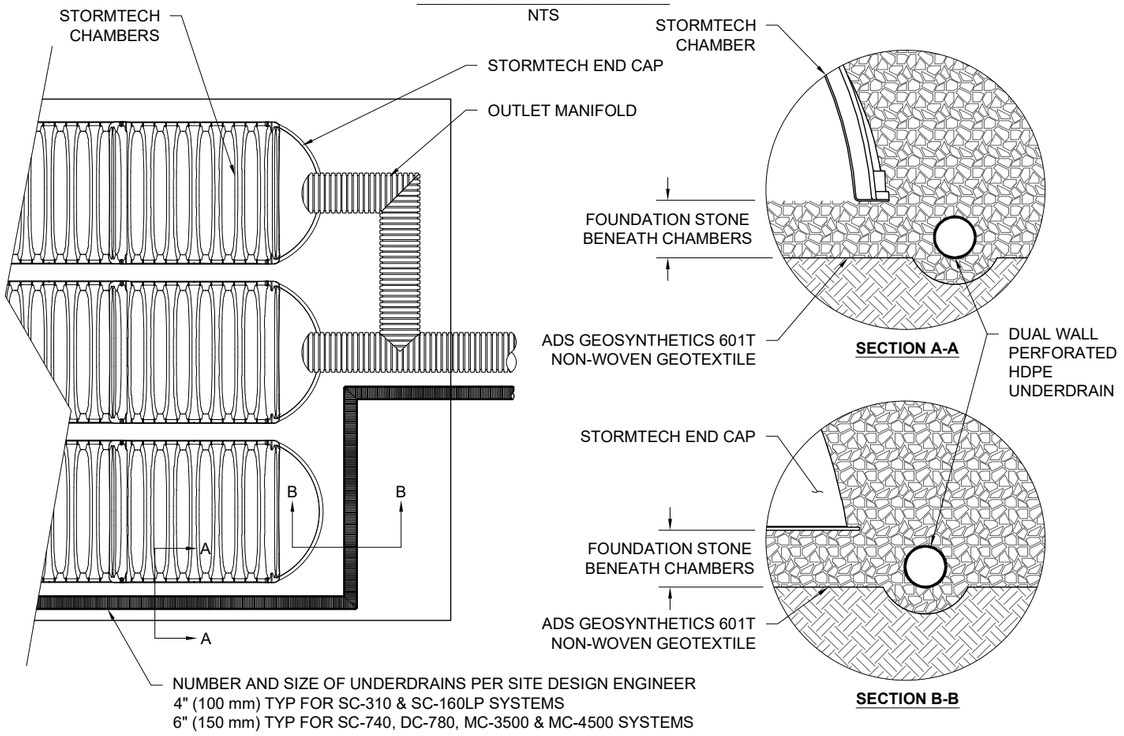
UNDERDRAIN DETAIL

NTS



SC-740 TECHNICAL SPECIFICATION

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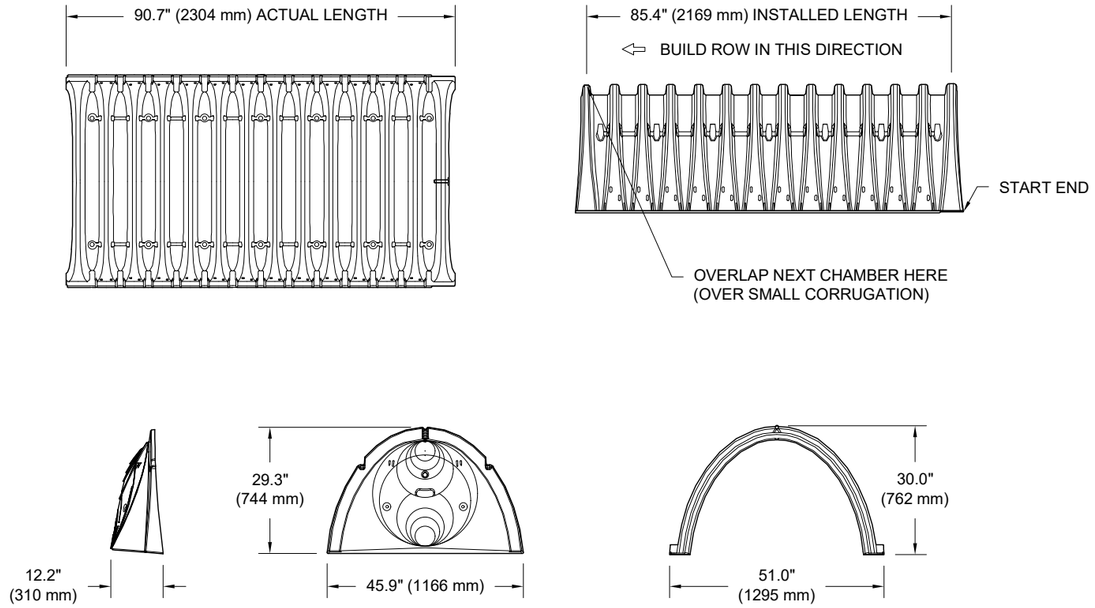
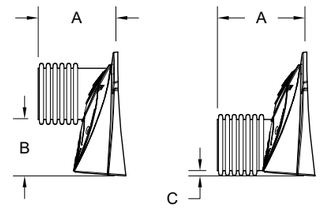


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	EPM NAME EPM NUMBER EPM EMAIL
ADS SALES REP	SALES NAME SALES NUMBER SALES EMAIL
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

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SP8454-A

FULLERTON, CA

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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PROPOSED LAYOUT

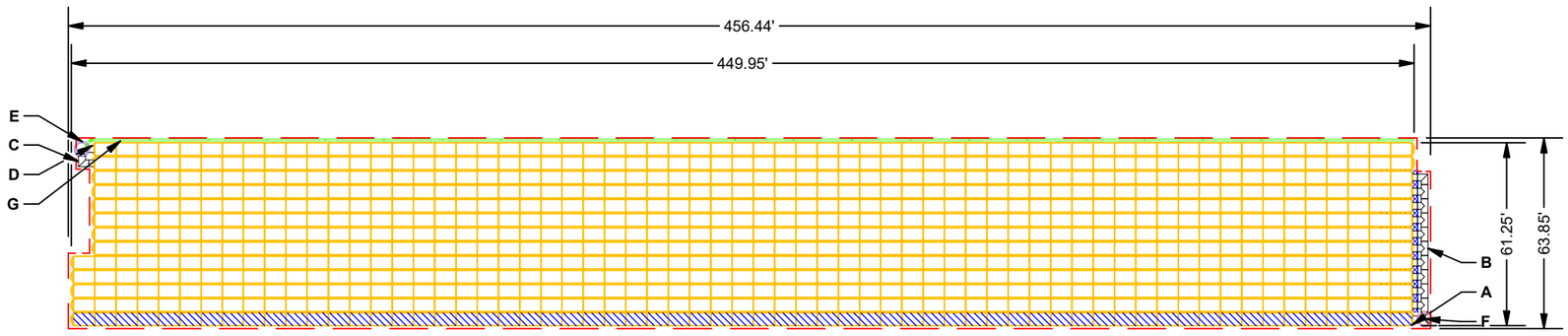
811	STORMTECH SC-740 CHAMBERS
26	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
	INSTALLED SYSTEM VOLUME (CF)
	(PERIMETER STONE INCLUDED)
	(COVER STONE INCLUDED)
	(BASE STONE INCLUDED)
28865	SYSTEM AREA (SF)
1049.55	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5.00
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	4.50
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	4.50
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	4.50
TOP OF STONE:	3.50
TOP OF SC-740 CHAMBER:	3.00
24" x 24" BOTTOM MANIFOLD INVERT:	0.51
24" x 24" BOTTOM MANIFOLD INVERT:	0.51
24" ISOLATOR ROW INVERT:	0.51
24" BOTTOM CONNECTION INVERT:	0.51
BOTTOM OF SC-740 CHAMBER:	0.50
UNDERDRAIN INVERT:	0.00
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PREFABRICATED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	0.10"	
MANIFOLD	B	24" X 24" BOTTOM, ADS N-12	0.10"	
MANIFOLD	C	24" X 24" BOTTOM, ADS N-12	0.10"	
PIPE CONNECTION	D	24" BOTTOM CONNECTION	0.10"	
CONCRETE STRUCTURE	E	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		14.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	F	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		26.6 CFS IN
UNDERDRAIN	G	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADS GEOSYNTHETICS 315WTK WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION

SP8454-A
FULLERTON, CA

DATE:
DRAWN: RT
PROJECT #:
CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

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100'
50'
0

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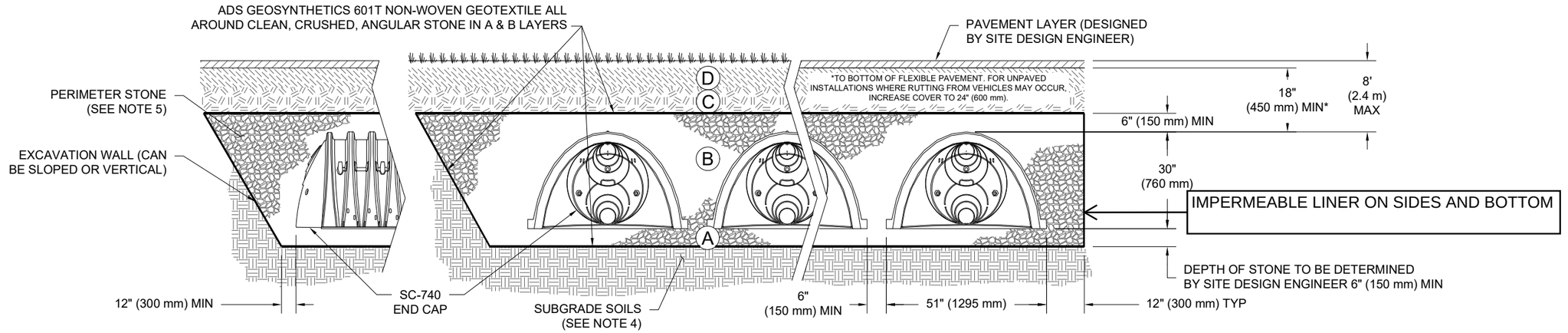
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

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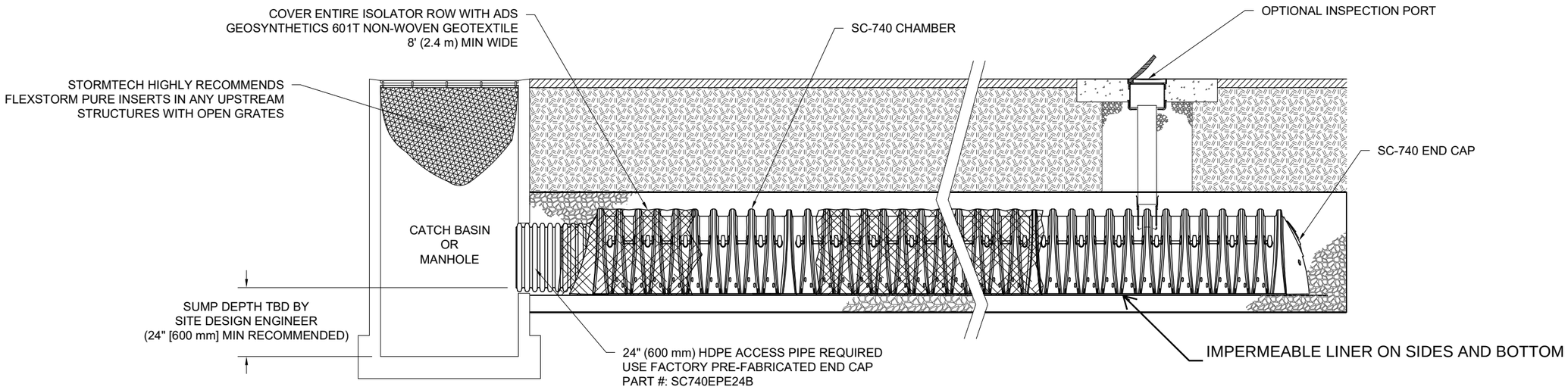

SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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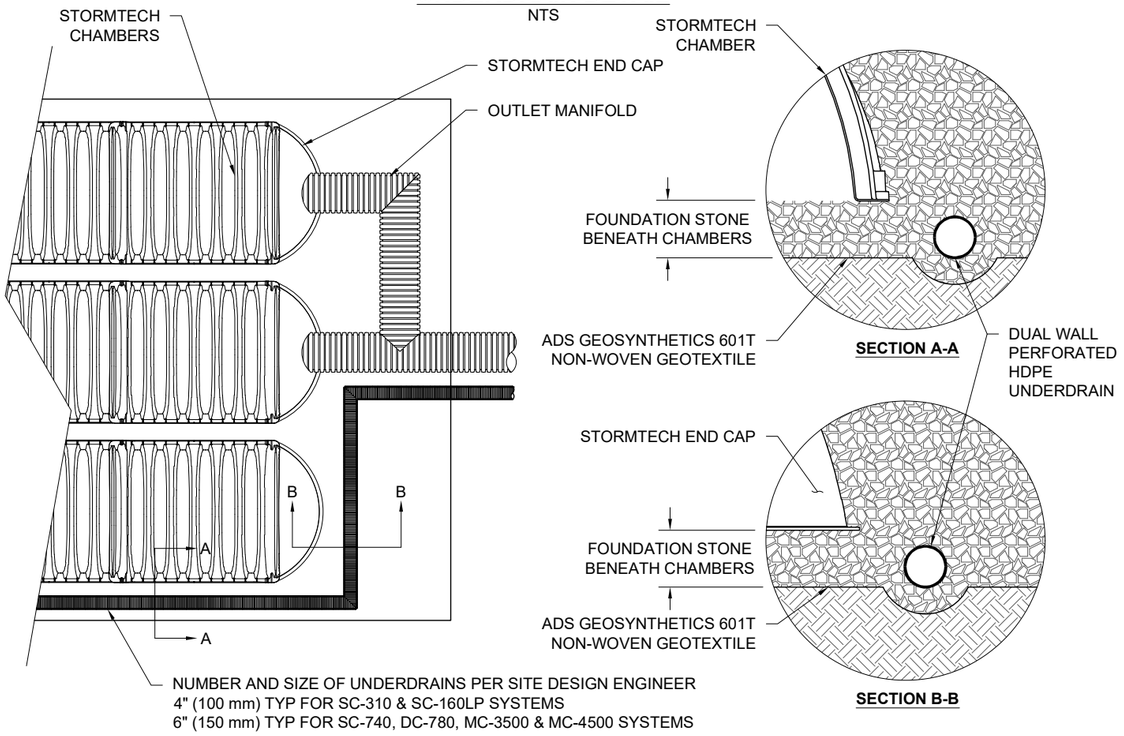
ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE

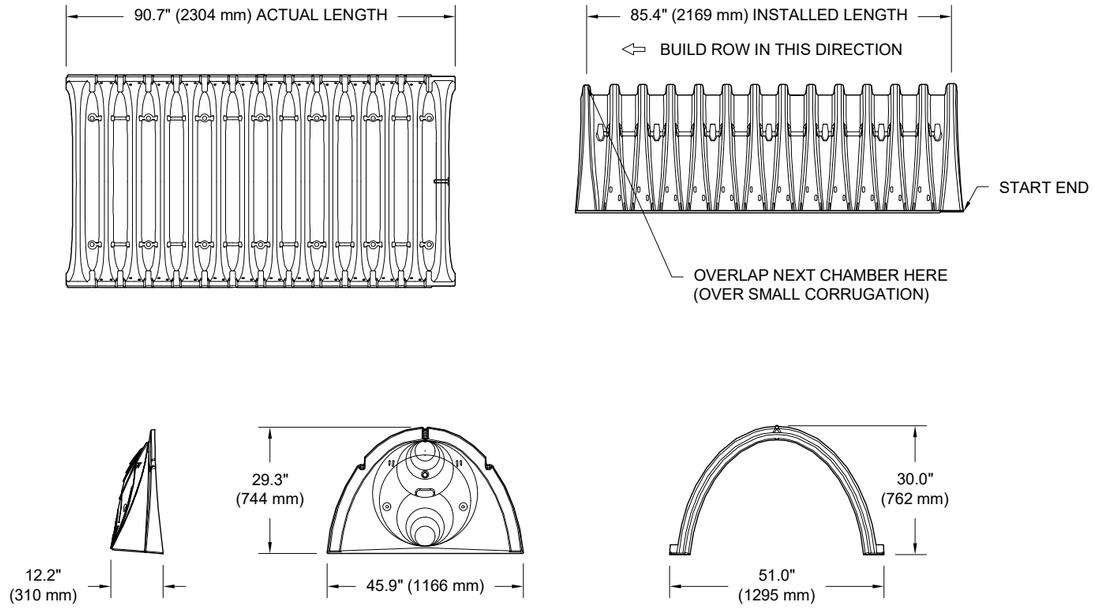
UNDERDRAIN DETAIL

NTS



SC-740 TECHNICAL SPECIFICATION

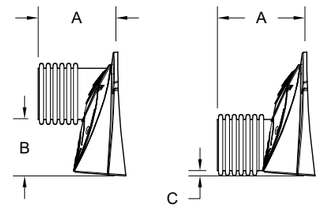
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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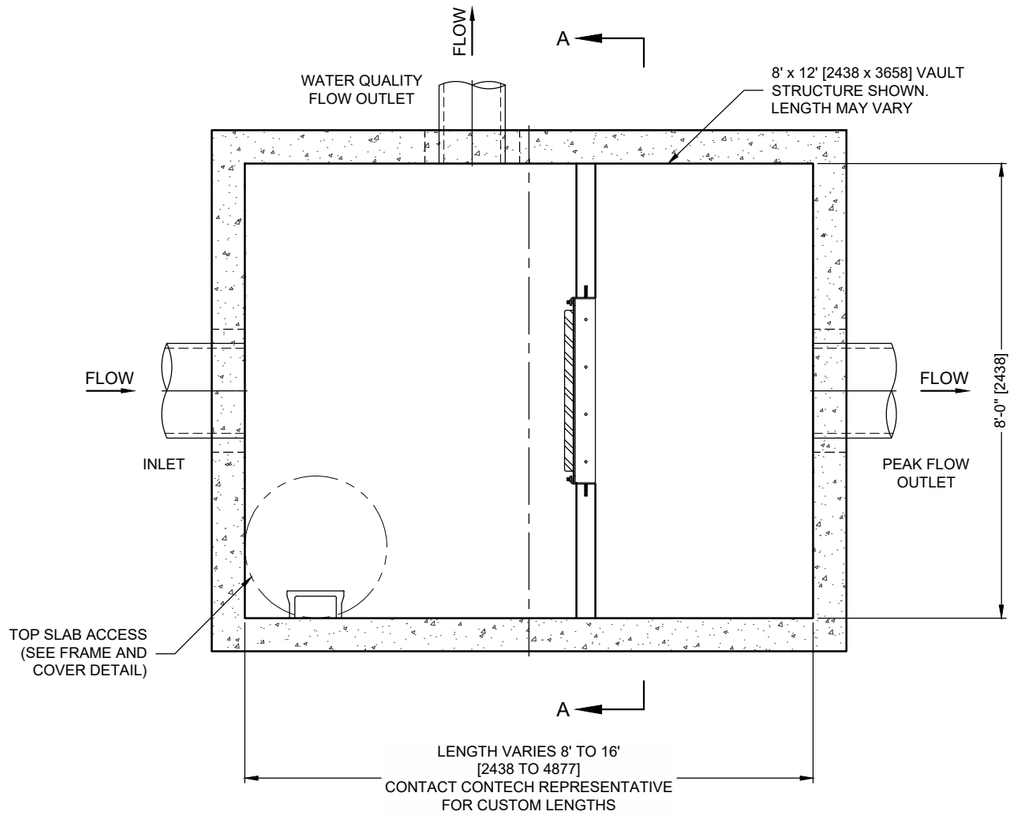
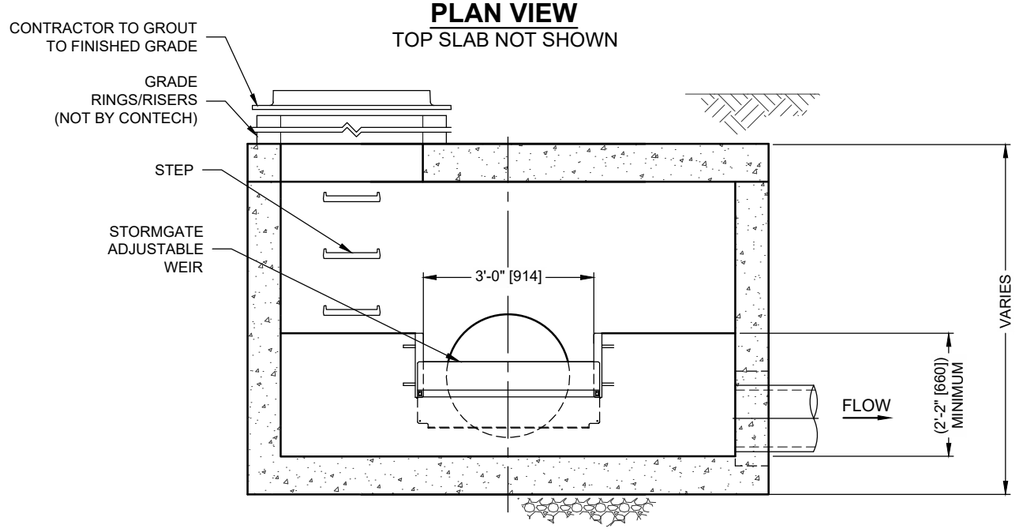


PLAN VIEW

TOP SLAB NOT SHOWN

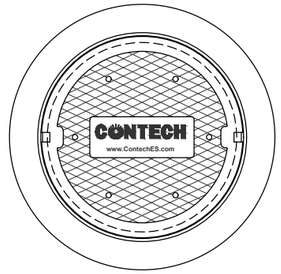


SECTION A-A

StormGate™

STORMGATE DESIGN NOTES

THE STORMGATE IS A WEIR STYLE DIVERSION STRUCTURE. A 8' [2438] WIDE VAULT CONFIGURATION IS SHOWN. THE UNIT IS DESIGNED SUCH THAT THE TREATMENT FLOW IS DIVERTED TO THE OFFLINE WATER QUALITY DEVICE. THE HIGH FLOWS ARE BYPASSED OVER THE WEIR DIRECTLY TO THE DOWNSTREAM CONVEYANCE. THE STORMGATE TYPICALLY HAS ONE INLET, A LOW FLOW OUTLET FOR TREATMENT FLOW, AND A HIGH FLOW BYPASS OUTLET. THE STORMGATE INCORPORATES A FIELD-ADJUSTABLE ALUMINUM WEIR PLATE WHICH ALLOWS FOR 6" [152] OF WEIR HEIGHT ADJUSTMENT AFTER INSTALLATION. THE CAPACITY OF THE STORMGATE IS A FUNCTION OF THE AVAILABLE HEIGHT ABOVE THE WEIR (HEAD) AND UNIT GEOMETRY. PLEASE CONTACT YOUR LOCAL CONTECH DESIGN ENGINEER FOR SIZING ASSISTANCE.



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY (WQ) FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RIM ELEVATION	

PIPE DATA:	INVERT	ORIENTATION	MATERIAL	DIAMETER
INLET PIPE				
WQ FLOW OUTLET PIPE				
PEAK FLOW OUTLET PIPE				

ORIFICE TYPE (PIPE, PLATE)	
ORIFICE DIAMETER (in. [mm])	
WEIR CREST ELEVATION	
WEIR WALL ELEVATION	
HEAD OVER WEIR, H (ft. [mm])	
WSE AT PEAK FLOW RATE	
WEIR ORIENTATION	
FLOOR ELEVATION	

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. STORMGATE WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS THE REQUIREMENTS OF THE PROJECT.
4. STORMGATE STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' [1524] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. STORMGATE STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C857, ASTM C918 AND ACI-318 LOAD FACTOR DESIGN METHOD.
6. WEIR FRAME AND ADJUSTABLE WEIR PLATE SHALL BE FABRICATED OF ALUMINUM ALLOY ASTM B209, T-5052, T-6061, PROVIDED AND INSTALLED BY CONTECH.
7. ALTERNATE UNITS ARE SHOWN IN [mm].

INSTALLATION NOTES

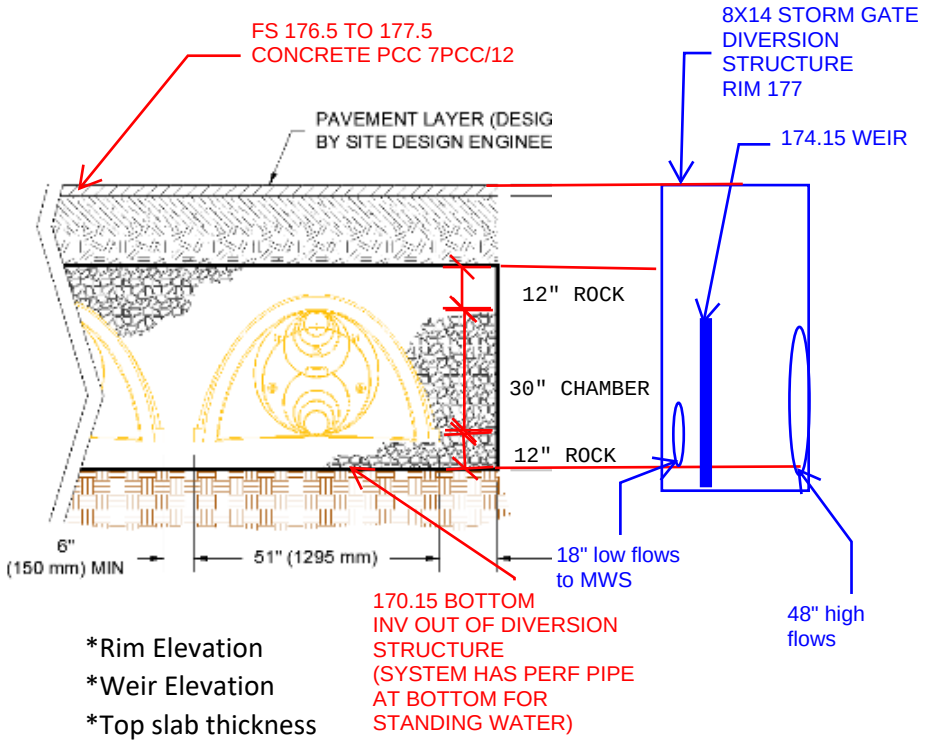
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMGATE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON SITE SPECIFIC DRAWINGS. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO INSTALL GRADE RINGS/RISERS OR BLOCK REQUIRED BETWEEN THE TOP OF THE STRUCTURE AND THE BASE OF THE MANHOLE FRAMES.
F. CONTRACTOR TO ADJUST STORMGATE WEIR TO DESIGN ELEVATION SPECIFIED IN DRAWING. DO NOT EXCEED 5.0 FT-LBS TORQUE WHEN TIGHTENING SCREWS ON WEIR FRAME. SEAL WEIR TO FRAME WITH SIKAFLEX 1A SEALANT AFTER FINAL ADJUSTMENT.

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

8' WIDTH x VARYING LENGTH
STORMGATE VAULT
STANDARD DETAIL

I:\STORMWATER\COMMOPS\50 STORMGATE\40 STANDARD DRAWINGS\VAULT\DWG\SG080X-DTL.DWG 12/23/2019 9:37 AM

StormGate Preliminary Calculations-Area A



Given

Weir Elev.	174.15	ft
Rim Elev.	177	ft
Invert Elev.	170.15	ft
Outlet Diameter	48	in
Peak Flow Rate	89.12	ft^3/s

Sample Calculation

$$h = y_1 - y_2 - x$$

y_1	177	ft	*Rim Elevation
y_2	174.15	ft	*Weir Elevation
x	0.83	ft	*Top slab thickness
h	2.02	ft	*head available over weir crest

$$Q = CL_{Weir}h^{3/2} + C(L_{Wall} - L_{Weir})(h - 0.5)^{3/2}$$

C	3.33	$ft^{1/2}/s$	*weir coefficient
L_{Weir}	3	ft	*weir length
L_{Wall}	14	ft	*wall length
h	2.02	ft	*head over weir crest
Q	97.32	ft^3/s	*flow rate over weir

$$WSE = h + y_2$$

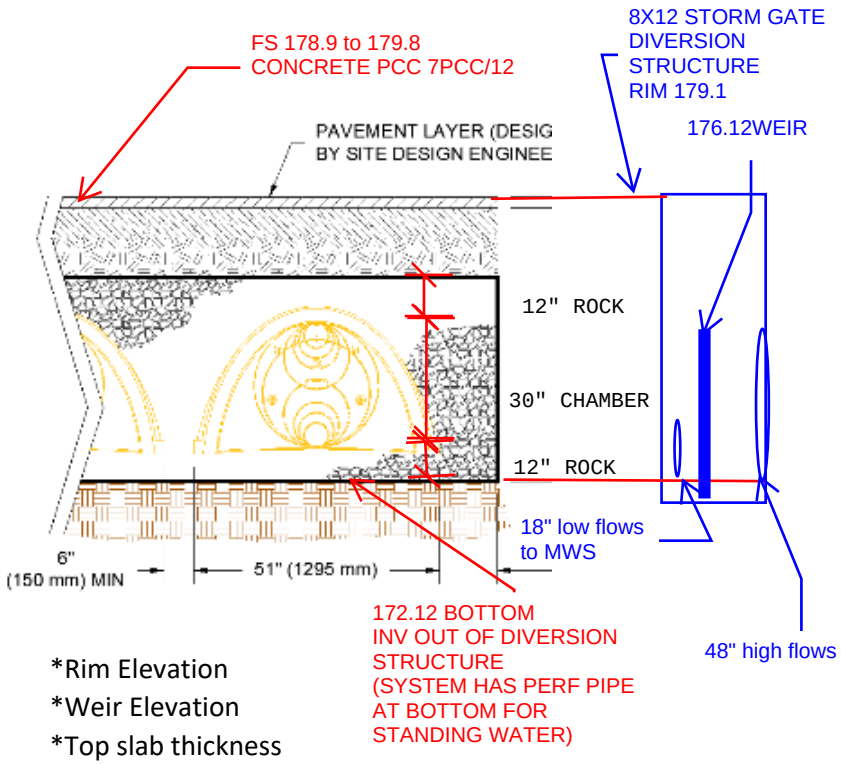
h	2.02	ft	*head over weir crest
y_2	174.15	ft	*Weir Elevation
WSE	176.17	ft	*Water Surface Elevation

$$h = y_2 - IE - D/2$$

$$Q = \frac{C\pi D^2}{4}\sqrt{2gh}$$

y_2	174.15	ft	*Weir Elevation
D	48	in	*Outlet pipe diameter
IE	170.15	ft	*Outlet pipe invert elevation
C	0.61	unitless	*Discharge Coefficient
g	32.2	ft/s^2	*gravity
h	2	ft	*head over orifice center
Q	87	ft^3/s	*flow rate through outlet orifice

StormGate Preliminary Calculations-Area B



Given

Weir Elev.	176.12	ft
Rim Elev.	179.1	ft
Invert Elev.	172.12	ft
Outlet Diameter	48	in
Peak Flow Rate	88.55	ft^3/s

Sample Calculation

$$h = y_1 - y_2 - x$$

y_1	179.1	ft	*Rim Elevation
y_2	176.12	ft	*Weir Elevation
x	0.83	ft	*Top slab thickness
h	2.15	ft	*head available over weir crest

$$Q = CL_{Weir}h^{3/2} + C(L_{Wall} - L_{Weir})(h - 0.5)^{3/2}$$

C	3.33	$ft^{1/2}/s$	*weir coefficient
L_{Weir}	3	ft	*weir length
L_{Wall}	12	ft	*wall length
h	2.15	ft	*head over weir crest
Q	95.01	ft^3/s	*flow rate over weir

$$WSE = h + y_2$$

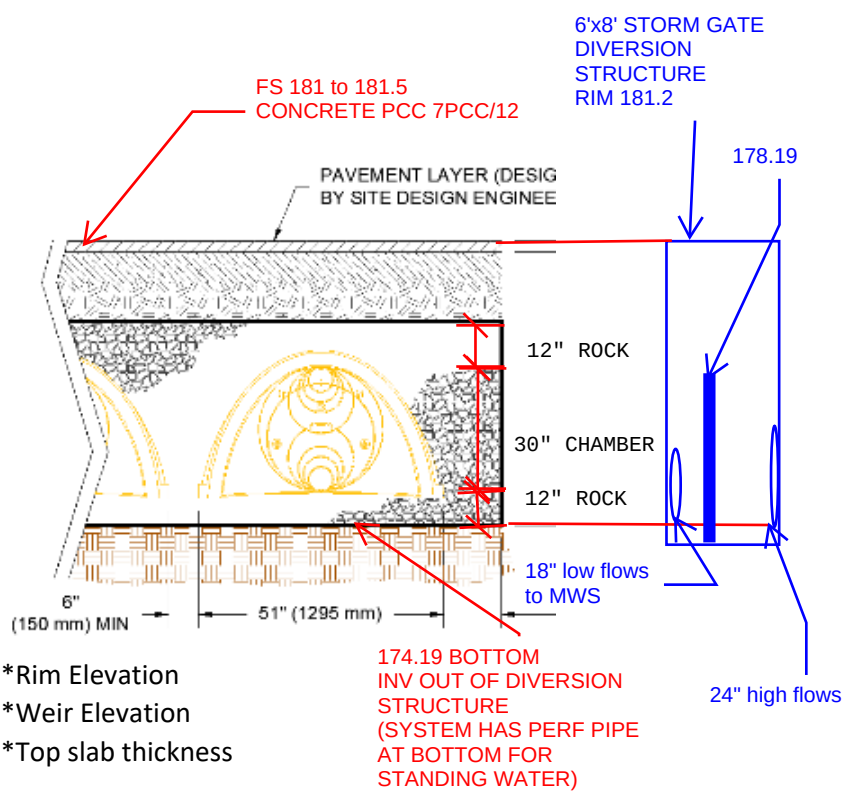
h	2.15	ft	*head over weir crest
y_2	176.12	ft	*Weir Elevation
WSE	178.27	ft	*Water Surface Elevation

$$h = y_2 - IE - D/2$$

$$Q = \frac{C\pi D^2}{4}\sqrt{2gh}$$

y_2	176.12	ft	*Weir Elevation
D	48	in	*Outlet pipe diameter
IE	172.12	ft	*Outlet pipe invert elevation
C	0.61	unitless	*Discharge Coefficient
g	32.2	ft/s^2	*gravity
h	2	ft	*head over orifice center
Q	87	ft^3/s	*flow rate through outlet orifice

StormGate Preliminary Calculations-Area C



Given

Weir Elev.	178.19	ft
Rim Elev.	181.2	ft
Invert Elev.	174.19	ft
Outlet Diameter	24	in
Peak Flow Rate	65.96	ft^3/s

Sample Calculation

$$h = y_1 - y_2 - x$$

y_1	181.2	ft	*Rim Elevation
y_2	178.19	ft	*Weir Elevation
x	0.83	ft	*Top slab thickness
h	2.18	ft	*head available over weir crest

$$Q = CL_{Weir}h^{3/2} + C(L_{Wall} - L_{Weir})(h - 0.5)^{3/2}$$

C	3.33	$ft^{1/2}/s$	*weir coefficient
L_{Weir}	3	ft	*weir length
L_{Wall}	8	ft	*wall length
h	2.18	ft	*head over weir crest
Q	68.41	ft^3/s	*flow rate over weir

$$WSE = h + y_2$$

h	2.18	ft	*head over weir crest
y_2	178.19	ft	*Weir Elevation
WSE	180.37	ft	*Water Surface Elevation

$$h = y_2 - IE - D/2$$

$$Q = \frac{C\pi D^2}{4}\sqrt{2gh}$$

y_2	178.19	ft	*Weir Elevation
D	24	in	*Outlet pipe diameter
IE	174.19	ft	*Outlet pipe invert elevation
C	0.61	unitless	*Discharge Coefficient
g	32.2	ft/s^2	*gravity
h	3	ft	*head over orifice center
Q	27	ft^3/s	*flow rate through outlet orifice

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area A (on-site flows)

AMC II

25 Year Storm - Proposed Condition

P25 4.49 in.

CN	S	Ia	Y	Ybar			Total A	Fm	Tc	Calibration Co.
90	1.11	0.22	0.75	0.25			20.3	0.03	7.75	0.92

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp 0.3

Fm ap*Fp

ap 0.10

Fm 0.03

Circlular Orifice Diameter (in) = 18 48

Orifice center elev = 0.75 2.00

Dead Space Storage Vol (af) = 0.0000

Elevation			Cummulative volume	Total. Vol (af)*	Low Flows Q (cfs)	High Flows (cfs)	Total	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			2741.5200	0.0629	0.0000	0.0000	0.00	
0.50			5483.0400	0.1259	0.0000	0.0000	0.00	
1.00			10966.0000	0.2517	4.2544	0.0000	4.25	
2.00			34051.0000	0.7817	9.5131	0.0000	9.51	
3.00			53868.0000	1.2366	12.7631	0.0000	12.76	
4.00			66223.0000	1.5203	15.3394	0.0000	15.34	Weir
4.25			68965.4800	1.5832	15.9184	90.7602	106.68	
4.50			71707.0000	1.6462	16.4772	95.6696	112.15	

*Cummulative Storage per Storm Tech Spreadsheet

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

DCV= 65,397 cf

met at 48"

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area B (on-site flows)

AMC II

25 Year Storm - Proposed Condition

P25 4.49 in.

CN	S	Ia	Y	Ybar			Total A	Fm	Tc	Calibration Co.
90	1.11	0.22	0.75	0.25			19.7	0.03	7.43	0.93

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp	0.3
Fm	ap*Fp
ap	0.10
Fm	0.03

Circlular Orifice Diameter (in) = 18 48

Orifice center elev = 0.75 2.00

Dead Space Storage Vol (af) = 0.0000 ac-ft

Elevation			Cummulative volume	Total. Vol (af)*	Low Flows Q (cfs)	High Flows (cfs)	discharge Q (cfs)	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			2545.4500	0.0584	0.0000	0.0000	0.00	
0.50			5090.9100	0.1169	0.0000	0.0000	0.00	
1.00			10181.0000	0.2337	4.2544	0.0000	4.25	
2.00			31615.0000	0.7258	9.5131	0.0000	9.51	
3.00			50015.0000	1.1482	12.7631	0.0000	12.76	
4.00			61487.0000	1.4115	15.3394	0.0000	15.34	Weir
4.25			64033.3000	1.4700	15.9184	90.7602	106.68	
4.50			66578.0000	1.5284	16.4772	95.6696	112.15	

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

*Cummulative Storage per Storm Tech Spreadsheet

DCV 60833 cf

met at 48"

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area C (on-site flows)

AMC II

25 Year Storm - Proposed Condition

P25 4.49 in.

CN	S	Ia	Y	Ybar			Total A	Fm	Tc	Calibration Co.
90	1.11	0.22	0.75	0.25			14.2	0.03	7.05	0.91

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp 0.3

Fm ap*Fp

ap 0.10

Fm 0.03

Circlular Orifice Diameter (in) = 18 24

Orifice center elev = 0.75 1.00

Dead Space Storage Vol (af) = 0.0000 ac-ft

Elevation			Cummulative volume	Total. Vol (af)*	Low FLows Q (cfs)	High Flows (cfs)	discharge Q (cfs)	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			1710.0000	0.0393	0.0000	0.0000	0.00	
0.50			3420.9800	0.0785	#NUM!	0.0000	0.00	
1.00			6841.9600	0.1571	4.2544	0.0000	4.25	
2.00			21245.1700	0.4877	9.5131	0.0000	9.51	
3.00			33609.4200	0.7716	12.7631	0.0000	12.76	
4.00			41318.5300	0.9485	15.3394	0.0000	15.34	Weir
4.25			43029.0200	0.9878	15.9184	27.2700	43.19	
4.50			44739.5100	1.0271	16.4772	28.2995	44.78	

*Cummulative Storage per Storm Tech Spreadsheet

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

DCV 41224

met at 48"

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area A (on-site flows)

AMC III

100 Year Storm - Proposed Condition

P100 5.63 in.

CN	S	Ia	Y	Ybar	Total A	Fm	Tc	Calibration Co.	
98	0.20	0.04	0.96	0.04	20.3	0.03	7.67	0.91	

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp 0.3

Fm ap*Fp

ap 0.10

Fm 0.03

Circlular Orifice Diameter (in) = 18 48

Orifice center elev = 0.75 2.00

Dead Space Storage Vol (af) = 0.0000

Elevation			Cummulative volume	Total. Vol (af)*	Low Flows Q (cfs)	High Flows (cfs)	Total	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			2741.5200	0.0629	0.0000	0.0000	0.00	
0.50			5483.0400	0.1259	0.0000	0.0000	0.00	
1.00			10966.0000	0.2517	4.2544	0.0000	4.25	
2.00			34051.0000	0.7817	9.5131	0.0000	9.51	
3.00			53868.0000	1.2366	12.7631	0.0000	12.76	
4.00			66223.0000	1.5203	15.3394	0.0000	15.34	Weir
4.25			68965.4800	1.5832	15.9184	90.7602	106.68	
4.50			71707.0000	1.6462	16.4772	95.6696	112.15	

*Cummulative Storage per Storm Tech Spreadsheet

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

DCV= 65,397 cf

met at 48"

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area B (on-site flows)

AMC III

100 Year Storm - Proposed Condition

P100 5.63 in.

CN	S	Ia	Y	Ybar	Total A	Fm	Tc	Calibration Co.	
98	0.20	0.04	0.96	0.04	19.7	0.03	7.37	0.91	

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp 0.3

Fm ap*Fp

ap 0.10

Fm 0.03

Circlular Orifice Diameter (in) = 18 48

Orifice center elev = 0.75 2.00

Dead Space Storage Vol (af) = 0.0000 ac-ft

Elevation			Cummulative volume	Total. Vol (af)*	Low Flows Q (cfs)	High Flows (cfs)	discharge Q (cfs)	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			2545.4500	0.0584	0.0000	0.0000	0.00	
0.50			5090.9100	0.1169	0.0000	0.0000	0.00	
1.00			10181.0000	0.2337	4.2544	0.0000	4.25	
2.00			31615.0000	0.7258	9.5131	0.0000	9.51	
3.00			50015.0000	1.1482	12.7631	0.0000	12.76	
4.00			61487.0000	1.4115	15.3394	0.0000	15.34	Weir
4.25			64033.3000	1.4700	15.9184	90.7602	106.68	
4.50			66578.0000	1.5284	16.4772	95.6696	112.15	

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

*Cummulative Storage per Storm Tech Spreadsheet

DCV 60833 cf

met at 48"

PRELIMINARY BASIN CRITERIA- (TO BE UPDATED IN FINAL DESIGN WITH STORMGATE OUTLET STRUCTURES WITH WEIR DISHCARGE CALCULATIONS)

Basin - Area C (on-site flows)

AMC III

100 Year Storm - Proposed Condition

P100 5.63 in.

CN	S	Ia	Y	Ybar	Total A	Fm	Tc	Calibration Co.	
98	0.20	0.04	0.96	0.04	14.2	0.03	6.97	0.91	

Rainfall	Depth (in)
5 min	0.40
30 min	0.87
1 hr	1.15
3 hr	1.94
6 hr	2.71
24 hr	4.49

Soil Group B

Fp	0.3
Fm	ap*Fp
ap	0.10
Fm	0.03

Circlular Orifice Diameter (in) = 18 24

Orifice center elev = 0.75 1.00

Dead Space Storage Vol (af) = 0.0000 ac-ft

Elevation			Cummulative volume	Total. Vol (af)*	Low FLows Q (cfs)	High Flows (cfs)	discharge Q (cfs)	
0.00			0.0000	0.0000	0.0000	0.0000	0.00	
0.25			1710.0000	0.0393	0.0000	0.0000	0.00	
0.50			3420.9800	0.0785	0.0000	0.0000	0.00	
1.00			6841.9600	0.1571	4.2544	0.0000	4.25	
2.00			21245.1700	0.4877	9.5131	0.0000	9.51	
3.00			33609.4200	0.7716	12.7631	0.0000	12.76	
4.00			41318.5300	0.9485	15.3394	0.0000	15.34	Weir
4.25			43029.0200	0.9878	15.9184	27.2700	43.19	
4.50			44739.5100	1.0271	16.4772	28.2995	44.78	

*Cummulative Storage per Storm Tech Spreadsheet

$$Qo = KA\sqrt{2gHo}$$

Qo = Orifice Outflow (cfs)

Ho = Water height above orifice center (ft)

K = Orifice flow coef., 0.6

A = Cross sectional area of orifice (ft^2)

g = gravitational accel., 32.2 ft/sec^2

DCV	41224	CF

met at 48"

Project: **Goodman Logistics Center - Basin A**

Chamber Model -	SC-740	
Units -	**Imperial**	Click Here for Metric
Number of chambers -	811	
Voids in the stone (porosity) -	40	%
Base of STONE Elevation -	0.00	ft
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	12	in

Include Perimeter Stone in Calculations

Height of System *(inches)*	Incremental Single Chamber *(cubic feet)*	Incremental Total Chamber *(cubic feet)*	Incremental Stone *(cubic feet)*	Incremental Ch & St *(cubic feet)*	Cumulative Chamber *(cubic feet)*	Elevation *(feet)*
54	0.00	0.00	913.84	913.84	71707.00	4.50
53	0.00	0.00	913.84	913.84	70793.16	4.42
52	0.00	0.00	913.84	913.84	69879.32	4.33
51	0.00	0.00	913.84	913.84	68965.48	4.25
50	0.00	0.00	913.84	913.84	68051.65	4.17
49	0.00	0.00	913.84	913.84	67137.81	4.08
48	0.00	0.00	913.84	913.84	66223.97	4.00
47	0.00	0.00	913.84	913.84	65310.13	3.92
46	0.00	0.00	913.84	913.84	64396.29	3.83
45	0.00	0.00	913.84	913.84	63482.45	3.75
44	0.00	0.00	913.84	913.84	62568.61	3.67
43	0.00	0.00	913.84	913.84	61654.77	3.58
42	0.05	44.60	896.00	940.60	60740.93	3.50
41	0.16	132.13	860.99	993.12	59800.33	3.42
40	0.28	228.66	822.38	1051.03	58807.22	3.33
39	0.60	489.81	717.91	1207.73	57756.18	3.25
38	0.80	650.19	653.76	1303.95	56548.45	3.17
37	0.95	770.99	605.44	1376.44	55244.50	3.08
36	1.07	871.43	565.27	1436.70	53868.07	3.00
35	1.18	957.38	530.89	1488.27	52431.37	2.92
34	1.27	1026.45	503.26	1529.71	50943.10	2.83
33	1.36	1098.91	474.27	1573.19	49413.39	2.75
32	1.45	1179.27	442.13	1621.40	47840.20	2.67
31	1.52	1236.55	419.22	1655.77	46218.80	2.58
30	1.58	1283.27	400.53	1683.80	44563.03	2.50
29	1.64	1331.89	381.08	1712.97	42879.23	2.42
28	1.70	1378.31	362.52	1740.82	41166.26	2.33
27	1.75	1421.62	345.19	1766.81	39425.43	2.25
26	1.80	1462.08	329.01	1791.09	37658.62	2.17
25	1.85	1504.40	312.08	1816.48	35867.53	2.08
24	1.89	1535.30	299.72	1835.02	34051.05	2.00
23	1.93	1568.48	286.45	1854.93	32216.03	1.92
22	1.97	1601.72	273.15	1874.87	30361.11	1.83
21	2.01	1630.05	261.82	1891.87	28486.23	1.75
20	2.04	1658.49	250.44	1908.93	26594.37	1.67
19	2.07	1682.79	240.72	1923.52	24685.43	1.58
18	2.10	1707.08	231.01	1938.09	22761.92	1.50
17	2.13	1728.89	222.28	1951.17	20823.83	1.42
16	2.15	1746.78	215.13	1961.90	18872.66	1.33
15	2.18	1765.60	207.60	1973.20	16910.75	1.25
14	2.20	1782.87	200.69	1983.56	14937.56	1.17
13	2.21	1790.14	197.78	1987.92	12954.00	1.08
12	0.00	0.00	913.84	913.84	10966.07	1.00
11	0.00	0.00	913.84	913.84	10052.23	0.92
10	0.00	0.00	913.84	913.84	9138.39	0.83
9	0.00	0.00	913.84	913.84	8224.55	0.75
8	0.00	0.00	913.84	913.84	7310.71	0.67
7	0.00	0.00	913.84	913.84	6396.88	0.58
6	0.00	0.00	913.84	913.84	5483.04	0.50
5	0.00	0.00	913.84	913.84	4569.20	0.42
4	0.00	0.00	913.84	913.84	3655.36	0.33
3	0.00	0.00	913.84	913.84	2741.52	0.25
2	0.00	0.00	913.84	913.84	1827.68	0.17
1	0.00	0.00	913.84	913.84	913.84	0.08

Project: **Goodman Logistics Center - Basin B**

Chamber Model -	SC-740	
Units -	**Imperial**	Click Here for Metric
Number of chambers -	753	
Voids in the stone (porosity) -	40	%
Base of STONE Elevation -	100.00	ft
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	12	in

Include Perimeter Stone in Calculations

Height of System *(inches)*	Incremental Single Chamber *(cubic feet)*	Incremental Total Chamber *(cubic feet)*	Incremental Stone *(cubic feet)*	Incremental Ch & St *(cubic feet)*	Cumulative Chamber *(cubic feet)*	Elevation *(feet)*
54	0.00	0.00	848.48	848.48	66578.76	104.50
53	0.00	0.00	848.48	848.48	65730.27	104.42
52	0.00	0.00	848.48	848.48	64881.79	104.33
51	0.00	0.00	848.48	848.48	64033.30	104.25
50	0.00	0.00	848.48	848.48	63184.82	104.17
49	0.00	0.00	848.48	848.48	62336.34	104.08
48	0.00	0.00	848.48	848.48	61487.85	104.00
47	0.00	0.00	848.48	848.48	60639.37	103.92
46	0.00	0.00	848.48	848.48	59790.88	103.83
45	0.00	0.00	848.48	848.48	58942.40	103.75
44	0.00	0.00	848.48	848.48	58093.91	103.67
43	0.00	0.00	848.48	848.48	57245.43	103.58
42	0.05	41.41	831.92	873.33	56396.94	103.50
41	0.16	122.68	799.41	922.09	55523.61	103.42
40	0.28	212.30	763.56	975.87	54601.52	103.33
39	0.60	454.78	666.57	1121.36	53625.65	103.25
38	0.80	603.69	607.01	1210.70	52504.30	103.17
37	0.95	715.86	562.14	1278.00	51293.60	103.08
36	1.07	809.11	524.84	1333.95	50015.60	103.00
35	1.18	888.91	492.92	1381.83	48681.65	102.92
34	1.27	953.04	467.27	1420.31	47299.82	102.83
33	1.36	1020.32	440.36	1460.68	45879.51	102.75
32	1.45	1094.94	410.51	1505.45	44418.83	102.67
31	1.52	1148.12	389.24	1537.36	42913.39	102.58
30	1.58	1191.49	371.89	1563.38	41376.03	102.50
29	1.64	1236.64	353.83	1590.47	39812.65	102.42
28	1.70	1279.73	336.59	1616.32	38222.18	102.33
27	1.75	1319.95	320.50	1640.46	36605.86	102.25
26	1.80	1357.52	305.48	1663.00	34965.40	102.17
25	1.85	1396.81	289.76	1686.57	33302.41	102.08
24	1.89	1425.50	278.29	1703.78	31615.83	102.00
23	1.93	1456.31	265.96	1722.27	29912.05	101.92
22	1.97	1487.17	253.61	1740.79	28189.78	101.83
21	2.01	1513.47	243.10	1756.57	26448.99	101.75
20	2.04	1539.88	232.53	1772.41	24692.43	101.67
19	2.07	1562.45	223.51	1785.95	22920.01	101.58
18	2.10	1585.00	214.48	1799.48	21134.06	101.50
17	2.13	1605.24	206.39	1811.63	19334.58	101.42
16	2.15	1621.85	199.74	1821.60	17522.95	101.33
15	2.18	1639.33	192.75	1832.08	15701.35	101.25
14	2.20	1655.36	186.34	1841.70	13869.27	101.17
13	2.21	1662.12	183.64	1845.75	12027.57	101.08
12	0.00	0.00	848.48	848.48	10181.82	101.00
11	0.00	0.00	848.48	848.48	9333.33	100.92
10	0.00	0.00	848.48	848.48	8484.85	100.83
9	0.00	0.00	848.48	848.48	7636.36	100.75
8	0.00	0.00	848.48	848.48	6787.88	100.67
7	0.00	0.00	848.48	848.48	5939.39	100.58
6	0.00	0.00	848.48	848.48	5090.91	100.50
5	0.00	0.00	848.48	848.48	4242.42	100.42
4	0.00	0.00	848.48	848.48	3393.94	100.33
3	0.00	0.00	848.48	848.48	2545.45	100.25
2	0.00	0.00	848.48	848.48	1696.97	100.17
1	0.00	0.00	848.48	848.48	848.48	100.08

Project: **Goodman Logistics Center - Basin C**

Chamber Model -	SC-740	
Units -	**Imperial**	Click Here for Metric
Number of chambers -	506	
Voids in the stone (porosity) -	40	%
Base of STONE Elevation -	100.00	ft
Amount of Stone Above Chambers -	12	in
Amount of Stone Below Chambers -	12	in

Include Perimeter Stone in Calculations

Height of System *(inches)*	Incremental Single Chamber *(cubic feet)*	Incremental Total Chamber *(cubic feet)*	Incremental Stone *(cubic feet)*	Incremental Ch & St *(cubic feet)*	Cumulative Chamber *(cubic feet)*	Elevation *(feet)*
54	0.00	0.00	570.16	570.16	44739.51	104.50
53	0.00	0.00	570.16	570.16	44169.35	104.42
52	0.00	0.00	570.16	570.16	43599.18	104.33
51	0.00	0.00	570.16	570.16	43029.02	104.25
50	0.00	0.00	570.16	570.16	42458.86	104.17
49	0.00	0.00	570.16	570.16	41888.69	104.08
48	0.00	0.00	570.16	570.16	41318.53	104.00
47	0.00	0.00	570.16	570.16	40748.37	103.92
46	0.00	0.00	570.16	570.16	40178.20	103.83
45	0.00	0.00	570.16	570.16	39608.04	103.75
44	0.00	0.00	570.16	570.16	39037.87	103.67
43	0.00	0.00	570.16	570.16	38467.71	103.58
42	0.05	27.83	559.03	586.86	37897.55	103.50
41	0.16	82.44	537.19	619.63	37310.69	103.42
40	0.28	142.66	513.10	655.76	36691.06	103.33
39	0.60	305.61	447.92	753.53	36035.30	103.25
38	0.80	405.67	407.90	813.56	35281.77	103.17
37	0.95	481.04	377.75	858.79	34468.21	103.08
36	1.07	543.70	352.68	896.39	33609.42	103.00
35	1.18	597.33	331.23	928.56	32713.04	102.92
34	1.27	640.42	313.99	954.42	31784.48	102.83
33	1.36	685.64	295.91	981.55	30830.06	102.75
32	1.45	735.77	275.85	1011.63	29848.51	102.67
31	1.52	771.51	261.56	1033.07	28836.88	102.58
30	1.58	800.66	249.90	1050.56	27803.81	102.50
29	1.64	830.99	237.77	1068.76	26753.26	102.42
28	1.70	859.95	226.18	1086.14	25684.50	102.33
27	1.75	886.98	215.37	1102.35	24598.36	102.25
26	1.80	912.22	205.27	1117.50	23496.01	102.17
25	1.85	938.63	194.71	1133.34	22378.51	102.08
24	1.89	957.90	187.00	1144.91	21245.17	102.00
23	1.93	978.61	178.72	1157.33	20100.26	101.92
22	1.97	999.35	170.42	1169.77	18942.93	101.83
21	2.01	1017.02	163.36	1180.38	17773.16	101.75
20	2.04	1034.77	156.26	1191.02	16592.79	101.67
19	2.07	1049.93	150.19	1200.12	15401.76	101.58
18	2.10	1065.09	144.13	1209.22	14201.64	101.50
17	2.13	1078.69	138.69	1217.38	12992.43	101.42
16	2.15	1089.85	134.22	1224.07	11775.05	101.33
15	2.18	1101.59	129.53	1231.12	10550.97	101.25
14	2.20	1112.37	125.22	1237.58	9319.86	101.17
13	2.21	1116.91	123.40	1240.31	8082.27	101.08
12	0.00	0.00	570.16	570.16	6841.96	101.00
11	0.00	0.00	570.16	570.16	6271.80	100.92
10	0.00	0.00	570.16	570.16	5701.64	100.83
9	0.00	0.00	570.16	570.16	5131.47	100.75
8	0.00	0.00	570.16	570.16	4561.31	100.67
7	0.00	0.00	570.16	570.16	3991.15	100.58
6	0.00	0.00	570.16	570.16	3420.98	100.50
5	0.00	0.00	570.16	570.16	2850.82	100.42
4	0.00	0.00	570.16	570.16	2280.65	100.33
3	0.00	0.00	570.16	570.16	1710.49	100.25
2	0.00	0.00	570.16	570.16	1140.33	100.17
1	0.00	0.00	570.16	570.16	570.16	100.08

```
**************************************************************************
                    SMALL AREA UNIT HYDROGRAPH MODEL
==========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:




**************************************************************************
--------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center Fullerton
  Basin A
  25 Year
--------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.92
    TOTAL CATCHMENT AREA(ACRES) =   20.30
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.250
    TIME OF CONCENTRATION(MIN.) =  7.75
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =  25
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.40
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.87
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.15
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  1.94
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  2.71
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  4.49

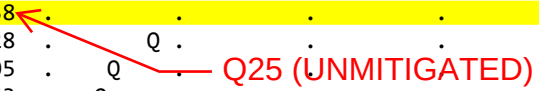
--------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     6.00
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.60

**************************************************************************
  TIME     VOLUME       Q    0.       17.5      35.0      52.5      70.0
 (HOURS)    (AF)      (CFS)
--------------------------------------------------------------------------
  0.11      0.0044      0.96  Q         .         .         .         .
  0.24      0.0147      0.96  Q         .         .         .         .
  0.37      0.0249      0.97  Q         .         .         .         .
  0.50      0.0353      0.97  Q         .         .         .         .
  0.63      0.0456      0.98  Q         .         .         .         .
  0.76      0.0561      0.98  Q         .         .         .         .
  0.89      0.0666      0.99  Q         .         .         .         .
  1.02      0.0771      0.99  Q         .         .         .         .
  1.15      0.0877      1.00  Q         .         .         .         .
  1.27      0.0984      1.00  Q         .         .         .         .
  1.40      0.1091      1.01  Q         .         .         .         .
  1.53      0.1199      1.01  Q         .         .         .         .
  1.66      0.1307      1.02  Q         .         .         .         .
  1.79      0.1416      1.02  Q         .         .         .         .
  1.92      0.1526      1.03  Q         .         .         .         .
  2.05      0.1636      1.04  Q         .         .         .         .
  2.18      0.1747      1.04  Q         .         .         .         .
  2.31      0.1859      1.05  Q         .         .         .         .
  2.44      0.1971      1.06  Q         .         .         .         .
  2.57      0.2084      1.06  Q         .         .         .         .
```

2.70	0.2197	1.07	Q	.	.	.	.
2.83	0.2312	1.07	Q	.	.	.	.
2.95	0.2427	1.08	Q	.	.	.	.
3.08	0.2543	1.09	Q	.	.	.	.
3.21	0.2659	1.10	Q	.	.	.	.
3.34	0.2776	1.10	Q	.	.	.	.
3.47	0.2894	1.11	Q	.	.	.	.
3.60	0.3013	1.11	Q	.	.	.	.
3.73	0.3133	1.12	Q	.	.	.	.
3.86	0.3253	1.13	Q	.	.	.	.
3.99	0.3374	1.14	Q	.	.	.	.
4.12	0.3496	1.15	Q	.	.	.	.
4.25	0.3619	1.16	Q	.	.	.	.
4.38	0.3743	1.16	Q	.	.	.	.
4.50	0.3867	1.17	Q	.	.	.	.
4.63	0.3993	1.18	Q	.	.	.	.
4.76	0.4119	1.19	Q	.	.	.	.
4.89	0.4246	1.19	Q	.	.	.	.
5.02	0.4374	1.21	Q	.	.	.	.
5.15	0.4503	1.21	Q	.	.	.	.
5.28	0.4633	1.22	Q	.	.	.	.
5.41	0.4765	1.23	Q	.	.	.	.
5.54	0.4897	1.24	Q	.	.	.	.
5.67	0.5030	1.25	Q	.	.	.	.
5.80	0.5164	1.26	Q	.	.	.	.
5.93	0.5299	1.27	Q	.	.	.	.
6.05	0.5436	1.28	Q	.	.	.	.
6.18	0.5573	1.29	Q	.	.	.	.
6.31	0.5712	1.31	Q	.	.	.	.
6.44	0.5851	1.31	Q	.	.	.	.
6.57	0.5992	1.33	Q	.	.	.	.
6.70	0.6135	1.34	Q	.	.	.	.
6.83	0.6278	1.35	Q	.	.	.	.
6.96	0.6423	1.36	Q	.	.	.	.
7.09	0.6569	1.38	Q	.	.	.	.
7.22	0.6716	1.38	Q	.	.	.	.
7.35	0.6865	1.40	Q	.	.	.	.
7.47	0.7015	1.41	Q	.	.	.	.
7.60	0.7166	1.43	Q	.	.	.	.
7.73	0.7319	1.44	Q	.	.	.	.
7.86	0.7474	1.46	Q	.	.	.	.
7.99	0.7630	1.47	Q	.	.	.	.
8.12	0.7788	1.49	Q	.	.	.	.
8.25	0.7947	1.50	Q	.	.	.	.
8.38	0.8108	1.52	Q	.	.	.	.
8.51	0.8271	1.53	Q	.	.	.	.
8.64	0.8435	1.55	Q	.	.	.	.
8.77	0.8601	1.56	Q	.	.	.	.
8.90	0.8770	1.59	Q	.	.	.	.
9.02	0.8940	1.60	Q	.	.	.	.
9.15	0.9112	1.62	Q	.	.	.	.
9.28	0.9286	1.64	Q	.	.	.	.
9.41	0.9462	1.66	Q	.	.	.	.
9.54	0.9640	1.68	Q	.	.	.	.
9.67	0.9821	1.71	Q	.	.	.	.
9.80	1.0006	1.73	Q	.	.	.	.
9.93	1.0193	1.78	.Q	.	.	.	.
10.06	1.0384	1.80	.Q	.	.	.	.
10.19	1.0578	1.84	.Q	.	.	.	.
10.32	1.0775	1.86	.Q	.	.	.	.
10.45	1.0976	1.91	.Q	.	.	.	.
10.57	1.1182	1.93	.Q	.	.	.	.
10.70	1.1391	1.98	.Q	.	.	.	.
10.83	1.1604	2.01	.Q	.	.	.	.
10.96	1.1821	2.06	.Q	.	.	.	.
11.09	1.2043	2.09	.Q	.	.	.	.
11.22	1.2270	2.15	.Q	.	.	.	.
11.35	1.2501	2.18	.Q	.	.	.	.

11.48	1.2738	2.25	.Q	.	.	.	.
11.61	1.2980	2.28	.Q	.	.	.	.
11.74	1.3227	2.35	.Q	.	.	.	.
11.87	1.3480	2.39	.Q	.	.	.	.
12.00	1.3739	2.47	.Q	.	.	.	.
12.12	1.4029	2.96	.Q	.	.	.	.
12.25	1.4379	3.60	. Q	.	.	.	.
12.38	1.4766	3.65	. Q	.	.	.	.
12.51	1.5161	3.75	. Q	.	.	.	.
12.64	1.5565	3.81	. Q	.	.	.	.
12.77	1.5977	3.92	. Q	.	.	.	.
12.90	1.6399	3.98	. Q	.	.	.	.
13.03	1.6832	4.12	. Q	.	.	.	.
13.16	1.7275	4.18	. Q	.	.	.	.
13.29	1.7729	4.33	. Q	.	.	.	.
13.42	1.8196	4.41	. Q	.	.	.	.
13.55	1.8676	4.59	. Q	.	.	.	.
13.68	1.9171	4.68	. Q	.	.	.	.
13.80	1.9681	4.88	. Q	.	.	.	.
13.93	2.0208	4.99	. Q	.	.	.	.
14.06	2.0752	5.21	. Q	.	.	.	.
14.19	2.1313	5.29	. Q	.	.	.	.
14.32	2.1892	5.58	. Q	.	.	.	.
14.45	2.2496	5.74	. Q	.	.	.	.
14.58	2.3129	6.11	. Q	.	.	.	.
14.71	2.3792	6.32	. Q	.	.	.	.
14.84	2.4492	6.80	. Q	.	.	.	.
14.97	2.5233	7.08	. Q	.	.	.	.
15.10	2.6025	7.75	. Q	.	.	.	.
15.23	2.6874	8.16	. Q	.	.	.	.
15.35	2.7799	9.18	. Q	.	.	.	.
15.48	2.8751	8.66	. Q	.	.	.	.
15.61	2.9750	10.06	. Q	.	.	.	.
15.74	3.0897	11.42	. Q	.	.	.	.
15.87	3.2446	17.60	. Q	.	.	.	.
16.00	3.4664	23.97	. . Q	.	.	.	.
16.13	3.9647	69.38	. .	.	.	.	Q.
16.26	4.4112	14.28	. Q .	.	.	.	.
16.39	4.5357	9.05	. Q	.	.	.	.
16.52	4.6300	8.63	. Q	.	.	.	.
16.65	4.7155	7.39	. Q	.	.	.	.
16.77	4.7899	6.55	. Q	.	.	.	.
16.90	4.8564	5.92	. Q	.	.	.	.
17.03	4.9170	5.43	. Q	.	.	.	.
17.16	4.9732	5.11	. Q	.	.	.	.
17.29	5.0259	4.78	. Q	.	.	.	.
17.42	5.0754	4.50	. Q	.	.	.	.
17.55	5.1222	4.26	. Q	.	.	.	.
17.68	5.1665	4.05	. Q	.	.	.	.
17.81	5.2087	3.86	. Q	.	.	.	.
17.94	5.2491	3.70	. Q	.	.	.	.
18.07	5.2878	3.55	. Q	.	.	.	.
18.20	5.3197	2.43	.Q	.	.	.	.
18.33	5.3450	2.32	.Q	.	.	.	.
18.45	5.3692	2.22	.Q	.	.	.	.
18.58	5.3924	2.12	.Q	.	.	.	.
18.71	5.4146	2.04	.Q	.	.	.	.
18.84	5.4359	1.96	.Q	.	.	.	.
18.97	5.4564	1.89	.Q	.	.	.	.
19.10	5.4762	1.82	.Q	.	.	.	.
19.23	5.4952	1.75	.Q	.	.	.	.
19.36	5.5137	1.70	Q	.	.	.	.
19.49	5.5315	1.65	Q	.	.	.	.
19.62	5.5489	1.61	Q	.	.	.	.
19.75	5.5659	1.58	Q	.	.	.	.
19.88	5.5826	1.54	Q	.	.	.	.
20.00	5.5988	1.51	Q	.	.	.	.
20.13	5.6148	1.48	Q	.	.	.	.



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 20.39      5.6457      1.42  Q         .         .         .         .
 20.52      5.6607      1.39  Q         .         .         .         .
 20.65      5.6754      1.37  Q         .         .         .         .
 20.78      5.6899      1.34  Q         .         .         .         .
 20.91      5.7041      1.32  Q         .         .         .         .
 21.04      5.7181      1.30  Q         .         .         .         .
 21.17      5.7319      1.28  Q         .         .         .         .
 21.30      5.7454      1.26  Q         .         .         .         .
 21.42      5.7587      1.24  Q         .         .         .         .
 21.55      5.7718      1.22  Q         .         .         .         .
 21.68      5.7847      1.20  Q         .         .         .         .
 21.81      5.7974      1.18  Q         .         .         .         .
 21.94      5.8100      1.17  Q         .         .         .         .
 22.07      5.8224      1.15  Q         .         .         .         .
 22.20      5.8346      1.13  Q         .         .         .         .
 22.33      5.8466      1.12  Q         .         .         .         .
 22.46      5.8585      1.11  Q         .         .         .         .
 22.59      5.8702      1.09  Q         .         .         .         .
 22.72      5.8818      1.08  Q         .         .         .         .
 22.85      5.8932      1.06  Q         .         .         .         .
 22.98      5.9045      1.05  Q         .         .         .         .
 23.10      5.9157      1.04  Q         .         .         .         .
 23.23      5.9267      1.03  Q         .         .         .         .
 23.36      5.9376      1.02  Q         .         .         .         .
 23.49      5.9484      1.00  Q         .         .         .         .
 23.62      5.9590      0.99  Q         .         .         .         .
 23.75      5.9696      0.98  Q         .         .         .         .
 23.88      5.9800      0.97  Q         .         .         .         .
 24.01      5.9903      0.96  Q         .         .         .         .
 24.14      5.9955      0.00  Q         .         .         .         .
 ----------------------------------------------------------------------------
--------------------------------------------------------------------------------
    TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
    (Note: 100% of Peak Flow Rate estimate assumed to have
    an instantaneous time duration)

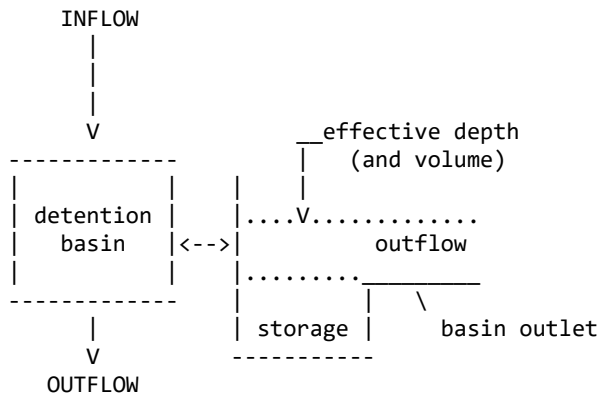
    Percentile of Estimated                Duration
        Peak Flow Rate                     (minutes)
    ======================                 =========
               0%                           1441.5
              10%                            108.5
              20%                             31.0
              30%                             15.5
              40%                              7.8
              50%                              7.8
              60%                              7.8
              70%                              7.8
              80%                              7.8
              90%                              7.8

  Problem Descriptions:
   Goodman Logistics Center Fullerton
   Basin A
   25 Year



================================================================================
     FLOW-THROUGH DETENTION BASIN MODEL

     SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
     CONSTANT HYDROGRAPH TIME UNIT(MINUTES) =    7.750
     DEAD STORAGE(AF) =       0.00
     SPECIFIED DEAD STORAGE(AF) FILLED =       0.00
     ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN =    0.00
```



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 9

*BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	**	BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
0.000	0.000	0.000**		0.250	0.063	0.000	*
0.500	0.126	0.000**		1.000	0.252	4.250	*
2.000	0.782	9.510**		3.000	1.237	12.760	*
4.000	1.520	15.340**		4.250	1.583	106.680	*
4.500	1.646	112.150**					

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.25	0.06290	0.06290
3	0.50	0.12590	0.12590
4	1.00	0.22902	0.27438
5	2.00	0.73094	0.83246
6	3.00	1.16849	1.30471
7	4.00	1.43842	1.60218
8	4.25	1.01380	2.15260
9	4.50	1.04760	2.24480

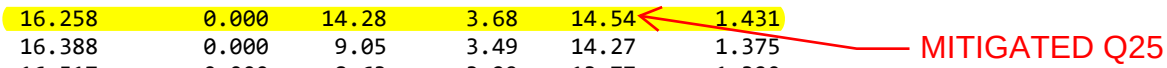
WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.112	0.000	0.96	0.04	0.00	0.010
0.242	0.000	0.96	0.08	0.00	0.020
0.371	0.000	0.97	0.12	0.00	0.031
0.500	0.000	0.97	0.16	0.00	0.041
0.629	0.000	0.98	0.20	0.00	0.051
0.758	0.000	0.98	0.25	0.00	0.062
0.887	0.000	0.99	0.29	0.00	0.072
1.017	0.000	0.99	0.33	0.00	0.083
1.146	0.000	1.00	0.37	0.00	0.094
1.275	0.000	1.00	0.41	0.00	0.104
1.404	0.000	1.01	0.46	0.00	0.115
1.533	0.000	1.01	0.50	0.00	0.126
1.663	0.000	1.02	0.54	0.16	0.135
1.792	0.000	1.02	0.56	0.42	0.142
1.921	0.000	1.03	0.58	0.61	0.146
2.050	0.000	1.04	0.59	0.74	0.149
2.179	0.000	1.04	0.60	0.83	0.152
2.308	0.000	1.05	0.61	0.90	0.153
2.438	0.000	1.06	0.61	0.94	0.154
2.567	0.000	1.06	0.62	0.98	0.155

2.696	0.000	1.07	0.62	1.00	0.156
2.825	0.000	1.07	0.62	1.02	0.156
2.954	0.000	1.08	0.62	1.04	0.157
3.083	0.000	1.09	0.62	1.05	0.157
3.213	0.000	1.10	0.63	1.07	0.158
3.342	0.000	1.10	0.63	1.08	0.158
3.471	0.000	1.11	0.63	1.08	0.158
3.600	0.000	1.11	0.63	1.09	0.158
3.729	0.000	1.12	0.63	1.10	0.159
3.858	0.000	1.13	0.63	1.11	0.159
3.987	0.000	1.14	0.63	1.12	0.159
4.117	0.000	1.15	0.63	1.12	0.159
4.246	0.000	1.16	0.63	1.13	0.160
4.375	0.000	1.16	0.63	1.14	0.160
4.504	0.000	1.17	0.64	1.15	0.160
4.633	0.000	1.18	0.64	1.16	0.160
4.762	0.000	1.19	0.64	1.16	0.161
4.892	0.000	1.19	0.64	1.17	0.161
5.021	0.000	1.21	0.64	1.18	0.161
5.150	0.000	1.21	0.64	1.19	0.161
5.279	0.000	1.22	0.64	1.20	0.162
5.408	0.000	1.23	0.64	1.21	0.162
5.537	0.000	1.24	0.64	1.22	0.162
5.667	0.000	1.25	0.64	1.23	0.162
5.796	0.000	1.26	0.65	1.24	0.163
5.925	0.000	1.27	0.65	1.25	0.163
6.054	0.000	1.28	0.65	1.25	0.163
6.183	0.000	1.29	0.65	1.26	0.163
6.312	0.000	1.31	0.65	1.28	0.164
6.442	0.000	1.31	0.65	1.29	0.164
6.571	0.000	1.33	0.65	1.30	0.164
6.700	0.000	1.34	0.65	1.31	0.165
6.829	0.000	1.35	0.66	1.32	0.165
6.958	0.000	1.36	0.66	1.33	0.165
7.088	0.000	1.38	0.66	1.34	0.166
7.217	0.000	1.38	0.66	1.35	0.166
7.346	0.000	1.40	0.66	1.37	0.167
7.475	0.000	1.41	0.66	1.38	0.167
7.604	0.000	1.43	0.66	1.39	0.167
7.733	0.000	1.44	0.67	1.40	0.168
7.863	0.000	1.46	0.67	1.42	0.168
7.992	0.000	1.47	0.67	1.43	0.168
8.121	0.000	1.49	0.67	1.44	0.169
8.250	0.000	1.50	0.67	1.46	0.169
8.379	0.000	1.52	0.67	1.47	0.170
8.508	0.000	1.53	0.68	1.49	0.170
8.637	0.000	1.55	0.68	1.51	0.171
8.767	0.000	1.56	0.68	1.52	0.171
8.896	0.000	1.59	0.68	1.54	0.172
9.025	0.000	1.60	0.68	1.55	0.172
9.154	0.000	1.62	0.69	1.57	0.173
9.283	0.000	1.64	0.69	1.59	0.173
9.413	0.000	1.66	0.69	1.61	0.174
9.542	0.000	1.68	0.69	1.63	0.174
9.671	0.000	1.71	0.70	1.65	0.175
9.800	0.000	1.73	0.70	1.67	0.176
9.929	0.000	1.78	0.70	1.70	0.177
10.058	0.000	1.80	0.70	1.72	0.177
10.188	0.000	1.84	0.71	1.75	0.178
10.317	0.000	1.86	0.71	1.78	0.179
10.446	0.000	1.91	0.72	1.81	0.180
10.575	0.000	1.93	0.72	1.85	0.181
10.704	0.000	1.98	0.72	1.88	0.182
10.833	0.000	2.01	0.73	1.92	0.183
10.962	0.000	2.06	0.73	1.95	0.184
11.092	0.000	2.09	0.74	1.99	0.185
11.221	0.000	2.15	0.74	2.03	0.187
11.350	0.000	2.18	0.75	2.07	0.188

11.479	0.000	2.25	0.75	2.12	0.189
11.608	0.000	2.28	0.76	2.16	0.191
11.738	0.000	2.35	0.76	2.21	0.192
11.867	0.000	2.39	0.77	2.26	0.193
11.996	0.000	2.47	0.78	2.31	0.195
12.125	0.000	2.96	0.80	2.43	0.201
12.254	0.000	3.60	0.84	2.69	0.210
12.383	0.000	3.65	0.86	2.98	0.218
12.512	0.000	3.75	0.89	3.20	0.224
12.642	0.000	3.81	0.91	3.38	0.228
12.771	0.000	3.92	0.92	3.53	0.232
12.900	0.000	3.98	0.94	3.66	0.236
13.029	0.000	4.12	0.95	3.78	0.239
13.158	0.000	4.18	0.96	3.89	0.243
13.288	0.000	4.33	0.98	4.00	0.246
13.417	0.000	4.41	0.99	4.12	0.249
13.546	0.000	4.59	1.00	4.22	0.253
13.675	0.000	4.68	1.01	4.29	0.257
13.804	0.000	4.88	1.02	4.34	0.263
13.933	0.000	4.99	1.03	4.40	0.270
14.062	0.000	5.21	1.05	4.47	0.278
14.192	0.000	5.29	1.06	4.55	0.285
14.321	0.000	5.58	1.08	4.63	0.295
14.450	0.000	5.74	1.10	4.74	0.306
14.579	0.000	6.11	1.13	4.86	0.320
14.708	0.000	6.32	1.15	4.99	0.334
14.837	0.000	6.80	1.19	5.15	0.351
14.967	0.000	7.08	1.22	5.33	0.370
15.096	0.000	7.75	1.27	5.54	0.394
15.225	0.000	8.16	1.32	5.78	0.419
15.354	0.000	9.18	1.38	6.07	0.452
15.483	0.000	8.66	1.42	6.36	0.477
15.613	0.000	10.06	1.49	6.66	0.513
15.742	0.000	11.42	1.58	7.07	0.559
15.871	0.000	17.60	1.78	7.82	0.664
16.000	0.000	23.97	2.09	9.07	0.823
16.129	0.000	69.38	3.69	12.18	1.433
16.258	0.000	14.28	3.68	14.54	1.431
16.388	0.000	9.05	3.49	14.27	1.375
16.517	0.000	8.63	3.29	13.77	1.320
16.646	0.000	7.39	3.07	13.23	1.258
16.775	0.000	6.55	2.90	12.70	1.192
16.904	0.000	5.92	2.75	12.20	1.125
17.033	0.000	5.43	2.61	11.72	1.058
17.163	0.000	5.11	2.46	11.25	0.992
17.292	0.000	4.78	2.32	10.78	0.928
17.421	0.000	4.50	2.18	10.33	0.866
17.550	0.000	4.26	2.05	9.89	0.805
17.679	0.000	4.05	1.94	9.43	0.748
17.808	0.000	3.86	1.83	8.91	0.694
17.938	0.000	3.70	1.74	8.39	0.644
18.067	0.000	3.55	1.65	7.91	0.598
18.196	0.000	2.43	1.55	7.42	0.544
18.325	0.000	2.32	1.46	6.91	0.495
18.454	0.000	2.22	1.37	6.44	0.450
18.583	0.000	2.12	1.30	6.01	0.409
18.712	0.000	2.04	1.22	5.62	0.370
18.842	0.000	1.96	1.16	5.25	0.335
18.971	0.000	1.89	1.10	4.92	0.303
19.100	0.000	1.82	1.04	4.61	0.273
19.229	0.000	1.75	0.98	4.26	0.246
19.358	0.000	1.70	0.89	3.70	0.225
19.487	0.000	1.65	0.83	3.08	0.210
19.617	0.000	1.61	0.79	2.64	0.199
19.746	0.000	1.58	0.76	2.32	0.191
19.875	0.000	1.54	0.73	2.09	0.185
20.004	0.000	1.51	0.72	1.92	0.180
20.133	0.000	1.48	0.70	1.79	0.177



20.263	0.000	1.45	0.69	1.69	0.175
20.392	0.000	1.42	0.69	1.61	0.173
20.521	0.000	1.39	0.68	1.55	0.171
20.650	0.000	1.37	0.67	1.50	0.170
20.779	0.000	1.34	0.67	1.45	0.168
20.908	0.000	1.32	0.66	1.42	0.167
21.038	0.000	1.30	0.66	1.38	0.166
21.167	0.000	1.28	0.66	1.35	0.166
21.296	0.000	1.26	0.65	1.33	0.165
21.425	0.000	1.24	0.65	1.30	0.164
21.554	0.000	1.22	0.65	1.28	0.163
21.683	0.000	1.20	0.65	1.26	0.163
21.812	0.000	1.18	0.64	1.24	0.162
21.942	0.000	1.17	0.64	1.22	0.162
22.071	0.000	1.15	0.64	1.20	0.161
22.200	0.000	1.13	0.64	1.18	0.161
22.329	0.000	1.12	0.64	1.17	0.160
22.458	0.000	1.11	0.63	1.15	0.160
22.587	0.000	1.09	0.63	1.13	0.159
22.717	0.000	1.08	0.63	1.12	0.159
22.846	0.000	1.06	0.63	1.10	0.158
22.975	0.000	1.05	0.63	1.09	0.158
23.104	0.000	1.04	0.63	1.08	0.158
23.233	0.000	1.03	0.62	1.06	0.157
23.362	0.000	1.02	0.62	1.05	0.157
23.492	0.000	1.00	0.62	1.04	0.156
23.621	0.000	0.99	0.62	1.03	0.156
23.750	0.000	0.98	0.62	1.01	0.156
23.879	0.000	0.97	0.62	1.00	0.155
24.008	0.000	0.96	0.62	0.99	0.155
24.138	0.000	0.00	0.58	0.84	0.146
24.267	0.000	0.00	0.56	0.58	0.140
24.396	0.000	0.00	0.54	0.40	0.136
24.525	0.000	0.00	0.53	0.28	0.133
24.654	0.000	0.00	0.52	0.19	0.131
24.783	0.000	0.00	0.51	0.14	0.129
24.913	0.000	0.00	0.51	0.09	0.128
25.042	0.000	0.00	0.51	0.07	0.127
25.171	0.000	0.00	0.50	0.05	0.127
25.300	0.000	0.00	0.50	0.03	0.127
25.429	0.000	0.00	0.50	0.02	0.126
25.558	0.000	0.00	0.50	0.02	0.126
25.688	0.000	0.00	0.50	0.01	0.126
25.817	0.000	0.00	0.50	0.01	0.126
25.946	0.000	0.00	0.50	0.01	0.126
26.075	0.000	0.00	0.50	0.00	0.126
26.204	0.000	0.00	0.50	0.00	0.126
26.333	0.000	0.00	0.50	0.00	0.126
26.463	0.000	0.00	0.50	0.00	0.126
26.592	0.000	0.00	0.50	0.00	0.126
26.721	0.000	0.00	0.50	0.00	0.126
26.850	0.000	0.00	0.50	0.00	0.126
26.979	0.000	0.00	0.50	0.00	0.126
27.108	0.000	0.00	0.50	0.00	0.126
27.238	0.000	0.00	0.50	0.00	0.126
27.367	0.000	0.00	0.50	0.00	0.126
27.496	0.000	0.00	0.50	0.00	0.126
27.625	0.000	0.00	0.50	0.00	0.126
27.754	0.000	0.00	0.50	0.00	0.126
27.883	0.000	0.00	0.50	0.00	0.126
28.013	0.000	0.00	0.50	0.00	0.126
28.142	0.000	0.00	0.50	0.00	0.126
28.271	0.000	0.00	0.50	0.00	0.126
28.400	0.000	0.00	0.50	0.00	0.126
28.529	0.000	0.00	0.50	0.00	0.126
28.658	0.000	0.00	0.50	0.00	0.126
28.788	0.000	0.00	0.50	0.00	0.126
28.917	0.000	0.00	0.50	0.00	0.126

29.046	0.000	0.00	0.50	0.00	0.126
29.175	0.000	0.00	0.50	0.00	0.126
29.304	0.000	0.00	0.50	0.00	0.126
29.433	0.000	0.00	0.50	0.00	0.126
29.563	0.000	0.00	0.50	0.00	0.126
29.692	0.000	0.00	0.50	0.00	0.126
29.821	0.000	0.00	0.50	0.00	0.126
29.950	0.000	0.00	0.50	0.00	0.126
30.079	0.000	0.00	0.50	0.00	0.126
30.208	0.000	0.00	0.50	0.00	0.126
30.338	0.000	0.00	0.50	0.00	0.126
30.467	0.000	0.00	0.50	0.00	0.126
30.596	0.000	0.00	0.50	0.00	0.126
30.725	0.000	0.00	0.50	0.00	0.126
30.854	0.000	0.00	0.50	0.00	0.126
30.983	0.000	0.00	0.50	0.00	0.126
31.113	0.000	0.00	0.50	0.00	0.126
31.242	0.000	0.00	0.50	0.00	0.126
31.371	0.000	0.00	0.50	0.00	0.126
31.500	0.000	0.00	0.50	0.00	0.126
31.629	0.000	0.00	0.50	0.00	0.126
31.758	0.000	0.00	0.50	0.00	0.126
31.888	0.000	0.00	0.50	0.00	0.126
32.017	0.000	0.00	0.50	0.00	0.126
32.146	0.000	0.00	0.50	0.00	0.126
32.275	0.000	0.00	0.50	0.00	0.126
32.404	0.000	0.00	0.50	0.00	0.126
32.533	0.000	0.00	0.50	0.00	0.126
32.663	0.000	0.00	0.50	0.00	0.126
32.792	0.000	0.00	0.50	0.00	0.126
32.921	0.000	0.00	0.50	0.00	0.126
33.050	0.000	0.00	0.50	0.00	0.126
33.179	0.000	0.00	0.50	0.00	0.126
33.308	0.000	0.00	0.50	0.00	0.126
33.438	0.000	0.00	0.50	0.00	0.126
33.567	0.000	0.00	0.50	0.00	0.126
33.696	0.000	0.00	0.50	0.00	0.126
33.825	0.000	0.00	0.50	0.00	0.126
33.954	0.000	0.00	0.50	0.00	0.126
34.083	0.000	0.00	0.50	0.00	0.126
34.213	0.000	0.00	0.50	0.00	0.126
34.342	0.000	0.00	0.50	0.00	0.126
34.471	0.000	0.00	0.50	0.00	0.126
34.600	0.000	0.00	0.50	0.00	0.126
34.729	0.000	0.00	0.50	0.00	0.126
34.858	0.000	0.00	0.50	0.00	0.126
34.988	0.000	0.00	0.50	0.00	0.126
35.117	0.000	0.00	0.50	0.00	0.126
35.246	0.000	0.00	0.50	0.00	0.126
35.375	0.000	0.00	0.50	0.00	0.126
35.504	0.000	0.00	0.50	0.00	0.126
35.633	0.000	0.00	0.50	0.00	0.126
35.763	0.000	0.00	0.50	0.00	0.126
35.892	0.000	0.00	0.50	0.00	0.126
36.021	0.000	0.00	0.50	0.00	0.126
36.150	0.000	0.00	0.50	0.00	0.126
36.279	0.000	0.00	0.50	0.00	0.126
36.408	0.000	0.00	0.50	0.00	0.126
36.538	0.000	0.00	0.50	0.00	0.126
36.667	0.000	0.00	0.50	0.00	0.126
36.796	0.000	0.00	0.50	0.00	0.126
36.925	0.000	0.00	0.50	0.00	0.126
37.054	0.000	0.00	0.50	0.00	0.126
37.183	0.000	0.00	0.50	0.00	0.126
37.313	0.000	0.00	0.50	0.00	0.126
37.442	0.000	0.00	0.50	0.00	0.126
37.571	0.000	0.00	0.50	0.00	0.126
37.700	0.000	0.00	0.50	0.00	0.126

37.829	0.000	0.00	0.50	0.00	0.126
37.958	0.000	0.00	0.50	0.00	0.126
38.088	0.000	0.00	0.50	0.00	0.126
38.217	0.000	0.00	0.50	0.00	0.126
38.346	0.000	0.00	0.50	0.00	0.126
38.475	0.000	0.00	0.50	0.00	0.126
38.604	0.000	0.00	0.50	0.00	0.126
38.733	0.000	0.00	0.50	0.00	0.126
38.862	0.000	0.00	0.50	0.00	0.126
38.992	0.000	0.00	0.50	0.00	0.126
39.121	0.000	0.00	0.50	0.00	0.126
39.250	0.000	0.00	0.50	0.00	0.126
39.379	0.000	0.00	0.50	0.00	0.126
39.508	0.000	0.00	0.50	0.00	0.126
39.637	0.000	0.00	0.50	0.00	0.126
39.767	0.000	0.00	0.50	0.00	0.126
39.896	0.000	0.00	0.50	0.00	0.126
40.025	0.000	0.00	0.50	0.00	0.126
40.154	0.000	0.00	0.50	0.00	0.126
40.283	0.000	0.00	0.50	0.00	0.126
40.412	0.000	0.00	0.50	0.00	0.126
40.542	0.000	0.00	0.50	0.00	0.126
40.671	0.000	0.00	0.50	0.00	0.126
40.800	0.000	0.00	0.50	0.00	0.126
40.929	0.000	0.00	0.50	0.00	0.126
41.058	0.000	0.00	0.50	0.00	0.126
41.187	0.000	0.00	0.50	0.00	0.126
41.317	0.000	0.00	0.50	0.00	0.126
41.446	0.000	0.00	0.50	0.00	0.126
41.575	0.000	0.00	0.50	0.00	0.126
41.704	0.000	0.00	0.50	0.00	0.126
41.833	0.000	0.00	0.50	0.00	0.126
41.962	0.000	0.00	0.50	0.00	0.126
42.092	0.000	0.00	0.50	0.00	0.126
42.221	0.000	0.00	0.50	0.00	0.126
42.350	0.000	0.00	0.50	0.00	0.126
42.479	0.000	0.00	0.50	0.00	0.126
42.608	0.000	0.00	0.50	0.00	0.126
42.737	0.000	0.00	0.50	0.00	0.126
42.867	0.000	0.00	0.50	0.00	0.126
42.996	0.000	0.00	0.50	0.00	0.126
43.125	0.000	0.00	0.50	0.00	0.126
43.254	0.000	0.00	0.50	0.00	0.126
43.383	0.000	0.00	0.50	0.00	0.126
43.512	0.000	0.00	0.50	0.00	0.126
43.642	0.000	0.00	0.50	0.00	0.126
43.771	0.000	0.00	0.50	0.00	0.126
43.900	0.000	0.00	0.50	0.00	0.126
44.029	0.000	0.00	0.50	0.00	0.126
44.158	0.000	0.00	0.50	0.00	0.126
44.287	0.000	0.00	0.50	0.00	0.126
44.417	0.000	0.00	0.50	0.00	0.126
44.546	0.000	0.00	0.50	0.00	0.126
44.675	0.000	0.00	0.50	0.00	0.126
44.804	0.000	0.00	0.50	0.00	0.126
44.933	0.000	0.00	0.50	0.00	0.126
45.062	0.000	0.00	0.50	0.00	0.126
45.192	0.000	0.00	0.50	0.00	0.126
45.321	0.000	0.00	0.50	0.00	0.126
45.450	0.000	0.00	0.50	0.00	0.126
45.579	0.000	0.00	0.50	0.00	0.126
45.708	0.000	0.00	0.50	0.00	0.126
45.837	0.000	0.00	0.50	0.00	0.126
45.967	0.000	0.00	0.50	0.00	0.126
46.096	0.000	0.00	0.50	0.00	0.126
46.225	0.000	0.00	0.50	0.00	0.126
46.354	0.000	0.00	0.50	0.00	0.126
46.483	0.000	0.00	0.50	0.00	0.126

46.612	0.000	0.00	0.50	0.00	0.126
46.742	0.000	0.00	0.50	0.00	0.126
46.871	0.000	0.00	0.50	0.00	0.126
47.000	0.000	0.00	0.50	0.00	0.126
47.129	0.000	0.00	0.50	0.00	0.126
47.258	0.000	0.00	0.50	0.00	0.126
47.387	0.000	0.00	0.50	0.00	0.126
47.517	0.000	0.00	0.50	0.00	0.126
47.646	0.000	0.00	0.50	0.00	0.126
47.775	0.000	0.00	0.50	0.00	0.126
47.904	0.000	0.00	0.50	0.00	0.126
48.033	0.000	0.00	0.50	0.00	0.126
48.162	0.000	0.00	0.50	0.00	0.126
48.292	0.000	0.00	0.50	0.00	0.126
48.421	0.000	0.00	0.50	0.00	0.126
48.550	0.000	0.00	0.50	0.00	0.126
48.679	0.000	0.00	0.50	0.00	0.126
48.808	0.000	0.00	0.50	0.00	0.126
48.937	0.000	0.00	0.50	0.00	0.126
49.067	0.000	0.00	0.50	0.00	0.126
49.196	0.000	0.00	0.50	0.00	0.126
49.325	0.000	0.00	0.50	0.00	0.126
49.454	0.000	0.00	0.50	0.00	0.126
49.583	0.000	0.00	0.50	0.00	0.126
49.712	0.000	0.00	0.50	0.00	0.126
49.842	0.000	0.00	0.50	0.00	0.126
49.971	0.000	0.00	0.50	0.00	0.126
50.100	0.000	0.00	0.50	0.00	0.126
50.229	0.000	0.00	0.50	0.00	0.126
50.358	0.000	0.00	0.50	0.00	0.126
50.487	0.000	0.00	0.50	0.00	0.126
50.617	0.000	0.00	0.50	0.00	0.126
50.746	0.000	0.00	0.50	0.00	0.126
50.875	0.000	0.00	0.50	0.00	0.126
51.004	0.000	0.00	0.50	0.00	0.126
51.133	0.000	0.00	0.50	0.00	0.126
51.262	0.000	0.00	0.50	0.00	0.126
51.392	0.000	0.00	0.50	0.00	0.126
51.521	0.000	0.00	0.50	0.00	0.126
51.650	0.000	0.00	0.50	0.00	0.126
51.779	0.000	0.00	0.50	0.00	0.126
51.908	0.000	0.00	0.50	0.00	0.126
52.037	0.000	0.00	0.50	0.00	0.126
52.167	0.000	0.00	0.50	0.00	0.126
52.296	0.000	0.00	0.50	0.00	0.126
52.425	0.000	0.00	0.50	0.00	0.126
52.554	0.000	0.00	0.50	0.00	0.126
52.683	0.000	0.00	0.50	0.00	0.126
52.812	0.000	0.00	0.50	0.00	0.126
52.942	0.000	0.00	0.50	0.00	0.126
53.071	0.000	0.00	0.50	0.00	0.126
53.200	0.000	0.00	0.50	0.00	0.126
53.329	0.000	0.00	0.50	0.00	0.126
53.458	0.000	0.00	0.50	0.00	0.126
53.587	0.000	0.00	0.50	0.00	0.126
53.717	0.000	0.00	0.50	0.00	0.126
53.846	0.000	0.00	0.50	0.00	0.126
53.975	0.000	0.00	0.50	0.00	0.126
54.104	0.000	0.00	0.50	0.00	0.126
54.233	0.000	0.00	0.50	0.00	0.126
54.362	0.000	0.00	0.50	0.00	0.126
54.492	0.000	0.00	0.50	0.00	0.126
54.621	0.000	0.00	0.50	0.00	0.126
54.750	0.000	0.00	0.50	0.00	0.126
54.879	0.000	0.00	0.50	0.00	0.126
55.008	0.000	0.00	0.50	0.00	0.126
55.137	0.000	0.00	0.50	0.00	0.126
55.267	0.000	0.00	0.50	0.00	0.126

55.396	0.000	0.00	0.50	0.00	0.126
55.525	0.000	0.00	0.50	0.00	0.126
55.654	0.000	0.00	0.50	0.00	0.126
55.783	0.000	0.00	0.50	0.00	0.126
55.912	0.000	0.00	0.50	0.00	0.126
56.042	0.000	0.00	0.50	0.00	0.126
56.171	0.000	0.00	0.50	0.00	0.126
56.300	0.000	0.00	0.50	0.00	0.126
56.429	0.000	0.00	0.50	0.00	0.126
56.558	0.000	0.00	0.50	0.00	0.126
56.687	0.000	0.00	0.50	0.00	0.126
56.817	0.000	0.00	0.50	0.00	0.126
56.946	0.000	0.00	0.50	0.00	0.126
57.075	0.000	0.00	0.50	0.00	0.126
57.204	0.000	0.00	0.50	0.00	0.126
57.333	0.000	0.00	0.50	0.00	0.126
57.462	0.000	0.00	0.50	0.00	0.126
57.592	0.000	0.00	0.50	0.00	0.126
57.721	0.000	0.00	0.50	0.00	0.126
57.850	0.000	0.00	0.50	0.00	0.126
57.979	0.000	0.00	0.50	0.00	0.126
58.108	0.000	0.00	0.50	0.00	0.126
58.237	0.000	0.00	0.50	0.00	0.126
58.367	0.000	0.00	0.50	0.00	0.126
58.496	0.000	0.00	0.50	0.00	0.126
58.625	0.000	0.00	0.50	0.00	0.126
58.754	0.000	0.00	0.50	0.00	0.126
58.883	0.000	0.00	0.50	0.00	0.126
59.012	0.000	0.00	0.50	0.00	0.126
59.142	0.000	0.00	0.50	0.00	0.126
59.271	0.000	0.00	0.50	0.00	0.126
59.400	0.000	0.00	0.50	0.00	0.126
59.529	0.000	0.00	0.50	0.00	0.126
59.658	0.000	0.00	0.50	0.00	0.126
59.787	0.000	0.00	0.50	0.00	0.126
59.917	0.000	0.00	0.50	0.00	0.126
60.046	0.000	0.00	0.50	0.00	0.126
60.175	0.000	0.00	0.50	0.00	0.126
60.304	0.000	0.00	0.50	0.00	0.126
60.433	0.000	0.00	0.50	0.00	0.126
60.562	0.000	0.00	0.50	0.00	0.126
60.691	0.000	0.00	0.50	0.00	0.126
60.821	0.000	0.00	0.50	0.00	0.126
60.950	0.000	0.00	0.50	0.00	0.126
61.079	0.000	0.00	0.50	0.00	0.126
61.208	0.000	0.00	0.50	0.00	0.126
61.337	0.000	0.00	0.50	0.00	0.126
61.466	0.000	0.00	0.50	0.00	0.126
61.596	0.000	0.00	0.50	0.00	0.126
61.725	0.000	0.00	0.50	0.00	0.126
61.854	0.000	0.00	0.50	0.00	0.126
61.983	0.000	0.00	0.50	0.00	0.126
62.112	0.000	0.00	0.50	0.00	0.126
62.241	0.000	0.00	0.50	0.00	0.126
62.371	0.000	0.00	0.50	0.00	0.126
62.500	0.000	0.00	0.50	0.00	0.126
62.629	0.000	0.00	0.50	0.00	0.126
62.758	0.000	0.00	0.50	0.00	0.126
62.887	0.000	0.00	0.50	0.00	0.126
63.016	0.000	0.00	0.50	0.00	0.126
63.146	0.000	0.00	0.50	0.00	0.126
63.275	0.000	0.00	0.50	0.00	0.126
63.404	0.000	0.00	0.50	0.00	0.126
63.533	0.000	0.00	0.50	0.00	0.126
63.662	0.000	0.00	0.50	0.00	0.126
63.791	0.000	0.00	0.50	0.00	0.126
63.921	0.000	0.00	0.50	0.00	0.126
64.050	0.000	0.00	0.50	0.00	0.126

64.179	0.000	0.00	0.50	0.00	0.126
64.308	0.000	0.00	0.50	0.00	0.126
64.437	0.000	0.00	0.50	0.00	0.126
64.566	0.000	0.00	0.50	0.00	0.126
64.696	0.000	0.00	0.50	0.00	0.126
64.825	0.000	0.00	0.50	0.00	0.126
64.954	0.000	0.00	0.50	0.00	0.126
65.083	0.000	0.00	0.50	0.00	0.126
65.212	0.000	0.00	0.50	0.00	0.126
65.341	0.000	0.00	0.50	0.00	0.126
65.471	0.000	0.00	0.50	0.00	0.126
65.600	0.000	0.00	0.50	0.00	0.126
65.729	0.000	0.00	0.50	0.00	0.126
65.858	0.000	0.00	0.50	0.00	0.126
65.987	0.000	0.00	0.50	0.00	0.126
66.116	0.000	0.00	0.50	0.00	0.126
66.246	0.000	0.00	0.50	0.00	0.126
66.375	0.000	0.00	0.50	0.00	0.126
66.504	0.000	0.00	0.50	0.00	0.126
66.633	0.000	0.00	0.50	0.00	0.126
66.762	0.000	0.00	0.50	0.00	0.126
66.891	0.000	0.00	0.50	0.00	0.126
67.021	0.000	0.00	0.50	0.00	0.126
67.150	0.000	0.00	0.50	0.00	0.126
67.279	0.000	0.00	0.50	0.00	0.126
67.408	0.000	0.00	0.50	0.00	0.126
67.537	0.000	0.00	0.50	0.00	0.126
67.666	0.000	0.00	0.50	0.00	0.126
67.796	0.000	0.00	0.50	0.00	0.126
67.925	0.000	0.00	0.50	0.00	0.126
68.054	0.000	0.00	0.50	0.00	0.126
68.183	0.000	0.00	0.50	0.00	0.126
68.312	0.000	0.00	0.50	0.00	0.126
68.441	0.000	0.00	0.50	0.00	0.126
68.571	0.000	0.00	0.50	0.00	0.126
68.700	0.000	0.00	0.50	0.00	0.126
68.829	0.000	0.00	0.50	0.00	0.126
68.958	0.000	0.00	0.50	0.00	0.126
69.087	0.000	0.00	0.50	0.00	0.126
69.216	0.000	0.00	0.50	0.00	0.126
69.346	0.000	0.00	0.50	0.00	0.126
69.475	0.000	0.00	0.50	0.00	0.126
69.604	0.000	0.00	0.50	0.00	0.126
69.733	0.000	0.00	0.50	0.00	0.126
69.862	0.000	0.00	0.50	0.00	0.126
69.991	0.000	0.00	0.50	0.00	0.126
70.121	0.000	0.00	0.50	0.00	0.126
70.250	0.000	0.00	0.50	0.00	0.126
70.379	0.000	0.00	0.50	0.00	0.126
70.508	0.000	0.00	0.50	0.00	0.126
70.637	0.000	0.00	0.50	0.00	0.126
70.766	0.000	0.00	0.50	0.00	0.126
70.896	0.000	0.00	0.50	0.00	0.126
71.025	0.000	0.00	0.50	0.00	0.126
71.154	0.000	0.00	0.50	0.00	0.126
71.283	0.000	0.00	0.50	0.00	0.126
71.412	0.000	0.00	0.50	0.00	0.126
71.541	0.000	0.00	0.50	0.00	0.126
71.671	0.000	0.00	0.50	0.00	0.126
71.800	0.000	0.00	0.50	0.00	0.126
71.929	0.000	0.00	0.50	0.00	0.126
72.058	0.000	0.00	0.50	0.00	0.126
72.187	0.000	0.00	0.50	0.00	0.126
72.316	0.000	0.00	0.50	0.00	0.126
72.446	0.000	0.00	0.50	0.00	0.126
72.575	0.000	0.00	0.50	0.00	0.126
72.704	0.000	0.00	0.50	0.00	0.126
72.833	0.000	0.00	0.50	0.00	0.126

72.962	0.000	0.00	0.50	0.00	0.126
73.091	0.000	0.00	0.50	0.00	0.126
73.221	0.000	0.00	0.50	0.00	0.126
73.350	0.000	0.00	0.50	0.00	0.126
73.479	0.000	0.00	0.50	0.00	0.126
73.608	0.000	0.00	0.50	0.00	0.126
73.737	0.000	0.00	0.50	0.00	0.126
73.866	0.000	0.00	0.50	0.00	0.126
73.996	0.000	0.00	0.50	0.00	0.126
74.125	0.000	0.00	0.50	0.00	0.126
74.254	0.000	0.00	0.50	0.00	0.126
74.383	0.000	0.00	0.50	0.00	0.126
74.512	0.000	0.00	0.50	0.00	0.126
74.641	0.000	0.00	0.50	0.00	0.126
74.771	0.000	0.00	0.50	0.00	0.126
74.900	0.000	0.00	0.50	0.00	0.126
75.029	0.000	0.00	0.50	0.00	0.126
75.158	0.000	0.00	0.50	0.00	0.126
75.287	0.000	0.00	0.50	0.00	0.126
75.416	0.000	0.00	0.50	0.00	0.126
75.546	0.000	0.00	0.50	0.00	0.126
75.675	0.000	0.00	0.50	0.00	0.126
75.804	0.000	0.00	0.50	0.00	0.126
75.933	0.000	0.00	0.50	0.00	0.126
76.062	0.000	0.00	0.50	0.00	0.126
76.191	0.000	0.00	0.50	0.00	0.126
76.321	0.000	0.00	0.50	0.00	0.126
76.450	0.000	0.00	0.50	0.00	0.126
76.579	0.000	0.00	0.50	0.00	0.126
76.708	0.000	0.00	0.50	0.00	0.126
76.837	0.000	0.00	0.50	0.00	0.126
76.966	0.000	0.00	0.50	0.00	0.126
77.096	0.000	0.00	0.50	0.00	0.126
77.225	0.000	0.00	0.50	0.00	0.126
77.354	0.000	0.00	0.50	0.00	0.126
77.483	0.000	0.00	0.50	0.00	0.126
77.612	0.000	0.00	0.50	0.00	0.126
77.741	0.000	0.00	0.50	0.00	0.126
77.871	0.000	0.00	0.50	0.00	0.126
78.000	0.000	0.00	0.50	0.00	0.126
78.129	0.000	0.00	0.50	0.00	0.126
78.258	0.000	0.00	0.50	0.00	0.126
78.387	0.000	0.00	0.50	0.00	0.126
78.516	0.000	0.00	0.50	0.00	0.126
78.646	0.000	0.00	0.50	0.00	0.126
78.775	0.000	0.00	0.50	0.00	0.126
78.904	0.000	0.00	0.50	0.00	0.126
79.033	0.000	0.00	0.50	0.00	0.126
79.162	0.000	0.00	0.50	0.00	0.126
79.291	0.000	0.00	0.50	0.00	0.126
79.421	0.000	0.00	0.50	0.00	0.126
79.550	0.000	0.00	0.50	0.00	0.126
79.679	0.000	0.00	0.50	0.00	0.126
79.808	0.000	0.00	0.50	0.00	0.126
79.937	0.000	0.00	0.50	0.00	0.126
80.066	0.000	0.00	0.50	0.00	0.126
80.196	0.000	0.00	0.50	0.00	0.126
80.325	0.000	0.00	0.50	0.00	0.126
80.454	0.000	0.00	0.50	0.00	0.126
80.583	0.000	0.00	0.50	0.00	0.126
80.712	0.000	0.00	0.50	0.00	0.126
80.841	0.000	0.00	0.50	0.00	0.126
80.971	0.000	0.00	0.50	0.00	0.126
81.100	0.000	0.00	0.50	0.00	0.126
81.229	0.000	0.00	0.50	0.00	0.126
81.358	0.000	0.00	0.50	0.00	0.126
81.487	0.000	0.00	0.50	0.00	0.126
81.616	0.000	0.00	0.50	0.00	0.126

81.745	0.000	0.00	0.50	0.00	0.126
81.875	0.000	0.00	0.50	0.00	0.126
82.004	0.000	0.00	0.50	0.00	0.126
82.133	0.000	0.00	0.50	0.00	0.126
82.262	0.000	0.00	0.50	0.00	0.126
82.391	0.000	0.00	0.50	0.00	0.126
82.520	0.000	0.00	0.50	0.00	0.126
82.650	0.000	0.00	0.50	0.00	0.126
82.779	0.000	0.00	0.50	0.00	0.126
82.908	0.000	0.00	0.50	0.00	0.126
83.037	0.000	0.00	0.50	0.00	0.126
83.166	0.000	0.00	0.50	0.00	0.126
83.295	0.000	0.00	0.50	0.00	0.126
83.425	0.000	0.00	0.50	0.00	0.126
83.554	0.000	0.00	0.50	0.00	0.126
83.683	0.000	0.00	0.50	0.00	0.126
83.812	0.000	0.00	0.50	0.00	0.126
83.941	0.000	0.00	0.50	0.00	0.126
84.070	0.000	0.00	0.50	0.00	0.126
84.200	0.000	0.00	0.50	0.00	0.126
84.329	0.000	0.00	0.50	0.00	0.126
84.458	0.000	0.00	0.50	0.00	0.126
84.587	0.000	0.00	0.50	0.00	0.126
84.716	0.000	0.00	0.50	0.00	0.126
84.845	0.000	0.00	0.50	0.00	0.126
84.975	0.000	0.00	0.50	0.00	0.126
85.104	0.000	0.00	0.50	0.00	0.126
85.233	0.000	0.00	0.50	0.00	0.126
85.362	0.000	0.00	0.50	0.00	0.126
85.491	0.000	0.00	0.50	0.00	0.126
85.620	0.000	0.00	0.50	0.00	0.126
85.750	0.000	0.00	0.50	0.00	0.126
85.879	0.000	0.00	0.50	0.00	0.126
86.008	0.000	0.00	0.50	0.00	0.126
86.137	0.000	0.00	0.50	0.00	0.126
86.266	0.000	0.00	0.50	0.00	0.126
86.395	0.000	0.00	0.50	0.00	0.126
86.525	0.000	0.00	0.50	0.00	0.126
86.654	0.000	0.00	0.50	0.00	0.126
86.783	0.000	0.00	0.50	0.00	0.126
86.912	0.000	0.00	0.50	0.00	0.126
87.041	0.000	0.00	0.50	0.00	0.126
87.170	0.000	0.00	0.50	0.00	0.126
87.300	0.000	0.00	0.50	0.00	0.126
87.429	0.000	0.00	0.50	0.00	0.126
87.558	0.000	0.00	0.50	0.00	0.126
87.687	0.000	0.00	0.50	0.00	0.126
87.816	0.000	0.00	0.50	0.00	0.126
87.945	0.000	0.00	0.50	0.00	0.126
88.075	0.000	0.00	0.50	0.00	0.126
88.204	0.000	0.00	0.50	0.00	0.126
88.333	0.000	0.00	0.50	0.00	0.126
88.462	0.000	0.00	0.50	0.00	0.126
88.591	0.000	0.00	0.50	0.00	0.126
88.720	0.000	0.00	0.50	0.00	0.126
88.850	0.000	0.00	0.50	0.00	0.126
88.979	0.000	0.00	0.50	0.00	0.126
89.108	0.000	0.00	0.50	0.00	0.126
89.237	0.000	0.00	0.50	0.00	0.126
89.366	0.000	0.00	0.50	0.00	0.126
89.495	0.000	0.00	0.50	0.00	0.126
89.625	0.000	0.00	0.50	0.00	0.126
89.754	0.000	0.00	0.50	0.00	0.126
89.883	0.000	0.00	0.50	0.00	0.126
90.012	0.000	0.00	0.50	0.00	0.126
90.141	0.000	0.00	0.50	0.00	0.126
90.270	0.000	0.00	0.50	0.00	0.126
90.400	0.000	0.00	0.50	0.00	0.126

90.529	0.000	0.00	0.50	0.00	0.126
90.658	0.000	0.00	0.50	0.00	0.126
90.787	0.000	0.00	0.50	0.00	0.126
90.916	0.000	0.00	0.50	0.00	0.126
91.045	0.000	0.00	0.50	0.00	0.126
91.175	0.000	0.00	0.50	0.00	0.126
91.304	0.000	0.00	0.50	0.00	0.126
91.433	0.000	0.00	0.50	0.00	0.126
91.562	0.000	0.00	0.50	0.00	0.126
91.691	0.000	0.00	0.50	0.00	0.126
91.820	0.000	0.00	0.50	0.00	0.126
91.950	0.000	0.00	0.50	0.00	0.126
92.079	0.000	0.00	0.50	0.00	0.126
92.208	0.000	0.00	0.50	0.00	0.126
92.337	0.000	0.00	0.50	0.00	0.126
92.466	0.000	0.00	0.50	0.00	0.126
92.595	0.000	0.00	0.50	0.00	0.126
92.725	0.000	0.00	0.50	0.00	0.126
92.854	0.000	0.00	0.50	0.00	0.126
92.983	0.000	0.00	0.50	0.00	0.126
93.112	0.000	0.00	0.50	0.00	0.126
93.241	0.000	0.00	0.50	0.00	0.126
93.370	0.000	0.00	0.50	0.00	0.126
93.500	0.000	0.00	0.50	0.00	0.126
93.629	0.000	0.00	0.50	0.00	0.126
93.758	0.000	0.00	0.50	0.00	0.126
93.887	0.000	0.00	0.50	0.00	0.126
94.016	0.000	0.00	0.50	0.00	0.126
94.145	0.000	0.00	0.50	0.00	0.126
94.275	0.000	0.00	0.50	0.00	0.126
94.404	0.000	0.00	0.50	0.00	0.126
94.533	0.000	0.00	0.50	0.00	0.126
94.662	0.000	0.00	0.50	0.00	0.126
94.791	0.000	0.00	0.50	0.00	0.126
94.920	0.000	0.00	0.50	0.00	0.126
95.050	0.000	0.00	0.50	0.00	0.126
95.179	0.000	0.00	0.50	0.00	0.126
95.308	0.000	0.00	0.50	0.00	0.126
95.437	0.000	0.00	0.50	0.00	0.126
95.566	0.000	0.00	0.50	0.00	0.126
95.695	0.000	0.00	0.50	0.00	0.126
95.825	0.000	0.00	0.50	0.00	0.126
95.954	0.000	0.00	0.50	0.00	0.126
96.083	0.000	0.00	0.50	0.00	0.126
96.212	0.000	0.00	0.50	0.00	0.126
96.341	0.000	0.00	0.50	0.00	0.126
96.470	0.000	0.00	0.50	0.00	0.126
96.600	0.000	0.00	0.50	0.00	0.126
96.729	0.000	0.00	0.50	0.00	0.126
96.858	0.000	0.00	0.50	0.00	0.126
96.987	0.000	0.00	0.50	0.00	0.126
97.116	0.000	0.00	0.50	0.00	0.126
97.245	0.000	0.00	0.50	0.00	0.126
97.375	0.000	0.00	0.50	0.00	0.126
97.504	0.000	0.00	0.50	0.00	0.126
97.633	0.000	0.00	0.50	0.00	0.126
97.762	0.000	0.00	0.50	0.00	0.126
97.891	0.000	0.00	0.50	0.00	0.126
98.020	0.000	0.00	0.50	0.00	0.126
98.150	0.000	0.00	0.50	0.00	0.126
98.279	0.000	0.00	0.50	0.00	0.126
98.408	0.000	0.00	0.50	0.00	0.126
98.537	0.000	0.00	0.50	0.00	0.126
98.666	0.000	0.00	0.50	0.00	0.126
98.795	0.000	0.00	0.50	0.00	0.126
98.925	0.000	0.00	0.50	0.00	0.126
99.054	0.000	0.00	0.50	0.00	0.126
99.183	0.000	0.00	0.50	0.00	0.126

99.312	0.000	0.00	0.50	0.00	0.126
99.441	0.000	0.00	0.50	0.00	0.126
99.570	0.000	0.00	0.50	0.00	0.126
99.700	0.000	0.00	0.50	0.00	0.126
99.829	0.000	0.00	0.50	0.00	0.126
99.958	0.000	0.00	0.50	0.00	0.126
100.087	0.000	0.00	0.50	0.00	0.126
100.216	0.000	0.00	0.50	0.00	0.126
100.345	0.000	0.00	0.50	0.00	0.126
100.475	0.000	0.00	0.50	0.00	0.126
100.604	0.000	0.00	0.50	0.00	0.126
100.733	0.000	0.00	0.50	0.00	0.126
100.862	0.000	0.00	0.50	0.00	0.126
100.991	0.000	0.00	0.50	0.00	0.126
101.120	0.000	0.00	0.50	0.00	0.126
101.250	0.000	0.00	0.50	0.00	0.126
101.379	0.000	0.00	0.50	0.00	0.126
101.508	0.000	0.00	0.50	0.00	0.126
101.637	0.000	0.00	0.50	0.00	0.126
101.766	0.000	0.00	0.50	0.00	0.126
101.895	0.000	0.00	0.50	0.00	0.126
102.025	0.000	0.00	0.50	0.00	0.126
102.154	0.000	0.00	0.50	0.00	0.126
102.283	0.000	0.00	0.50	0.00	0.126
102.412	0.000	0.00	0.50	0.00	0.126
102.541	0.000	0.00	0.50	0.00	0.126
102.670	0.000	0.00	0.50	0.00	0.126
102.799	0.000	0.00	0.50	0.00	0.126
102.929	0.000	0.00	0.50	0.00	0.126
103.058	0.000	0.00	0.50	0.00	0.126
103.187	0.000	0.00	0.50	0.00	0.126
103.316	0.000	0.00	0.50	0.00	0.126
103.445	0.000	0.00	0.50	0.00	0.126
103.574	0.000	0.00	0.50	0.00	0.126
103.704	0.000	0.00	0.50	0.00	0.126
103.833	0.000	0.00	0.50	0.00	0.126
103.962	0.000	0.00	0.50	0.00	0.126
104.091	0.000	0.00	0.50	0.00	0.126
104.220	0.000	0.00	0.50	0.00	0.126
104.349	0.000	0.00	0.50	0.00	0.126
104.479	0.000	0.00	0.50	0.00	0.126
104.608	0.000	0.00	0.50	0.00	0.126
104.737	0.000	0.00	0.50	0.00	0.126
104.866	0.000	0.00	0.50	0.00	0.126
104.995	0.000	0.00	0.50	0.00	0.126
105.124	0.000	0.00	0.50	0.00	0.126
105.254	0.000	0.00	0.50	0.00	0.126
105.383	0.000	0.00	0.50	0.00	0.126
105.512	0.000	0.00	0.50	0.00	0.126
105.641	0.000	0.00	0.50	0.00	0.126
105.770	0.000	0.00	0.50	0.00	0.126
105.899	0.000	0.00	0.50	0.00	0.126
106.029	0.000	0.00	0.50	0.00	0.126
106.158	0.000	0.00	0.50	0.00	0.126
106.287	0.000	0.00	0.50	0.00	0.126
106.416	0.000	0.00	0.50	0.00	0.126
106.545	0.000	0.00	0.50	0.00	0.126
106.674	0.000	0.00	0.50	0.00	0.126
106.804	0.000	0.00	0.50	0.00	0.126
106.933	0.000	0.00	0.50	0.00	0.126
107.062	0.000	0.00	0.50	0.00	0.126
107.191	0.000	0.00	0.50	0.00	0.126
107.320	0.000	0.00	0.50	0.00	0.126
107.449	0.000	0.00	0.50	0.00	0.126
107.579	0.000	0.00	0.50	0.00	0.126
107.708	0.000	0.00	0.50	0.00	0.126
107.837	0.000	0.00	0.50	0.00	0.126
107.966	0.000	0.00	0.50	0.00	0.126

108.095	0.000	0.00	0.50	0.00	0.126
108.224	0.000	0.00	0.50	0.00	0.126
108.354	0.000	0.00	0.50	0.00	0.126
108.483	0.000	0.00	0.50	0.00	0.126
108.612	0.000	0.00	0.50	0.00	0.126
108.741	0.000	0.00	0.50	0.00	0.126
108.870	0.000	0.00	0.50	0.00	0.126
108.999	0.000	0.00	0.50	0.00	0.126
109.129	0.000	0.00	0.50	0.00	0.126
109.258	0.000	0.00	0.50	0.00	0.126
109.387	0.000	0.00	0.50	0.00	0.126
109.516	0.000	0.00	0.50	0.00	0.126
109.645	0.000	0.00	0.50	0.00	0.126
109.774	0.000	0.00	0.50	0.00	0.126
109.904	0.000	0.00	0.50	0.00	0.126
110.033	0.000	0.00	0.50	0.00	0.126
110.162	0.000	0.00	0.50	0.00	0.126
110.291	0.000	0.00	0.50	0.00	0.126
110.420	0.000	0.00	0.50	0.00	0.126
110.549	0.000	0.00	0.50	0.00	0.126
110.679	0.000	0.00	0.50	0.00	0.126
110.808	0.000	0.00	0.50	0.00	0.126
110.937	0.000	0.00	0.50	0.00	0.126
111.066	0.000	0.00	0.50	0.00	0.126
111.195	0.000	0.00	0.50	0.00	0.126
111.324	0.000	0.00	0.50	0.00	0.126
111.454	0.000	0.00	0.50	0.00	0.126
111.583	0.000	0.00	0.50	0.00	0.126
111.712	0.000	0.00	0.50	0.00	0.126
111.841	0.000	0.00	0.50	0.00	0.126
111.970	0.000	0.00	0.50	0.00	0.126
112.099	0.000	0.00	0.50	0.00	0.126
112.229	0.000	0.00	0.50	0.00	0.126
112.358	0.000	0.00	0.50	0.00	0.126
112.487	0.000	0.00	0.50	0.00	0.126
112.616	0.000	0.00	0.50	0.00	0.126
112.745	0.000	0.00	0.50	0.00	0.126
112.874	0.000	0.00	0.50	0.00	0.126
113.004	0.000	0.00	0.50	0.00	0.126
113.133	0.000	0.00	0.50	0.00	0.126
113.262	0.000	0.00	0.50	0.00	0.126
113.391	0.000	0.00	0.50	0.00	0.126
113.520	0.000	0.00	0.50	0.00	0.126
113.649	0.000	0.00	0.50	0.00	0.126
113.779	0.000	0.00	0.50	0.00	0.126
113.908	0.000	0.00	0.50	0.00	0.126
114.037	0.000	0.00	0.50	0.00	0.126
114.166	0.000	0.00	0.50	0.00	0.126
114.295	0.000	0.00	0.50	0.00	0.126
114.424	0.000	0.00	0.50	0.00	0.126
114.554	0.000	0.00	0.50	0.00	0.126
114.683	0.000	0.00	0.50	0.00	0.126
114.812	0.000	0.00	0.50	0.00	0.126
114.941	0.000	0.00	0.50	0.00	0.126
115.070	0.000	0.00	0.50	0.00	0.126
115.199	0.000	0.00	0.50	0.00	0.126
115.329	0.000	0.00	0.50	0.00	0.126
115.458	0.000	0.00	0.50	0.00	0.126
115.587	0.000	0.00	0.50	0.00	0.126
115.716	0.000	0.00	0.50	0.00	0.126
115.845	0.000	0.00	0.50	0.00	0.126
115.974	0.000	0.00	0.50	0.00	0.126
116.104	0.000	0.00	0.50	0.00	0.126
116.233	0.000	0.00	0.50	0.00	0.126
116.362	0.000	0.00	0.50	0.00	0.126
116.491	0.000	0.00	0.50	0.00	0.126
116.620	0.000	0.00	0.50	0.00	0.126
116.749	0.000	0.00	0.50	0.00	0.126

116.879	0.000	0.00	0.50	0.00	0.126
117.008	0.000	0.00	0.50	0.00	0.126
117.137	0.000	0.00	0.50	0.00	0.126
117.266	0.000	0.00	0.50	0.00	0.126
117.395	0.000	0.00	0.50	0.00	0.126
117.524	0.000	0.00	0.50	0.00	0.126
117.654	0.000	0.00	0.50	0.00	0.126
117.783	0.000	0.00	0.50	0.00	0.126
117.912	0.000	0.00	0.50	0.00	0.126
118.041	0.000	0.00	0.50	0.00	0.126
118.170	0.000	0.00	0.50	0.00	0.126
118.299	0.000	0.00	0.50	0.00	0.126
118.429	0.000	0.00	0.50	0.00	0.126
118.558	0.000	0.00	0.50	0.00	0.126
118.687	0.000	0.00	0.50	0.00	0.126
118.816	0.000	0.00	0.50	0.00	0.126
118.945	0.000	0.00	0.50	0.00	0.126
119.074	0.000	0.00	0.50	0.00	0.126
119.204	0.000	0.00	0.50	0.00	0.126
119.333	0.000	0.00	0.50	0.00	0.126
119.462	0.000	0.00	0.50	0.00	0.126
119.591	0.000	0.00	0.50	0.00	0.126
119.720	0.000	0.00	0.50	0.00	0.126
119.849	0.000	0.00	0.50	0.00	0.126
119.979	0.000	0.00	0.50	0.00	0.126
120.108	0.000	0.00	0.50	0.00	0.126
120.237	0.000	0.00	0.50	0.00	0.126
120.366	0.000	0.00	0.50	0.00	0.126
120.495	0.000	0.00	0.50	0.00	0.126
120.624	0.000	0.00	0.50	0.00	0.126
120.754	0.000	0.00	0.50	0.00	0.126
120.883	0.000	0.00	0.50	0.00	0.126
121.012	0.000	0.00	0.50	0.00	0.126
121.141	0.000	0.00	0.50	0.00	0.126
121.270	0.000	0.00	0.50	0.00	0.126
121.399	0.000	0.00	0.50	0.00	0.126
121.529	0.000	0.00	0.50	0.00	0.126
121.658	0.000	0.00	0.50	0.00	0.126
121.787	0.000	0.00	0.50	0.00	0.126
121.916	0.000	0.00	0.50	0.00	0.126
122.045	0.000	0.00	0.50	0.00	0.126
122.174	0.000	0.00	0.50	0.00	0.126
122.304	0.000	0.00	0.50	0.00	0.126
122.433	0.000	0.00	0.50	0.00	0.126
122.562	0.000	0.00	0.50	0.00	0.126
122.691	0.000	0.00	0.50	0.00	0.126
122.820	0.000	0.00	0.50	0.00	0.126
122.949	0.000	0.00	0.50	0.00	0.126
123.079	0.000	0.00	0.50	0.00	0.126
123.208	0.000	0.00	0.50	0.00	0.126
123.337	0.000	0.00	0.50	0.00	0.126
123.466	0.000	0.00	0.50	0.00	0.126
123.595	0.000	0.00	0.50	0.00	0.126
123.724	0.000	0.00	0.50	0.00	0.126
123.854	0.000	0.00	0.50	0.00	0.126
123.983	0.000	0.00	0.50	0.00	0.126
124.112	0.000	0.00	0.50	0.00	0.126
124.241	0.000	0.00	0.50	0.00	0.126
124.370	0.000	0.00	0.50	0.00	0.126
124.499	0.000	0.00	0.50	0.00	0.126
124.628	0.000	0.00	0.50	0.00	0.126
124.758	0.000	0.00	0.50	0.00	0.126
124.887	0.000	0.00	0.50	0.00	0.126
125.016	0.000	0.00	0.50	0.00	0.126
125.145	0.000	0.00	0.50	0.00	0.126
125.274	0.000	0.00	0.50	0.00	0.126
125.403	0.000	0.00	0.50	0.00	0.126
125.533	0.000	0.00	0.50	0.00	0.126

125.662	0.000	0.00	0.50	0.00	0.126
125.791	0.000	0.00	0.50	0.00	0.126
125.920	0.000	0.00	0.50	0.00	0.126
126.049	0.000	0.00	0.50	0.00	0.126
126.178	0.000	0.00	0.50	0.00	0.126
126.308	0.000	0.00	0.50	0.00	0.126
126.437	0.000	0.00	0.50	0.00	0.126
126.566	0.000	0.00	0.50	0.00	0.126
126.695	0.000	0.00	0.50	0.00	0.126
126.824	0.000	0.00	0.50	0.00	0.126
126.953	0.000	0.00	0.50	0.00	0.126
127.083	0.000	0.00	0.50	0.00	0.126
127.212	0.000	0.00	0.50	0.00	0.126
127.341	0.000	0.00	0.50	0.00	0.126
127.470	0.000	0.00	0.50	0.00	0.126
127.599	0.000	0.00	0.50	0.00	0.126
127.728	0.000	0.00	0.50	0.00	0.126
127.858	0.000	0.00	0.50	0.00	0.126
127.987	0.000	0.00	0.50	0.00	0.126
128.116	0.000	0.00	0.50	0.00	0.126
128.245	0.000	0.00	0.50	0.00	0.126
128.374	0.000	0.00	0.50	0.00	0.126
128.503	0.000	0.00	0.50	0.00	0.126
128.633	0.000	0.00	0.50	0.00	0.126
128.762	0.000	0.00	0.50	0.00	0.126
128.891	0.000	0.00	0.50	0.00	0.126
129.020	0.000	0.00	0.50	0.00	0.126
129.149	0.000	0.00	0.50	0.00	0.126
129.278	0.000	0.00	0.50	0.00	0.126
129.408	0.000	0.00	0.50	0.00	0.126
129.537	0.000	0.00	0.50	0.00	0.126
129.666	0.000	0.00	0.50	0.00	0.126
129.795	0.000	0.00	0.50	0.00	0.126
129.924	0.000	0.00	0.50	0.00	0.126
130.053	0.000	0.00	0.50	0.00	0.126
130.183	0.000	0.00	0.50	0.00	0.126
130.312	0.000	0.00	0.50	0.00	0.126
130.441	0.000	0.00	0.50	0.00	0.126
130.570	0.000	0.00	0.50	0.00	0.126
130.699	0.000	0.00	0.50	0.00	0.126
130.828	0.000	0.00	0.50	0.00	0.126
130.958	0.000	0.00	0.50	0.00	0.126
131.087	0.000	0.00	0.50	0.00	0.126
131.216	0.000	0.00	0.50	0.00	0.126
131.345	0.000	0.00	0.50	0.00	0.126
131.474	0.000	0.00	0.50	0.00	0.126
131.603	0.000	0.00	0.50	0.00	0.126
131.733	0.000	0.00	0.50	0.00	0.126
131.862	0.000	0.00	0.50	0.00	0.126
131.991	0.000	0.00	0.50	0.00	0.126
132.120	0.000	0.00	0.50	0.00	0.126
132.249	0.000	0.00	0.50	0.00	0.126
132.378	0.000	0.00	0.50	0.00	0.126
132.508	0.000	0.00	0.50	0.00	0.126
132.637	0.000	0.00	0.50	0.00	0.126
132.766	0.000	0.00	0.50	0.00	0.126
132.895	0.000	0.00	0.50	0.00	0.126
133.024	0.000	0.00	0.50	0.00	0.126
133.153	0.000	0.00	0.50	0.00	0.126
133.283	0.000	0.00	0.50	0.00	0.126
133.412	0.000	0.00	0.50	0.00	0.126
133.541	0.000	0.00	0.50	0.00	0.126
133.670	0.000	0.00	0.50	0.00	0.126
133.799	0.000	0.00	0.50	0.00	0.126
133.928	0.000	0.00	0.50	0.00	0.126
134.058	0.000	0.00	0.50	0.00	0.126
134.187	0.000	0.00	0.50	0.00	0.126
134.316	0.000	0.00	0.50	0.00	0.126

134.445	0.000	0.00	0.50	0.00	0.126
134.574	0.000	0.00	0.50	0.00	0.126
134.703	0.000	0.00	0.50	0.00	0.126
134.833	0.000	0.00	0.50	0.00	0.126
134.962	0.000	0.00	0.50	0.00	0.126
135.091	0.000	0.00	0.50	0.00	0.126
135.220	0.000	0.00	0.50	0.00	0.126
135.349	0.000	0.00	0.50	0.00	0.126
135.478	0.000	0.00	0.50	0.00	0.126
135.608	0.000	0.00	0.50	0.00	0.126
135.737	0.000	0.00	0.50	0.00	0.126
135.866	0.000	0.00	0.50	0.00	0.126
135.995	0.000	0.00	0.50	0.00	0.126
136.124	0.000	0.00	0.50	0.00	0.126
136.253	0.000	0.00	0.50	0.00	0.126
136.383	0.000	0.00	0.50	0.00	0.126
136.512	0.000	0.00	0.50	0.00	0.126
136.641	0.000	0.00	0.50	0.00	0.126
136.770	0.000	0.00	0.50	0.00	0.126
136.899	0.000	0.00	0.50	0.00	0.126
137.028	0.000	0.00	0.50	0.00	0.126
137.158	0.000	0.00	0.50	0.00	0.126
137.287	0.000	0.00	0.50	0.00	0.126
137.416	0.000	0.00	0.50	0.00	0.126
137.545	0.000	0.00	0.50	0.00	0.126
137.674	0.000	0.00	0.50	0.00	0.126
137.803	0.000	0.00	0.50	0.00	0.126
137.933	0.000	0.00	0.50	0.00	0.126
138.062	0.000	0.00	0.50	0.00	0.126
138.191	0.000	0.00	0.50	0.00	0.126
138.320	0.000	0.00	0.50	0.00	0.126
138.449	0.000	0.00	0.50	0.00	0.126
138.578	0.000	0.00	0.50	0.00	0.126
138.708	0.000	0.00	0.50	0.00	0.126
138.837	0.000	0.00	0.50	0.00	0.126
138.966	0.000	0.00	0.50	0.00	0.126
139.095	0.000	0.00	0.50	0.00	0.126
139.224	0.000	0.00	0.50	0.00	0.126
139.353	0.000	0.00	0.50	0.00	0.126
139.483	0.000	0.00	0.50	0.00	0.126
139.612	0.000	0.00	0.50	0.00	0.126
139.741	0.000	0.00	0.50	0.00	0.126
139.870	0.000	0.00	0.50	0.00	0.126
139.999	0.000	0.00	0.50	0.00	0.126
140.128	0.000	0.00	0.50	0.00	0.126
140.258	0.000	0.00	0.50	0.00	0.126
140.387	0.000	0.00	0.50	0.00	0.126
140.516	0.000	0.00	0.50	0.00	0.126
140.645	0.000	0.00	0.50	0.00	0.126
140.774	0.000	0.00	0.50	0.00	0.126
140.903	0.000	0.00	0.50	0.00	0.126
141.033	0.000	0.00	0.50	0.00	0.126
141.162	0.000	0.00	0.50	0.00	0.126
141.291	0.000	0.00	0.50	0.00	0.126
141.420	0.000	0.00	0.50	0.00	0.126
141.549	0.000	0.00	0.50	0.00	0.126
141.678	0.000	0.00	0.50	0.00	0.126
141.808	0.000	0.00	0.50	0.00	0.126
141.937	0.000	0.00	0.50	0.00	0.126
142.066	0.000	0.00	0.50	0.00	0.126
142.195	0.000	0.00	0.50	0.00	0.126
142.324	0.000	0.00	0.50	0.00	0.126
142.453	0.000	0.00	0.50	0.00	0.126
142.583	0.000	0.00	0.50	0.00	0.126
142.712	0.000	0.00	0.50	0.00	0.126
142.841	0.000	0.00	0.50	0.00	0.126
142.970	0.000	0.00	0.50	0.00	0.126
143.099	0.000	0.00	0.50	0.00	0.126

143.228	0.000	0.00	0.50	0.00	0.126
143.358	0.000	0.00	0.50	0.00	0.126
143.487	0.000	0.00	0.50	0.00	0.126
143.616	0.000	0.00	0.50	0.00	0.126
143.745	0.000	0.00	0.50	0.00	0.126
143.874	0.000	0.00	0.50	0.00	0.126
144.003	0.000	0.00	0.50	0.00	0.126
144.133	0.000	0.00	0.50	0.00	0.126
144.262	0.000	0.00	0.50	0.00	0.126
144.391	0.000	0.00	0.50	0.00	0.126
144.520	0.000	0.00	0.50	0.00	0.126
144.649	0.000	0.00	0.50	0.00	0.126
144.778	0.000	0.00	0.50	0.00	0.126
144.908	0.000	0.00	0.50	0.00	0.126
145.037	0.000	0.00	0.50	0.00	0.126
145.166	0.000	0.00	0.50	0.00	0.126
145.295	0.000	0.00	0.50	0.00	0.126
145.424	0.000	0.00	0.50	0.00	0.126
145.553	0.000	0.00	0.50	0.00	0.126
145.682	0.000	0.00	0.50	0.00	0.126
145.812	0.000	0.00	0.50	0.00	0.126
145.941	0.000	0.00	0.50	0.00	0.126
146.070	0.000	0.00	0.50	0.00	0.126
146.199	0.000	0.00	0.50	0.00	0.126
146.328	0.000	0.00	0.50	0.00	0.126
146.457	0.000	0.00	0.50	0.00	0.126
146.587	0.000	0.00	0.50	0.00	0.126
146.716	0.000	0.00	0.50	0.00	0.126
146.845	0.000	0.00	0.50	0.00	0.126
146.974	0.000	0.00	0.50	0.00	0.126
147.103	0.000	0.00	0.50	0.00	0.126
147.232	0.000	0.00	0.50	0.00	0.126
147.362	0.000	0.00	0.50	0.00	0.126
147.491	0.000	0.00	0.50	0.00	0.126
147.620	0.000	0.00	0.50	0.00	0.126
147.749	0.000	0.00	0.50	0.00	0.126
147.878	0.000	0.00	0.50	0.00	0.126
148.007	0.000	0.00	0.50	0.00	0.126
148.137	0.000	0.00	0.50	0.00	0.126
148.266	0.000	0.00	0.50	0.00	0.126
148.395	0.000	0.00	0.50	0.00	0.126
148.524	0.000	0.00	0.50	0.00	0.126
148.653	0.000	0.00	0.50	0.00	0.126
148.782	0.000	0.00	0.50	0.00	0.126
148.912	0.000	0.00	0.50	0.00	0.126
149.041	0.000	0.00	0.50	0.00	0.126
149.170	0.000	0.00	0.50	0.00	0.126
149.299	0.000	0.00	0.50	0.00	0.126
149.428	0.000	0.00	0.50	0.00	0.126
149.557	0.000	0.00	0.50	0.00	0.126
149.687	0.000	0.00	0.50	0.00	0.126
149.816	0.000	0.00	0.50	0.00	0.126
149.945	0.000	0.00	0.50	0.00	0.126
150.074	0.000	0.00	0.50	0.00	0.126
150.203	0.000	0.00	0.50	0.00	0.126
150.332	0.000	0.00	0.50	0.00	0.126
150.462	0.000	0.00	0.50	0.00	0.126
150.591	0.000	0.00	0.50	0.00	0.126
150.720	0.000	0.00	0.50	0.00	0.126
150.849	0.000	0.00	0.50	0.00	0.126
150.978	0.000	0.00	0.50	0.00	0.126
151.107	0.000	0.00	0.50	0.00	0.126
151.237	0.000	0.00	0.50	0.00	0.126
151.366	0.000	0.00	0.50	0.00	0.126
151.495	0.000	0.00	0.50	0.00	0.126
151.624	0.000	0.00	0.50	0.00	0.126
151.753	0.000	0.00	0.50	0.00	0.126
151.882	0.000	0.00	0.50	0.00	0.126

152.012	0.000	0.00	0.50	0.00	0.126
152.141	0.000	0.00	0.50	0.00	0.126
152.270	0.000	0.00	0.50	0.00	0.126
152.399	0.000	0.00	0.50	0.00	0.126
152.528	0.000	0.00	0.50	0.00	0.126
152.657	0.000	0.00	0.50	0.00	0.126
152.787	0.000	0.00	0.50	0.00	0.126
152.916	0.000	0.00	0.50	0.00	0.126
153.045	0.000	0.00	0.50	0.00	0.126
153.174	0.000	0.00	0.50	0.00	0.126
153.303	0.000	0.00	0.50	0.00	0.126

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****************************************************************************
                      SMALL AREA UNIT HYDROGRAPH MODEL
============================================================================
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                           Analysis prepared by:




****************************************************************************
----------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center
  Basin A
  100 Year Storm
----------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.91
    TOTAL CATCHMENT AREA(ACRES) =   20.30
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.040
    TIME OF CONCENTRATION(MIN.) =  7.67
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.52
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.09
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.45
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.43
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.36
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  5.63

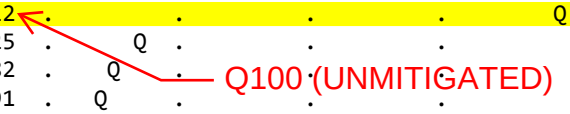
----------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     8.30
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.22

****************************************************************************
  TIME     VOLUME       Q    0.       22.5      45.0      67.5      90.0
 (HOURS)    (AF)      (CFS)
----------------------------------------------------------------------------
  0.02      0.0000      0.00  Q         .         .         .         .
  0.15      0.0082      1.55  Q         .         .         .         .
  0.28      0.0246      1.56  Q         .         .         .         .
  0.40      0.0411      1.57  Q         .         .         .         .
  0.53      0.0577      1.58  Q         .         .         .         .
  0.66      0.0744      1.58  Q         .         .         .         .
  0.79      0.0912      1.59  Q         .         .         .         .
  0.92      0.1081      1.60  Q         .         .         .         .
  1.04      0.1250      1.61  Q         .         .         .         .
  1.17      0.1421      1.62  Q         .         .         .         .
  1.30      0.1592      1.63  Q         .         .         .         .
  1.43      0.1764      1.63  Q         .         .         .         .
  1.55      0.1937      1.65  Q         .         .         .         .
  1.68      0.2112      1.65  Q         .         .         .         .
  1.81      0.2287      1.66  Q         .         .         .         .
  1.94      0.2463      1.67  Q         .         .         .         .
  2.07      0.2640      1.68  Q         .         .         .         .
  2.19      0.2818      1.69  Q         .         .         .         .
  2.32      0.2997      1.70  Q         .         .         .         .
  2.45      0.3178      1.71  Q         .         .         .         .
```

2.58	0.3359	1.72	Q	.	.	.	.
2.71	0.3541	1.73	Q	.	.	.	.
2.83	0.3725	1.74	Q	.	.	.	.
2.96	0.3909	1.75	Q	.	.	.	.
3.09	0.4095	1.76	Q	.	.	.	.
3.22	0.4282	1.77	Q	.	.	.	.
3.34	0.4470	1.79	Q	.	.	.	.
3.47	0.4659	1.79	Q	.	.	.	.
3.60	0.4849	1.81	Q	.	.	.	.
3.73	0.5041	1.82	Q	.	.	.	.
3.86	0.5234	1.83	Q	.	.	.	.
3.98	0.5428	1.84	Q	.	.	.	.
4.11	0.5623	1.86	Q	.	.	.	.
4.24	0.5820	1.87	Q	.	.	.	.
4.37	0.6018	1.88	Q	.	.	.	.
4.49	0.6218	1.89	Q	.	.	.	.
4.62	0.6418	1.91	Q	.	.	.	.
4.75	0.6621	1.92	Q	.	.	.	.
4.88	0.6824	1.94	Q	.	.	.	.
5.01	0.7029	1.95	Q	.	.	.	.
5.13	0.7236	1.97	Q	.	.	.	.
5.26	0.7444	1.97	Q	.	.	.	.
5.39	0.7654	1.99	Q	.	.	.	.
5.52	0.7865	2.00	Q	.	.	.	.
5.65	0.8078	2.02	Q	.	.	.	.
5.77	0.8292	2.04	Q	.	.	.	.
5.90	0.8509	2.06	Q	.	.	.	.
6.03	0.8727	2.07	Q	.	.	.	.
6.16	0.8946	2.09	Q	.	.	.	.
6.28	0.9168	2.10	Q	.	.	.	.
6.41	0.9391	2.12	Q	.	.	.	.
6.54	0.9616	2.14	Q	.	.	.	.
6.67	0.9843	2.16	Q	.	.	.	.
6.80	1.0072	2.17	Q	.	.	.	.
6.92	1.0303	2.20	Q	.	.	.	.
7.05	1.0535	2.21	Q	.	.	.	.
7.18	1.0770	2.24	Q	.	.	.	.
7.31	1.1008	2.25	.Q	.	.	.	.
7.44	1.1247	2.28	.Q	.	.	.	.
7.56	1.1488	2.29	.Q	.	.	.	.
7.69	1.1732	2.32	.Q	.	.	.	.
7.82	1.1978	2.34	.Q	.	.	.	.
7.95	1.2227	2.37	.Q	.	.	.	.
8.07	1.2478	2.38	.Q	.	.	.	.
8.20	1.2731	2.42	.Q	.	.	.	.
8.33	1.2987	2.43	.Q	.	.	.	.
8.46	1.3246	2.47	.Q	.	.	.	.
8.59	1.3507	2.48	.Q	.	.	.	.
8.71	1.3772	2.52	.Q	.	.	.	.
8.84	1.4039	2.54	.Q	.	.	.	.
8.97	1.4309	2.58	.Q	.	.	.	.
9.10	1.4582	2.60	.Q	.	.	.	.
9.22	1.4858	2.64	.Q	.	.	.	.
9.35	1.5138	2.66	.Q	.	.	.	.
9.48	1.5421	2.70	.Q	.	.	.	.
9.61	1.5707	2.72	.Q	.	.	.	.
9.74	1.5997	2.77	.Q	.	.	.	.
9.86	1.6291	2.79	.Q	.	.	.	.
9.99	1.6588	2.84	.Q	.	.	.	.
10.12	1.6889	2.86	.Q	.	.	.	.
10.25	1.7195	2.92	.Q	.	.	.	.
10.38	1.7504	2.94	.Q	.	.	.	.
10.50	1.7818	3.00	.Q	.	.	.	.
10.63	1.8137	3.03	.Q	.	.	.	.
10.76	1.8460	3.09	.Q	.	.	.	.
10.89	1.8788	3.12	.Q	.	.	.	.
11.01	1.9121	3.19	.Q	.	.	.	.
11.14	1.9459	3.22	.Q	.	.	.	.

11.27	1.9803	3.29	.Q . . . .
11.40	2.0153	3.33	.Q . . . .
11.53	2.0509	3.41	.Q . . . .
11.65	2.0871	3.45	.Q . . . .
11.78	2.1239	3.53	.Q . . . .
11.91	2.1615	3.58	.Q . . . .
12.04	2.1998	3.67	.Q . . . .
12.16	2.2435	4.61	. Q . . . .
12.29	2.2930	4.78	. Q . . . .
12.42	2.3438	4.83	. Q . . . .
12.55	2.3955	4.96	. Q . . . .
12.68	2.4483	5.02	. Q . . . .
12.80	2.5020	5.16	. Q . . . .
12.93	2.5569	5.23	. Q . . . .
13.06	2.6130	5.39	. Q . . . .
13.19	2.6704	5.47	. Q . . . .
13.32	2.7291	5.65	. Q . . . .
13.44	2.7893	5.74	. Q . . . .
13.57	2.8510	5.95	. Q . . . .
13.70	2.9144	6.06	. Q . . . .
13.83	2.9796	6.30	. Q . . . .
13.95	3.0468	6.43	. Q . . . .
14.08	3.1163	6.73	. Q . . . .
14.21	3.1883	6.90	. Q . . . .
14.34	3.2631	7.25	. Q . . . .
14.47	3.3408	7.45	. Q . . . .
14.59	3.4218	7.89	. Q . . . .
14.72	3.5064	8.14	. Q . . . .
14.85	3.5955	8.72	. Q . . . .
14.98	3.6893	9.05	. Q . . . .
15.11	3.7892	9.86	. Q . . . .
15.23	3.8959	10.34	. Q . . . .
15.36	4.0116	11.57	. Q . . . .
15.49	4.1315	11.13	. Q . . . .
15.62	4.2592	13.04	. Q . . . .
15.74	4.4060	14.74	. Q . . . .
15.87	4.5959	21.21	. Q. . . .
16.00	4.8621	29.17	. . Q . . .
16.13	5.4869	89.12	. . . . Q.
16.26	6.0488	17.25	. Q . . .
16.38	6.2024	11.82	. Q . . .
16.51	6.3224	10.91	. Q . . . .
16.64	6.4298	9.43	. Q . . . .
16.77	6.5241	8.41	. Q . . . .
16.89	6.6090	7.66	. Q . . . .
17.02	6.6868	7.07	. Q . . . .
17.15	6.7588	6.56	. Q . . . .
17.28	6.8261	6.17	. Q . . . .
17.41	6.8895	5.84	. Q . . . .
17.53	6.9497	5.56	. Q . . . .
17.66	7.0071	5.31	. Q . . . .
17.79	7.0621	5.09	. Q . . . .
17.92	7.1148	4.90	. Q . . . .
18.05	7.1656	4.72	. Q . . . .
18.17	7.2097	3.62	.Q . . . .
18.30	7.2472	3.49	.Q . . . .
18.43	7.2834	3.37	.Q . . . .
18.56	7.3184	3.26	.Q . . . .
18.68	7.3523	3.15	.Q . . . .
18.81	7.3851	3.06	.Q . . . .
18.94	7.4169	2.97	.Q . . . .
19.07	7.4479	2.89	.Q . . . .
19.20	7.4780	2.81	.Q . . . .
19.32	7.5074	2.74	.Q . . . .
19.45	7.5360	2.68	.Q . . . .
19.58	7.5640	2.62	.Q . . . .
19.71	7.5913	2.56	.Q . . . .
19.83	7.6180	2.50	.Q . . . .



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 19.96      7.6442      2.45  .Q        .         .         .         .
 20.09      7.6698      2.40  .Q        .         .         .         .
 20.22      7.6949      2.35  .Q        .         .         .         .
 20.35      7.7195      2.31  .Q        .         .         .         .
 20.47      7.7437      2.26  .Q        .         .         .         .
 20.60      7.7674      2.22  Q         .         .         .         .
 20.73      7.7907      2.19  Q         .         .         .         .
 20.86      7.8136      2.15  Q         .         .         .         .
 20.99      7.8361      2.11  Q         .         .         .         .
 21.11      7.8582      2.08  Q         .         .         .         .
 21.24      7.8800      2.05  Q         .         .         .         .
 21.37      7.9014      2.01  Q         .         .         .         .
 21.50      7.9226      1.98  Q         .         .         .         .
 21.62      7.9434      1.96  Q         .         .         .         .
 21.75      7.9639      1.93  Q         .         .         .         .
 21.88      7.9841      1.90  Q         .         .         .         .
 22.01      8.0041      1.87  Q         .         .         .         .
 22.14      8.0237      1.85  Q         .         .         .         .
 22.26      8.0432      1.83  Q         .         .         .         .
 22.39      8.0623      1.80  Q         .         .         .         .
 22.52      8.0812      1.78  Q         .         .         .         .
 22.65      8.0999      1.76  Q         .         .         .         .
 22.78      8.1184      1.74  Q         .         .         .         .
 22.90      8.1366      1.72  Q         .         .         .         .
 23.03      8.1546      1.70  Q         .         .         .         .
 23.16      8.1725      1.68  Q         .         .         .         .
 23.29      8.1901      1.66  Q         .         .         .         .
 23.41      8.2075      1.64  Q         .         .         .         .
 23.54      8.2247      1.62  Q         .         .         .         .
 23.67      8.2418      1.60  Q         .         .         .         .
 23.80      8.2586      1.59  Q         .         .         .         .
 23.93      8.2753      1.57  Q         .         .         .         .
 24.05      8.2918      1.56  Q         .         .         .         .
 24.18      8.3000      0.00  Q         .         .         .         .
 ----------------------------------------------------------------------------
--------------------------------------------------------------------------------
    TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
    (Note: 100% of Peak Flow Rate estimate assumed to have
    an instantaneous time duration)

    Percentile of Estimated                Duration
        Peak Flow Rate                     (minutes)
    ======================                 =========
               0%                           1442.0
              10%                            107.4
              20%                             23.0
              30%                             15.3
              40%                              7.7
              50%                              7.7
              60%                              7.7
              70%                              7.7
              80%                              7.7
              90%                              7.7

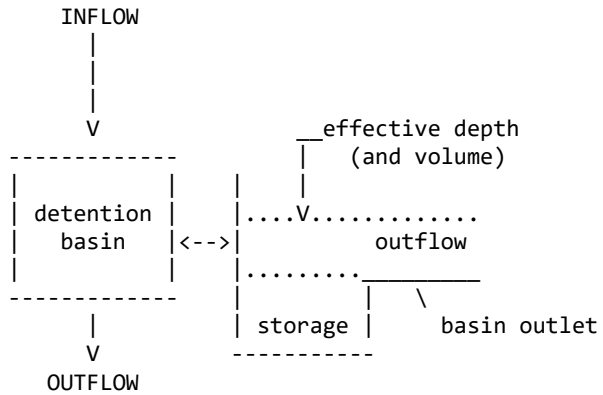
  Problem Descriptions:
   Goodman Logistics Center
   Basin A
   100 Year Storm



================================================================================
     FLOW-THROUGH DETENTION BASIN MODEL

     SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
     CONSTANT HYDROGRAPH TIME UNIT(MINUTES) =    7.670
     DEAD STORAGE(AF) =       0.00
     SPECIFIED DEAD STORAGE(AF) FILLED =       0.00
```

ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 9

*BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	**	BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
0.000	0.000	0.000**		0.250	0.063	0.000	*
0.500	0.126	0.000**		1.000	0.252	4.250	*
2.000	0.782	9.510**		3.000	1.237	12.760	*
4.000	1.520	15.340**		4.250	1.583	106.680	*
4.500	1.646	112.150**					

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.25	0.06290	0.06290
3	0.50	0.12590	0.12590
4	1.00	0.22925	0.27415
5	2.00	0.73146	0.83194
6	3.00	1.16920	1.30400
7	4.00	1.43927	1.60133
8	4.25	1.01968	2.14672
9	4.50	1.05378	2.23862

WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.021	0.000	0.00	0.00	0.00	0.000
0.149	0.000	1.55	0.07	0.00	0.016
0.276	0.000	1.56	0.13	0.00	0.033
0.404	0.000	1.57	0.20	0.00	0.049
0.532	0.000	1.58	0.26	0.00	0.066
0.660	0.000	1.58	0.33	0.00	0.083
0.788	0.000	1.59	0.40	0.00	0.100
0.916	0.000	1.60	0.46	0.00	0.117
1.043	0.000	1.61	0.53	0.11	0.132
1.171	0.000	1.62	0.58	0.43	0.145
1.299	0.000	1.63	0.61	0.79	0.154
1.427	0.000	1.63	0.64	1.05	0.160
1.555	0.000	1.65	0.65	1.23	0.164
1.683	0.000	1.65	0.67	1.35	0.168
1.810	0.000	1.66	0.67	1.45	0.170
1.938	0.000	1.67	0.68	1.51	0.172
2.066	0.000	1.68	0.69	1.56	0.173

2.194	0.000	1.69	0.69	1.60	0.174
2.322	0.000	1.70	0.69	1.63	0.175
2.450	0.000	1.71	0.70	1.65	0.175
2.577	0.000	1.72	0.70	1.67	0.176
2.705	0.000	1.73	0.70	1.69	0.176
2.833	0.000	1.74	0.70	1.70	0.177
2.961	0.000	1.75	0.70	1.72	0.177
3.089	0.000	1.76	0.70	1.73	0.177
3.217	0.000	1.77	0.71	1.74	0.178
3.345	0.000	1.79	0.71	1.75	0.178
3.472	0.000	1.79	0.71	1.76	0.178
3.600	0.000	1.81	0.71	1.78	0.179
3.728	0.000	1.82	0.71	1.79	0.179
3.856	0.000	1.83	0.71	1.80	0.179
3.984	0.000	1.84	0.71	1.81	0.180
4.111	0.000	1.86	0.72	1.82	0.180
4.239	0.000	1.87	0.72	1.83	0.180
4.367	0.000	1.88	0.72	1.85	0.181
4.495	0.000	1.89	0.72	1.86	0.181
4.623	0.000	1.91	0.72	1.87	0.182
4.751	0.000	1.92	0.72	1.88	0.182
4.878	0.000	1.94	0.72	1.90	0.182
5.006	0.000	1.95	0.73	1.91	0.183
5.134	0.000	1.97	0.73	1.92	0.183
5.262	0.000	1.97	0.73	1.94	0.183
5.390	0.000	1.99	0.73	1.95	0.184
5.518	0.000	2.00	0.73	1.97	0.184
5.645	0.000	2.02	0.73	1.98	0.185
5.773	0.000	2.04	0.74	2.00	0.185
5.901	0.000	2.06	0.74	2.01	0.186
6.029	0.000	2.07	0.74	2.03	0.186
6.157	0.000	2.09	0.74	2.04	0.187
6.285	0.000	2.10	0.74	2.06	0.187
6.412	0.000	2.12	0.75	2.07	0.188
6.540	0.000	2.14	0.75	2.09	0.188
6.668	0.000	2.16	0.75	2.11	0.189
6.796	0.000	2.17	0.75	2.13	0.189
6.924	0.000	2.20	0.75	2.14	0.190
7.052	0.000	2.21	0.76	2.16	0.190
7.179	0.000	2.24	0.76	2.18	0.191
7.307	0.000	2.25	0.76	2.20	0.191
7.435	0.000	2.28	0.76	2.22	0.192
7.563	0.000	2.29	0.76	2.24	0.192
7.691	0.000	2.32	0.77	2.26	0.193
7.819	0.000	2.34	0.77	2.28	0.194
7.947	0.000	2.37	0.77	2.30	0.194
8.074	0.000	2.38	0.77	2.32	0.195
8.202	0.000	2.42	0.78	2.35	0.196
8.330	0.000	2.43	0.78	2.37	0.196
8.458	0.000	2.47	0.78	2.39	0.197
8.586	0.000	2.48	0.79	2.42	0.198
8.714	0.000	2.52	0.79	2.44	0.199
8.841	0.000	2.54	0.79	2.47	0.199
8.969	0.000	2.58	0.80	2.50	0.200
9.097	0.000	2.60	0.80	2.52	0.201
9.225	0.000	2.64	0.80	2.55	0.202
9.353	0.000	2.66	0.81	2.58	0.203
9.481	0.000	2.70	0.81	2.61	0.204
9.608	0.000	2.72	0.81	2.64	0.204
9.736	0.000	2.77	0.82	2.67	0.205
9.864	0.000	2.79	0.82	2.70	0.206
9.992	0.000	2.84	0.82	2.74	0.207
10.120	0.000	2.86	0.83	2.77	0.208
10.247	0.000	2.92	0.83	2.81	0.210
10.375	0.000	2.94	0.84	2.85	0.211
10.503	0.000	3.00	0.84	2.88	0.212
10.631	0.000	3.03	0.85	2.92	0.213
10.759	0.000	3.09	0.85	2.96	0.214

10.887	0.000	3.12	0.86	3.01	0.216
11.014	0.000	3.19	0.86	3.05	0.217
11.142	0.000	3.22	0.87	3.10	0.218
11.270	0.000	3.29	0.87	3.15	0.220
11.398	0.000	3.33	0.88	3.20	0.221
11.526	0.000	3.41	0.89	3.25	0.223
11.654	0.000	3.45	0.89	3.30	0.224
11.781	0.000	3.53	0.90	3.36	0.226
11.909	0.000	3.58	0.91	3.42	0.228
12.037	0.000	3.67	0.91	3.48	0.230
12.165	0.000	4.61	0.95	3.68	0.240
12.293	0.000	4.78	0.99	3.99	0.248
12.421	0.000	4.83	1.01	4.20	0.255
12.548	0.000	4.96	1.02	4.31	0.262
12.676	0.000	5.02	1.03	4.38	0.268
12.804	0.000	5.16	1.05	4.45	0.276
12.932	0.000	5.23	1.06	4.53	0.283
13.060	0.000	5.39	1.08	4.60	0.292
13.188	0.000	5.47	1.09	4.69	0.300
13.316	0.000	5.65	1.11	4.77	0.309
13.443	0.000	5.74	1.13	4.86	0.318
13.571	0.000	5.95	1.15	4.96	0.329
13.699	0.000	6.06	1.16	5.07	0.339
13.827	0.000	6.30	1.19	5.18	0.351
13.955	0.000	6.43	1.21	5.29	0.363
14.083	0.000	6.73	1.24	5.42	0.377
14.210	0.000	6.90	1.26	5.56	0.391
14.338	0.000	7.25	1.29	5.71	0.407
14.466	0.000	7.45	1.32	5.88	0.424
14.594	0.000	7.89	1.36	6.05	0.443
14.722	0.000	8.14	1.40	6.25	0.463
14.849	0.000	8.72	1.44	6.47	0.487
14.977	0.000	9.05	1.49	6.71	0.512
15.105	0.000	9.86	1.55	6.98	0.542
15.233	0.000	10.34	1.61	7.29	0.574
15.361	0.000	11.57	1.69	7.66	0.616
15.489	0.000	11.13	1.75	8.02	0.648
15.616	0.000	13.04	1.84	8.43	0.697
15.744	0.000	14.74	1.96	8.97	0.758
15.872	0.000	21.21	2.21	9.74	0.879
16.000	0.000	29.17	2.64	10.90	1.072
16.128	0.000	89.12	4.16	42.88	1.561
16.256	0.000	17.25	3.16	43.67	1.282
16.384	0.000	11.82	3.11	13.11	1.268
16.511	0.000	10.91	3.03	12.95	1.246
16.639	0.000	9.43	2.95	12.72	1.212
16.767	0.000	8.41	2.85	12.43	1.169
16.895	0.000	7.66	2.75	12.11	1.122
17.023	0.000	7.07	2.64	11.77	1.073
17.151	0.000	6.56	2.53	11.41	1.022
17.278	0.000	6.17	2.41	11.04	0.970
17.406	0.000	5.84	2.30	10.67	0.919
17.534	0.000	5.56	2.19	10.31	0.869
17.662	0.000	5.31	2.08	9.96	0.820
17.790	0.000	5.09	1.98	9.60	0.772
17.918	0.000	4.90	1.90	9.19	0.727
18.045	0.000	4.72	1.82	8.75	0.684
18.173	0.000	3.62	1.72	8.30	0.635
18.301	0.000	3.49	1.64	7.82	0.589
18.429	0.000	3.37	1.56	7.39	0.546
18.557	0.000	3.26	1.48	6.98	0.507
18.684	0.000	3.15	1.41	6.60	0.471
18.812	0.000	3.06	1.35	6.26	0.437
18.940	0.000	2.97	1.29	5.93	0.406
19.068	0.000	2.89	1.24	5.63	0.377
19.196	0.000	2.81	1.19	5.36	0.350
19.324	0.000	2.74	1.14	5.10	0.325
19.451	0.000	2.68	1.09	4.86	0.302

19.579	0.000	2.62	1.05	4.64	0.280
19.707	0.000	2.56	1.02	4.44	0.261
19.835	0.000	2.50	0.97	4.15	0.243
19.963	0.000	2.45	0.91	3.73	0.230
20.091	0.000	2.40	0.87	3.34	0.220
20.219	0.000	2.35	0.84	3.04	0.212
20.346	0.000	2.31	0.82	2.83	0.207
20.474	0.000	2.26	0.81	2.66	0.203
20.602	0.000	2.22	0.79	2.54	0.199
20.730	0.000	2.19	0.78	2.44	0.197
20.858	0.000	2.15	0.77	2.35	0.195
20.986	0.000	2.11	0.77	2.29	0.193
21.113	0.000	2.08	0.76	2.23	0.191
21.241	0.000	2.05	0.75	2.18	0.190
21.369	0.000	2.01	0.75	2.13	0.188
21.497	0.000	1.98	0.74	2.09	0.187
21.625	0.000	1.96	0.74	2.06	0.186
21.753	0.000	1.93	0.74	2.02	0.185
21.880	0.000	1.90	0.73	1.99	0.184
22.008	0.000	1.87	0.73	1.96	0.183
22.136	0.000	1.85	0.73	1.93	0.183
22.264	0.000	1.83	0.72	1.90	0.182
22.392	0.000	1.80	0.72	1.87	0.181
22.520	0.000	1.78	0.72	1.85	0.180
22.647	0.000	1.76	0.71	1.83	0.180
22.775	0.000	1.74	0.71	1.80	0.179
22.903	0.000	1.72	0.71	1.78	0.178
23.031	0.000	1.70	0.71	1.76	0.178
23.159	0.000	1.68	0.70	1.74	0.177
23.287	0.000	1.66	0.70	1.71	0.176
23.414	0.000	1.64	0.70	1.69	0.176
23.542	0.000	1.62	0.70	1.68	0.175
23.670	0.000	1.60	0.69	1.66	0.175
23.798	0.000	1.59	0.69	1.64	0.174
23.926	0.000	1.57	0.69	1.62	0.174
24.053	0.000	1.56	0.69	1.60	0.173
24.181	0.000	0.00	0.63	1.35	0.159
24.309	0.000	0.00	0.59	0.94	0.149
24.437	0.000	0.00	0.56	0.66	0.142
24.565	0.000	0.00	0.54	0.46	0.137
24.693	0.000	0.00	0.53	0.32	0.134
24.820	0.000	0.00	0.52	0.22	0.131
24.948	0.000	0.00	0.52	0.16	0.130
25.076	0.000	0.00	0.51	0.11	0.129
25.204	0.000	0.00	0.51	0.08	0.128
25.332	0.000	0.00	0.51	0.05	0.127
25.460	0.000	0.00	0.50	0.04	0.127
25.587	0.000	0.00	0.50	0.03	0.127
25.715	0.000	0.00	0.50	0.02	0.126
25.843	0.000	0.00	0.50	0.01	0.126
25.971	0.000	0.00	0.50	0.01	0.126
26.099	0.000	0.00	0.50	0.01	0.126
26.227	0.000	0.00	0.50	0.00	0.126
26.354	0.000	0.00	0.50	0.00	0.126
26.482	0.000	0.00	0.50	0.00	0.126
26.610	0.000	0.00	0.50	0.00	0.126
26.738	0.000	0.00	0.50	0.00	0.126
26.866	0.000	0.00	0.50	0.00	0.126
26.994	0.000	0.00	0.50	0.00	0.126
27.121	0.000	0.00	0.50	0.00	0.126
27.249	0.000	0.00	0.50	0.00	0.126
27.377	0.000	0.00	0.50	0.00	0.126
27.505	0.000	0.00	0.50	0.00	0.126
27.633	0.000	0.00	0.50	0.00	0.126
27.761	0.000	0.00	0.50	0.00	0.126
27.888	0.000	0.00	0.50	0.00	0.126
28.016	0.000	0.00	0.50	0.00	0.126
28.144	0.000	0.00	0.50	0.00	0.126

28.272	0.000	0.00	0.50	0.00	0.126
28.400	0.000	0.00	0.50	0.00	0.126
28.528	0.000	0.00	0.50	0.00	0.126
28.655	0.000	0.00	0.50	0.00	0.126
28.783	0.000	0.00	0.50	0.00	0.126
28.911	0.000	0.00	0.50	0.00	0.126
29.039	0.000	0.00	0.50	0.00	0.126
29.167	0.000	0.00	0.50	0.00	0.126
29.295	0.000	0.00	0.50	0.00	0.126
29.422	0.000	0.00	0.50	0.00	0.126
29.550	0.000	0.00	0.50	0.00	0.126
29.678	0.000	0.00	0.50	0.00	0.126
29.806	0.000	0.00	0.50	0.00	0.126
29.934	0.000	0.00	0.50	0.00	0.126
30.062	0.000	0.00	0.50	0.00	0.126
30.189	0.000	0.00	0.50	0.00	0.126
30.317	0.000	0.00	0.50	0.00	0.126
30.445	0.000	0.00	0.50	0.00	0.126
30.573	0.000	0.00	0.50	0.00	0.126
30.701	0.000	0.00	0.50	0.00	0.126
30.829	0.000	0.00	0.50	0.00	0.126
30.956	0.000	0.00	0.50	0.00	0.126
31.084	0.000	0.00	0.50	0.00	0.126
31.212	0.000	0.00	0.50	0.00	0.126
31.340	0.000	0.00	0.50	0.00	0.126
31.468	0.000	0.00	0.50	0.00	0.126
31.596	0.000	0.00	0.50	0.00	0.126
31.723	0.000	0.00	0.50	0.00	0.126
31.851	0.000	0.00	0.50	0.00	0.126
31.979	0.000	0.00	0.50	0.00	0.126
32.107	0.000	0.00	0.50	0.00	0.126
32.235	0.000	0.00	0.50	0.00	0.126
32.363	0.000	0.00	0.50	0.00	0.126
32.490	0.000	0.00	0.50	0.00	0.126
32.618	0.000	0.00	0.50	0.00	0.126
32.746	0.000	0.00	0.50	0.00	0.126
32.874	0.000	0.00	0.50	0.00	0.126
33.002	0.000	0.00	0.50	0.00	0.126
33.130	0.000	0.00	0.50	0.00	0.126
33.257	0.000	0.00	0.50	0.00	0.126
33.385	0.000	0.00	0.50	0.00	0.126
33.513	0.000	0.00	0.50	0.00	0.126
33.641	0.000	0.00	0.50	0.00	0.126
33.769	0.000	0.00	0.50	0.00	0.126
33.897	0.000	0.00	0.50	0.00	0.126
34.024	0.000	0.00	0.50	0.00	0.126
34.152	0.000	0.00	0.50	0.00	0.126
34.280	0.000	0.00	0.50	0.00	0.126
34.408	0.000	0.00	0.50	0.00	0.126
34.536	0.000	0.00	0.50	0.00	0.126
34.664	0.000	0.00	0.50	0.00	0.126
34.791	0.000	0.00	0.50	0.00	0.126
34.919	0.000	0.00	0.50	0.00	0.126
35.047	0.000	0.00	0.50	0.00	0.126
35.175	0.000	0.00	0.50	0.00	0.126
35.303	0.000	0.00	0.50	0.00	0.126
35.431	0.000	0.00	0.50	0.00	0.126
35.558	0.000	0.00	0.50	0.00	0.126
35.686	0.000	0.00	0.50	0.00	0.126
35.814	0.000	0.00	0.50	0.00	0.126
35.942	0.000	0.00	0.50	0.00	0.126
36.070	0.000	0.00	0.50	0.00	0.126
36.198	0.000	0.00	0.50	0.00	0.126
36.325	0.000	0.00	0.50	0.00	0.126
36.453	0.000	0.00	0.50	0.00	0.126
36.581	0.000	0.00	0.50	0.00	0.126
36.709	0.000	0.00	0.50	0.00	0.126
36.837	0.000	0.00	0.50	0.00	0.126

36.965	0.000	0.00	0.50	0.00	0.126
37.092	0.000	0.00	0.50	0.00	0.126
37.220	0.000	0.00	0.50	0.00	0.126
37.348	0.000	0.00	0.50	0.00	0.126
37.476	0.000	0.00	0.50	0.00	0.126
37.604	0.000	0.00	0.50	0.00	0.126
37.732	0.000	0.00	0.50	0.00	0.126
37.859	0.000	0.00	0.50	0.00	0.126
37.987	0.000	0.00	0.50	0.00	0.126
38.115	0.000	0.00	0.50	0.00	0.126
38.243	0.000	0.00	0.50	0.00	0.126
38.371	0.000	0.00	0.50	0.00	0.126
38.499	0.000	0.00	0.50	0.00	0.126
38.626	0.000	0.00	0.50	0.00	0.126
38.754	0.000	0.00	0.50	0.00	0.126
38.882	0.000	0.00	0.50	0.00	0.126
39.010	0.000	0.00	0.50	0.00	0.126
39.138	0.000	0.00	0.50	0.00	0.126
39.266	0.000	0.00	0.50	0.00	0.126
39.394	0.000	0.00	0.50	0.00	0.126
39.521	0.000	0.00	0.50	0.00	0.126
39.649	0.000	0.00	0.50	0.00	0.126
39.777	0.000	0.00	0.50	0.00	0.126
39.905	0.000	0.00	0.50	0.00	0.126
40.033	0.000	0.00	0.50	0.00	0.126
40.161	0.000	0.00	0.50	0.00	0.126
40.288	0.000	0.00	0.50	0.00	0.126
40.416	0.000	0.00	0.50	0.00	0.126
40.544	0.000	0.00	0.50	0.00	0.126
40.672	0.000	0.00	0.50	0.00	0.126
40.800	0.000	0.00	0.50	0.00	0.126
40.928	0.000	0.00	0.50	0.00	0.126
41.055	0.000	0.00	0.50	0.00	0.126
41.183	0.000	0.00	0.50	0.00	0.126
41.311	0.000	0.00	0.50	0.00	0.126
41.439	0.000	0.00	0.50	0.00	0.126
41.567	0.000	0.00	0.50	0.00	0.126
41.695	0.000	0.00	0.50	0.00	0.126
41.822	0.000	0.00	0.50	0.00	0.126
41.950	0.000	0.00	0.50	0.00	0.126
42.078	0.000	0.00	0.50	0.00	0.126
42.206	0.000	0.00	0.50	0.00	0.126
42.334	0.000	0.00	0.50	0.00	0.126
42.462	0.000	0.00	0.50	0.00	0.126
42.589	0.000	0.00	0.50	0.00	0.126
42.717	0.000	0.00	0.50	0.00	0.126
42.845	0.000	0.00	0.50	0.00	0.126
42.973	0.000	0.00	0.50	0.00	0.126
43.101	0.000	0.00	0.50	0.00	0.126
43.229	0.000	0.00	0.50	0.00	0.126
43.356	0.000	0.00	0.50	0.00	0.126
43.484	0.000	0.00	0.50	0.00	0.126
43.612	0.000	0.00	0.50	0.00	0.126
43.740	0.000	0.00	0.50	0.00	0.126
43.868	0.000	0.00	0.50	0.00	0.126
43.996	0.000	0.00	0.50	0.00	0.126
44.123	0.000	0.00	0.50	0.00	0.126
44.251	0.000	0.00	0.50	0.00	0.126
44.379	0.000	0.00	0.50	0.00	0.126
44.507	0.000	0.00	0.50	0.00	0.126
44.635	0.000	0.00	0.50	0.00	0.126
44.763	0.000	0.00	0.50	0.00	0.126
44.890	0.000	0.00	0.50	0.00	0.126
45.018	0.000	0.00	0.50	0.00	0.126
45.146	0.000	0.00	0.50	0.00	0.126
45.274	0.000	0.00	0.50	0.00	0.126
45.402	0.000	0.00	0.50	0.00	0.126
45.530	0.000	0.00	0.50	0.00	0.126

45.657	0.000	0.00	0.50	0.00	0.126
45.785	0.000	0.00	0.50	0.00	0.126
45.913	0.000	0.00	0.50	0.00	0.126
46.041	0.000	0.00	0.50	0.00	0.126
46.169	0.000	0.00	0.50	0.00	0.126
46.297	0.000	0.00	0.50	0.00	0.126
46.424	0.000	0.00	0.50	0.00	0.126
46.552	0.000	0.00	0.50	0.00	0.126
46.680	0.000	0.00	0.50	0.00	0.126
46.808	0.000	0.00	0.50	0.00	0.126
46.936	0.000	0.00	0.50	0.00	0.126
47.064	0.000	0.00	0.50	0.00	0.126
47.191	0.000	0.00	0.50	0.00	0.126
47.319	0.000	0.00	0.50	0.00	0.126
47.447	0.000	0.00	0.50	0.00	0.126
47.575	0.000	0.00	0.50	0.00	0.126
47.703	0.000	0.00	0.50	0.00	0.126
47.831	0.000	0.00	0.50	0.00	0.126
47.958	0.000	0.00	0.50	0.00	0.126
48.086	0.000	0.00	0.50	0.00	0.126
48.214	0.000	0.00	0.50	0.00	0.126
48.342	0.000	0.00	0.50	0.00	0.126
48.470	0.000	0.00	0.50	0.00	0.126
48.598	0.000	0.00	0.50	0.00	0.126
48.725	0.000	0.00	0.50	0.00	0.126
48.853	0.000	0.00	0.50	0.00	0.126
48.981	0.000	0.00	0.50	0.00	0.126
49.109	0.000	0.00	0.50	0.00	0.126
49.237	0.000	0.00	0.50	0.00	0.126
49.365	0.000	0.00	0.50	0.00	0.126
49.492	0.000	0.00	0.50	0.00	0.126
49.620	0.000	0.00	0.50	0.00	0.126
49.748	0.000	0.00	0.50	0.00	0.126
49.876	0.000	0.00	0.50	0.00	0.126
50.004	0.000	0.00	0.50	0.00	0.126
50.132	0.000	0.00	0.50	0.00	0.126
50.259	0.000	0.00	0.50	0.00	0.126
50.387	0.000	0.00	0.50	0.00	0.126
50.515	0.000	0.00	0.50	0.00	0.126
50.643	0.000	0.00	0.50	0.00	0.126
50.771	0.000	0.00	0.50	0.00	0.126
50.899	0.000	0.00	0.50	0.00	0.126
51.026	0.000	0.00	0.50	0.00	0.126
51.154	0.000	0.00	0.50	0.00	0.126
51.282	0.000	0.00	0.50	0.00	0.126
51.410	0.000	0.00	0.50	0.00	0.126
51.538	0.000	0.00	0.50	0.00	0.126
51.666	0.000	0.00	0.50	0.00	0.126
51.793	0.000	0.00	0.50	0.00	0.126
51.921	0.000	0.00	0.50	0.00	0.126
52.049	0.000	0.00	0.50	0.00	0.126
52.177	0.000	0.00	0.50	0.00	0.126
52.305	0.000	0.00	0.50	0.00	0.126
52.433	0.000	0.00	0.50	0.00	0.126
52.560	0.000	0.00	0.50	0.00	0.126
52.688	0.000	0.00	0.50	0.00	0.126
52.816	0.000	0.00	0.50	0.00	0.126
52.944	0.000	0.00	0.50	0.00	0.126
53.072	0.000	0.00	0.50	0.00	0.126
53.200	0.000	0.00	0.50	0.00	0.126
53.327	0.000	0.00	0.50	0.00	0.126
53.455	0.000	0.00	0.50	0.00	0.126
53.583	0.000	0.00	0.50	0.00	0.126
53.711	0.000	0.00	0.50	0.00	0.126
53.839	0.000	0.00	0.50	0.00	0.126
53.967	0.000	0.00	0.50	0.00	0.126
54.094	0.000	0.00	0.50	0.00	0.126
54.222	0.000	0.00	0.50	0.00	0.126

54.350	0.000	0.00	0.50	0.00	0.126
54.478	0.000	0.00	0.50	0.00	0.126
54.606	0.000	0.00	0.50	0.00	0.126
54.734	0.000	0.00	0.50	0.00	0.126
54.861	0.000	0.00	0.50	0.00	0.126
54.989	0.000	0.00	0.50	0.00	0.126
55.117	0.000	0.00	0.50	0.00	0.126
55.245	0.000	0.00	0.50	0.00	0.126
55.373	0.000	0.00	0.50	0.00	0.126
55.501	0.000	0.00	0.50	0.00	0.126
55.628	0.000	0.00	0.50	0.00	0.126
55.756	0.000	0.00	0.50	0.00	0.126
55.884	0.000	0.00	0.50	0.00	0.126
56.012	0.000	0.00	0.50	0.00	0.126
56.140	0.000	0.00	0.50	0.00	0.126
56.268	0.000	0.00	0.50	0.00	0.126
56.395	0.000	0.00	0.50	0.00	0.126
56.523	0.000	0.00	0.50	0.00	0.126
56.651	0.000	0.00	0.50	0.00	0.126
56.779	0.000	0.00	0.50	0.00	0.126
56.907	0.000	0.00	0.50	0.00	0.126
57.035	0.000	0.00	0.50	0.00	0.126
57.162	0.000	0.00	0.50	0.00	0.126
57.290	0.000	0.00	0.50	0.00	0.126
57.418	0.000	0.00	0.50	0.00	0.126
57.546	0.000	0.00	0.50	0.00	0.126
57.674	0.000	0.00	0.50	0.00	0.126
57.802	0.000	0.00	0.50	0.00	0.126
57.929	0.000	0.00	0.50	0.00	0.126
58.057	0.000	0.00	0.50	0.00	0.126
58.185	0.000	0.00	0.50	0.00	0.126
58.313	0.000	0.00	0.50	0.00	0.126
58.441	0.000	0.00	0.50	0.00	0.126
58.569	0.000	0.00	0.50	0.00	0.126
58.696	0.000	0.00	0.50	0.00	0.126
58.824	0.000	0.00	0.50	0.00	0.126
58.952	0.000	0.00	0.50	0.00	0.126
59.080	0.000	0.00	0.50	0.00	0.126
59.208	0.000	0.00	0.50	0.00	0.126
59.336	0.000	0.00	0.50	0.00	0.126
59.463	0.000	0.00	0.50	0.00	0.126
59.591	0.000	0.00	0.50	0.00	0.126
59.719	0.000	0.00	0.50	0.00	0.126
59.847	0.000	0.00	0.50	0.00	0.126
59.975	0.000	0.00	0.50	0.00	0.126
60.103	0.000	0.00	0.50	0.00	0.126
60.230	0.000	0.00	0.50	0.00	0.126
60.358	0.000	0.00	0.50	0.00	0.126
60.486	0.000	0.00	0.50	0.00	0.126
60.614	0.000	0.00	0.50	0.00	0.126
60.742	0.000	0.00	0.50	0.00	0.126
60.870	0.000	0.00	0.50	0.00	0.126
60.998	0.000	0.00	0.50	0.00	0.126
61.125	0.000	0.00	0.50	0.00	0.126
61.253	0.000	0.00	0.50	0.00	0.126
61.381	0.000	0.00	0.50	0.00	0.126
61.509	0.000	0.00	0.50	0.00	0.126
61.637	0.000	0.00	0.50	0.00	0.126
61.765	0.000	0.00	0.50	0.00	0.126
61.892	0.000	0.00	0.50	0.00	0.126
62.020	0.000	0.00	0.50	0.00	0.126
62.148	0.000	0.00	0.50	0.00	0.126
62.276	0.000	0.00	0.50	0.00	0.126
62.404	0.000	0.00	0.50	0.00	0.126
62.532	0.000	0.00	0.50	0.00	0.126
62.659	0.000	0.00	0.50	0.00	0.126
62.787	0.000	0.00	0.50	0.00	0.126
62.915	0.000	0.00	0.50	0.00	0.126

63.043	0.000	0.00	0.50	0.00	0.126
63.171	0.000	0.00	0.50	0.00	0.126
63.299	0.000	0.00	0.50	0.00	0.126
63.426	0.000	0.00	0.50	0.00	0.126
63.554	0.000	0.00	0.50	0.00	0.126
63.682	0.000	0.00	0.50	0.00	0.126
63.810	0.000	0.00	0.50	0.00	0.126
63.938	0.000	0.00	0.50	0.00	0.126
64.066	0.000	0.00	0.50	0.00	0.126
64.193	0.000	0.00	0.50	0.00	0.126
64.321	0.000	0.00	0.50	0.00	0.126
64.449	0.000	0.00	0.50	0.00	0.126
64.577	0.000	0.00	0.50	0.00	0.126
64.705	0.000	0.00	0.50	0.00	0.126
64.833	0.000	0.00	0.50	0.00	0.126
64.960	0.000	0.00	0.50	0.00	0.126
65.088	0.000	0.00	0.50	0.00	0.126
65.216	0.000	0.00	0.50	0.00	0.126
65.344	0.000	0.00	0.50	0.00	0.126
65.472	0.000	0.00	0.50	0.00	0.126
65.599	0.000	0.00	0.50	0.00	0.126
65.727	0.000	0.00	0.50	0.00	0.126
65.855	0.000	0.00	0.50	0.00	0.126
65.983	0.000	0.00	0.50	0.00	0.126
66.111	0.000	0.00	0.50	0.00	0.126
66.239	0.000	0.00	0.50	0.00	0.126
66.366	0.000	0.00	0.50	0.00	0.126
66.494	0.000	0.00	0.50	0.00	0.126
66.622	0.000	0.00	0.50	0.00	0.126
66.750	0.000	0.00	0.50	0.00	0.126
66.878	0.000	0.00	0.50	0.00	0.126
67.006	0.000	0.00	0.50	0.00	0.126
67.133	0.000	0.00	0.50	0.00	0.126
67.261	0.000	0.00	0.50	0.00	0.126
67.389	0.000	0.00	0.50	0.00	0.126
67.517	0.000	0.00	0.50	0.00	0.126
67.645	0.000	0.00	0.50	0.00	0.126
67.773	0.000	0.00	0.50	0.00	0.126
67.900	0.000	0.00	0.50	0.00	0.126
68.028	0.000	0.00	0.50	0.00	0.126
68.156	0.000	0.00	0.50	0.00	0.126
68.284	0.000	0.00	0.50	0.00	0.126
68.412	0.000	0.00	0.50	0.00	0.126
68.540	0.000	0.00	0.50	0.00	0.126
68.667	0.000	0.00	0.50	0.00	0.126
68.795	0.000	0.00	0.50	0.00	0.126
68.923	0.000	0.00	0.50	0.00	0.126
69.051	0.000	0.00	0.50	0.00	0.126
69.179	0.000	0.00	0.50	0.00	0.126
69.307	0.000	0.00	0.50	0.00	0.126
69.434	0.000	0.00	0.50	0.00	0.126
69.562	0.000	0.00	0.50	0.00	0.126
69.690	0.000	0.00	0.50	0.00	0.126
69.818	0.000	0.00	0.50	0.00	0.126
69.946	0.000	0.00	0.50	0.00	0.126
70.074	0.000	0.00	0.50	0.00	0.126
70.201	0.000	0.00	0.50	0.00	0.126
70.329	0.000	0.00	0.50	0.00	0.126
70.457	0.000	0.00	0.50	0.00	0.126
70.585	0.000	0.00	0.50	0.00	0.126
70.713	0.000	0.00	0.50	0.00	0.126
70.841	0.000	0.00	0.50	0.00	0.126
70.968	0.000	0.00	0.50	0.00	0.126
71.096	0.000	0.00	0.50	0.00	0.126
71.224	0.000	0.00	0.50	0.00	0.126
71.352	0.000	0.00	0.50	0.00	0.126
71.480	0.000	0.00	0.50	0.00	0.126
71.608	0.000	0.00	0.50	0.00	0.126

71.735	0.000	0.00	0.50	0.00	0.126
71.863	0.000	0.00	0.50	0.00	0.126
71.991	0.000	0.00	0.50	0.00	0.126
72.119	0.000	0.00	0.50	0.00	0.126
72.247	0.000	0.00	0.50	0.00	0.126
72.375	0.000	0.00	0.50	0.00	0.126
72.502	0.000	0.00	0.50	0.00	0.126
72.630	0.000	0.00	0.50	0.00	0.126
72.758	0.000	0.00	0.50	0.00	0.126
72.886	0.000	0.00	0.50	0.00	0.126
73.014	0.000	0.00	0.50	0.00	0.126
73.141	0.000	0.00	0.50	0.00	0.126
73.269	0.000	0.00	0.50	0.00	0.126
73.397	0.000	0.00	0.50	0.00	0.126
73.525	0.000	0.00	0.50	0.00	0.126
73.653	0.000	0.00	0.50	0.00	0.126
73.781	0.000	0.00	0.50	0.00	0.126
73.908	0.000	0.00	0.50	0.00	0.126
74.036	0.000	0.00	0.50	0.00	0.126
74.164	0.000	0.00	0.50	0.00	0.126
74.292	0.000	0.00	0.50	0.00	0.126
74.420	0.000	0.00	0.50	0.00	0.126
74.548	0.000	0.00	0.50	0.00	0.126
74.675	0.000	0.00	0.50	0.00	0.126
74.803	0.000	0.00	0.50	0.00	0.126
74.931	0.000	0.00	0.50	0.00	0.126
75.059	0.000	0.00	0.50	0.00	0.126
75.187	0.000	0.00	0.50	0.00	0.126
75.315	0.000	0.00	0.50	0.00	0.126
75.442	0.000	0.00	0.50	0.00	0.126
75.570	0.000	0.00	0.50	0.00	0.126
75.698	0.000	0.00	0.50	0.00	0.126
75.826	0.000	0.00	0.50	0.00	0.126
75.954	0.000	0.00	0.50	0.00	0.126
76.082	0.000	0.00	0.50	0.00	0.126
76.209	0.000	0.00	0.50	0.00	0.126
76.337	0.000	0.00	0.50	0.00	0.126
76.465	0.000	0.00	0.50	0.00	0.126
76.593	0.000	0.00	0.50	0.00	0.126
76.721	0.000	0.00	0.50	0.00	0.126
76.849	0.000	0.00	0.50	0.00	0.126
76.976	0.000	0.00	0.50	0.00	0.126
77.104	0.000	0.00	0.50	0.00	0.126
77.232	0.000	0.00	0.50	0.00	0.126
77.360	0.000	0.00	0.50	0.00	0.126
77.488	0.000	0.00	0.50	0.00	0.126
77.616	0.000	0.00	0.50	0.00	0.126
77.743	0.000	0.00	0.50	0.00	0.126
77.871	0.000	0.00	0.50	0.00	0.126
77.999	0.000	0.00	0.50	0.00	0.126
78.127	0.000	0.00	0.50	0.00	0.126
78.255	0.000	0.00	0.50	0.00	0.126
78.383	0.000	0.00	0.50	0.00	0.126
78.510	0.000	0.00	0.50	0.00	0.126
78.638	0.000	0.00	0.50	0.00	0.126
78.766	0.000	0.00	0.50	0.00	0.126
78.894	0.000	0.00	0.50	0.00	0.126
79.022	0.000	0.00	0.50	0.00	0.126
79.150	0.000	0.00	0.50	0.00	0.126
79.277	0.000	0.00	0.50	0.00	0.126
79.405	0.000	0.00	0.50	0.00	0.126
79.533	0.000	0.00	0.50	0.00	0.126
79.661	0.000	0.00	0.50	0.00	0.126
79.789	0.000	0.00	0.50	0.00	0.126
79.917	0.000	0.00	0.50	0.00	0.126
80.044	0.000	0.00	0.50	0.00	0.126
80.172	0.000	0.00	0.50	0.00	0.126
80.300	0.000	0.00	0.50	0.00	0.126

80.428	0.000	0.00	0.50	0.00	0.126
80.556	0.000	0.00	0.50	0.00	0.126
80.683	0.000	0.00	0.50	0.00	0.126
80.811	0.000	0.00	0.50	0.00	0.126
80.939	0.000	0.00	0.50	0.00	0.126
81.067	0.000	0.00	0.50	0.00	0.126
81.195	0.000	0.00	0.50	0.00	0.126
81.323	0.000	0.00	0.50	0.00	0.126
81.450	0.000	0.00	0.50	0.00	0.126
81.578	0.000	0.00	0.50	0.00	0.126
81.706	0.000	0.00	0.50	0.00	0.126
81.834	0.000	0.00	0.50	0.00	0.126
81.962	0.000	0.00	0.50	0.00	0.126
82.090	0.000	0.00	0.50	0.00	0.126
82.217	0.000	0.00	0.50	0.00	0.126
82.345	0.000	0.00	0.50	0.00	0.126
82.473	0.000	0.00	0.50	0.00	0.126
82.601	0.000	0.00	0.50	0.00	0.126
82.729	0.000	0.00	0.50	0.00	0.126
82.857	0.000	0.00	0.50	0.00	0.126
82.984	0.000	0.00	0.50	0.00	0.126
83.112	0.000	0.00	0.50	0.00	0.126
83.240	0.000	0.00	0.50	0.00	0.126
83.368	0.000	0.00	0.50	0.00	0.126
83.496	0.000	0.00	0.50	0.00	0.126
83.624	0.000	0.00	0.50	0.00	0.126
83.751	0.000	0.00	0.50	0.00	0.126
83.879	0.000	0.00	0.50	0.00	0.126
84.007	0.000	0.00	0.50	0.00	0.126
84.135	0.000	0.00	0.50	0.00	0.126
84.263	0.000	0.00	0.50	0.00	0.126
84.391	0.000	0.00	0.50	0.00	0.126
84.518	0.000	0.00	0.50	0.00	0.126
84.646	0.000	0.00	0.50	0.00	0.126
84.774	0.000	0.00	0.50	0.00	0.126
84.902	0.000	0.00	0.50	0.00	0.126
85.030	0.000	0.00	0.50	0.00	0.126
85.158	0.000	0.00	0.50	0.00	0.126
85.285	0.000	0.00	0.50	0.00	0.126
85.413	0.000	0.00	0.50	0.00	0.126
85.541	0.000	0.00	0.50	0.00	0.126
85.669	0.000	0.00	0.50	0.00	0.126
85.797	0.000	0.00	0.50	0.00	0.126
85.925	0.000	0.00	0.50	0.00	0.126
86.052	0.000	0.00	0.50	0.00	0.126
86.180	0.000	0.00	0.50	0.00	0.126
86.308	0.000	0.00	0.50	0.00	0.126
86.436	0.000	0.00	0.50	0.00	0.126
86.564	0.000	0.00	0.50	0.00	0.126
86.692	0.000	0.00	0.50	0.00	0.126
86.819	0.000	0.00	0.50	0.00	0.126
86.947	0.000	0.00	0.50	0.00	0.126
87.075	0.000	0.00	0.50	0.00	0.126
87.203	0.000	0.00	0.50	0.00	0.126
87.331	0.000	0.00	0.50	0.00	0.126
87.459	0.000	0.00	0.50	0.00	0.126
87.586	0.000	0.00	0.50	0.00	0.126
87.714	0.000	0.00	0.50	0.00	0.126
87.842	0.000	0.00	0.50	0.00	0.126
87.970	0.000	0.00	0.50	0.00	0.126
88.098	0.000	0.00	0.50	0.00	0.126
88.225	0.000	0.00	0.50	0.00	0.126
88.353	0.000	0.00	0.50	0.00	0.126
88.481	0.000	0.00	0.50	0.00	0.126
88.609	0.000	0.00	0.50	0.00	0.126
88.737	0.000	0.00	0.50	0.00	0.126
88.865	0.000	0.00	0.50	0.00	0.126
88.992	0.000	0.00	0.50	0.00	0.126

89.120	0.000	0.00	0.50	0.00	0.126
89.248	0.000	0.00	0.50	0.00	0.126
89.376	0.000	0.00	0.50	0.00	0.126
89.504	0.000	0.00	0.50	0.00	0.126
89.632	0.000	0.00	0.50	0.00	0.126
89.759	0.000	0.00	0.50	0.00	0.126
89.887	0.000	0.00	0.50	0.00	0.126
90.015	0.000	0.00	0.50	0.00	0.126
90.143	0.000	0.00	0.50	0.00	0.126
90.271	0.000	0.00	0.50	0.00	0.126
90.399	0.000	0.00	0.50	0.00	0.126
90.526	0.000	0.00	0.50	0.00	0.126
90.654	0.000	0.00	0.50	0.00	0.126
90.782	0.000	0.00	0.50	0.00	0.126
90.910	0.000	0.00	0.50	0.00	0.126
91.038	0.000	0.00	0.50	0.00	0.126
91.166	0.000	0.00	0.50	0.00	0.126
91.293	0.000	0.00	0.50	0.00	0.126
91.421	0.000	0.00	0.50	0.00	0.126
91.549	0.000	0.00	0.50	0.00	0.126
91.677	0.000	0.00	0.50	0.00	0.126
91.805	0.000	0.00	0.50	0.00	0.126
91.933	0.000	0.00	0.50	0.00	0.126
92.060	0.000	0.00	0.50	0.00	0.126
92.188	0.000	0.00	0.50	0.00	0.126
92.316	0.000	0.00	0.50	0.00	0.126
92.444	0.000	0.00	0.50	0.00	0.126
92.572	0.000	0.00	0.50	0.00	0.126
92.700	0.000	0.00	0.50	0.00	0.126
92.827	0.000	0.00	0.50	0.00	0.126
92.955	0.000	0.00	0.50	0.00	0.126
93.083	0.000	0.00	0.50	0.00	0.126
93.211	0.000	0.00	0.50	0.00	0.126
93.339	0.000	0.00	0.50	0.00	0.126
93.467	0.000	0.00	0.50	0.00	0.126
93.594	0.000	0.00	0.50	0.00	0.126
93.722	0.000	0.00	0.50	0.00	0.126
93.850	0.000	0.00	0.50	0.00	0.126
93.978	0.000	0.00	0.50	0.00	0.126
94.106	0.000	0.00	0.50	0.00	0.126
94.234	0.000	0.00	0.50	0.00	0.126
94.361	0.000	0.00	0.50	0.00	0.126
94.489	0.000	0.00	0.50	0.00	0.126
94.617	0.000	0.00	0.50	0.00	0.126
94.745	0.000	0.00	0.50	0.00	0.126
94.873	0.000	0.00	0.50	0.00	0.126
95.001	0.000	0.00	0.50	0.00	0.126
95.128	0.000	0.00	0.50	0.00	0.126
95.256	0.000	0.00	0.50	0.00	0.126
95.384	0.000	0.00	0.50	0.00	0.126
95.512	0.000	0.00	0.50	0.00	0.126
95.640	0.000	0.00	0.50	0.00	0.126
95.767	0.000	0.00	0.50	0.00	0.126
95.895	0.000	0.00	0.50	0.00	0.126
96.023	0.000	0.00	0.50	0.00	0.126
96.151	0.000	0.00	0.50	0.00	0.126
96.279	0.000	0.00	0.50	0.00	0.126
96.407	0.000	0.00	0.50	0.00	0.126
96.534	0.000	0.00	0.50	0.00	0.126
96.662	0.000	0.00	0.50	0.00	0.126
96.790	0.000	0.00	0.50	0.00	0.126
96.918	0.000	0.00	0.50	0.00	0.126
97.046	0.000	0.00	0.50	0.00	0.126
97.174	0.000	0.00	0.50	0.00	0.126
97.301	0.000	0.00	0.50	0.00	0.126
97.429	0.000	0.00	0.50	0.00	0.126
97.557	0.000	0.00	0.50	0.00	0.126
97.685	0.000	0.00	0.50	0.00	0.126

97.813	0.000	0.00	0.50	0.00	0.126
97.941	0.000	0.00	0.50	0.00	0.126
98.068	0.000	0.00	0.50	0.00	0.126
98.196	0.000	0.00	0.50	0.00	0.126
98.324	0.000	0.00	0.50	0.00	0.126
98.452	0.000	0.00	0.50	0.00	0.126
98.580	0.000	0.00	0.50	0.00	0.126
98.708	0.000	0.00	0.50	0.00	0.126
98.835	0.000	0.00	0.50	0.00	0.126
98.963	0.000	0.00	0.50	0.00	0.126
99.091	0.000	0.00	0.50	0.00	0.126
99.219	0.000	0.00	0.50	0.00	0.126
99.347	0.000	0.00	0.50	0.00	0.126
99.475	0.000	0.00	0.50	0.00	0.126
99.602	0.000	0.00	0.50	0.00	0.126
99.730	0.000	0.00	0.50	0.00	0.126
99.858	0.000	0.00	0.50	0.00	0.126
99.986	0.000	0.00	0.50	0.00	0.126
100.114	0.000	0.00	0.50	0.00	0.126
100.242	0.000	0.00	0.50	0.00	0.126
100.369	0.000	0.00	0.50	0.00	0.126
100.497	0.000	0.00	0.50	0.00	0.126
100.625	0.000	0.00	0.50	0.00	0.126
100.753	0.000	0.00	0.50	0.00	0.126
100.881	0.000	0.00	0.50	0.00	0.126
101.009	0.000	0.00	0.50	0.00	0.126
101.136	0.000	0.00	0.50	0.00	0.126
101.264	0.000	0.00	0.50	0.00	0.126
101.392	0.000	0.00	0.50	0.00	0.126
101.520	0.000	0.00	0.50	0.00	0.126
101.648	0.000	0.00	0.50	0.00	0.126
101.776	0.000	0.00	0.50	0.00	0.126
101.903	0.000	0.00	0.50	0.00	0.126
102.031	0.000	0.00	0.50	0.00	0.126
102.159	0.000	0.00	0.50	0.00	0.126
102.287	0.000	0.00	0.50	0.00	0.126
102.415	0.000	0.00	0.50	0.00	0.126
102.543	0.000	0.00	0.50	0.00	0.126
102.670	0.000	0.00	0.50	0.00	0.126
102.798	0.000	0.00	0.50	0.00	0.126
102.926	0.000	0.00	0.50	0.00	0.126
103.054	0.000	0.00	0.50	0.00	0.126
103.182	0.000	0.00	0.50	0.00	0.126
103.309	0.000	0.00	0.50	0.00	0.126
103.437	0.000	0.00	0.50	0.00	0.126
103.565	0.000	0.00	0.50	0.00	0.126
103.693	0.000	0.00	0.50	0.00	0.126
103.821	0.000	0.00	0.50	0.00	0.126
103.949	0.000	0.00	0.50	0.00	0.126
104.076	0.000	0.00	0.50	0.00	0.126
104.204	0.000	0.00	0.50	0.00	0.126
104.332	0.000	0.00	0.50	0.00	0.126
104.460	0.000	0.00	0.50	0.00	0.126
104.588	0.000	0.00	0.50	0.00	0.126
104.716	0.000	0.00	0.50	0.00	0.126
104.843	0.000	0.00	0.50	0.00	0.126
104.971	0.000	0.00	0.50	0.00	0.126
105.099	0.000	0.00	0.50	0.00	0.126
105.227	0.000	0.00	0.50	0.00	0.126
105.355	0.000	0.00	0.50	0.00	0.126
105.483	0.000	0.00	0.50	0.00	0.126
105.610	0.000	0.00	0.50	0.00	0.126
105.738	0.000	0.00	0.50	0.00	0.126
105.866	0.000	0.00	0.50	0.00	0.126
105.994	0.000	0.00	0.50	0.00	0.126
106.122	0.000	0.00	0.50	0.00	0.126
106.250	0.000	0.00	0.50	0.00	0.126
106.377	0.000	0.00	0.50	0.00	0.126

106.505	0.000	0.00	0.50	0.00	0.126
106.633	0.000	0.00	0.50	0.00	0.126
106.761	0.000	0.00	0.50	0.00	0.126
106.889	0.000	0.00	0.50	0.00	0.126
107.017	0.000	0.00	0.50	0.00	0.126
107.144	0.000	0.00	0.50	0.00	0.126
107.272	0.000	0.00	0.50	0.00	0.126
107.400	0.000	0.00	0.50	0.00	0.126
107.528	0.000	0.00	0.50	0.00	0.126
107.656	0.000	0.00	0.50	0.00	0.126
107.784	0.000	0.00	0.50	0.00	0.126
107.911	0.000	0.00	0.50	0.00	0.126
108.039	0.000	0.00	0.50	0.00	0.126
108.167	0.000	0.00	0.50	0.00	0.126
108.295	0.000	0.00	0.50	0.00	0.126
108.423	0.000	0.00	0.50	0.00	0.126
108.551	0.000	0.00	0.50	0.00	0.126
108.678	0.000	0.00	0.50	0.00	0.126
108.806	0.000	0.00	0.50	0.00	0.126
108.934	0.000	0.00	0.50	0.00	0.126
109.062	0.000	0.00	0.50	0.00	0.126
109.190	0.000	0.00	0.50	0.00	0.126
109.318	0.000	0.00	0.50	0.00	0.126
109.445	0.000	0.00	0.50	0.00	0.126
109.573	0.000	0.00	0.50	0.00	0.126
109.701	0.000	0.00	0.50	0.00	0.126
109.829	0.000	0.00	0.50	0.00	0.126
109.957	0.000	0.00	0.50	0.00	0.126
110.085	0.000	0.00	0.50	0.00	0.126
110.212	0.000	0.00	0.50	0.00	0.126
110.340	0.000	0.00	0.50	0.00	0.126
110.468	0.000	0.00	0.50	0.00	0.126
110.596	0.000	0.00	0.50	0.00	0.126
110.724	0.000	0.00	0.50	0.00	0.126
110.851	0.000	0.00	0.50	0.00	0.126
110.979	0.000	0.00	0.50	0.00	0.126
111.107	0.000	0.00	0.50	0.00	0.126
111.235	0.000	0.00	0.50	0.00	0.126
111.363	0.000	0.00	0.50	0.00	0.126
111.491	0.000	0.00	0.50	0.00	0.126
111.618	0.000	0.00	0.50	0.00	0.126
111.746	0.000	0.00	0.50	0.00	0.126
111.874	0.000	0.00	0.50	0.00	0.126
112.002	0.000	0.00	0.50	0.00	0.126
112.130	0.000	0.00	0.50	0.00	0.126
112.258	0.000	0.00	0.50	0.00	0.126
112.385	0.000	0.00	0.50	0.00	0.126
112.513	0.000	0.00	0.50	0.00	0.126
112.641	0.000	0.00	0.50	0.00	0.126
112.769	0.000	0.00	0.50	0.00	0.126
112.897	0.000	0.00	0.50	0.00	0.126
113.025	0.000	0.00	0.50	0.00	0.126
113.152	0.000	0.00	0.50	0.00	0.126
113.280	0.000	0.00	0.50	0.00	0.126
113.408	0.000	0.00	0.50	0.00	0.126
113.536	0.000	0.00	0.50	0.00	0.126
113.664	0.000	0.00	0.50	0.00	0.126
113.792	0.000	0.00	0.50	0.00	0.126
113.919	0.000	0.00	0.50	0.00	0.126
114.047	0.000	0.00	0.50	0.00	0.126
114.175	0.000	0.00	0.50	0.00	0.126
114.303	0.000	0.00	0.50	0.00	0.126
114.431	0.000	0.00	0.50	0.00	0.126
114.559	0.000	0.00	0.50	0.00	0.126
114.686	0.000	0.00	0.50	0.00	0.126
114.814	0.000	0.00	0.50	0.00	0.126
114.942	0.000	0.00	0.50	0.00	0.126
115.070	0.000	0.00	0.50	0.00	0.126

115.198	0.000	0.00	0.50	0.00	0.126
115.326	0.000	0.00	0.50	0.00	0.126
115.453	0.000	0.00	0.50	0.00	0.126
115.581	0.000	0.00	0.50	0.00	0.126
115.709	0.000	0.00	0.50	0.00	0.126
115.837	0.000	0.00	0.50	0.00	0.126
115.965	0.000	0.00	0.50	0.00	0.126
116.093	0.000	0.00	0.50	0.00	0.126
116.220	0.000	0.00	0.50	0.00	0.126
116.348	0.000	0.00	0.50	0.00	0.126
116.476	0.000	0.00	0.50	0.00	0.126
116.604	0.000	0.00	0.50	0.00	0.126
116.732	0.000	0.00	0.50	0.00	0.126
116.860	0.000	0.00	0.50	0.00	0.126
116.987	0.000	0.00	0.50	0.00	0.126
117.115	0.000	0.00	0.50	0.00	0.126
117.243	0.000	0.00	0.50	0.00	0.126
117.371	0.000	0.00	0.50	0.00	0.126
117.499	0.000	0.00	0.50	0.00	0.126
117.627	0.000	0.00	0.50	0.00	0.126
117.754	0.000	0.00	0.50	0.00	0.126
117.882	0.000	0.00	0.50	0.00	0.126
118.010	0.000	0.00	0.50	0.00	0.126
118.138	0.000	0.00	0.50	0.00	0.126
118.266	0.000	0.00	0.50	0.00	0.126
118.393	0.000	0.00	0.50	0.00	0.126
118.521	0.000	0.00	0.50	0.00	0.126
118.649	0.000	0.00	0.50	0.00	0.126
118.777	0.000	0.00	0.50	0.00	0.126
118.905	0.000	0.00	0.50	0.00	0.126
119.033	0.000	0.00	0.50	0.00	0.126
119.160	0.000	0.00	0.50	0.00	0.126
119.288	0.000	0.00	0.50	0.00	0.126
119.416	0.000	0.00	0.50	0.00	0.126
119.544	0.000	0.00	0.50	0.00	0.126
119.672	0.000	0.00	0.50	0.00	0.126
119.800	0.000	0.00	0.50	0.00	0.126
119.927	0.000	0.00	0.50	0.00	0.126
120.055	0.000	0.00	0.50	0.00	0.126
120.183	0.000	0.00	0.50	0.00	0.126
120.311	0.000	0.00	0.50	0.00	0.126
120.439	0.000	0.00	0.50	0.00	0.126
120.567	0.000	0.00	0.50	0.00	0.126
120.694	0.000	0.00	0.50	0.00	0.126
120.822	0.000	0.00	0.50	0.00	0.126
120.950	0.000	0.00	0.50	0.00	0.126
121.078	0.000	0.00	0.50	0.00	0.126
121.206	0.000	0.00	0.50	0.00	0.126
121.334	0.000	0.00	0.50	0.00	0.126
121.461	0.000	0.00	0.50	0.00	0.126
121.589	0.000	0.00	0.50	0.00	0.126
121.717	0.000	0.00	0.50	0.00	0.126
121.845	0.000	0.00	0.50	0.00	0.126
121.973	0.000	0.00	0.50	0.00	0.126
122.101	0.000	0.00	0.50	0.00	0.126
122.228	0.000	0.00	0.50	0.00	0.126
122.356	0.000	0.00	0.50	0.00	0.126
122.484	0.000	0.00	0.50	0.00	0.126
122.612	0.000	0.00	0.50	0.00	0.126
122.740	0.000	0.00	0.50	0.00	0.126
122.868	0.000	0.00	0.50	0.00	0.126
122.995	0.000	0.00	0.50	0.00	0.126
123.123	0.000	0.00	0.50	0.00	0.126
123.251	0.000	0.00	0.50	0.00	0.126
123.379	0.000	0.00	0.50	0.00	0.126
123.507	0.000	0.00	0.50	0.00	0.126
123.635	0.000	0.00	0.50	0.00	0.126
123.762	0.000	0.00	0.50	0.00	0.126

123.890	0.000	0.00	0.50	0.00	0.126
124.018	0.000	0.00	0.50	0.00	0.126
124.146	0.000	0.00	0.50	0.00	0.126
124.274	0.000	0.00	0.50	0.00	0.126
124.402	0.000	0.00	0.50	0.00	0.126
124.529	0.000	0.00	0.50	0.00	0.126
124.657	0.000	0.00	0.50	0.00	0.126
124.785	0.000	0.00	0.50	0.00	0.126
124.913	0.000	0.00	0.50	0.00	0.126
125.041	0.000	0.00	0.50	0.00	0.126
125.169	0.000	0.00	0.50	0.00	0.126
125.296	0.000	0.00	0.50	0.00	0.126
125.424	0.000	0.00	0.50	0.00	0.126
125.552	0.000	0.00	0.50	0.00	0.126
125.680	0.000	0.00	0.50	0.00	0.126
125.808	0.000	0.00	0.50	0.00	0.126
125.935	0.000	0.00	0.50	0.00	0.126
126.063	0.000	0.00	0.50	0.00	0.126
126.191	0.000	0.00	0.50	0.00	0.126
126.319	0.000	0.00	0.50	0.00	0.126
126.447	0.000	0.00	0.50	0.00	0.126
126.575	0.000	0.00	0.50	0.00	0.126
126.702	0.000	0.00	0.50	0.00	0.126
126.830	0.000	0.00	0.50	0.00	0.126
126.958	0.000	0.00	0.50	0.00	0.126
127.086	0.000	0.00	0.50	0.00	0.126
127.214	0.000	0.00	0.50	0.00	0.126
127.342	0.000	0.00	0.50	0.00	0.126
127.469	0.000	0.00	0.50	0.00	0.126
127.597	0.000	0.00	0.50	0.00	0.126
127.725	0.000	0.00	0.50	0.00	0.126
127.853	0.000	0.00	0.50	0.00	0.126
127.981	0.000	0.00	0.50	0.00	0.126
128.109	0.000	0.00	0.50	0.00	0.126
128.236	0.000	0.00	0.50	0.00	0.126
128.364	0.000	0.00	0.50	0.00	0.126
128.492	0.000	0.00	0.50	0.00	0.126
128.620	0.000	0.00	0.50	0.00	0.126
128.748	0.000	0.00	0.50	0.00	0.126
128.876	0.000	0.00	0.50	0.00	0.126
129.003	0.000	0.00	0.50	0.00	0.126
129.131	0.000	0.00	0.50	0.00	0.126
129.259	0.000	0.00	0.50	0.00	0.126
129.387	0.000	0.00	0.50	0.00	0.126
129.515	0.000	0.00	0.50	0.00	0.126
129.643	0.000	0.00	0.50	0.00	0.126
129.771	0.000	0.00	0.50	0.00	0.126
129.898	0.000	0.00	0.50	0.00	0.126
130.026	0.000	0.00	0.50	0.00	0.126
130.154	0.000	0.00	0.50	0.00	0.126
130.282	0.000	0.00	0.50	0.00	0.126
130.410	0.000	0.00	0.50	0.00	0.126
130.538	0.000	0.00	0.50	0.00	0.126
130.665	0.000	0.00	0.50	0.00	0.126
130.793	0.000	0.00	0.50	0.00	0.126
130.921	0.000	0.00	0.50	0.00	0.126
131.049	0.000	0.00	0.50	0.00	0.126
131.177	0.000	0.00	0.50	0.00	0.126
131.305	0.000	0.00	0.50	0.00	0.126
131.432	0.000	0.00	0.50	0.00	0.126
131.560	0.000	0.00	0.50	0.00	0.126
131.688	0.000	0.00	0.50	0.00	0.126
131.816	0.000	0.00	0.50	0.00	0.126
131.944	0.000	0.00	0.50	0.00	0.126
132.072	0.000	0.00	0.50	0.00	0.126
132.199	0.000	0.00	0.50	0.00	0.126
132.327	0.000	0.00	0.50	0.00	0.126
132.455	0.000	0.00	0.50	0.00	0.126

132.583	0.000	0.00	0.50	0.00	0.126
132.711	0.000	0.00	0.50	0.00	0.126
132.839	0.000	0.00	0.50	0.00	0.126
132.966	0.000	0.00	0.50	0.00	0.126
133.094	0.000	0.00	0.50	0.00	0.126
133.222	0.000	0.00	0.50	0.00	0.126
133.350	0.000	0.00	0.50	0.00	0.126
133.478	0.000	0.00	0.50	0.00	0.126
133.606	0.000	0.00	0.50	0.00	0.126
133.733	0.000	0.00	0.50	0.00	0.126
133.861	0.000	0.00	0.50	0.00	0.126
133.989	0.000	0.00	0.50	0.00	0.126
134.117	0.000	0.00	0.50	0.00	0.126
134.245	0.000	0.00	0.50	0.00	0.126
134.373	0.000	0.00	0.50	0.00	0.126
134.501	0.000	0.00	0.50	0.00	0.126
134.628	0.000	0.00	0.50	0.00	0.126
134.756	0.000	0.00	0.50	0.00	0.126
134.884	0.000	0.00	0.50	0.00	0.126
135.012	0.000	0.00	0.50	0.00	0.126
135.140	0.000	0.00	0.50	0.00	0.126
135.268	0.000	0.00	0.50	0.00	0.126
135.395	0.000	0.00	0.50	0.00	0.126
135.523	0.000	0.00	0.50	0.00	0.126
135.651	0.000	0.00	0.50	0.00	0.126
135.779	0.000	0.00	0.50	0.00	0.126
135.907	0.000	0.00	0.50	0.00	0.126
136.035	0.000	0.00	0.50	0.00	0.126
136.162	0.000	0.00	0.50	0.00	0.126
136.290	0.000	0.00	0.50	0.00	0.126
136.418	0.000	0.00	0.50	0.00	0.126
136.546	0.000	0.00	0.50	0.00	0.126
136.674	0.000	0.00	0.50	0.00	0.126
136.802	0.000	0.00	0.50	0.00	0.126
136.929	0.000	0.00	0.50	0.00	0.126
137.057	0.000	0.00	0.50	0.00	0.126
137.185	0.000	0.00	0.50	0.00	0.126
137.313	0.000	0.00	0.50	0.00	0.126
137.441	0.000	0.00	0.50	0.00	0.126
137.569	0.000	0.00	0.50	0.00	0.126
137.696	0.000	0.00	0.50	0.00	0.126
137.824	0.000	0.00	0.50	0.00	0.126
137.952	0.000	0.00	0.50	0.00	0.126
138.080	0.000	0.00	0.50	0.00	0.126
138.208	0.000	0.00	0.50	0.00	0.126
138.336	0.000	0.00	0.50	0.00	0.126
138.464	0.000	0.00	0.50	0.00	0.126
138.591	0.000	0.00	0.50	0.00	0.126
138.719	0.000	0.00	0.50	0.00	0.126
138.847	0.000	0.00	0.50	0.00	0.126
138.975	0.000	0.00	0.50	0.00	0.126
139.103	0.000	0.00	0.50	0.00	0.126
139.231	0.000	0.00	0.50	0.00	0.126
139.358	0.000	0.00	0.50	0.00	0.126
139.486	0.000	0.00	0.50	0.00	0.126
139.614	0.000	0.00	0.50	0.00	0.126
139.742	0.000	0.00	0.50	0.00	0.126
139.870	0.000	0.00	0.50	0.00	0.126
139.998	0.000	0.00	0.50	0.00	0.126
140.125	0.000	0.00	0.50	0.00	0.126
140.253	0.000	0.00	0.50	0.00	0.126
140.381	0.000	0.00	0.50	0.00	0.126
140.509	0.000	0.00	0.50	0.00	0.126
140.637	0.000	0.00	0.50	0.00	0.126
140.765	0.000	0.00	0.50	0.00	0.126
140.892	0.000	0.00	0.50	0.00	0.126
141.020	0.000	0.00	0.50	0.00	0.126
141.148	0.000	0.00	0.50	0.00	0.126

141.276	0.000	0.00	0.50	0.00	0.126
141.404	0.000	0.00	0.50	0.00	0.126
141.532	0.000	0.00	0.50	0.00	0.126
141.659	0.000	0.00	0.50	0.00	0.126
141.787	0.000	0.00	0.50	0.00	0.126
141.915	0.000	0.00	0.50	0.00	0.126
142.043	0.000	0.00	0.50	0.00	0.126
142.171	0.000	0.00	0.50	0.00	0.126
142.299	0.000	0.00	0.50	0.00	0.126
142.426	0.000	0.00	0.50	0.00	0.126
142.554	0.000	0.00	0.50	0.00	0.126
142.682	0.000	0.00	0.50	0.00	0.126
142.810	0.000	0.00	0.50	0.00	0.126
142.938	0.000	0.00	0.50	0.00	0.126
143.066	0.000	0.00	0.50	0.00	0.126
143.194	0.000	0.00	0.50	0.00	0.126
143.321	0.000	0.00	0.50	0.00	0.126
143.449	0.000	0.00	0.50	0.00	0.126
143.577	0.000	0.00	0.50	0.00	0.126
143.705	0.000	0.00	0.50	0.00	0.126
143.833	0.000	0.00	0.50	0.00	0.126
143.961	0.000	0.00	0.50	0.00	0.126
144.088	0.000	0.00	0.50	0.00	0.126
144.216	0.000	0.00	0.50	0.00	0.126
144.344	0.000	0.00	0.50	0.00	0.126
144.472	0.000	0.00	0.50	0.00	0.126
144.600	0.000	0.00	0.50	0.00	0.126
144.728	0.000	0.00	0.50	0.00	0.126
144.855	0.000	0.00	0.50	0.00	0.126
144.983	0.000	0.00	0.50	0.00	0.126
145.111	0.000	0.00	0.50	0.00	0.126
145.239	0.000	0.00	0.50	0.00	0.126
145.367	0.000	0.00	0.50	0.00	0.126
145.495	0.000	0.00	0.50	0.00	0.126
145.622	0.000	0.00	0.50	0.00	0.126
145.750	0.000	0.00	0.50	0.00	0.126
145.878	0.000	0.00	0.50	0.00	0.126
146.006	0.000	0.00	0.50	0.00	0.126
146.134	0.000	0.00	0.50	0.00	0.126
146.262	0.000	0.00	0.50	0.00	0.126
146.389	0.000	0.00	0.50	0.00	0.126
146.517	0.000	0.00	0.50	0.00	0.126
146.645	0.000	0.00	0.50	0.00	0.126
146.773	0.000	0.00	0.50	0.00	0.126
146.901	0.000	0.00	0.50	0.00	0.126
147.029	0.000	0.00	0.50	0.00	0.126
147.156	0.000	0.00	0.50	0.00	0.126
147.284	0.000	0.00	0.50	0.00	0.126
147.412	0.000	0.00	0.50	0.00	0.126
147.540	0.000	0.00	0.50	0.00	0.126
147.668	0.000	0.00	0.50	0.00	0.126
147.796	0.000	0.00	0.50	0.00	0.126
147.924	0.000	0.00	0.50	0.00	0.126
148.051	0.000	0.00	0.50	0.00	0.126
148.179	0.000	0.00	0.50	0.00	0.126
148.307	0.000	0.00	0.50	0.00	0.126
148.435	0.000	0.00	0.50	0.00	0.126
148.563	0.000	0.00	0.50	0.00	0.126
148.691	0.000	0.00	0.50	0.00	0.126
148.818	0.000	0.00	0.50	0.00	0.126
148.946	0.000	0.00	0.50	0.00	0.126
149.074	0.000	0.00	0.50	0.00	0.126
149.202	0.000	0.00	0.50	0.00	0.126
149.330	0.000	0.00	0.50	0.00	0.126
149.458	0.000	0.00	0.50	0.00	0.126
149.585	0.000	0.00	0.50	0.00	0.126
149.713	0.000	0.00	0.50	0.00	0.126
149.841	0.000	0.00	0.50	0.00	0.126

149.969	0.000	0.00	0.50	0.00	0.126
150.097	0.000	0.00	0.50	0.00	0.126
150.225	0.000	0.00	0.50	0.00	0.126
150.352	0.000	0.00	0.50	0.00	0.126
150.480	0.000	0.00	0.50	0.00	0.126
150.608	0.000	0.00	0.50	0.00	0.126
150.736	0.000	0.00	0.50	0.00	0.126
150.864	0.000	0.00	0.50	0.00	0.126
150.992	0.000	0.00	0.50	0.00	0.126
151.119	0.000	0.00	0.50	0.00	0.126
151.247	0.000	0.00	0.50	0.00	0.126
151.375	0.000	0.00	0.50	0.00	0.126
151.503	0.000	0.00	0.50	0.00	0.126
151.631	0.000	0.00	0.50	0.00	0.126
151.759	0.000	0.00	0.50	0.00	0.126
151.887	0.000	0.00	0.50	0.00	0.126
152.014	0.000	0.00	0.50	0.00	0.126

```
****************************************************************************
                      SMALL AREA UNIT HYDROGRAPH MODEL
============================================================================
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                           Analysis prepared by:




****************************************************************************
----------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center
  Basin B
  25 Year Storm
----------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.93
    TOTAL CATCHMENT AREA(ACRES) =   19.70
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.250
    TIME OF CONCENTRATION(MIN.) =  7.43
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =  25
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.40
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.87
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.15
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  1.94
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  2.71
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  4.49

----------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     5.88
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.49

****************************************************************************
  TIME     VOLUME       Q    0.       17.5      35.0      52.5      70.0
 (HOURS)    (AF)      (CFS)
----------------------------------------------------------------------------
  0.03      0.0000      0.00  Q         .         .         .         .
  0.15      0.0048      0.94  Q         .         .         .         .
  0.27      0.0144      0.94  Q         .         .         .         .
  0.40      0.0241      0.95  Q         .         .         .         .
  0.52      0.0338      0.95  Q         .         .         .         .
  0.64      0.0436      0.96  Q         .         .         .         .
  0.77      0.0534      0.96  Q         .         .         .         .
  0.89      0.0633      0.97  Q         .         .         .         .
  1.02      0.0732      0.97  Q         .         .         .         .
  1.14      0.0832      0.98  Q         .         .         .         .
  1.26      0.0932      0.98  Q         .         .         .         .
  1.39      0.1033      0.99  Q         .         .         .         .
  1.51      0.1134      0.99  Q         .         .         .         .
  1.64      0.1236      1.00  Q         .         .         .         .
  1.76      0.1338      1.00  Q         .         .         .         .
  1.88      0.1441      1.01  Q         .         .         .         .
  2.01      0.1545      1.02  Q         .         .         .         .
  2.13      0.1649      1.02  Q         .         .         .         .
  2.25      0.1754      1.03  Q         .         .         .         .
  2.38      0.1859      1.03  Q         .         .         .         .
```

2.50	0.1965	1.04	Q	.	.	.	.
2.63	0.2072	1.04	Q	.	.	.	.
2.75	0.2179	1.05	Q	.	.	.	.
2.87	0.2287	1.06	Q	.	.	.	.
3.00	0.2395	1.06	Q	.	.	.	.
3.12	0.2504	1.07	Q	.	.	.	.
3.25	0.2614	1.08	Q	.	.	.	.
3.37	0.2724	1.08	Q	.	.	.	.
3.49	0.2836	1.09	Q	.	.	.	.
3.62	0.2947	1.09	Q	.	.	.	.
3.74	0.3060	1.10	Q	.	.	.	.
3.86	0.3173	1.11	Q	.	.	.	.
3.99	0.3287	1.12	Q	.	.	.	.
4.11	0.3402	1.12	Q	.	.	.	.
4.24	0.3517	1.13	Q	.	.	.	.
4.36	0.3634	1.14	Q	.	.	.	.
4.48	0.3751	1.15	Q	.	.	.	.
4.61	0.3868	1.15	Q	.	.	.	.
4.73	0.3987	1.16	Q	.	.	.	.
4.86	0.4107	1.17	Q	.	.	.	.
4.98	0.4227	1.18	Q	.	.	.	.
5.10	0.4348	1.19	Q	.	.	.	.
5.23	0.4470	1.20	Q	.	.	.	.
5.35	0.4593	1.20	Q	.	.	.	.
5.47	0.4717	1.22	Q	.	.	.	.
5.60	0.4842	1.22	Q	.	.	.	.
5.72	0.4967	1.23	Q	.	.	.	.
5.85	0.5094	1.24	Q	.	.	.	.
5.97	0.5221	1.25	Q	.	.	.	.
6.09	0.5350	1.26	Q	.	.	.	.
6.22	0.5480	1.27	Q	.	.	.	.
6.34	0.5610	1.28	Q	.	.	.	.
6.46	0.5742	1.29	Q	.	.	.	.
6.59	0.5875	1.30	Q	.	.	.	.
6.71	0.6009	1.32	Q	.	.	.	.
6.84	0.6144	1.32	Q	.	.	.	.
6.96	0.6280	1.34	Q	.	.	.	.
7.08	0.6417	1.35	Q	.	.	.	.
7.21	0.6556	1.36	Q	.	.	.	.
7.33	0.6696	1.37	Q	.	.	.	.
7.46	0.6837	1.39	Q	.	.	.	.
7.58	0.6979	1.40	Q	.	.	.	.
7.70	0.7123	1.41	Q	.	.	.	.
7.83	0.7268	1.42	Q	.	.	.	.
7.95	0.7414	1.44	Q	.	.	.	.
8.07	0.7562	1.45	Q	.	.	.	.
8.20	0.7711	1.47	Q	.	.	.	.
8.32	0.7862	1.48	Q	.	.	.	.
8.45	0.8014	1.50	Q	.	.	.	.
8.57	0.8168	1.51	Q	.	.	.	.
8.69	0.8324	1.53	Q	.	.	.	.
8.82	0.8481	1.54	Q	.	.	.	.
8.94	0.8640	1.56	Q	.	.	.	.
9.07	0.8800	1.58	Q	.	.	.	.
9.19	0.8963	1.60	Q	.	.	.	.
9.31	0.9127	1.61	Q	.	.	.	.
9.44	0.9293	1.64	Q	.	.	.	.
9.56	0.9462	1.65	Q	.	.	.	.
9.68	0.9632	1.69	Q	.	.	.	.
9.81	0.9806	1.70	Q	.	.	.	.
9.93	0.9982	1.74	Q	.	.	.	.
10.06	1.0162	1.76	.Q	.	.	.	.
10.18	1.0344	1.80	.Q	.	.	.	.
10.30	1.0530	1.82	.Q	.	.	.	.
10.43	1.0719	1.87	.Q	.	.	.	.
10.55	1.0911	1.89	.Q	.	.	.	.
10.68	1.1107	1.94	.Q	.	.	.	.
10.80	1.1307	1.96	.Q	.	.	.	.

10.92	1.1510	2.01	.Q . . . .
11.05	1.1718	2.04	.Q . . . .
11.17	1.1929	2.10	.Q . . . .
11.29	1.2145	2.12	.Q . . . .
11.42	1.2366	2.18	.Q . . . .
11.54	1.2591	2.21	.Q . . . .
11.67	1.2821	2.28	.Q . . . .
11.79	1.3056	2.31	.Q . . . .
11.91	1.3297	2.39	.Q . . . .
12.04	1.3543	2.42	.Q . . . .
12.16	1.3845	3.48	.Q . . . .
12.28	1.4204	3.53	. Q . . . .
12.41	1.4569	3.62	. Q . . . .
12.53	1.4942	3.67	. Q . . . .
12.66	1.5323	3.77	. Q . . . .
12.78	1.5712	3.83	. Q . . . .
12.90	1.6110	3.95	. Q . . . .
13.03	1.6517	4.01	. Q . . . .
13.15	1.6934	4.14	. Q . . . .
13.28	1.7361	4.21	. Q . . . .
13.40	1.7799	4.36	. Q . . . .
13.52	1.8249	4.44	. Q . . . .
13.65	1.8712	4.61	. Q . . . .
13.77	1.9189	4.70	. Q . . . .
13.89	1.9681	4.90	. Q . . . .
14.02	2.0188	5.01	. Q . . . .
14.14	2.0710	5.18	. Q . . . .
14.27	2.1247	5.31	. Q . . . .
14.39	2.1805	5.61	. Q . . . .
14.51	2.2388	5.77	. Q . . . .
14.64	2.2997	6.14	. Q . . . .
14.76	2.3636	6.35	. Q . . . .
14.89	2.4310	6.83	. Q . . . .
15.01	2.5024	7.11	. Q . . . .
15.13	2.5786	7.79	. Q . . . .
15.26	2.6604	8.19	. Q . . . .
15.38	2.7489	9.10	. Q . . . .
15.50	2.8380	8.32	. Q . . . .
15.63	2.9324	10.13	. Q . . . .
15.75	3.0433	11.54	. Q . . . .
15.88	3.1929	17.70	. Q . . . .
16.00	3.4068	24.09	. . Q . . . .
16.12	3.8868	69.72	. . . . . Q.
16.25	4.3177	14.49	. Q . . . . .
16.37	4.4385	9.11	. Q . . . .
16.50	4.5295	8.66	. Q . . . .
16.62	4.6118	7.43	. Q . . . .
16.74	4.6835	6.58	. Q . . . .
16.87	4.7476	5.95	. Q . . . .
16.99	4.8059	5.45	. Q . . . .
17.11	4.8600	5.11	. Q . . . .
17.24	4.9107	4.80	. Q . . . .
17.36	4.9584	4.52	. Q . . . .
17.49	5.0035	4.28	. Q . . . .
17.61	5.0462	4.07	. Q . . . .
17.73	5.0869	3.89	. Q . . . .
17.86	5.1258	3.72	. Q . . . .
17.98	5.1632	3.57	. Q . . . .
18.11	5.1963	2.90	.Q . . . .
18.23	5.2232	2.35	.Q . . . .
18.35	5.2467	2.25	.Q . . . .
18.48	5.2692	2.15	.Q . . . .
18.60	5.2908	2.07	.Q . . . .
18.72	5.3116	1.99	.Q . . . .
18.85	5.3316	1.91	.Q . . . .
18.97	5.3508	1.85	.Q . . . .
19.10	5.3694	1.78	.Q . . . .
19.22	5.3873	1.72	Q . . . .

Q25 (UNMITIGATED)

19.34	5.4047	1.67	Q	.	.	.	.
19.47	5.4215	1.62	Q	.	.	.	.
19.59	5.4380	1.59	Q	.	.	.	.
19.72	5.4540	1.55	Q	.	.	.	.
19.84	5.4697	1.52	Q	.	.	.	.
19.96	5.4851	1.49	Q	.	.	.	.
20.09	5.5002	1.46	Q	.	.	.	.
20.21	5.5150	1.43	Q	.	.	.	.
20.33	5.5295	1.40	Q	.	.	.	.
20.46	5.5437	1.38	Q	.	.	.	.
20.58	5.5577	1.35	Q	.	.	.	.
20.71	5.5714	1.33	Q	.	.	.	.
20.83	5.5849	1.31	Q	.	.	.	.
20.95	5.5982	1.29	Q	.	.	.	.
21.08	5.6113	1.27	Q	.	.	.	.
21.20	5.6242	1.25	Q	.	.	.	.
21.32	5.6368	1.23	Q	.	.	.	.
21.45	5.6493	1.21	Q	.	.	.	.
21.57	5.6616	1.19	Q	.	.	.	.
21.70	5.6737	1.18	Q	.	.	.	.
21.82	5.6856	1.16	Q	.	.	.	.
21.94	5.6974	1.14	Q	.	.	.	.
22.07	5.7091	1.13	Q	.	.	.	.
22.19	5.7205	1.11	Q	.	.	.	.
22.32	5.7319	1.10	Q	.	.	.	.
22.44	5.7430	1.09	Q	.	.	.	.
22.56	5.7541	1.07	Q	.	.	.	.
22.69	5.7650	1.06	Q	.	.	.	.
22.81	5.7758	1.05	Q	.	.	.	.
22.93	5.7864	1.04	Q	.	.	.	.
23.06	5.7970	1.02	Q	.	.	.	.
23.18	5.8074	1.01	Q	.	.	.	.
23.31	5.8177	1.00	Q	.	.	.	.
23.43	5.8279	0.99	Q	.	.	.	.
23.55	5.8380	0.98	Q	.	.	.	.
23.68	5.8479	0.97	Q	.	.	.	.
23.80	5.8578	0.96	Q	.	.	.	.
23.93	5.8676	0.95	Q	.	.	.	.
24.05	5.8772	0.94	Q	.	.	.	.
24.17	5.8820	0.00	Q	.	.	.	.

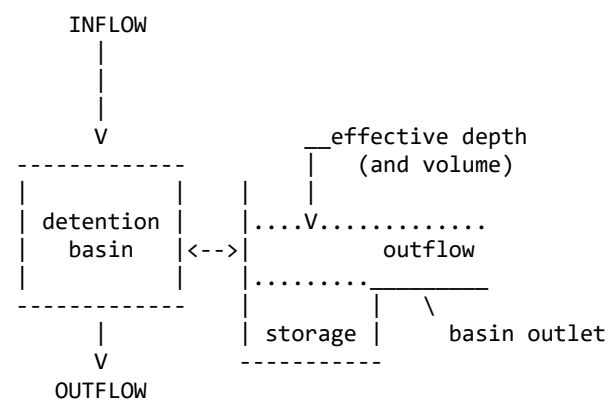
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1441.4
10%	104.0
20%	29.7
30%	14.9
40%	7.4
50%	7.4
60%	7.4
70%	7.4
80%	7.4
90%	7.4

Problem Descriptions:
Goodman Logistics Center
Basin B
25 Year Storm

FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 7.430
DEAD STORAGE(AF) = 0.00
SPECIFIED DEAD STORAGE(AF) FILLED = 0.00
ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 9

*BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	**	BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
0.000	0.000	0.000**		0.250	0.058	0.000	*
0.500	0.117	0.000**		1.000	0.234	4.250	*
2.000	0.726	9.510**		3.000	1.148	12.760	*
4.000	1.411	15.340**		4.250	1.470	106.680	*
4.500	1.528	112.150**					

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.25	0.05840	0.05840
3	0.50	0.11690	0.11690
4	1.00	0.21195	0.25545
5	2.00	0.67714	0.77446
6	3.00	1.08291	1.21349
7	4.00	1.33300	1.49000
8	4.25	0.92411	2.01589
9	4.50	0.95452	2.10228

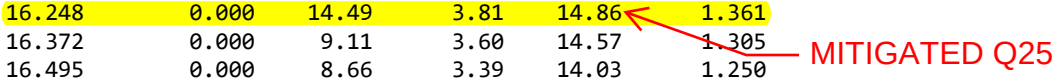
WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.026	0.000	0.00	0.00	0.00	0.000
0.149	0.000	0.94	0.04	0.00	0.010
0.273	0.000	0.94	0.08	0.00	0.019
0.397	0.000	0.95	0.12	0.00	0.029
0.521	0.000	0.95	0.17	0.00	0.039
0.645	0.000	0.96	0.21	0.00	0.048
0.769	0.000	0.96	0.25	0.00	0.058
0.892	0.000	0.97	0.29	0.00	0.068
1.016	0.000	0.97	0.33	0.00	0.078
1.140	0.000	0.98	0.38	0.00	0.088
1.264	0.000	0.98	0.42	0.00	0.098

1.388	0.000	0.99	0.46	0.00	0.108
1.512	0.000	0.99	0.51	0.02	0.118
1.635	0.000	1.00	0.54	0.20	0.126
1.759	0.000	1.00	0.57	0.45	0.132
1.883	0.000	1.01	0.58	0.62	0.136
2.007	0.000	1.02	0.59	0.75	0.139
2.131	0.000	1.02	0.60	0.83	0.141
2.255	0.000	1.03	0.61	0.89	0.142
2.378	0.000	1.03	0.61	0.93	0.143
2.502	0.000	1.04	0.62	0.97	0.144
2.626	0.000	1.04	0.62	0.99	0.144
2.750	0.000	1.05	0.62	1.01	0.145
2.874	0.000	1.06	0.62	1.02	0.145
2.998	0.000	1.06	0.62	1.03	0.145
3.121	0.000	1.07	0.62	1.04	0.146
3.245	0.000	1.08	0.62	1.05	0.146
3.369	0.000	1.08	0.63	1.06	0.146
3.493	0.000	1.09	0.63	1.07	0.146
3.617	0.000	1.09	0.63	1.08	0.147
3.741	0.000	1.10	0.63	1.08	0.147
3.864	0.000	1.11	0.63	1.09	0.147
3.988	0.000	1.12	0.63	1.10	0.147
4.112	0.000	1.12	0.63	1.11	0.147
4.236	0.000	1.13	0.63	1.11	0.148
4.360	0.000	1.14	0.63	1.12	0.148
4.484	0.000	1.15	0.63	1.13	0.148
4.607	0.000	1.15	0.63	1.13	0.148
4.731	0.000	1.16	0.63	1.14	0.148
4.855	0.000	1.17	0.64	1.15	0.149
4.979	0.000	1.18	0.64	1.16	0.149
5.103	0.000	1.19	0.64	1.17	0.149
5.227	0.000	1.20	0.64	1.17	0.149
5.350	0.000	1.20	0.64	1.18	0.150
5.474	0.000	1.22	0.64	1.19	0.150
5.598	0.000	1.22	0.64	1.20	0.150
5.722	0.000	1.23	0.64	1.21	0.150
5.846	0.000	1.24	0.64	1.22	0.150
5.970	0.000	1.25	0.64	1.23	0.151
6.093	0.000	1.26	0.65	1.24	0.151
6.217	0.000	1.27	0.65	1.25	0.151
6.341	0.000	1.28	0.65	1.26	0.152
6.465	0.000	1.29	0.65	1.27	0.152
6.589	0.000	1.30	0.65	1.28	0.152
6.713	0.000	1.32	0.65	1.29	0.152
6.836	0.000	1.32	0.65	1.30	0.153
6.960	0.000	1.34	0.65	1.31	0.153
7.084	0.000	1.35	0.66	1.32	0.153
7.208	0.000	1.36	0.66	1.33	0.154
7.332	0.000	1.37	0.66	1.34	0.154
7.456	0.000	1.39	0.66	1.35	0.154
7.579	0.000	1.40	0.66	1.36	0.155
7.703	0.000	1.41	0.66	1.38	0.155
7.827	0.000	1.42	0.66	1.39	0.155
7.951	0.000	1.44	0.67	1.40	0.156
8.075	0.000	1.45	0.67	1.42	0.156
8.198	0.000	1.47	0.67	1.43	0.156
8.322	0.000	1.48	0.67	1.44	0.157
8.446	0.000	1.50	0.67	1.46	0.157
8.570	0.000	1.51	0.67	1.47	0.158
8.694	0.000	1.53	0.68	1.49	0.158
8.818	0.000	1.54	0.68	1.50	0.158
8.941	0.000	1.56	0.68	1.52	0.159
9.065	0.000	1.58	0.68	1.53	0.159
9.189	0.000	1.60	0.68	1.55	0.160
9.313	0.000	1.61	0.69	1.57	0.160
9.437	0.000	1.64	0.69	1.59	0.161
9.561	0.000	1.65	0.69	1.60	0.161
9.684	0.000	1.69	0.69	1.62	0.162

9.808	0.000	1.70	0.69	1.65	0.162
9.932	0.000	1.74	0.70	1.67	0.163
10.056	0.000	1.76	0.70	1.70	0.164
10.180	0.000	1.80	0.70	1.72	0.165
10.304	0.000	1.82	0.71	1.75	0.165
10.428	0.000	1.87	0.71	1.78	0.166
10.551	0.000	1.89	0.71	1.81	0.167
10.675	0.000	1.94	0.72	1.84	0.168
10.799	0.000	1.96	0.72	1.88	0.169
10.923	0.000	2.01	0.73	1.91	0.170
11.047	0.000	2.04	0.73	1.95	0.171
11.170	0.000	2.10	0.74	1.99	0.172
11.294	0.000	2.12	0.74	2.02	0.173
11.418	0.000	2.18	0.75	2.07	0.174
11.542	0.000	2.21	0.75	2.11	0.175
11.666	0.000	2.28	0.76	2.15	0.177
11.790	0.000	2.31	0.76	2.20	0.178
11.913	0.000	2.39	0.77	2.25	0.179
12.037	0.000	2.42	0.77	2.30	0.181
12.161	0.000	3.48	0.82	2.50	0.191
12.285	0.000	3.53	0.85	2.82	0.198
12.409	0.000	3.62	0.87	3.05	0.204
12.533	0.000	3.67	0.89	3.24	0.208
12.656	0.000	3.77	0.91	3.39	0.212
12.780	0.000	3.83	0.92	3.52	0.215
12.904	0.000	3.95	0.93	3.64	0.218
13.028	0.000	4.01	0.95	3.74	0.221
13.152	0.000	4.14	0.96	3.85	0.224
13.276	0.000	4.21	0.97	3.95	0.227
13.400	0.000	4.36	0.98	4.05	0.230
13.523	0.000	4.44	1.00	4.16	0.233
13.647	0.000	4.61	1.01	4.25	0.236
13.771	0.000	4.70	1.01	4.30	0.241
13.895	0.000	4.90	1.03	4.35	0.246
14.019	0.000	5.01	1.04	4.42	0.252
14.142	0.000	5.18	1.05	4.49	0.259
14.266	0.000	5.31	1.07	4.57	0.267
14.390	0.000	5.61	1.09	4.66	0.277
14.514	0.000	5.77	1.11	4.76	0.287
14.638	0.000	6.14	1.13	4.89	0.300
14.762	0.000	6.35	1.16	5.03	0.313
14.885	0.000	6.83	1.20	5.19	0.330
15.009	0.000	7.11	1.23	5.38	0.348
15.133	0.000	7.79	1.28	5.59	0.370
15.257	0.000	8.19	1.33	5.84	0.394
15.381	0.000	9.10	1.39	6.13	0.425
15.505	0.000	8.32	1.43	6.40	0.445
15.628	0.000	10.13	1.50	6.69	0.480
15.752	0.000	11.54	1.59	7.12	0.525
15.876	0.000	17.70	1.80	7.90	0.625
16.000	0.000	24.09	2.12	9.17	0.778
16.124	0.000	69.72	3.82	12.40	1.365
16.248	0.000	14.49	3.81	14.86	1.361
16.372	0.000	9.11	3.60	14.57	1.305
16.495	0.000	8.66	3.39	14.03	1.250
16.619	0.000	7.43	3.15	13.46	1.188
16.743	0.000	6.58	2.94	12.86	1.124
16.867	0.000	5.95	2.79	12.32	1.059
16.991	0.000	5.45	2.63	11.82	0.994
17.115	0.000	5.11	2.48	11.33	0.930
17.238	0.000	4.80	2.34	10.84	0.868
17.362	0.000	4.52	2.20	10.38	0.808
17.486	0.000	4.28	2.06	9.92	0.751
17.610	0.000	4.07	1.94	9.44	0.696
17.734	0.000	3.89	1.83	8.91	0.644
17.858	0.000	3.72	1.74	8.38	0.596
17.981	0.000	3.57	1.65	7.89	0.552
18.105	0.000	2.90	1.55	7.41	0.506



18.229	0.000	2.35	1.46	6.91	0.459
18.353	0.000	2.25	1.37	6.43	0.417
18.477	0.000	2.15	1.29	5.99	0.377
18.601	0.000	2.07	1.22	5.59	0.341
18.724	0.000	1.99	1.15	5.22	0.308
18.848	0.000	1.91	1.09	4.88	0.278
18.972	0.000	1.85	1.03	4.57	0.250
19.096	0.000	1.78	0.96	4.18	0.225
19.220	0.000	1.72	0.88	3.60	0.206
19.344	0.000	1.67	0.82	3.00	0.193
19.467	0.000	1.62	0.78	2.57	0.183
19.591	0.000	1.59	0.75	2.27	0.176
19.715	0.000	1.55	0.73	2.05	0.171
19.839	0.000	1.52	0.71	1.89	0.167
19.963	0.000	1.49	0.70	1.77	0.164
20.086	0.000	1.46	0.69	1.68	0.162
20.210	0.000	1.43	0.68	1.60	0.160
20.334	0.000	1.40	0.68	1.54	0.159
20.458	0.000	1.38	0.67	1.50	0.157
20.582	0.000	1.35	0.67	1.46	0.156
20.706	0.000	1.33	0.67	1.42	0.155
20.830	0.000	1.31	0.66	1.39	0.155
20.953	0.000	1.29	0.66	1.36	0.154
21.077	0.000	1.27	0.66	1.33	0.153
21.201	0.000	1.25	0.65	1.31	0.153
21.325	0.000	1.23	0.65	1.29	0.152
21.449	0.000	1.21	0.65	1.27	0.151
21.573	0.000	1.19	0.65	1.25	0.151
21.696	0.000	1.18	0.64	1.23	0.150
21.820	0.000	1.16	0.64	1.21	0.150
21.944	0.000	1.14	0.64	1.19	0.149
22.068	0.000	1.13	0.64	1.17	0.149
22.192	0.000	1.11	0.64	1.16	0.148
22.315	0.000	1.10	0.63	1.14	0.148
22.439	0.000	1.09	0.63	1.13	0.148
22.563	0.000	1.07	0.63	1.11	0.147
22.687	0.000	1.06	0.63	1.10	0.147
22.811	0.000	1.05	0.63	1.08	0.146
22.935	0.000	1.04	0.63	1.07	0.146
23.059	0.000	1.02	0.62	1.06	0.146
23.182	0.000	1.01	0.62	1.04	0.145
23.306	0.000	1.00	0.62	1.03	0.145
23.430	0.000	0.99	0.62	1.02	0.145
23.554	0.000	0.98	0.62	1.01	0.144
23.678	0.000	0.97	0.62	1.00	0.144
23.802	0.000	0.96	0.62	0.99	0.144
23.925	0.000	0.95	0.61	0.98	0.144
24.049	0.000	0.94	0.61	0.97	0.143
24.173	0.000	0.00	0.58	0.81	0.135
24.297	0.000	0.00	0.55	0.56	0.129
24.421	0.000	0.00	0.54	0.38	0.125
24.544	0.000	0.00	0.53	0.26	0.123
24.668	0.000	0.00	0.52	0.18	0.121
24.792	0.000	0.00	0.51	0.12	0.120
24.916	0.000	0.00	0.51	0.08	0.119
25.040	0.000	0.00	0.51	0.06	0.118
25.164	0.000	0.00	0.50	0.04	0.118
25.287	0.000	0.00	0.50	0.03	0.118
25.411	0.000	0.00	0.50	0.02	0.117
25.535	0.000	0.00	0.50	0.01	0.117
25.659	0.000	0.00	0.50	0.01	0.117
25.783	0.000	0.00	0.50	0.01	0.117
25.907	0.000	0.00	0.50	0.00	0.117
26.030	0.000	0.00	0.50	0.00	0.117
26.154	0.000	0.00	0.50	0.00	0.117
26.278	0.000	0.00	0.50	0.00	0.117
26.402	0.000	0.00	0.50	0.00	0.117
26.526	0.000	0.00	0.50	0.00	0.117

26.650	0.000	0.00	0.50	0.00	0.117
26.773	0.000	0.00	0.50	0.00	0.117
26.897	0.000	0.00	0.50	0.00	0.117
27.021	0.000	0.00	0.50	0.00	0.117
27.145	0.000	0.00	0.50	0.00	0.117
27.269	0.000	0.00	0.50	0.00	0.117
27.393	0.000	0.00	0.50	0.00	0.117
27.516	0.000	0.00	0.50	0.00	0.117
27.640	0.000	0.00	0.50	0.00	0.117
27.764	0.000	0.00	0.50	0.00	0.117
27.888	0.000	0.00	0.50	0.00	0.117
28.012	0.000	0.00	0.50	0.00	0.117
28.136	0.000	0.00	0.50	0.00	0.117
28.259	0.000	0.00	0.50	0.00	0.117
28.383	0.000	0.00	0.50	0.00	0.117
28.507	0.000	0.00	0.50	0.00	0.117
28.631	0.000	0.00	0.50	0.00	0.117
28.755	0.000	0.00	0.50	0.00	0.117
28.879	0.000	0.00	0.50	0.00	0.117
29.002	0.000	0.00	0.50	0.00	0.117
29.126	0.000	0.00	0.50	0.00	0.117
29.250	0.000	0.00	0.50	0.00	0.117
29.374	0.000	0.00	0.50	0.00	0.117
29.498	0.000	0.00	0.50	0.00	0.117
29.622	0.000	0.00	0.50	0.00	0.117
29.745	0.000	0.00	0.50	0.00	0.117
29.869	0.000	0.00	0.50	0.00	0.117
29.993	0.000	0.00	0.50	0.00	0.117
30.117	0.000	0.00	0.50	0.00	0.117
30.241	0.000	0.00	0.50	0.00	0.117
30.365	0.000	0.00	0.50	0.00	0.117
30.488	0.000	0.00	0.50	0.00	0.117
30.612	0.000	0.00	0.50	0.00	0.117
30.736	0.000	0.00	0.50	0.00	0.117
30.860	0.000	0.00	0.50	0.00	0.117
30.984	0.000	0.00	0.50	0.00	0.117
31.108	0.000	0.00	0.50	0.00	0.117
31.231	0.000	0.00	0.50	0.00	0.117
31.355	0.000	0.00	0.50	0.00	0.117
31.479	0.000	0.00	0.50	0.00	0.117
31.603	0.000	0.00	0.50	0.00	0.117
31.727	0.000	0.00	0.50	0.00	0.117
31.851	0.000	0.00	0.50	0.00	0.117
31.974	0.000	0.00	0.50	0.00	0.117
32.098	0.000	0.00	0.50	0.00	0.117
32.222	0.000	0.00	0.50	0.00	0.117
32.346	0.000	0.00	0.50	0.00	0.117
32.470	0.000	0.00	0.50	0.00	0.117
32.594	0.000	0.00	0.50	0.00	0.117
32.717	0.000	0.00	0.50	0.00	0.117
32.841	0.000	0.00	0.50	0.00	0.117
32.965	0.000	0.00	0.50	0.00	0.117
33.089	0.000	0.00	0.50	0.00	0.117
33.213	0.000	0.00	0.50	0.00	0.117
33.337	0.000	0.00	0.50	0.00	0.117
33.460	0.000	0.00	0.50	0.00	0.117
33.584	0.000	0.00	0.50	0.00	0.117
33.708	0.000	0.00	0.50	0.00	0.117
33.832	0.000	0.00	0.50	0.00	0.117
33.956	0.000	0.00	0.50	0.00	0.117
34.080	0.000	0.00	0.50	0.00	0.117
34.203	0.000	0.00	0.50	0.00	0.117
34.327	0.000	0.00	0.50	0.00	0.117
34.451	0.000	0.00	0.50	0.00	0.117
34.575	0.000	0.00	0.50	0.00	0.117
34.699	0.000	0.00	0.50	0.00	0.117
34.823	0.000	0.00	0.50	0.00	0.117
34.946	0.000	0.00	0.50	0.00	0.117

35.070	0.000	0.00	0.50	0.00	0.117
35.194	0.000	0.00	0.50	0.00	0.117
35.318	0.000	0.00	0.50	0.00	0.117
35.442	0.000	0.00	0.50	0.00	0.117
35.566	0.000	0.00	0.50	0.00	0.117
35.689	0.000	0.00	0.50	0.00	0.117
35.813	0.000	0.00	0.50	0.00	0.117
35.937	0.000	0.00	0.50	0.00	0.117
36.061	0.000	0.00	0.50	0.00	0.117
36.185	0.000	0.00	0.50	0.00	0.117
36.309	0.000	0.00	0.50	0.00	0.117
36.432	0.000	0.00	0.50	0.00	0.117
36.556	0.000	0.00	0.50	0.00	0.117
36.680	0.000	0.00	0.50	0.00	0.117
36.804	0.000	0.00	0.50	0.00	0.117
36.928	0.000	0.00	0.50	0.00	0.117
37.052	0.000	0.00	0.50	0.00	0.117
37.175	0.000	0.00	0.50	0.00	0.117
37.299	0.000	0.00	0.50	0.00	0.117
37.423	0.000	0.00	0.50	0.00	0.117
37.547	0.000	0.00	0.50	0.00	0.117
37.671	0.000	0.00	0.50	0.00	0.117
37.795	0.000	0.00	0.50	0.00	0.117
37.918	0.000	0.00	0.50	0.00	0.117
38.042	0.000	0.00	0.50	0.00	0.117
38.166	0.000	0.00	0.50	0.00	0.117
38.290	0.000	0.00	0.50	0.00	0.117
38.414	0.000	0.00	0.50	0.00	0.117
38.538	0.000	0.00	0.50	0.00	0.117
38.661	0.000	0.00	0.50	0.00	0.117
38.785	0.000	0.00	0.50	0.00	0.117
38.909	0.000	0.00	0.50	0.00	0.117
39.033	0.000	0.00	0.50	0.00	0.117
39.157	0.000	0.00	0.50	0.00	0.117
39.281	0.000	0.00	0.50	0.00	0.117
39.404	0.000	0.00	0.50	0.00	0.117
39.528	0.000	0.00	0.50	0.00	0.117
39.652	0.000	0.00	0.50	0.00	0.117
39.776	0.000	0.00	0.50	0.00	0.117
39.900	0.000	0.00	0.50	0.00	0.117
40.024	0.000	0.00	0.50	0.00	0.117
40.147	0.000	0.00	0.50	0.00	0.117
40.271	0.000	0.00	0.50	0.00	0.117
40.395	0.000	0.00	0.50	0.00	0.117
40.519	0.000	0.00	0.50	0.00	0.117
40.643	0.000	0.00	0.50	0.00	0.117
40.767	0.000	0.00	0.50	0.00	0.117
40.890	0.000	0.00	0.50	0.00	0.117
41.014	0.000	0.00	0.50	0.00	0.117
41.138	0.000	0.00	0.50	0.00	0.117
41.262	0.000	0.00	0.50	0.00	0.117
41.386	0.000	0.00	0.50	0.00	0.117
41.510	0.000	0.00	0.50	0.00	0.117
41.633	0.000	0.00	0.50	0.00	0.117
41.757	0.000	0.00	0.50	0.00	0.117
41.881	0.000	0.00	0.50	0.00	0.117
42.005	0.000	0.00	0.50	0.00	0.117
42.129	0.000	0.00	0.50	0.00	0.117
42.253	0.000	0.00	0.50	0.00	0.117
42.376	0.000	0.00	0.50	0.00	0.117
42.500	0.000	0.00	0.50	0.00	0.117
42.624	0.000	0.00	0.50	0.00	0.117
42.748	0.000	0.00	0.50	0.00	0.117
42.872	0.000	0.00	0.50	0.00	0.117
42.996	0.000	0.00	0.50	0.00	0.117
43.119	0.000	0.00	0.50	0.00	0.117
43.243	0.000	0.00	0.50	0.00	0.117
43.367	0.000	0.00	0.50	0.00	0.117

43.491	0.000	0.00	0.50	0.00	0.117
43.615	0.000	0.00	0.50	0.00	0.117
43.739	0.000	0.00	0.50	0.00	0.117
43.862	0.000	0.00	0.50	0.00	0.117
43.986	0.000	0.00	0.50	0.00	0.117
44.110	0.000	0.00	0.50	0.00	0.117
44.234	0.000	0.00	0.50	0.00	0.117
44.358	0.000	0.00	0.50	0.00	0.117
44.482	0.000	0.00	0.50	0.00	0.117
44.605	0.000	0.00	0.50	0.00	0.117
44.729	0.000	0.00	0.50	0.00	0.117
44.853	0.000	0.00	0.50	0.00	0.117
44.977	0.000	0.00	0.50	0.00	0.117
45.101	0.000	0.00	0.50	0.00	0.117
45.225	0.000	0.00	0.50	0.00	0.117
45.348	0.000	0.00	0.50	0.00	0.117
45.472	0.000	0.00	0.50	0.00	0.117
45.596	0.000	0.00	0.50	0.00	0.117
45.720	0.000	0.00	0.50	0.00	0.117
45.844	0.000	0.00	0.50	0.00	0.117
45.968	0.000	0.00	0.50	0.00	0.117
46.091	0.000	0.00	0.50	0.00	0.117
46.215	0.000	0.00	0.50	0.00	0.117
46.339	0.000	0.00	0.50	0.00	0.117
46.463	0.000	0.00	0.50	0.00	0.117
46.587	0.000	0.00	0.50	0.00	0.117
46.711	0.000	0.00	0.50	0.00	0.117
46.834	0.000	0.00	0.50	0.00	0.117
46.958	0.000	0.00	0.50	0.00	0.117
47.082	0.000	0.00	0.50	0.00	0.117
47.206	0.000	0.00	0.50	0.00	0.117
47.330	0.000	0.00	0.50	0.00	0.117
47.454	0.000	0.00	0.50	0.00	0.117
47.577	0.000	0.00	0.50	0.00	0.117
47.701	0.000	0.00	0.50	0.00	0.117
47.825	0.000	0.00	0.50	0.00	0.117
47.949	0.000	0.00	0.50	0.00	0.117
48.073	0.000	0.00	0.50	0.00	0.117
48.197	0.000	0.00	0.50	0.00	0.117
48.320	0.000	0.00	0.50	0.00	0.117
48.444	0.000	0.00	0.50	0.00	0.117
48.568	0.000	0.00	0.50	0.00	0.117
48.692	0.000	0.00	0.50	0.00	0.117
48.816	0.000	0.00	0.50	0.00	0.117
48.940	0.000	0.00	0.50	0.00	0.117
49.063	0.000	0.00	0.50	0.00	0.117
49.187	0.000	0.00	0.50	0.00	0.117
49.311	0.000	0.00	0.50	0.00	0.117
49.435	0.000	0.00	0.50	0.00	0.117
49.559	0.000	0.00	0.50	0.00	0.117
49.683	0.000	0.00	0.50	0.00	0.117
49.806	0.000	0.00	0.50	0.00	0.117
49.930	0.000	0.00	0.50	0.00	0.117
50.054	0.000	0.00	0.50	0.00	0.117
50.178	0.000	0.00	0.50	0.00	0.117
50.302	0.000	0.00	0.50	0.00	0.117
50.426	0.000	0.00	0.50	0.00	0.117
50.549	0.000	0.00	0.50	0.00	0.117
50.673	0.000	0.00	0.50	0.00	0.117
50.797	0.000	0.00	0.50	0.00	0.117
50.921	0.000	0.00	0.50	0.00	0.117
51.045	0.000	0.00	0.50	0.00	0.117
51.169	0.000	0.00	0.50	0.00	0.117
51.292	0.000	0.00	0.50	0.00	0.117
51.416	0.000	0.00	0.50	0.00	0.117
51.540	0.000	0.00	0.50	0.00	0.117
51.664	0.000	0.00	0.50	0.00	0.117
51.788	0.000	0.00	0.50	0.00	0.117

51.912	0.000	0.00	0.50	0.00	0.117
52.035	0.000	0.00	0.50	0.00	0.117
52.159	0.000	0.00	0.50	0.00	0.117
52.283	0.000	0.00	0.50	0.00	0.117
52.407	0.000	0.00	0.50	0.00	0.117
52.531	0.000	0.00	0.50	0.00	0.117
52.655	0.000	0.00	0.50	0.00	0.117
52.778	0.000	0.00	0.50	0.00	0.117
52.902	0.000	0.00	0.50	0.00	0.117
53.026	0.000	0.00	0.50	0.00	0.117
53.150	0.000	0.00	0.50	0.00	0.117
53.274	0.000	0.00	0.50	0.00	0.117
53.398	0.000	0.00	0.50	0.00	0.117
53.521	0.000	0.00	0.50	0.00	0.117
53.645	0.000	0.00	0.50	0.00	0.117
53.769	0.000	0.00	0.50	0.00	0.117
53.893	0.000	0.00	0.50	0.00	0.117
54.017	0.000	0.00	0.50	0.00	0.117
54.141	0.000	0.00	0.50	0.00	0.117
54.264	0.000	0.00	0.50	0.00	0.117
54.388	0.000	0.00	0.50	0.00	0.117
54.512	0.000	0.00	0.50	0.00	0.117
54.636	0.000	0.00	0.50	0.00	0.117
54.760	0.000	0.00	0.50	0.00	0.117
54.884	0.000	0.00	0.50	0.00	0.117
55.007	0.000	0.00	0.50	0.00	0.117
55.131	0.000	0.00	0.50	0.00	0.117
55.255	0.000	0.00	0.50	0.00	0.117
55.379	0.000	0.00	0.50	0.00	0.117
55.503	0.000	0.00	0.50	0.00	0.117
55.627	0.000	0.00	0.50	0.00	0.117
55.750	0.000	0.00	0.50	0.00	0.117
55.874	0.000	0.00	0.50	0.00	0.117
55.998	0.000	0.00	0.50	0.00	0.117
56.122	0.000	0.00	0.50	0.00	0.117
56.246	0.000	0.00	0.50	0.00	0.117
56.370	0.000	0.00	0.50	0.00	0.117
56.493	0.000	0.00	0.50	0.00	0.117
56.617	0.000	0.00	0.50	0.00	0.117
56.741	0.000	0.00	0.50	0.00	0.117
56.865	0.000	0.00	0.50	0.00	0.117
56.989	0.000	0.00	0.50	0.00	0.117
57.112	0.000	0.00	0.50	0.00	0.117
57.236	0.000	0.00	0.50	0.00	0.117
57.360	0.000	0.00	0.50	0.00	0.117
57.484	0.000	0.00	0.50	0.00	0.117
57.608	0.000	0.00	0.50	0.00	0.117
57.732	0.000	0.00	0.50	0.00	0.117
57.855	0.000	0.00	0.50	0.00	0.117
57.979	0.000	0.00	0.50	0.00	0.117
58.103	0.000	0.00	0.50	0.00	0.117
58.227	0.000	0.00	0.50	0.00	0.117
58.351	0.000	0.00	0.50	0.00	0.117
58.475	0.000	0.00	0.50	0.00	0.117
58.598	0.000	0.00	0.50	0.00	0.117
58.722	0.000	0.00	0.50	0.00	0.117
58.846	0.000	0.00	0.50	0.00	0.117
58.970	0.000	0.00	0.50	0.00	0.117
59.094	0.000	0.00	0.50	0.00	0.117
59.218	0.000	0.00	0.50	0.00	0.117
59.341	0.000	0.00	0.50	0.00	0.117
59.465	0.000	0.00	0.50	0.00	0.117
59.589	0.000	0.00	0.50	0.00	0.117
59.713	0.000	0.00	0.50	0.00	0.117
59.837	0.000	0.00	0.50	0.00	0.117
59.961	0.000	0.00	0.50	0.00	0.117
60.084	0.000	0.00	0.50	0.00	0.117
60.208	0.000	0.00	0.50	0.00	0.117

60.332	0.000	0.00	0.50	0.00	0.117
60.456	0.000	0.00	0.50	0.00	0.117
60.580	0.000	0.00	0.50	0.00	0.117
60.704	0.000	0.00	0.50	0.00	0.117
60.827	0.000	0.00	0.50	0.00	0.117
60.951	0.000	0.00	0.50	0.00	0.117
61.075	0.000	0.00	0.50	0.00	0.117
61.199	0.000	0.00	0.50	0.00	0.117
61.323	0.000	0.00	0.50	0.00	0.117
61.447	0.000	0.00	0.50	0.00	0.117
61.570	0.000	0.00	0.50	0.00	0.117
61.694	0.000	0.00	0.50	0.00	0.117
61.818	0.000	0.00	0.50	0.00	0.117
61.942	0.000	0.00	0.50	0.00	0.117
62.066	0.000	0.00	0.50	0.00	0.117
62.190	0.000	0.00	0.50	0.00	0.117
62.313	0.000	0.00	0.50	0.00	0.117
62.437	0.000	0.00	0.50	0.00	0.117
62.561	0.000	0.00	0.50	0.00	0.117
62.685	0.000	0.00	0.50	0.00	0.117
62.809	0.000	0.00	0.50	0.00	0.117
62.933	0.000	0.00	0.50	0.00	0.117
63.056	0.000	0.00	0.50	0.00	0.117
63.180	0.000	0.00	0.50	0.00	0.117
63.304	0.000	0.00	0.50	0.00	0.117
63.428	0.000	0.00	0.50	0.00	0.117
63.552	0.000	0.00	0.50	0.00	0.117
63.676	0.000	0.00	0.50	0.00	0.117
63.799	0.000	0.00	0.50	0.00	0.117
63.923	0.000	0.00	0.50	0.00	0.117
64.047	0.000	0.00	0.50	0.00	0.117
64.171	0.000	0.00	0.50	0.00	0.117
64.295	0.000	0.00	0.50	0.00	0.117
64.419	0.000	0.00	0.50	0.00	0.117
64.542	0.000	0.00	0.50	0.00	0.117
64.666	0.000	0.00	0.50	0.00	0.117
64.790	0.000	0.00	0.50	0.00	0.117
64.914	0.000	0.00	0.50	0.00	0.117
65.038	0.000	0.00	0.50	0.00	0.117
65.162	0.000	0.00	0.50	0.00	0.117
65.285	0.000	0.00	0.50	0.00	0.117
65.409	0.000	0.00	0.50	0.00	0.117
65.533	0.000	0.00	0.50	0.00	0.117
65.657	0.000	0.00	0.50	0.00	0.117
65.781	0.000	0.00	0.50	0.00	0.117
65.905	0.000	0.00	0.50	0.00	0.117
66.028	0.000	0.00	0.50	0.00	0.117
66.152	0.000	0.00	0.50	0.00	0.117
66.276	0.000	0.00	0.50	0.00	0.117
66.400	0.000	0.00	0.50	0.00	0.117
66.524	0.000	0.00	0.50	0.00	0.117
66.648	0.000	0.00	0.50	0.00	0.117
66.771	0.000	0.00	0.50	0.00	0.117
66.895	0.000	0.00	0.50	0.00	0.117
67.019	0.000	0.00	0.50	0.00	0.117
67.143	0.000	0.00	0.50	0.00	0.117
67.267	0.000	0.00	0.50	0.00	0.117
67.391	0.000	0.00	0.50	0.00	0.117
67.514	0.000	0.00	0.50	0.00	0.117
67.638	0.000	0.00	0.50	0.00	0.117
67.762	0.000	0.00	0.50	0.00	0.117
67.886	0.000	0.00	0.50	0.00	0.117
68.010	0.000	0.00	0.50	0.00	0.117
68.134	0.000	0.00	0.50	0.00	0.117
68.257	0.000	0.00	0.50	0.00	0.117
68.381	0.000	0.00	0.50	0.00	0.117
68.505	0.000	0.00	0.50	0.00	0.117
68.629	0.000	0.00	0.50	0.00	0.117

68.753	0.000	0.00	0.50	0.00	0.117
68.877	0.000	0.00	0.50	0.00	0.117
69.000	0.000	0.00	0.50	0.00	0.117
69.124	0.000	0.00	0.50	0.00	0.117
69.248	0.000	0.00	0.50	0.00	0.117
69.372	0.000	0.00	0.50	0.00	0.117
69.496	0.000	0.00	0.50	0.00	0.117
69.620	0.000	0.00	0.50	0.00	0.117
69.743	0.000	0.00	0.50	0.00	0.117
69.867	0.000	0.00	0.50	0.00	0.117
69.991	0.000	0.00	0.50	0.00	0.117
70.115	0.000	0.00	0.50	0.00	0.117
70.239	0.000	0.00	0.50	0.00	0.117
70.363	0.000	0.00	0.50	0.00	0.117
70.486	0.000	0.00	0.50	0.00	0.117
70.610	0.000	0.00	0.50	0.00	0.117
70.734	0.000	0.00	0.50	0.00	0.117
70.858	0.000	0.00	0.50	0.00	0.117
70.982	0.000	0.00	0.50	0.00	0.117
71.106	0.000	0.00	0.50	0.00	0.117
71.229	0.000	0.00	0.50	0.00	0.117
71.353	0.000	0.00	0.50	0.00	0.117
71.477	0.000	0.00	0.50	0.00	0.117
71.601	0.000	0.00	0.50	0.00	0.117
71.725	0.000	0.00	0.50	0.00	0.117
71.849	0.000	0.00	0.50	0.00	0.117
71.972	0.000	0.00	0.50	0.00	0.117
72.096	0.000	0.00	0.50	0.00	0.117
72.220	0.000	0.00	0.50	0.00	0.117
72.344	0.000	0.00	0.50	0.00	0.117
72.468	0.000	0.00	0.50	0.00	0.117
72.592	0.000	0.00	0.50	0.00	0.117
72.715	0.000	0.00	0.50	0.00	0.117
72.839	0.000	0.00	0.50	0.00	0.117
72.963	0.000	0.00	0.50	0.00	0.117
73.087	0.000	0.00	0.50	0.00	0.117
73.211	0.000	0.00	0.50	0.00	0.117
73.335	0.000	0.00	0.50	0.00	0.117
73.458	0.000	0.00	0.50	0.00	0.117
73.582	0.000	0.00	0.50	0.00	0.117
73.706	0.000	0.00	0.50	0.00	0.117
73.830	0.000	0.00	0.50	0.00	0.117
73.954	0.000	0.00	0.50	0.00	0.117
74.078	0.000	0.00	0.50	0.00	0.117
74.201	0.000	0.00	0.50	0.00	0.117
74.325	0.000	0.00	0.50	0.00	0.117
74.449	0.000	0.00	0.50	0.00	0.117
74.573	0.000	0.00	0.50	0.00	0.117
74.697	0.000	0.00	0.50	0.00	0.117
74.821	0.000	0.00	0.50	0.00	0.117
74.944	0.000	0.00	0.50	0.00	0.117
75.068	0.000	0.00	0.50	0.00	0.117
75.192	0.000	0.00	0.50	0.00	0.117
75.316	0.000	0.00	0.50	0.00	0.117
75.440	0.000	0.00	0.50	0.00	0.117
75.564	0.000	0.00	0.50	0.00	0.117
75.687	0.000	0.00	0.50	0.00	0.117
75.811	0.000	0.00	0.50	0.00	0.117
75.935	0.000	0.00	0.50	0.00	0.117
76.059	0.000	0.00	0.50	0.00	0.117
76.183	0.000	0.00	0.50	0.00	0.117
76.307	0.000	0.00	0.50	0.00	0.117
76.430	0.000	0.00	0.50	0.00	0.117
76.554	0.000	0.00	0.50	0.00	0.117
76.678	0.000	0.00	0.50	0.00	0.117
76.802	0.000	0.00	0.50	0.00	0.117
76.926	0.000	0.00	0.50	0.00	0.117
77.050	0.000	0.00	0.50	0.00	0.117

77.173	0.000	0.00	0.50	0.00	0.117
77.297	0.000	0.00	0.50	0.00	0.117
77.421	0.000	0.00	0.50	0.00	0.117
77.545	0.000	0.00	0.50	0.00	0.117
77.669	0.000	0.00	0.50	0.00	0.117
77.793	0.000	0.00	0.50	0.00	0.117
77.916	0.000	0.00	0.50	0.00	0.117
78.040	0.000	0.00	0.50	0.00	0.117
78.164	0.000	0.00	0.50	0.00	0.117
78.288	0.000	0.00	0.50	0.00	0.117
78.412	0.000	0.00	0.50	0.00	0.117
78.536	0.000	0.00	0.50	0.00	0.117
78.659	0.000	0.00	0.50	0.00	0.117
78.783	0.000	0.00	0.50	0.00	0.117
78.907	0.000	0.00	0.50	0.00	0.117
79.031	0.000	0.00	0.50	0.00	0.117
79.155	0.000	0.00	0.50	0.00	0.117
79.279	0.000	0.00	0.50	0.00	0.117
79.402	0.000	0.00	0.50	0.00	0.117
79.526	0.000	0.00	0.50	0.00	0.117
79.650	0.000	0.00	0.50	0.00	0.117
79.774	0.000	0.00	0.50	0.00	0.117
79.898	0.000	0.00	0.50	0.00	0.117
80.022	0.000	0.00	0.50	0.00	0.117
80.145	0.000	0.00	0.50	0.00	0.117
80.269	0.000	0.00	0.50	0.00	0.117
80.393	0.000	0.00	0.50	0.00	0.117
80.517	0.000	0.00	0.50	0.00	0.117
80.641	0.000	0.00	0.50	0.00	0.117
80.765	0.000	0.00	0.50	0.00	0.117
80.888	0.000	0.00	0.50	0.00	0.117
81.012	0.000	0.00	0.50	0.00	0.117
81.136	0.000	0.00	0.50	0.00	0.117
81.260	0.000	0.00	0.50	0.00	0.117
81.384	0.000	0.00	0.50	0.00	0.117
81.508	0.000	0.00	0.50	0.00	0.117
81.631	0.000	0.00	0.50	0.00	0.117
81.755	0.000	0.00	0.50	0.00	0.117
81.879	0.000	0.00	0.50	0.00	0.117
82.003	0.000	0.00	0.50	0.00	0.117
82.127	0.000	0.00	0.50	0.00	0.117
82.251	0.000	0.00	0.50	0.00	0.117
82.374	0.000	0.00	0.50	0.00	0.117
82.498	0.000	0.00	0.50	0.00	0.117
82.622	0.000	0.00	0.50	0.00	0.117
82.746	0.000	0.00	0.50	0.00	0.117
82.870	0.000	0.00	0.50	0.00	0.117
82.994	0.000	0.00	0.50	0.00	0.117
83.117	0.000	0.00	0.50	0.00	0.117
83.241	0.000	0.00	0.50	0.00	0.117
83.365	0.000	0.00	0.50	0.00	0.117
83.489	0.000	0.00	0.50	0.00	0.117
83.613	0.000	0.00	0.50	0.00	0.117
83.737	0.000	0.00	0.50	0.00	0.117
83.860	0.000	0.00	0.50	0.00	0.117
83.984	0.000	0.00	0.50	0.00	0.117
84.108	0.000	0.00	0.50	0.00	0.117
84.232	0.000	0.00	0.50	0.00	0.117
84.356	0.000	0.00	0.50	0.00	0.117
84.480	0.000	0.00	0.50	0.00	0.117
84.603	0.000	0.00	0.50	0.00	0.117
84.727	0.000	0.00	0.50	0.00	0.117
84.851	0.000	0.00	0.50	0.00	0.117
84.975	0.000	0.00	0.50	0.00	0.117
85.099	0.000	0.00	0.50	0.00	0.117
85.223	0.000	0.00	0.50	0.00	0.117
85.346	0.000	0.00	0.50	0.00	0.117
85.470	0.000	0.00	0.50	0.00	0.117

85.594	0.000	0.00	0.50	0.00	0.117
85.718	0.000	0.00	0.50	0.00	0.117
85.842	0.000	0.00	0.50	0.00	0.117
85.966	0.000	0.00	0.50	0.00	0.117
86.089	0.000	0.00	0.50	0.00	0.117
86.213	0.000	0.00	0.50	0.00	0.117
86.337	0.000	0.00	0.50	0.00	0.117
86.461	0.000	0.00	0.50	0.00	0.117
86.585	0.000	0.00	0.50	0.00	0.117
86.709	0.000	0.00	0.50	0.00	0.117
86.832	0.000	0.00	0.50	0.00	0.117
86.956	0.000	0.00	0.50	0.00	0.117
87.080	0.000	0.00	0.50	0.00	0.117
87.204	0.000	0.00	0.50	0.00	0.117
87.328	0.000	0.00	0.50	0.00	0.117
87.452	0.000	0.00	0.50	0.00	0.117
87.575	0.000	0.00	0.50	0.00	0.117
87.699	0.000	0.00	0.50	0.00	0.117
87.823	0.000	0.00	0.50	0.00	0.117
87.947	0.000	0.00	0.50	0.00	0.117
88.071	0.000	0.00	0.50	0.00	0.117
88.195	0.000	0.00	0.50	0.00	0.117
88.318	0.000	0.00	0.50	0.00	0.117
88.442	0.000	0.00	0.50	0.00	0.117
88.566	0.000	0.00	0.50	0.00	0.117
88.690	0.000	0.00	0.50	0.00	0.117
88.814	0.000	0.00	0.50	0.00	0.117
88.938	0.000	0.00	0.50	0.00	0.117
89.061	0.000	0.00	0.50	0.00	0.117
89.185	0.000	0.00	0.50	0.00	0.117
89.309	0.000	0.00	0.50	0.00	0.117
89.433	0.000	0.00	0.50	0.00	0.117
89.557	0.000	0.00	0.50	0.00	0.117
89.681	0.000	0.00	0.50	0.00	0.117
89.804	0.000	0.00	0.50	0.00	0.117
89.928	0.000	0.00	0.50	0.00	0.117
90.052	0.000	0.00	0.50	0.00	0.117
90.176	0.000	0.00	0.50	0.00	0.117
90.300	0.000	0.00	0.50	0.00	0.117
90.424	0.000	0.00	0.50	0.00	0.117
90.547	0.000	0.00	0.50	0.00	0.117
90.671	0.000	0.00	0.50	0.00	0.117
90.795	0.000	0.00	0.50	0.00	0.117
90.919	0.000	0.00	0.50	0.00	0.117
91.043	0.000	0.00	0.50	0.00	0.117
91.166	0.000	0.00	0.50	0.00	0.117
91.290	0.000	0.00	0.50	0.00	0.117
91.414	0.000	0.00	0.50	0.00	0.117
91.538	0.000	0.00	0.50	0.00	0.117
91.662	0.000	0.00	0.50	0.00	0.117
91.786	0.000	0.00	0.50	0.00	0.117
91.909	0.000	0.00	0.50	0.00	0.117
92.033	0.000	0.00	0.50	0.00	0.117
92.157	0.000	0.00	0.50	0.00	0.117
92.281	0.000	0.00	0.50	0.00	0.117
92.405	0.000	0.00	0.50	0.00	0.117
92.529	0.000	0.00	0.50	0.00	0.117
92.652	0.000	0.00	0.50	0.00	0.117
92.776	0.000	0.00	0.50	0.00	0.117
92.900	0.000	0.00	0.50	0.00	0.117
93.024	0.000	0.00	0.50	0.00	0.117
93.148	0.000	0.00	0.50	0.00	0.117
93.272	0.000	0.00	0.50	0.00	0.117
93.395	0.000	0.00	0.50	0.00	0.117
93.519	0.000	0.00	0.50	0.00	0.117
93.643	0.000	0.00	0.50	0.00	0.117
93.767	0.000	0.00	0.50	0.00	0.117
93.891	0.000	0.00	0.50	0.00	0.117

94.015	0.000	0.00	0.50	0.00	0.117
94.138	0.000	0.00	0.50	0.00	0.117
94.262	0.000	0.00	0.50	0.00	0.117
94.386	0.000	0.00	0.50	0.00	0.117
94.510	0.000	0.00	0.50	0.00	0.117
94.634	0.000	0.00	0.50	0.00	0.117
94.758	0.000	0.00	0.50	0.00	0.117
94.881	0.000	0.00	0.50	0.00	0.117
95.005	0.000	0.00	0.50	0.00	0.117
95.129	0.000	0.00	0.50	0.00	0.117
95.253	0.000	0.00	0.50	0.00	0.117
95.377	0.000	0.00	0.50	0.00	0.117
95.501	0.000	0.00	0.50	0.00	0.117
95.624	0.000	0.00	0.50	0.00	0.117
95.748	0.000	0.00	0.50	0.00	0.117
95.872	0.000	0.00	0.50	0.00	0.117
95.996	0.000	0.00	0.50	0.00	0.117
96.120	0.000	0.00	0.50	0.00	0.117
96.244	0.000	0.00	0.50	0.00	0.117
96.367	0.000	0.00	0.50	0.00	0.117
96.491	0.000	0.00	0.50	0.00	0.117
96.615	0.000	0.00	0.50	0.00	0.117
96.739	0.000	0.00	0.50	0.00	0.117
96.863	0.000	0.00	0.50	0.00	0.117
96.987	0.000	0.00	0.50	0.00	0.117
97.110	0.000	0.00	0.50	0.00	0.117
97.234	0.000	0.00	0.50	0.00	0.117
97.358	0.000	0.00	0.50	0.00	0.117
97.482	0.000	0.00	0.50	0.00	0.117
97.606	0.000	0.00	0.50	0.00	0.117
97.730	0.000	0.00	0.50	0.00	0.117
97.853	0.000	0.00	0.50	0.00	0.117
97.977	0.000	0.00	0.50	0.00	0.117
98.101	0.000	0.00	0.50	0.00	0.117
98.225	0.000	0.00	0.50	0.00	0.117
98.349	0.000	0.00	0.50	0.00	0.117
98.473	0.000	0.00	0.50	0.00	0.117
98.596	0.000	0.00	0.50	0.00	0.117
98.720	0.000	0.00	0.50	0.00	0.117
98.844	0.000	0.00	0.50	0.00	0.117
98.968	0.000	0.00	0.50	0.00	0.117
99.092	0.000	0.00	0.50	0.00	0.117
99.216	0.000	0.00	0.50	0.00	0.117
99.339	0.000	0.00	0.50	0.00	0.117
99.463	0.000	0.00	0.50	0.00	0.117
99.587	0.000	0.00	0.50	0.00	0.117
99.711	0.000	0.00	0.50	0.00	0.117
99.835	0.000	0.00	0.50	0.00	0.117
99.959	0.000	0.00	0.50	0.00	0.117
100.082	0.000	0.00	0.50	0.00	0.117
100.206	0.000	0.00	0.50	0.00	0.117
100.330	0.000	0.00	0.50	0.00	0.117
100.454	0.000	0.00	0.50	0.00	0.117
100.578	0.000	0.00	0.50	0.00	0.117
100.702	0.000	0.00	0.50	0.00	0.117
100.825	0.000	0.00	0.50	0.00	0.117
100.949	0.000	0.00	0.50	0.00	0.117
101.073	0.000	0.00	0.50	0.00	0.117
101.197	0.000	0.00	0.50	0.00	0.117
101.321	0.000	0.00	0.50	0.00	0.117
101.445	0.000	0.00	0.50	0.00	0.117
101.568	0.000	0.00	0.50	0.00	0.117
101.692	0.000	0.00	0.50	0.00	0.117
101.816	0.000	0.00	0.50	0.00	0.117
101.940	0.000	0.00	0.50	0.00	0.117
102.064	0.000	0.00	0.50	0.00	0.117
102.188	0.000	0.00	0.50	0.00	0.117
102.311	0.000	0.00	0.50	0.00	0.117

102.435	0.000	0.00	0.50	0.00	0.117
102.559	0.000	0.00	0.50	0.00	0.117
102.683	0.000	0.00	0.50	0.00	0.117
102.807	0.000	0.00	0.50	0.00	0.117
102.931	0.000	0.00	0.50	0.00	0.117
103.054	0.000	0.00	0.50	0.00	0.117
103.178	0.000	0.00	0.50	0.00	0.117
103.302	0.000	0.00	0.50	0.00	0.117
103.426	0.000	0.00	0.50	0.00	0.117
103.550	0.000	0.00	0.50	0.00	0.117
103.674	0.000	0.00	0.50	0.00	0.117
103.797	0.000	0.00	0.50	0.00	0.117
103.921	0.000	0.00	0.50	0.00	0.117
104.045	0.000	0.00	0.50	0.00	0.117
104.169	0.000	0.00	0.50	0.00	0.117
104.293	0.000	0.00	0.50	0.00	0.117
104.417	0.000	0.00	0.50	0.00	0.117
104.540	0.000	0.00	0.50	0.00	0.117
104.664	0.000	0.00	0.50	0.00	0.117
104.788	0.000	0.00	0.50	0.00	0.117
104.912	0.000	0.00	0.50	0.00	0.117
105.036	0.000	0.00	0.50	0.00	0.117
105.160	0.000	0.00	0.50	0.00	0.117
105.283	0.000	0.00	0.50	0.00	0.117
105.407	0.000	0.00	0.50	0.00	0.117
105.531	0.000	0.00	0.50	0.00	0.117
105.655	0.000	0.00	0.50	0.00	0.117
105.779	0.000	0.00	0.50	0.00	0.117
105.903	0.000	0.00	0.50	0.00	0.117
106.026	0.000	0.00	0.50	0.00	0.117
106.150	0.000	0.00	0.50	0.00	0.117
106.274	0.000	0.00	0.50	0.00	0.117
106.398	0.000	0.00	0.50	0.00	0.117
106.522	0.000	0.00	0.50	0.00	0.117
106.646	0.000	0.00	0.50	0.00	0.117
106.769	0.000	0.00	0.50	0.00	0.117
106.893	0.000	0.00	0.50	0.00	0.117
107.017	0.000	0.00	0.50	0.00	0.117
107.141	0.000	0.00	0.50	0.00	0.117
107.265	0.000	0.00	0.50	0.00	0.117
107.389	0.000	0.00	0.50	0.00	0.117
107.512	0.000	0.00	0.50	0.00	0.117
107.636	0.000	0.00	0.50	0.00	0.117
107.760	0.000	0.00	0.50	0.00	0.117
107.884	0.000	0.00	0.50	0.00	0.117
108.008	0.000	0.00	0.50	0.00	0.117
108.132	0.000	0.00	0.50	0.00	0.117
108.255	0.000	0.00	0.50	0.00	0.117
108.379	0.000	0.00	0.50	0.00	0.117
108.503	0.000	0.00	0.50	0.00	0.117
108.627	0.000	0.00	0.50	0.00	0.117
108.751	0.000	0.00	0.50	0.00	0.117
108.875	0.000	0.00	0.50	0.00	0.117
108.998	0.000	0.00	0.50	0.00	0.117
109.122	0.000	0.00	0.50	0.00	0.117
109.246	0.000	0.00	0.50	0.00	0.117
109.370	0.000	0.00	0.50	0.00	0.117
109.494	0.000	0.00	0.50	0.00	0.117
109.618	0.000	0.00	0.50	0.00	0.117
109.741	0.000	0.00	0.50	0.00	0.117
109.865	0.000	0.00	0.50	0.00	0.117
109.989	0.000	0.00	0.50	0.00	0.117
110.113	0.000	0.00	0.50	0.00	0.117
110.237	0.000	0.00	0.50	0.00	0.117
110.361	0.000	0.00	0.50	0.00	0.117
110.484	0.000	0.00	0.50	0.00	0.117
110.608	0.000	0.00	0.50	0.00	0.117
110.732	0.000	0.00	0.50	0.00	0.117

110.856	0.000	0.00	0.50	0.00	0.117
110.980	0.000	0.00	0.50	0.00	0.117
111.104	0.000	0.00	0.50	0.00	0.117
111.227	0.000	0.00	0.50	0.00	0.117
111.351	0.000	0.00	0.50	0.00	0.117
111.475	0.000	0.00	0.50	0.00	0.117
111.599	0.000	0.00	0.50	0.00	0.117
111.723	0.000	0.00	0.50	0.00	0.117
111.847	0.000	0.00	0.50	0.00	0.117
111.970	0.000	0.00	0.50	0.00	0.117
112.094	0.000	0.00	0.50	0.00	0.117
112.218	0.000	0.00	0.50	0.00	0.117
112.342	0.000	0.00	0.50	0.00	0.117
112.466	0.000	0.00	0.50	0.00	0.117
112.590	0.000	0.00	0.50	0.00	0.117
112.713	0.000	0.00	0.50	0.00	0.117
112.837	0.000	0.00	0.50	0.00	0.117
112.961	0.000	0.00	0.50	0.00	0.117
113.085	0.000	0.00	0.50	0.00	0.117
113.209	0.000	0.00	0.50	0.00	0.117
113.333	0.000	0.00	0.50	0.00	0.117
113.456	0.000	0.00	0.50	0.00	0.117
113.580	0.000	0.00	0.50	0.00	0.117
113.704	0.000	0.00	0.50	0.00	0.117
113.828	0.000	0.00	0.50	0.00	0.117
113.952	0.000	0.00	0.50	0.00	0.117
114.076	0.000	0.00	0.50	0.00	0.117
114.199	0.000	0.00	0.50	0.00	0.117
114.323	0.000	0.00	0.50	0.00	0.117
114.447	0.000	0.00	0.50	0.00	0.117
114.571	0.000	0.00	0.50	0.00	0.117
114.695	0.000	0.00	0.50	0.00	0.117
114.819	0.000	0.00	0.50	0.00	0.117
114.942	0.000	0.00	0.50	0.00	0.117
115.066	0.000	0.00	0.50	0.00	0.117
115.190	0.000	0.00	0.50	0.00	0.117
115.314	0.000	0.00	0.50	0.00	0.117
115.438	0.000	0.00	0.50	0.00	0.117
115.562	0.000	0.00	0.50	0.00	0.117
115.685	0.000	0.00	0.50	0.00	0.117
115.809	0.000	0.00	0.50	0.00	0.117
115.933	0.000	0.00	0.50	0.00	0.117
116.057	0.000	0.00	0.50	0.00	0.117
116.181	0.000	0.00	0.50	0.00	0.117
116.305	0.000	0.00	0.50	0.00	0.117
116.428	0.000	0.00	0.50	0.00	0.117
116.552	0.000	0.00	0.50	0.00	0.117
116.676	0.000	0.00	0.50	0.00	0.117
116.800	0.000	0.00	0.50	0.00	0.117
116.924	0.000	0.00	0.50	0.00	0.117
117.048	0.000	0.00	0.50	0.00	0.117
117.171	0.000	0.00	0.50	0.00	0.117
117.295	0.000	0.00	0.50	0.00	0.117
117.419	0.000	0.00	0.50	0.00	0.117
117.543	0.000	0.00	0.50	0.00	0.117
117.667	0.000	0.00	0.50	0.00	0.117
117.791	0.000	0.00	0.50	0.00	0.117
117.914	0.000	0.00	0.50	0.00	0.117
118.038	0.000	0.00	0.50	0.00	0.117
118.162	0.000	0.00	0.50	0.00	0.117
118.286	0.000	0.00	0.50	0.00	0.117
118.410	0.000	0.00	0.50	0.00	0.117
118.534	0.000	0.00	0.50	0.00	0.117
118.657	0.000	0.00	0.50	0.00	0.117
118.781	0.000	0.00	0.50	0.00	0.117
118.905	0.000	0.00	0.50	0.00	0.117
119.029	0.000	0.00	0.50	0.00	0.117
119.153	0.000	0.00	0.50	0.00	0.117

119.277	0.000	0.00	0.50	0.00	0.117
119.400	0.000	0.00	0.50	0.00	0.117
119.524	0.000	0.00	0.50	0.00	0.117
119.648	0.000	0.00	0.50	0.00	0.117
119.772	0.000	0.00	0.50	0.00	0.117
119.896	0.000	0.00	0.50	0.00	0.117
120.020	0.000	0.00	0.50	0.00	0.117
120.143	0.000	0.00	0.50	0.00	0.117
120.267	0.000	0.00	0.50	0.00	0.117
120.391	0.000	0.00	0.50	0.00	0.117
120.515	0.000	0.00	0.50	0.00	0.117
120.639	0.000	0.00	0.50	0.00	0.117
120.763	0.000	0.00	0.50	0.00	0.117
120.886	0.000	0.00	0.50	0.00	0.117
121.010	0.000	0.00	0.50	0.00	0.117
121.134	0.000	0.00	0.50	0.00	0.117
121.258	0.000	0.00	0.50	0.00	0.117
121.382	0.000	0.00	0.50	0.00	0.117
121.506	0.000	0.00	0.50	0.00	0.117
121.629	0.000	0.00	0.50	0.00	0.117
121.753	0.000	0.00	0.50	0.00	0.117
121.877	0.000	0.00	0.50	0.00	0.117
122.001	0.000	0.00	0.50	0.00	0.117
122.125	0.000	0.00	0.50	0.00	0.117
122.249	0.000	0.00	0.50	0.00	0.117
122.372	0.000	0.00	0.50	0.00	0.117
122.496	0.000	0.00	0.50	0.00	0.117
122.620	0.000	0.00	0.50	0.00	0.117
122.744	0.000	0.00	0.50	0.00	0.117
122.868	0.000	0.00	0.50	0.00	0.117
122.992	0.000	0.00	0.50	0.00	0.117
123.115	0.000	0.00	0.50	0.00	0.117
123.239	0.000	0.00	0.50	0.00	0.117
123.363	0.000	0.00	0.50	0.00	0.117
123.487	0.000	0.00	0.50	0.00	0.117
123.611	0.000	0.00	0.50	0.00	0.117
123.734	0.000	0.00	0.50	0.00	0.117
123.858	0.000	0.00	0.50	0.00	0.117
123.982	0.000	0.00	0.50	0.00	0.117
124.106	0.000	0.00	0.50	0.00	0.117
124.230	0.000	0.00	0.50	0.00	0.117
124.354	0.000	0.00	0.50	0.00	0.117
124.477	0.000	0.00	0.50	0.00	0.117
124.601	0.000	0.00	0.50	0.00	0.117
124.725	0.000	0.00	0.50	0.00	0.117
124.849	0.000	0.00	0.50	0.00	0.117
124.973	0.000	0.00	0.50	0.00	0.117
125.097	0.000	0.00	0.50	0.00	0.117
125.220	0.000	0.00	0.50	0.00	0.117
125.344	0.000	0.00	0.50	0.00	0.117
125.468	0.000	0.00	0.50	0.00	0.117
125.592	0.000	0.00	0.50	0.00	0.117
125.716	0.000	0.00	0.50	0.00	0.117
125.840	0.000	0.00	0.50	0.00	0.117
125.963	0.000	0.00	0.50	0.00	0.117
126.087	0.000	0.00	0.50	0.00	0.117
126.211	0.000	0.00	0.50	0.00	0.117
126.335	0.000	0.00	0.50	0.00	0.117
126.459	0.000	0.00	0.50	0.00	0.117
126.583	0.000	0.00	0.50	0.00	0.117
126.706	0.000	0.00	0.50	0.00	0.117
126.830	0.000	0.00	0.50	0.00	0.117
126.954	0.000	0.00	0.50	0.00	0.117
127.078	0.000	0.00	0.50	0.00	0.117
127.202	0.000	0.00	0.50	0.00	0.117
127.326	0.000	0.00	0.50	0.00	0.117
127.449	0.000	0.00	0.50	0.00	0.117
127.573	0.000	0.00	0.50	0.00	0.117

127.697	0.000	0.00	0.50	0.00	0.117
127.821	0.000	0.00	0.50	0.00	0.117
127.945	0.000	0.00	0.50	0.00	0.117
128.069	0.000	0.00	0.50	0.00	0.117
128.192	0.000	0.00	0.50	0.00	0.117
128.316	0.000	0.00	0.50	0.00	0.117
128.440	0.000	0.00	0.50	0.00	0.117
128.564	0.000	0.00	0.50	0.00	0.117
128.688	0.000	0.00	0.50	0.00	0.117
128.812	0.000	0.00	0.50	0.00	0.117
128.936	0.000	0.00	0.50	0.00	0.117
129.059	0.000	0.00	0.50	0.00	0.117
129.183	0.000	0.00	0.50	0.00	0.117
129.307	0.000	0.00	0.50	0.00	0.117
129.431	0.000	0.00	0.50	0.00	0.117
129.555	0.000	0.00	0.50	0.00	0.117
129.679	0.000	0.00	0.50	0.00	0.117
129.802	0.000	0.00	0.50	0.00	0.117
129.926	0.000	0.00	0.50	0.00	0.117
130.050	0.000	0.00	0.50	0.00	0.117
130.174	0.000	0.00	0.50	0.00	0.117
130.298	0.000	0.00	0.50	0.00	0.117
130.422	0.000	0.00	0.50	0.00	0.117
130.545	0.000	0.00	0.50	0.00	0.117
130.669	0.000	0.00	0.50	0.00	0.117
130.793	0.000	0.00	0.50	0.00	0.117
130.917	0.000	0.00	0.50	0.00	0.117
131.041	0.000	0.00	0.50	0.00	0.117
131.165	0.000	0.00	0.50	0.00	0.117
131.288	0.000	0.00	0.50	0.00	0.117
131.412	0.000	0.00	0.50	0.00	0.117
131.536	0.000	0.00	0.50	0.00	0.117
131.660	0.000	0.00	0.50	0.00	0.117
131.784	0.000	0.00	0.50	0.00	0.117
131.908	0.000	0.00	0.50	0.00	0.117
132.032	0.000	0.00	0.50	0.00	0.117
132.155	0.000	0.00	0.50	0.00	0.117
132.279	0.000	0.00	0.50	0.00	0.117
132.403	0.000	0.00	0.50	0.00	0.117
132.527	0.000	0.00	0.50	0.00	0.117
132.651	0.000	0.00	0.50	0.00	0.117
132.775	0.000	0.00	0.50	0.00	0.117
132.898	0.000	0.00	0.50	0.00	0.117
133.022	0.000	0.00	0.50	0.00	0.117
133.146	0.000	0.00	0.50	0.00	0.117
133.270	0.000	0.00	0.50	0.00	0.117
133.394	0.000	0.00	0.50	0.00	0.117
133.518	0.000	0.00	0.50	0.00	0.117
133.641	0.000	0.00	0.50	0.00	0.117
133.765	0.000	0.00	0.50	0.00	0.117
133.889	0.000	0.00	0.50	0.00	0.117
134.013	0.000	0.00	0.50	0.00	0.117
134.137	0.000	0.00	0.50	0.00	0.117
134.261	0.000	0.00	0.50	0.00	0.117
134.385	0.000	0.00	0.50	0.00	0.117
134.508	0.000	0.00	0.50	0.00	0.117
134.632	0.000	0.00	0.50	0.00	0.117
134.756	0.000	0.00	0.50	0.00	0.117
134.880	0.000	0.00	0.50	0.00	0.117
135.004	0.000	0.00	0.50	0.00	0.117
135.128	0.000	0.00	0.50	0.00	0.117
135.251	0.000	0.00	0.50	0.00	0.117
135.375	0.000	0.00	0.50	0.00	0.117
135.499	0.000	0.00	0.50	0.00	0.117
135.623	0.000	0.00	0.50	0.00	0.117
135.747	0.000	0.00	0.50	0.00	0.117
135.871	0.000	0.00	0.50	0.00	0.117
135.994	0.000	0.00	0.50	0.00	0.117

136.118	0.000	0.00	0.50	0.00	0.117
136.242	0.000	0.00	0.50	0.00	0.117
136.366	0.000	0.00	0.50	0.00	0.117
136.490	0.000	0.00	0.50	0.00	0.117
136.614	0.000	0.00	0.50	0.00	0.117
136.737	0.000	0.00	0.50	0.00	0.117
136.861	0.000	0.00	0.50	0.00	0.117
136.985	0.000	0.00	0.50	0.00	0.117
137.109	0.000	0.00	0.50	0.00	0.117
137.233	0.000	0.00	0.50	0.00	0.117
137.357	0.000	0.00	0.50	0.00	0.117
137.481	0.000	0.00	0.50	0.00	0.117
137.604	0.000	0.00	0.50	0.00	0.117
137.728	0.000	0.00	0.50	0.00	0.117
137.852	0.000	0.00	0.50	0.00	0.117
137.976	0.000	0.00	0.50	0.00	0.117
138.100	0.000	0.00	0.50	0.00	0.117
138.224	0.000	0.00	0.50	0.00	0.117
138.347	0.000	0.00	0.50	0.00	0.117
138.471	0.000	0.00	0.50	0.00	0.117
138.595	0.000	0.00	0.50	0.00	0.117
138.719	0.000	0.00	0.50	0.00	0.117
138.843	0.000	0.00	0.50	0.00	0.117
138.967	0.000	0.00	0.50	0.00	0.117
139.090	0.000	0.00	0.50	0.00	0.117
139.214	0.000	0.00	0.50	0.00	0.117
139.338	0.000	0.00	0.50	0.00	0.117
139.462	0.000	0.00	0.50	0.00	0.117
139.586	0.000	0.00	0.50	0.00	0.117
139.710	0.000	0.00	0.50	0.00	0.117
139.833	0.000	0.00	0.50	0.00	0.117
139.957	0.000	0.00	0.50	0.00	0.117
140.081	0.000	0.00	0.50	0.00	0.117
140.205	0.000	0.00	0.50	0.00	0.117
140.329	0.000	0.00	0.50	0.00	0.117
140.453	0.000	0.00	0.50	0.00	0.117
140.577	0.000	0.00	0.50	0.00	0.117
140.700	0.000	0.00	0.50	0.00	0.117
140.824	0.000	0.00	0.50	0.00	0.117
140.948	0.000	0.00	0.50	0.00	0.117
141.072	0.000	0.00	0.50	0.00	0.117
141.196	0.000	0.00	0.50	0.00	0.117
141.320	0.000	0.00	0.50	0.00	0.117
141.443	0.000	0.00	0.50	0.00	0.117
141.567	0.000	0.00	0.50	0.00	0.117
141.691	0.000	0.00	0.50	0.00	0.117
141.815	0.000	0.00	0.50	0.00	0.117
141.939	0.000	0.00	0.50	0.00	0.117
142.063	0.000	0.00	0.50	0.00	0.117
142.186	0.000	0.00	0.50	0.00	0.117
142.310	0.000	0.00	0.50	0.00	0.117
142.434	0.000	0.00	0.50	0.00	0.117
142.558	0.000	0.00	0.50	0.00	0.117
142.682	0.000	0.00	0.50	0.00	0.117
142.806	0.000	0.00	0.50	0.00	0.117
142.929	0.000	0.00	0.50	0.00	0.117
143.053	0.000	0.00	0.50	0.00	0.117
143.177	0.000	0.00	0.50	0.00	0.117
143.301	0.000	0.00	0.50	0.00	0.117
143.425	0.000	0.00	0.50	0.00	0.117
143.549	0.000	0.00	0.50	0.00	0.117
143.673	0.000	0.00	0.50	0.00	0.117
143.796	0.000	0.00	0.50	0.00	0.117
143.920	0.000	0.00	0.50	0.00	0.117
144.044	0.000	0.00	0.50	0.00	0.117
144.168	0.000	0.00	0.50	0.00	0.117
144.292	0.000	0.00	0.50	0.00	0.117
144.416	0.000	0.00	0.50	0.00	0.117

144.539	0.000	0.00	0.50	0.00	0.117
144.663	0.000	0.00	0.50	0.00	0.117
144.787	0.000	0.00	0.50	0.00	0.117
144.911	0.000	0.00	0.50	0.00	0.117
145.035	0.000	0.00	0.50	0.00	0.117
145.159	0.000	0.00	0.50	0.00	0.117
145.282	0.000	0.00	0.50	0.00	0.117
145.406	0.000	0.00	0.50	0.00	0.117
145.530	0.000	0.00	0.50	0.00	0.117
145.654	0.000	0.00	0.50	0.00	0.117
145.778	0.000	0.00	0.50	0.00	0.117
145.902	0.000	0.00	0.50	0.00	0.117
146.025	0.000	0.00	0.50	0.00	0.117
146.149	0.000	0.00	0.50	0.00	0.117
146.273	0.000	0.00	0.50	0.00	0.117
146.397	0.000	0.00	0.50	0.00	0.117
146.521	0.000	0.00	0.50	0.00	0.117
146.645	0.000	0.00	0.50	0.00	0.117
146.769	0.000	0.00	0.50	0.00	0.117
146.892	0.000	0.00	0.50	0.00	0.117
147.016	0.000	0.00	0.50	0.00	0.117
147.140	0.000	0.00	0.50	0.00	0.117
147.264	0.000	0.00	0.50	0.00	0.117
147.388	0.000	0.00	0.50	0.00	0.117
147.512	0.000	0.00	0.50	0.00	0.117
147.635	0.000	0.00	0.50	0.00	0.117
147.759	0.000	0.00	0.50	0.00	0.117
147.883	0.000	0.00	0.50	0.00	0.117
148.007	0.000	0.00	0.50	0.00	0.117

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                      SMALL AREA UNIT HYDROGRAPH MODEL
============================================================================
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                           Analysis prepared by:




****************************************************************************
----------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center Fullerton
  Basin B
  100 Year Storm
----------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.91
    TOTAL CATCHMENT AREA(ACRES) =   19.70
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.040
    TIME OF CONCENTRATION(MIN.) =  7.37
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.52
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.09
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.45
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.43
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.36
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  5.63

----------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     8.06
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.18

****************************************************************************
  TIME     VOLUME       Q    0.       22.5      45.0      67.5      90.0
 (HOURS)    (AF)      (CFS)
----------------------------------------------------------------------------
  0.03      0.0000      0.00  Q         .         .         .         .
  0.15      0.0077      1.51  Q         .         .         .         .
  0.28      0.0230      1.51  Q         .         .         .         .
  0.40      0.0384      1.52  Q         .         .         .         .
  0.52      0.0539      1.53  Q         .         .         .         .
  0.65      0.0694      1.54  Q         .         .         .         .
  0.77      0.0851      1.54  Q         .         .         .         .
  0.89      0.1008      1.55  Q         .         .         .         .
  1.01      0.1166      1.56  Q         .         .         .         .
  1.14      0.1324      1.57  Q         .         .         .         .
  1.26      0.1484      1.57  Q         .         .         .         .
  1.38      0.1644      1.59  Q         .         .         .         .
  1.51      0.1805      1.59  Q         .         .         .         .
  1.63      0.1968      1.60  Q         .         .         .         .
  1.75      0.2130      1.61  Q         .         .         .         .
  1.87      0.2294      1.62  Q         .         .         .         .
  2.00      0.2459      1.63  Q         .         .         .         .
  2.12      0.2625      1.64  Q         .         .         .         .
  2.24      0.2791      1.64  Q         .         .         .         .
  2.37      0.2959      1.66  Q         .         .         .         .
```

2.49	0.3127	1.66	Q	.	.	.	.
2.61	0.3296	1.67	Q	.	.	.	.
2.73	0.3467	1.68	Q	.	.	.	.
2.86	0.3638	1.69	Q	.	.	.	.
2.98	0.3810	1.70	Q	.	.	.	.
3.10	0.3984	1.71	Q	.	.	.	.
3.23	0.4158	1.72	Q	.	.	.	.
3.35	0.4333	1.73	Q	.	.	.	.
3.47	0.4510	1.74	Q	.	.	.	.
3.59	0.4687	1.76	Q	.	.	.	.
3.72	0.4866	1.76	Q	.	.	.	.
3.84	0.5046	1.78	Q	.	.	.	.
3.96	0.5227	1.79	Q	.	.	.	.
4.09	0.5409	1.80	Q	.	.	.	.
4.21	0.5592	1.81	Q	.	.	.	.
4.33	0.5776	1.82	Q	.	.	.	.
4.45	0.5962	1.83	Q	.	.	.	.
4.58	0.6149	1.85	Q	.	.	.	.
4.70	0.6337	1.86	Q	.	.	.	.
4.82	0.6526	1.87	Q	.	.	.	.
4.95	0.6717	1.88	Q	.	.	.	.
5.07	0.6909	1.90	Q	.	.	.	.
5.19	0.7102	1.91	Q	.	.	.	.
5.31	0.7297	1.93	Q	.	.	.	.
5.44	0.7493	1.94	Q	.	.	.	.
5.56	0.7691	1.96	Q	.	.	.	.
5.68	0.7890	1.97	Q	.	.	.	.
5.80	0.8090	1.98	Q	.	.	.	.
5.93	0.8292	1.99	Q	.	.	.	.
6.05	0.8496	2.01	Q	.	.	.	.
6.17	0.8701	2.03	Q	.	.	.	.
6.30	0.8908	2.05	Q	.	.	.	.
6.42	0.9116	2.06	Q	.	.	.	.
6.54	0.9326	2.08	Q	.	.	.	.
6.66	0.9537	2.09	Q	.	.	.	.
6.79	0.9751	2.11	Q	.	.	.	.
6.91	0.9966	2.13	Q	.	.	.	.
7.03	1.0183	2.15	Q	.	.	.	.
7.16	1.0402	2.16	Q	.	.	.	.
7.28	1.0623	2.19	Q	.	.	.	.
7.40	1.0845	2.20	Q	.	.	.	.
7.52	1.1070	2.23	Q	.	.	.	.
7.65	1.1297	2.24	Q	.	.	.	.
7.77	1.1526	2.27	.Q	.	.	.	.
7.89	1.1756	2.28	.Q	.	.	.	.
8.02	1.1990	2.31	.Q	.	.	.	.
8.14	1.2225	2.33	.Q	.	.	.	.
8.26	1.2462	2.36	.Q	.	.	.	.
8.38	1.2702	2.37	.Q	.	.	.	.
8.51	1.2945	2.40	.Q	.	.	.	.
8.63	1.3190	2.42	.Q	.	.	.	.
8.75	1.3437	2.45	.Q	.	.	.	.
8.88	1.3687	2.47	.Q	.	.	.	.
9.00	1.3940	2.51	.Q	.	.	.	.
9.12	1.4195	2.53	.Q	.	.	.	.
9.24	1.4453	2.56	.Q	.	.	.	.
9.37	1.4714	2.58	.Q	.	.	.	.
9.49	1.4979	2.62	.Q	.	.	.	.
9.61	1.5246	2.64	.Q	.	.	.	.
9.74	1.5516	2.69	.Q	.	.	.	.
9.86	1.5790	2.71	.Q	.	.	.	.
9.98	1.6067	2.75	.Q	.	.	.	.
10.10	1.6348	2.78	.Q	.	.	.	.
10.23	1.6632	2.83	.Q	.	.	.	.
10.35	1.6920	2.85	.Q	.	.	.	.
10.47	1.7212	2.90	.Q	.	.	.	.
10.60	1.7508	2.93	.Q	.	.	.	.
10.72	1.7809	2.98	.Q	.	.	.	.

10.84	1.8113	3.01	.Q
10.96	1.8422	3.07	.Q
11.09	1.8736	3.11	.Q
11.21	1.9054	3.17	.Q
11.33	1.9378	3.20	.Q
11.46	1.9707	3.28	.Q
11.58	2.0041	3.31	.Q
11.70	2.0381	3.39	.Q
11.82	2.0727	3.43	.Q
11.95	2.1080	3.51	.Q
12.07	2.1439	3.56	.Q
12.19	2.1852	4.57	. Q
12.32	2.2319	4.63	. Q
12.44	2.2794	4.73	. Q
12.56	2.3277	4.79	. Q
12.68	2.3770	4.91	. Q
12.81	2.4272	4.98	. Q
12.93	2.4784	5.11	. Q
13.05	2.5307	5.19	. Q
13.17	2.5842	5.34	. Q
13.30	2.6388	5.42	. Q
13.42	2.6947	5.60	. Q
13.54	2.7520	5.69	. Q
13.67	2.8108	5.89	. Q
13.79	2.8712	6.00	. Q
13.91	2.9334	6.24	. Q
14.03	2.9974	6.37	. Q
14.16	3.0636	6.69	. Q
14.28	3.1323	6.84	. Q
14.40	3.2035	7.19	. Q
14.53	3.2775	7.38	. Q
14.65	3.3546	7.82	. Q
14.77	3.4353	8.07	. Q
14.89	3.5201	8.64	. Q
15.02	3.6094	8.97	. Q
15.14	3.7046	9.77	. Q
15.26	3.8062	10.25	. Q
15.39	3.9154	11.26	. Q
15.51	4.0273	10.79	. Q
15.63	4.1479	12.96	. Q
15.75	4.2881	14.66	. Q
15.88	4.4695	21.09	. Q.
16.00	4.7238	28.99	. . Q
16.12	5.3204	88.55	. . . . Q.
16.25	5.8569	17.16	. Q
16.37	6.0035	11.74	. Q
16.49	6.1180	10.81	. Q
16.61	6.2203	9.35	. Q
16.74	6.3101	8.34	. Q
16.86	6.3909	7.59	. Q
16.98	6.4651	7.01	. Q
17.11	6.5337	6.52	. Q
17.23	6.5979	6.12	. Q
17.35	6.6583	5.79	. Q
17.47	6.7157	5.51	. Q
17.60	6.7703	5.26	. Q
17.72	6.8227	5.05	. Q
17.84	6.8729	4.85	. Q
17.97	6.9213	4.68	. Q
18.09	6.9673	4.38	.Q
18.21	7.0071	3.47	.Q
18.33	7.0418	3.35	.Q
18.46	7.0752	3.24	.Q
18.58	7.1076	3.14	.Q
18.70	7.1389	3.04	.Q
18.83	7.1694	2.96	.Q
18.95	7.1990	2.88	.Q
19.07	7.2278	2.80	.Q

19.19	7.2559	2.73	.Q	.	.	.	.
19.32	7.2833	2.66	.Q	.	.	.	.
19.44	7.3100	2.60	.Q	.	.	.	.
19.56	7.3361	2.54	.Q	.	.	.	.
19.68	7.3617	2.49	.Q	.	.	.	.
19.81	7.3867	2.44	.Q	.	.	.	.
19.93	7.4112	2.39	.Q	.	.	.	.
20.05	7.4352	2.34	.Q	.	.	.	.
20.18	7.4587	2.30	.Q	.	.	.	.
20.30	7.4818	2.25	.Q	.	.	.	.
20.42	7.5045	2.21	Q	.	.	.	.
20.54	7.5267	2.17	Q	.	.	.	.
20.67	7.5486	2.14	Q	.	.	.	.
20.79	7.5701	2.10	Q	.	.	.	.
20.91	7.5913	2.07	Q	.	.	.	.
21.04	7.6121	2.04	Q	.	.	.	.
21.16	7.6326	2.00	Q	.	.	.	.
21.28	7.6528	1.97	Q	.	.	.	.
21.40	7.6727	1.95	Q	.	.	.	.
21.53	7.6924	1.92	Q	.	.	.	.
21.65	7.7117	1.89	Q	.	.	.	.
21.77	7.7308	1.87	Q	.	.	.	.
21.90	7.7496	1.84	Q	.	.	.	.
22.02	7.7681	1.82	Q	.	.	.	.
22.14	7.7865	1.79	Q	.	.	.	.
22.26	7.8046	1.77	Q	.	.	.	.
22.39	7.8224	1.75	Q	.	.	.	.
22.51	7.8401	1.73	Q	.	.	.	.
22.63	7.8575	1.71	Q	.	.	.	.
22.76	7.8747	1.69	Q	.	.	.	.
22.88	7.8918	1.67	Q	.	.	.	.
23.00	7.9086	1.65	Q	.	.	.	.
23.12	7.9253	1.63	Q	.	.	.	.
23.25	7.9417	1.61	Q	.	.	.	.
23.37	7.9580	1.60	Q	.	.	.	.
23.49	7.9742	1.58	Q	.	.	.	.
23.62	7.9901	1.56	Q	.	.	.	.
23.74	8.0059	1.55	Q	.	.	.	.
23.86	8.0215	1.53	Q	.	.	.	.
23.98	8.0370	1.52	Q	.	.	.	.
24.11	8.0523	1.50	Q	.	.	.	.
24.23	8.0600	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1444.5
10%	103.2
20%	22.1
30%	14.7
40%	7.4
50%	7.4
60%	7.4
70%	7.4
80%	7.4
90%	7.4

Problem Descriptions:
Goodman Logistics Center Fullerton
Basin B
100 Year Storm

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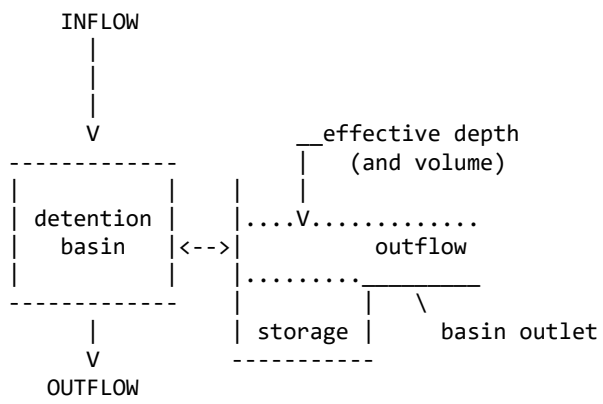
================================================================================
     FLOW-THROUGH DETENTION BASIN MODEL

     SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
     CONSTANT HYDROGRAPH TIME UNIT(MINUTES) =    7.370
     DEAD STORAGE(AF) =       0.00
     SPECIFIED DEAD STORAGE(AF) FILLED =       0.00
     ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN =    0.00
```

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     DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
     TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES =   9
     *BASIN-DEPTH  STORAGE    OUTFLOW  **BASIN-DEPTH  STORAGE    OUTFLOW  *
     *   (FEET)  (ACRE-FEET)   (CFS)   **   (FEET)  (ACRE-FEET)   (CFS)   *
     *      0.000      0.000      0.000**      0.250      0.058      0.000*
     *      0.500      0.117      0.000**      1.000      0.234      4.250*
     *      2.000      0.726      9.510**      3.000      1.148     12.760*
     *      4.000      1.411     15.340**      4.250      1.470    106.680*
     *      4.500      1.528    112.150**
--------------------------------------------------------------------------------
     BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:
      INTERVAL   DEPTH   {S-O*DT/2}   {S+O*DT/2}
       NUMBER   (FEET)   (ACRE-FEET)  (ACRE-FEET)
           1     0.00       0.00000      0.00000
           2     0.25       0.05840      0.05840
           3     0.50       0.11690      0.11690
           4     1.00       0.21213      0.25527
           5     2.00       0.67753      0.77407
           6     3.00       1.08343      1.21297
           7     4.00       1.33364      1.48936
           8     4.25       0.92852      2.01148
           9     4.50       0.95915      2.09765
     WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)
--------------------------------------------------------------------------------
     DETENTION BASIN ROUTING RESULTS:
     NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES
           OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE
           AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

        TIME  DEAD-STORAGE  INFLOW  EFFECTIVE  OUTFLOW  EFFECTIVE
       (HRS)   FILLED(AF)    (CFS)  DEPTH(FT)   (CFS)   VOLUME(AF)
--------------------------------------------------------------------------------
       0.032        0.000     0.00      0.00     0.00      0.000
       0.155        0.000     1.51      0.07     0.00      0.015
       0.277        0.000     1.51      0.13     0.00      0.031
       0.400        0.000     1.52      0.20     0.00      0.046
       0.523        0.000     1.53      0.26     0.00      0.062
       0.646        0.000     1.54      0.33     0.00      0.077
       0.769        0.000     1.54      0.40     0.00      0.093
       0.892        0.000     1.55      0.46     0.00      0.109
       1.014        0.000     1.56      0.53     0.12      0.123
```

1.137	0.000	1.57	0.58	0.44	0.135
1.260	0.000	1.57	0.61	0.79	0.143
1.383	0.000	1.59	0.63	1.04	0.148
1.506	0.000	1.59	0.65	1.21	0.152
1.629	0.000	1.60	0.66	1.33	0.155
1.751	0.000	1.61	0.67	1.42	0.157
1.874	0.000	1.62	0.68	1.48	0.158
1.997	0.000	1.63	0.68	1.52	0.159
2.120	0.000	1.64	0.68	1.56	0.160
2.243	0.000	1.64	0.69	1.58	0.161
2.366	0.000	1.66	0.69	1.60	0.161
2.488	0.000	1.66	0.69	1.62	0.162
2.611	0.000	1.67	0.69	1.64	0.162
2.734	0.000	1.68	0.69	1.65	0.162
2.857	0.000	1.69	0.70	1.66	0.163
2.980	0.000	1.70	0.70	1.67	0.163
3.103	0.000	1.71	0.70	1.68	0.163
3.225	0.000	1.72	0.70	1.69	0.164
3.348	0.000	1.73	0.70	1.70	0.164
3.471	0.000	1.74	0.70	1.72	0.164
3.594	0.000	1.76	0.70	1.73	0.164
3.717	0.000	1.76	0.70	1.74	0.165
3.840	0.000	1.78	0.71	1.75	0.165
3.962	0.000	1.79	0.71	1.76	0.165
4.085	0.000	1.80	0.71	1.77	0.166
4.208	0.000	1.81	0.71	1.78	0.166
4.331	0.000	1.82	0.71	1.79	0.166
4.454	0.000	1.83	0.71	1.80	0.167
4.576	0.000	1.85	0.71	1.81	0.167
4.699	0.000	1.86	0.72	1.83	0.167
4.822	0.000	1.87	0.72	1.84	0.168
4.945	0.000	1.88	0.72	1.85	0.168
5.068	0.000	1.90	0.72	1.86	0.168
5.191	0.000	1.91	0.72	1.88	0.169
5.313	0.000	1.93	0.72	1.89	0.169
5.436	0.000	1.94	0.72	1.90	0.169
5.559	0.000	1.96	0.73	1.92	0.170
5.682	0.000	1.97	0.73	1.93	0.170
5.805	0.000	1.98	0.73	1.94	0.171
5.928	0.000	1.99	0.73	1.96	0.171
6.050	0.000	2.01	0.73	1.97	0.171
6.173	0.000	2.03	0.73	1.99	0.172
6.296	0.000	2.05	0.74	2.00	0.172
6.419	0.000	2.06	0.74	2.02	0.173
6.542	0.000	2.08	0.74	2.03	0.173
6.665	0.000	2.09	0.74	2.05	0.173
6.787	0.000	2.11	0.74	2.07	0.174
6.910	0.000	2.13	0.75	2.08	0.174
7.033	0.000	2.15	0.75	2.10	0.175
7.156	0.000	2.16	0.75	2.12	0.175
7.279	0.000	2.19	0.75	2.14	0.176
7.402	0.000	2.20	0.75	2.15	0.176
7.524	0.000	2.23	0.76	2.17	0.177
7.647	0.000	2.24	0.76	2.19	0.177
7.770	0.000	2.27	0.76	2.21	0.178
7.893	0.000	2.28	0.76	2.23	0.178
8.016	0.000	2.31	0.77	2.25	0.179
8.139	0.000	2.33	0.77	2.27	0.180
8.262	0.000	2.36	0.77	2.29	0.180
8.384	0.000	2.37	0.77	2.32	0.181
8.507	0.000	2.40	0.78	2.34	0.181
8.630	0.000	2.42	0.78	2.36	0.182
8.753	0.000	2.45	0.78	2.38	0.183
8.876	0.000	2.47	0.78	2.41	0.183
8.999	0.000	2.51	0.79	2.43	0.184
9.121	0.000	2.53	0.79	2.46	0.185
9.244	0.000	2.56	0.79	2.49	0.186
9.367	0.000	2.58	0.80	2.51	0.186

9.490	0.000	2.62	0.80	2.54	0.187
9.613	0.000	2.64	0.80	2.57	0.188
9.736	0.000	2.69	0.81	2.60	0.189
9.858	0.000	2.71	0.81	2.63	0.190
9.981	0.000	2.75	0.82	2.66	0.191
10.104	0.000	2.78	0.82	2.69	0.191
10.227	0.000	2.83	0.82	2.73	0.192
10.350	0.000	2.85	0.83	2.76	0.193
10.472	0.000	2.90	0.83	2.80	0.194
10.595	0.000	2.93	0.84	2.83	0.195
10.718	0.000	2.98	0.84	2.87	0.196
10.841	0.000	3.01	0.84	2.91	0.197
10.964	0.000	3.07	0.85	2.95	0.199
11.087	0.000	3.11	0.85	3.00	0.200
11.210	0.000	3.17	0.86	3.04	0.201
11.332	0.000	3.20	0.87	3.09	0.202
11.455	0.000	3.28	0.87	3.13	0.204
11.578	0.000	3.31	0.88	3.18	0.205
11.701	0.000	3.39	0.88	3.24	0.207
11.824	0.000	3.43	0.89	3.29	0.208
11.946	0.000	3.51	0.90	3.35	0.210
12.069	0.000	3.56	0.90	3.41	0.211
12.192	0.000	4.57	0.95	3.61	0.221
12.315	0.000	4.63	0.98	3.92	0.228
12.438	0.000	4.73	1.00	4.15	0.234
12.561	0.000	4.79	1.01	4.28	0.239
12.684	0.000	4.91	1.02	4.34	0.245
12.806	0.000	4.98	1.04	4.40	0.251
12.929	0.000	5.11	1.05	4.47	0.258
13.052	0.000	5.19	1.06	4.54	0.264
13.175	0.000	5.34	1.08	4.61	0.271
13.298	0.000	5.42	1.09	4.69	0.279
13.420	0.000	5.60	1.11	4.78	0.287
13.543	0.000	5.69	1.13	4.87	0.296
13.666	0.000	5.89	1.14	4.96	0.305
13.789	0.000	6.00	1.16	5.06	0.315
13.912	0.000	6.24	1.19	5.17	0.325
14.035	0.000	6.37	1.21	5.29	0.336
14.158	0.000	6.69	1.23	5.42	0.349
14.280	0.000	6.84	1.26	5.56	0.362
14.403	0.000	7.19	1.29	5.71	0.377
14.526	0.000	7.38	1.32	5.87	0.393
14.649	0.000	7.82	1.36	6.05	0.411
14.772	0.000	8.07	1.40	6.24	0.429
14.894	0.000	8.64	1.44	6.46	0.451
15.017	0.000	8.97	1.49	6.70	0.474
15.140	0.000	9.77	1.55	6.98	0.503
15.263	0.000	10.25	1.61	7.29	0.533
15.386	0.000	11.26	1.68	7.64	0.570
15.509	0.000	10.79	1.74	7.99	0.598
15.632	0.000	12.96	1.83	8.39	0.644
15.754	0.000	14.66	1.95	8.95	0.702
15.877	0.000	21.09	2.22	9.74	0.818
16.000	0.000	28.99	2.65	10.92	1.001
16.123	0.000	88.55	4.17	44.24	1.451
16.246	0.000	17.16	3.08	44.90	1.169
16.368	0.000	11.74	3.03	12.91	1.157
16.491	0.000	10.81	2.97	12.76	1.138
16.614	0.000	9.35	2.90	12.55	1.105
16.737	0.000	8.34	2.80	12.27	1.065
16.860	0.000	7.59	2.70	11.95	1.021
16.983	0.000	7.01	2.59	11.60	0.974
17.105	0.000	6.52	2.47	11.24	0.926
17.228	0.000	6.12	2.36	10.87	0.878
17.351	0.000	5.79	2.25	10.50	0.830
17.474	0.000	5.51	2.14	10.13	0.783
17.597	0.000	5.26	2.03	9.78	0.738
17.720	0.000	5.05	1.93	9.38	0.693

17.843	0.000	4.85	1.85	8.94	0.652
17.965	0.000	4.68	1.77	8.51	0.613
18.088	0.000	4.38	1.69	8.10	0.575
18.211	0.000	3.47	1.61	7.67	0.533
18.334	0.000	3.35	1.53	7.23	0.493
18.457	0.000	3.24	1.45	6.83	0.457
18.580	0.000	3.14	1.38	6.45	0.423
18.702	0.000	3.04	1.32	6.11	0.392
18.825	0.000	2.96	1.26	5.79	0.363
18.948	0.000	2.88	1.21	5.49	0.337
19.071	0.000	2.80	1.16	5.22	0.312
19.194	0.000	2.73	1.11	4.97	0.289
19.316	0.000	2.66	1.07	4.73	0.268
19.439	0.000	2.60	1.03	4.52	0.249
19.562	0.000	2.54	0.99	4.29	0.231
19.685	0.000	2.49	0.93	3.90	0.217
19.808	0.000	2.44	0.88	3.45	0.207
19.931	0.000	2.39	0.85	3.13	0.199
20.053	0.000	2.34	0.83	2.89	0.194
20.176	0.000	2.30	0.81	2.71	0.189
20.299	0.000	2.25	0.80	2.58	0.186
20.422	0.000	2.21	0.78	2.47	0.183
20.545	0.000	2.17	0.78	2.38	0.181
20.668	0.000	2.14	0.77	2.31	0.180
20.791	0.000	2.10	0.76	2.25	0.178
20.913	0.000	2.07	0.76	2.20	0.177
21.036	0.000	2.04	0.75	2.15	0.175
21.159	0.000	2.00	0.75	2.11	0.174
21.282	0.000	1.97	0.74	2.07	0.173
21.405	0.000	1.95	0.74	2.04	0.172
21.528	0.000	1.92	0.73	2.01	0.172
21.650	0.000	1.89	0.73	1.97	0.171
21.773	0.000	1.87	0.73	1.94	0.170
21.896	0.000	1.84	0.72	1.92	0.169
22.019	0.000	1.82	0.72	1.89	0.168
22.142	0.000	1.79	0.72	1.86	0.168
22.264	0.000	1.77	0.71	1.84	0.167
22.387	0.000	1.75	0.71	1.81	0.166
22.510	0.000	1.73	0.71	1.79	0.166
22.633	0.000	1.71	0.71	1.77	0.165
22.756	0.000	1.69	0.70	1.75	0.165
22.879	0.000	1.67	0.70	1.72	0.164
23.001	0.000	1.65	0.70	1.70	0.163
23.124	0.000	1.63	0.70	1.68	0.163
23.247	0.000	1.61	0.69	1.67	0.162
23.370	0.000	1.60	0.69	1.65	0.162
23.493	0.000	1.58	0.69	1.63	0.161
23.616	0.000	1.56	0.69	1.61	0.161
23.738	0.000	1.55	0.69	1.59	0.160
23.861	0.000	1.53	0.68	1.58	0.160
23.984	0.000	1.52	0.68	1.56	0.160
24.107	0.000	1.50	0.68	1.55	0.159
24.230	0.000	0.00	0.62	1.30	0.146
24.353	0.000	0.00	0.59	0.89	0.137
24.476	0.000	0.00	0.56	0.61	0.131
24.598	0.000	0.00	0.54	0.42	0.126
24.721	0.000	0.00	0.53	0.29	0.123
24.844	0.000	0.00	0.52	0.20	0.121
24.967	0.000	0.00	0.51	0.14	0.120
25.090	0.000	0.00	0.51	0.09	0.119
25.212	0.000	0.00	0.51	0.07	0.118
25.335	0.000	0.00	0.50	0.04	0.118
25.458	0.000	0.00	0.50	0.03	0.118
25.581	0.000	0.00	0.50	0.02	0.117
25.704	0.000	0.00	0.50	0.01	0.117
25.827	0.000	0.00	0.50	0.01	0.117
25.949	0.000	0.00	0.50	0.01	0.117
26.072	0.000	0.00	0.50	0.00	0.117

26.195	0.000	0.00	0.50	0.00	0.117
26.318	0.000	0.00	0.50	0.00	0.117
26.441	0.000	0.00	0.50	0.00	0.117
26.564	0.000	0.00	0.50	0.00	0.117
26.686	0.000	0.00	0.50	0.00	0.117
26.809	0.000	0.00	0.50	0.00	0.117
26.932	0.000	0.00	0.50	0.00	0.117
27.055	0.000	0.00	0.50	0.00	0.117
27.178	0.000	0.00	0.50	0.00	0.117
27.301	0.000	0.00	0.50	0.00	0.117
27.423	0.000	0.00	0.50	0.00	0.117
27.546	0.000	0.00	0.50	0.00	0.117
27.669	0.000	0.00	0.50	0.00	0.117
27.792	0.000	0.00	0.50	0.00	0.117
27.915	0.000	0.00	0.50	0.00	0.117
28.038	0.000	0.00	0.50	0.00	0.117
28.160	0.000	0.00	0.50	0.00	0.117
28.283	0.000	0.00	0.50	0.00	0.117
28.406	0.000	0.00	0.50	0.00	0.117
28.529	0.000	0.00	0.50	0.00	0.117
28.652	0.000	0.00	0.50	0.00	0.117
28.775	0.000	0.00	0.50	0.00	0.117
28.897	0.000	0.00	0.50	0.00	0.117
29.020	0.000	0.00	0.50	0.00	0.117
29.143	0.000	0.00	0.50	0.00	0.117
29.266	0.000	0.00	0.50	0.00	0.117
29.389	0.000	0.00	0.50	0.00	0.117
29.512	0.000	0.00	0.50	0.00	0.117
29.634	0.000	0.00	0.50	0.00	0.117
29.757	0.000	0.00	0.50	0.00	0.117
29.880	0.000	0.00	0.50	0.00	0.117
30.003	0.000	0.00	0.50	0.00	0.117
30.126	0.000	0.00	0.50	0.00	0.117
30.249	0.000	0.00	0.50	0.00	0.117
30.371	0.000	0.00	0.50	0.00	0.117
30.494	0.000	0.00	0.50	0.00	0.117
30.617	0.000	0.00	0.50	0.00	0.117
30.740	0.000	0.00	0.50	0.00	0.117
30.863	0.000	0.00	0.50	0.00	0.117
30.986	0.000	0.00	0.50	0.00	0.117
31.108	0.000	0.00	0.50	0.00	0.117
31.231	0.000	0.00	0.50	0.00	0.117
31.354	0.000	0.00	0.50	0.00	0.117
31.477	0.000	0.00	0.50	0.00	0.117
31.600	0.000	0.00	0.50	0.00	0.117
31.723	0.000	0.00	0.50	0.00	0.117
31.845	0.000	0.00	0.50	0.00	0.117
31.968	0.000	0.00	0.50	0.00	0.117
32.091	0.000	0.00	0.50	0.00	0.117
32.214	0.000	0.00	0.50	0.00	0.117
32.337	0.000	0.00	0.50	0.00	0.117
32.460	0.000	0.00	0.50	0.00	0.117
32.582	0.000	0.00	0.50	0.00	0.117
32.705	0.000	0.00	0.50	0.00	0.117
32.828	0.000	0.00	0.50	0.00	0.117
32.951	0.000	0.00	0.50	0.00	0.117
33.074	0.000	0.00	0.50	0.00	0.117
33.197	0.000	0.00	0.50	0.00	0.117
33.319	0.000	0.00	0.50	0.00	0.117
33.442	0.000	0.00	0.50	0.00	0.117
33.565	0.000	0.00	0.50	0.00	0.117
33.688	0.000	0.00	0.50	0.00	0.117
33.811	0.000	0.00	0.50	0.00	0.117
33.934	0.000	0.00	0.50	0.00	0.117
34.056	0.000	0.00	0.50	0.00	0.117
34.179	0.000	0.00	0.50	0.00	0.117
34.302	0.000	0.00	0.50	0.00	0.117
34.425	0.000	0.00	0.50	0.00	0.117

34.548	0.000	0.00	0.50	0.00	0.117
34.671	0.000	0.00	0.50	0.00	0.117
34.793	0.000	0.00	0.50	0.00	0.117
34.916	0.000	0.00	0.50	0.00	0.117
35.039	0.000	0.00	0.50	0.00	0.117
35.162	0.000	0.00	0.50	0.00	0.117
35.285	0.000	0.00	0.50	0.00	0.117
35.408	0.000	0.00	0.50	0.00	0.117
35.530	0.000	0.00	0.50	0.00	0.117
35.653	0.000	0.00	0.50	0.00	0.117
35.776	0.000	0.00	0.50	0.00	0.117
35.899	0.000	0.00	0.50	0.00	0.117
36.022	0.000	0.00	0.50	0.00	0.117
36.145	0.000	0.00	0.50	0.00	0.117
36.267	0.000	0.00	0.50	0.00	0.117
36.390	0.000	0.00	0.50	0.00	0.117
36.513	0.000	0.00	0.50	0.00	0.117
36.636	0.000	0.00	0.50	0.00	0.117
36.759	0.000	0.00	0.50	0.00	0.117
36.882	0.000	0.00	0.50	0.00	0.117
37.004	0.000	0.00	0.50	0.00	0.117
37.127	0.000	0.00	0.50	0.00	0.117
37.250	0.000	0.00	0.50	0.00	0.117
37.373	0.000	0.00	0.50	0.00	0.117
37.496	0.000	0.00	0.50	0.00	0.117
37.619	0.000	0.00	0.50	0.00	0.117
37.741	0.000	0.00	0.50	0.00	0.117
37.864	0.000	0.00	0.50	0.00	0.117
37.987	0.000	0.00	0.50	0.00	0.117
38.110	0.000	0.00	0.50	0.00	0.117
38.233	0.000	0.00	0.50	0.00	0.117
38.356	0.000	0.00	0.50	0.00	0.117
38.478	0.000	0.00	0.50	0.00	0.117
38.601	0.000	0.00	0.50	0.00	0.117
38.724	0.000	0.00	0.50	0.00	0.117
38.847	0.000	0.00	0.50	0.00	0.117
38.970	0.000	0.00	0.50	0.00	0.117
39.093	0.000	0.00	0.50	0.00	0.117
39.215	0.000	0.00	0.50	0.00	0.117
39.338	0.000	0.00	0.50	0.00	0.117
39.461	0.000	0.00	0.50	0.00	0.117
39.584	0.000	0.00	0.50	0.00	0.117
39.707	0.000	0.00	0.50	0.00	0.117
39.830	0.000	0.00	0.50	0.00	0.117
39.952	0.000	0.00	0.50	0.00	0.117
40.075	0.000	0.00	0.50	0.00	0.117
40.198	0.000	0.00	0.50	0.00	0.117
40.321	0.000	0.00	0.50	0.00	0.117
40.444	0.000	0.00	0.50	0.00	0.117
40.567	0.000	0.00	0.50	0.00	0.117
40.689	0.000	0.00	0.50	0.00	0.117
40.812	0.000	0.00	0.50	0.00	0.117
40.935	0.000	0.00	0.50	0.00	0.117
41.058	0.000	0.00	0.50	0.00	0.117
41.181	0.000	0.00	0.50	0.00	0.117
41.304	0.000	0.00	0.50	0.00	0.117
41.426	0.000	0.00	0.50	0.00	0.117
41.549	0.000	0.00	0.50	0.00	0.117
41.672	0.000	0.00	0.50	0.00	0.117
41.795	0.000	0.00	0.50	0.00	0.117
41.918	0.000	0.00	0.50	0.00	0.117
42.041	0.000	0.00	0.50	0.00	0.117
42.163	0.000	0.00	0.50	0.00	0.117
42.286	0.000	0.00	0.50	0.00	0.117
42.409	0.000	0.00	0.50	0.00	0.117
42.532	0.000	0.00	0.50	0.00	0.117
42.655	0.000	0.00	0.50	0.00	0.117
42.778	0.000	0.00	0.50	0.00	0.117

42.900	0.000	0.00	0.50	0.00	0.117
43.023	0.000	0.00	0.50	0.00	0.117
43.146	0.000	0.00	0.50	0.00	0.117
43.269	0.000	0.00	0.50	0.00	0.117
43.392	0.000	0.00	0.50	0.00	0.117
43.515	0.000	0.00	0.50	0.00	0.117
43.637	0.000	0.00	0.50	0.00	0.117
43.760	0.000	0.00	0.50	0.00	0.117
43.883	0.000	0.00	0.50	0.00	0.117
44.006	0.000	0.00	0.50	0.00	0.117
44.129	0.000	0.00	0.50	0.00	0.117
44.252	0.000	0.00	0.50	0.00	0.117
44.374	0.000	0.00	0.50	0.00	0.117
44.497	0.000	0.00	0.50	0.00	0.117
44.620	0.000	0.00	0.50	0.00	0.117
44.743	0.000	0.00	0.50	0.00	0.117
44.866	0.000	0.00	0.50	0.00	0.117
44.989	0.000	0.00	0.50	0.00	0.117
45.111	0.000	0.00	0.50	0.00	0.117
45.234	0.000	0.00	0.50	0.00	0.117
45.357	0.000	0.00	0.50	0.00	0.117
45.480	0.000	0.00	0.50	0.00	0.117
45.603	0.000	0.00	0.50	0.00	0.117
45.726	0.000	0.00	0.50	0.00	0.117
45.848	0.000	0.00	0.50	0.00	0.117
45.971	0.000	0.00	0.50	0.00	0.117
46.094	0.000	0.00	0.50	0.00	0.117
46.217	0.000	0.00	0.50	0.00	0.117
46.340	0.000	0.00	0.50	0.00	0.117
46.463	0.000	0.00	0.50	0.00	0.117
46.585	0.000	0.00	0.50	0.00	0.117
46.708	0.000	0.00	0.50	0.00	0.117
46.831	0.000	0.00	0.50	0.00	0.117
46.954	0.000	0.00	0.50	0.00	0.117
47.077	0.000	0.00	0.50	0.00	0.117
47.200	0.000	0.00	0.50	0.00	0.117
47.322	0.000	0.00	0.50	0.00	0.117
47.445	0.000	0.00	0.50	0.00	0.117
47.568	0.000	0.00	0.50	0.00	0.117
47.691	0.000	0.00	0.50	0.00	0.117
47.814	0.000	0.00	0.50	0.00	0.117
47.937	0.000	0.00	0.50	0.00	0.117
48.059	0.000	0.00	0.50	0.00	0.117
48.182	0.000	0.00	0.50	0.00	0.117
48.305	0.000	0.00	0.50	0.00	0.117
48.428	0.000	0.00	0.50	0.00	0.117
48.551	0.000	0.00	0.50	0.00	0.117
48.674	0.000	0.00	0.50	0.00	0.117
48.796	0.000	0.00	0.50	0.00	0.117
48.919	0.000	0.00	0.50	0.00	0.117
49.042	0.000	0.00	0.50	0.00	0.117
49.165	0.000	0.00	0.50	0.00	0.117
49.288	0.000	0.00	0.50	0.00	0.117
49.411	0.000	0.00	0.50	0.00	0.117
49.533	0.000	0.00	0.50	0.00	0.117
49.656	0.000	0.00	0.50	0.00	0.117
49.779	0.000	0.00	0.50	0.00	0.117
49.902	0.000	0.00	0.50	0.00	0.117
50.025	0.000	0.00	0.50	0.00	0.117
50.148	0.000	0.00	0.50	0.00	0.117
50.270	0.000	0.00	0.50	0.00	0.117
50.393	0.000	0.00	0.50	0.00	0.117
50.516	0.000	0.00	0.50	0.00	0.117
50.639	0.000	0.00	0.50	0.00	0.117
50.762	0.000	0.00	0.50	0.00	0.117
50.885	0.000	0.00	0.50	0.00	0.117
51.007	0.000	0.00	0.50	0.00	0.117
51.130	0.000	0.00	0.50	0.00	0.117

51.253	0.000	0.00	0.50	0.00	0.117
51.376	0.000	0.00	0.50	0.00	0.117
51.499	0.000	0.00	0.50	0.00	0.117
51.622	0.000	0.00	0.50	0.00	0.117
51.744	0.000	0.00	0.50	0.00	0.117
51.867	0.000	0.00	0.50	0.00	0.117
51.990	0.000	0.00	0.50	0.00	0.117
52.113	0.000	0.00	0.50	0.00	0.117
52.236	0.000	0.00	0.50	0.00	0.117
52.359	0.000	0.00	0.50	0.00	0.117
52.481	0.000	0.00	0.50	0.00	0.117
52.604	0.000	0.00	0.50	0.00	0.117
52.727	0.000	0.00	0.50	0.00	0.117
52.850	0.000	0.00	0.50	0.00	0.117
52.973	0.000	0.00	0.50	0.00	0.117
53.096	0.000	0.00	0.50	0.00	0.117
53.218	0.000	0.00	0.50	0.00	0.117
53.341	0.000	0.00	0.50	0.00	0.117
53.464	0.000	0.00	0.50	0.00	0.117
53.587	0.000	0.00	0.50	0.00	0.117
53.710	0.000	0.00	0.50	0.00	0.117
53.833	0.000	0.00	0.50	0.00	0.117
53.955	0.000	0.00	0.50	0.00	0.117
54.078	0.000	0.00	0.50	0.00	0.117
54.201	0.000	0.00	0.50	0.00	0.117
54.324	0.000	0.00	0.50	0.00	0.117
54.447	0.000	0.00	0.50	0.00	0.117
54.570	0.000	0.00	0.50	0.00	0.117
54.692	0.000	0.00	0.50	0.00	0.117
54.815	0.000	0.00	0.50	0.00	0.117
54.938	0.000	0.00	0.50	0.00	0.117
55.061	0.000	0.00	0.50	0.00	0.117
55.184	0.000	0.00	0.50	0.00	0.117
55.307	0.000	0.00	0.50	0.00	0.117
55.429	0.000	0.00	0.50	0.00	0.117
55.552	0.000	0.00	0.50	0.00	0.117
55.675	0.000	0.00	0.50	0.00	0.117
55.798	0.000	0.00	0.50	0.00	0.117
55.921	0.000	0.00	0.50	0.00	0.117
56.044	0.000	0.00	0.50	0.00	0.117
56.166	0.000	0.00	0.50	0.00	0.117
56.289	0.000	0.00	0.50	0.00	0.117
56.412	0.000	0.00	0.50	0.00	0.117
56.535	0.000	0.00	0.50	0.00	0.117
56.658	0.000	0.00	0.50	0.00	0.117
56.781	0.000	0.00	0.50	0.00	0.117
56.903	0.000	0.00	0.50	0.00	0.117
57.026	0.000	0.00	0.50	0.00	0.117
57.149	0.000	0.00	0.50	0.00	0.117
57.272	0.000	0.00	0.50	0.00	0.117
57.395	0.000	0.00	0.50	0.00	0.117
57.518	0.000	0.00	0.50	0.00	0.117
57.640	0.000	0.00	0.50	0.00	0.117
57.763	0.000	0.00	0.50	0.00	0.117
57.886	0.000	0.00	0.50	0.00	0.117
58.009	0.000	0.00	0.50	0.00	0.117
58.132	0.000	0.00	0.50	0.00	0.117
58.255	0.000	0.00	0.50	0.00	0.117
58.377	0.000	0.00	0.50	0.00	0.117
58.500	0.000	0.00	0.50	0.00	0.117
58.623	0.000	0.00	0.50	0.00	0.117
58.746	0.000	0.00	0.50	0.00	0.117
58.869	0.000	0.00	0.50	0.00	0.117
58.992	0.000	0.00	0.50	0.00	0.117
59.114	0.000	0.00	0.50	0.00	0.117
59.237	0.000	0.00	0.50	0.00	0.117
59.360	0.000	0.00	0.50	0.00	0.117
59.483	0.000	0.00	0.50	0.00	0.117

59.606	0.000	0.00	0.50	0.00	0.117
59.729	0.000	0.00	0.50	0.00	0.117
59.851	0.000	0.00	0.50	0.00	0.117
59.974	0.000	0.00	0.50	0.00	0.117
60.097	0.000	0.00	0.50	0.00	0.117
60.220	0.000	0.00	0.50	0.00	0.117
60.343	0.000	0.00	0.50	0.00	0.117
60.466	0.000	0.00	0.50	0.00	0.117
60.588	0.000	0.00	0.50	0.00	0.117
60.711	0.000	0.00	0.50	0.00	0.117
60.834	0.000	0.00	0.50	0.00	0.117
60.957	0.000	0.00	0.50	0.00	0.117
61.080	0.000	0.00	0.50	0.00	0.117
61.203	0.000	0.00	0.50	0.00	0.117
61.325	0.000	0.00	0.50	0.00	0.117
61.448	0.000	0.00	0.50	0.00	0.117
61.571	0.000	0.00	0.50	0.00	0.117
61.694	0.000	0.00	0.50	0.00	0.117
61.817	0.000	0.00	0.50	0.00	0.117
61.940	0.000	0.00	0.50	0.00	0.117
62.062	0.000	0.00	0.50	0.00	0.117
62.185	0.000	0.00	0.50	0.00	0.117
62.308	0.000	0.00	0.50	0.00	0.117
62.431	0.000	0.00	0.50	0.00	0.117
62.554	0.000	0.00	0.50	0.00	0.117
62.677	0.000	0.00	0.50	0.00	0.117
62.799	0.000	0.00	0.50	0.00	0.117
62.922	0.000	0.00	0.50	0.00	0.117
63.045	0.000	0.00	0.50	0.00	0.117
63.168	0.000	0.00	0.50	0.00	0.117
63.291	0.000	0.00	0.50	0.00	0.117
63.414	0.000	0.00	0.50	0.00	0.117
63.536	0.000	0.00	0.50	0.00	0.117
63.659	0.000	0.00	0.50	0.00	0.117
63.782	0.000	0.00	0.50	0.00	0.117
63.905	0.000	0.00	0.50	0.00	0.117
64.028	0.000	0.00	0.50	0.00	0.117
64.151	0.000	0.00	0.50	0.00	0.117
64.273	0.000	0.00	0.50	0.00	0.117
64.396	0.000	0.00	0.50	0.00	0.117
64.519	0.000	0.00	0.50	0.00	0.117
64.642	0.000	0.00	0.50	0.00	0.117
64.765	0.000	0.00	0.50	0.00	0.117
64.888	0.000	0.00	0.50	0.00	0.117
65.010	0.000	0.00	0.50	0.00	0.117
65.133	0.000	0.00	0.50	0.00	0.117
65.256	0.000	0.00	0.50	0.00	0.117
65.379	0.000	0.00	0.50	0.00	0.117
65.502	0.000	0.00	0.50	0.00	0.117
65.625	0.000	0.00	0.50	0.00	0.117
65.747	0.000	0.00	0.50	0.00	0.117
65.870	0.000	0.00	0.50	0.00	0.117
65.993	0.000	0.00	0.50	0.00	0.117
66.116	0.000	0.00	0.50	0.00	0.117
66.239	0.000	0.00	0.50	0.00	0.117
66.362	0.000	0.00	0.50	0.00	0.117
66.484	0.000	0.00	0.50	0.00	0.117
66.607	0.000	0.00	0.50	0.00	0.117
66.730	0.000	0.00	0.50	0.00	0.117
66.853	0.000	0.00	0.50	0.00	0.117
66.976	0.000	0.00	0.50	0.00	0.117
67.099	0.000	0.00	0.50	0.00	0.117
67.221	0.000	0.00	0.50	0.00	0.117
67.344	0.000	0.00	0.50	0.00	0.117
67.467	0.000	0.00	0.50	0.00	0.117
67.590	0.000	0.00	0.50	0.00	0.117
67.713	0.000	0.00	0.50	0.00	0.117
67.836	0.000	0.00	0.50	0.00	0.117

67.958	0.000	0.00	0.50	0.00	0.117
68.081	0.000	0.00	0.50	0.00	0.117
68.204	0.000	0.00	0.50	0.00	0.117
68.327	0.000	0.00	0.50	0.00	0.117
68.450	0.000	0.00	0.50	0.00	0.117
68.573	0.000	0.00	0.50	0.00	0.117
68.695	0.000	0.00	0.50	0.00	0.117
68.818	0.000	0.00	0.50	0.00	0.117
68.941	0.000	0.00	0.50	0.00	0.117
69.064	0.000	0.00	0.50	0.00	0.117
69.187	0.000	0.00	0.50	0.00	0.117
69.310	0.000	0.00	0.50	0.00	0.117
69.432	0.000	0.00	0.50	0.00	0.117
69.555	0.000	0.00	0.50	0.00	0.117
69.678	0.000	0.00	0.50	0.00	0.117
69.801	0.000	0.00	0.50	0.00	0.117
69.924	0.000	0.00	0.50	0.00	0.117
70.047	0.000	0.00	0.50	0.00	0.117
70.169	0.000	0.00	0.50	0.00	0.117
70.292	0.000	0.00	0.50	0.00	0.117
70.415	0.000	0.00	0.50	0.00	0.117
70.538	0.000	0.00	0.50	0.00	0.117
70.661	0.000	0.00	0.50	0.00	0.117
70.784	0.000	0.00	0.50	0.00	0.117
70.906	0.000	0.00	0.50	0.00	0.117
71.029	0.000	0.00	0.50	0.00	0.117
71.152	0.000	0.00	0.50	0.00	0.117
71.275	0.000	0.00	0.50	0.00	0.117
71.398	0.000	0.00	0.50	0.00	0.117
71.521	0.000	0.00	0.50	0.00	0.117
71.643	0.000	0.00	0.50	0.00	0.117
71.766	0.000	0.00	0.50	0.00	0.117
71.889	0.000	0.00	0.50	0.00	0.117
72.012	0.000	0.00	0.50	0.00	0.117
72.135	0.000	0.00	0.50	0.00	0.117
72.258	0.000	0.00	0.50	0.00	0.117
72.380	0.000	0.00	0.50	0.00	0.117
72.503	0.000	0.00	0.50	0.00	0.117
72.626	0.000	0.00	0.50	0.00	0.117
72.749	0.000	0.00	0.50	0.00	0.117
72.872	0.000	0.00	0.50	0.00	0.117
72.995	0.000	0.00	0.50	0.00	0.117
73.117	0.000	0.00	0.50	0.00	0.117
73.240	0.000	0.00	0.50	0.00	0.117
73.363	0.000	0.00	0.50	0.00	0.117
73.486	0.000	0.00	0.50	0.00	0.117
73.609	0.000	0.00	0.50	0.00	0.117
73.732	0.000	0.00	0.50	0.00	0.117
73.854	0.000	0.00	0.50	0.00	0.117
73.977	0.000	0.00	0.50	0.00	0.117
74.100	0.000	0.00	0.50	0.00	0.117
74.223	0.000	0.00	0.50	0.00	0.117
74.346	0.000	0.00	0.50	0.00	0.117
74.469	0.000	0.00	0.50	0.00	0.117
74.591	0.000	0.00	0.50	0.00	0.117
74.714	0.000	0.00	0.50	0.00	0.117
74.837	0.000	0.00	0.50	0.00	0.117
74.960	0.000	0.00	0.50	0.00	0.117
75.083	0.000	0.00	0.50	0.00	0.117
75.206	0.000	0.00	0.50	0.00	0.117
75.328	0.000	0.00	0.50	0.00	0.117
75.451	0.000	0.00	0.50	0.00	0.117
75.574	0.000	0.00	0.50	0.00	0.117
75.697	0.000	0.00	0.50	0.00	0.117
75.820	0.000	0.00	0.50	0.00	0.117
75.943	0.000	0.00	0.50	0.00	0.117
76.065	0.000	0.00	0.50	0.00	0.117
76.188	0.000	0.00	0.50	0.00	0.117

76.311	0.000	0.00	0.50	0.00	0.117
76.434	0.000	0.00	0.50	0.00	0.117
76.557	0.000	0.00	0.50	0.00	0.117
76.680	0.000	0.00	0.50	0.00	0.117
76.802	0.000	0.00	0.50	0.00	0.117
76.925	0.000	0.00	0.50	0.00	0.117
77.048	0.000	0.00	0.50	0.00	0.117
77.171	0.000	0.00	0.50	0.00	0.117
77.294	0.000	0.00	0.50	0.00	0.117
77.417	0.000	0.00	0.50	0.00	0.117
77.539	0.000	0.00	0.50	0.00	0.117
77.662	0.000	0.00	0.50	0.00	0.117
77.785	0.000	0.00	0.50	0.00	0.117
77.908	0.000	0.00	0.50	0.00	0.117
78.031	0.000	0.00	0.50	0.00	0.117
78.154	0.000	0.00	0.50	0.00	0.117
78.276	0.000	0.00	0.50	0.00	0.117
78.399	0.000	0.00	0.50	0.00	0.117
78.522	0.000	0.00	0.50	0.00	0.117
78.645	0.000	0.00	0.50	0.00	0.117
78.768	0.000	0.00	0.50	0.00	0.117
78.891	0.000	0.00	0.50	0.00	0.117
79.013	0.000	0.00	0.50	0.00	0.117
79.136	0.000	0.00	0.50	0.00	0.117
79.259	0.000	0.00	0.50	0.00	0.117
79.382	0.000	0.00	0.50	0.00	0.117
79.505	0.000	0.00	0.50	0.00	0.117
79.628	0.000	0.00	0.50	0.00	0.117
79.750	0.000	0.00	0.50	0.00	0.117
79.873	0.000	0.00	0.50	0.00	0.117
79.996	0.000	0.00	0.50	0.00	0.117
80.119	0.000	0.00	0.50	0.00	0.117
80.242	0.000	0.00	0.50	0.00	0.117
80.365	0.000	0.00	0.50	0.00	0.117
80.487	0.000	0.00	0.50	0.00	0.117
80.610	0.000	0.00	0.50	0.00	0.117
80.733	0.000	0.00	0.50	0.00	0.117
80.856	0.000	0.00	0.50	0.00	0.117
80.979	0.000	0.00	0.50	0.00	0.117
81.102	0.000	0.00	0.50	0.00	0.117
81.224	0.000	0.00	0.50	0.00	0.117
81.347	0.000	0.00	0.50	0.00	0.117
81.470	0.000	0.00	0.50	0.00	0.117
81.593	0.000	0.00	0.50	0.00	0.117
81.716	0.000	0.00	0.50	0.00	0.117
81.839	0.000	0.00	0.50	0.00	0.117
81.961	0.000	0.00	0.50	0.00	0.117
82.084	0.000	0.00	0.50	0.00	0.117
82.207	0.000	0.00	0.50	0.00	0.117
82.330	0.000	0.00	0.50	0.00	0.117
82.453	0.000	0.00	0.50	0.00	0.117
82.576	0.000	0.00	0.50	0.00	0.117
82.698	0.000	0.00	0.50	0.00	0.117
82.821	0.000	0.00	0.50	0.00	0.117
82.944	0.000	0.00	0.50	0.00	0.117
83.067	0.000	0.00	0.50	0.00	0.117
83.190	0.000	0.00	0.50	0.00	0.117
83.313	0.000	0.00	0.50	0.00	0.117
83.435	0.000	0.00	0.50	0.00	0.117
83.558	0.000	0.00	0.50	0.00	0.117
83.681	0.000	0.00	0.50	0.00	0.117
83.804	0.000	0.00	0.50	0.00	0.117
83.927	0.000	0.00	0.50	0.00	0.117
84.050	0.000	0.00	0.50	0.00	0.117
84.172	0.000	0.00	0.50	0.00	0.117
84.295	0.000	0.00	0.50	0.00	0.117
84.418	0.000	0.00	0.50	0.00	0.117
84.541	0.000	0.00	0.50	0.00	0.117

84.664	0.000	0.00	0.50	0.00	0.117
84.787	0.000	0.00	0.50	0.00	0.117
84.909	0.000	0.00	0.50	0.00	0.117
85.032	0.000	0.00	0.50	0.00	0.117
85.155	0.000	0.00	0.50	0.00	0.117
85.278	0.000	0.00	0.50	0.00	0.117
85.401	0.000	0.00	0.50	0.00	0.117
85.524	0.000	0.00	0.50	0.00	0.117
85.646	0.000	0.00	0.50	0.00	0.117
85.769	0.000	0.00	0.50	0.00	0.117
85.892	0.000	0.00	0.50	0.00	0.117
86.015	0.000	0.00	0.50	0.00	0.117
86.138	0.000	0.00	0.50	0.00	0.117
86.261	0.000	0.00	0.50	0.00	0.117
86.383	0.000	0.00	0.50	0.00	0.117
86.506	0.000	0.00	0.50	0.00	0.117
86.629	0.000	0.00	0.50	0.00	0.117
86.752	0.000	0.00	0.50	0.00	0.117
86.875	0.000	0.00	0.50	0.00	0.117
86.998	0.000	0.00	0.50	0.00	0.117
87.120	0.000	0.00	0.50	0.00	0.117
87.243	0.000	0.00	0.50	0.00	0.117
87.366	0.000	0.00	0.50	0.00	0.117
87.489	0.000	0.00	0.50	0.00	0.117
87.612	0.000	0.00	0.50	0.00	0.117
87.735	0.000	0.00	0.50	0.00	0.117
87.857	0.000	0.00	0.50	0.00	0.117
87.980	0.000	0.00	0.50	0.00	0.117
88.103	0.000	0.00	0.50	0.00	0.117
88.226	0.000	0.00	0.50	0.00	0.117
88.349	0.000	0.00	0.50	0.00	0.117
88.472	0.000	0.00	0.50	0.00	0.117
88.594	0.000	0.00	0.50	0.00	0.117
88.717	0.000	0.00	0.50	0.00	0.117
88.840	0.000	0.00	0.50	0.00	0.117
88.963	0.000	0.00	0.50	0.00	0.117
89.086	0.000	0.00	0.50	0.00	0.117
89.209	0.000	0.00	0.50	0.00	0.117
89.331	0.000	0.00	0.50	0.00	0.117
89.454	0.000	0.00	0.50	0.00	0.117
89.577	0.000	0.00	0.50	0.00	0.117
89.700	0.000	0.00	0.50	0.00	0.117
89.823	0.000	0.00	0.50	0.00	0.117
89.946	0.000	0.00	0.50	0.00	0.117
90.068	0.000	0.00	0.50	0.00	0.117
90.191	0.000	0.00	0.50	0.00	0.117
90.314	0.000	0.00	0.50	0.00	0.117
90.437	0.000	0.00	0.50	0.00	0.117
90.560	0.000	0.00	0.50	0.00	0.117
90.683	0.000	0.00	0.50	0.00	0.117
90.805	0.000	0.00	0.50	0.00	0.117
90.928	0.000	0.00	0.50	0.00	0.117
91.051	0.000	0.00	0.50	0.00	0.117
91.174	0.000	0.00	0.50	0.00	0.117
91.297	0.000	0.00	0.50	0.00	0.117
91.420	0.000	0.00	0.50	0.00	0.117
91.542	0.000	0.00	0.50	0.00	0.117
91.665	0.000	0.00	0.50	0.00	0.117
91.788	0.000	0.00	0.50	0.00	0.117
91.911	0.000	0.00	0.50	0.00	0.117
92.034	0.000	0.00	0.50	0.00	0.117
92.157	0.000	0.00	0.50	0.00	0.117
92.279	0.000	0.00	0.50	0.00	0.117
92.402	0.000	0.00	0.50	0.00	0.117
92.525	0.000	0.00	0.50	0.00	0.117
92.648	0.000	0.00	0.50	0.00	0.117
92.771	0.000	0.00	0.50	0.00	0.117
92.894	0.000	0.00	0.50	0.00	0.117

93.016	0.000	0.00	0.50	0.00	0.117
93.139	0.000	0.00	0.50	0.00	0.117
93.262	0.000	0.00	0.50	0.00	0.117
93.385	0.000	0.00	0.50	0.00	0.117
93.508	0.000	0.00	0.50	0.00	0.117
93.631	0.000	0.00	0.50	0.00	0.117
93.753	0.000	0.00	0.50	0.00	0.117
93.876	0.000	0.00	0.50	0.00	0.117
93.999	0.000	0.00	0.50	0.00	0.117
94.122	0.000	0.00	0.50	0.00	0.117
94.245	0.000	0.00	0.50	0.00	0.117
94.368	0.000	0.00	0.50	0.00	0.117
94.490	0.000	0.00	0.50	0.00	0.117
94.613	0.000	0.00	0.50	0.00	0.117
94.736	0.000	0.00	0.50	0.00	0.117
94.859	0.000	0.00	0.50	0.00	0.117
94.982	0.000	0.00	0.50	0.00	0.117
95.105	0.000	0.00	0.50	0.00	0.117
95.227	0.000	0.00	0.50	0.00	0.117
95.350	0.000	0.00	0.50	0.00	0.117
95.473	0.000	0.00	0.50	0.00	0.117
95.596	0.000	0.00	0.50	0.00	0.117
95.719	0.000	0.00	0.50	0.00	0.117
95.842	0.000	0.00	0.50	0.00	0.117
95.964	0.000	0.00	0.50	0.00	0.117
96.087	0.000	0.00	0.50	0.00	0.117
96.210	0.000	0.00	0.50	0.00	0.117
96.333	0.000	0.00	0.50	0.00	0.117
96.456	0.000	0.00	0.50	0.00	0.117
96.579	0.000	0.00	0.50	0.00	0.117
96.701	0.000	0.00	0.50	0.00	0.117
96.824	0.000	0.00	0.50	0.00	0.117
96.947	0.000	0.00	0.50	0.00	0.117
97.070	0.000	0.00	0.50	0.00	0.117
97.193	0.000	0.00	0.50	0.00	0.117
97.316	0.000	0.00	0.50	0.00	0.117
97.438	0.000	0.00	0.50	0.00	0.117
97.561	0.000	0.00	0.50	0.00	0.117
97.684	0.000	0.00	0.50	0.00	0.117
97.807	0.000	0.00	0.50	0.00	0.117
97.930	0.000	0.00	0.50	0.00	0.117
98.053	0.000	0.00	0.50	0.00	0.117
98.175	0.000	0.00	0.50	0.00	0.117
98.298	0.000	0.00	0.50	0.00	0.117
98.421	0.000	0.00	0.50	0.00	0.117
98.544	0.000	0.00	0.50	0.00	0.117
98.667	0.000	0.00	0.50	0.00	0.117
98.790	0.000	0.00	0.50	0.00	0.117
98.912	0.000	0.00	0.50	0.00	0.117
99.035	0.000	0.00	0.50	0.00	0.117
99.158	0.000	0.00	0.50	0.00	0.117
99.281	0.000	0.00	0.50	0.00	0.117
99.404	0.000	0.00	0.50	0.00	0.117
99.527	0.000	0.00	0.50	0.00	0.117
99.649	0.000	0.00	0.50	0.00	0.117
99.772	0.000	0.00	0.50	0.00	0.117
99.895	0.000	0.00	0.50	0.00	0.117
100.018	0.000	0.00	0.50	0.00	0.117
100.141	0.000	0.00	0.50	0.00	0.117
100.264	0.000	0.00	0.50	0.00	0.117
100.386	0.000	0.00	0.50	0.00	0.117
100.509	0.000	0.00	0.50	0.00	0.117
100.632	0.000	0.00	0.50	0.00	0.117
100.755	0.000	0.00	0.50	0.00	0.117
100.878	0.000	0.00	0.50	0.00	0.117
101.001	0.000	0.00	0.50	0.00	0.117
101.123	0.000	0.00	0.50	0.00	0.117
101.246	0.000	0.00	0.50	0.00	0.117

101.369	0.000	0.00	0.50	0.00	0.117
101.492	0.000	0.00	0.50	0.00	0.117
101.615	0.000	0.00	0.50	0.00	0.117
101.738	0.000	0.00	0.50	0.00	0.117
101.860	0.000	0.00	0.50	0.00	0.117
101.983	0.000	0.00	0.50	0.00	0.117
102.106	0.000	0.00	0.50	0.00	0.117
102.229	0.000	0.00	0.50	0.00	0.117
102.352	0.000	0.00	0.50	0.00	0.117
102.475	0.000	0.00	0.50	0.00	0.117
102.597	0.000	0.00	0.50	0.00	0.117
102.720	0.000	0.00	0.50	0.00	0.117
102.843	0.000	0.00	0.50	0.00	0.117
102.966	0.000	0.00	0.50	0.00	0.117
103.089	0.000	0.00	0.50	0.00	0.117
103.212	0.000	0.00	0.50	0.00	0.117
103.334	0.000	0.00	0.50	0.00	0.117
103.457	0.000	0.00	0.50	0.00	0.117
103.580	0.000	0.00	0.50	0.00	0.117
103.703	0.000	0.00	0.50	0.00	0.117
103.826	0.000	0.00	0.50	0.00	0.117
103.949	0.000	0.00	0.50	0.00	0.117
104.071	0.000	0.00	0.50	0.00	0.117
104.194	0.000	0.00	0.50	0.00	0.117
104.317	0.000	0.00	0.50	0.00	0.117
104.440	0.000	0.00	0.50	0.00	0.117
104.563	0.000	0.00	0.50	0.00	0.117
104.686	0.000	0.00	0.50	0.00	0.117
104.808	0.000	0.00	0.50	0.00	0.117
104.931	0.000	0.00	0.50	0.00	0.117
105.054	0.000	0.00	0.50	0.00	0.117
105.177	0.000	0.00	0.50	0.00	0.117
105.300	0.000	0.00	0.50	0.00	0.117
105.423	0.000	0.00	0.50	0.00	0.117
105.545	0.000	0.00	0.50	0.00	0.117
105.668	0.000	0.00	0.50	0.00	0.117
105.791	0.000	0.00	0.50	0.00	0.117
105.914	0.000	0.00	0.50	0.00	0.117
106.037	0.000	0.00	0.50	0.00	0.117
106.160	0.000	0.00	0.50	0.00	0.117
106.282	0.000	0.00	0.50	0.00	0.117
106.405	0.000	0.00	0.50	0.00	0.117
106.528	0.000	0.00	0.50	0.00	0.117
106.651	0.000	0.00	0.50	0.00	0.117
106.774	0.000	0.00	0.50	0.00	0.117
106.897	0.000	0.00	0.50	0.00	0.117
107.019	0.000	0.00	0.50	0.00	0.117
107.142	0.000	0.00	0.50	0.00	0.117
107.265	0.000	0.00	0.50	0.00	0.117
107.388	0.000	0.00	0.50	0.00	0.117
107.511	0.000	0.00	0.50	0.00	0.117
107.634	0.000	0.00	0.50	0.00	0.117
107.756	0.000	0.00	0.50	0.00	0.117
107.879	0.000	0.00	0.50	0.00	0.117
108.002	0.000	0.00	0.50	0.00	0.117
108.125	0.000	0.00	0.50	0.00	0.117
108.248	0.000	0.00	0.50	0.00	0.117
108.371	0.000	0.00	0.50	0.00	0.117
108.493	0.000	0.00	0.50	0.00	0.117
108.616	0.000	0.00	0.50	0.00	0.117
108.739	0.000	0.00	0.50	0.00	0.117
108.862	0.000	0.00	0.50	0.00	0.117
108.985	0.000	0.00	0.50	0.00	0.117
109.108	0.000	0.00	0.50	0.00	0.117
109.230	0.000	0.00	0.50	0.00	0.117
109.353	0.000	0.00	0.50	0.00	0.117
109.476	0.000	0.00	0.50	0.00	0.117
109.599	0.000	0.00	0.50	0.00	0.117

109.722	0.000	0.00	0.50	0.00	0.117
109.845	0.000	0.00	0.50	0.00	0.117
109.967	0.000	0.00	0.50	0.00	0.117
110.090	0.000	0.00	0.50	0.00	0.117
110.213	0.000	0.00	0.50	0.00	0.117
110.336	0.000	0.00	0.50	0.00	0.117
110.459	0.000	0.00	0.50	0.00	0.117
110.582	0.000	0.00	0.50	0.00	0.117
110.704	0.000	0.00	0.50	0.00	0.117
110.827	0.000	0.00	0.50	0.00	0.117
110.950	0.000	0.00	0.50	0.00	0.117
111.073	0.000	0.00	0.50	0.00	0.117
111.196	0.000	0.00	0.50	0.00	0.117
111.319	0.000	0.00	0.50	0.00	0.117
111.441	0.000	0.00	0.50	0.00	0.117
111.564	0.000	0.00	0.50	0.00	0.117
111.687	0.000	0.00	0.50	0.00	0.117
111.810	0.000	0.00	0.50	0.00	0.117
111.933	0.000	0.00	0.50	0.00	0.117
112.056	0.000	0.00	0.50	0.00	0.117
112.178	0.000	0.00	0.50	0.00	0.117
112.301	0.000	0.00	0.50	0.00	0.117
112.424	0.000	0.00	0.50	0.00	0.117
112.547	0.000	0.00	0.50	0.00	0.117
112.670	0.000	0.00	0.50	0.00	0.117
112.793	0.000	0.00	0.50	0.00	0.117
112.915	0.000	0.00	0.50	0.00	0.117
113.038	0.000	0.00	0.50	0.00	0.117
113.161	0.000	0.00	0.50	0.00	0.117
113.284	0.000	0.00	0.50	0.00	0.117
113.407	0.000	0.00	0.50	0.00	0.117
113.530	0.000	0.00	0.50	0.00	0.117
113.652	0.000	0.00	0.50	0.00	0.117
113.775	0.000	0.00	0.50	0.00	0.117
113.898	0.000	0.00	0.50	0.00	0.117
114.021	0.000	0.00	0.50	0.00	0.117
114.144	0.000	0.00	0.50	0.00	0.117
114.267	0.000	0.00	0.50	0.00	0.117
114.389	0.000	0.00	0.50	0.00	0.117
114.512	0.000	0.00	0.50	0.00	0.117
114.635	0.000	0.00	0.50	0.00	0.117
114.758	0.000	0.00	0.50	0.00	0.117
114.881	0.000	0.00	0.50	0.00	0.117
115.004	0.000	0.00	0.50	0.00	0.117
115.126	0.000	0.00	0.50	0.00	0.117
115.249	0.000	0.00	0.50	0.00	0.117
115.372	0.000	0.00	0.50	0.00	0.117
115.495	0.000	0.00	0.50	0.00	0.117
115.618	0.000	0.00	0.50	0.00	0.117
115.741	0.000	0.00	0.50	0.00	0.117
115.863	0.000	0.00	0.50	0.00	0.117
115.986	0.000	0.00	0.50	0.00	0.117
116.109	0.000	0.00	0.50	0.00	0.117
116.232	0.000	0.00	0.50	0.00	0.117
116.355	0.000	0.00	0.50	0.00	0.117
116.478	0.000	0.00	0.50	0.00	0.117
116.600	0.000	0.00	0.50	0.00	0.117
116.723	0.000	0.00	0.50	0.00	0.117
116.846	0.000	0.00	0.50	0.00	0.117
116.969	0.000	0.00	0.50	0.00	0.117
117.092	0.000	0.00	0.50	0.00	0.117
117.215	0.000	0.00	0.50	0.00	0.117
117.337	0.000	0.00	0.50	0.00	0.117
117.460	0.000	0.00	0.50	0.00	0.117
117.583	0.000	0.00	0.50	0.00	0.117
117.706	0.000	0.00	0.50	0.00	0.117
117.829	0.000	0.00	0.50	0.00	0.117
117.952	0.000	0.00	0.50	0.00	0.117

118.074	0.000	0.00	0.50	0.00	0.117
118.197	0.000	0.00	0.50	0.00	0.117
118.320	0.000	0.00	0.50	0.00	0.117
118.443	0.000	0.00	0.50	0.00	0.117
118.566	0.000	0.00	0.50	0.00	0.117
118.689	0.000	0.00	0.50	0.00	0.117
118.811	0.000	0.00	0.50	0.00	0.117
118.934	0.000	0.00	0.50	0.00	0.117
119.057	0.000	0.00	0.50	0.00	0.117
119.180	0.000	0.00	0.50	0.00	0.117
119.303	0.000	0.00	0.50	0.00	0.117
119.426	0.000	0.00	0.50	0.00	0.117
119.548	0.000	0.00	0.50	0.00	0.117
119.671	0.000	0.00	0.50	0.00	0.117
119.794	0.000	0.00	0.50	0.00	0.117
119.917	0.000	0.00	0.50	0.00	0.117
120.040	0.000	0.00	0.50	0.00	0.117
120.163	0.000	0.00	0.50	0.00	0.117
120.285	0.000	0.00	0.50	0.00	0.117
120.408	0.000	0.00	0.50	0.00	0.117
120.531	0.000	0.00	0.50	0.00	0.117
120.654	0.000	0.00	0.50	0.00	0.117
120.777	0.000	0.00	0.50	0.00	0.117
120.900	0.000	0.00	0.50	0.00	0.117
121.022	0.000	0.00	0.50	0.00	0.117
121.145	0.000	0.00	0.50	0.00	0.117
121.268	0.000	0.00	0.50	0.00	0.117
121.391	0.000	0.00	0.50	0.00	0.117
121.514	0.000	0.00	0.50	0.00	0.117
121.637	0.000	0.00	0.50	0.00	0.117
121.759	0.000	0.00	0.50	0.00	0.117
121.882	0.000	0.00	0.50	0.00	0.117
122.005	0.000	0.00	0.50	0.00	0.117
122.128	0.000	0.00	0.50	0.00	0.117
122.251	0.000	0.00	0.50	0.00	0.117
122.374	0.000	0.00	0.50	0.00	0.117
122.496	0.000	0.00	0.50	0.00	0.117
122.619	0.000	0.00	0.50	0.00	0.117
122.742	0.000	0.00	0.50	0.00	0.117
122.865	0.000	0.00	0.50	0.00	0.117
122.988	0.000	0.00	0.50	0.00	0.117
123.111	0.000	0.00	0.50	0.00	0.117
123.233	0.000	0.00	0.50	0.00	0.117
123.356	0.000	0.00	0.50	0.00	0.117
123.479	0.000	0.00	0.50	0.00	0.117
123.602	0.000	0.00	0.50	0.00	0.117
123.725	0.000	0.00	0.50	0.00	0.117
123.848	0.000	0.00	0.50	0.00	0.117
123.970	0.000	0.00	0.50	0.00	0.117
124.093	0.000	0.00	0.50	0.00	0.117
124.216	0.000	0.00	0.50	0.00	0.117
124.339	0.000	0.00	0.50	0.00	0.117
124.462	0.000	0.00	0.50	0.00	0.117
124.585	0.000	0.00	0.50	0.00	0.117
124.707	0.000	0.00	0.50	0.00	0.117
124.830	0.000	0.00	0.50	0.00	0.117
124.953	0.000	0.00	0.50	0.00	0.117
125.076	0.000	0.00	0.50	0.00	0.117
125.199	0.000	0.00	0.50	0.00	0.117
125.322	0.000	0.00	0.50	0.00	0.117
125.444	0.000	0.00	0.50	0.00	0.117
125.567	0.000	0.00	0.50	0.00	0.117
125.690	0.000	0.00	0.50	0.00	0.117
125.813	0.000	0.00	0.50	0.00	0.117
125.936	0.000	0.00	0.50	0.00	0.117
126.059	0.000	0.00	0.50	0.00	0.117
126.181	0.000	0.00	0.50	0.00	0.117
126.304	0.000	0.00	0.50	0.00	0.117

126.427	0.000	0.00	0.50	0.00	0.117
126.550	0.000	0.00	0.50	0.00	0.117
126.673	0.000	0.00	0.50	0.00	0.117
126.796	0.000	0.00	0.50	0.00	0.117
126.918	0.000	0.00	0.50	0.00	0.117
127.041	0.000	0.00	0.50	0.00	0.117
127.164	0.000	0.00	0.50	0.00	0.117
127.287	0.000	0.00	0.50	0.00	0.117
127.410	0.000	0.00	0.50	0.00	0.117
127.533	0.000	0.00	0.50	0.00	0.117
127.655	0.000	0.00	0.50	0.00	0.117
127.778	0.000	0.00	0.50	0.00	0.117
127.901	0.000	0.00	0.50	0.00	0.117
128.024	0.000	0.00	0.50	0.00	0.117
128.147	0.000	0.00	0.50	0.00	0.117
128.270	0.000	0.00	0.50	0.00	0.117
128.392	0.000	0.00	0.50	0.00	0.117
128.515	0.000	0.00	0.50	0.00	0.117
128.638	0.000	0.00	0.50	0.00	0.117
128.761	0.000	0.00	0.50	0.00	0.117
128.884	0.000	0.00	0.50	0.00	0.117
129.007	0.000	0.00	0.50	0.00	0.117
129.129	0.000	0.00	0.50	0.00	0.117
129.252	0.000	0.00	0.50	0.00	0.117
129.375	0.000	0.00	0.50	0.00	0.117
129.498	0.000	0.00	0.50	0.00	0.117
129.621	0.000	0.00	0.50	0.00	0.117
129.744	0.000	0.00	0.50	0.00	0.117
129.866	0.000	0.00	0.50	0.00	0.117
129.989	0.000	0.00	0.50	0.00	0.117
130.112	0.000	0.00	0.50	0.00	0.117
130.235	0.000	0.00	0.50	0.00	0.117
130.358	0.000	0.00	0.50	0.00	0.117
130.481	0.000	0.00	0.50	0.00	0.117
130.603	0.000	0.00	0.50	0.00	0.117
130.726	0.000	0.00	0.50	0.00	0.117
130.849	0.000	0.00	0.50	0.00	0.117
130.972	0.000	0.00	0.50	0.00	0.117
131.095	0.000	0.00	0.50	0.00	0.117
131.218	0.000	0.00	0.50	0.00	0.117
131.340	0.000	0.00	0.50	0.00	0.117
131.463	0.000	0.00	0.50	0.00	0.117
131.586	0.000	0.00	0.50	0.00	0.117
131.709	0.000	0.00	0.50	0.00	0.117
131.832	0.000	0.00	0.50	0.00	0.117
131.955	0.000	0.00	0.50	0.00	0.117
132.077	0.000	0.00	0.50	0.00	0.117
132.200	0.000	0.00	0.50	0.00	0.117
132.323	0.000	0.00	0.50	0.00	0.117
132.446	0.000	0.00	0.50	0.00	0.117
132.569	0.000	0.00	0.50	0.00	0.117
132.692	0.000	0.00	0.50	0.00	0.117
132.814	0.000	0.00	0.50	0.00	0.117
132.937	0.000	0.00	0.50	0.00	0.117
133.060	0.000	0.00	0.50	0.00	0.117
133.183	0.000	0.00	0.50	0.00	0.117
133.306	0.000	0.00	0.50	0.00	0.117
133.429	0.000	0.00	0.50	0.00	0.117
133.551	0.000	0.00	0.50	0.00	0.117
133.674	0.000	0.00	0.50	0.00	0.117
133.797	0.000	0.00	0.50	0.00	0.117
133.920	0.000	0.00	0.50	0.00	0.117
134.043	0.000	0.00	0.50	0.00	0.117
134.166	0.000	0.00	0.50	0.00	0.117
134.288	0.000	0.00	0.50	0.00	0.117
134.411	0.000	0.00	0.50	0.00	0.117
134.534	0.000	0.00	0.50	0.00	0.117
134.657	0.000	0.00	0.50	0.00	0.117

134.780	0.000	0.00	0.50	0.00	0.117
134.903	0.000	0.00	0.50	0.00	0.117
135.025	0.000	0.00	0.50	0.00	0.117
135.148	0.000	0.00	0.50	0.00	0.117
135.271	0.000	0.00	0.50	0.00	0.117
135.394	0.000	0.00	0.50	0.00	0.117
135.517	0.000	0.00	0.50	0.00	0.117
135.640	0.000	0.00	0.50	0.00	0.117
135.762	0.000	0.00	0.50	0.00	0.117
135.885	0.000	0.00	0.50	0.00	0.117
136.008	0.000	0.00	0.50	0.00	0.117
136.131	0.000	0.00	0.50	0.00	0.117
136.254	0.000	0.00	0.50	0.00	0.117
136.377	0.000	0.00	0.50	0.00	0.117
136.499	0.000	0.00	0.50	0.00	0.117
136.622	0.000	0.00	0.50	0.00	0.117
136.745	0.000	0.00	0.50	0.00	0.117
136.868	0.000	0.00	0.50	0.00	0.117
136.991	0.000	0.00	0.50	0.00	0.117
137.114	0.000	0.00	0.50	0.00	0.117
137.236	0.000	0.00	0.50	0.00	0.117
137.359	0.000	0.00	0.50	0.00	0.117
137.482	0.000	0.00	0.50	0.00	0.117
137.605	0.000	0.00	0.50	0.00	0.117
137.728	0.000	0.00	0.50	0.00	0.117
137.851	0.000	0.00	0.50	0.00	0.117
137.973	0.000	0.00	0.50	0.00	0.117
138.096	0.000	0.00	0.50	0.00	0.117
138.219	0.000	0.00	0.50	0.00	0.117
138.342	0.000	0.00	0.50	0.00	0.117
138.465	0.000	0.00	0.50	0.00	0.117
138.588	0.000	0.00	0.50	0.00	0.117
138.710	0.000	0.00	0.50	0.00	0.117
138.833	0.000	0.00	0.50	0.00	0.117
138.956	0.000	0.00	0.50	0.00	0.117
139.079	0.000	0.00	0.50	0.00	0.117
139.202	0.000	0.00	0.50	0.00	0.117
139.325	0.000	0.00	0.50	0.00	0.117
139.447	0.000	0.00	0.50	0.00	0.117
139.570	0.000	0.00	0.50	0.00	0.117
139.693	0.000	0.00	0.50	0.00	0.117
139.816	0.000	0.00	0.50	0.00	0.117
139.939	0.000	0.00	0.50	0.00	0.117
140.062	0.000	0.00	0.50	0.00	0.117
140.184	0.000	0.00	0.50	0.00	0.117
140.307	0.000	0.00	0.50	0.00	0.117
140.430	0.000	0.00	0.50	0.00	0.117
140.553	0.000	0.00	0.50	0.00	0.117
140.676	0.000	0.00	0.50	0.00	0.117
140.799	0.000	0.00	0.50	0.00	0.117
140.921	0.000	0.00	0.50	0.00	0.117
141.044	0.000	0.00	0.50	0.00	0.117
141.167	0.000	0.00	0.50	0.00	0.117
141.290	0.000	0.00	0.50	0.00	0.117
141.413	0.000	0.00	0.50	0.00	0.117
141.536	0.000	0.00	0.50	0.00	0.117
141.658	0.000	0.00	0.50	0.00	0.117
141.781	0.000	0.00	0.50	0.00	0.117
141.904	0.000	0.00	0.50	0.00	0.117
142.027	0.000	0.00	0.50	0.00	0.117
142.150	0.000	0.00	0.50	0.00	0.117
142.273	0.000	0.00	0.50	0.00	0.117
142.395	0.000	0.00	0.50	0.00	0.117
142.518	0.000	0.00	0.50	0.00	0.117
142.641	0.000	0.00	0.50	0.00	0.117
142.764	0.000	0.00	0.50	0.00	0.117
142.887	0.000	0.00	0.50	0.00	0.117
143.010	0.000	0.00	0.50	0.00	0.117

143.132	0.000	0.00	0.50	0.00	0.117
143.255	0.000	0.00	0.50	0.00	0.117
143.378	0.000	0.00	0.50	0.00	0.117
143.501	0.000	0.00	0.50	0.00	0.117
143.624	0.000	0.00	0.50	0.00	0.117
143.747	0.000	0.00	0.50	0.00	0.117
143.869	0.000	0.00	0.50	0.00	0.117
143.992	0.000	0.00	0.50	0.00	0.117
144.115	0.000	0.00	0.50	0.00	0.117
144.238	0.000	0.00	0.50	0.00	0.117
144.361	0.000	0.00	0.50	0.00	0.117
144.484	0.000	0.00	0.50	0.00	0.117
144.606	0.000	0.00	0.50	0.00	0.117
144.729	0.000	0.00	0.50	0.00	0.117
144.852	0.000	0.00	0.50	0.00	0.117
144.975	0.000	0.00	0.50	0.00	0.117
145.098	0.000	0.00	0.50	0.00	0.117
145.221	0.000	0.00	0.50	0.00	0.117
145.343	0.000	0.00	0.50	0.00	0.117
145.466	0.000	0.00	0.50	0.00	0.117
145.589	0.000	0.00	0.50	0.00	0.117
145.712	0.000	0.00	0.50	0.00	0.117
145.835	0.000	0.00	0.50	0.00	0.117
145.958	0.000	0.00	0.50	0.00	0.117
146.080	0.000	0.00	0.50	0.00	0.117
146.203	0.000	0.00	0.50	0.00	0.117
146.326	0.000	0.00	0.50	0.00	0.117
146.449	0.000	0.00	0.50	0.00	0.117
146.572	0.000	0.00	0.50	0.00	0.117
146.695	0.000	0.00	0.50	0.00	0.117
146.817	0.000	0.00	0.50	0.00	0.117
146.940	0.000	0.00	0.50	0.00	0.117
147.063	0.000	0.00	0.50	0.00	0.117

```
**************************************************************************
                    SMALL AREA UNIT HYDROGRAPH MODEL
==========================================================================
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                          Analysis prepared by:




**************************************************************************
--------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center Fullerton
  Basin C
  25 Year Storm
--------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.91
    TOTAL CATCHMENT AREA(ACRES) =   14.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.250
    TIME OF CONCENTRATION(MIN.) =  7.05
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =  25
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.40
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.87
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.15
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  1.94
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  2.71
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  4.49

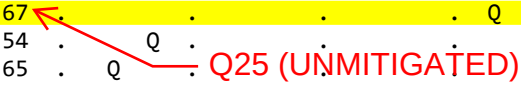
--------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     4.15
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.16

**************************************************************************
  TIME     VOLUME       Q    0.       15.0      30.0      45.0      60.0
 (HOURS)    (AF)      (CFS)
--------------------------------------------------------------------------
  0.02      0.0000      0.00  Q         .         .         .         .
  0.14      0.0032      0.66  Q         .         .         .         .
  0.25      0.0097      0.66  Q         .         .         .         .
  0.37      0.0161      0.67  Q         .         .         .         .
  0.49      0.0226      0.67  Q         .         .         .         .
  0.61      0.0292      0.67  Q         .         .         .         .
  0.72      0.0357      0.68  Q         .         .         .         .
  0.84      0.0423      0.68  Q         .         .         .         .
  0.96      0.0489      0.68  Q         .         .         .         .
  1.08      0.0556      0.69  Q         .         .         .         .
  1.19      0.0623      0.69  Q         .         .         .         .
  1.31      0.0690      0.69  Q         .         .         .         .
  1.43      0.0758      0.70  Q         .         .         .         .
  1.55      0.0826      0.70  Q         .         .         .         .
  1.66      0.0894      0.70  Q         .         .         .         .
  1.78      0.0963      0.71  Q         .         .         .         .
  1.90      0.1032      0.71  Q         .         .         .         .
  2.02      0.1101      0.72  Q         .         .         .         .
  2.13      0.1171      0.72  Q         .         .         .         .
  2.25      0.1241      0.72  Q         .         .         .         .
```

2.37	0.1311	0.73	Q	.	.	.	.
2.49	0.1382	0.73	Q	.	.	.	.
2.60	0.1453	0.74	Q	.	.	.	.
2.72	0.1525	0.74	Q	.	.	.	.
2.84	0.1597	0.74	Q	.	.	.	.
2.96	0.1670	0.75	Q	.	.	.	.
3.07	0.1743	0.75	Q	.	.	.	.
3.19	0.1816	0.76	Q	.	.	.	.
3.31	0.1890	0.76	Q	.	.	.	.
3.43	0.1964	0.77	Q	.	.	.	.
3.54	0.2038	0.77	Q	.	.	.	.
3.66	0.2113	0.78	Q	.	.	.	.
3.78	0.2189	0.78	Q	.	.	.	.
3.90	0.2265	0.79	Q	.	.	.	.
4.01	0.2341	0.79	Q	.	.	.	.
4.13	0.2418	0.80	Q	.	.	.	.
4.25	0.2496	0.80	Q	.	.	.	.
4.37	0.2573	0.81	Q	.	.	.	.
4.48	0.2652	0.81	Q	.	.	.	.
4.60	0.2731	0.82	Q	.	.	.	.
4.72	0.2810	0.82	Q	.	.	.	.
4.84	0.2890	0.83	Q	.	.	.	.
4.95	0.2970	0.83	Q	.	.	.	.
5.07	0.3051	0.84	Q	.	.	.	.
5.19	0.3133	0.84	Q	.	.	.	.
5.31	0.3215	0.85	Q	.	.	.	.
5.42	0.3298	0.85	Q	.	.	.	.
5.54	0.3381	0.86	Q	.	.	.	.
5.66	0.3465	0.87	Q	.	.	.	.
5.78	0.3549	0.87	Q	.	.	.	.
5.89	0.3634	0.88	Q	.	.	.	.
6.01	0.3720	0.89	Q	.	.	.	.
6.13	0.3806	0.89	Q	.	.	.	.
6.25	0.3893	0.90	Q	.	.	.	.
6.36	0.3981	0.90	Q	.	.	.	.
6.48	0.4069	0.91	Q	.	.	.	.
6.60	0.4158	0.92	Q	.	.	.	.
6.72	0.4248	0.93	Q	.	.	.	.
6.83	0.4338	0.93	Q	.	.	.	.
6.95	0.4429	0.94	Q	.	.	.	.
7.07	0.4521	0.95	Q	.	.	.	.
7.19	0.4614	0.96	Q	.	.	.	.
7.30	0.4707	0.96	Q	.	.	.	.
7.42	0.4802	0.98	Q	.	.	.	.
7.54	0.4897	0.98	Q	.	.	.	.
7.66	0.4992	0.99	Q	.	.	.	.
7.78	0.5089	1.00	Q	.	.	.	.
7.89	0.5187	1.01	Q	.	.	.	.
8.01	0.5285	1.02	Q	.	.	.	.
8.13	0.5385	1.03	Q	.	.	.	.
8.24	0.5485	1.04	Q	.	.	.	.
8.36	0.5586	1.05	Q	.	.	.	.
8.48	0.5689	1.06	Q	.	.	.	.
8.60	0.5792	1.07	Q	.	.	.	.
8.71	0.5896	1.08	Q	.	.	.	.
8.83	0.6002	1.09	Q	.	.	.	.
8.95	0.6108	1.10	Q	.	.	.	.
9.07	0.6216	1.12	Q	.	.	.	.
9.18	0.6325	1.12	Q	.	.	.	.
9.30	0.6434	1.14	Q	.	.	.	.
9.42	0.6546	1.15	Q	.	.	.	.
9.54	0.6658	1.17	Q	.	.	.	.
9.65	0.6772	1.18	Q	.	.	.	.
9.77	0.6888	1.20	Q	.	.	.	.
9.89	0.7005	1.22	Q	.	.	.	.
10.01	0.7125	1.24	Q	.	.	.	.
10.12	0.7246	1.26	Q	.	.	.	.
10.24	0.7369	1.28	Q	.	.	.	.

10.36	0.7495	1.30	Q	.	.	.	.
10.48	0.7622	1.33	Q	.	.	.	.
10.60	0.7752	1.34	Q	.	.	.	.
10.71	0.7884	1.38	Q	.	.	.	.
10.83	0.8019	1.39	Q	.	.	.	.
10.95	0.8155	1.43	Q	.	.	.	.
11.06	0.8295	1.44	Q	.	.	.	.
11.18	0.8437	1.48	Q	.	.	.	.
11.30	0.8582	1.50	.Q	.	.	.	.
11.42	0.8729	1.54	.Q	.	.	.	.
11.53	0.8880	1.56	.Q	.	.	.	.
11.65	0.9034	1.61	.Q	.	.	.	.
11.77	0.9191	1.63	.Q	.	.	.	.
11.89	0.9351	1.68	.Q	.	.	.	.
12.01	0.9515	1.70	.Q	.	.	.	.
12.12	0.9717	2.44	.Q	.	.	.	.
12.24	0.9955	2.47	.Q	.	.	.	.
12.36	1.0198	2.53	.Q	.	.	.	.
12.48	1.0446	2.57	.Q	.	.	.	.
12.59	1.0699	2.63	.Q	.	.	.	.
12.71	1.0956	2.67	.Q	.	.	.	.
12.83	1.1219	2.75	.Q	.	.	.	.
12.95	1.1488	2.79	.Q	.	.	.	.
13.06	1.1762	2.87	.Q	.	.	.	.
13.18	1.2043	2.91	.Q	.	.	.	.
13.30	1.2331	3.01	. Q	.	.	.	.
13.41	1.2626	3.06	. Q	.	.	.	.
13.53	1.2928	3.17	. Q	.	.	.	.
13.65	1.3239	3.23	. Q	.	.	.	.
13.77	1.3558	3.35	. Q	.	.	.	.
13.88	1.3887	3.42	. Q	.	.	.	.
14.00	1.4226	3.57	. Q	.	.	.	.
14.12	1.4575	3.62	. Q	.	.	.	.
14.24	1.4933	3.77	. Q	.	.	.	.
14.35	1.5304	3.86	. Q	.	.	.	.
14.47	1.5689	4.08	. Q	.	.	.	.
14.59	1.6090	4.19	. Q	.	.	.	.
14.71	1.6511	4.46	. Q	.	.	.	.
14.82	1.6951	4.61	. Q	.	.	.	.
14.94	1.7416	4.96	. Q	.	.	.	.
15.06	1.7908	5.17	. Q	.	.	.	.
15.18	1.8434	5.65	. Q	.	.	.	.
15.30	1.8997	5.95	. Q	.	.	.	.
15.41	1.9584	6.13	. Q	.	.	.	.
15.53	2.0176	6.07	. Q	.	.	.	.
15.65	2.0830	7.39	. Q	.	.	.	.
15.77	2.1604	8.56	. Q	.	.	.	.
15.88	2.2645	12.87	. Q	.	.	.	.
16.00	2.4120	17.52	. .Q	.	.	.	.
16.12	2.7431	50.67	. .	.	.	. Q	.
16.23	3.0403	10.54	. Q	.	.	.	.
16.35	3.1237	6.65	. Q	.	.	.	.
16.47	3.1865	6.29	. Q	.	.	.	.
16.59	3.2433	5.40	. Q	.	.	.	.
16.70	3.2927	4.78	. Q	.	.	.	.
16.82	3.3369	4.32	. Q	.	.	.	.
16.94	3.3771	3.96	. Q	.	.	.	.
17.06	3.4142	3.68	. Q	.	.	.	.
17.17	3.4490	3.49	. Q	.	.	.	.
17.29	3.4819	3.29	. Q	.	.	.	.
17.41	3.5130	3.11	. Q	.	.	.	.
17.53	3.5425	2.96	.Q	.	.	.	.
17.64	3.5706	2.83	.Q	.	.	.	.
17.76	3.5975	2.71	.Q	.	.	.	.
17.88	3.6232	2.60	.Q	.	.	.	.
18.00	3.6480	2.50	.Q	.	.	.	.
18.11	3.6688	1.77	.Q	.	.	.	.
18.23	3.6854	1.65	.Q	.	.	.	.



18.35	3.7011	1.58	.Q	.	.	.	.
18.47	3.7162	1.52	.Q	.	.	.	.
18.58	3.7306	1.46	Q	.	.	.	.
18.70	3.7446	1.41	Q	.	.	.	.
18.82	3.7580	1.36	Q	.	.	.	.
18.94	3.7710	1.31	Q	.	.	.	.
19.06	3.7836	1.27	Q	.	.	.	.
19.17	3.7957	1.23	Q	.	.	.	.
19.29	3.8075	1.19	Q	.	.	.	.
19.41	3.8189	1.16	Q	.	.	.	.
19.52	3.8300	1.13	Q	.	.	.	.
19.64	3.8409	1.11	Q	.	.	.	.
19.76	3.8515	1.09	Q	.	.	.	.
19.88	3.8619	1.06	Q	.	.	.	.
19.99	3.8722	1.04	Q	.	.	.	.
20.11	3.8822	1.02	Q	.	.	.	.
20.23	3.8920	1.01	Q	.	.	.	.
20.35	3.9017	0.99	Q	.	.	.	.
20.47	3.9112	0.97	Q	.	.	.	.
20.58	3.9206	0.95	Q	.	.	.	.
20.70	3.9298	0.94	Q	.	.	.	.
20.82	3.9388	0.92	Q	.	.	.	.
20.93	3.9477	0.91	Q	.	.	.	.
21.05	3.9565	0.90	Q	.	.	.	.
21.17	3.9651	0.88	Q	.	.	.	.
21.29	3.9736	0.87	Q	.	.	.	.
21.41	3.9820	0.86	Q	.	.	.	.
21.52	3.9903	0.85	Q	.	.	.	.
21.64	3.9984	0.83	Q	.	.	.	.
21.76	4.0065	0.82	Q	.	.	.	.
21.88	4.0144	0.81	Q	.	.	.	.
21.99	4.0222	0.80	Q	.	.	.	.
22.11	4.0300	0.79	Q	.	.	.	.
22.23	4.0376	0.78	Q	.	.	.	.
22.34	4.0452	0.77	Q	.	.	.	.
22.46	4.0526	0.76	Q	.	.	.	.
22.58	4.0600	0.75	Q	.	.	.	.
22.70	4.0673	0.75	Q	.	.	.	.
22.82	4.0745	0.74	Q	.	.	.	.
22.93	4.0816	0.73	Q	.	.	.	.
23.05	4.0887	0.72	Q	.	.	.	.
23.17	4.0956	0.71	Q	.	.	.	.
23.28	4.1025	0.71	Q	.	.	.	.
23.40	4.1094	0.70	Q	.	.	.	.
23.52	4.1161	0.69	Q	.	.	.	.
23.64	4.1228	0.69	Q	.	.	.	.
23.76	4.1294	0.68	Q	.	.	.	.
23.87	4.1360	0.67	Q	.	.	.	.
23.99	4.1425	0.67	Q	.	.	.	.
24.11	4.1490	0.66	Q	.	.	.	.
24.23	4.1522	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1445.2
10%	98.7
20%	28.2
30%	14.1
40%	7.1
50%	7.1
60%	7.1
70%	7.1

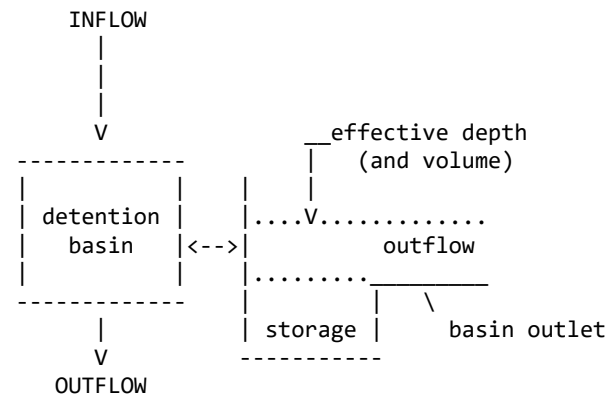
80%	7.1
90%	7.1

Problem Descriptions:
Goodman Logistics Center Fullerton
Basin C
25 Year Storm

==========

FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 7.050
DEAD STORAGE(AF) = 0.00
SPECIFIED DEAD STORAGE(AF) FILLED = 0.00
ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 9

*BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	**	BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
0.000	0.000	0.000**		0.250	0.039	0.000	*
0.500	0.078	0.000**		1.000	0.157	4.250	*
2.000	0.488	9.510**		3.000	0.772	12.760	*
4.000	0.948	15.340**		4.250	0.988	43.190	*
4.500	1.027	44.780**					

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.25	0.03930	0.03930
3	0.50	0.07820	0.07820
4	1.00	0.13646	0.17774
5	2.00	0.44153	0.53387
6	3.00	0.70965	0.83355
7	4.00	0.87402	1.02298
8	4.25	0.77880	1.19820
9	4.50	0.80968	1.24452

WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES
OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE
AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)

0.020	0.000	0.00	0.00	0.00	0.000
0.137	0.000	0.66	0.04	0.00	0.006
0.255	0.000	0.66	0.08	0.00	0.013
0.372	0.000	0.67	0.12	0.00	0.019
0.490	0.000	0.67	0.16	0.00	0.026
0.607	0.000	0.67	0.21	0.00	0.032
0.725	0.000	0.68	0.25	0.00	0.039
0.842	0.000	0.68	0.29	0.00	0.046
0.960	0.000	0.68	0.33	0.00	0.052
1.077	0.000	0.69	0.38	0.00	0.059
1.195	0.000	0.69	0.42	0.00	0.066
1.312	0.000	0.69	0.46	0.00	0.072
1.430	0.000	0.70	0.50	0.02	0.079
1.547	0.000	0.70	0.54	0.18	0.084
1.665	0.000	0.70	0.56	0.40	0.087
1.782	0.000	0.71	0.57	0.52	0.089
1.900	0.000	0.71	0.57	0.60	0.090
2.017	0.000	0.72	0.58	0.65	0.091
2.135	0.000	0.72	0.58	0.68	0.091
2.252	0.000	0.72	0.58	0.70	0.091
2.370	0.000	0.73	0.58	0.71	0.091
2.487	0.000	0.73	0.58	0.72	0.092
2.605	0.000	0.74	0.59	0.72	0.092
2.722	0.000	0.74	0.59	0.73	0.092
2.840	0.000	0.74	0.59	0.73	0.092
2.957	0.000	0.75	0.59	0.74	0.092
3.075	0.000	0.75	0.59	0.74	0.092
3.192	0.000	0.76	0.59	0.75	0.092
3.310	0.000	0.76	0.59	0.75	0.092
3.427	0.000	0.77	0.59	0.76	0.092
3.545	0.000	0.77	0.59	0.76	0.092
3.662	0.000	0.78	0.59	0.77	0.092
3.780	0.000	0.78	0.59	0.77	0.093
3.897	0.000	0.79	0.59	0.78	0.093
4.015	0.000	0.79	0.59	0.78	0.093
4.132	0.000	0.80	0.59	0.79	0.093
4.250	0.000	0.80	0.59	0.79	0.093
4.367	0.000	0.81	0.59	0.79	0.093
4.485	0.000	0.81	0.59	0.80	0.093
4.602	0.000	0.82	0.60	0.81	0.093
4.720	0.000	0.82	0.60	0.81	0.093
4.837	0.000	0.83	0.60	0.82	0.093
4.955	0.000	0.83	0.60	0.82	0.093
5.072	0.000	0.84	0.60	0.83	0.094
5.190	0.000	0.84	0.60	0.83	0.094
5.307	0.000	0.85	0.60	0.84	0.094
5.425	0.000	0.85	0.60	0.84	0.094
5.543	0.000	0.86	0.60	0.85	0.094
5.660	0.000	0.87	0.60	0.85	0.094
5.777	0.000	0.87	0.60	0.86	0.094
5.895	0.000	0.88	0.60	0.87	0.094
6.012	0.000	0.89	0.60	0.87	0.094
6.130	0.000	0.89	0.60	0.88	0.095
6.247	0.000	0.90	0.60	0.89	0.095
6.365	0.000	0.90	0.61	0.89	0.095
6.482	0.000	0.91	0.61	0.90	0.095
6.600	0.000	0.92	0.61	0.91	0.095
6.717	0.000	0.93	0.61	0.91	0.095
6.835	0.000	0.93	0.61	0.92	0.095
6.952	0.000	0.94	0.61	0.93	0.096
7.070	0.000	0.95	0.61	0.94	0.096
7.188	0.000	0.96	0.61	0.94	0.096
7.305	0.000	0.96	0.61	0.95	0.096
7.422	0.000	0.98	0.61	0.96	0.096
7.540	0.000	0.98	0.61	0.97	0.096
7.657	0.000	0.99	0.62	0.98	0.096
7.775	0.000	1.00	0.62	0.98	0.097
7.892	0.000	1.01	0.62	0.99	0.097

8.010	0.000	1.02	0.62	1.00	0.097
8.127	0.000	1.03	0.62	1.01	0.097
8.245	0.000	1.04	0.62	1.02	0.097
8.363	0.000	1.05	0.62	1.03	0.097
8.480	0.000	1.06	0.62	1.04	0.098
8.597	0.000	1.07	0.62	1.05	0.098
8.715	0.000	1.08	0.63	1.06	0.098
8.833	0.000	1.09	0.63	1.07	0.098
8.950	0.000	1.10	0.63	1.08	0.098
9.068	0.000	1.12	0.63	1.09	0.099
9.185	0.000	1.12	0.63	1.10	0.099
9.302	0.000	1.14	0.63	1.12	0.099
9.420	0.000	1.15	0.63	1.13	0.099
9.538	0.000	1.17	0.63	1.14	0.099
9.655	0.000	1.18	0.64	1.15	0.100
9.773	0.000	1.20	0.64	1.17	0.100
9.890	0.000	1.22	0.64	1.19	0.100
10.008	0.000	1.24	0.64	1.20	0.101
10.125	0.000	1.26	0.64	1.22	0.101
10.242	0.000	1.28	0.65	1.24	0.101
10.360	0.000	1.30	0.65	1.26	0.102
10.477	0.000	1.33	0.65	1.28	0.102
10.595	0.000	1.34	0.65	1.31	0.103
10.712	0.000	1.38	0.66	1.33	0.103
10.830	0.000	1.39	0.66	1.35	0.103
10.947	0.000	1.43	0.66	1.38	0.104
11.065	0.000	1.44	0.67	1.40	0.104
11.182	0.000	1.48	0.67	1.43	0.105
11.300	0.000	1.50	0.67	1.45	0.105
11.417	0.000	1.54	0.68	1.48	0.106
11.535	0.000	1.56	0.68	1.51	0.106
11.652	0.000	1.61	0.68	1.54	0.107
11.770	0.000	1.63	0.69	1.57	0.108
11.887	0.000	1.68	0.69	1.61	0.108
12.005	0.000	1.70	0.69	1.64	0.109
12.122	0.000	2.44	0.73	1.82	0.115
12.240	0.000	2.47	0.76	2.08	0.119
12.358	0.000	2.53	0.77	2.26	0.121
12.475	0.000	2.57	0.79	2.38	0.123
12.592	0.000	2.63	0.80	2.47	0.125
12.710	0.000	2.67	0.80	2.55	0.126
12.828	0.000	2.75	0.81	2.61	0.127
12.945	0.000	2.79	0.82	2.68	0.128
13.062	0.000	2.87	0.83	2.74	0.130
13.180	0.000	2.91	0.83	2.80	0.131
13.297	0.000	3.01	0.84	2.87	0.132
13.415	0.000	3.06	0.85	2.94	0.133
13.533	0.000	3.17	0.86	3.01	0.135
13.650	0.000	3.23	0.87	3.09	0.136
13.767	0.000	3.35	0.88	3.17	0.138
13.885	0.000	3.42	0.89	3.26	0.139
14.003	0.000	3.57	0.90	3.36	0.142
14.120	0.000	3.62	0.91	3.45	0.143
14.238	0.000	3.77	0.92	3.55	0.145
14.355	0.000	3.86	0.94	3.66	0.147
14.472	0.000	4.08	0.95	3.79	0.150
14.590	0.000	4.19	0.97	3.93	0.152
14.708	0.000	4.46	0.99	4.10	0.156
14.825	0.000	4.61	1.01	4.24	0.160
14.943	0.000	4.96	1.03	4.34	0.166
15.060	0.000	5.17	1.05	4.44	0.173
15.178	0.000	5.65	1.08	4.58	0.183
15.295	0.000	5.95	1.11	4.76	0.195
15.413	0.000	6.13	1.15	4.94	0.206
15.530	0.000	6.07	1.18	5.11	0.216
15.648	0.000	7.39	1.24	5.34	0.236
15.765	0.000	8.56	1.32	5.72	0.263
15.883	0.000	12.87	1.51	6.43	0.326

16.000	0.000	17.52	1.80	7.69	0.421
16.118	0.000	50.67	3.20	10.87	0.808
16.235	0.000	10.54	3.06	13.10	0.783
16.353	0.000	6.65	2.84	12.57	0.725
16.470	0.000	6.29	2.64	11.92	0.670
16.587	0.000	5.40	2.44	11.28	0.613
16.705	0.000	4.78	2.24	10.62	0.557
16.823	0.000	4.32	2.05	9.98	0.502
16.940	0.000	3.96	1.89	9.29	0.450
17.058	0.000	3.68	1.74	8.53	0.403
17.175	0.000	3.49	1.62	7.82	0.361
17.293	0.000	3.29	1.50	7.19	0.323
17.410	0.000	3.11	1.40	6.62	0.289
17.528	0.000	2.96	1.31	6.10	0.258
17.645	0.000	2.83	1.22	5.64	0.231
17.763	0.000	2.71	1.15	5.23	0.206
17.880	0.000	2.60	1.08	4.86	0.185
17.997	0.000	2.50	1.02	4.53	0.165
18.115	0.000	1.77	0.91	3.95	0.144
18.233	0.000	1.65	0.82	3.14	0.129
18.350	0.000	1.58	0.77	2.51	0.120
18.468	0.000	1.52	0.73	2.11	0.115
18.585	0.000	1.46	0.71	1.85	0.111
18.703	0.000	1.41	0.69	1.68	0.108
18.820	0.000	1.36	0.68	1.56	0.106
18.938	0.000	1.31	0.67	1.47	0.105
19.055	0.000	1.27	0.66	1.39	0.103
19.172	0.000	1.23	0.65	1.33	0.102
19.290	0.000	1.19	0.65	1.28	0.102
19.407	0.000	1.16	0.64	1.24	0.101
19.525	0.000	1.13	0.64	1.20	0.100
19.642	0.000	1.11	0.64	1.17	0.100
19.760	0.000	1.09	0.63	1.14	0.099
19.878	0.000	1.06	0.63	1.11	0.099
19.995	0.000	1.04	0.63	1.09	0.098
20.112	0.000	1.02	0.62	1.06	0.098
20.230	0.000	1.01	0.62	1.04	0.097
20.347	0.000	0.99	0.62	1.02	0.097
20.465	0.000	0.97	0.62	1.01	0.097
20.582	0.000	0.95	0.62	0.99	0.096
20.700	0.000	0.94	0.61	0.97	0.096
20.818	0.000	0.92	0.61	0.95	0.096
20.935	0.000	0.91	0.61	0.94	0.095
21.052	0.000	0.90	0.61	0.92	0.095
21.170	0.000	0.88	0.61	0.91	0.095
21.288	0.000	0.87	0.60	0.90	0.095
21.405	0.000	0.86	0.60	0.88	0.094
21.522	0.000	0.85	0.60	0.87	0.094
21.640	0.000	0.83	0.60	0.86	0.094
21.757	0.000	0.82	0.60	0.85	0.094
21.875	0.000	0.81	0.60	0.83	0.094
21.993	0.000	0.80	0.60	0.82	0.093
22.110	0.000	0.79	0.59	0.81	0.093
22.228	0.000	0.78	0.59	0.80	0.093
22.345	0.000	0.77	0.59	0.79	0.093
22.462	0.000	0.76	0.59	0.78	0.093
22.580	0.000	0.75	0.59	0.77	0.092
22.698	0.000	0.75	0.59	0.76	0.092
22.815	0.000	0.74	0.59	0.75	0.092
22.932	0.000	0.73	0.59	0.75	0.092
23.050	0.000	0.72	0.59	0.74	0.092
23.168	0.000	0.71	0.59	0.73	0.092
23.285	0.000	0.71	0.58	0.72	0.092
23.403	0.000	0.70	0.58	0.71	0.091
23.520	0.000	0.69	0.58	0.71	0.091
23.638	0.000	0.69	0.58	0.70	0.091
23.755	0.000	0.68	0.58	0.69	0.091
23.872	0.000	0.67	0.58	0.69	0.091

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23.990	0.000	0.67	0.58	0.68	0.091
24.108	0.000	0.66	0.58	0.67	0.091
24.225	0.000	0.00	0.55	0.53	0.085
24.343	0.000	0.00	0.53	0.31	0.082
24.460	0.000	0.00	0.52	0.18	0.081
24.578	0.000	0.00	0.51	0.11	0.080
24.695	0.000	0.00	0.51	0.06	0.079
24.813	0.000	0.00	0.50	0.04	0.079
24.930	0.000	0.00	0.50	0.02	0.078
25.048	0.000	0.00	0.50	0.01	0.078
25.165	0.000	0.00	0.50	0.01	0.078
25.283	0.000	0.00	0.50	0.00	0.078
25.400	0.000	0.00	0.50	0.00	0.078
25.518	0.000	0.00	0.50	0.00	0.078
25.635	0.000	0.00	0.50	0.00	0.078
25.753	0.000	0.00	0.50	0.00	0.078
25.870	0.000	0.00	0.50	0.00	0.078
25.988	0.000	0.00	0.50	0.00	0.078
26.105	0.000	0.00	0.50	0.00	0.078
26.223	0.000	0.00	0.50	0.00	0.078
26.340	0.000	0.00	0.50	0.00	0.078
26.458	0.000	0.00	0.50	0.00	0.078
26.575	0.000	0.00	0.50	0.00	0.078
26.693	0.000	0.00	0.50	0.00	0.078
26.810	0.000	0.00	0.50	0.00	0.078
26.928	0.000	0.00	0.50	0.00	0.078
27.045	0.000	0.00	0.50	0.00	0.078
27.163	0.000	0.00	0.50	0.00	0.078
27.280	0.000	0.00	0.50	0.00	0.078
27.398	0.000	0.00	0.50	0.00	0.078
27.515	0.000	0.00	0.50	0.00	0.078
27.633	0.000	0.00	0.50	0.00	0.078
27.750	0.000	0.00	0.50	0.00	0.078
27.868	0.000	0.00	0.50	0.00	0.078
27.985	0.000	0.00	0.50	0.00	0.078
28.103	0.000	0.00	0.50	0.00	0.078
28.220	0.000	0.00	0.50	0.00	0.078
28.338	0.000	0.00	0.50	0.00	0.078
28.455	0.000	0.00	0.50	0.00	0.078
28.573	0.000	0.00	0.50	0.00	0.078
28.690	0.000	0.00	0.50	0.00	0.078
28.808	0.000	0.00	0.50	0.00	0.078
28.925	0.000	0.00	0.50	0.00	0.078
29.043	0.000	0.00	0.50	0.00	0.078
29.160	0.000	0.00	0.50	0.00	0.078
29.278	0.000	0.00	0.50	0.00	0.078
29.395	0.000	0.00	0.50	0.00	0.078
29.513	0.000	0.00	0.50	0.00	0.078
29.630	0.000	0.00	0.50	0.00	0.078
29.748	0.000	0.00	0.50	0.00	0.078
29.865	0.000	0.00	0.50	0.00	0.078
29.983	0.000	0.00	0.50	0.00	0.078
30.100	0.000	0.00	0.50	0.00	0.078
30.218	0.000	0.00	0.50	0.00	0.078
30.335	0.000	0.00	0.50	0.00	0.078
30.453	0.000	0.00	0.50	0.00	0.078
30.570	0.000	0.00	0.50	0.00	0.078
30.688	0.000	0.00	0.50	0.00	0.078
30.805	0.000	0.00	0.50	0.00	0.078
30.923	0.000	0.00	0.50	0.00	0.078
31.040	0.000	0.00	0.50	0.00	0.078
31.158	0.000	0.00	0.50	0.00	0.078
31.275	0.000	0.00	0.50	0.00	0.078
31.393	0.000	0.00	0.50	0.00	0.078
31.510	0.000	0.00	0.50	0.00	0.078
31.628	0.000	0.00	0.50	0.00	0.078
31.745	0.000	0.00	0.50	0.00	0.078
31.863	0.000	0.00	0.50	0.00	0.078

31.980	0.000	0.00	0.50	0.00	0.078
32.098	0.000	0.00	0.50	0.00	0.078
32.215	0.000	0.00	0.50	0.00	0.078
32.333	0.000	0.00	0.50	0.00	0.078
32.450	0.000	0.00	0.50	0.00	0.078
32.568	0.000	0.00	0.50	0.00	0.078
32.685	0.000	0.00	0.50	0.00	0.078
32.803	0.000	0.00	0.50	0.00	0.078
32.920	0.000	0.00	0.50	0.00	0.078
33.038	0.000	0.00	0.50	0.00	0.078
33.155	0.000	0.00	0.50	0.00	0.078
33.273	0.000	0.00	0.50	0.00	0.078
33.390	0.000	0.00	0.50	0.00	0.078
33.508	0.000	0.00	0.50	0.00	0.078
33.625	0.000	0.00	0.50	0.00	0.078
33.743	0.000	0.00	0.50	0.00	0.078
33.860	0.000	0.00	0.50	0.00	0.078
33.978	0.000	0.00	0.50	0.00	0.078
34.095	0.000	0.00	0.50	0.00	0.078
34.213	0.000	0.00	0.50	0.00	0.078
34.330	0.000	0.00	0.50	0.00	0.078
34.448	0.000	0.00	0.50	0.00	0.078
34.565	0.000	0.00	0.50	0.00	0.078
34.683	0.000	0.00	0.50	0.00	0.078
34.800	0.000	0.00	0.50	0.00	0.078
34.918	0.000	0.00	0.50	0.00	0.078
35.035	0.000	0.00	0.50	0.00	0.078
35.153	0.000	0.00	0.50	0.00	0.078
35.270	0.000	0.00	0.50	0.00	0.078
35.388	0.000	0.00	0.50	0.00	0.078
35.505	0.000	0.00	0.50	0.00	0.078
35.623	0.000	0.00	0.50	0.00	0.078
35.740	0.000	0.00	0.50	0.00	0.078
35.858	0.000	0.00	0.50	0.00	0.078
35.975	0.000	0.00	0.50	0.00	0.078
36.093	0.000	0.00	0.50	0.00	0.078
36.210	0.000	0.00	0.50	0.00	0.078
36.328	0.000	0.00	0.50	0.00	0.078
36.445	0.000	0.00	0.50	0.00	0.078
36.563	0.000	0.00	0.50	0.00	0.078
36.680	0.000	0.00	0.50	0.00	0.078
36.798	0.000	0.00	0.50	0.00	0.078
36.915	0.000	0.00	0.50	0.00	0.078
37.033	0.000	0.00	0.50	0.00	0.078
37.150	0.000	0.00	0.50	0.00	0.078
37.268	0.000	0.00	0.50	0.00	0.078
37.385	0.000	0.00	0.50	0.00	0.078
37.503	0.000	0.00	0.50	0.00	0.078
37.620	0.000	0.00	0.50	0.00	0.078
37.738	0.000	0.00	0.50	0.00	0.078
37.855	0.000	0.00	0.50	0.00	0.078
37.973	0.000	0.00	0.50	0.00	0.078
38.090	0.000	0.00	0.50	0.00	0.078
38.208	0.000	0.00	0.50	0.00	0.078
38.325	0.000	0.00	0.50	0.00	0.078
38.443	0.000	0.00	0.50	0.00	0.078
38.560	0.000	0.00	0.50	0.00	0.078
38.678	0.000	0.00	0.50	0.00	0.078
38.795	0.000	0.00	0.50	0.00	0.078
38.913	0.000	0.00	0.50	0.00	0.078
39.030	0.000	0.00	0.50	0.00	0.078
39.148	0.000	0.00	0.50	0.00	0.078
39.265	0.000	0.00	0.50	0.00	0.078
39.383	0.000	0.00	0.50	0.00	0.078
39.500	0.000	0.00	0.50	0.00	0.078
39.618	0.000	0.00	0.50	0.00	0.078
39.735	0.000	0.00	0.50	0.00	0.078
39.853	0.000	0.00	0.50	0.00	0.078

39.970	0.000	0.00	0.50	0.00	0.078
40.088	0.000	0.00	0.50	0.00	0.078
40.205	0.000	0.00	0.50	0.00	0.078
40.323	0.000	0.00	0.50	0.00	0.078
40.440	0.000	0.00	0.50	0.00	0.078
40.558	0.000	0.00	0.50	0.00	0.078
40.675	0.000	0.00	0.50	0.00	0.078
40.793	0.000	0.00	0.50	0.00	0.078
40.910	0.000	0.00	0.50	0.00	0.078
41.028	0.000	0.00	0.50	0.00	0.078
41.145	0.000	0.00	0.50	0.00	0.078
41.263	0.000	0.00	0.50	0.00	0.078
41.380	0.000	0.00	0.50	0.00	0.078
41.498	0.000	0.00	0.50	0.00	0.078
41.615	0.000	0.00	0.50	0.00	0.078
41.733	0.000	0.00	0.50	0.00	0.078
41.850	0.000	0.00	0.50	0.00	0.078
41.968	0.000	0.00	0.50	0.00	0.078
42.085	0.000	0.00	0.50	0.00	0.078
42.203	0.000	0.00	0.50	0.00	0.078
42.320	0.000	0.00	0.50	0.00	0.078
42.438	0.000	0.00	0.50	0.00	0.078
42.555	0.000	0.00	0.50	0.00	0.078
42.673	0.000	0.00	0.50	0.00	0.078
42.790	0.000	0.00	0.50	0.00	0.078
42.908	0.000	0.00	0.50	0.00	0.078
43.025	0.000	0.00	0.50	0.00	0.078
43.143	0.000	0.00	0.50	0.00	0.078
43.260	0.000	0.00	0.50	0.00	0.078
43.378	0.000	0.00	0.50	0.00	0.078
43.495	0.000	0.00	0.50	0.00	0.078
43.613	0.000	0.00	0.50	0.00	0.078
43.730	0.000	0.00	0.50	0.00	0.078
43.848	0.000	0.00	0.50	0.00	0.078
43.965	0.000	0.00	0.50	0.00	0.078
44.083	0.000	0.00	0.50	0.00	0.078
44.200	0.000	0.00	0.50	0.00	0.078
44.318	0.000	0.00	0.50	0.00	0.078
44.435	0.000	0.00	0.50	0.00	0.078
44.553	0.000	0.00	0.50	0.00	0.078
44.670	0.000	0.00	0.50	0.00	0.078
44.788	0.000	0.00	0.50	0.00	0.078
44.905	0.000	0.00	0.50	0.00	0.078
45.023	0.000	0.00	0.50	0.00	0.078
45.140	0.000	0.00	0.50	0.00	0.078
45.258	0.000	0.00	0.50	0.00	0.078
45.375	0.000	0.00	0.50	0.00	0.078
45.493	0.000	0.00	0.50	0.00	0.078
45.610	0.000	0.00	0.50	0.00	0.078
45.728	0.000	0.00	0.50	0.00	0.078
45.845	0.000	0.00	0.50	0.00	0.078
45.963	0.000	0.00	0.50	0.00	0.078
46.080	0.000	0.00	0.50	0.00	0.078
46.198	0.000	0.00	0.50	0.00	0.078
46.315	0.000	0.00	0.50	0.00	0.078
46.433	0.000	0.00	0.50	0.00	0.078
46.550	0.000	0.00	0.50	0.00	0.078
46.668	0.000	0.00	0.50	0.00	0.078
46.785	0.000	0.00	0.50	0.00	0.078
46.903	0.000	0.00	0.50	0.00	0.078
47.020	0.000	0.00	0.50	0.00	0.078
47.138	0.000	0.00	0.50	0.00	0.078
47.255	0.000	0.00	0.50	0.00	0.078
47.373	0.000	0.00	0.50	0.00	0.078
47.490	0.000	0.00	0.50	0.00	0.078
47.608	0.000	0.00	0.50	0.00	0.078
47.725	0.000	0.00	0.50	0.00	0.078
47.843	0.000	0.00	0.50	0.00	0.078

47.960	0.000	0.00	0.50	0.00	0.078
48.078	0.000	0.00	0.50	0.00	0.078
48.195	0.000	0.00	0.50	0.00	0.078
48.313	0.000	0.00	0.50	0.00	0.078
48.430	0.000	0.00	0.50	0.00	0.078
48.548	0.000	0.00	0.50	0.00	0.078
48.665	0.000	0.00	0.50	0.00	0.078
48.783	0.000	0.00	0.50	0.00	0.078
48.900	0.000	0.00	0.50	0.00	0.078
49.018	0.000	0.00	0.50	0.00	0.078
49.135	0.000	0.00	0.50	0.00	0.078
49.253	0.000	0.00	0.50	0.00	0.078
49.370	0.000	0.00	0.50	0.00	0.078
49.488	0.000	0.00	0.50	0.00	0.078
49.605	0.000	0.00	0.50	0.00	0.078
49.723	0.000	0.00	0.50	0.00	0.078
49.840	0.000	0.00	0.50	0.00	0.078
49.958	0.000	0.00	0.50	0.00	0.078
50.075	0.000	0.00	0.50	0.00	0.078
50.193	0.000	0.00	0.50	0.00	0.078
50.310	0.000	0.00	0.50	0.00	0.078
50.428	0.000	0.00	0.50	0.00	0.078
50.545	0.000	0.00	0.50	0.00	0.078
50.663	0.000	0.00	0.50	0.00	0.078
50.780	0.000	0.00	0.50	0.00	0.078
50.898	0.000	0.00	0.50	0.00	0.078
51.015	0.000	0.00	0.50	0.00	0.078
51.133	0.000	0.00	0.50	0.00	0.078
51.250	0.000	0.00	0.50	0.00	0.078
51.368	0.000	0.00	0.50	0.00	0.078
51.485	0.000	0.00	0.50	0.00	0.078
51.603	0.000	0.00	0.50	0.00	0.078
51.720	0.000	0.00	0.50	0.00	0.078
51.838	0.000	0.00	0.50	0.00	0.078
51.955	0.000	0.00	0.50	0.00	0.078
52.073	0.000	0.00	0.50	0.00	0.078
52.190	0.000	0.00	0.50	0.00	0.078
52.308	0.000	0.00	0.50	0.00	0.078
52.425	0.000	0.00	0.50	0.00	0.078
52.543	0.000	0.00	0.50	0.00	0.078
52.660	0.000	0.00	0.50	0.00	0.078
52.778	0.000	0.00	0.50	0.00	0.078
52.895	0.000	0.00	0.50	0.00	0.078
53.013	0.000	0.00	0.50	0.00	0.078
53.130	0.000	0.00	0.50	0.00	0.078
53.248	0.000	0.00	0.50	0.00	0.078
53.365	0.000	0.00	0.50	0.00	0.078
53.483	0.000	0.00	0.50	0.00	0.078
53.600	0.000	0.00	0.50	0.00	0.078
53.718	0.000	0.00	0.50	0.00	0.078
53.835	0.000	0.00	0.50	0.00	0.078
53.953	0.000	0.00	0.50	0.00	0.078
54.070	0.000	0.00	0.50	0.00	0.078
54.188	0.000	0.00	0.50	0.00	0.078
54.305	0.000	0.00	0.50	0.00	0.078
54.423	0.000	0.00	0.50	0.00	0.078
54.540	0.000	0.00	0.50	0.00	0.078
54.658	0.000	0.00	0.50	0.00	0.078
54.775	0.000	0.00	0.50	0.00	0.078
54.893	0.000	0.00	0.50	0.00	0.078
55.010	0.000	0.00	0.50	0.00	0.078
55.128	0.000	0.00	0.50	0.00	0.078
55.245	0.000	0.00	0.50	0.00	0.078
55.363	0.000	0.00	0.50	0.00	0.078
55.480	0.000	0.00	0.50	0.00	0.078
55.598	0.000	0.00	0.50	0.00	0.078
55.715	0.000	0.00	0.50	0.00	0.078
55.833	0.000	0.00	0.50	0.00	0.078

55.950	0.000	0.00	0.50	0.00	0.078
56.068	0.000	0.00	0.50	0.00	0.078
56.185	0.000	0.00	0.50	0.00	0.078
56.303	0.000	0.00	0.50	0.00	0.078
56.420	0.000	0.00	0.50	0.00	0.078
56.538	0.000	0.00	0.50	0.00	0.078
56.655	0.000	0.00	0.50	0.00	0.078
56.773	0.000	0.00	0.50	0.00	0.078
56.890	0.000	0.00	0.50	0.00	0.078
57.008	0.000	0.00	0.50	0.00	0.078
57.125	0.000	0.00	0.50	0.00	0.078
57.243	0.000	0.00	0.50	0.00	0.078
57.360	0.000	0.00	0.50	0.00	0.078
57.478	0.000	0.00	0.50	0.00	0.078
57.595	0.000	0.00	0.50	0.00	0.078
57.713	0.000	0.00	0.50	0.00	0.078
57.830	0.000	0.00	0.50	0.00	0.078
57.948	0.000	0.00	0.50	0.00	0.078
58.065	0.000	0.00	0.50	0.00	0.078
58.183	0.000	0.00	0.50	0.00	0.078
58.300	0.000	0.00	0.50	0.00	0.078
58.418	0.000	0.00	0.50	0.00	0.078
58.535	0.000	0.00	0.50	0.00	0.078
58.653	0.000	0.00	0.50	0.00	0.078
58.770	0.000	0.00	0.50	0.00	0.078
58.888	0.000	0.00	0.50	0.00	0.078
59.005	0.000	0.00	0.50	0.00	0.078
59.123	0.000	0.00	0.50	0.00	0.078
59.240	0.000	0.00	0.50	0.00	0.078
59.358	0.000	0.00	0.50	0.00	0.078
59.475	0.000	0.00	0.50	0.00	0.078
59.593	0.000	0.00	0.50	0.00	0.078
59.710	0.000	0.00	0.50	0.00	0.078
59.828	0.000	0.00	0.50	0.00	0.078
59.945	0.000	0.00	0.50	0.00	0.078
60.063	0.000	0.00	0.50	0.00	0.078
60.180	0.000	0.00	0.50	0.00	0.078
60.298	0.000	0.00	0.50	0.00	0.078
60.415	0.000	0.00	0.50	0.00	0.078
60.533	0.000	0.00	0.50	0.00	0.078
60.650	0.000	0.00	0.50	0.00	0.078
60.768	0.000	0.00	0.50	0.00	0.078
60.885	0.000	0.00	0.50	0.00	0.078
61.003	0.000	0.00	0.50	0.00	0.078
61.120	0.000	0.00	0.50	0.00	0.078
61.238	0.000	0.00	0.50	0.00	0.078
61.355	0.000	0.00	0.50	0.00	0.078
61.473	0.000	0.00	0.50	0.00	0.078
61.590	0.000	0.00	0.50	0.00	0.078
61.708	0.000	0.00	0.50	0.00	0.078
61.825	0.000	0.00	0.50	0.00	0.078
61.943	0.000	0.00	0.50	0.00	0.078
62.060	0.000	0.00	0.50	0.00	0.078
62.178	0.000	0.00	0.50	0.00	0.078
62.295	0.000	0.00	0.50	0.00	0.078
62.413	0.000	0.00	0.50	0.00	0.078
62.530	0.000	0.00	0.50	0.00	0.078
62.648	0.000	0.00	0.50	0.00	0.078
62.765	0.000	0.00	0.50	0.00	0.078
62.883	0.000	0.00	0.50	0.00	0.078
63.000	0.000	0.00	0.50	0.00	0.078
63.118	0.000	0.00	0.50	0.00	0.078
63.235	0.000	0.00	0.50	0.00	0.078
63.353	0.000	0.00	0.50	0.00	0.078
63.470	0.000	0.00	0.50	0.00	0.078
63.588	0.000	0.00	0.50	0.00	0.078
63.705	0.000	0.00	0.50	0.00	0.078
63.823	0.000	0.00	0.50	0.00	0.078

63.940	0.000	0.00	0.50	0.00	0.078
64.058	0.000	0.00	0.50	0.00	0.078
64.175	0.000	0.00	0.50	0.00	0.078
64.293	0.000	0.00	0.50	0.00	0.078
64.410	0.000	0.00	0.50	0.00	0.078
64.528	0.000	0.00	0.50	0.00	0.078
64.645	0.000	0.00	0.50	0.00	0.078
64.763	0.000	0.00	0.50	0.00	0.078
64.880	0.000	0.00	0.50	0.00	0.078
64.998	0.000	0.00	0.50	0.00	0.078
65.115	0.000	0.00	0.50	0.00	0.078
65.233	0.000	0.00	0.50	0.00	0.078
65.350	0.000	0.00	0.50	0.00	0.078
65.468	0.000	0.00	0.50	0.00	0.078
65.585	0.000	0.00	0.50	0.00	0.078
65.703	0.000	0.00	0.50	0.00	0.078
65.820	0.000	0.00	0.50	0.00	0.078
65.938	0.000	0.00	0.50	0.00	0.078
66.055	0.000	0.00	0.50	0.00	0.078
66.173	0.000	0.00	0.50	0.00	0.078
66.290	0.000	0.00	0.50	0.00	0.078
66.408	0.000	0.00	0.50	0.00	0.078
66.525	0.000	0.00	0.50	0.00	0.078
66.643	0.000	0.00	0.50	0.00	0.078
66.760	0.000	0.00	0.50	0.00	0.078
66.878	0.000	0.00	0.50	0.00	0.078
66.995	0.000	0.00	0.50	0.00	0.078
67.113	0.000	0.00	0.50	0.00	0.078
67.230	0.000	0.00	0.50	0.00	0.078
67.348	0.000	0.00	0.50	0.00	0.078
67.465	0.000	0.00	0.50	0.00	0.078
67.583	0.000	0.00	0.50	0.00	0.078
67.700	0.000	0.00	0.50	0.00	0.078
67.818	0.000	0.00	0.50	0.00	0.078
67.935	0.000	0.00	0.50	0.00	0.078
68.053	0.000	0.00	0.50	0.00	0.078
68.170	0.000	0.00	0.50	0.00	0.078
68.288	0.000	0.00	0.50	0.00	0.078
68.405	0.000	0.00	0.50	0.00	0.078
68.523	0.000	0.00	0.50	0.00	0.078
68.640	0.000	0.00	0.50	0.00	0.078
68.758	0.000	0.00	0.50	0.00	0.078
68.875	0.000	0.00	0.50	0.00	0.078
68.993	0.000	0.00	0.50	0.00	0.078
69.110	0.000	0.00	0.50	0.00	0.078
69.228	0.000	0.00	0.50	0.00	0.078
69.345	0.000	0.00	0.50	0.00	0.078
69.463	0.000	0.00	0.50	0.00	0.078
69.580	0.000	0.00	0.50	0.00	0.078
69.698	0.000	0.00	0.50	0.00	0.078
69.815	0.000	0.00	0.50	0.00	0.078
69.933	0.000	0.00	0.50	0.00	0.078
70.050	0.000	0.00	0.50	0.00	0.078
70.168	0.000	0.00	0.50	0.00	0.078
70.285	0.000	0.00	0.50	0.00	0.078
70.403	0.000	0.00	0.50	0.00	0.078
70.520	0.000	0.00	0.50	0.00	0.078
70.638	0.000	0.00	0.50	0.00	0.078
70.755	0.000	0.00	0.50	0.00	0.078
70.873	0.000	0.00	0.50	0.00	0.078
70.990	0.000	0.00	0.50	0.00	0.078
71.108	0.000	0.00	0.50	0.00	0.078
71.225	0.000	0.00	0.50	0.00	0.078
71.343	0.000	0.00	0.50	0.00	0.078
71.460	0.000	0.00	0.50	0.00	0.078
71.578	0.000	0.00	0.50	0.00	0.078
71.695	0.000	0.00	0.50	0.00	0.078
71.813	0.000	0.00	0.50	0.00	0.078

71.930	0.000	0.00	0.50	0.00	0.078
72.048	0.000	0.00	0.50	0.00	0.078
72.165	0.000	0.00	0.50	0.00	0.078
72.283	0.000	0.00	0.50	0.00	0.078
72.400	0.000	0.00	0.50	0.00	0.078
72.518	0.000	0.00	0.50	0.00	0.078
72.635	0.000	0.00	0.50	0.00	0.078
72.753	0.000	0.00	0.50	0.00	0.078
72.870	0.000	0.00	0.50	0.00	0.078
72.988	0.000	0.00	0.50	0.00	0.078
73.105	0.000	0.00	0.50	0.00	0.078
73.223	0.000	0.00	0.50	0.00	0.078
73.340	0.000	0.00	0.50	0.00	0.078
73.458	0.000	0.00	0.50	0.00	0.078
73.575	0.000	0.00	0.50	0.00	0.078
73.693	0.000	0.00	0.50	0.00	0.078
73.810	0.000	0.00	0.50	0.00	0.078
73.928	0.000	0.00	0.50	0.00	0.078
74.045	0.000	0.00	0.50	0.00	0.078
74.163	0.000	0.00	0.50	0.00	0.078
74.280	0.000	0.00	0.50	0.00	0.078
74.398	0.000	0.00	0.50	0.00	0.078
74.515	0.000	0.00	0.50	0.00	0.078
74.633	0.000	0.00	0.50	0.00	0.078
74.750	0.000	0.00	0.50	0.00	0.078
74.868	0.000	0.00	0.50	0.00	0.078
74.985	0.000	0.00	0.50	0.00	0.078
75.103	0.000	0.00	0.50	0.00	0.078
75.220	0.000	0.00	0.50	0.00	0.078
75.338	0.000	0.00	0.50	0.00	0.078
75.455	0.000	0.00	0.50	0.00	0.078
75.573	0.000	0.00	0.50	0.00	0.078
75.690	0.000	0.00	0.50	0.00	0.078
75.808	0.000	0.00	0.50	0.00	0.078
75.925	0.000	0.00	0.50	0.00	0.078
76.043	0.000	0.00	0.50	0.00	0.078
76.160	0.000	0.00	0.50	0.00	0.078
76.278	0.000	0.00	0.50	0.00	0.078
76.395	0.000	0.00	0.50	0.00	0.078
76.513	0.000	0.00	0.50	0.00	0.078
76.630	0.000	0.00	0.50	0.00	0.078
76.748	0.000	0.00	0.50	0.00	0.078
76.865	0.000	0.00	0.50	0.00	0.078
76.983	0.000	0.00	0.50	0.00	0.078
77.100	0.000	0.00	0.50	0.00	0.078
77.218	0.000	0.00	0.50	0.00	0.078
77.335	0.000	0.00	0.50	0.00	0.078
77.453	0.000	0.00	0.50	0.00	0.078
77.570	0.000	0.00	0.50	0.00	0.078
77.688	0.000	0.00	0.50	0.00	0.078
77.805	0.000	0.00	0.50	0.00	0.078
77.923	0.000	0.00	0.50	0.00	0.078
78.040	0.000	0.00	0.50	0.00	0.078
78.158	0.000	0.00	0.50	0.00	0.078
78.275	0.000	0.00	0.50	0.00	0.078
78.393	0.000	0.00	0.50	0.00	0.078
78.510	0.000	0.00	0.50	0.00	0.078
78.628	0.000	0.00	0.50	0.00	0.078
78.745	0.000	0.00	0.50	0.00	0.078
78.863	0.000	0.00	0.50	0.00	0.078
78.980	0.000	0.00	0.50	0.00	0.078
79.098	0.000	0.00	0.50	0.00	0.078
79.215	0.000	0.00	0.50	0.00	0.078
79.333	0.000	0.00	0.50	0.00	0.078
79.450	0.000	0.00	0.50	0.00	0.078
79.568	0.000	0.00	0.50	0.00	0.078
79.685	0.000	0.00	0.50	0.00	0.078
79.803	0.000	0.00	0.50	0.00	0.078

79.920	0.000	0.00	0.50	0.00	0.078
80.038	0.000	0.00	0.50	0.00	0.078
80.155	0.000	0.00	0.50	0.00	0.078
80.273	0.000	0.00	0.50	0.00	0.078
80.390	0.000	0.00	0.50	0.00	0.078
80.508	0.000	0.00	0.50	0.00	0.078
80.625	0.000	0.00	0.50	0.00	0.078
80.743	0.000	0.00	0.50	0.00	0.078
80.860	0.000	0.00	0.50	0.00	0.078
80.978	0.000	0.00	0.50	0.00	0.078
81.095	0.000	0.00	0.50	0.00	0.078
81.213	0.000	0.00	0.50	0.00	0.078
81.330	0.000	0.00	0.50	0.00	0.078
81.448	0.000	0.00	0.50	0.00	0.078
81.565	0.000	0.00	0.50	0.00	0.078
81.683	0.000	0.00	0.50	0.00	0.078
81.800	0.000	0.00	0.50	0.00	0.078
81.918	0.000	0.00	0.50	0.00	0.078
82.035	0.000	0.00	0.50	0.00	0.078
82.153	0.000	0.00	0.50	0.00	0.078
82.270	0.000	0.00	0.50	0.00	0.078
82.388	0.000	0.00	0.50	0.00	0.078
82.505	0.000	0.00	0.50	0.00	0.078
82.623	0.000	0.00	0.50	0.00	0.078
82.740	0.000	0.00	0.50	0.00	0.078
82.858	0.000	0.00	0.50	0.00	0.078
82.975	0.000	0.00	0.50	0.00	0.078
83.093	0.000	0.00	0.50	0.00	0.078
83.210	0.000	0.00	0.50	0.00	0.078
83.328	0.000	0.00	0.50	0.00	0.078
83.445	0.000	0.00	0.50	0.00	0.078
83.563	0.000	0.00	0.50	0.00	0.078
83.680	0.000	0.00	0.50	0.00	0.078
83.798	0.000	0.00	0.50	0.00	0.078
83.915	0.000	0.00	0.50	0.00	0.078
84.033	0.000	0.00	0.50	0.00	0.078
84.150	0.000	0.00	0.50	0.00	0.078
84.268	0.000	0.00	0.50	0.00	0.078
84.385	0.000	0.00	0.50	0.00	0.078
84.503	0.000	0.00	0.50	0.00	0.078
84.620	0.000	0.00	0.50	0.00	0.078
84.738	0.000	0.00	0.50	0.00	0.078
84.855	0.000	0.00	0.50	0.00	0.078
84.973	0.000	0.00	0.50	0.00	0.078
85.090	0.000	0.00	0.50	0.00	0.078
85.208	0.000	0.00	0.50	0.00	0.078
85.325	0.000	0.00	0.50	0.00	0.078
85.443	0.000	0.00	0.50	0.00	0.078
85.560	0.000	0.00	0.50	0.00	0.078
85.678	0.000	0.00	0.50	0.00	0.078
85.795	0.000	0.00	0.50	0.00	0.078
85.913	0.000	0.00	0.50	0.00	0.078
86.030	0.000	0.00	0.50	0.00	0.078
86.148	0.000	0.00	0.50	0.00	0.078
86.265	0.000	0.00	0.50	0.00	0.078
86.383	0.000	0.00	0.50	0.00	0.078
86.500	0.000	0.00	0.50	0.00	0.078
86.618	0.000	0.00	0.50	0.00	0.078
86.735	0.000	0.00	0.50	0.00	0.078
86.853	0.000	0.00	0.50	0.00	0.078
86.970	0.000	0.00	0.50	0.00	0.078
87.088	0.000	0.00	0.50	0.00	0.078
87.205	0.000	0.00	0.50	0.00	0.078
87.323	0.000	0.00	0.50	0.00	0.078
87.440	0.000	0.00	0.50	0.00	0.078
87.558	0.000	0.00	0.50	0.00	0.078
87.675	0.000	0.00	0.50	0.00	0.078
87.793	0.000	0.00	0.50	0.00	0.078

87.910	0.000	0.00	0.50	0.00	0.078
88.028	0.000	0.00	0.50	0.00	0.078
88.145	0.000	0.00	0.50	0.00	0.078
88.263	0.000	0.00	0.50	0.00	0.078
88.380	0.000	0.00	0.50	0.00	0.078
88.498	0.000	0.00	0.50	0.00	0.078
88.615	0.000	0.00	0.50	0.00	0.078
88.733	0.000	0.00	0.50	0.00	0.078
88.850	0.000	0.00	0.50	0.00	0.078
88.968	0.000	0.00	0.50	0.00	0.078
89.085	0.000	0.00	0.50	0.00	0.078
89.203	0.000	0.00	0.50	0.00	0.078
89.320	0.000	0.00	0.50	0.00	0.078
89.438	0.000	0.00	0.50	0.00	0.078
89.555	0.000	0.00	0.50	0.00	0.078
89.673	0.000	0.00	0.50	0.00	0.078
89.790	0.000	0.00	0.50	0.00	0.078
89.908	0.000	0.00	0.50	0.00	0.078
90.025	0.000	0.00	0.50	0.00	0.078
90.143	0.000	0.00	0.50	0.00	0.078
90.260	0.000	0.00	0.50	0.00	0.078
90.378	0.000	0.00	0.50	0.00	0.078
90.495	0.000	0.00	0.50	0.00	0.078
90.613	0.000	0.00	0.50	0.00	0.078
90.730	0.000	0.00	0.50	0.00	0.078
90.848	0.000	0.00	0.50	0.00	0.078
90.965	0.000	0.00	0.50	0.00	0.078
91.083	0.000	0.00	0.50	0.00	0.078
91.200	0.000	0.00	0.50	0.00	0.078
91.318	0.000	0.00	0.50	0.00	0.078
91.435	0.000	0.00	0.50	0.00	0.078
91.553	0.000	0.00	0.50	0.00	0.078
91.670	0.000	0.00	0.50	0.00	0.078
91.788	0.000	0.00	0.50	0.00	0.078
91.905	0.000	0.00	0.50	0.00	0.078
92.023	0.000	0.00	0.50	0.00	0.078
92.140	0.000	0.00	0.50	0.00	0.078
92.258	0.000	0.00	0.50	0.00	0.078
92.375	0.000	0.00	0.50	0.00	0.078
92.493	0.000	0.00	0.50	0.00	0.078
92.610	0.000	0.00	0.50	0.00	0.078
92.728	0.000	0.00	0.50	0.00	0.078
92.845	0.000	0.00	0.50	0.00	0.078
92.963	0.000	0.00	0.50	0.00	0.078
93.080	0.000	0.00	0.50	0.00	0.078
93.198	0.000	0.00	0.50	0.00	0.078
93.315	0.000	0.00	0.50	0.00	0.078
93.433	0.000	0.00	0.50	0.00	0.078
93.550	0.000	0.00	0.50	0.00	0.078
93.668	0.000	0.00	0.50	0.00	0.078
93.785	0.000	0.00	0.50	0.00	0.078
93.903	0.000	0.00	0.50	0.00	0.078
94.020	0.000	0.00	0.50	0.00	0.078
94.138	0.000	0.00	0.50	0.00	0.078
94.255	0.000	0.00	0.50	0.00	0.078
94.373	0.000	0.00	0.50	0.00	0.078
94.490	0.000	0.00	0.50	0.00	0.078
94.608	0.000	0.00	0.50	0.00	0.078
94.725	0.000	0.00	0.50	0.00	0.078
94.843	0.000	0.00	0.50	0.00	0.078
94.960	0.000	0.00	0.50	0.00	0.078
95.078	0.000	0.00	0.50	0.00	0.078
95.195	0.000	0.00	0.50	0.00	0.078
95.313	0.000	0.00	0.50	0.00	0.078
95.430	0.000	0.00	0.50	0.00	0.078
95.548	0.000	0.00	0.50	0.00	0.078
95.665	0.000	0.00	0.50	0.00	0.078
95.783	0.000	0.00	0.50	0.00	0.078

95.900	0.000	0.00	0.50	0.00	0.078
96.018	0.000	0.00	0.50	0.00	0.078
96.135	0.000	0.00	0.50	0.00	0.078
96.253	0.000	0.00	0.50	0.00	0.078
96.370	0.000	0.00	0.50	0.00	0.078
96.488	0.000	0.00	0.50	0.00	0.078
96.605	0.000	0.00	0.50	0.00	0.078
96.723	0.000	0.00	0.50	0.00	0.078
96.840	0.000	0.00	0.50	0.00	0.078
96.958	0.000	0.00	0.50	0.00	0.078
97.075	0.000	0.00	0.50	0.00	0.078
97.193	0.000	0.00	0.50	0.00	0.078
97.310	0.000	0.00	0.50	0.00	0.078
97.428	0.000	0.00	0.50	0.00	0.078
97.545	0.000	0.00	0.50	0.00	0.078
97.663	0.000	0.00	0.50	0.00	0.078
97.780	0.000	0.00	0.50	0.00	0.078
97.898	0.000	0.00	0.50	0.00	0.078
98.015	0.000	0.00	0.50	0.00	0.078
98.133	0.000	0.00	0.50	0.00	0.078
98.250	0.000	0.00	0.50	0.00	0.078
98.368	0.000	0.00	0.50	0.00	0.078
98.485	0.000	0.00	0.50	0.00	0.078
98.603	0.000	0.00	0.50	0.00	0.078
98.720	0.000	0.00	0.50	0.00	0.078
98.838	0.000	0.00	0.50	0.00	0.078
98.955	0.000	0.00	0.50	0.00	0.078
99.073	0.000	0.00	0.50	0.00	0.078
99.190	0.000	0.00	0.50	0.00	0.078
99.308	0.000	0.00	0.50	0.00	0.078
99.425	0.000	0.00	0.50	0.00	0.078
99.543	0.000	0.00	0.50	0.00	0.078
99.660	0.000	0.00	0.50	0.00	0.078
99.778	0.000	0.00	0.50	0.00	0.078
99.895	0.000	0.00	0.50	0.00	0.078
100.013	0.000	0.00	0.50	0.00	0.078
100.130	0.000	0.00	0.50	0.00	0.078
100.248	0.000	0.00	0.50	0.00	0.078
100.365	0.000	0.00	0.50	0.00	0.078
100.483	0.000	0.00	0.50	0.00	0.078
100.600	0.000	0.00	0.50	0.00	0.078
100.718	0.000	0.00	0.50	0.00	0.078
100.835	0.000	0.00	0.50	0.00	0.078
100.953	0.000	0.00	0.50	0.00	0.078
101.070	0.000	0.00	0.50	0.00	0.078
101.188	0.000	0.00	0.50	0.00	0.078
101.305	0.000	0.00	0.50	0.00	0.078
101.423	0.000	0.00	0.50	0.00	0.078
101.540	0.000	0.00	0.50	0.00	0.078
101.658	0.000	0.00	0.50	0.00	0.078
101.775	0.000	0.00	0.50	0.00	0.078
101.893	0.000	0.00	0.50	0.00	0.078
102.010	0.000	0.00	0.50	0.00	0.078
102.128	0.000	0.00	0.50	0.00	0.078
102.245	0.000	0.00	0.50	0.00	0.078
102.363	0.000	0.00	0.50	0.00	0.078
102.480	0.000	0.00	0.50	0.00	0.078
102.598	0.000	0.00	0.50	0.00	0.078
102.715	0.000	0.00	0.50	0.00	0.078
102.833	0.000	0.00	0.50	0.00	0.078
102.950	0.000	0.00	0.50	0.00	0.078
103.068	0.000	0.00	0.50	0.00	0.078
103.185	0.000	0.00	0.50	0.00	0.078
103.303	0.000	0.00	0.50	0.00	0.078
103.420	0.000	0.00	0.50	0.00	0.078
103.538	0.000	0.00	0.50	0.00	0.078
103.655	0.000	0.00	0.50	0.00	0.078
103.773	0.000	0.00	0.50	0.00	0.078

103.890	0.000	0.00	0.50	0.00	0.078
104.008	0.000	0.00	0.50	0.00	0.078
104.125	0.000	0.00	0.50	0.00	0.078
104.243	0.000	0.00	0.50	0.00	0.078
104.360	0.000	0.00	0.50	0.00	0.078
104.478	0.000	0.00	0.50	0.00	0.078
104.595	0.000	0.00	0.50	0.00	0.078
104.713	0.000	0.00	0.50	0.00	0.078
104.830	0.000	0.00	0.50	0.00	0.078
104.948	0.000	0.00	0.50	0.00	0.078
105.065	0.000	0.00	0.50	0.00	0.078
105.183	0.000	0.00	0.50	0.00	0.078
105.300	0.000	0.00	0.50	0.00	0.078
105.418	0.000	0.00	0.50	0.00	0.078
105.535	0.000	0.00	0.50	0.00	0.078
105.653	0.000	0.00	0.50	0.00	0.078
105.770	0.000	0.00	0.50	0.00	0.078
105.888	0.000	0.00	0.50	0.00	0.078
106.005	0.000	0.00	0.50	0.00	0.078
106.123	0.000	0.00	0.50	0.00	0.078
106.240	0.000	0.00	0.50	0.00	0.078
106.358	0.000	0.00	0.50	0.00	0.078
106.475	0.000	0.00	0.50	0.00	0.078
106.593	0.000	0.00	0.50	0.00	0.078
106.710	0.000	0.00	0.50	0.00	0.078
106.828	0.000	0.00	0.50	0.00	0.078
106.945	0.000	0.00	0.50	0.00	0.078
107.063	0.000	0.00	0.50	0.00	0.078
107.180	0.000	0.00	0.50	0.00	0.078
107.298	0.000	0.00	0.50	0.00	0.078
107.415	0.000	0.00	0.50	0.00	0.078
107.533	0.000	0.00	0.50	0.00	0.078
107.650	0.000	0.00	0.50	0.00	0.078
107.768	0.000	0.00	0.50	0.00	0.078
107.885	0.000	0.00	0.50	0.00	0.078
108.003	0.000	0.00	0.50	0.00	0.078
108.120	0.000	0.00	0.50	0.00	0.078
108.238	0.000	0.00	0.50	0.00	0.078
108.355	0.000	0.00	0.50	0.00	0.078
108.473	0.000	0.00	0.50	0.00	0.078
108.590	0.000	0.00	0.50	0.00	0.078
108.708	0.000	0.00	0.50	0.00	0.078
108.825	0.000	0.00	0.50	0.00	0.078
108.943	0.000	0.00	0.50	0.00	0.078
109.060	0.000	0.00	0.50	0.00	0.078
109.178	0.000	0.00	0.50	0.00	0.078
109.295	0.000	0.00	0.50	0.00	0.078
109.413	0.000	0.00	0.50	0.00	0.078
109.530	0.000	0.00	0.50	0.00	0.078
109.648	0.000	0.00	0.50	0.00	0.078
109.765	0.000	0.00	0.50	0.00	0.078
109.883	0.000	0.00	0.50	0.00	0.078
110.000	0.000	0.00	0.50	0.00	0.078
110.118	0.000	0.00	0.50	0.00	0.078
110.235	0.000	0.00	0.50	0.00	0.078
110.353	0.000	0.00	0.50	0.00	0.078
110.470	0.000	0.00	0.50	0.00	0.078
110.588	0.000	0.00	0.50	0.00	0.078
110.705	0.000	0.00	0.50	0.00	0.078
110.823	0.000	0.00	0.50	0.00	0.078
110.940	0.000	0.00	0.50	0.00	0.078
111.058	0.000	0.00	0.50	0.00	0.078
111.175	0.000	0.00	0.50	0.00	0.078
111.293	0.000	0.00	0.50	0.00	0.078
111.410	0.000	0.00	0.50	0.00	0.078
111.528	0.000	0.00	0.50	0.00	0.078
111.645	0.000	0.00	0.50	0.00	0.078
111.763	0.000	0.00	0.50	0.00	0.078

111.880	0.000	0.00	0.50	0.00	0.078
111.998	0.000	0.00	0.50	0.00	0.078
112.115	0.000	0.00	0.50	0.00	0.078
112.233	0.000	0.00	0.50	0.00	0.078
112.350	0.000	0.00	0.50	0.00	0.078
112.468	0.000	0.00	0.50	0.00	0.078
112.585	0.000	0.00	0.50	0.00	0.078
112.703	0.000	0.00	0.50	0.00	0.078
112.820	0.000	0.00	0.50	0.00	0.078
112.938	0.000	0.00	0.50	0.00	0.078
113.055	0.000	0.00	0.50	0.00	0.078
113.173	0.000	0.00	0.50	0.00	0.078
113.290	0.000	0.00	0.50	0.00	0.078
113.408	0.000	0.00	0.50	0.00	0.078
113.525	0.000	0.00	0.50	0.00	0.078
113.643	0.000	0.00	0.50	0.00	0.078
113.760	0.000	0.00	0.50	0.00	0.078
113.878	0.000	0.00	0.50	0.00	0.078
113.995	0.000	0.00	0.50	0.00	0.078
114.113	0.000	0.00	0.50	0.00	0.078
114.230	0.000	0.00	0.50	0.00	0.078
114.348	0.000	0.00	0.50	0.00	0.078
114.465	0.000	0.00	0.50	0.00	0.078
114.583	0.000	0.00	0.50	0.00	0.078
114.700	0.000	0.00	0.50	0.00	0.078
114.818	0.000	0.00	0.50	0.00	0.078
114.935	0.000	0.00	0.50	0.00	0.078
115.053	0.000	0.00	0.50	0.00	0.078
115.170	0.000	0.00	0.50	0.00	0.078
115.288	0.000	0.00	0.50	0.00	0.078
115.405	0.000	0.00	0.50	0.00	0.078
115.523	0.000	0.00	0.50	0.00	0.078
115.640	0.000	0.00	0.50	0.00	0.078
115.758	0.000	0.00	0.50	0.00	0.078
115.875	0.000	0.00	0.50	0.00	0.078
115.993	0.000	0.00	0.50	0.00	0.078
116.110	0.000	0.00	0.50	0.00	0.078
116.228	0.000	0.00	0.50	0.00	0.078
116.345	0.000	0.00	0.50	0.00	0.078
116.463	0.000	0.00	0.50	0.00	0.078
116.580	0.000	0.00	0.50	0.00	0.078
116.698	0.000	0.00	0.50	0.00	0.078
116.815	0.000	0.00	0.50	0.00	0.078
116.933	0.000	0.00	0.50	0.00	0.078
117.050	0.000	0.00	0.50	0.00	0.078
117.168	0.000	0.00	0.50	0.00	0.078
117.285	0.000	0.00	0.50	0.00	0.078
117.403	0.000	0.00	0.50	0.00	0.078
117.520	0.000	0.00	0.50	0.00	0.078
117.638	0.000	0.00	0.50	0.00	0.078
117.755	0.000	0.00	0.50	0.00	0.078
117.873	0.000	0.00	0.50	0.00	0.078
117.990	0.000	0.00	0.50	0.00	0.078
118.108	0.000	0.00	0.50	0.00	0.078
118.225	0.000	0.00	0.50	0.00	0.078
118.343	0.000	0.00	0.50	0.00	0.078
118.460	0.000	0.00	0.50	0.00	0.078
118.578	0.000	0.00	0.50	0.00	0.078
118.695	0.000	0.00	0.50	0.00	0.078
118.813	0.000	0.00	0.50	0.00	0.078
118.930	0.000	0.00	0.50	0.00	0.078
119.048	0.000	0.00	0.50	0.00	0.078
119.165	0.000	0.00	0.50	0.00	0.078
119.283	0.000	0.00	0.50	0.00	0.078
119.400	0.000	0.00	0.50	0.00	0.078
119.518	0.000	0.00	0.50	0.00	0.078
119.635	0.000	0.00	0.50	0.00	0.078
119.753	0.000	0.00	0.50	0.00	0.078

119.870	0.000	0.00	0.50	0.00	0.078
119.988	0.000	0.00	0.50	0.00	0.078
120.105	0.000	0.00	0.50	0.00	0.078
120.223	0.000	0.00	0.50	0.00	0.078
120.340	0.000	0.00	0.50	0.00	0.078
120.458	0.000	0.00	0.50	0.00	0.078
120.575	0.000	0.00	0.50	0.00	0.078
120.693	0.000	0.00	0.50	0.00	0.078
120.810	0.000	0.00	0.50	0.00	0.078
120.928	0.000	0.00	0.50	0.00	0.078
121.045	0.000	0.00	0.50	0.00	0.078
121.163	0.000	0.00	0.50	0.00	0.078
121.280	0.000	0.00	0.50	0.00	0.078
121.398	0.000	0.00	0.50	0.00	0.078
121.515	0.000	0.00	0.50	0.00	0.078
121.633	0.000	0.00	0.50	0.00	0.078
121.750	0.000	0.00	0.50	0.00	0.078
121.868	0.000	0.00	0.50	0.00	0.078
121.985	0.000	0.00	0.50	0.00	0.078
122.103	0.000	0.00	0.50	0.00	0.078
122.220	0.000	0.00	0.50	0.00	0.078
122.338	0.000	0.00	0.50	0.00	0.078
122.455	0.000	0.00	0.50	0.00	0.078
122.573	0.000	0.00	0.50	0.00	0.078
122.690	0.000	0.00	0.50	0.00	0.078
122.808	0.000	0.00	0.50	0.00	0.078
122.925	0.000	0.00	0.50	0.00	0.078
123.043	0.000	0.00	0.50	0.00	0.078
123.160	0.000	0.00	0.50	0.00	0.078
123.278	0.000	0.00	0.50	0.00	0.078
123.395	0.000	0.00	0.50	0.00	0.078
123.513	0.000	0.00	0.50	0.00	0.078
123.630	0.000	0.00	0.50	0.00	0.078
123.748	0.000	0.00	0.50	0.00	0.078
123.865	0.000	0.00	0.50	0.00	0.078
123.983	0.000	0.00	0.50	0.00	0.078
124.100	0.000	0.00	0.50	0.00	0.078
124.218	0.000	0.00	0.50	0.00	0.078
124.335	0.000	0.00	0.50	0.00	0.078
124.453	0.000	0.00	0.50	0.00	0.078
124.570	0.000	0.00	0.50	0.00	0.078
124.688	0.000	0.00	0.50	0.00	0.078
124.805	0.000	0.00	0.50	0.00	0.078
124.923	0.000	0.00	0.50	0.00	0.078
125.040	0.000	0.00	0.50	0.00	0.078
125.158	0.000	0.00	0.50	0.00	0.078
125.275	0.000	0.00	0.50	0.00	0.078
125.393	0.000	0.00	0.50	0.00	0.078
125.510	0.000	0.00	0.50	0.00	0.078
125.628	0.000	0.00	0.50	0.00	0.078
125.745	0.000	0.00	0.50	0.00	0.078
125.863	0.000	0.00	0.50	0.00	0.078
125.980	0.000	0.00	0.50	0.00	0.078
126.098	0.000	0.00	0.50	0.00	0.078
126.215	0.000	0.00	0.50	0.00	0.078
126.333	0.000	0.00	0.50	0.00	0.078
126.450	0.000	0.00	0.50	0.00	0.078
126.568	0.000	0.00	0.50	0.00	0.078
126.685	0.000	0.00	0.50	0.00	0.078
126.803	0.000	0.00	0.50	0.00	0.078
126.920	0.000	0.00	0.50	0.00	0.078
127.038	0.000	0.00	0.50	0.00	0.078
127.155	0.000	0.00	0.50	0.00	0.078
127.273	0.000	0.00	0.50	0.00	0.078
127.390	0.000	0.00	0.50	0.00	0.078
127.508	0.000	0.00	0.50	0.00	0.078
127.625	0.000	0.00	0.50	0.00	0.078
127.743	0.000	0.00	0.50	0.00	0.078

127.860	0.000	0.00	0.50	0.00	0.078
127.978	0.000	0.00	0.50	0.00	0.078
128.095	0.000	0.00	0.50	0.00	0.078
128.213	0.000	0.00	0.50	0.00	0.078
128.330	0.000	0.00	0.50	0.00	0.078
128.448	0.000	0.00	0.50	0.00	0.078
128.565	0.000	0.00	0.50	0.00	0.078
128.683	0.000	0.00	0.50	0.00	0.078
128.800	0.000	0.00	0.50	0.00	0.078
128.918	0.000	0.00	0.50	0.00	0.078
129.035	0.000	0.00	0.50	0.00	0.078
129.153	0.000	0.00	0.50	0.00	0.078
129.270	0.000	0.00	0.50	0.00	0.078
129.388	0.000	0.00	0.50	0.00	0.078
129.505	0.000	0.00	0.50	0.00	0.078
129.623	0.000	0.00	0.50	0.00	0.078
129.740	0.000	0.00	0.50	0.00	0.078
129.858	0.000	0.00	0.50	0.00	0.078
129.975	0.000	0.00	0.50	0.00	0.078
130.093	0.000	0.00	0.50	0.00	0.078
130.210	0.000	0.00	0.50	0.00	0.078
130.328	0.000	0.00	0.50	0.00	0.078
130.445	0.000	0.00	0.50	0.00	0.078
130.563	0.000	0.00	0.50	0.00	0.078
130.680	0.000	0.00	0.50	0.00	0.078
130.798	0.000	0.00	0.50	0.00	0.078
130.915	0.000	0.00	0.50	0.00	0.078
131.033	0.000	0.00	0.50	0.00	0.078
131.150	0.000	0.00	0.50	0.00	0.078
131.268	0.000	0.00	0.50	0.00	0.078
131.385	0.000	0.00	0.50	0.00	0.078
131.503	0.000	0.00	0.50	0.00	0.078
131.620	0.000	0.00	0.50	0.00	0.078
131.738	0.000	0.00	0.50	0.00	0.078
131.855	0.000	0.00	0.50	0.00	0.078
131.973	0.000	0.00	0.50	0.00	0.078
132.090	0.000	0.00	0.50	0.00	0.078
132.208	0.000	0.00	0.50	0.00	0.078
132.325	0.000	0.00	0.50	0.00	0.078
132.442	0.000	0.00	0.50	0.00	0.078
132.560	0.000	0.00	0.50	0.00	0.078
132.677	0.000	0.00	0.50	0.00	0.078
132.795	0.000	0.00	0.50	0.00	0.078
132.912	0.000	0.00	0.50	0.00	0.078
133.030	0.000	0.00	0.50	0.00	0.078
133.147	0.000	0.00	0.50	0.00	0.078
133.265	0.000	0.00	0.50	0.00	0.078
133.382	0.000	0.00	0.50	0.00	0.078
133.500	0.000	0.00	0.50	0.00	0.078
133.617	0.000	0.00	0.50	0.00	0.078
133.735	0.000	0.00	0.50	0.00	0.078
133.852	0.000	0.00	0.50	0.00	0.078
133.970	0.000	0.00	0.50	0.00	0.078
134.087	0.000	0.00	0.50	0.00	0.078
134.205	0.000	0.00	0.50	0.00	0.078
134.322	0.000	0.00	0.50	0.00	0.078
134.440	0.000	0.00	0.50	0.00	0.078
134.557	0.000	0.00	0.50	0.00	0.078
134.675	0.000	0.00	0.50	0.00	0.078
134.792	0.000	0.00	0.50	0.00	0.078
134.910	0.000	0.00	0.50	0.00	0.078
135.027	0.000	0.00	0.50	0.00	0.078
135.145	0.000	0.00	0.50	0.00	0.078
135.262	0.000	0.00	0.50	0.00	0.078
135.380	0.000	0.00	0.50	0.00	0.078
135.497	0.000	0.00	0.50	0.00	0.078
135.615	0.000	0.00	0.50	0.00	0.078
135.732	0.000	0.00	0.50	0.00	0.078

135.850	0.000	0.00	0.50	0.00	0.078
135.967	0.000	0.00	0.50	0.00	0.078
136.085	0.000	0.00	0.50	0.00	0.078
136.202	0.000	0.00	0.50	0.00	0.078
136.320	0.000	0.00	0.50	0.00	0.078
136.437	0.000	0.00	0.50	0.00	0.078
136.555	0.000	0.00	0.50	0.00	0.078
136.672	0.000	0.00	0.50	0.00	0.078
136.790	0.000	0.00	0.50	0.00	0.078
136.907	0.000	0.00	0.50	0.00	0.078
137.025	0.000	0.00	0.50	0.00	0.078
137.142	0.000	0.00	0.50	0.00	0.078
137.260	0.000	0.00	0.50	0.00	0.078
137.377	0.000	0.00	0.50	0.00	0.078
137.495	0.000	0.00	0.50	0.00	0.078
137.612	0.000	0.00	0.50	0.00	0.078
137.730	0.000	0.00	0.50	0.00	0.078
137.847	0.000	0.00	0.50	0.00	0.078
137.965	0.000	0.00	0.50	0.00	0.078
138.082	0.000	0.00	0.50	0.00	0.078
138.200	0.000	0.00	0.50	0.00	0.078
138.317	0.000	0.00	0.50	0.00	0.078
138.435	0.000	0.00	0.50	0.00	0.078
138.552	0.000	0.00	0.50	0.00	0.078
138.670	0.000	0.00	0.50	0.00	0.078
138.787	0.000	0.00	0.50	0.00	0.078
138.905	0.000	0.00	0.50	0.00	0.078
139.022	0.000	0.00	0.50	0.00	0.078
139.140	0.000	0.00	0.50	0.00	0.078
139.257	0.000	0.00	0.50	0.00	0.078
139.375	0.000	0.00	0.50	0.00	0.078
139.492	0.000	0.00	0.50	0.00	0.078
139.610	0.000	0.00	0.50	0.00	0.078
139.727	0.000	0.00	0.50	0.00	0.078
139.845	0.000	0.00	0.50	0.00	0.078
139.962	0.000	0.00	0.50	0.00	0.078
140.080	0.000	0.00	0.50	0.00	0.078
140.197	0.000	0.00	0.50	0.00	0.078
140.314	0.000	0.00	0.50	0.00	0.078
140.432	0.000	0.00	0.50	0.00	0.078
140.549	0.000	0.00	0.50	0.00	0.078
140.667	0.000	0.00	0.50	0.00	0.078
140.784	0.000	0.00	0.50	0.00	0.078
140.902	0.000	0.00	0.50	0.00	0.078
141.019	0.000	0.00	0.50	0.00	0.078
141.137	0.000	0.00	0.50	0.00	0.078
141.254	0.000	0.00	0.50	0.00	0.078
141.372	0.000	0.00	0.50	0.00	0.078
141.489	0.000	0.00	0.50	0.00	0.078
141.607	0.000	0.00	0.50	0.00	0.078
141.724	0.000	0.00	0.50	0.00	0.078

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**************************************************************************
                    SMALL AREA UNIT HYDROGRAPH MODEL
==========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:




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--------------------------------------------------------------------------

 Problem Descriptions:
  Goodman Logistics Center
  Basin C
  100 Year Storm
--------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.91
    TOTAL CATCHMENT AREA(ACRES) =   14.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.040
    TIME OF CONCENTRATION(MIN.) =  6.97
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.52
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.09
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.45
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.43
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.36
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  5.63

--------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     5.81
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.86

**************************************************************************
  TIME     VOLUME       Q    0.       17.5      35.0      52.5      70.0
 (HOURS)    (AF)      (CFS)
--------------------------------------------------------------------------
  0.09      0.0038      1.08  Q         .         .         .         .
  0.20      0.0142      1.09  Q         .         .         .         .
  0.32      0.0247      1.09  Q         .         .         .         .
  0.43      0.0352      1.10  Q         .         .         .         .
  0.55      0.0458      1.10  Q         .         .         .         .
  0.67      0.0564      1.11  Q         .         .         .         .
  0.78      0.0671      1.11  Q         .         .         .         .
  0.90      0.0778      1.12  Q         .         .         .         .
  1.01      0.0886      1.13  Q         .         .         .         .
  1.13      0.0994      1.13  Q         .         .         .         .
  1.25      0.1103      1.14  Q         .         .         .         .
  1.36      0.1212      1.14  Q         .         .         .         .
  1.48      0.1322      1.15  Q         .         .         .         .
  1.60      0.1432      1.15  Q         .         .         .         .
  1.71      0.1543      1.16  Q         .         .         .         .
  1.83      0.1654      1.16  Q         .         .         .         .
  1.94      0.1767      1.17  Q         .         .         .         .
  2.06      0.1879      1.18  Q         .         .         .         .
  2.18      0.1992      1.18  Q         .         .         .         .
  2.29      0.2106      1.19  Q         .         .         .         .
```

2.41	0.2221	1.20	Q	.	.	.	.
2.52	0.2336	1.20	Q	.	.	.	.
2.64	0.2451	1.21	Q	.	.	.	.
2.76	0.2568	1.21	Q	.	.	.	.
2.87	0.2685	1.22	Q	.	.	.	.
2.99	0.2802	1.23	Q	.	.	.	.
3.11	0.2920	1.24	Q	.	.	.	.
3.22	0.3039	1.24	Q	.	.	.	.
3.34	0.3159	1.25	Q	.	.	.	.
3.45	0.3279	1.25	Q	.	.	.	.
3.57	0.3400	1.26	Q	.	.	.	.
3.69	0.3522	1.27	Q	.	.	.	.
3.80	0.3644	1.28	Q	.	.	.	.
3.92	0.3767	1.28	Q	.	.	.	.
4.03	0.3891	1.30	Q	.	.	.	.
4.15	0.4016	1.30	Q	.	.	.	.
4.27	0.4141	1.31	Q	.	.	.	.
4.38	0.4267	1.32	Q	.	.	.	.
4.50	0.4394	1.33	Q	.	.	.	.
4.62	0.4522	1.33	Q	.	.	.	.
4.73	0.4650	1.34	Q	.	.	.	.
4.85	0.4779	1.35	Q	.	.	.	.
4.96	0.4910	1.36	Q	.	.	.	.
5.08	0.5041	1.37	Q	.	.	.	.
5.20	0.5173	1.38	Q	.	.	.	.
5.31	0.5305	1.39	Q	.	.	.	.
5.43	0.5439	1.40	Q	.	.	.	.
5.55	0.5574	1.41	Q	.	.	.	.
5.66	0.5709	1.42	Q	.	.	.	.
5.78	0.5846	1.43	Q	.	.	.	.
5.89	0.5983	1.44	Q	.	.	.	.
6.01	0.6122	1.45	Q	.	.	.	.
6.13	0.6261	1.46	Q	.	.	.	.
6.24	0.6402	1.47	Q	.	.	.	.
6.36	0.6543	1.48	Q	.	.	.	.
6.47	0.6686	1.49	Q	.	.	.	.
6.59	0.6830	1.50	Q	.	.	.	.
6.71	0.6974	1.51	Q	.	.	.	.
6.82	0.7120	1.53	Q	.	.	.	.
6.94	0.7267	1.54	Q	.	.	.	.
7.06	0.7416	1.55	Q	.	.	.	.
7.17	0.7565	1.56	Q	.	.	.	.
7.29	0.7716	1.58	Q	.	.	.	.
7.40	0.7868	1.59	Q	.	.	.	.
7.52	0.8021	1.60	Q	.	.	.	.
7.64	0.8175	1.61	Q	.	.	.	.
7.75	0.8331	1.63	Q	.	.	.	.
7.87	0.8488	1.64	Q	.	.	.	.
7.98	0.8647	1.66	Q	.	.	.	.
8.10	0.8807	1.67	Q	.	.	.	.
8.22	0.8969	1.69	Q	.	.	.	.
8.33	0.9132	1.70	Q	.	.	.	.
8.45	0.9296	1.72	Q	.	.	.	.
8.57	0.9462	1.74	Q	.	.	.	.
8.68	0.9630	1.76	.Q	.	.	.	.
8.80	0.9799	1.77	.Q	.	.	.	.
8.91	0.9970	1.79	.Q	.	.	.	.
9.03	1.0143	1.81	.Q	.	.	.	.
9.15	1.0318	1.83	.Q	.	.	.	.
9.26	1.0494	1.84	.Q	.	.	.	.
9.38	1.0673	1.87	.Q	.	.	.	.
9.49	1.0853	1.89	.Q	.	.	.	.
9.61	1.1036	1.91	.Q	.	.	.	.
9.73	1.1220	1.93	.Q	.	.	.	.
9.84	1.1406	1.96	.Q	.	.	.	.
9.96	1.1595	1.97	.Q	.	.	.	.
10.08	1.1786	2.01	.Q	.	.	.	.
10.19	1.1979	2.02	.Q	.	.	.	.

```
10.31      1.2175      2.06  .Q       .         .         .         .
10.42      1.2373      2.07  .Q       .         .         .         .
10.54      1.2574      2.11  .Q       .         .         .         .
10.66      1.2777      2.13  .Q       .         .         .         .
10.77      1.2983      2.17  .Q       .         .         .         .
10.89      1.3192      2.19  .Q       .         .         .         .
11.00      1.3404      2.23  .Q       .         .         .         .
11.12      1.3619      2.25  .Q       .         .         .         .
11.24      1.3837      2.29  .Q       .         .         .         .
11.35      1.4059      2.32  .Q       .         .         .         .
11.47      1.4284      2.37  .Q       .         .         .         .
11.59      1.4512      2.39  .Q       .         .         .         .
11.70      1.4744      2.44  .Q       .         .         .         .
11.82      1.4980      2.47  .Q       .         .         .         .
11.93      1.5221      2.53  .Q       .         .         .         .
12.05      1.5465      2.56  .Q       .         .         .         .
12.17      1.5746      3.29  .Q       .         .         .         .
12.28      1.6063      3.32  .Q       .         .         .         .
12.40      1.6385      3.40  .Q       .         .         .         .
12.52      1.6713      3.43  .Q       .         .         .         .
12.63      1.7047      3.52  . Q      .         .         .         .
12.75      1.7386      3.56  . Q      .         .         .         .
12.86      1.7732      3.65  . Q      .         .         .         .
12.98      1.8085      3.70  . Q      .         .         .         .
13.10      1.8445      3.80  . Q      .         .         .         .
13.21      1.8812      3.85  . Q      .         .         .         .
13.33      1.9187      3.97  . Q      .         .         .         .
13.44      1.9571      4.03  . Q      .         .         .         .
13.56      1.9964      4.16  . Q      .         .         .         .
13.68      2.0366      4.23  . Q      .         .         .         .
13.79      2.0779      4.38  . Q      .         .         .         .
13.91      2.1203      4.46  . Q      .         .         .         .
14.03      2.1640      4.63  . Q      .         .         .         .
14.14      2.2090      4.75  . Q      .         .         .         .
14.26      2.2556      4.96  . Q      .         .         .         .
14.37      2.3039      5.08  . Q      .         .         .         .
14.49      2.3539      5.34  .  Q     .         .         .         .
14.61      2.4058      5.48  .  Q     .         .         .         .
14.72      2.4600      5.80  .  Q     .         .         .         .
14.84      2.5166      5.99  .  Q     .         .         .         .
14.95      2.5761      6.41  .  Q     .         .         .         .
15.07      2.6389      6.66  .  Q     .         .         .         .
15.19      2.7057      7.25  .   Q    .         .         .         .
15.30      2.7770      7.61  .   Q    .         .         .         .
15.42      2.8514      7.87  .   Q    .         .         .         .
15.54      2.9277      8.04  .   Q    .         .         .         .
15.65      3.0127      9.67  .    Q   .         .         .         .
15.77      3.1117     10.94  .     Q  .         .         .         .
15.88      3.2396     15.72  .       Q.         .         .         .
16.00      3.4188     21.61  .         . Q      .         .         .
16.12      3.8392     65.96  .         .        .         .        Q  .
16.23      4.2172     12.79  .       Q .        .         .         .
16.35      4.3206      8.74  .   Q    .        Q100 (UNMITIGATED)  .
16.46      4.4011      8.03  .   Q    .         .         .         .
16.58      4.4730      6.94  .  Q     .         .         .         .
16.70      4.5360      6.19  .  Q     .         .         .         .
16.81      4.5928      5.64  .  Q     .         .         .         .
16.93      4.6448      5.20  . Q      .         .         .         .
17.05      4.6931      4.86  . Q      .         .         .         .
17.16      4.7382      4.54  . Q      .         .         .         .
17.28      4.7807      4.30  . Q      .         .         .         .
17.39      4.8209      4.09  . Q      .         .         .         .
17.51      4.8593      3.91  . Q      .         .         .         .
17.63      4.8961      3.75  . Q      .         .         .         .
17.74      4.9313      3.60  . Q      .         .         .         .
17.86      4.9653      3.47  .Q       .         .         .         .
17.97      4.9981      3.36  .Q       .         .         .         .
18.09      5.0287      3.02  .Q       .         .         .         .
```

18.21	5.0552	2.50	.Q	.	.	.	.
18.32	5.0789	2.42	.Q	.	.	.	.
18.44	5.1017	2.34	.Q	.	.	.	.
18.56	5.1239	2.27	.Q	.	.	.	.
18.67	5.1454	2.21	.Q	.	.	.	.
18.79	5.1663	2.15	.Q	.	.	.	.
18.90	5.1866	2.09	.Q	.	.	.	.
19.02	5.2064	2.04	.Q	.	.	.	.
19.14	5.2258	1.99	.Q	.	.	.	.
19.25	5.2446	1.94	.Q	.	.	.	.
19.37	5.2631	1.90	.Q	.	.	.	.
19.48	5.2811	1.86	.Q	.	.	.	.
19.60	5.2988	1.82	.Q	.	.	.	.
19.72	5.3160	1.78	.Q	.	.	.	.
19.83	5.3330	1.75	Q	.	.	.	.
19.95	5.3496	1.71	Q	.	.	.	.
20.07	5.3659	1.68	Q	.	.	.	.
20.18	5.3819	1.65	Q	.	.	.	.
20.30	5.3976	1.62	Q	.	.	.	.
20.41	5.4131	1.60	Q	.	.	.	.
20.53	5.4283	1.57	Q	.	.	.	.
20.65	5.4432	1.54	Q	.	.	.	.
20.76	5.4579	1.52	Q	.	.	.	.
20.88	5.4724	1.50	Q	.	.	.	.
21.00	5.4867	1.47	Q	.	.	.	.
21.11	5.5007	1.45	Q	.	.	.	.
21.23	5.5146	1.43	Q	.	.	.	.
21.34	5.5282	1.41	Q	.	.	.	.
21.46	5.5417	1.39	Q	.	.	.	.
21.58	5.5550	1.37	Q	.	.	.	.
21.69	5.5681	1.36	Q	.	.	.	.
21.81	5.5810	1.34	Q	.	.	.	.
21.92	5.5938	1.32	Q	.	.	.	.
22.04	5.6064	1.31	Q	.	.	.	.
22.16	5.6188	1.29	Q	.	.	.	.
22.27	5.6312	1.27	Q	.	.	.	.
22.39	5.6433	1.26	Q	.	.	.	.
22.51	5.6553	1.25	Q	.	.	.	.
22.62	5.6672	1.23	Q	.	.	.	.
22.74	5.6790	1.22	Q	.	.	.	.
22.85	5.6906	1.20	Q	.	.	.	.
22.97	5.7021	1.19	Q	.	.	.	.
23.09	5.7135	1.18	Q	.	.	.	.
23.20	5.7248	1.17	Q	.	.	.	.
23.32	5.7359	1.16	Q	.	.	.	.
23.43	5.7470	1.14	Q	.	.	.	.
23.55	5.7579	1.13	Q	.	.	.	.
23.67	5.7687	1.12	Q	.	.	.	.
23.78	5.7794	1.11	Q	.	.	.	.
23.90	5.7900	1.10	Q	.	.	.	.
24.02	5.8006	1.09	Q	.	.	.	.
24.13	5.8058	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1442.8
10%	97.6
20%	20.9
30%	13.9
40%	7.0
50%	7.0
60%	7.0

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            70%                             7.0
            80%                             7.0
            90%                             7.0

 Problem Descriptions:
  Goodman Logistics Center
  Basin C
  100 Year Storm
------------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.91
    TOTAL CATCHMENT AREA(ACRES) =   14.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.030
    LOW LOSS FRACTION = 0.040
    TIME OF CONCENTRATION(MIN.) =  6.97
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    ORANGE COUNTY "VALLEY" RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.52
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.09
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.45
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.43
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.36
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  5.63

------------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     5.81
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.86

******************************************************************************
  TIME     VOLUME       Q    0.       17.5      35.0      52.5      70.0
 (HOURS)    (AF)      (CFS)
------------------------------------------------------------------------------
  0.09      0.0038      1.08  Q         .         .         .         .
  0.20      0.0142      1.09  Q         .         .         .         .
  0.32      0.0247      1.09  Q         .         .         .         .
  0.43      0.0352      1.10  Q         .         .         .         .
  0.55      0.0458      1.10  Q         .         .         .         .
  0.67      0.0564      1.11  Q         .         .         .         .
  0.78      0.0671      1.11  Q         .         .         .         .
  0.90      0.0778      1.12  Q         .         .         .         .
  1.01      0.0886      1.13  Q         .         .         .         .
  1.13      0.0994      1.13  Q         .         .         .         .
  1.25      0.1103      1.14  Q         .         .         .         .
  1.36      0.1212      1.14  Q         .         .         .         .
  1.48      0.1322      1.15  Q         .         .         .         .
  1.60      0.1432      1.15  Q         .         .         .         .
  1.71      0.1543      1.16  Q         .         .         .         .
  1.83      0.1654      1.16  Q         .         .         .         .
  1.94      0.1767      1.17  Q         .         .         .         .
  2.06      0.1879      1.18  Q         .         .         .         .
  2.18      0.1992      1.18  Q         .         .         .         .
  2.29      0.2106      1.19  Q         .         .         .         .
  2.41      0.2221      1.20  Q         .         .         .         .
  2.52      0.2336      1.20  Q         .         .         .         .
  2.64      0.2451      1.21  Q         .         .         .         .
  2.76      0.2568      1.21  Q         .         .         .         .
  2.87      0.2685      1.22  Q         .         .         .         .
  2.99      0.2802      1.23  Q         .         .         .         .
  3.11      0.2920      1.24  Q         .         .         .         .
  3.22      0.3039      1.24  Q         .         .         .         .
  3.34      0.3159      1.25  Q         .         .         .         .
  3.45      0.3279      1.25  Q         .         .         .         .
  3.57      0.3400      1.26  Q         .         .         .         .
  3.69      0.3522      1.27  Q         .         .         .         .
  3.80      0.3644      1.28  Q         .         .         .         .
```

3.92	0.3767	1.28	Q	.	.	.	.
4.03	0.3891	1.30	Q	.	.	.	.
4.15	0.4016	1.30	Q	.	.	.	.
4.27	0.4141	1.31	Q	.	.	.	.
4.38	0.4267	1.32	Q	.	.	.	.
4.50	0.4394	1.33	Q	.	.	.	.
4.62	0.4522	1.33	Q	.	.	.	.
4.73	0.4650	1.34	Q	.	.	.	.
4.85	0.4779	1.35	Q	.	.	.	.
4.96	0.4910	1.36	Q	.	.	.	.
5.08	0.5041	1.37	Q	.	.	.	.
5.20	0.5173	1.38	Q	.	.	.	.
5.31	0.5305	1.39	Q	.	.	.	.
5.43	0.5439	1.40	Q	.	.	.	.
5.55	0.5574	1.41	Q	.	.	.	.
5.66	0.5709	1.42	Q	.	.	.	.
5.78	0.5846	1.43	Q	.	.	.	.
5.89	0.5983	1.44	Q	.	.	.	.
6.01	0.6122	1.45	Q	.	.	.	.
6.13	0.6261	1.46	Q	.	.	.	.
6.24	0.6402	1.47	Q	.	.	.	.
6.36	0.6543	1.48	Q	.	.	.	.
6.47	0.6686	1.49	Q	.	.	.	.
6.59	0.6830	1.50	Q	.	.	.	.
6.71	0.6974	1.51	Q	.	.	.	.
6.82	0.7120	1.53	Q	.	.	.	.
6.94	0.7267	1.54	Q	.	.	.	.
7.06	0.7416	1.55	Q	.	.	.	.
7.17	0.7565	1.56	Q	.	.	.	.
7.29	0.7716	1.58	Q	.	.	.	.
7.40	0.7868	1.59	Q	.	.	.	.
7.52	0.8021	1.60	Q	.	.	.	.
7.64	0.8175	1.61	Q	.	.	.	.
7.75	0.8331	1.63	Q	.	.	.	.
7.87	0.8488	1.64	Q	.	.	.	.
7.98	0.8647	1.66	Q	.	.	.	.
8.10	0.8807	1.67	Q	.	.	.	.
8.22	0.8969	1.69	Q	.	.	.	.
8.33	0.9132	1.70	Q	.	.	.	.
8.45	0.9296	1.72	Q	.	.	.	.
8.57	0.9462	1.74	Q	.	.	.	.
8.68	0.9630	1.76	.Q	.	.	.	.
8.80	0.9799	1.77	.Q	.	.	.	.
8.91	0.9970	1.79	.Q	.	.	.	.
9.03	1.0143	1.81	.Q	.	.	.	.
9.15	1.0318	1.83	.Q	.	.	.	.
9.26	1.0494	1.84	.Q	.	.	.	.
9.38	1.0673	1.87	.Q	.	.	.	.
9.49	1.0853	1.89	.Q	.	.	.	.
9.61	1.1036	1.91	.Q	.	.	.	.
9.73	1.1220	1.93	.Q	.	.	.	.
9.84	1.1406	1.96	.Q	.	.	.	.
9.96	1.1595	1.97	.Q	.	.	.	.
10.08	1.1786	2.01	.Q	.	.	.	.
10.19	1.1979	2.02	.Q	.	.	.	.
10.31	1.2175	2.06	.Q	.	.	.	.
10.42	1.2373	2.07	.Q	.	.	.	.
10.54	1.2574	2.11	.Q	.	.	.	.
10.66	1.2777	2.13	.Q	.	.	.	.
10.77	1.2983	2.17	.Q	.	.	.	.
10.89	1.3192	2.19	.Q	.	.	.	.
11.00	1.3404	2.23	.Q	.	.	.	.
11.12	1.3619	2.25	.Q	.	.	.	.
11.24	1.3837	2.29	.Q	.	.	.	.
11.35	1.4059	2.32	.Q	.	.	.	.
11.47	1.4284	2.37	.Q	.	.	.	.
11.59	1.4512	2.39	.Q	.	.	.	.
11.70	1.4744	2.44	.Q	.	.	.	.

11.82	1.4980	2.47	.Q	.	.	.	.
11.93	1.5221	2.53	.Q	.	.	.	.
12.05	1.5465	2.56	.Q	.	.	.	.
12.17	1.5746	3.29	.Q	.	.	.	.
12.28	1.6063	3.32	.Q	.	.	.	.
12.40	1.6385	3.40	.Q	.	.	.	.
12.52	1.6713	3.43	.Q	.	.	.	.
12.63	1.7047	3.52	. Q	.	.	.	.
12.75	1.7386	3.56	. Q	.	.	.	.
12.86	1.7732	3.65	. Q	.	.	.	.
12.98	1.8085	3.70	. Q	.	.	.	.
13.10	1.8445	3.80	. Q	.	.	.	.
13.21	1.8812	3.85	. Q	.	.	.	.
13.33	1.9187	3.97	. Q	.	.	.	.
13.44	1.9571	4.03	. Q	.	.	.	.
13.56	1.9964	4.16	. Q	.	.	.	.
13.68	2.0366	4.23	. Q	.	.	.	.
13.79	2.0779	4.38	. Q	.	.	.	.
13.91	2.1203	4.46	. Q	.	.	.	.
14.03	2.1640	4.63	. Q	.	.	.	.
14.14	2.2090	4.75	. Q	.	.	.	.
14.26	2.2556	4.96	. Q	.	.	.	.
14.37	2.3039	5.08	. Q	.	.	.	.
14.49	2.3539	5.34	. Q	.	.	.	.
14.61	2.4058	5.48	. Q	.	.	.	.
14.72	2.4600	5.80	. Q	.	.	.	.
14.84	2.5166	5.99	. Q	.	.	.	.
14.95	2.5761	6.41	. Q	.	.	.	.
15.07	2.6389	6.66	. Q	.	.	.	.
15.19	2.7057	7.25	. Q	.	.	.	.
15.30	2.7770	7.61	. Q	.	.	.	.
15.42	2.8514	7.87	. Q	.	.	.	.
15.54	2.9277	8.04	. Q	.	.	.	.
15.65	3.0127	9.67	. Q	.	.	.	.
15.77	3.1117	10.94	. Q	.	.	.	.
15.88	3.2396	15.72	. Q	.	.	.	.
16.00	3.4188	21.61	. . Q	.	.	.	.
16.12	3.8392	65.96	. .	.	.	.	Q .
16.23	4.2172	12.79	. Q	.	.	.	.
16.35	4.3206	8.74	. Q	.	.	.	.
16.46	4.4011	8.03	. Q	.	.	.	.
16.58	4.4730	6.94	. Q	.	.	.	.
16.70	4.5360	6.19	. Q	.	.	.	.
16.81	4.5928	5.64	. Q	.	.	.	.
16.93	4.6448	5.20	. Q	.	.	.	.
17.05	4.6931	4.86	. Q	.	.	.	.
17.16	4.7382	4.54	. Q	.	.	.	.
17.28	4.7807	4.30	. Q	.	.	.	.
17.39	4.8209	4.09	. Q	.	.	.	.
17.51	4.8593	3.91	. Q	.	.	.	.
17.63	4.8961	3.75	. Q	.	.	.	.
17.74	4.9313	3.60	. Q	.	.	.	.
17.86	4.9653	3.47	.Q	.	.	.	.
17.97	4.9981	3.36	.Q	.	.	.	.
18.09	5.0287	3.02	.Q	.	.	.	.
18.21	5.0552	2.50	.Q	.	.	.	.
18.32	5.0789	2.42	.Q	.	.	.	.
18.44	5.1017	2.34	.Q	.	.	.	.
18.56	5.1239	2.27	.Q	.	.	.	.
18.67	5.1454	2.21	.Q	.	.	.	.
18.79	5.1663	2.15	.Q	.	.	.	.
18.90	5.1866	2.09	.Q	.	.	.	.
19.02	5.2064	2.04	.Q	.	.	.	.
19.14	5.2258	1.99	.Q	.	.	.	.
19.25	5.2446	1.94	.Q	.	.	.	.
19.37	5.2631	1.90	.Q	.	.	.	.
19.48	5.2811	1.86	.Q	.	.	.	.
19.60	5.2988	1.82	.Q	.	.	.	.

19.72	5.3160	1.78	.Q	.	.	.	.
19.83	5.3330	1.75	Q	.	.	.	.
19.95	5.3496	1.71	Q	.	.	.	.
20.07	5.3659	1.68	Q	.	.	.	.
20.18	5.3819	1.65	Q	.	.	.	.
20.30	5.3976	1.62	Q	.	.	.	.
20.41	5.4131	1.60	Q	.	.	.	.
20.53	5.4283	1.57	Q	.	.	.	.
20.65	5.4432	1.54	Q	.	.	.	.
20.76	5.4579	1.52	Q	.	.	.	.
20.88	5.4724	1.50	Q	.	.	.	.
21.00	5.4867	1.47	Q	.	.	.	.
21.11	5.5007	1.45	Q	.	.	.	.
21.23	5.5146	1.43	Q	.	.	.	.
21.34	5.5282	1.41	Q	.	.	.	.
21.46	5.5417	1.39	Q	.	.	.	.
21.58	5.5550	1.37	Q	.	.	.	.
21.69	5.5681	1.36	Q	.	.	.	.
21.81	5.5810	1.34	Q	.	.	.	.
21.92	5.5938	1.32	Q	.	.	.	.
22.04	5.6064	1.31	Q	.	.	.	.
22.16	5.6188	1.29	Q	.	.	.	.
22.27	5.6312	1.27	Q	.	.	.	.
22.39	5.6433	1.26	Q	.	.	.	.
22.51	5.6553	1.25	Q	.	.	.	.
22.62	5.6672	1.23	Q	.	.	.	.
22.74	5.6790	1.22	Q	.	.	.	.
22.85	5.6906	1.20	Q	.	.	.	.
22.97	5.7021	1.19	Q	.	.	.	.
23.09	5.7135	1.18	Q	.	.	.	.
23.20	5.7248	1.17	Q	.	.	.	.
23.32	5.7359	1.16	Q	.	.	.	.
23.43	5.7470	1.14	Q	.	.	.	.
23.55	5.7579	1.13	Q	.	.	.	.
23.67	5.7687	1.12	Q	.	.	.	.
23.78	5.7794	1.11	Q	.	.	.	.
23.90	5.7900	1.10	Q	.	.	.	.
24.02	5.8006	1.09	Q	.	.	.	.
24.13	5.8058	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1442.8
10%	97.6
20%	20.9
30%	13.9
40%	7.0
50%	7.0
60%	7.0
70%	7.0
80%	7.0
90%	7.0

Problem Descriptions:
Goodman Logistics Center
Basin C
100 Year Storm

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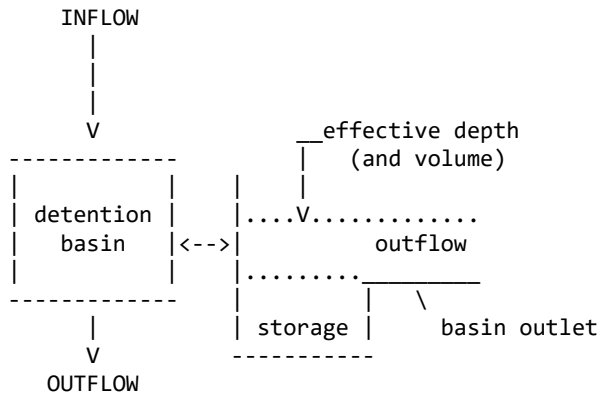
FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 6.970
DEAD STORAGE(AF) = 0.00
SPECIFIED DEAD STORAGE(AF) FILLED = 0.00
ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:
TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 9

*BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	**	BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
0.000	0.000	0.000**		0.250	0.039	0.000	*
0.500	0.079	0.000**		1.000	0.157	4.250	*
2.000	0.488	9.510**		3.000	0.772	12.760	*
4.000	0.948	15.340**		4.250	0.988	43.190	*
4.500	1.027	44.780**					

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.25	0.03930	0.03930
3	0.50	0.07850	0.07850
4	1.00	0.13670	0.17750
5	2.00	0.44205	0.53335
6	3.00	0.71035	0.83285
7	4.00	0.87486	1.02214
8	4.25	0.78048	1.19512
9	4.50	0.81214	1.24206

WHERE S=STORAGE(AF);O=OUTFLOW(AF/MIN.);DT=UNIT INTERVAL(MIN.)

DETENTION BASIN ROUTING RESULTS:
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	EFFECTIVE DEPTH(FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.085	0.000	1.08	0.07	0.00	0.010
0.201	0.000	1.09	0.13	0.00	0.021
0.318	0.000	1.09	0.20	0.00	0.031
0.434	0.000	1.10	0.27	0.00	0.042
0.550	0.000	1.10	0.33	0.00	0.052
0.666	0.000	1.11	0.40	0.00	0.063
0.782	0.000	1.11	0.47	0.00	0.074
0.898	0.000	1.12	0.53	0.13	0.083
1.015	0.000	1.13	0.57	0.44	0.090
1.131	0.000	1.13	0.60	0.72	0.094
1.247	0.000	1.14	0.61	0.89	0.096
1.363	0.000	1.14	0.62	0.99	0.098

1.479	0.000	1.15	0.63	1.06	0.098
1.595	0.000	1.15	0.63	1.09	0.099
1.712	0.000	1.16	0.63	1.12	0.099
1.828	0.000	1.16	0.63	1.14	0.100
1.944	0.000	1.17	0.64	1.15	0.100
2.060	0.000	1.18	0.64	1.16	0.100
2.176	0.000	1.18	0.64	1.17	0.100
2.292	0.000	1.19	0.64	1.17	0.100
2.409	0.000	1.20	0.64	1.18	0.100
2.525	0.000	1.20	0.64	1.19	0.101
2.641	0.000	1.21	0.64	1.20	0.101
2.757	0.000	1.21	0.64	1.20	0.101
2.873	0.000	1.22	0.64	1.21	0.101
2.989	0.000	1.23	0.64	1.22	0.101
3.106	0.000	1.24	0.64	1.22	0.101
3.222	0.000	1.24	0.64	1.23	0.101
3.338	0.000	1.25	0.65	1.24	0.101
3.454	0.000	1.25	0.65	1.24	0.102
3.570	0.000	1.26	0.65	1.25	0.102
3.686	0.000	1.27	0.65	1.26	0.102
3.803	0.000	1.28	0.65	1.26	0.102
3.919	0.000	1.28	0.65	1.27	0.102
4.035	0.000	1.30	0.65	1.28	0.102
4.151	0.000	1.30	0.65	1.29	0.102
4.267	0.000	1.31	0.65	1.29	0.103
4.383	0.000	1.32	0.65	1.30	0.103
4.500	0.000	1.33	0.65	1.31	0.103
4.616	0.000	1.33	0.66	1.32	0.103
4.732	0.000	1.34	0.66	1.33	0.103
4.848	0.000	1.35	0.66	1.34	0.103
4.964	0.000	1.36	0.66	1.34	0.103
5.080	0.000	1.37	0.66	1.35	0.104
5.197	0.000	1.38	0.66	1.36	0.104
5.313	0.000	1.39	0.66	1.37	0.104
5.429	0.000	1.40	0.66	1.38	0.104
5.545	0.000	1.41	0.66	1.39	0.104
5.661	0.000	1.42	0.67	1.40	0.104
5.777	0.000	1.43	0.67	1.41	0.105
5.894	0.000	1.44	0.67	1.42	0.105
6.010	0.000	1.45	0.67	1.43	0.105
6.126	0.000	1.46	0.67	1.44	0.105
6.242	0.000	1.47	0.67	1.45	0.105
6.358	0.000	1.48	0.67	1.46	0.106
6.474	0.000	1.49	0.67	1.47	0.106
6.591	0.000	1.50	0.67	1.48	0.106
6.707	0.000	1.51	0.68	1.49	0.106
6.823	0.000	1.53	0.68	1.50	0.106
6.939	0.000	1.54	0.68	1.52	0.107
7.055	0.000	1.55	0.68	1.53	0.107
7.171	0.000	1.56	0.68	1.54	0.107
7.288	0.000	1.58	0.68	1.55	0.107
7.404	0.000	1.59	0.68	1.56	0.108
7.520	0.000	1.60	0.69	1.58	0.108
7.636	0.000	1.61	0.69	1.59	0.108
7.752	0.000	1.63	0.69	1.60	0.108
7.868	0.000	1.64	0.69	1.62	0.109
7.984	0.000	1.66	0.69	1.63	0.109
8.101	0.000	1.67	0.69	1.65	0.109
8.217	0.000	1.69	0.70	1.66	0.109
8.333	0.000	1.70	0.70	1.68	0.110
8.449	0.000	1.72	0.70	1.69	0.110
8.565	0.000	1.74	0.70	1.71	0.110
8.682	0.000	1.76	0.70	1.72	0.111
8.798	0.000	1.77	0.71	1.74	0.111
8.914	0.000	1.79	0.71	1.76	0.111
9.030	0.000	1.81	0.71	1.78	0.111
9.146	0.000	1.83	0.71	1.79	0.112
9.262	0.000	1.84	0.71	1.81	0.112

9.378	0.000	1.87	0.72	1.83	0.113
9.495	0.000	1.89	0.72	1.85	0.113
9.611	0.000	1.91	0.72	1.87	0.113
9.727	0.000	1.93	0.72	1.89	0.114
9.843	0.000	1.96	0.73	1.91	0.114
9.959	0.000	1.97	0.73	1.93	0.114
10.076	0.000	2.01	0.73	1.96	0.115
10.192	0.000	2.02	0.73	1.98	0.115
10.308	0.000	2.06	0.74	2.00	0.116
10.424	0.000	2.07	0.74	2.03	0.116
10.540	0.000	2.11	0.74	2.05	0.117
10.656	0.000	2.13	0.75	2.08	0.117
10.773	0.000	2.17	0.75	2.11	0.118
10.889	0.000	2.19	0.75	2.14	0.118
11.005	0.000	2.23	0.76	2.17	0.119
11.121	0.000	2.25	0.76	2.20	0.119
11.237	0.000	2.29	0.76	2.23	0.120
11.353	0.000	2.32	0.77	2.26	0.121
11.469	0.000	2.37	0.77	2.29	0.121
11.586	0.000	2.39	0.78	2.33	0.122
11.702	0.000	2.44	0.78	2.37	0.123
11.818	0.000	2.47	0.78	2.40	0.123
11.934	0.000	2.53	0.79	2.44	0.124
12.050	0.000	2.56	0.79	2.49	0.125
12.167	0.000	3.29	0.83	2.67	0.131
12.283	0.000	3.32	0.86	2.93	0.135
12.399	0.000	3.40	0.87	3.11	0.137
12.515	0.000	3.43	0.89	3.23	0.139
12.631	0.000	3.52	0.90	3.33	0.141
12.747	0.000	3.56	0.91	3.42	0.142
12.863	0.000	3.65	0.92	3.49	0.144
12.980	0.000	3.70	0.92	3.57	0.145
13.096	0.000	3.80	0.93	3.64	0.147
13.212	0.000	3.85	0.94	3.72	0.148
13.328	0.000	3.97	0.95	3.80	0.150
13.444	0.000	4.03	0.96	3.88	0.151
13.561	0.000	4.16	0.97	3.97	0.153
13.677	0.000	4.23	0.98	4.06	0.154
13.793	0.000	4.38	1.00	4.16	0.156
13.909	0.000	4.46	1.00	4.24	0.159
14.025	0.000	4.63	1.01	4.30	0.162
14.141	0.000	4.75	1.03	4.35	0.166
14.258	0.000	4.96	1.04	4.43	0.171
14.374	0.000	5.08	1.06	4.51	0.176
14.490	0.000	5.34	1.08	4.61	0.183
14.606	0.000	5.48	1.10	4.72	0.190
14.722	0.000	5.80	1.13	4.85	0.200
14.838	0.000	5.99	1.16	5.00	0.209
14.955	0.000	6.41	1.19	5.17	0.221
15.071	0.000	6.66	1.23	5.37	0.233
15.187	0.000	7.25	1.28	5.59	0.249
15.303	0.000	7.61	1.33	5.85	0.266
15.419	0.000	7.87	1.38	6.12	0.283
15.535	0.000	8.04	1.43	6.38	0.299
15.652	0.000	9.67	1.51	6.73	0.327
15.768	0.000	10.94	1.62	7.24	0.363
15.884	0.000	15.72	1.84	8.10	0.436
16.000	0.000	21.61	2.23	9.47	0.552
16.116	0.000	65.96	4.17	22.00	0.974
16.232	0.000	12.79	3.54	23.95	0.867
16.348	0.000	8.74	3.27	13.80	0.819
16.465	0.000	8.03	2.99	13.10	0.770
16.581	0.000	6.94	2.81	12.44	0.717
16.697	0.000	6.19	2.62	11.83	0.663
16.813	0.000	5.64	2.43	11.21	0.610
16.929	0.000	5.20	2.25	10.61	0.558
17.045	0.000	4.86	2.07	10.03	0.508
17.162	0.000	4.54	1.92	9.42	0.461

17.278	0.000	4.30	1.79	8.75	0.419
17.394	0.000	4.09	1.67	8.10	0.380
17.510	0.000	3.91	1.57	7.52	0.345
17.626	0.000	3.75	1.48	7.00	0.314
17.743	0.000	3.60	1.39	6.53	0.286
17.859	0.000	3.47	1.31	6.10	0.261
17.975	0.000	3.36	1.25	5.72	0.238
18.091	0.000	3.02	1.18	5.36	0.216
18.207	0.000	2.50	1.10	4.99	0.192
18.323	0.000	2.42	1.04	4.63	0.171
18.440	0.000	2.34	0.97	4.23	0.152
18.556	0.000	2.27	0.89	3.64	0.139
18.672	0.000	2.21	0.83	3.06	0.131
18.788	0.000	2.15	0.80	2.70	0.126
18.904	0.000	2.09	0.78	2.46	0.122
19.020	0.000	2.04	0.76	2.30	0.120
19.136	0.000	1.99	0.75	2.18	0.118
19.253	0.000	1.94	0.74	2.09	0.116
19.369	0.000	1.90	0.73	2.02	0.115
19.485	0.000	1.86	0.73	1.96	0.114
19.601	0.000	1.82	0.72	1.91	0.113
19.717	0.000	1.78	0.72	1.87	0.113
19.833	0.000	1.75	0.71	1.82	0.112
19.950	0.000	1.71	0.71	1.79	0.111
20.066	0.000	1.68	0.70	1.75	0.111
20.182	0.000	1.65	0.70	1.72	0.110
20.298	0.000	1.62	0.70	1.68	0.109
20.414	0.000	1.60	0.69	1.65	0.109
20.530	0.000	1.57	0.69	1.62	0.108
20.647	0.000	1.54	0.69	1.60	0.108
20.763	0.000	1.52	0.68	1.57	0.107
20.879	0.000	1.50	0.68	1.54	0.107
20.995	0.000	1.47	0.68	1.52	0.106
21.111	0.000	1.45	0.67	1.50	0.106
21.228	0.000	1.43	0.67	1.47	0.106
21.344	0.000	1.41	0.67	1.45	0.105
21.460	0.000	1.39	0.67	1.43	0.105
21.576	0.000	1.37	0.66	1.41	0.104
21.692	0.000	1.36	0.66	1.39	0.104
21.808	0.000	1.34	0.66	1.37	0.104
21.924	0.000	1.32	0.66	1.36	0.103
22.041	0.000	1.31	0.66	1.34	0.103
22.157	0.000	1.29	0.65	1.32	0.103
22.273	0.000	1.27	0.65	1.31	0.102
22.389	0.000	1.26	0.65	1.29	0.102
22.505	0.000	1.25	0.65	1.27	0.102
22.622	0.000	1.23	0.65	1.26	0.102
22.738	0.000	1.22	0.65	1.25	0.101
22.854	0.000	1.20	0.64	1.23	0.101
22.970	0.000	1.19	0.64	1.22	0.101
23.086	0.000	1.18	0.64	1.20	0.101
23.202	0.000	1.17	0.64	1.19	0.100
23.319	0.000	1.16	0.64	1.18	0.100
23.435	0.000	1.14	0.64	1.17	0.100
23.551	0.000	1.13	0.64	1.16	0.100
23.667	0.000	1.12	0.63	1.14	0.100
23.783	0.000	1.11	0.63	1.13	0.099
23.899	0.000	1.10	0.63	1.12	0.099
24.015	0.000	1.09	0.63	1.11	0.099
24.132	0.000	0.00	0.58	0.88	0.091
24.248	0.000	0.00	0.54	0.52	0.086
24.364	0.000	0.00	0.53	0.30	0.083
24.480	0.000	0.00	0.52	0.18	0.081
24.596	0.000	0.00	0.51	0.10	0.080
24.712	0.000	0.00	0.51	0.06	0.079
24.829	0.000	0.00	0.50	0.04	0.079
24.945	0.000	0.00	0.50	0.02	0.079
25.061	0.000	0.00	0.50	0.01	0.079

25.177	0.000	0.00	0.50	0.01	0.079
25.293	0.000	0.00	0.50	0.00	0.079
25.410	0.000	0.00	0.50	0.00	0.079
25.526	0.000	0.00	0.50	0.00	0.079
25.642	0.000	0.00	0.50	0.00	0.079
25.758	0.000	0.00	0.50	0.00	0.079
25.874	0.000	0.00	0.50	0.00	0.079
25.990	0.000	0.00	0.50	0.00	0.079
26.107	0.000	0.00	0.50	0.00	0.079
26.223	0.000	0.00	0.50	0.00	0.079
26.339	0.000	0.00	0.50	0.00	0.079
26.455	0.000	0.00	0.50	0.00	0.079
26.571	0.000	0.00	0.50	0.00	0.079
26.687	0.000	0.00	0.50	0.00	0.079
26.804	0.000	0.00	0.50	0.00	0.079
26.920	0.000	0.00	0.50	0.00	0.079
27.036	0.000	0.00	0.50	0.00	0.079
27.152	0.000	0.00	0.50	0.00	0.079
27.268	0.000	0.00	0.50	0.00	0.079
27.384	0.000	0.00	0.50	0.00	0.079
27.501	0.000	0.00	0.50	0.00	0.079
27.617	0.000	0.00	0.50	0.00	0.079
27.733	0.000	0.00	0.50	0.00	0.079
27.849	0.000	0.00	0.50	0.00	0.079
27.965	0.000	0.00	0.50	0.00	0.079
28.081	0.000	0.00	0.50	0.00	0.079
28.198	0.000	0.00	0.50	0.00	0.079
28.314	0.000	0.00	0.50	0.00	0.079
28.430	0.000	0.00	0.50	0.00	0.079
28.546	0.000	0.00	0.50	0.00	0.079
28.662	0.000	0.00	0.50	0.00	0.079
28.778	0.000	0.00	0.50	0.00	0.079
28.895	0.000	0.00	0.50	0.00	0.079
29.011	0.000	0.00	0.50	0.00	0.079
29.127	0.000	0.00	0.50	0.00	0.079
29.243	0.000	0.00	0.50	0.00	0.079
29.359	0.000	0.00	0.50	0.00	0.079
29.475	0.000	0.00	0.50	0.00	0.079
29.592	0.000	0.00	0.50	0.00	0.079
29.708	0.000	0.00	0.50	0.00	0.079
29.824	0.000	0.00	0.50	0.00	0.079
29.940	0.000	0.00	0.50	0.00	0.079
30.056	0.000	0.00	0.50	0.00	0.079
30.172	0.000	0.00	0.50	0.00	0.079
30.289	0.000	0.00	0.50	0.00	0.079
30.405	0.000	0.00	0.50	0.00	0.079
30.521	0.000	0.00	0.50	0.00	0.079
30.637	0.000	0.00	0.50	0.00	0.079
30.753	0.000	0.00	0.50	0.00	0.079
30.869	0.000	0.00	0.50	0.00	0.079
30.986	0.000	0.00	0.50	0.00	0.079
31.102	0.000	0.00	0.50	0.00	0.079
31.218	0.000	0.00	0.50	0.00	0.079
31.334	0.000	0.00	0.50	0.00	0.079
31.450	0.000	0.00	0.50	0.00	0.079
31.566	0.000	0.00	0.50	0.00	0.079
31.683	0.000	0.00	0.50	0.00	0.079
31.799	0.000	0.00	0.50	0.00	0.079
31.915	0.000	0.00	0.50	0.00	0.079
32.031	0.000	0.00	0.50	0.00	0.079
32.147	0.000	0.00	0.50	0.00	0.079
32.263	0.000	0.00	0.50	0.00	0.079
32.380	0.000	0.00	0.50	0.00	0.079
32.496	0.000	0.00	0.50	0.00	0.079
32.612	0.000	0.00	0.50	0.00	0.079
32.728	0.000	0.00	0.50	0.00	0.079
32.844	0.000	0.00	0.50	0.00	0.079
32.960	0.000	0.00	0.50	0.00	0.079

33.077	0.000	0.00	0.50	0.00	0.079
33.193	0.000	0.00	0.50	0.00	0.079
33.309	0.000	0.00	0.50	0.00	0.079
33.425	0.000	0.00	0.50	0.00	0.079
33.541	0.000	0.00	0.50	0.00	0.079
33.657	0.000	0.00	0.50	0.00	0.079
33.774	0.000	0.00	0.50	0.00	0.079
33.890	0.000	0.00	0.50	0.00	0.079
34.006	0.000	0.00	0.50	0.00	0.079
34.122	0.000	0.00	0.50	0.00	0.079
34.238	0.000	0.00	0.50	0.00	0.079
34.354	0.000	0.00	0.50	0.00	0.079
34.470	0.000	0.00	0.50	0.00	0.079
34.587	0.000	0.00	0.50	0.00	0.079
34.703	0.000	0.00	0.50	0.00	0.079
34.819	0.000	0.00	0.50	0.00	0.079
34.935	0.000	0.00	0.50	0.00	0.079
35.051	0.000	0.00	0.50	0.00	0.079
35.167	0.000	0.00	0.50	0.00	0.079
35.284	0.000	0.00	0.50	0.00	0.079
35.400	0.000	0.00	0.50	0.00	0.079
35.516	0.000	0.00	0.50	0.00	0.079
35.632	0.000	0.00	0.50	0.00	0.079
35.748	0.000	0.00	0.50	0.00	0.079
35.864	0.000	0.00	0.50	0.00	0.079
35.981	0.000	0.00	0.50	0.00	0.079
36.097	0.000	0.00	0.50	0.00	0.079
36.213	0.000	0.00	0.50	0.00	0.079
36.329	0.000	0.00	0.50	0.00	0.079
36.445	0.000	0.00	0.50	0.00	0.079
36.561	0.000	0.00	0.50	0.00	0.079
36.678	0.000	0.00	0.50	0.00	0.079
36.794	0.000	0.00	0.50	0.00	0.079
36.910	0.000	0.00	0.50	0.00	0.079
37.026	0.000	0.00	0.50	0.00	0.079
37.142	0.000	0.00	0.50	0.00	0.079
37.258	0.000	0.00	0.50	0.00	0.079
37.375	0.000	0.00	0.50	0.00	0.079
37.491	0.000	0.00	0.50	0.00	0.079
37.607	0.000	0.00	0.50	0.00	0.079
37.723	0.000	0.00	0.50	0.00	0.079
37.839	0.000	0.00	0.50	0.00	0.079
37.955	0.000	0.00	0.50	0.00	0.079
38.072	0.000	0.00	0.50	0.00	0.079
38.188	0.000	0.00	0.50	0.00	0.079
38.304	0.000	0.00	0.50	0.00	0.079
38.420	0.000	0.00	0.50	0.00	0.079
38.536	0.000	0.00	0.50	0.00	0.079
38.652	0.000	0.00	0.50	0.00	0.079
38.769	0.000	0.00	0.50	0.00	0.079
38.885	0.000	0.00	0.50	0.00	0.079
39.001	0.000	0.00	0.50	0.00	0.079
39.117	0.000	0.00	0.50	0.00	0.079
39.233	0.000	0.00	0.50	0.00	0.079
39.349	0.000	0.00	0.50	0.00	0.079
39.466	0.000	0.00	0.50	0.00	0.079
39.582	0.000	0.00	0.50	0.00	0.079
39.698	0.000	0.00	0.50	0.00	0.079
39.814	0.000	0.00	0.50	0.00	0.079
39.930	0.000	0.00	0.50	0.00	0.079
40.046	0.000	0.00	0.50	0.00	0.079
40.163	0.000	0.00	0.50	0.00	0.079
40.279	0.000	0.00	0.50	0.00	0.079
40.395	0.000	0.00	0.50	0.00	0.079
40.511	0.000	0.00	0.50	0.00	0.079
40.627	0.000	0.00	0.50	0.00	0.079
40.743	0.000	0.00	0.50	0.00	0.079
40.860	0.000	0.00	0.50	0.00	0.079

40.976	0.000	0.00	0.50	0.00	0.079
41.092	0.000	0.00	0.50	0.00	0.079
41.208	0.000	0.00	0.50	0.00	0.079
41.324	0.000	0.00	0.50	0.00	0.079
41.440	0.000	0.00	0.50	0.00	0.079
41.557	0.000	0.00	0.50	0.00	0.079
41.673	0.000	0.00	0.50	0.00	0.079
41.789	0.000	0.00	0.50	0.00	0.079
41.905	0.000	0.00	0.50	0.00	0.079
42.021	0.000	0.00	0.50	0.00	0.079
42.137	0.000	0.00	0.50	0.00	0.079
42.254	0.000	0.00	0.50	0.00	0.079
42.370	0.000	0.00	0.50	0.00	0.079
42.486	0.000	0.00	0.50	0.00	0.079
42.602	0.000	0.00	0.50	0.00	0.079
42.718	0.000	0.00	0.50	0.00	0.079
42.834	0.000	0.00	0.50	0.00	0.079
42.951	0.000	0.00	0.50	0.00	0.079
43.067	0.000	0.00	0.50	0.00	0.079
43.183	0.000	0.00	0.50	0.00	0.079
43.299	0.000	0.00	0.50	0.00	0.079
43.415	0.000	0.00	0.50	0.00	0.079
43.531	0.000	0.00	0.50	0.00	0.079
43.648	0.000	0.00	0.50	0.00	0.079
43.764	0.000	0.00	0.50	0.00	0.079
43.880	0.000	0.00	0.50	0.00	0.079
43.996	0.000	0.00	0.50	0.00	0.079
44.112	0.000	0.00	0.50	0.00	0.079
44.228	0.000	0.00	0.50	0.00	0.079
44.345	0.000	0.00	0.50	0.00	0.079
44.461	0.000	0.00	0.50	0.00	0.079
44.577	0.000	0.00	0.50	0.00	0.079
44.693	0.000	0.00	0.50	0.00	0.079
44.809	0.000	0.00	0.50	0.00	0.079
44.925	0.000	0.00	0.50	0.00	0.079
45.042	0.000	0.00	0.50	0.00	0.079
45.158	0.000	0.00	0.50	0.00	0.079
45.274	0.000	0.00	0.50	0.00	0.079
45.390	0.000	0.00	0.50	0.00	0.079
45.506	0.000	0.00	0.50	0.00	0.079
45.622	0.000	0.00	0.50	0.00	0.079
45.739	0.000	0.00	0.50	0.00	0.079
45.855	0.000	0.00	0.50	0.00	0.079
45.971	0.000	0.00	0.50	0.00	0.079
46.087	0.000	0.00	0.50	0.00	0.079
46.203	0.000	0.00	0.50	0.00	0.079
46.319	0.000	0.00	0.50	0.00	0.079
46.436	0.000	0.00	0.50	0.00	0.079
46.552	0.000	0.00	0.50	0.00	0.079
46.668	0.000	0.00	0.50	0.00	0.079
46.784	0.000	0.00	0.50	0.00	0.079
46.900	0.000	0.00	0.50	0.00	0.079
47.016	0.000	0.00	0.50	0.00	0.079
47.132	0.000	0.00	0.50	0.00	0.079
47.249	0.000	0.00	0.50	0.00	0.079
47.365	0.000	0.00	0.50	0.00	0.079
47.481	0.000	0.00	0.50	0.00	0.079
47.597	0.000	0.00	0.50	0.00	0.079
47.713	0.000	0.00	0.50	0.00	0.079
47.829	0.000	0.00	0.50	0.00	0.079
47.946	0.000	0.00	0.50	0.00	0.079
48.062	0.000	0.00	0.50	0.00	0.079
48.178	0.000	0.00	0.50	0.00	0.079
48.294	0.000	0.00	0.50	0.00	0.079
48.410	0.000	0.00	0.50	0.00	0.079
48.526	0.000	0.00	0.50	0.00	0.079
48.643	0.000	0.00	0.50	0.00	0.079
48.759	0.000	0.00	0.50	0.00	0.079

48.875	0.000	0.00	0.50	0.00	0.079
48.991	0.000	0.00	0.50	0.00	0.079
49.107	0.000	0.00	0.50	0.00	0.079
49.223	0.000	0.00	0.50	0.00	0.079
49.340	0.000	0.00	0.50	0.00	0.079
49.456	0.000	0.00	0.50	0.00	0.079
49.572	0.000	0.00	0.50	0.00	0.079
49.688	0.000	0.00	0.50	0.00	0.079
49.804	0.000	0.00	0.50	0.00	0.079
49.920	0.000	0.00	0.50	0.00	0.079
50.037	0.000	0.00	0.50	0.00	0.079
50.153	0.000	0.00	0.50	0.00	0.079
50.269	0.000	0.00	0.50	0.00	0.079
50.385	0.000	0.00	0.50	0.00	0.079
50.501	0.000	0.00	0.50	0.00	0.079
50.617	0.000	0.00	0.50	0.00	0.079
50.734	0.000	0.00	0.50	0.00	0.079
50.850	0.000	0.00	0.50	0.00	0.079
50.966	0.000	0.00	0.50	0.00	0.079
51.082	0.000	0.00	0.50	0.00	0.079
51.198	0.000	0.00	0.50	0.00	0.079
51.314	0.000	0.00	0.50	0.00	0.079
51.431	0.000	0.00	0.50	0.00	0.079
51.547	0.000	0.00	0.50	0.00	0.079
51.663	0.000	0.00	0.50	0.00	0.079
51.779	0.000	0.00	0.50	0.00	0.079
51.895	0.000	0.00	0.50	0.00	0.079
52.011	0.000	0.00	0.50	0.00	0.079
52.128	0.000	0.00	0.50	0.00	0.079
52.244	0.000	0.00	0.50	0.00	0.079
52.360	0.000	0.00	0.50	0.00	0.079
52.476	0.000	0.00	0.50	0.00	0.079
52.592	0.000	0.00	0.50	0.00	0.079
52.708	0.000	0.00	0.50	0.00	0.079
52.825	0.000	0.00	0.50	0.00	0.079
52.941	0.000	0.00	0.50	0.00	0.079
53.057	0.000	0.00	0.50	0.00	0.079
53.173	0.000	0.00	0.50	0.00	0.079
53.289	0.000	0.00	0.50	0.00	0.079
53.405	0.000	0.00	0.50	0.00	0.079
53.522	0.000	0.00	0.50	0.00	0.079
53.638	0.000	0.00	0.50	0.00	0.079
53.754	0.000	0.00	0.50	0.00	0.079
53.870	0.000	0.00	0.50	0.00	0.079
53.986	0.000	0.00	0.50	0.00	0.079
54.102	0.000	0.00	0.50	0.00	0.079
54.219	0.000	0.00	0.50	0.00	0.079
54.335	0.000	0.00	0.50	0.00	0.079
54.451	0.000	0.00	0.50	0.00	0.079
54.567	0.000	0.00	0.50	0.00	0.079
54.683	0.000	0.00	0.50	0.00	0.079
54.799	0.000	0.00	0.50	0.00	0.079
54.916	0.000	0.00	0.50	0.00	0.079
55.032	0.000	0.00	0.50	0.00	0.079
55.148	0.000	0.00	0.50	0.00	0.079
55.264	0.000	0.00	0.50	0.00	0.079
55.380	0.000	0.00	0.50	0.00	0.079
55.496	0.000	0.00	0.50	0.00	0.079
55.613	0.000	0.00	0.50	0.00	0.079
55.729	0.000	0.00	0.50	0.00	0.079
55.845	0.000	0.00	0.50	0.00	0.079
55.961	0.000	0.00	0.50	0.00	0.079
56.077	0.000	0.00	0.50	0.00	0.079
56.193	0.000	0.00	0.50	0.00	0.079
56.310	0.000	0.00	0.50	0.00	0.079
56.426	0.000	0.00	0.50	0.00	0.079
56.542	0.000	0.00	0.50	0.00	0.079
56.658	0.000	0.00	0.50	0.00	0.079

56.774	0.000	0.00	0.50	0.00	0.079
56.890	0.000	0.00	0.50	0.00	0.079
57.007	0.000	0.00	0.50	0.00	0.079
57.123	0.000	0.00	0.50	0.00	0.079
57.239	0.000	0.00	0.50	0.00	0.079
57.355	0.000	0.00	0.50	0.00	0.079
57.471	0.000	0.00	0.50	0.00	0.079
57.587	0.000	0.00	0.50	0.00	0.079
57.704	0.000	0.00	0.50	0.00	0.079
57.820	0.000	0.00	0.50	0.00	0.079
57.936	0.000	0.00	0.50	0.00	0.079
58.052	0.000	0.00	0.50	0.00	0.079
58.168	0.000	0.00	0.50	0.00	0.079
58.284	0.000	0.00	0.50	0.00	0.079
58.401	0.000	0.00	0.50	0.00	0.079
58.517	0.000	0.00	0.50	0.00	0.079
58.633	0.000	0.00	0.50	0.00	0.079
58.749	0.000	0.00	0.50	0.00	0.079
58.865	0.000	0.00	0.50	0.00	0.079
58.981	0.000	0.00	0.50	0.00	0.079
59.098	0.000	0.00	0.50	0.00	0.079
59.214	0.000	0.00	0.50	0.00	0.079
59.330	0.000	0.00	0.50	0.00	0.079
59.446	0.000	0.00	0.50	0.00	0.079
59.562	0.000	0.00	0.50	0.00	0.079
59.678	0.000	0.00	0.50	0.00	0.079
59.794	0.000	0.00	0.50	0.00	0.079
59.911	0.000	0.00	0.50	0.00	0.079
60.027	0.000	0.00	0.50	0.00	0.079
60.143	0.000	0.00	0.50	0.00	0.079
60.259	0.000	0.00	0.50	0.00	0.079
60.375	0.000	0.00	0.50	0.00	0.079
60.491	0.000	0.00	0.50	0.00	0.079
60.608	0.000	0.00	0.50	0.00	0.079
60.724	0.000	0.00	0.50	0.00	0.079
60.840	0.000	0.00	0.50	0.00	0.079
60.956	0.000	0.00	0.50	0.00	0.079
61.072	0.000	0.00	0.50	0.00	0.079
61.188	0.000	0.00	0.50	0.00	0.079
61.305	0.000	0.00	0.50	0.00	0.079
61.421	0.000	0.00	0.50	0.00	0.079
61.537	0.000	0.00	0.50	0.00	0.079
61.653	0.000	0.00	0.50	0.00	0.079
61.769	0.000	0.00	0.50	0.00	0.079
61.885	0.000	0.00	0.50	0.00	0.079
62.002	0.000	0.00	0.50	0.00	0.079
62.118	0.000	0.00	0.50	0.00	0.079
62.234	0.000	0.00	0.50	0.00	0.079
62.350	0.000	0.00	0.50	0.00	0.079
62.466	0.000	0.00	0.50	0.00	0.079
62.582	0.000	0.00	0.50	0.00	0.079
62.699	0.000	0.00	0.50	0.00	0.079
62.815	0.000	0.00	0.50	0.00	0.079
62.931	0.000	0.00	0.50	0.00	0.079
63.047	0.000	0.00	0.50	0.00	0.079
63.163	0.000	0.00	0.50	0.00	0.079
63.279	0.000	0.00	0.50	0.00	0.079
63.396	0.000	0.00	0.50	0.00	0.079
63.512	0.000	0.00	0.50	0.00	0.079
63.628	0.000	0.00	0.50	0.00	0.079
63.744	0.000	0.00	0.50	0.00	0.079
63.860	0.000	0.00	0.50	0.00	0.079
63.976	0.000	0.00	0.50	0.00	0.079
64.093	0.000	0.00	0.50	0.00	0.079
64.209	0.000	0.00	0.50	0.00	0.079
64.325	0.000	0.00	0.50	0.00	0.079
64.441	0.000	0.00	0.50	0.00	0.079
64.557	0.000	0.00	0.50	0.00	0.079

64.673	0.000	0.00	0.50	0.00	0.079
64.790	0.000	0.00	0.50	0.00	0.079
64.906	0.000	0.00	0.50	0.00	0.079
65.022	0.000	0.00	0.50	0.00	0.079
65.138	0.000	0.00	0.50	0.00	0.079
65.254	0.000	0.00	0.50	0.00	0.079
65.370	0.000	0.00	0.50	0.00	0.079
65.487	0.000	0.00	0.50	0.00	0.079
65.603	0.000	0.00	0.50	0.00	0.079
65.719	0.000	0.00	0.50	0.00	0.079
65.835	0.000	0.00	0.50	0.00	0.079
65.951	0.000	0.00	0.50	0.00	0.079
66.067	0.000	0.00	0.50	0.00	0.079
66.184	0.000	0.00	0.50	0.00	0.079
66.300	0.000	0.00	0.50	0.00	0.079
66.416	0.000	0.00	0.50	0.00	0.079
66.532	0.000	0.00	0.50	0.00	0.079
66.648	0.000	0.00	0.50	0.00	0.079
66.764	0.000	0.00	0.50	0.00	0.079
66.881	0.000	0.00	0.50	0.00	0.079
66.997	0.000	0.00	0.50	0.00	0.079
67.113	0.000	0.00	0.50	0.00	0.079
67.229	0.000	0.00	0.50	0.00	0.079
67.345	0.000	0.00	0.50	0.00	0.079
67.461	0.000	0.00	0.50	0.00	0.079
67.578	0.000	0.00	0.50	0.00	0.079
67.694	0.000	0.00	0.50	0.00	0.079
67.810	0.000	0.00	0.50	0.00	0.079
67.926	0.000	0.00	0.50	0.00	0.079
68.042	0.000	0.00	0.50	0.00	0.079
68.158	0.000	0.00	0.50	0.00	0.079
68.275	0.000	0.00	0.50	0.00	0.079
68.391	0.000	0.00	0.50	0.00	0.079
68.507	0.000	0.00	0.50	0.00	0.079
68.623	0.000	0.00	0.50	0.00	0.079
68.739	0.000	0.00	0.50	0.00	0.079
68.855	0.000	0.00	0.50	0.00	0.079
68.972	0.000	0.00	0.50	0.00	0.079
69.088	0.000	0.00	0.50	0.00	0.079
69.204	0.000	0.00	0.50	0.00	0.079
69.320	0.000	0.00	0.50	0.00	0.079
69.436	0.000	0.00	0.50	0.00	0.079
69.552	0.000	0.00	0.50	0.00	0.079
69.669	0.000	0.00	0.50	0.00	0.079
69.785	0.000	0.00	0.50	0.00	0.079
69.901	0.000	0.00	0.50	0.00	0.079
70.017	0.000	0.00	0.50	0.00	0.079
70.133	0.000	0.00	0.50	0.00	0.079
70.249	0.000	0.00	0.50	0.00	0.079
70.366	0.000	0.00	0.50	0.00	0.079
70.482	0.000	0.00	0.50	0.00	0.079
70.598	0.000	0.00	0.50	0.00	0.079
70.714	0.000	0.00	0.50	0.00	0.079
70.830	0.000	0.00	0.50	0.00	0.079
70.946	0.000	0.00	0.50	0.00	0.079
71.063	0.000	0.00	0.50	0.00	0.079
71.179	0.000	0.00	0.50	0.00	0.079
71.295	0.000	0.00	0.50	0.00	0.079
71.411	0.000	0.00	0.50	0.00	0.079
71.527	0.000	0.00	0.50	0.00	0.079
71.643	0.000	0.00	0.50	0.00	0.079
71.760	0.000	0.00	0.50	0.00	0.079
71.876	0.000	0.00	0.50	0.00	0.079
71.992	0.000	0.00	0.50	0.00	0.079
72.108	0.000	0.00	0.50	0.00	0.079
72.224	0.000	0.00	0.50	0.00	0.079
72.340	0.000	0.00	0.50	0.00	0.079
72.457	0.000	0.00	0.50	0.00	0.079

72.573	0.000	0.00	0.50	0.00	0.079
72.689	0.000	0.00	0.50	0.00	0.079
72.805	0.000	0.00	0.50	0.00	0.079
72.921	0.000	0.00	0.50	0.00	0.079
73.037	0.000	0.00	0.50	0.00	0.079
73.153	0.000	0.00	0.50	0.00	0.079
73.270	0.000	0.00	0.50	0.00	0.079
73.386	0.000	0.00	0.50	0.00	0.079
73.502	0.000	0.00	0.50	0.00	0.079
73.618	0.000	0.00	0.50	0.00	0.079
73.734	0.000	0.00	0.50	0.00	0.079
73.850	0.000	0.00	0.50	0.00	0.079
73.967	0.000	0.00	0.50	0.00	0.079
74.083	0.000	0.00	0.50	0.00	0.079
74.199	0.000	0.00	0.50	0.00	0.079
74.315	0.000	0.00	0.50	0.00	0.079
74.431	0.000	0.00	0.50	0.00	0.079
74.547	0.000	0.00	0.50	0.00	0.079
74.664	0.000	0.00	0.50	0.00	0.079
74.780	0.000	0.00	0.50	0.00	0.079
74.896	0.000	0.00	0.50	0.00	0.079
75.012	0.000	0.00	0.50	0.00	0.079
75.128	0.000	0.00	0.50	0.00	0.079
75.244	0.000	0.00	0.50	0.00	0.079
75.361	0.000	0.00	0.50	0.00	0.079
75.477	0.000	0.00	0.50	0.00	0.079
75.593	0.000	0.00	0.50	0.00	0.079
75.709	0.000	0.00	0.50	0.00	0.079
75.825	0.000	0.00	0.50	0.00	0.079
75.941	0.000	0.00	0.50	0.00	0.079
76.058	0.000	0.00	0.50	0.00	0.079
76.174	0.000	0.00	0.50	0.00	0.079
76.290	0.000	0.00	0.50	0.00	0.079
76.406	0.000	0.00	0.50	0.00	0.079
76.522	0.000	0.00	0.50	0.00	0.079
76.638	0.000	0.00	0.50	0.00	0.079
76.755	0.000	0.00	0.50	0.00	0.079
76.871	0.000	0.00	0.50	0.00	0.079
76.987	0.000	0.00	0.50	0.00	0.079
77.103	0.000	0.00	0.50	0.00	0.079
77.219	0.000	0.00	0.50	0.00	0.079
77.335	0.000	0.00	0.50	0.00	0.079
77.452	0.000	0.00	0.50	0.00	0.079
77.568	0.000	0.00	0.50	0.00	0.079
77.684	0.000	0.00	0.50	0.00	0.079
77.800	0.000	0.00	0.50	0.00	0.079
77.916	0.000	0.00	0.50	0.00	0.079
78.032	0.000	0.00	0.50	0.00	0.079
78.149	0.000	0.00	0.50	0.00	0.079
78.265	0.000	0.00	0.50	0.00	0.079
78.381	0.000	0.00	0.50	0.00	0.079
78.497	0.000	0.00	0.50	0.00	0.079
78.613	0.000	0.00	0.50	0.00	0.079
78.729	0.000	0.00	0.50	0.00	0.079
78.846	0.000	0.00	0.50	0.00	0.079
78.962	0.000	0.00	0.50	0.00	0.079
79.078	0.000	0.00	0.50	0.00	0.079
79.194	0.000	0.00	0.50	0.00	0.079
79.310	0.000	0.00	0.50	0.00	0.079
79.426	0.000	0.00	0.50	0.00	0.079
79.543	0.000	0.00	0.50	0.00	0.079
79.659	0.000	0.00	0.50	0.00	0.079
79.775	0.000	0.00	0.50	0.00	0.079
79.891	0.000	0.00	0.50	0.00	0.079
80.007	0.000	0.00	0.50	0.00	0.079
80.123	0.000	0.00	0.50	0.00	0.079
80.240	0.000	0.00	0.50	0.00	0.079
80.356	0.000	0.00	0.50	0.00	0.079

80.472	0.000	0.00	0.50	0.00	0.079
80.588	0.000	0.00	0.50	0.00	0.079
80.704	0.000	0.00	0.50	0.00	0.079
80.820	0.000	0.00	0.50	0.00	0.079
80.937	0.000	0.00	0.50	0.00	0.079
81.053	0.000	0.00	0.50	0.00	0.079
81.169	0.000	0.00	0.50	0.00	0.079
81.285	0.000	0.00	0.50	0.00	0.079
81.401	0.000	0.00	0.50	0.00	0.079
81.517	0.000	0.00	0.50	0.00	0.079
81.634	0.000	0.00	0.50	0.00	0.079
81.750	0.000	0.00	0.50	0.00	0.079
81.866	0.000	0.00	0.50	0.00	0.079
81.982	0.000	0.00	0.50	0.00	0.079
82.098	0.000	0.00	0.50	0.00	0.079
82.214	0.000	0.00	0.50	0.00	0.079
82.331	0.000	0.00	0.50	0.00	0.079
82.447	0.000	0.00	0.50	0.00	0.079
82.563	0.000	0.00	0.50	0.00	0.079
82.679	0.000	0.00	0.50	0.00	0.079
82.795	0.000	0.00	0.50	0.00	0.079
82.911	0.000	0.00	0.50	0.00	0.079
83.028	0.000	0.00	0.50	0.00	0.079
83.144	0.000	0.00	0.50	0.00	0.079
83.260	0.000	0.00	0.50	0.00	0.079
83.376	0.000	0.00	0.50	0.00	0.079
83.492	0.000	0.00	0.50	0.00	0.079
83.608	0.000	0.00	0.50	0.00	0.079
83.725	0.000	0.00	0.50	0.00	0.079
83.841	0.000	0.00	0.50	0.00	0.079
83.957	0.000	0.00	0.50	0.00	0.079
84.073	0.000	0.00	0.50	0.00	0.079
84.189	0.000	0.00	0.50	0.00	0.079
84.305	0.000	0.00	0.50	0.00	0.079
84.422	0.000	0.00	0.50	0.00	0.079
84.538	0.000	0.00	0.50	0.00	0.079
84.654	0.000	0.00	0.50	0.00	0.079
84.770	0.000	0.00	0.50	0.00	0.079
84.886	0.000	0.00	0.50	0.00	0.079
85.002	0.000	0.00	0.50	0.00	0.079
85.119	0.000	0.00	0.50	0.00	0.079
85.235	0.000	0.00	0.50	0.00	0.079
85.351	0.000	0.00	0.50	0.00	0.079
85.467	0.000	0.00	0.50	0.00	0.079
85.583	0.000	0.00	0.50	0.00	0.079
85.699	0.000	0.00	0.50	0.00	0.079
85.815	0.000	0.00	0.50	0.00	0.079
85.932	0.000	0.00	0.50	0.00	0.079
86.048	0.000	0.00	0.50	0.00	0.079
86.164	0.000	0.00	0.50	0.00	0.079
86.280	0.000	0.00	0.50	0.00	0.079
86.396	0.000	0.00	0.50	0.00	0.079
86.512	0.000	0.00	0.50	0.00	0.079
86.629	0.000	0.00	0.50	0.00	0.079
86.745	0.000	0.00	0.50	0.00	0.079
86.861	0.000	0.00	0.50	0.00	0.079
86.977	0.000	0.00	0.50	0.00	0.079
87.093	0.000	0.00	0.50	0.00	0.079
87.209	0.000	0.00	0.50	0.00	0.079
87.326	0.000	0.00	0.50	0.00	0.079
87.442	0.000	0.00	0.50	0.00	0.079
87.558	0.000	0.00	0.50	0.00	0.079
87.674	0.000	0.00	0.50	0.00	0.079
87.790	0.000	0.00	0.50	0.00	0.079
87.906	0.000	0.00	0.50	0.00	0.079
88.023	0.000	0.00	0.50	0.00	0.079
88.139	0.000	0.00	0.50	0.00	0.079
88.255	0.000	0.00	0.50	0.00	0.079

88.371	0.000	0.00	0.50	0.00	0.079
88.487	0.000	0.00	0.50	0.00	0.079
88.603	0.000	0.00	0.50	0.00	0.079
88.720	0.000	0.00	0.50	0.00	0.079
88.836	0.000	0.00	0.50	0.00	0.079
88.952	0.000	0.00	0.50	0.00	0.079
89.068	0.000	0.00	0.50	0.00	0.079
89.184	0.000	0.00	0.50	0.00	0.079
89.300	0.000	0.00	0.50	0.00	0.079
89.417	0.000	0.00	0.50	0.00	0.079
89.533	0.000	0.00	0.50	0.00	0.079
89.649	0.000	0.00	0.50	0.00	0.079
89.765	0.000	0.00	0.50	0.00	0.079
89.881	0.000	0.00	0.50	0.00	0.079
89.997	0.000	0.00	0.50	0.00	0.079
90.114	0.000	0.00	0.50	0.00	0.079
90.230	0.000	0.00	0.50	0.00	0.079
90.346	0.000	0.00	0.50	0.00	0.079
90.462	0.000	0.00	0.50	0.00	0.079
90.578	0.000	0.00	0.50	0.00	0.079
90.694	0.000	0.00	0.50	0.00	0.079
90.811	0.000	0.00	0.50	0.00	0.079
90.927	0.000	0.00	0.50	0.00	0.079
91.043	0.000	0.00	0.50	0.00	0.079
91.159	0.000	0.00	0.50	0.00	0.079
91.275	0.000	0.00	0.50	0.00	0.079
91.391	0.000	0.00	0.50	0.00	0.079
91.508	0.000	0.00	0.50	0.00	0.079
91.624	0.000	0.00	0.50	0.00	0.079
91.740	0.000	0.00	0.50	0.00	0.079
91.856	0.000	0.00	0.50	0.00	0.079
91.972	0.000	0.00	0.50	0.00	0.079
92.088	0.000	0.00	0.50	0.00	0.079
92.205	0.000	0.00	0.50	0.00	0.079
92.321	0.000	0.00	0.50	0.00	0.079
92.437	0.000	0.00	0.50	0.00	0.079
92.553	0.000	0.00	0.50	0.00	0.079
92.669	0.000	0.00	0.50	0.00	0.079
92.785	0.000	0.00	0.50	0.00	0.079
92.902	0.000	0.00	0.50	0.00	0.079
93.018	0.000	0.00	0.50	0.00	0.079
93.134	0.000	0.00	0.50	0.00	0.079
93.250	0.000	0.00	0.50	0.00	0.079
93.366	0.000	0.00	0.50	0.00	0.079
93.482	0.000	0.00	0.50	0.00	0.079
93.599	0.000	0.00	0.50	0.00	0.079
93.715	0.000	0.00	0.50	0.00	0.079
93.831	0.000	0.00	0.50	0.00	0.079
93.947	0.000	0.00	0.50	0.00	0.079
94.063	0.000	0.00	0.50	0.00	0.079
94.179	0.000	0.00	0.50	0.00	0.079
94.296	0.000	0.00	0.50	0.00	0.079
94.412	0.000	0.00	0.50	0.00	0.079
94.528	0.000	0.00	0.50	0.00	0.079
94.644	0.000	0.00	0.50	0.00	0.079
94.760	0.000	0.00	0.50	0.00	0.079
94.876	0.000	0.00	0.50	0.00	0.079
94.993	0.000	0.00	0.50	0.00	0.079
95.109	0.000	0.00	0.50	0.00	0.079
95.225	0.000	0.00	0.50	0.00	0.079
95.341	0.000	0.00	0.50	0.00	0.079
95.457	0.000	0.00	0.50	0.00	0.079
95.573	0.000	0.00	0.50	0.00	0.079
95.690	0.000	0.00	0.50	0.00	0.079
95.806	0.000	0.00	0.50	0.00	0.079
95.922	0.000	0.00	0.50	0.00	0.079
96.038	0.000	0.00	0.50	0.00	0.079
96.154	0.000	0.00	0.50	0.00	0.079

96.270	0.000	0.00	0.50	0.00	0.079
96.387	0.000	0.00	0.50	0.00	0.079
96.503	0.000	0.00	0.50	0.00	0.079
96.619	0.000	0.00	0.50	0.00	0.079
96.735	0.000	0.00	0.50	0.00	0.079
96.851	0.000	0.00	0.50	0.00	0.079
96.967	0.000	0.00	0.50	0.00	0.079
97.084	0.000	0.00	0.50	0.00	0.079
97.200	0.000	0.00	0.50	0.00	0.079
97.316	0.000	0.00	0.50	0.00	0.079
97.432	0.000	0.00	0.50	0.00	0.079
97.548	0.000	0.00	0.50	0.00	0.079
97.664	0.000	0.00	0.50	0.00	0.079
97.781	0.000	0.00	0.50	0.00	0.079
97.897	0.000	0.00	0.50	0.00	0.079
98.013	0.000	0.00	0.50	0.00	0.079
98.129	0.000	0.00	0.50	0.00	0.079
98.245	0.000	0.00	0.50	0.00	0.079
98.361	0.000	0.00	0.50	0.00	0.079
98.478	0.000	0.00	0.50	0.00	0.079
98.594	0.000	0.00	0.50	0.00	0.079
98.710	0.000	0.00	0.50	0.00	0.079
98.826	0.000	0.00	0.50	0.00	0.079
98.942	0.000	0.00	0.50	0.00	0.079
99.058	0.000	0.00	0.50	0.00	0.079
99.174	0.000	0.00	0.50	0.00	0.079
99.291	0.000	0.00	0.50	0.00	0.079
99.407	0.000	0.00	0.50	0.00	0.079
99.523	0.000	0.00	0.50	0.00	0.079
99.639	0.000	0.00	0.50	0.00	0.079
99.755	0.000	0.00	0.50	0.00	0.079
99.871	0.000	0.00	0.50	0.00	0.079
99.988	0.000	0.00	0.50	0.00	0.079
100.104	0.000	0.00	0.50	0.00	0.079
100.220	0.000	0.00	0.50	0.00	0.079
100.336	0.000	0.00	0.50	0.00	0.079
100.452	0.000	0.00	0.50	0.00	0.079
100.568	0.000	0.00	0.50	0.00	0.079
100.685	0.000	0.00	0.50	0.00	0.079
100.801	0.000	0.00	0.50	0.00	0.079
100.917	0.000	0.00	0.50	0.00	0.079
101.033	0.000	0.00	0.50	0.00	0.079
101.149	0.000	0.00	0.50	0.00	0.079
101.265	0.000	0.00	0.50	0.00	0.079
101.382	0.000	0.00	0.50	0.00	0.079
101.498	0.000	0.00	0.50	0.00	0.079
101.614	0.000	0.00	0.50	0.00	0.079
101.730	0.000	0.00	0.50	0.00	0.079
101.846	0.000	0.00	0.50	0.00	0.079
101.962	0.000	0.00	0.50	0.00	0.079
102.079	0.000	0.00	0.50	0.00	0.079
102.195	0.000	0.00	0.50	0.00	0.079
102.311	0.000	0.00	0.50	0.00	0.079
102.427	0.000	0.00	0.50	0.00	0.079
102.543	0.000	0.00	0.50	0.00	0.079
102.659	0.000	0.00	0.50	0.00	0.079
102.776	0.000	0.00	0.50	0.00	0.079
102.892	0.000	0.00	0.50	0.00	0.079
103.008	0.000	0.00	0.50	0.00	0.079
103.124	0.000	0.00	0.50	0.00	0.079
103.240	0.000	0.00	0.50	0.00	0.079
103.356	0.000	0.00	0.50	0.00	0.079
103.473	0.000	0.00	0.50	0.00	0.079
103.589	0.000	0.00	0.50	0.00	0.079
103.705	0.000	0.00	0.50	0.00	0.079
103.821	0.000	0.00	0.50	0.00	0.079
103.937	0.000	0.00	0.50	0.00	0.079
104.053	0.000	0.00	0.50	0.00	0.079

104.170	0.000	0.00	0.50	0.00	0.079
104.286	0.000	0.00	0.50	0.00	0.079
104.402	0.000	0.00	0.50	0.00	0.079
104.518	0.000	0.00	0.50	0.00	0.079
104.634	0.000	0.00	0.50	0.00	0.079
104.750	0.000	0.00	0.50	0.00	0.079
104.867	0.000	0.00	0.50	0.00	0.079
104.983	0.000	0.00	0.50	0.00	0.079
105.099	0.000	0.00	0.50	0.00	0.079
105.215	0.000	0.00	0.50	0.00	0.079
105.331	0.000	0.00	0.50	0.00	0.079
105.447	0.000	0.00	0.50	0.00	0.079
105.564	0.000	0.00	0.50	0.00	0.079
105.680	0.000	0.00	0.50	0.00	0.079
105.796	0.000	0.00	0.50	0.00	0.079
105.912	0.000	0.00	0.50	0.00	0.079
106.028	0.000	0.00	0.50	0.00	0.079
106.144	0.000	0.00	0.50	0.00	0.079
106.261	0.000	0.00	0.50	0.00	0.079
106.377	0.000	0.00	0.50	0.00	0.079
106.493	0.000	0.00	0.50	0.00	0.079
106.609	0.000	0.00	0.50	0.00	0.079
106.725	0.000	0.00	0.50	0.00	0.079
106.841	0.000	0.00	0.50	0.00	0.079
106.958	0.000	0.00	0.50	0.00	0.079
107.074	0.000	0.00	0.50	0.00	0.079
107.190	0.000	0.00	0.50	0.00	0.079
107.306	0.000	0.00	0.50	0.00	0.079
107.422	0.000	0.00	0.50	0.00	0.079
107.538	0.000	0.00	0.50	0.00	0.079
107.655	0.000	0.00	0.50	0.00	0.079
107.771	0.000	0.00	0.50	0.00	0.079
107.887	0.000	0.00	0.50	0.00	0.079
108.003	0.000	0.00	0.50	0.00	0.079
108.119	0.000	0.00	0.50	0.00	0.079
108.235	0.000	0.00	0.50	0.00	0.079
108.352	0.000	0.00	0.50	0.00	0.079
108.468	0.000	0.00	0.50	0.00	0.079
108.584	0.000	0.00	0.50	0.00	0.079
108.700	0.000	0.00	0.50	0.00	0.079
108.816	0.000	0.00	0.50	0.00	0.079
108.932	0.000	0.00	0.50	0.00	0.079
109.049	0.000	0.00	0.50	0.00	0.079
109.165	0.000	0.00	0.50	0.00	0.079
109.281	0.000	0.00	0.50	0.00	0.079
109.397	0.000	0.00	0.50	0.00	0.079
109.513	0.000	0.00	0.50	0.00	0.079
109.629	0.000	0.00	0.50	0.00	0.079
109.746	0.000	0.00	0.50	0.00	0.079
109.862	0.000	0.00	0.50	0.00	0.079
109.978	0.000	0.00	0.50	0.00	0.079
110.094	0.000	0.00	0.50	0.00	0.079
110.210	0.000	0.00	0.50	0.00	0.079
110.326	0.000	0.00	0.50	0.00	0.079
110.443	0.000	0.00	0.50	0.00	0.079
110.559	0.000	0.00	0.50	0.00	0.079
110.675	0.000	0.00	0.50	0.00	0.079
110.791	0.000	0.00	0.50	0.00	0.079
110.907	0.000	0.00	0.50	0.00	0.079
111.023	0.000	0.00	0.50	0.00	0.079
111.140	0.000	0.00	0.50	0.00	0.079
111.256	0.000	0.00	0.50	0.00	0.079
111.372	0.000	0.00	0.50	0.00	0.079
111.488	0.000	0.00	0.50	0.00	0.079
111.604	0.000	0.00	0.50	0.00	0.079
111.720	0.000	0.00	0.50	0.00	0.079
111.836	0.000	0.00	0.50	0.00	0.079
111.953	0.000	0.00	0.50	0.00	0.079

112.069	0.000	0.00	0.50	0.00	0.079
112.185	0.000	0.00	0.50	0.00	0.079
112.301	0.000	0.00	0.50	0.00	0.079
112.417	0.000	0.00	0.50	0.00	0.079
112.533	0.000	0.00	0.50	0.00	0.079
112.650	0.000	0.00	0.50	0.00	0.079
112.766	0.000	0.00	0.50	0.00	0.079
112.882	0.000	0.00	0.50	0.00	0.079
112.998	0.000	0.00	0.50	0.00	0.079
113.114	0.000	0.00	0.50	0.00	0.079
113.230	0.000	0.00	0.50	0.00	0.079
113.347	0.000	0.00	0.50	0.00	0.079
113.463	0.000	0.00	0.50	0.00	0.079
113.579	0.000	0.00	0.50	0.00	0.079
113.695	0.000	0.00	0.50	0.00	0.079
113.811	0.000	0.00	0.50	0.00	0.079
113.927	0.000	0.00	0.50	0.00	0.079
114.044	0.000	0.00	0.50	0.00	0.079
114.160	0.000	0.00	0.50	0.00	0.079
114.276	0.000	0.00	0.50	0.00	0.079
114.392	0.000	0.00	0.50	0.00	0.079
114.508	0.000	0.00	0.50	0.00	0.079
114.624	0.000	0.00	0.50	0.00	0.079
114.741	0.000	0.00	0.50	0.00	0.079
114.857	0.000	0.00	0.50	0.00	0.079
114.973	0.000	0.00	0.50	0.00	0.079
115.089	0.000	0.00	0.50	0.00	0.079
115.205	0.000	0.00	0.50	0.00	0.079
115.321	0.000	0.00	0.50	0.00	0.079
115.438	0.000	0.00	0.50	0.00	0.079
115.554	0.000	0.00	0.50	0.00	0.079
115.670	0.000	0.00	0.50	0.00	0.079
115.786	0.000	0.00	0.50	0.00	0.079
115.902	0.000	0.00	0.50	0.00	0.079
116.018	0.000	0.00	0.50	0.00	0.079
116.135	0.000	0.00	0.50	0.00	0.079
116.251	0.000	0.00	0.50	0.00	0.079
116.367	0.000	0.00	0.50	0.00	0.079
116.483	0.000	0.00	0.50	0.00	0.079
116.599	0.000	0.00	0.50	0.00	0.079
116.715	0.000	0.00	0.50	0.00	0.079
116.832	0.000	0.00	0.50	0.00	0.079
116.948	0.000	0.00	0.50	0.00	0.079
117.064	0.000	0.00	0.50	0.00	0.079
117.180	0.000	0.00	0.50	0.00	0.079
117.296	0.000	0.00	0.50	0.00	0.079
117.412	0.000	0.00	0.50	0.00	0.079
117.529	0.000	0.00	0.50	0.00	0.079
117.645	0.000	0.00	0.50	0.00	0.079
117.761	0.000	0.00	0.50	0.00	0.079
117.877	0.000	0.00	0.50	0.00	0.079
117.993	0.000	0.00	0.50	0.00	0.079
118.109	0.000	0.00	0.50	0.00	0.079
118.226	0.000	0.00	0.50	0.00	0.079
118.342	0.000	0.00	0.50	0.00	0.079
118.458	0.000	0.00	0.50	0.00	0.079
118.574	0.000	0.00	0.50	0.00	0.079
118.690	0.000	0.00	0.50	0.00	0.079
118.806	0.000	0.00	0.50	0.00	0.079
118.923	0.000	0.00	0.50	0.00	0.079
119.039	0.000	0.00	0.50	0.00	0.079
119.155	0.000	0.00	0.50	0.00	0.079
119.271	0.000	0.00	0.50	0.00	0.079
119.387	0.000	0.00	0.50	0.00	0.079
119.503	0.000	0.00	0.50	0.00	0.079
119.620	0.000	0.00	0.50	0.00	0.079
119.736	0.000	0.00	0.50	0.00	0.079
119.852	0.000	0.00	0.50	0.00	0.079

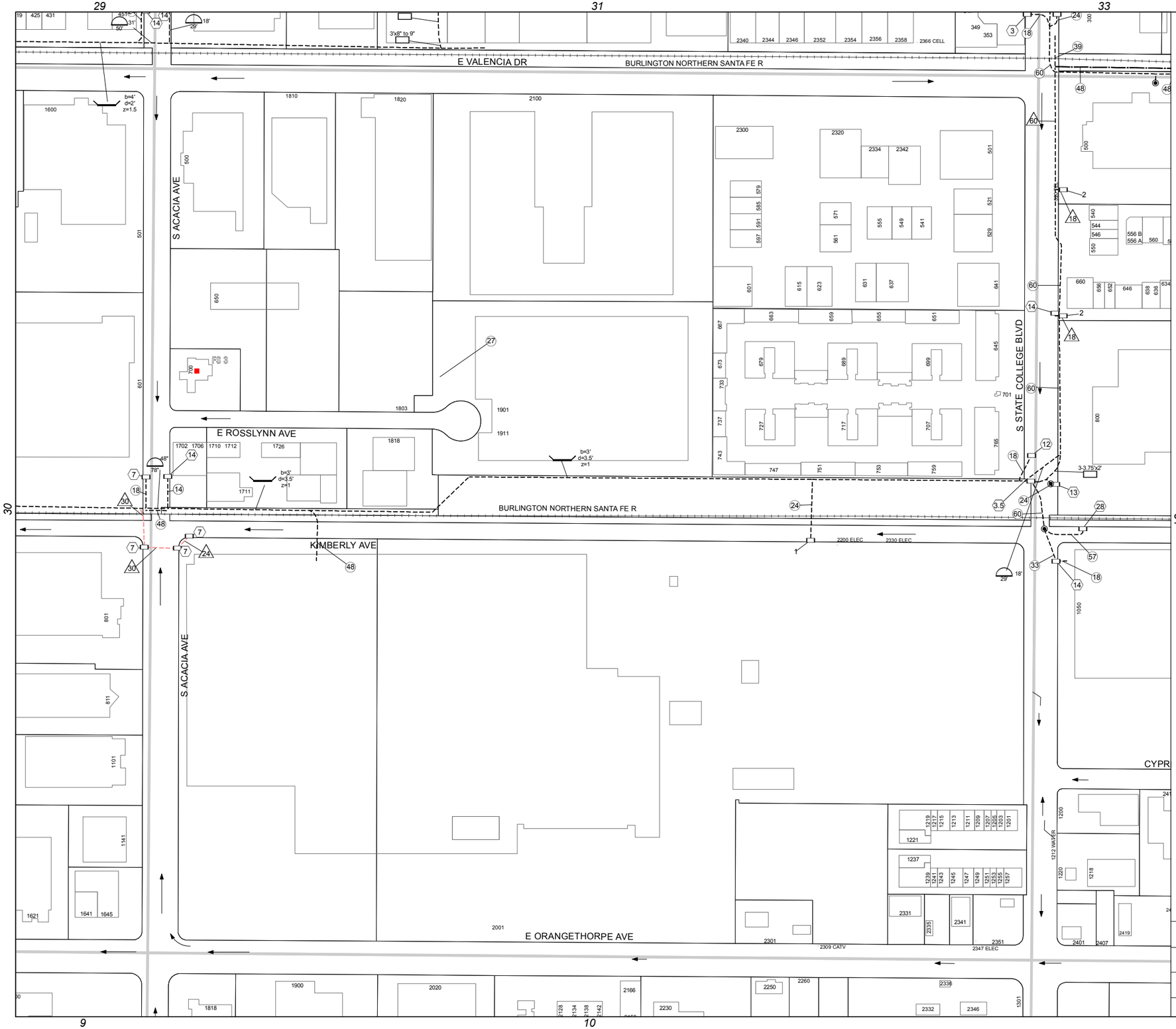
119.968	0.000	0.00	0.50	0.00	0.079
120.084	0.000	0.00	0.50	0.00	0.079
120.200	0.000	0.00	0.50	0.00	0.079
120.317	0.000	0.00	0.50	0.00	0.079
120.433	0.000	0.00	0.50	0.00	0.079
120.549	0.000	0.00	0.50	0.00	0.079
120.665	0.000	0.00	0.50	0.00	0.079
120.781	0.000	0.00	0.50	0.00	0.079
120.897	0.000	0.00	0.50	0.00	0.079
121.014	0.000	0.00	0.50	0.00	0.079
121.130	0.000	0.00	0.50	0.00	0.079
121.246	0.000	0.00	0.50	0.00	0.079
121.362	0.000	0.00	0.50	0.00	0.079
121.478	0.000	0.00	0.50	0.00	0.079
121.594	0.000	0.00	0.50	0.00	0.079
121.711	0.000	0.00	0.50	0.00	0.079
121.827	0.000	0.00	0.50	0.00	0.079
121.943	0.000	0.00	0.50	0.00	0.079
122.059	0.000	0.00	0.50	0.00	0.079
122.175	0.000	0.00	0.50	0.00	0.079
122.291	0.000	0.00	0.50	0.00	0.079
122.408	0.000	0.00	0.50	0.00	0.079
122.524	0.000	0.00	0.50	0.00	0.079
122.640	0.000	0.00	0.50	0.00	0.079
122.756	0.000	0.00	0.50	0.00	0.079
122.872	0.000	0.00	0.50	0.00	0.079
122.988	0.000	0.00	0.50	0.00	0.079
123.105	0.000	0.00	0.50	0.00	0.079
123.221	0.000	0.00	0.50	0.00	0.079
123.337	0.000	0.00	0.50	0.00	0.079
123.453	0.000	0.00	0.50	0.00	0.079
123.569	0.000	0.00	0.50	0.00	0.079
123.685	0.000	0.00	0.50	0.00	0.079
123.802	0.000	0.00	0.50	0.00	0.079
123.918	0.000	0.00	0.50	0.00	0.079
124.034	0.000	0.00	0.50	0.00	0.079
124.150	0.000	0.00	0.50	0.00	0.079
124.266	0.000	0.00	0.50	0.00	0.079
124.382	0.000	0.00	0.50	0.00	0.079
124.498	0.000	0.00	0.50	0.00	0.079
124.615	0.000	0.00	0.50	0.00	0.079
124.731	0.000	0.00	0.50	0.00	0.079
124.847	0.000	0.00	0.50	0.00	0.079
124.963	0.000	0.00	0.50	0.00	0.079
125.079	0.000	0.00	0.50	0.00	0.079
125.195	0.000	0.00	0.50	0.00	0.079
125.312	0.000	0.00	0.50	0.00	0.079
125.428	0.000	0.00	0.50	0.00	0.079
125.544	0.000	0.00	0.50	0.00	0.079
125.660	0.000	0.00	0.50	0.00	0.079
125.776	0.000	0.00	0.50	0.00	0.079
125.892	0.000	0.00	0.50	0.00	0.079
126.009	0.000	0.00	0.50	0.00	0.079
126.125	0.000	0.00	0.50	0.00	0.079
126.241	0.000	0.00	0.50	0.00	0.079
126.357	0.000	0.00	0.50	0.00	0.079
126.473	0.000	0.00	0.50	0.00	0.079
126.589	0.000	0.00	0.50	0.00	0.079
126.706	0.000	0.00	0.50	0.00	0.079
126.822	0.000	0.00	0.50	0.00	0.079
126.938	0.000	0.00	0.50	0.00	0.079
127.054	0.000	0.00	0.50	0.00	0.079
127.170	0.000	0.00	0.50	0.00	0.079
127.286	0.000	0.00	0.50	0.00	0.079
127.403	0.000	0.00	0.50	0.00	0.079
127.519	0.000	0.00	0.50	0.00	0.079
127.635	0.000	0.00	0.50	0.00	0.079
127.751	0.000	0.00	0.50	0.00	0.079

127.867	0.000	0.00	0.50	0.00	0.079
127.983	0.000	0.00	0.50	0.00	0.079
128.100	0.000	0.00	0.50	0.00	0.079
128.216	0.000	0.00	0.50	0.00	0.079
128.332	0.000	0.00	0.50	0.00	0.079
128.448	0.000	0.00	0.50	0.00	0.079
128.564	0.000	0.00	0.50	0.00	0.079
128.680	0.000	0.00	0.50	0.00	0.079
128.797	0.000	0.00	0.50	0.00	0.079
128.913	0.000	0.00	0.50	0.00	0.079
129.029	0.000	0.00	0.50	0.00	0.079
129.145	0.000	0.00	0.50	0.00	0.079
129.261	0.000	0.00	0.50	0.00	0.079
129.377	0.000	0.00	0.50	0.00	0.079
129.494	0.000	0.00	0.50	0.00	0.079
129.610	0.000	0.00	0.50	0.00	0.079
129.726	0.000	0.00	0.50	0.00	0.079
129.842	0.000	0.00	0.50	0.00	0.079
129.958	0.000	0.00	0.50	0.00	0.079
130.074	0.000	0.00	0.50	0.00	0.079
130.191	0.000	0.00	0.50	0.00	0.079
130.307	0.000	0.00	0.50	0.00	0.079
130.423	0.000	0.00	0.50	0.00	0.079
130.539	0.000	0.00	0.50	0.00	0.079
130.655	0.000	0.00	0.50	0.00	0.079
130.771	0.000	0.00	0.50	0.00	0.079
130.888	0.000	0.00	0.50	0.00	0.079
131.004	0.000	0.00	0.50	0.00	0.079
131.120	0.000	0.00	0.50	0.00	0.079
131.236	0.000	0.00	0.50	0.00	0.079
131.352	0.000	0.00	0.50	0.00	0.079
131.468	0.000	0.00	0.50	0.00	0.079
131.585	0.000	0.00	0.50	0.00	0.079
131.701	0.000	0.00	0.50	0.00	0.079
131.817	0.000	0.00	0.50	0.00	0.079
131.933	0.000	0.00	0.50	0.00	0.079
132.049	0.000	0.00	0.50	0.00	0.079
132.165	0.000	0.00	0.50	0.00	0.079
132.282	0.000	0.00	0.50	0.00	0.079
132.398	0.000	0.00	0.50	0.00	0.079
132.514	0.000	0.00	0.50	0.00	0.079
132.630	0.000	0.00	0.50	0.00	0.079
132.746	0.000	0.00	0.50	0.00	0.079
132.862	0.000	0.00	0.50	0.00	0.079
132.979	0.000	0.00	0.50	0.00	0.079
133.095	0.000	0.00	0.50	0.00	0.079
133.211	0.000	0.00	0.50	0.00	0.079
133.327	0.000	0.00	0.50	0.00	0.079
133.443	0.000	0.00	0.50	0.00	0.079
133.559	0.000	0.00	0.50	0.00	0.079
133.676	0.000	0.00	0.50	0.00	0.079
133.792	0.000	0.00	0.50	0.00	0.079
133.908	0.000	0.00	0.50	0.00	0.079
134.024	0.000	0.00	0.50	0.00	0.079
134.140	0.000	0.00	0.50	0.00	0.079
134.256	0.000	0.00	0.50	0.00	0.079
134.373	0.000	0.00	0.50	0.00	0.079
134.489	0.000	0.00	0.50	0.00	0.079
134.605	0.000	0.00	0.50	0.00	0.079
134.721	0.000	0.00	0.50	0.00	0.079
134.837	0.000	0.00	0.50	0.00	0.079
134.953	0.000	0.00	0.50	0.00	0.079
135.070	0.000	0.00	0.50	0.00	0.079
135.186	0.000	0.00	0.50	0.00	0.079
135.302	0.000	0.00	0.50	0.00	0.079
135.418	0.000	0.00	0.50	0.00	0.079
135.534	0.000	0.00	0.50	0.00	0.079
135.650	0.000	0.00	0.50	0.00	0.079

135.767	0.000	0.00	0.50	0.00	0.079
135.883	0.000	0.00	0.50	0.00	0.079
135.999	0.000	0.00	0.50	0.00	0.079
136.115	0.000	0.00	0.50	0.00	0.079
136.231	0.000	0.00	0.50	0.00	0.079
136.347	0.000	0.00	0.50	0.00	0.079
136.464	0.000	0.00	0.50	0.00	0.079
136.580	0.000	0.00	0.50	0.00	0.079
136.696	0.000	0.00	0.50	0.00	0.079
136.812	0.000	0.00	0.50	0.00	0.079
136.928	0.000	0.00	0.50	0.00	0.079
137.044	0.000	0.00	0.50	0.00	0.079
137.161	0.000	0.00	0.50	0.00	0.079
137.277	0.000	0.00	0.50	0.00	0.079
137.393	0.000	0.00	0.50	0.00	0.079
137.509	0.000	0.00	0.50	0.00	0.079
137.625	0.000	0.00	0.50	0.00	0.079
137.741	0.000	0.00	0.50	0.00	0.079
137.857	0.000	0.00	0.50	0.00	0.079
137.974	0.000	0.00	0.50	0.00	0.079
138.090	0.000	0.00	0.50	0.00	0.079
138.206	0.000	0.00	0.50	0.00	0.079
138.322	0.000	0.00	0.50	0.00	0.079
138.438	0.000	0.00	0.50	0.00	0.079
138.554	0.000	0.00	0.50	0.00	0.079
138.671	0.000	0.00	0.50	0.00	0.079
138.787	0.000	0.00	0.50	0.00	0.079
138.903	0.000	0.00	0.50	0.00	0.079
139.019	0.000	0.00	0.50	0.00	0.079
139.135	0.000	0.00	0.50	0.00	0.079
139.251	0.000	0.00	0.50	0.00	0.079
139.368	0.000	0.00	0.50	0.00	0.079
139.484	0.000	0.00	0.50	0.00	0.079
139.600	0.000	0.00	0.50	0.00	0.079
139.716	0.000	0.00	0.50	0.00	0.079
139.832	0.000	0.00	0.50	0.00	0.079
139.948	0.000	0.00	0.50	0.00	0.079
140.065	0.000	0.00	0.50	0.00	0.079
140.181	0.000	0.00	0.50	0.00	0.079
140.297	0.000	0.00	0.50	0.00	0.079

Appendix G – Kimberly Storm Channel As-built Plans

Kimberly Storm Channel As-built Plans for Reference



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CITY OF FULLERTON

STORMWATER SYSTEM

LEGEND

FACILITIES

- CITY OF FULLERTON
- ORANGE COUNTY FLOOD CONTROL DISTRICT (OCFCD)
- PRIVATE
- NATURAL SWALE
- OTHER CITY

- REINFORCED CONCRETE PIPE (IN.) C - PLAIN CONCRETE
- CORRUGATED METAL PIPE (IN.)
- CORRUGATED METAL PIPE ARCH BASE X DEPTH (IN.)
- REINFORCED CONCRETE BOX CULVERT BARRELS, BASE X DEPTH (FT.)
- TRAPEZOIDAL CHANNEL BASE (b), DEPTH (d), (FT.), SLOPE RATIO (z)
- VERTICAL WALL CHANNEL BASE X DEPTH (FT.)
- LINED PIPE

- CATCH BASIN, OPENING WIDTH (FT.)
- GRATE INLET, NUMBER OF GRATES
- FLOW DIRECTION
- MANHOLE

- SCHOOL
- PARK
- ATLAS GRID
- EASEMENT
- PRIVATE STREET
- CITY BOUNDARY
- RAILROAD
- POINT OF INTEREST

THIS MAP IS NOT AN OFFICIAL RECORD OF THE CITY BUT IS COMPILED FROM DATA FURNISHED BY PRIVATE CONTRACTORS AND OTHER SOURCES. LOCATIONS AND SIZE OF STORMDRAINS AND OTHER RELATED FACILITIES ARE SHOWN BASED ON THESE SOURCES. THIS INFORMATION IS FURNISHED TO ANY PERSON STRICTLY AS A CONVENIENCE AND THE CITY DOES NOT ASSUME ANY RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS.

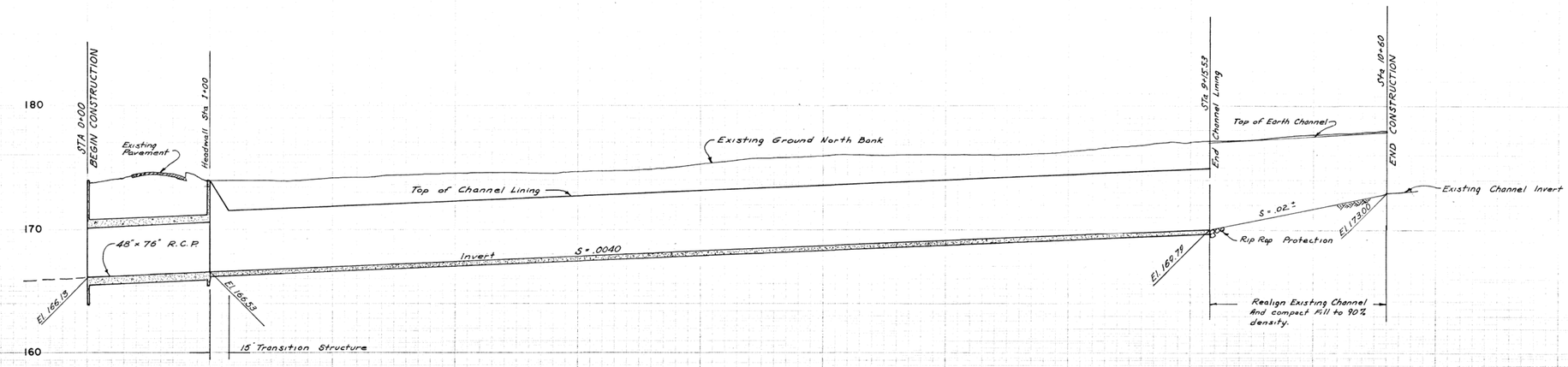
BASE UPDATED
COUNTY - 2008

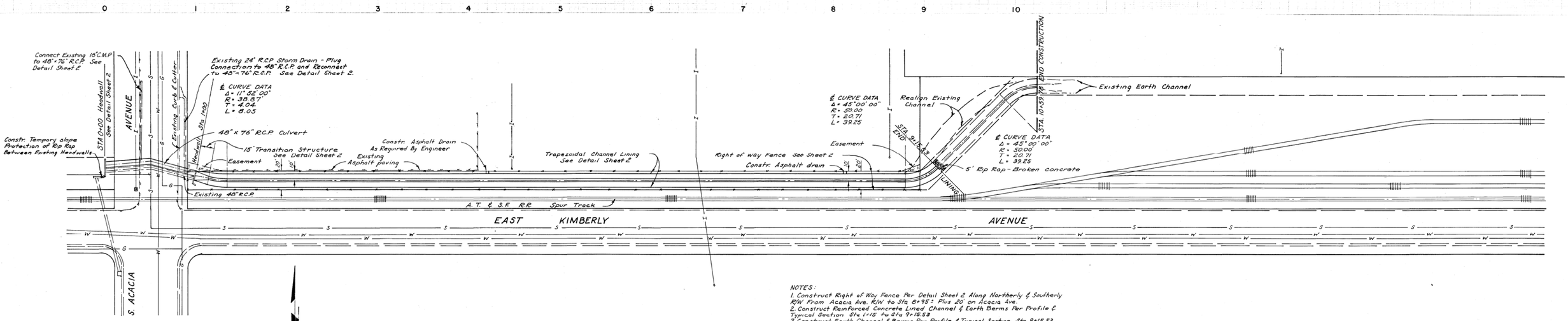
OVERLAY REVISED
MAR 2010

0 150 300 Feet

GRID 12 - C

PAGE 32





NOTES:
1. Construct Right of Way Fence Per Detail Sheet 2 Along Northerly & Southerly R/W From Acacia Ave. R/W to Sta 8+95± Plus 20' on Acacia Ave.
2. Construct Reinforced Concrete Lined Channel & Earth Berms Per Profile & Typical Section Sta 1+15 to Sta 9+15.53
3. Construct Earth Channel & Berms Per Profile & Typical Section Sta 9+15.53 To Sta 10+59.78.
4. For Construction of Culvert And Appurtenant Work at Street Intersection See Sheet 2 For Details.

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:
5/11/62 DATE — John F. Kennedy REGISTERED CIVIL ENGINEER NO. 11710

REVISIONS

DATE	DESCRIPTION

FOR ENGINEERS USE	INITIAL	DATE
DRAWN		5/11/62
CHECKED		5/11/62

FOR CITY USE ONLY	INITIAL	DATE
CHECKED		
SEWER		
DRAINAGE		
WATER		
ST. SUPT.		
FINAL CHECK		
R/W		
AS CONST.		

CITY OF FULLERTON
OFFICE OF THE CITY ENGINEER
PLAN AND PROFILE
KIMBERLY AVE. STORM DRAIN UNIT IV

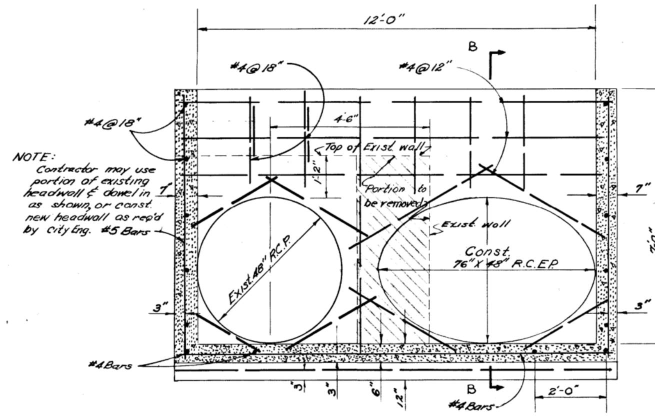
APPROVED:
DATE — CITY ENGINEER

SCALE: HORIZ. 1"=40' VERT. 1"=4' F.B. PG.

SHEET 1 OF 2 SHEETS

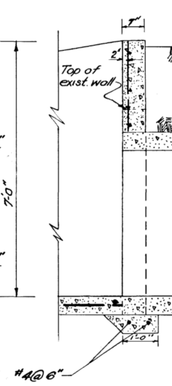
B.M.

FILE: 1534

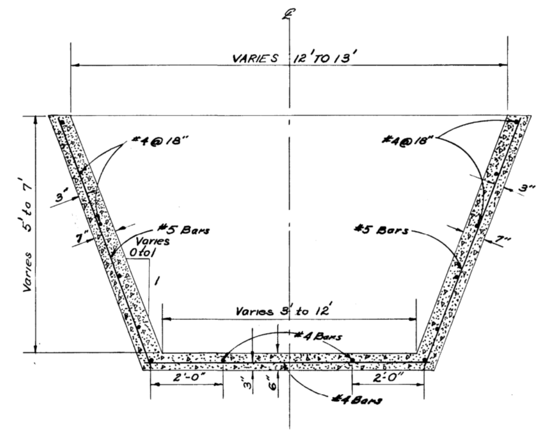


NOTE: Contractor may use portion of existing headwall & dowel in as shown, or const. new headwall as req'd by City Eng. #5 Bars

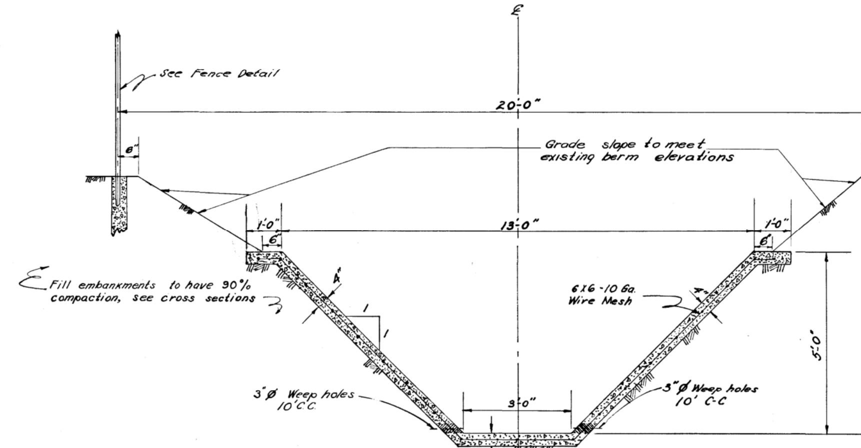
STATION 1+00 HEADWALL AND TRANSITION STRUCTURE
SCALE 1/2"= 1'



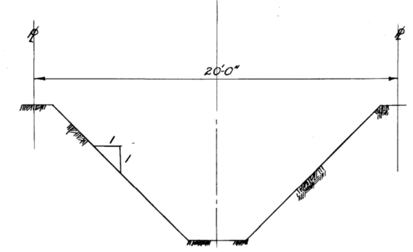
SEC. B-B



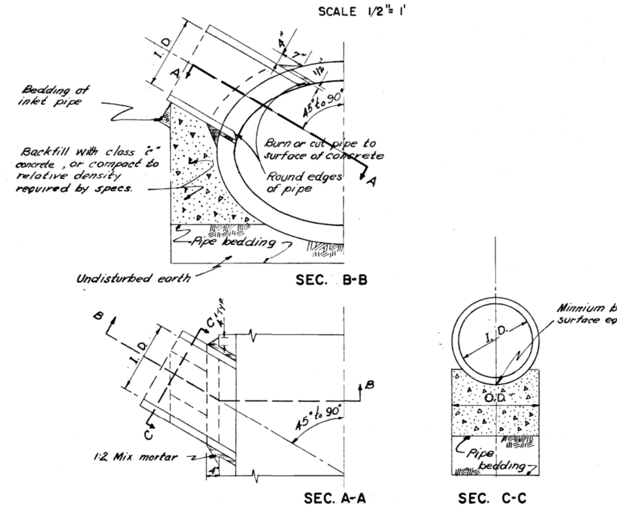
SECTION A-A
SCALE 1/2"= 1'



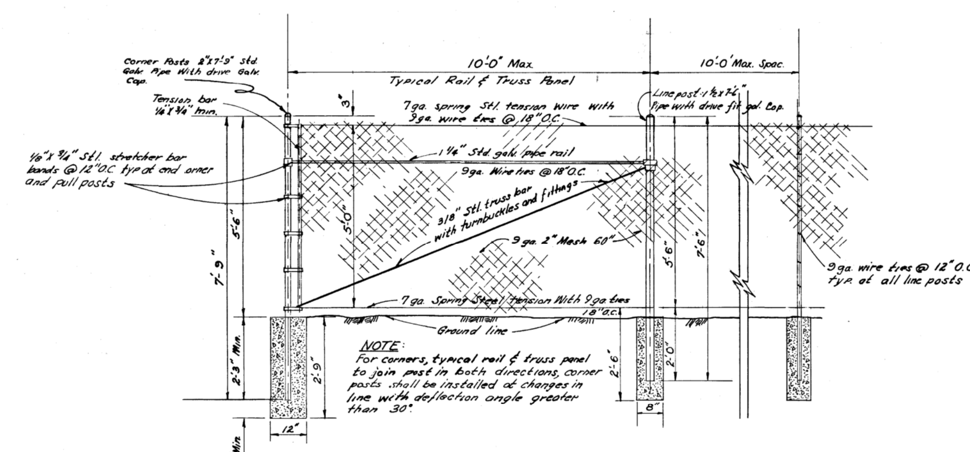
TYPICAL CROSS SECTION
SCALE 1/2"= 1'



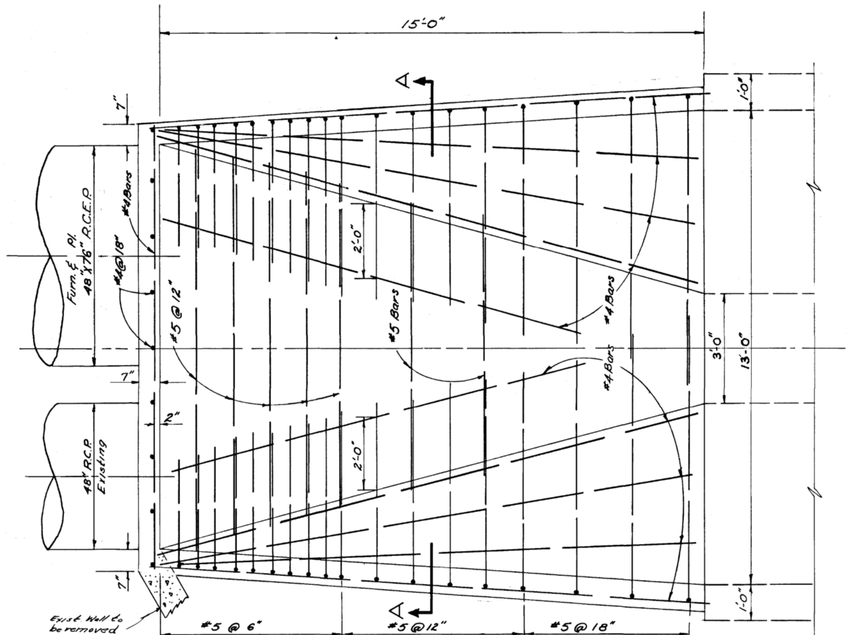
TYPICAL SECTION EARTH CHANNEL
SCALE 1/4"= 1'



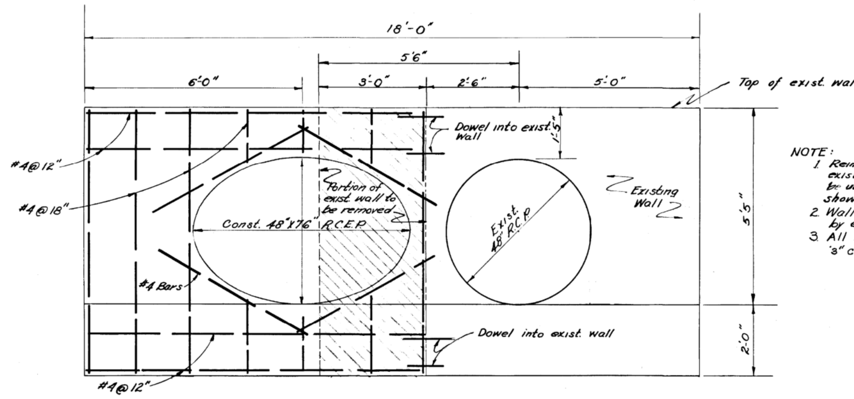
JUNCTION STRUCTURE



TYPICAL FENCE ELEVATIONS
RIGHT OF WAY CHAIN LINK FENCE DETAIL
SCALE 1/2"= 1'



TRANSITION STRUCTURE
SCALE 1/2"= 1'



NOTE:
1. Reinforcing bars in portion of exist. wall to be removed, is to be utilized if possible. Doweling is shown as alternate.
2. Wall thickness to be 1'-0" as determined by existing wall.
3. All reinforcing shall be placed 3" clear of earth and 2" clear otherwise.

STA. 0+00 HEADWALL
SCALE 1/2"= 1'

THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF:
5/11/62 John F. Kennedy 11710
DATE — REGISTERED CIVIL ENGINEER NO.

FOR ENGINEERS USE	INITIAL	DATE
DRAWN	J.E. WILLIAMS	5/9/62
CHECKED	L.D.J.	5/11/62

REVISIONS

DATE	DESCRIPTION

FOR CITY USE ONLY	INITIAL	DATE
CHECKED		
SEWER		
DRAINAGE		
WATER		
ST. SUPT.		
FINAL CHECK		
R/W		
AS CONST.		

CITY OF FULLERTON
OFFICE OF THE CITY ENGINEER

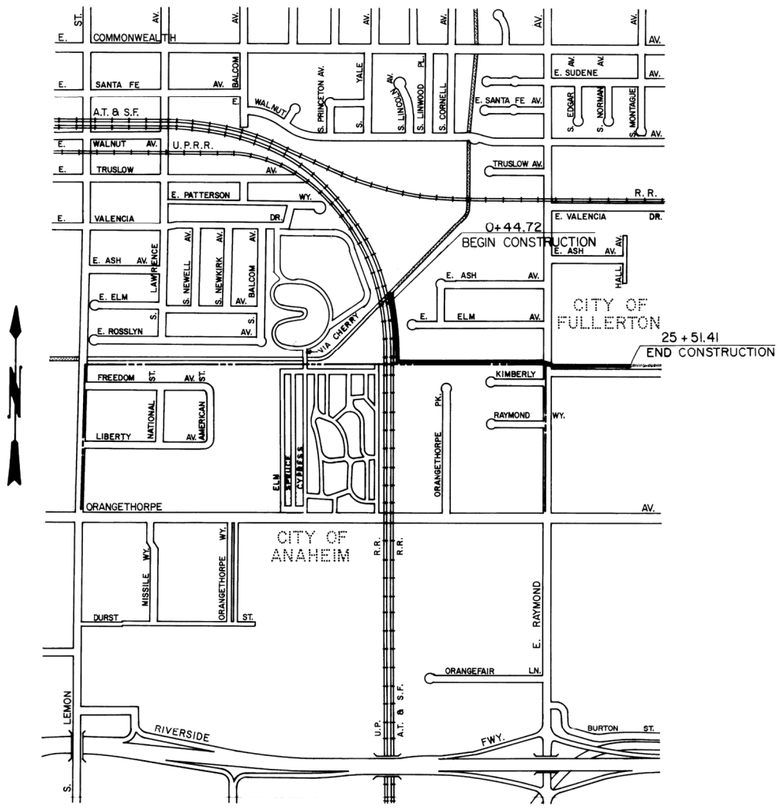
PLAN AND PROFILE
KIMBERLY AVE. STORM DRAIN
UNIT IV
STRUCTURAL DETAILS

APPROVED: William C. Hartley — DATE — CITY ENGINEER

SCALE: HORIZ: AS SHOWN VERT: AS SHOWN — F.B. — PG. — SHEET 2 OF 2 SHEETS

B.M. — FILE: 1535

A03S05-701-A1 OF 12



LOCATION MAP

SCALE 1" = 600'

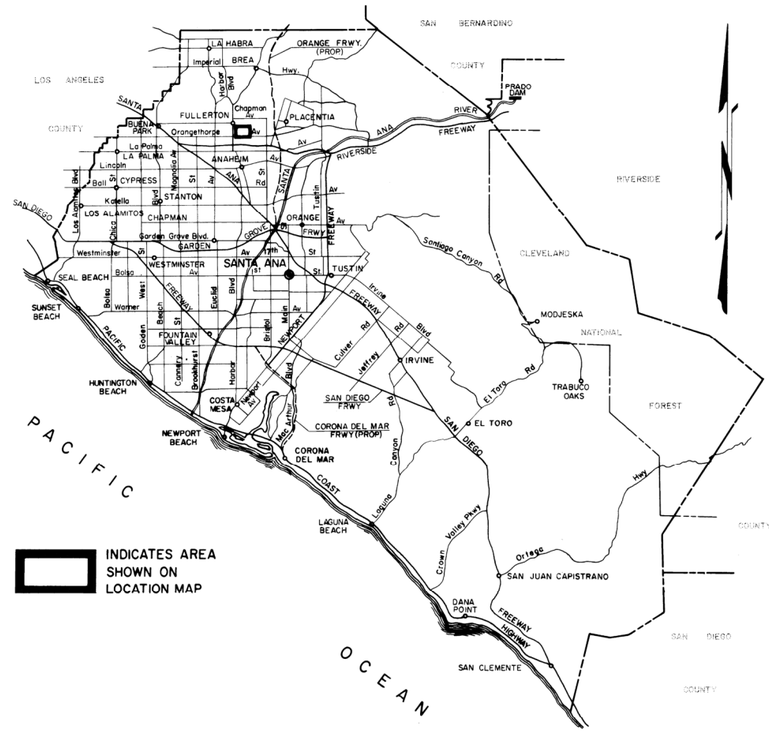
600 300 0 600 1200

SCALE IN FEET

INDEX OF DRAWINGS

SHEET NO.	TITLE
1.	LOCATION MAP, VICINITY MAP AND TITLE
2.	PLAN AND PROFILE STA. 0+44.72 TO STA. 8+00
3.	PLAN AND PROFILE STA. 8+00 TO STA.17+00
4.	PLAN AND PROFILE STA.17+00 TO STA.25+51.41
5.	SINGLE R.C. BOX SCHEDULE AND DETAILS
6.	CHANNEL SCHEDULE AND DETAILS
7.	DETAILS OF SEWER RECONSTRUCTION AND STRUCTURAL DETAILS
8.	DETOUR AT RAYMOND AVENUE
9.	LOG OF BORINGS, PAYLINES & MISC. DETAILS

UTILITY LEGEND	PHONE NO.
CITY OF FULLERTON	(714) 525-7171
CITY OF ANAHEIM	(714) 533-5747
A.T. & S.F.R.Y.	(714) 539-7793
SO. CALIF. EDISON CO.	(714) 835-3533
PACIFIC TELEPHONE CO.	(714) 776-0039
SO. CALIF. GAS CO.	(714) 634-0251
METROPOLITAN WATER DISTRICT	(213) 626-4282



ORANGE COUNTY, CALIFORNIA
VICINITY MAP

4 3 2 1 0 2 4 8 12

SCALE IN MILES

PLANS FOR
THE CONSTRUCTION OF
THAT PORTION OF

KIMBERLY STORM CHANNEL

FROM
FULLERTON CREEK CHANNEL
TO
700 FEET EASTERLY OF
RAYMOND AVENUE
FACILITY NO. A03S05
APRIL 1976

MAINTAINED BY CITY OF FULLERTON
PER AGMT. NO. D056

PREPARED BY:
~~V.T.N. CONSOLIDATED, INC.~~
2301 CAMPUS DRIVE
IRVINE, CALIFORNIA 92713
(714) 833-2450

SUBMITTED: T. A. Glass Jr.
THOMAS A. GLASS, JR. R.C.E. 19697

~~APPROVED~~: _____
DIRECTOR OF PUBLIC WORKS
AS TO PORTIONS WITHIN
THE CITY OF FULLERTON

APPROVED: C. R. Nelson
C.R. NELSON, ASSISTANT DIRECTOR R.C.E. 13142

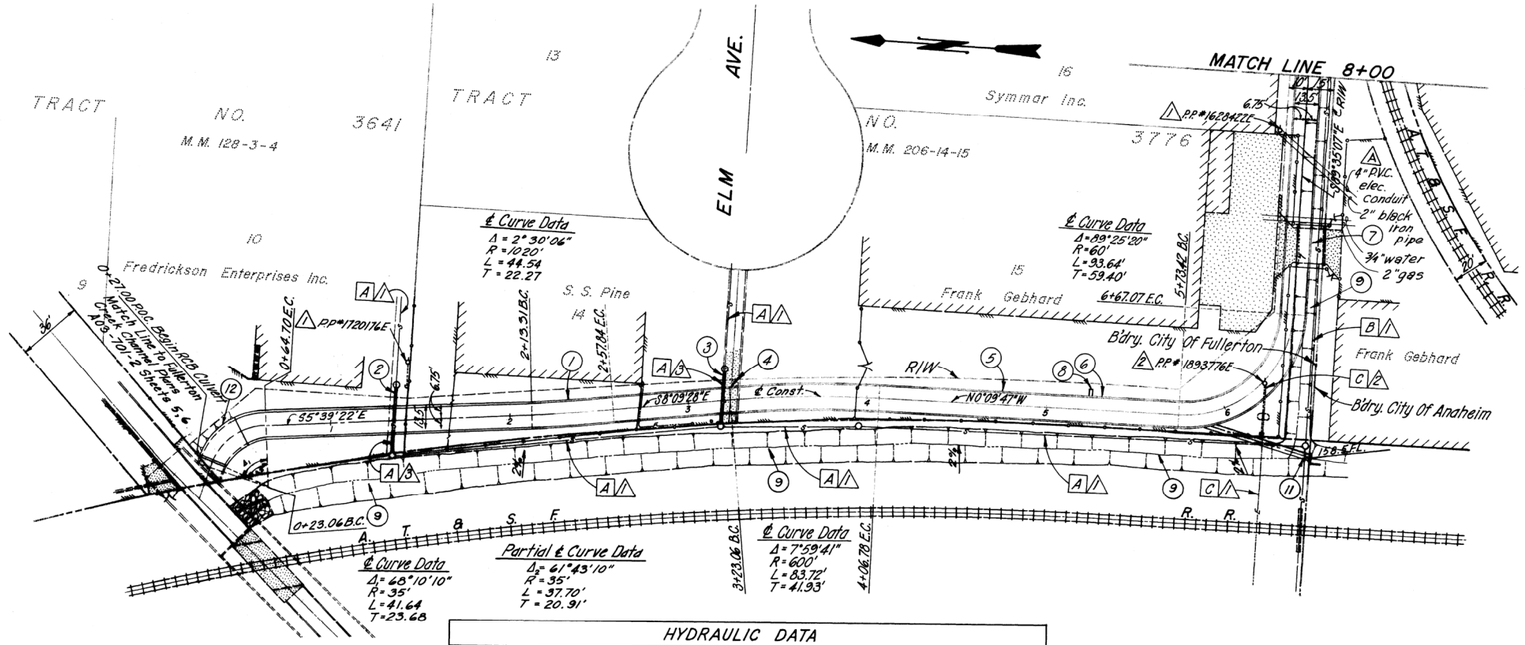
~~APPROVED~~: _____
DIRECTOR OF PUBLIC WORKS
AS TO PORTIONS WITHIN
THE CITY OF ANAHEIM

ADMINISTERED BY
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

FUNDED BY
ORANGE COUNTY FLOOD CONTROL DISTRICT
SANTA ANA CALIFORNIA

EDA PROJECT NO. 07-01-01697
DWG. NO. A03S05-701-1-A

SHEET 1 OF 12 SHEETS



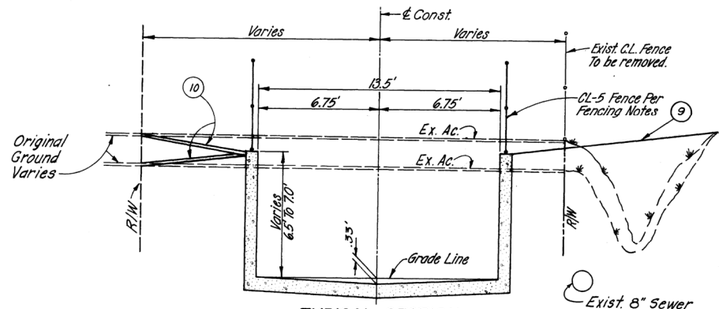
PLAN
Scale: 1" = 40'

HYDRAULIC DATA											
Station To Station	Q25	b	S	n=.013			n=.015			Dc
				Dn	Vn	F	Dn	Vn	F	
0+44.72 – 3+24	735	13.5'	0.00253	4.77	11.41	.92	5.29	10.29	.79	4.52
3+24 – 5+88	715	13.5'	0.00253	4.65	11.32	.92	5.19	10.20	.79	4.43
5+88 – 8+00	705	13.5'	0.00253	4.63	11.28	.92	5.13	10.18	.79	4.39

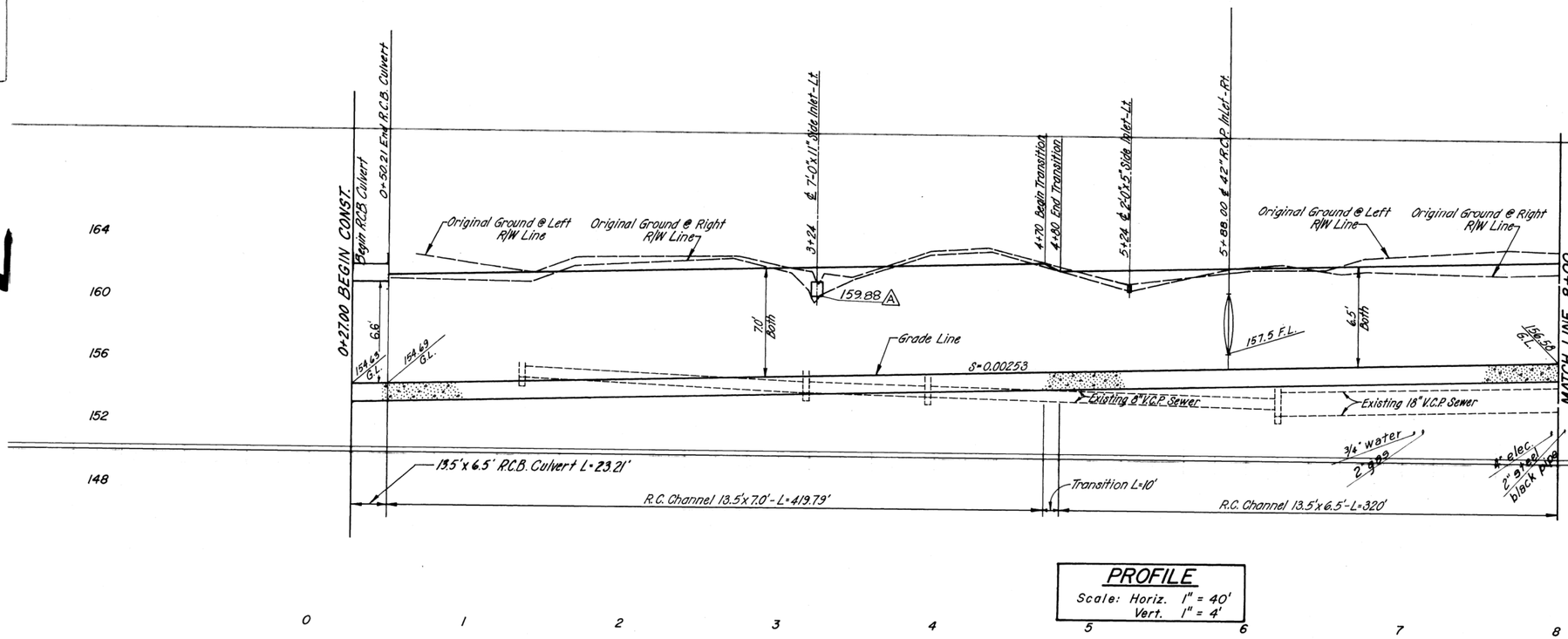
UTILITY NOTES

	UTILITY	OWNER
A	8" SEWER	CITY OF FULLERTON
B	18" INDUSTRIAL SEWER	CITY OF FULLERTON
C	ELECTRICAL CONDUIT	SO. CALIF. EDISON CO.

LEGEND
1. PROTECT
2. TO BE RELOCATED BY OTHERS
3. TO BE RELOCATED BY CONTRACTOR



TYPICAL SECTION
0+44.72 TO 8+00
NO SCALE



PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

CONSTRUCTION NOTES
1. CONSTRUCT 13.5' x 7.0' R.C. CHANNEL FROM 0+50.21 TO 4+70.00.
2. CONSTRUCT SEWER SIPHON AT STATION 1+36 ± PER DETAILS SEE SHEET 7.
3. CONSTRUCT SEWER SIPHON AT STATION 3+19 ± PER DETAILS SEE SHEET 7.
4. CONSTRUCT 7' x 11" SIDE INLET PER DETAIL SEE SHEET 7.
5. CONSTRUCT R.C. CHANNEL TRANSITION FROM 4+70 TO 4+80 CHANGING WALL HEIGHT FROM 7.0' TO 6.5'.
6. CONSTRUCT 13.5' x 6.5 RC CHANNEL FROM 4+80.00 TO 8+00.
7. REMOVE TIMBER BRIDGE AND PLACE ON OWNERS PROPERTY. CONTRACTOR SHALL COOPERATE WITH THE OWNER'S CONTRACTOR WHO WILL BE RESETTING BRIDGE AND UNDERGROUNDING PRIVATE POWER SUPPLY UNDER THE NEW CHANNEL.
8. CONSTRUCT 2' x 0.42' SIDE INLET STA 5+24 PER DETAIL SHEET 7.
9. FILL EXISTING CHANNEL AND GRADE TO DRAIN AT MINIMUM 2% WITH COMPACTED FILL.
10. FROM 0+20 ± TO 7+70 ±, APPLY SOIL STERILANT AND CONSTRUCT 3" A.C. PAVEMENT BETWEEN EASTERLY CHANNEL WALL AND R/W LINE.
11. CONSTRUCT 22 LIN. FT. OF 42" RCP AND RC "L" HEADWALL PER DETAIL SHEET 7. JOIN CHANNEL PER STD-JS2-1/
12. CONSTRUCT 13.5' x 16.5' RCB CULVERT.

FENCING NOTES
1. INSTALL PER OCFCD STD-101-1 TYPE CL-5 FENCE, ON TOP OF PARAPET WALLS AT 0+27 AND 0+50, AND ON TOP OF CHANNEL WALLS FROM 0+50 TO 8+00.
2. REMOVE FENCE FROM WESTERLY SIDE OF CHANNEL AND OTHER INTERFERING PORTIONS WITHIN R/W.
3. RESTORE FENCES AND GATES WITHIN R/W WHICH ARE NECESSARY TO SECURE PREVIOUSLY FENCED AREAS.
4. SET FENCE POSTS OR SLEEVES IN CHANNEL WALL AT LOCATIONOF TIMBER BRIDGE. AFTER RECONSTRUCTION OF TIMBER BRIDGE, FENCE ACROSS BRIDGE TO JOIN CHANNEL WALL FENCE.

1 1/2 0 1 2
3 inches on original drawing

BENCH MARK NO. 2F-12-69
EL. = 149.12
ALUMINUM CAP 0.55 MI. N. OF RIVERSIDE FRWY ALONG HARBOR BLVD. AT 14.5' N. OF ℄ HILL AVE., AND 28' E. OF ℄ HARBOR, IN THE TOP OF THE N.W. CORNER OF CATCH BASIN.
DATUM OCFCD = O.C.S. ADJUSTED 1970.

EDA PROJECT NO. 07-01-01697

PRELIMINARY REVISION CODE
Disregard Prints Bearing Earlier Codes: A B

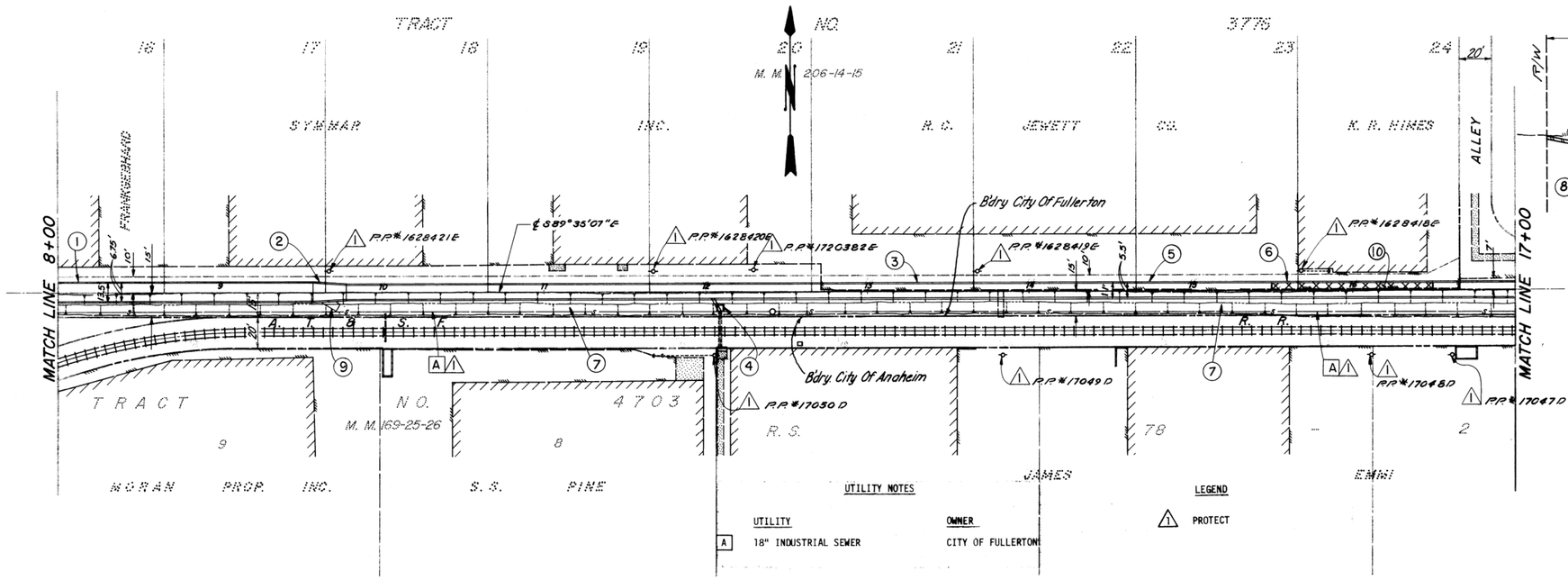
REVISIONS		
MARK	DATE	DESCRIPTION
A	6-77	AS built SG

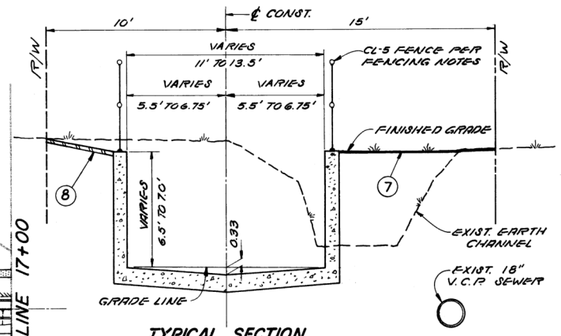
ORANGE COUNTY FLOOD CONTROL DISTRICT

KIMBERLY STORM CHANNEL
PLAN AND PROFILE
STA. 0+44.72 TO STA. 8+00

DESIGNED B.C. SMITH
DRAWN E. DUFFIELD CHECKED M.A.C.
SUBMITTED T.A. GLASS DESIGN ENGINEER
RECOMMENDED DESIGN DIVISION ENGINEER

SCALE	DATE	DWG. NO.
AS SHOWN	APRIL '76	A03S05-701-1-A

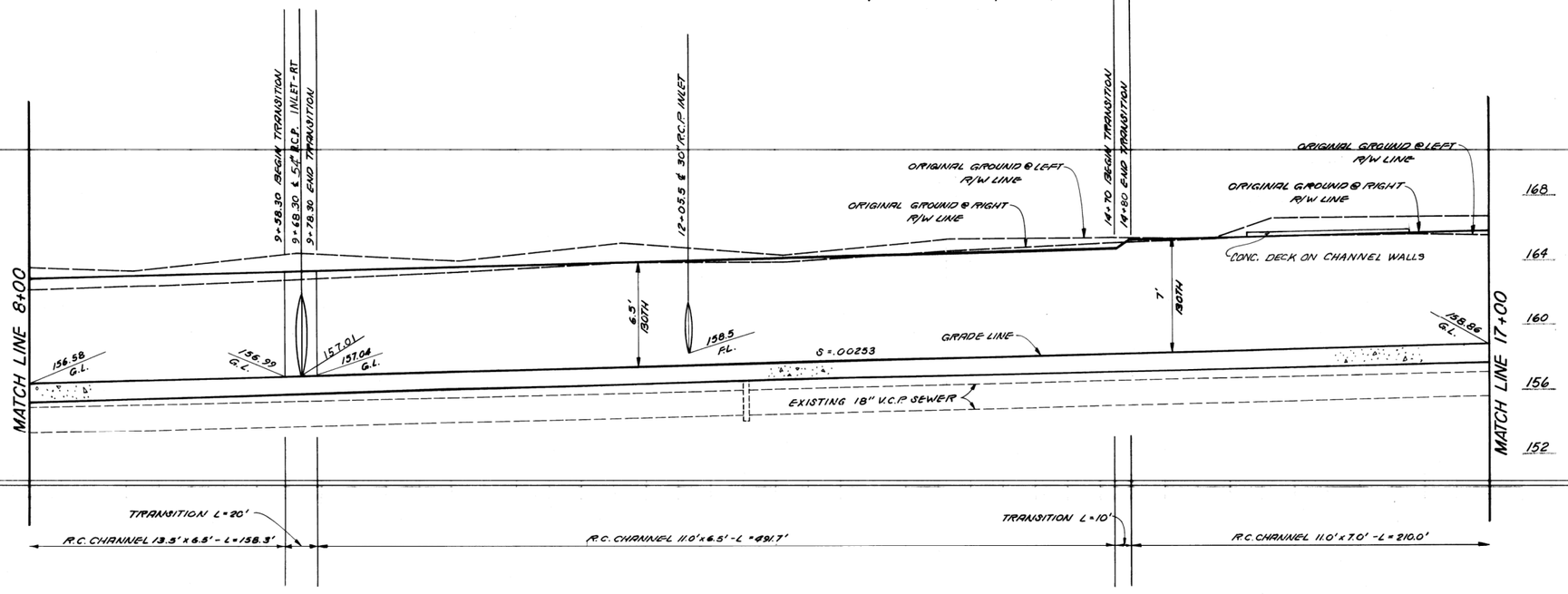




TYPICAL SECTION
8+00 TO 17+00
NO SALE

HYDRAULIC DATA										
STATION TO STATION	Q25	b	S	n=.013			n=.015			Dc
				Dn	Vn	F	Dn	Vn	F	
8+00 TO 9+58.30	705	13.5	.00253	4.63	11.28	.92	5.13	10.18	.79	4.39
9+78.30 TO 17+00	570	11	.00253	4.81	10.77	.87	5.35	9.69	.74	4.37

PLAN
SCALE: 1" = 40'



PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

CONSTRUCTION NOTES

1. CONSTRUCT 13.5' x 6.5' RC CHANNEL FROM 8+00 TO 9+58.30.
2. CONSTRUCT RC CHANNEL TRANSITION FROM 9+58.30 TO 9+78.30.
3. CONSTRUCT 11.0' x 6.5' RC CHANNEL FROM 9+78.3 TO 14+70.
4. REMOVE EXISTING CONCRETE DRAIN OUTLET STRUCTURE AND JOIN 24" CMP TO RC CHANNEL WITH APPROX. 9 LIN. FT. OF 30" RCP PER OCFCD STD-D11-1 AND STD-JS2-1.
5. CONSTRUCT RC CHANNEL TRANSITION FROM 14+70 TO 14+90 CHANGING WALL HEIGHT FROM 6.5' TO 7'.
6. CONSTRUCT 11.0' x 7.0' RC CHANNEL FROM 14+90 TO 17+00.
7. FILL EXISTING CHANNEL AND GRADE TO DRAIN AT MINIMUM 2% WITH COMPACTED FILL.
8. FROM 12+67 ± TO 17+00, APPLY SOIL STERILANT AND CONSTRUCT 3" A.C. PAVEMENT BETWEEN NORTHERLY CHANNEL AND R/W LINE.
9. CONSTRUCT J.S. NO. 2 PER STD-JS2-1 EXCEPT JOIN CHANNEL AT GRADE LINE AND CONSTRUCT DOUBLE COURSE BRICK AND MORTAR SEAL AT END OF STUB. WALL STA = 9+68.3, A = 30° B = 59°, C = 7.0', EL. S = 157.01, EL. R = 157.05.
10. Const. 0.96' Deck on channel walls per detail, sht 8.

FENCING NOTES

1. INSTALL PER OCFCD STD-101-1 TYPE CL-5 FENCE, ON TOP BOTH WALLS FROM 8+00 TO 17+00.

BENCH MARK NO. 2F-12-69 EL. = 149.12
ALUMINUM CAP 0.55 MI. N. OF RIVERSIDE FRWY ALONG HARBOR BLVD. AT 14.5' N. OF ℄ HILL AVE., AND 28' E. OF ℄ HARBOR, IN THE TOP OF THE N.W. CORNER OF CATCH BASIN.
DATUM OCFCD = O.C.S. ADJUSTED 1970.

1 1/2 0 1 2
3 inches on original drawing

PRELIMINARY REVISION CODE	A	B						
Disregard Prints Bearing Earlier Codes								

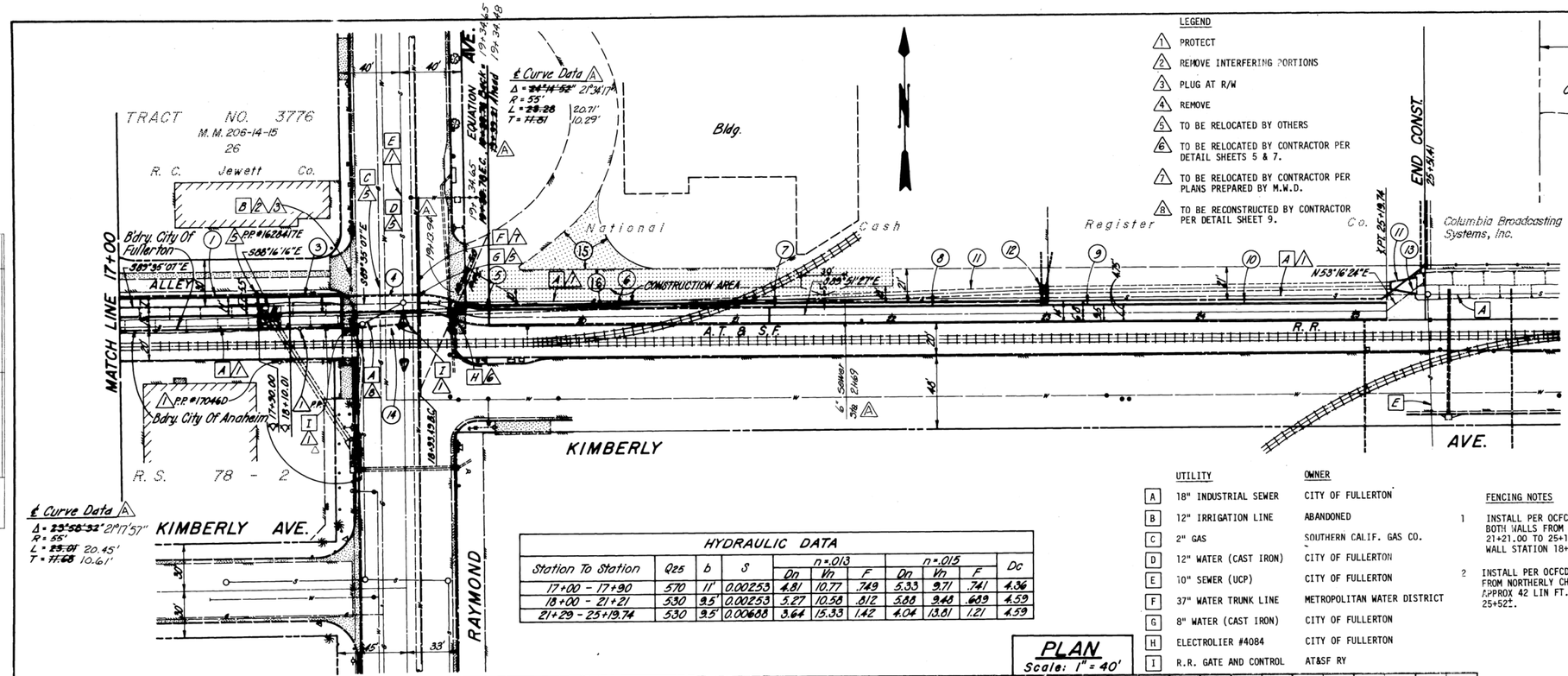
REVISIONS			ORANGE COUNTY FLOOD CONTROL DISTRICT
MARK	DATE	DESCRIPTION	
A	6-77	As built BG	KIMBERLY STORM CHANNEL PLAN AND PROFILE STA.8+00 TO STA.17+00

DESIGNED B.C. SMITH	RECOMMENDED		
DRAWN C.H.B. CHECKED	DESIGN DIVISION ENGINEER		
SUBMITTED T.A. GLASS DESIGN ENGINEER	SCALE AS SHOWN	DATE APRIL '76	DWG. NO. A03505-701-1-A

EDA PROJECT NO. 07-01-01697

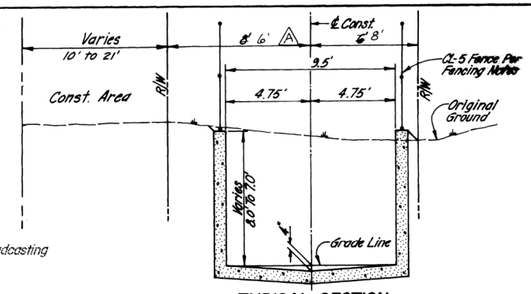
SHEET 3 OF 12

EASI FILE CORP. IRVINE, CA



LEGEND

1. PROTECT
2. REMOVE INTERFERING PORTIONS
3. PLUG AT R/W
4. REMOVE
5. TO BE RELOCATED BY OTHERS
6. TO BE RELOCATED BY CONTRACTOR PER DETAIL SHEETS 5 & 7.
7. TO BE RELOCATED BY CONTRACTOR PER PLANS PREPARED BY M.W.D.
8. TO BE RECONSTRUCTED BY CONTRACTOR PER DETAIL SHEET 9.



TYPICAL SECTION
21+21.00 TO 25+19.74
NO SCALE

HYDRAULIC DATA										
Station To Station	Q25	b	S	n=.013			n=.015			Dc
				Dn	Vn	F	Dn	Vn	F	
17+00 - 17+90	570	11'	0.00253	4.81	10.77	.749	5.33	9.71	.741	4.36
18+00 - 21+21	530	9.5'	0.00253	5.27	10.58	.812	5.88	9.48	.669	4.59
21+29 - 25+19.74	530	9.5'	0.00688	3.64	15.33	1.42	4.04	13.81	1.21	4.59

	UTILITY	OWNER
A	18" INDUSTRIAL SEWER	CITY OF FULLERTON
B	12" IRRIGATION LINE	ABANDONED
C	2" GAS	SOUTHERN CALIF. GAS CO.
D	12" WATER (CAST IRON)	CITY OF FULLERTON
E	10" SEWER (UCP)	CITY OF FULLERTON
F	37" WATER TRUNK LINE	METROPOLITAN WATER DISTRICT
G	8" WATER (CAST IRON)	CITY OF FULLERTON
H	ELECTROLIER #4084	CITY OF FULLERTON
I	R.R. GATE AND CONTROL	AT&SF RY

FENCING NOTES

1 INSTALL PER OCFCD STD-101-1 TYPE CL-5 FENCE, ON TOP BOTH WALLS FROM 17.00 TO 18+43.08, AND FROM 21+21.00 TO 25+19.74 AND ALONG THE TOP OF PARAPET WALL STATION 18+43.08, AND 21+21.00.

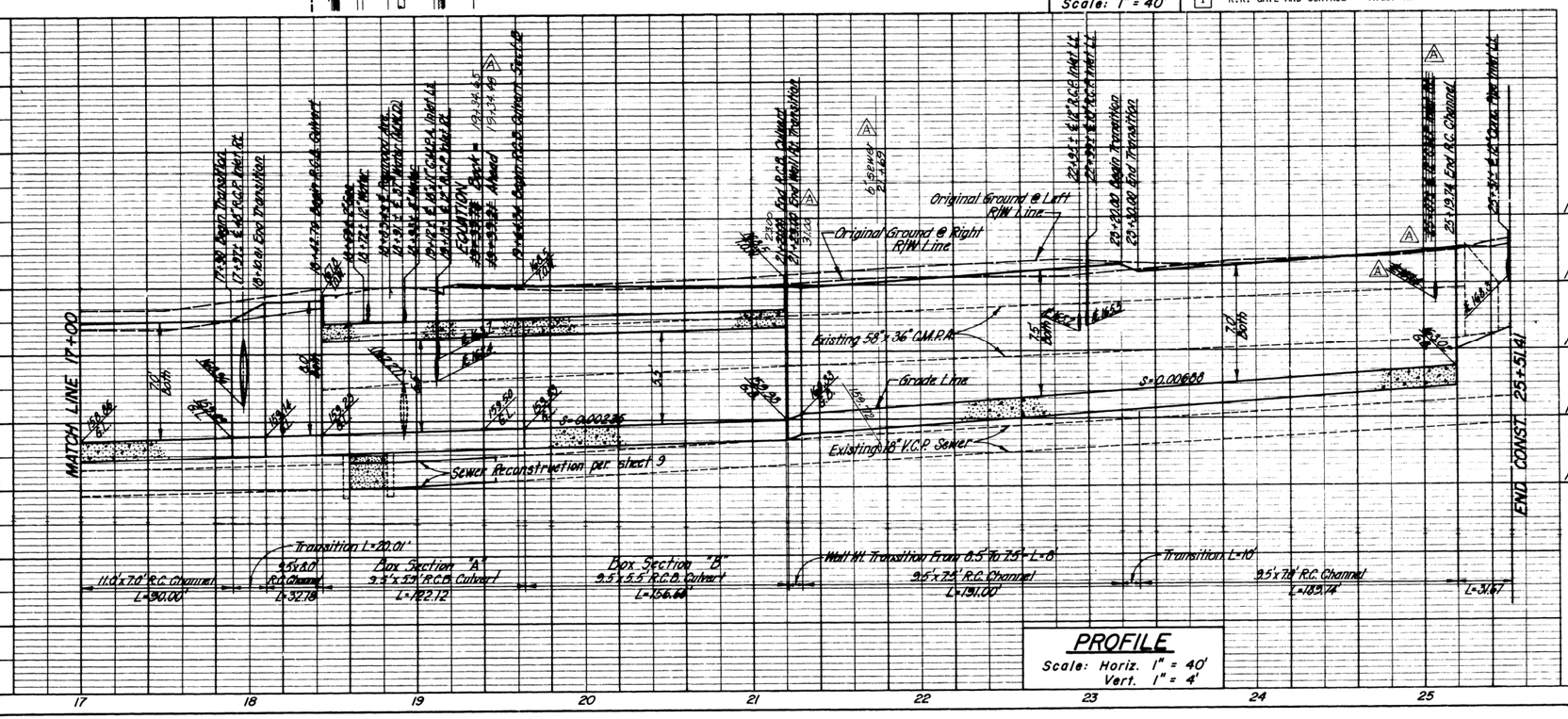
2 INSTALL PER OCFCD STD-101-1 TYPE CL-5 FENCE FROM NORTHERLY CHANNEL WALL STATION 25+10 APPROX 42 LIN FT. TO EXISTING CORNER POST AT 25+52±.

CONSTRUCTION NOTES

1. CONSTRUCT 11.0' x 7.0' RC CHANNEL FROM 17+00 TO 17+90.
2. CONSTRUCT TRANSITION FROM 17+90 TO 18+10. JOIN EXISTING 48" RCP. PER STD-JS2-1.
3. CONSTRUCT 9.5' x 8.0' RC CHANNEL FROM 18+10 TO 18+43.08.
4. CONSTRUCT RCB CULVERT 9.5' x 5.5' FROM 18+43.08 TO 19+24.98 IN TWO PHASES PER DETOUR PLAN ON SHEET 8, AND DETAILS FROM SECTION A ON SHEET 5.
5. CONSTRUCT RCB CULVERT 9.5' x 5.5' FROM 19+24.98 TO 19+64.34. PER DETAILS FROM SECTION A ON SHEET 5.
6. CONSTRUCT RCB CULVERT 9.5' x 5.5' FROM 19+64.34 TO 21+21.00 PER SECTION B DETAILS ON SHEET 5.
7. CONSTRUCT RC CHANNEL TRANSITION FROM 21+21.00 TO 21+29.00 CHANGING WALL HEIGHT FROM 8.5' TO 7.5'.
8. CONSTRUCT 9.5' x 7.5' RC CHANNEL FROM 21+29.00 TO 23+20.00.
9. CONSTRUCT RC CHANNEL TRANSITION FROM 23+20.00 TO 23+30.00 CHANGING WALL HEIGHT FROM ~~8.5'~~ 7.5' TO ~~7.5'~~ 7.0'.
10. CONSTRUCT 9.5' x 7.0' RC CHANNEL FROM 23+30.00 TO 25+19.74 WITH WING WALLS STATION 25+19.74 PER DETAIL ON SHEET 7.
11. REMOVE APPROXIMATELY 680 LIN. FT. OF 58" x 36" CMPA AND EXISTING TRASHRACK ENTRANCE STRUCTURE. SALVAGE TRASHRACK BARS AND OTHER GRATES AND REUSABLE APPURTENANCES TO CITY OF FULLERTON, BASQUE MAINTENANCE YARD, 116 S. BASQUE. BACKFILL TO MINIMUM 95% RELATIVE COMPACTION WITHIN 10 FEET OF RAILROAD TRACKS AND MINIMUM 90% ELSEWHERE.
12. REMOVE RC JUNCTION ON CMPA AND CONSTRUCT 13 LIN. FT. OF 12" RCP AND 13 LIN. FT. OF 10" RCP IN KIND FROM JUNCTION RC CHANNEL. JOIN CHANNEL PER STD-JS2-1.
13. GRADE EARTH TRANSITION AND PLACE RIP RAP TO FORM TRAPEZOIDAL CHANNEL, BASE = 3', SIDE SLOPES MAXIMUM 1:1. PER DETAIL SHEET 7.
14. REPAVE RAYMOND AVE. PER DETAIL SHEET 9.
15. PLACE 2-INCH AC PAVEMENT AT 40 FT. RADIUS FOR TEMPORARY ACCESS BY PROPERTY OWNERS. REMOVE AND RESTORE GRASS, BUSHES AND SPRINKLER SYSTEM IN KIND.
16. PLACE ~~2~~ 4-INCH AC DRIVEWAY APPROXIMATELY 22' X 275' AFTER CHANNEL CONSTRUCTION AND GRADING IS COMPLETED. USE SC 250 PRIME COAT.
17. From Sta. 17+00 to Sta. 18+42± apply soil sterilant and constr. 3" A.C. paving - No. chan. wall ℄ R/W.

1 1/2 0 1 2
3 inches on original drawing

PLAN
Scale: 1" = 40'



PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

BENCH MARK EL = ~~166.824~~

" △ " S.E. CORNER OF RAYMOND AND KIMBERLY AVE.

1° S'LY OF SOUTHERLY CURB RETURN

DATUM OCFCD = O.C.S.

ADJUSTED 1970

EDA PROJECT NO. 07-01-01697

PRELIMINARY REVISION CODE Disregard Prints Bearing Earlier Codes: A B C

REVISIONS			
MARK	DATE	DESCRIPTION	
△	5-3-76	PROTECT [1]	
△	6-77	As built	SG

ORANGE COUNTY FLOOD CONTROL DISTRICT

KIMBERLY STORM CHANNEL
PLAN AND PROFILE
STA. 17 + 00 TO STA. 25 + 51.41

DESIGNED B.C. SMITH
DRAWN E. DUFFIELD CHECKED M.A.C.
SUBMITTED T.A. GLASS DESIGN ENGINEER
RECOMMENDED DESIGN DIVISION ENGINEER
SCALE AS SHOWN DATE APRIL '76 DWG. NO. A03505-701-1-A

SHEET 4 OF 12

PLAN: SURVEYED, PLOTTED, NOTE BOOK, ALIGNMENT CHECKED, RT. OF WAY CHECKED, NO., BY, DATE

PROFILE: SURVEYED, PLOTTED, NOTE BOOK, ALIGNMENT CHECKED, B. M.'S NOTED, NO., STRUCTURE NOTATNS CHKD, BY, DATE

SASI FILE CORP. IRVINE, CA

Appendix H – Alternate Site Plan Hydrology Analysis

Alternate Site Plan Hydrology Analysis for Existing and Proposed

TAIT
RISING TO THE CHALLENGE
701 N. Parkcenter Drive, Santa Ana, CA 92705
p:714/560/8200 www.tait.com

July 16, 2020

Subject: Goodman Logistics Center- Fullerton
Alternate Site Plan with Duncan property Hydrology Impact Summary

An alternate site plan is being analyzed with an additional property at the SE corner of the site. This property encompasses approx. 0.69ac as it is referred to as the "Duncan" property.

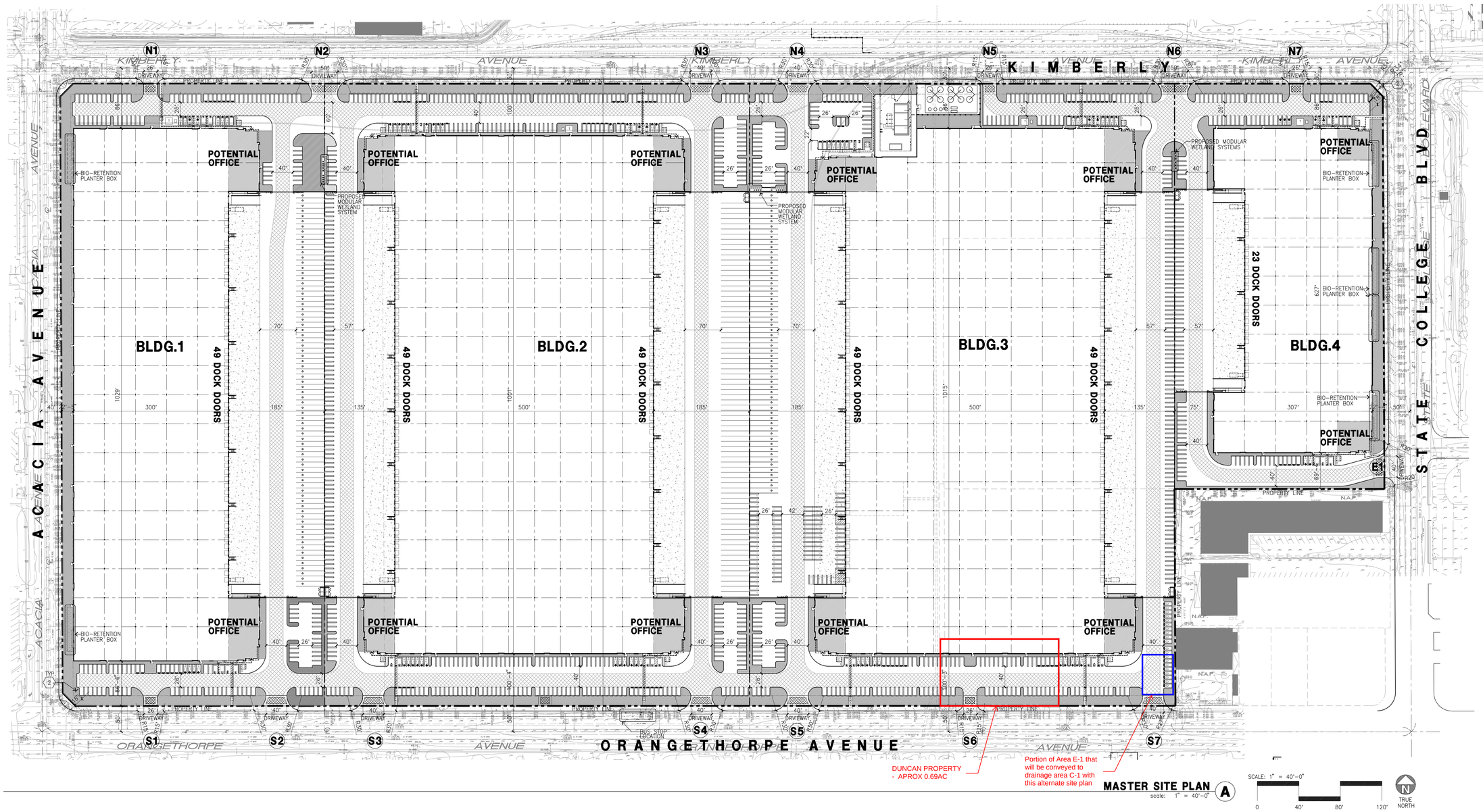
The existing 25 and 100 year peak flows for the Duncan property have been analyzed as area D of the existing drainage map on appendix C and calculations included on this Appendix, Appendix H, of the Hydrology Report for the project.

The Duncan property area is currently developed and therefore a commercial land use has been utilized for the existing calculations. The peak flows are **3.15cfs** and **4.03 cfs** respectively. Currently this area discharges via sheet flow to the curb and gutter along Orangethorpe Aveue which is tributary to Outlet #3 of the project. Outlet 3 consist of an existing 30" CMP storm drain pipe that conveys runoff to the Kimberly Channel Northwest of the project from two catch basins located at the intersection of Acacia Ave and Kimberly Avenue.

If the alternate site plan is developed the 0.69acres of the Duncan property will continue to be part of the drainage area tributary to Outlet #3. Proposed catch basins will be located at the most southern curb of the parking area, these catch basins will convey low flows to Detention Basin C and the high flows will be discharged to Orangethorpe via parkway drain. Due to the similar conditions of the proposed improvements for land use and length of flow, the proposed flows generated from the Duncan property will be the same as in the existing condition.

The main difference with the alternate site plan development is that a portion of drainage area E-1 will no longer drain to Orangethorpe Avenue. This area will consist of approximately 0.15 acres that will be contributing to drainage area C and ultimately to Outfall #1. The approximate peak flows increase to Outfall #1 will be of 0.77cfs for the 100 year storm and 0.68cfs for the 25 year storm. Since overall peak flows to Outfall #1 are being reduced, this alternate scenario does not present a significant impact to the project.

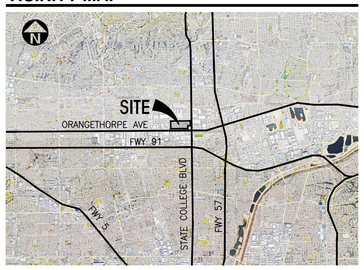
While total peak flows to Outlet #1 will be increased with the alternate site plan, the total proposed peak flow to outfall #3 will be reduced compared to the plan without the Duncan property. The total peak flows to outfall #3 for the alternate site plan will be 13.2 cfs for the 25 year and 17.46cfs for the 100 year. This results in very similar conditions as the existing peak flows to Outfall #3 which area 13.31cfs for the 25 year storm and 17.40cfs for the 100 year.



MASTER SITE PLAN (A)
scale: 1" = 40'-0"

SCALE: 1" = 40'-0"
0 40' 80' 120'
TRUE NORTH

VICINITY MAP



PROJECT DATA

	BLDG. 1	BLDG. 2	BLDG. 3	BLDG. 4	TOTAL
SITE AREA					
In s.f. (Net Area)	609,340	985,420	968,457	316,300	2,879,517 s.f.
In acres	13.99	22.62	22.23	7.26	66.10 ac
In s.f. (Gross Area)	712,833	1,067,287	1,066,734	378,238	3,225,092 s.f.
In acres	16.36	24.50	24.49	8.68	74.04 ac
BUILDING AREA					
Office - 1st floor	10,000	10,000	10,000	5,000	35,000 s.f.
Office - 2nd floor	20,000	20,000	20,000	10,000	70,000 s.f.
Warehouse	312,695	515,255	513,152	163,282	1,504,384 s.f.
TOTAL	342,695	545,255	543,152	178,282	1,609,384 s.f.
COVERAGE	56.2%	55.3%	56.1%	56.4%	55.9%
INTERIOR CLEAR HEIGHT	40'	40'	40'	36'	
ESTIMATED TOP OF PARAPET	55'	55'	55'	50'	
AUTO PARKING REQUIRED					
Office: 1 / 250 s.f.	120	120	120	60	420 stalls
Warehouse: 1 / 2,000 s.f.	157	258	257	82	754 stalls
TOTAL	277	378	377	142	1,174 stalls
AUTO PARKING PROVIDED					
Standard (8.5' x 18')	133	263	195	77	668 stalls
Compact (8' x 16') 30% of required space			20		20 stalls
Accessible Parking (9' x 18')	5	6	6	4	
Accessible Van Parking (12' x 18')	1	2	2	1	
EV Parking (8.5' x 18')	8	22	21	5	
EV Standard Accessible (9' x 18')	1	1	1	1	
EV Van Accessible (12' x 18')	1	1	1	1	
Clean Air/ Van pool (8.5' x 18')	16	31	30	11	
Total	165	326	276	100	867
Parking inside truck yard	0	89	176	43	308
GRAND TOTAL	165	415	452	143	1,175 stalls
TRAILER PARKING PROVIDED					
Trailer (10' x 55')	76	76	58		210 stalls

ZONING ORDINANCE FOR CITY	
Zoning Designation - Manufacturing Park (M-P)	
MAXIMUM BUILDING HEIGHT	
Height - 55'	
MAXIMUM FLOOR AREA RATIO	
N/A	
SETBACKS	
Building	Landscape
along public St. - 20'	20'
along public alley - 5'	
along property w ith a P-L zone - 10'	

HPA architecture

hpa, inc.
18831 bardeen avenue, - ste. #100
irvine, ca
92612
tel: 949•863•1770
fax: 949•863•0851
email: hpa@hparchs.com

LICENSED ARCHITECT YONG J. NAM C-29451 3-31-21 RENEWAL DATE STATE OF CALIFORNIA

Owner:

Goodman

18201 Von Karman Ave., Suite. 1170
Irvine, CA 92612
tel: (949) 407. 0100

Project:

GOODMAN LOGISTICS CENTER - FULLERTON

FULLERTON, CALIFORNIA

Consultants:

CIVIL	TAIT & Associates, Inc.
STRUCTURAL	
MECHANICAL	
PLUMBING	
ELECTRICAL	Gregg electric
LANDSCAPE	Hunter Landscape
FIRE PROTECTION	
SOILS ENGINEER	

Title: MASTER SITE PLAN FOR EIR

Project Number: 18465
Drawn by: AW/YG
Date: 6/10/20
Revision:

Sheet:

DAB-A-EIR

OFFICIAL USE ONLY

```
****************************************************************************
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY AREA D                    *
* 25-YEAR STORM EVENT MD                                                 *
 ************************************************************************

  FILE NAME: GRMX25D.DAT
  TIME/DATE OF STUDY: 08:01 03/12/2020
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    130.00 IS CODE =  21
```

```
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   260.00
  ELEVATION DATA: UPSTREAM(FEET) =    183.00  DOWNSTREAM(FEET) =    181.43

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.810
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.748
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        0.94      0.30     0.100    56    7.81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      3.15
  TOTAL AREA(ACRES) =      0.94   PEAK FLOW RATE(CFS) =      3.15
========================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        0.9  TC(MIN.) =      7.81
  EFFECTIVE AREA(ACRES) =      0.94  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =       3.15
========================================================================
========================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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            Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                          Analysis prepared by:
```

```
 ************************* DESCRIPTION OF STUDY *************************
* KIMBERLY CLARK - FULLERTON                                             *
* RATIONAL METHOD EXISTING CONDITION HYDROLOGY AREA D                    *
* 100-YEAR STORM DRAIN EVENT MD                                          *
 ************************************************************************

  FILE NAME: GRMX100D.DAT
  TIME/DATE OF STUDY: 08:06 03/12/2020
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   32.0     20.0    0.200/0.200/0.020   0.67    2.00 0.0313 0.167 0.0150

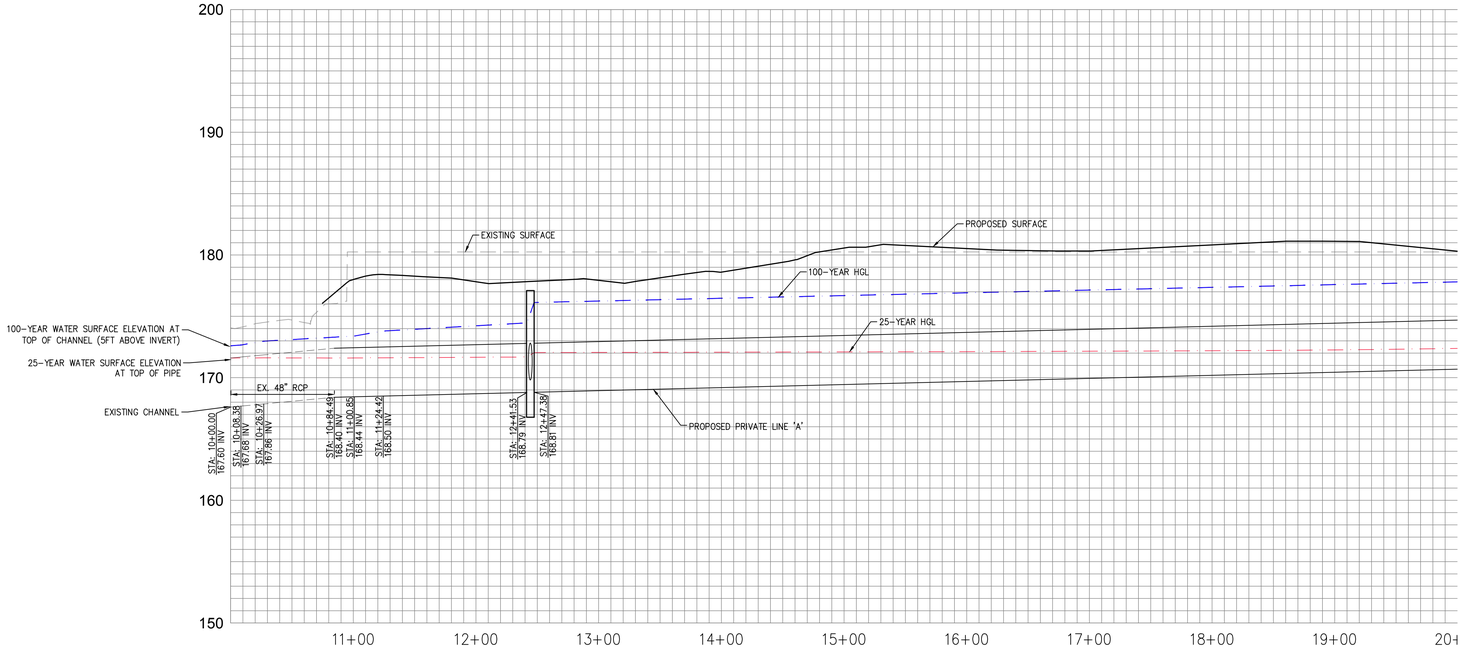
  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED
```

```
**************************************************************************
  FLOW PROCESS FROM NODE    120.00 TO NODE    130.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   260.00
  ELEVATION DATA: UPSTREAM(FEET) =    183.00  DOWNSTREAM(FEET) =    181.43

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.810
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.792
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        0.94      0.30     0.100    76    7.81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.30
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      4.03
  TOTAL AREA(ACRES) =      0.94   PEAK FLOW RATE(CFS) =      4.03
==========================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        0.9  TC(MIN.) =      7.81
  EFFECTIVE AREA(ACRES) =      0.94  AREA-AVERAGED Fm(INCH/HR)=  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.30  AREA-AVERAGED Ap = 0.100
  PEAK FLOW RATE(CFS)   =       4.03
==========================================================================
==========================================================================
  END OF RATIONAL METHOD ANALYSIS
```

Appendix I – Storm Drain Plans and Profile Main Line A & HGL Calculations

Main Private Line A to Outfall 1 (Ex. 48" RCP)

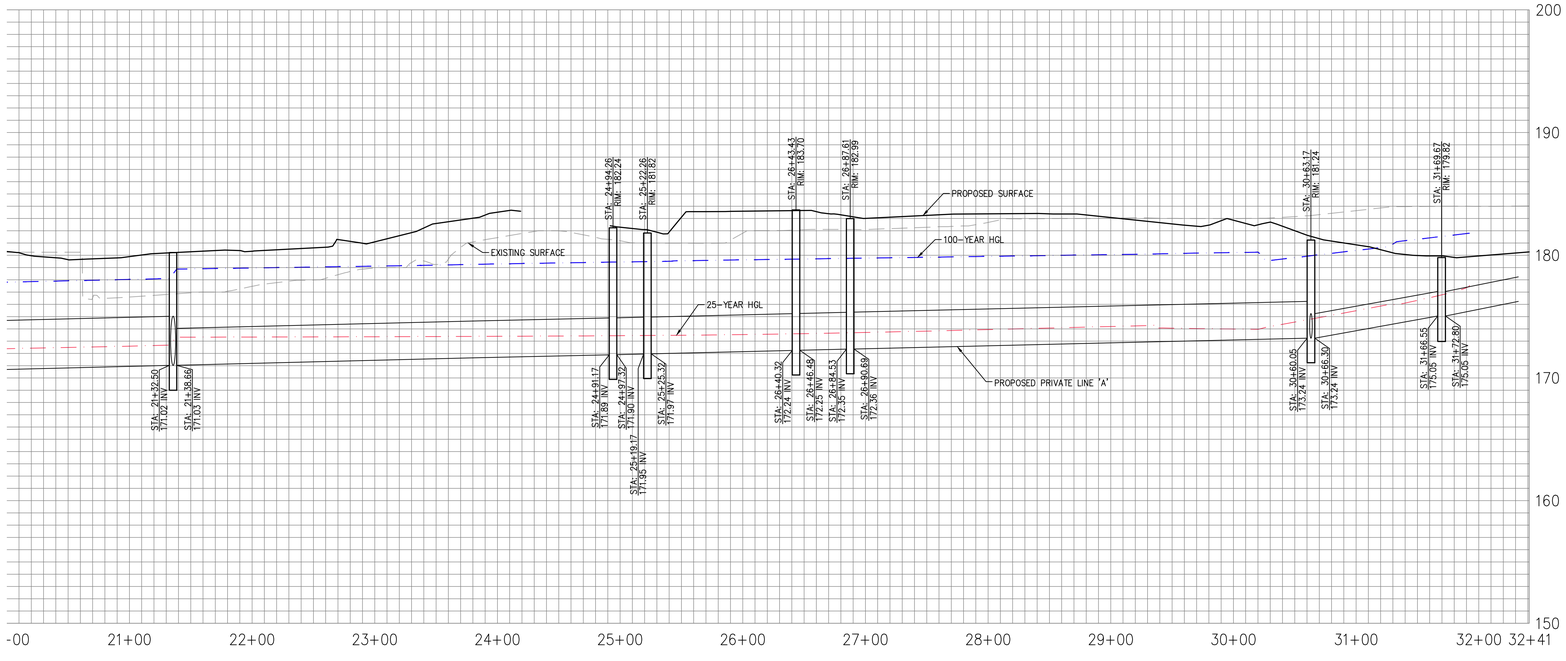


LEGEND

- EXISTING GROUND
- FINISHED SURFACE
- 25-YEAR HYDRAULIC GRADE LINE
- 100-YEAR HYDRAULIC GRADE LINE

ABBREVIATIONS

HGL	HYDRAULIC GRADE LINE
EX.	EXISTING
INV.	INVERT
RCP	REINFORCED CONCRETE PIPE



STORM DRAIN LINE 'A'

CONCEPTUAL STORM DRAIN PROFILE- LINE A

GOODMAN LOGISTICS CENTER - FULLERTON
FULLERTON, CA

PREPARED FOR:
GOODMAN
06-10-2020

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OUTFALL #3 – EXISTING 30"CMP STORM DRAIN
EX Q_{25}=13.31 CFS PR Q_{25}=13.88 CFS
EX Q_{100}=17.40 CFS PR Q_{100}=18.23 CFS

OUTFALL #1 – EXISTING 48"RCP STORM DRAIN
EX Q_{25}=109.90 CFS PR Q_{25}=42.50 CFS
EX Q_{100}=142.32 CFS PR Q_{100}=112.52 CFS

KIMBERLY AVENUE

ACACIA AVENUE

ORANGETHORPE AVENUE

BUILDING 1
TYPE III-B
342,695 SF
7" PAD

FFE=180.00

PE=179.42

BUILDING 2
TYPE III-B
545,255 SF
7" PAD

FFE=182.50

PE=181.92

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=909 SF
PONDING DEPTH=8"

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=889 SF
PONDING DEPTH=8"

MODULAR WETLAND UNITS

STORM GATE DIVERSION STRUCTURE

STORMTECH UNDERGROUND DETENTION SYSTEM
STORMTECH SC-740
BED SIZE 29,144 SF
MAX. LENGTH 457 FT
MAX. WIDTH 64 FT
STORAGE VOL. 71,700 FT^3
MINIMUM ALLOWABLE GRADE FROM TOP OF CONCRETE PAVEMENT TO BOTTOM OF SYSTEM IS 4.5'

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING RIGHT-OF-WAY WITH ROADWAY EASEMENT
- CENTERLINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED STORM DRAIN LINE ≤ 12"
- PROPOSED STORM DRAIN LINE > 12"
- PROPOSED ELEVATION
- PROPOSED STORM DRAIN INFORMATION
- PROPOSED STORM DRAIN LINE DIRECTION OF FLOW
- PROPOSED STORM DRAIN MANHOLE
- BIO-RETENTION PLANTER BOX
- MODULAR WETLAND UNIT

ABBREVIATIONS

EX	EXISTING
FS	FINISHED SURFACE
FG	FINISHED GRADE
FFE	FINISHED FLOOR ELEVATION
FL	FLOWLINE
FW	FIRE WATER
GB	GRADE BREAK
HP	HIGH POINT
INV	INVERT
NAP	NOT A PART
PROP	PROPOSED
PE	PAD ELEVATION
R/W	RIGHT OF WAY
S=	SLOPE
SS	SANITARY SEWER
SD	STORM DRAIN
TC	TOP OF CURB
TG	TOP OF GRATE
W	DOMESTIC WATER

EASEMENT NOTE

ALL EASEMENTS SHOWN HEREON INTERFERING WITH PROPOSED IMPROVEMENTS WILL BE ABANDONED, QUITCLAIMED, OR RELOCATED IN CONJUNCTION WITH THE FILING OF THE FINAL PARCEL MAP.

N

0 50' 100'

SCALE: 1" = 50'

CONCEPTUAL STORM DRAIN PLAN - WEST

GOODMAN LOGISTICS CENTER - FULLERTON
FULLERTON, CA

PREPARED FOR:
GOODMAN
06-10-2020

TAIT
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Santa Ana, CA 92705
p: 714.560.8300 f: 714.560.8311
www.tait.com
Los Angeles
Rancho Cucamonga
Phoenix
Seattle
Boise
Dallas
Denver
North Dakota

OUTFALL #2 – EXISTING 24"RCP STORM DRAIN
EX Q_{25}=14.61 CFS EX Q_{100}=19.10 CFS
PR Q_{25}=10.12 CFS PR Q_{100}=12.99 CFS

℄ & ℄

KIMBERLY AVENUE

EXISTING RAILROAD TRACKS TO BE REMOVED

179.85 FL
176.39 INV

179.33 FL
177.90 INV

179.24 FL
176.04 INV

180.25 FL
176.98 INV

182.44 FL
178.04 INV

181.72 FL
178.30 INV

183.48 FL
179.29 INV

48" SD, S=0.25%

36" SD, S=0.24%

4'x8' MWS FOR WATER EASEMENT TREATMENT

PROPOSED WATER EASEMENT EXPANSION

24" SD, S=0.51%

36" SD, S=0.25%

36" SD, S=0.24%

180.17 RIM
173.49 INV

171.03 INV 36"
171.03 INV 48"

171.49 INV

171.96 INV

171.88 INV

171.71 INV

172.35 INV

172.25 INV

173.00 INV 36"

178.12 INV

179.03 INV

24" SD
S=0.5%

EXISTING OVERHEAD LINES AND TRANSFORMER TO BE RELOCATED WITH ELECTRIC FACILITIES BEING UNDERGROUNDED

EXISTING ELECTRIC LINES TO REMAIN

EXISTING RAILROAD TRACKS TO BE REMOVED

175.55 INV

173.32 INV

MODULAR WETLAND UNITS

181.13 RIM
173.24 INV

173.82 INV

MODULAR WETLAND UNITS

172.12 INV-OUT
48"-HIGH FLOWS

172.12
INV-OUT
LOW FLOWS

STORM GATE DIVERSION STRUCTURE

179.80 RIM

174.19 INV-OUT
LOW FLOWS

STORM GATE DIVERSION STRUCTURE

174.19 INV-OUT
24"-HIGH FLOWS

24" SD
S=0.50%

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=649 SF
PONDING DEPTH=12"

182.07 INV-OUT

EX. ℄ TO BE ADJUSTED PER MAP

179.12 TG
174.52 INV

24" SD
S=0.4%

174.19 INV-IN

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=665 SF
PONDING DEPTH=12"

50'

STORMTECH UNDERGROUND DETENTION SYSTEM
STORMTECH SC-740
BED SIZE 26,888 SF
MAX. LENGTH 457 FT
MAX. WIDTH 60 FT
STORAGE VOL. 66,600 FT³
MINIMUM ALLOWABLE GRADE FROM TOP OF CONCRETE PAVEMENT TO BOTTOM OF SYSTEM IS 4.5'

176.55 TG
172.50INV
4.4' DEEP
2.4' COVER

172.12 INV-IN

BUILDING 4
TYPE III-B
178,282 SF
7" PAD

FFE=185.50

PE=184.92

24" SD, S=0.4%

PROPOSED ℄

179.15 TG
175.25 INV

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=659 SF
PONDING DEPTH=12"

BUILDING 3
TYPE III-B
495,290 SF
7" PAD

FFE=184.50

PE=183.92

STORMTECH UNDERGROUND DETENTION SYSTEM
STORMTECH SC-740
BED SIZE 18,279 SF
MAX. LENGTH 340 FT
MAX. WIDTH 55 FT
STORAGE VOL. 44,800 FT³
MINIMUM ALLOWABLE GRADE FROM TOP OF CONCRETE PAVEMENT TO BOTTOM OF SYSTEM IS 4.5'

BIO-RETENTION PLANTER BOX
MEDIA SURFACE AREA=649 SF
PONDING DEPTH=12"

179.28 TG
175.93 INV

183.55 FL
178.12 INV

24" SD, S=0.40%

176.55 TG
172.92 INV
3.6' DEEP
1.6' COVER

178.39 RIM
172.12
INV-IN

EXISTING PUBLIC UTILITY EASEMENT

EX. ℄ TO BE ADJUSTED PER MAP

179.10 TG
176.60 INV

NAP

NAP

176.55 TG
173.35 INV
3.2' DEEP
1.2' COVER

1-24" SD, S=0.50%

4' EXISTING PUBLIC UTILITY EASEMENT

1-18" SD, S=0.5%

181.87 FL
178.93 INV

NAP

NAP

NAP

175.60 INV

176.33 INV

181.79 FL
176.70 INV

181.40 RIM
174.92 INV

181.25 FL
176.21 INV

STATE COLLEGE BOULEVARD

ORANGETHORPE AVENUE

℄ & ℄

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING RIGHT-OF-WAY WITH ROADWAY EASEMENT
- CENTERLINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED STORM DRAIN LINE ≤ 12"
- PROPOSED STORM DRAIN LINE > 12"
- 184.31 TG — PROPOSED ELEVATION
- 2-48" SD, S=0.25% — PROPOSED STORM DRAIN INFORMATION
- PROPOSED STORM DRAIN LINE DIRECTION OF FLOW
- PROPOSED STORM DRAIN MANHOLE
- BIO-RETENTION PLANTER BOX
- MODULAR WETLAND UNIT

ABBREVIATIONS

EX	EXISTING
FS	FINISHED SURFACE
FG	FINISHED GRADE
FFE	FINISHED FLOOR ELEVATION
FL	FLOWLINE
FW	FIRE WATER
GB	GRADE BREAK
HP	HIGH POINT
INV	INVERT
NAP	NOT A PART
PROP	PROPOSED
PE	PAD ELEVATION
R/W	RIGHT OF WAY
S=	SLOPE
SS	SANITARY SEWER
SD	STORM DRAIN
TC	TOP OF CURB
TG	TOP OF GRATE
W	DOMESTIC WATER

EASEMENT NOTE

ALL EASEMENTS SHOWN HEREON INTERFERING WITH PROPOSED IMPROVEMENTS WILL BE ABANDONED, QUITCLAIMED, OR RELOCATED IN CONJUNCTION WITH THE FILING OF THE FINAL PARCEL MAP.

N

0 50' 100'

SCALE: 1" = 50'

CONCEPTUAL STORM DRAIN PLAN - EAST

GOODMAN LOGISTICS CENTER - FULLERTON
FULLERTON, CA

PREPARED FOR:
GOODMAN
06-10-2020

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GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1000.000	167.600	5.000	172.600	42.50	3.38	.18	172.78	.00	1.95	.00	4.000	.000	.00	1 .0
8.380	.0095					.0009	.01	5.00	.00	1.51	.013	.00	.00	PIPE
1008.380	167.680	4.927	172.607	42.50	3.38	.18	172.78	.00	1.95	.00	4.000	.000	.00	1 .0
18.590	.0097					.0009	.02	.00	.00	1.50	.013	.00	.00	PIPE
1026.970	167.860	4.789	172.649	42.50	3.38	.18	172.83	.00	1.95	.00	4.000	.000	.00	1 .0
57.520	.0094					.0007	.04	4.79	.00	1.45	.012	.00	.00	PIPE
1084.490	168.400	4.292	172.692	42.50	3.38	.18	172.87	.00	1.95	.00	4.000	.000	.00	1 .0
16.360	.0024					.0007	.01	4.29	.00	2.12	.012	.00	.00	PIPE
1100.850	168.440	4.264	172.704	42.50	3.38	.18	172.88	.00	1.95	.00	4.000	.000	.00	1 .0
23.570	.0025					.0007	.02	.00	.00	2.10	.012	.00	.00	PIPE
1124.420	168.500	4.257	172.757	42.50	3.38	.18	172.93	.00	1.95	.00	4.000	.000	.00	1 .0
117.110	.0025					.0007	.09	4.26	.00	2.11	.012	.00	.00	PIPE
1241.530	168.793	4.052	172.845	42.50	3.38	.18	173.02	.00	1.95	.00	4.000	.000	.00	1 .0
JUNCT STR	.0024					.0005	.00	4.05	.00		.012	.00	.00	PIPE
1247.380	168.807	4.242	173.049	27.96	2.22	.08	173.13	.00	1.57	.00	4.000	.000	.00	1 .0
111.297	.0025					.0003	.04	4.24	.00	1.66	.012	.00	.00	PIPE
1358.677	169.085	4.000	173.085	27.96	2.22	.08	173.16	.00	1.57	.00	4.000	.000	.00	1 .0
164.613	.0025					.0003	.05	4.00	.00	1.66	.012	.00	.00	PIPE

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

	Invert	Depth	Water	Q	Vel	Vel	Energy	Super	Critical	Flow Top	Height/	Base Wt		No Wth

Station / L/Elem	Elev / Ch Slope	(FT)	Elev	(CFS)	(FPS)	Head / SF Ave	Grd.El. / HF	Elev / SE Dpth	Depth / Froude N	Width / Norm Dp	Dia.-FT or I.D. / "N"	/ X-Fall	ZL / ZR	Prs/Pip / Type Ch
1523.290	169.497	3.629	173.126	27.96	2.33	.08	173.21	.00	1.57	2.32	4.000	.000	.00	1 .0
93.684	.0025					.0003	.03	3.63	.18	1.66	.012	.00	.00	PIPE
1616.974	169.731	3.414	173.145	27.96	2.45	.09	173.24	.00	1.57	2.83	4.000	.000	.00	1 .0
77.112	.0025					.0003	.02	3.41	.21	1.66	.012	.00	.00	PIPE
1694.087	169.924	3.236	173.160	27.96	2.57	.10	173.26	.00	1.57	3.14	4.000	.000	.00	1 .0
67.501	.0025					.0003	.02	3.24	.24	1.66	.012	.00	.00	PIPE
1761.588	170.093	3.081	173.173	27.96	2.69	.11	173.29	.00	1.57	3.37	4.000	.000	.00	1 .0
60.953	.0025					.0004	.02	3.08	.27	1.66	.012	.00	.00	PIPE
1822.541	170.245	2.941	173.186	27.96	2.82	.12	173.31	.00	1.57	3.53	4.000	.000	.00	1 .0
55.977	.0025					.0004	.02	2.94	.30	1.66	.012	.00	.00	PIPE
1878.518	170.385	2.812	173.197	27.96	2.96	.14	173.33	.00	1.57	3.66	4.000	.000	.00	1 .0
52.044	.0025					.0005	.03	2.81	.32	1.66	.012	.00	.00	PIPE
1930.562	170.515	2.694	173.209	27.96	3.11	.15	173.36	.00	1.57	3.75	4.000	.000	.00	1 .0
48.798	.0025					.0005	.03	2.69	.35	1.66	.012	.00	.00	PIPE
1979.360	170.637	2.583	173.220	27.96	3.26	.16	173.39	.00	1.57	3.83	4.000	.000	.00	1 .0
46.124	.0025					.0006	.03	2.58	.38	1.66	.012	.00	.00	PIPE
2025.484	170.752	2.480	173.232	27.96	3.42	.18	173.41	.00	1.57	3.88	4.000	.000	.00	1 .0
43.843	.0025					.0007	.03	2.48	.41	1.66	.012	.00	.00	PIPE

Program Package Serial Number: 7132

WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
2069.327	170.862	2.382	173.244	27.96	3.58	.20	173.44	.00	1.57	3.93	4.000	.000	.00	1 .0
41.940	.0025					.0008	.03	2.38	.45	1.66	.012	.00	.00	PIPE

2111.268	170.967	2.290	173.257	27.96	3.76	.22	173.48	.00	1.57	3.96	4.000	.000	.00	1 .0
21.232	.0025					.0009	.02	2.29	.48	1.66	.012	.00	.00	PIPE
2132.500	171.020	2.245	173.265	27.96	3.85	.23	173.49	.00	1.57	3.97	4.000	.000	.00	1 .0
JUNCT STR	.0011					.0006	.00	2.24	.50		.012	.00	.00	PIPE
2138.660	171.027	2.542	173.569	13.10	2.05	.07	173.63	.00	1.15	2.16	3.000	.000	.00	1 .0
60.875	.0024					.0003	.02	2.54	.21	1.27	.012	.00	.00	PIPE
2199.535	171.171	2.412	173.583	13.10	2.15	.07	173.65	.00	1.15	2.38	3.000	.000	.00	1 .0
53.652	.0024					.0004	.02	2.41	.24	1.27	.012	.00	.00	PIPE
2253.187	171.298	2.297	173.595	13.10	2.26	.08	173.67	.00	1.15	2.54	3.000	.000	.00	1 .0
48.730	.0024					.0004	.02	2.30	.26	1.27	.012	.00	.00	PIPE
2301.917	171.413	2.193	173.606	13.10	2.37	.09	173.69	.00	1.15	2.66	3.000	.000	.00	1 .0
31.953	.0024					.0004	.01	2.19	.29	1.27	.012	.00	.00	PIPE
2333.870	171.489	2.125	173.614	13.10	2.45	.09	173.71	.00	1.15	2.73	3.000	.000	.00	1 .0
42.684	.0024					.0005	.02	2.13	.31	1.27	.012	.00	.00	PIPE
2376.554	171.590	2.035	173.626	13.10	2.57	.10	173.73	.00	1.15	2.80	3.000	.000	.00	1 .0
40.169	.0024					.0005	.02	2.04	.34	1.27	.012	.00	.00	PIPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2416.722	171.686	1.951	173.637	13.10	2.69	.11	173.75	.00	1.15	2.86	3.000	.000	.00	1 .0
11.017	.0024					.0006	.01	1.95	.36	1.27	.012	.00	.00	PIPE
2427.740	171.712	1.929	173.641	13.10	2.73	.12	173.76	.00	1.15	2.87	3.000	.000	.00	1 .0
37.761	.0024					.0006	.02	1.93	.37	1.27	.012	.00	.00	PIPE
2465.501	171.801	1.852	173.653	13.10	2.86	.13	173.78	.00	1.15	2.92	3.000	.000	.00	1 .0
28.909	.0024					.0007	.02	1.85	.40	1.27	.012	.00	.00	PIPE

2494.410	171.870	1.794	173.664	13.10	2.97	.14	173.80	.00	1.15	2.94	3.000	.000	.00	1 .0
JUNCT STR	.0022					.0007	.00	1.79	.43		.012	.00	.00	PIPE
2500.661	171.885	1.782	173.667	13.10	3.00	.14	173.81	.00	1.15	2.95	3.000	.000	.00	1 .0
30.149	.0024					.0008	.02	1.78	.43	1.27	.012	.00	.00	PIPE
2530.810	171.956	1.723	173.679	13.10	3.12	.15	173.83	.00	1.15	2.97	3.000	.000	.00	1 .0
JUNCT STR	.0024					.0008	.01	1.72	.46		.012	.00	.00	PIPE
2537.060	171.972	1.710	173.682	13.10	3.15	.15	173.84	.00	1.15	2.97	3.000	.000	.00	1 .0
86.211	.0000					.0008	.07	1.71	.47	.00	.012	.00	.00	PIPE
2623.271	171.972	1.796	173.768	13.10	2.97	.14	173.90	.00	1.15	2.94	3.000	.000	.00	1 .0
29.509	.0000					.0007	.02	1.80	.43	.00	.012	.00	.00	PIPE
2652.780	171.972	1.822	173.794	13.10	2.92	.13	173.93	.00	1.15	2.93	3.000	.000	.00	1 .0
JUNCT STR	-.0002					.0007	.00	1.82	.42		.012	.00	.00	PIPE

Program Package Serial Number: 7132

WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2659.010	172.245	1.828	174.073	13.10	2.90	.13	174.20	.00	1.15	2.93	3.000	.000	.00	1 .0
36.270	.0004					.0007	.02	1.83	.41	2.27	.012	.00	.00	PIPE
2695.280	172.259	1.842	174.101	13.10	2.88	.13	174.23	.00	1.15	2.92	3.000	.000	.00	1 .0
JUNCT STR	.0143					.0007	.00	1.84	.41		.012	.00	.00	PIPE
2701.560	172.349	1.737	174.086	13.10	3.09	.15	174.23	.00	1.15	2.96	3.000	.000	.00	1 .0
2701.561	172.360	1.723	174.083	13.10	3.12	.15	174.23	.00	1.15	2.97	3.000	.000	.00	1 .0
34.013	.0024					.0009	.03	1.72	.46	1.27	.012	.00	.00	PIPE
2735.574	172.441	1.657	174.098	13.10	3.27	.17	174.26	.00	1.15	2.98	3.000	.000	.00	1 .0
33.297	.0024					.0010	.03	1.66	.50	1.27	.012	.00	.00	PIPE

2768.871	172.520	1.595	174.115	13.10	3.43	.18	174.30	.00	1.15	2.99	3.000	.000	.00	1 .0
33.161	.0024					.0011	.04	1.60	.54	1.27	.012	.00	.00	PIPE
2802.032	172.599	1.536	174.135	13.10	3.60	.20	174.34	.00	1.15	3.00	3.000	.000	.00	1 .0
33.609	.0024					.0013	.04	1.54	.58	1.27	.012	.00	.00	PIPE
2835.641	172.679	1.479	174.158	13.10	3.77	.22	174.38	.00	1.15	3.00	3.000	.000	.00	1 .0
35.051	.0024					.0015	.05	1.48	.62	1.27	.012	.00	.00	PIPE
2870.692	172.762	1.425	174.188	13.10	3.96	.24	174.43	.00	1.15	3.00	3.000	.000	.00	1 .0
38.505	.0024					.0017	.06	1.43	.66	1.27	.012	.00	.00	PIPE
2909.198	172.854	1.374	174.228	13.10	4.15	.27	174.50	.00	1.15	2.99	3.000	.000	.00	1 .0
47.147	.0024					.0019	.09	1.37	.71	1.27	.012	.00	.00	PIPE

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WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2956.344	172.966	1.325	174.291	13.10	4.35	.29	174.59	.00	1.15	2.98	3.000	.000	.00	1 .0
17.125	.0024					.0021	.04	1.32	.76	1.27	.012	.00	.00	PIPE
2973.470	173.007	1.312	174.319	13.10	4.41	.30	174.62	.00	1.15	2.98	3.000	.000	.00	1 .0
28.974	.0024					.0022	.06	1.31	.78	1.26	.012	.00	.00	PIPE
3002.444	173.076	1.283	174.360	13.10	4.54	.32	174.68	.00	1.15	2.97	3.000	.000	.00	1 .0
HYDRAULIC JUMP														
3002.444	173.076	.993	174.069	13.10	6.42	.64	174.71	.00	1.15	2.82	3.000	.000	.00	1 .0
5.484	.0024					.0059	.03	.99	1.33	1.26	.012	.00	.00	PIPE
3007.929	173.090	.993	174.082	13.10	6.42	.64	174.72	.00	1.15	2.82	3.000	.000	.00	1 .0
7.719	.0024					.0063	.05	.99	1.33	1.26	.012	.00	.00	PIPE
3015.648	173.108	.959	174.067	13.10	6.73	.70	174.77	.00	1.15	2.80	3.000	.000	.00	1 .0
7.892	.0024					.0072	.06	.96	1.42	1.26	.012	.00	.00	PIPE

3023.540	173.127	.926	174.053	13.10	7.06	.77	174.83	.00	1.15	2.77	3.000	.000	.00	1 .0
3.927	.0021					.0079	.03	.93	1.52	1.32	.012	.00	.00	PIPE
3027.467	173.135	.910	174.045	13.10	7.24	.81	174.86	.00	1.15	2.76	3.000	.000	.00	1 .0
7.496	.0021					.0088	.07	.91	1.57	1.32	.012	.00	.00	PIPE
3034.962	173.150	.879	174.029	13.10	7.59	.89	174.92	.00	1.15	2.73	3.000	.000	.00	1 .0
7.475	.0021					.0101	.08	.88	1.68	1.32	.012	.00	.00	PIPE

Program Package Serial Number: 7132

WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3042.437	173.166	.849	174.015	13.10	7.96	.98	175.00	.00	1.15	2.70	3.000	.000	.00	1 .0
7.413	.0021					.0115	.09	.85	1.80	1.32	.012	.00	.00	PIPE
3049.849	173.181	.821	174.002	13.10	8.35	1.08	175.08	.00	1.15	2.67	3.000	.000	.00	1 .0
7.283	.0021					.0131	.10	.82	1.92	1.32	.012	.00	.00	PIPE
3057.132	173.196	.793	173.989	13.10	8.76	1.19	175.18	.00	1.15	2.65	3.000	.000	.00	1 .0
7.146	.0021					.0150	.11	.79	2.05	1.32	.012	.00	.00	PIPE
3064.279	173.211	.767	173.978	13.10	9.18	1.31	175.29	.00	1.15	2.62	3.000	.000	.00	1 .0
6.976	.0021					.0172	.12	.77	2.19	1.32	.012	.00	.00	PIPE
3071.255	173.225	.742	173.967	13.10	9.63	1.44	175.41	.00	1.15	2.59	3.000	.000	.00	1 .0
6.795	.0021					.0196	.13	.74	2.34	1.32	.012	.00	.00	PIPE
3078.050	173.239	.717	173.956	13.10	10.10	1.58	175.54	.00	1.15	2.56	3.000	.000	.00	1 .0
JUNCT STR	.0002					.0198	.12	.72	2.50		.012	.00	.00	PIPE
3084.300	173.240	.869	174.109	13.10	10.01	1.56	175.66	.00	1.30	1.98	2.000	.000	.00	1 .0
64.800	.0192					.0178	1.15	.87	2.17	.86	.012	.00	.00	PIPE
3149.100	174.481	.894	175.375	13.10	9.64	1.44	176.82	.00	1.30	1.99	2.000	.000	.00	1 .0
29.700	.0192					.0159	.47	.89	2.06	.86	.012	.00	.00	PIPE

3178.800	175.050	.927	175.977	13.10	9.19	1.31	177.29	.00	1.30	1.99	2.000	.000	.00	1 .0
JUNCT STR	.0002					.0159	.10	.93	1.92		.012	.00	.00	PIPE

Program Package Serial Number: 7132

WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3185.050	175.051	.893	175.944	13.10	9.65	1.45	177.39	.00	1.30	1.99	2.000	.000	.00	1 .0
15.495	.0212					.0161	.25	.89	2.06	.84	.012	.00	.00	PIPE
3200.545	175.380	.919	176.299	13.10	9.29	1.34	177.64	.00	1.30	1.99	2.000	.000	.00	1 .0
12.727	.0212					.0144	.18	.92	1.95	.84	.012	.00	.00	PIPE
3213.272	175.650	.954	176.604	13.10	8.86	1.22	177.82	.00	1.30	2.00	2.000	.000	.00	1 .0
8.697	.0212					.0126	.11	.95	1.82	.84	.012	.00	.00	PIPE
3221.969	175.835	.990	176.825	13.10	8.45	1.11	177.93	.00	1.30	2.00	2.000	.000	.00	1 .0
6.231	.0212					.0111	.07	.99	1.69	.84	.012	.00	.00	PIPE
3228.200	175.967	1.028	176.995	13.10	8.06	1.01	178.00	.00	1.30	2.00	2.000	.000	.00	1 .0
4.533	.0212					.0098	.04	1.03	1.57	.84	.012	.00	.00	PIPE
3232.733	176.063	1.067	177.131	13.10	7.68	.92	178.05	.00	1.30	2.00	2.000	.000	.00	1 .0
3.296	.0212					.0086	.03	1.07	1.46	.84	.012	.00	.00	PIPE
3236.029	176.133	1.109	177.243	13.10	7.32	.83	178.08	.00	1.30	1.99	2.000	.000	.00	1 .0
2.332	.0212					.0076	.02	1.11	1.36	.84	.012	.00	.00	PIPE
3238.361	176.183	1.153	177.336	13.10	6.98	.76	178.09	.00	1.30	1.98	2.000	.000	.00	1 .0
1.541	.0212					.0067	.01	1.15	1.26	.84	.012	.00	.00	PIPE
3239.902	176.216	1.200	177.415	13.10	6.66	.69	178.10	.00	1.30	1.96	2.000	.000	.00	1 .0
.869	.0212					.0060	.01	1.20	1.17	.84	.012	.00	.00	PIPE

Program Package Serial Number: 7132

WATER SURFACE PROFILE LISTING Date: 6-10-2020 Time: 7:31: 9

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION

25-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3240.771	176.234	1.249	177.483	13.10	6.35	.63	178.11	.00	1.30	1.94	2.000	.000	.00	1 .0
.279	.0212					.0053	.00	1.25	1.08	.84	.012	.00	.00	PIPE
3241.050	176.240	1.302	177.542	13.10	6.05	.57	178.11	.00	1.30	1.91	2.000	.000	.00	1 .0

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
100-YEAR STORM - WSE ASSUMED CHANNEL FULL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1000.000	167.600	5.000	172.600	112.52	8.95	1.24	173.84	.00	3.20	.00	4.000	.000	.00	1 .0
8.380	.0095					.0061	.05	5.00	.00	2.71	.013	.00	.00	PIPE
1008.380	167.680	4.971	172.651	112.52	8.95	1.24	173.90	.00	3.20	.00	4.000	.000	.00	1 .0
18.590	.0097					.0061	.11	.00	.00	2.70	.013	.00	.00	PIPE
1026.970	167.860	5.085	172.945	112.52	8.95	1.24	174.19	.00	3.20	.00	4.000	.000	.00	1 .0
57.520	.0094					.0052	.30	5.08	.00	2.58	.012	.00	.00	PIPE
1084.490	168.400	4.845	173.245	112.52	8.95	1.24	174.49	.00	3.20	.00	4.000	.000	.00	1 .0
16.360	.0024					.0052	.09	4.85	.00	4.00	.012	.00	.00	PIPE
1100.850	168.440	4.891	173.331	112.52	8.95	1.24	174.58	.00	3.20	.00	4.000	.000	.00	1 .0
23.570	.0025					.0052	.12	.00	.00	4.00	.012	.00	.00	PIPE
1124.420	168.500	5.203	173.703	112.52	8.95	1.24	174.95	.00	3.20	.00	4.000	.000	.00	1 .0
117.110	.0025					.0052	.61	5.20	.00	4.00	.012	.00	.00	PIPE
1241.530	168.793	5.522	174.315	112.52	8.95	1.24	175.56	.00	3.20	.00	4.000	.000	.00	1 .0
JUNCT STR	.0024					.0036	.02	5.52	.00		.012	.00	.00	PIPE
1247.380	168.807	7.087	175.894	68.85	5.48	.47	176.36	.00	2.51	.00	4.000	.000	.00	1 .0
885.120	.0025					.0020	1.73	7.09	.00	2.93	.012	.00	.00	PIPE
2132.500	171.020	6.607	177.627	68.85	5.48	.47	178.09	.00	2.51	.00	4.000	.000	.00	1 .0
JUNCT STR	.0011					.0015	.01	6.61	.00		.012	.00	.00	PIPE

GOODMAN LOGISTICS CENTER FULLERTON
STORM DRAIN MAIN LINE 48-INCH MITIGATED CONDITION
100-YEAR STORM - WSE ASSUMED CHANNEL FULL

	Invert	Depth	Water	Q	Vel	Vel	Energy	Super	Critical	Flow Top	Height/	Base Wt		No Wth

Station	Elev	(FT)	Elev	(CFS)	(FPS)	Head	Grd.El.	Elev	Depth	Width	Dia.-FT or I.D.	ZL	Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N" X-Fall	ZR	Type Ch
2138.660	171.027	7.282	178.309	23.95	3.39	.18	178.49	.00	1.58	.00	3.000 .000	.00	1 .0
195.210	.0024					.0011	.21	7.28	.00	1.82	.012 .00	.00	PIPE
2333.870	171.489	7.061	178.550	23.95	3.39	.18	178.73	.00	1.58	.00	3.000 .000	.00	1 .0
93.870	.0024					.0011	.10	7.06	.00	1.81	.012 .00	.00	PIPE
2427.740	171.712	6.968	178.680	23.95	3.39	.18	178.86	.00	1.58	.00	3.000 .000	.00	1 .0
66.670	.0024					.0011	.07	6.97	.00	1.82	.012 .00	.00	PIPE
2494.410	171.870	6.883	178.753	23.95	3.39	.18	178.93	.00	1.58	.00	3.000 .000	.00	1 .0
JUNCT STR	.0022					.0011	.01	6.88	.00		.012 .00	.00	PIPE
2500.660	171.884	6.876	178.760	23.95	3.39	.18	178.94	.00	1.58	.00	3.000 .000	.00	1 .0
2500.661	171.885	6.928	178.813	23.95	3.39	.18	178.99	.00	1.58	.00	3.000 .000	.00	1 .0
30.149	.0024					.0011	.03	6.93	.00	1.82	.012 .00	.00	PIPE
2530.810	171.956	6.890	178.846	23.95	3.39	.18	179.02	.00	1.58	.00	3.000 .000	.00	1 .0
JUNCT STR	.0024					.0011	.01	6.89	.00		.012 .00	.00	PIPE
2537.060	171.971	6.882	178.853	23.95	3.39	.18	179.03	.00	1.58	.00	3.000 .000	.00	1 .0
2537.060	171.972	6.934	178.906	23.95	3.39	.18	179.08	.00	1.58	.00	3.000 .000	.00	1 .0
115.720	.0000					.0011	.13	6.93	.00	.00	.012 .00	.00	PIPE
2652.780	171.972	7.061	179.033	23.95	3.39	.18	179.21	.00	1.58	.00	3.000 .000	.00	1 .0
JUNCT STR	-.0002					.0011	.01	7.06	.00		.012 .00	.00	PIPE
2659.010	171.971	7.069	179.040	23.95	3.39	.18	179.22	.00	1.58	.00	3.000 .000	.00	1 .0
2659.010	172.245	6.821	179.066	23.95	3.39	.18	179.24	.00	1.58	.00	3.000 .000	.00	1 .0
36.270	.0004					.0011	.04	6.82	.00	3.00	.012 .00	.00	PIPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2695.280	172.259	6.847	179.106	23.95	3.39	.18	179.28	.00	1.58	.00	3.000	.000	.00	1 .0
JUNCT STR	.0143					.0011	.01	6.85	.00		.012	.00	.00	PIPE
2701.560	172.349	6.764	179.113	23.95	3.39	.18	179.29	.00	1.58	.00	3.000	.000	.00	1 .0
2701.561	172.360	6.779	179.139	23.95	3.39	.18	179.32	.00	1.58	.00	3.000	.000	.00	1 .0
271.909	.0024					.0011	.30	6.78	.00	1.81	.012	.00	.00	PIPE
2973.470	173.007	6.457	179.464	23.95	3.39	.18	179.64	.00	1.58	.00	3.000	.000	.00	1 .0
50.070	.0024					.0011	.06	6.46	.00	1.81	.012	.00	.00	PIPE
3023.540	173.127	6.419	179.546	23.95	3.39	.18	179.72	.00	1.58	.00	3.000	.000	.00	1 .0
54.510	.0021					.0011	.06	6.42	.00	1.90	.012	.00	.00	PIPE
3078.050	173.239	6.367	179.606	23.95	3.39	.18	179.78	.00	1.58	.00	3.000	.000	.00	1 .0
JUNCT STR	.0002					.0053	.03	6.37	.00		.012	.00	.00	PIPE
3084.300	173.240	5.782	179.022	23.95	7.62	.90	179.92	.00	1.73	.00	2.000	.000	.00	1 .0
94.500	.0192					.0096	.90	5.78	.00	1.24	.012	.00	.00	PIPE
3178.800	175.050	4.875	179.924	23.95	7.62	.90	180.83	.00	1.73	.00	2.000	.000	.00	1 .0
JUNCT STR	.0002					.0096	.06	4.87	.00		.012	.00	.00	PIPE
3185.050	175.051	4.933	179.984	23.95	7.62	.90	180.89	.00	1.73	.00	2.000	.000	.00	1 .0
3185.050	175.051	5.201	180.252	23.95	7.62	.90	181.15	.00	1.73	.00	2.000	.000	.00	1 .0
56.000	.0212					.0096	.53	5.20	.00	1.20	.012	.00	.00	PIPE
3241.050	176.240	4.547	180.787	23.95	7.62	.90	181.69	.00	1.73	.00	2.000	.000	.00	1 .0