APPENDIX D

HYDROLOGY AND PRELIMINARY WATER QUALITY MANAGEMENT PLAN REPORTS

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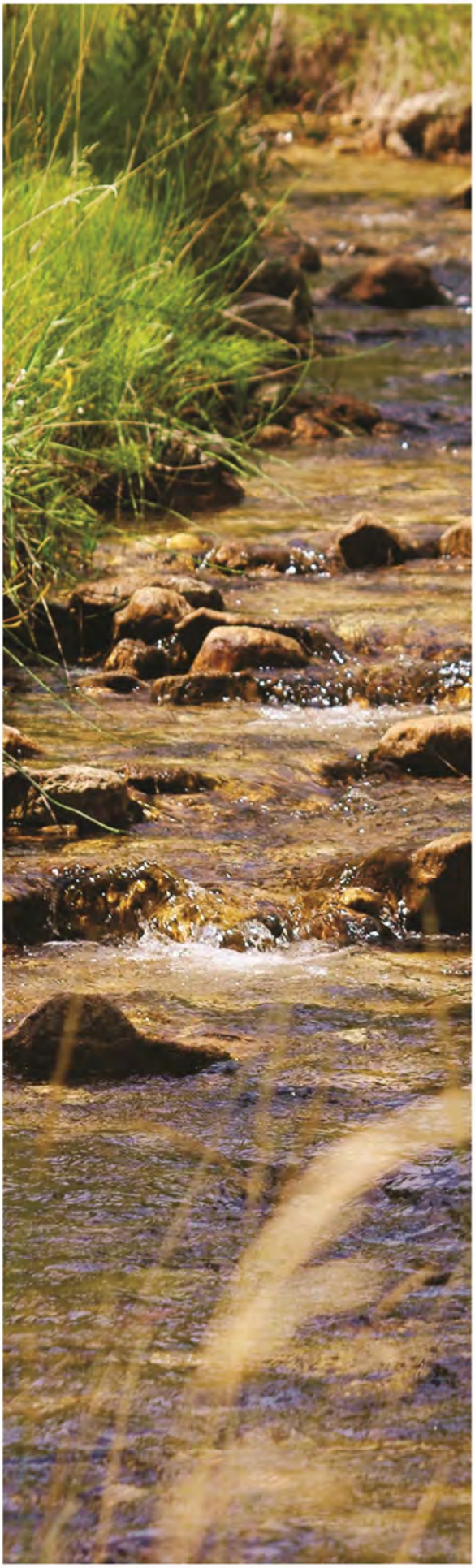

Paseo Tirador
TTM 18148
San Juan Capistrano, CA

PRELIMINARY HYDROLOGY REPORT

Prepared for:

San Juan Tirador, LLC
520 Newport Center Drive, Suite 780
Newport Beach, CA 92660
949.723.8989

Date Prepared: 11/2017
Date Revised: 03/2018

Prepared By:

IBI Group
18401 Von Karman Avenue, Suite 110
Irvine, CA 92612
949.833.5588
Project Manager: Puneet Comar, PE

Project Number: 112767

IBI Defining the cities of tomorrow

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I. INTRODUCTION

a. PROJECT SITE DESCRIPTION

The subject site consists of approximately 16.55 gross acres located near the center of the City of San Juan Capistrano, CA. The subject site is made up of six parcels with APNs 666-131-07, 666-131-09, 666-131-13, 666-131-14, 666-131-15, and 666-131-16. The south and east portions of the site are bounded by San Juan Creek, the west by the San Diego Freeway, and the north by Calle Arroyo a currently-under-construction 24 Hour Fitness building and site improvements. A scour wall is located along the southeast edge of the subject site which provides protection from San Juan Creek.

Based on available imagery obtained through previous reports, the subject site has been vacant since at most 1994. No available documentation suggest the subject site has been previously developed. The project site is vacant with Paseo Tirador extending along the east side of the property. Paseo Tirador is a two-lane paved road and was approved by the City of San Juan Capistrano in 1980 but was recently vacated. The San Juan Creek trail connects to Paseo Tirador and runs along the southeast portion of the site. The trail exits the south side of the developable area and continues under the San Diego Freeway. The subject site's existing condition consists of slopes averaging 2%-5% draining toward the San Juan Creek, which runs along the southeast edge of the site.

The land developer is proposing a residential community consisting of 136 dwelling units along with open space on 10.55 developed acres, dedicating the remaining portion of the site to the City of San Juan Capistrano. The residential community with provide for detached and attached residential products and onsite amenities. A portion of the property which encompasses San Juan Creek will remain undisturbed and dedicated for conservation purposes.

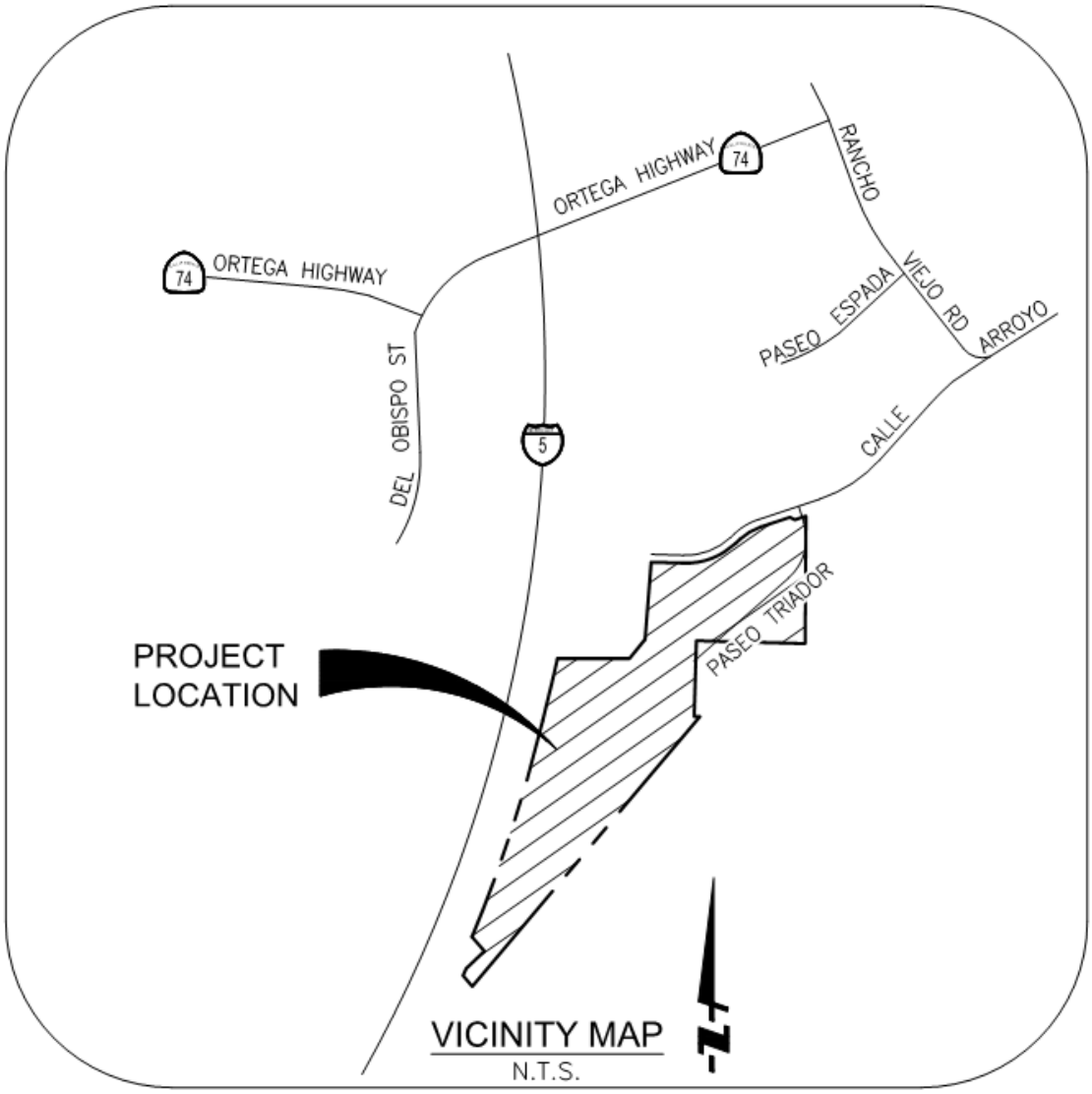
b. PURPOSE AND SCOPE

The purpose of this preliminary study is to analyze the pre-and post-development drainage conditions in order to provide adequate drainage facilities for the proposed development project.

This preliminary drainage study will analyze and compare the 25 and 100 -year storm events for the existing and proposed conditions. Outcomes from this analysis will facilitate the conceptual layout of a drainage system to adequately convey storm runoff through the site without adversely impacting surrounding areas, neighboring properties, and/or existing storm drain facilities.

This report also includes a discussion of MS4 stormwater requirements for South Orange County and integration of these requirements into the proposed drainage facilities.

c. PROJECT LOCATION MAP



II. EXISTING TOPOGRAPHIC AND HYDROLOGIC CONDITIONS

a. EXISTING TOPOGRAPHY

The subject site has recently been modified due to the construction of a 24 Hour Fitness center to the northwest. Artificial fill from the 24 Hour Fitness site has been pushed onto the subject site, which results in minor modifications to existing topography. Generally the project site experiences moderate slopes with existing grades averaging 2%-5% sloping down towards the top of the San Juan Creek bank on the southeast edge of the site. The creek banks have an average height of 20'. Existing elevations range from 90' to 104' above MSL across the developable portion of the subject site. The site has been undeveloped since 1994. Paseo Tirador, an existing two lane paved road, enters the site off Calle Arroyo and ends with a cul-de-sac towards the middle of the property. The San Juan Creek Trail connects to Paseo Tirador on the subject site and runs along the southeast portion of the site. The trail leaves the property at the southern portion of the site and continues under the San Diego Freeway.

b. EXISTING DRAINAGE PATTERN

Despite the recent construction of the adjacent fitness center, which has resulted in minor modification to the existing drainage patterns, the subject site currently conveys all onsite storm flows towards San Juan Creek. See Exhibit A: Existing Condition Rational Method Hydrology Map in Appendix B for the four existing drainage areas (A, B, C, and D). Currently, the project site accepts storm runoff from the entire 2.71-acre 24 Hour Fitness site. Once construction of the 24-hour Fitness center is completed, storm runoff from its site will be intercepted within its property and conveyed via a storm drain pipe in Calle Arroyo to the Horno Creek Channel, a City-owned and maintained regional drainage facility. With the exception of the 24 Hour Fitness center site, no other onsite storm runoff enters the project site via overland flow. For the purposes of this analysis, the 24 Hour Fitness parcel is assumed to be developed to its ultimate buildout condition.

Based upon the Flood Insurance Rate Maps (FIRMs) shown in Appendix C, posted by the Flood Emergency Map Agency (FEMA) dated 2009, portions of the project site are located within the delineated 100 year flood area zone AE with base flood elevations provided. A floodway is also delineated by FEMA which is generally located along Horno Creek Channel and San Juan Creek. A Floodway is defined below.

"A 'Regulatory Floodway' means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations."

Any fill proposed for this project must be outside of the Floodway for the purposes of processing a Conditional Letter of Map Revision-Fill (CLOMR-F).

c. EXISTING STORM DRAIN FACILITIES

Storm drain facilities that capture onsite storm flows exist within the project limits. A large city-owned and –maintained regional facility, Horno Creek Channel, bisects the project. Catch basins within Paseo Tirador in existing Area A convey onsite storm flows to Horno Creek Channel. All the aforementioned facilities convey flows to San Juan Creek.

Just outside the property limits, an existing earthen swale, located parallel to the western edge of the subject site, running along the 5 Freeway conveys storm flows from onsite Areas C and D and a number of offsite areas to an existing 27" RCP, which leads to San Juan Creek. The proposed project may take advantage of this existing storm drain pipe that currently conveys onsite storm flow to San Juan Creek.

Two catch basins, located at low points within Calle Arroyo just north of the site, collect any potential run-on from the north, and join to the existing Horno Creek Channel. Horno Creek Channel is a 16'-wide by 8.5'-tall reinforced concrete box which bisects the project in the north/south direction and conveys stormwater into the San Juan Creek. See existing plans in Appendix E.

A scour protection wall within the project limits was constructed along San Juan Creek in 2009, which will provide flood protection and soil stability for the overall project. Just downstream of the project San Juan Creek is improved as a concrete lined earthen channel with a soft bottom, however the portion adjacent to the project is an unimproved natural watercourse.

III. Hydrologic Analysis

a. STORM FREQUENCY

This report will analyze the 25- and 100-year storm events for the existing and proposed project conditions.

b. METHODOLOGY

The area of the study site is within the jurisdiction of the City of Juan Capistrano, which is within southern Orange County. The City of San Juan Capistrano accepts methodologies and practices as described in both the Orange County Hydrology Manual dated October, 1986 and the Orange County Hydrology Manual Addendum No. 1, dated 1996.

The computer program used to perform hydrologic calculations in this report is CivilCadd/Civil Design Engineering Software, Version 9.0 program packaged in 2014 by Bondiman and Associates, Inc. Civil Design's Rational Method Program was used to determine all runoff in this report. This software has been identified as acceptable software within Orange County.

c. EXISTING CONDITION

As described in section II.b, three onsite drainage areas, A, B, C & D are identified within the existing condition study, all of which are tributary to San Juan Creek and shown on the Exhibit A in Appendix B. Storm runoff from Areas C and D join with offsite flows along the westerly property line emanating from the 5 freeway and landscaped areas north of the project, prior to discharging into San Juan Creek. The below analysis include runoff from Areas C and D for only the project's onsite areas. This analysis will provide for a more accurate comparison of pre and post project conditions.

Table III.1 Discharge to San Juan Creek – refer to Exhibit A in Appendix B

	Existing Condition Summary Runoff from Site			
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)	CivilD file name
A	11.2	14.6	5.05	SJCRMex25A.out, SJCRMex100A.out
B	7.8	10.1	3.71	SJCRMex25B.out, SJCRMex100B.out
C	3.4	4.4	1.30	SJCRMex25C.out, SJCRMex100C.out
D	1.1	1.5	0.39	SJCRMex25D.out, SJCRMex100D.out
∑	**23.5**	**30.6**	***10.45**	**N/A**

**Note: The remaining +/- 5.5 acres of property is located within San Juan Creek and not being developed.*

Prior to its confluence with Horno Creek Channel, San Juan Creek flows southwesterly towards the Pacific Ocean carrying a 100 year peak flow rate of approximately 30,000 cfs with a tributary area of 108.5 square miles. Upon its confluence with Horno Creek Channel, the 100 year peak flow rate increases to approximately 32,000 cfs with a tributary area of 116.8 square miles.

d. PROPOSED CONDITION

In the proposed condition, overall site drainage patterns generally remain the same as existing patterns. Storm flows will continue to reach San Juan Creek through similar means, including the existing 27" RCP in the southwest property corner and Horno Creek Channel. Proposed drainage facilities and hydrologic analyses are summarized in section IV of this report.

The westerly side of the project (Area C), consisting of 5.55 acres will be conveyed to a subsurface dual-purpose water quality and detention system, located just adjacent to the 5 freeway within an open space area. Both the required water quality volume along with the peak flow storm runoff will be conveyed to this system. Peak storm volume will be detained above the water quality volume for flow attenuation and released at below existing condition flow rates into the existing earthen swale running south westerly along the 5 freeway, where it reaches an existing 27" RCP inlet and conveyed into San Juan Creek.

The easterly side of the project (Area A), consisting of 4.9 acres falls within areas of the project that will be conveyed to flow-through water quality treatment BMPs prior to joining into the Horno

Creek Channel. Storm flow increases Area A will be mitigated by overcompensating the flow reduction for Area C.

IV. PROPOSED DRAINAGE FACILITIES

a. UNMITIGATED PEAK STORM FLOWS

Tables IV.1 and IV.2 below summarize proposed unmitigated storm flows from the project tributary to San Juan Creek, based upon the rational method analysis. The rational method analysis was also used to size onsite storm drain facilities. Refer to Appendix D for detailed calculations.

Because the unmitigated proposed discharge to San Juan Creek exceeds the existing discharge, provided in the below Table IV.2, peak storm mitigation is required for the overall development, which will be discussed in section IV.b.

Table IV.1 Storm Discharge to San Juan Creek (Unmitigated) – refer to Exhibit B in Appendix B

San Juan Creek	Proposed Condition Runoff From Site			
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)	CivilD file name
A	16.8	21.7	5.55	SJCRMprop25A.out, SJCRMprop100A.out
C	15.1	19.5	4.90	SJCRMprop25C.out, SJCRMprop100C.out
∑	**31.9**	**41.2**	**10.45**	**N/A**

Table IV.2 Existing vs. Proposed Unmitigated Condition Summary

San Juan Creek	Discharge Summary		
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)
Existing Condition	23.5	30.6	10.45
Proposed Condition	31.9	41.2	10.45
Delta	**8.4**	**10.6**	**0.0**

b. MITIGATED PEAK STORM FLOWS

Based upon increased impervious ratios and decreased times of concentration, unmitigated peak storm flows have increased from the existing to proposed conditions as shown in the above table IV.1. The proposed drainage facility, located on the western edge of the site, will provide multiple functions, providing for water quality treatment and peak flow attenuation. This proposed underground basin is designed to infiltrate water quality flows into the ground, whereas the peak storm volume will be stored within additional volume of the basin. As the water level rises in the basin a controlled outlet will meter the discharge leaving the basin into the existing earthen channel along the westerly property line, which reaches San Juan Creek via an existing 27" RCP as

previously described. A summary of discharge to the existing 27" RCP is described in table IV.3 below.

The City of San Juan Capistrano requires onsite facilities to be sized for runoff from the 25-year storm, therefore the analysis of the 100-year storm event shown below is not required for design. See Exhibit C: Proposed Condition Unit Hydrograph Method Hydrology Map in Appendix B. By routing the 25-year, 24-hour peak storm for proposed Area C through the proposed basin, the total peak discharge flow rate for the proposed development has been reduced below pre-project levels for the overall project. The 24-hour storm duration was selected for routing due to its large runoff volume as compared to shorter duration storms. See summary in the below tables for peak storm attenuation. Basin routing calculations are provided in Appendix D.

Table IV.3 Discharge to 27" RCP

27" RCP	Discharge Summary			
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)	CivilD file name
Existing Condition	4.5	5.9	1.69	See table III.1
Proposed Mitigated Condition	3.1	3.6	4.9	SJCUHprop25yr24hrC.out, SJCRTEprop25yr24hrC.out, SJCUHprop100yr24hrC.out, SJCRTEprop100yr24hrC.out
Delta	**-1.4**	**-2.3**	**0.0**	**N/A**

In the existing condition, Area A discharges directly into Horno Creek Channel. Existing condition area B sheet flows across the southern property line directly into San Juan Creek. Runoff from the proposed condition Area A, which correlates to a similar watershed as existing condition Areas A and B, will discharge directly into Horno Creek Channel. Proposed discharge is shown in table IV.4 below. No detention system is provided to mitigate proposed condition area A. The 35' length of Horno Creek Channel RCB from the project connection point to its outlet in San Juan Creek should have capacity to accommodate this small increase in runoff due to the small time of concentration of project discharge as compared to the longer time of concentration for the approximately 4.3-square-mile Horno Creek watershed.

Table IV.4 Discharge to Horno Creek Channel

Horno Creek Channel	Discharge Summary			
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)	CivilD file name
Existing Condition	11.2	14.6	5.05	See table III.1
Proposed Condition (No mitigation provided)	16.8	21.7	5.55	See table IV.1
Delta	**5.6**	**7.1**	**0.50**	**N/A**

A storm runoff summary for the overall project is provided in table IV.5. For both the 25-year and 100-year storms, discharge to San Juan Creek in the proposed condition is less than in the existing condition.

Table IV.5 Overall Project Discharge to San Juan Creek (Mitigated)

San Juan Creek	Discharge Summary			
	Q_{25} (cfs)	Q_{100} (cfs)	Area (AC)	CivilD file name
Existing Condition	23.5	30.6	10.45	See table III.1
Proposed Mitigated Condition	19.9	25.3	10.45	See tables IV.3 and IV.4
Delta	**-3.6**	**-5.3**	**0.0**	**N/A**

A separate project-specific Preliminary Water Quality Management Plan (PWQMP) has been prepared for the overall project, which contains the required water quality calculations, assessment of hydrologic conditions of concern, and corresponding hydromodification mitigation calculations, as applicable.

V. SUMMARY

Based upon analyses provided in this report, the proposed development will not adversely impact the existing drainage conditions. As described previously, existing drainage patterns will be generally be preserved. Peak flow attenuation is provided through one onsite proposed detention facility. The proposed storm drain facilities will adequately convey 25-year storm flows through the project site while maintaining 100-year storm protection throughout the development. A further detailed hydrology analysis will be provided in the final engineering phase of the project.

VI. REFERENCES

1. Orange County Hydrology Manual (October, 1986)
2. Orange County Hydrology Manual Addendum No. 1 (1996)
3. City of San Juan Capistrano Municipal Code
4. Orange County Local Drainage Manual (January, 1996)

APPENDIX A

TENTATIVE TRACT NO. 18148

CITY OF SAN JUAN CAPISTRANO,
IN THE COUNTY OF ORANGE,
STATE OF CALIFORNIA

ABBREVIATIONS

BLDG	BUILDING	IW	IRRIGATION WATER
BW	BACK OF WALK	JT	JOINT TRENCH
CF	CURB FACE	LL	LOT LINE
C&G	CURB & GUTTER	MWS	MODULAR WETLAND SYSTEM
DEDI	DEDICATION	PKWY	PARKWAY
DW	DOMESTIC WATER	PL	PROPERTY LINE
CL	CENTERLINE	PIP	PROTECT IN PLACE
ENCL.	ENCLOSURE	RG	ROUGH GRADE
ESMT	EASEMENT	R/W	RIGHT OF WAY
EX	EXISTING	S	SANITARY SEWER
FF	FINISHED FLOOR	SD	STORM DRAIN
FG	FINISHED GRADE	SWLK	SIDEWALK
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE		

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREET CENTERLINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- FEMA FLOODWAY BOUNDARY
- FEMA FLOODPLAIN BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED PRIVATE DOMESTIC WATER
- PROPOSED PRIVATE FIRE WATER
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE STORM DRAIN
- EXISTING PUBLIC SANITARY SEWER
- EXISTING PUBLIC STORM DRAIN
- EXISTING PUBLIC WATER
- PROPOSED PRIVATE FIRE HYDRANT
- 100 PROPOSED ELEVATION
- (100) EXISTING ELEVATION

PRELIMINARY EARTHWORK QUANTITIES

THE PROPOSED GRADING FOR THIS PROJECT AS DESCRIBED IN THIS PLAN, EXCLUDING ALL SPOILS, RESULTS IN THE FOLLOWING EARTHWORK NUMBERS.

	CUT (CY)	FILL (CY)
ARTIFICIAL FILL REMOVE & REPLACE	157,540	157,540
SHRINKAGE (7.5%)		11,816
SUBSIDENCE (0.1')		1,734
RAW	12,100	16,100
TOTALS	169,640	187,190
NET	17,950 CY IMPORT	

GRADING QUANTITIES SHOWN ABOVE ARE FOR PLAN CHECK PURPOSES ONLY. SITE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO BIDDING AND CONSTRUCTION.

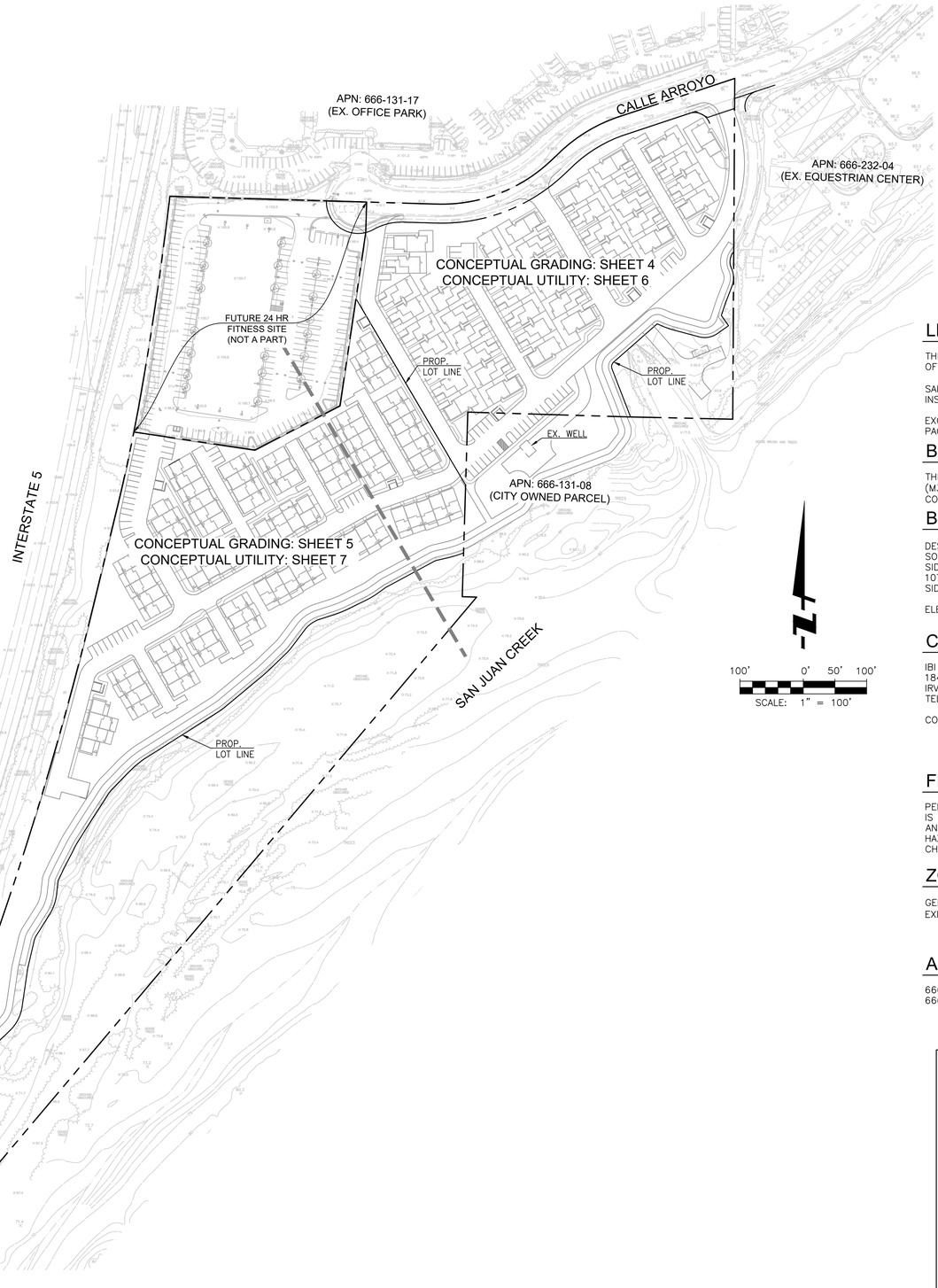
UTILITY PURVEYORS

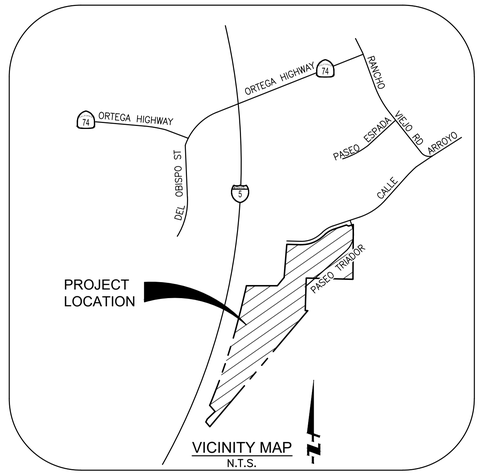
WATER: CITY OF SAN JUAN CAPISTRANO
UTILITY DEPARTMENT
32450 PASEO ADELANTO
SAN JUAN CAPISTRANO, CA 92675
TEL: 949.487.4305

SEWER: CITY OF SAN JUAN CAPISTRANO
PUBLIC WORKS DEPARTMENT
32400 PASEO ADELANTO
SAN JUAN CAPISTRANO, CA 92675
TEL: 949.443.6354

GAS: SOUTHERN CALIFORNIA GAS COMPANY
#1 LIBERTY
ALISO VIEJO, CA 92656
TEL: 949.425.4763

ELECTRICITY: SAN DIEGO GAS & ELECTRIC COMPANY
662 CAMINO DE LOS MARES
SAN CLEMENTE, CA 92672
TEL: 949.361.8040





LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF SAN JUAN CAPISTRANO, COUNTY OF ORANGE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

SAID LAND IS SHOWN AS PARCEL 1 OF LOT LINE ADJUSTMENT LLA 14–003 RECORDED DECEMBER 21, 2016 AS INSTRUMENT NO. 2016000649365 OF OFFICIAL RECORDS.

EXCEPT FROM THAT PORTION OF SAID LAND DESCRIBED IN THE DEED RECORDED FEBRUARY 15, 1955, IN BOOK 2959, PAGE 307 OF OFFICIAL RECORDS

BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING BETWEEN O.C.S. HORIZONTAL CONTROL STATION GPS NO. 4370 (M35) AND STATION GPS NO. 4398 (M34), BEING "N00°53'47"W" PER RECORDS ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR.

BENCHMARK

DESCRIBED BY OCS 2003– FOUND 3 ¼" OCS ALUMINUM BENCHMARK DISK STAMPED "3W–52–79", SET IN THE SOUTHWESTERLY CORNER OF A 4 FT. BY 8 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE NORTHERLY SIDE OF ORTEGA HIGHWAY, 0.65 MILES EASTERLY ALONG ORTEGA HIGHWAY FROM THE CENTERLINE OF INTERSTATE 5 AND 107 FT. WESTERLY OF THE NORTHERLY PROLONGATION OF WINDSONG FROM THE SOUTH. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

ELEVATION: 117.162 NAVD 88, 1995 O.C.S. ADJUSTMENT

CIVIL ENGINEER

IBI GROUP
18401 VON KARMAN AVE,, SUITE 110
IRVINE, CA 92612
TEL: 949.833.5588

CONTACT: PUNEET COMAR, PE

REGISTERED PROFESSIONAL ENGINEER PUNEET COMAR NO. C73065 EXP. 12/31/18 CIVIL STATE OF CALIFORNIA

GEOTECHNICAL ENGINEER

GEOSOILS CONSULTANTS, INC.
6634 VALJEAN AVE.
VAN NUYS, CA 91406
TEL: 818.785.2158

CONTACT: KAREN MILLER, GE

OWNER

SAN JUAN TIRADOR, LCC
520 NEWPORT CENTER DR., SUITE 780
NEWPORT BEACH, CA 92660
TEL: 949.723.8989

CONTACT: EFREM JOELSON

DEVELOPER

WATT COMMUNITIES, LCC
2716 OCEAN PARK BLVD., SUITE 2025
SANTA MONICA, CA 90405
TEL: 310.314.5074

CONTACT: EFREM JOELSON

FLOOD ZONE

PER FEMA FIRM MAPS 06059C0506J & 06059C0507J, THE SITE IS LOCATED IN FLOOD ZONES X, AREAS OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND ZONE AE, SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

ZONING INFORMATION

GENERAL PLAN LAND USE: PLANNED COMMUNITY (PC)
EXISTING ZONING: PLANNED COMMUNITY (PC)
CD PLAN 78–1

ASSESSOR PARCEL NUMBERS

666–131–07, 666–131–09, 666–131–13, 666–131–14, 666–131–15, & 666–131–16

SHEET INDEX

TITLE SHEET 1
TRACT MAP 2
EXISTING EASEMENT INFORMATION 3
CONCEPTUAL GRADING PLAN 4–5
CONCEPTUAL UTILITY PLAN 6–7

REVISIONS

NO.	INITIAL	DESCRIPTION	APPL

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS & UTILITIES

TITLE SHEET
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
IBI
IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

DRAWN BY:	DESIGN BY:		SHEET
NS	NS		1 OF 7
CHECKED BY: PC	CHECKED BY: PC	GEORGE ALVAREZ, CITY ENGINEER, R.C.E. 25161, DATE EXP. 12/31/2017	

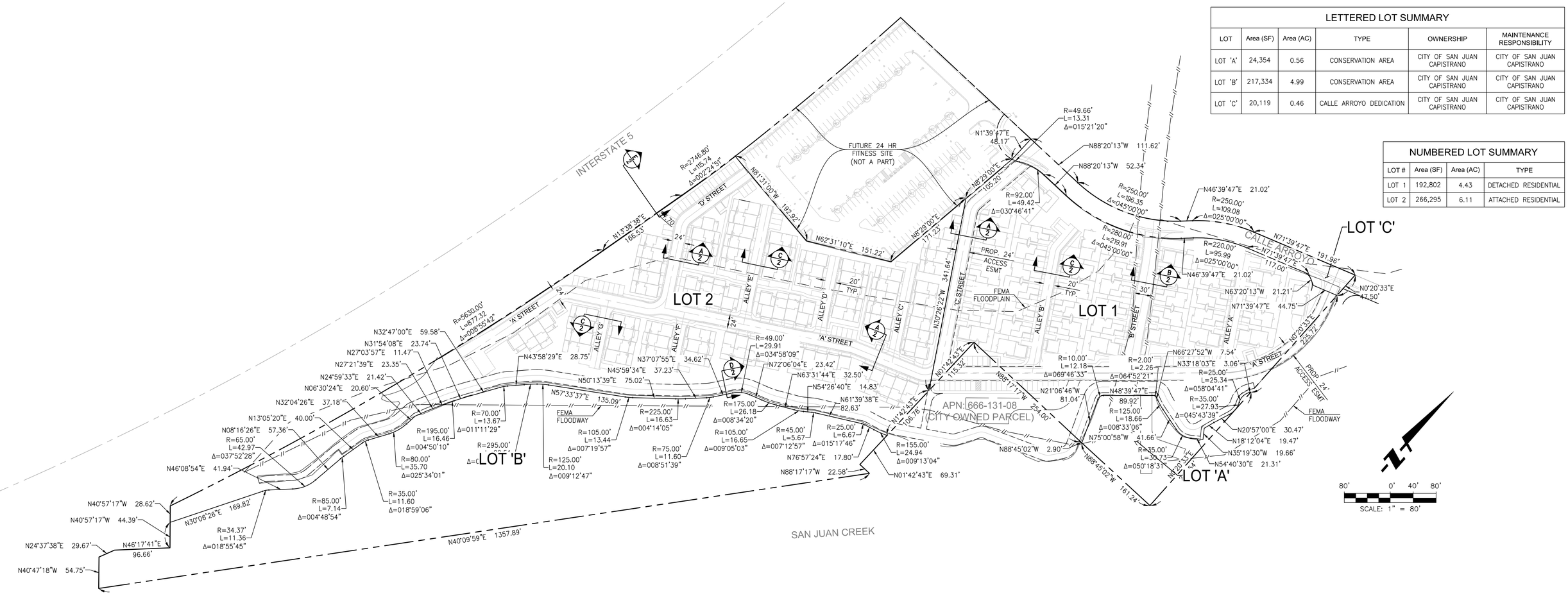
3/30/18 - PROGRESS SET

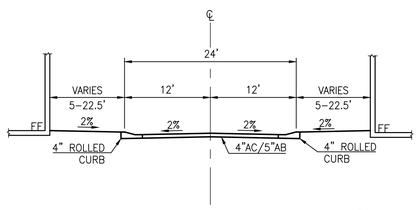
J:\112767_SJ_Mixed_Use20\5.9 Drawings\59civil\Plans\TTM\112767-ttm01ts.dwg Plotted At: March 30, 2018 11:28 AM Last Saved By: nate.steva Last Saved At: March 23, 2018 1:15 PM

3/30/18 - PROGRESS SET

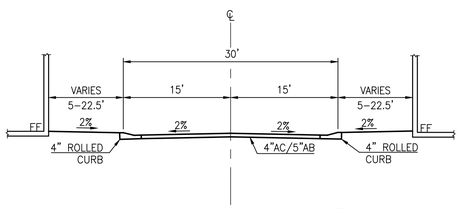
LETTERED LOT SUMMARY					
LOT	Area (SF)	Area (AC)	TYPE	OWNERSHIP	MAINTENANCE RESPONSIBILITY
LOT 'A'	24,354	0.56	CONSERVATION AREA	CITY OF SAN JUAN CAPISTRANO	CITY OF SAN JUAN CAPISTRANO
LOT 'B'	217,334	4.99	CONSERVATION AREA	CITY OF SAN JUAN CAPISTRANO	CITY OF SAN JUAN CAPISTRANO
LOT 'C'	20,119	0.46	CALLE ARROYO DEDICATION	CITY OF SAN JUAN CAPISTRANO	CITY OF SAN JUAN CAPISTRANO

NUMBERED LOT SUMMARY			
LOT #	Area (SF)	Area (AC)	TYPE
LOT 1	192,802	4.43	DETACHED RESIDENTIAL
LOT 2	266,295	6.11	ATTACHED RESIDENTIAL

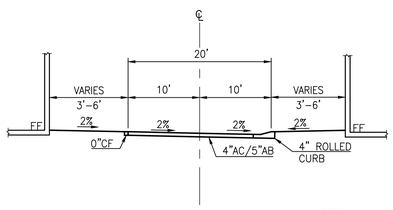




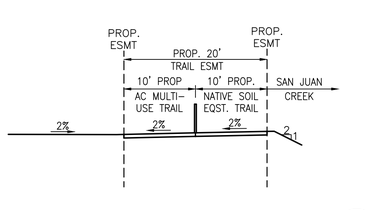
TYPICAL PRIVATE STREET- 24' (A/2)
SCALE: 1"=10'
('A' STREET, 'C' STREET & 'D' STREET)



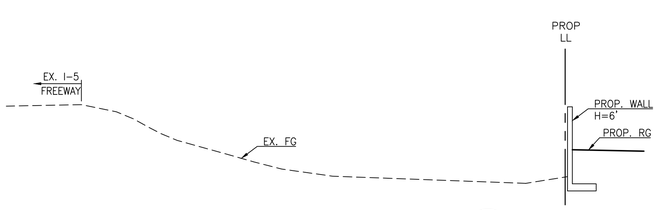
'B' STREET (PRIVATE) (B/2)
SCALE: 1"=10'



PRIVATE ALLEY- TYPICAL (C/2)
SCALE: 1"=10'



PROPOSED BIKE/HORSE TRAIL (D/2)
SCALE: 1"=10'



PROPOSED RETAINING WALL (E/2)
SCALE: 1"=10'

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREET CENTERLINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- FEMA FLOODWAY BOUNDARY
- FEMA FLOODPLAIN BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED PRIVATE DOMESTIC WATER
- PROPOSED PRIVATE FIRE WATER
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE STORM DRAIN
- EXISTING PUBLIC SANITARY SEWER
- EXISTING PUBLIC STORM DRAIN
- EXISTING PUBLIC WATER
- PROPOSED PRIVATE FIRE HYDRANT
- 100 PROPOSED ELEVATION
- (100) EXISTING ELEVATION

ABBREVIATIONS

BLDG	BUILDING	IW	IRRIGATION WATER
BW	BACK OF WALK	JT	JOINT TRENCH
CF	CURB FACE	LL	LOT LINE
C&G	CURB & GUTTER	MWS	MODULAR WETLAND SYSTEM
DEDI	DEDICATION	PKWY	PARKWAY
DW	DOMESTIC WATER	PL	PROPERTY LINE
CL	CENTERLINE	PIP	PROTECT IN PLACE
ENCL.	ENCLOSURE	RG	ROUGH GRADE
ESMT	EASEMENT	R/W	RIGHT OF WAY
EX	EXISTING	S	SANITARY SEWER
FF	FINISHED FLOOR	SD	STORM DRAIN
FG	FINISHED GRADE	SWLK	SIDEWALK
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE		

BUILDING MATRIX

ATTACHED UNIT SUMMARY				
PLAN NO.	NO. OF UNITS	NO. OF BDRMS	TOTAL BDRMS	GROSS AREA (SF)
1	14	2	28	1,275
2	33	3	99	1,775
3	13	3	39	1,833
3E	29	3	87	1,839
TOTALS	89		166	

DETACHED UNIT SUMMARY				
PLAN NO.	NO. OF UNITS	NO. OF BDRMS	TOTAL BDRMS	GROSS AREA (SF)
1	14	3	42	1,719
2	15	4	60	1,751
3	14	4	56	1,890
TOTALS	43		158	

NOTE: ALL DETACHED BUILDINGS ARE 2 STORIES. ALL ATTACHED BUILDINGS ARE 3 STORIES

PARKING SUMMARY

ATTACHED UNIT SUMMARY				
	REQUIRED			PROVIDED
	UNITS	SPACES/UNIT	TOTAL	
OFF STREET	89	2	178	178
GUEST	89	0.8	71	72
TOTALS			249	250

DETACHED UNIT SUMMARY				
	REQUIRED			PROVIDED
	UNITS	SPACES/UNIT	TOTAL	
OFF STREET	43	2	86	86
GUEST	43	0.8	34	53
TOTALS			120	139

NO.	INITIAL	DESCRIPTION	APPL
REVISIONS			

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS & UTILITIES

TRACT MAP
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
IBI
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Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

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PC	PC	GEORGE ALVAREZ CITY ENGINEER R.C.E. 25161 DATE EXP. 12/31/2017	

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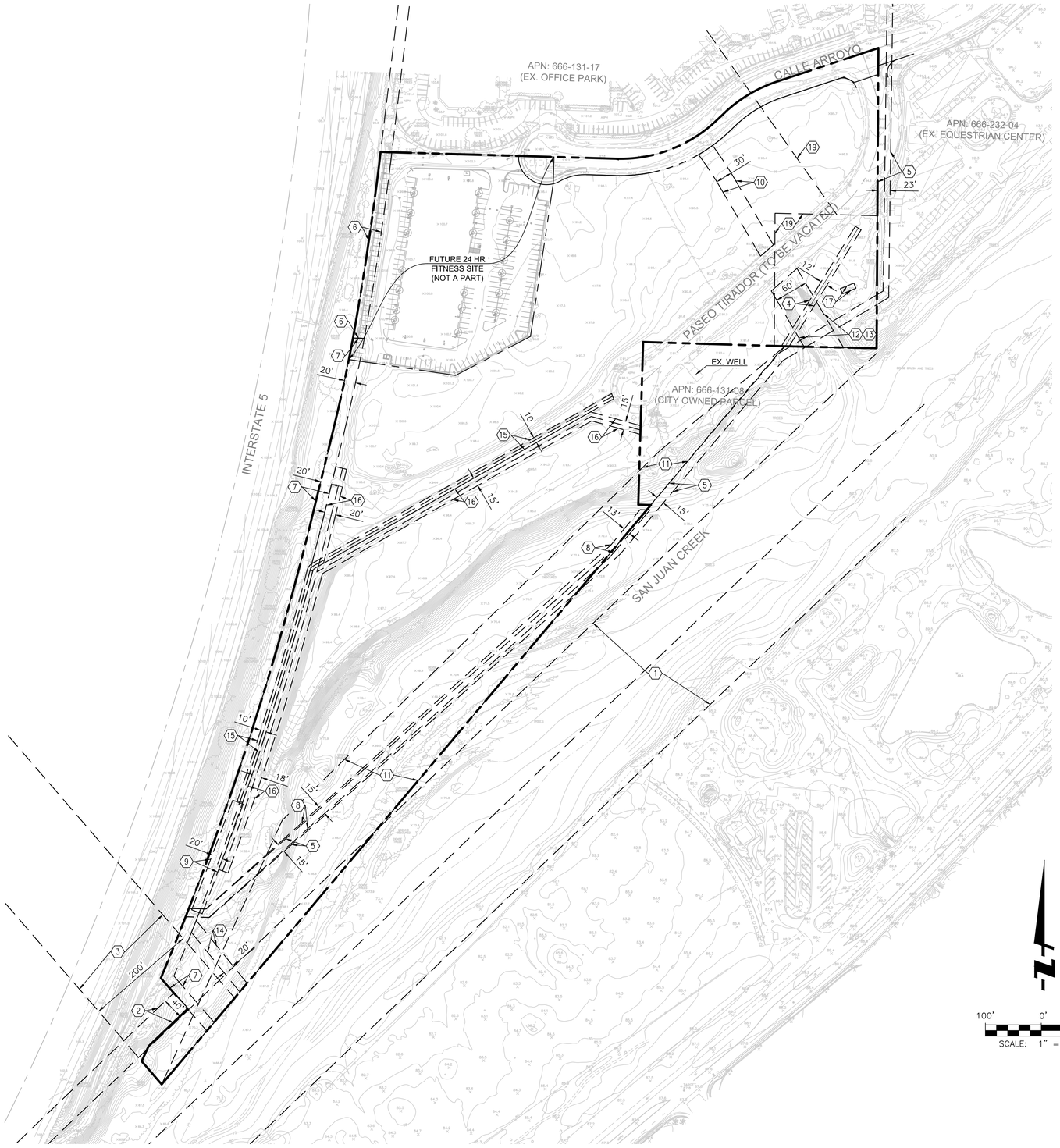

EXISTING EASEMENT SUMMARY

1. EASEMENT IN FAVOR OF THE ORANGE COUNTY FLOOD CONTROL DISTRICT BY DEED RECORDED JANUARY 18, 1938, IN BOOK 924, PAGE 178, OFFICIAL RECORDS.
2. EASEMENT IN FAVOR OF THE ORANGE COUNTY FLOOD CONTROL DISTRICT BY DEED RECORDED JULY 12, 1954, IN BOOK 2768, PAGE 564, OFFICIAL RECORDS.
3. EASEMENT IN FAVOR OF THE SAN DIEGO GAS & ELECTRIC COMPANY, RECORDED OCTOBER 11, 1946, IN BOOK 1467, PAGE 219, OFFICIAL RECORDS.
4. EASEMENT IN FAVOR OF THE SAN DIEGO GAS & ELECTRIC COMPANY, RECORDED JANUARY 7, 1957, IN BOOK 3762, PAGE 58, OFFICIAL RECORDS.
5. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED AUGUST 11, 1964, IN BOOK 7627, PAGE 831, OFFICIAL RECORDS.
6. EASEMENT IN FAVOR OF ORANGE COUNTY, IN BOOK 8133, PAGE 8, OFFICIAL RECORDS.
7. EASEMENT IN FAVOR OF THE ORANGE COUNTY WATER DISTRICT NO. 4, BY DEED RECORDED JANUARY 27, 1969, IN BOOK 8870, PAGE 894, OFFICIAL RECORDS.
8. EASEMENT IN FAVOR OF THE STATE OF CALIFORNIA, BY DEED RECORDED SEPTEMBER 17, 1974, IN BOOK 11244, PAGE 1165, OFFICIAL RECORDS.
9. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, BY DEED RECORDED FEBRUARY 22, 1983, INSTRUMENT NUMBER 83-079765, OFFICIAL RECORDS. A PORTION OF THIS EASEMENT WAS QUITCLAIMED BY INSTRUMENT NUMBER 2003001324145, RECORDED OCTOBER 2, 2003, OFFICIAL RECORDS.
10. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED FEBRUARY 22, 1983, INSTRUMENT NUMBER 83-079767, OFFICIAL RECORDS.
11. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED FEBRUARY 22, 1983, INSTRUMENT NUMBER 83-079768, OFFICIAL RECORDS.
12. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED AUGUST 12, 1986M INSTRUMENT NUMBER 86-357929, OFFICIAL RECORDS.
13. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED AUGUST 12, 1986, INSTRUMENT NUMBER 86-357930, OFFICIAL RECORDS.
14. EASEMENT IN FAVOR OF THE CAPISTRANO VALLEY WATER DISTRICT, A PUBLIC CORPORATION, RECORDED MAY 8, 1995, INSTRUMENT NUMBER 95-0196400, OFFICIAL RECORDS. A DOCUMENT ENTITLED "QUITCLAIM OF TEMPORARY CONSTRUCTION EASEMENT PARCEL 'B' OF DOCUMENT NO. 95-0196400", RECORDED OCTOBER 28, 2003, INSTRUMENT NO. 2003001324143, OFFICIAL RECORDS.
15. EASEMENT IN FAVOR OF THE CITY OF SAN JUAN CAPISTRANO, RECORDED MAY 9, 1995, INSTRUMENT NUMBER 95-0198568, OFFICIAL RECORDS.
16. EASEMENT IN FAVOR OF THE CAPISTRANO VALLEY WATER DISTRICT, A PUBLIC CORPORATION, RECORDED OCTOBER 28, 2003, INSTRUMENT NUMBER 2003001324146, OFFICIAL RECORDS
17. EASEMENTS, COVENANTS & CONDITIONS CONTAINED IN THE DEED FROM CAPISTRANO ACRES MUTUAL WATER COMPANY, A CALIFORNIA CORPORATION, AS GRANTOR, TO ORTEGA LAND COMPANY LLC, A CALIFORNIA LIMITED LIABILITY COMPANY, AS GRANTEE, RECORDED MAY 4, 2006, INSTRUMENT NO. 2006000303186, OFFICIAL RECORDS.
18. EASEMENT IN FAVOR OF ST. MARTINS EPISCOPAL SCHOOL, A CALIFORNIA PUBLIC BENEFIT CORPORATION, RECORDED MARCH 3, 2009, INSTRUMENT NO. 2009000099648, OFFICIAL RECORDS.
19. EASEMENT IN FAVOR OF CAPISTRANO ACRES MUTUAL WATER COMPANY, A CALIFORNIA CORPORATION, BY DEED RECORDED AUGUST 17, 1938, IN BOOK 959, PAGE 146 OF OFFICIAL RECORDS. (APPROXIMATE LOCATION. ACTUAL LOCATION INDETERMINATE FROM RECORD)

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREET CENTERLINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- FEMA FLOODWAY BOUNDARY
- FEMA FLOODPLAIN BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED PRIVATE DOMESTIC WATER
- PROPOSED PRIVATE FIRE WATER
- PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE STORM DRAIN
- EXISTING PUBLIC SANITARY SEWER
- EXISTING PUBLIC STORM DRAIN
- EXISTING PUBLIC WATER
- PROPOSED PRIVATE FIRE HYDRANT
- 100 PROPOSED ELEVATION
- (100) EXISTING ELEVATION

ABBREVIATIONS

BLDG	BUILDING	IW	IRRIGATION WATER
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ENCL.	ENCLOSURE	RG	ROUGH GRADE
ESMT	EASEMENT	R/W	RIGHT OF WAY
EX	EXISTING	S	SANITARY SEWER
FF	FINISHED FLOOR	SD	STORM DRAIN
FG	FINISHED GRADE	SWLK	SIDEWALK
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE		

REVISIONS

NO.	INITIAL	DESCRIPTION	APPL

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS & UTILITIES

EXISTING EASEMENT INFORMATION
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
IBI
IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

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3/30/18 - PROGRESS SET

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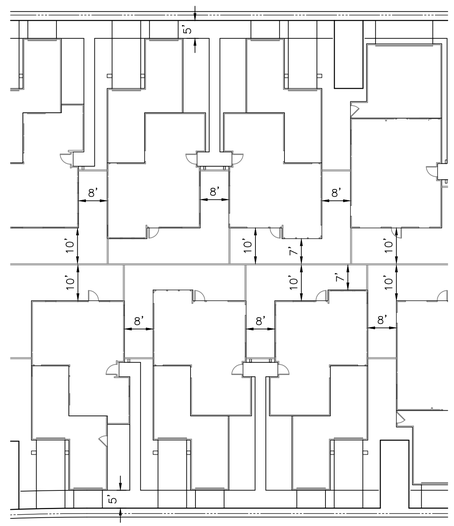

TYPICAL DETACHED BUILDING LAYOUT

N.T.S.

LEGEND

	EXISTING PROPERTY LINE
	PROPOSED STREET CENTERLINE
	PROPOSED RIGHT OF WAY
	PROPOSED LOT LINE
	EASEMENT LINE
	FEMA FLOODWAY BOUNDARY
	FEMA FLOODPLAIN BOUNDARY
	PROPOSED RETAINING WALL
DW	PROPOSED PRIVATE DOMESTIC WATER
FW	PROPOSED PRIVATE FIRE WATER
S	PROPOSED PRIVATE SANITARY SEWER
	PROPOSED PRIVATE STORM DRAIN
S	EXISTING PUBLIC SANITARY SEWER
	EXISTING PUBLIC STORM DRAIN
W	EXISTING PUBLIC WATER
	PROPOSED PRIVATE FIRE HYDRANT
100	PROPOSED ELEVATION
(100)	EXISTING ELEVATION

ABBREVIATIONS

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FF	FINISHED FLOOR	SD	STORM DRAIN
FG	FINISHED GRADE	SWLK	SIDEWALK
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE		

50' 0' 25' 50'

SCALE: 1" = 50'

REVISIONS

NO.	INITIAL	DESCRIPTION	APPL

CITY OF SAN JUAN CAPISTRANO

DEPARTMENT OF PUBLIC WORKS & UTILITIES

CONCEPTUAL GRADING PLAN
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
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18401 Von Karman Avenue – Suite 110
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50' 0' 25' 50'
SCALE: 1" = 50'

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREET CENTERLINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- FEMA FLOODWAY BOUNDARY
- FEMA FLOODPLAIN BOUNDARY
- PROPOSED RETAINING WALL
- DW — PROPOSED PRIVATE DOMESTIC WATER
- FW — PROPOSED PRIVATE FIRE WATER
- S — PROPOSED PRIVATE SANITARY SEWER
- PROPOSED PRIVATE STORM DRAIN
- S — EXISTING PUBLIC SANITARY SEWER
- EXISTING PUBLIC STORM DRAIN
- W — EXISTING PUBLIC WATER
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ABBREVIATIONS

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REVISIONS

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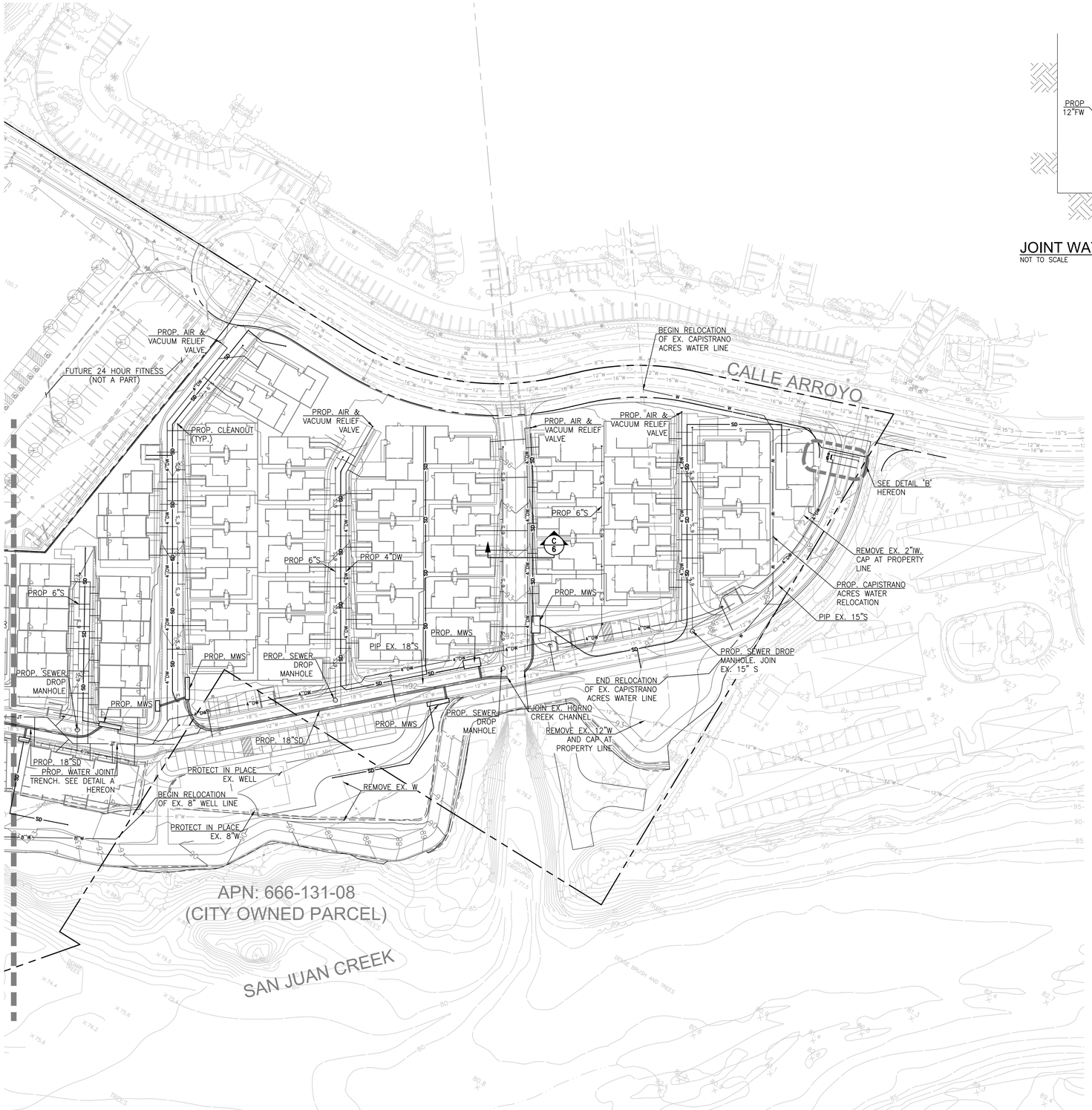
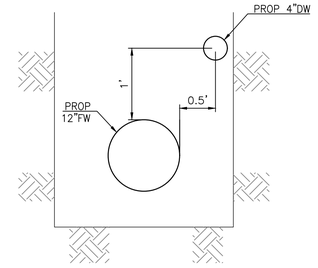
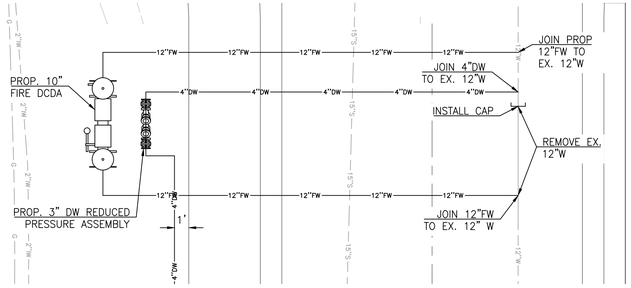
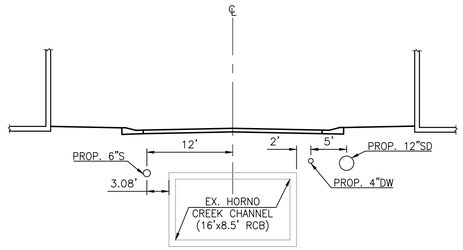




JOINT WATER TRENCH (A/6)
NOT TO SCALE



WATER CONNECTION DETAIL (B/6)
NOT TO SCALE



'B' STREET UTILITIES (C/6)
NOT TO SCALE

UTILITIES NOTES

1. ALL SEWER CONNECTION TO EXISTING 15" OR 18" SEWER WILL REQUIRE A DROP MANHOLE.
2. PROPOSED 12" FW & 4" DW TO SHARE SAME TRENCH PER DETAIL 'A' HEREON.
3. 7' MAXIMUM COVER OVER WATER

LEGEND

	EXISTING PROPERTY LINE
	PROPOSED STREET CENTERLINE
	PROPOSED RIGHT OF WAY
	PROPOSED LOT LINE
	EASEMENT LINE
	FEMA FLOODWAY BOUNDARY
	FEMA FLOODPLAIN BOUNDARY
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DW DW	PROPOSED PRIVATE DOMESTIC WATER
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S S	EXISTING PUBLIC SANITARY SEWER
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FF	FINISHED FLOOR	SD	STORM DRAIN
FG	FINISHED GRADE	SWLK	SIDEWALK
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE		

50' 0' 25' 50'
SCALE: 1" = 50'

REVISIONS

NO.	INITIAL	DESCRIPTION	APPL

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS & UTILITIES

CONCEPTUAL UTILITY PLAN
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
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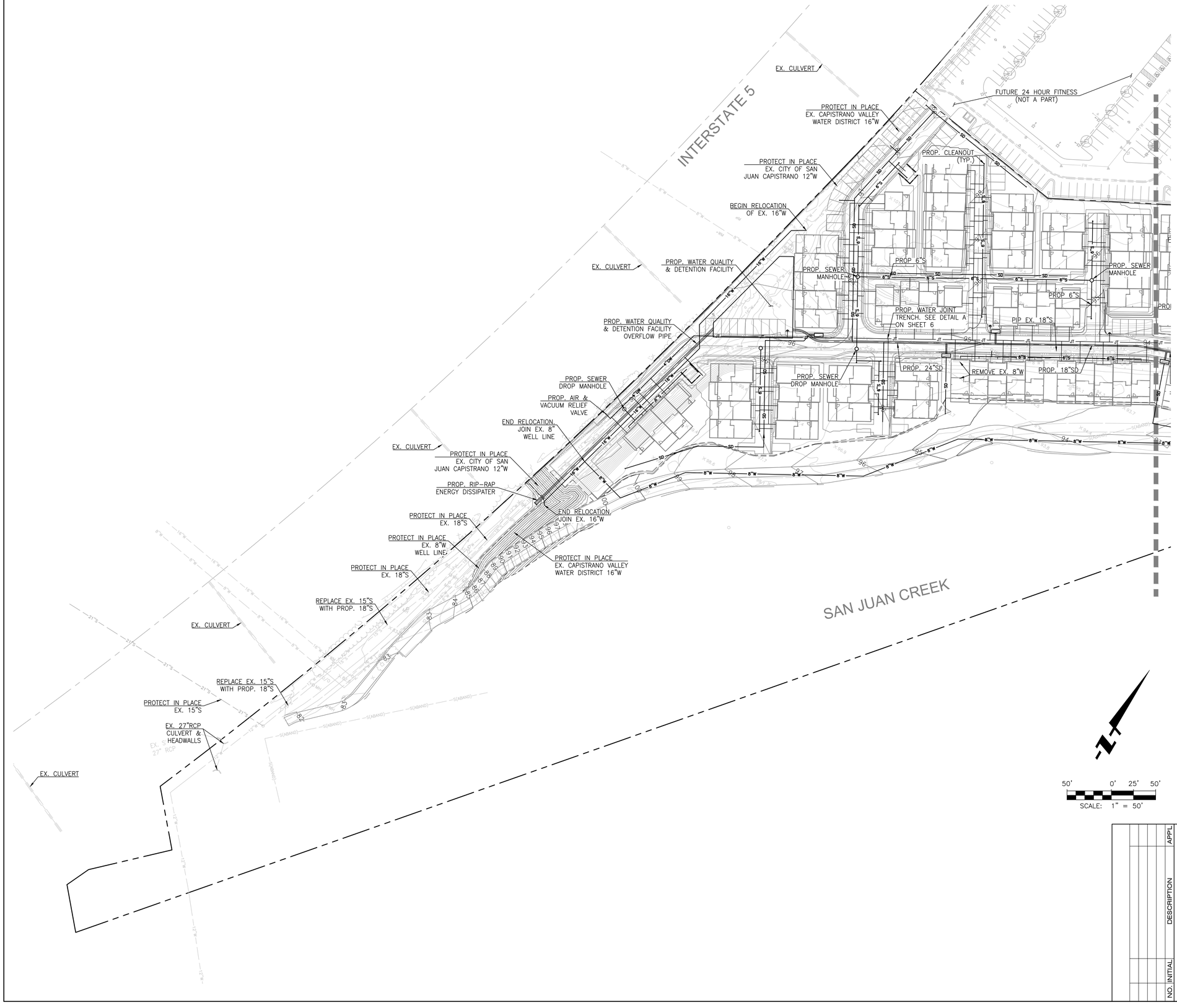

UTILITIES NOTES

1. ALL SEWER CONNECTION TO EXISTING 15" OR 18" SEWER WILL REQUIRE A DROP MANHOLE.
2. PROPOSED 12" FW & 4" DW TO SHARE SAME TRENCH PER DETAIL 'A' ON SHEET 6.
3. 7' MAXIMUM COVER OVER WATER

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREET CENTERLINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- FEMA FLOODWAY BOUNDARY
- FEMA FLOODPLAIN BOUNDARY
- PROPOSED RETAINING WALL
- PROPOSED PRIVATE DOMESTIC WATER
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- PROPOSED PRIVATE SANITARY SEWER
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- EXISTING PUBLIC SANITARY SEWER
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- (100) EXISTING ELEVATION

ABBREVIATIONS

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FF	FINISHED FLOOR	SD	STORM DRAIN
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FL	FLOWLINE	TC	TOP OF CURB
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REVISIONS

NO.	INITIAL	DESCRIPTION	APPL

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS & UTILITIES

CONCEPTUAL UTILITY PLAN
TIRADOR
TENTATIVE TRACT MAP 18148

PREPARED BY:
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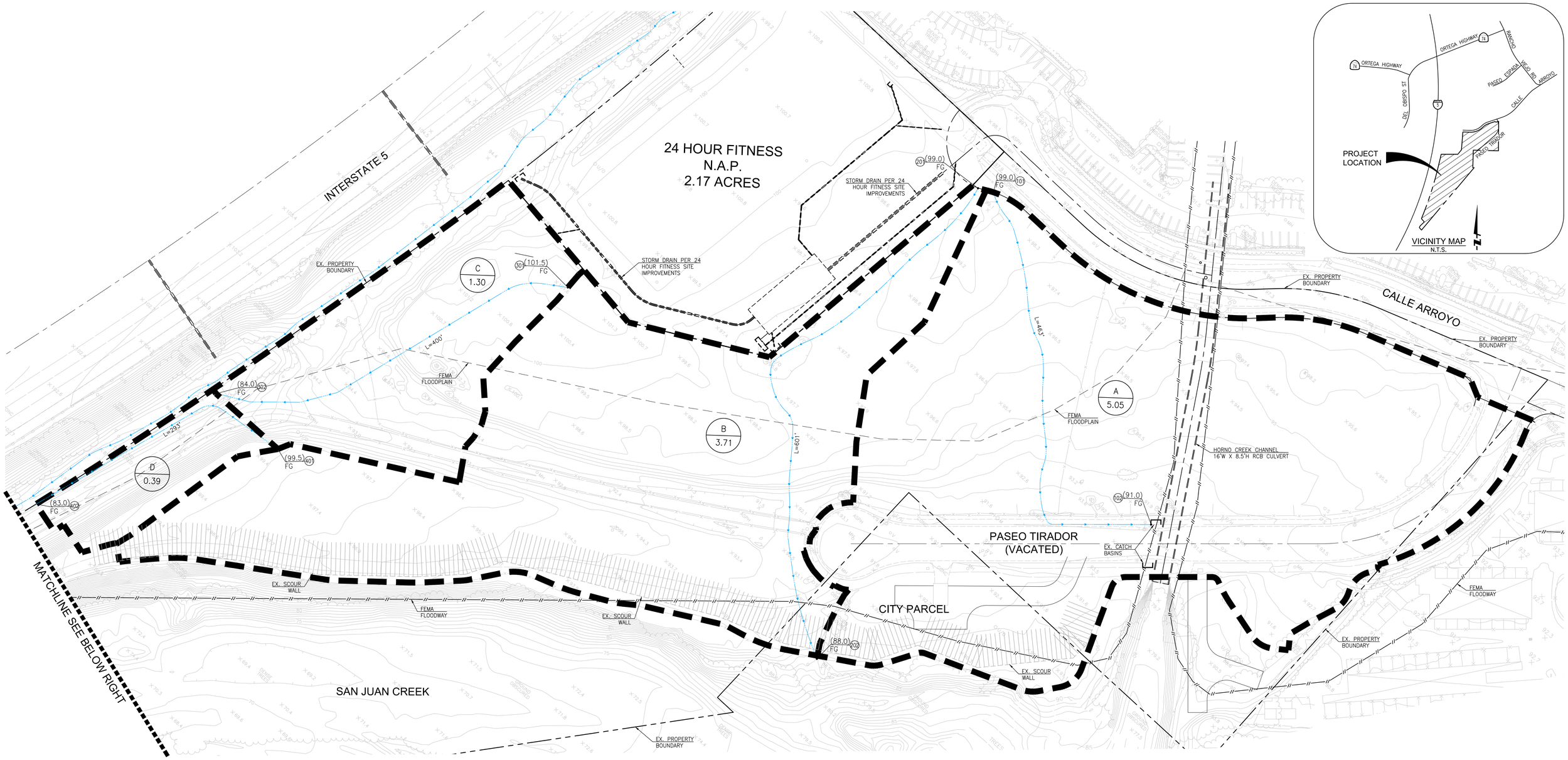
APPENDIX B



HYDROLOGY SUMMARY

NODE	Q_{25} (CFS)	Q_{100} (CFS)	ΣA (AC)
102	11.2	14.6	5.05
202	7.8	10.1	3.71
302	3.4	4.4	1.30
402	1.1	1.5	0.39

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED MAJOR AREA BOUNDARY
- DIRECTION OF SURFACE FLOW
- EXISTING STORM DRAIN
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- (XXX.XX) EXISTING ELEVATION
- (101) PROPOSED NODE
- FG FINISHED GRADE
- L=XXXX' SURFACE FLOW PATH LENGTH
- A / 0.83 MAJOR AREA NAME / ACREAGE

40' 0' 20' 40'
SCALE: 1" = 40'

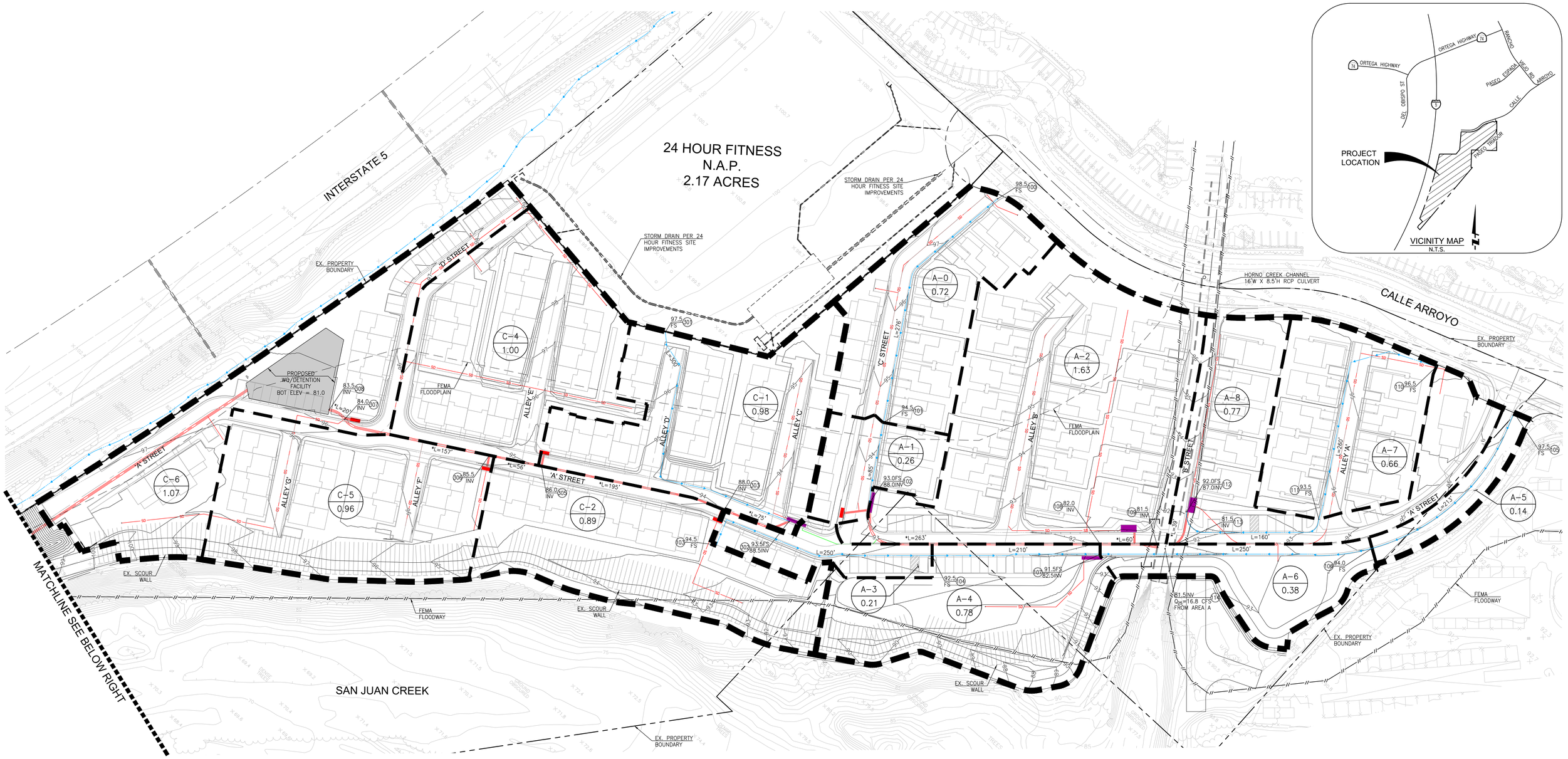
EXHIBIT A:
EXISTING CONDITION RATIONAL METHOD HYDROLOGY MAP

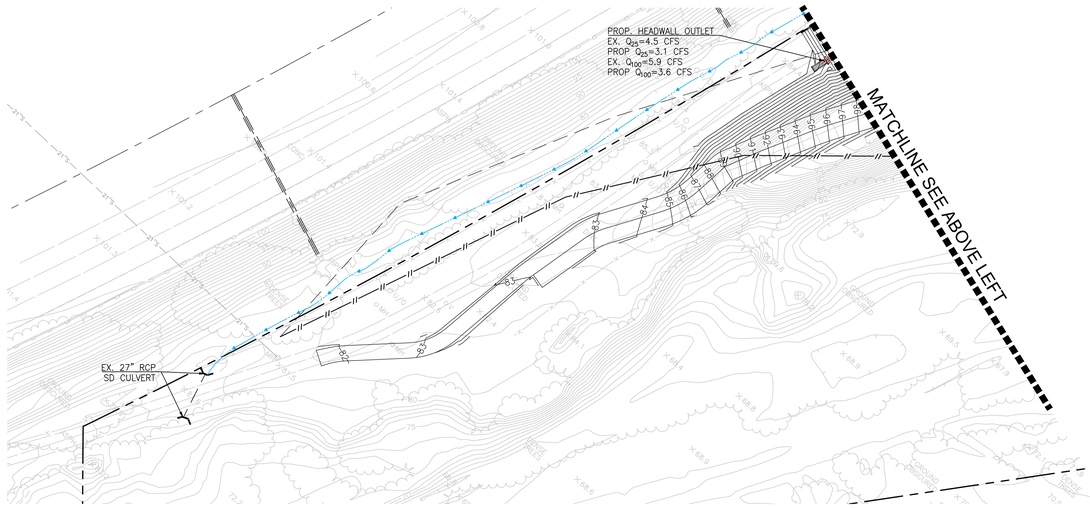
TTM 18148

SAN JUAN CAPISTRANO, CA

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

J:\112767_SJ_Mixed_Use\20\5.2 Reports\Hydrology – Preliminary\Exhibits\Rational Method\112767 Existing RM Hydrology Map.dwg Plotted At: March 26, 2018 2:33 PM Last Saved By: ericlasmer Last Saved At: March 26, 2018 12:35 PM





AREA A SUMMARY

NODE	Q_{25}(CFS)	Q_{100}(CFS)	ΣA (AC)
101	2.5	3.2	0.72
102	3.3	4.2	0.98
104	0.7	0.9	0.21
106	0.5	0.7	0.14
107	4.2	5.5	1.51
108	12.3	15.8	4.12
111	2.3	2.9	0.66
112	4.5	5.9	1.43
114	16.8	21.7	5.55

AREA C SUMMARY

NODE	Q_{25} (CFS)	Q_{100}(CFS)	ΣA (AC)
302	3.3	4.3	0.98
303	6.2	8.0	1.87
305	9.2	11.8	2.87
306	12.2	15.7	3.83
307	15.1	19.5	4.90
308	15.1	19.5	4.90

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED MAJOR AREA BOUNDARY
- PROPOSED MINOR AREA BOUNDARY
- PROPOSED RCP PEAK FLOW STORM DRAIN
- PROPOSED BIFURCATION STORM DRAIN
- EXISTING STORM DRAIN
- DIRECTION OF SURFACE FLOW
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- PROPOSED CATCH BASIN
- PROPOSED BIO-FILTRATION BMP
- XXX.XX — PROPOSED ELEVATION
- (101) — NODE NUMBER
- FG, FS — FINISHED GRADE, FINISHED SURFACE
- L=XXXX' — SURFACE FLOW PATH LENGTH
- *L=XXXX' — PIPE LENGTH
- A / 0.83 — DRAINAGE AREA DESIGNATION / ACREAGE

40' 0' 20' 40'
SCALE: 1" = 40'

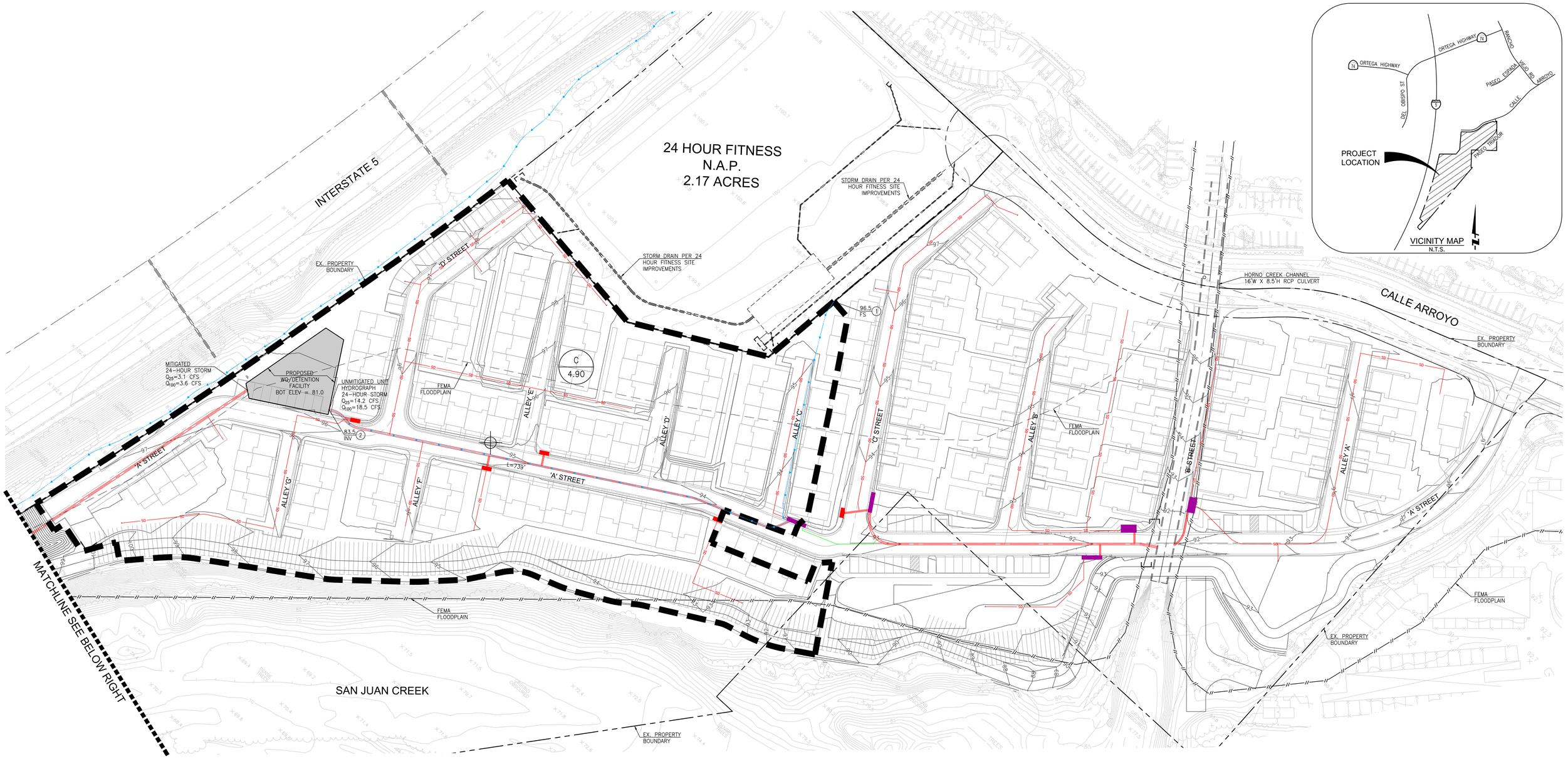
EXHIBIT B:
PROPOSED CONDITION RATIONAL METHOD HYDROLOGY MAP

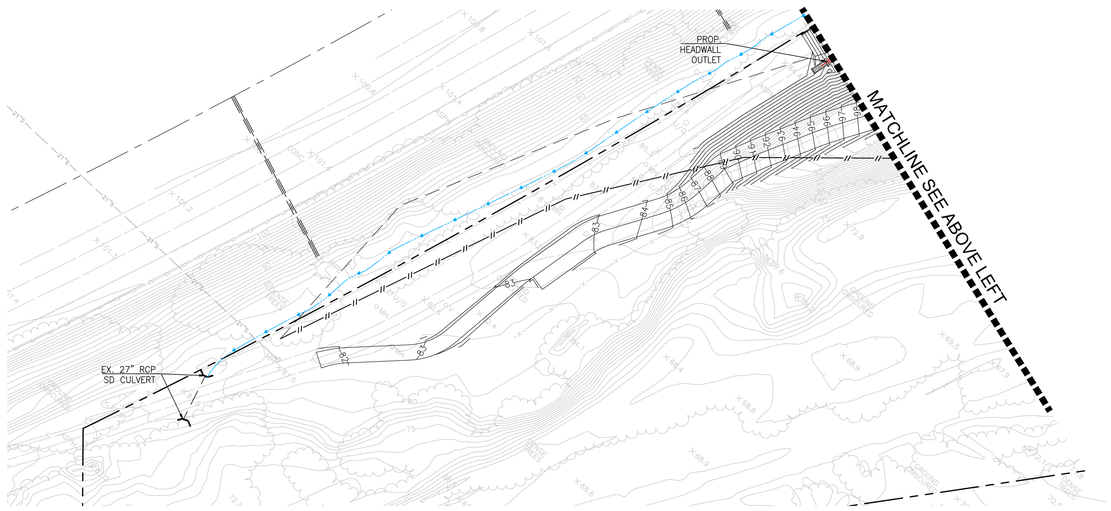
TTM 18148

SAN JUAN CAPISTRANO, CA

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

J:\112767_SJ_Mixed_Use\25.0 Reports\Hydrology – Preliminary\Exhibits\Rational Method\112767 Proposed RM Hydrology Map.dwg Plotted At: March 26, 2018 2:31 PM Last Saved By: eric.lisner Last Saved At: March 26, 2018 2:26 PM





LEGEND

- EXISTING PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED MAJOR AREA BOUNDARY
- PROPOSED MINOR AREA BOUNDARY
- PROPOSED RCP PEAK FLOW STORM DRAIN
- PROPOSED BIFURCATION STORM DRAIN
- EXISTING STORM DRAIN
- DIRECTION OF SURFACE FLOW
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- PROPOSED CATCH BASIN
- PROPOSED BIO-FILTRATION BMP
- XXX.XX — PROPOSED ELEVATION
- (101) — NODE NUMBER
- FG, FS — FINISHED GRADE, FINISHED SURFACE
- L=XXXX' — SURFACE FLOW PATH LENGTH
- *L=XXXX' — PIPE LENGTH
- A / 0.83 — DRAINAGE AREA DESIGNATION; ACREAGE
- CENTROID MARKER

40' 0' 20' 40'
SCALE: 1" = 40'

EXHIBIT C:
PROPOSED CONDITION UNIT HYDROGRAPH METHOD HYDROLOGY MAP

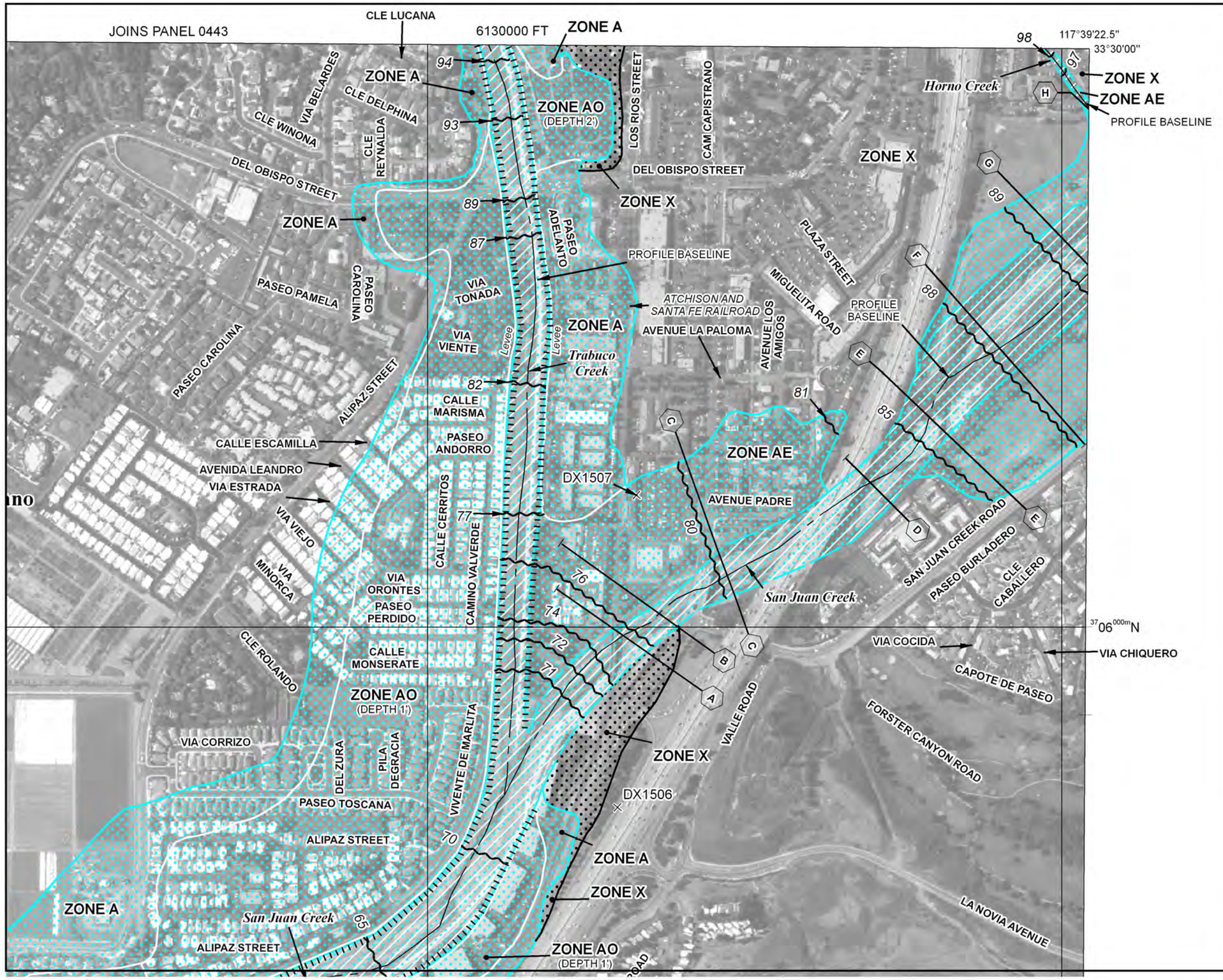
TTM 18148

SAN JUAN CAPISTRANO, CA

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

J:\11767_SJ_Mixed_Use2\5.2 Reports\Hydrology – Preliminary\Exhibits\Unit Hydrograph\11767 Proposed UH Hydrology Map.dwg Plotted At: March 26, 2018 2:33 PM Last Saved By: mrichsener Last Saved At: March 26, 2018 12:47 PM

APPENDIX C



tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

NFIP

PANEL 0506J

FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 506 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DANA POINT, CITY OF	060736	0506	J
LAGUNA NIGUEL, CITY OF	060764	0506	J
SAN JUAN CAPISTRANO, CITY OF	060231	0506	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0506J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

dional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0507J

FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 507 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN CLEMENTE, CITY OF	060230	0507	J
SAN JUAN CAPISTRANO, CITY OF	060231	0507	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0507J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Search

Clear | Search

Basic Search

Enter keywords

Advanced Search

Clear | Search

Properties and Qualities Ratings

Open All | Close All

- Soil Chemical Properties
- Soil Erosion Factors
- Soil Health Properties
- Soil Physical Properties
- **Soil Qualities and Features**
  - AASHTO Group Classification (Surface)
  - Depth to a Selected Soil Restrictive Layer
  - Depth to Any Soil Restrictive Layer
  - Drainage Class
  - Frost Action
  - Frost-Free Days
  - Hydrologic Soil Group

View Description | View Rating

View Options

Map ☑
Table ☑
Description of Rating ☑
Rating Options ☑
Detailed Description ☐

Advanced Options

Aggregation Method: Dominant Condition

Component Percent Cutoff:

Tie-break Rule: Lower / Higher

View Description | View Rating

  - Map Unit Name
  - Parent Material Name
  - Representative Slope
  - Unified Soil Classification (Surface)
- Water Features

Map — Hydrologic Soil Group

Scale (not to scale)

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

Tables — Hydrologic Soil Group — Summary By Map Unit

Summary by Map Unit — Orange County and Part of Riverside County, California (CA678)

Summary by Map Unit — Orange County and Part of Riverside County, California (CA678)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
146	Corralitos loamy sand	A	0.7	5.5%
206	Sorrento loam, 0 to 2 percent slopes, warm MAAT, MLRA 19	C	9.1	68.8%
209	Sorrento clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	C	3.4	25.8%
Totals for Area of Interest			**13.3**	**100.0%**

Description — Hydrologic Soil Group

Rating Options — Hydrologic Soil Group

APPENDIX D

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMex25A.roc

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112767 SJC
25-year storm
Existing condition watershed A
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 463.000(Ft.)
Top (of initial area) elevation = 99.000(Ft.)
Bottom (of initial area) elevation = 91.000(Ft.)
Difference in elevation = 8.000(Ft.)
Slope = 0.01728 s(%)= 1.73
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.769 min.

Rainfall intensity = 2.719(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.817
Subarea runoff = 11.221(CFS)
Total initial stream area = 5.050(Ac.)
End of computations, total study area = 5.05 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMex25B.roc

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112767 SJC
25-year storm
Existing condition watershed B
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 601.000(Ft.)
Top (of initial area) elevation = 99.000(Ft.)
Bottom (of initial area) elevation = 88.000(Ft.)
Difference in elevation = 11.000(Ft.)
Slope = 0.01830 s(%)= 1.83
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.108 min.

Rainfall intensity = 2.580(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.813
Subarea runoff = 7.779(CFS)
Total initial stream area = 3.710(Ac.)
End of computations, total study area = 3.71 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/22/18 File Name: SJCRMex25C.roc

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112767 SJC
25-year storm
Existing condition watershed C
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 301.000 to Point/Station 302.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 400.000(Ft.)
Top (of initial area) elevation = 101.500(Ft.)
Bottom (of initial area) elevation = 84.000(Ft.)
Difference in elevation = 17.500(Ft.)
Slope = 0.04375 s(%)= 4.38
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.784 min.

Rainfall intensity = 3.122(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.828
Subarea runoff = 3.360(CFS)
Total initial stream area = 1.300(Ac.)
End of computations, total study area = 1.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/22/18 File Name: SJCRMex25D.roc

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112767 SJC
25-year storm
Existing condition watershed D
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 401.000 to Point/Station 402.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 293.000(Ft.)
Top (of initial area) elevation = 99.500(Ft.)
Bottom (of initial area) elevation = 83.000(Ft.)
Difference in elevation = 16.500(Ft.)
Slope = 0.05631 s(%)= 5.63
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.053 min.

Rainfall intensity = 3.447(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.835
Subarea runoff = 1.122(CFS)
Total initial stream area = 0.390(Ac.)
End of computations, total study area = 0.39 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMex100A.roc

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112767 SJC
100-year storm
Existing condition watershed A
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 463.000(Ft.)
Top (of initial area) elevation = 99.000(Ft.)
Bottom (of initial area) elevation = 91.000(Ft.)
Difference in elevation = 8.000(Ft.)
Slope = 0.01728 s(%)= 1.73
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 13.769 min.

Rainfall intensity = 3.463(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.835
Subarea runoff = 14.602(CFS)
Total initial stream area = 5.050(Ac.)
End of computations, total study area = 5.05 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMex100B.roc

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112767 SJC
100-year storm
Existing condition watershed B
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 601.000(Ft.)
Top (of initial area) elevation = 98.000(Ft.)
Bottom (of initial area) elevation = 88.000(Ft.)
Difference in elevation = 10.000(Ft.)
Slope = 0.01664 s(%)= 1.66
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.399 min.

Rainfall intensity = 3.248(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.831
Subarea runoff = 10.009(CFS)
Total initial stream area = 3.710(Ac.)
End of computations, total study area = 3.71 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/22/18 File Name: SJCRMex100C.roc

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112767 SJC
100-year storm
Existing condition watershed C
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 301.000 to Point/Station 302.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 400.000(Ft.)
Top (of initial area) elevation = 101.500(Ft.)
Bottom (of initial area) elevation = 84.000(Ft.)
Difference in elevation = 17.500(Ft.)
Slope = 0.04375 s(%)= 4.38
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.784 min.

Rainfall intensity = 3.983(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.844
Subarea runoff = 4.368(CFS)
Total initial stream area = 1.300(Ac.)
End of computations, total study area = 1.30 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/22/18 File Name: SJCRMex100D.roc

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112767 SJC
100-year storm
Existing condition watershed C
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 401.000 to Point/Station 402.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 86.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.250(In/Hr)
Initial subarea data:
Initial area flow distance = 293.000(Ft.)
Top (of initial area) elevation = 99.500(Ft.)
Bottom (of initial area) elevation = 83.000(Ft.)
Difference in elevation = 16.500(Ft.)
Slope = 0.05631 s(%)= 5.63
TC = k(0.525)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 9.053 min.

Rainfall intensity = 4.403(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.849
Subarea runoff = 1.458(CFS)
Total initial stream area = 0.390(Ac.)
End of computations, total study area = 0.39 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number (AMC 2) = 86.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMprop25A.roc

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112767 SJC
25-year storm
Proposed watershed A
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 276.000(Ft.)
Top (of initial area) elevation = 98.500(Ft.)
Bottom (of initial area) elevation = 94.500(Ft.)
Difference in elevation = 4.000(Ft.)
Slope = 0.01449 s(%)= 1.45
TC = k(0.324)*[(length^3)/(elevation change)]^0.2

```
Initial area time of concentration =    7.156 min.
Rainfall intensity =      3.938(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff =      2.519(CFS)
Total initial stream area =        0.720(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.000 to Point/Station      102.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
________________________________________________________________________
Top of street segment elevation =    94.500(Ft.)
End of street segment elevation =    93.000(Ft.)
Length of street segment  =    85.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [2] side(s) of the street
Distance from curb to property line  =  10.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      2.974(CFS)
Depth of flow =   0.168(Ft.), Average velocity =   2.395(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =   7.823(Ft.)
Flow velocity =   2.40(Ft/s)
Travel time =    0.59 min.     TC =    7.75  min.
 Adding area flow to street
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Rainfall intensity =      3.765(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      0.757(CFS) for    0.260(Ac.)
Total runoff =      3.276(CFS)  Total area =        0.98(Ac.)
Area averaged Fm value =    0.050(In/Hr)
```

```
Street flow at end of street =      3.276(CFS)
Half street flow at end of street =      1.638(CFS)
Depth of flow =   0.174(Ft.), Average velocity =   2.454(Ft/s)
Flow width (from curb towards crown)=   8.117(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    88.000(Ft.)
Downstream point/station elevation =    82.000(Ft.)
Pipe length  =   263.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     3.276(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     3.276(CFS)
Normal flow depth in pipe =    6.76(In.)
Flow top width inside pipe =   11.90(In.)
Critical Depth =    9.30(In.)
Pipe flow velocity =      7.19(Ft/s)
Travel time through pipe =    0.61 min.
Time of concentration (TC) =     8.36 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Time of concentration =     8.36 min.
Rainfall intensity =      3.607(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff =      5.078(CFS) for    1.630(Ac.)
Total runoff =      8.355(CFS)  Total area =        2.61(Ac.)
Area averaged Fm value =    0.050(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** CONFLUENCE OF MAIN STREAMS ****
```

```
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      2.610(Ac.)
Runoff from this stream =      8.355(CFS)
Time of concentration =    8.36 min.
Rainfall intensity =     3.607(In/Hr)
Area averaged loss rate (Fm) =    0.0500(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      104.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Initial subarea data:
Initial area flow distance =   250.000(Ft.)
Top (of initial area) elevation =    94.500(Ft.)
Bottom (of initial area) elevation =    92.500(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00800  s(%)=       0.80
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.746 min.
Rainfall intensity =      3.765(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.888
Subarea runoff =      0.702(CFS)
Total initial stream area =        0.210(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      107.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
Top of street segment elevation =    92.500(Ft.)
End of street segment elevation =    91.500(Ft.)
Length of street segment  =   210.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
```

```
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line  =  12.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      1.762(CFS)
Depth of flow =   0.226(Ft.), Average velocity =   1.527(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =  10.700(Ft.)
Flow velocity =   1.53(Ft/s)
Travel time =    2.29 min.     TC =   10.04  min.
 Adding area flow to street
RESIDENTIAL(1 acre lot)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.8000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.200(In/Hr)
Rainfall intensity =      3.251(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.853
Subarea runoff =      2.045(CFS) for    0.780(Ac.)
Total runoff =      2.747(CFS)  Total area =        0.99(Ac.)
Area averaged Fm value =    0.168(In/Hr)
Street flow at end of street =      2.747(CFS)
Half street flow at end of street =      2.747(CFS)
Depth of flow =   0.262(Ft.), Average velocity =   1.742(Ft/s)
Note:  depth of flow exceeds top of street crown.
Flow width (from curb towards crown)=  12.000(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      107.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.990(Ac.)
Runoff from this stream =      2.747(CFS)
Time of concentration =   10.04 min.
Rainfall intensity =     3.251(In/Hr)
Area averaged loss rate (Fm) =    0.1682(In/Hr)
```

Area averaged Pervious ratio (Ap) = 0.6727

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Process from Point/Station 105.000 to Point/Station 106.000
**** INITIAL AREA EVALUATION ****
_____
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 213.000(Ft.)
Top (of initial area) elevation = 97.500(Ft.)
Bottom (of initial area) elevation = 94.000(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.01643 s(%)= 1.64
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.292 min.
Rainfall intensity = 4.235(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.889
Subarea runoff = 0.527(CFS)
Total initial stream area = 0.140(Ac.)

++
Process from Point/Station 106.000 to Point/Station 107.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
_____
Top of street segment elevation = 94.000(Ft.)
End of street segment elevation = 91.500(Ft.)
Length of street segment = 250.000(Ft.)
Height of curb above gutter flowline = 4.0(In.)
Width of half street (curb to crown) = 12.000(Ft.)
Distance from crown to crossfall grade break = 1.000(Ft.)
Slope from gutter to grade break (v/hz) = 0.020
Slope from grade break to crown (v/hz) = 0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line = 12.000(Ft.)
Slope from curb to property line (v/hz) = 0.020
Gutter width = 1.500(Ft.)
Gutter hike from flowline = 0.500(In.)
Manning's N in gutter = 0.0150
Manning's N from gutter to grade break = 0.0150

```
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      1.104(CFS)
Depth of flow =   0.167(Ft.), Average velocity =   1.797(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =   7.783(Ft.)
Flow velocity =   1.80(Ft/s)
Travel time =    2.32 min.     TC =    8.61  min.
 Adding area flow to street
RESIDENTIAL(1 acre lot)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.8000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.200(In/Hr)
Rainfall intensity =      3.546(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.859
Subarea runoff =      1.058(CFS) for    0.380(Ac.)
Total runoff =      1.585(CFS)  Total area =        0.52(Ac.)
Area averaged Fm value =    0.160(In/Hr)
Street flow at end of street =      1.585(CFS)
Half street flow at end of street =      1.585(CFS)
Depth of flow =   0.190(Ft.), Average velocity =   1.966(Ft/s)
Flow width (from curb towards crown)=   8.931(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      107.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      0.520(Ac.)
Runoff from this stream =      1.585(CFS)
Time of concentration =    8.61 min.
Rainfall intensity =     3.546(In/Hr)
Area averaged loss rate (Fm) =    0.1596(In/Hr)
Area averaged Pervious ratio (Ap) = 0.6385
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      0.99     2.747     10.04    0.168      3.251
2      0.52     1.585      8.61    0.160      3.546
Qmax(1) =
```

```
           1.000 *    1.000 *     2.747) +
           0.913 *    1.000 *     1.585) + =       4.194
Qmax(2) =
           1.096 *    0.858 *     2.747) +
           1.000 *    1.000 *     1.585) + =       4.167

Total of 2 streams to confluence:
Flow rates before confluence point:
       2.747       1.585
Maximum flow rates at confluence using above data:
        4.194        4.167
Area of streams before confluence:
        0.990        0.520
Effective area values after confluence:
        1.510        1.369
Results of confluence:
Total flow rate =      4.194(CFS)
Time of concentration =    10.039 min.
Effective stream area after confluence =      1.510(Ac.)
Study area average Pervious fraction(Ap) =  0.661
Study area average soil loss rate(Fm) =    0.165(In/Hr)
Study area total (this main stream) =       1.51(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      107.000 to Point/Station      108.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    82.500(Ft.)
Downstream point/station elevation =    82.000(Ft.)
Pipe length  =    12.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.194(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     4.194(CFS)
Normal flow depth in pipe =    6.54(In.)
Flow top width inside pipe =   11.95(In.)
Critical Depth =   10.36(In.)
Pipe flow velocity =      9.59(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =    10.06 min.


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Process from Point/Station      107.000 to Point/Station      108.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
```

```
Stream flow area =      1.510(Ac.)
Runoff from this stream =      4.194(CFS)
Time of concentration =   10.06 min.
Rainfall intensity =     3.247(In/Hr)
Area averaged loss rate (Fm) =    0.1652(In/Hr)
Area averaged Pervious ratio (Ap) = 0.6609
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      2.61     8.355      8.36    0.050      3.607
2      1.51     4.194     10.06    0.165      3.247
Qmax(1) =
           1.000 *    1.000 *     8.355) +
           1.117 *    0.831 *     4.194) + =      12.245
Qmax(2) =
           0.899 *    1.000 *     8.355) +
           1.000 *    1.000 *     4.194) + =      11.705

Total of 2 main streams to confluence:
Flow rates before confluence point:
       9.355       5.194
Maximum flow rates at confluence using above data:
       12.245       11.705
Area of streams before confluence:
        2.610        1.510
Effective area values after confluence:
        3.865        4.120


Results of confluence:
Total flow rate =     12.245(CFS)
Time of concentration =     8.357 min.
Effective stream area after confluence  =      3.865(Ac.)
Study area average Pervious fraction(Ap) =  0.369
Study area average soil loss rate(Fm) =    0.092(In/Hr)
Study area total =       4.12(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      108.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    82.000(Ft.)
Downstream point/station elevation =    81.500(Ft.)
Pipe length  =    60.00(Ft.)   Manning's N = 0.013
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No. of pipes = 1  Required pipe flow  =    12.245(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    12.245(CFS)
Normal flow depth in pipe =   14.83(In.)
Flow top width inside pipe =   19.13(In.)
Critical Depth =   15.65(In.)
Pipe flow velocity =      6.75(Ft/s)
Travel time through pipe =    0.15 min.
Time of concentration (TC) =     8.51 min.


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Process from Point/Station      109.000 to Point/Station      114.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    81.500(Ft.)
Downstream point/station elevation =    81.490(Ft.)
Pipe length  =     1.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.245(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    12.245(CFS)
Normal flow depth in pipe =   13.86(In.)
Flow top width inside pipe =   19.90(In.)
Critical Depth =   15.65(In.)
Pipe flow velocity =      7.27(Ft/s)
Travel time through pipe =    0.00 min.
Time of concentration (TC) =     8.51 min.


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Process from Point/Station      109.000 to Point/Station      114.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      3.865(Ac.)
Runoff from this stream =     12.245(CFS)
Time of concentration =    8.51 min.
Rainfall intensity =     3.570(In/Hr)
Area averaged loss rate (Fm) =    0.0922(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3689
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      110.000 to Point/Station      111.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
```

```
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Initial subarea data:
Initial area flow distance =   260.000(Ft.)
Top (of initial area) elevation =    96.500(Ft.)
Bottom (of initial area) elevation =    93.500(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.01154  s(%)=       1.15
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.313 min.
Rainfall intensity =      3.890(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.888
Subarea runoff =      2.281(CFS)
Total initial stream area =        0.660(Ac.)


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Process from Point/Station      111.000 to Point/Station      112.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
________________________________________________________________________
Top of street segment elevation =    93.500(Ft.)
End of street segment elevation =    92.000(Ft.)
Length of street segment  =   160.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line  =  12.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      3.440(CFS)
Depth of flow =   0.254(Ft.), Average velocity =   2.336(Ft/s)
Note:  depth of flow exceeds top of street crown.
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =  12.000(Ft.)
Flow velocity =   2.34(Ft/s)
```

```
Travel time =    1.14 min.     TC =    8.45  min.
 Adding area flow to street
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Rainfall intensity =      3.583(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.887
Subarea runoff =      2.266(CFS) for    0.770(Ac.)
Total runoff =      4.547(CFS)  Total area =        1.43(Ac.)
Area averaged Fm value =    0.050(In/Hr)
Street flow at end of street =      4.547(CFS)
Half street flow at end of street =      4.547(CFS)
Depth of flow =   0.276(Ft.), Average velocity =   2.610(Ft/s)
Note:  depth of flow exceeds top of street crown.
Flow width (from curb towards crown)=  12.000(Ft.)


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Process from Point/Station      112.000 to Point/Station      113.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    87.000(Ft.)
Downstream point/station elevation =    81.500(Ft.)
Pipe length  =    39.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.547(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     4.547(CFS)
Normal flow depth in pipe =    5.72(In.)
Flow top width inside pipe =    8.66(In.)
Critical depth could not be calculated.
Pipe flow velocity =     15.36(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.50 min.


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Process from Point/Station      113.000 to Point/Station      114.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    81.500(Ft.)
Downstream point/station elevation =    81.490(Ft.)
Pipe length  =     1.00(Ft.)   Manning's N = 0.013
```

```
No. of pipes = 1  Required pipe flow  =     4.547(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     4.547(CFS)
Normal flow depth in pipe =    9.28(In.)
Flow top width inside pipe =   14.57(In.)
Critical Depth =   10.37(In.)
Pipe flow velocity =      5.70(Ft/s)
Travel time through pipe =    0.00 min.
Time of concentration (TC) =     8.50 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      113.000 to Point/Station      114.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.430(Ac.)
Runoff from this stream =      4.547(CFS)
Time of concentration =    8.50 min.
Rainfall intensity =     3.572(In/Hr)
Area averaged loss rate (Fm) =    0.0500(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      3.86    12.245      8.51    0.092      3.570
2      1.43     4.547      8.50    0.050      3.572
Qmax(1) =
           1.000 *    1.000 *    12.245) +
           0.999 *    1.000 *     4.547) + =      16.790
Qmax(2) =
           1.001 *    0.999 *    12.245) +
           1.000 *    1.000 *     4.547) + =      16.787

Total of 2 main streams to confluence:
Flow rates before confluence point:
      13.245       5.547
Maximum flow rates at confluence using above data:
       16.790       16.787
Area of streams before confluence:
        3.865        1.430
Effective area values after confluence:
        5.295        5.291
```

Results of confluence:
Total flow rate = 16.790(CFS)
Time of concentration = 8.508 min.
Effective stream area after confluence = 5.295(Ac.)
Study area average Pervious fraction(Ap) = 0.323
Study area average soil loss rate(Fm) = 0.081(In/Hr)
Study area total = 5.29(Ac.)
End of computations, total study area = 5.55 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.325
Area averaged SCS curve number (AMC 2) = 69.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/22/18 File Name: SJCRMprop25C.roc

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112767 SJC
25-year storm
Proposed Condition watershed C
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 25.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 301.000 to Point/Station 302.000
**** INITIAL AREA EVALUATION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 300.000(Ft.)
Top (of initial area) elevation = 97.500(Ft.)
Bottom (of initial area) elevation = 93.500(Ft.)
Difference in elevation = 4.000(Ft.)
Slope = 0.01333 s(%)= 1.33
TC = k(0.324)*[(length^3)/(elevation change)]^0.2

Initial area time of concentration = 7.523 min.
Rainfall intensity = 3.828(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.888
Subarea runoff = 3.332(CFS)
Total initial stream area = 0.980(Ac.)

++
Process from Point/Station 302.000 to Point/Station 303.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 88.500(Ft.)
Downstream point/station elevation = 88.000(Ft.)
Pipe length = 75.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 3.332(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 3.332(CFS)
Normal flow depth in pipe = 8.65(In.)
Flow top width inside pipe = 14.82(In.)
Critical Depth = 8.82(In.)
Pipe flow velocity = 4.55(Ft/s)
Travel time through pipe = 0.27 min.
Time of concentration (TC) = 7.80 min.

++
Process from Point/Station 302.000 to Point/Station 303.000
**** SUBAREA FLOW ADDITION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Time of concentration = 7.80 min.
Rainfall intensity = 3.751(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.888
Subarea runoff = 2.896(CFS) for 0.890(Ac.)
Total runoff = 6.229(CFS) Total area = 1.87(Ac.)
Area averaged Fm value = 0.050(In/Hr)

++
Process from Point/Station 303.000 to Point/Station 305.000

**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 88.000(Ft.)
Downstream point/station elevation = 86.000(Ft.)
Pipe length = 195.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 6.229(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 6.229(CFS)
Normal flow depth in pipe = 11.69(In.)
Flow top width inside pipe = 12.43(In.)
Critical Depth = 12.08(In.)
Pipe flow velocity = 6.07(Ft/s)
Travel time through pipe = 0.54 min.
Time of concentration (TC) = 8.33 min.

++

Process from Point/Station 303.000 to Point/Station 305.000

**** SUBAREA FLOW ADDITION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Time of concentration = 8.33 min.
Rainfall intensity = 3.612(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.888
Subarea runoff = 2.973(CFS) for 1.000(Ac.)
Total runoff = 9.202(CFS) Total area = 2.87(Ac.)
Area averaged Fm value = 0.050(In/Hr)

++

Process from Point/Station 305.000 to Point/Station 306.000

**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 86.000(Ft.)
Downstream point/station elevation = 85.500(Ft.)
Pipe length = 56.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 9.202(CFS)
Nearest computed pipe diameter = 18.00(In.)
Calculated individual pipe flow = 9.202(CFS)
Normal flow depth in pipe = 13.70(In.)

```
Flow top width inside pipe =   15.36(In.)
Critical Depth =   14.08(In.)
Pipe flow velocity =      6.38(Ft/s)
Travel time through pipe =    0.15 min.
Time of concentration (TC) =     8.48 min.


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Process from Point/Station      305.000 to Point/Station      306.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Time of concentration =     8.48 min.
Rainfall intensity =      3.577(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.887
Subarea runoff =      2.956(CFS) for    0.960(Ac.)
Total runoff =     12.158(CFS)  Total area =        3.83(Ac.)
Area averaged Fm value =    0.050(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    85.500(Ft.)
Downstream point/station elevation =    84.000(Ft.)
Pipe length  =   157.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    12.158(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    12.158(CFS)
Normal flow depth in pipe =   14.01(In.)
Flow top width inside pipe =   19.79(In.)
Critical Depth =   15.60(In.)
Pipe flow velocity =      7.13(Ft/s)
Travel time through pipe =    0.37 min.
Time of concentration (TC) =     8.85 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
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**** SUBAREA FLOW ADDITION ****
_____________________________________________________________________________
RESIDENTIAL(8 - 10 dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.4000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.100(In/Hr)
Time of concentration =     8.85 min.
Rainfall intensity =      3.492(In/Hr) for a    25.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.884
Subarea runoff =      2.975(CFS) for    1.070(Ac.)
Total runoff =     15.132(CFS)  Total area =        4.90(Ac.)
Area averaged Fm value =    0.061(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      307.000 to Point/Station      308.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
_____________________________________________________________________________
Upstream point/station elevation =    84.000(Ft.)
Downstream point/station elevation =    83.500(Ft.)
Pipe length  =    20.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    15.132(CFS)
Nearest computed pipe diameter  =     18.00(In.)
Calculated individual pipe flow  =    15.132(CFS)
Normal flow depth in pipe =   13.49(In.)
Flow top width inside pipe =   15.60(In.)
Critical Depth =   16.89(In.)
Pipe flow velocity =     10.65(Ft/s)
Travel time through pipe =    0.03 min.
Time of concentration (TC) =     8.88 min.
End of computations, total study area =            4.90 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.244
Area averaged SCS curve number (AMC 2) =  69.0
```

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 03/21/18 File Name: SJCRMprop100A.roc

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112767 SJC
100-year storm
Proposed watershed A
EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 276.000(Ft.)
Top (of initial area) elevation = 98.500(Ft.)
Bottom (of initial area) elevation = 94.500(Ft.)
Difference in elevation = 4.000(Ft.)
Slope = 0.01449 s(%)= 1.45
TC = k(0.324)*[(length^3)/(elevation change)]^0.2

```
Initial area time of concentration =    7.156 min.
Rainfall intensity =      5.038(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.891
Subarea runoff =      3.232(CFS)
Total initial stream area =        0.720(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      101.000 to Point/Station      102.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
________________________________________________________________________
Top of street segment elevation =    94.500(Ft.)
End of street segment elevation =    93.000(Ft.)
Length of street segment  =    85.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [2] side(s) of the street
Distance from curb to property line  =  10.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      3.816(CFS)
Depth of flow =   0.184(Ft.), Average velocity =   2.548(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =   8.602(Ft.)
Flow velocity =   2.55(Ft/s)
Travel time =    0.56 min.     TC =    7.71  min.
 Adding area flow to street
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Rainfall intensity =      4.827(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.891
Subarea runoff =      0.981(CFS) for    0.260(Ac.)
Total runoff =      4.213(CFS)  Total area =        0.98(Ac.)
Area averaged Fm value =    0.050(In/Hr)
```

```
Street flow at end of street =      4.213(CFS)
Half street flow at end of street =      2.107(CFS)
Depth of flow =   0.190(Ft.), Average velocity =   2.612(Ft/s)
Flow width (from curb towards crown)=   8.932(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    88.000(Ft.)
Downstream point/station elevation =    82.000(Ft.)
Pipe length  =   263.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.213(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     4.213(CFS)
Normal flow depth in pipe =    7.99(In.)
Flow top width inside pipe =   11.32(In.)
Critical Depth =   10.38(In.)
Pipe flow velocity =      7.58(Ft/s)
Travel time through pipe =    0.58 min.
Time of concentration (TC) =     8.29 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Time of concentration =     8.29 min.
Rainfall intensity =      4.631(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.890
Subarea runoff =      6.548(CFS) for    1.630(Ac.)
Total runoff =     10.761(CFS)  Total area =        2.61(Ac.)
Area averaged Fm value =    0.050(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      108.000
**** CONFLUENCE OF MAIN STREAMS ****
```

```
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      2.610(Ac.)
Runoff from this stream =     10.761(CFS)
Time of concentration =    8.29 min.
Rainfall intensity =     4.631(In/Hr)
Area averaged loss rate (Fm) =    0.0500(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      104.000
**** INITIAL AREA EVALUATION ****
------------------------------------------------------------------------
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Initial subarea data:
Initial area flow distance =   250.000(Ft.)
Top (of initial area) elevation =    94.500(Ft.)
Bottom (of initial area) elevation =    92.500(Ft.)
Difference in elevation =     2.000(Ft.)
Slope =    0.00800  s(%)=       0.80
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.746 min.
Rainfall intensity =      4.815(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.891
Subarea runoff =      0.900(CFS)
Total initial stream area =        0.210(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      107.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------
Top of street segment elevation =    92.500(Ft.)
End of street segment elevation =    91.500(Ft.)
Length of street segment  =   210.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
```

```
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line  =  12.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      2.284(CFS)
Depth of flow =   0.248(Ft.), Average velocity =   1.629(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =  11.804(Ft.)
Flow velocity =   1.63(Ft/s)
Travel time =    2.15 min.     TC =    9.90  min.
 Adding area flow to street
RESIDENTIAL(1 acre lot)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.8000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.200(In/Hr)
Rainfall intensity =      4.184(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.864
Subarea runoff =      2.678(CFS) for    0.780(Ac.)
Total runoff =      3.578(CFS)  Total area =        0.99(Ac.)
Area averaged Fm value =    0.168(In/Hr)
Street flow at end of street =      3.578(CFS)
Half street flow at end of street =      3.578(CFS)
Depth of flow =   0.285(Ft.), Average velocity =   1.935(Ft/s)
Note:  depth of flow exceeds top of street crown.
Flow width (from curb towards crown)=  12.000(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      104.000 to Point/Station      107.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 1
Stream flow area =      0.990(Ac.)
Runoff from this stream =      3.578(CFS)
Time of concentration =    9.90 min.
Rainfall intensity =     4.184(In/Hr)
Area averaged loss rate (Fm) =    0.1682(In/Hr)
```

Area averaged Pervious ratio (Ap) = 0.6727

++
Process from Point/Station 105.000 to Point/Station 106.000
**** INITIAL AREA EVALUATION ****
_____
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 213.000(Ft.)
Top (of initial area) elevation = 97.500(Ft.)
Bottom (of initial area) elevation = 94.000(Ft.)
Difference in elevation = 3.500(Ft.)
Slope = 0.01643 s(%)= 1.64
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 6.292 min.
Rainfall intensity = 5.424(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
Subarea runoff = 0.677(CFS)
Total initial stream area = 0.140(Ac.)

++
Process from Point/Station 106.000 to Point/Station 107.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
_____
Top of street segment elevation = 94.000(Ft.)
End of street segment elevation = 91.500(Ft.)
Length of street segment = 250.000(Ft.)
Height of curb above gutter flowline = 4.0(In.)
Width of half street (curb to crown) = 12.000(Ft.)
Distance from crown to crossfall grade break = 1.000(Ft.)
Slope from gutter to grade break (v/hz) = 0.020
Slope from grade break to crown (v/hz) = 0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line = 12.000(Ft.)
Slope from curb to property line (v/hz) = 0.020
Gutter width = 1.500(Ft.)
Gutter hike from flowline = 0.500(In.)
Manning's N in gutter = 0.0150
Manning's N from gutter to grade break = 0.0150

```
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      1.401(CFS)
Depth of flow =   0.182(Ft.), Average velocity =   1.906(Ft/s)
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =   8.521(Ft.)
Flow velocity =   1.91(Ft/s)
Travel time =    2.19 min.     TC =    8.48  min.
 Adding area flow to street
RESIDENTIAL(1 acre lot)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.8000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.200(In/Hr)
Rainfall intensity =      4.572(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.869
Subarea runoff =      1.388(CFS) for    0.380(Ac.)
Total runoff =      2.065(CFS)  Total area =        0.52(Ac.)
Area averaged Fm value =    0.160(In/Hr)
Street flow at end of street =      2.065(CFS)
Half street flow at end of street =      2.065(CFS)
Depth of flow =   0.209(Ft.), Average velocity =   2.099(Ft/s)
Flow width (from curb towards crown)=   9.874(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      106.000 to Point/Station      107.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 2 in normal stream number 2
Stream flow area =      0.520(Ac.)
Runoff from this stream =      2.065(CFS)
Time of concentration =    8.48 min.
Rainfall intensity =     4.572(In/Hr)
Area averaged loss rate (Fm) =    0.1596(In/Hr)
Area averaged Pervious ratio (Ap) = 0.6385
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      0.99     3.578      9.90    0.168      4.184
2      0.52     2.065      8.48    0.160      4.572
Qmax(1) =
```

```
           1.000 *    1.000 *     3.578) +
           0.912 *    1.000 *     2.065) + =       5.462
Qmax(2) =
           1.097 *    0.857 *     3.578) +
           1.000 *    1.000 *     2.065) + =       5.427

Total of 2 streams to confluence:
Flow rates before confluence point:
       3.578       2.065
Maximum flow rates at confluence using above data:
        5.462        5.427
Area of streams before confluence:
        0.990        0.520
Effective area values after confluence:
        1.510        1.368
Results of confluence:
Total flow rate =      5.462(CFS)
Time of concentration =     9.895 min.
Effective stream area after confluence =      1.510(Ac.)
Study area average Pervious fraction(Ap) =  0.661
Study area average soil loss rate(Fm) =    0.165(In/Hr)
Study area total (this main stream) =       1.51(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      107.000 to Point/Station      108.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    82.500(Ft.)
Downstream point/station elevation =    82.000(Ft.)
Pipe length  =    12.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     5.462(CFS)
Nearest computed pipe diameter  =     12.00(In.)
Calculated individual pipe flow  =     5.462(CFS)
Normal flow depth in pipe =    7.76(In.)
Flow top width inside pipe =   11.47(In.)
Critical Depth =   11.25(In.)
Pipe flow velocity =     10.16(Ft/s)
Travel time through pipe =    0.02 min.
Time of concentration (TC) =     9.91 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      107.000 to Point/Station      108.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
```

```
Stream flow area =      1.510(Ac.)
Runoff from this stream =      5.462(CFS)
Time of concentration =    9.91 min.
Rainfall intensity =     4.180(In/Hr)
Area averaged loss rate (Fm) =    0.1652(In/Hr)
Area averaged Pervious ratio (Ap) = 0.6609
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      2.61    10.761      8.29    0.050      4.631
2      1.51     5.462      9.91    0.165      4.180
Qmax(1) =
           1.000 *    1.000 *    10.761) +
           1.112 *    0.836 *     5.462) + =      15.841
Qmax(2) =
           0.901 *    1.000 *    10.761) +
           1.000 *    1.000 *     5.462) + =      15.163

Total of 2 main streams to confluence:
Flow rates before confluence point:
      11.761       6.462
Maximum flow rates at confluence using above data:
       15.841       15.163
Area of streams before confluence:
        2.610        1.510
Effective area values after confluence:
        3.873        4.120


Results of confluence:
Total flow rate =     15.841(CFS)
Time of concentration =     8.290 min.
Effective stream area after confluence  =      3.873(Ac.)
Study area average Pervious fraction(Ap) =  0.369
Study area average soil loss rate(Fm) =    0.092(In/Hr)
Study area total =       4.12(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      108.000 to Point/Station      109.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    82.000(Ft.)
Downstream point/station elevation =    81.500(Ft.)
Pipe length  =    60.00(Ft.)   Manning's N = 0.013
```

```
No. of pipes = 1  Required pipe flow  =    15.841(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    15.841(CFS)
Normal flow depth in pipe =   15.75(In.)
Flow top width inside pipe =   22.80(In.)
Critical Depth =   17.23(In.)
Pipe flow velocity =      7.25(Ft/s)
Travel time through pipe =    0.14 min.
Time of concentration (TC) =     8.43 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      114.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    81.500(Ft.)
Downstream point/station elevation =    81.490(Ft.)
Pipe length  =     1.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    15.841(CFS)
Nearest computed pipe diameter  =     21.00(In.)
Calculated individual pipe flow  =    15.841(CFS)
Normal flow depth in pipe =   17.21(In.)
Flow top width inside pipe =   16.16(In.)
Critical Depth =   17.64(In.)
Pipe flow velocity =      7.51(Ft/s)
Travel time through pipe =    0.00 min.
Time of concentration (TC) =     8.43 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      109.000 to Point/Station      114.000
**** CONFLUENCE OF MAIN STREAMS ****
______________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area =      3.873(Ac.)
Runoff from this stream =     15.841(CFS)
Time of concentration =    8.43 min.
Rainfall intensity =     4.587(In/Hr)
Area averaged loss rate (Fm) =    0.0922(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3689
Program is now starting with Main Stream No. 2


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      110.000 to Point/Station      111.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
```

```
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Initial subarea data:
Initial area flow distance =   260.000(Ft.)
Top (of initial area) elevation =    96.500(Ft.)
Bottom (of initial area) elevation =    93.500(Ft.)
Difference in elevation =     3.000(Ft.)
Slope =    0.01154  s(%)=       1.15
TC = k(0.324)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =    7.313 min.
Rainfall intensity =      4.976(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.891
Subarea runoff =      2.926(CFS)
Total initial stream area =        0.660(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      111.000 to Point/Station      112.000
**** STREET FLOW TRAVEL TIME + SUBAREA FLOW ADDITION ****
________________________________________________________________________
Top of street segment elevation =    93.500(Ft.)
End of street segment elevation =    92.000(Ft.)
Length of street segment  =   160.000(Ft.)
Height of curb above gutter flowline  =    4.0(In.)
Width of half street (curb to crown)  =  12.000(Ft.)
Distance from crown to crossfall grade break  =   1.000(Ft.)
Slope from gutter to grade break (v/hz) =   0.020
Slope from grade break to crown (v/hz)  =   0.020
Street flow is on [1] side(s) of the street
Distance from curb to property line  =  12.000(Ft.)
Slope from curb to property line (v/hz) =   0.020
Gutter width =   1.500(Ft.)
Gutter hike from flowline =  0.500(In.)
 Manning's N in gutter =  0.0150
 Manning's N from gutter to grade break =  0.0150
 Manning's N from grade break to crown =  0.0150
Estimated mean flow rate at midpoint of street =      4.430(CFS)
Depth of flow =   0.274(Ft.), Average velocity =   2.583(Ft/s)
Note:  depth of flow exceeds top of street crown.
Streetflow hydraulics at midpoint of street travel:
Halfstreet flow width =  12.000(Ft.)
Flow velocity =   2.58(Ft/s)
```

```
Travel time =    1.03 min.     TC =    8.35  min.
 Adding area flow to street
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Rainfall intensity =      4.613(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.890
Subarea runoff =      2.947(CFS) for    0.770(Ac.)
Total runoff =      5.873(CFS)  Total area =        1.43(Ac.)
Area averaged Fm value =    0.050(In/Hr)
Street flow at end of street =      5.873(CFS)
Half street flow at end of street =      5.873(CFS)
Depth of flow =   0.300(Ft.), Average velocity =   2.889(Ft/s)
Note:  depth of flow exceeds top of street crown.
Flow width (from curb towards crown)=  12.000(Ft.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      112.000 to Point/Station      113.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    87.000(Ft.)
Downstream point/station elevation =    81.500(Ft.)
Pipe length  =    39.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     5.873(CFS)
Nearest computed pipe diameter  =      9.00(In.)
Calculated individual pipe flow  =     5.873(CFS)
Normal flow depth in pipe =    6.97(In.)
Flow top width inside pipe =    7.52(In.)
Critical depth could not be calculated.
Pipe flow velocity =     16.00(Ft/s)
Travel time through pipe =    0.04 min.
Time of concentration (TC) =     8.39 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      113.000 to Point/Station      114.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    81.500(Ft.)
Downstream point/station elevation =    81.490(Ft.)
Pipe length  =     1.00(Ft.)   Manning's N = 0.013
```

```
No. of pipes = 1  Required pipe flow  =     5.873(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     5.873(CFS)
Normal flow depth in pipe =   11.22(In.)
Flow top width inside pipe =   13.02(In.)
Critical Depth =   11.77(In.)
Pipe flow velocity =      5.96(Ft/s)
Travel time through pipe =    0.00 min.
Time of concentration (TC) =     8.39 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      113.000 to Point/Station      114.000
**** CONFLUENCE OF MAIN STREAMS ****
________________________________________________________________________
The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area =      1.430(Ac.)
Runoff from this stream =      5.873(CFS)
Time of concentration =    8.39 min.
Rainfall intensity =     4.600(In/Hr)
Area averaged loss rate (Fm) =    0.0500(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2000
Summary of stream data:

Stream  Area  Flow rate      TC     Fm       Rainfall Intensity
 No.    (Ac.)   (CFS)       (min) (In/Hr)     (In/Hr)


1      3.87    15.841      8.43    0.092      4.587
2      1.43     5.873      8.39    0.050      4.600
Qmax(1) =
           1.000 *    1.000 *    15.841) +
           0.997 *    1.000 *     5.873) + =      21.697
Qmax(2) =
           1.003 *    0.995 *    15.841) +
           1.000 *    1.000 *     5.873) + =      21.682

Total of 2 main streams to confluence:
Flow rates before confluence point:
      16.841       6.873
Maximum flow rates at confluence using above data:
       21.697       21.682
Area of streams before confluence:
        3.873        1.430
Effective area values after confluence:
        5.303        5.284
```

Results of confluence:
Total flow rate = 21.697(CFS)
Time of concentration = 8.430 min.
Effective stream area after confluence = 5.303(Ac.)
Study area average Pervious fraction(Ap) = 0.323
Study area average soil loss rate(Fm) = 0.081(In/Hr)
Study area total = 5.30(Ac.)
End of computations, total study area = 5.55 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.325
Area averaged SCS curve number (AMC 2) = 69.0

Orange County Rational Hydrology Program

(Hydrology Manual Date(s) October 1986 & November 1996)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2014 Version 9.0
Rational Hydrology Study, Date: 11/14/17 File Name: SJCRMprop100C.roc

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112767 SJC
100-year storm
Proposed Condition watershed C
2017-11 EL

Program License Serial Number 6359

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0

Decimal fraction of study above 2000 ft., 600M = 0.0000
English Units Used for input data

++

Process from Point/Station 301.000 to Point/Station 302.000
**** INITIAL AREA EVALUATION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Initial subarea data:
Initial area flow distance = 300.000(Ft.)
Top (of initial area) elevation = 97.500(Ft.)
Bottom (of initial area) elevation = 93.500(Ft.)
Difference in elevation = 4.000(Ft.)
Slope = 0.01333 s(%)= 1.33
TC = k(0.324)*[(length^3)/(elevation change)]^0.2

```
Initial area time of concentration =    7.523 min.
Rainfall intensity =      4.896(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.891
Subarea runoff =      4.274(CFS)
Total initial stream area =        0.980(Ac.)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      303.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
________________________________________________________________________
Upstream point/station elevation =    88.500(Ft.)
Downstream point/station elevation =    88.000(Ft.)
Pipe length  =    75.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =     4.274(CFS)
Nearest computed pipe diameter  =     15.00(In.)
Calculated individual pipe flow  =     4.274(CFS)
Normal flow depth in pipe =   10.25(In.)
Flow top width inside pipe =   13.96(In.)
Critical Depth =   10.04(In.)
Pipe flow velocity =      4.79(Ft/s)
Travel time through pipe =    0.26 min.
Time of concentration (TC) =     7.78 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      302.000 to Point/Station      303.000
**** SUBAREA FLOW ADDITION ****
________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Time of concentration =     7.78 min.
Rainfall intensity =      4.801(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.891
Subarea runoff =      3.722(CFS) for    0.890(Ac.)
Total runoff =      7.996(CFS)  Total area =        1.87(Ac.)
Area averaged Fm value =    0.050(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      303.000 to Point/Station      305.000
```

**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 88.000(Ft.)
Downstream point/station elevation = 86.000(Ft.)
Pipe length = 195.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 7.996(CFS)
Nearest computed pipe diameter = 18.00(In.)
Calculated individual pipe flow = 7.996(CFS)
Normal flow depth in pipe = 11.65(In.)
Flow top width inside pipe = 17.20(In.)
Critical Depth = 13.15(In.)
Pipe flow velocity = 6.61(Ft/s)
Travel time through pipe = 0.49 min.
Time of concentration (TC) = 8.28 min.

++

Process from Point/Station 303.000 to Point/Station 305.000
**** SUBAREA FLOW ADDITION ****

RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.050(In/Hr)
Time of concentration = 8.28 min.
Rainfall intensity = 4.635(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.890
Subarea runoff = 3.848(CFS) for 1.000(Ac.)
Total runoff = 11.844(CFS) Total area = 2.87(Ac.)
Area averaged Fm value = 0.050(In/Hr)

++

Process from Point/Station 305.000 to Point/Station 306.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 86.000(Ft.)
Downstream point/station elevation = 85.500(Ft.)
Pipe length = 56.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 11.844(CFS)
Nearest computed pipe diameter = 21.00(In.)
Calculated individual pipe flow = 11.844(CFS)
Normal flow depth in pipe = 14.09(In.)

```
Flow top width inside pipe =   19.73(In.)
Critical Depth =   15.41(In.)
Pipe flow velocity =      6.90(Ft/s)
Travel time through pipe =    0.14 min.
Time of concentration (TC) =     8.41 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      305.000 to Point/Station      306.000
**** SUBAREA FLOW ADDITION ****
______________________________________________________________________________
RESIDENTIAL(11+ dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2)  = 69.00
Pervious ratio(Ap) = 0.2000  Max loss rate(Fp)=     0.250(In/Hr)
Max Catchment Loss (Fm) =     0.050(In/Hr)
Time of concentration =     8.41 min.
Rainfall intensity =      4.593(In/Hr) for a   100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.890
Subarea runoff =      3.814(CFS) for    0.960(Ac.)
Total runoff =     15.658(CFS)  Total area =        3.83(Ac.)
Area averaged Fm value =    0.050(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****
______________________________________________________________________________
Upstream point/station elevation =    85.500(Ft.)
Downstream point/station elevation =    84.000(Ft.)
Pipe length  =   157.00(Ft.)   Manning's N = 0.013
No. of pipes = 1  Required pipe flow  =    15.658(CFS)
Nearest computed pipe diameter  =     24.00(In.)
Calculated individual pipe flow  =    15.658(CFS)
Normal flow depth in pipe =   14.91(In.)
Flow top width inside pipe =   23.28(In.)
Critical Depth =   17.12(In.)
Pipe flow velocity =      7.63(Ft/s)
Travel time through pipe =    0.34 min.
Time of concentration (TC) =     8.75 min.


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      306.000 to Point/Station      307.000
```

**** SUBAREA FLOW ADDITION ****

RESIDENTIAL(8 - 10 dwl/acre)
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 1.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Pervious ratio(Ap) = 0.4000 Max loss rate(Fp)= 0.250(In/Hr)
Max Catchment Loss (Fm) = 0.100(In/Hr)
Time of concentration = 8.75 min.
Rainfall intensity = 4.489(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.888
Subarea runoff = 3.868(CFS) for 1.070(Ac.)
Total runoff = 19.527(CFS) Total area = 4.90(Ac.)
Area averaged Fm value = 0.061(In/Hr)

++

Process from Point/Station 307.000 to Point/Station 308.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 84.000(Ft.)
Downstream point/station elevation = 83.500(Ft.)
Pipe length = 20.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 19.527(CFS)
Nearest computed pipe diameter = 21.00(In.)
Calculated individual pipe flow = 19.527(CFS)
Normal flow depth in pipe = 13.94(In.)
Flow top width inside pipe = 19.84(In.)
Critical Depth = 19.05(In.)
Pipe flow velocity = 11.52(Ft/s)
Travel time through pipe = 0.03 min.
Time of concentration (TC) = 8.78 min.
End of computations, total study area = 4.90 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 0.244
Area averaged SCS curve number (AMC 2) = 69.0

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/13/17 File Name SJCUHprop25C.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
25-year storm
Proposed Watershed C
2017-11 EL

Storm Event Year = 25

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.355
3.04	0.620	98.0	98.0	0.20	0.947

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278

++
User entry of time of concentration = 0.148 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.118 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 70.3829
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.400(In)
Computed peak 30-minute rainfall = 0.870(In)
Specified peak 1-hour rainfall = 1.150(In)
Computed peak 3-hour rainfall = 1.940(In)
Specified peak 6-hour rainfall = 2.710(In)
Specified peak 24-hour rainfall = 4.490(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.400(In)
30-minute factor = 1.000 Adjusted rainfall = 0.870(In)
1-hour factor = 1.000 Adjusted rainfall = 1.150(In)
3-hour factor = 1.000 Adjusted rainfall = 1.940(In)
6-hour factor = 1.000 Adjusted rainfall = 2.710(In)
24-hour factor = 1.000 Adjusted rainfall = 4.490(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	8.869	5.256
2	53.890	26.680
3	89.545	21.129
4	97.965	4.989
5	100.000	1.206

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3999	0.3999
2	0.5401	0.1402
3	0.6440	0.1038
4	0.7295	0.0856
5	0.8037	0.0741
6	0.8698	0.0661
7	0.9255	0.0557
8	0.9766	0.0511
9	1.0240	0.0474
10	1.0684	0.0444
11	1.1102	0.0418
12	1.1497	0.0396
13	1.1944	0.0447
14	1.2373	0.0429
15	1.2786	0.0413
16	1.3185	0.0399
17	1.3571	0.0386
18	1.3946	0.0374
19	1.4310	0.0364
20	1.4663	0.0354
21	1.5008	0.0345
22	1.5344	0.0336
23	1.5673	0.0328
24	1.5993	0.0321
25	1.6307	0.0314
26	1.6615	0.0307
27	1.6916	0.0301
28	1.7211	0.0295
29	1.7501	0.0290
30	1.7786	0.0285
31	1.8066	0.0280
32	1.8341	0.0275
33	1.8612	0.0271
34	1.8879	0.0266
35	1.9141	0.0262
36	1.9399	0.0258

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0258	0.0072	0.0187
2	0.0262	0.0073	0.0190
3	0.0271	0.0075	0.0196
4	0.0275	0.0076	0.0199
5	0.0285	0.0079	0.0206
6	0.0290	0.0079	0.0211
7	0.0301	0.0079	0.0222
8	0.0307	0.0079	0.0228
9	0.0321	0.0079	0.0242
10	0.0328	0.0079	0.0249
11	0.0345	0.0079	0.0265
12	0.0354	0.0079	0.0275
13	0.0374	0.0079	0.0295
14	0.0386	0.0079	0.0307
15	0.0413	0.0079	0.0334
16	0.0429	0.0079	0.0350
17	0.0396	0.0079	0.0317
18	0.0418	0.0079	0.0339
19	0.0474	0.0079	0.0395
20	0.0511	0.0079	0.0432
21	0.0661	0.0079	0.0582
22	0.0741	0.0079	0.0662
23	0.1038	0.0079	0.0959
24	0.1402	0.0079	0.1323

25	0.3999	0.0079	0.3920
26	0.0856	0.0079	0.0777
27	0.0557	0.0079	0.0478
28	0.0444	0.0079	0.0364
29	0.0447	0.0079	0.0368
30	0.0399	0.0079	0.0320
31	0.0364	0.0079	0.0285
32	0.0336	0.0079	0.0257
33	0.0314	0.0079	0.0235
34	0.0295	0.0079	0.0216
35	0.0280	0.0078	0.0202
36	0.0266	0.0074	0.0193

Total soil rain loss = 0.28(In)
Total effective rainfall = 1.66(In)
Peak flow rate in flood hydrograph = 14.22(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0007	0.10	Q
0+10	0.0048	0.60	VQ
0+15	0.0117	1.00	V Q
0+20	0.0194	1.12	VQ
0+25	0.0275	1.17	VQ
0+30	0.0357	1.20	Q
0+35	0.0443	1.24	Q
0+40	0.0531	1.28	QV
0+45	0.0623	1.34	QV
0+50	0.0719	1.39	Q V
0+55	0.0819	1.46	Q V
1+ 0	0.0924	1.53	Q V
1+ 5	0.1035	1.60	Q V
1+10	0.1151	1.69	Q V
1+15	0.1274	1.79	Q V
1+20	0.1405	1.90	Q V
1+25	0.1543	1.99	Q V
1+30	0.1678	1.97	Q V
1+35	0.1816	1.99	Q V
1+40	0.1967	2.20	Q V
1+45	0.2139	2.50	Q V
1+50	0.2349	3.05	Q V
1+55	0.2608	3.76	Q V
2+ 0	0.2953	5.00	Q V
2+ 5	0.3505	8.02	Q V
2+10	0.4484	14.22	V Q
2+15	0.5268	11.38	Q V
2+20	0.5627	5.22	Q V
2+25	0.5837	3.04	Q V
2+30	0.5992	2.25	Q V
2+35	0.6131	2.02	Q V
2+40	0.6254	1.80	Q V
2+45	0.6366	1.61	Q V
2+50	0.6466	1.46	Q V
2+55	0.6559	1.34	Q V
3+ 0	0.6645	1.25	Q V
3+ 5	0.6719	1.08	Q V
3+10	0.6755	0.53	Q V
3+15	0.6764	0.12	Q V
3+20	0.6765	0.02	Q V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/13/17 File Name SJCUHprop25yr06hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
25-year 6-hour storm
Proposed Watershed C
2017-11 EL

Storm Event Year = 25

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.355
3.04	0.620	98.0	98.0	0.20	0.947

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278

++
User entry of time of concentration = 0.148 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.118 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 70.3829
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.400(In)
Computed peak 30-minute rainfall = 0.870(In)
Specified peak 1-hour rainfall = 1.150(In)
Computed peak 3-hour rainfall = 1.940(In)
Specified peak 6-hour rainfall = 2.710(In)
Specified peak 24-hour rainfall = 4.490(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.400(In)
30-minute factor = 1.000 Adjusted rainfall = 0.870(In)
1-hour factor = 1.000 Adjusted rainfall = 1.150(In)
3-hour factor = 1.000 Adjusted rainfall = 1.940(In)
6-hour factor = 1.000 Adjusted rainfall = 2.710(In)
24-hour factor = 1.000 Adjusted rainfall = 4.490(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	8.869	5.256
2	53.890	26.680
3	89.545	21.129
4	97.965	4.989
5	100.000	1.206

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3999	0.3999
2	0.5401	0.1402
3	0.6440	0.1038
4	0.7295	0.0856
5	0.8037	0.0741
6	0.8698	0.0661
7	0.9255	0.0557
8	0.9766	0.0511
9	1.0240	0.0474
10	1.0684	0.0444
11	1.1102	0.0418
12	1.1497	0.0396
13	1.1944	0.0447
14	1.2373	0.0429
15	1.2786	0.0413
16	1.3185	0.0399
17	1.3571	0.0386
18	1.3946	0.0374
19	1.4310	0.0364
20	1.4663	0.0354
21	1.5008	0.0345
22	1.5344	0.0336
23	1.5673	0.0328
24	1.5993	0.0321
25	1.6307	0.0314
26	1.6615	0.0307
27	1.6916	0.0301
28	1.7211	0.0295
29	1.7501	0.0290
30	1.7786	0.0285
31	1.8066	0.0280
32	1.8341	0.0275
33	1.8612	0.0271
34	1.8879	0.0266
35	1.9141	0.0262
36	1.9399	0.0258
37	1.9657	0.0258
38	1.9912	0.0254
39	2.0163	0.0251
40	2.0411	0.0248
41	2.0655	0.0245
42	2.0897	0.0241
43	2.1135	0.0238
44	2.1371	0.0236
45	2.1604	0.0233
46	2.1834	0.0230
47	2.2061	0.0228
48	2.2286	0.0225
49	2.2509	0.0223
50	2.2730	0.0220
51	2.2948	0.0218
52	2.3164	0.0216
53	2.3377	0.0214
54	2.3589	0.0212
55	2.3799	0.0210
56	2.4006	0.0208
57	2.4212	0.0206
58	2.4416	0.0204
59	2.4618	0.0202
60	2.4819	0.0200
61	2.5017	0.0199
62	2.5214	0.0197
63	2.5409	0.0195
64	2.5603	0.0194
65	2.5795	0.0192

66	2.5986	0.0191
67	2.6175	0.0189
68	2.6363	0.0188
69	2.6549	0.0186
70	2.6734	0.0185
71	2.6917	0.0184
72	2.7100	0.0182

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0182	0.0051	0.0132
2	0.0184	0.0051	0.0133
3	0.0186	0.0052	0.0135
4	0.0188	0.0052	0.0136
5	0.0191	0.0053	0.0138
6	0.0192	0.0053	0.0139
7	0.0195	0.0054	0.0141
8	0.0197	0.0055	0.0142
9	0.0200	0.0056	0.0145
10	0.0202	0.0056	0.0146
11	0.0206	0.0057	0.0149
12	0.0208	0.0058	0.0150
13	0.0212	0.0059	0.0153
14	0.0214	0.0059	0.0154
15	0.0218	0.0061	0.0158
16	0.0220	0.0061	0.0159
17	0.0225	0.0062	0.0163
18	0.0228	0.0063	0.0164
19	0.0233	0.0065	0.0168
20	0.0236	0.0065	0.0170
21	0.0241	0.0067	0.0174
22	0.0245	0.0068	0.0177
23	0.0251	0.0070	0.0181
24	0.0254	0.0071	0.0184
25	0.0258	0.0072	0.0187
26	0.0262	0.0073	0.0190
27	0.0271	0.0075	0.0196
28	0.0275	0.0076	0.0199
29	0.0285	0.0079	0.0206
30	0.0290	0.0079	0.0211
31	0.0301	0.0079	0.0222
32	0.0307	0.0079	0.0228
33	0.0321	0.0079	0.0242
34	0.0328	0.0079	0.0249
35	0.0345	0.0079	0.0265
36	0.0354	0.0079	0.0275
37	0.0374	0.0079	0.0295
38	0.0386	0.0079	0.0307
39	0.0413	0.0079	0.0334
40	0.0429	0.0079	0.0350
41	0.0396	0.0079	0.0317
42	0.0418	0.0079	0.0339
43	0.0474	0.0079	0.0395
44	0.0511	0.0079	0.0432
45	0.0661	0.0079	0.0582
46	0.0741	0.0079	0.0662
47	0.1038	0.0079	0.0959
48	0.1402	0.0079	0.1323
49	0.3999	0.0079	0.3920
50	0.0856	0.0079	0.0777
51	0.0557	0.0079	0.0478
52	0.0444	0.0079	0.0364
53	0.0447	0.0079	0.0368
54	0.0399	0.0079	0.0320
55	0.0364	0.0079	0.0285
56	0.0336	0.0079	0.0257
57	0.0314	0.0079	0.0235
58	0.0295	0.0079	0.0216
59	0.0280	0.0078	0.0202
60	0.0266	0.0074	0.0193
61	0.0258	0.0072	0.0186
62	0.0248	0.0069	0.0179
63	0.0238	0.0066	0.0172
64	0.0230	0.0064	0.0166
65	0.0223	0.0062	0.0161
66	0.0216	0.0060	0.0156
67	0.0210	0.0058	0.0151

68	0.0204	0.0057	0.0147
69	0.0199	0.0055	0.0143
70	0.0194	0.0054	0.0140
71	0.0189	0.0052	0.0137
72	0.0185	0.0051	0.0134

Total soil rain loss = 0.50(In)
Total effective rainfall = 2.21(In)
Peak flow rate in flood hydrograph = 14.22(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0005	0.07	Q | | | |
0+10	0.0034	0.42	Q | | | |
0+15	0.0082	0.70	VQ | | | |
0+20	0.0136	0.78	VQ | | | |
0+25	0.0191	0.80	VQ | | | |
0+30	0.0246	0.81	|Q | | | |
0+35	0.0303	0.82	|Q | | | |
0+40	0.0360	0.83	|Q | | | |
0+45	0.0418	0.84	|Q | | | |
0+50	0.0476	0.85	|QV | | | |
0+55	0.0536	0.86	|QV | | | |
1+ 0	0.0596	0.87	|QV | | | |
1+ 5	0.0657	0.89	|QV | | | |
1+10	0.0719	0.90	|Q V | | | |
1+15	0.0781	0.91	|Q V | | | |
1+20	0.0845	0.92	|Q V | | | |
1+25	0.0910	0.94	|Q V | | | |
1+30	0.0976	0.95	|Q V | | | |
1+35	0.1042	0.97	|Q V | | | |
1+40	0.1110	0.99	|Q V | | | |
1+45	0.1179	1.00	| Q V | | | |
1+50	0.1250	1.02	| Q V | | | |
1+55	0.1321	1.04	| Q V | | | |
2+ 0	0.1394	1.06	| Q V | | | |
2+ 5	0.1469	1.08	| Q V | | | |
2+10	0.1544	1.10	| Q V | | | |
2+15	0.1621	1.12	| Q V | | | |
2+20	0.1700	1.14	| Q V | | | |
2+25	0.1781	1.17	| Q V | | | |
2+30	0.1863	1.20	| Q V | | | |
2+35	0.1948	1.24	| Q V | | | |
2+40	0.2037	1.28	| Q V| | | |
2+45	0.2129	1.34	| Q V| | | |
2+50	0.2225	1.39	| Q V| | | |
2+55	0.2325	1.46	| Q V | | |
3+ 0	0.2430	1.53	| Q V | | |
3+ 5	0.2541	1.60	| Q |V | | |
3+10	0.2657	1.69	| Q |V | | |
3+15	0.2780	1.79	| Q | V | | |
3+20	0.2911	1.90	| Q | V | | |
3+25	0.3049	1.99	| Q | V | | |
3+30	0.3184	1.97	| Q | V | | |
3+35	0.3321	1.99	| Q | V | | |
3+40	0.3473	2.20	| Q | V | | |
3+45	0.3645	2.50	| Q | V | | |
3+50	0.3855	3.05	| Q | V | | |
3+55	0.4114	3.76	| Q | V | | |
4+ 0	0.4458	5.00	| Q| V| | |
4+ 5	0.5011	8.02	| Q | V | |
4+10	0.5990	14.22	| | V Q | |
4+15	0.6774	11.38	| | Q V| |
4+20	0.7133	5.22	| Q | V |
4+25	0.7342	3.04	| Q | | V |
4+30	0.7497	2.25	| Q | | V |
4+35	0.7636	2.02	| Q | | V |
4+40	0.7760	1.80	| Q | | V |
4+45	0.7871	1.61	| Q | | V |
4+50	0.7972	1.46	| Q | | V |
4+55	0.8065	1.34	| Q | | V |

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    5+ 0       0.8150      1.25  | Q       |         |         |     V    |
    5+ 5       0.8231      1.18  | Q       |         |         |     V    |
    5+10       0.8309      1.13  | Q       |         |         |     V    |
    5+15       0.8383      1.08  | Q       |         |         |      V   |
    5+20       0.8455      1.04  | Q       |         |         |      V   |
    5+25       0.8524      1.00  | Q       |         |         |      V   |
    5+30       0.8591      0.97  |Q        |         |         |       V  |
    5+35       0.8656      0.94  |Q        |         |         |       V  |
    5+40       0.8719      0.91  |Q        |         |         |       V  |
    5+45       0.8780      0.89  |Q        |         |         |       V  |
    5+50       0.8839      0.86  |Q        |         |         |        V |
    5+55       0.8897      0.84  |Q        |         |         |        V |
    6+ 0       0.8953      0.82  |Q        |         |         |        V |
    6+ 5       0.9004      0.73  |Q        |         |         |        V |
    6+10       0.9029      0.37  Q         |         |         |        V |
    6+15       0.9035      0.08  Q         |         |         |        V |
    6+20       0.9036      0.02  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/13/17 File Name SJCUHprop25yr12hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
25-year 12-hour storm
Proposed Watershed C
2017-11 EL

Storm Event Year = 25

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.355
3.04	0.620	98.0	98.0	0.20	0.947

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278

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User entry of time of concentration = 0.148 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.118 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 70.3829
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.400(In)
Computed peak 30-minute rainfall = 0.870(In)
Specified peak 1-hour rainfall = 1.150(In)
Computed peak 3-hour rainfall = 1.940(In)
Specified peak 6-hour rainfall = 2.710(In)
Specified peak 24-hour rainfall = 4.490(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.400(In)
30-minute factor = 1.000 Adjusted rainfall = 0.870(In)
1-hour factor = 1.000 Adjusted rainfall = 1.150(In)
3-hour factor = 1.000 Adjusted rainfall = 1.940(In)
6-hour factor = 1.000 Adjusted rainfall = 2.710(In)
24-hour factor = 1.000 Adjusted rainfall = 4.490(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	8.869	5.256
2	53.890	26.680
3	89.545	21.129
4	97.965	4.989
5	100.000	1.206

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3999	0.3999
2	0.5401	0.1402
3	0.6440	0.1038
4	0.7295	0.0856
5	0.8037	0.0741
6	0.8698	0.0661
7	0.9255	0.0557
8	0.9766	0.0511
9	1.0240	0.0474
10	1.0684	0.0444
11	1.1102	0.0418
12	1.1497	0.0396
13	1.1944	0.0447
14	1.2373	0.0429
15	1.2786	0.0413
16	1.3185	0.0399
17	1.3571	0.0386
18	1.3946	0.0374
19	1.4310	0.0364
20	1.4663	0.0354
21	1.5008	0.0345
22	1.5344	0.0336
23	1.5673	0.0328
24	1.5993	0.0321
25	1.6307	0.0314
26	1.6615	0.0307
27	1.6916	0.0301
28	1.7211	0.0295
29	1.7501	0.0290
30	1.7786	0.0285
31	1.8066	0.0280
32	1.8341	0.0275
33	1.8612	0.0271
34	1.8879	0.0266
35	1.9141	0.0262
36	1.9399	0.0258
37	1.9657	0.0258
38	1.9912	0.0254
39	2.0163	0.0251
40	2.0411	0.0248
41	2.0655	0.0245
42	2.0897	0.0241
43	2.1135	0.0238
44	2.1371	0.0236
45	2.1604	0.0233
46	2.1834	0.0230
47	2.2061	0.0228
48	2.2286	0.0225
49	2.2509	0.0223
50	2.2730	0.0220
51	2.2948	0.0218
52	2.3164	0.0216
53	2.3377	0.0214
54	2.3589	0.0212
55	2.3799	0.0210
56	2.4006	0.0208
57	2.4212	0.0206
58	2.4416	0.0204
59	2.4618	0.0202
60	2.4819	0.0200
61	2.5017	0.0199
62	2.5214	0.0197
63	2.5409	0.0195
64	2.5603	0.0194
65	2.5795	0.0192

66	2.5986	0.0191
67	2.6175	0.0189
68	2.6363	0.0188
69	2.6549	0.0186
70	2.6734	0.0185
71	2.6917	0.0184
72	2.7100	0.0182
73	2.7236	0.0136
74	2.7371	0.0135
75	2.7506	0.0134
76	2.7639	0.0133
77	2.7770	0.0132
78	2.7901	0.0131
79	2.8031	0.0130
80	2.8160	0.0129
81	2.8287	0.0128
82	2.8414	0.0127
83	2.8540	0.0126
84	2.8665	0.0125
85	2.8788	0.0124
86	2.8911	0.0123
87	2.9033	0.0122
88	2.9154	0.0121
89	2.9275	0.0120
90	2.9394	0.0119
91	2.9513	0.0119
92	2.9630	0.0118
93	2.9747	0.0117
94	2.9863	0.0116
95	2.9979	0.0115
96	3.0093	0.0115
97	3.0207	0.0114
98	3.0320	0.0113
99	3.0432	0.0112
100	3.0544	0.0112
101	3.0655	0.0111
102	3.0765	0.0110
103	3.0875	0.0110
104	3.0983	0.0109
105	3.1092	0.0108
106	3.1199	0.0108
107	3.1306	0.0107
108	3.1412	0.0106
109	3.1518	0.0106
110	3.1623	0.0105
111	3.1727	0.0104
112	3.1831	0.0104
113	3.1934	0.0103
114	3.2037	0.0103
115	3.2139	0.0102
116	3.2240	0.0102
117	3.2341	0.0101
118	3.2442	0.0100
119	3.2542	0.0100
120	3.2641	0.0099
121	3.2740	0.0099
122	3.2838	0.0098
123	3.2936	0.0098
124	3.3033	0.0097
125	3.3130	0.0097
126	3.3226	0.0096
127	3.3322	0.0096
128	3.3417	0.0095
129	3.3512	0.0095
130	3.3607	0.0094
131	3.3701	0.0094
132	3.3794	0.0093
133	3.3887	0.0093
134	3.3980	0.0093
135	3.4072	0.0092
136	3.4163	0.0092
137	3.4255	0.0091
138	3.4346	0.0091
139	3.4436	0.0090
140	3.4526	0.0090
141	3.4616	0.0090
142	3.4705	0.0089
143	3.4794	0.0089
144	3.4882	0.0088

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0088	0.0025	0.0064
2	0.0089	0.0025	0.0064
3	0.0090	0.0025	0.0065
4	0.0090	0.0025	0.0065
5	0.0091	0.0025	0.0066
6	0.0091	0.0025	0.0066
7	0.0092	0.0026	0.0067
8	0.0093	0.0026	0.0067
9	0.0093	0.0026	0.0068
10	0.0094	0.0026	0.0068
11	0.0095	0.0026	0.0069
12	0.0095	0.0026	0.0069
13	0.0096	0.0027	0.0070
14	0.0097	0.0027	0.0070
15	0.0098	0.0027	0.0071
16	0.0098	0.0027	0.0071
17	0.0099	0.0028	0.0072
18	0.0100	0.0028	0.0072
19	0.0101	0.0028	0.0073
20	0.0102	0.0028	0.0073
21	0.0103	0.0028	0.0074
22	0.0103	0.0029	0.0075
23	0.0104	0.0029	0.0075
24	0.0105	0.0029	0.0076
25	0.0106	0.0029	0.0077
26	0.0107	0.0030	0.0077
27	0.0108	0.0030	0.0078
28	0.0109	0.0030	0.0079
29	0.0110	0.0031	0.0080
30	0.0111	0.0031	0.0080
31	0.0112	0.0031	0.0081
32	0.0113	0.0031	0.0082
33	0.0115	0.0032	0.0083
34	0.0115	0.0032	0.0083
35	0.0117	0.0032	0.0084
36	0.0118	0.0033	0.0085
37	0.0119	0.0033	0.0086
38	0.0120	0.0033	0.0087
39	0.0122	0.0034	0.0088
40	0.0123	0.0034	0.0089
41	0.0125	0.0035	0.0090
42	0.0126	0.0035	0.0091
43	0.0128	0.0035	0.0092
44	0.0129	0.0036	0.0093
45	0.0131	0.0036	0.0095
46	0.0132	0.0037	0.0095
47	0.0134	0.0037	0.0097
48	0.0135	0.0038	0.0098
49	0.0182	0.0051	0.0132
50	0.0184	0.0051	0.0133
51	0.0186	0.0052	0.0135
52	0.0188	0.0052	0.0136
53	0.0191	0.0053	0.0138
54	0.0192	0.0053	0.0139
55	0.0195	0.0054	0.0141
56	0.0197	0.0055	0.0142
57	0.0200	0.0056	0.0145
58	0.0202	0.0056	0.0146
59	0.0206	0.0057	0.0149
60	0.0208	0.0058	0.0150
61	0.0212	0.0059	0.0153
62	0.0214	0.0059	0.0154
63	0.0218	0.0061	0.0158
64	0.0220	0.0061	0.0159
65	0.0225	0.0062	0.0163
66	0.0228	0.0063	0.0164
67	0.0233	0.0065	0.0168
68	0.0236	0.0065	0.0170
69	0.0241	0.0067	0.0174
70	0.0245	0.0068	0.0177
71	0.0251	0.0070	0.0181
72	0.0254	0.0071	0.0184
73	0.0258	0.0072	0.0187
74	0.0262	0.0073	0.0190

75	0.0271	0.0075	0.0196
76	0.0275	0.0076	0.0199
77	0.0285	0.0079	0.0206
78	0.0290	0.0079	0.0211
79	0.0301	0.0079	0.0222
80	0.0307	0.0079	0.0228
81	0.0321	0.0079	0.0242
82	0.0328	0.0079	0.0249
83	0.0345	0.0079	0.0265
84	0.0354	0.0079	0.0275
85	0.0374	0.0079	0.0295
86	0.0386	0.0079	0.0307
87	0.0413	0.0079	0.0334
88	0.0429	0.0079	0.0350
89	0.0396	0.0079	0.0317
90	0.0418	0.0079	0.0339
91	0.0474	0.0079	0.0395
92	0.0511	0.0079	0.0432
93	0.0661	0.0079	0.0582
94	0.0741	0.0079	0.0662
95	0.1038	0.0079	0.0959
96	0.1402	0.0079	0.1323
97	0.3999	0.0079	0.3920
98	0.0856	0.0079	0.0777
99	0.0557	0.0079	0.0478
100	0.0444	0.0079	0.0364
101	0.0447	0.0079	0.0368
102	0.0399	0.0079	0.0320
103	0.0364	0.0079	0.0285
104	0.0336	0.0079	0.0257
105	0.0314	0.0079	0.0235
106	0.0295	0.0079	0.0216
107	0.0280	0.0078	0.0202
108	0.0266	0.0074	0.0193
109	0.0258	0.0072	0.0186
110	0.0248	0.0069	0.0179
111	0.0238	0.0066	0.0172
112	0.0230	0.0064	0.0166
113	0.0223	0.0062	0.0161
114	0.0216	0.0060	0.0156
115	0.0210	0.0058	0.0151
116	0.0204	0.0057	0.0147
117	0.0199	0.0055	0.0143
118	0.0194	0.0054	0.0140
119	0.0189	0.0052	0.0137
120	0.0185	0.0051	0.0134
121	0.0136	0.0038	0.0099
122	0.0133	0.0037	0.0096
123	0.0130	0.0036	0.0094
124	0.0127	0.0035	0.0092
125	0.0124	0.0034	0.0089
126	0.0121	0.0034	0.0087
127	0.0119	0.0033	0.0086
128	0.0116	0.0032	0.0084
129	0.0114	0.0032	0.0082
130	0.0112	0.0031	0.0081
131	0.0110	0.0030	0.0079
132	0.0108	0.0030	0.0078
133	0.0106	0.0029	0.0076
134	0.0104	0.0029	0.0075
135	0.0102	0.0028	0.0074
136	0.0100	0.0028	0.0073
137	0.0099	0.0027	0.0071
138	0.0097	0.0027	0.0070
139	0.0096	0.0027	0.0069
140	0.0094	0.0026	0.0068
141	0.0093	0.0026	0.0067
142	0.0092	0.0025	0.0066
143	0.0090	0.0025	0.0065
144	0.0089	0.0025	0.0064

Total soil rain loss = 0.71(In)
Total effective rainfall = 2.78(In)
Peak flow rate in flood hydrograph = 14.22(CFS)

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12 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0002	0.03	Q
0+10	0.0016	0.20	Q
0+15	0.0040	0.34	Q
0+20	0.0066	0.37	Q
0+25	0.0092	0.38	Q
0+30	0.0119	0.39	Q
0+35	0.0146	0.39	Q
0+40	0.0173	0.39	Q
0+45	0.0200	0.40	Q
0+50	0.0227	0.40	Q
0+55	0.0255	0.40	Q
1+ 0	0.0283	0.40	Q
1+ 5	0.0311	0.41	QV
1+10	0.0339	0.41	QV
1+15	0.0368	0.41	QV
1+20	0.0396	0.42	QV
1+25	0.0425	0.42	QV
1+30	0.0454	0.42	QV
1+35	0.0484	0.43	QV
1+40	0.0513	0.43	QV
1+45	0.0543	0.43	QV
1+50	0.0573	0.44	Q V
1+55	0.0604	0.44	Q V
2+ 0	0.0634	0.44	Q V
2+ 5	0.0665	0.45	Q V
2+10	0.0696	0.45	Q V
2+15	0.0728	0.46	Q V
2+20	0.0759	0.46	Q V
2+25	0.0791	0.46	Q V
2+30	0.0824	0.47	Q V
2+35	0.0856	0.47	Q V
2+40	0.0889	0.48	Q V
2+45	0.0922	0.48	Q V
2+50	0.0956	0.49	Q V
2+55	0.0990	0.49	Q V
3+ 0	0.1024	0.50	Q V
3+ 5	0.1059	0.50	|Q V
3+10	0.1094	0.51	|Q V
3+15	0.1129	0.51	|Q V
3+20	0.1165	0.52	|Q V
3+25	0.1201	0.52	|Q V
3+30	0.1237	0.53	|Q V
3+35	0.1274	0.54	|Q V
3+40	0.1311	0.54	|Q V
3+45	0.1349	0.55	|Q V
3+50	0.1388	0.56	|Q V
3+55	0.1426	0.56	|Q V
4+ 0	0.1466	0.57	|Q V
4+ 5	0.1506	0.59	|Q V
4+10	0.1554	0.69	|Q V
4+15	0.1606	0.76	|Q V
4+20	0.1661	0.79	|Q V
4+25	0.1716	0.80	|Q V
4+30	0.1771	0.81	|Q V
4+35	0.1828	0.82	|Q V
4+40	0.1885	0.83	|Q V
4+45	0.1943	0.84	|Q V
4+50	0.2001	0.85	|Q V
4+55	0.2061	0.86	|Q V
5+ 0	0.2121	0.87	|Q V
5+ 5	0.2182	0.89	|Q V
5+10	0.2244	0.90	|Q V
5+15	0.2306	0.91	|Q V
5+20	0.2370	0.92	|Q V
5+25	0.2435	0.94	|Q V
5+30	0.2501	0.95	|Q V
5+35	0.2567	0.97	|Q V|
5+40	0.2635	0.99	|Q V|
5+45	0.2704	1.00	| Q V|
5+50	0.2775	1.02	| Q V|
5+55	0.2846	1.04	| Q V
6+ 0	0.2919	1.06	| Q V
6+ 5	0.2994	1.08	| Q V

6+10	0.3069	1.10	Q V
6+15	0.3146	1.12	Q V
6+20	0.3225	1.14	Q V
6+25	0.3305	1.17	Q V
6+30	0.3388	1.20	Q V
6+35	0.3473	1.24	Q V
6+40	0.3562	1.28	Q V
6+45	0.3654	1.34	Q V
6+50	0.3750	1.39	Q V
6+55	0.3850	1.46	Q V
7+ 0	0.3955	1.53	Q V
7+ 5	0.4066	1.60	Q V
7+10	0.4182	1.69	Q V
7+15	0.4305	1.79	Q V
7+20	0.4436	1.90	Q V
7+25	0.4574	1.99	Q V
7+30	0.4709	1.97	Q V
7+35	0.4846	1.99	Q V
7+40	0.4998	2.20	Q V
7+45	0.5170	2.50	Q V
7+50	0.5380	3.05	Q V
7+55	0.5639	3.76	Q V
8+ 0	0.5983	5.00	Q V
8+ 5	0.6535	8.02	Q V
8+10	0.7515	14.22	V Q
8+15	0.8299	11.38	Q V
8+20	0.8658	5.22	Q V
8+25	0.8867	3.04	Q V
8+30	0.9022	2.25	Q V
8+35	0.9161	2.02	Q V
8+40	0.9285	1.80	Q V
8+45	0.9396	1.61	Q V
8+50	0.9497	1.46	Q V
8+55	0.9590	1.34	Q V
9+ 0	0.9675	1.25	Q V
9+ 5	0.9756	1.18	Q V
9+10	0.9834	1.13	Q V
9+15	0.9908	1.08	Q V
9+20	0.9980	1.04	Q V
9+25	1.0049	1.00	Q V
9+30	1.0116	0.97	Q V
9+35	1.0181	0.94	Q V
9+40	1.0243	0.91	Q V
9+45	1.0304	0.89	Q V
9+50	1.0364	0.86	Q V
9+55	1.0422	0.84	Q V
10+ 0	1.0478	0.82	Q V
10+ 5	1.0532	0.78	Q V
10+10	1.0579	0.68	Q V
10+15	1.0620	0.60	Q V
10+20	1.0659	0.57	Q V
10+25	1.0697	0.55	Q V
10+30	1.0734	0.54	Q V
10+35	1.0770	0.52	Q V
10+40	1.0805	0.51	Q V
10+45	1.0840	0.50	Q V
10+50	1.0874	0.49	Q V
10+55	1.0907	0.48	Q V
11+ 0	1.0940	0.47	Q V
11+ 5	1.0972	0.46	Q V
11+10	1.1003	0.46	Q V
11+15	1.1034	0.45	Q V
11+20	1.1064	0.44	Q V
11+25	1.1094	0.43	Q V
11+30	1.1124	0.43	Q V
11+35	1.1153	0.42	Q V
11+40	1.1181	0.41	Q V
11+45	1.1209	0.41	Q V
11+50	1.1237	0.40	Q V
11+55	1.1264	0.40	Q V
12+ 0	1.1291	0.39	Q V
12+ 5	1.1315	0.35	Q V
12+10	1.1327	0.18	Q V
12+15	1.1330	0.04	Q V
12+20	1.1330	0.01	Q V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 11/13/17 File Name SJCUHprop25C.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
25-year storm
Proposed Watershed C
2017-11 EL

Storm Event Year = 25

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.355
3.04	0.620	98.0	98.0	0.20	0.947

Area-averaged catchment yield fraction, Y = 0.722
Area-averaged low loss fraction, Yb = 0.278

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User entry of time of concentration = 0.148 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.118 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 70.3829
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.278 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.400(In)
Computed peak 30-minute rainfall = 0.870(In)
Specified peak 1-hour rainfall = 1.150(In)
Computed peak 3-hour rainfall = 1.940(In)
Specified peak 6-hour rainfall = 2.710(In)
Specified peak 24-hour rainfall = 4.490(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.400(In)
30-minute factor = 1.000 Adjusted rainfall = 0.870(In)
1-hour factor = 1.000 Adjusted rainfall = 1.150(In)
3-hour factor = 1.000 Adjusted rainfall = 1.940(In)
6-hour factor = 1.000 Adjusted rainfall = 2.710(In)
24-hour factor = 1.000 Adjusted rainfall = 4.490(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	8.869	5.256
2	53.890	26.680
3	89.545	21.129
4	97.965	4.989
5	100.000	1.206

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.3999	0.3999
2	0.5401	0.1402
3	0.6440	0.1038
4	0.7295	0.0856
5	0.8037	0.0741
6	0.8698	0.0661
7	0.9255	0.0557
8	0.9766	0.0511
9	1.0240	0.0474
10	1.0684	0.0444
11	1.1102	0.0418
12	1.1497	0.0396
13	1.1944	0.0447
14	1.2373	0.0429
15	1.2786	0.0413
16	1.3185	0.0399
17	1.3571	0.0386
18	1.3946	0.0374
19	1.4310	0.0364
20	1.4663	0.0354
21	1.5008	0.0345
22	1.5344	0.0336
23	1.5673	0.0328
24	1.5993	0.0321
25	1.6307	0.0314
26	1.6615	0.0307
27	1.6916	0.0301
28	1.7211	0.0295
29	1.7501	0.0290
30	1.7786	0.0285
31	1.8066	0.0280
32	1.8341	0.0275
33	1.8612	0.0271
34	1.8879	0.0266
35	1.9141	0.0262
36	1.9399	0.0258
37	1.9657	0.0258
38	1.9912	0.0254
39	2.0163	0.0251
40	2.0411	0.0248
41	2.0655	0.0245
42	2.0897	0.0241
43	2.1135	0.0238
44	2.1371	0.0236
45	2.1604	0.0233
46	2.1834	0.0230
47	2.2061	0.0228
48	2.2286	0.0225
49	2.2509	0.0223
50	2.2730	0.0220
51	2.2948	0.0218
52	2.3164	0.0216
53	2.3377	0.0214
54	2.3589	0.0212
55	2.3799	0.0210
56	2.4006	0.0208
57	2.4212	0.0206
58	2.4416	0.0204
59	2.4618	0.0202
60	2.4819	0.0200
61	2.5017	0.0199
62	2.5214	0.0197
63	2.5409	0.0195
64	2.5603	0.0194
65	2.5795	0.0192

66	2.5986	0.0191
67	2.6175	0.0189
68	2.6363	0.0188
69	2.6549	0.0186
70	2.6734	0.0185
71	2.6917	0.0184
72	2.7100	0.0182
73	2.7236	0.0136
74	2.7371	0.0135
75	2.7506	0.0134
76	2.7639	0.0133
77	2.7770	0.0132
78	2.7901	0.0131
79	2.8031	0.0130
80	2.8160	0.0129
81	2.8287	0.0128
82	2.8414	0.0127
83	2.8540	0.0126
84	2.8665	0.0125
85	2.8788	0.0124
86	2.8911	0.0123
87	2.9033	0.0122
88	2.9154	0.0121
89	2.9275	0.0120
90	2.9394	0.0119
91	2.9513	0.0119
92	2.9630	0.0118
93	2.9747	0.0117
94	2.9863	0.0116
95	2.9979	0.0115
96	3.0093	0.0115
97	3.0207	0.0114
98	3.0320	0.0113
99	3.0432	0.0112
100	3.0544	0.0112
101	3.0655	0.0111
102	3.0765	0.0110
103	3.0875	0.0110
104	3.0983	0.0109
105	3.1092	0.0108
106	3.1199	0.0108
107	3.1306	0.0107
108	3.1412	0.0106
109	3.1518	0.0106
110	3.1623	0.0105
111	3.1727	0.0104
112	3.1831	0.0104
113	3.1934	0.0103
114	3.2037	0.0103
115	3.2139	0.0102
116	3.2240	0.0102
117	3.2341	0.0101
118	3.2442	0.0100
119	3.2542	0.0100
120	3.2641	0.0099
121	3.2740	0.0099
122	3.2838	0.0098
123	3.2936	0.0098
124	3.3033	0.0097
125	3.3130	0.0097
126	3.3226	0.0096
127	3.3322	0.0096
128	3.3417	0.0095
129	3.3512	0.0095
130	3.3607	0.0094
131	3.3701	0.0094
132	3.3794	0.0093
133	3.3887	0.0093
134	3.3980	0.0093
135	3.4072	0.0092
136	3.4163	0.0092
137	3.4255	0.0091
138	3.4346	0.0091
139	3.4436	0.0090
140	3.4526	0.0090
141	3.4616	0.0090
142	3.4705	0.0089
143	3.4794	0.0089
144	3.4882	0.0088

145	3.4970	0.0088
146	3.5058	0.0088
147	3.5145	0.0087
148	3.5232	0.0087
149	3.5318	0.0087
150	3.5405	0.0086
151	3.5490	0.0086
152	3.5576	0.0085
153	3.5661	0.0085
154	3.5746	0.0085
155	3.5830	0.0084
156	3.5914	0.0084
157	3.5998	0.0084
158	3.6081	0.0083
159	3.6164	0.0083
160	3.6247	0.0083
161	3.6329	0.0082
162	3.6411	0.0082
163	3.6493	0.0082
164	3.6574	0.0081
165	3.6655	0.0081
166	3.6736	0.0081
167	3.6816	0.0080
168	3.6897	0.0080
169	3.6976	0.0080
170	3.7056	0.0080
171	3.7135	0.0079
172	3.7214	0.0079
173	3.7293	0.0079
174	3.7371	0.0078
175	3.7449	0.0078
176	3.7527	0.0078
177	3.7605	0.0078
178	3.7682	0.0077
179	3.7759	0.0077
180	3.7836	0.0077
181	3.7912	0.0076
182	3.7988	0.0076
183	3.8064	0.0076
184	3.8140	0.0076
185	3.8215	0.0075
186	3.8290	0.0075
187	3.8365	0.0075
188	3.8440	0.0075
189	3.8514	0.0074
190	3.8588	0.0074
191	3.8662	0.0074
192	3.8735	0.0074
193	3.8809	0.0073
194	3.8882	0.0073
195	3.8955	0.0073
196	3.9027	0.0073
197	3.9100	0.0072
198	3.9172	0.0072
199	3.9244	0.0072
200	3.9316	0.0072
201	3.9387	0.0071
202	3.9458	0.0071
203	3.9529	0.0071
204	3.9600	0.0071
205	3.9671	0.0071
206	3.9741	0.0070
207	3.9811	0.0070
208	3.9881	0.0070
209	3.9951	0.0070
210	4.0021	0.0070
211	4.0090	0.0069
212	4.0159	0.0069
213	4.0228	0.0069
214	4.0296	0.0069
215	4.0365	0.0068
216	4.0433	0.0068
217	4.0501	0.0068
218	4.0569	0.0068
219	4.0637	0.0068
220	4.0704	0.0067
221	4.0772	0.0067
222	4.0839	0.0067
223	4.0906	0.0067

224	4.0972	0.0067
225	4.1039	0.0067
226	4.1105	0.0066
227	4.1171	0.0066
228	4.1237	0.0066
229	4.1303	0.0066
230	4.1369	0.0066
231	4.1434	0.0065
232	4.1499	0.0065
233	4.1564	0.0065
234	4.1629	0.0065
235	4.1694	0.0065
236	4.1759	0.0065
237	4.1823	0.0064
238	4.1887	0.0064
239	4.1951	0.0064
240	4.2015	0.0064
241	4.2079	0.0064
242	4.2142	0.0064
243	4.2206	0.0063
244	4.2269	0.0063
245	4.2332	0.0063
246	4.2395	0.0063
247	4.2457	0.0063
248	4.2520	0.0063
249	4.2582	0.0062
250	4.2644	0.0062
251	4.2706	0.0062
252	4.2768	0.0062
253	4.2830	0.0062
254	4.2892	0.0062
255	4.2953	0.0061
256	4.3014	0.0061
257	4.3075	0.0061
258	4.3136	0.0061
259	4.3197	0.0061
260	4.3258	0.0061
261	4.3318	0.0061
262	4.3379	0.0060
263	4.3439	0.0060
264	4.3499	0.0060
265	4.3559	0.0060
266	4.3619	0.0060
267	4.3679	0.0060
268	4.3738	0.0060
269	4.3797	0.0059
270	4.3857	0.0059
271	4.3916	0.0059
272	4.3975	0.0059
273	4.4033	0.0059
274	4.4092	0.0059
275	4.4151	0.0059
276	4.4209	0.0058
277	4.4267	0.0058
278	4.4326	0.0058
279	4.4384	0.0058
280	4.4441	0.0058
281	4.4499	0.0058
282	4.4557	0.0058
283	4.4614	0.0057
284	4.4672	0.0057
285	4.4729	0.0057
286	4.4786	0.0057
287	4.4843	0.0057
288	4.4900	0.0057

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0057	0.0016	0.0041
2	0.0057	0.0016	0.0041
3	0.0057	0.0016	0.0041
4	0.0057	0.0016	0.0041
5	0.0058	0.0016	0.0042
6	0.0058	0.0016	0.0042
7	0.0058	0.0016	0.0042
8	0.0058	0.0016	0.0042
9	0.0058	0.0016	0.0042

10	0.0059	0.0016	0.0042
11	0.0059	0.0016	0.0042
12	0.0059	0.0016	0.0043
13	0.0059	0.0016	0.0043
14	0.0059	0.0016	0.0043
15	0.0060	0.0017	0.0043
16	0.0060	0.0017	0.0043
17	0.0060	0.0017	0.0043
18	0.0060	0.0017	0.0044
19	0.0061	0.0017	0.0044
20	0.0061	0.0017	0.0044
21	0.0061	0.0017	0.0044
22	0.0061	0.0017	0.0044
23	0.0061	0.0017	0.0044
24	0.0062	0.0017	0.0044
25	0.0062	0.0017	0.0045
26	0.0062	0.0017	0.0045
27	0.0062	0.0017	0.0045
28	0.0063	0.0017	0.0045
29	0.0063	0.0017	0.0045
30	0.0063	0.0017	0.0046
31	0.0063	0.0018	0.0046
32	0.0064	0.0018	0.0046
33	0.0064	0.0018	0.0046
34	0.0064	0.0018	0.0046
35	0.0064	0.0018	0.0046
36	0.0065	0.0018	0.0047
37	0.0065	0.0018	0.0047
38	0.0065	0.0018	0.0047
39	0.0065	0.0018	0.0047
40	0.0066	0.0018	0.0047
41	0.0066	0.0018	0.0048
42	0.0066	0.0018	0.0048
43	0.0067	0.0018	0.0048
44	0.0067	0.0019	0.0048
45	0.0067	0.0019	0.0048
46	0.0067	0.0019	0.0049
47	0.0068	0.0019	0.0049
48	0.0068	0.0019	0.0049
49	0.0068	0.0019	0.0049
50	0.0068	0.0019	0.0049
51	0.0069	0.0019	0.0050
52	0.0069	0.0019	0.0050
53	0.0070	0.0019	0.0050
54	0.0070	0.0019	0.0050
55	0.0070	0.0019	0.0051
56	0.0070	0.0020	0.0051
57	0.0071	0.0020	0.0051
58	0.0071	0.0020	0.0051
59	0.0071	0.0020	0.0052
60	0.0072	0.0020	0.0052
61	0.0072	0.0020	0.0052
62	0.0072	0.0020	0.0052
63	0.0073	0.0020	0.0053
64	0.0073	0.0020	0.0053
65	0.0074	0.0020	0.0053
66	0.0074	0.0020	0.0053
67	0.0074	0.0021	0.0054
68	0.0075	0.0021	0.0054
69	0.0075	0.0021	0.0054
70	0.0075	0.0021	0.0054
71	0.0076	0.0021	0.0055
72	0.0076	0.0021	0.0055
73	0.0077	0.0021	0.0055
74	0.0077	0.0021	0.0056
75	0.0078	0.0022	0.0056
76	0.0078	0.0022	0.0056
77	0.0078	0.0022	0.0057
78	0.0079	0.0022	0.0057
79	0.0079	0.0022	0.0057
80	0.0080	0.0022	0.0057
81	0.0080	0.0022	0.0058
82	0.0080	0.0022	0.0058
83	0.0081	0.0023	0.0059
84	0.0081	0.0023	0.0059
85	0.0082	0.0023	0.0059
86	0.0082	0.0023	0.0059
87	0.0083	0.0023	0.0060
88	0.0083	0.0023	0.0060

89	0.0084	0.0023	0.0061
90	0.0084	0.0023	0.0061
91	0.0085	0.0024	0.0061
92	0.0085	0.0024	0.0062
93	0.0086	0.0024	0.0062
94	0.0087	0.0024	0.0063
95	0.0087	0.0024	0.0063
96	0.0088	0.0024	0.0063
97	0.0088	0.0025	0.0064
98	0.0089	0.0025	0.0064
99	0.0090	0.0025	0.0065
100	0.0090	0.0025	0.0065
101	0.0091	0.0025	0.0066
102	0.0091	0.0025	0.0066
103	0.0092	0.0026	0.0067
104	0.0093	0.0026	0.0067
105	0.0093	0.0026	0.0068
106	0.0094	0.0026	0.0068
107	0.0095	0.0026	0.0069
108	0.0095	0.0026	0.0069
109	0.0096	0.0027	0.0070
110	0.0097	0.0027	0.0070
111	0.0098	0.0027	0.0071
112	0.0098	0.0027	0.0071
113	0.0099	0.0028	0.0072
114	0.0100	0.0028	0.0072
115	0.0101	0.0028	0.0073
116	0.0102	0.0028	0.0073
117	0.0103	0.0028	0.0074
118	0.0103	0.0029	0.0075
119	0.0104	0.0029	0.0075
120	0.0105	0.0029	0.0076
121	0.0106	0.0029	0.0077
122	0.0107	0.0030	0.0077
123	0.0108	0.0030	0.0078
124	0.0109	0.0030	0.0079
125	0.0110	0.0031	0.0080
126	0.0111	0.0031	0.0080
127	0.0112	0.0031	0.0081
128	0.0113	0.0031	0.0082
129	0.0115	0.0032	0.0083
130	0.0115	0.0032	0.0083
131	0.0117	0.0032	0.0084
132	0.0118	0.0033	0.0085
133	0.0119	0.0033	0.0086
134	0.0120	0.0033	0.0087
135	0.0122	0.0034	0.0088
136	0.0123	0.0034	0.0089
137	0.0125	0.0035	0.0090
138	0.0126	0.0035	0.0091
139	0.0128	0.0035	0.0092
140	0.0129	0.0036	0.0093
141	0.0131	0.0036	0.0095
142	0.0132	0.0037	0.0095
143	0.0134	0.0037	0.0097
144	0.0135	0.0038	0.0098
145	0.0182	0.0051	0.0132
146	0.0184	0.0051	0.0133
147	0.0186	0.0052	0.0135
148	0.0188	0.0052	0.0136
149	0.0191	0.0053	0.0138
150	0.0192	0.0053	0.0139
151	0.0195	0.0054	0.0141
152	0.0197	0.0055	0.0142
153	0.0200	0.0056	0.0145
154	0.0202	0.0056	0.0146
155	0.0206	0.0057	0.0149
156	0.0208	0.0058	0.0150
157	0.0212	0.0059	0.0153
158	0.0214	0.0059	0.0154
159	0.0218	0.0061	0.0158
160	0.0220	0.0061	0.0159
161	0.0225	0.0062	0.0163
162	0.0228	0.0063	0.0164
163	0.0233	0.0065	0.0168
164	0.0236	0.0065	0.0170
165	0.0241	0.0067	0.0174
166	0.0245	0.0068	0.0177
167	0.0251	0.0070	0.0181

168	0.0254	0.0071	0.0184
169	0.0258	0.0072	0.0187
170	0.0262	0.0073	0.0190
171	0.0271	0.0075	0.0196
172	0.0275	0.0076	0.0199
173	0.0285	0.0079	0.0206
174	0.0290	0.0079	0.0211
175	0.0301	0.0079	0.0222
176	0.0307	0.0079	0.0228
177	0.0321	0.0079	0.0242
178	0.0328	0.0079	0.0249
179	0.0345	0.0079	0.0265
180	0.0354	0.0079	0.0275
181	0.0374	0.0079	0.0295
182	0.0386	0.0079	0.0307
183	0.0413	0.0079	0.0334
184	0.0429	0.0079	0.0350
185	0.0396	0.0079	0.0317
186	0.0418	0.0079	0.0339
187	0.0474	0.0079	0.0395
188	0.0511	0.0079	0.0432
189	0.0661	0.0079	0.0582
190	0.0741	0.0079	0.0662
191	0.1038	0.0079	0.0959
192	0.1402	0.0079	0.1323
193	0.3999	0.0079	0.3920
194	0.0856	0.0079	0.0777
195	0.0557	0.0079	0.0478
196	0.0444	0.0079	0.0364
197	0.0447	0.0079	0.0368
198	0.0399	0.0079	0.0320
199	0.0364	0.0079	0.0285
200	0.0336	0.0079	0.0257
201	0.0314	0.0079	0.0235
202	0.0295	0.0079	0.0216
203	0.0280	0.0078	0.0202
204	0.0266	0.0074	0.0193
205	0.0258	0.0072	0.0186
206	0.0248	0.0069	0.0179
207	0.0238	0.0066	0.0172
208	0.0230	0.0064	0.0166
209	0.0223	0.0062	0.0161
210	0.0216	0.0060	0.0156
211	0.0210	0.0058	0.0151
212	0.0204	0.0057	0.0147
213	0.0199	0.0055	0.0143
214	0.0194	0.0054	0.0140
215	0.0189	0.0052	0.0137
216	0.0185	0.0051	0.0134
217	0.0136	0.0038	0.0099
218	0.0133	0.0037	0.0096
219	0.0130	0.0036	0.0094
220	0.0127	0.0035	0.0092
221	0.0124	0.0034	0.0089
222	0.0121	0.0034	0.0087
223	0.0119	0.0033	0.0086
224	0.0116	0.0032	0.0084
225	0.0114	0.0032	0.0082
226	0.0112	0.0031	0.0081
227	0.0110	0.0030	0.0079
228	0.0108	0.0030	0.0078
229	0.0106	0.0029	0.0076
230	0.0104	0.0029	0.0075
231	0.0102	0.0028	0.0074
232	0.0100	0.0028	0.0073
233	0.0099	0.0027	0.0071
234	0.0097	0.0027	0.0070
235	0.0096	0.0027	0.0069
236	0.0094	0.0026	0.0068
237	0.0093	0.0026	0.0067
238	0.0092	0.0025	0.0066
239	0.0090	0.0025	0.0065
240	0.0089	0.0025	0.0064
241	0.0088	0.0024	0.0064
242	0.0087	0.0024	0.0063
243	0.0086	0.0024	0.0062
244	0.0085	0.0024	0.0061
245	0.0084	0.0023	0.0060
246	0.0083	0.0023	0.0060

247	0.0082	0.0023	0.0059
248	0.0081	0.0022	0.0058
249	0.0080	0.0022	0.0058
250	0.0079	0.0022	0.0057
251	0.0078	0.0022	0.0056
252	0.0077	0.0021	0.0056
253	0.0076	0.0021	0.0055
254	0.0076	0.0021	0.0055
255	0.0075	0.0021	0.0054
256	0.0074	0.0021	0.0054
257	0.0073	0.0020	0.0053
258	0.0073	0.0020	0.0052
259	0.0072	0.0020	0.0052
260	0.0071	0.0020	0.0051
261	0.0071	0.0020	0.0051
262	0.0070	0.0019	0.0051
263	0.0069	0.0019	0.0050
264	0.0069	0.0019	0.0050
265	0.0068	0.0019	0.0049
266	0.0067	0.0019	0.0049
267	0.0067	0.0019	0.0048
268	0.0066	0.0018	0.0048
269	0.0066	0.0018	0.0048
270	0.0065	0.0018	0.0047
271	0.0065	0.0018	0.0047
272	0.0064	0.0018	0.0046
273	0.0064	0.0018	0.0046
274	0.0063	0.0018	0.0046
275	0.0063	0.0017	0.0045
276	0.0062	0.0017	0.0045
277	0.0062	0.0017	0.0045
278	0.0061	0.0017	0.0044
279	0.0061	0.0017	0.0044
280	0.0060	0.0017	0.0044
281	0.0060	0.0017	0.0043
282	0.0060	0.0017	0.0043
283	0.0059	0.0016	0.0043
284	0.0059	0.0016	0.0042
285	0.0058	0.0016	0.0042
286	0.0058	0.0016	0.0042
287	0.0057	0.0016	0.0042
288	0.0057	0.0016	0.0041

Total soil rain loss = 0.99(In)
Total effective rainfall = 3.50(In)
Peak flow rate in flood hydrograph = 14.22(CFS)

++

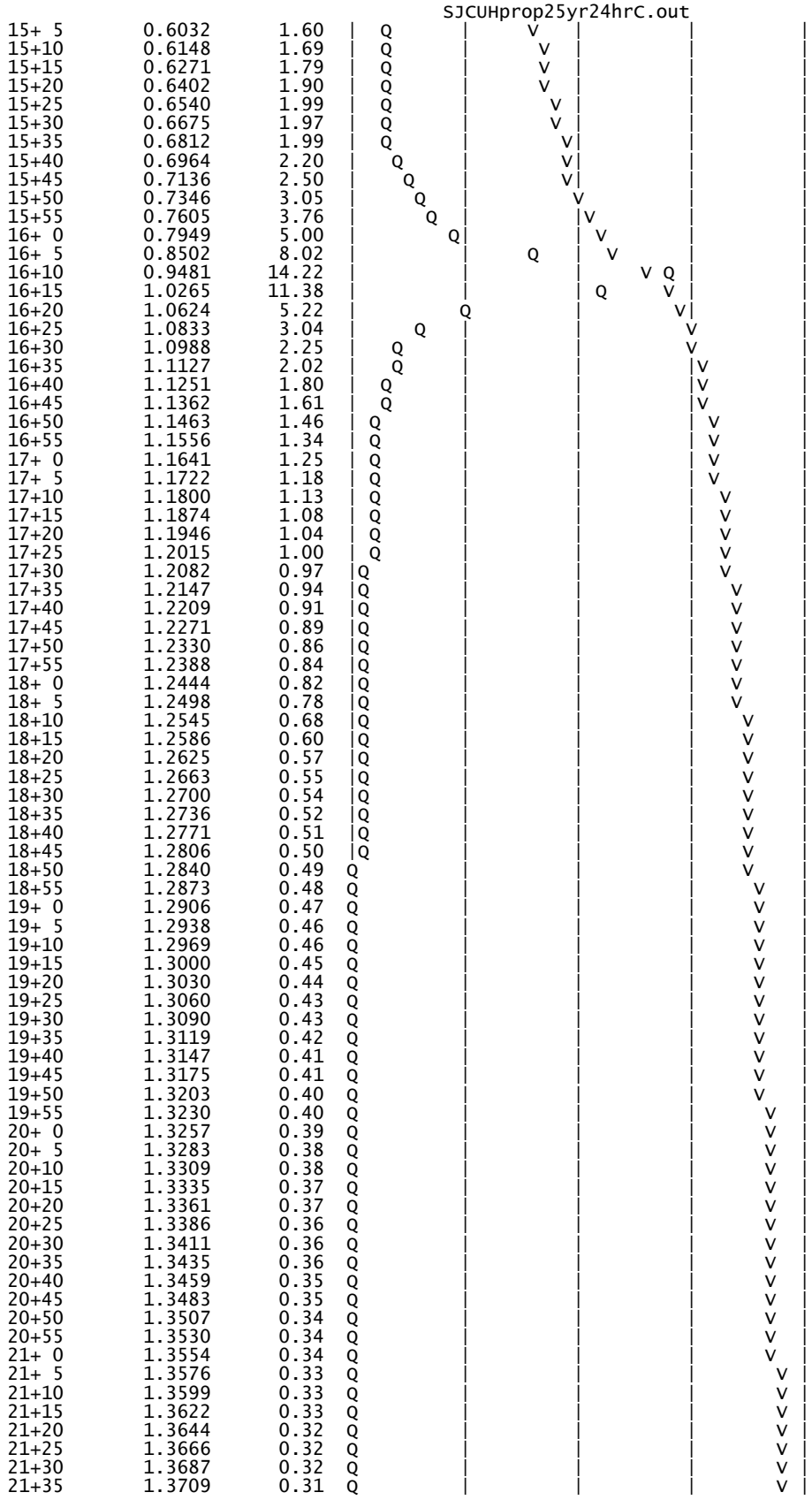
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0011	0.13	Q	|	|	|	|
0+15	0.0026	0.22	Q	|	|	|	|
0+20	0.0042	0.24	Q	|	|	|	|
0+25	0.0059	0.25	Q	|	|	|	|
0+30	0.0076	0.25	Q	|	|	|	|
0+35	0.0093	0.25	Q	|	|	|	|
0+40	0.0110	0.25	Q	|	|	|	|
0+45	0.0127	0.25	Q	|	|	|	|
0+50	0.0144	0.25	Q	|	|	|	|
0+55	0.0162	0.25	Q	|	|	|	|
1+ 0	0.0179	0.25	Q	|	|	|	|
1+ 5	0.0196	0.25	Q	|	|	|	|
1+10	0.0214	0.25	Q	|	|	|	|
1+15	0.0231	0.25	Q	|	|	|	|
1+20	0.0249	0.25	Q	|	|	|	|
1+25	0.0266	0.26	Q	|	|	|	|
1+30	0.0284	0.26	Q	|	|	|	|
1+35	0.0302	0.26	Q	|	|	|	|
1+40	0.0319	0.26	Q	|	|	|	|
1+45	0.0337	0.26	Q	|	|	|	|
1+50	0.0355	0.26	Q	|	|	|	|

1+55	0.0373	0.26	QV				
2+ 0	0.0391	0.26	QV				
2+ 5	0.0409	0.26	QV				
2+10	0.0428	0.26	QV				
2+15	0.0446	0.27	QV				
2+20	0.0464	0.27	QV				
2+25	0.0483	0.27	QV				
2+30	0.0501	0.27	QV				
2+35	0.0520	0.27	QV				
2+40	0.0538	0.27	QV				
2+45	0.0557	0.27	QV				
2+50	0.0576	0.27	QV				
2+55	0.0595	0.27	QV				
3+ 0	0.0614	0.27	QV				
3+ 5	0.0633	0.28	QV				
3+10	0.0652	0.28	QV				
3+15	0.0671	0.28	QV				
3+20	0.0690	0.28	QV				
3+25	0.0709	0.28	QV				
3+30	0.0729	0.28	Q V				
3+35	0.0748	0.28	Q V				
3+40	0.0768	0.28	Q V				
3+45	0.0787	0.29	Q V				
3+50	0.0807	0.29	Q V				
3+55	0.0827	0.29	Q V				
4+ 0	0.0847	0.29	Q V				
4+ 5	0.0867	0.29	Q V				
4+10	0.0887	0.29	Q V				
4+15	0.0907	0.29	Q V				
4+20	0.0927	0.29	Q V				
4+25	0.0948	0.30	Q V				
4+30	0.0968	0.30	Q V				
4+35	0.0989	0.30	Q V				
4+40	0.1009	0.30	Q V				
4+45	0.1030	0.30	Q V				
4+50	0.1051	0.30	Q V				
4+55	0.1072	0.30	Q V				
5+ 0	0.1093	0.31	Q V				
5+ 5	0.1114	0.31	Q V				
5+10	0.1135	0.31	Q V				
5+15	0.1156	0.31	Q V				
5+20	0.1178	0.31	Q V				
5+25	0.1199	0.31	Q V				
5+30	0.1221	0.31	Q V				
5+35	0.1243	0.32	Q V				
5+40	0.1265	0.32	Q V				
5+45	0.1287	0.32	Q V				
5+50	0.1309	0.32	Q V				
5+55	0.1331	0.32	Q V				
6+ 0	0.1353	0.32	Q V				
6+ 5	0.1375	0.33	Q V				
6+10	0.1398	0.33	Q V				
6+15	0.1421	0.33	Q V				
6+20	0.1443	0.33	Q V				
6+25	0.1466	0.33	Q V				
6+30	0.1489	0.33	Q V				
6+35	0.1513	0.34	Q V				
6+40	0.1536	0.34	Q V				
6+45	0.1559	0.34	Q V				
6+50	0.1583	0.34	Q V				
6+55	0.1606	0.34	Q V				
7+ 0	0.1630	0.35	Q V				
7+ 5	0.1654	0.35	Q V				
7+10	0.1678	0.35	Q V				
7+15	0.1703	0.35	Q V				
7+20	0.1727	0.35	Q V				
7+25	0.1751	0.36	Q V				
7+30	0.1776	0.36	Q V				
7+35	0.1801	0.36	Q V				
7+40	0.1826	0.36	Q V				
7+45	0.1851	0.36	Q V				
7+50	0.1876	0.37	Q V				
7+55	0.1902	0.37	Q V				
8+ 0	0.1927	0.37	Q V				
8+ 5	0.1953	0.37	Q V				
8+10	0.1979	0.38	Q V				
8+15	0.2005	0.38	Q V				
8+20	0.2032	0.38	Q V				
8+25	0.2058	0.38	Q V				

```
 8+30      0.2085      0.39  Q    V    |          |          |          |
 8+35      0.2112      0.39  Q    V    |          |          |          |
 8+40      0.2139      0.39  Q    V    |          |          |          |
 8+45      0.2166      0.40  Q     V   |          |          |          |
 8+50      0.2193      0.40  Q     V   |          |          |          |
 8+55      0.2221      0.40  Q     V   |          |          |          |
 9+ 0      0.2249      0.40  Q     V   |          |          |          |
 9+ 5      0.2277      0.41  Q     V   |          |          |          |
 9+10      0.2305      0.41  Q     V   |          |          |          |
 9+15      0.2334      0.41  Q     V   |          |          |          |
 9+20      0.2362      0.42  Q     V   |          |          |          |
 9+25      0.2391      0.42  Q     V   |          |          |          |
 9+30      0.2420      0.42  Q     V   |          |          |          |
 9+35      0.2450      0.43  Q     V   |          |          |          |
 9+40      0.2479      0.43  Q     V   |          |          |          |
 9+45      0.2509      0.43  Q      V  |          |          |          |
 9+50      0.2539      0.44  Q      V  |          |          |          |
 9+55      0.2570      0.44  Q      V  |          |          |          |
10+ 0      0.2600      0.44  Q      V  |          |          |          |
10+ 5      0.2631      0.45  Q      V  |          |          |          |
10+10      0.2662      0.45  Q      V  |          |          |          |
10+15      0.2694      0.46  Q      V  |          |          |          |
10+20      0.2725      0.46  Q      V  |          |          |          |
10+25      0.2757      0.46  Q      V  |          |          |          |
10+30      0.2790      0.47  Q      V  |          |          |          |
10+35      0.2822      0.47  Q      V  |          |          |          |
10+40      0.2855      0.48  Q      V  |          |          |          |
10+45      0.2888      0.48  Q       V |          |          |          |
10+50      0.2922      0.49  Q       V |          |          |          |
10+55      0.2956      0.49  Q       V |          |          |          |
11+ 0      0.2990      0.50  Q       V |          |          |          |
11+ 5      0.3025      0.50  |Q      V |          |          |          |
11+10      0.3060      0.51  |Q      V |          |          |          |
11+15      0.3095      0.51  |Q      V |          |          |          |
11+20      0.3131      0.52  |Q      V |          |          |          |
11+25      0.3167      0.52  |Q      V |          |          |          |
11+30      0.3203      0.53  |Q      V |          |          |          |
11+35      0.3240      0.54  |Q       V|          |          |          |
11+40      0.3278      0.54  |Q       V|          |          |          |
11+45      0.3315      0.55  |Q       V|          |          |          |
11+50      0.3354      0.56  |Q       V|          |          |          |
11+55      0.3392      0.56  |Q       V|          |          |          |
12+ 0      0.3432      0.57  |Q       V|          |          |          |
12+ 5      0.3472      0.59  |Q       V|          |          |          |
12+10      0.3520      0.69  |Q       V|          |          |          |
12+15      0.3572      0.76  |Q        V          |          |          |
12+20      0.3627      0.79  |Q        V          |          |          |
12+25      0.3682      0.80  |Q        V          |          |          |
12+30      0.3737      0.81  |Q        V          |          |          |
12+35      0.3794      0.82  |Q        V          |          |          |
12+40      0.3851      0.83  |Q        V          |          |          |
12+45      0.3909      0.84  |Q        V          |          |          |
12+50      0.3967      0.85  |Q        |V         |          |          |
12+55      0.4027      0.86  |Q        |V         |          |          |
13+ 0      0.4087      0.87  |Q        |V         |          |          |
13+ 5      0.4148      0.89  |Q        |V         |          |          |
13+10      0.4210      0.90  |Q        |V         |          |          |
13+15      0.4272      0.91  |Q        |V         |          |          |
13+20      0.4336      0.92  |Q        | V        |          |          |
13+25      0.4401      0.94  |Q        | V        |          |          |
13+30      0.4467      0.95  |Q        | V        |          |          |
13+35      0.4533      0.97  |Q        | V        |          |          |
13+40      0.4601      0.99  |Q        | V        |          |          |
13+45      0.4670      1.00  | Q       |  V       |          |          |
13+50      0.4741      1.02  | Q       |  V       |          |          |
13+55      0.4812      1.04  | Q       |  V       |          |          |
14+ 0      0.4885      1.06  | Q       |  V       |          |          |
14+ 5      0.4960      1.08  | Q       |  V       |          |          |
14+10      0.5035      1.10  | Q       |   V      |          |          |
14+15      0.5112      1.12  | Q       |   V      |          |          |
14+20      0.5191      1.14  | Q       |   V      |          |          |
14+25      0.5271      1.17  | Q       |   V      |          |          |
14+30      0.5354      1.20  | Q       |   V      |          |          |
14+35      0.5439      1.24  | Q       |    V     |          |          |
14+40      0.5528      1.28  | Q       |    V     |          |          |
14+45      0.5620      1.34  | Q       |    V     |          |          |
14+50      0.5716      1.39  | Q       |     V    |          |          |
14+55      0.5816      1.46  | Q       |     V    |          |          |
15+ 0      0.5921      1.53  |  Q      |     V    |          |          |
```



15+ 5	0.6032	1.60	
15+10	0.6148	1.69	
15+15	0.6271	1.79	
15+20	0.6402	1.90	
15+25	0.6540	1.99	
15+30	0.6675	1.97	
15+35	0.6812	1.99	
15+40	0.6964	2.20	
15+45	0.7136	2.50	
15+50	0.7346	3.05	
15+55	0.7605	3.76	
16+ 0	0.7949	5.00	
16+ 5	0.8502	8.02	
16+10	0.9481	14.22	
16+15	1.0265	11.38	
16+20	1.0624	5.22	
16+25	1.0833	3.04	
16+30	1.0988	2.25	
16+35	1.1127	2.02	
16+40	1.1251	1.80	
16+45	1.1362	1.61	
16+50	1.1463	1.46	
16+55	1.1556	1.34	
17+ 0	1.1641	1.25	
17+ 5	1.1722	1.18	
17+10	1.1800	1.13	
17+15	1.1874	1.08	
17+20	1.1946	1.04	
17+25	1.2015	1.00	
17+30	1.2082	0.97	
17+35	1.2147	0.94	
17+40	1.2209	0.91	
17+45	1.2271	0.89	
17+50	1.2330	0.86	
17+55	1.2388	0.84	
18+ 0	1.2444	0.82	
18+ 5	1.2498	0.78	
18+10	1.2545	0.68	
18+15	1.2586	0.60	
18+20	1.2625	0.57	
18+25	1.2663	0.55	
18+30	1.2700	0.54	
18+35	1.2736	0.52	
18+40	1.2771	0.51	
18+45	1.2806	0.50	
18+50	1.2840	0.49	
18+55	1.2873	0.48	
19+ 0	1.2906	0.47	
19+ 5	1.2938	0.46	
19+10	1.2969	0.46	
19+15	1.3000	0.45	
19+20	1.3030	0.44	
19+25	1.3060	0.43	
19+30	1.3090	0.43	
19+35	1.3119	0.42	
19+40	1.3147	0.41	
19+45	1.3175	0.41	
19+50	1.3203	0.40	
19+55	1.3230	0.40	
20+ 0	1.3257	0.39	
20+ 5	1.3283	0.38	
20+10	1.3309	0.38	
20+15	1.3335	0.37	
20+20	1.3361	0.37	
20+25	1.3386	0.36	
20+30	1.3411	0.36	
20+35	1.3435	0.36	
20+40	1.3459	0.35	
20+45	1.3483	0.35	
20+50	1.3507	0.34	
20+55	1.3530	0.34	
21+ 0	1.3554	0.34	
21+ 5	1.3576	0.33	
21+10	1.3599	0.33	
21+15	1.3622	0.33	
21+20	1.3644	0.32	
21+25	1.3666	0.32	
21+30	1.3687	0.32	
21+35	1.3709	0.31	

```
   21+40       1.3730      0.31  Q          |          |          |        V |
   21+45       1.3751      0.31  Q          |          |          |        V |
   21+50       1.3772      0.30  Q          |          |          |        V |
   21+55       1.3793      0.30  Q          |          |          |        V |
   22+ 0       1.3814      0.30  Q          |          |          |        V |
   22+ 5       1.3834      0.30  Q          |          |          |        V |
   22+10       1.3854      0.29  Q          |          |          |        V |
   22+15       1.3874      0.29  Q          |          |          |        V |
   22+20       1.3894      0.29  Q          |          |          |        V |
   22+25       1.3913      0.29  Q          |          |          |        V |
   22+30       1.3933      0.28  Q          |          |          |         V|
   22+35       1.3952      0.28  Q          |          |          |         V|
   22+40       1.3971      0.28  Q          |          |          |         V|
   22+45       1.3990      0.28  Q          |          |          |         V|
   22+50       1.4009      0.27  Q          |          |          |         V|
   22+55       1.4028      0.27  Q          |          |          |         V|
   23+ 0       1.4047      0.27  Q          |          |          |         V|
   23+ 5       1.4065      0.27  Q          |          |          |         V|
   23+10       1.4083      0.27  Q          |          |          |         V|
   23+15       1.4101      0.26  Q          |          |          |         V|
   23+20       1.4119      0.26  Q          |          |          |         V|
   23+25       1.4137      0.26  Q          |          |          |         V|
   23+30       1.4155      0.26  Q          |          |          |         V|
   23+35       1.4173      0.26  Q          |          |          |         V|
   23+40       1.4190      0.25  Q          |          |          |         V|
   23+45       1.4207      0.25  Q          |          |          |         V|
   23+50       1.4225      0.25  Q          |          |          |         V|
   23+55       1.4242      0.25  Q          |          |          |         V|
   24+ 0       1.4259      0.25  Q          |          |          |         V|
   24+ 5       1.4274      0.22  Q          |          |          |         V|
   24+10       1.4282      0.11  Q          |          |          |         V|
   24+15       1.4284      0.03  Q          |          |          |         V|
   24+20       1.4284      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/26/18 File Name SJCUHprop100yr03hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
100-year 3-hour storm
Proposed Watershed C
EL

Storm Event Year = 100

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.431
3.04	0.620	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.758
Area-averaged low loss fraction, Yb = 0.242

++
User entry of time of concentration = 0.146 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.117 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 71.3470
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.242 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)
Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	9.102	5.394
2	54.935	27.161
3	90.108	20.843
4	98.087	4.728
5	100.000	1.134

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5199	0.5199
2	0.6922	0.1723
3	0.8184	0.1262
4	0.9217	0.1033
5	1.0107	0.0890
6	1.0897	0.0791
7	1.1612	0.0714
8	1.2268	0.0656
9	1.2877	0.0610
10	1.3448	0.0571
11	1.3987	0.0538
12	1.4497	0.0510
13	1.5053	0.0556
14	1.5586	0.0534
15	1.6100	0.0514
16	1.6596	0.0496
17	1.7076	0.0480
18	1.7541	0.0465
19	1.7993	0.0452
20	1.8432	0.0439
21	1.8860	0.0428
22	1.9277	0.0417
23	1.9684	0.0407
24	2.0082	0.0398
25	2.0471	0.0389
26	2.0852	0.0381
27	2.1225	0.0373
28	2.1591	0.0366
29	2.1950	0.0359
30	2.2303	0.0353
31	2.2650	0.0347
32	2.2990	0.0341
33	2.3325	0.0335
34	2.3655	0.0330
35	2.3980	0.0325
36	2.4299	0.0320

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0320	0.0077	0.0242
2	0.0325	0.0079	0.0246
3	0.0335	0.0079	0.0256
4	0.0341	0.0079	0.0261
5	0.0353	0.0079	0.0274
6	0.0359	0.0079	0.0280
7	0.0373	0.0079	0.0294
8	0.0381	0.0079	0.0302
9	0.0398	0.0079	0.0319
10	0.0407	0.0079	0.0328
11	0.0428	0.0079	0.0349
12	0.0439	0.0079	0.0360
13	0.0465	0.0079	0.0386
14	0.0480	0.0079	0.0401
15	0.0514	0.0079	0.0435
16	0.0534	0.0079	0.0455
17	0.0510	0.0079	0.0431
18	0.0538	0.0079	0.0459
19	0.0610	0.0079	0.0530
20	0.0656	0.0079	0.0577
21	0.0791	0.0079	0.0711
22	0.0890	0.0079	0.0811
23	0.1262	0.0079	0.1183
24	0.1723	0.0079	0.1644

25	0.5199	0.0079	0.5120
26	0.1033	0.0079	0.0954
27	0.0714	0.0079	0.0635
28	0.0571	0.0079	0.0492
29	0.0556	0.0079	0.0477
30	0.0496	0.0079	0.0417
31	0.0452	0.0079	0.0372
32	0.0417	0.0079	0.0338
33	0.0389	0.0079	0.0310
34	0.0366	0.0079	0.0287
35	0.0347	0.0079	0.0267
36	0.0330	0.0079	0.0251

Total soil rain loss = 0.28(In)
Total effective rainfall = 2.15(In)
Peak flow rate in flood hydrograph = 18.50(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0009	0.13	Q
0+10	0.0063	0.79	VQ
0+15	0.0154	1.31	V Q
0+20	0.0254	1.46	VQ
0+25	0.0360	1.53	V Q
0+30	0.0470	1.59	VQ
0+35	0.0583	1.64	VQ
0+40	0.0700	1.70	Q
0+45	0.0822	1.77	Q
0+50	0.0949	1.84	QV
0+55	0.1081	1.92	QV
1+ 0	0.1219	2.01	QV
1+ 5	0.1364	2.10	Q V
1+10	0.1517	2.22	Q V
1+15	0.1678	2.34	Q V
1+20	0.1849	2.48	Q V
1+25	0.2028	2.61	Q V
1+30	0.2208	2.62	Q V
1+35	0.2394	2.70	Q V
1+40	0.2598	2.96	Q V
1+45	0.2827	3.32	Q V
1+50	0.3094	3.88	Q V
1+55	0.3415	4.66	Q V
2+ 0	0.3841	6.19	Q V
2+ 5	0.4541	10.16	Q
2+10	0.5815	18.50	V Q
2+15	0.6814	14.51	Q V
2+20	0.7268	6.58	Q V
2+25	0.7539	3.95	Q V
2+30	0.7743	2.95	Q V
2+35	0.7924	2.63	Q V
2+40	0.8085	2.34	Q V
2+45	0.8231	2.11	Q V
2+50	0.8363	1.92	Q V
2+55	0.8485	1.77	Q V
3+ 0	0.8599	1.64	Q V
3+ 5	0.8696	1.41	Q V
3+10	0.8743	0.68	Q V
3+15	0.8753	0.15	Q V
3+20	0.8755	0.03	Q V

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/26/18 File Name SJCUHprop100yr06hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
100-year 6-hour storm
Proposed Watershed C
EL

Storm Event Year = 100

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.431
3.04	0.620	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.758
Area-averaged low loss fraction, Yb = 0.242

++
User entry of time of concentration = 0.146 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.117 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 71.3470
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.242 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)
Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	9.102	5.394
2	54.935	27.161
3	90.108	20.843
4	98.087	4.728
5	100.000	1.134

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5199	0.5199
2	0.6922	0.1723
3	0.8184	0.1262
4	0.9217	0.1033
5	1.0107	0.0890
6	1.0897	0.0791
7	1.1612	0.0714
8	1.2268	0.0656
9	1.2877	0.0610
10	1.3448	0.0571
11	1.3987	0.0538
12	1.4497	0.0510
13	1.5053	0.0556
14	1.5586	0.0534
15	1.6100	0.0514
16	1.6596	0.0496
17	1.7076	0.0480
18	1.7541	0.0465
19	1.7993	0.0452
20	1.8432	0.0439
21	1.8860	0.0428
22	1.9277	0.0417
23	1.9684	0.0407
24	2.0082	0.0398
25	2.0471	0.0389
26	2.0852	0.0381
27	2.1225	0.0373
28	2.1591	0.0366
29	2.1950	0.0359
30	2.2303	0.0353
31	2.2650	0.0347
32	2.2990	0.0341
33	2.3325	0.0335
34	2.3655	0.0330
35	2.3980	0.0325
36	2.4299	0.0320
37	2.4613	0.0313
38	2.4921	0.0309
39	2.5226	0.0304
40	2.5526	0.0300
41	2.5823	0.0296
42	2.6115	0.0293
43	2.6404	0.0289
44	2.6689	0.0285
45	2.6971	0.0282
46	2.7250	0.0279
47	2.7525	0.0275
48	2.7797	0.0272
49	2.8067	0.0269
50	2.8333	0.0266
51	2.8597	0.0264
52	2.8857	0.0261
53	2.9116	0.0258
54	2.9371	0.0256
55	2.9624	0.0253
56	2.9875	0.0251
57	3.0123	0.0248
58	3.0369	0.0246
59	3.0613	0.0244
60	3.0854	0.0241
61	3.1093	0.0239
62	3.1331	0.0237
63	3.1566	0.0235
64	3.1799	0.0233
65	3.2031	0.0231

66	3.2260	0.0229
67	3.2488	0.0228
68	3.2713	0.0226
69	3.2938	0.0224
70	3.3160	0.0222
71	3.3380	0.0221
72	3.3599	0.0219

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0219	0.0053	0.0166
2	0.0221	0.0053	0.0167
3	0.0224	0.0054	0.0170
4	0.0226	0.0055	0.0171
5	0.0229	0.0056	0.0174
6	0.0231	0.0056	0.0175
7	0.0235	0.0057	0.0178
8	0.0237	0.0058	0.0180
9	0.0241	0.0059	0.0183
10	0.0244	0.0059	0.0185
11	0.0248	0.0060	0.0188
12	0.0251	0.0061	0.0190
13	0.0256	0.0062	0.0194
14	0.0258	0.0063	0.0196
15	0.0264	0.0064	0.0200
16	0.0266	0.0065	0.0202
17	0.0272	0.0066	0.0206
18	0.0275	0.0067	0.0209
19	0.0282	0.0068	0.0214
20	0.0285	0.0069	0.0216
21	0.0293	0.0071	0.0222
22	0.0296	0.0072	0.0225
23	0.0304	0.0074	0.0231
24	0.0309	0.0075	0.0234
25	0.0320	0.0077	0.0242
26	0.0325	0.0079	0.0246
27	0.0335	0.0079	0.0256
28	0.0341	0.0079	0.0261
29	0.0353	0.0079	0.0274
30	0.0359	0.0079	0.0280
31	0.0373	0.0079	0.0294
32	0.0381	0.0079	0.0302
33	0.0398	0.0079	0.0319
34	0.0407	0.0079	0.0328
35	0.0428	0.0079	0.0349
36	0.0439	0.0079	0.0360
37	0.0465	0.0079	0.0386
38	0.0480	0.0079	0.0401
39	0.0514	0.0079	0.0435
40	0.0534	0.0079	0.0455
41	0.0510	0.0079	0.0431
42	0.0538	0.0079	0.0459
43	0.0610	0.0079	0.0530
44	0.0656	0.0079	0.0577
45	0.0791	0.0079	0.0711
46	0.0890	0.0079	0.0811
47	0.1262	0.0079	0.1183
48	0.1723	0.0079	0.1644
49	0.5199	0.0079	0.5120
50	0.1033	0.0079	0.0954
51	0.0714	0.0079	0.0635
52	0.0571	0.0079	0.0492
53	0.0556	0.0079	0.0477
54	0.0496	0.0079	0.0417
55	0.0452	0.0079	0.0372
56	0.0417	0.0079	0.0338
57	0.0389	0.0079	0.0310
58	0.0366	0.0079	0.0287
59	0.0347	0.0079	0.0267
60	0.0330	0.0079	0.0251
61	0.0313	0.0076	0.0237
62	0.0300	0.0073	0.0228
63	0.0289	0.0070	0.0219
64	0.0279	0.0068	0.0211
65	0.0269	0.0065	0.0204
66	0.0261	0.0063	0.0198
67	0.0253	0.0061	0.0192

68	0.0246	0.0060	0.0186
69	0.0239	0.0058	0.0181
70	0.0233	0.0057	0.0177
71	0.0228	0.0055	0.0172
72	0.0222	0.0054	0.0168

Total soil rain loss = 0.51(In)
Total effective rainfall = 2.85(In)
Peak flow rate in flood hydrograph = 18.50(CFS)

6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0006	0.09	Q
0+10	0.0043	0.54	VQ
0+15	0.0105	0.89	VQ
0+20	0.0172	0.98	VQ
0+25	0.0242	1.01	V Q
0+30	0.0312	1.02	VQ
0+35	0.0384	1.03	VQ
0+40	0.0456	1.05	VQ
0+45	0.0529	1.06	VQ
0+50	0.0603	1.08	Q
0+55	0.0678	1.09	Q
1+ 0	0.0754	1.10	Q
1+ 5	0.0831	1.12	Q
1+10	0.0909	1.14	QV
1+15	0.0989	1.15	QV
1+20	0.1070	1.17	QV
1+25	0.1152	1.19	QV
1+30	0.1235	1.21	Q V
1+35	0.1320	1.23	Q V
1+40	0.1406	1.25	Q V
1+45	0.1494	1.27	Q V
1+50	0.1583	1.30	Q V
1+55	0.1674	1.32	Q V
2+ 0	0.1767	1.35	Q V
2+ 5	0.1862	1.38	Q V
2+10	0.1959	1.41	Q V
2+15	0.2059	1.45	Q V
2+20	0.2162	1.49	Q V
2+25	0.2267	1.53	Q V
2+30	0.2377	1.59	Q V
2+35	0.2490	1.64	Q V
2+40	0.2607	1.70	Q V
2+45	0.2729	1.77	Q V
2+50	0.2856	1.84	Q V
2+55	0.2988	1.92	Q V
3+ 0	0.3126	2.01	Q V
3+ 5	0.3271	2.10	Q V
3+10	0.3424	2.22	Q V
3+15	0.3585	2.34	Q V
3+20	0.3756	2.48	Q V
3+25	0.3935	2.61	Q V
3+30	0.4116	2.62	Q V
3+35	0.4301	2.70	Q V
3+40	0.4505	2.96	Q V
3+45	0.4734	3.32	Q V
3+50	0.5001	3.88	Q V
3+55	0.5322	4.66	Q V
4+ 0	0.5748	6.19	Q V
4+ 5	0.6448	10.16	Q V
4+10	0.7722	18.50	V Q
4+15	0.8721	14.51	Q V
4+20	0.9175	6.58	Q V
4+25	0.9446	3.95	Q V
4+30	0.9650	2.95	Q V
4+35	0.9831	2.63	Q V
4+40	0.9993	2.34	Q V
4+45	1.0138	2.11	Q V
4+50	1.0271	1.92	Q V
4+55	1.0393	1.77	Q V

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    5+ 0       1.0506      1.64  |  Q       |          |          |     V    |
    5+ 5       1.0612      1.54  |  Q       |          |          |     V    |
    5+10       1.0711      1.45  | Q        |          |          |     V    |
    5+15       1.0806      1.38  | Q        |          |          |      V   |
    5+20       1.0897      1.32  | Q        |          |          |      V   |
    5+25       1.0985      1.27  | Q        |          |          |      V   |
    5+30       1.1070      1.23  | Q        |          |          |       V  |
    5+35       1.1152      1.19  | Q        |          |          |       V  |
    5+40       1.1231      1.15  | Q        |          |          |       V  |
    5+45       1.1308      1.12  | Q        |          |          |       V  |
    5+50       1.1383      1.09  | Q        |          |          |        V |
    5+55       1.1457      1.06  | Q        |          |          |        V |
    6+ 0       1.1528      1.03  | Q        |          |          |        V |
    6+ 5       1.1591      0.92  |Q         |          |          |        V |
    6+10       1.1622      0.45  Q          |          |          |        V |
    6+15       1.1629      0.10  Q          |          |          |        V |
    6+20       1.1630      0.02  Q          |          |          |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/26/18 File Name SJCUHprop100yr12hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
100-year 12-hour storm
Proposed Watershed C
EL

Storm Event Year = 100

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.431
3.04	0.620	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.758
Area-averaged low loss fraction, Yb = 0.242

++
User entry of time of concentration = 0.146 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.117 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 71.3470
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.242 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)
Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	9.102	5.394
2	54.935	27.161
3	90.108	20.843
4	98.087	4.728
5	100.000	1.134

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5199	0.5199
2	0.6922	0.1723
3	0.8184	0.1262
4	0.9217	0.1033
5	1.0107	0.0890
6	1.0897	0.0791
7	1.1612	0.0714
8	1.2268	0.0656
9	1.2877	0.0610
10	1.3448	0.0571
11	1.3987	0.0538
12	1.4497	0.0510
13	1.5053	0.0556
14	1.5586	0.0534
15	1.6100	0.0514
16	1.6596	0.0496
17	1.7076	0.0480
18	1.7541	0.0465
19	1.7993	0.0452
20	1.8432	0.0439
21	1.8860	0.0428
22	1.9277	0.0417
23	1.9684	0.0407
24	2.0082	0.0398
25	2.0471	0.0389
26	2.0852	0.0381
27	2.1225	0.0373
28	2.1591	0.0366
29	2.1950	0.0359
30	2.2303	0.0353
31	2.2650	0.0347
32	2.2990	0.0341
33	2.3325	0.0335
34	2.3655	0.0330
35	2.3980	0.0325
36	2.4299	0.0320
37	2.4613	0.0313
38	2.4921	0.0309
39	2.5226	0.0304
40	2.5526	0.0300
41	2.5823	0.0296
42	2.6115	0.0293
43	2.6404	0.0289
44	2.6689	0.0285
45	2.6971	0.0282
46	2.7250	0.0279
47	2.7525	0.0275
48	2.7797	0.0272
49	2.8067	0.0269
50	2.8333	0.0266
51	2.8597	0.0264
52	2.8857	0.0261
53	2.9116	0.0258
54	2.9371	0.0256
55	2.9624	0.0253
56	2.9875	0.0251
57	3.0123	0.0248
58	3.0369	0.0246
59	3.0613	0.0244
60	3.0854	0.0241
61	3.1093	0.0239
62	3.1331	0.0237
63	3.1566	0.0235
64	3.1799	0.0233
65	3.2031	0.0231

66	3.2260	0.0229
67	3.2488	0.0228
68	3.2713	0.0226
69	3.2938	0.0224
70	3.3160	0.0222
71	3.3380	0.0221
72	3.3599	0.0219
73	3.3772	0.0173
74	3.3944	0.0172
75	3.4114	0.0170
76	3.4283	0.0169
77	3.4450	0.0167
78	3.4616	0.0166
79	3.4781	0.0165
80	3.4944	0.0163
81	3.5106	0.0162
82	3.5267	0.0161
83	3.5426	0.0160
84	3.5584	0.0158
85	3.5742	0.0157
86	3.5898	0.0156
87	3.6052	0.0155
88	3.6206	0.0154
89	3.6359	0.0153
90	3.6510	0.0152
91	3.6661	0.0151
92	3.6810	0.0149
93	3.6959	0.0148
94	3.7106	0.0147
95	3.7253	0.0146
96	3.7398	0.0146
97	3.7543	0.0145
98	3.7687	0.0144
99	3.7829	0.0143
100	3.7971	0.0142
101	3.8112	0.0141
102	3.8252	0.0140
103	3.8391	0.0139
104	3.8530	0.0138
105	3.8667	0.0138
106	3.8804	0.0137
107	3.8940	0.0136
108	3.9075	0.0135
109	3.9209	0.0134
110	3.9343	0.0134
111	3.9476	0.0133
112	3.9608	0.0132
113	3.9739	0.0131
114	3.9870	0.0131
115	3.9999	0.0130
116	4.0129	0.0129
117	4.0257	0.0128
118	4.0385	0.0128
119	4.0512	0.0127
120	4.0638	0.0126
121	4.0764	0.0126
122	4.0889	0.0125
123	4.1014	0.0124
124	4.1138	0.0124
125	4.1261	0.0123
126	4.1383	0.0123
127	4.1505	0.0122
128	4.1627	0.0121
129	4.1748	0.0121
130	4.1868	0.0120
131	4.1987	0.0120
132	4.2106	0.0119
133	4.2225	0.0118
134	4.2343	0.0118
135	4.2460	0.0117
136	4.2577	0.0117
137	4.2693	0.0116
138	4.2809	0.0116
139	4.2924	0.0115
140	4.3039	0.0115
141	4.3153	0.0114
142	4.3267	0.0114
143	4.3380	0.0113
144	4.3493	0.0113

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0113	0.0027	0.0085
2	0.0113	0.0027	0.0086
3	0.0114	0.0028	0.0087
4	0.0115	0.0028	0.0087
5	0.0116	0.0028	0.0088
6	0.0116	0.0028	0.0088
7	0.0117	0.0028	0.0089
8	0.0118	0.0029	0.0089
9	0.0119	0.0029	0.0090
10	0.0120	0.0029	0.0091
11	0.0121	0.0029	0.0092
12	0.0121	0.0029	0.0092
13	0.0123	0.0030	0.0093
14	0.0123	0.0030	0.0093
15	0.0124	0.0030	0.0094
16	0.0125	0.0030	0.0095
17	0.0126	0.0031	0.0096
18	0.0127	0.0031	0.0096
19	0.0128	0.0031	0.0097
20	0.0129	0.0031	0.0098
21	0.0131	0.0032	0.0099
22	0.0131	0.0032	0.0099
23	0.0133	0.0032	0.0101
24	0.0134	0.0032	0.0101
25	0.0135	0.0033	0.0102
26	0.0136	0.0033	0.0103
27	0.0138	0.0033	0.0104
28	0.0138	0.0034	0.0105
29	0.0140	0.0034	0.0106
30	0.0141	0.0034	0.0107
31	0.0143	0.0035	0.0108
32	0.0144	0.0035	0.0109
33	0.0146	0.0035	0.0110
34	0.0146	0.0036	0.0111
35	0.0148	0.0036	0.0112
36	0.0149	0.0036	0.0113
37	0.0152	0.0037	0.0115
38	0.0153	0.0037	0.0116
39	0.0155	0.0038	0.0117
40	0.0156	0.0038	0.0118
41	0.0158	0.0038	0.0120
42	0.0160	0.0039	0.0121
43	0.0162	0.0039	0.0123
44	0.0163	0.0040	0.0124
45	0.0166	0.0040	0.0126
46	0.0167	0.0041	0.0127
47	0.0170	0.0041	0.0129
48	0.0172	0.0042	0.0130
49	0.0219	0.0053	0.0166
50	0.0221	0.0053	0.0167
51	0.0224	0.0054	0.0170
52	0.0226	0.0055	0.0171
53	0.0229	0.0056	0.0174
54	0.0231	0.0056	0.0175
55	0.0235	0.0057	0.0178
56	0.0237	0.0058	0.0180
57	0.0241	0.0059	0.0183
58	0.0244	0.0059	0.0185
59	0.0248	0.0060	0.0188
60	0.0251	0.0061	0.0190
61	0.0256	0.0062	0.0194
62	0.0258	0.0063	0.0196
63	0.0264	0.0064	0.0200
64	0.0266	0.0065	0.0202
65	0.0272	0.0066	0.0206
66	0.0275	0.0067	0.0209
67	0.0282	0.0068	0.0214
68	0.0285	0.0069	0.0216
69	0.0293	0.0071	0.0222
70	0.0296	0.0072	0.0225
71	0.0304	0.0074	0.0231
72	0.0309	0.0075	0.0234
73	0.0320	0.0077	0.0242
74	0.0325	0.0079	0.0246

75	0.0335	0.0079	0.0256
76	0.0341	0.0079	0.0261
77	0.0353	0.0079	0.0274
78	0.0359	0.0079	0.0280
79	0.0373	0.0079	0.0294
80	0.0381	0.0079	0.0302
81	0.0398	0.0079	0.0319
82	0.0407	0.0079	0.0328
83	0.0428	0.0079	0.0349
84	0.0439	0.0079	0.0360
85	0.0465	0.0079	0.0386
86	0.0480	0.0079	0.0401
87	0.0514	0.0079	0.0435
88	0.0534	0.0079	0.0455
89	0.0510	0.0079	0.0431
90	0.0538	0.0079	0.0459
91	0.0610	0.0079	0.0530
92	0.0656	0.0079	0.0577
93	0.0791	0.0079	0.0711
94	0.0890	0.0079	0.0811
95	0.1262	0.0079	0.1183
96	0.1723	0.0079	0.1644
97	0.5199	0.0079	0.5120
98	0.1033	0.0079	0.0954
99	0.0714	0.0079	0.0635
100	0.0571	0.0079	0.0492
101	0.0556	0.0079	0.0477
102	0.0496	0.0079	0.0417
103	0.0452	0.0079	0.0372
104	0.0417	0.0079	0.0338
105	0.0389	0.0079	0.0310
106	0.0366	0.0079	0.0287
107	0.0347	0.0079	0.0267
108	0.0330	0.0079	0.0251
109	0.0313	0.0076	0.0237
110	0.0300	0.0073	0.0228
111	0.0289	0.0070	0.0219
112	0.0279	0.0068	0.0211
113	0.0269	0.0065	0.0204
114	0.0261	0.0063	0.0198
115	0.0253	0.0061	0.0192
116	0.0246	0.0060	0.0186
117	0.0239	0.0058	0.0181
118	0.0233	0.0057	0.0177
119	0.0228	0.0055	0.0172
120	0.0222	0.0054	0.0168
121	0.0173	0.0042	0.0131
122	0.0169	0.0041	0.0128
123	0.0165	0.0040	0.0125
124	0.0161	0.0039	0.0122
125	0.0157	0.0038	0.0119
126	0.0154	0.0037	0.0116
127	0.0151	0.0036	0.0114
128	0.0147	0.0036	0.0112
129	0.0145	0.0035	0.0110
130	0.0142	0.0034	0.0107
131	0.0139	0.0034	0.0105
132	0.0137	0.0033	0.0104
133	0.0134	0.0033	0.0102
134	0.0132	0.0032	0.0100
135	0.0130	0.0031	0.0098
136	0.0128	0.0031	0.0097
137	0.0126	0.0030	0.0095
138	0.0124	0.0030	0.0094
139	0.0122	0.0030	0.0092
140	0.0120	0.0029	0.0091
141	0.0118	0.0029	0.0090
142	0.0117	0.0028	0.0089
143	0.0115	0.0028	0.0087
144	0.0114	0.0028	0.0086

Total soil rain loss = 0.75(In)
Total effective rainfall = 3.60(In)
Peak flow rate in flood hydrograph = 18.50(CFS)

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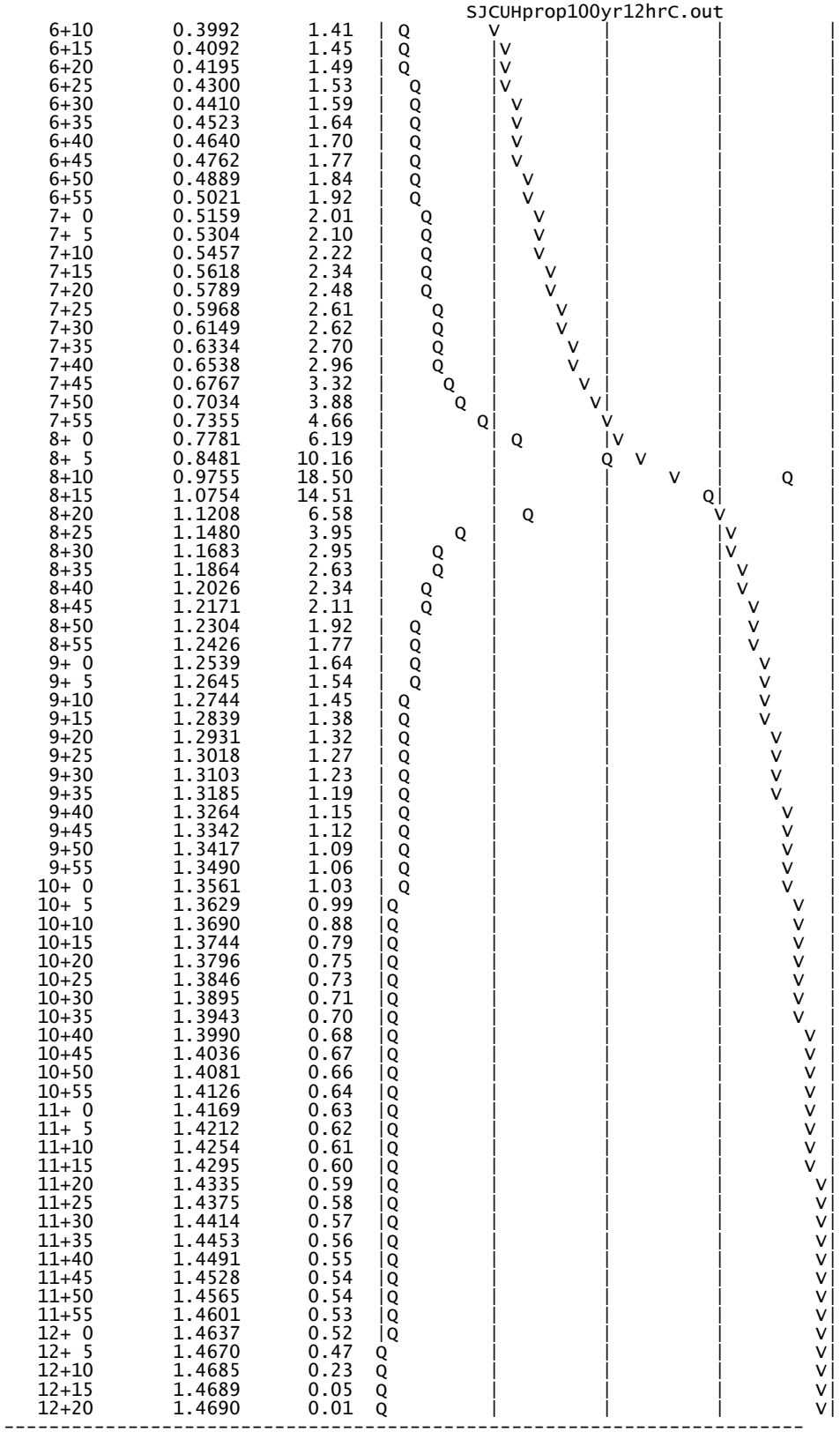
12 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0003	0.05	Q
0+10	0.0022	0.28	Q
0+15	0.0054	0.46	Q
0+20	0.0088	0.50	VQ
0+25	0.0124	0.51	VQ
0+30	0.0159	0.52	VQ
0+35	0.0195	0.52	VQ
0+40	0.0231	0.52	VQ
0+45	0.0268	0.53	VQ
0+50	0.0304	0.53	VQ
0+55	0.0341	0.54	VQ
1+ 0	0.0379	0.54	|Q
1+ 5	0.0416	0.54	|Q
1+10	0.0454	0.55	|Q
1+15	0.0492	0.55	|Q
1+20	0.0530	0.56	|Q
1+25	0.0569	0.56	|Q
1+30	0.0608	0.56	|Q
1+35	0.0647	0.57	|Q
1+40	0.0686	0.57	|Q
1+45	0.0726	0.58	|Q
1+50	0.0766	0.58	|QV
1+55	0.0807	0.59	|QV
2+ 0	0.0848	0.59	|QV
2+ 5	0.0889	0.60	|QV
2+10	0.0930	0.60	|QV
2+15	0.0972	0.61	|QV
2+20	0.1015	0.61	|QV
2+25	0.1057	0.62	|QV
2+30	0.1100	0.63	|QV
2+35	0.1144	0.63	|Q V
2+40	0.1188	0.64	|Q V
2+45	0.1232	0.64	|Q V
2+50	0.1277	0.65	|Q V
2+55	0.1322	0.66	|Q V
3+ 0	0.1367	0.66	|Q V
3+ 5	0.1413	0.67	|Q V
3+10	0.1460	0.68	|Q V
3+15	0.1507	0.68	|Q V
3+20	0.1555	0.69	|Q V
3+25	0.1603	0.70	|Q V
3+30	0.1651	0.71	|Q V
3+35	0.1700	0.71	|Q V
3+40	0.1750	0.72	|Q V
3+45	0.1800	0.73	|Q V
3+50	0.1851	0.74	|Q V
3+55	0.1903	0.75	|Q V
4+ 0	0.1955	0.76	|Q V
4+ 5	0.2009	0.79	|Q V
4+10	0.2070	0.89	|Q V
4+15	0.2137	0.97	|Q V
4+20	0.2205	0.99	|Q V
4+25	0.2275	1.01	| Q V
4+30	0.2345	1.02	| Q V
4+35	0.2417	1.03	| Q V
4+40	0.2489	1.05	| Q V
4+45	0.2562	1.06	| Q V
4+50	0.2636	1.08	| Q V
4+55	0.2711	1.09	| Q V
5+ 0	0.2787	1.10	| Q V
5+ 5	0.2864	1.12	| Q V
5+10	0.2943	1.14	| Q V
5+15	0.3022	1.15	| Q V
5+20	0.3103	1.17	| Q V
5+25	0.3185	1.19	| Q V
5+30	0.3268	1.21	| Q V
5+35	0.3353	1.23	| Q V|
5+40	0.3439	1.25	| Q V|
5+45	0.3527	1.27	| Q V|
5+50	0.3616	1.30	| Q V|
5+55	0.3707	1.32	| Q V
6+ 0	0.3800	1.35	| Q V
6+ 5	0.3895	1.38	| Q V



6+10	0.3992	1.41	
6+15	0.4092	1.45	
6+20	0.4195	1.49	
6+25	0.4300	1.53	
6+30	0.4410	1.59	
6+35	0.4523	1.64	
6+40	0.4640	1.70	
6+45	0.4762	1.77	
6+50	0.4889	1.84	
6+55	0.5021	1.92	
7+ 0	0.5159	2.01	
7+ 5	0.5304	2.10	
7+10	0.5457	2.22	
7+15	0.5618	2.34	
7+20	0.5789	2.48	
7+25	0.5968	2.61	
7+30	0.6149	2.62	
7+35	0.6334	2.70	
7+40	0.6538	2.96	
7+45	0.6767	3.32	
7+50	0.7034	3.88	
7+55	0.7355	4.66	
8+ 0	0.7781	6.19	
8+ 5	0.8481	10.16	
8+10	0.9755	18.50	
8+15	1.0754	14.51	
8+20	1.1208	6.58	
8+25	1.1480	3.95	
8+30	1.1683	2.95	
8+35	1.1864	2.63	
8+40	1.2026	2.34	
8+45	1.2171	2.11	
8+50	1.2304	1.92	
8+55	1.2426	1.77	
9+ 0	1.2539	1.64	
9+ 5	1.2645	1.54	
9+10	1.2744	1.45	
9+15	1.2839	1.38	
9+20	1.2931	1.32	
9+25	1.3018	1.27	
9+30	1.3103	1.23	
9+35	1.3185	1.19	
9+40	1.3264	1.15	
9+45	1.3342	1.12	
9+50	1.3417	1.09	
9+55	1.3490	1.06	
10+ 0	1.3561	1.03	
10+ 5	1.3629	0.99	
10+10	1.3690	0.88	
10+15	1.3744	0.79	
10+20	1.3796	0.75	
10+25	1.3846	0.73	
10+30	1.3895	0.71	
10+35	1.3943	0.70	
10+40	1.3990	0.68	
10+45	1.4036	0.67	
10+50	1.4081	0.66	
10+55	1.4126	0.64	
11+ 0	1.4169	0.63	
11+ 5	1.4212	0.62	
11+10	1.4254	0.61	
11+15	1.4295	0.60	
11+20	1.4335	0.59	
11+25	1.4375	0.58	
11+30	1.4414	0.57	
11+35	1.4453	0.56	
11+40	1.4491	0.55	
11+45	1.4528	0.54	
11+50	1.4565	0.54	
11+55	1.4601	0.53	
12+ 0	1.4637	0.52	
12+ 5	1.4670	0.47	
12+10	1.4685	0.23	
12+15	1.4689	0.05	
12+20	1.4690	0.01	

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/26/18 File Name SJCUHprop100yr24hrC.out

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Orange County Unit Hydrograph Hydrology Method
Manual Date(s) - October 1986, November 1996

Program License Serial Number 6359

112767 SJC
100-year 24-hour storm
Proposed Watershed C
EL

Storm Event Year = 100

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	Area (Ac.)	Area Fraction	Soil Group	Fp (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	4.9	1.00	C	0.250	0.380	0.095

Area-averaged adjusted loss rate Fm (In/Hr) = 0.095

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.86	0.380	69.0	69.0	4.49	0.431
3.04	0.620	98.0	98.0	0.20	0.958

Area-averaged catchment yield fraction, Y = 0.758
Area-averaged low loss fraction, Yb = 0.242

++
User entry of time of concentration = 0.146 (hours)
Watershed area = 4.90(Ac.)
Catchment Lag time = 0.117 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 71.3470
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.095(In/Hr)
Average low loss rate fraction (Yb) = 0.242 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.520(In)
Computed peak 30-minute rainfall = 1.090(In)
Specified peak 1-hour rainfall = 1.450(In)
Computed peak 3-hour rainfall = 2.430(In)
Specified peak 6-hour rainfall = 3.360(In)
Specified peak 24-hour rainfall = 5.630(In)

Rainfall depth area reduction factors:
Using a total area of 4.90(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.520(In)
30-minute factor = 1.000 Adjusted rainfall = 1.090(In)
1-hour factor = 1.000 Adjusted rainfall = 1.450(In)
3-hour factor = 1.000 Adjusted rainfall = 2.430(In)
6-hour factor = 1.000 Adjusted rainfall = 3.360(In)
24-hour factor = 1.000 Adjusted rainfall = 5.630(In)

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 59.26 (CFS))	
1	9.102	5.394
2	54.935	27.161
3	90.108	20.843
4	98.087	4.728
5	100.000	1.134

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.5199	0.5199
2	0.6922	0.1723
3	0.8184	0.1262
4	0.9217	0.1033
5	1.0107	0.0890
6	1.0897	0.0791
7	1.1612	0.0714
8	1.2268	0.0656
9	1.2877	0.0610
10	1.3448	0.0571
11	1.3987	0.0538
12	1.4497	0.0510
13	1.5053	0.0556
14	1.5586	0.0534
15	1.6100	0.0514
16	1.6596	0.0496
17	1.7076	0.0480
18	1.7541	0.0465
19	1.7993	0.0452
20	1.8432	0.0439
21	1.8860	0.0428
22	1.9277	0.0417
23	1.9684	0.0407
24	2.0082	0.0398
25	2.0471	0.0389
26	2.0852	0.0381
27	2.1225	0.0373
28	2.1591	0.0366
29	2.1950	0.0359
30	2.2303	0.0353
31	2.2650	0.0347
32	2.2990	0.0341
33	2.3325	0.0335
34	2.3655	0.0330
35	2.3980	0.0325
36	2.4299	0.0320
37	2.4613	0.0313
38	2.4921	0.0309
39	2.5226	0.0304
40	2.5526	0.0300
41	2.5823	0.0296
42	2.6115	0.0293
43	2.6404	0.0289
44	2.6689	0.0285
45	2.6971	0.0282
46	2.7250	0.0279
47	2.7525	0.0275
48	2.7797	0.0272
49	2.8067	0.0269
50	2.8333	0.0266
51	2.8597	0.0264
52	2.8857	0.0261
53	2.9116	0.0258
54	2.9371	0.0256
55	2.9624	0.0253
56	2.9875	0.0251
57	3.0123	0.0248
58	3.0369	0.0246
59	3.0613	0.0244
60	3.0854	0.0241
61	3.1093	0.0239
62	3.1331	0.0237
63	3.1566	0.0235
64	3.1799	0.0233
65	3.2031	0.0231

66	3.2260	0.0229
67	3.2488	0.0228
68	3.2713	0.0226
69	3.2938	0.0224
70	3.3160	0.0222
71	3.3380	0.0221
72	3.3599	0.0219
73	3.3772	0.0173
74	3.3944	0.0172
75	3.4114	0.0170
76	3.4283	0.0169
77	3.4450	0.0167
78	3.4616	0.0166
79	3.4781	0.0165
80	3.4944	0.0163
81	3.5106	0.0162
82	3.5267	0.0161
83	3.5426	0.0160
84	3.5584	0.0158
85	3.5742	0.0157
86	3.5898	0.0156
87	3.6052	0.0155
88	3.6206	0.0154
89	3.6359	0.0153
90	3.6510	0.0152
91	3.6661	0.0151
92	3.6810	0.0149
93	3.6959	0.0148
94	3.7106	0.0147
95	3.7253	0.0146
96	3.7398	0.0146
97	3.7543	0.0145
98	3.7687	0.0144
99	3.7829	0.0143
100	3.7971	0.0142
101	3.8112	0.0141
102	3.8252	0.0140
103	3.8391	0.0139
104	3.8530	0.0138
105	3.8667	0.0138
106	3.8804	0.0137
107	3.8940	0.0136
108	3.9075	0.0135
109	3.9209	0.0134
110	3.9343	0.0134
111	3.9476	0.0133
112	3.9608	0.0132
113	3.9739	0.0131
114	3.9870	0.0131
115	3.9999	0.0130
116	4.0129	0.0129
117	4.0257	0.0128
118	4.0385	0.0128
119	4.0512	0.0127
120	4.0638	0.0126
121	4.0764	0.0126
122	4.0889	0.0125
123	4.1014	0.0124
124	4.1138	0.0124
125	4.1261	0.0123
126	4.1383	0.0123
127	4.1505	0.0122
128	4.1627	0.0121
129	4.1748	0.0121
130	4.1868	0.0120
131	4.1987	0.0120
132	4.2106	0.0119
133	4.2225	0.0118
134	4.2343	0.0118
135	4.2460	0.0117
136	4.2577	0.0117
137	4.2693	0.0116
138	4.2809	0.0116
139	4.2924	0.0115
140	4.3039	0.0115
141	4.3153	0.0114
142	4.3267	0.0114
143	4.3380	0.0113
144	4.3493	0.0113

145	4.3605	0.0112
146	4.3717	0.0112
147	4.3828	0.0111
148	4.3939	0.0111
149	4.4049	0.0110
150	4.4159	0.0110
151	4.4269	0.0109
152	4.4377	0.0109
153	4.4486	0.0108
154	4.4594	0.0108
155	4.4702	0.0108
156	4.4809	0.0107
157	4.4915	0.0107
158	4.5022	0.0106
159	4.5128	0.0106
160	4.5233	0.0105
161	4.5338	0.0105
162	4.5443	0.0105
163	4.5547	0.0104
164	4.5651	0.0104
165	4.5754	0.0103
166	4.5857	0.0103
167	4.5960	0.0103
168	4.6062	0.0102
169	4.6164	0.0102
170	4.6266	0.0102
171	4.6367	0.0101
172	4.6468	0.0101
173	4.6568	0.0100
174	4.6668	0.0100
175	4.6768	0.0100
176	4.6867	0.0099
177	4.6966	0.0099
178	4.7065	0.0099
179	4.7163	0.0098
180	4.7261	0.0098
181	4.7359	0.0098
182	4.7456	0.0097
183	4.7553	0.0097
184	4.7649	0.0097
185	4.7746	0.0096
186	4.7842	0.0096
187	4.7937	0.0096
188	4.8032	0.0095
189	4.8127	0.0095
190	4.8222	0.0095
191	4.8316	0.0094
192	4.8410	0.0094
193	4.8504	0.0094
194	4.8598	0.0093
195	4.8691	0.0093
196	4.8784	0.0093
197	4.8876	0.0093
198	4.8968	0.0092
199	4.9060	0.0092
200	4.9152	0.0092
201	4.9243	0.0091
202	4.9334	0.0091
203	4.9425	0.0091
204	4.9516	0.0091
205	4.9606	0.0090
206	4.9696	0.0090
207	4.9786	0.0090
208	4.9875	0.0089
209	4.9964	0.0089
210	5.0053	0.0089
211	5.0142	0.0089
212	5.0230	0.0088
213	5.0318	0.0088
214	5.0406	0.0088
215	5.0493	0.0088
216	5.0581	0.0087
217	5.0668	0.0087
218	5.0755	0.0087
219	5.0841	0.0087
220	5.0928	0.0086
221	5.1014	0.0086
222	5.1099	0.0086
223	5.1185	0.0086

224	5.1270	0.0085
225	5.1355	0.0085
226	5.1440	0.0085
227	5.1525	0.0085
228	5.1609	0.0084
229	5.1694	0.0084
230	5.1777	0.0084
231	5.1861	0.0084
232	5.1945	0.0083
233	5.2028	0.0083
234	5.2111	0.0083
235	5.2194	0.0083
236	5.2276	0.0083
237	5.2359	0.0082
238	5.2441	0.0082
239	5.2523	0.0082
240	5.2605	0.0082
241	5.2686	0.0082
242	5.2767	0.0081
243	5.2848	0.0081
244	5.2929	0.0081
245	5.3010	0.0081
246	5.3090	0.0080
247	5.3171	0.0080
248	5.3251	0.0080
249	5.3331	0.0080
250	5.3410	0.0080
251	5.3490	0.0079
252	5.3569	0.0079
253	5.3648	0.0079
254	5.3727	0.0079
255	5.3805	0.0079
256	5.3884	0.0078
257	5.3962	0.0078
258	5.4040	0.0078
259	5.4118	0.0078
260	5.4196	0.0078
261	5.4273	0.0078
262	5.4351	0.0077
263	5.4428	0.0077
264	5.4505	0.0077
265	5.4582	0.0077
266	5.4658	0.0077
267	5.4735	0.0076
268	5.4811	0.0076
269	5.4887	0.0076
270	5.4963	0.0076
271	5.5039	0.0076
272	5.5114	0.0076
273	5.5189	0.0075
274	5.5265	0.0075
275	5.5340	0.0075
276	5.5415	0.0075
277	5.5489	0.0075
278	5.5564	0.0075
279	5.5638	0.0074
280	5.5712	0.0074
281	5.5786	0.0074
282	5.5860	0.0074
283	5.5934	0.0074
284	5.6007	0.0074
285	5.6081	0.0073
286	5.6154	0.0073
287	5.6227	0.0073
288	5.6300	0.0073

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0073	0.0018	0.0055
2	0.0073	0.0018	0.0055
3	0.0073	0.0018	0.0056
4	0.0074	0.0018	0.0056
5	0.0074	0.0018	0.0056
6	0.0074	0.0018	0.0056
7	0.0074	0.0018	0.0056
8	0.0075	0.0018	0.0056
9	0.0075	0.0018	0.0057

10	0.0075	0.0018	0.0057
11	0.0075	0.0018	0.0057
12	0.0076	0.0018	0.0057
13	0.0076	0.0018	0.0057
14	0.0076	0.0018	0.0058
15	0.0076	0.0019	0.0058
16	0.0077	0.0019	0.0058
17	0.0077	0.0019	0.0058
18	0.0077	0.0019	0.0058
19	0.0078	0.0019	0.0059
20	0.0078	0.0019	0.0059
21	0.0078	0.0019	0.0059
22	0.0078	0.0019	0.0059
23	0.0079	0.0019	0.0060
24	0.0079	0.0019	0.0060
25	0.0079	0.0019	0.0060
26	0.0079	0.0019	0.0060
27	0.0080	0.0019	0.0060
28	0.0080	0.0019	0.0061
29	0.0080	0.0020	0.0061
30	0.0081	0.0020	0.0061
31	0.0081	0.0020	0.0061
32	0.0081	0.0020	0.0062
33	0.0082	0.0020	0.0062
34	0.0082	0.0020	0.0062
35	0.0082	0.0020	0.0062
36	0.0083	0.0020	0.0063
37	0.0083	0.0020	0.0063
38	0.0083	0.0020	0.0063
39	0.0084	0.0020	0.0063
40	0.0084	0.0020	0.0064
41	0.0084	0.0020	0.0064
42	0.0085	0.0021	0.0064
43	0.0085	0.0021	0.0064
44	0.0085	0.0021	0.0065
45	0.0086	0.0021	0.0065
46	0.0086	0.0021	0.0065
47	0.0087	0.0021	0.0066
48	0.0087	0.0021	0.0066
49	0.0087	0.0021	0.0066
50	0.0088	0.0021	0.0066
51	0.0088	0.0021	0.0067
52	0.0088	0.0021	0.0067
53	0.0089	0.0022	0.0067
54	0.0089	0.0022	0.0068
55	0.0090	0.0022	0.0068
56	0.0090	0.0022	0.0068
57	0.0091	0.0022	0.0069
58	0.0091	0.0022	0.0069
59	0.0091	0.0022	0.0069
60	0.0092	0.0022	0.0069
61	0.0092	0.0022	0.0070
62	0.0093	0.0022	0.0070
63	0.0093	0.0023	0.0071
64	0.0093	0.0023	0.0071
65	0.0094	0.0023	0.0071
66	0.0094	0.0023	0.0071
67	0.0095	0.0023	0.0072
68	0.0095	0.0023	0.0072
69	0.0096	0.0023	0.0073
70	0.0096	0.0023	0.0073
71	0.0097	0.0023	0.0073
72	0.0097	0.0024	0.0074
73	0.0098	0.0024	0.0074
74	0.0098	0.0024	0.0074
75	0.0099	0.0024	0.0075
76	0.0099	0.0024	0.0075
77	0.0100	0.0024	0.0076
78	0.0100	0.0024	0.0076
79	0.0101	0.0025	0.0077
80	0.0102	0.0025	0.0077
81	0.0102	0.0025	0.0077
82	0.0103	0.0025	0.0078
83	0.0103	0.0025	0.0078
84	0.0104	0.0025	0.0079
85	0.0105	0.0025	0.0079
86	0.0105	0.0025	0.0080
87	0.0106	0.0026	0.0080
88	0.0106	0.0026	0.0081

89	0.0107	0.0026	0.0081
90	0.0108	0.0026	0.0082
91	0.0108	0.0026	0.0082
92	0.0109	0.0026	0.0083
93	0.0110	0.0027	0.0083
94	0.0110	0.0027	0.0084
95	0.0111	0.0027	0.0084
96	0.0112	0.0027	0.0085
97	0.0113	0.0027	0.0085
98	0.0113	0.0027	0.0086
99	0.0114	0.0028	0.0087
100	0.0115	0.0028	0.0087
101	0.0116	0.0028	0.0088
102	0.0116	0.0028	0.0088
103	0.0117	0.0028	0.0089
104	0.0118	0.0029	0.0089
105	0.0119	0.0029	0.0090
106	0.0120	0.0029	0.0091
107	0.0121	0.0029	0.0092
108	0.0121	0.0029	0.0092
109	0.0123	0.0030	0.0093
110	0.0123	0.0030	0.0093
111	0.0124	0.0030	0.0094
112	0.0125	0.0030	0.0095
113	0.0126	0.0031	0.0096
114	0.0127	0.0031	0.0096
115	0.0128	0.0031	0.0097
116	0.0129	0.0031	0.0098
117	0.0131	0.0032	0.0099
118	0.0131	0.0032	0.0099
119	0.0133	0.0032	0.0101
120	0.0134	0.0032	0.0101
121	0.0135	0.0033	0.0102
122	0.0136	0.0033	0.0103
123	0.0138	0.0033	0.0104
124	0.0138	0.0034	0.0105
125	0.0140	0.0034	0.0106
126	0.0141	0.0034	0.0107
127	0.0143	0.0035	0.0108
128	0.0144	0.0035	0.0109
129	0.0146	0.0035	0.0110
130	0.0146	0.0036	0.0111
131	0.0148	0.0036	0.0112
132	0.0149	0.0036	0.0113
133	0.0152	0.0037	0.0115
134	0.0153	0.0037	0.0116
135	0.0155	0.0038	0.0117
136	0.0156	0.0038	0.0118
137	0.0158	0.0038	0.0120
138	0.0160	0.0039	0.0121
139	0.0162	0.0039	0.0123
140	0.0163	0.0040	0.0124
141	0.0166	0.0040	0.0126
142	0.0167	0.0041	0.0127
143	0.0170	0.0041	0.0129
144	0.0172	0.0042	0.0130
145	0.0219	0.0053	0.0166
146	0.0221	0.0053	0.0167
147	0.0224	0.0054	0.0170
148	0.0226	0.0055	0.0171
149	0.0229	0.0056	0.0174
150	0.0231	0.0056	0.0175
151	0.0235	0.0057	0.0178
152	0.0237	0.0058	0.0180
153	0.0241	0.0059	0.0183
154	0.0244	0.0059	0.0185
155	0.0248	0.0060	0.0188
156	0.0251	0.0061	0.0190
157	0.0256	0.0062	0.0194
158	0.0258	0.0063	0.0196
159	0.0264	0.0064	0.0200
160	0.0266	0.0065	0.0202
161	0.0272	0.0066	0.0206
162	0.0275	0.0067	0.0209
163	0.0282	0.0068	0.0214
164	0.0285	0.0069	0.0216
165	0.0293	0.0071	0.0222
166	0.0296	0.0072	0.0225
167	0.0304	0.0074	0.0231

168	0.0309	0.0075	0.0234
169	0.0320	0.0077	0.0242
170	0.0325	0.0079	0.0246
171	0.0335	0.0079	0.0256
172	0.0341	0.0079	0.0261
173	0.0353	0.0079	0.0274
174	0.0359	0.0079	0.0280
175	0.0373	0.0079	0.0294
176	0.0381	0.0079	0.0302
177	0.0398	0.0079	0.0319
178	0.0407	0.0079	0.0328
179	0.0428	0.0079	0.0349
180	0.0439	0.0079	0.0360
181	0.0465	0.0079	0.0386
182	0.0480	0.0079	0.0401
183	0.0514	0.0079	0.0435
184	0.0534	0.0079	0.0455
185	0.0510	0.0079	0.0431
186	0.0538	0.0079	0.0459
187	0.0610	0.0079	0.0530
188	0.0656	0.0079	0.0577
189	0.0791	0.0079	0.0711
190	0.0890	0.0079	0.0811
191	0.1262	0.0079	0.1183
192	0.1723	0.0079	0.1644
193	0.5199	0.0079	0.5120
194	0.1033	0.0079	0.0954
195	0.0714	0.0079	0.0635
196	0.0571	0.0079	0.0492
197	0.0556	0.0079	0.0477
198	0.0496	0.0079	0.0417
199	0.0452	0.0079	0.0372
200	0.0417	0.0079	0.0338
201	0.0389	0.0079	0.0310
202	0.0366	0.0079	0.0287
203	0.0347	0.0079	0.0267
204	0.0330	0.0079	0.0251
205	0.0313	0.0076	0.0237
206	0.0300	0.0073	0.0228
207	0.0289	0.0070	0.0219
208	0.0279	0.0068	0.0211
209	0.0269	0.0065	0.0204
210	0.0261	0.0063	0.0198
211	0.0253	0.0061	0.0192
212	0.0246	0.0060	0.0186
213	0.0239	0.0058	0.0181
214	0.0233	0.0057	0.0177
215	0.0228	0.0055	0.0172
216	0.0222	0.0054	0.0168
217	0.0173	0.0042	0.0131
218	0.0169	0.0041	0.0128
219	0.0165	0.0040	0.0125
220	0.0161	0.0039	0.0122
221	0.0157	0.0038	0.0119
222	0.0154	0.0037	0.0116
223	0.0151	0.0036	0.0114
224	0.0147	0.0036	0.0112
225	0.0145	0.0035	0.0110
226	0.0142	0.0034	0.0107
227	0.0139	0.0034	0.0105
228	0.0137	0.0033	0.0104
229	0.0134	0.0033	0.0102
230	0.0132	0.0032	0.0100
231	0.0130	0.0031	0.0098
232	0.0128	0.0031	0.0097
233	0.0126	0.0030	0.0095
234	0.0124	0.0030	0.0094
235	0.0122	0.0030	0.0092
236	0.0120	0.0029	0.0091
237	0.0118	0.0029	0.0090
238	0.0117	0.0028	0.0089
239	0.0115	0.0028	0.0087
240	0.0114	0.0028	0.0086
241	0.0112	0.0027	0.0085
242	0.0111	0.0027	0.0084
243	0.0109	0.0027	0.0083
244	0.0108	0.0026	0.0082
245	0.0107	0.0026	0.0081
246	0.0105	0.0026	0.0080

247	0.0104	0.0025	0.0079
248	0.0103	0.0025	0.0078
249	0.0102	0.0025	0.0077
250	0.0101	0.0024	0.0076
251	0.0100	0.0024	0.0076
252	0.0099	0.0024	0.0075
253	0.0098	0.0024	0.0074
254	0.0097	0.0023	0.0073
255	0.0096	0.0023	0.0072
256	0.0095	0.0023	0.0072
257	0.0094	0.0023	0.0071
258	0.0093	0.0022	0.0070
259	0.0092	0.0022	0.0070
260	0.0091	0.0022	0.0069
261	0.0090	0.0022	0.0068
262	0.0089	0.0022	0.0068
263	0.0089	0.0021	0.0067
264	0.0088	0.0021	0.0067
265	0.0087	0.0021	0.0066
266	0.0086	0.0021	0.0065
267	0.0086	0.0021	0.0065
268	0.0085	0.0021	0.0064
269	0.0084	0.0020	0.0064
270	0.0083	0.0020	0.0063
271	0.0083	0.0020	0.0063
272	0.0082	0.0020	0.0062
273	0.0082	0.0020	0.0062
274	0.0081	0.0020	0.0061
275	0.0080	0.0019	0.0061
276	0.0080	0.0019	0.0060
277	0.0079	0.0019	0.0060
278	0.0078	0.0019	0.0059
279	0.0078	0.0019	0.0059
280	0.0077	0.0019	0.0059
281	0.0077	0.0019	0.0058
282	0.0076	0.0018	0.0058
283	0.0076	0.0018	0.0057
284	0.0075	0.0018	0.0057
285	0.0075	0.0018	0.0057
286	0.0074	0.0018	0.0056
287	0.0074	0.0018	0.0056
288	0.0073	0.0018	0.0055

Total soil rain loss = 1.06(In)
Total effective rainfall = 4.57(In)
Peak flow rate in flood hydrograph = 18.50(CFS)

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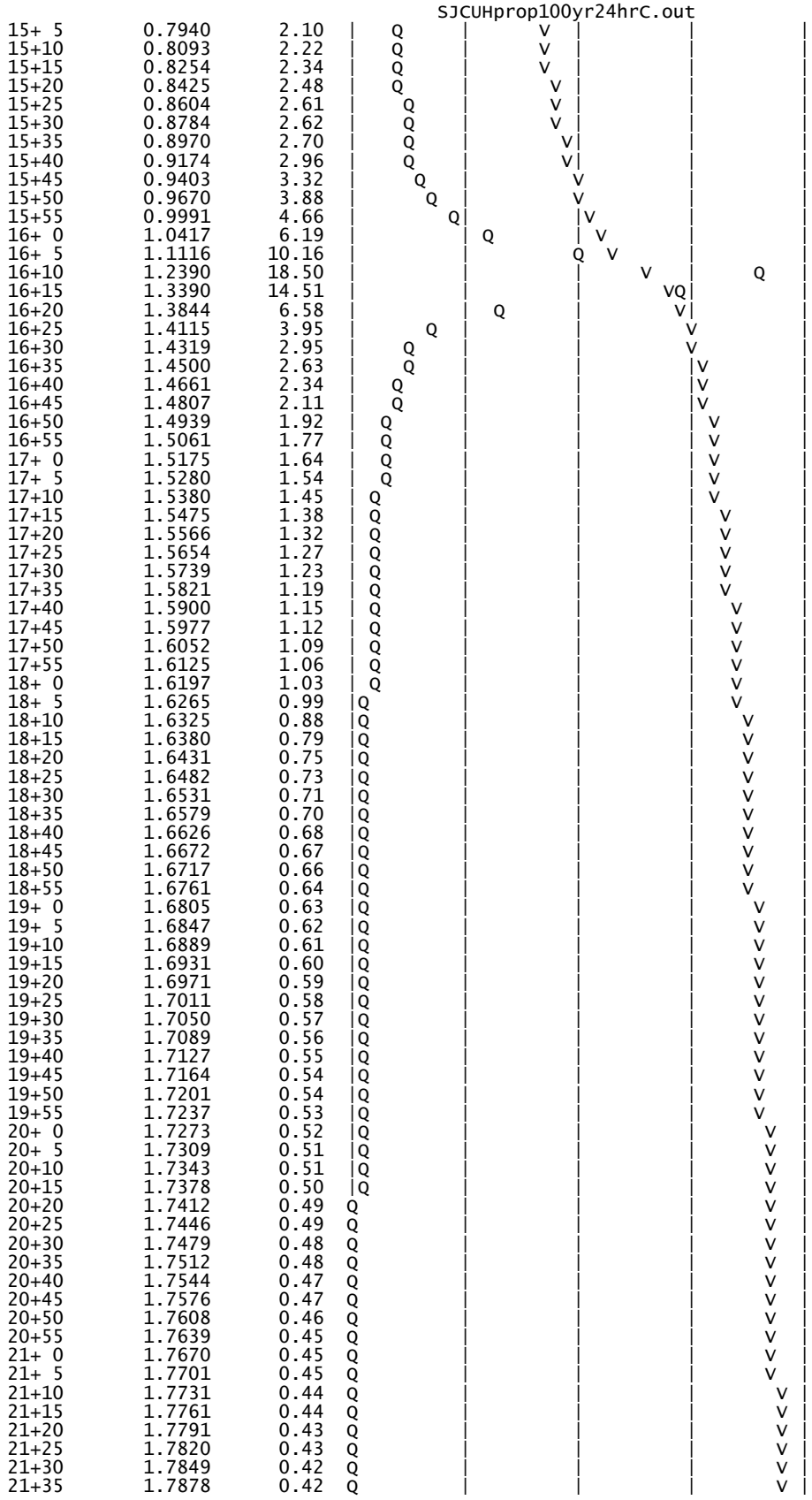
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0002	0.03	Q				
0+10	0.0014	0.18	Q				
0+15	0.0035	0.30	Q				
0+20	0.0057	0.32	Q				
0+25	0.0080	0.33	Q				
0+30	0.0102	0.33	Q				
0+35	0.0125	0.33	Q				
0+40	0.0148	0.33	Q				
0+45	0.0171	0.33	Q				
0+50	0.0194	0.34	Q				
0+55	0.0218	0.34	Q				
1+ 0	0.0241	0.34	Q				
1+ 5	0.0264	0.34	Q				
1+10	0.0288	0.34	Q				
1+15	0.0311	0.34	Q				
1+20	0.0335	0.34	Q				
1+25	0.0358	0.34	Q				
1+30	0.0382	0.34	Q				
1+35	0.0406	0.35	Q				
1+40	0.0430	0.35	Q				
1+45	0.0454	0.35	Q				
1+50	0.0478	0.35	QV				

1+55	0.0502	0.35	QV	|	|	|	|
2+ 0	0.0526	0.35	QV	|	|	|	|
2+ 5	0.0551	0.35	QV	|	|	|	|
2+10	0.0575	0.35	QV	|	|	|	|
2+15	0.0600	0.36	QV	|	|	|	|
2+20	0.0624	0.36	QV	|	|	|	|
2+25	0.0649	0.36	QV	|	|	|	|
2+30	0.0674	0.36	QV	|	|	|	|
2+35	0.0699	0.36	QV	|	|	|	|
2+40	0.0724	0.36	QV	|	|	|	|
2+45	0.0749	0.36	QV	|	|	|	|
2+50	0.0774	0.37	QV	|	|	|	|
2+55	0.0799	0.37	QV	|	|	|	|
3+ 0	0.0825	0.37	QV	|	|	|	|
3+ 5	0.0850	0.37	QV	|	|	|	|
3+10	0.0876	0.37	QV	|	|	|	|
3+15	0.0902	0.37	QV	|	|	|	|
3+20	0.0927	0.37	QV	|	|	|	|
3+25	0.0953	0.38	Q V	|	|	|	|
3+30	0.0979	0.38	Q V	|	|	|	|
3+35	0.1005	0.38	Q V	|	|	|	|
3+40	0.1032	0.38	Q V	|	|	|	|
3+45	0.1058	0.38	Q V	|	|	|	|
3+50	0.1085	0.38	Q V	|	|	|	|
3+55	0.1111	0.39	Q V	|	|	|	|
4+ 0	0.1138	0.39	Q V	|	|	|	|
4+ 5	0.1165	0.39	Q V	|	|	|	|
4+10	0.1192	0.39	Q V	|	|	|	|
4+15	0.1219	0.39	Q V	|	|	|	|
4+20	0.1246	0.39	Q V	|	|	|	|
4+25	0.1273	0.40	Q V	|	|	|	|
4+30	0.1300	0.40	Q V	|	|	|	|
4+35	0.1328	0.40	Q V	|	|	|	|
4+40	0.1356	0.40	Q V	|	|	|	|
4+45	0.1383	0.40	Q V	|	|	|	|
4+50	0.1411	0.41	Q V	|	|	|	|
4+55	0.1439	0.41	Q V	|	|	|	|
5+ 0	0.1467	0.41	Q V	|	|	|	|
5+ 5	0.1496	0.41	Q V	|	|	|	|
5+10	0.1524	0.41	Q V	|	|	|	|
5+15	0.1553	0.41	Q V	|	|	|	|
5+20	0.1581	0.42	Q V	|	|	|	|
5+25	0.1610	0.42	Q V	|	|	|	|
5+30	0.1639	0.42	Q V	|	|	|	|
5+35	0.1668	0.42	Q V	|	|	|	|
5+40	0.1698	0.43	Q V	|	|	|	|
5+45	0.1727	0.43	Q V	|	|	|	|
5+50	0.1757	0.43	Q V	|	|	|	|
5+55	0.1786	0.43	Q V	|	|	|	|
6+ 0	0.1816	0.43	Q V	|	|	|	|
6+ 5	0.1846	0.44	Q V	|	|	|	|
6+10	0.1876	0.44	Q V	|	|	|	|
6+15	0.1907	0.44	Q V	|	|	|	|
6+20	0.1937	0.44	Q V	|	|	|	|
6+25	0.1968	0.45	Q V	|	|	|	|
6+30	0.1999	0.45	Q V	|	|	|	|
6+35	0.2030	0.45	Q V	|	|	|	|
6+40	0.2061	0.45	Q V	|	|	|	|
6+45	0.2092	0.45	Q V	|	|	|	|
6+50	0.2124	0.46	Q V	|	|	|	|
6+55	0.2156	0.46	Q V	|	|	|	|
7+ 0	0.2187	0.46	Q V	|	|	|	|
7+ 5	0.2219	0.47	Q V	|	|	|	|
7+10	0.2252	0.47	Q V	|	|	|	|
7+15	0.2284	0.47	Q V	|	|	|	|
7+20	0.2317	0.47	Q V	|	|	|	|
7+25	0.2350	0.48	Q V	|	|	|	|
7+30	0.2383	0.48	Q V	|	|	|	|
7+35	0.2416	0.48	Q V	|	|	|	|
7+40	0.2449	0.49	Q V	|	|	|	|
7+45	0.2483	0.49	Q V	|	|	|	|
7+50	0.2517	0.49	Q V	|	|	|	|
7+55	0.2551	0.49	Q V	|	|	|	|
8+ 0	0.2585	0.50	Q V	|	|	|	|
8+ 5	0.2619	0.50	|Q V	|	|	|	|
8+10	0.2654	0.50	|Q V	|	|	|	|
8+15	0.2689	0.51	|Q V	|	|	|	|
8+20	0.2724	0.51	|Q V	|	|	|	|
8+25	0.2760	0.51	|Q V	|	|	|	|

```
 8+30       0.2795      0.52   |Q   V     |           |           |           |
 8+35       0.2831      0.52   |Q    V     |           |           |           |
 8+40       0.2867      0.52   |Q    V     |           |           |           |
 8+45       0.2904      0.53   |Q    V     |           |           |           |
 8+50       0.2940      0.53   |Q    V     |           |           |           |
 8+55       0.2977      0.54   |Q    V     |           |           |           |
 9+ 0       0.3014      0.54   |Q    V     |           |           |           |
 9+ 5       0.3052      0.54   |Q    V     |           |           |           |
 9+10       0.3090      0.55   |Q    V     |           |           |           |
 9+15       0.3128      0.55   |Q    V     |           |           |           |
 9+20       0.3166      0.56   |Q    V     |           |           |           |
 9+25       0.3204      0.56   |Q    V     |           |           |           |
 9+30       0.3243      0.56   |Q    V     |           |           |           |
 9+35       0.3283      0.57   |Q     V    |           |           |           |
 9+40       0.3322      0.57   |Q     V    |           |           |           |
 9+45       0.3362      0.58   |Q     V    |           |           |           |
 9+50       0.3402      0.58   |Q     V    |           |           |           |
 9+55       0.3443      0.59   |Q     V    |           |           |           |
10+ 0       0.3483      0.59   |Q     V    |           |           |           |
10+ 5       0.3525      0.60   |Q     V    |           |           |           |
10+10       0.3566      0.60   |Q     V    |           |           |           |
10+15       0.3608      0.61   |Q     V    |           |           |           |
10+20       0.3650      0.61   |Q     V    |           |           |           |
10+25       0.3693      0.62   |Q     V    |           |           |           |
10+30       0.3736      0.63   |Q      V   |           |           |           |
10+35       0.3780      0.63   |Q      V   |           |           |           |
10+40       0.3823      0.64   |Q      V   |           |           |           |
10+45       0.3868      0.64   |Q      V   |           |           |           |
10+50       0.3912      0.65   |Q      V   |           |           |           |
10+55       0.3958      0.66   |Q      V   |           |           |           |
11+ 0       0.4003      0.66   |Q      V   |           |           |           |
11+ 5       0.4049      0.67   |Q      V   |           |           |           |
11+10       0.4096      0.68   |Q      V   |           |           |           |
11+15       0.4143      0.68   |Q      V   |           |           |           |
11+20       0.4190      0.69   |Q      V   |           |           |           |
11+25       0.4238      0.70   |Q       V  |           |           |           |
11+30       0.4287      0.71   |Q       V  |           |           |           |
11+35       0.4336      0.71   |Q       V  |           |           |           |
11+40       0.4386      0.72   |Q       V  |           |           |           |
11+45       0.4436      0.73   |Q       V  |           |           |           |
11+50       0.4487      0.74   |Q       V  |           |           |           |
11+55       0.4539      0.75   |Q       V  |           |           |           |
12+ 0       0.4591      0.76   |Q       V  |           |           |           |
12+ 5       0.4645      0.79   |Q       V  |           |           |           |
12+10       0.4706      0.89   |Q        V  |           |           |           |
12+15       0.4773      0.97   |Q        V  |           |           |           |
12+20       0.4841      0.99   |Q        V  |           |           |           |
12+25       0.4911      1.01   | Q       V  |           |           |           |
12+30       0.4981      1.02   | Q       V  |           |           |           |
12+35       0.5052      1.03   | Q       V  |           |           |           |
12+40       0.5125      1.05   | Q       V  |           |           |           |
12+45       0.5198      1.06   | Q       |V  |           |           |           |
12+50       0.5272      1.08   | Q       |V  |           |           |           |
12+55       0.5347      1.09   | Q       |V  |           |           |           |
13+ 0       0.5423      1.10   | Q       |V  |           |           |           |
13+ 5       0.5500      1.12   | Q       |V  |           |           |           |
13+10       0.5578      1.14   | Q       |V  |           |           |           |
13+15       0.5658      1.15   | Q       | V  |           |           |           |
13+20       0.5738      1.17   | Q       | V  |           |           |           |
13+25       0.5820      1.19   | Q       | V  |           |           |           |
13+30       0.5904      1.21   | Q       | V  |           |           |           |
13+35       0.5988      1.23   | Q       | V  |           |           |           |
13+40       0.6075      1.25   | Q       |  V  |           |           |           |
13+45       0.6162      1.27   | Q       |  V  |           |           |           |
13+50       0.6252      1.30   | Q       |  V  |           |           |           |
13+55       0.6343      1.32   | Q       |  V  |           |           |           |
14+ 0       0.6436      1.35   | Q       |  V  |           |           |           |
14+ 5       0.6531      1.38   | Q       |   V  |           |           |           |
14+10       0.6628      1.41   | Q       |   V  |           |           |           |
14+15       0.6728      1.45   | Q       |   V  |           |           |           |
14+20       0.6830      1.49   | Q       |   V  |           |           |           |
14+25       0.6936      1.53   |  Q      |   V  |           |           |           |
14+30       0.7045      1.59   |  Q      |    V  |           |           |           |
14+35       0.7159      1.64   |  Q      |    V  |           |           |           |
14+40       0.7276      1.70   |  Q      |    V  |           |           |           |
14+45       0.7398      1.77   |  Q      |    V  |           |           |           |
14+50       0.7525      1.84   |  Q      |     V  |           |           |           |
14+55       0.7657      1.92   |  Q      |     V  |           |           |           |
15+ 0       0.7795      2.01   |   Q     |     V  |           |           |           |
```



15+ 5	0.7940	2.10	
15+10	0.8093	2.22	
15+15	0.8254	2.34	
15+20	0.8425	2.48	
15+25	0.8604	2.61	
15+30	0.8784	2.62	
15+35	0.8970	2.70	
15+40	0.9174	2.96	
15+45	0.9403	3.32	
15+50	0.9670	3.88	
15+55	0.9991	4.66	
16+ 0	1.0417	6.19	
16+ 5	1.1116	10.16	
16+10	1.2390	18.50	
16+15	1.3390	14.51	
16+20	1.3844	6.58	
16+25	1.4115	3.95	
16+30	1.4319	2.95	
16+35	1.4500	2.63	
16+40	1.4661	2.34	
16+45	1.4807	2.11	
16+50	1.4939	1.92	
16+55	1.5061	1.77	
17+ 0	1.5175	1.64	
17+ 5	1.5280	1.54	
17+10	1.5380	1.45	
17+15	1.5475	1.38	
17+20	1.5566	1.32	
17+25	1.5654	1.27	
17+30	1.5739	1.23	
17+35	1.5821	1.19	
17+40	1.5900	1.15	
17+45	1.5977	1.12	
17+50	1.6052	1.09	
17+55	1.6125	1.06	
18+ 0	1.6197	1.03	
18+ 5	1.6265	0.99	
18+10	1.6325	0.88	
18+15	1.6380	0.79	
18+20	1.6431	0.75	
18+25	1.6482	0.73	
18+30	1.6531	0.71	
18+35	1.6579	0.70	
18+40	1.6626	0.68	
18+45	1.6672	0.67	
18+50	1.6717	0.66	
18+55	1.6761	0.64	
19+ 0	1.6805	0.63	
19+ 5	1.6847	0.62	
19+10	1.6889	0.61	
19+15	1.6931	0.60	
19+20	1.6971	0.59	
19+25	1.7011	0.58	
19+30	1.7050	0.57	
19+35	1.7089	0.56	
19+40	1.7127	0.55	
19+45	1.7164	0.54	
19+50	1.7201	0.54	
19+55	1.7237	0.53	
20+ 0	1.7273	0.52	
20+ 5	1.7309	0.51	
20+10	1.7343	0.51	
20+15	1.7378	0.50	
20+20	1.7412	0.49	
20+25	1.7446	0.49	
20+30	1.7479	0.48	
20+35	1.7512	0.48	
20+40	1.7544	0.47	
20+45	1.7576	0.47	
20+50	1.7608	0.46	
20+55	1.7639	0.45	
21+ 0	1.7670	0.45	
21+ 5	1.7701	0.45	
21+10	1.7731	0.44	
21+15	1.7761	0.44	
21+20	1.7791	0.43	
21+25	1.7820	0.43	
21+30	1.7849	0.42	
21+35	1.7878	0.42	

```
   21+40       1.7907      0.41  Q          |          |          |        V |
   21+45       1.7935      0.41  Q          |          |          |        V |
   21+50       1.7963      0.41  Q          |          |          |        V |
   21+55       1.7991      0.40  Q          |          |          |        V |
   22+ 0       1.8018      0.40  Q          |          |          |        V |
   22+ 5       1.8046      0.40  Q          |          |          |        V |
   22+10       1.8073      0.39  Q          |          |          |        V |
   22+15       1.8099      0.39  Q          |          |          |        V |
   22+20       1.8126      0.39  Q          |          |          |        V |
   22+25       1.8152      0.38  Q          |          |          |        V |
   22+30       1.8178      0.38  Q          |          |          |        V |
   22+35       1.8204      0.38  Q          |          |          |         V|
   22+40       1.8230      0.37  Q          |          |          |         V|
   22+45       1.8256      0.37  Q          |          |          |         V|
   22+50       1.8281      0.37  Q          |          |          |         V|
   22+55       1.8306      0.36  Q          |          |          |         V|
   23+ 0       1.8331      0.36  Q          |          |          |         V|
   23+ 5       1.8356      0.36  Q          |          |          |         V|
   23+10       1.8380      0.36  Q          |          |          |         V|
   23+15       1.8404      0.35  Q          |          |          |         V|
   23+20       1.8429      0.35  Q          |          |          |         V|
   23+25       1.8453      0.35  Q          |          |          |         V|
   23+30       1.8476      0.35  Q          |          |          |         V|
   23+35       1.8500      0.34  Q          |          |          |         V|
   23+40       1.8524      0.34  Q          |          |          |         V|
   23+45       1.8547      0.34  Q          |          |          |         V|
   23+50       1.8570      0.34  Q          |          |          |         V|
   23+55       1.8593      0.33  Q          |          |          |         V|
   24+ 0       1.8616      0.33  Q          |          |          |         V|
   24+ 5       1.8637      0.30  Q          |          |          |         V|
   24+10       1.8647      0.15  Q          |          |          |         V|
   24+15       1.8649      0.03  Q          |          |          |         V|
   24+20       1.8650      0.01  Q          |          |          |         V|
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FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 03/22/18

112767 SJC
25-year storm 24 hour duration
Proposed condition watershed C
2017-11 EL

Program License Serial Number 6359

********** HYDROGRAPH INFORMATION **********

From study/file name: SJCUHprop25yr24hrC.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 14.220 (CFS)
Total volume = 1.428 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

++
Process from Point/Station 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
_____

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 3.02(Ft.)

Initial basin depth = 3.02 (Ft.)
Initial basin storage = 0.31 (Ac.Ft)
Initial basin outflow = 0.05 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.102	0.020	0.102	0.102
2.000	0.204	0.020	0.204	0.204
3.000	0.307	0.020	0.307	0.307
4.000	0.409	1.700	0.403	0.415
5.000	0.511	2.410	0.503	0.519
6.000	0.613	2.960	0.603	0.623
7.000	0.716	3.420	0.704	0.728
8.000	0.818	3.820	0.805	0.831
9.000	0.920	4.180	0.906	0.934

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	3.6	7.11	10.67	14.22	Depth (Ft.)
0.083	0.02	0.05	0.309	O	|	|	|	|	3.02
0.167	0.13	0.05	0.309	O	|	|	|	|	3.02
0.250	0.22	0.06	0.310	O	|	|	|	|	3.03
0.333	0.24	0.08	0.311	O	|	|	|	|	3.04
0.417	0.25	0.10	0.312	O	|	|	|	|	3.05

0.500	0.25	0.11	0.313	o				3.06
0.583	0.25	0.13	0.314	o				3.06
0.667	0.25	0.14	0.314	o				3.07
0.750	0.25	0.15	0.315	o				3.08
0.833	0.25	0.16	0.316	o				3.09
0.917	0.25	0.17	0.316	o				3.09
1.000	0.25	0.18	0.317	o				3.10
1.083	0.25	0.19	0.317	o				3.10
1.167	0.25	0.20	0.318	o				3.10
1.250	0.25	0.20	0.318	o				3.11
1.333	0.25	0.21	0.318	o				3.11
1.417	0.26	0.21	0.319	o				3.11
1.500	0.26	0.22	0.319	o				3.12
1.583	0.26	0.22	0.319	o				3.12
1.667	0.26	0.23	0.319	o				3.12
1.750	0.26	0.23	0.320	o				3.12
1.833	0.26	0.23	0.320	o				3.13
1.917	0.26	0.24	0.320	o				3.13
2.000	0.26	0.24	0.320	o				3.13
2.083	0.26	0.24	0.320	o				3.13
2.167	0.26	0.24	0.321	o				3.13
2.250	0.27	0.25	0.321	o				3.13
2.333	0.27	0.25	0.321	o				3.14
2.417	0.27	0.25	0.321	o				3.14
2.500	0.27	0.25	0.321	o				3.14
2.583	0.27	0.25	0.321	o				3.14
2.667	0.27	0.26	0.321	o				3.14
2.750	0.27	0.26	0.321	o				3.14
2.833	0.27	0.26	0.321	o				3.14
2.917	0.27	0.26	0.322	o				3.14
3.000	0.27	0.26	0.322	o				3.14
3.083	0.28	0.26	0.322	o				3.14
3.167	0.28	0.26	0.322	o				3.15
3.250	0.28	0.27	0.322	o				3.15
3.333	0.28	0.27	0.322	o				3.15
3.417	0.28	0.27	0.322	o				3.15
3.500	0.28	0.27	0.322	o				3.15
3.583	0.28	0.27	0.322	o				3.15
3.667	0.28	0.27	0.322	o				3.15
3.750	0.29	0.27	0.322	o				3.15
3.833	0.29	0.28	0.322	o				3.15
3.917	0.29	0.28	0.323	o				3.15
4.000	0.29	0.28	0.323	o				3.15
4.083	0.29	0.28	0.323	o				3.15
4.167	0.29	0.28	0.323	o				3.15
4.250	0.29	0.28	0.323	o				3.16
4.333	0.29	0.28	0.323	o				3.16
4.417	0.30	0.28	0.323	o				3.16
4.500	0.30	0.29	0.323	o				3.16
4.583	0.30	0.29	0.323	o				3.16
4.667	0.30	0.29	0.323	o				3.16
4.750	0.30	0.29	0.323	o				3.16
4.833	0.30	0.29	0.323	o				3.16
4.917	0.30	0.29	0.324	o				3.16
5.000	0.31	0.29	0.324	o				3.16
5.083	0.31	0.29	0.324	o				3.16
5.167	0.31	0.30	0.324	o				3.16
5.250	0.31	0.30	0.324	o				3.17
5.333	0.31	0.30	0.324	o				3.17
5.417	0.31	0.30	0.324	o				3.17
5.500	0.31	0.30	0.324	o				3.17
5.583	0.32	0.30	0.324	o				3.17
5.667	0.32	0.30	0.324	o				3.17
5.750	0.32	0.31	0.324	o				3.17
5.833	0.32	0.31	0.324	o				3.17
5.917	0.32	0.31	0.325	o				3.17
6.000	0.32	0.31	0.325	o				3.17
6.083	0.33	0.31	0.325	o				3.17
6.167	0.33	0.31	0.325	o				3.17
6.250	0.33	0.32	0.325	o				3.18
6.333	0.33	0.32	0.325	o				3.18
6.417	0.33	0.32	0.325	o				3.18
6.500	0.33	0.32	0.325	o				3.18
6.583	0.34	0.32	0.325	o				3.18
6.667	0.34	0.32	0.325	o				3.18
6.750	0.34	0.32	0.326	o				3.18
6.833	0.34	0.33	0.326	o				3.18
6.917	0.34	0.33	0.326	o				3.18
7.000	0.35	0.33	0.326	o				3.18

7.083	0.35	0.33	0.326	O				3.19
7.167	0.35	0.33	0.326	O				3.19
7.250	0.35	0.34	0.326	O				3.19
7.333	0.35	0.34	0.326	O				3.19
7.417	0.36	0.34	0.326	O				3.19
7.500	0.36	0.34	0.327	O				3.19
7.583	0.36	0.34	0.327	O				3.19
7.667	0.36	0.35	0.327	O				3.19
7.750	0.36	0.35	0.327	O				3.19
7.833	0.37	0.35	0.327	O				3.20
7.917	0.37	0.35	0.327	O				3.20
8.000	0.37	0.35	0.327	O				3.20
8.083	0.37	0.36	0.327	O				3.20
8.167	0.38	0.36	0.328	O				3.20
8.250	0.38	0.36	0.328	O				3.20
8.333	0.38	0.36	0.328	O				3.20
8.417	0.38	0.36	0.328	O				3.20
8.500	0.39	0.37	0.328	O				3.21
8.583	0.39	0.37	0.328	O				3.21
8.667	0.39	0.37	0.328	O				3.21
8.750	0.40	0.37	0.328	O				3.21
8.833	0.40	0.38	0.329	O				3.21
8.917	0.40	0.38	0.329	O				3.21
9.000	0.40	0.38	0.329	O				3.22
9.083	0.41	0.38	0.329	O				3.22
9.167	0.41	0.39	0.329	O				3.22
9.250	0.41	0.39	0.329	O				3.22
9.333	0.42	0.39	0.330	O				3.22
9.417	0.42	0.39	0.330	O				3.22
9.500	0.42	0.40	0.330	O				3.22
9.583	0.43	0.40	0.330	O				3.23
9.667	0.43	0.40	0.330	O				3.23
9.750	0.43	0.41	0.330	O				3.23
9.833	0.44	0.41	0.331	O				3.23
9.917	0.44	0.41	0.331	O				3.23
10.000	0.44	0.42	0.331	OI				3.24
10.083	0.45	0.42	0.331	OI				3.24
10.167	0.45	0.42	0.331	OI				3.24
10.250	0.46	0.43	0.332	OI				3.24
10.333	0.46	0.43	0.332	OI				3.24
10.417	0.46	0.43	0.332	OI				3.25
10.500	0.47	0.44	0.332	OI				3.25
10.583	0.47	0.44	0.333	OI				3.25
10.667	0.48	0.44	0.333	OI				3.25
10.750	0.48	0.45	0.333	|O				3.25
10.833	0.49	0.45	0.333	|O				3.26
10.917	0.49	0.46	0.333	|O				3.26
11.000	0.50	0.46	0.334	|O				3.26
11.083	0.50	0.46	0.334	|O				3.26
11.167	0.51	0.47	0.334	|O				3.27
11.250	0.51	0.47	0.335	|O				3.27
11.333	0.52	0.48	0.335	|O				3.27
11.417	0.52	0.48	0.335	|O				3.28
11.500	0.53	0.49	0.335	|O				3.28
11.583	0.54	0.49	0.336	|O				3.28
11.667	0.54	0.50	0.336	|O				3.28
11.750	0.55	0.50	0.336	|O				3.29
11.833	0.56	0.51	0.337	|O				3.29
11.917	0.56	0.51	0.337	|O				3.29
12.000	0.57	0.52	0.337	|O				3.30
12.083	0.59	0.53	0.338	|O				3.30
12.167	0.69	0.54	0.338	|O				3.31
12.250	0.76	0.56	0.340	|O				3.32
12.333	0.79	0.58	0.341	|O				3.33
12.417	0.80	0.60	0.342	|O				3.35
12.500	0.81	0.63	0.344	|O				3.36
12.583	0.82	0.65	0.345	|O				3.37
12.667	0.83	0.67	0.346	|O				3.38
12.750	0.84	0.68	0.347	|O				3.39
12.833	0.85	0.70	0.348	|O				3.41
12.917	0.86	0.72	0.349	|O				3.42
13.000	0.87	0.73	0.350	|O				3.42
13.083	0.89	0.75	0.351	|O				3.43
13.167	0.90	0.76	0.352	|OI				3.44
13.250	0.91	0.78	0.353	|OI				3.45
13.333	0.92	0.79	0.354	|OI				3.46
13.417	0.94	0.81	0.355	|OI				3.47
13.500	0.95	0.82	0.356	|OI				3.48
13.583	0.97	0.84	0.357	|OI				3.49

13.667	0.99	0.85	0.358	OI				3.50
13.750	1.00	0.87	0.359	OI				3.51
13.833	1.02	0.88	0.359	OI				3.51
13.917	1.04	0.90	0.360	O				3.52
14.000	1.06	0.92	0.361	O				3.53
14.083	1.08	0.93	0.362	O				3.54
14.167	1.10	0.95	0.363	O				3.55
14.250	1.12	0.97	0.364	O				3.56
14.333	1.14	0.98	0.366	O				3.57
14.417	1.17	1.00	0.367	O				3.58
14.500	1.20	1.02	0.368	O				3.60
14.583	1.24	1.04	0.369	O				3.61
14.667	1.28	1.07	0.371	O				3.62
14.750	1.34	1.09	0.372	OI				3.64
14.833	1.39	1.12	0.374	OI				3.66
14.917	1.46	1.15	0.376	OI				3.68
15.000	1.53	1.19	0.378	OI				3.70
15.083	1.60	1.23	0.381	OI				3.72
15.167	1.69	1.28	0.383	OI				3.75
15.250	1.79	1.33	0.386	O I				3.78
15.333	1.90	1.38	0.390	OI				3.81
15.417	1.99	1.44	0.393	OI				3.85
15.500	1.97	1.50	0.397	OI				3.88
15.583	1.99	1.55	0.400	OI				3.91
15.667	2.20	1.61	0.404	OI				3.95
15.750	2.50	1.69	0.408	O I				3.99
15.833	3.05	1.75	0.416	O I				4.06
15.917	3.76	1.82	0.427	O I				4.17
16.000	5.00	1.94	0.444	O	I			4.34
16.083	8.02	2.16	0.475	O		I		4.64
16.167	14.22	2.54	0.535	O			I	5.24
16.250	11.38	2.91	0.604	O		I		5.92
16.333	5.22	3.08	0.641	O	I			6.27
16.417	3.04	3.12	0.648	IO				6.34
16.500	2.25	3.10	0.645	IO				6.31
16.583	2.02	3.07	0.638	I O				6.25
16.667	1.80	3.04	0.630	I O				6.17
16.750	1.61	3.00	0.621	I O				6.08
16.833	1.46	2.95	0.611	I O				5.98
16.917	1.34	2.90	0.601	I O				5.88
17.000	1.25	2.84	0.590	I O				5.78
17.083	1.18	2.78	0.579	I O				5.67
17.167	1.13	2.72	0.568	I O				5.56
17.250	1.08	2.66	0.557	I O				5.45
17.333	1.04	2.60	0.546	I O				5.35
17.417	1.00	2.54	0.536	I O				5.24
17.500	0.97	2.49	0.525	I O				5.14
17.583	0.94	2.43	0.515	I O				5.04
17.667	0.91	2.37	0.505	I O				4.94
17.750	0.89	2.30	0.495	I O				4.84
17.833	0.86	2.23	0.485	I O				4.75
17.917	0.84	2.17	0.476	I O				4.66
18.000	0.82	2.10	0.467	I O				4.57
18.083	0.78	2.04	0.458	I O				4.48
18.167	0.68	1.98	0.449	I O				4.40
18.250	0.60	1.92	0.440	I O				4.31
18.333	0.57	1.86	0.431	I O				4.22
18.417	0.55	1.80	0.423	I O				4.13
18.500	0.54	1.74	0.414	I O				4.05
18.583	0.52	1.65	0.406	I O				3.97
18.667	0.51	1.53	0.399	I O				3.90
18.750	0.50	1.42	0.392	I O				3.83
18.833	0.49	1.32	0.386	IO				3.78
18.917	0.48	1.23	0.381	IO				3.72
19.000	0.47	1.15	0.376	IO				3.67
19.083	0.46	1.08	0.371	IO				3.63
19.167	0.46	1.01	0.367	IO				3.59
19.250	0.45	0.95	0.364	IO				3.56
19.333	0.44	0.90	0.360	I O				3.52
19.417	0.43	0.85	0.357	IO				3.49
19.500	0.43	0.80	0.355	IO				3.47
19.583	0.42	0.76	0.352	IO				3.44
19.667	0.41	0.73	0.350	IO				3.42
19.750	0.41	0.69	0.348	IO				3.40
19.833	0.40	0.66	0.346	IO				3.38
19.917	0.40	0.63	0.344	IO				3.36
20.000	0.39	0.61	0.343	IO				3.35
20.083	0.38	0.58	0.341	IO				3.34
20.167	0.38	0.56	0.340	IO				3.32

20.250	0.37	0.54	0.339	IO				3.31
20.333	0.37	0.52	0.338	IO				3.30
20.417	0.36	0.51	0.337	IO				3.29
20.500	0.36	0.49	0.336	IO				3.28
20.583	0.36	0.48	0.335	IO				3.27
20.667	0.35	0.46	0.334	IO				3.26
20.750	0.35	0.45	0.333	IO				3.26
20.833	0.34	0.44	0.333	O				3.25
20.917	0.34	0.43	0.332	O				3.24
21.000	0.34	0.42	0.331	O				3.24
21.083	0.33	0.41	0.331	O				3.23
21.167	0.33	0.40	0.330	O				3.23
21.250	0.33	0.39	0.330	O				3.22
21.333	0.32	0.39	0.329	O				3.22
21.417	0.32	0.38	0.329	O				3.21
21.500	0.32	0.37	0.328	O				3.21
21.583	0.31	0.37	0.328	O				3.21
21.667	0.31	0.36	0.328	O				3.20
21.750	0.31	0.35	0.327	O				3.20
21.833	0.30	0.35	0.327	O				3.20
21.917	0.30	0.34	0.327	O				3.19
22.000	0.30	0.34	0.326	O				3.19
22.083	0.30	0.34	0.326	O				3.19
22.167	0.29	0.33	0.326	O				3.18
22.250	0.29	0.33	0.326	O				3.18
22.333	0.29	0.32	0.325	O				3.18
22.417	0.29	0.32	0.325	O				3.18
22.500	0.28	0.31	0.325	O				3.18
22.583	0.28	0.31	0.325	O				3.17
22.667	0.28	0.31	0.324	O				3.17
22.750	0.28	0.30	0.324	O				3.17
22.833	0.27	0.30	0.324	O				3.17
22.917	0.27	0.30	0.324	O				3.17
23.000	0.27	0.30	0.324	O				3.16
23.083	0.27	0.29	0.324	O				3.16
23.167	0.27	0.29	0.323	O				3.16
23.250	0.26	0.29	0.323	O				3.16
23.333	0.26	0.28	0.323	O				3.16
23.417	0.26	0.28	0.323	O				3.16
23.500	0.26	0.28	0.323	O				3.15
23.583	0.26	0.28	0.323	O				3.15
23.667	0.25	0.27	0.322	O				3.15
23.750	0.25	0.27	0.322	O				3.15
23.833	0.25	0.27	0.322	O				3.15
23.917	0.25	0.27	0.322	O				3.15
24.000	0.25	0.27	0.322	O				3.15
24.083	0.22	0.26	0.322	O				3.14
24.167	0.11	0.25	0.321	O				3.14
24.250	0.03	0.23	0.320	O				3.13
24.333	0.00	0.21	0.318	O				3.11
24.417	0.00	0.19	0.317	O				3.10
24.500	0.00	0.17	0.316	O				3.09
24.583	0.00	0.15	0.315	O				3.08
24.667	0.00	0.13	0.314	O				3.07
24.750	0.00	0.12	0.313	O				3.06
24.833	0.00	0.11	0.312	O				3.05
24.917	0.00	0.09	0.312	O				3.04
25.000	0.00	0.08	0.311	O				3.04
25.083	0.00	0.08	0.310	O				3.03
25.167	0.00	0.07	0.310	O				3.03
25.250	0.00	0.06	0.309	O				3.02
25.333	0.00	0.05	0.309	O				3.02
25.417	0.00	0.05	0.309	O				3.02
25.500	0.00	0.04	0.308	O				3.01
25.583	0.00	0.04	0.308	O				3.01
25.667	0.00	0.03	0.308	O				3.01
25.750	0.00	0.03	0.308	O				3.01
25.833	0.00	0.03	0.307	O				3.00
25.917	0.00	0.02	0.307	O				3.00
26.000	0.00	0.02	0.307	O				3.00
26.083	0.00	0.02	0.307	O				3.00
26.167	0.00	0.02	0.307	O				3.00
26.250	0.00	0.02	0.307	O				3.00
26.333	0.00	0.02	0.307	O				3.00
26.417	0.00	0.02	0.306	O				2.99
26.500	0.00	0.02	0.306	O				2.99
26.583	0.00	0.02	0.306	O				2.99
26.667	0.00	0.02	0.306	O				2.99
26.750	0.00	0.02	0.306	O				2.99

26.833	0.00	0.02	0.306	o				2.99
26.917	0.00	0.02	0.306	o				2.99
27.000	0.00	0.02	0.305	o				2.98
27.083	0.00	0.02	0.305	o				2.98
27.167	0.00	0.02	0.305	o				2.98
27.250	0.00	0.02	0.305	o				2.98
27.333	0.00	0.02	0.305	o				2.98
27.417	0.00	0.02	0.305	o				2.98
27.500	0.00	0.02	0.305	o				2.98
27.583	0.00	0.02	0.304	o				2.98
27.667	0.00	0.02	0.304	o				2.97
27.750	0.00	0.02	0.304	o				2.97
27.833	0.00	0.02	0.304	o				2.97
27.917	0.00	0.02	0.304	o				2.97
28.000	0.00	0.02	0.304	o				2.97
28.083	0.00	0.02	0.304	o				2.97
28.167	0.00	0.02	0.304	o				2.97
28.250	0.00	0.02	0.303	o				2.96
28.333	0.00	0.02	0.303	o				2.96
28.417	0.00	0.02	0.303	o				2.96
28.500	0.00	0.02	0.303	o				2.96
28.583	0.00	0.02	0.303	o				2.96
28.667	0.00	0.02	0.303	o				2.96
28.750	0.00	0.02	0.303	o				2.96
28.833	0.00	0.02	0.302	o				2.96
28.917	0.00	0.02	0.302	o				2.95
29.000	0.00	0.02	0.302	o				2.95
29.083	0.00	0.02	0.302	o				2.95
29.167	0.00	0.02	0.302	o				2.95
29.250	0.00	0.02	0.302	o				2.95
29.333	0.00	0.02	0.302	o				2.95
29.417	0.00	0.02	0.301	o				2.95
29.500	0.00	0.02	0.301	o				2.94
29.583	0.00	0.02	0.301	o				2.94
29.667	0.00	0.02	0.301	o				2.94
29.750	0.00	0.02	0.301	o				2.94
29.833	0.00	0.02	0.301	o				2.94
29.917	0.00	0.02	0.301	o				2.94
30.000	0.00	0.02	0.300	o				2.94
30.083	0.00	0.02	0.300	o				2.94
30.167	0.00	0.02	0.300	o				2.93
30.250	0.00	0.02	0.300	o				2.93
30.333	0.00	0.02	0.300	o				2.93
30.417	0.00	0.02	0.300	o				2.93
30.500	0.00	0.02	0.300	o				2.93
30.583	0.00	0.02	0.300	o				2.93
30.667	0.00	0.02	0.299	o				2.93
30.750	0.00	0.02	0.299	o				2.92
30.833	0.00	0.02	0.299	o				2.92
30.917	0.00	0.02	0.299	o				2.92
31.000	0.00	0.02	0.299	o				2.92
31.083	0.00	0.02	0.299	o				2.92
31.167	0.00	0.02	0.299	o				2.92
31.250	0.00	0.02	0.298	o				2.92
31.333	0.00	0.02	0.298	o				2.92
31.417	0.00	0.02	0.298	o				2.91
31.500	0.00	0.02	0.298	o				2.91
31.583	0.00	0.02	0.298	o				2.91
31.667	0.00	0.02	0.298	o				2.91
31.750	0.00	0.02	0.298	o				2.91
31.833	0.00	0.02	0.297	o				2.91
31.917	0.00	0.02	0.297	o				2.91
32.000	0.00	0.02	0.297	o				2.90
32.083	0.00	0.02	0.297	o				2.90
32.167	0.00	0.02	0.297	o				2.90
32.250	0.00	0.02	0.297	o				2.90
32.333	0.00	0.02	0.297	o				2.90
32.417	0.00	0.02	0.296	o				2.90
32.500	0.00	0.02	0.296	o				2.90
32.583	0.00	0.02	0.296	o				2.90
32.667	0.00	0.02	0.296	o				2.89
32.750	0.00	0.02	0.296	o				2.89
32.833	0.00	0.02	0.296	o				2.89
32.917	0.00	0.02	0.296	o				2.89
33.000	0.00	0.02	0.296	o				2.89
33.083	0.00	0.02	0.295	o				2.89
33.167	0.00	0.02	0.295	o				2.89
33.250	0.00	0.02	0.295	o				2.88
33.333	0.00	0.02	0.295	o				2.88

33.417	0.00	0.02	0.295	o				2.88
33.500	0.00	0.02	0.295	o				2.88
33.583	0.00	0.02	0.295	o				2.88
33.667	0.00	0.02	0.294	o				2.88
33.750	0.00	0.02	0.294	o				2.88
33.833	0.00	0.02	0.294	o				2.88
33.917	0.00	0.02	0.294	o				2.87
34.000	0.00	0.02	0.294	o				2.87
34.083	0.00	0.02	0.294	o				2.87
34.167	0.00	0.02	0.294	o				2.87
34.250	0.00	0.02	0.293	o				2.87
34.333	0.00	0.02	0.293	o				2.87
34.417	0.00	0.02	0.293	o				2.87
34.500	0.00	0.02	0.293	o				2.86
34.583	0.00	0.02	0.293	o				2.86
34.667	0.00	0.02	0.293	o				2.86
34.750	0.00	0.02	0.293	o				2.86
34.833	0.00	0.02	0.292	o				2.86
34.917	0.00	0.02	0.292	o				2.86
35.000	0.00	0.02	0.292	o				2.86
35.083	0.00	0.02	0.292	o				2.86
35.167	0.00	0.02	0.292	o				2.85
35.250	0.00	0.02	0.292	o				2.85
35.333	0.00	0.02	0.292	o				2.85
35.417	0.00	0.02	0.292	o				2.85
35.500	0.00	0.02	0.291	o				2.85
35.583	0.00	0.02	0.291	o				2.85
35.667	0.00	0.02	0.291	o				2.85
35.750	0.00	0.02	0.291	o				2.84
35.833	0.00	0.02	0.291	o				2.84
35.917	0.00	0.02	0.291	o				2.84
36.000	0.00	0.02	0.291	o				2.84
36.083	0.00	0.02	0.290	o				2.84
36.167	0.00	0.02	0.290	o				2.84
36.250	0.00	0.02	0.290	o				2.84
36.333	0.00	0.02	0.290	o				2.84
36.417	0.00	0.02	0.290	o				2.83
36.500	0.00	0.02	0.290	o				2.83
36.583	0.00	0.02	0.290	o				2.83
36.667	0.00	0.02	0.289	o				2.83
36.750	0.00	0.02	0.289	o				2.83
36.833	0.00	0.02	0.289	o				2.83
36.917	0.00	0.02	0.289	o				2.83
37.000	0.00	0.02	0.289	o				2.82
37.083	0.00	0.02	0.289	o				2.82
37.167	0.00	0.02	0.289	o				2.82
37.250	0.00	0.02	0.288	o				2.82
37.333	0.00	0.02	0.288	o				2.82
37.417	0.00	0.02	0.288	o				2.82
37.500	0.00	0.02	0.288	o				2.82
37.583	0.00	0.02	0.288	o				2.82
37.667	0.00	0.02	0.288	o				2.81
37.750	0.00	0.02	0.288	o				2.81
37.833	0.00	0.02	0.288	o				2.81
37.917	0.00	0.02	0.287	o				2.81
38.000	0.00	0.02	0.287	o				2.81
38.083	0.00	0.02	0.287	o				2.81
38.167	0.00	0.02	0.287	o				2.81
38.250	0.00	0.02	0.287	o				2.80
38.333	0.00	0.02	0.287	o				2.80
38.417	0.00	0.02	0.287	o				2.80
38.500	0.00	0.02	0.286	o				2.80
38.583	0.00	0.02	0.286	o				2.80
38.667	0.00	0.02	0.286	o				2.80
38.750	0.00	0.02	0.286	o				2.80
38.833	0.00	0.02	0.286	o				2.79
38.917	0.00	0.02	0.286	o				2.79
39.000	0.00	0.02	0.286	o				2.79
39.083	0.00	0.02	0.285	o				2.79
39.167	0.00	0.02	0.285	o				2.79
39.250	0.00	0.02	0.285	o				2.79
39.333	0.00	0.02	0.285	o				2.79
39.417	0.00	0.02	0.285	o				2.79
39.500	0.00	0.02	0.285	o				2.78
39.583	0.00	0.02	0.285	o				2.78
39.667	0.00	0.02	0.285	o				2.78
39.750	0.00	0.02	0.284	o				2.78
39.833	0.00	0.02	0.284	o				2.78
39.917	0.00	0.02	0.284	o				2.78

40.000	0.00	0.02	0.284	o				2.78
40.083	0.00	0.02	0.284	o				2.77
40.167	0.00	0.02	0.284	o				2.77
40.250	0.00	0.02	0.284	o				2.77
40.333	0.00	0.02	0.283	o				2.77
40.417	0.00	0.02	0.283	o				2.77
40.500	0.00	0.02	0.283	o				2.77
40.583	0.00	0.02	0.283	o				2.77
40.667	0.00	0.02	0.283	o				2.77
40.750	0.00	0.02	0.283	o				2.76
40.833	0.00	0.02	0.283	o				2.76
40.917	0.00	0.02	0.282	o				2.76
41.000	0.00	0.02	0.282	o				2.76
41.083	0.00	0.02	0.282	o				2.76
41.167	0.00	0.02	0.282	o				2.76
41.250	0.00	0.02	0.282	o				2.76
41.333	0.00	0.02	0.282	o				2.75
41.417	0.00	0.02	0.282	o				2.75
41.500	0.00	0.02	0.281	o				2.75
41.583	0.00	0.02	0.281	o				2.75
41.667	0.00	0.02	0.281	o				2.75
41.750	0.00	0.02	0.281	o				2.75
41.833	0.00	0.02	0.281	o				2.75
41.917	0.00	0.02	0.281	o				2.75
42.000	0.00	0.02	0.281	o				2.74
42.083	0.00	0.02	0.281	o				2.74
42.167	0.00	0.02	0.280	o				2.74
42.250	0.00	0.02	0.280	o				2.74
42.333	0.00	0.02	0.280	o				2.74
42.417	0.00	0.02	0.280	o				2.74
42.500	0.00	0.02	0.280	o				2.74
42.583	0.00	0.02	0.280	o				2.73
42.667	0.00	0.02	0.280	o				2.73
42.750	0.00	0.02	0.279	o				2.73
42.833	0.00	0.02	0.279	o				2.73
42.917	0.00	0.02	0.279	o				2.73
43.000	0.00	0.02	0.279	o				2.73
43.083	0.00	0.02	0.279	o				2.73
43.167	0.00	0.02	0.279	o				2.73
43.250	0.00	0.02	0.279	o				2.72
43.333	0.00	0.02	0.278	o				2.72
43.417	0.00	0.02	0.278	o				2.72
43.500	0.00	0.02	0.278	o				2.72
43.583	0.00	0.02	0.278	o				2.72
43.667	0.00	0.02	0.278	o				2.72
43.750	0.00	0.02	0.278	o				2.72
43.833	0.00	0.02	0.278	o				2.71
43.917	0.00	0.02	0.277	o				2.71
44.000	0.00	0.02	0.277	o				2.71
44.083	0.00	0.02	0.277	o				2.71
44.167	0.00	0.02	0.277	o				2.71
44.250	0.00	0.02	0.277	o				2.71
44.333	0.00	0.02	0.277	o				2.71
44.417	0.00	0.02	0.277	o				2.71
44.500	0.00	0.02	0.277	o				2.70
44.583	0.00	0.02	0.276	o				2.70
44.667	0.00	0.02	0.276	o				2.70
44.750	0.00	0.02	0.276	o				2.70
44.833	0.00	0.02	0.276	o				2.70
44.917	0.00	0.02	0.276	o				2.70
45.000	0.00	0.02	0.276	o				2.70
45.083	0.00	0.02	0.276	o				2.69
45.167	0.00	0.02	0.275	o				2.69
45.250	0.00	0.02	0.275	o				2.69
45.333	0.00	0.02	0.275	o				2.69
45.417	0.00	0.02	0.275	o				2.69
45.500	0.00	0.02	0.275	o				2.69
45.583	0.00	0.02	0.275	o				2.69
45.667	0.00	0.02	0.275	o				2.69
45.750	0.00	0.02	0.274	o				2.68
45.833	0.00	0.02	0.274	o				2.68
45.917	0.00	0.02	0.274	o				2.68
46.000	0.00	0.02	0.274	o				2.68
46.083	0.00	0.02	0.274	o				2.68
46.167	0.00	0.02	0.274	o				2.68
46.250	0.00	0.02	0.274	o				2.68
46.333	0.00	0.02	0.273	o				2.67
46.417	0.00	0.02	0.273	o				2.67
46.500	0.00	0.02	0.273	o				2.67

46.583	0.00	0.02	0.273	o				2.67
46.667	0.00	0.02	0.273	o				2.67
46.750	0.00	0.02	0.273	o				2.67
46.833	0.00	0.02	0.273	o				2.67
46.917	0.00	0.02	0.273	o				2.67
47.000	0.00	0.02	0.272	o				2.66
47.083	0.00	0.02	0.272	o				2.66
47.167	0.00	0.02	0.272	o				2.66
47.250	0.00	0.02	0.272	o				2.66
47.333	0.00	0.02	0.272	o				2.66
47.417	0.00	0.02	0.272	o				2.66
47.500	0.00	0.02	0.272	o				2.66
47.583	0.00	0.02	0.271	o				2.65
47.667	0.00	0.02	0.271	o				2.65
47.750	0.00	0.02	0.271	o				2.65
47.833	0.00	0.02	0.271	o				2.65
47.917	0.00	0.02	0.271	o				2.65
48.000	0.00	0.02	0.271	o				2.65
48.083	0.00	0.02	0.271	o				2.65
48.167	0.00	0.02	0.270	o				2.65
48.250	0.00	0.02	0.270	o				2.64
48.333	0.00	0.02	0.270	o				2.64
48.417	0.00	0.02	0.270	o				2.64
48.500	0.00	0.02	0.270	o				2.64
48.583	0.00	0.02	0.270	o				2.64
48.667	0.00	0.02	0.270	o				2.64
48.750	0.00	0.02	0.269	o				2.64
48.833	0.00	0.02	0.269	o				2.63
48.917	0.00	0.02	0.269	o				2.63
49.000	0.00	0.02	0.269	o				2.63
49.083	0.00	0.02	0.269	o				2.63
49.167	0.00	0.02	0.269	o				2.63
49.250	0.00	0.02	0.269	o				2.63
49.333	0.00	0.02	0.269	o				2.63
49.417	0.00	0.02	0.268	o				2.63
49.500	0.00	0.02	0.268	o				2.62
49.583	0.00	0.02	0.268	o				2.62
49.667	0.00	0.02	0.268	o				2.62
49.750	0.00	0.02	0.268	o				2.62
49.833	0.00	0.02	0.268	o				2.62
49.917	0.00	0.02	0.268	o				2.62
50.000	0.00	0.02	0.267	o				2.62
50.083	0.00	0.02	0.267	o				2.61
50.167	0.00	0.02	0.267	o				2.61
50.250	0.00	0.02	0.267	o				2.61
50.333	0.00	0.02	0.267	o				2.61
50.417	0.00	0.02	0.267	o				2.61
50.500	0.00	0.02	0.267	o				2.61
50.583	0.00	0.02	0.266	o				2.61
50.667	0.00	0.02	0.266	o				2.61
50.750	0.00	0.02	0.266	o				2.60
50.833	0.00	0.02	0.266	o				2.60
50.917	0.00	0.02	0.266	o				2.60
51.000	0.00	0.02	0.266	o				2.60
51.083	0.00	0.02	0.266	o				2.60
51.167	0.00	0.02	0.265	o				2.60
51.250	0.00	0.02	0.265	o				2.60
51.333	0.00	0.02	0.265	o				2.59
51.417	0.00	0.02	0.265	o				2.59
51.500	0.00	0.02	0.265	o				2.59
51.583	0.00	0.02	0.265	o				2.59
51.667	0.00	0.02	0.265	o				2.59
51.750	0.00	0.02	0.265	o				2.59
51.833	0.00	0.02	0.264	o				2.59
51.917	0.00	0.02	0.264	o				2.59
52.000	0.00	0.02	0.264	o				2.58
52.083	0.00	0.02	0.264	o				2.58
52.167	0.00	0.02	0.264	o				2.58
52.250	0.00	0.02	0.264	o				2.58
52.333	0.00	0.02	0.264	o				2.58
52.417	0.00	0.02	0.263	o				2.58
52.500	0.00	0.02	0.263	o				2.58
52.583	0.00	0.02	0.263	o				2.57
52.667	0.00	0.02	0.263	o				2.57
52.750	0.00	0.02	0.263	o				2.57
52.833	0.00	0.02	0.263	o				2.57
52.917	0.00	0.02	0.263	o				2.57
53.000	0.00	0.02	0.262	o				2.57
53.083	0.00	0.02	0.262	o				2.57

53.167	0.00	0.02	0.262	o				2.56
53.250	0.00	0.02	0.262	o				2.56
53.333	0.00	0.02	0.262	o				2.56
53.417	0.00	0.02	0.262	o				2.56
53.500	0.00	0.02	0.262	o				2.56
53.583	0.00	0.02	0.262	o				2.56
53.667	0.00	0.02	0.261	o				2.56
53.750	0.00	0.02	0.261	o				2.56
53.833	0.00	0.02	0.261	o				2.55
53.917	0.00	0.02	0.261	o				2.55
54.000	0.00	0.02	0.261	o				2.55
54.083	0.00	0.02	0.261	o				2.55
54.167	0.00	0.02	0.261	o				2.55
54.250	0.00	0.02	0.260	o				2.55
54.333	0.00	0.02	0.260	o				2.55
54.417	0.00	0.02	0.260	o				2.54
54.500	0.00	0.02	0.260	o				2.54
54.583	0.00	0.02	0.260	o				2.54
54.667	0.00	0.02	0.260	o				2.54
54.750	0.00	0.02	0.260	o				2.54
54.833	0.00	0.02	0.259	o				2.54
54.917	0.00	0.02	0.259	o				2.54
55.000	0.00	0.02	0.259	o				2.54
55.083	0.00	0.02	0.259	o				2.53
55.167	0.00	0.02	0.259	o				2.53
55.250	0.00	0.02	0.259	o				2.53
55.333	0.00	0.02	0.259	o				2.53
55.417	0.00	0.02	0.258	o				2.53
55.500	0.00	0.02	0.258	o				2.53
55.583	0.00	0.02	0.258	o				2.53
55.667	0.00	0.02	0.258	o				2.52
55.750	0.00	0.02	0.258	o				2.52
55.833	0.00	0.02	0.258	o				2.52
55.917	0.00	0.02	0.258	o				2.52
56.000	0.00	0.02	0.258	o				2.52
56.083	0.00	0.02	0.257	o				2.52
56.167	0.00	0.02	0.257	o				2.52
56.250	0.00	0.02	0.257	o				2.52
56.333	0.00	0.02	0.257	o				2.51
56.417	0.00	0.02	0.257	o				2.51
56.500	0.00	0.02	0.257	o				2.51
56.583	0.00	0.02	0.257	o				2.51
56.667	0.00	0.02	0.256	o				2.51
56.750	0.00	0.02	0.256	o				2.51
56.833	0.00	0.02	0.256	o				2.51
56.917	0.00	0.02	0.256	o				2.50
57.000	0.00	0.02	0.256	o				2.50
57.083	0.00	0.02	0.256	o				2.50
57.167	0.00	0.02	0.256	o				2.50
57.250	0.00	0.02	0.255	o				2.50
57.333	0.00	0.02	0.255	o				2.50
57.417	0.00	0.02	0.255	o				2.50
57.500	0.00	0.02	0.255	o				2.50
57.583	0.00	0.02	0.255	o				2.49
57.667	0.00	0.02	0.255	o				2.49
57.750	0.00	0.02	0.255	o				2.49
57.833	0.00	0.02	0.254	o				2.49
57.917	0.00	0.02	0.254	o				2.49
58.000	0.00	0.02	0.254	o				2.49
58.083	0.00	0.02	0.254	o				2.49
58.167	0.00	0.02	0.254	o				2.48
58.250	0.00	0.02	0.254	o				2.48
58.333	0.00	0.02	0.254	o				2.48
58.417	0.00	0.02	0.254	o				2.48
58.500	0.00	0.02	0.253	o				2.48
58.583	0.00	0.02	0.253	o				2.48
58.667	0.00	0.02	0.253	o				2.48
58.750	0.00	0.02	0.253	o				2.48
58.833	0.00	0.02	0.253	o				2.47
58.917	0.00	0.02	0.253	o				2.47
59.000	0.00	0.02	0.253	o				2.47
59.083	0.00	0.02	0.252	o				2.47
59.167	0.00	0.02	0.252	o				2.47
59.250	0.00	0.02	0.252	o				2.47
59.333	0.00	0.02	0.252	o				2.47
59.417	0.00	0.02	0.252	o				2.46
59.500	0.00	0.02	0.252	o				2.46
59.583	0.00	0.02	0.252	o				2.46
59.667	0.00	0.02	0.251	o				2.46

59.750	0.00	0.02	0.251	o				2.46
59.833	0.00	0.02	0.251	o				2.46
59.917	0.00	0.02	0.251	o				2.46
60.000	0.00	0.02	0.251	o				2.46
60.083	0.00	0.02	0.251	o				2.45
60.167	0.00	0.02	0.251	o				2.45
60.250	0.00	0.02	0.250	o				2.45
60.333	0.00	0.02	0.250	o				2.45
60.417	0.00	0.02	0.250	o				2.45
60.500	0.00	0.02	0.250	o				2.45
60.583	0.00	0.02	0.250	o				2.45
60.667	0.00	0.02	0.250	o				2.44
60.750	0.00	0.02	0.250	o				2.44
60.833	0.00	0.02	0.250	o				2.44
60.917	0.00	0.02	0.249	o				2.44
61.000	0.00	0.02	0.249	o				2.44
61.083	0.00	0.02	0.249	o				2.44
61.167	0.00	0.02	0.249	o				2.44
61.250	0.00	0.02	0.249	o				2.44
61.333	0.00	0.02	0.249	o				2.43
61.417	0.00	0.02	0.249	o				2.43
61.500	0.00	0.02	0.248	o				2.43
61.583	0.00	0.02	0.248	o				2.43
61.667	0.00	0.02	0.248	o				2.43
61.750	0.00	0.02	0.248	o				2.43
61.833	0.00	0.02	0.248	o				2.43
61.917	0.00	0.02	0.248	o				2.42
62.000	0.00	0.02	0.248	o				2.42
62.083	0.00	0.02	0.247	o				2.42
62.167	0.00	0.02	0.247	o				2.42
62.250	0.00	0.02	0.247	o				2.42
62.333	0.00	0.02	0.247	o				2.42
62.417	0.00	0.02	0.247	o				2.42
62.500	0.00	0.02	0.247	o				2.42
62.583	0.00	0.02	0.247	o				2.41
62.667	0.00	0.02	0.246	o				2.41
62.750	0.00	0.02	0.246	o				2.41
62.833	0.00	0.02	0.246	o				2.41
62.917	0.00	0.02	0.246	o				2.41
63.000	0.00	0.02	0.246	o				2.41
63.083	0.00	0.02	0.246	o				2.41
63.167	0.00	0.02	0.246	o				2.40
63.250	0.00	0.02	0.246	o				2.40
63.333	0.00	0.02	0.245	o				2.40
63.417	0.00	0.02	0.245	o				2.40
63.500	0.00	0.02	0.245	o				2.40
63.583	0.00	0.02	0.245	o				2.40
63.667	0.00	0.02	0.245	o				2.40
63.750	0.00	0.02	0.245	o				2.40
63.833	0.00	0.02	0.245	o				2.39
63.917	0.00	0.02	0.244	o				2.39
64.000	0.00	0.02	0.244	o				2.39
64.083	0.00	0.02	0.244	o				2.39
64.167	0.00	0.02	0.244	o				2.39
64.250	0.00	0.02	0.244	o				2.39
64.333	0.00	0.02	0.244	o				2.39
64.417	0.00	0.02	0.244	o				2.38
64.500	0.00	0.02	0.243	o				2.38
64.583	0.00	0.02	0.243	o				2.38
64.667	0.00	0.02	0.243	o				2.38
64.750	0.00	0.02	0.243	o				2.38
64.833	0.00	0.02	0.243	o				2.38
64.917	0.00	0.02	0.243	o				2.38
65.000	0.00	0.02	0.243	o				2.38
65.083	0.00	0.02	0.242	o				2.37
65.167	0.00	0.02	0.242	o				2.37
65.250	0.00	0.02	0.242	o				2.37
65.333	0.00	0.02	0.242	o				2.37
65.417	0.00	0.02	0.242	o				2.37
65.500	0.00	0.02	0.242	o				2.37
65.583	0.00	0.02	0.242	o				2.37
65.667	0.00	0.02	0.242	o				2.36
65.750	0.00	0.02	0.241	o				2.36
65.833	0.00	0.02	0.241	o				2.36
65.917	0.00	0.02	0.241	o				2.36
66.000	0.00	0.02	0.241	o				2.36
66.083	0.00	0.02	0.241	o				2.36
66.167	0.00	0.02	0.241	o				2.36
66.250	0.00	0.02	0.241	o				2.35

66.333	0.00	0.02	0.240	o				2.35
66.417	0.00	0.02	0.240	o				2.35
66.500	0.00	0.02	0.240	o				2.35
66.583	0.00	0.02	0.240	o				2.35
66.667	0.00	0.02	0.240	o				2.35
66.750	0.00	0.02	0.240	o				2.35
66.833	0.00	0.02	0.240	o				2.35
66.917	0.00	0.02	0.239	o				2.34
67.000	0.00	0.02	0.239	o				2.34
67.083	0.00	0.02	0.239	o				2.34
67.167	0.00	0.02	0.239	o				2.34
67.250	0.00	0.02	0.239	o				2.34
67.333	0.00	0.02	0.239	o				2.34
67.417	0.00	0.02	0.239	o				2.34
67.500	0.00	0.02	0.238	o				2.33
67.583	0.00	0.02	0.238	o				2.33
67.667	0.00	0.02	0.238	o				2.33
67.750	0.00	0.02	0.238	o				2.33
67.833	0.00	0.02	0.238	o				2.33
67.917	0.00	0.02	0.238	o				2.33
68.000	0.00	0.02	0.238	o				2.33
68.083	0.00	0.02	0.238	o				2.33
68.167	0.00	0.02	0.237	o				2.32
68.250	0.00	0.02	0.237	o				2.32
68.333	0.00	0.02	0.237	o				2.32
68.417	0.00	0.02	0.237	o				2.32
68.500	0.00	0.02	0.237	o				2.32
68.583	0.00	0.02	0.237	o				2.32
68.667	0.00	0.02	0.237	o				2.32
68.750	0.00	0.02	0.236	o				2.31
68.833	0.00	0.02	0.236	o				2.31
68.917	0.00	0.02	0.236	o				2.31
69.000	0.00	0.02	0.236	o				2.31
69.083	0.00	0.02	0.236	o				2.31
69.167	0.00	0.02	0.236	o				2.31
69.250	0.00	0.02	0.236	o				2.31
69.333	0.00	0.02	0.235	o				2.31
69.417	0.00	0.02	0.235	o				2.30
69.500	0.00	0.02	0.235	o				2.30
69.583	0.00	0.02	0.235	o				2.30
69.667	0.00	0.02	0.235	o				2.30
69.750	0.00	0.02	0.235	o				2.30
69.833	0.00	0.02	0.235	o				2.30
69.917	0.00	0.02	0.235	o				2.30
70.000	0.00	0.02	0.234	o				2.29
70.083	0.00	0.02	0.234	o				2.29
70.167	0.00	0.02	0.234	o				2.29
70.250	0.00	0.02	0.234	o				2.29
70.333	0.00	0.02	0.234	o				2.29
70.417	0.00	0.02	0.234	o				2.29
70.500	0.00	0.02	0.234	o				2.29
70.583	0.00	0.02	0.233	o				2.29
70.667	0.00	0.02	0.233	o				2.28
70.750	0.00	0.02	0.233	o				2.28
70.833	0.00	0.02	0.233	o				2.28
70.917	0.00	0.02	0.233	o				2.28
71.000	0.00	0.02	0.233	o				2.28
71.083	0.00	0.02	0.233	o				2.28
71.167	0.00	0.02	0.232	o				2.28
71.250	0.00	0.02	0.232	o				2.27
71.333	0.00	0.02	0.232	o				2.27
71.417	0.00	0.02	0.232	o				2.27
71.500	0.00	0.02	0.232	o				2.27
71.583	0.00	0.02	0.232	o				2.27
71.667	0.00	0.02	0.232	o				2.27
71.750	0.00	0.02	0.231	o				2.27
71.833	0.00	0.02	0.231	o				2.27
71.917	0.00	0.02	0.231	o				2.26
72.000	0.00	0.02	0.231	o				2.26
72.083	0.00	0.02	0.231	o				2.26
72.167	0.00	0.02	0.231	o				2.26
72.250	0.00	0.02	0.231	o				2.26
72.333	0.00	0.02	0.231	o				2.26
72.417	0.00	0.02	0.230	o				2.26
72.500	0.00	0.02	0.230	o				2.25
72.583	0.00	0.02	0.230	o				2.25
72.667	0.00	0.02	0.230	o				2.25
72.750	0.00	0.02	0.230	o				2.25
72.833	0.00	0.02	0.230	o				2.25

72.917	0.00	0.02	0.230	o				2.25
73.000	0.00	0.02	0.229	o				2.25
73.083	0.00	0.02	0.229	o				2.25
73.167	0.00	0.02	0.229	o				2.24
73.250	0.00	0.02	0.229	o				2.24
73.333	0.00	0.02	0.229	o				2.24
73.417	0.00	0.02	0.229	o				2.24
73.500	0.00	0.02	0.229	o				2.24
73.583	0.00	0.02	0.228	o				2.24
73.667	0.00	0.02	0.228	o				2.24
73.750	0.00	0.02	0.228	o				2.23
73.833	0.00	0.02	0.228	o				2.23
73.917	0.00	0.02	0.228	o				2.23
74.000	0.00	0.02	0.228	o				2.23
74.083	0.00	0.02	0.228	o				2.23
74.167	0.00	0.02	0.227	o				2.23
74.250	0.00	0.02	0.227	o				2.23
74.333	0.00	0.02	0.227	o				2.23
74.417	0.00	0.02	0.227	o				2.22
74.500	0.00	0.02	0.227	o				2.22
74.583	0.00	0.02	0.227	o				2.22
74.667	0.00	0.02	0.227	o				2.22
74.750	0.00	0.02	0.227	o				2.22
74.833	0.00	0.02	0.226	o				2.22
74.917	0.00	0.02	0.226	o				2.22
75.000	0.00	0.02	0.226	o				2.21
75.083	0.00	0.02	0.226	o				2.21
75.167	0.00	0.02	0.226	o				2.21
75.250	0.00	0.02	0.226	o				2.21
75.333	0.00	0.02	0.226	o				2.21
75.417	0.00	0.02	0.225	o				2.21
75.500	0.00	0.02	0.225	o				2.21
75.583	0.00	0.02	0.225	o				2.21
75.667	0.00	0.02	0.225	o				2.20
75.750	0.00	0.02	0.225	o				2.20
75.833	0.00	0.02	0.225	o				2.20
75.917	0.00	0.02	0.225	o				2.20
76.000	0.00	0.02	0.224	o				2.20
76.083	0.00	0.02	0.224	o				2.20
76.167	0.00	0.02	0.224	o				2.20
76.250	0.00	0.02	0.224	o				2.19
76.333	0.00	0.02	0.224	o				2.19
76.417	0.00	0.02	0.224	o				2.19
76.500	0.00	0.02	0.224	o				2.19
76.583	0.00	0.02	0.223	o				2.19
76.667	0.00	0.02	0.223	o				2.19
76.750	0.00	0.02	0.223	o				2.19
76.833	0.00	0.02	0.223	o				2.19
76.917	0.00	0.02	0.223	o				2.18
77.000	0.00	0.02	0.223	o				2.18
77.083	0.00	0.02	0.223	o				2.18
77.167	0.00	0.02	0.223	o				2.18
77.250	0.00	0.02	0.222	o				2.18
77.333	0.00	0.02	0.222	o				2.18
77.417	0.00	0.02	0.222	o				2.18
77.500	0.00	0.02	0.222	o				2.17
77.583	0.00	0.02	0.222	o				2.17
77.667	0.00	0.02	0.222	o				2.17
77.750	0.00	0.02	0.222	o				2.17
77.833	0.00	0.02	0.221	o				2.17
77.917	0.00	0.02	0.221	o				2.17
78.000	0.00	0.02	0.221	o				2.17
78.083	0.00	0.02	0.221	o				2.17
78.167	0.00	0.02	0.221	o				2.16
78.250	0.00	0.02	0.221	o				2.16
78.333	0.00	0.02	0.221	o				2.16
78.417	0.00	0.02	0.220	o				2.16
78.500	0.00	0.02	0.220	o				2.16
78.583	0.00	0.02	0.220	o				2.16
78.667	0.00	0.02	0.220	o				2.16
78.750	0.00	0.02	0.220	o				2.15
78.833	0.00	0.02	0.220	o				2.15
78.917	0.00	0.02	0.220	o				2.15
79.000	0.00	0.02	0.219	o				2.15
79.083	0.00	0.02	0.219	o				2.15
79.167	0.00	0.02	0.219	o				2.15
79.250	0.00	0.02	0.219	o				2.15
79.333	0.00	0.02	0.219	o				2.15
79.417	0.00	0.02	0.219	o				2.14

79.500	0.00	0.02	0.219	o					2.14
79.583	0.00	0.02	0.219	o					2.14
79.667	0.00	0.02	0.218	o					2.14
79.750	0.00	0.02	0.218	o					2.14
79.833	0.00	0.02	0.218	o					2.14
79.917	0.00	0.02	0.218	o					2.14
80.000	0.00	0.02	0.218	o					2.13
80.083	0.00	0.02	0.218	o					2.13
80.167	0.00	0.02	0.218	o					2.13
80.250	0.00	0.02	0.217	o					2.13
80.333	0.00	0.02	0.217	o					2.13
80.417	0.00	0.02	0.217	o					2.13
80.500	0.00	0.02	0.217	o					2.13
80.583	0.00	0.02	0.217	o					2.12
80.667	0.00	0.02	0.217	o					2.12
80.750	0.00	0.02	0.217	o					2.12
80.833	0.00	0.02	0.216	o					2.12
80.917	0.00	0.02	0.216	o					2.12
81.000	0.00	0.02	0.216	o					2.12
81.083	0.00	0.02	0.216	o					2.12
81.167	0.00	0.02	0.216	o					2.12
81.250	0.00	0.02	0.216	o					2.11
81.333	0.00	0.02	0.216	o					2.11
81.417	0.00	0.02	0.215	o					2.11
81.500	0.00	0.02	0.215	o					2.11
81.583	0.00	0.02	0.215	o					2.11
81.667	0.00	0.02	0.215	o					2.11
81.750	0.00	0.02	0.215	o					2.11
81.833	0.00	0.02	0.215	o					2.10
81.917	0.00	0.02	0.215	o					2.10
82.000	0.00	0.02	0.215	o					2.10
82.083	0.00	0.02	0.214	o					2.10
82.167	0.00	0.02	0.214	o					2.10
82.250	0.00	0.02	0.214	o					2.10
82.333	0.00	0.02	0.214	o					2.10
82.417	0.00	0.02	0.214	o					2.10
82.500	0.00	0.02	0.214	o					2.09
82.583	0.00	0.02	0.214	o					2.09
82.667	0.00	0.02	0.213	o					2.09
82.750	0.00	0.02	0.213	o					2.09
82.833	0.00	0.02	0.213	o					2.09
82.917	0.00	0.02	0.213	o					2.09
83.000	0.00	0.02	0.213	o					2.09
83.083	0.00	0.02	0.213	o					2.08
83.167	0.00	0.02	0.213	o					2.08
83.250	0.00	0.02	0.212	o					2.08
83.333	0.00	0.02	0.212	o					2.08
83.417	0.00	0.02	0.212	o					2.08
83.500	0.00	0.02	0.212	o					2.08
83.583	0.00	0.02	0.212	o					2.08
83.667	0.00	0.02	0.212	o					2.08
83.750	0.00	0.02	0.212	o					2.07
83.833	0.00	0.02	0.212	o					2.07
83.917	0.00	0.02	0.211	o					2.07
84.000	0.00	0.02	0.211	o					2.07
84.083	0.00	0.02	0.211	o					2.07
84.167	0.00	0.02	0.211	o					2.07
84.250	0.00	0.02	0.211	o					2.07
84.333	0.00	0.02	0.211	o					2.06
84.417	0.00	0.02	0.211	o					2.06
84.500	0.00	0.02	0.210	o					2.06
84.583	0.00	0.02	0.210	o					2.06
84.667	0.00	0.02	0.210	o					2.06
84.750	0.00	0.02	0.210	o					2.06
84.833	0.00	0.02	0.210	o					2.06
84.917	0.00	0.02	0.210	o					2.06
85.000	0.00	0.02	0.210	o					2.05
85.083	0.00	0.02	0.209	o					2.05
85.167	0.00	0.02	0.209	o					2.05
85.250	0.00	0.02	0.209	o					2.05
85.333	0.00	0.02	0.209	o					2.05
85.417	0.00	0.02	0.209	o					2.05
85.500	0.00	0.02	0.209	o					2.05
85.583	0.00	0.02	0.209	o					2.04
85.667	0.00	0.02	0.208	o					2.04
85.750	0.00	0.02	0.208	o					2.04
85.833	0.00	0.02	0.208	o					2.04
85.917	0.00	0.02	0.208	o					2.04
86.000	0.00	0.02	0.208	o					2.04

86.083	0.00	0.02	0.208	o				2.04
86.167	0.00	0.02	0.208	o				2.04
86.250	0.00	0.02	0.208	o				2.03
86.333	0.00	0.02	0.207	o				2.03
86.417	0.00	0.02	0.207	o				2.03
86.500	0.00	0.02	0.207	o				2.03
86.583	0.00	0.02	0.207	o				2.03
86.667	0.00	0.02	0.207	o				2.03
86.750	0.00	0.02	0.207	o				2.03
86.833	0.00	0.02	0.207	o				2.02
86.917	0.00	0.02	0.206	o				2.02
87.000	0.00	0.02	0.206	o				2.02
87.083	0.00	0.02	0.206	o				2.02
87.167	0.00	0.02	0.206	o				2.02
87.250	0.00	0.02	0.206	o				2.02
87.333	0.00	0.02	0.206	o				2.02
87.417	0.00	0.02	0.206	o				2.02
87.500	0.00	0.02	0.205	o				2.01
87.583	0.00	0.02	0.205	o				2.01
87.667	0.00	0.02	0.205	o				2.01
87.750	0.00	0.02	0.205	o				2.01
87.833	0.00	0.02	0.205	o				2.01
87.917	0.00	0.02	0.205	o				2.01
88.000	0.00	0.02	0.205	o				2.01
88.083	0.00	0.02	0.204	o				2.00
88.167	0.00	0.02	0.204	o				2.00
88.250	0.00	0.02	0.204	o				2.00
88.333	0.00	0.02	0.204	o				2.00
88.417	0.00	0.02	0.204	o				2.00
88.500	0.00	0.02	0.204	o				2.00
88.583	0.00	0.02	0.204	o				2.00
88.667	0.00	0.02	0.204	o				2.00
88.750	0.00	0.02	0.203	o				1.99
88.833	0.00	0.02	0.203	o				1.99
88.917	0.00	0.02	0.203	o				1.99
89.000	0.00	0.02	0.203	o				1.99
89.083	0.00	0.02	0.203	o				1.99
89.167	0.00	0.02	0.203	o				1.99
89.250	0.00	0.02	0.203	o				1.99
89.333	0.00	0.02	0.202	o				1.98
89.417	0.00	0.02	0.202	o				1.98
89.500	0.00	0.02	0.202	o				1.98
89.583	0.00	0.02	0.202	o				1.98
89.667	0.00	0.02	0.202	o				1.98
89.750	0.00	0.02	0.202	o				1.98
89.833	0.00	0.02	0.202	o				1.98
89.917	0.00	0.02	0.201	o				1.97
90.000	0.00	0.02	0.201	o				1.97
90.083	0.00	0.02	0.201	o				1.97
90.167	0.00	0.02	0.201	o				1.97
90.250	0.00	0.02	0.201	o				1.97
90.333	0.00	0.02	0.201	o				1.97
90.417	0.00	0.02	0.201	o				1.97
90.500	0.00	0.02	0.200	o				1.97
90.583	0.00	0.02	0.200	o				1.96
90.667	0.00	0.02	0.200	o				1.96
90.750	0.00	0.02	0.200	o				1.96
90.833	0.00	0.02	0.200	o				1.96
90.917	0.00	0.02	0.200	o				1.96
91.000	0.00	0.02	0.200	o				1.96
91.083	0.00	0.02	0.200	o				1.96
91.167	0.00	0.02	0.199	o				1.95
91.250	0.00	0.02	0.199	o				1.95
91.333	0.00	0.02	0.199	o				1.95
91.417	0.00	0.02	0.199	o				1.95
91.500	0.00	0.02	0.199	o				1.95
91.583	0.00	0.02	0.199	o				1.95
91.667	0.00	0.02	0.199	o				1.95
91.750	0.00	0.02	0.198	o				1.95
91.833	0.00	0.02	0.198	o				1.94
91.917	0.00	0.02	0.198	o				1.94
92.000	0.00	0.02	0.198	o				1.94
92.083	0.00	0.02	0.198	o				1.94
92.167	0.00	0.02	0.198	o				1.94
92.250	0.00	0.02	0.198	o				1.94
92.333	0.00	0.02	0.197	o				1.94
92.417	0.00	0.02	0.197	o				1.93
92.500	0.00	0.02	0.197	o				1.93
92.583	0.00	0.02	0.197	o				1.93

92.667	0.00	0.02	0.197	o				1.93
92.750	0.00	0.02	0.197	o				1.93
92.833	0.00	0.02	0.197	o				1.93
92.917	0.00	0.02	0.196	o				1.93
93.000	0.00	0.02	0.196	o				1.92
93.083	0.00	0.02	0.196	o				1.92
93.167	0.00	0.02	0.196	o				1.92
93.250	0.00	0.02	0.196	o				1.92
93.333	0.00	0.02	0.196	o				1.92
93.417	0.00	0.02	0.196	o				1.92
93.500	0.00	0.02	0.196	o				1.92
93.583	0.00	0.02	0.195	o				1.92
93.667	0.00	0.02	0.195	o				1.91
93.750	0.00	0.02	0.195	o				1.91
93.833	0.00	0.02	0.195	o				1.91
93.917	0.00	0.02	0.195	o				1.91
94.000	0.00	0.02	0.195	o				1.91
94.083	0.00	0.02	0.195	o				1.91
94.167	0.00	0.02	0.194	o				1.91
94.250	0.00	0.02	0.194	o				1.90
94.333	0.00	0.02	0.194	o				1.90
94.417	0.00	0.02	0.194	o				1.90
94.500	0.00	0.02	0.194	o				1.90
94.583	0.00	0.02	0.194	o				1.90
94.667	0.00	0.02	0.194	o				1.90
94.750	0.00	0.02	0.193	o				1.90
94.833	0.00	0.02	0.193	o				1.90
94.917	0.00	0.02	0.193	o				1.89
95.000	0.00	0.02	0.193	o				1.89
95.083	0.00	0.02	0.193	o				1.89
95.167	0.00	0.02	0.193	o				1.89
95.250	0.00	0.02	0.193	o				1.89
95.333	0.00	0.02	0.192	o				1.89
95.417	0.00	0.02	0.192	o				1.89
95.500	0.00	0.02	0.192	o				1.88
95.583	0.00	0.02	0.192	o				1.88
95.667	0.00	0.02	0.192	o				1.88
95.750	0.00	0.02	0.192	o				1.88
95.833	0.00	0.02	0.192	o				1.88
95.917	0.00	0.02	0.192	o				1.88
96.000	0.00	0.02	0.191	o				1.88
96.083	0.00	0.02	0.191	o				1.88
96.167	0.00	0.02	0.191	o				1.87
96.250	0.00	0.02	0.191	o				1.87
96.333	0.00	0.02	0.191	o				1.87
96.417	0.00	0.02	0.191	o				1.87
96.500	0.00	0.02	0.191	o				1.87
96.583	0.00	0.02	0.190	o				1.87
96.667	0.00	0.02	0.190	o				1.87
96.750	0.00	0.02	0.190	o				1.86
96.833	0.00	0.02	0.190	o				1.86
96.917	0.00	0.02	0.190	o				1.86
97.000	0.00	0.02	0.190	o				1.86
97.083	0.00	0.02	0.190	o				1.86
97.167	0.00	0.02	0.189	o				1.86
97.250	0.00	0.02	0.189	o				1.86
97.333	0.00	0.02	0.189	o				1.85
97.417	0.00	0.02	0.189	o				1.85
97.500	0.00	0.02	0.189	o				1.85
97.583	0.00	0.02	0.189	o				1.85
97.667	0.00	0.02	0.189	o				1.85
97.750	0.00	0.02	0.188	o				1.85
97.833	0.00	0.02	0.188	o				1.85
97.917	0.00	0.02	0.188	o				1.85
98.000	0.00	0.02	0.188	o				1.84
98.083	0.00	0.02	0.188	o				1.84
98.167	0.00	0.02	0.188	o				1.84
98.250	0.00	0.02	0.188	o				1.84
98.333	0.00	0.02	0.188	o				1.84
98.417	0.00	0.02	0.187	o				1.84
98.500	0.00	0.02	0.187	o				1.84
98.583	0.00	0.02	0.187	o				1.83
98.667	0.00	0.02	0.187	o				1.83
98.750	0.00	0.02	0.187	o				1.83
98.833	0.00	0.02	0.187	o				1.83
98.917	0.00	0.02	0.187	o				1.83
99.000	0.00	0.02	0.186	o				1.83
99.083	0.00	0.02	0.186	o				1.83
99.167	0.00	0.02	0.186	o				1.83

99.250	0.00	0.02	0.186	o				1.82
99.333	0.00	0.02	0.186	o				1.82
99.417	0.00	0.02	0.186	o				1.82
99.500	0.00	0.02	0.186	o				1.82
99.583	0.00	0.02	0.185	o				1.82
99.667	0.00	0.02	0.185	o				1.82
99.750	0.00	0.02	0.185	o				1.82
99.833	0.00	0.02	0.185	o				1.81
99.917	0.00	0.02	0.185	o				1.81
100.000	0.00	0.02	0.185	o				1.81
100.083	0.00	0.02	0.185	o				1.81
100.167	0.00	0.02	0.185	o				1.81
100.250	0.00	0.02	0.184	o				1.81
100.333	0.00	0.02	0.184	o				1.81
100.417	0.00	0.02	0.184	o				1.80
100.500	0.00	0.02	0.184	o				1.80
100.583	0.00	0.02	0.184	o				1.80
100.667	0.00	0.02	0.184	o				1.80
100.750	0.00	0.02	0.184	o				1.80
100.833	0.00	0.02	0.183	o				1.80
100.917	0.00	0.02	0.183	o				1.80
101.000	0.00	0.02	0.183	o				1.80
101.083	0.00	0.02	0.183	o				1.79
101.167	0.00	0.02	0.183	o				1.79
101.250	0.00	0.02	0.183	o				1.79
101.333	0.00	0.02	0.183	o				1.79
101.417	0.00	0.02	0.182	o				1.79
101.500	0.00	0.02	0.182	o				1.79
101.583	0.00	0.02	0.182	o				1.79
101.667	0.00	0.02	0.182	o				1.78
101.750	0.00	0.02	0.182	o				1.78
101.833	0.00	0.02	0.182	o				1.78
101.917	0.00	0.02	0.182	o				1.78
102.000	0.00	0.02	0.181	o				1.78
102.083	0.00	0.02	0.181	o				1.78
102.167	0.00	0.02	0.181	o				1.78
102.250	0.00	0.02	0.181	o				1.78
102.333	0.00	0.02	0.181	o				1.77
102.417	0.00	0.02	0.181	o				1.77
102.500	0.00	0.02	0.181	o				1.77
102.583	0.00	0.02	0.181	o				1.77
102.667	0.00	0.02	0.180	o				1.77
102.750	0.00	0.02	0.180	o				1.77
102.833	0.00	0.02	0.180	o				1.77
102.917	0.00	0.02	0.180	o				1.76
103.000	0.00	0.02	0.180	o				1.76
103.083	0.00	0.02	0.180	o				1.76
103.167	0.00	0.02	0.180	o				1.76
103.250	0.00	0.02	0.179	o				1.76
103.333	0.00	0.02	0.179	o				1.76
103.417	0.00	0.02	0.179	o				1.76
103.500	0.00	0.02	0.179	o				1.75
103.583	0.00	0.02	0.179	o				1.75
103.667	0.00	0.02	0.179	o				1.75
103.750	0.00	0.02	0.179	o				1.75
103.833	0.00	0.02	0.178	o				1.75
103.917	0.00	0.02	0.178	o				1.75
104.000	0.00	0.02	0.178	o				1.75
104.083	0.00	0.02	0.178	o				1.75
104.167	0.00	0.02	0.178	o				1.74
104.250	0.00	0.02	0.178	o				1.74
104.333	0.00	0.02	0.178	o				1.74
104.417	0.00	0.02	0.177	o				1.74
104.500	0.00	0.02	0.177	o				1.74
104.583	0.00	0.02	0.177	o				1.74
104.667	0.00	0.02	0.177	o				1.74
104.750	0.00	0.02	0.177	o				1.73
104.833	0.00	0.02	0.177	o				1.73
104.917	0.00	0.02	0.177	o				1.73
105.000	0.00	0.02	0.177	o				1.73
105.083	0.00	0.02	0.176	o				1.73
105.167	0.00	0.02	0.176	o				1.73
105.250	0.00	0.02	0.176	o				1.73
105.333	0.00	0.02	0.176	o				1.73
105.417	0.00	0.02	0.176	o				1.72
105.500	0.00	0.02	0.176	o				1.72
105.583	0.00	0.02	0.176	o				1.72
105.667	0.00	0.02	0.175	o				1.72
105.750	0.00	0.02	0.175	o				1.72

105.833	0.00	0.02	0.175	o				1.72
105.917	0.00	0.02	0.175	o				1.72
106.000	0.00	0.02	0.175	o				1.71
106.083	0.00	0.02	0.175	o				1.71
106.167	0.00	0.02	0.175	o				1.71
106.250	0.00	0.02	0.174	o				1.71
106.333	0.00	0.02	0.174	o				1.71
106.417	0.00	0.02	0.174	o				1.71
106.500	0.00	0.02	0.174	o				1.71
106.583	0.00	0.02	0.174	o				1.70
106.667	0.00	0.02	0.174	o				1.70
106.750	0.00	0.02	0.174	o				1.70
106.833	0.00	0.02	0.173	o				1.70
106.917	0.00	0.02	0.173	o				1.70
107.000	0.00	0.02	0.173	o				1.70
107.083	0.00	0.02	0.173	o				1.70
107.167	0.00	0.02	0.173	o				1.70
107.250	0.00	0.02	0.173	o				1.69
107.333	0.00	0.02	0.173	o				1.69
107.417	0.00	0.02	0.173	o				1.69
107.500	0.00	0.02	0.172	o				1.69
107.583	0.00	0.02	0.172	o				1.69
107.667	0.00	0.02	0.172	o				1.69
107.750	0.00	0.02	0.172	o				1.69
107.833	0.00	0.02	0.172	o				1.68
107.917	0.00	0.02	0.172	o				1.68
108.000	0.00	0.02	0.172	o				1.68
108.083	0.00	0.02	0.171	o				1.68
108.167	0.00	0.02	0.171	o				1.68
108.250	0.00	0.02	0.171	o				1.68
108.333	0.00	0.02	0.171	o				1.68
108.417	0.00	0.02	0.171	o				1.68
108.500	0.00	0.02	0.171	o				1.67
108.583	0.00	0.02	0.171	o				1.67
108.667	0.00	0.02	0.170	o				1.67
108.750	0.00	0.02	0.170	o				1.67
108.833	0.00	0.02	0.170	o				1.67
108.917	0.00	0.02	0.170	o				1.67
109.000	0.00	0.02	0.170	o				1.67
109.083	0.00	0.02	0.170	o				1.66
109.167	0.00	0.02	0.170	o				1.66
109.250	0.00	0.02	0.169	o				1.66
109.333	0.00	0.02	0.169	o				1.66
109.417	0.00	0.02	0.169	o				1.66
109.500	0.00	0.02	0.169	o				1.66
109.583	0.00	0.02	0.169	o				1.66
109.667	0.00	0.02	0.169	o				1.65
109.750	0.00	0.02	0.169	o				1.65
109.833	0.00	0.02	0.169	o				1.65
109.917	0.00	0.02	0.168	o				1.65
110.000	0.00	0.02	0.168	o				1.65
110.083	0.00	0.02	0.168	o				1.65
110.167	0.00	0.02	0.168	o				1.65
110.250	0.00	0.02	0.168	o				1.65
110.333	0.00	0.02	0.168	o				1.64
110.417	0.00	0.02	0.168	o				1.64
110.500	0.00	0.02	0.167	o				1.64
110.583	0.00	0.02	0.167	o				1.64
110.667	0.00	0.02	0.167	o				1.64
110.750	0.00	0.02	0.167	o				1.64
110.833	0.00	0.02	0.167	o				1.64
110.917	0.00	0.02	0.167	o				1.63
111.000	0.00	0.02	0.167	o				1.63
111.083	0.00	0.02	0.166	o				1.63
111.167	0.00	0.02	0.166	o				1.63
111.250	0.00	0.02	0.166	o				1.63
111.333	0.00	0.02	0.166	o				1.63
111.417	0.00	0.02	0.166	o				1.63
111.500	0.00	0.02	0.166	o				1.63
111.583	0.00	0.02	0.166	o				1.62
111.667	0.00	0.02	0.165	o				1.62
111.750	0.00	0.02	0.165	o				1.62
111.833	0.00	0.02	0.165	o				1.62
111.917	0.00	0.02	0.165	o				1.62
112.000	0.00	0.02	0.165	o				1.62
112.083	0.00	0.02	0.165	o				1.62
112.167	0.00	0.02	0.165	o				1.61
112.250	0.00	0.02	0.165	o				1.61
112.333	0.00	0.02	0.164	o				1.61

112.417	0.00	0.02	0.164	o				1.61
112.500	0.00	0.02	0.164	o				1.61
112.583	0.00	0.02	0.164	o				1.61
112.667	0.00	0.02	0.164	o				1.61
112.750	0.00	0.02	0.164	o				1.60
112.833	0.00	0.02	0.164	o				1.60
112.917	0.00	0.02	0.163	o				1.60
113.000	0.00	0.02	0.163	o				1.60
113.083	0.00	0.02	0.163	o				1.60
113.167	0.00	0.02	0.163	o				1.60
113.250	0.00	0.02	0.163	o				1.60
113.333	0.00	0.02	0.163	o				1.60
113.417	0.00	0.02	0.163	o				1.59
113.500	0.00	0.02	0.162	o				1.59
113.583	0.00	0.02	0.162	o				1.59
113.667	0.00	0.02	0.162	o				1.59
113.750	0.00	0.02	0.162	o				1.59
113.833	0.00	0.02	0.162	o				1.59
113.917	0.00	0.02	0.162	o				1.59
114.000	0.00	0.02	0.162	o				1.58
114.083	0.00	0.02	0.162	o				1.58
114.167	0.00	0.02	0.161	o				1.58
114.250	0.00	0.02	0.161	o				1.58
114.333	0.00	0.02	0.161	o				1.58
114.417	0.00	0.02	0.161	o				1.58
114.500	0.00	0.02	0.161	o				1.58
114.583	0.00	0.02	0.161	o				1.58
114.667	0.00	0.02	0.161	o				1.57
114.750	0.00	0.02	0.160	o				1.57
114.833	0.00	0.02	0.160	o				1.57
114.917	0.00	0.02	0.160	o				1.57
115.000	0.00	0.02	0.160	o				1.57
115.083	0.00	0.02	0.160	o				1.57
115.167	0.00	0.02	0.160	o				1.57
115.250	0.00	0.02	0.160	o				1.56
115.333	0.00	0.02	0.159	o				1.56
115.417	0.00	0.02	0.159	o				1.56
115.500	0.00	0.02	0.159	o				1.56
115.583	0.00	0.02	0.159	o				1.56
115.667	0.00	0.02	0.159	o				1.56
115.750	0.00	0.02	0.159	o				1.56
115.833	0.00	0.02	0.159	o				1.55
115.917	0.00	0.02	0.158	o				1.55
116.000	0.00	0.02	0.158	o				1.55
116.083	0.00	0.02	0.158	o				1.55
116.167	0.00	0.02	0.158	o				1.55
116.250	0.00	0.02	0.158	o				1.55
116.333	0.00	0.02	0.158	o				1.55
116.417	0.00	0.02	0.158	o				1.55
116.500	0.00	0.02	0.158	o				1.54
116.583	0.00	0.02	0.157	o				1.54
116.667	0.00	0.02	0.157	o				1.54
116.750	0.00	0.02	0.157	o				1.54
116.833	0.00	0.02	0.157	o				1.54
116.917	0.00	0.02	0.157	o				1.54
117.000	0.00	0.02	0.157	o				1.54
117.083	0.00	0.02	0.157	o				1.53
117.167	0.00	0.02	0.156	o				1.53
117.250	0.00	0.02	0.156	o				1.53
117.333	0.00	0.02	0.156	o				1.53
117.417	0.00	0.02	0.156	o				1.53
117.500	0.00	0.02	0.156	o				1.53
117.583	0.00	0.02	0.156	o				1.53
117.667	0.00	0.02	0.156	o				1.53
117.750	0.00	0.02	0.155	o				1.52
117.833	0.00	0.02	0.155	o				1.52
117.917	0.00	0.02	0.155	o				1.52
118.000	0.00	0.02	0.155	o				1.52
118.083	0.00	0.02	0.155	o				1.52
118.167	0.00	0.02	0.155	o				1.52
118.250	0.00	0.02	0.155	o				1.52
118.333	0.00	0.02	0.154	o				1.51
118.417	0.00	0.02	0.154	o				1.51
118.500	0.00	0.02	0.154	o				1.51
118.583	0.00	0.02	0.154	o				1.51
118.667	0.00	0.02	0.154	o				1.51
118.750	0.00	0.02	0.154	o				1.51
118.833	0.00	0.02	0.154	o				1.51
118.917	0.00	0.02	0.154	o				1.51

119.000	0.00	0.02	0.153	o				1.50
119.083	0.00	0.02	0.153	o				1.50
119.167	0.00	0.02	0.153	o				1.50
119.250	0.00	0.02	0.153	o				1.50
119.333	0.00	0.02	0.153	o				1.50
119.417	0.00	0.02	0.153	o				1.50
119.500	0.00	0.02	0.153	o				1.50
119.583	0.00	0.02	0.152	o				1.49
119.667	0.00	0.02	0.152	o				1.49
119.750	0.00	0.02	0.152	o				1.49
119.833	0.00	0.02	0.152	o				1.49
119.917	0.00	0.02	0.152	o				1.49
120.000	0.00	0.02	0.152	o				1.49
120.083	0.00	0.02	0.152	o				1.49
120.167	0.00	0.02	0.151	o				1.48
120.250	0.00	0.02	0.151	o				1.48
120.333	0.00	0.02	0.151	o				1.48
120.417	0.00	0.02	0.151	o				1.48
120.500	0.00	0.02	0.151	o				1.48
120.583	0.00	0.02	0.151	o				1.48
120.667	0.00	0.02	0.151	o				1.48
120.750	0.00	0.02	0.150	o				1.48
120.833	0.00	0.02	0.150	o				1.47
120.917	0.00	0.02	0.150	o				1.47
121.000	0.00	0.02	0.150	o				1.47
121.083	0.00	0.02	0.150	o				1.47
121.167	0.00	0.02	0.150	o				1.47
121.250	0.00	0.02	0.150	o				1.47
121.333	0.00	0.02	0.150	o				1.47
121.417	0.00	0.02	0.149	o				1.46
121.500	0.00	0.02	0.149	o				1.46
121.583	0.00	0.02	0.149	o				1.46
121.667	0.00	0.02	0.149	o				1.46
121.750	0.00	0.02	0.149	o				1.46
121.833	0.00	0.02	0.149	o				1.46
121.917	0.00	0.02	0.149	o				1.46
122.000	0.00	0.02	0.148	o				1.46
122.083	0.00	0.02	0.148	o				1.45
122.167	0.00	0.02	0.148	o				1.45
122.250	0.00	0.02	0.148	o				1.45
122.333	0.00	0.02	0.148	o				1.45
122.417	0.00	0.02	0.148	o				1.45
122.500	0.00	0.02	0.148	o				1.45
122.583	0.00	0.02	0.147	o				1.45
122.667	0.00	0.02	0.147	o				1.44
122.750	0.00	0.02	0.147	o				1.44
122.833	0.00	0.02	0.147	o				1.44
122.917	0.00	0.02	0.147	o				1.44
123.000	0.00	0.02	0.147	o				1.44
123.083	0.00	0.02	0.147	o				1.44
123.167	0.00	0.02	0.146	o				1.44
123.250	0.00	0.02	0.146	o				1.43
123.333	0.00	0.02	0.146	o				1.43
123.417	0.00	0.02	0.146	o				1.43
123.500	0.00	0.02	0.146	o				1.43
123.583	0.00	0.02	0.146	o				1.43
123.667	0.00	0.02	0.146	o				1.43
123.750	0.00	0.02	0.146	o				1.43
123.833	0.00	0.02	0.145	o				1.43
123.917	0.00	0.02	0.145	o				1.42
124.000	0.00	0.02	0.145	o				1.42
124.083	0.00	0.02	0.145	o				1.42
124.167	0.00	0.02	0.145	o				1.42
124.250	0.00	0.02	0.145	o				1.42
124.333	0.00	0.02	0.145	o				1.42
124.417	0.00	0.02	0.144	o				1.42
124.500	0.00	0.02	0.144	o				1.41
124.583	0.00	0.02	0.144	o				1.41
124.667	0.00	0.02	0.144	o				1.41
124.750	0.00	0.02	0.144	o				1.41
124.833	0.00	0.02	0.144	o				1.41
124.917	0.00	0.02	0.144	o				1.41
125.000	0.00	0.02	0.143	o				1.41
125.083	0.00	0.02	0.143	o				1.41
125.167	0.00	0.02	0.143	o				1.40
125.250	0.00	0.02	0.143	o				1.40
125.333	0.00	0.02	0.143	o				1.40
125.417	0.00	0.02	0.143	o				1.40
125.500	0.00	0.02	0.143	o				1.40

125.583	0.00	0.02	0.142	o				1.40
125.667	0.00	0.02	0.142	o				1.40
125.750	0.00	0.02	0.142	o				1.39
125.833	0.00	0.02	0.142	o				1.39
125.917	0.00	0.02	0.142	o				1.39
126.000	0.00	0.02	0.142	o				1.39
126.083	0.00	0.02	0.142	o				1.39
126.167	0.00	0.02	0.142	o				1.39
126.250	0.00	0.02	0.141	o				1.39
126.333	0.00	0.02	0.141	o				1.38
126.417	0.00	0.02	0.141	o				1.38
126.500	0.00	0.02	0.141	o				1.38
126.583	0.00	0.02	0.141	o				1.38
126.667	0.00	0.02	0.141	o				1.38
126.750	0.00	0.02	0.141	o				1.38
126.833	0.00	0.02	0.140	o				1.38
126.917	0.00	0.02	0.140	o				1.38
127.000	0.00	0.02	0.140	o				1.37
127.083	0.00	0.02	0.140	o				1.37
127.167	0.00	0.02	0.140	o				1.37
127.250	0.00	0.02	0.140	o				1.37
127.333	0.00	0.02	0.140	o				1.37
127.417	0.00	0.02	0.139	o				1.37
127.500	0.00	0.02	0.139	o				1.37
127.583	0.00	0.02	0.139	o				1.36
127.667	0.00	0.02	0.139	o				1.36
127.750	0.00	0.02	0.139	o				1.36
127.833	0.00	0.02	0.139	o				1.36
127.917	0.00	0.02	0.139	o				1.36
128.000	0.00	0.02	0.138	o				1.36
128.083	0.00	0.02	0.138	o				1.36
128.167	0.00	0.02	0.138	o				1.36
128.250	0.00	0.02	0.138	o				1.35
128.333	0.00	0.02	0.138	o				1.35
128.417	0.00	0.02	0.138	o				1.35
128.500	0.00	0.02	0.138	o				1.35
128.583	0.00	0.02	0.138	o				1.35
128.667	0.00	0.02	0.137	o				1.35
128.750	0.00	0.02	0.137	o				1.35
128.833	0.00	0.02	0.137	o				1.34
128.917	0.00	0.02	0.137	o				1.34
129.000	0.00	0.02	0.137	o				1.34
129.083	0.00	0.02	0.137	o				1.34
129.167	0.00	0.02	0.137	o				1.34
129.250	0.00	0.02	0.136	o				1.34
129.333	0.00	0.02	0.136	o				1.34
129.417	0.00	0.02	0.136	o				1.33
129.500	0.00	0.02	0.136	o				1.33
129.583	0.00	0.02	0.136	o				1.33
129.667	0.00	0.02	0.136	o				1.33
129.750	0.00	0.02	0.136	o				1.33
129.833	0.00	0.02	0.135	o				1.33
129.917	0.00	0.02	0.135	o				1.33
130.000	0.00	0.02	0.135	o				1.33
130.083	0.00	0.02	0.135	o				1.32
130.167	0.00	0.02	0.135	o				1.32
130.250	0.00	0.02	0.135	o				1.32
130.333	0.00	0.02	0.135	o				1.32
130.417	0.00	0.02	0.135	o				1.32
130.500	0.00	0.02	0.134	o				1.32
130.583	0.00	0.02	0.134	o				1.32
130.667	0.00	0.02	0.134	o				1.31
130.750	0.00	0.02	0.134	o				1.31
130.833	0.00	0.02	0.134	o				1.31
130.917	0.00	0.02	0.134	o				1.31
131.000	0.00	0.02	0.134	o				1.31
131.083	0.00	0.02	0.133	o				1.31
131.167	0.00	0.02	0.133	o				1.31
131.250	0.00	0.02	0.133	o				1.31
131.333	0.00	0.02	0.133	o				1.30
131.417	0.00	0.02	0.133	o				1.30
131.500	0.00	0.02	0.133	o				1.30
131.583	0.00	0.02	0.133	o				1.30
131.667	0.00	0.02	0.132	o				1.30
131.750	0.00	0.02	0.132	o				1.30
131.833	0.00	0.02	0.132	o				1.30
131.917	0.00	0.02	0.132	o				1.29
132.000	0.00	0.02	0.132	o				1.29
132.083	0.00	0.02	0.132	o				1.29

132.167	0.00	0.02	0.132	o				1.29
132.250	0.00	0.02	0.131	o				1.29
132.333	0.00	0.02	0.131	o				1.29
132.417	0.00	0.02	0.131	o				1.29
132.500	0.00	0.02	0.131	o				1.28
132.583	0.00	0.02	0.131	o				1.28
132.667	0.00	0.02	0.131	o				1.28
132.750	0.00	0.02	0.131	o				1.28
132.833	0.00	0.02	0.131	o				1.28
132.917	0.00	0.02	0.130	o				1.28
133.000	0.00	0.02	0.130	o				1.28
133.083	0.00	0.02	0.130	o				1.28
133.167	0.00	0.02	0.130	o				1.27
133.250	0.00	0.02	0.130	o				1.27
133.333	0.00	0.02	0.130	o				1.27
133.417	0.00	0.02	0.130	o				1.27
133.500	0.00	0.02	0.129	o				1.27
133.583	0.00	0.02	0.129	o				1.27
133.667	0.00	0.02	0.129	o				1.27
133.750	0.00	0.02	0.129	o				1.26
133.833	0.00	0.02	0.129	o				1.26
133.917	0.00	0.02	0.129	o				1.26
134.000	0.00	0.02	0.129	o				1.26
134.083	0.00	0.02	0.128	o				1.26
134.167	0.00	0.02	0.128	o				1.26
134.250	0.00	0.02	0.128	o				1.26
134.333	0.00	0.02	0.128	o				1.26
134.417	0.00	0.02	0.128	o				1.25
134.500	0.00	0.02	0.128	o				1.25
134.583	0.00	0.02	0.128	o				1.25
134.667	0.00	0.02	0.127	o				1.25
134.750	0.00	0.02	0.127	o				1.25
134.833	0.00	0.02	0.127	o				1.25
134.917	0.00	0.02	0.127	o				1.25
135.000	0.00	0.02	0.127	o				1.24
135.083	0.00	0.02	0.127	o				1.24
135.167	0.00	0.02	0.127	o				1.24
135.250	0.00	0.02	0.127	o				1.24
135.333	0.00	0.02	0.126	o				1.24
135.417	0.00	0.02	0.126	o				1.24
135.500	0.00	0.02	0.126	o				1.24
135.583	0.00	0.02	0.126	o				1.23
135.667	0.00	0.02	0.126	o				1.23
135.750	0.00	0.02	0.126	o				1.23
135.833	0.00	0.02	0.126	o				1.23
135.917	0.00	0.02	0.125	o				1.23
136.000	0.00	0.02	0.125	o				1.23
136.083	0.00	0.02	0.125	o				1.23
136.167	0.00	0.02	0.125	o				1.23
136.250	0.00	0.02	0.125	o				1.22
136.333	0.00	0.02	0.125	o				1.22
136.417	0.00	0.02	0.125	o				1.22
136.500	0.00	0.02	0.124	o				1.22
136.583	0.00	0.02	0.124	o				1.22
136.667	0.00	0.02	0.124	o				1.22
136.750	0.00	0.02	0.124	o				1.22
136.833	0.00	0.02	0.124	o				1.21
136.917	0.00	0.02	0.124	o				1.21
137.000	0.00	0.02	0.124	o				1.21
137.083	0.00	0.02	0.123	o				1.21
137.167	0.00	0.02	0.123	o				1.21
137.250	0.00	0.02	0.123	o				1.21
137.333	0.00	0.02	0.123	o				1.21
137.417	0.00	0.02	0.123	o				1.21
137.500	0.00	0.02	0.123	o				1.20
137.583	0.00	0.02	0.123	o				1.20
137.667	0.00	0.02	0.123	o				1.20
137.750	0.00	0.02	0.122	o				1.20
137.833	0.00	0.02	0.122	o				1.20
137.917	0.00	0.02	0.122	o				1.20
138.000	0.00	0.02	0.122	o				1.20
138.083	0.00	0.02	0.122	o				1.19
138.167	0.00	0.02	0.122	o				1.19
138.250	0.00	0.02	0.122	o				1.19
138.333	0.00	0.02	0.121	o				1.19
138.417	0.00	0.02	0.121	o				1.19
138.500	0.00	0.02	0.121	o				1.19
138.583	0.00	0.02	0.121	o				1.19
138.667	0.00	0.02	0.121	o				1.18

138.750	0.00	0.02	0.121	o				1.18
138.833	0.00	0.02	0.121	o				1.18
138.917	0.00	0.02	0.120	o				1.18
139.000	0.00	0.02	0.120	o				1.18
139.083	0.00	0.02	0.120	o				1.18
139.167	0.00	0.02	0.120	o				1.18
139.250	0.00	0.02	0.120	o				1.18
139.333	0.00	0.02	0.120	o				1.17
139.417	0.00	0.02	0.120	o				1.17
139.500	0.00	0.02	0.119	o				1.17
139.583	0.00	0.02	0.119	o				1.17
139.667	0.00	0.02	0.119	o				1.17
139.750	0.00	0.02	0.119	o				1.17
139.833	0.00	0.02	0.119	o				1.17
139.917	0.00	0.02	0.119	o				1.16
140.000	0.00	0.02	0.119	o				1.16
140.083	0.00	0.02	0.119	o				1.16
140.167	0.00	0.02	0.118	o				1.16
140.250	0.00	0.02	0.118	o				1.16
140.333	0.00	0.02	0.118	o				1.16
140.417	0.00	0.02	0.118	o				1.16
140.500	0.00	0.02	0.118	o				1.16
140.583	0.00	0.02	0.118	o				1.15
140.667	0.00	0.02	0.118	o				1.15
140.750	0.00	0.02	0.117	o				1.15
140.833	0.00	0.02	0.117	o				1.15
140.917	0.00	0.02	0.117	o				1.15
141.000	0.00	0.02	0.117	o				1.15
141.083	0.00	0.02	0.117	o				1.15
141.167	0.00	0.02	0.117	o				1.14
141.250	0.00	0.02	0.117	o				1.14
141.333	0.00	0.02	0.116	o				1.14
141.417	0.00	0.02	0.116	o				1.14
141.500	0.00	0.02	0.116	o				1.14
141.583	0.00	0.02	0.116	o				1.14
141.667	0.00	0.02	0.116	o				1.14
141.750	0.00	0.02	0.116	o				1.14
141.833	0.00	0.02	0.116	o				1.13
141.917	0.00	0.02	0.115	o				1.13
142.000	0.00	0.02	0.115	o				1.13
142.083	0.00	0.02	0.115	o				1.13
142.167	0.00	0.02	0.115	o				1.13
142.250	0.00	0.02	0.115	o				1.13
142.333	0.00	0.02	0.115	o				1.13
142.417	0.00	0.02	0.115	o				1.12
142.500	0.00	0.02	0.115	o				1.12
142.583	0.00	0.02	0.114	o				1.12
142.667	0.00	0.02	0.114	o				1.12
142.750	0.00	0.02	0.114	o				1.12
142.833	0.00	0.02	0.114	o				1.12
142.917	0.00	0.02	0.114	o				1.12
143.000	0.00	0.02	0.114	o				1.11
143.083	0.00	0.02	0.114	o				1.11
143.167	0.00	0.02	0.113	o				1.11
143.250	0.00	0.02	0.113	o				1.11
143.333	0.00	0.02	0.113	o				1.11
143.417	0.00	0.02	0.113	o				1.11
143.500	0.00	0.02	0.113	o				1.11
143.583	0.00	0.02	0.113	o				1.11
143.667	0.00	0.02	0.113	o				1.10
143.750	0.00	0.02	0.112	o				1.10
143.833	0.00	0.02	0.112	o				1.10
143.917	0.00	0.02	0.112	o				1.10
144.000	0.00	0.02	0.112	o				1.10
144.083	0.00	0.02	0.112	o				1.10
144.167	0.00	0.02	0.112	o				1.10
144.250	0.00	0.02	0.112	o				1.09
144.333	0.00	0.02	0.112	o				1.09
144.417	0.00	0.02	0.111	o				1.09
144.500	0.00	0.02	0.111	o				1.09
144.583	0.00	0.02	0.111	o				1.09
144.667	0.00	0.02	0.111	o				1.09
144.750	0.00	0.02	0.111	o				1.09
144.833	0.00	0.02	0.111	o				1.09
144.917	0.00	0.02	0.111	o				1.08
145.000	0.00	0.02	0.110	o				1.08
145.083	0.00	0.02	0.110	o				1.08
145.167	0.00	0.02	0.110	o				1.08
145.250	0.00	0.02	0.110	o				1.08

145.333	0.00	0.02	0.110	o				1.08
145.417	0.00	0.02	0.110	o				1.08
145.500	0.00	0.02	0.110	o				1.07
145.583	0.00	0.02	0.109	o				1.07
145.667	0.00	0.02	0.109	o				1.07
145.750	0.00	0.02	0.109	o				1.07
145.833	0.00	0.02	0.109	o				1.07
145.917	0.00	0.02	0.109	o				1.07
146.000	0.00	0.02	0.109	o				1.07
146.083	0.00	0.02	0.109	o				1.06
146.167	0.00	0.02	0.108	o				1.06
146.250	0.00	0.02	0.108	o				1.06
146.333	0.00	0.02	0.108	o				1.06
146.417	0.00	0.02	0.108	o				1.06
146.500	0.00	0.02	0.108	o				1.06
146.583	0.00	0.02	0.108	o				1.06
146.667	0.00	0.02	0.108	o				1.06
146.750	0.00	0.02	0.108	o				1.05
146.833	0.00	0.02	0.107	o				1.05
146.917	0.00	0.02	0.107	o				1.05
147.000	0.00	0.02	0.107	o				1.05
147.083	0.00	0.02	0.107	o				1.05
147.167	0.00	0.02	0.107	o				1.05
147.250	0.00	0.02	0.107	o				1.05
147.333	0.00	0.02	0.107	o				1.04
147.417	0.00	0.02	0.106	o				1.04
147.500	0.00	0.02	0.106	o				1.04
147.583	0.00	0.02	0.106	o				1.04
147.667	0.00	0.02	0.106	o				1.04
147.750	0.00	0.02	0.106	o				1.04
147.833	0.00	0.02	0.106	o				1.04
147.917	0.00	0.02	0.106	o				1.04
148.000	0.00	0.02	0.105	o				1.03
148.083	0.00	0.02	0.105	o				1.03
148.167	0.00	0.02	0.105	o				1.03
148.250	0.00	0.02	0.105	o				1.03
148.333	0.00	0.02	0.105	o				1.03
148.417	0.00	0.02	0.105	o				1.03
148.500	0.00	0.02	0.105	o				1.03
148.583	0.00	0.02	0.104	o				1.02
148.667	0.00	0.02	0.104	o				1.02
148.750	0.00	0.02	0.104	o				1.02
148.833	0.00	0.02	0.104	o				1.02
148.917	0.00	0.02	0.104	o				1.02
149.000	0.00	0.02	0.104	o				1.02
149.083	0.00	0.02	0.104	o				1.02
149.167	0.00	0.02	0.104	o				1.01
149.250	0.00	0.02	0.103	o				1.01
149.333	0.00	0.02	0.103	o				1.01
149.417	0.00	0.02	0.103	o				1.01
149.500	0.00	0.02	0.103	o				1.01
149.583	0.00	0.02	0.103	o				1.01
149.667	0.00	0.02	0.103	o				1.01
149.750	0.00	0.02	0.103	o				1.01
149.833	0.00	0.02	0.102	o				1.00
149.917	0.00	0.02	0.102	o				1.00
150.000	0.00	0.02	0.102	o				1.00
150.083	0.00	0.02	0.102	o				1.00
150.167	0.00	0.02	0.102	o				1.00
150.250	0.00	0.02	0.102	o				1.00
150.333	0.00	0.02	0.102	o				1.00
150.417	0.00	0.02	0.101	o				0.99
150.500	0.00	0.02	0.101	o				0.99
150.583	0.00	0.02	0.101	o				0.99
150.667	0.00	0.02	0.101	o				0.99
150.750	0.00	0.02	0.101	o				0.99
150.833	0.00	0.02	0.101	o				0.99
150.917	0.00	0.02	0.101	o				0.99
151.000	0.00	0.02	0.100	o				0.99
151.083	0.00	0.02	0.100	o				0.98
151.167	0.00	0.02	0.100	o				0.98
151.250	0.00	0.02	0.100	o				0.98
151.333	0.00	0.02	0.100	o				0.98
151.417	0.00	0.02	0.100	o				0.98
151.500	0.00	0.02	0.100	o				0.98
151.583	0.00	0.02	0.100	o				0.98
151.667	0.00	0.02	0.099	o				0.97
151.750	0.00	0.02	0.099	o				0.97
151.833	0.00	0.02	0.099	o				0.97

151.917	0.00	0.02	0.099	o				0.97
152.000	0.00	0.02	0.099	o				0.97
152.083	0.00	0.02	0.099	o				0.97
152.167	0.00	0.02	0.099	o				0.97
152.250	0.00	0.02	0.098	o				0.97
152.333	0.00	0.02	0.098	o				0.96
152.417	0.00	0.02	0.098	o				0.96
152.500	0.00	0.02	0.098	o				0.96
152.583	0.00	0.02	0.098	o				0.96
152.667	0.00	0.02	0.098	o				0.96
152.750	0.00	0.02	0.098	o				0.96
152.833	0.00	0.02	0.098	o				0.96
152.917	0.00	0.02	0.097	o				0.96
153.000	0.00	0.02	0.097	o				0.95
153.083	0.00	0.02	0.097	o				0.95
153.167	0.00	0.02	0.097	o				0.95
153.250	0.00	0.02	0.097	o				0.95
153.333	0.00	0.02	0.097	o				0.95
153.417	0.00	0.02	0.097	o				0.95
153.500	0.00	0.02	0.097	o				0.95
153.583	0.00	0.02	0.096	o				0.94
153.667	0.00	0.02	0.096	o				0.94
153.750	0.00	0.02	0.096	o				0.94
153.833	0.00	0.02	0.096	o				0.94
153.917	0.00	0.02	0.096	o				0.94
154.000	0.00	0.02	0.096	o				0.94
154.083	0.00	0.02	0.096	o				0.94
154.167	0.00	0.02	0.095	o				0.94
154.250	0.00	0.02	0.095	o				0.93
154.333	0.00	0.02	0.095	o				0.93
154.417	0.00	0.02	0.095	o				0.93
154.500	0.00	0.02	0.095	o				0.93
154.583	0.00	0.02	0.095	o				0.93
154.667	0.00	0.02	0.095	o				0.93
154.750	0.00	0.02	0.095	o				0.93
154.833	0.00	0.02	0.094	o				0.93
154.917	0.00	0.02	0.094	o				0.92
155.000	0.00	0.02	0.094	o				0.92
155.083	0.00	0.02	0.094	o				0.92
155.167	0.00	0.02	0.094	o				0.92
155.250	0.00	0.02	0.094	o				0.92
155.333	0.00	0.02	0.094	o				0.92
155.417	0.00	0.02	0.094	o				0.92
155.500	0.00	0.02	0.093	o				0.92
155.583	0.00	0.02	0.093	o				0.91
155.667	0.00	0.02	0.093	o				0.91
155.750	0.00	0.02	0.093	o				0.91
155.833	0.00	0.02	0.093	o				0.91
155.917	0.00	0.02	0.093	o				0.91
156.000	0.00	0.02	0.093	o				0.91
156.083	0.00	0.02	0.093	o				0.91
156.167	0.00	0.02	0.092	o				0.91
156.250	0.00	0.02	0.092	o				0.90
156.333	0.00	0.02	0.092	o				0.90
156.417	0.00	0.02	0.092	o				0.90
156.500	0.00	0.02	0.092	o				0.90
156.583	0.00	0.02	0.092	o				0.90
156.667	0.00	0.02	0.092	o				0.90
156.750	0.00	0.02	0.092	o				0.90
156.833	0.00	0.02	0.091	o				0.90
156.917	0.00	0.02	0.091	o				0.90
157.000	0.00	0.02	0.091	o				0.89
157.083	0.00	0.02	0.091	o				0.89
157.167	0.00	0.02	0.091	o				0.89
157.250	0.00	0.02	0.091	o				0.89
157.333	0.00	0.02	0.091	o				0.89
157.417	0.00	0.02	0.091	o				0.89
157.500	0.00	0.02	0.090	o				0.89
157.583	0.00	0.02	0.090	o				0.89
157.667	0.00	0.02	0.090	o				0.88
157.750	0.00	0.02	0.090	o				0.88
157.833	0.00	0.02	0.090	o				0.88
157.917	0.00	0.02	0.090	o				0.88
158.000	0.00	0.02	0.090	o				0.88
158.083	0.00	0.02	0.090	o				0.88
158.167	0.00	0.02	0.089	o				0.88
158.250	0.00	0.02	0.089	o				0.88
158.333	0.00	0.02	0.089	o				0.87
158.417	0.00	0.02	0.089	o				0.87

158.500	0.00	0.02	0.089	o				0.87
158.583	0.00	0.02	0.089	o				0.87
158.667	0.00	0.02	0.089	o				0.87
158.750	0.00	0.02	0.089	o				0.87
158.833	0.00	0.02	0.089	o				0.87
158.917	0.00	0.02	0.088	o				0.87
159.000	0.00	0.02	0.088	o				0.87
159.083	0.00	0.02	0.088	o				0.86
159.167	0.00	0.02	0.088	o				0.86
159.250	0.00	0.02	0.088	o				0.86
159.333	0.00	0.02	0.088	o				0.86
159.417	0.00	0.02	0.088	o				0.86
159.500	0.00	0.02	0.088	o				0.86
159.583	0.00	0.02	0.087	o				0.86
159.667	0.00	0.02	0.087	o				0.86
159.750	0.00	0.02	0.087	o				0.85
159.833	0.00	0.02	0.087	o				0.85
159.917	0.00	0.02	0.087	o				0.85
160.000	0.00	0.02	0.087	o				0.85
160.083	0.00	0.02	0.087	o				0.85
160.167	0.00	0.02	0.087	o				0.85
160.250	0.00	0.02	0.087	o				0.85
160.333	0.00	0.02	0.086	o				0.85
160.417	0.00	0.02	0.086	o				0.85
160.500	0.00	0.02	0.086	o				0.84
160.583	0.00	0.02	0.086	o				0.84
160.667	0.00	0.02	0.086	o				0.84
160.750	0.00	0.02	0.086	o				0.84
160.833	0.00	0.02	0.086	o				0.84
160.917	0.00	0.02	0.086	o				0.84
161.000	0.00	0.02	0.085	o				0.84
161.083	0.00	0.02	0.085	o				0.84
161.167	0.00	0.02	0.085	o				0.84
161.250	0.00	0.02	0.085	o				0.83
161.333	0.00	0.02	0.085	o				0.83
161.417	0.00	0.02	0.085	o				0.83
161.500	0.00	0.02	0.085	o				0.83
161.583	0.00	0.02	0.085	o				0.83
161.667	0.00	0.02	0.085	o				0.83
161.750	0.00	0.02	0.084	o				0.83
161.833	0.00	0.02	0.084	o				0.83
161.917	0.00	0.02	0.084	o				0.83
162.000	0.00	0.02	0.084	o				0.82
162.083	0.00	0.02	0.084	o				0.82
162.167	0.00	0.02	0.084	o				0.82
162.250	0.00	0.02	0.084	o				0.82
162.333	0.00	0.02	0.084	o				0.82
162.417	0.00	0.02	0.084	o				0.82
162.500	0.00	0.02	0.083	o				0.82
162.583	0.00	0.02	0.083	o				0.82
162.667	0.00	0.02	0.083	o				0.82
162.750	0.00	0.02	0.083	o				0.81
162.833	0.00	0.02	0.083	o				0.81
162.917	0.00	0.02	0.083	o				0.81
163.000	0.00	0.02	0.083	o				0.81
163.083	0.00	0.02	0.083	o				0.81
163.167	0.00	0.02	0.083	o				0.81
163.250	0.00	0.02	0.082	o				0.81
163.333	0.00	0.02	0.082	o				0.81
163.417	0.00	0.02	0.082	o				0.81
163.500	0.00	0.02	0.082	o				0.80
163.583	0.00	0.02	0.082	o				0.80
163.667	0.00	0.02	0.082	o				0.80
163.750	0.00	0.02	0.082	o				0.80
163.833	0.00	0.02	0.082	o				0.80
163.917	0.00	0.02	0.082	o				0.80
164.000	0.00	0.02	0.081	o				0.80
164.083	0.00	0.02	0.081	o				0.80
164.167	0.00	0.02	0.081	o				0.80
164.250	0.00	0.02	0.081	o				0.79
164.333	0.00	0.02	0.081	o				0.79
164.417	0.00	0.02	0.081	o				0.79
164.500	0.00	0.02	0.081	o				0.79
164.583	0.00	0.02	0.081	o				0.79
164.667	0.00	0.02	0.081	o				0.79
164.750	0.00	0.02	0.080	o				0.79
164.833	0.00	0.02	0.080	o				0.79
164.917	0.00	0.02	0.080	o				0.79
165.000	0.00	0.02	0.080	o				0.79

165.083	0.00	0.02	0.080	o				0.78
165.167	0.00	0.02	0.080	o				0.78
165.250	0.00	0.02	0.080	o				0.78
165.333	0.00	0.02	0.080	o				0.78
165.417	0.00	0.02	0.080	o				0.78
165.500	0.00	0.02	0.079	o				0.78
165.583	0.00	0.02	0.079	o				0.78
165.667	0.00	0.02	0.079	o				0.78
165.750	0.00	0.02	0.079	o				0.78
165.833	0.00	0.02	0.079	o				0.77
165.917	0.00	0.02	0.079	o				0.77
166.000	0.00	0.02	0.079	o				0.77
166.083	0.00	0.02	0.079	o				0.77
166.167	0.00	0.02	0.079	o				0.77
166.250	0.00	0.02	0.078	o				0.77
166.333	0.00	0.02	0.078	o				0.77
166.417	0.00	0.02	0.078	o				0.77
166.500	0.00	0.02	0.078	o				0.77
166.583	0.00	0.02	0.078	o				0.77
166.667	0.00	0.02	0.078	o				0.76
166.750	0.00	0.02	0.078	o				0.76
166.833	0.00	0.02	0.078	o				0.76
166.917	0.00	0.02	0.078	o				0.76
167.000	0.00	0.02	0.078	o				0.76
167.083	0.00	0.02	0.077	o				0.76
167.167	0.00	0.02	0.077	o				0.76
167.250	0.00	0.02	0.077	o				0.76
167.333	0.00	0.02	0.077	o				0.76
167.417	0.00	0.02	0.077	o				0.76
167.500	0.00	0.02	0.077	o				0.75
167.583	0.00	0.02	0.077	o				0.75
167.667	0.00	0.02	0.077	o				0.75
167.750	0.00	0.02	0.077	o				0.75
167.833	0.00	0.02	0.077	o				0.75
167.917	0.00	0.01	0.076	o				0.75
168.000	0.00	0.01	0.076	o				0.75
168.083	0.00	0.01	0.076	o				0.75
168.167	0.00	0.01	0.076	o				0.75
168.250	0.00	0.01	0.076	o				0.74
168.333	0.00	0.01	0.076	o				0.74
168.417	0.00	0.01	0.076	o				0.74
168.500	0.00	0.01	0.076	o				0.74
168.583	0.00	0.01	0.076	o				0.74
168.667	0.00	0.01	0.075	o				0.74
168.750	0.00	0.01	0.075	o				0.74
168.833	0.00	0.01	0.075	o				0.74
168.917	0.00	0.01	0.075	o				0.74
169.000	0.00	0.01	0.075	o				0.74
169.083	0.00	0.01	0.075	o				0.73
169.167	0.00	0.01	0.075	o				0.73
169.250	0.00	0.01	0.075	o				0.73
169.333	0.00	0.01	0.075	o				0.73
169.417	0.00	0.01	0.075	o				0.73
169.500	0.00	0.01	0.074	o				0.73
169.583	0.00	0.01	0.074	o				0.73
169.667	0.00	0.01	0.074	o				0.73
169.750	0.00	0.01	0.074	o				0.73
169.833	0.00	0.01	0.074	o				0.73
169.917	0.00	0.01	0.074	o				0.73
170.000	0.00	0.01	0.074	o				0.72
170.083	0.00	0.01	0.074	o				0.72
170.167	0.00	0.01	0.074	o				0.72
170.250	0.00	0.01	0.074	o				0.72
170.333	0.00	0.01	0.073	o				0.72
170.417	0.00	0.01	0.073	o				0.72
170.500	0.00	0.01	0.073	o				0.72
170.583	0.00	0.01	0.073	o				0.72
170.667	0.00	0.01	0.073	o				0.72
170.750	0.00	0.01	0.073	o				0.72
170.833	0.00	0.01	0.073	o				0.71
170.917	0.00	0.01	0.073	o				0.71
171.000	0.00	0.01	0.073	o				0.71
171.083	0.00	0.01	0.073	o				0.71
171.167	0.00	0.01	0.072	o				0.71
171.250	0.00	0.01	0.072	o				0.71
171.333	0.00	0.01	0.072	o				0.71
171.417	0.00	0.01	0.072	o				0.71
171.500	0.00	0.01	0.072	o				0.71
171.583	0.00	0.01	0.072	o				0.71

171.667	0.00	0.01	0.072	o				0.70
171.750	0.00	0.01	0.072	o				0.70
171.833	0.00	0.01	0.072	o				0.70
171.917	0.00	0.01	0.072	o				0.70
172.000	0.00	0.01	0.072	o				0.70
172.083	0.00	0.01	0.071	o				0.70
172.167	0.00	0.01	0.071	o				0.70
172.250	0.00	0.01	0.071	o				0.70
172.333	0.00	0.01	0.071	o				0.70
172.417	0.00	0.01	0.071	o				0.70
172.500	0.00	0.01	0.071	o				0.70
172.583	0.00	0.01	0.071	o				0.69
172.667	0.00	0.01	0.071	o				0.69
172.750	0.00	0.01	0.071	o				0.69
172.833	0.00	0.01	0.071	o				0.69
172.917	0.00	0.01	0.070	o				0.69
173.000	0.00	0.01	0.070	o				0.69
173.083	0.00	0.01	0.070	o				0.69
173.167	0.00	0.01	0.070	o				0.69
173.250	0.00	0.01	0.070	o				0.69
173.333	0.00	0.01	0.070	o				0.69
173.417	0.00	0.01	0.070	o				0.69
173.500	0.00	0.01	0.070	o				0.68
173.583	0.00	0.01	0.070	o				0.68
173.667	0.00	0.01	0.070	o				0.68
173.750	0.00	0.01	0.070	o				0.68
173.833	0.00	0.01	0.069	o				0.68
173.917	0.00	0.01	0.069	o				0.68
174.000	0.00	0.01	0.069	o				0.68
174.083	0.00	0.01	0.069	o				0.68
174.167	0.00	0.01	0.069	o				0.68
174.250	0.00	0.01	0.069	o				0.68
174.333	0.00	0.01	0.069	o				0.68
174.417	0.00	0.01	0.069	o				0.67
174.500	0.00	0.01	0.069	o				0.67
174.583	0.00	0.01	0.069	o				0.67
174.667	0.00	0.01	0.068	o				0.67
174.750	0.00	0.01	0.068	o				0.67
174.833	0.00	0.01	0.068	o				0.67
174.917	0.00	0.01	0.068	o				0.67
175.000	0.00	0.01	0.068	o				0.67
175.083	0.00	0.01	0.068	o				0.67
175.167	0.00	0.01	0.068	o				0.67
175.250	0.00	0.01	0.068	o				0.67
175.333	0.00	0.01	0.068	o				0.66
175.417	0.00	0.01	0.068	o				0.66
175.500	0.00	0.01	0.068	o				0.66
175.583	0.00	0.01	0.067	o				0.66
175.667	0.00	0.01	0.067	o				0.66
175.750	0.00	0.01	0.067	o				0.66
175.833	0.00	0.01	0.067	o				0.66
175.917	0.00	0.01	0.067	o				0.66
176.000	0.00	0.01	0.067	o				0.66
176.083	0.00	0.01	0.067	o				0.66
176.167	0.00	0.01	0.067	o				0.66
176.250	0.00	0.01	0.067	o				0.65
176.333	0.00	0.01	0.067	o				0.65
176.417	0.00	0.01	0.067	o				0.65
176.500	0.00	0.01	0.066	o				0.65
176.583	0.00	0.01	0.066	o				0.65
176.667	0.00	0.01	0.066	o				0.65
176.750	0.00	0.01	0.066	o				0.65
176.833	0.00	0.01	0.066	o				0.65
176.917	0.00	0.01	0.066	o				0.65
177.000	0.00	0.01	0.066	o				0.65
177.083	0.00	0.01	0.066	o				0.65
177.167	0.00	0.01	0.066	o				0.64
177.250	0.00	0.01	0.066	o				0.64
177.333	0.00	0.01	0.066	o				0.64
177.417	0.00	0.01	0.065	o				0.64
177.500	0.00	0.01	0.065	o				0.64
177.583	0.00	0.01	0.065	o				0.64
177.667	0.00	0.01	0.065	o				0.64
177.750	0.00	0.01	0.065	o				0.64
177.833	0.00	0.01	0.065	o				0.64
177.917	0.00	0.01	0.065	o				0.64
178.000	0.00	0.01	0.065	o				0.64
178.083	0.00	0.01	0.065	o				0.64
178.167	0.00	0.01	0.065	o				0.63

178.250	0.00	0.01	0.065	o				0.63
178.333	0.00	0.01	0.065	o				0.63
178.417	0.00	0.01	0.064	o				0.63
178.500	0.00	0.01	0.064	o				0.63
178.583	0.00	0.01	0.064	o				0.63
178.667	0.00	0.01	0.064	o				0.63
178.750	0.00	0.01	0.064	o				0.63
178.833	0.00	0.01	0.064	o				0.63
178.917	0.00	0.01	0.064	o				0.63
179.000	0.00	0.01	0.064	o				0.63
179.083	0.00	0.01	0.064	o				0.63
179.167	0.00	0.01	0.064	o				0.62
179.250	0.00	0.01	0.064	o				0.62
179.333	0.00	0.01	0.063	o				0.62
179.417	0.00	0.01	0.063	o				0.62
179.500	0.00	0.01	0.063	o				0.62
179.583	0.00	0.01	0.063	o				0.62
179.667	0.00	0.01	0.063	o				0.62
179.750	0.00	0.01	0.063	o				0.62
179.833	0.00	0.01	0.063	o				0.62
179.917	0.00	0.01	0.063	o				0.62
180.000	0.00	0.01	0.063	o				0.62
180.083	0.00	0.01	0.063	o				0.61
180.167	0.00	0.01	0.063	o				0.61
180.250	0.00	0.01	0.063	o				0.61
180.333	0.00	0.01	0.062	o				0.61
180.417	0.00	0.01	0.062	o				0.61
180.500	0.00	0.01	0.062	o				0.61
180.583	0.00	0.01	0.062	o				0.61
180.667	0.00	0.01	0.062	o				0.61
180.750	0.00	0.01	0.062	o				0.61
180.833	0.00	0.01	0.062	o				0.61
180.917	0.00	0.01	0.062	o				0.61
181.000	0.00	0.01	0.062	o				0.61
181.083	0.00	0.01	0.062	o				0.61
181.167	0.00	0.01	0.062	o				0.60
181.250	0.00	0.01	0.062	o				0.60
181.333	0.00	0.01	0.061	o				0.60
181.417	0.00	0.01	0.061	o				0.60
181.500	0.00	0.01	0.061	o				0.60
181.583	0.00	0.01	0.061	o				0.60
181.667	0.00	0.01	0.061	o				0.60
181.750	0.00	0.01	0.061	o				0.60
181.833	0.00	0.01	0.061	o				0.60
181.917	0.00	0.01	0.061	o				0.60
182.000	0.00	0.01	0.061	o				0.60
182.083	0.00	0.01	0.061	o				0.60
182.167	0.00	0.01	0.061	o				0.59
182.250	0.00	0.01	0.061	o				0.59
182.333	0.00	0.01	0.060	o				0.59
182.417	0.00	0.01	0.060	o				0.59
182.500	0.00	0.01	0.060	o				0.59
182.583	0.00	0.01	0.060	o				0.59
182.667	0.00	0.01	0.060	o				0.59
182.750	0.00	0.01	0.060	o				0.59
182.833	0.00	0.01	0.060	o				0.59
182.917	0.00	0.01	0.060	o				0.59
183.000	0.00	0.01	0.060	o				0.59
183.083	0.00	0.01	0.060	o				0.59
183.167	0.00	0.01	0.060	o				0.59
183.250	0.00	0.01	0.060	o				0.58
183.333	0.00	0.01	0.060	o				0.58
183.417	0.00	0.01	0.059	o				0.58
183.500	0.00	0.01	0.059	o				0.58
183.583	0.00	0.01	0.059	o				0.58
183.667	0.00	0.01	0.059	o				0.58
183.750	0.00	0.01	0.059	o				0.58
183.833	0.00	0.01	0.059	o				0.58
183.917	0.00	0.01	0.059	o				0.58
184.000	0.00	0.01	0.059	o				0.58
184.083	0.00	0.01	0.059	o				0.58
184.167	0.00	0.01	0.059	o				0.58
184.250	0.00	0.01	0.059	o				0.57
184.333	0.00	0.01	0.059	o				0.57
184.417	0.00	0.01	0.058	o				0.57
184.500	0.00	0.01	0.058	o				0.57
184.583	0.00	0.01	0.058	o				0.57
184.667	0.00	0.01	0.058	o				0.57
184.750	0.00	0.01	0.058	o				0.57

184.833	0.00	0.01	0.058	o				0.57
184.917	0.00	0.01	0.058	o				0.57
185.000	0.00	0.01	0.058	o				0.57
185.083	0.00	0.01	0.058	o				0.57
185.167	0.00	0.01	0.058	o				0.57
185.250	0.00	0.01	0.058	o				0.57
185.333	0.00	0.01	0.058	o				0.56
185.417	0.00	0.01	0.058	o				0.56
185.500	0.00	0.01	0.057	o				0.56
185.583	0.00	0.01	0.057	o				0.56
185.667	0.00	0.01	0.057	o				0.56
185.750	0.00	0.01	0.057	o				0.56
185.833	0.00	0.01	0.057	o				0.56
185.917	0.00	0.01	0.057	o				0.56
186.000	0.00	0.01	0.057	o				0.56
186.083	0.00	0.01	0.057	o				0.56
186.167	0.00	0.01	0.057	o				0.56
186.250	0.00	0.01	0.057	o				0.56
186.333	0.00	0.01	0.057	o				0.56
186.417	0.00	0.01	0.057	o				0.55
186.500	0.00	0.01	0.057	o				0.55
186.583	0.00	0.01	0.056	o				0.55
186.667	0.00	0.01	0.056	o				0.55
186.750	0.00	0.01	0.056	o				0.55
186.833	0.00	0.01	0.056	o				0.55
186.917	0.00	0.01	0.056	o				0.55
187.000	0.00	0.01	0.056	o				0.55
187.083	0.00	0.01	0.056	o				0.55
187.167	0.00	0.01	0.056	o				0.55
187.250	0.00	0.01	0.056	o				0.55
187.333	0.00	0.01	0.056	o				0.55
187.417	0.00	0.01	0.056	o				0.55
187.500	0.00	0.01	0.056	o				0.55
187.583	0.00	0.01	0.056	o				0.54
187.667	0.00	0.01	0.055	o				0.54
187.750	0.00	0.01	0.055	o				0.54
187.833	0.00	0.01	0.055	o				0.54
187.917	0.00	0.01	0.055	o				0.54
188.000	0.00	0.01	0.055	o				0.54
188.083	0.00	0.01	0.055	o				0.54
188.167	0.00	0.01	0.055	o				0.54
188.250	0.00	0.01	0.055	o				0.54
188.333	0.00	0.01	0.055	o				0.54
188.417	0.00	0.01	0.055	o				0.54
188.500	0.00	0.01	0.055	o				0.54
188.583	0.00	0.01	0.055	o				0.54
188.667	0.00	0.01	0.055	o				0.54
188.750	0.00	0.01	0.055	o				0.53
188.833	0.00	0.01	0.054	o				0.53
188.917	0.00	0.01	0.054	o				0.53
189.000	0.00	0.01	0.054	o				0.53
189.083	0.00	0.01	0.054	o				0.53
189.167	0.00	0.01	0.054	o				0.53
189.250	0.00	0.01	0.054	o				0.53
189.333	0.00	0.01	0.054	o				0.53
189.417	0.00	0.01	0.054	o				0.53
189.500	0.00	0.01	0.054	o				0.53
189.583	0.00	0.01	0.054	o				0.53
189.667	0.00	0.01	0.054	o				0.53
189.750	0.00	0.01	0.054	o				0.53
189.833	0.00	0.01	0.054	o				0.53
189.917	0.00	0.01	0.053	o				0.52
190.000	0.00	0.01	0.053	o				0.52
190.083	0.00	0.01	0.053	o				0.52
190.167	0.00	0.01	0.053	o				0.52
190.250	0.00	0.01	0.053	o				0.52
190.333	0.00	0.01	0.053	o				0.52
190.417	0.00	0.01	0.053	o				0.52
190.500	0.00	0.01	0.053	o				0.52
190.583	0.00	0.01	0.053	o				0.52
190.667	0.00	0.01	0.053	o				0.52
190.750	0.00	0.01	0.053	o				0.52
190.833	0.00	0.01	0.053	o				0.52
190.917	0.00	0.01	0.053	o				0.52
191.000	0.00	0.01	0.053	o				0.52
191.083	0.00	0.01	0.052	o				0.51
191.167	0.00	0.01	0.052	o				0.51
191.250	0.00	0.01	0.052	o				0.51
191.333	0.00	0.01	0.052	o				0.51

191.417	0.00	0.01	0.052	o				0.51
191.500	0.00	0.01	0.052	o				0.51
191.583	0.00	0.01	0.052	o				0.51
191.667	0.00	0.01	0.052	o				0.51
191.750	0.00	0.01	0.052	o				0.51
191.833	0.00	0.01	0.052	o				0.51
191.917	0.00	0.01	0.052	o				0.51
192.000	0.00	0.01	0.052	o				0.51
192.083	0.00	0.01	0.052	o				0.51
192.167	0.00	0.01	0.052	o				0.51
192.250	0.00	0.01	0.052	o				0.50
192.333	0.00	0.01	0.051	o				0.50
192.417	0.00	0.01	0.051	o				0.50
192.500	0.00	0.01	0.051	o				0.50
192.583	0.00	0.01	0.051	o				0.50
192.667	0.00	0.01	0.051	o				0.50
192.750	0.00	0.01	0.051	o				0.50
192.833	0.00	0.01	0.051	o				0.50
192.917	0.00	0.01	0.051	o				0.50
193.000	0.00	0.01	0.051	o				0.50
193.083	0.00	0.01	0.051	o				0.50
193.167	0.00	0.01	0.051	o				0.50
193.250	0.00	0.01	0.051	o				0.50
193.333	0.00	0.01	0.051	o				0.50
193.417	0.00	0.01	0.051	o				0.50
193.500	0.00	0.01	0.050	o				0.49
193.583	0.00	0.01	0.050	o				0.49
193.667	0.00	0.01	0.050	o				0.49
193.750	0.00	0.01	0.050	o				0.49
193.833	0.00	0.01	0.050	o				0.49
193.917	0.00	0.01	0.050	o				0.49
194.000	0.00	0.01	0.050	o				0.49
194.083	0.00	0.01	0.050	o				0.49
194.167	0.00	0.01	0.050	o				0.49
194.250	0.00	0.01	0.050	o				0.49
194.333	0.00	0.01	0.050	o				0.49
194.417	0.00	0.01	0.050	o				0.49
194.500	0.00	0.01	0.050	o				0.49
194.583	0.00	0.01	0.050	o				0.49
194.667	0.00	0.01	0.050	o				0.49
194.750	0.00	0.01	0.049	o				0.48
194.833	0.00	0.01	0.049	o				0.48
194.917	0.00	0.01	0.049	o				0.48
195.000	0.00	0.01	0.049	o				0.48
195.083	0.00	0.01	0.049	o				0.48
195.167	0.00	0.01	0.049	o				0.48
195.250	0.00	0.01	0.049	o				0.48
195.333	0.00	0.01	0.049	o				0.48
195.417	0.00	0.01	0.049	o				0.48
195.500	0.00	0.01	0.049	o				0.48
195.583	0.00	0.01	0.049	o				0.48
195.667	0.00	0.01	0.049	o				0.48
195.750	0.00	0.01	0.049	o				0.48
195.833	0.00	0.01	0.049	o				0.48
195.917	0.00	0.01	0.049	o				0.48
196.000	0.00	0.01	0.048	o				0.48
196.083	0.00	0.01	0.048	o				0.47
196.167	0.00	0.01	0.048	o				0.47
196.250	0.00	0.01	0.048	o				0.47
196.333	0.00	0.01	0.048	o				0.47
196.417	0.00	0.01	0.048	o				0.47
196.500	0.00	0.01	0.048	o				0.47
196.583	0.00	0.01	0.048	o				0.47
196.667	0.00	0.01	0.048	o				0.47
196.750	0.00	0.01	0.048	o				0.47
196.833	0.00	0.01	0.048	o				0.47
196.917	0.00	0.01	0.048	o				0.47
197.000	0.00	0.01	0.048	o				0.47
197.083	0.00	0.01	0.048	o				0.47
197.167	0.00	0.01	0.048	o				0.47
197.250	0.00	0.01	0.047	o				0.47
197.333	0.00	0.01	0.047	o				0.47
197.417	0.00	0.01	0.047	o				0.46
197.500	0.00	0.01	0.047	o				0.46
197.583	0.00	0.01	0.047	o				0.46
197.667	0.00	0.01	0.047	o				0.46
197.750	0.00	0.01	0.047	o				0.46
197.833	0.00	0.01	0.047	o				0.46
197.917	0.00	0.01	0.047	o				0.46

198.000	0.00	0.01	0.047	o				0.46
198.083	0.00	0.01	0.047	o				0.46
198.167	0.00	0.01	0.047	o				0.46
198.250	0.00	0.01	0.047	o				0.46
198.333	0.00	0.01	0.047	o				0.46
198.417	0.00	0.01	0.047	o				0.46
198.500	0.00	0.01	0.047	o				0.46
198.583	0.00	0.01	0.046	o				0.46
198.667	0.00	0.01	0.046	o				0.46
198.750	0.00	0.01	0.046	o				0.45
198.833	0.00	0.01	0.046	o				0.45
198.917	0.00	0.01	0.046	o				0.45
199.000	0.00	0.01	0.046	o				0.45
199.083	0.00	0.01	0.046	o				0.45
199.167	0.00	0.01	0.046	o				0.45
199.250	0.00	0.01	0.046	o				0.45
199.333	0.00	0.01	0.046	o				0.45
199.417	0.00	0.01	0.046	o				0.45
199.500	0.00	0.01	0.046	o				0.45
199.583	0.00	0.01	0.046	o				0.45
199.667	0.00	0.01	0.046	o				0.45
199.750	0.00	0.01	0.046	o				0.45
199.833	0.00	0.01	0.046	o				0.45
199.917	0.00	0.01	0.045	o				0.45
200.000	0.00	0.01	0.045	o				0.45
200.083	0.00	0.01	0.045	o				0.44
200.167	0.00	0.01	0.045	o				0.44
200.250	0.00	0.01	0.045	o				0.44
200.333	0.00	0.01	0.045	o				0.44
200.417	0.00	0.01	0.045	o				0.44
200.500	0.00	0.01	0.045	o				0.44
200.583	0.00	0.01	0.045	o				0.44
200.667	0.00	0.01	0.045	o				0.44
200.750	0.00	0.01	0.045	o				0.44
200.833	0.00	0.01	0.045	o				0.44
200.917	0.00	0.01	0.045	o				0.44
201.000	0.00	0.01	0.045	o				0.44
201.083	0.00	0.01	0.045	o				0.44
201.167	0.00	0.01	0.045	o				0.44
201.250	0.00	0.01	0.045	o				0.44
201.333	0.00	0.01	0.044	o				0.44
201.417	0.00	0.01	0.044	o				0.44
201.500	0.00	0.01	0.044	o				0.43
201.583	0.00	0.01	0.044	o				0.43
201.667	0.00	0.01	0.044	o				0.43
201.750	0.00	0.01	0.044	o				0.43
201.833	0.00	0.01	0.044	o				0.43
201.917	0.00	0.01	0.044	o				0.43
202.000	0.00	0.01	0.044	o				0.43
202.083	0.00	0.01	0.044	o				0.43
202.167	0.00	0.01	0.044	o				0.43
202.250	0.00	0.01	0.044	o				0.43
202.333	0.00	0.01	0.044	o				0.43
202.417	0.00	0.01	0.044	o				0.43
202.500	0.00	0.01	0.044	o				0.43
202.583	0.00	0.01	0.044	o				0.43
202.667	0.00	0.01	0.044	o				0.43
202.750	0.00	0.01	0.043	o				0.43
202.833	0.00	0.01	0.043	o				0.43
202.917	0.00	0.01	0.043	o				0.42
203.000	0.00	0.01	0.043	o				0.42
203.083	0.00	0.01	0.043	o				0.42
203.167	0.00	0.01	0.043	o				0.42
203.250	0.00	0.01	0.043	o				0.42
203.333	0.00	0.01	0.043	o				0.42
203.417	0.00	0.01	0.043	o				0.42
203.500	0.00	0.01	0.043	o				0.42
203.583	0.00	0.01	0.043	o				0.42
203.667	0.00	0.01	0.043	o				0.42
203.750	0.00	0.01	0.043	o				0.42
203.833	0.00	0.01	0.043	o				0.42
203.917	0.00	0.01	0.043	o				0.42
204.000	0.00	0.01	0.043	o				0.42
204.083	0.00	0.01	0.043	o				0.42
204.167	0.00	0.01	0.042	o				0.42
204.250	0.00	0.01	0.042	o				0.42
204.333	0.00	0.01	0.042	o				0.42
204.417	0.00	0.01	0.042	o				0.41
204.500	0.00	0.01	0.042	o				0.41

204.583	0.00	0.01	0.042	o				0.41
204.667	0.00	0.01	0.042	o				0.41
204.750	0.00	0.01	0.042	o				0.41
204.833	0.00	0.01	0.042	o				0.41
204.917	0.00	0.01	0.042	o				0.41
205.000	0.00	0.01	0.042	o				0.41
205.083	0.00	0.01	0.042	o				0.41
205.167	0.00	0.01	0.042	o				0.41
205.250	0.00	0.01	0.042	o				0.41
205.333	0.00	0.01	0.042	o				0.41
205.417	0.00	0.01	0.042	o				0.41
205.500	0.00	0.01	0.042	o				0.41
205.583	0.00	0.01	0.041	o				0.41
205.667	0.00	0.01	0.041	o				0.41
205.750	0.00	0.01	0.041	o				0.41
205.833	0.00	0.01	0.041	o				0.41
205.917	0.00	0.01	0.041	o				0.40
206.000	0.00	0.01	0.041	o				0.40
206.083	0.00	0.01	0.041	o				0.40
206.167	0.00	0.01	0.041	o				0.40
206.250	0.00	0.01	0.041	o				0.40
206.333	0.00	0.01	0.041	o				0.40
206.417	0.00	0.01	0.041	o				0.40
206.500	0.00	0.01	0.041	o				0.40
206.583	0.00	0.01	0.041	o				0.40
206.667	0.00	0.01	0.041	o				0.40
206.750	0.00	0.01	0.041	o				0.40
206.833	0.00	0.01	0.041	o				0.40
206.917	0.00	0.01	0.041	o				0.40
207.000	0.00	0.01	0.041	o				0.40
207.083	0.00	0.01	0.040	o				0.40
207.167	0.00	0.01	0.040	o				0.40
207.250	0.00	0.01	0.040	o				0.40
207.333	0.00	0.01	0.040	o				0.40
207.417	0.00	0.01	0.040	o				0.39
207.500	0.00	0.01	0.040	o				0.39
207.583	0.00	0.01	0.040	o				0.39
207.667	0.00	0.01	0.040	o				0.39
207.750	0.00	0.01	0.040	o				0.39
207.833	0.00	0.01	0.040	o				0.39
207.917	0.00	0.01	0.040	o				0.39
208.000	0.00	0.01	0.040	o				0.39
208.083	0.00	0.01	0.040	o				0.39
208.167	0.00	0.01	0.040	o				0.39
208.250	0.00	0.01	0.040	o				0.39
208.333	0.00	0.01	0.040	o				0.39
208.417	0.00	0.01	0.040	o				0.39
208.500	0.00	0.01	0.040	o				0.39
208.583	0.00	0.01	0.040	o				0.39
208.667	0.00	0.01	0.039	o				0.39
208.750	0.00	0.01	0.039	o				0.39
208.833	0.00	0.01	0.039	o				0.39
208.917	0.00	0.01	0.039	o				0.39
209.000	0.00	0.01	0.039	o				0.38
209.083	0.00	0.01	0.039	o				0.38
209.167	0.00	0.01	0.039	o				0.38
209.250	0.00	0.01	0.039	o				0.38
209.333	0.00	0.01	0.039	o				0.38
209.417	0.00	0.01	0.039	o				0.38
209.500	0.00	0.01	0.039	o				0.38
209.583	0.00	0.01	0.039	o				0.38
209.667	0.00	0.01	0.039	o				0.38
209.750	0.00	0.01	0.039	o				0.38
209.833	0.00	0.01	0.039	o				0.38
209.917	0.00	0.01	0.039	o				0.38
210.000	0.00	0.01	0.039	o				0.38
210.083	0.00	0.01	0.039	o				0.38
210.167	0.00	0.01	0.039	o				0.38
210.250	0.00	0.01	0.038	o				0.38
210.333	0.00	0.01	0.038	o				0.38
210.417	0.00	0.01	0.038	o				0.38
210.500	0.00	0.01	0.038	o				0.38
210.583	0.00	0.01	0.038	o				0.38
210.667	0.00	0.01	0.038	o				0.37
210.750	0.00	0.01	0.038	o				0.37
210.833	0.00	0.01	0.038	o				0.37
210.917	0.00	0.01	0.038	o				0.37
211.000	0.00	0.01	0.038	o				0.37
211.083	0.00	0.01	0.038	o				0.37

211.167	0.00	0.01	0.038	o				0.37
211.250	0.00	0.01	0.038	o				0.37
211.333	0.00	0.01	0.038	o				0.37
211.417	0.00	0.01	0.038	o				0.37
211.500	0.00	0.01	0.038	o				0.37
211.583	0.00	0.01	0.038	o				0.37
211.667	0.00	0.01	0.038	o				0.37
211.750	0.00	0.01	0.038	o				0.37
211.833	0.00	0.01	0.037	o				0.37
211.917	0.00	0.01	0.037	o				0.37
212.000	0.00	0.01	0.037	o				0.37
212.083	0.00	0.01	0.037	o				0.37
212.167	0.00	0.01	0.037	o				0.37
212.250	0.00	0.01	0.037	o				0.37
212.333	0.00	0.01	0.037	o				0.36
212.417	0.00	0.01	0.037	o				0.36
212.500	0.00	0.01	0.037	o				0.36
212.583	0.00	0.01	0.037	o				0.36
212.667	0.00	0.01	0.037	o				0.36
212.750	0.00	0.01	0.037	o				0.36
212.833	0.00	0.01	0.037	o				0.36
212.917	0.00	0.01	0.037	o				0.36
213.000	0.00	0.01	0.037	o				0.36
213.083	0.00	0.01	0.037	o				0.36
213.167	0.00	0.01	0.037	o				0.36
213.250	0.00	0.01	0.037	o				0.36
213.333	0.00	0.01	0.037	o				0.36
213.417	0.00	0.01	0.037	o				0.36
213.500	0.00	0.01	0.036	o				0.36
213.583	0.00	0.01	0.036	o				0.36
213.667	0.00	0.01	0.036	o				0.36
213.750	0.00	0.01	0.036	o				0.36
213.833	0.00	0.01	0.036	o				0.36
213.917	0.00	0.01	0.036	o				0.36
214.000	0.00	0.01	0.036	o				0.35
214.083	0.00	0.01	0.036	o				0.35
214.167	0.00	0.01	0.036	o				0.35
214.250	0.00	0.01	0.036	o				0.35
214.333	0.00	0.01	0.036	o				0.35
214.417	0.00	0.01	0.036	o				0.35
214.500	0.00	0.01	0.036	o				0.35
214.583	0.00	0.01	0.036	o				0.35
214.667	0.00	0.01	0.036	o				0.35
214.750	0.00	0.01	0.036	o				0.35
214.833	0.00	0.01	0.036	o				0.35
214.917	0.00	0.01	0.036	o				0.35
215.000	0.00	0.01	0.036	o				0.35
215.083	0.00	0.01	0.036	o				0.35
215.167	0.00	0.01	0.036	o				0.35
215.250	0.00	0.01	0.035	o				0.35
215.333	0.00	0.01	0.035	o				0.35
215.417	0.00	0.01	0.035	o				0.35
215.500	0.00	0.01	0.035	o				0.35
215.583	0.00	0.01	0.035	o				0.35
215.667	0.00	0.01	0.035	o				0.35
215.750	0.00	0.01	0.035	o				0.35
215.833	0.00	0.01	0.035	o				0.34
215.917	0.00	0.01	0.035	o				0.34
216.000	0.00	0.01	0.035	o				0.34
216.083	0.00	0.01	0.035	o				0.34
216.167	0.00	0.01	0.035	o				0.34
216.250	0.00	0.01	0.035	o				0.34
216.333	0.00	0.01	0.035	o				0.34
216.417	0.00	0.01	0.035	o				0.34
216.500	0.00	0.01	0.035	o				0.34
216.583	0.00	0.01	0.035	o				0.34
216.667	0.00	0.01	0.035	o				0.34
216.750	0.00	0.01	0.035	o				0.34
216.833	0.00	0.01	0.035	o				0.34
216.917	0.00	0.01	0.035	o				0.34
217.000	0.00	0.01	0.034	o				0.34
217.083	0.00	0.01	0.034	o				0.34
217.167	0.00	0.01	0.034	o				0.34
217.250	0.00	0.01	0.034	o				0.34
217.333	0.00	0.01	0.034	o				0.34
217.417	0.00	0.01	0.034	o				0.34
217.500	0.00	0.01	0.034	o				0.34
217.583	0.00	0.01	0.034	o				0.33
217.667	0.00	0.01	0.034	o				0.33

217.750	0.00	0.01	0.034	o					0.33
217.833	0.00	0.01	0.034	o					0.33
217.917	0.00	0.01	0.034	o					0.33
218.000	0.00	0.01	0.034	o					0.33
218.083	0.00	0.01	0.034	o					0.33
218.167	0.00	0.01	0.034	o					0.33
218.250	0.00	0.01	0.034	o					0.33
218.333	0.00	0.01	0.034	o					0.33
218.417	0.00	0.01	0.034	o					0.33
218.500	0.00	0.01	0.034	o					0.33
218.583	0.00	0.01	0.034	o					0.33
218.667	0.00	0.01	0.034	o					0.33
218.750	0.00	0.01	0.034	o					0.33
218.833	0.00	0.01	0.033	o					0.33
218.917	0.00	0.01	0.033	o					0.33
219.000	0.00	0.01	0.033	o					0.33
219.083	0.00	0.01	0.033	o					0.33
219.167	0.00	0.01	0.033	o					0.33
219.250	0.00	0.01	0.033	o					0.33
219.333	0.00	0.01	0.033	o					0.33
219.417	0.00	0.01	0.033	o					0.33
219.500	0.00	0.01	0.033	o					0.32
219.583	0.00	0.01	0.033	o					0.32
219.667	0.00	0.01	0.033	o					0.32
219.750	0.00	0.01	0.033	o					0.32
219.833	0.00	0.01	0.033	o					0.32
219.917	0.00	0.01	0.033	o					0.32
220.000	0.00	0.01	0.033	o					0.32
220.083	0.00	0.01	0.033	o					0.32
220.167	0.00	0.01	0.033	o					0.32
220.250	0.00	0.01	0.033	o					0.32
220.333	0.00	0.01	0.033	o					0.32
220.417	0.00	0.01	0.033	o					0.32
220.500	0.00	0.01	0.033	o					0.32
220.583	0.00	0.01	0.033	o					0.32
220.667	0.00	0.01	0.032	o					0.32
220.750	0.00	0.01	0.032	o					0.32
220.833	0.00	0.01	0.032	o					0.32
220.917	0.00	0.01	0.032	o					0.32
221.000	0.00	0.01	0.032	o					0.32
221.083	0.00	0.01	0.032	o					0.32
221.167	0.00	0.01	0.032	o					0.32
221.250	0.00	0.01	0.032	o					0.32
221.333	0.00	0.01	0.032	o					0.32
221.417	0.00	0.01	0.032	o					0.31
221.500	0.00	0.01	0.032	o					0.31
221.583	0.00	0.01	0.032	o					0.31
221.667	0.00	0.01	0.032	o					0.31
221.750	0.00	0.01	0.032	o					0.31
221.833	0.00	0.01	0.032	o					0.31
221.917	0.00	0.01	0.032	o					0.31
222.000	0.00	0.01	0.032	o					0.31
222.083	0.00	0.01	0.032	o					0.31
222.167	0.00	0.01	0.032	o					0.31
222.250	0.00	0.01	0.032	o					0.31
222.333	0.00	0.01	0.032	o					0.31
222.417	0.00	0.01	0.032	o					0.31
222.500	0.00	0.01	0.032	o					0.31
222.583	0.00	0.01	0.032	o					0.31
222.667	0.00	0.01	0.031	o					0.31
222.750	0.00	0.01	0.031	o					0.31
222.833	0.00	0.01	0.031	o					0.31
222.917	0.00	0.01	0.031	o					0.31
223.000	0.00	0.01	0.031	o					0.31
223.083	0.00	0.01	0.031	o					0.31
223.167	0.00	0.01	0.031	o					0.31
223.250	0.00	0.01	0.031	o					0.31
223.333	0.00	0.01	0.031	o					0.31
223.417	0.00	0.01	0.031	o					0.30
223.500	0.00	0.01	0.031	o					0.30
223.583	0.00	0.01	0.031	o					0.30
223.667	0.00	0.01	0.031	o					0.30
223.750	0.00	0.01	0.031	o					0.30
223.833	0.00	0.01	0.031	o					0.30
223.917	0.00	0.01	0.031	o					0.30
224.000	0.00	0.01	0.031	o					0.30
224.083	0.00	0.01	0.031	o					0.30
224.167	0.00	0.01	0.031	o					0.30
224.250	0.00	0.01	0.031	o					0.30

224.333	0.00	0.01	0.031	o	|	|	|	0.30
224.417	0.00	0.01	0.031	o	|	|	|	0.30
224.500	0.00	0.01	0.031	o	|	|	|	0.30
224.583	0.00	0.01	0.030	o	|	|	|	0.30
224.667	0.00	0.01	0.030	o	|	|	|	0.30
224.750	0.00	0.01	0.030	o	|	|	|	0.30
224.833	0.00	0.01	0.030	o	|	|	|	0.30
224.917	0.00	0.01	0.030	o	|	|	|	0.30
225.000	0.00	0.01	0.030	o	|	|	|	0.30
225.083	0.00	0.01	0.030	o	|	|	|	0.30
225.167	0.00	0.01	0.030	o	|	|	|	0.30
225.250	0.00	0.01	0.030	o	|	|	|	0.30
225.333	0.00	0.01	0.030	o	|	|	|	0.30
225.417	0.00	0.01	0.030	o	|	|	|	0.29
225.500	0.00	0.01	0.030	o	|	|	|	0.29
225.583	0.00	0.01	0.030	o	|	|	|	0.29
225.667	0.00	0.01	0.030	o	|	|	|	0.29
225.750	0.00	0.01	0.030	o	|	|	|	0.29
225.833	0.00	0.01	0.030	o	|	|	|	0.29
225.917	0.00	0.01	0.030	o	|	|	|	0.29
226.000	0.00	0.01	0.030	o	|	|	|	0.29
226.083	0.00	0.01	0.030	o	|	|	|	0.29
226.167	0.00	0.01	0.030	o	|	|	|	0.29
226.250	0.00	0.01	0.030	o	|	|	|	0.29
226.333	0.00	0.01	0.030	o	|	|	|	0.29
226.417	0.00	0.01	0.030	o	|	|	|	0.29
226.500	0.00	0.01	0.030	o	|	|	|	0.29
226.583	0.00	0.01	0.030	o	|	|	|	0.29
226.667	0.00	0.01	0.029	o	|	|	|	0.29
226.750	0.00	0.01	0.029	o	|	|	|	0.29
226.833	0.00	0.01	0.029	o	|	|	|	0.29
226.917	0.00	0.01	0.029	o	|	|	|	0.29
227.000	0.00	0.01	0.029	o	|	|	|	0.29
227.083	0.00	0.01	0.029	o	|	|	|	0.29
227.167	0.00	0.01	0.029	o	|	|	|	0.29
227.250	0.00	0.01	0.029	o	|	|	|	0.29
227.333	0.00	0.01	0.029	o	|	|	|	0.29
227.417	0.00	0.01	0.029	o	|	|	|	0.29
227.500	0.00	0.01	0.029	o	|	|	|	0.29
227.583	0.00	0.01	0.029	o	|	|	|	0.28
227.667	0.00	0.01	0.029	o	|	|	|	0.28
227.750	0.00	0.01	0.029	o	|	|	|	0.28
227.833	0.00	0.01	0.029	o	|	|	|	0.28
227.917	0.00	0.01	0.029	o	|	|	|	0.28
228.000	0.00	0.01	0.029	o	|	|	|	0.28
228.083	0.00	0.01	0.029	o	|	|	|	0.28
228.167	0.00	0.01	0.029	o	|	|	|	0.28
228.250	0.00	0.01	0.029	o	|	|	|	0.28
228.333	0.00	0.01	0.029	o	|	|	|	0.28
228.417	0.00	0.01	0.029	o	|	|	|	0.28
228.500	0.00	0.01	0.029	o	|	|	|	0.28
228.583	0.00	0.01	0.029	o	|	|	|	0.28
228.667	0.00	0.01	0.029	o	|	|	|	0.28
228.750	0.00	0.01	0.029	o	|	|	|	0.28
228.833	0.00	0.01	0.028	o	|	|	|	0.28
228.917	0.00	0.01	0.028	o	|	|	|	0.28
229.000	0.00	0.01	0.028	o	|	|	|	0.28
229.083	0.00	0.01	0.028	o	|	|	|	0.28
229.167	0.00	0.01	0.028	o	|	|	|	0.28
229.250	0.00	0.01	0.028	o	|	|	|	0.28
229.333	0.00	0.01	0.028	o	|	|	|	0.28
229.417	0.00	0.01	0.028	o	|	|	|	0.28
229.500	0.00	0.01	0.028	o	|	|	|	0.28
229.583	0.00	0.01	0.028	o	|	|	|	0.28
229.667	0.00	0.01	0.028	o	|	|	|	0.28
229.750	0.00	0.01	0.028	o	|	|	|	0.27
229.833	0.00	0.01	0.028	o	|	|	|	0.27
229.917	0.00	0.01	0.028	o	|	|	|	0.27
230.000	0.00	0.01	0.028	o	|	|	|	0.27
230.083	0.00	0.01	0.028	o	|	|	|	0.27
230.167	0.00	0.01	0.028	o	|	|	|	0.27
230.250	0.00	0.01	0.028	o	|	|	|	0.27
230.333	0.00	0.01	0.028	o	|	|	|	0.27
230.417	0.00	0.01	0.028	o	|	|	|	0.27
230.500	0.00	0.01	0.028	o	|	|	|	0.27
230.583	0.00	0.01	0.028	o	|	|	|	0.27
230.667	0.00	0.01	0.028	o	|	|	|	0.27
230.750	0.00	0.01	0.028	o	|	|	|	0.27
230.833	0.00	0.01	0.028	o	|	|	|	0.27

230.917	0.00	0.01	0.028	o	|	|	|	0.27
231.000	0.00	0.01	0.027	o	|	|	|	0.27
231.083	0.00	0.01	0.027	o	|	|	|	0.27
231.167	0.00	0.01	0.027	o	|	|	|	0.27
231.250	0.00	0.01	0.027	o	|	|	|	0.27
231.333	0.00	0.01	0.027	o	|	|	|	0.27
231.417	0.00	0.01	0.027	o	|	|	|	0.27
231.500	0.00	0.01	0.027	o	|	|	|	0.27
231.583	0.00	0.01	0.027	o	|	|	|	0.27
231.667	0.00	0.01	0.027	o	|	|	|	0.27
231.750	0.00	0.01	0.027	o	|	|	|	0.27
231.833	0.00	0.01	0.027	o	|	|	|	0.27
231.917	0.00	0.01	0.027	o	|	|	|	0.27
232.000	0.00	0.01	0.027	o	|	|	|	0.27
232.083	0.00	0.01	0.027	o	|	|	|	0.26
232.167	0.00	0.01	0.027	o	|	|	|	0.26
232.250	0.00	0.01	0.027	o	|	|	|	0.26
232.333	0.00	0.01	0.027	o	|	|	|	0.26
232.417	0.00	0.01	0.027	o	|	|	|	0.26
232.500	0.00	0.01	0.027	o	|	|	|	0.26
232.583	0.00	0.01	0.027	o	|	|	|	0.26
232.667	0.00	0.01	0.027	o	|	|	|	0.26
232.750	0.00	0.01	0.027	o	|	|	|	0.26
232.833	0.00	0.01	0.027	o	|	|	|	0.26
232.917	0.00	0.01	0.027	o	|	|	|	0.26
233.000	0.00	0.01	0.027	o	|	|	|	0.26
233.083	0.00	0.01	0.027	o	|	|	|	0.26
233.167	0.00	0.01	0.027	o	|	|	|	0.26
233.250	0.00	0.01	0.027	o	|	|	|	0.26
233.333	0.00	0.01	0.026	o	|	|	|	0.26
233.417	0.00	0.01	0.026	o	|	|	|	0.26
233.500	0.00	0.01	0.026	o	|	|	|	0.26
233.583	0.00	0.01	0.026	o	|	|	|	0.26
233.667	0.00	0.01	0.026	o	|	|	|	0.26
233.750	0.00	0.01	0.026	o	|	|	|	0.26
233.833	0.00	0.01	0.026	o	|	|	|	0.26
233.917	0.00	0.01	0.026	o	|	|	|	0.26
234.000	0.00	0.01	0.026	o	|	|	|	0.26
234.083	0.00	0.01	0.026	o	|	|	|	0.26
234.167	0.00	0.01	0.026	o	|	|	|	0.26
234.250	0.00	0.01	0.026	o	|	|	|	0.26
234.333	0.00	0.01	0.026	o	|	|	|	0.26
234.417	0.00	0.01	0.026	o	|	|	|	0.25
234.500	0.00	0.01	0.026	o	|	|	|	0.25
234.583	0.00	0.01	0.026	o	|	|	|	0.25
234.667	0.00	0.01	0.026	o	|	|	|	0.25
234.750	0.00	0.01	0.026	o	|	|	|	0.25
234.833	0.00	0.01	0.026	o	|	|	|	0.25
234.917	0.00	0.01	0.026	o	|	|	|	0.25
235.000	0.00	0.01	0.026	o	|	|	|	0.25
235.083	0.00	0.01	0.026	o	|	|	|	0.25
235.167	0.00	0.01	0.026	o	|	|	|	0.25
235.250	0.00	0.01	0.026	o	|	|	|	0.25
235.333	0.00	0.01	0.026	o	|	|	|	0.25
235.417	0.00	0.01	0.026	o	|	|	|	0.25
235.500	0.00	0.01	0.026	o	|	|	|	0.25
235.583	0.00	0.01	0.026	o	|	|	|	0.25
235.667	0.00	0.00	0.025	o	|	|	|	0.25
235.750	0.00	0.00	0.025	o	|	|	|	0.25
235.833	0.00	0.00	0.025	o	|	|	|	0.25
235.917	0.00	0.00	0.025	o	|	|	|	0.25
236.000	0.00	0.00	0.025	o	|	|	|	0.25
236.083	0.00	0.00	0.025	o	|	|	|	0.25
236.167	0.00	0.00	0.025	o	|	|	|	0.25
236.250	0.00	0.00	0.025	o	|	|	|	0.25
236.333	0.00	0.00	0.025	o	|	|	|	0.25
236.417	0.00	0.00	0.025	o	|	|	|	0.25
236.500	0.00	0.00	0.025	o	|	|	|	0.25
236.583	0.00	0.00	0.025	o	|	|	|	0.25
236.667	0.00	0.00	0.025	o	|	|	|	0.25
236.750	0.00	0.00	0.025	o	|	|	|	0.25
236.833	0.00	0.00	0.025	o	|	|	|	0.25
236.917	0.00	0.00	0.025	o	|	|	|	0.24
237.000	0.00	0.00	0.025	o	|	|	|	0.24
237.083	0.00	0.00	0.025	o	|	|	|	0.24
237.167	0.00	0.00	0.025	o	|	|	|	0.24
237.250	0.00	0.00	0.025	o	|	|	|	0.24
237.333	0.00	0.00	0.025	o	|	|	|	0.24
237.417	0.00	0.00	0.025	o	|	|	|	0.24

237.500	0.00	0.00	0.025	o	|	|	|	0.24
237.583	0.00	0.00	0.025	o	|	|	|	0.24
237.667	0.00	0.00	0.025	o	|	|	|	0.24
237.750	0.00	0.00	0.025	o	|	|	|	0.24
237.833	0.00	0.00	0.025	o	|	|	|	0.24
237.917	0.00	0.00	0.025	o	|	|	|	0.24
238.000	0.00	0.00	0.025	o	|	|	|	0.24
238.083	0.00	0.00	0.025	o	|	|	|	0.24
238.167	0.00	0.00	0.024	o	|	|	|	0.24
238.250	0.00	0.00	0.024	o	|	|	|	0.24
238.333	0.00	0.00	0.024	o	|	|	|	0.24
238.417	0.00	0.00	0.024	o	|	|	|	0.24
238.500	0.00	0.00	0.024	o	|	|	|	0.24
238.583	0.00	0.00	0.024	o	|	|	|	0.24
238.667	0.00	0.00	0.024	o	|	|	|	0.24
238.750	0.00	0.00	0.024	o	|	|	|	0.24
238.833	0.00	0.00	0.024	o	|	|	|	0.24
238.917	0.00	0.00	0.024	o	|	|	|	0.24
239.000	0.00	0.00	0.024	o	|	|	|	0.24
239.083	0.00	0.00	0.024	o	|	|	|	0.24
239.167	0.00	0.00	0.024	o	|	|	|	0.24
239.250	0.00	0.00	0.024	o	|	|	|	0.24
239.333	0.00	0.00	0.024	o	|	|	|	0.24
239.417	0.00	0.00	0.024	o	|	|	|	0.24
239.500	0.00	0.00	0.024	o	|	|	|	0.23
239.583	0.00	0.00	0.024	o	|	|	|	0.23
239.667	0.00	0.00	0.024	o	|	|	|	0.23
239.750	0.00	0.00	0.024	o	|	|	|	0.23
239.833	0.00	0.00	0.024	o	|	|	|	0.23
239.917	0.00	0.00	0.024	o	|	|	|	0.23
240.000	0.00	0.00	0.024	o	|	|	|	0.23
240.083	0.00	0.00	0.024	o	|	|	|	0.23
240.167	0.00	0.00	0.024	o	|	|	|	0.23
240.250	0.00	0.00	0.024	o	|	|	|	0.23
240.333	0.00	0.00	0.024	o	|	|	|	0.23
240.417	0.00	0.00	0.024	o	|	|	|	0.23
240.500	0.00	0.00	0.024	o	|	|	|	0.23
240.583	0.00	0.00	0.024	o	|	|	|	0.23
240.667	0.00	0.00	0.024	o	|	|	|	0.23
240.750	0.00	0.00	0.023	o	|	|	|	0.23
240.833	0.00	0.00	0.023	o	|	|	|	0.23
240.917	0.00	0.00	0.023	o	|	|	|	0.23
241.000	0.00	0.00	0.023	o	|	|	|	0.23
241.083	0.00	0.00	0.023	o	|	|	|	0.23
241.167	0.00	0.00	0.023	o	|	|	|	0.23
241.250	0.00	0.00	0.023	o	|	|	|	0.23
241.333	0.00	0.00	0.023	o	|	|	|	0.23
241.417	0.00	0.00	0.023	o	|	|	|	0.23
241.500	0.00	0.00	0.023	o	|	|	|	0.23
241.583	0.00	0.00	0.023	o	|	|	|	0.23
241.667	0.00	0.00	0.023	o	|	|	|	0.23
241.750	0.00	0.00	0.023	o	|	|	|	0.23
241.833	0.00	0.00	0.023	o	|	|	|	0.23
241.917	0.00	0.00	0.023	o	|	|	|	0.23
242.000	0.00	0.00	0.023	o	|	|	|	0.23
242.083	0.00	0.00	0.023	o	|	|	|	0.23
242.167	0.00	0.00	0.023	o	|	|	|	0.22
242.250	0.00	0.00	0.023	o	|	|	|	0.22
242.333	0.00	0.00	0.023	o	|	|	|	0.22
242.417	0.00	0.00	0.023	o	|	|	|	0.22
242.500	0.00	0.00	0.023	o	|	|	|	0.22
242.583	0.00	0.00	0.023	o	|	|	|	0.22
242.667	0.00	0.00	0.023	o	|	|	|	0.22
242.750	0.00	0.00	0.023	o	|	|	|	0.22
242.833	0.00	0.00	0.023	o	|	|	|	0.22
242.917	0.00	0.00	0.023	o	|	|	|	0.22
243.000	0.00	0.00	0.023	o	|	|	|	0.22
243.083	0.00	0.00	0.023	o	|	|	|	0.22
243.167	0.00	0.00	0.023	o	|	|	|	0.22
243.250	0.00	0.00	0.023	o	|	|	|	0.22
243.333	0.00	0.00	0.023	o	|	|	|	0.22
243.417	0.00	0.00	0.022	o	|	|	|	0.22
243.500	0.00	0.00	0.022	o	|	|	|	0.22
243.583	0.00	0.00	0.022	o	|	|	|	0.22
243.667	0.00	0.00	0.022	o	|	|	|	0.22
243.750	0.00	0.00	0.022	o	|	|	|	0.22
243.833	0.00	0.00	0.022	o	|	|	|	0.22
243.917	0.00	0.00	0.022	o	|	|	|	0.22
244.000	0.00	0.00	0.022	o	|	|	|	0.22

244.083	0.00	0.00	0.022	o				0.22
244.167	0.00	0.00	0.022	o				0.22
244.250	0.00	0.00	0.022	o				0.22
244.333	0.00	0.00	0.022	o				0.22
244.417	0.00	0.00	0.022	o				0.22
244.500	0.00	0.00	0.022	o				0.22
244.583	0.00	0.00	0.022	o				0.22
244.667	0.00	0.00	0.022	o				0.22
244.750	0.00	0.00	0.022	o				0.22
244.833	0.00	0.00	0.022	o				0.22
244.917	0.00	0.00	0.022	o				0.22
245.000	0.00	0.00	0.022	o				0.21
245.083	0.00	0.00	0.022	o				0.21
245.167	0.00	0.00	0.022	o				0.21
245.250	0.00	0.00	0.022	o				0.21
245.333	0.00	0.00	0.022	o				0.21
245.417	0.00	0.00	0.022	o				0.21
245.500	0.00	0.00	0.022	o				0.21
245.583	0.00	0.00	0.022	o				0.21
245.667	0.00	0.00	0.022	o				0.21
245.750	0.00	0.00	0.022	o				0.21
245.833	0.00	0.00	0.022	o				0.21
245.917	0.00	0.00	0.022	o				0.21
246.000	0.00	0.00	0.022	o				0.21
246.083	0.00	0.00	0.022	o				0.21
246.167	0.00	0.00	0.021	o				0.21
246.250	0.00	0.00	0.021	o				0.21
246.333	0.00	0.00	0.021	o				0.21
246.417	0.00	0.00	0.021	o				0.21
246.500	0.00	0.00	0.021	o				0.21
246.583	0.00	0.00	0.021	o				0.21
246.667	0.00	0.00	0.021	o				0.21
246.750	0.00	0.00	0.021	o				0.21
246.833	0.00	0.00	0.021	o				0.21
246.917	0.00	0.00	0.021	o				0.21
247.000	0.00	0.00	0.021	o				0.21
247.083	0.00	0.00	0.021	o				0.21
247.167	0.00	0.00	0.021	o				0.21
247.250	0.00	0.00	0.021	o				0.21
247.333	0.00	0.00	0.021	o				0.21
247.417	0.00	0.00	0.021	o				0.21
247.500	0.00	0.00	0.021	o				0.21
247.583	0.00	0.00	0.021	o				0.21
247.667	0.00	0.00	0.021	o				0.21
247.750	0.00	0.00	0.021	o				0.21
247.833	0.00	0.00	0.021	o				0.21
247.917	0.00	0.00	0.021	o				0.20
248.000	0.00	0.00	0.021	o				0.20
248.083	0.00	0.00	0.021	o				0.20
248.167	0.00	0.00	0.021	o				0.20
248.250	0.00	0.00	0.021	o				0.20
248.333	0.00	0.00	0.021	o				0.20
248.417	0.00	0.00	0.021	o				0.20
248.500	0.00	0.00	0.021	o				0.20
248.583	0.00	0.00	0.021	o				0.20
248.667	0.00	0.00	0.021	o				0.20
248.750	0.00	0.00	0.021	o				0.20
248.833	0.00	0.00	0.021	o				0.20
248.917	0.00	0.00	0.021	o				0.20
249.000	0.00	0.00	0.021	o				0.20
249.083	0.00	0.00	0.021	o				0.20
249.167	0.00	0.00	0.020	o				0.20
249.250	0.00	0.00	0.020	o				0.20
249.333	0.00	0.00	0.020	o				0.20
249.417	0.00	0.00	0.020	o				0.20
249.500	0.00	0.00	0.020	o				0.20
249.583	0.00	0.00	0.020	o				0.20
249.667	0.00	0.00	0.020	o				0.20
249.750	0.00	0.00	0.020	o				0.20
249.833	0.00	0.00	0.020	o				0.20
249.917	0.00	0.00	0.020	o				0.20
250.000	0.00	0.00	0.020	o				0.20
250.083	0.00	0.00	0.020	o				0.20
250.167	0.00	0.00	0.020	o				0.20
250.250	0.00	0.00	0.020	o				0.20
250.333	0.00	0.00	0.020	o				0.20
250.417	0.00	0.00	0.020	o				0.20
250.500	0.00	0.00	0.020	o				0.20
250.583	0.00	0.00	0.020	o				0.20

250.667	0.00	0.00	0.020	o				0.20
250.750	0.00	0.00	0.020	o				0.20
250.833	0.00	0.00	0.020	o				0.20
250.917	0.00	0.00	0.020	o				0.20
251.000	0.00	0.00	0.020	o				0.19
251.083	0.00	0.00	0.020	o				0.19
251.167	0.00	0.00	0.020	o				0.19
251.250	0.00	0.00	0.020	o				0.19
251.333	0.00	0.00	0.020	o				0.19
251.417	0.00	0.00	0.020	o				0.19
251.500	0.00	0.00	0.020	o				0.19
251.583	0.00	0.00	0.020	o				0.19
251.667	0.00	0.00	0.020	o				0.19
251.750	0.00	0.00	0.020	o				0.19
251.833	0.00	0.00	0.020	o				0.19
251.917	0.00	0.00	0.020	o				0.19
252.000	0.00	0.00	0.020	o				0.19
252.083	0.00	0.00	0.020	o				0.19
252.167	0.00	0.00	0.020	o				0.19
252.250	0.00	0.00	0.019	o				0.19
252.333	0.00	0.00	0.019	o				0.19
252.417	0.00	0.00	0.019	o				0.19
252.500	0.00	0.00	0.019	o				0.19
252.583	0.00	0.00	0.019	o				0.19
252.667	0.00	0.00	0.019	o				0.19
252.750	0.00	0.00	0.019	o				0.19
252.833	0.00	0.00	0.019	o				0.19
252.917	0.00	0.00	0.019	o				0.19
253.000	0.00	0.00	0.019	o				0.19
253.083	0.00	0.00	0.019	o				0.19
253.167	0.00	0.00	0.019	o				0.19
253.250	0.00	0.00	0.019	o				0.19
253.333	0.00	0.00	0.019	o				0.19
253.417	0.00	0.00	0.019	o				0.19
253.500	0.00	0.00	0.019	o				0.19
253.583	0.00	0.00	0.019	o				0.19
253.667	0.00	0.00	0.019	o				0.19
253.750	0.00	0.00	0.019	o				0.19
253.833	0.00	0.00	0.019	o				0.19
253.917	0.00	0.00	0.019	o				0.19
254.000	0.00	0.00	0.019	o				0.19
254.083	0.00	0.00	0.019	o				0.19
254.167	0.00	0.00	0.019	o				0.19
254.250	0.00	0.00	0.019	o				0.18
254.333	0.00	0.00	0.019	o				0.18
254.417	0.00	0.00	0.019	o				0.18
254.500	0.00	0.00	0.019	o				0.18
254.583	0.00	0.00	0.019	o				0.18
254.667	0.00	0.00	0.019	o				0.18
254.750	0.00	0.00	0.019	o				0.18
254.833	0.00	0.00	0.019	o				0.18
254.917	0.00	0.00	0.019	o				0.18
255.000	0.00	0.00	0.019	o				0.18
255.083	0.00	0.00	0.019	o				0.18
255.167	0.00	0.00	0.019	o				0.18
255.250	0.00	0.00	0.019	o				0.18
255.333	0.00	0.00	0.019	o				0.18
255.417	0.00	0.00	0.019	o				0.18
255.500	0.00	0.00	0.018	o				0.18
255.583	0.00	0.00	0.018	o				0.18
255.667	0.00	0.00	0.018	o				0.18
255.750	0.00	0.00	0.018	o				0.18
255.833	0.00	0.00	0.018	o				0.18
255.917	0.00	0.00	0.018	o				0.18
256.000	0.00	0.00	0.018	o				0.18
256.083	0.00	0.00	0.018	o				0.18
256.167	0.00	0.00	0.018	o				0.18
256.250	0.00	0.00	0.018	o				0.18
256.333	0.00	0.00	0.018	o				0.18
256.417	0.00	0.00	0.018	o				0.18
256.500	0.00	0.00	0.018	o				0.18
256.583	0.00	0.00	0.018	o				0.18
256.667	0.00	0.00	0.018	o				0.18
256.750	0.00	0.00	0.018	o				0.18
256.833	0.00	0.00	0.018	o				0.18
256.917	0.00	0.00	0.018	o				0.18
257.000	0.00	0.00	0.018	o				0.18
257.083	0.00	0.00	0.018	o				0.18
257.167	0.00	0.00	0.018	o				0.18

257.250	0.00	0.00	0.018	o	|	|	|	0.18
257.333	0.00	0.00	0.018	o	|	|	|	0.18
257.417	0.00	0.00	0.018	o	|	|	|	0.18
257.500	0.00	0.00	0.018	o	|	|	|	0.18
257.583	0.00	0.00	0.018	o	|	|	|	0.18
257.667	0.00	0.00	0.018	o	|	|	|	0.17
257.750	0.00	0.00	0.018	o	|	|	|	0.17
257.833	0.00	0.00	0.018	o	|	|	|	0.17
257.917	0.00	0.00	0.018	o	|	|	|	0.17
258.000	0.00	0.00	0.018	o	|	|	|	0.17
258.083	0.00	0.00	0.018	o	|	|	|	0.17
258.167	0.00	0.00	0.018	o	|	|	|	0.17
258.250	0.00	0.00	0.018	o	|	|	|	0.17
258.333	0.00	0.00	0.018	o	|	|	|	0.17
258.417	0.00	0.00	0.018	o	|	|	|	0.17
258.500	0.00	0.00	0.018	o	|	|	|	0.17
258.583	0.00	0.00	0.018	o	|	|	|	0.17
258.667	0.00	0.00	0.018	o	|	|	|	0.17
258.750	0.00	0.00	0.018	o	|	|	|	0.17
258.833	0.00	0.00	0.018	o	|	|	|	0.17
258.917	0.00	0.00	0.017	o	|	|	|	0.17
259.000	0.00	0.00	0.017	o	|	|	|	0.17
259.083	0.00	0.00	0.017	o	|	|	|	0.17
259.167	0.00	0.00	0.017	o	|	|	|	0.17
259.250	0.00	0.00	0.017	o	|	|	|	0.17
259.333	0.00	0.00	0.017	o	|	|	|	0.17
259.417	0.00	0.00	0.017	o	|	|	|	0.17
259.500	0.00	0.00	0.017	o	|	|	|	0.17
259.583	0.00	0.00	0.017	o	|	|	|	0.17
259.667	0.00	0.00	0.017	o	|	|	|	0.17
259.750	0.00	0.00	0.017	o	|	|	|	0.17
259.833	0.00	0.00	0.017	o	|	|	|	0.17
259.917	0.00	0.00	0.017	o	|	|	|	0.17
260.000	0.00	0.00	0.017	o	|	|	|	0.17
260.083	0.00	0.00	0.017	o	|	|	|	0.17
260.167	0.00	0.00	0.017	o	|	|	|	0.17
260.250	0.00	0.00	0.017	o	|	|	|	0.17
260.333	0.00	0.00	0.017	o	|	|	|	0.17
260.417	0.00	0.00	0.017	o	|	|	|	0.17
260.500	0.00	0.00	0.017	o	|	|	|	0.17
260.583	0.00	0.00	0.017	o	|	|	|	0.17
260.667	0.00	0.00	0.017	o	|	|	|	0.17
260.750	0.00	0.00	0.017	o	|	|	|	0.17
260.833	0.00	0.00	0.017	o	|	|	|	0.17
260.917	0.00	0.00	0.017	o	|	|	|	0.17
261.000	0.00	0.00	0.017	o	|	|	|	0.17
261.083	0.00	0.00	0.017	o	|	|	|	0.17
261.167	0.00	0.00	0.017	o	|	|	|	0.17
261.250	0.00	0.00	0.017	o	|	|	|	0.17
261.333	0.00	0.00	0.017	o	|	|	|	0.16
261.417	0.00	0.00	0.017	o	|	|	|	0.16
261.500	0.00	0.00	0.017	o	|	|	|	0.16
261.583	0.00	0.00	0.017	o	|	|	|	0.16
261.667	0.00	0.00	0.017	o	|	|	|	0.16
261.750	0.00	0.00	0.017	o	|	|	|	0.16
261.833	0.00	0.00	0.017	o	|	|	|	0.16
261.917	0.00	0.00	0.017	o	|	|	|	0.16
262.000	0.00	0.00	0.017	o	|	|	|	0.16
262.083	0.00	0.00	0.017	o	|	|	|	0.16
262.167	0.00	0.00	0.017	o	|	|	|	0.16
262.250	0.00	0.00	0.017	o	|	|	|	0.16
262.333	0.00	0.00	0.017	o	|	|	|	0.16
262.417	0.00	0.00	0.017	o	|	|	|	0.16
262.500	0.00	0.00	0.016	o	|	|	|	0.16
262.583	0.00	0.00	0.016	o	|	|	|	0.16
262.667	0.00	0.00	0.016	o	|	|	|	0.16
262.750	0.00	0.00	0.016	o	|	|	|	0.16
262.833	0.00	0.00	0.016	o	|	|	|	0.16
262.917	0.00	0.00	0.016	o	|	|	|	0.16
263.000	0.00	0.00	0.016	o	|	|	|	0.16
263.083	0.00	0.00	0.016	o	|	|	|	0.16
263.167	0.00	0.00	0.016	o	|	|	|	0.16
263.250	0.00	0.00	0.016	o	|	|	|	0.16
263.333	0.00	0.00	0.016	o	|	|	|	0.16
263.417	0.00	0.00	0.016	o	|	|	|	0.16
263.500	0.00	0.00	0.016	o	|	|	|	0.16
263.583	0.00	0.00	0.016	o	|	|	|	0.16
263.667	0.00	0.00	0.016	o	|	|	|	0.16
263.750	0.00	0.00	0.016	o	|	|	|	0.16

263.833	0.00	0.00	0.016	o				0.16
263.917	0.00	0.00	0.016	o				0.16
264.000	0.00	0.00	0.016	o				0.16
264.083	0.00	0.00	0.016	o				0.16
264.167	0.00	0.00	0.016	o				0.16
264.250	0.00	0.00	0.016	o				0.16
264.333	0.00	0.00	0.016	o				0.16
264.417	0.00	0.00	0.016	o				0.16
264.500	0.00	0.00	0.016	o				0.16
264.583	0.00	0.00	0.016	o				0.16
264.667	0.00	0.00	0.016	o				0.16
264.750	0.00	0.00	0.016	o				0.16
264.833	0.00	0.00	0.016	o				0.16
264.917	0.00	0.00	0.016	o				0.16
265.000	0.00	0.00	0.016	o				0.16
265.083	0.00	0.00	0.016	o				0.16
265.167	0.00	0.00	0.016	o				0.15
265.250	0.00	0.00	0.016	o				0.15
265.333	0.00	0.00	0.016	o				0.15
265.417	0.00	0.00	0.016	o				0.15
265.500	0.00	0.00	0.016	o				0.15
265.583	0.00	0.00	0.016	o				0.15
265.667	0.00	0.00	0.016	o				0.15
265.750	0.00	0.00	0.016	o				0.15
265.833	0.00	0.00	0.016	o				0.15
265.917	0.00	0.00	0.016	o				0.15
266.000	0.00	0.00	0.016	o				0.15
266.083	0.00	0.00	0.016	o				0.15
266.167	0.00	0.00	0.016	o				0.15
266.250	0.00	0.00	0.016	o				0.15
266.333	0.00	0.00	0.016	o				0.15
266.417	0.00	0.00	0.015	o				0.15
266.500	0.00	0.00	0.015	o				0.15
266.583	0.00	0.00	0.015	o				0.15
266.667	0.00	0.00	0.015	o				0.15
266.750	0.00	0.00	0.015	o				0.15
266.833	0.00	0.00	0.015	o				0.15
266.917	0.00	0.00	0.015	o				0.15
267.000	0.00	0.00	0.015	o				0.15
267.083	0.00	0.00	0.015	o				0.15
267.167	0.00	0.00	0.015	o				0.15
267.250	0.00	0.00	0.015	o				0.15
267.333	0.00	0.00	0.015	o				0.15
267.417	0.00	0.00	0.015	o				0.15
267.500	0.00	0.00	0.015	o				0.15
267.583	0.00	0.00	0.015	o				0.15
267.667	0.00	0.00	0.015	o				0.15
267.750	0.00	0.00	0.015	o				0.15
267.833	0.00	0.00	0.015	o				0.15
267.917	0.00	0.00	0.015	o				0.15
268.000	0.00	0.00	0.015	o				0.15
268.083	0.00	0.00	0.015	o				0.15
268.167	0.00	0.00	0.015	o				0.15
268.250	0.00	0.00	0.015	o				0.15
268.333	0.00	0.00	0.015	o				0.15
268.417	0.00	0.00	0.015	o				0.15
268.500	0.00	0.00	0.015	o				0.15
268.583	0.00	0.00	0.015	o				0.15
268.667	0.00	0.00	0.015	o				0.15
268.750	0.00	0.00	0.015	o				0.15
268.833	0.00	0.00	0.015	o				0.15
268.917	0.00	0.00	0.015	o				0.15
269.000	0.00	0.00	0.015	o				0.15
269.083	0.00	0.00	0.015	o				0.15
269.167	0.00	0.00	0.015	o				0.15
269.250	0.00	0.00	0.015	o				0.14
269.333	0.00	0.00	0.015	o				0.14
269.417	0.00	0.00	0.015	o				0.14
269.500	0.00	0.00	0.015	o				0.14
269.583	0.00	0.00	0.015	o				0.14
269.667	0.00	0.00	0.015	o				0.14
269.750	0.00	0.00	0.015	o				0.14
269.833	0.00	0.00	0.015	o				0.14
269.917	0.00	0.00	0.015	o				0.14
270.000	0.00	0.00	0.015	o				0.14
270.083	0.00	0.00	0.015	o				0.14
270.167	0.00	0.00	0.015	o				0.14
270.250	0.00	0.00	0.015	o				0.14
270.333	0.00	0.00	0.015	o				0.14

270.417	0.00	0.00	0.015	o	|	|	|	|	0.14
270.500	0.00	0.00	0.014	o	|	|	|	|	0.14
270.583	0.00	0.00	0.014	o	|	|	|	|	0.14
270.667	0.00	0.00	0.014	o	|	|	|	|	0.14
270.750	0.00	0.00	0.014	o	|	|	|	|	0.14
270.833	0.00	0.00	0.014	o	|	|	|	|	0.14
270.917	0.00	0.00	0.014	o	|	|	|	|	0.14
271.000	0.00	0.00	0.014	o	|	|	|	|	0.14
271.083	0.00	0.00	0.014	o	|	|	|	|	0.14
271.167	0.00	0.00	0.014	o	|	|	|	|	0.14
271.250	0.00	0.00	0.014	o	|	|	|	|	0.14
271.333	0.00	0.00	0.014	o	|	|	|	|	0.14
271.417	0.00	0.00	0.014	o	|	|	|	|	0.14
271.500	0.00	0.00	0.014	o	|	|	|	|	0.14
271.583	0.00	0.00	0.014	o	|	|	|	|	0.14
271.667	0.00	0.00	0.014	o	|	|	|	|	0.14
271.750	0.00	0.00	0.014	o	|	|	|	|	0.14
271.833	0.00	0.00	0.014	o	|	|	|	|	0.14
271.917	0.00	0.00	0.014	o	|	|	|	|	0.14
272.000	0.00	0.00	0.014	o	|	|	|	|	0.14
272.083	0.00	0.00	0.014	o	|	|	|	|	0.14
272.167	0.00	0.00	0.014	o	|	|	|	|	0.14
272.250	0.00	0.00	0.014	o	|	|	|	|	0.14
272.333	0.00	0.00	0.014	o	|	|	|	|	0.14
272.417	0.00	0.00	0.014	o	|	|	|	|	0.14
272.500	0.00	0.00	0.014	o	|	|	|	|	0.14
272.583	0.00	0.00	0.014	o	|	|	|	|	0.14
272.667	0.00	0.00	0.014	o	|	|	|	|	0.14
272.750	0.00	0.00	0.014	o	|	|	|	|	0.14
272.833	0.00	0.00	0.014	o	|	|	|	|	0.14
272.917	0.00	0.00	0.014	o	|	|	|	|	0.14
273.000	0.00	0.00	0.014	o	|	|	|	|	0.14
273.083	0.00	0.00	0.014	o	|	|	|	|	0.14
273.167	0.00	0.00	0.014	o	|	|	|	|	0.14
273.250	0.00	0.00	0.014	o	|	|	|	|	0.14
273.333	0.00	0.00	0.014	o	|	|	|	|	0.14
273.417	0.00	0.00	0.014	o	|	|	|	|	0.14
273.500	0.00	0.00	0.014	o	|	|	|	|	0.14
273.583	0.00	0.00	0.014	o	|	|	|	|	0.14
273.667	0.00	0.00	0.014	o	|	|	|	|	0.13
273.750	0.00	0.00	0.014	o	|	|	|	|	0.13
273.833	0.00	0.00	0.014	o	|	|	|	|	0.13
273.917	0.00	0.00	0.014	o	|	|	|	|	0.13
274.000	0.00	0.00	0.014	o	|	|	|	|	0.13
274.083	0.00	0.00	0.014	o	|	|	|	|	0.13
274.167	0.00	0.00	0.014	o	|	|	|	|	0.13
274.250	0.00	0.00	0.014	o	|	|	|	|	0.13
274.333	0.00	0.00	0.014	o	|	|	|	|	0.13
274.417	0.00	0.00	0.014	o	|	|	|	|	0.13
274.500	0.00	0.00	0.014	o	|	|	|	|	0.13
274.583	0.00	0.00	0.014	o	|	|	|	|	0.13
274.667	0.00	0.00	0.014	o	|	|	|	|	0.13
274.750	0.00	0.00	0.014	o	|	|	|	|	0.13
274.833	0.00	0.00	0.014	o	|	|	|	|	0.13
274.917	0.00	0.00	0.013	o	|	|	|	|	0.13
275.000	0.00	0.00	0.013	o	|	|	|	|	0.13
275.083	0.00	0.00	0.013	o	|	|	|	|	0.13
275.167	0.00	0.00	0.013	o	|	|	|	|	0.13
275.250	0.00	0.00	0.013	o	|	|	|	|	0.13
275.333	0.00	0.00	0.013	o	|	|	|	|	0.13
275.417	0.00	0.00	0.013	o	|	|	|	|	0.13
275.500	0.00	0.00	0.013	o	|	|	|	|	0.13
275.583	0.00	0.00	0.013	o	|	|	|	|	0.13
275.667	0.00	0.00	0.013	o	|	|	|	|	0.13
275.750	0.00	0.00	0.013	o	|	|	|	|	0.13
275.833	0.00	0.00	0.013	o	|	|	|	|	0.13
275.917	0.00	0.00	0.013	o	|	|	|	|	0.13
276.000	0.00	0.00	0.013	o	|	|	|	|	0.13
276.083	0.00	0.00	0.013	o	|	|	|	|	0.13
276.167	0.00	0.00	0.013	o	|	|	|	|	0.13
276.250	0.00	0.00	0.013	o	|	|	|	|	0.13
276.333	0.00	0.00	0.013	o	|	|	|	|	0.13
276.417	0.00	0.00	0.013	o	|	|	|	|	0.13
276.500	0.00	0.00	0.013	o	|	|	|	|	0.13
276.583	0.00	0.00	0.013	o	|	|	|	|	0.13
276.667	0.00	0.00	0.013	o	|	|	|	|	0.13
276.750	0.00	0.00	0.013	o	|	|	|	|	0.13
276.833	0.00	0.00	0.013	o	|	|	|	|	0.13
276.917	0.00	0.00	0.013	o	|	|	|	|	0.13

277.000	0.00	0.00	0.013	o	|	|	|	0.13
277.083	0.00	0.00	0.013	o	|	|	|	0.13
277.167	0.00	0.00	0.013	o	|	|	|	0.13
277.250	0.00	0.00	0.013	o	|	|	|	0.13
277.333	0.00	0.00	0.013	o	|	|	|	0.13
277.417	0.00	0.00	0.013	o	|	|	|	0.13
277.500	0.00	0.00	0.013	o	|	|	|	0.13
277.583	0.00	0.00	0.013	o	|	|	|	0.13
277.667	0.00	0.00	0.013	o	|	|	|	0.13
277.750	0.00	0.00	0.013	o	|	|	|	0.13
277.833	0.00	0.00	0.013	o	|	|	|	0.13
277.917	0.00	0.00	0.013	o	|	|	|	0.13
278.000	0.00	0.00	0.013	o	|	|	|	0.13
278.083	0.00	0.00	0.013	o	|	|	|	0.13
278.167	0.00	0.00	0.013	o	|	|	|	0.13
278.250	0.00	0.00	0.013	o	|	|	|	0.13
278.333	0.00	0.00	0.013	o	|	|	|	0.13
278.417	0.00	0.00	0.013	o	|	|	|	0.12
278.500	0.00	0.00	0.013	o	|	|	|	0.12
278.583	0.00	0.00	0.013	o	|	|	|	0.12
278.667	0.00	0.00	0.013	o	|	|	|	0.12
278.750	0.00	0.00	0.013	o	|	|	|	0.12
278.833	0.00	0.00	0.013	o	|	|	|	0.12
278.917	0.00	0.00	0.013	o	|	|	|	0.12
279.000	0.00	0.00	0.013	o	|	|	|	0.12
279.083	0.00	0.00	0.013	o	|	|	|	0.12
279.167	0.00	0.00	0.013	o	|	|	|	0.12
279.250	0.00	0.00	0.013	o	|	|	|	0.12
279.333	0.00	0.00	0.013	o	|	|	|	0.12
279.417	0.00	0.00	0.013	o	|	|	|	0.12
279.500	0.00	0.00	0.013	o	|	|	|	0.12
279.583	0.00	0.00	0.013	o	|	|	|	0.12
279.667	0.00	0.00	0.012	o	|	|	|	0.12
279.750	0.00	0.00	0.012	o	|	|	|	0.12
279.833	0.00	0.00	0.012	o	|	|	|	0.12
279.917	0.00	0.00	0.012	o	|	|	|	0.12
280.000	0.00	0.00	0.012	o	|	|	|	0.12
280.083	0.00	0.00	0.012	o	|	|	|	0.12
280.167	0.00	0.00	0.012	o	|	|	|	0.12
280.250	0.00	0.00	0.012	o	|	|	|	0.12
280.333	0.00	0.00	0.012	o	|	|	|	0.12
280.417	0.00	0.00	0.012	o	|	|	|	0.12
280.500	0.00	0.00	0.012	o	|	|	|	0.12
280.583	0.00	0.00	0.012	o	|	|	|	0.12
280.667	0.00	0.00	0.012	o	|	|	|	0.12
280.750	0.00	0.00	0.012	o	|	|	|	0.12
280.833	0.00	0.00	0.012	o	|	|	|	0.12
280.917	0.00	0.00	0.012	o	|	|	|	0.12
281.000	0.00	0.00	0.012	o	|	|	|	0.12
281.083	0.00	0.00	0.012	o	|	|	|	0.12
281.167	0.00	0.00	0.012	o	|	|	|	0.12
281.250	0.00	0.00	0.012	o	|	|	|	0.12
281.333	0.00	0.00	0.012	o	|	|	|	0.12
281.417	0.00	0.00	0.012	o	|	|	|	0.12
281.500	0.00	0.00	0.012	o	|	|	|	0.12
281.583	0.00	0.00	0.012	o	|	|	|	0.12
281.667	0.00	0.00	0.012	o	|	|	|	0.12
281.750	0.00	0.00	0.012	o	|	|	|	0.12
281.833	0.00	0.00	0.012	o	|	|	|	0.12
281.917	0.00	0.00	0.012	o	|	|	|	0.12
282.000	0.00	0.00	0.012	o	|	|	|	0.12
282.083	0.00	0.00	0.012	o	|	|	|	0.12
282.167	0.00	0.00	0.012	o	|	|	|	0.12
282.250	0.00	0.00	0.012	o	|	|	|	0.12
282.333	0.00	0.00	0.012	o	|	|	|	0.12
282.417	0.00	0.00	0.012	o	|	|	|	0.12
282.500	0.00	0.00	0.012	o	|	|	|	0.12
282.583	0.00	0.00	0.012	o	|	|	|	0.12
282.667	0.00	0.00	0.012	o	|	|	|	0.12
282.750	0.00	0.00	0.012	o	|	|	|	0.12
282.833	0.00	0.00	0.012	o	|	|	|	0.12
282.917	0.00	0.00	0.012	o	|	|	|	0.12
283.000	0.00	0.00	0.012	o	|	|	|	0.12
283.083	0.00	0.00	0.012	o	|	|	|	0.12
283.167	0.00	0.00	0.012	o	|	|	|	0.12
283.250	0.00	0.00	0.012	o	|	|	|	0.12
283.333	0.00	0.00	0.012	o	|	|	|	0.12
283.417	0.00	0.00	0.012	o	|	|	|	0.12
283.500	0.00	0.00	0.012	o	|	|	|	0.12

283.583	0.00	0.00	0.012	o	|	|	|	0.11
283.667	0.00	0.00	0.012	o	|	|	|	0.11
283.750	0.00	0.00	0.012	o	|	|	|	0.11
283.833	0.00	0.00	0.012	o	|	|	|	0.11
283.917	0.00	0.00	0.012	o	|	|	|	0.11
284.000	0.00	0.00	0.012	o	|	|	|	0.11
284.083	0.00	0.00	0.012	o	|	|	|	0.11
284.167	0.00	0.00	0.012	o	|	|	|	0.11
284.250	0.00	0.00	0.012	o	|	|	|	0.11
284.333	0.00	0.00	0.012	o	|	|	|	0.11
284.417	0.00	0.00	0.012	o	|	|	|	0.11
284.500	0.00	0.00	0.012	o	|	|	|	0.11
284.583	0.00	0.00	0.012	o	|	|	|	0.11
284.667	0.00	0.00	0.012	o	|	|	|	0.11
284.750	0.00	0.00	0.012	o	|	|	|	0.11
284.833	0.00	0.00	0.011	o	|	|	|	0.11
284.917	0.00	0.00	0.011	o	|	|	|	0.11
285.000	0.00	0.00	0.011	o	|	|	|	0.11
285.083	0.00	0.00	0.011	o	|	|	|	0.11
285.167	0.00	0.00	0.011	o	|	|	|	0.11
285.250	0.00	0.00	0.011	o	|	|	|	0.11
285.333	0.00	0.00	0.011	o	|	|	|	0.11
285.417	0.00	0.00	0.011	o	|	|	|	0.11
285.500	0.00	0.00	0.011	o	|	|	|	0.11
285.583	0.00	0.00	0.011	o	|	|	|	0.11
285.667	0.00	0.00	0.011	o	|	|	|	0.11
285.750	0.00	0.00	0.011	o	|	|	|	0.11
285.833	0.00	0.00	0.011	o	|	|	|	0.11
285.917	0.00	0.00	0.011	o	|	|	|	0.11
286.000	0.00	0.00	0.011	o	|	|	|	0.11
286.083	0.00	0.00	0.011	o	|	|	|	0.11
286.167	0.00	0.00	0.011	o	|	|	|	0.11
286.250	0.00	0.00	0.011	o	|	|	|	0.11
286.333	0.00	0.00	0.011	o	|	|	|	0.11
286.417	0.00	0.00	0.011	o	|	|	|	0.11
286.500	0.00	0.00	0.011	o	|	|	|	0.11
286.583	0.00	0.00	0.011	o	|	|	|	0.11
286.667	0.00	0.00	0.011	o	|	|	|	0.11
286.750	0.00	0.00	0.011	o	|	|	|	0.11
286.833	0.00	0.00	0.011	o	|	|	|	0.11
286.917	0.00	0.00	0.011	o	|	|	|	0.11
287.000	0.00	0.00	0.011	o	|	|	|	0.11
287.083	0.00	0.00	0.011	o	|	|	|	0.11
287.167	0.00	0.00	0.011	o	|	|	|	0.11
287.250	0.00	0.00	0.011	o	|	|	|	0.11
287.333	0.00	0.00	0.011	o	|	|	|	0.11
287.417	0.00	0.00	0.011	o	|	|	|	0.11
287.500	0.00	0.00	0.011	o	|	|	|	0.11
287.583	0.00	0.00	0.011	o	|	|	|	0.11
287.667	0.00	0.00	0.011	o	|	|	|	0.11
287.750	0.00	0.00	0.011	o	|	|	|	0.11
287.833	0.00	0.00	0.011	o	|	|	|	0.11
287.917	0.00	0.00	0.011	o	|	|	|	0.11
288.000	0.00	0.00	0.011	o	|	|	|	0.11
288.083	0.00	0.00	0.011	o	|	|	|	0.11
288.167	0.00	0.00	0.011	o	|	|	|	0.11
288.250	0.00	0.00	0.011	o	|	|	|	0.11
288.333	0.00	0.00	0.011	o	|	|	|	0.11
288.417	0.00	0.00	0.011	o	|	|	|	0.11
288.500	0.00	0.00	0.011	o	|	|	|	0.11
288.583	0.00	0.00	0.011	o	|	|	|	0.11
288.667	0.00	0.00	0.011	o	|	|	|	0.11
288.750	0.00	0.00	0.011	o	|	|	|	0.11
288.833	0.00	0.00	0.011	o	|	|	|	0.11
288.917	0.00	0.00	0.011	o	|	|	|	0.11
289.000	0.00	0.00	0.011	o	|	|	|	0.11
289.083	0.00	0.00	0.011	o	|	|	|	0.11
289.167	0.00	0.00	0.011	o	|	|	|	0.10
289.250	0.00	0.00	0.011	o	|	|	|	0.10
289.333	0.00	0.00	0.011	o	|	|	|	0.10
289.417	0.00	0.00	0.011	o	|	|	|	0.10
289.500	0.00	0.00	0.011	o	|	|	|	0.10
289.583	0.00	0.00	0.011	o	|	|	|	0.10
289.667	0.00	0.00	0.011	o	|	|	|	0.10
289.750	0.00	0.00	0.011	o	|	|	|	0.10
289.833	0.00	0.00	0.011	o	|	|	|	0.10
289.917	0.00	0.00	0.011	o	|	|	|	0.10
290.000	0.00	0.00	0.011	o	|	|	|	0.10
290.083	0.00	0.00	0.011	o	|	|	|	0.10

290.167	0.00	0.00	0.011	o				0.10
290.250	0.00	0.00	0.011	o				0.10
290.333	0.00	0.00	0.011	o				0.10
290.417	0.00	0.00	0.010	o				0.10
290.500	0.00	0.00	0.010	o				0.10
290.583	0.00	0.00	0.010	o				0.10
290.667	0.00	0.00	0.010	o				0.10
290.750	0.00	0.00	0.010	o				0.10
290.833	0.00	0.00	0.010	o				0.10
290.917	0.00	0.00	0.010	o				0.10
291.000	0.00	0.00	0.010	o				0.10
291.083	0.00	0.00	0.010	o				0.10
291.167	0.00	0.00	0.010	o				0.10
291.250	0.00	0.00	0.010	o				0.10
291.333	0.00	0.00	0.010	o				0.10
291.417	0.00	0.00	0.010	o				0.10
291.500	0.00	0.00	0.010	o				0.10
291.583	0.00	0.00	0.010	o				0.10
291.667	0.00	0.00	0.010	o				0.10
291.750	0.00	0.00	0.010	o				0.10
291.833	0.00	0.00	0.010	o				0.10
291.917	0.00	0.00	0.010	o				0.10
292.000	0.00	0.00	0.010	o				0.10
292.083	0.00	0.00	0.010	o				0.10
292.167	0.00	0.00	0.010	o				0.10
292.250	0.00	0.00	0.010	o				0.10
292.333	0.00	0.00	0.010	o				0.10
292.417	0.00	0.00	0.010	o				0.10
292.500	0.00	0.00	0.010	o				0.10
292.583	0.00	0.00	0.010	o				0.10
292.667	0.00	0.00	0.010	o				0.10
292.750	0.00	0.00	0.010	o				0.10
292.833	0.00	0.00	0.010	o				0.10
292.917	0.00	0.00	0.010	o				0.10
293.000	0.00	0.00	0.010	o				0.10
293.083	0.00	0.00	0.010	o				0.10
293.167	0.00	0.00	0.010	o				0.10
293.250	0.00	0.00	0.010	o				0.10
293.333	0.00	0.00	0.010	o				0.10
293.417	0.00	0.00	0.010	o				0.10
293.500	0.00	0.00	0.010	o				0.10
293.583	0.00	0.00	0.010	o				0.10
293.667	0.00	0.00	0.010	o				0.10
293.750	0.00	0.00	0.010	o				0.10
293.833	0.00	0.00	0.010	o				0.10
293.917	0.00	0.00	0.010	o				0.10
294.000	0.00	0.00	0.010	o				0.10
294.083	0.00	0.00	0.010	o				0.10
294.167	0.00	0.00	0.010	o				0.10
294.250	0.00	0.00	0.010	o				0.10
294.333	0.00	0.00	0.010	o				0.10
294.417	0.00	0.00	0.010	o				0.10
294.500	0.00	0.00	0.010	o				0.10
294.583	0.00	0.00	0.010	o				0.10
294.667	0.00	0.00	0.010	o				0.10
294.750	0.00	0.00	0.010	o				0.10
294.833	0.00	0.00	0.010	o				0.10
294.917	0.00	0.00	0.010	o				0.10
295.000	0.00	0.00	0.010	o				0.10
295.083	0.00	0.00	0.010	o				0.10
295.167	0.00	0.00	0.010	o				0.10
295.250	0.00	0.00	0.010	o				0.10
295.333	0.00	0.00	0.010	o				0.10
295.417	0.00	0.00	0.010	o				0.09
295.500	0.00	0.00	0.010	o				0.09
295.583	0.00	0.00	0.010	o				0.09
295.667	0.00	0.00	0.010	o				0.09
295.750	0.00	0.00	0.010	o				0.09
295.833	0.00	0.00	0.010	o				0.09
295.917	0.00	0.00	0.010	o				0.09
296.000	0.00	0.00	0.010	o				0.09
296.083	0.00	0.00	0.010	o				0.09
296.167	0.00	0.00	0.010	o				0.09
296.250	0.00	0.00	0.010	o				0.09
296.333	0.00	0.00	0.010	o				0.09
296.417	0.00	0.00	0.010	o				0.09
296.500	0.00	0.00	0.010	o				0.09
296.583	0.00	0.00	0.009	o				0.09
296.667	0.00	0.00	0.009	o				0.09

296.750	0.00	0.00	0.009	o				0.09
296.833	0.00	0.00	0.009	o				0.09
296.917	0.00	0.00	0.009	o				0.09
297.000	0.00	0.00	0.009	o				0.09
297.083	0.00	0.00	0.009	o				0.09
297.167	0.00	0.00	0.009	o				0.09
297.250	0.00	0.00	0.009	o				0.09
297.333	0.00	0.00	0.009	o				0.09
297.417	0.00	0.00	0.009	o				0.09
297.500	0.00	0.00	0.009	o				0.09
297.583	0.00	0.00	0.009	o				0.09
297.667	0.00	0.00	0.009	o				0.09
297.750	0.00	0.00	0.009	o				0.09
297.833	0.00	0.00	0.009	o				0.09
297.917	0.00	0.00	0.009	o				0.09
298.000	0.00	0.00	0.009	o				0.09
298.083	0.00	0.00	0.009	o				0.09
298.167	0.00	0.00	0.009	o				0.09
298.250	0.00	0.00	0.009	o				0.09
298.333	0.00	0.00	0.009	o				0.09
298.417	0.00	0.00	0.009	o				0.09
298.500	0.00	0.00	0.009	o				0.09
298.583	0.00	0.00	0.009	o				0.09
298.667	0.00	0.00	0.009	o				0.09
298.750	0.00	0.00	0.009	o				0.09
298.833	0.00	0.00	0.009	o				0.09
298.917	0.00	0.00	0.009	o				0.09
299.000	0.00	0.00	0.009	o				0.09
299.083	0.00	0.00	0.009	o				0.09
299.167	0.00	0.00	0.009	o				0.09
299.250	0.00	0.00	0.009	o				0.09
299.333	0.00	0.00	0.009	o				0.09
299.417	0.00	0.00	0.009	o				0.09
299.500	0.00	0.00	0.009	o				0.09
299.583	0.00	0.00	0.009	o				0.09
299.667	0.00	0.00	0.009	o				0.09
299.750	0.00	0.00	0.009	o				0.09
299.833	0.00	0.00	0.009	o				0.09
299.917	0.00	0.00	0.009	o				0.09
300.000	0.00	0.00	0.009	o				0.09
300.083	0.00	0.00	0.009	o				0.09
300.167	0.00	0.00	0.009	o				0.09
300.250	0.00	0.00	0.009	o				0.09
300.333	0.00	0.00	0.009	o				0.09
300.417	0.00	0.00	0.009	o				0.09
300.500	0.00	0.00	0.009	o				0.09
300.583	0.00	0.00	0.009	o				0.09
300.667	0.00	0.00	0.009	o				0.09
300.750	0.00	0.00	0.009	o				0.09
300.833	0.00	0.00	0.009	o				0.09
300.917	0.00	0.00	0.009	o				0.09
301.000	0.00	0.00	0.009	o				0.09
301.083	0.00	0.00	0.009	o				0.09
301.167	0.00	0.00	0.009	o				0.09
301.250	0.00	0.00	0.009	o				0.09
301.333	0.00	0.00	0.009	o				0.09
301.417	0.00	0.00	0.009	o				0.09
301.500	0.00	0.00	0.009	o				0.09
301.583	0.00	0.00	0.009	o				0.09
301.667	0.00	0.00	0.009	o				0.09
301.750	0.00	0.00	0.009	o				0.09
301.833	0.00	0.00	0.009	o				0.09
301.917	0.00	0.00	0.009	o				0.09
302.000	0.00	0.00	0.009	o				0.09
302.083	0.00	0.00	0.009	o				0.09
302.167	0.00	0.00	0.009	o				0.09
302.250	0.00	0.00	0.009	o				0.08
302.333	0.00	0.00	0.009	o				0.08
302.417	0.00	0.00	0.009	o				0.08
302.500	0.00	0.00	0.009	o				0.08
302.583	0.00	0.00	0.009	o				0.08
302.667	0.00	0.00	0.009	o				0.08
302.750	0.00	0.00	0.009	o				0.08
302.833	0.00	0.00	0.009	o				0.08
302.917	0.00	0.00	0.009	o				0.08
303.000	0.00	0.00	0.009	o				0.08
303.083	0.00	0.00	0.009	o				0.08
303.167	0.00	0.00	0.009	o				0.08
303.250	0.00	0.00	0.009	o				0.08

303.333	0.00	0.00	0.009	o				0.08
303.417	0.00	0.00	0.009	o				0.08
303.500	0.00	0.00	0.008	o				0.08
303.583	0.00	0.00	0.008	o				0.08
303.667	0.00	0.00	0.008	o				0.08
303.750	0.00	0.00	0.008	o				0.08
303.833	0.00	0.00	0.008	o				0.08
303.917	0.00	0.00	0.008	o				0.08
304.000	0.00	0.00	0.008	o				0.08
304.083	0.00	0.00	0.008	o				0.08
304.167	0.00	0.00	0.008	o				0.08
304.250	0.00	0.00	0.008	o				0.08
304.333	0.00	0.00	0.008	o				0.08
304.417	0.00	0.00	0.008	o				0.08
304.500	0.00	0.00	0.008	o				0.08
304.583	0.00	0.00	0.008	o				0.08
304.667	0.00	0.00	0.008	o				0.08
304.750	0.00	0.00	0.008	o				0.08
304.833	0.00	0.00	0.008	o				0.08
304.917	0.00	0.00	0.008	o				0.08
305.000	0.00	0.00	0.008	o				0.08
305.083	0.00	0.00	0.008	o				0.08
305.167	0.00	0.00	0.008	o				0.08
305.250	0.00	0.00	0.008	o				0.08
305.333	0.00	0.00	0.008	o				0.08
305.417	0.00	0.00	0.008	o				0.08
305.500	0.00	0.00	0.008	o				0.08
305.583	0.00	0.00	0.008	o				0.08
305.667	0.00	0.00	0.008	o				0.08
305.750	0.00	0.00	0.008	o				0.08
305.833	0.00	0.00	0.008	o				0.08
305.917	0.00	0.00	0.008	o				0.08
306.000	0.00	0.00	0.008	o				0.08
306.083	0.00	0.00	0.008	o				0.08
306.167	0.00	0.00	0.008	o				0.08
306.250	0.00	0.00	0.008	o				0.08
306.333	0.00	0.00	0.008	o				0.08
306.417	0.00	0.00	0.008	o				0.08
306.500	0.00	0.00	0.008	o				0.08
306.583	0.00	0.00	0.008	o				0.08
306.667	0.00	0.00	0.008	o				0.08
306.750	0.00	0.00	0.008	o				0.08
306.833	0.00	0.00	0.008	o				0.08
306.917	0.00	0.00	0.008	o				0.08
307.000	0.00	0.00	0.008	o				0.08
307.083	0.00	0.00	0.008	o				0.08
307.167	0.00	0.00	0.008	o				0.08
307.250	0.00	0.00	0.008	o				0.08
307.333	0.00	0.00	0.008	o				0.08
307.417	0.00	0.00	0.008	o				0.08
307.500	0.00	0.00	0.008	o				0.08
307.583	0.00	0.00	0.008	o				0.08
307.667	0.00	0.00	0.008	o				0.08
307.750	0.00	0.00	0.008	o				0.08
307.833	0.00	0.00	0.008	o				0.08
307.917	0.00	0.00	0.008	o				0.08
308.000	0.00	0.00	0.008	o				0.08
308.083	0.00	0.00	0.008	o				0.08
308.167	0.00	0.00	0.008	o				0.08
308.250	0.00	0.00	0.008	o				0.08
308.333	0.00	0.00	0.008	o				0.08
308.417	0.00	0.00	0.008	o				0.08
308.500	0.00	0.00	0.008	o				0.08
308.583	0.00	0.00	0.008	o				0.08
308.667	0.00	0.00	0.008	o				0.08
308.750	0.00	0.00	0.008	o				0.08
308.833	0.00	0.00	0.008	o				0.08
308.917	0.00	0.00	0.008	o				0.08
309.000	0.00	0.00	0.008	o				0.08
309.083	0.00	0.00	0.008	o				0.08
309.167	0.00	0.00	0.008	o				0.08
309.250	0.00	0.00	0.008	o				0.08
309.333	0.00	0.00	0.008	o				0.08
309.417	0.00	0.00	0.008	o				0.08
309.500	0.00	0.00	0.008	o				0.08
309.583	0.00	0.00	0.008	o				0.08
309.667	0.00	0.00	0.008	o				0.08
309.750	0.00	0.00	0.008	o				0.08
309.833	0.00	0.00	0.008	o				0.08

309.917	0.00	0.00	0.008	o	|	|	|	0.08
310.000	0.00	0.00	0.008	o	|	|	|	0.07
310.083	0.00	0.00	0.008	o	|	|	|	0.07
310.167	0.00	0.00	0.008	o	|	|	|	0.07
310.250	0.00	0.00	0.008	o	|	|	|	0.07
310.333	0.00	0.00	0.008	o	|	|	|	0.07
310.417	0.00	0.00	0.008	o	|	|	|	0.07
310.500	0.00	0.00	0.008	o	|	|	|	0.07
310.583	0.00	0.00	0.008	o	|	|	|	0.07
310.667	0.00	0.00	0.008	o	|	|	|	0.07
310.750	0.00	0.00	0.008	o	|	|	|	0.07
310.833	0.00	0.00	0.008	o	|	|	|	0.07
310.917	0.00	0.00	0.008	o	|	|	|	0.07
311.000	0.00	0.00	0.008	o	|	|	|	0.07
311.083	0.00	0.00	0.008	o	|	|	|	0.07
311.167	0.00	0.00	0.007	o	|	|	|	0.07
311.250	0.00	0.00	0.007	o	|	|	|	0.07
311.333	0.00	0.00	0.007	o	|	|	|	0.07
311.417	0.00	0.00	0.007	o	|	|	|	0.07
311.500	0.00	0.00	0.007	o	|	|	|	0.07
311.583	0.00	0.00	0.007	o	|	|	|	0.07
311.667	0.00	0.00	0.007	o	|	|	|	0.07
311.750	0.00	0.00	0.007	o	|	|	|	0.07
311.833	0.00	0.00	0.007	o	|	|	|	0.07
311.917	0.00	0.00	0.007	o	|	|	|	0.07
312.000	0.00	0.00	0.007	o	|	|	|	0.07
312.083	0.00	0.00	0.007	o	|	|	|	0.07
312.167	0.00	0.00	0.007	o	|	|	|	0.07
312.250	0.00	0.00	0.007	o	|	|	|	0.07
312.333	0.00	0.00	0.007	o	|	|	|	0.07
312.417	0.00	0.00	0.007	o	|	|	|	0.07
312.500	0.00	0.00	0.007	o	|	|	|	0.07
312.583	0.00	0.00	0.007	o	|	|	|	0.07
312.667	0.00	0.00	0.007	o	|	|	|	0.07
312.750	0.00	0.00	0.007	o	|	|	|	0.07
312.833	0.00	0.00	0.007	o	|	|	|	0.07
312.917	0.00	0.00	0.007	o	|	|	|	0.07
313.000	0.00	0.00	0.007	o	|	|	|	0.07
313.083	0.00	0.00	0.007	o	|	|	|	0.07
313.167	0.00	0.00	0.007	o	|	|	|	0.07
313.250	0.00	0.00	0.007	o	|	|	|	0.07
313.333	0.00	0.00	0.007	o	|	|	|	0.07
313.417	0.00	0.00	0.007	o	|	|	|	0.07
313.500	0.00	0.00	0.007	o	|	|	|	0.07
313.583	0.00	0.00	0.007	o	|	|	|	0.07
313.667	0.00	0.00	0.007	o	|	|	|	0.07
313.750	0.00	0.00	0.007	o	|	|	|	0.07
313.833	0.00	0.00	0.007	o	|	|	|	0.07
313.917	0.00	0.00	0.007	o	|	|	|	0.07
314.000	0.00	0.00	0.007	o	|	|	|	0.07
314.083	0.00	0.00	0.007	o	|	|	|	0.07
314.167	0.00	0.00	0.007	o	|	|	|	0.07
314.250	0.00	0.00	0.007	o	|	|	|	0.07
314.333	0.00	0.00	0.007	o	|	|	|	0.07
314.417	0.00	0.00	0.007	o	|	|	|	0.07
314.500	0.00	0.00	0.007	o	|	|	|	0.07
314.583	0.00	0.00	0.007	o	|	|	|	0.07
314.667	0.00	0.00	0.007	o	|	|	|	0.07
314.750	0.00	0.00	0.007	o	|	|	|	0.07
314.833	0.00	0.00	0.007	o	|	|	|	0.07
314.917	0.00	0.00	0.007	o	|	|	|	0.07
315.000	0.00	0.00	0.007	o	|	|	|	0.07
315.083	0.00	0.00	0.007	o	|	|	|	0.07
315.167	0.00	0.00	0.007	o	|	|	|	0.07
315.250	0.00	0.00	0.007	o	|	|	|	0.07
315.333	0.00	0.00	0.007	o	|	|	|	0.07
315.417	0.00	0.00	0.007	o	|	|	|	0.07
315.500	0.00	0.00	0.007	o	|	|	|	0.07
315.583	0.00	0.00	0.007	o	|	|	|	0.07
315.667	0.00	0.00	0.007	o	|	|	|	0.07
315.750	0.00	0.00	0.007	o	|	|	|	0.07
315.833	0.00	0.00	0.007	o	|	|	|	0.07
315.917	0.00	0.00	0.007	o	|	|	|	0.07
316.000	0.00	0.00	0.007	o	|	|	|	0.07
316.083	0.00	0.00	0.007	o	|	|	|	0.07
316.167	0.00	0.00	0.007	o	|	|	|	0.07
316.250	0.00	0.00	0.007	o	|	|	|	0.07
316.333	0.00	0.00	0.007	o	|	|	|	0.07
316.417	0.00	0.00	0.007	o	|	|	|	0.07

316.500	0.00	0.00	0.007	o				0.07
316.583	0.00	0.00	0.007	o				0.07
316.667	0.00	0.00	0.007	o				0.07
316.750	0.00	0.00	0.007	o				0.07
316.833	0.00	0.00	0.007	o				0.07
316.917	0.00	0.00	0.007	o				0.07
317.000	0.00	0.00	0.007	o				0.07
317.083	0.00	0.00	0.007	o				0.07
317.167	0.00	0.00	0.007	o				0.07
317.250	0.00	0.00	0.007	o				0.07
317.333	0.00	0.00	0.007	o				0.07
317.417	0.00	0.00	0.007	o				0.07
317.500	0.00	0.00	0.007	o				0.07
317.583	0.00	0.00	0.007	o				0.07
317.667	0.00	0.00	0.007	o				0.07
317.750	0.00	0.00	0.007	o				0.07
317.833	0.00	0.00	0.007	o				0.07
317.917	0.00	0.00	0.007	o				0.07
318.000	0.00	0.00	0.007	o				0.07
318.083	0.00	0.00	0.007	o				0.07
318.167	0.00	0.00	0.007	o				0.07
318.250	0.00	0.00	0.007	o				0.07
318.333	0.00	0.00	0.007	o				0.07
318.417	0.00	0.00	0.007	o				0.07
318.500	0.00	0.00	0.007	o				0.07
318.583	0.00	0.00	0.007	o				0.07
318.667	0.00	0.00	0.007	o				0.07
318.750	0.00	0.00	0.007	o				0.07
318.833	0.00	0.00	0.007	o				0.06
318.917	0.00	0.00	0.007	o				0.06
319.000	0.00	0.00	0.007	o				0.06
319.083	0.00	0.00	0.007	o				0.06
319.167	0.00	0.00	0.007	o				0.06
319.250	0.00	0.00	0.007	o				0.06
319.333	0.00	0.00	0.007	o				0.06
319.417	0.00	0.00	0.007	o				0.06
319.500	0.00	0.00	0.007	o				0.06
319.583	0.00	0.00	0.007	o				0.06
319.667	0.00	0.00	0.007	o				0.06
319.750	0.00	0.00	0.007	o				0.06
319.833	0.00	0.00	0.007	o				0.06
319.917	0.00	0.00	0.007	o				0.06
320.000	0.00	0.00	0.006	o				0.06
320.083	0.00	0.00	0.006	o				0.06
320.167	0.00	0.00	0.006	o				0.06
320.250	0.00	0.00	0.006	o				0.06
320.333	0.00	0.00	0.006	o				0.06
320.417	0.00	0.00	0.006	o				0.06
320.500	0.00	0.00	0.006	o				0.06
320.583	0.00	0.00	0.006	o				0.06
320.667	0.00	0.00	0.006	o				0.06
320.750	0.00	0.00	0.006	o				0.06
320.833	0.00	0.00	0.006	o				0.06
320.917	0.00	0.00	0.006	o				0.06
321.000	0.00	0.00	0.006	o				0.06
321.083	0.00	0.00	0.006	o				0.06
321.167	0.00	0.00	0.006	o				0.06
321.250	0.00	0.00	0.006	o				0.06
321.333	0.00	0.00	0.006	o				0.06
321.417	0.00	0.00	0.006	o				0.06
321.500	0.00	0.00	0.006	o				0.06
321.583	0.00	0.00	0.006	o				0.06
321.667	0.00	0.00	0.006	o				0.06
321.750	0.00	0.00	0.006	o				0.06
321.833	0.00	0.00	0.006	o				0.06
321.917	0.00	0.00	0.006	o				0.06
322.000	0.00	0.00	0.006	o				0.06
322.083	0.00	0.00	0.006	o				0.06
322.167	0.00	0.00	0.006	o				0.06
322.250	0.00	0.00	0.006	o				0.06
322.333	0.00	0.00	0.006	o				0.06
322.417	0.00	0.00	0.006	o				0.06
322.500	0.00	0.00	0.006	o				0.06
322.583	0.00	0.00	0.006	o				0.06
322.667	0.00	0.00	0.006	o				0.06
322.750	0.00	0.00	0.006	o				0.06
322.833	0.00	0.00	0.006	o				0.06
322.917	0.00	0.00	0.006	o				0.06
323.000	0.00	0.00	0.006	o				0.06

323.083	0.00	0.00	0.006	o				0.06
323.167	0.00	0.00	0.006	o				0.06
323.250	0.00	0.00	0.006	o				0.06
323.333	0.00	0.00	0.006	o				0.06
323.417	0.00	0.00	0.006	o				0.06
323.500	0.00	0.00	0.006	o				0.06
323.583	0.00	0.00	0.006	o				0.06
323.667	0.00	0.00	0.006	o				0.06
323.750	0.00	0.00	0.006	o				0.06
323.833	0.00	0.00	0.006	o				0.06
323.917	0.00	0.00	0.006	o				0.06
324.000	0.00	0.00	0.006	o				0.06
324.083	0.00	0.00	0.006	o				0.06
324.167	0.00	0.00	0.006	o				0.06
324.250	0.00	0.00	0.006	o				0.06
324.333	0.00	0.00	0.006	o				0.06
324.417	0.00	0.00	0.006	o				0.06
324.500	0.00	0.00	0.006	o				0.06
324.583	0.00	0.00	0.006	o				0.06
324.667	0.00	0.00	0.006	o				0.06
324.750	0.00	0.00	0.006	o				0.06
324.833	0.00	0.00	0.006	o				0.06
324.917	0.00	0.00	0.006	o				0.06
325.000	0.00	0.00	0.006	o				0.06
325.083	0.00	0.00	0.006	o				0.06
325.167	0.00	0.00	0.006	o				0.06
325.250	0.00	0.00	0.006	o				0.06
325.333	0.00	0.00	0.006	o				0.06
325.417	0.00	0.00	0.006	o				0.06
325.500	0.00	0.00	0.006	o				0.06
325.583	0.00	0.00	0.006	o				0.06
325.667	0.00	0.00	0.006	o				0.06
325.750	0.00	0.00	0.006	o				0.06
325.833	0.00	0.00	0.006	o				0.06
325.917	0.00	0.00	0.006	o				0.06
326.000	0.00	0.00	0.006	o				0.06
326.083	0.00	0.00	0.006	o				0.06
326.167	0.00	0.00	0.006	o				0.06
326.250	0.00	0.00	0.006	o				0.06
326.333	0.00	0.00	0.006	o				0.06
326.417	0.00	0.00	0.006	o				0.06
326.500	0.00	0.00	0.006	o				0.06
326.583	0.00	0.00	0.006	o				0.06
326.667	0.00	0.00	0.006	o				0.06
326.750	0.00	0.00	0.006	o				0.06
326.833	0.00	0.00	0.006	o				0.06
326.917	0.00	0.00	0.006	o				0.06
327.000	0.00	0.00	0.006	o				0.06
327.083	0.00	0.00	0.006	o				0.06
327.167	0.00	0.00	0.006	o				0.06
327.250	0.00	0.00	0.006	o				0.06
327.333	0.00	0.00	0.006	o				0.06
327.417	0.00	0.00	0.006	o				0.06
327.500	0.00	0.00	0.006	o				0.06
327.583	0.00	0.00	0.006	o				0.06
327.667	0.00	0.00	0.006	o				0.06
327.750	0.00	0.00	0.006	o				0.06
327.833	0.00	0.00	0.006	o				0.06
327.917	0.00	0.00	0.006	o				0.06
328.000	0.00	0.00	0.006	o				0.06
328.083	0.00	0.00	0.006	o				0.06
328.167	0.00	0.00	0.006	o				0.06
328.250	0.00	0.00	0.006	o				0.06
328.333	0.00	0.00	0.006	o				0.06
328.417	0.00	0.00	0.006	o				0.06
328.500	0.00	0.00	0.006	o				0.06
328.583	0.00	0.00	0.006	o				0.06
328.667	0.00	0.00	0.006	o				0.06
328.750	0.00	0.00	0.006	o				0.06
328.833	0.00	0.00	0.006	o				0.06
328.917	0.00	0.00	0.006	o				0.06
329.000	0.00	0.00	0.006	o				0.06
329.083	0.00	0.00	0.006	o				0.05
329.167	0.00	0.00	0.006	o				0.05
329.250	0.00	0.00	0.006	o				0.05
329.333	0.00	0.00	0.006	o				0.05
329.417	0.00	0.00	0.006	o				0.05
329.500	0.00	0.00	0.006	o				0.05
329.583	0.00	0.00	0.006	o				0.05

329.667	0.00	0.00	0.006	o	|	|	|	|	0.05
329.750	0.00	0.00	0.006	o	|	|	|	|	0.05
329.833	0.00	0.00	0.006	o	|	|	|	|	0.05
329.917	0.00	0.00	0.006	o	|	|	|	|	0.05
330.000	0.00	0.00	0.006	o	|	|	|	|	0.05
330.083	0.00	0.00	0.006	o	|	|	|	|	0.05
330.167	0.00	0.00	0.006	o	|	|	|	|	0.05
330.250	0.00	0.00	0.006	o	|	|	|	|	0.05
330.333	0.00	0.00	0.005	o	|	|	|	|	0.05
330.417	0.00	0.00	0.005	o	|	|	|	|	0.05
330.500	0.00	0.00	0.005	o	|	|	|	|	0.05
330.583	0.00	0.00	0.005	o	|	|	|	|	0.05
330.667	0.00	0.00	0.005	o	|	|	|	|	0.05
330.750	0.00	0.00	0.005	o	|	|	|	|	0.05
330.833	0.00	0.00	0.005	o	|	|	|	|	0.05
330.917	0.00	0.00	0.005	o	|	|	|	|	0.05
331.000	0.00	0.00	0.005	o	|	|	|	|	0.05
331.083	0.00	0.00	0.005	o	|	|	|	|	0.05
331.167	0.00	0.00	0.005	o	|	|	|	|	0.05
331.250	0.00	0.00	0.005	o	|	|	|	|	0.05
331.333	0.00	0.00	0.005	o	|	|	|	|	0.05
331.417	0.00	0.00	0.005	o	|	|	|	|	0.05
331.500	0.00	0.00	0.005	o	|	|	|	|	0.05
331.583	0.00	0.00	0.005	o	|	|	|	|	0.05
331.667	0.00	0.00	0.005	o	|	|	|	|	0.05
331.750	0.00	0.00	0.005	o	|	|	|	|	0.05
331.833	0.00	0.00	0.005	o	|	|	|	|	0.05
331.917	0.00	0.00	0.005	o	|	|	|	|	0.05
332.000	0.00	0.00	0.005	o	|	|	|	|	0.05
332.083	0.00	0.00	0.005	o	|	|	|	|	0.05
332.167	0.00	0.00	0.005	o	|	|	|	|	0.05
332.250	0.00	0.00	0.005	o	|	|	|	|	0.05
332.333	0.00	0.00	0.005	o	|	|	|	|	0.05
332.417	0.00	0.00	0.005	o	|	|	|	|	0.05
332.500	0.00	0.00	0.005	o	|	|	|	|	0.05
332.583	0.00	0.00	0.005	o	|	|	|	|	0.05
332.667	0.00	0.00	0.005	o	|	|	|	|	0.05
332.750	0.00	0.00	0.005	o	|	|	|	|	0.05
332.833	0.00	0.00	0.005	o	|	|	|	|	0.05
332.917	0.00	0.00	0.005	o	|	|	|	|	0.05
333.000	0.00	0.00	0.005	o	|	|	|	|	0.05
333.083	0.00	0.00	0.005	o	|	|	|	|	0.05
333.167	0.00	0.00	0.005	o	|	|	|	|	0.05
333.250	0.00	0.00	0.005	o	|	|	|	|	0.05
333.333	0.00	0.00	0.005	o	|	|	|	|	0.05
333.417	0.00	0.00	0.005	o	|	|	|	|	0.05
333.500	0.00	0.00	0.005	o	|	|	|	|	0.05
333.583	0.00	0.00	0.005	o	|	|	|	|	0.05
333.667	0.00	0.00	0.005	o	|	|	|	|	0.05
333.750	0.00	0.00	0.005	o	|	|	|	|	0.05
333.833	0.00	0.00	0.005	o	|	|	|	|	0.05
333.917	0.00	0.00	0.005	o	|	|	|	|	0.05
334.000	0.00	0.00	0.005	o	|	|	|	|	0.05
334.083	0.00	0.00	0.005	o	|	|	|	|	0.05
334.167	0.00	0.00	0.005	o	|	|	|	|	0.05
334.250	0.00	0.00	0.005	o	|	|	|	|	0.05
334.333	0.00	0.00	0.005	o	|	|	|	|	0.05
334.417	0.00	0.00	0.005	o	|	|	|	|	0.05
334.500	0.00	0.00	0.005	o	|	|	|	|	0.05
334.583	0.00	0.00	0.005	o	|	|	|	|	0.05
334.667	0.00	0.00	0.005	o	|	|	|	|	0.05
334.750	0.00	0.00	0.005	o	|	|	|	|	0.05
334.833	0.00	0.00	0.005	o	|	|	|	|	0.05
334.917	0.00	0.00	0.005	o	|	|	|	|	0.05
335.000	0.00	0.00	0.005	o	|	|	|	|	0.05

**********HYDROGRAPH DATA**********

Number of intervals = 4020
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.117 (CFS)
Total volume = 1.732 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

FLOOD HYDROGRAPH ROUTING PROGRAM
Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014
Study date: 03/26/18

112767 SJC
100-year storm 24 hour duration
Proposed condition watershed C
EL

Program License Serial Number 6359

********** HYDROGRAPH INFORMATION **********

From study/file name: SJCUHprop100yr24hrC.rte
**********HYDROGRAPH DATA**********
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 18.498 (CFS)
Total volume = 1.865 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

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Process from Point/Station 1.000 to Point/Station 2.000
**** RETARDING BASIN ROUTING ****
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User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 3.02(Ft.)

Initial basin depth = 3.02 (Ft.)
Initial basin storage = 0.31 (Ac.Ft)
Initial basin outflow = 0.05 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.102	0.020	0.102	0.102
2.000	0.204	0.020	0.204	0.204
3.000	0.307	0.020	0.307	0.307
4.000	0.409	1.700	0.403	0.415
5.000	0.511	2.410	0.503	0.519
6.000	0.613	2.960	0.603	0.623
7.000	0.716	3.420	0.704	0.728
8.000	0.818	3.820	0.805	0.831
9.000	0.920	4.180	0.906	0.934

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0 4.6 9.25 13.87 18.50	Depth (Ft.)
0.083	0.03	0.05	0.309	O | | | |	3.02
0.167	0.18	0.05	0.309	O | | | |	3.02
0.250	0.30	0.07	0.310	O | | | |	3.03
0.333	0.32	0.10	0.312	O | | | |	3.05
0.417	0.33	0.12	0.313	O | | | |	3.06

0.500	0.33	0.14	0.315	o				3.07
0.583	0.33	0.16	0.316	o				3.09
0.667	0.33	0.18	0.317	o				3.10
0.750	0.33	0.20	0.318	o				3.11
0.833	0.34	0.21	0.319	o				3.12
0.917	0.34	0.23	0.320	o				3.12
1.000	0.34	0.24	0.320	o				3.13
1.083	0.34	0.25	0.321	o				3.14
1.167	0.34	0.26	0.322	o				3.14
1.250	0.34	0.27	0.322	o				3.15
1.333	0.34	0.28	0.323	o				3.15
1.417	0.34	0.28	0.323	o				3.16
1.500	0.34	0.29	0.323	o				3.16
1.583	0.35	0.30	0.324	o				3.16
1.667	0.35	0.30	0.324	o				3.17
1.750	0.35	0.31	0.324	o				3.17
1.833	0.35	0.31	0.325	o				3.17
1.917	0.35	0.31	0.325	o				3.18
2.000	0.35	0.32	0.325	o				3.18
2.083	0.35	0.32	0.325	o				3.18
2.167	0.35	0.33	0.326	o				3.18
2.250	0.36	0.33	0.326	o				3.18
2.333	0.36	0.33	0.326	o				3.19
2.417	0.36	0.33	0.326	o				3.19
2.500	0.36	0.34	0.326	o				3.19
2.583	0.36	0.34	0.326	o				3.19
2.667	0.36	0.34	0.327	o				3.19
2.750	0.36	0.34	0.327	o				3.19
2.833	0.37	0.35	0.327	o				3.19
2.917	0.37	0.35	0.327	o				3.20
3.000	0.37	0.35	0.327	o				3.20
3.083	0.37	0.35	0.327	o				3.20
3.167	0.37	0.36	0.327	o				3.20
3.250	0.37	0.36	0.327	o				3.20
3.333	0.37	0.36	0.328	o				3.20
3.417	0.38	0.36	0.328	o				3.20
3.500	0.38	0.36	0.328	o				3.20
3.583	0.38	0.36	0.328	o				3.20
3.667	0.38	0.37	0.328	o				3.21
3.750	0.38	0.37	0.328	o				3.21
3.833	0.38	0.37	0.328	o				3.21
3.917	0.39	0.37	0.328	o				3.21
4.000	0.39	0.37	0.328	o				3.21
4.083	0.39	0.37	0.329	o				3.21
4.167	0.39	0.38	0.329	o				3.21
4.250	0.39	0.38	0.329	o				3.21
4.333	0.39	0.38	0.329	o				3.21
4.417	0.40	0.38	0.329	o				3.21
4.500	0.40	0.38	0.329	o				3.22
4.583	0.40	0.38	0.329	o				3.22
4.667	0.40	0.39	0.329	o				3.22
4.750	0.40	0.39	0.329	o				3.22
4.833	0.41	0.39	0.329	o				3.22
4.917	0.41	0.39	0.330	o				3.22
5.000	0.41	0.39	0.330	o				3.22
5.083	0.41	0.40	0.330	o				3.22
5.167	0.41	0.40	0.330	o				3.22
5.250	0.41	0.40	0.330	o				3.23
5.333	0.42	0.40	0.330	o				3.23
5.417	0.42	0.40	0.330	o				3.23
5.500	0.42	0.40	0.330	o				3.23
5.583	0.42	0.41	0.330	o				3.23
5.667	0.43	0.41	0.331	o				3.23
5.750	0.43	0.41	0.331	o				3.23
5.833	0.43	0.41	0.331	o				3.23
5.917	0.43	0.41	0.331	o				3.23
6.000	0.43	0.42	0.331	o				3.24
6.083	0.44	0.42	0.331	o				3.24
6.167	0.44	0.42	0.331	o				3.24
6.250	0.44	0.42	0.331	o				3.24
6.333	0.44	0.42	0.332	o				3.24
6.417	0.45	0.43	0.332	o				3.24
6.500	0.45	0.43	0.332	o				3.24
6.583	0.45	0.43	0.332	o				3.24
6.667	0.45	0.43	0.332	o				3.25
6.750	0.45	0.44	0.332	o				3.25
6.833	0.46	0.44	0.332	o				3.25
6.917	0.46	0.44	0.332	o				3.25
7.000	0.46	0.44	0.333	o				3.25

7.083	0.47	0.44	0.333	O				3.25
7.167	0.47	0.45	0.333	O				3.25
7.250	0.47	0.45	0.333	O				3.26
7.333	0.47	0.45	0.333	O				3.26
7.417	0.48	0.45	0.333	O				3.26
7.500	0.48	0.46	0.334	O				3.26
7.583	0.48	0.46	0.334	O				3.26
7.667	0.49	0.46	0.334	O				3.26
7.750	0.49	0.46	0.334	O				3.26
7.833	0.49	0.47	0.334	O				3.27
7.917	0.49	0.47	0.334	O				3.27
8.000	0.50	0.47	0.334	O				3.27
8.083	0.50	0.48	0.335	O				3.27
8.167	0.50	0.48	0.335	O				3.27
8.250	0.51	0.48	0.335	O				3.27
8.333	0.51	0.48	0.335	O				3.28
8.417	0.51	0.49	0.335	O				3.28
8.500	0.52	0.49	0.336	O				3.28
8.583	0.52	0.49	0.336	O				3.28
8.667	0.52	0.50	0.336	O				3.28
8.750	0.53	0.50	0.336	O				3.29
8.833	0.53	0.50	0.336	O				3.29
8.917	0.54	0.51	0.337	O				3.29
9.000	0.54	0.51	0.337	O				3.29
9.083	0.54	0.51	0.337	O				3.29
9.167	0.55	0.52	0.337	O				3.30
9.250	0.55	0.52	0.337	O				3.30
9.333	0.56	0.52	0.338	O				3.30
9.417	0.56	0.53	0.338	O				3.30
9.500	0.56	0.53	0.338	O				3.30
9.583	0.57	0.54	0.338	O				3.31
9.667	0.57	0.54	0.339	O				3.31
9.750	0.58	0.54	0.339	OI				3.31
9.833	0.58	0.55	0.339	OI				3.31
9.917	0.59	0.55	0.339	OI				3.32
10.000	0.59	0.56	0.340	OI				3.32
10.083	0.60	0.56	0.340	OI				3.32
10.167	0.60	0.56	0.340	OI				3.32
10.250	0.61	0.57	0.340	OI				3.33
10.333	0.61	0.57	0.341	OI				3.33
10.417	0.62	0.58	0.341	OI				3.33
10.500	0.63	0.58	0.341	|O				3.33
10.583	0.63	0.59	0.341	|O				3.34
10.667	0.64	0.59	0.342	|O				3.34
10.750	0.64	0.60	0.342	|O				3.34
10.833	0.65	0.60	0.342	|O				3.35
10.917	0.66	0.61	0.343	|O				3.35
11.000	0.66	0.61	0.343	|O				3.35
11.083	0.67	0.62	0.343	|O				3.36
11.167	0.68	0.62	0.344	|O				3.36
11.250	0.68	0.63	0.344	|O				3.36
11.333	0.69	0.64	0.344	|O				3.37
11.417	0.70	0.64	0.345	|O				3.37
11.500	0.71	0.65	0.345	|O				3.37
11.583	0.71	0.66	0.346	|O				3.38
11.667	0.72	0.66	0.346	|O				3.38
11.750	0.73	0.67	0.346	|O				3.39
11.833	0.74	0.68	0.347	|O				3.39
11.917	0.75	0.68	0.347	|O				3.39
12.000	0.76	0.69	0.348	|O				3.40
12.083	0.79	0.70	0.348	|O				3.40
12.167	0.89	0.71	0.349	|O				3.41
12.250	0.97	0.74	0.351	|O				3.43
12.333	0.99	0.76	0.352	|O				3.44
12.417	1.01	0.79	0.354	|O				3.46
12.500	1.02	0.81	0.355	|O				3.47
12.583	1.03	0.84	0.357	|O				3.49
12.667	1.05	0.86	0.358	|O				3.50
12.750	1.06	0.88	0.359	|O				3.51
12.833	1.08	0.90	0.360	|O				3.52
12.917	1.09	0.92	0.362	|O				3.54
13.000	1.10	0.94	0.363	|O				3.55
13.083	1.12	0.96	0.364	|O				3.56
13.167	1.14	0.98	0.365	|O				3.57
13.250	1.15	0.99	0.366	|O				3.58
13.333	1.17	1.01	0.367	|OI				3.59
13.417	1.19	1.03	0.368	|OI				3.60
13.500	1.21	1.05	0.369	|OI				3.61
13.583	1.23	1.07	0.371	|OI				3.62

13.667	1.25	1.09	0.372	OI					3.63
13.750	1.27	1.10	0.373	OI					3.65
13.833	1.30	1.12	0.374	OI					3.66
13.917	1.32	1.14	0.375	OI					3.67
14.000	1.35	1.16	0.376	O					3.68
14.083	1.38	1.19	0.378	O					3.69
14.167	1.41	1.21	0.379	O					3.71
14.250	1.45	1.23	0.381	O					3.72
14.333	1.49	1.26	0.382	O					3.74
14.417	1.53	1.29	0.384	O					3.75
14.500	1.59	1.31	0.386	O					3.77
14.583	1.64	1.35	0.388	O					3.79
14.667	1.70	1.38	0.390	O					3.81
14.750	1.77	1.42	0.392	OI					3.83
14.833	1.84	1.46	0.395	OI					3.86
14.917	1.92	1.51	0.397	OI					3.88
15.000	2.01	1.56	0.400	OI					3.91
15.083	2.10	1.61	0.403	OI					3.95
15.167	2.22	1.67	0.407	OI					3.98
15.250	2.34	1.71	0.411	O I					4.02
15.333	2.48	1.75	0.416	OI					4.07
15.417	2.61	1.78	0.421	OI					4.12
15.500	2.62	1.82	0.427	OI					4.17
15.583	2.70	1.86	0.432	OI					4.23
15.667	2.96	1.91	0.439	O I					4.29
15.750	3.32	1.97	0.447	O I					4.37
15.833	3.88	2.04	0.458	O I					4.48
15.917	4.66	2.15	0.473	O I					4.63
16.000	6.19	2.30	0.495	O I					4.84
16.083	10.16	2.54	0.535	O		I			5.23
16.167	18.50	2.97	0.614	O				I	6.01
16.250	14.51	3.38	0.706	O			I		6.91
16.333	6.58	3.57	0.755	O	I				7.38
16.417	3.95	3.62	0.767	O					7.50
16.500	2.95	3.61	0.765	IO					7.48
16.583	2.63	3.59	0.760	I O					7.43
16.667	2.34	3.56	0.752	I O					7.36
16.750	2.11	3.53	0.743	I O					7.27
16.833	1.92	3.49	0.733	I O					7.17
16.917	1.77	3.44	0.722	I O					7.06
17.000	1.64	3.39	0.710	I O					6.94
17.083	1.54	3.34	0.698	I O					6.82
17.167	1.45	3.28	0.685	I O					6.70
17.250	1.38	3.23	0.673	I O					6.58
17.333	1.32	3.17	0.660	I O					6.46
17.417	1.27	3.11	0.647	I O					6.33
17.500	1.23	3.06	0.635	I O					6.21
17.583	1.19	3.00	0.622	I O					6.09
17.667	1.15	2.94	0.610	I O					5.97
17.750	1.12	2.88	0.597	I O					5.85
17.833	1.09	2.81	0.586	I O					5.73
17.917	1.06	2.75	0.574	I O					5.62
18.000	1.03	2.69	0.562	I O					5.50
18.083	0.99	2.63	0.551	I O					5.39
18.167	0.88	2.56	0.540	I O					5.28
18.250	0.79	2.50	0.528	I O					5.16
18.333	0.75	2.44	0.516	I O					5.05
18.417	0.73	2.37	0.505	I O					4.94
18.500	0.71	2.29	0.494	I O					4.83
18.583	0.70	2.21	0.483	I O					4.73
18.667	0.68	2.14	0.473	I O					4.62
18.750	0.67	2.07	0.463	I O					4.53
18.833	0.66	2.01	0.453	I O					4.43
18.917	0.64	1.94	0.444	I O					4.35
19.000	0.63	1.88	0.435	I O					4.26
19.083	0.62	1.82	0.427	I O					4.18
19.167	0.61	1.77	0.419	I O					4.10
19.250	0.60	1.71	0.411	IO					4.02
19.333	0.59	1.61	0.404	IO					3.95
19.417	0.58	1.50	0.397	IO					3.88
19.500	0.57	1.40	0.391	I O					3.82
19.583	0.56	1.31	0.385	I O					3.77
19.667	0.55	1.23	0.380	I O					3.72
19.750	0.54	1.16	0.376	I O					3.68
19.833	0.54	1.09	0.372	IO					3.64
19.917	0.53	1.03	0.368	IO					3.60
20.000	0.52	0.98	0.365	IO					3.57
20.083	0.51	0.93	0.362	IO					3.54
20.167	0.51	0.88	0.359	IO					3.51

20.250	0.50	0.84	0.357	IO				3.49
20.333	0.49	0.80	0.355	IO				3.47
20.417	0.49	0.77	0.353	IO				3.45
20.500	0.48	0.74	0.351	IO				3.43
20.583	0.48	0.71	0.349	IO				3.41
20.667	0.47	0.69	0.347	IO				3.40
20.750	0.47	0.66	0.346	IO				3.38
20.833	0.46	0.64	0.345	IO				3.37
20.917	0.45	0.62	0.344	IO				3.36
21.000	0.45	0.60	0.342	IO				3.35
21.083	0.45	0.59	0.341	IO				3.34
21.167	0.44	0.57	0.340	O				3.33
21.250	0.44	0.56	0.340	O				3.32
21.333	0.43	0.54	0.339	O				3.31
21.417	0.43	0.53	0.338	O				3.30
21.500	0.42	0.52	0.337	O				3.30
21.583	0.42	0.51	0.337	O				3.29
21.667	0.41	0.50	0.336	O				3.29
21.750	0.41	0.49	0.336	O				3.28
21.833	0.41	0.48	0.335	O				3.27
21.917	0.40	0.47	0.335	O				3.27
22.000	0.40	0.47	0.334	O				3.27
22.083	0.40	0.46	0.334	O				3.26
22.167	0.39	0.45	0.333	O				3.26
22.250	0.39	0.44	0.333	O				3.25
22.333	0.39	0.44	0.332	O				3.25
22.417	0.38	0.43	0.332	O				3.25
22.500	0.38	0.43	0.332	O				3.24
22.583	0.38	0.42	0.331	O				3.24
22.667	0.37	0.42	0.331	O				3.24
22.750	0.37	0.41	0.331	O				3.23
22.833	0.37	0.41	0.331	O				3.23
22.917	0.36	0.40	0.330	O				3.23
23.000	0.36	0.40	0.330	O				3.23
23.083	0.36	0.39	0.330	O				3.22
23.167	0.36	0.39	0.330	O				3.22
23.250	0.35	0.39	0.329	O				3.22
23.333	0.35	0.38	0.329	O				3.22
23.417	0.35	0.38	0.329	O				3.21
23.500	0.35	0.38	0.329	O				3.21
23.583	0.34	0.37	0.328	O				3.21
23.667	0.34	0.37	0.328	O				3.21
23.750	0.34	0.37	0.328	O				3.21
23.833	0.34	0.36	0.328	O				3.20
23.917	0.33	0.36	0.328	O				3.20
24.000	0.33	0.36	0.327	O				3.20
24.083	0.30	0.35	0.327	O				3.20
24.167	0.15	0.34	0.326	O				3.19
24.250	0.03	0.31	0.325	O				3.17
24.333	0.01	0.28	0.323	O				3.16
24.417	0.00	0.25	0.321	O				3.14
24.500	0.00	0.22	0.319	O				3.12
24.583	0.00	0.20	0.318	O				3.11
24.667	0.00	0.18	0.317	O				3.09
24.750	0.00	0.16	0.315	O				3.08
24.833	0.00	0.14	0.314	O				3.07
24.917	0.00	0.13	0.313	O				3.06
25.000	0.00	0.11	0.313	O				3.06
25.083	0.00	0.10	0.312	O				3.05
25.167	0.00	0.09	0.311	O				3.04
25.250	0.00	0.08	0.311	O				3.04
25.333	0.00	0.07	0.310	O				3.03
25.417	0.00	0.06	0.310	O				3.03
25.500	0.00	0.06	0.309	O				3.02
25.583	0.00	0.05	0.309	O				3.02
25.667	0.00	0.05	0.309	O				3.02
25.750	0.00	0.04	0.308	O				3.01
25.833	0.00	0.04	0.308	O				3.01
25.917	0.00	0.03	0.308	O				3.01
26.000	0.00	0.03	0.308	O				3.01
26.083	0.00	0.03	0.307	O				3.00
26.167	0.00	0.02	0.307	O				3.00
26.250	0.00	0.02	0.307	O				3.00
26.333	0.00	0.02	0.307	O				3.00
26.417	0.00	0.02	0.307	O				3.00
26.500	0.00	0.02	0.307	O				3.00
26.583	0.00	0.02	0.306	O				3.00
26.667	0.00	0.02	0.306	O				2.99
26.750	0.00	0.02	0.306	O				2.99

26.833	0.00	0.02	0.306	o				2.99
26.917	0.00	0.02	0.306	o				2.99
27.000	0.00	0.02	0.306	o				2.99
27.083	0.00	0.02	0.306	o				2.99
27.167	0.00	0.02	0.306	o				2.99
27.250	0.00	0.02	0.305	o				2.98
27.333	0.00	0.02	0.305	o				2.98
27.417	0.00	0.02	0.305	o				2.98
27.500	0.00	0.02	0.305	o				2.98
27.583	0.00	0.02	0.305	o				2.98
27.667	0.00	0.02	0.305	o				2.98
27.750	0.00	0.02	0.305	o				2.98
27.833	0.00	0.02	0.304	o				2.97
27.917	0.00	0.02	0.304	o				2.97
28.000	0.00	0.02	0.304	o				2.97
28.083	0.00	0.02	0.304	o				2.97
28.167	0.00	0.02	0.304	o				2.97
28.250	0.00	0.02	0.304	o				2.97
28.333	0.00	0.02	0.304	o				2.97
28.417	0.00	0.02	0.303	o				2.97
28.500	0.00	0.02	0.303	o				2.96
28.583	0.00	0.02	0.303	o				2.96
28.667	0.00	0.02	0.303	o				2.96
28.750	0.00	0.02	0.303	o				2.96
28.833	0.00	0.02	0.303	o				2.96
28.917	0.00	0.02	0.303	o				2.96
29.000	0.00	0.02	0.302	o				2.96
29.083	0.00	0.02	0.302	o				2.95
29.167	0.00	0.02	0.302	o				2.95
29.250	0.00	0.02	0.302	o				2.95
29.333	0.00	0.02	0.302	o				2.95
29.417	0.00	0.02	0.302	o				2.95
29.500	0.00	0.02	0.302	o				2.95
29.583	0.00	0.02	0.302	o				2.95
29.667	0.00	0.02	0.301	o				2.95
29.750	0.00	0.02	0.301	o				2.94
29.833	0.00	0.02	0.301	o				2.94
29.917	0.00	0.02	0.301	o				2.94
30.000	0.00	0.02	0.301	o				2.94
30.083	0.00	0.02	0.301	o				2.94
30.167	0.00	0.02	0.301	o				2.94
30.250	0.00	0.02	0.300	o				2.94
30.333	0.00	0.02	0.300	o				2.93
30.417	0.00	0.02	0.300	o				2.93
30.500	0.00	0.02	0.300	o				2.93
30.583	0.00	0.02	0.300	o				2.93
30.667	0.00	0.02	0.300	o				2.93
30.750	0.00	0.02	0.300	o				2.93
30.833	0.00	0.02	0.299	o				2.93
30.917	0.00	0.02	0.299	o				2.93
31.000	0.00	0.02	0.299	o				2.92
31.083	0.00	0.02	0.299	o				2.92
31.167	0.00	0.02	0.299	o				2.92
31.250	0.00	0.02	0.299	o				2.92
31.333	0.00	0.02	0.299	o				2.92
31.417	0.00	0.02	0.298	o				2.92
31.500	0.00	0.02	0.298	o				2.92
31.583	0.00	0.02	0.298	o				2.91
31.667	0.00	0.02	0.298	o				2.91
31.750	0.00	0.02	0.298	o				2.91
31.833	0.00	0.02	0.298	o				2.91
31.917	0.00	0.02	0.298	o				2.91
32.000	0.00	0.02	0.298	o				2.91
32.083	0.00	0.02	0.297	o				2.91
32.167	0.00	0.02	0.297	o				2.91
32.250	0.00	0.02	0.297	o				2.90
32.333	0.00	0.02	0.297	o				2.90
32.417	0.00	0.02	0.297	o				2.90
32.500	0.00	0.02	0.297	o				2.90
32.583	0.00	0.02	0.297	o				2.90
32.667	0.00	0.02	0.296	o				2.90
32.750	0.00	0.02	0.296	o				2.90
32.833	0.00	0.02	0.296	o				2.89
32.917	0.00	0.02	0.296	o				2.89
33.000	0.00	0.02	0.296	o				2.89
33.083	0.00	0.02	0.296	o				2.89
33.167	0.00	0.02	0.296	o				2.89
33.250	0.00	0.02	0.295	o				2.89
33.333	0.00	0.02	0.295	o				2.89

33.417	0.00	0.02	0.295	o				2.89
33.500	0.00	0.02	0.295	o				2.88
33.583	0.00	0.02	0.295	o				2.88
33.667	0.00	0.02	0.295	o				2.88
33.750	0.00	0.02	0.295	o				2.88
33.833	0.00	0.02	0.295	o				2.88
33.917	0.00	0.02	0.294	o				2.88
34.000	0.00	0.02	0.294	o				2.88
34.083	0.00	0.02	0.294	o				2.87
34.167	0.00	0.02	0.294	o				2.87
34.250	0.00	0.02	0.294	o				2.87
34.333	0.00	0.02	0.294	o				2.87
34.417	0.00	0.02	0.294	o				2.87
34.500	0.00	0.02	0.293	o				2.87
34.583	0.00	0.02	0.293	o				2.87
34.667	0.00	0.02	0.293	o				2.87
34.750	0.00	0.02	0.293	o				2.86
34.833	0.00	0.02	0.293	o				2.86
34.917	0.00	0.02	0.293	o				2.86
35.000	0.00	0.02	0.293	o				2.86
35.083	0.00	0.02	0.292	o				2.86
35.167	0.00	0.02	0.292	o				2.86
35.250	0.00	0.02	0.292	o				2.86
35.333	0.00	0.02	0.292	o				2.85
35.417	0.00	0.02	0.292	o				2.85
35.500	0.00	0.02	0.292	o				2.85
35.583	0.00	0.02	0.292	o				2.85
35.667	0.00	0.02	0.291	o				2.85
35.750	0.00	0.02	0.291	o				2.85
35.833	0.00	0.02	0.291	o				2.85
35.917	0.00	0.02	0.291	o				2.85
36.000	0.00	0.02	0.291	o				2.84
36.083	0.00	0.02	0.291	o				2.84
36.167	0.00	0.02	0.291	o				2.84
36.250	0.00	0.02	0.291	o				2.84
36.333	0.00	0.02	0.290	o				2.84
36.417	0.00	0.02	0.290	o				2.84
36.500	0.00	0.02	0.290	o				2.84
36.583	0.00	0.02	0.290	o				2.83
36.667	0.00	0.02	0.290	o				2.83
36.750	0.00	0.02	0.290	o				2.83
36.833	0.00	0.02	0.290	o				2.83
36.917	0.00	0.02	0.289	o				2.83
37.000	0.00	0.02	0.289	o				2.83
37.083	0.00	0.02	0.289	o				2.83
37.167	0.00	0.02	0.289	o				2.83
37.250	0.00	0.02	0.289	o				2.82
37.333	0.00	0.02	0.289	o				2.82
37.417	0.00	0.02	0.289	o				2.82
37.500	0.00	0.02	0.288	o				2.82
37.583	0.00	0.02	0.288	o				2.82
37.667	0.00	0.02	0.288	o				2.82
37.750	0.00	0.02	0.288	o				2.82
37.833	0.00	0.02	0.288	o				2.81
37.917	0.00	0.02	0.288	o				2.81
38.000	0.00	0.02	0.288	o				2.81
38.083	0.00	0.02	0.287	o				2.81
38.167	0.00	0.02	0.287	o				2.81
38.250	0.00	0.02	0.287	o				2.81
38.333	0.00	0.02	0.287	o				2.81
38.417	0.00	0.02	0.287	o				2.81
38.500	0.00	0.02	0.287	o				2.80
38.583	0.00	0.02	0.287	o				2.80
38.667	0.00	0.02	0.287	o				2.80
38.750	0.00	0.02	0.286	o				2.80
38.833	0.00	0.02	0.286	o				2.80
38.917	0.00	0.02	0.286	o				2.80
39.000	0.00	0.02	0.286	o				2.80
39.083	0.00	0.02	0.286	o				2.79
39.167	0.00	0.02	0.286	o				2.79
39.250	0.00	0.02	0.286	o				2.79
39.333	0.00	0.02	0.285	o				2.79
39.417	0.00	0.02	0.285	o				2.79
39.500	0.00	0.02	0.285	o				2.79
39.583	0.00	0.02	0.285	o				2.79
39.667	0.00	0.02	0.285	o				2.79
39.750	0.00	0.02	0.285	o				2.78
39.833	0.00	0.02	0.285	o				2.78
39.917	0.00	0.02	0.284	o				2.78

40.000	0.00	0.02	0.284	o				2.78
40.083	0.00	0.02	0.284	o				2.78
40.167	0.00	0.02	0.284	o				2.78
40.250	0.00	0.02	0.284	o				2.78
40.333	0.00	0.02	0.284	o				2.77
40.417	0.00	0.02	0.284	o				2.77
40.500	0.00	0.02	0.283	o				2.77
40.583	0.00	0.02	0.283	o				2.77
40.667	0.00	0.02	0.283	o				2.77
40.750	0.00	0.02	0.283	o				2.77
40.833	0.00	0.02	0.283	o				2.77
40.917	0.00	0.02	0.283	o				2.76
41.000	0.00	0.02	0.283	o				2.76
41.083	0.00	0.02	0.283	o				2.76
41.167	0.00	0.02	0.282	o				2.76
41.250	0.00	0.02	0.282	o				2.76
41.333	0.00	0.02	0.282	o				2.76
41.417	0.00	0.02	0.282	o				2.76
41.500	0.00	0.02	0.282	o				2.76
41.583	0.00	0.02	0.282	o				2.75
41.667	0.00	0.02	0.282	o				2.75
41.750	0.00	0.02	0.281	o				2.75
41.833	0.00	0.02	0.281	o				2.75
41.917	0.00	0.02	0.281	o				2.75
42.000	0.00	0.02	0.281	o				2.75
42.083	0.00	0.02	0.281	o				2.75
42.167	0.00	0.02	0.281	o				2.74
42.250	0.00	0.02	0.281	o				2.74
42.333	0.00	0.02	0.280	o				2.74
42.417	0.00	0.02	0.280	o				2.74
42.500	0.00	0.02	0.280	o				2.74
42.583	0.00	0.02	0.280	o				2.74
42.667	0.00	0.02	0.280	o				2.74
42.750	0.00	0.02	0.280	o				2.74
42.833	0.00	0.02	0.280	o				2.73
42.917	0.00	0.02	0.279	o				2.73
43.000	0.00	0.02	0.279	o				2.73
43.083	0.00	0.02	0.279	o				2.73
43.167	0.00	0.02	0.279	o				2.73
43.250	0.00	0.02	0.279	o				2.73
43.333	0.00	0.02	0.279	o				2.73
43.417	0.00	0.02	0.279	o				2.72
43.500	0.00	0.02	0.279	o				2.72
43.583	0.00	0.02	0.278	o				2.72
43.667	0.00	0.02	0.278	o				2.72
43.750	0.00	0.02	0.278	o				2.72
43.833	0.00	0.02	0.278	o				2.72
43.917	0.00	0.02	0.278	o				2.72
44.000	0.00	0.02	0.278	o				2.72
44.083	0.00	0.02	0.278	o				2.71
44.167	0.00	0.02	0.277	o				2.71
44.250	0.00	0.02	0.277	o				2.71
44.333	0.00	0.02	0.277	o				2.71
44.417	0.00	0.02	0.277	o				2.71
44.500	0.00	0.02	0.277	o				2.71
44.583	0.00	0.02	0.277	o				2.71
44.667	0.00	0.02	0.277	o				2.70
44.750	0.00	0.02	0.276	o				2.70
44.833	0.00	0.02	0.276	o				2.70
44.917	0.00	0.02	0.276	o				2.70
45.000	0.00	0.02	0.276	o				2.70
45.083	0.00	0.02	0.276	o				2.70
45.167	0.00	0.02	0.276	o				2.70
45.250	0.00	0.02	0.276	o				2.70
45.333	0.00	0.02	0.275	o				2.69
45.417	0.00	0.02	0.275	o				2.69
45.500	0.00	0.02	0.275	o				2.69
45.583	0.00	0.02	0.275	o				2.69
45.667	0.00	0.02	0.275	o				2.69
45.750	0.00	0.02	0.275	o				2.69
45.833	0.00	0.02	0.275	o				2.69
45.917	0.00	0.02	0.275	o				2.68
46.000	0.00	0.02	0.274	o				2.68
46.083	0.00	0.02	0.274	o				2.68
46.167	0.00	0.02	0.274	o				2.68
46.250	0.00	0.02	0.274	o				2.68
46.333	0.00	0.02	0.274	o				2.68
46.417	0.00	0.02	0.274	o				2.68
46.500	0.00	0.02	0.274	o				2.68

46.583	0.00	0.02	0.273	o				2.67
46.667	0.00	0.02	0.273	o				2.67
46.750	0.00	0.02	0.273	o				2.67
46.833	0.00	0.02	0.273	o				2.67
46.917	0.00	0.02	0.273	o				2.67
47.000	0.00	0.02	0.273	o				2.67
47.083	0.00	0.02	0.273	o				2.67
47.167	0.00	0.02	0.272	o				2.66
47.250	0.00	0.02	0.272	o				2.66
47.333	0.00	0.02	0.272	o				2.66
47.417	0.00	0.02	0.272	o				2.66
47.500	0.00	0.02	0.272	o				2.66
47.583	0.00	0.02	0.272	o				2.66
47.667	0.00	0.02	0.272	o				2.66
47.750	0.00	0.02	0.271	o				2.66
47.833	0.00	0.02	0.271	o				2.65
47.917	0.00	0.02	0.271	o				2.65
48.000	0.00	0.02	0.271	o				2.65
48.083	0.00	0.02	0.271	o				2.65
48.167	0.00	0.02	0.271	o				2.65
48.250	0.00	0.02	0.271	o				2.65
48.333	0.00	0.02	0.271	o				2.65
48.417	0.00	0.02	0.270	o				2.64
48.500	0.00	0.02	0.270	o				2.64
48.583	0.00	0.02	0.270	o				2.64
48.667	0.00	0.02	0.270	o				2.64
48.750	0.00	0.02	0.270	o				2.64
48.833	0.00	0.02	0.270	o				2.64
48.917	0.00	0.02	0.270	o				2.64
49.000	0.00	0.02	0.269	o				2.64
49.083	0.00	0.02	0.269	o				2.63
49.167	0.00	0.02	0.269	o				2.63
49.250	0.00	0.02	0.269	o				2.63
49.333	0.00	0.02	0.269	o				2.63
49.417	0.00	0.02	0.269	o				2.63
49.500	0.00	0.02	0.269	o				2.63
49.583	0.00	0.02	0.268	o				2.63
49.667	0.00	0.02	0.268	o				2.62
49.750	0.00	0.02	0.268	o				2.62
49.833	0.00	0.02	0.268	o				2.62
49.917	0.00	0.02	0.268	o				2.62
50.000	0.00	0.02	0.268	o				2.62
50.083	0.00	0.02	0.268	o				2.62
50.167	0.00	0.02	0.268	o				2.62
50.250	0.00	0.02	0.267	o				2.62
50.333	0.00	0.02	0.267	o				2.61
50.417	0.00	0.02	0.267	o				2.61
50.500	0.00	0.02	0.267	o				2.61
50.583	0.00	0.02	0.267	o				2.61
50.667	0.00	0.02	0.267	o				2.61
50.750	0.00	0.02	0.267	o				2.61
50.833	0.00	0.02	0.266	o				2.61
50.917	0.00	0.02	0.266	o				2.60
51.000	0.00	0.02	0.266	o				2.60
51.083	0.00	0.02	0.266	o				2.60
51.167	0.00	0.02	0.266	o				2.60
51.250	0.00	0.02	0.266	o				2.60
51.333	0.00	0.02	0.266	o				2.60
51.417	0.00	0.02	0.265	o				2.60
51.500	0.00	0.02	0.265	o				2.60
51.583	0.00	0.02	0.265	o				2.59
51.667	0.00	0.02	0.265	o				2.59
51.750	0.00	0.02	0.265	o				2.59
51.833	0.00	0.02	0.265	o				2.59
51.917	0.00	0.02	0.265	o				2.59
52.000	0.00	0.02	0.264	o				2.59
52.083	0.00	0.02	0.264	o				2.59
52.167	0.00	0.02	0.264	o				2.58
52.250	0.00	0.02	0.264	o				2.58
52.333	0.00	0.02	0.264	o				2.58
52.417	0.00	0.02	0.264	o				2.58
52.500	0.00	0.02	0.264	o				2.58
52.583	0.00	0.02	0.264	o				2.58
52.667	0.00	0.02	0.263	o				2.58
52.750	0.00	0.02	0.263	o				2.58
52.833	0.00	0.02	0.263	o				2.57
52.917	0.00	0.02	0.263	o				2.57
53.000	0.00	0.02	0.263	o				2.57
53.083	0.00	0.02	0.263	o				2.57

53.167	0.00	0.02	0.263	o				2.57
53.250	0.00	0.02	0.262	o				2.57
53.333	0.00	0.02	0.262	o				2.57
53.417	0.00	0.02	0.262	o				2.56
53.500	0.00	0.02	0.262	o				2.56
53.583	0.00	0.02	0.262	o				2.56
53.667	0.00	0.02	0.262	o				2.56
53.750	0.00	0.02	0.262	o				2.56
53.833	0.00	0.02	0.261	o				2.56
53.917	0.00	0.02	0.261	o				2.56
54.000	0.00	0.02	0.261	o				2.56
54.083	0.00	0.02	0.261	o				2.55
54.167	0.00	0.02	0.261	o				2.55
54.250	0.00	0.02	0.261	o				2.55
54.333	0.00	0.02	0.261	o				2.55
54.417	0.00	0.02	0.260	o				2.55
54.500	0.00	0.02	0.260	o				2.55
54.583	0.00	0.02	0.260	o				2.55
54.667	0.00	0.02	0.260	o				2.54
54.750	0.00	0.02	0.260	o				2.54
54.833	0.00	0.02	0.260	o				2.54
54.917	0.00	0.02	0.260	o				2.54
55.000	0.00	0.02	0.260	o				2.54
55.083	0.00	0.02	0.259	o				2.54
55.167	0.00	0.02	0.259	o				2.54
55.250	0.00	0.02	0.259	o				2.53
55.333	0.00	0.02	0.259	o				2.53
55.417	0.00	0.02	0.259	o				2.53
55.500	0.00	0.02	0.259	o				2.53
55.583	0.00	0.02	0.259	o				2.53
55.667	0.00	0.02	0.258	o				2.53
55.750	0.00	0.02	0.258	o				2.53
55.833	0.00	0.02	0.258	o				2.53
55.917	0.00	0.02	0.258	o				2.52
56.000	0.00	0.02	0.258	o				2.52
56.083	0.00	0.02	0.258	o				2.52
56.167	0.00	0.02	0.258	o				2.52
56.250	0.00	0.02	0.257	o				2.52
56.333	0.00	0.02	0.257	o				2.52
56.417	0.00	0.02	0.257	o				2.52
56.500	0.00	0.02	0.257	o				2.51
56.583	0.00	0.02	0.257	o				2.51
56.667	0.00	0.02	0.257	o				2.51
56.750	0.00	0.02	0.257	o				2.51
56.833	0.00	0.02	0.256	o				2.51
56.917	0.00	0.02	0.256	o				2.51
57.000	0.00	0.02	0.256	o				2.51
57.083	0.00	0.02	0.256	o				2.51
57.167	0.00	0.02	0.256	o				2.50
57.250	0.00	0.02	0.256	o				2.50
57.333	0.00	0.02	0.256	o				2.50
57.417	0.00	0.02	0.256	o				2.50
57.500	0.00	0.02	0.255	o				2.50
57.583	0.00	0.02	0.255	o				2.50
57.667	0.00	0.02	0.255	o				2.50
57.750	0.00	0.02	0.255	o				2.49
57.833	0.00	0.02	0.255	o				2.49
57.917	0.00	0.02	0.255	o				2.49
58.000	0.00	0.02	0.255	o				2.49
58.083	0.00	0.02	0.254	o				2.49
58.167	0.00	0.02	0.254	o				2.49
58.250	0.00	0.02	0.254	o				2.49
58.333	0.00	0.02	0.254	o				2.49
58.417	0.00	0.02	0.254	o				2.48
58.500	0.00	0.02	0.254	o				2.48
58.583	0.00	0.02	0.254	o				2.48
58.667	0.00	0.02	0.253	o				2.48
58.750	0.00	0.02	0.253	o				2.48
58.833	0.00	0.02	0.253	o				2.48
58.917	0.00	0.02	0.253	o				2.48
59.000	0.00	0.02	0.253	o				2.47
59.083	0.00	0.02	0.253	o				2.47
59.167	0.00	0.02	0.253	o				2.47
59.250	0.00	0.02	0.252	o				2.47
59.333	0.00	0.02	0.252	o				2.47
59.417	0.00	0.02	0.252	o				2.47
59.500	0.00	0.02	0.252	o				2.47
59.583	0.00	0.02	0.252	o				2.47
59.667	0.00	0.02	0.252	o				2.46

59.750	0.00	0.02	0.252	o				2.46
59.833	0.00	0.02	0.252	o				2.46
59.917	0.00	0.02	0.251	o				2.46
60.000	0.00	0.02	0.251	o				2.46
60.083	0.00	0.02	0.251	o				2.46
60.167	0.00	0.02	0.251	o				2.46
60.250	0.00	0.02	0.251	o				2.45
60.333	0.00	0.02	0.251	o				2.45
60.417	0.00	0.02	0.251	o				2.45
60.500	0.00	0.02	0.250	o				2.45
60.583	0.00	0.02	0.250	o				2.45
60.667	0.00	0.02	0.250	o				2.45
60.750	0.00	0.02	0.250	o				2.45
60.833	0.00	0.02	0.250	o				2.45
60.917	0.00	0.02	0.250	o				2.44
61.000	0.00	0.02	0.250	o				2.44
61.083	0.00	0.02	0.249	o				2.44
61.167	0.00	0.02	0.249	o				2.44
61.250	0.00	0.02	0.249	o				2.44
61.333	0.00	0.02	0.249	o				2.44
61.417	0.00	0.02	0.249	o				2.44
61.500	0.00	0.02	0.249	o				2.43
61.583	0.00	0.02	0.249	o				2.43
61.667	0.00	0.02	0.248	o				2.43
61.750	0.00	0.02	0.248	o				2.43
61.833	0.00	0.02	0.248	o				2.43
61.917	0.00	0.02	0.248	o				2.43
62.000	0.00	0.02	0.248	o				2.43
62.083	0.00	0.02	0.248	o				2.43
62.167	0.00	0.02	0.248	o				2.42
62.250	0.00	0.02	0.248	o				2.42
62.333	0.00	0.02	0.247	o				2.42
62.417	0.00	0.02	0.247	o				2.42
62.500	0.00	0.02	0.247	o				2.42
62.583	0.00	0.02	0.247	o				2.42
62.667	0.00	0.02	0.247	o				2.42
62.750	0.00	0.02	0.247	o				2.41
62.833	0.00	0.02	0.247	o				2.41
62.917	0.00	0.02	0.246	o				2.41
63.000	0.00	0.02	0.246	o				2.41
63.083	0.00	0.02	0.246	o				2.41
63.167	0.00	0.02	0.246	o				2.41
63.250	0.00	0.02	0.246	o				2.41
63.333	0.00	0.02	0.246	o				2.41
63.417	0.00	0.02	0.246	o				2.40
63.500	0.00	0.02	0.245	o				2.40
63.583	0.00	0.02	0.245	o				2.40
63.667	0.00	0.02	0.245	o				2.40
63.750	0.00	0.02	0.245	o				2.40
63.833	0.00	0.02	0.245	o				2.40
63.917	0.00	0.02	0.245	o				2.40
64.000	0.00	0.02	0.245	o				2.39
64.083	0.00	0.02	0.245	o				2.39
64.167	0.00	0.02	0.244	o				2.39
64.250	0.00	0.02	0.244	o				2.39
64.333	0.00	0.02	0.244	o				2.39
64.417	0.00	0.02	0.244	o				2.39
64.500	0.00	0.02	0.244	o				2.39
64.583	0.00	0.02	0.244	o				2.39
64.667	0.00	0.02	0.244	o				2.38
64.750	0.00	0.02	0.243	o				2.38
64.833	0.00	0.02	0.243	o				2.38
64.917	0.00	0.02	0.243	o				2.38
65.000	0.00	0.02	0.243	o				2.38
65.083	0.00	0.02	0.243	o				2.38
65.167	0.00	0.02	0.243	o				2.38
65.250	0.00	0.02	0.243	o				2.37
65.333	0.00	0.02	0.242	o				2.37
65.417	0.00	0.02	0.242	o				2.37
65.500	0.00	0.02	0.242	o				2.37
65.583	0.00	0.02	0.242	o				2.37
65.667	0.00	0.02	0.242	o				2.37
65.750	0.00	0.02	0.242	o				2.37
65.833	0.00	0.02	0.242	o				2.37
65.917	0.00	0.02	0.241	o				2.36
66.000	0.00	0.02	0.241	o				2.36
66.083	0.00	0.02	0.241	o				2.36
66.167	0.00	0.02	0.241	o				2.36
66.250	0.00	0.02	0.241	o				2.36

66.333	0.00	0.02	0.241	o				2.36
66.417	0.00	0.02	0.241	o				2.36
66.500	0.00	0.02	0.241	o				2.35
66.583	0.00	0.02	0.240	o				2.35
66.667	0.00	0.02	0.240	o				2.35
66.750	0.00	0.02	0.240	o				2.35
66.833	0.00	0.02	0.240	o				2.35
66.917	0.00	0.02	0.240	o				2.35
67.000	0.00	0.02	0.240	o				2.35
67.083	0.00	0.02	0.240	o				2.35
67.167	0.00	0.02	0.239	o				2.34
67.250	0.00	0.02	0.239	o				2.34
67.333	0.00	0.02	0.239	o				2.34
67.417	0.00	0.02	0.239	o				2.34
67.500	0.00	0.02	0.239	o				2.34
67.583	0.00	0.02	0.239	o				2.34
67.667	0.00	0.02	0.239	o				2.34
67.750	0.00	0.02	0.238	o				2.33
67.833	0.00	0.02	0.238	o				2.33
67.917	0.00	0.02	0.238	o				2.33
68.000	0.00	0.02	0.238	o				2.33
68.083	0.00	0.02	0.238	o				2.33
68.167	0.00	0.02	0.238	o				2.33
68.250	0.00	0.02	0.238	o				2.33
68.333	0.00	0.02	0.237	o				2.33
68.417	0.00	0.02	0.237	o				2.32
68.500	0.00	0.02	0.237	o				2.32
68.583	0.00	0.02	0.237	o				2.32
68.667	0.00	0.02	0.237	o				2.32
68.750	0.00	0.02	0.237	o				2.32
68.833	0.00	0.02	0.237	o				2.32
68.917	0.00	0.02	0.237	o				2.32
69.000	0.00	0.02	0.236	o				2.31
69.083	0.00	0.02	0.236	o				2.31
69.167	0.00	0.02	0.236	o				2.31
69.250	0.00	0.02	0.236	o				2.31
69.333	0.00	0.02	0.236	o				2.31
69.417	0.00	0.02	0.236	o				2.31
69.500	0.00	0.02	0.236	o				2.31
69.583	0.00	0.02	0.235	o				2.30
69.667	0.00	0.02	0.235	o				2.30
69.750	0.00	0.02	0.235	o				2.30
69.833	0.00	0.02	0.235	o				2.30
69.917	0.00	0.02	0.235	o				2.30
70.000	0.00	0.02	0.235	o				2.30
70.083	0.00	0.02	0.235	o				2.30
70.167	0.00	0.02	0.234	o				2.30
70.250	0.00	0.02	0.234	o				2.29
70.333	0.00	0.02	0.234	o				2.29
70.417	0.00	0.02	0.234	o				2.29
70.500	0.00	0.02	0.234	o				2.29
70.583	0.00	0.02	0.234	o				2.29
70.667	0.00	0.02	0.234	o				2.29
70.750	0.00	0.02	0.233	o				2.29
70.833	0.00	0.02	0.233	o				2.28
70.917	0.00	0.02	0.233	o				2.28
71.000	0.00	0.02	0.233	o				2.28
71.083	0.00	0.02	0.233	o				2.28
71.167	0.00	0.02	0.233	o				2.28
71.250	0.00	0.02	0.233	o				2.28
71.333	0.00	0.02	0.233	o				2.28
71.417	0.00	0.02	0.232	o				2.28
71.500	0.00	0.02	0.232	o				2.27
71.583	0.00	0.02	0.232	o				2.27
71.667	0.00	0.02	0.232	o				2.27
71.750	0.00	0.02	0.232	o				2.27
71.833	0.00	0.02	0.232	o				2.27
71.917	0.00	0.02	0.232	o				2.27
72.000	0.00	0.02	0.231	o				2.27
72.083	0.00	0.02	0.231	o				2.26
72.167	0.00	0.02	0.231	o				2.26
72.250	0.00	0.02	0.231	o				2.26
72.333	0.00	0.02	0.231	o				2.26
72.417	0.00	0.02	0.231	o				2.26
72.500	0.00	0.02	0.231	o				2.26
72.583	0.00	0.02	0.230	o				2.26
72.667	0.00	0.02	0.230	o				2.26
72.750	0.00	0.02	0.230	o				2.25
72.833	0.00	0.02	0.230	o				2.25

72.917	0.00	0.02	0.230	o				2.25
73.000	0.00	0.02	0.230	o				2.25
73.083	0.00	0.02	0.230	o				2.25
73.167	0.00	0.02	0.229	o				2.25
73.250	0.00	0.02	0.229	o				2.25
73.333	0.00	0.02	0.229	o				2.24
73.417	0.00	0.02	0.229	o				2.24
73.500	0.00	0.02	0.229	o				2.24
73.583	0.00	0.02	0.229	o				2.24
73.667	0.00	0.02	0.229	o				2.24
73.750	0.00	0.02	0.229	o				2.24
73.833	0.00	0.02	0.228	o				2.24
73.917	0.00	0.02	0.228	o				2.24
74.000	0.00	0.02	0.228	o				2.23
74.083	0.00	0.02	0.228	o				2.23
74.167	0.00	0.02	0.228	o				2.23
74.250	0.00	0.02	0.228	o				2.23
74.333	0.00	0.02	0.228	o				2.23
74.417	0.00	0.02	0.227	o				2.23
74.500	0.00	0.02	0.227	o				2.23
74.583	0.00	0.02	0.227	o				2.22
74.667	0.00	0.02	0.227	o				2.22
74.750	0.00	0.02	0.227	o				2.22
74.833	0.00	0.02	0.227	o				2.22
74.917	0.00	0.02	0.227	o				2.22
75.000	0.00	0.02	0.226	o				2.22
75.083	0.00	0.02	0.226	o				2.22
75.167	0.00	0.02	0.226	o				2.22
75.250	0.00	0.02	0.226	o				2.21
75.333	0.00	0.02	0.226	o				2.21
75.417	0.00	0.02	0.226	o				2.21
75.500	0.00	0.02	0.226	o				2.21
75.583	0.00	0.02	0.225	o				2.21
75.667	0.00	0.02	0.225	o				2.21
75.750	0.00	0.02	0.225	o				2.21
75.833	0.00	0.02	0.225	o				2.20
75.917	0.00	0.02	0.225	o				2.20
76.000	0.00	0.02	0.225	o				2.20
76.083	0.00	0.02	0.225	o				2.20
76.167	0.00	0.02	0.225	o				2.20
76.250	0.00	0.02	0.224	o				2.20
76.333	0.00	0.02	0.224	o				2.20
76.417	0.00	0.02	0.224	o				2.20
76.500	0.00	0.02	0.224	o				2.19
76.583	0.00	0.02	0.224	o				2.19
76.667	0.00	0.02	0.224	o				2.19
76.750	0.00	0.02	0.224	o				2.19
76.833	0.00	0.02	0.223	o				2.19
76.917	0.00	0.02	0.223	o				2.19
77.000	0.00	0.02	0.223	o				2.19
77.083	0.00	0.02	0.223	o				2.18
77.167	0.00	0.02	0.223	o				2.18
77.250	0.00	0.02	0.223	o				2.18
77.333	0.00	0.02	0.223	o				2.18
77.417	0.00	0.02	0.222	o				2.18
77.500	0.00	0.02	0.222	o				2.18
77.583	0.00	0.02	0.222	o				2.18
77.667	0.00	0.02	0.222	o				2.18
77.750	0.00	0.02	0.222	o				2.17
77.833	0.00	0.02	0.222	o				2.17
77.917	0.00	0.02	0.222	o				2.17
78.000	0.00	0.02	0.221	o				2.17
78.083	0.00	0.02	0.221	o				2.17
78.167	0.00	0.02	0.221	o				2.17
78.250	0.00	0.02	0.221	o				2.17
78.333	0.00	0.02	0.221	o				2.16
78.417	0.00	0.02	0.221	o				2.16
78.500	0.00	0.02	0.221	o				2.16
78.583	0.00	0.02	0.221	o				2.16
78.667	0.00	0.02	0.220	o				2.16
78.750	0.00	0.02	0.220	o				2.16
78.833	0.00	0.02	0.220	o				2.16
78.917	0.00	0.02	0.220	o				2.16
79.000	0.00	0.02	0.220	o				2.15
79.083	0.00	0.02	0.220	o				2.15
79.167	0.00	0.02	0.220	o				2.15
79.250	0.00	0.02	0.219	o				2.15
79.333	0.00	0.02	0.219	o				2.15
79.417	0.00	0.02	0.219	o				2.15

79.500	0.00	0.02	0.219	o				2.15
79.583	0.00	0.02	0.219	o				2.14
79.667	0.00	0.02	0.219	o				2.14
79.750	0.00	0.02	0.219	o				2.14
79.833	0.00	0.02	0.218	o				2.14
79.917	0.00	0.02	0.218	o				2.14
80.000	0.00	0.02	0.218	o				2.14
80.083	0.00	0.02	0.218	o				2.14
80.167	0.00	0.02	0.218	o				2.14
80.250	0.00	0.02	0.218	o				2.13
80.333	0.00	0.02	0.218	o				2.13
80.417	0.00	0.02	0.218	o				2.13
80.500	0.00	0.02	0.217	o				2.13
80.583	0.00	0.02	0.217	o				2.13
80.667	0.00	0.02	0.217	o				2.13
80.750	0.00	0.02	0.217	o				2.13
80.833	0.00	0.02	0.217	o				2.12
80.917	0.00	0.02	0.217	o				2.12
81.000	0.00	0.02	0.217	o				2.12
81.083	0.00	0.02	0.216	o				2.12
81.167	0.00	0.02	0.216	o				2.12
81.250	0.00	0.02	0.216	o				2.12
81.333	0.00	0.02	0.216	o				2.12
81.417	0.00	0.02	0.216	o				2.12
81.500	0.00	0.02	0.216	o				2.11
81.583	0.00	0.02	0.216	o				2.11
81.667	0.00	0.02	0.215	o				2.11
81.750	0.00	0.02	0.215	o				2.11
81.833	0.00	0.02	0.215	o				2.11
81.917	0.00	0.02	0.215	o				2.11
82.000	0.00	0.02	0.215	o				2.11
82.083	0.00	0.02	0.215	o				2.10
82.167	0.00	0.02	0.215	o				2.10
82.250	0.00	0.02	0.214	o				2.10
82.333	0.00	0.02	0.214	o				2.10
82.417	0.00	0.02	0.214	o				2.10
82.500	0.00	0.02	0.214	o				2.10
82.583	0.00	0.02	0.214	o				2.10
82.667	0.00	0.02	0.214	o				2.10
82.750	0.00	0.02	0.214	o				2.09
82.833	0.00	0.02	0.214	o				2.09
82.917	0.00	0.02	0.213	o				2.09
83.000	0.00	0.02	0.213	o				2.09
83.083	0.00	0.02	0.213	o				2.09
83.167	0.00	0.02	0.213	o				2.09
83.250	0.00	0.02	0.213	o				2.09
83.333	0.00	0.02	0.213	o				2.08
83.417	0.00	0.02	0.213	o				2.08
83.500	0.00	0.02	0.212	o				2.08
83.583	0.00	0.02	0.212	o				2.08
83.667	0.00	0.02	0.212	o				2.08
83.750	0.00	0.02	0.212	o				2.08
83.833	0.00	0.02	0.212	o				2.08
83.917	0.00	0.02	0.212	o				2.07
84.000	0.00	0.02	0.212	o				2.07
84.083	0.00	0.02	0.211	o				2.07
84.167	0.00	0.02	0.211	o				2.07
84.250	0.00	0.02	0.211	o				2.07
84.333	0.00	0.02	0.211	o				2.07
84.417	0.00	0.02	0.211	o				2.07
84.500	0.00	0.02	0.211	o				2.07
84.583	0.00	0.02	0.211	o				2.06
84.667	0.00	0.02	0.210	o				2.06
84.750	0.00	0.02	0.210	o				2.06
84.833	0.00	0.02	0.210	o				2.06
84.917	0.00	0.02	0.210	o				2.06
85.000	0.00	0.02	0.210	o				2.06
85.083	0.00	0.02	0.210	o				2.06
85.167	0.00	0.02	0.210	o				2.05
85.250	0.00	0.02	0.210	o				2.05
85.333	0.00	0.02	0.209	o				2.05
85.417	0.00	0.02	0.209	o				2.05
85.500	0.00	0.02	0.209	o				2.05
85.583	0.00	0.02	0.209	o				2.05
85.667	0.00	0.02	0.209	o				2.05
85.750	0.00	0.02	0.209	o				2.05
85.833	0.00	0.02	0.209	o				2.04
85.917	0.00	0.02	0.208	o				2.04
86.000	0.00	0.02	0.208	o				2.04

86.083	0.00	0.02	0.208	o				2.04
86.167	0.00	0.02	0.208	o				2.04
86.250	0.00	0.02	0.208	o				2.04
86.333	0.00	0.02	0.208	o				2.04
86.417	0.00	0.02	0.208	o				2.03
86.500	0.00	0.02	0.207	o				2.03
86.583	0.00	0.02	0.207	o				2.03
86.667	0.00	0.02	0.207	o				2.03
86.750	0.00	0.02	0.207	o				2.03
86.833	0.00	0.02	0.207	o				2.03
86.917	0.00	0.02	0.207	o				2.03
87.000	0.00	0.02	0.207	o				2.03
87.083	0.00	0.02	0.206	o				2.02
87.167	0.00	0.02	0.206	o				2.02
87.250	0.00	0.02	0.206	o				2.02
87.333	0.00	0.02	0.206	o				2.02
87.417	0.00	0.02	0.206	o				2.02
87.500	0.00	0.02	0.206	o				2.02
87.583	0.00	0.02	0.206	o				2.02
87.667	0.00	0.02	0.206	o				2.01
87.750	0.00	0.02	0.205	o				2.01
87.833	0.00	0.02	0.205	o				2.01
87.917	0.00	0.02	0.205	o				2.01
88.000	0.00	0.02	0.205	o				2.01
88.083	0.00	0.02	0.205	o				2.01
88.167	0.00	0.02	0.205	o				2.01
88.250	0.00	0.02	0.205	o				2.01
88.333	0.00	0.02	0.204	o				2.00
88.417	0.00	0.02	0.204	o				2.00
88.500	0.00	0.02	0.204	o				2.00
88.583	0.00	0.02	0.204	o				2.00
88.667	0.00	0.02	0.204	o				2.00
88.750	0.00	0.02	0.204	o				2.00
88.833	0.00	0.02	0.204	o				2.00
88.917	0.00	0.02	0.203	o				1.99
89.000	0.00	0.02	0.203	o				1.99
89.083	0.00	0.02	0.203	o				1.99
89.167	0.00	0.02	0.203	o				1.99
89.250	0.00	0.02	0.203	o				1.99
89.333	0.00	0.02	0.203	o				1.99
89.417	0.00	0.02	0.203	o				1.99
89.500	0.00	0.02	0.202	o				1.99
89.583	0.00	0.02	0.202	o				1.98
89.667	0.00	0.02	0.202	o				1.98
89.750	0.00	0.02	0.202	o				1.98
89.833	0.00	0.02	0.202	o				1.98
89.917	0.00	0.02	0.202	o				1.98
90.000	0.00	0.02	0.202	o				1.98
90.083	0.00	0.02	0.202	o				1.98
90.167	0.00	0.02	0.201	o				1.97
90.250	0.00	0.02	0.201	o				1.97
90.333	0.00	0.02	0.201	o				1.97
90.417	0.00	0.02	0.201	o				1.97
90.500	0.00	0.02	0.201	o				1.97
90.583	0.00	0.02	0.201	o				1.97
90.667	0.00	0.02	0.201	o				1.97
90.750	0.00	0.02	0.200	o				1.96
90.833	0.00	0.02	0.200	o				1.96
90.917	0.00	0.02	0.200	o				1.96
91.000	0.00	0.02	0.200	o				1.96
91.083	0.00	0.02	0.200	o				1.96
91.167	0.00	0.02	0.200	o				1.96
91.250	0.00	0.02	0.200	o				1.96
91.333	0.00	0.02	0.199	o				1.96
91.417	0.00	0.02	0.199	o				1.95
91.500	0.00	0.02	0.199	o				1.95
91.583	0.00	0.02	0.199	o				1.95
91.667	0.00	0.02	0.199	o				1.95
91.750	0.00	0.02	0.199	o				1.95
91.833	0.00	0.02	0.199	o				1.95
91.917	0.00	0.02	0.198	o				1.95
92.000	0.00	0.02	0.198	o				1.94
92.083	0.00	0.02	0.198	o				1.94
92.167	0.00	0.02	0.198	o				1.94
92.250	0.00	0.02	0.198	o				1.94
92.333	0.00	0.02	0.198	o				1.94
92.417	0.00	0.02	0.198	o				1.94
92.500	0.00	0.02	0.198	o				1.94
92.583	0.00	0.02	0.197	o				1.94

92.667	0.00	0.02	0.197	o				1.93
92.750	0.00	0.02	0.197	o				1.93
92.833	0.00	0.02	0.197	o				1.93
92.917	0.00	0.02	0.197	o				1.93
93.000	0.00	0.02	0.197	o				1.93
93.083	0.00	0.02	0.197	o				1.93
93.167	0.00	0.02	0.196	o				1.93
93.250	0.00	0.02	0.196	o				1.92
93.333	0.00	0.02	0.196	o				1.92
93.417	0.00	0.02	0.196	o				1.92
93.500	0.00	0.02	0.196	o				1.92
93.583	0.00	0.02	0.196	o				1.92
93.667	0.00	0.02	0.196	o				1.92
93.750	0.00	0.02	0.195	o				1.92
93.833	0.00	0.02	0.195	o				1.91
93.917	0.00	0.02	0.195	o				1.91
94.000	0.00	0.02	0.195	o				1.91
94.083	0.00	0.02	0.195	o				1.91
94.167	0.00	0.02	0.195	o				1.91
94.250	0.00	0.02	0.195	o				1.91
94.333	0.00	0.02	0.195	o				1.91
94.417	0.00	0.02	0.194	o				1.91
94.500	0.00	0.02	0.194	o				1.90
94.583	0.00	0.02	0.194	o				1.90
94.667	0.00	0.02	0.194	o				1.90
94.750	0.00	0.02	0.194	o				1.90
94.833	0.00	0.02	0.194	o				1.90
94.917	0.00	0.02	0.194	o				1.90
95.000	0.00	0.02	0.193	o				1.90
95.083	0.00	0.02	0.193	o				1.89
95.167	0.00	0.02	0.193	o				1.89
95.250	0.00	0.02	0.193	o				1.89
95.333	0.00	0.02	0.193	o				1.89
95.417	0.00	0.02	0.193	o				1.89
95.500	0.00	0.02	0.193	o				1.89
95.583	0.00	0.02	0.192	o				1.89
95.667	0.00	0.02	0.192	o				1.89
95.750	0.00	0.02	0.192	o				1.88
95.833	0.00	0.02	0.192	o				1.88
95.917	0.00	0.02	0.192	o				1.88
96.000	0.00	0.02	0.192	o				1.88
96.083	0.00	0.02	0.192	o				1.88
96.167	0.00	0.02	0.191	o				1.88
96.250	0.00	0.02	0.191	o				1.88
96.333	0.00	0.02	0.191	o				1.87
96.417	0.00	0.02	0.191	o				1.87
96.500	0.00	0.02	0.191	o				1.87
96.583	0.00	0.02	0.191	o				1.87
96.667	0.00	0.02	0.191	o				1.87
96.750	0.00	0.02	0.191	o				1.87
96.833	0.00	0.02	0.190	o				1.87
96.917	0.00	0.02	0.190	o				1.87
97.000	0.00	0.02	0.190	o				1.86
97.083	0.00	0.02	0.190	o				1.86
97.167	0.00	0.02	0.190	o				1.86
97.250	0.00	0.02	0.190	o				1.86
97.333	0.00	0.02	0.190	o				1.86
97.417	0.00	0.02	0.189	o				1.86
97.500	0.00	0.02	0.189	o				1.86
97.583	0.00	0.02	0.189	o				1.85
97.667	0.00	0.02	0.189	o				1.85
97.750	0.00	0.02	0.189	o				1.85
97.833	0.00	0.02	0.189	o				1.85
97.917	0.00	0.02	0.189	o				1.85
98.000	0.00	0.02	0.188	o				1.85
98.083	0.00	0.02	0.188	o				1.85
98.167	0.00	0.02	0.188	o				1.84
98.250	0.00	0.02	0.188	o				1.84
98.333	0.00	0.02	0.188	o				1.84
98.417	0.00	0.02	0.188	o				1.84
98.500	0.00	0.02	0.188	o				1.84
98.583	0.00	0.02	0.187	o				1.84
98.667	0.00	0.02	0.187	o				1.84
98.750	0.00	0.02	0.187	o				1.84
98.833	0.00	0.02	0.187	o				1.83
98.917	0.00	0.02	0.187	o				1.83
99.000	0.00	0.02	0.187	o				1.83
99.083	0.00	0.02	0.187	o				1.83
99.167	0.00	0.02	0.187	o				1.83

99.250	0.00	0.02	0.186	o				1.83
99.333	0.00	0.02	0.186	o				1.83
99.417	0.00	0.02	0.186	o				1.82
99.500	0.00	0.02	0.186	o				1.82
99.583	0.00	0.02	0.186	o				1.82
99.667	0.00	0.02	0.186	o				1.82
99.750	0.00	0.02	0.186	o				1.82
99.833	0.00	0.02	0.185	o				1.82
99.917	0.00	0.02	0.185	o				1.82
100.000	0.00	0.02	0.185	o				1.82
100.083	0.00	0.02	0.185	o				1.81
100.167	0.00	0.02	0.185	o				1.81
100.250	0.00	0.02	0.185	o				1.81
100.333	0.00	0.02	0.185	o				1.81
100.417	0.00	0.02	0.184	o				1.81
100.500	0.00	0.02	0.184	o				1.81
100.583	0.00	0.02	0.184	o				1.81
100.667	0.00	0.02	0.184	o				1.80
100.750	0.00	0.02	0.184	o				1.80
100.833	0.00	0.02	0.184	o				1.80
100.917	0.00	0.02	0.184	o				1.80
101.000	0.00	0.02	0.183	o				1.80
101.083	0.00	0.02	0.183	o				1.80
101.167	0.00	0.02	0.183	o				1.80
101.250	0.00	0.02	0.183	o				1.79
101.333	0.00	0.02	0.183	o				1.79
101.417	0.00	0.02	0.183	o				1.79
101.500	0.00	0.02	0.183	o				1.79
101.583	0.00	0.02	0.183	o				1.79
101.667	0.00	0.02	0.182	o				1.79
101.750	0.00	0.02	0.182	o				1.79
101.833	0.00	0.02	0.182	o				1.79
101.917	0.00	0.02	0.182	o				1.78
102.000	0.00	0.02	0.182	o				1.78
102.083	0.00	0.02	0.182	o				1.78
102.167	0.00	0.02	0.182	o				1.78
102.250	0.00	0.02	0.181	o				1.78
102.333	0.00	0.02	0.181	o				1.78
102.417	0.00	0.02	0.181	o				1.78
102.500	0.00	0.02	0.181	o				1.77
102.583	0.00	0.02	0.181	o				1.77
102.667	0.00	0.02	0.181	o				1.77
102.750	0.00	0.02	0.181	o				1.77
102.833	0.00	0.02	0.180	o				1.77
102.917	0.00	0.02	0.180	o				1.77
103.000	0.00	0.02	0.180	o				1.77
103.083	0.00	0.02	0.180	o				1.77
103.167	0.00	0.02	0.180	o				1.76
103.250	0.00	0.02	0.180	o				1.76
103.333	0.00	0.02	0.180	o				1.76
103.417	0.00	0.02	0.179	o				1.76
103.500	0.00	0.02	0.179	o				1.76
103.583	0.00	0.02	0.179	o				1.76
103.667	0.00	0.02	0.179	o				1.76
103.750	0.00	0.02	0.179	o				1.75
103.833	0.00	0.02	0.179	o				1.75
103.917	0.00	0.02	0.179	o				1.75
104.000	0.00	0.02	0.179	o				1.75
104.083	0.00	0.02	0.178	o				1.75
104.167	0.00	0.02	0.178	o				1.75
104.250	0.00	0.02	0.178	o				1.75
104.333	0.00	0.02	0.178	o				1.74
104.417	0.00	0.02	0.178	o				1.74
104.500	0.00	0.02	0.178	o				1.74
104.583	0.00	0.02	0.178	o				1.74
104.667	0.00	0.02	0.177	o				1.74
104.750	0.00	0.02	0.177	o				1.74
104.833	0.00	0.02	0.177	o				1.74
104.917	0.00	0.02	0.177	o				1.74
105.000	0.00	0.02	0.177	o				1.73
105.083	0.00	0.02	0.177	o				1.73
105.167	0.00	0.02	0.177	o				1.73
105.250	0.00	0.02	0.176	o				1.73
105.333	0.00	0.02	0.176	o				1.73
105.417	0.00	0.02	0.176	o				1.73
105.500	0.00	0.02	0.176	o				1.73
105.583	0.00	0.02	0.176	o				1.72
105.667	0.00	0.02	0.176	o				1.72
105.750	0.00	0.02	0.176	o				1.72

105.833	0.00	0.02	0.175	o				1.72
105.917	0.00	0.02	0.175	o				1.72
106.000	0.00	0.02	0.175	o				1.72
106.083	0.00	0.02	0.175	o				1.72
106.167	0.00	0.02	0.175	o				1.72
106.250	0.00	0.02	0.175	o				1.71
106.333	0.00	0.02	0.175	o				1.71
106.417	0.00	0.02	0.175	o				1.71
106.500	0.00	0.02	0.174	o				1.71
106.583	0.00	0.02	0.174	o				1.71
106.667	0.00	0.02	0.174	o				1.71
106.750	0.00	0.02	0.174	o				1.71
106.833	0.00	0.02	0.174	o				1.70
106.917	0.00	0.02	0.174	o				1.70
107.000	0.00	0.02	0.174	o				1.70
107.083	0.00	0.02	0.173	o				1.70
107.167	0.00	0.02	0.173	o				1.70
107.250	0.00	0.02	0.173	o				1.70
107.333	0.00	0.02	0.173	o				1.70
107.417	0.00	0.02	0.173	o				1.69
107.500	0.00	0.02	0.173	o				1.69
107.583	0.00	0.02	0.173	o				1.69
107.667	0.00	0.02	0.172	o				1.69
107.750	0.00	0.02	0.172	o				1.69
107.833	0.00	0.02	0.172	o				1.69
107.917	0.00	0.02	0.172	o				1.69
108.000	0.00	0.02	0.172	o				1.69
108.083	0.00	0.02	0.172	o				1.68
108.167	0.00	0.02	0.172	o				1.68
108.250	0.00	0.02	0.171	o				1.68
108.333	0.00	0.02	0.171	o				1.68
108.417	0.00	0.02	0.171	o				1.68
108.500	0.00	0.02	0.171	o				1.68
108.583	0.00	0.02	0.171	o				1.68
108.667	0.00	0.02	0.171	o				1.67
108.750	0.00	0.02	0.171	o				1.67
108.833	0.00	0.02	0.171	o				1.67
108.917	0.00	0.02	0.170	o				1.67
109.000	0.00	0.02	0.170	o				1.67
109.083	0.00	0.02	0.170	o				1.67
109.167	0.00	0.02	0.170	o				1.67
109.250	0.00	0.02	0.170	o				1.67
109.333	0.00	0.02	0.170	o				1.66
109.417	0.00	0.02	0.170	o				1.66
109.500	0.00	0.02	0.169	o				1.66
109.583	0.00	0.02	0.169	o				1.66
109.667	0.00	0.02	0.169	o				1.66
109.750	0.00	0.02	0.169	o				1.66
109.833	0.00	0.02	0.169	o				1.66
109.917	0.00	0.02	0.169	o				1.65
110.000	0.00	0.02	0.169	o				1.65
110.083	0.00	0.02	0.168	o				1.65
110.167	0.00	0.02	0.168	o				1.65
110.250	0.00	0.02	0.168	o				1.65
110.333	0.00	0.02	0.168	o				1.65
110.417	0.00	0.02	0.168	o				1.65
110.500	0.00	0.02	0.168	o				1.64
110.583	0.00	0.02	0.168	o				1.64
110.667	0.00	0.02	0.168	o				1.64
110.750	0.00	0.02	0.167	o				1.64
110.833	0.00	0.02	0.167	o				1.64
110.917	0.00	0.02	0.167	o				1.64
111.000	0.00	0.02	0.167	o				1.64
111.083	0.00	0.02	0.167	o				1.64
111.167	0.00	0.02	0.167	o				1.63
111.250	0.00	0.02	0.167	o				1.63
111.333	0.00	0.02	0.166	o				1.63
111.417	0.00	0.02	0.166	o				1.63
111.500	0.00	0.02	0.166	o				1.63
111.583	0.00	0.02	0.166	o				1.63
111.667	0.00	0.02	0.166	o				1.63
111.750	0.00	0.02	0.166	o				1.62
111.833	0.00	0.02	0.166	o				1.62
111.917	0.00	0.02	0.165	o				1.62
112.000	0.00	0.02	0.165	o				1.62
112.083	0.00	0.02	0.165	o				1.62
112.167	0.00	0.02	0.165	o				1.62
112.250	0.00	0.02	0.165	o				1.62
112.333	0.00	0.02	0.165	o				1.62

112.417	0.00	0.02	0.165	o				1.61
112.500	0.00	0.02	0.164	o				1.61
112.583	0.00	0.02	0.164	o				1.61
112.667	0.00	0.02	0.164	o				1.61
112.750	0.00	0.02	0.164	o				1.61
112.833	0.00	0.02	0.164	o				1.61
112.917	0.00	0.02	0.164	o				1.61
113.000	0.00	0.02	0.164	o				1.60
113.083	0.00	0.02	0.164	o				1.60
113.167	0.00	0.02	0.163	o				1.60
113.250	0.00	0.02	0.163	o				1.60
113.333	0.00	0.02	0.163	o				1.60
113.417	0.00	0.02	0.163	o				1.60
113.500	0.00	0.02	0.163	o				1.60
113.583	0.00	0.02	0.163	o				1.59
113.667	0.00	0.02	0.163	o				1.59
113.750	0.00	0.02	0.162	o				1.59
113.833	0.00	0.02	0.162	o				1.59
113.917	0.00	0.02	0.162	o				1.59
114.000	0.00	0.02	0.162	o				1.59
114.083	0.00	0.02	0.162	o				1.59
114.167	0.00	0.02	0.162	o				1.59
114.250	0.00	0.02	0.162	o				1.58
114.333	0.00	0.02	0.161	o				1.58
114.417	0.00	0.02	0.161	o				1.58
114.500	0.00	0.02	0.161	o				1.58
114.583	0.00	0.02	0.161	o				1.58
114.667	0.00	0.02	0.161	o				1.58
114.750	0.00	0.02	0.161	o				1.58
114.833	0.00	0.02	0.161	o				1.57
114.917	0.00	0.02	0.160	o				1.57
115.000	0.00	0.02	0.160	o				1.57
115.083	0.00	0.02	0.160	o				1.57
115.167	0.00	0.02	0.160	o				1.57
115.250	0.00	0.02	0.160	o				1.57
115.333	0.00	0.02	0.160	o				1.57
115.417	0.00	0.02	0.160	o				1.57
115.500	0.00	0.02	0.160	o				1.56
115.583	0.00	0.02	0.159	o				1.56
115.667	0.00	0.02	0.159	o				1.56
115.750	0.00	0.02	0.159	o				1.56
115.833	0.00	0.02	0.159	o				1.56
115.917	0.00	0.02	0.159	o				1.56
116.000	0.00	0.02	0.159	o				1.56
116.083	0.00	0.02	0.159	o				1.55
116.167	0.00	0.02	0.158	o				1.55
116.250	0.00	0.02	0.158	o				1.55
116.333	0.00	0.02	0.158	o				1.55
116.417	0.00	0.02	0.158	o				1.55
116.500	0.00	0.02	0.158	o				1.55
116.583	0.00	0.02	0.158	o				1.55
116.667	0.00	0.02	0.158	o				1.54
116.750	0.00	0.02	0.157	o				1.54
116.833	0.00	0.02	0.157	o				1.54
116.917	0.00	0.02	0.157	o				1.54
117.000	0.00	0.02	0.157	o				1.54
117.083	0.00	0.02	0.157	o				1.54
117.167	0.00	0.02	0.157	o				1.54
117.250	0.00	0.02	0.157	o				1.54
117.333	0.00	0.02	0.156	o				1.53
117.417	0.00	0.02	0.156	o				1.53
117.500	0.00	0.02	0.156	o				1.53
117.583	0.00	0.02	0.156	o				1.53
117.667	0.00	0.02	0.156	o				1.53
117.750	0.00	0.02	0.156	o				1.53
117.833	0.00	0.02	0.156	o				1.53
117.917	0.00	0.02	0.156	o				1.52
118.000	0.00	0.02	0.155	o				1.52
118.083	0.00	0.02	0.155	o				1.52
118.167	0.00	0.02	0.155	o				1.52
118.250	0.00	0.02	0.155	o				1.52
118.333	0.00	0.02	0.155	o				1.52
118.417	0.00	0.02	0.155	o				1.52
118.500	0.00	0.02	0.155	o				1.52
118.583	0.00	0.02	0.154	o				1.51
118.667	0.00	0.02	0.154	o				1.51
118.750	0.00	0.02	0.154	o				1.51
118.833	0.00	0.02	0.154	o				1.51
118.917	0.00	0.02	0.154	o				1.51

119.000	0.00	0.02	0.154	o					1.51
119.083	0.00	0.02	0.154	o					1.51
119.167	0.00	0.02	0.153	o					1.50
119.250	0.00	0.02	0.153	o					1.50
119.333	0.00	0.02	0.153	o					1.50
119.417	0.00	0.02	0.153	o					1.50
119.500	0.00	0.02	0.153	o					1.50
119.583	0.00	0.02	0.153	o					1.50
119.667	0.00	0.02	0.153	o					1.50
119.750	0.00	0.02	0.152	o					1.50
119.833	0.00	0.02	0.152	o					1.49
119.917	0.00	0.02	0.152	o					1.49
120.000	0.00	0.02	0.152	o					1.49
120.083	0.00	0.02	0.152	o					1.49
120.167	0.00	0.02	0.152	o					1.49
120.250	0.00	0.02	0.152	o					1.49
120.333	0.00	0.02	0.152	o					1.49
120.417	0.00	0.02	0.151	o					1.48
120.500	0.00	0.02	0.151	o					1.48
120.583	0.00	0.02	0.151	o					1.48
120.667	0.00	0.02	0.151	o					1.48
120.750	0.00	0.02	0.151	o					1.48
120.833	0.00	0.02	0.151	o					1.48
120.917	0.00	0.02	0.151	o					1.48
121.000	0.00	0.02	0.150	o					1.47
121.083	0.00	0.02	0.150	o					1.47
121.167	0.00	0.02	0.150	o					1.47
121.250	0.00	0.02	0.150	o					1.47
121.333	0.00	0.02	0.150	o					1.47
121.417	0.00	0.02	0.150	o					1.47
121.500	0.00	0.02	0.150	o					1.47
121.583	0.00	0.02	0.149	o					1.47
121.667	0.00	0.02	0.149	o					1.46
121.750	0.00	0.02	0.149	o					1.46
121.833	0.00	0.02	0.149	o					1.46
121.917	0.00	0.02	0.149	o					1.46
122.000	0.00	0.02	0.149	o					1.46
122.083	0.00	0.02	0.149	o					1.46
122.167	0.00	0.02	0.148	o					1.46
122.250	0.00	0.02	0.148	o					1.45
122.333	0.00	0.02	0.148	o					1.45
122.417	0.00	0.02	0.148	o					1.45
122.500	0.00	0.02	0.148	o					1.45
122.583	0.00	0.02	0.148	o					1.45
122.667	0.00	0.02	0.148	o					1.45
122.750	0.00	0.02	0.148	o					1.45
122.833	0.00	0.02	0.147	o					1.45
122.917	0.00	0.02	0.147	o					1.44
123.000	0.00	0.02	0.147	o					1.44
123.083	0.00	0.02	0.147	o					1.44
123.167	0.00	0.02	0.147	o					1.44
123.250	0.00	0.02	0.147	o					1.44
123.333	0.00	0.02	0.147	o					1.44
123.417	0.00	0.02	0.146	o					1.44
123.500	0.00	0.02	0.146	o					1.43
123.583	0.00	0.02	0.146	o					1.43
123.667	0.00	0.02	0.146	o					1.43
123.750	0.00	0.02	0.146	o					1.43
123.833	0.00	0.02	0.146	o					1.43
123.917	0.00	0.02	0.146	o					1.43
124.000	0.00	0.02	0.145	o					1.43
124.083	0.00	0.02	0.145	o					1.42
124.167	0.00	0.02	0.145	o					1.42
124.250	0.00	0.02	0.145	o					1.42
124.333	0.00	0.02	0.145	o					1.42
124.417	0.00	0.02	0.145	o					1.42
124.500	0.00	0.02	0.145	o					1.42
124.583	0.00	0.02	0.145	o					1.42
124.667	0.00	0.02	0.144	o					1.42
124.750	0.00	0.02	0.144	o					1.41
124.833	0.00	0.02	0.144	o					1.41
124.917	0.00	0.02	0.144	o					1.41
125.000	0.00	0.02	0.144	o					1.41
125.083	0.00	0.02	0.144	o					1.41
125.167	0.00	0.02	0.144	o					1.41
125.250	0.00	0.02	0.143	o					1.41
125.333	0.00	0.02	0.143	o					1.40
125.417	0.00	0.02	0.143	o					1.40
125.500	0.00	0.02	0.143	o					1.40

125.583	0.00	0.02	0.143	o				1.40
125.667	0.00	0.02	0.143	o				1.40
125.750	0.00	0.02	0.143	o				1.40
125.833	0.00	0.02	0.142	o				1.40
125.917	0.00	0.02	0.142	o				1.40
126.000	0.00	0.02	0.142	o				1.39
126.083	0.00	0.02	0.142	o				1.39
126.167	0.00	0.02	0.142	o				1.39
126.250	0.00	0.02	0.142	o				1.39
126.333	0.00	0.02	0.142	o				1.39
126.417	0.00	0.02	0.141	o				1.39
126.500	0.00	0.02	0.141	o				1.39
126.583	0.00	0.02	0.141	o				1.38
126.667	0.00	0.02	0.141	o				1.38
126.750	0.00	0.02	0.141	o				1.38
126.833	0.00	0.02	0.141	o				1.38
126.917	0.00	0.02	0.141	o				1.38
127.000	0.00	0.02	0.141	o				1.38
127.083	0.00	0.02	0.140	o				1.38
127.167	0.00	0.02	0.140	o				1.37
127.250	0.00	0.02	0.140	o				1.37
127.333	0.00	0.02	0.140	o				1.37
127.417	0.00	0.02	0.140	o				1.37
127.500	0.00	0.02	0.140	o				1.37
127.583	0.00	0.02	0.140	o				1.37
127.667	0.00	0.02	0.139	o				1.37
127.750	0.00	0.02	0.139	o				1.37
127.833	0.00	0.02	0.139	o				1.36
127.917	0.00	0.02	0.139	o				1.36
128.000	0.00	0.02	0.139	o				1.36
128.083	0.00	0.02	0.139	o				1.36
128.167	0.00	0.02	0.139	o				1.36
128.250	0.00	0.02	0.138	o				1.36
128.333	0.00	0.02	0.138	o				1.36
128.417	0.00	0.02	0.138	o				1.35
128.500	0.00	0.02	0.138	o				1.35
128.583	0.00	0.02	0.138	o				1.35
128.667	0.00	0.02	0.138	o				1.35
128.750	0.00	0.02	0.138	o				1.35
128.833	0.00	0.02	0.137	o				1.35
128.917	0.00	0.02	0.137	o				1.35
129.000	0.00	0.02	0.137	o				1.35
129.083	0.00	0.02	0.137	o				1.34
129.167	0.00	0.02	0.137	o				1.34
129.250	0.00	0.02	0.137	o				1.34
129.333	0.00	0.02	0.137	o				1.34
129.417	0.00	0.02	0.137	o				1.34
129.500	0.00	0.02	0.136	o				1.34
129.583	0.00	0.02	0.136	o				1.34
129.667	0.00	0.02	0.136	o				1.33
129.750	0.00	0.02	0.136	o				1.33
129.833	0.00	0.02	0.136	o				1.33
129.917	0.00	0.02	0.136	o				1.33
130.000	0.00	0.02	0.136	o				1.33
130.083	0.00	0.02	0.135	o				1.33
130.167	0.00	0.02	0.135	o				1.33
130.250	0.00	0.02	0.135	o				1.32
130.333	0.00	0.02	0.135	o				1.32
130.417	0.00	0.02	0.135	o				1.32
130.500	0.00	0.02	0.135	o				1.32
130.583	0.00	0.02	0.135	o				1.32
130.667	0.00	0.02	0.134	o				1.32
130.750	0.00	0.02	0.134	o				1.32
130.833	0.00	0.02	0.134	o				1.32
130.917	0.00	0.02	0.134	o				1.31
131.000	0.00	0.02	0.134	o				1.31
131.083	0.00	0.02	0.134	o				1.31
131.167	0.00	0.02	0.134	o				1.31
131.250	0.00	0.02	0.133	o				1.31
131.333	0.00	0.02	0.133	o				1.31
131.417	0.00	0.02	0.133	o				1.31
131.500	0.00	0.02	0.133	o				1.30
131.583	0.00	0.02	0.133	o				1.30
131.667	0.00	0.02	0.133	o				1.30
131.750	0.00	0.02	0.133	o				1.30
131.833	0.00	0.02	0.133	o				1.30
131.917	0.00	0.02	0.132	o				1.30
132.000	0.00	0.02	0.132	o				1.30
132.083	0.00	0.02	0.132	o				1.30

132.167	0.00	0.02	0.132	o				1.29
132.250	0.00	0.02	0.132	o				1.29
132.333	0.00	0.02	0.132	o				1.29
132.417	0.00	0.02	0.132	o				1.29
132.500	0.00	0.02	0.131	o				1.29
132.583	0.00	0.02	0.131	o				1.29
132.667	0.00	0.02	0.131	o				1.29
132.750	0.00	0.02	0.131	o				1.28
132.833	0.00	0.02	0.131	o				1.28
132.917	0.00	0.02	0.131	o				1.28
133.000	0.00	0.02	0.131	o				1.28
133.083	0.00	0.02	0.130	o				1.28
133.167	0.00	0.02	0.130	o				1.28
133.250	0.00	0.02	0.130	o				1.28
133.333	0.00	0.02	0.130	o				1.27
133.417	0.00	0.02	0.130	o				1.27
133.500	0.00	0.02	0.130	o				1.27
133.583	0.00	0.02	0.130	o				1.27
133.667	0.00	0.02	0.129	o				1.27
133.750	0.00	0.02	0.129	o				1.27
133.833	0.00	0.02	0.129	o				1.27
133.917	0.00	0.02	0.129	o				1.27
134.000	0.00	0.02	0.129	o				1.26
134.083	0.00	0.02	0.129	o				1.26
134.167	0.00	0.02	0.129	o				1.26
134.250	0.00	0.02	0.129	o				1.26
134.333	0.00	0.02	0.128	o				1.26
134.417	0.00	0.02	0.128	o				1.26
134.500	0.00	0.02	0.128	o				1.26
134.583	0.00	0.02	0.128	o				1.25
134.667	0.00	0.02	0.128	o				1.25
134.750	0.00	0.02	0.128	o				1.25
134.833	0.00	0.02	0.128	o				1.25
134.917	0.00	0.02	0.127	o				1.25
135.000	0.00	0.02	0.127	o				1.25
135.083	0.00	0.02	0.127	o				1.25
135.167	0.00	0.02	0.127	o				1.25
135.250	0.00	0.02	0.127	o				1.24
135.333	0.00	0.02	0.127	o				1.24
135.417	0.00	0.02	0.127	o				1.24
135.500	0.00	0.02	0.126	o				1.24
135.583	0.00	0.02	0.126	o				1.24
135.667	0.00	0.02	0.126	o				1.24
135.750	0.00	0.02	0.126	o				1.24
135.833	0.00	0.02	0.126	o				1.23
135.917	0.00	0.02	0.126	o				1.23
136.000	0.00	0.02	0.126	o				1.23
136.083	0.00	0.02	0.125	o				1.23
136.167	0.00	0.02	0.125	o				1.23
136.250	0.00	0.02	0.125	o				1.23
136.333	0.00	0.02	0.125	o				1.23
136.417	0.00	0.02	0.125	o				1.22
136.500	0.00	0.02	0.125	o				1.22
136.583	0.00	0.02	0.125	o				1.22
136.667	0.00	0.02	0.125	o				1.22
136.750	0.00	0.02	0.124	o				1.22
136.833	0.00	0.02	0.124	o				1.22
136.917	0.00	0.02	0.124	o				1.22
137.000	0.00	0.02	0.124	o				1.22
137.083	0.00	0.02	0.124	o				1.21
137.167	0.00	0.02	0.124	o				1.21
137.250	0.00	0.02	0.124	o				1.21
137.333	0.00	0.02	0.123	o				1.21
137.417	0.00	0.02	0.123	o				1.21
137.500	0.00	0.02	0.123	o				1.21
137.583	0.00	0.02	0.123	o				1.21
137.667	0.00	0.02	0.123	o				1.20
137.750	0.00	0.02	0.123	o				1.20
137.833	0.00	0.02	0.123	o				1.20
137.917	0.00	0.02	0.122	o				1.20
138.000	0.00	0.02	0.122	o				1.20
138.083	0.00	0.02	0.122	o				1.20
138.167	0.00	0.02	0.122	o				1.20
138.250	0.00	0.02	0.122	o				1.20
138.333	0.00	0.02	0.122	o				1.19
138.417	0.00	0.02	0.122	o				1.19
138.500	0.00	0.02	0.121	o				1.19
138.583	0.00	0.02	0.121	o				1.19
138.667	0.00	0.02	0.121	o				1.19

138.750	0.00	0.02	0.121	o				1.19
138.833	0.00	0.02	0.121	o				1.19
138.917	0.00	0.02	0.121	o				1.18
139.000	0.00	0.02	0.121	o				1.18
139.083	0.00	0.02	0.121	o				1.18
139.167	0.00	0.02	0.120	o				1.18
139.250	0.00	0.02	0.120	o				1.18
139.333	0.00	0.02	0.120	o				1.18
139.417	0.00	0.02	0.120	o				1.18
139.500	0.00	0.02	0.120	o				1.17
139.583	0.00	0.02	0.120	o				1.17
139.667	0.00	0.02	0.120	o				1.17
139.750	0.00	0.02	0.119	o				1.17
139.833	0.00	0.02	0.119	o				1.17
139.917	0.00	0.02	0.119	o				1.17
140.000	0.00	0.02	0.119	o				1.17
140.083	0.00	0.02	0.119	o				1.17
140.167	0.00	0.02	0.119	o				1.16
140.250	0.00	0.02	0.119	o				1.16
140.333	0.00	0.02	0.118	o				1.16
140.417	0.00	0.02	0.118	o				1.16
140.500	0.00	0.02	0.118	o				1.16
140.583	0.00	0.02	0.118	o				1.16
140.667	0.00	0.02	0.118	o				1.16
140.750	0.00	0.02	0.118	o				1.15
140.833	0.00	0.02	0.118	o				1.15
140.917	0.00	0.02	0.118	o				1.15
141.000	0.00	0.02	0.117	o				1.15
141.083	0.00	0.02	0.117	o				1.15
141.167	0.00	0.02	0.117	o				1.15
141.250	0.00	0.02	0.117	o				1.15
141.333	0.00	0.02	0.117	o				1.15
141.417	0.00	0.02	0.117	o				1.14
141.500	0.00	0.02	0.117	o				1.14
141.583	0.00	0.02	0.116	o				1.14
141.667	0.00	0.02	0.116	o				1.14
141.750	0.00	0.02	0.116	o				1.14
141.833	0.00	0.02	0.116	o				1.14
141.917	0.00	0.02	0.116	o				1.14
142.000	0.00	0.02	0.116	o				1.13
142.083	0.00	0.02	0.116	o				1.13
142.167	0.00	0.02	0.115	o				1.13
142.250	0.00	0.02	0.115	o				1.13
142.333	0.00	0.02	0.115	o				1.13
142.417	0.00	0.02	0.115	o				1.13
142.500	0.00	0.02	0.115	o				1.13
142.583	0.00	0.02	0.115	o				1.13
142.667	0.00	0.02	0.115	o				1.12
142.750	0.00	0.02	0.114	o				1.12
142.833	0.00	0.02	0.114	o				1.12
142.917	0.00	0.02	0.114	o				1.12
143.000	0.00	0.02	0.114	o				1.12
143.083	0.00	0.02	0.114	o				1.12
143.167	0.00	0.02	0.114	o				1.12
143.250	0.00	0.02	0.114	o				1.11
143.333	0.00	0.02	0.114	o				1.11
143.417	0.00	0.02	0.113	o				1.11
143.500	0.00	0.02	0.113	o				1.11
143.583	0.00	0.02	0.113	o				1.11
143.667	0.00	0.02	0.113	o				1.11
143.750	0.00	0.02	0.113	o				1.11
143.833	0.00	0.02	0.113	o				1.10
143.917	0.00	0.02	0.113	o				1.10
144.000	0.00	0.02	0.112	o				1.10
144.083	0.00	0.02	0.112	o				1.10
144.167	0.00	0.02	0.112	o				1.10
144.250	0.00	0.02	0.112	o				1.10
144.333	0.00	0.02	0.112	o				1.10
144.417	0.00	0.02	0.112	o				1.10
144.500	0.00	0.02	0.112	o				1.09
144.583	0.00	0.02	0.111	o				1.09
144.667	0.00	0.02	0.111	o				1.09
144.750	0.00	0.02	0.111	o				1.09
144.833	0.00	0.02	0.111	o				1.09
144.917	0.00	0.02	0.111	o				1.09
145.000	0.00	0.02	0.111	o				1.09
145.083	0.00	0.02	0.111	o				1.08
145.167	0.00	0.02	0.110	o				1.08
145.250	0.00	0.02	0.110	o				1.08

145.333	0.00	0.02	0.110	o				1.08
145.417	0.00	0.02	0.110	o				1.08
145.500	0.00	0.02	0.110	o				1.08
145.583	0.00	0.02	0.110	o				1.08
145.667	0.00	0.02	0.110	o				1.08
145.750	0.00	0.02	0.110	o				1.07
145.833	0.00	0.02	0.109	o				1.07
145.917	0.00	0.02	0.109	o				1.07
146.000	0.00	0.02	0.109	o				1.07
146.083	0.00	0.02	0.109	o				1.07
146.167	0.00	0.02	0.109	o				1.07
146.250	0.00	0.02	0.109	o				1.07
146.333	0.00	0.02	0.109	o				1.06
146.417	0.00	0.02	0.108	o				1.06
146.500	0.00	0.02	0.108	o				1.06
146.583	0.00	0.02	0.108	o				1.06
146.667	0.00	0.02	0.108	o				1.06
146.750	0.00	0.02	0.108	o				1.06
146.833	0.00	0.02	0.108	o				1.06
146.917	0.00	0.02	0.108	o				1.05
147.000	0.00	0.02	0.107	o				1.05
147.083	0.00	0.02	0.107	o				1.05
147.167	0.00	0.02	0.107	o				1.05
147.250	0.00	0.02	0.107	o				1.05
147.333	0.00	0.02	0.107	o				1.05
147.417	0.00	0.02	0.107	o				1.05
147.500	0.00	0.02	0.107	o				1.05
147.583	0.00	0.02	0.106	o				1.04
147.667	0.00	0.02	0.106	o				1.04
147.750	0.00	0.02	0.106	o				1.04
147.833	0.00	0.02	0.106	o				1.04
147.917	0.00	0.02	0.106	o				1.04
148.000	0.00	0.02	0.106	o				1.04
148.083	0.00	0.02	0.106	o				1.04
148.167	0.00	0.02	0.106	o				1.03
148.250	0.00	0.02	0.105	o				1.03
148.333	0.00	0.02	0.105	o				1.03
148.417	0.00	0.02	0.105	o				1.03
148.500	0.00	0.02	0.105	o				1.03
148.583	0.00	0.02	0.105	o				1.03
148.667	0.00	0.02	0.105	o				1.03
148.750	0.00	0.02	0.105	o				1.03
148.833	0.00	0.02	0.104	o				1.02
148.917	0.00	0.02	0.104	o				1.02
149.000	0.00	0.02	0.104	o				1.02
149.083	0.00	0.02	0.104	o				1.02
149.167	0.00	0.02	0.104	o				1.02
149.250	0.00	0.02	0.104	o				1.02
149.333	0.00	0.02	0.104	o				1.02
149.417	0.00	0.02	0.103	o				1.01
149.500	0.00	0.02	0.103	o				1.01
149.583	0.00	0.02	0.103	o				1.01
149.667	0.00	0.02	0.103	o				1.01
149.750	0.00	0.02	0.103	o				1.01
149.833	0.00	0.02	0.103	o				1.01
149.917	0.00	0.02	0.103	o				1.01
150.000	0.00	0.02	0.102	o				1.00
150.083	0.00	0.02	0.102	o				1.00
150.167	0.00	0.02	0.102	o				1.00
150.250	0.00	0.02	0.102	o				1.00
150.333	0.00	0.02	0.102	o				1.00
150.417	0.00	0.02	0.102	o				1.00
150.500	0.00	0.02	0.102	o				1.00
150.583	0.00	0.02	0.102	o				1.00
150.667	0.00	0.02	0.101	o				0.99
150.750	0.00	0.02	0.101	o				0.99
150.833	0.00	0.02	0.101	o				0.99
150.917	0.00	0.02	0.101	o				0.99
151.000	0.00	0.02	0.101	o				0.99
151.083	0.00	0.02	0.101	o				0.99
151.167	0.00	0.02	0.101	o				0.99
151.250	0.00	0.02	0.100	o				0.98
151.333	0.00	0.02	0.100	o				0.98
151.417	0.00	0.02	0.100	o				0.98
151.500	0.00	0.02	0.100	o				0.98
151.583	0.00	0.02	0.100	o				0.98
151.667	0.00	0.02	0.100	o				0.98
151.750	0.00	0.02	0.100	o				0.98
151.833	0.00	0.02	0.099	o				0.98

151.917	0.00	0.02	0.099	o				0.97
152.000	0.00	0.02	0.099	o				0.97
152.083	0.00	0.02	0.099	o				0.97
152.167	0.00	0.02	0.099	o				0.97
152.250	0.00	0.02	0.099	o				0.97
152.333	0.00	0.02	0.099	o				0.97
152.417	0.00	0.02	0.099	o				0.97
152.500	0.00	0.02	0.098	o				0.96
152.583	0.00	0.02	0.098	o				0.96
152.667	0.00	0.02	0.098	o				0.96
152.750	0.00	0.02	0.098	o				0.96
152.833	0.00	0.02	0.098	o				0.96
152.917	0.00	0.02	0.098	o				0.96
153.000	0.00	0.02	0.098	o				0.96
153.083	0.00	0.02	0.097	o				0.96
153.167	0.00	0.02	0.097	o				0.95
153.250	0.00	0.02	0.097	o				0.95
153.333	0.00	0.02	0.097	o				0.95
153.417	0.00	0.02	0.097	o				0.95
153.500	0.00	0.02	0.097	o				0.95
153.583	0.00	0.02	0.097	o				0.95
153.667	0.00	0.02	0.097	o				0.95
153.750	0.00	0.02	0.096	o				0.95
153.833	0.00	0.02	0.096	o				0.94
153.917	0.00	0.02	0.096	o				0.94
154.000	0.00	0.02	0.096	o				0.94
154.083	0.00	0.02	0.096	o				0.94
154.167	0.00	0.02	0.096	o				0.94
154.250	0.00	0.02	0.096	o				0.94
154.333	0.00	0.02	0.096	o				0.94
154.417	0.00	0.02	0.095	o				0.94
154.500	0.00	0.02	0.095	o				0.93
154.583	0.00	0.02	0.095	o				0.93
154.667	0.00	0.02	0.095	o				0.93
154.750	0.00	0.02	0.095	o				0.93
154.833	0.00	0.02	0.095	o				0.93
154.917	0.00	0.02	0.095	o				0.93
155.000	0.00	0.02	0.095	o				0.93
155.083	0.00	0.02	0.094	o				0.93
155.167	0.00	0.02	0.094	o				0.92
155.250	0.00	0.02	0.094	o				0.92
155.333	0.00	0.02	0.094	o				0.92
155.417	0.00	0.02	0.094	o				0.92
155.500	0.00	0.02	0.094	o				0.92
155.583	0.00	0.02	0.094	o				0.92
155.667	0.00	0.02	0.094	o				0.92
155.750	0.00	0.02	0.093	o				0.92
155.833	0.00	0.02	0.093	o				0.91
155.917	0.00	0.02	0.093	o				0.91
156.000	0.00	0.02	0.093	o				0.91
156.083	0.00	0.02	0.093	o				0.91
156.167	0.00	0.02	0.093	o				0.91
156.250	0.00	0.02	0.093	o				0.91
156.333	0.00	0.02	0.092	o				0.91
156.417	0.00	0.02	0.092	o				0.91
156.500	0.00	0.02	0.092	o				0.90
156.583	0.00	0.02	0.092	o				0.90
156.667	0.00	0.02	0.092	o				0.90
156.750	0.00	0.02	0.092	o				0.90
156.833	0.00	0.02	0.092	o				0.90
156.917	0.00	0.02	0.092	o				0.90
157.000	0.00	0.02	0.092	o				0.90
157.083	0.00	0.02	0.091	o				0.90
157.167	0.00	0.02	0.091	o				0.89
157.250	0.00	0.02	0.091	o				0.89
157.333	0.00	0.02	0.091	o				0.89
157.417	0.00	0.02	0.091	o				0.89
157.500	0.00	0.02	0.091	o				0.89
157.583	0.00	0.02	0.091	o				0.89
157.667	0.00	0.02	0.091	o				0.89
157.750	0.00	0.02	0.090	o				0.89
157.833	0.00	0.02	0.090	o				0.89
157.917	0.00	0.02	0.090	o				0.88
158.000	0.00	0.02	0.090	o				0.88
158.083	0.00	0.02	0.090	o				0.88
158.167	0.00	0.02	0.090	o				0.88
158.250	0.00	0.02	0.090	o				0.88
158.333	0.00	0.02	0.090	o				0.88
158.417	0.00	0.02	0.089	o				0.88

158.500	0.00	0.02	0.089	o				0.88
158.583	0.00	0.02	0.089	o				0.87
158.667	0.00	0.02	0.089	o				0.87
158.750	0.00	0.02	0.089	o				0.87
158.833	0.00	0.02	0.089	o				0.87
158.917	0.00	0.02	0.089	o				0.87
159.000	0.00	0.02	0.089	o				0.87
159.083	0.00	0.02	0.088	o				0.87
159.167	0.00	0.02	0.088	o				0.87
159.250	0.00	0.02	0.088	o				0.86
159.333	0.00	0.02	0.088	o				0.86
159.417	0.00	0.02	0.088	o				0.86
159.500	0.00	0.02	0.088	o				0.86
159.583	0.00	0.02	0.088	o				0.86
159.667	0.00	0.02	0.088	o				0.86
159.750	0.00	0.02	0.088	o				0.86
159.833	0.00	0.02	0.087	o				0.86
159.917	0.00	0.02	0.087	o				0.86
160.000	0.00	0.02	0.087	o				0.85
160.083	0.00	0.02	0.087	o				0.85
160.167	0.00	0.02	0.087	o				0.85
160.250	0.00	0.02	0.087	o				0.85
160.333	0.00	0.02	0.087	o				0.85
160.417	0.00	0.02	0.087	o				0.85
160.500	0.00	0.02	0.086	o				0.85
160.583	0.00	0.02	0.086	o				0.85
160.667	0.00	0.02	0.086	o				0.85
160.750	0.00	0.02	0.086	o				0.84
160.833	0.00	0.02	0.086	o				0.84
160.917	0.00	0.02	0.086	o				0.84
161.000	0.00	0.02	0.086	o				0.84
161.083	0.00	0.02	0.086	o				0.84
161.167	0.00	0.02	0.086	o				0.84
161.250	0.00	0.02	0.085	o				0.84
161.333	0.00	0.02	0.085	o				0.84
161.417	0.00	0.02	0.085	o				0.84
161.500	0.00	0.02	0.085	o				0.83
161.583	0.00	0.02	0.085	o				0.83
161.667	0.00	0.02	0.085	o				0.83
161.750	0.00	0.02	0.085	o				0.83
161.833	0.00	0.02	0.085	o				0.83
161.917	0.00	0.02	0.084	o				0.83
162.000	0.00	0.02	0.084	o				0.83
162.083	0.00	0.02	0.084	o				0.83
162.167	0.00	0.02	0.084	o				0.83
162.250	0.00	0.02	0.084	o				0.82
162.333	0.00	0.02	0.084	o				0.82
162.417	0.00	0.02	0.084	o				0.82
162.500	0.00	0.02	0.084	o				0.82
162.583	0.00	0.02	0.084	o				0.82
162.667	0.00	0.02	0.083	o				0.82
162.750	0.00	0.02	0.083	o				0.82
162.833	0.00	0.02	0.083	o				0.82
162.917	0.00	0.02	0.083	o				0.82
163.000	0.00	0.02	0.083	o				0.81
163.083	0.00	0.02	0.083	o				0.81
163.167	0.00	0.02	0.083	o				0.81
163.250	0.00	0.02	0.083	o				0.81
163.333	0.00	0.02	0.083	o				0.81
163.417	0.00	0.02	0.082	o				0.81
163.500	0.00	0.02	0.082	o				0.81
163.583	0.00	0.02	0.082	o				0.81
163.667	0.00	0.02	0.082	o				0.81
163.750	0.00	0.02	0.082	o				0.80
163.833	0.00	0.02	0.082	o				0.80
163.917	0.00	0.02	0.082	o				0.80
164.000	0.00	0.02	0.082	o				0.80
164.083	0.00	0.02	0.082	o				0.80
164.167	0.00	0.02	0.081	o				0.80
164.250	0.00	0.02	0.081	o				0.80
164.333	0.00	0.02	0.081	o				0.80
164.417	0.00	0.02	0.081	o				0.80
164.500	0.00	0.02	0.081	o				0.79
164.583	0.00	0.02	0.081	o				0.79
164.667	0.00	0.02	0.081	o				0.79
164.750	0.00	0.02	0.081	o				0.79
164.833	0.00	0.02	0.081	o				0.79
164.917	0.00	0.02	0.080	o				0.79
165.000	0.00	0.02	0.080	o				0.79

165.083	0.00	0.02	0.080	o				0.79
165.167	0.00	0.02	0.080	o				0.79
165.250	0.00	0.02	0.080	o				0.78
165.333	0.00	0.02	0.080	o				0.78
165.417	0.00	0.02	0.080	o				0.78
165.500	0.00	0.02	0.080	o				0.78
165.583	0.00	0.02	0.080	o				0.78
165.667	0.00	0.02	0.080	o				0.78
165.750	0.00	0.02	0.079	o				0.78
165.833	0.00	0.02	0.079	o				0.78
165.917	0.00	0.02	0.079	o				0.78
166.000	0.00	0.02	0.079	o				0.78
166.083	0.00	0.02	0.079	o				0.77
166.167	0.00	0.02	0.079	o				0.77
166.250	0.00	0.02	0.079	o				0.77
166.333	0.00	0.02	0.079	o				0.77
166.417	0.00	0.02	0.079	o				0.77
166.500	0.00	0.02	0.078	o				0.77
166.583	0.00	0.02	0.078	o				0.77
166.667	0.00	0.02	0.078	o				0.77
166.750	0.00	0.02	0.078	o				0.77
166.833	0.00	0.02	0.078	o				0.76
166.917	0.00	0.02	0.078	o				0.76
167.000	0.00	0.02	0.078	o				0.76
167.083	0.00	0.02	0.078	o				0.76
167.167	0.00	0.02	0.078	o				0.76
167.250	0.00	0.02	0.077	o				0.76
167.333	0.00	0.02	0.077	o				0.76
167.417	0.00	0.02	0.077	o				0.76
167.500	0.00	0.02	0.077	o				0.76
167.583	0.00	0.02	0.077	o				0.76
167.667	0.00	0.02	0.077	o				0.75
167.750	0.00	0.02	0.077	o				0.75
167.833	0.00	0.02	0.077	o				0.75
167.917	0.00	0.02	0.077	o				0.75
168.000	0.00	0.02	0.077	o				0.75
168.083	0.00	0.01	0.076	o				0.75
168.167	0.00	0.01	0.076	o				0.75
168.250	0.00	0.01	0.076	o				0.75
168.333	0.00	0.01	0.076	o				0.75
168.417	0.00	0.01	0.076	o				0.75
168.500	0.00	0.01	0.076	o				0.74
168.583	0.00	0.01	0.076	o				0.74
168.667	0.00	0.01	0.076	o				0.74
168.750	0.00	0.01	0.076	o				0.74
168.833	0.00	0.01	0.076	o				0.74
168.917	0.00	0.01	0.075	o				0.74
169.000	0.00	0.01	0.075	o				0.74
169.083	0.00	0.01	0.075	o				0.74
169.167	0.00	0.01	0.075	o				0.74
169.250	0.00	0.01	0.075	o				0.74
169.333	0.00	0.01	0.075	o				0.73
169.417	0.00	0.01	0.075	o				0.73
169.500	0.00	0.01	0.075	o				0.73
169.583	0.00	0.01	0.075	o				0.73
169.667	0.00	0.01	0.075	o				0.73
169.750	0.00	0.01	0.074	o				0.73
169.833	0.00	0.01	0.074	o				0.73
169.917	0.00	0.01	0.074	o				0.73
170.000	0.00	0.01	0.074	o				0.73
170.083	0.00	0.01	0.074	o				0.73
170.167	0.00	0.01	0.074	o				0.72
170.250	0.00	0.01	0.074	o				0.72
170.333	0.00	0.01	0.074	o				0.72
170.417	0.00	0.01	0.074	o				0.72
170.500	0.00	0.01	0.074	o				0.72
170.583	0.00	0.01	0.073	o				0.72
170.667	0.00	0.01	0.073	o				0.72
170.750	0.00	0.01	0.073	o				0.72
170.833	0.00	0.01	0.073	o				0.72
170.917	0.00	0.01	0.073	o				0.72
171.000	0.00	0.01	0.073	o				0.71
171.083	0.00	0.01	0.073	o				0.71
171.167	0.00	0.01	0.073	o				0.71
171.250	0.00	0.01	0.073	o				0.71
171.333	0.00	0.01	0.073	o				0.71
171.417	0.00	0.01	0.072	o				0.71
171.500	0.00	0.01	0.072	o				0.71
171.583	0.00	0.01	0.072	o				0.71

171.667	0.00	0.01	0.072	o				0.71
171.750	0.00	0.01	0.072	o				0.71
171.833	0.00	0.01	0.072	o				0.71
171.917	0.00	0.01	0.072	o				0.70
172.000	0.00	0.01	0.072	o				0.70
172.083	0.00	0.01	0.072	o				0.70
172.167	0.00	0.01	0.072	o				0.70
172.250	0.00	0.01	0.071	o				0.70
172.333	0.00	0.01	0.071	o				0.70
172.417	0.00	0.01	0.071	o				0.70
172.500	0.00	0.01	0.071	o				0.70
172.583	0.00	0.01	0.071	o				0.70
172.667	0.00	0.01	0.071	o				0.70
172.750	0.00	0.01	0.071	o				0.70
172.833	0.00	0.01	0.071	o				0.69
172.917	0.00	0.01	0.071	o				0.69
173.000	0.00	0.01	0.071	o				0.69
173.083	0.00	0.01	0.071	o				0.69
173.167	0.00	0.01	0.070	o				0.69
173.250	0.00	0.01	0.070	o				0.69
173.333	0.00	0.01	0.070	o				0.69
173.417	0.00	0.01	0.070	o				0.69
173.500	0.00	0.01	0.070	o				0.69
173.583	0.00	0.01	0.070	o				0.69
173.667	0.00	0.01	0.070	o				0.68
173.750	0.00	0.01	0.070	o				0.68
173.833	0.00	0.01	0.070	o				0.68
173.917	0.00	0.01	0.070	o				0.68
174.000	0.00	0.01	0.069	o				0.68
174.083	0.00	0.01	0.069	o				0.68
174.167	0.00	0.01	0.069	o				0.68
174.250	0.00	0.01	0.069	o				0.68
174.333	0.00	0.01	0.069	o				0.68
174.417	0.00	0.01	0.069	o				0.68
174.500	0.00	0.01	0.069	o				0.68
174.583	0.00	0.01	0.069	o				0.67
174.667	0.00	0.01	0.069	o				0.67
174.750	0.00	0.01	0.069	o				0.67
174.833	0.00	0.01	0.069	o				0.67
174.917	0.00	0.01	0.068	o				0.67
175.000	0.00	0.01	0.068	o				0.67
175.083	0.00	0.01	0.068	o				0.67
175.167	0.00	0.01	0.068	o				0.67
175.250	0.00	0.01	0.068	o				0.67
175.333	0.00	0.01	0.068	o				0.67
175.417	0.00	0.01	0.068	o				0.67
175.500	0.00	0.01	0.068	o				0.66
175.583	0.00	0.01	0.068	o				0.66
175.667	0.00	0.01	0.068	o				0.66
175.750	0.00	0.01	0.068	o				0.66
175.833	0.00	0.01	0.067	o				0.66
175.917	0.00	0.01	0.067	o				0.66
176.000	0.00	0.01	0.067	o				0.66
176.083	0.00	0.01	0.067	o				0.66
176.167	0.00	0.01	0.067	o				0.66
176.250	0.00	0.01	0.067	o				0.66
176.333	0.00	0.01	0.067	o				0.66
176.417	0.00	0.01	0.067	o				0.65
176.500	0.00	0.01	0.067	o				0.65
176.583	0.00	0.01	0.067	o				0.65
176.667	0.00	0.01	0.067	o				0.65
176.750	0.00	0.01	0.066	o				0.65
176.833	0.00	0.01	0.066	o				0.65
176.917	0.00	0.01	0.066	o				0.65
177.000	0.00	0.01	0.066	o				0.65
177.083	0.00	0.01	0.066	o				0.65
177.167	0.00	0.01	0.066	o				0.65
177.250	0.00	0.01	0.066	o				0.65
177.333	0.00	0.01	0.066	o				0.65
177.417	0.00	0.01	0.066	o				0.64
177.500	0.00	0.01	0.066	o				0.64
177.583	0.00	0.01	0.066	o				0.64
177.667	0.00	0.01	0.065	o				0.64
177.750	0.00	0.01	0.065	o				0.64
177.833	0.00	0.01	0.065	o				0.64
177.917	0.00	0.01	0.065	o				0.64
178.000	0.00	0.01	0.065	o				0.64
178.083	0.00	0.01	0.065	o				0.64
178.167	0.00	0.01	0.065	o				0.64

178.250	0.00	0.01	0.065	o					0.64
178.333	0.00	0.01	0.065	o					0.63
178.417	0.00	0.01	0.065	o					0.63
178.500	0.00	0.01	0.065	o					0.63
178.583	0.00	0.01	0.064	o					0.63
178.667	0.00	0.01	0.064	o					0.63
178.750	0.00	0.01	0.064	o					0.63
178.833	0.00	0.01	0.064	o					0.63
178.917	0.00	0.01	0.064	o					0.63
179.000	0.00	0.01	0.064	o					0.63
179.083	0.00	0.01	0.064	o					0.63
179.167	0.00	0.01	0.064	o					0.63
179.250	0.00	0.01	0.064	o					0.63
179.333	0.00	0.01	0.064	o					0.62
179.417	0.00	0.01	0.064	o					0.62
179.500	0.00	0.01	0.064	o					0.62
179.583	0.00	0.01	0.063	o					0.62
179.667	0.00	0.01	0.063	o					0.62
179.750	0.00	0.01	0.063	o					0.62
179.833	0.00	0.01	0.063	o					0.62
179.917	0.00	0.01	0.063	o					0.62
180.000	0.00	0.01	0.063	o					0.62
180.083	0.00	0.01	0.063	o					0.62
180.167	0.00	0.01	0.063	o					0.62
180.250	0.00	0.01	0.063	o					0.62
180.333	0.00	0.01	0.063	o					0.61
180.417	0.00	0.01	0.063	o					0.61
180.500	0.00	0.01	0.063	o					0.61
180.583	0.00	0.01	0.062	o					0.61
180.667	0.00	0.01	0.062	o					0.61
180.750	0.00	0.01	0.062	o					0.61
180.833	0.00	0.01	0.062	o					0.61
180.917	0.00	0.01	0.062	o					0.61
181.000	0.00	0.01	0.062	o					0.61
181.083	0.00	0.01	0.062	o					0.61
181.167	0.00	0.01	0.062	o					0.61
181.250	0.00	0.01	0.062	o					0.61
181.333	0.00	0.01	0.062	o					0.60
181.417	0.00	0.01	0.062	o					0.60
181.500	0.00	0.01	0.062	o					0.60
181.583	0.00	0.01	0.061	o					0.60
181.667	0.00	0.01	0.061	o					0.60
181.750	0.00	0.01	0.061	o					0.60
181.833	0.00	0.01	0.061	o					0.60
181.917	0.00	0.01	0.061	o					0.60
182.000	0.00	0.01	0.061	o					0.60
182.083	0.00	0.01	0.061	o					0.60
182.167	0.00	0.01	0.061	o					0.60
182.250	0.00	0.01	0.061	o					0.60
182.333	0.00	0.01	0.061	o					0.60
182.417	0.00	0.01	0.061	o					0.59
182.500	0.00	0.01	0.061	o					0.59
182.583	0.00	0.01	0.060	o					0.59
182.667	0.00	0.01	0.060	o					0.59
182.750	0.00	0.01	0.060	o					0.59
182.833	0.00	0.01	0.060	o					0.59
182.917	0.00	0.01	0.060	o					0.59
183.000	0.00	0.01	0.060	o					0.59
183.083	0.00	0.01	0.060	o					0.59
183.167	0.00	0.01	0.060	o					0.59
183.250	0.00	0.01	0.060	o					0.59
183.333	0.00	0.01	0.060	o					0.59
183.417	0.00	0.01	0.060	o					0.58
183.500	0.00	0.01	0.060	o					0.58
183.583	0.00	0.01	0.059	o					0.58
183.667	0.00	0.01	0.059	o					0.58
183.750	0.00	0.01	0.059	o					0.58
183.833	0.00	0.01	0.059	o					0.58
183.917	0.00	0.01	0.059	o					0.58
184.000	0.00	0.01	0.059	o					0.58
184.083	0.00	0.01	0.059	o					0.58
184.167	0.00	0.01	0.059	o					0.58
184.250	0.00	0.01	0.059	o					0.58
184.333	0.00	0.01	0.059	o					0.58
184.417	0.00	0.01	0.059	o					0.58
184.500	0.00	0.01	0.059	o					0.57
184.583	0.00	0.01	0.059	o					0.57
184.667	0.00	0.01	0.058	o					0.57
184.750	0.00	0.01	0.058	o					0.57

184.833	0.00	0.01	0.058	o				0.57
184.917	0.00	0.01	0.058	o				0.57
185.000	0.00	0.01	0.058	o				0.57
185.083	0.00	0.01	0.058	o				0.57
185.167	0.00	0.01	0.058	o				0.57
185.250	0.00	0.01	0.058	o				0.57
185.333	0.00	0.01	0.058	o				0.57
185.417	0.00	0.01	0.058	o				0.57
185.500	0.00	0.01	0.058	o				0.57
185.583	0.00	0.01	0.058	o				0.56
185.667	0.00	0.01	0.058	o				0.56
185.750	0.00	0.01	0.057	o				0.56
185.833	0.00	0.01	0.057	o				0.56
185.917	0.00	0.01	0.057	o				0.56
186.000	0.00	0.01	0.057	o				0.56
186.083	0.00	0.01	0.057	o				0.56
186.167	0.00	0.01	0.057	o				0.56
186.250	0.00	0.01	0.057	o				0.56
186.333	0.00	0.01	0.057	o				0.56
186.417	0.00	0.01	0.057	o				0.56
186.500	0.00	0.01	0.057	o				0.56
186.583	0.00	0.01	0.057	o				0.56
186.667	0.00	0.01	0.057	o				0.55
186.750	0.00	0.01	0.057	o				0.55
186.833	0.00	0.01	0.056	o				0.55
186.917	0.00	0.01	0.056	o				0.55
187.000	0.00	0.01	0.056	o				0.55
187.083	0.00	0.01	0.056	o				0.55
187.167	0.00	0.01	0.056	o				0.55
187.250	0.00	0.01	0.056	o				0.55
187.333	0.00	0.01	0.056	o				0.55
187.417	0.00	0.01	0.056	o				0.55
187.500	0.00	0.01	0.056	o				0.55
187.583	0.00	0.01	0.056	o				0.55
187.667	0.00	0.01	0.056	o				0.55
187.750	0.00	0.01	0.056	o				0.55
187.833	0.00	0.01	0.056	o				0.54
187.917	0.00	0.01	0.055	o				0.54
188.000	0.00	0.01	0.055	o				0.54
188.083	0.00	0.01	0.055	o				0.54
188.167	0.00	0.01	0.055	o				0.54
188.250	0.00	0.01	0.055	o				0.54
188.333	0.00	0.01	0.055	o				0.54
188.417	0.00	0.01	0.055	o				0.54
188.500	0.00	0.01	0.055	o				0.54
188.583	0.00	0.01	0.055	o				0.54
188.667	0.00	0.01	0.055	o				0.54
188.750	0.00	0.01	0.055	o				0.54
188.833	0.00	0.01	0.055	o				0.54
188.917	0.00	0.01	0.055	o				0.53
189.000	0.00	0.01	0.054	o				0.53
189.083	0.00	0.01	0.054	o				0.53
189.167	0.00	0.01	0.054	o				0.53
189.250	0.00	0.01	0.054	o				0.53
189.333	0.00	0.01	0.054	o				0.53
189.417	0.00	0.01	0.054	o				0.53
189.500	0.00	0.01	0.054	o				0.53
189.583	0.00	0.01	0.054	o				0.53
189.667	0.00	0.01	0.054	o				0.53
189.750	0.00	0.01	0.054	o				0.53
189.833	0.00	0.01	0.054	o				0.53
189.917	0.00	0.01	0.054	o				0.53
190.000	0.00	0.01	0.054	o				0.53
190.083	0.00	0.01	0.054	o				0.52
190.167	0.00	0.01	0.053	o				0.52
190.250	0.00	0.01	0.053	o				0.52
190.333	0.00	0.01	0.053	o				0.52
190.417	0.00	0.01	0.053	o				0.52
190.500	0.00	0.01	0.053	o				0.52
190.583	0.00	0.01	0.053	o				0.52
190.667	0.00	0.01	0.053	o				0.52
190.750	0.00	0.01	0.053	o				0.52
190.833	0.00	0.01	0.053	o				0.52
190.917	0.00	0.01	0.053	o				0.52
191.000	0.00	0.01	0.053	o				0.52
191.083	0.00	0.01	0.053	o				0.52
191.167	0.00	0.01	0.053	o				0.52
191.250	0.00	0.01	0.053	o				0.51
191.333	0.00	0.01	0.052	o				0.51

191.417	0.00	0.01	0.052	o				0.51
191.500	0.00	0.01	0.052	o				0.51
191.583	0.00	0.01	0.052	o				0.51
191.667	0.00	0.01	0.052	o				0.51
191.750	0.00	0.01	0.052	o				0.51
191.833	0.00	0.01	0.052	o				0.51
191.917	0.00	0.01	0.052	o				0.51
192.000	0.00	0.01	0.052	o				0.51
192.083	0.00	0.01	0.052	o				0.51
192.167	0.00	0.01	0.052	o				0.51
192.250	0.00	0.01	0.052	o				0.51
192.333	0.00	0.01	0.052	o				0.51
192.417	0.00	0.01	0.052	o				0.51
192.500	0.00	0.01	0.051	o				0.50
192.583	0.00	0.01	0.051	o				0.50
192.667	0.00	0.01	0.051	o				0.50
192.750	0.00	0.01	0.051	o				0.50
192.833	0.00	0.01	0.051	o				0.50
192.917	0.00	0.01	0.051	o				0.50
193.000	0.00	0.01	0.051	o				0.50
193.083	0.00	0.01	0.051	o				0.50
193.167	0.00	0.01	0.051	o				0.50
193.250	0.00	0.01	0.051	o				0.50
193.333	0.00	0.01	0.051	o				0.50
193.417	0.00	0.01	0.051	o				0.50
193.500	0.00	0.01	0.051	o				0.50
193.583	0.00	0.01	0.051	o				0.50
193.667	0.00	0.01	0.051	o				0.50
193.750	0.00	0.01	0.050	o				0.49
193.833	0.00	0.01	0.050	o				0.49
193.917	0.00	0.01	0.050	o				0.49
194.000	0.00	0.01	0.050	o				0.49
194.083	0.00	0.01	0.050	o				0.49
194.167	0.00	0.01	0.050	o				0.49
194.250	0.00	0.01	0.050	o				0.49
194.333	0.00	0.01	0.050	o				0.49
194.417	0.00	0.01	0.050	o				0.49
194.500	0.00	0.01	0.050	o				0.49
194.583	0.00	0.01	0.050	o				0.49
194.667	0.00	0.01	0.050	o				0.49
194.750	0.00	0.01	0.050	o				0.49
194.833	0.00	0.01	0.050	o				0.49
194.917	0.00	0.01	0.049	o				0.49
195.000	0.00	0.01	0.049	o				0.48
195.083	0.00	0.01	0.049	o				0.48
195.167	0.00	0.01	0.049	o				0.48
195.250	0.00	0.01	0.049	o				0.48
195.333	0.00	0.01	0.049	o				0.48
195.417	0.00	0.01	0.049	o				0.48
195.500	0.00	0.01	0.049	o				0.48
195.583	0.00	0.01	0.049	o				0.48
195.667	0.00	0.01	0.049	o				0.48
195.750	0.00	0.01	0.049	o				0.48
195.833	0.00	0.01	0.049	o				0.48
195.917	0.00	0.01	0.049	o				0.48
196.000	0.00	0.01	0.049	o				0.48
196.083	0.00	0.01	0.049	o				0.48
196.167	0.00	0.01	0.049	o				0.48
196.250	0.00	0.01	0.048	o				0.47
196.333	0.00	0.01	0.048	o				0.47
196.417	0.00	0.01	0.048	o				0.47
196.500	0.00	0.01	0.048	o				0.47
196.583	0.00	0.01	0.048	o				0.47
196.667	0.00	0.01	0.048	o				0.47
196.750	0.00	0.01	0.048	o				0.47
196.833	0.00	0.01	0.048	o				0.47
196.917	0.00	0.01	0.048	o				0.47
197.000	0.00	0.01	0.048	o				0.47
197.083	0.00	0.01	0.048	o				0.47
197.167	0.00	0.01	0.048	o				0.47
197.250	0.00	0.01	0.048	o				0.47
197.333	0.00	0.01	0.048	o				0.47
197.417	0.00	0.01	0.048	o				0.47
197.500	0.00	0.01	0.047	o				0.47
197.583	0.00	0.01	0.047	o				0.46
197.667	0.00	0.01	0.047	o				0.46
197.750	0.00	0.01	0.047	o				0.46
197.833	0.00	0.01	0.047	o				0.46
197.917	0.00	0.01	0.047	o				0.46

198.000	0.00	0.01	0.047	o				0.46
198.083	0.00	0.01	0.047	o				0.46
198.167	0.00	0.01	0.047	o				0.46
198.250	0.00	0.01	0.047	o				0.46
198.333	0.00	0.01	0.047	o				0.46
198.417	0.00	0.01	0.047	o				0.46
198.500	0.00	0.01	0.047	o				0.46
198.583	0.00	0.01	0.047	o				0.46
198.667	0.00	0.01	0.047	o				0.46
198.750	0.00	0.01	0.047	o				0.46
198.833	0.00	0.01	0.046	o				0.46
198.917	0.00	0.01	0.046	o				0.45
199.000	0.00	0.01	0.046	o				0.45
199.083	0.00	0.01	0.046	o				0.45
199.167	0.00	0.01	0.046	o				0.45
199.250	0.00	0.01	0.046	o				0.45
199.333	0.00	0.01	0.046	o				0.45
199.417	0.00	0.01	0.046	o				0.45
199.500	0.00	0.01	0.046	o				0.45
199.583	0.00	0.01	0.046	o				0.45
199.667	0.00	0.01	0.046	o				0.45
199.750	0.00	0.01	0.046	o				0.45
199.833	0.00	0.01	0.046	o				0.45
199.917	0.00	0.01	0.046	o				0.45
200.000	0.00	0.01	0.046	o				0.45
200.083	0.00	0.01	0.046	o				0.45
200.167	0.00	0.01	0.045	o				0.45
200.250	0.00	0.01	0.045	o				0.45
200.333	0.00	0.01	0.045	o				0.44
200.417	0.00	0.01	0.045	o				0.44
200.500	0.00	0.01	0.045	o				0.44
200.583	0.00	0.01	0.045	o				0.44
200.667	0.00	0.01	0.045	o				0.44
200.750	0.00	0.01	0.045	o				0.44
200.833	0.00	0.01	0.045	o				0.44
200.917	0.00	0.01	0.045	o				0.44
201.000	0.00	0.01	0.045	o				0.44
201.083	0.00	0.01	0.045	o				0.44
201.167	0.00	0.01	0.045	o				0.44
201.250	0.00	0.01	0.045	o				0.44
201.333	0.00	0.01	0.045	o				0.44
201.417	0.00	0.01	0.045	o				0.44
201.500	0.00	0.01	0.044	o				0.44
201.583	0.00	0.01	0.044	o				0.44
201.667	0.00	0.01	0.044	o				0.43
201.750	0.00	0.01	0.044	o				0.43
201.833	0.00	0.01	0.044	o				0.43
201.917	0.00	0.01	0.044	o				0.43
202.000	0.00	0.01	0.044	o				0.43
202.083	0.00	0.01	0.044	o				0.43
202.167	0.00	0.01	0.044	o				0.43
202.250	0.00	0.01	0.044	o				0.43
202.333	0.00	0.01	0.044	o				0.43
202.417	0.00	0.01	0.044	o				0.43
202.500	0.00	0.01	0.044	o				0.43
202.583	0.00	0.01	0.044	o				0.43
202.667	0.00	0.01	0.044	o				0.43
202.750	0.00	0.01	0.044	o				0.43
202.833	0.00	0.01	0.044	o				0.43
202.917	0.00	0.01	0.043	o				0.43
203.000	0.00	0.01	0.043	o				0.43
203.083	0.00	0.01	0.043	o				0.43
203.167	0.00	0.01	0.043	o				0.42
203.250	0.00	0.01	0.043	o				0.42
203.333	0.00	0.01	0.043	o				0.42
203.417	0.00	0.01	0.043	o				0.42
203.500	0.00	0.01	0.043	o				0.42
203.583	0.00	0.01	0.043	o				0.42
203.667	0.00	0.01	0.043	o				0.42
203.750	0.00	0.01	0.043	o				0.42
203.833	0.00	0.01	0.043	o				0.42
203.917	0.00	0.01	0.043	o				0.42
204.000	0.00	0.01	0.043	o				0.42
204.083	0.00	0.01	0.043	o				0.42
204.167	0.00	0.01	0.043	o				0.42
204.250	0.00	0.01	0.043	o				0.42
204.333	0.00	0.01	0.042	o				0.42
204.417	0.00	0.01	0.042	o				0.42
204.500	0.00	0.01	0.042	o				0.42

204.583	0.00	0.01	0.042	o				0.41
204.667	0.00	0.01	0.042	o				0.41
204.750	0.00	0.01	0.042	o				0.41
204.833	0.00	0.01	0.042	o				0.41
204.917	0.00	0.01	0.042	o				0.41
205.000	0.00	0.01	0.042	o				0.41
205.083	0.00	0.01	0.042	o				0.41
205.167	0.00	0.01	0.042	o				0.41
205.250	0.00	0.01	0.042	o				0.41
205.333	0.00	0.01	0.042	o				0.41
205.417	0.00	0.01	0.042	o				0.41
205.500	0.00	0.01	0.042	o				0.41
205.583	0.00	0.01	0.042	o				0.41
205.667	0.00	0.01	0.042	o				0.41
205.750	0.00	0.01	0.042	o				0.41
205.833	0.00	0.01	0.041	o				0.41
205.917	0.00	0.01	0.041	o				0.41
206.000	0.00	0.01	0.041	o				0.41
206.083	0.00	0.01	0.041	o				0.40
206.167	0.00	0.01	0.041	o				0.40
206.250	0.00	0.01	0.041	o				0.40
206.333	0.00	0.01	0.041	o				0.40
206.417	0.00	0.01	0.041	o				0.40
206.500	0.00	0.01	0.041	o				0.40
206.583	0.00	0.01	0.041	o				0.40
206.667	0.00	0.01	0.041	o				0.40
206.750	0.00	0.01	0.041	o				0.40
206.833	0.00	0.01	0.041	o				0.40
206.917	0.00	0.01	0.041	o				0.40
207.000	0.00	0.01	0.041	o				0.40
207.083	0.00	0.01	0.041	o				0.40
207.167	0.00	0.01	0.041	o				0.40
207.250	0.00	0.01	0.041	o				0.40
207.333	0.00	0.01	0.040	o				0.40
207.417	0.00	0.01	0.040	o				0.40
207.500	0.00	0.01	0.040	o				0.40
207.583	0.00	0.01	0.040	o				0.40
207.667	0.00	0.01	0.040	o				0.39
207.750	0.00	0.01	0.040	o				0.39
207.833	0.00	0.01	0.040	o				0.39
207.917	0.00	0.01	0.040	o				0.39
208.000	0.00	0.01	0.040	o				0.39
208.083	0.00	0.01	0.040	o				0.39
208.167	0.00	0.01	0.040	o				0.39
208.250	0.00	0.01	0.040	o				0.39
208.333	0.00	0.01	0.040	o				0.39
208.417	0.00	0.01	0.040	o				0.39
208.500	0.00	0.01	0.040	o				0.39
208.583	0.00	0.01	0.040	o				0.39
208.667	0.00	0.01	0.040	o				0.39
208.750	0.00	0.01	0.040	o				0.39
208.833	0.00	0.01	0.040	o				0.39
208.917	0.00	0.01	0.039	o				0.39
209.000	0.00	0.01	0.039	o				0.39
209.083	0.00	0.01	0.039	o				0.39
209.167	0.00	0.01	0.039	o				0.39
209.250	0.00	0.01	0.039	o				0.38
209.333	0.00	0.01	0.039	o				0.38
209.417	0.00	0.01	0.039	o				0.38
209.500	0.00	0.01	0.039	o				0.38
209.583	0.00	0.01	0.039	o				0.38
209.667	0.00	0.01	0.039	o				0.38
209.750	0.00	0.01	0.039	o				0.38
209.833	0.00	0.01	0.039	o				0.38
209.917	0.00	0.01	0.039	o				0.38
210.000	0.00	0.01	0.039	o				0.38
210.083	0.00	0.01	0.039	o				0.38
210.167	0.00	0.01	0.039	o				0.38
210.250	0.00	0.01	0.039	o				0.38
210.333	0.00	0.01	0.039	o				0.38
210.417	0.00	0.01	0.039	o				0.38
210.500	0.00	0.01	0.038	o				0.38
210.583	0.00	0.01	0.038	o				0.38
210.667	0.00	0.01	0.038	o				0.38
210.750	0.00	0.01	0.038	o				0.38
210.833	0.00	0.01	0.038	o				0.37
210.917	0.00	0.01	0.038	o				0.37
211.000	0.00	0.01	0.038	o				0.37
211.083	0.00	0.01	0.038	o				0.37

211.167	0.00	0.01	0.038	o					0.37
211.250	0.00	0.01	0.038	o					0.37
211.333	0.00	0.01	0.038	o					0.37
211.417	0.00	0.01	0.038	o					0.37
211.500	0.00	0.01	0.038	o					0.37
211.583	0.00	0.01	0.038	o					0.37
211.667	0.00	0.01	0.038	o					0.37
211.750	0.00	0.01	0.038	o					0.37
211.833	0.00	0.01	0.038	o					0.37
211.917	0.00	0.01	0.038	o					0.37
212.000	0.00	0.01	0.038	o					0.37
212.083	0.00	0.01	0.037	o					0.37
212.167	0.00	0.01	0.037	o					0.37
212.250	0.00	0.01	0.037	o					0.37
212.333	0.00	0.01	0.037	o					0.37
212.417	0.00	0.01	0.037	o					0.37
212.500	0.00	0.01	0.037	o					0.36
212.583	0.00	0.01	0.037	o					0.36
212.667	0.00	0.01	0.037	o					0.36
212.750	0.00	0.01	0.037	o					0.36
212.833	0.00	0.01	0.037	o					0.36
212.917	0.00	0.01	0.037	o					0.36
213.000	0.00	0.01	0.037	o					0.36
213.083	0.00	0.01	0.037	o					0.36
213.167	0.00	0.01	0.037	o					0.36
213.250	0.00	0.01	0.037	o					0.36
213.333	0.00	0.01	0.037	o					0.36
213.417	0.00	0.01	0.037	o					0.36
213.500	0.00	0.01	0.037	o					0.36
213.583	0.00	0.01	0.037	o					0.36
213.667	0.00	0.01	0.037	o					0.36
213.750	0.00	0.01	0.036	o					0.36
213.833	0.00	0.01	0.036	o					0.36
213.917	0.00	0.01	0.036	o					0.36
214.000	0.00	0.01	0.036	o					0.36
214.083	0.00	0.01	0.036	o					0.36
214.167	0.00	0.01	0.036	o					0.36
214.250	0.00	0.01	0.036	o					0.35
214.333	0.00	0.01	0.036	o					0.35
214.417	0.00	0.01	0.036	o					0.35
214.500	0.00	0.01	0.036	o					0.35
214.583	0.00	0.01	0.036	o					0.35
214.667	0.00	0.01	0.036	o					0.35
214.750	0.00	0.01	0.036	o					0.35
214.833	0.00	0.01	0.036	o					0.35
214.917	0.00	0.01	0.036	o					0.35
215.000	0.00	0.01	0.036	o					0.35
215.083	0.00	0.01	0.036	o					0.35
215.167	0.00	0.01	0.036	o					0.35
215.250	0.00	0.01	0.036	o					0.35
215.333	0.00	0.01	0.036	o					0.35
215.417	0.00	0.01	0.036	o					0.35
215.500	0.00	0.01	0.035	o					0.35
215.583	0.00	0.01	0.035	o					0.35
215.667	0.00	0.01	0.035	o					0.35
215.750	0.00	0.01	0.035	o					0.35
215.833	0.00	0.01	0.035	o					0.35
215.917	0.00	0.01	0.035	o					0.35
216.000	0.00	0.01	0.035	o					0.34
216.083	0.00	0.01	0.035	o					0.34
216.167	0.00	0.01	0.035	o					0.34
216.250	0.00	0.01	0.035	o					0.34
216.333	0.00	0.01	0.035	o					0.34
216.417	0.00	0.01	0.035	o					0.34
216.500	0.00	0.01	0.035	o					0.34
216.583	0.00	0.01	0.035	o					0.34
216.667	0.00	0.01	0.035	o					0.34
216.750	0.00	0.01	0.035	o					0.34
216.833	0.00	0.01	0.035	o					0.34
216.917	0.00	0.01	0.035	o					0.34
217.000	0.00	0.01	0.035	o					0.34
217.083	0.00	0.01	0.035	o					0.34
217.167	0.00	0.01	0.035	o					0.34
217.250	0.00	0.01	0.034	o					0.34
217.333	0.00	0.01	0.034	o					0.34
217.417	0.00	0.01	0.034	o					0.34
217.500	0.00	0.01	0.034	o					0.34
217.583	0.00	0.01	0.034	o					0.34
217.667	0.00	0.01	0.034	o					0.34

217.750	0.00	0.01	0.034	o	|	|	|	|	0.34
217.833	0.00	0.01	0.034	o	|	|	|	|	0.33
217.917	0.00	0.01	0.034	o	|	|	|	|	0.33
218.000	0.00	0.01	0.034	o	|	|	|	|	0.33
218.083	0.00	0.01	0.034	o	|	|	|	|	0.33
218.167	0.00	0.01	0.034	o	|	|	|	|	0.33
218.250	0.00	0.01	0.034	o	|	|	|	|	0.33
218.333	0.00	0.01	0.034	o	|	|	|	|	0.33
218.417	0.00	0.01	0.034	o	|	|	|	|	0.33
218.500	0.00	0.01	0.034	o	|	|	|	|	0.33
218.583	0.00	0.01	0.034	o	|	|	|	|	0.33
218.667	0.00	0.01	0.034	o	|	|	|	|	0.33
218.750	0.00	0.01	0.034	o	|	|	|	|	0.33
218.833	0.00	0.01	0.034	o	|	|	|	|	0.33
218.917	0.00	0.01	0.034	o	|	|	|	|	0.33
219.000	0.00	0.01	0.034	o	|	|	|	|	0.33
219.083	0.00	0.01	0.033	o	|	|	|	|	0.33
219.167	0.00	0.01	0.033	o	|	|	|	|	0.33
219.250	0.00	0.01	0.033	o	|	|	|	|	0.33
219.333	0.00	0.01	0.033	o	|	|	|	|	0.33
219.417	0.00	0.01	0.033	o	|	|	|	|	0.33
219.500	0.00	0.01	0.033	o	|	|	|	|	0.33
219.583	0.00	0.01	0.033	o	|	|	|	|	0.33
219.667	0.00	0.01	0.033	o	|	|	|	|	0.32
219.750	0.00	0.01	0.033	o	|	|	|	|	0.32
219.833	0.00	0.01	0.033	o	|	|	|	|	0.32
219.917	0.00	0.01	0.033	o	|	|	|	|	0.32
220.000	0.00	0.01	0.033	o	|	|	|	|	0.32
220.083	0.00	0.01	0.033	o	|	|	|	|	0.32
220.167	0.00	0.01	0.033	o	|	|	|	|	0.32
220.250	0.00	0.01	0.033	o	|	|	|	|	0.32
220.333	0.00	0.01	0.033	o	|	|	|	|	0.32
220.417	0.00	0.01	0.033	o	|	|	|	|	0.32
220.500	0.00	0.01	0.033	o	|	|	|	|	0.32
220.583	0.00	0.01	0.033	o	|	|	|	|	0.32
220.667	0.00	0.01	0.033	o	|	|	|	|	0.32
220.750	0.00	0.01	0.033	o	|	|	|	|	0.32
220.833	0.00	0.01	0.033	o	|	|	|	|	0.32
220.917	0.00	0.01	0.032	o	|	|	|	|	0.32
221.000	0.00	0.01	0.032	o	|	|	|	|	0.32
221.083	0.00	0.01	0.032	o	|	|	|	|	0.32
221.167	0.00	0.01	0.032	o	|	|	|	|	0.32
221.250	0.00	0.01	0.032	o	|	|	|	|	0.32
221.333	0.00	0.01	0.032	o	|	|	|	|	0.32
221.417	0.00	0.01	0.032	o	|	|	|	|	0.32
221.500	0.00	0.01	0.032	o	|	|	|	|	0.32
221.583	0.00	0.01	0.032	o	|	|	|	|	0.32
221.667	0.00	0.01	0.032	o	|	|	|	|	0.31
221.750	0.00	0.01	0.032	o	|	|	|	|	0.31
221.833	0.00	0.01	0.032	o	|	|	|	|	0.31
221.917	0.00	0.01	0.032	o	|	|	|	|	0.31
222.000	0.00	0.01	0.032	o	|	|	|	|	0.31
222.083	0.00	0.01	0.032	o	|	|	|	|	0.31
222.167	0.00	0.01	0.032	o	|	|	|	|	0.31
222.250	0.00	0.01	0.032	o	|	|	|	|	0.31
222.333	0.00	0.01	0.032	o	|	|	|	|	0.31
222.417	0.00	0.01	0.032	o	|	|	|	|	0.31
222.500	0.00	0.01	0.032	o	|	|	|	|	0.31
222.583	0.00	0.01	0.032	o	|	|	|	|	0.31
222.667	0.00	0.01	0.032	o	|	|	|	|	0.31
222.750	0.00	0.01	0.032	o	|	|	|	|	0.31
222.833	0.00	0.01	0.031	o	|	|	|	|	0.31
222.917	0.00	0.01	0.031	o	|	|	|	|	0.31
223.000	0.00	0.01	0.031	o	|	|	|	|	0.31
223.083	0.00	0.01	0.031	o	|	|	|	|	0.31
223.167	0.00	0.01	0.031	o	|	|	|	|	0.31
223.250	0.00	0.01	0.031	o	|	|	|	|	0.31
223.333	0.00	0.01	0.031	o	|	|	|	|	0.31
223.417	0.00	0.01	0.031	o	|	|	|	|	0.31
223.500	0.00	0.01	0.031	o	|	|	|	|	0.31
223.583	0.00	0.01	0.031	o	|	|	|	|	0.30
223.667	0.00	0.01	0.031	o	|	|	|	|	0.30
223.750	0.00	0.01	0.031	o	|	|	|	|	0.30
223.833	0.00	0.01	0.031	o	|	|	|	|	0.30
223.917	0.00	0.01	0.031	o	|	|	|	|	0.30
224.000	0.00	0.01	0.031	o	|	|	|	|	0.30
224.083	0.00	0.01	0.031	o	|	|	|	|	0.30
224.167	0.00	0.01	0.031	o	|	|	|	|	0.30
224.250	0.00	0.01	0.031	o	|	|	|	|	0.30

224.333	0.00	0.01	0.031	o				0.30
224.417	0.00	0.01	0.031	o				0.30
224.500	0.00	0.01	0.031	o				0.30
224.583	0.00	0.01	0.031	o				0.30
224.667	0.00	0.01	0.031	o				0.30
224.750	0.00	0.01	0.031	o				0.30
224.833	0.00	0.01	0.030	o				0.30
224.917	0.00	0.01	0.030	o				0.30
225.000	0.00	0.01	0.030	o				0.30
225.083	0.00	0.01	0.030	o				0.30
225.167	0.00	0.01	0.030	o				0.30
225.250	0.00	0.01	0.030	o				0.30
225.333	0.00	0.01	0.030	o				0.30
225.417	0.00	0.01	0.030	o				0.30
225.500	0.00	0.01	0.030	o				0.30
225.583	0.00	0.01	0.030	o				0.30
225.667	0.00	0.01	0.030	o				0.29
225.750	0.00	0.01	0.030	o				0.29
225.833	0.00	0.01	0.030	o				0.29
225.917	0.00	0.01	0.030	o				0.29
226.000	0.00	0.01	0.030	o				0.29
226.083	0.00	0.01	0.030	o				0.29
226.167	0.00	0.01	0.030	o				0.29
226.250	0.00	0.01	0.030	o				0.29
226.333	0.00	0.01	0.030	o				0.29
226.417	0.00	0.01	0.030	o				0.29
226.500	0.00	0.01	0.030	o				0.29
226.583	0.00	0.01	0.030	o				0.29
226.667	0.00	0.01	0.030	o				0.29
226.750	0.00	0.01	0.030	o				0.29
226.833	0.00	0.01	0.030	o				0.29
226.917	0.00	0.01	0.029	o				0.29
227.000	0.00	0.01	0.029	o				0.29
227.083	0.00	0.01	0.029	o				0.29
227.167	0.00	0.01	0.029	o				0.29
227.250	0.00	0.01	0.029	o				0.29
227.333	0.00	0.01	0.029	o				0.29
227.417	0.00	0.01	0.029	o				0.29
227.500	0.00	0.01	0.029	o				0.29
227.583	0.00	0.01	0.029	o				0.29
227.667	0.00	0.01	0.029	o				0.29
227.750	0.00	0.01	0.029	o				0.29
227.833	0.00	0.01	0.029	o				0.28
227.917	0.00	0.01	0.029	o				0.28
228.000	0.00	0.01	0.029	o				0.28
228.083	0.00	0.01	0.029	o				0.28
228.167	0.00	0.01	0.029	o				0.28
228.250	0.00	0.01	0.029	o				0.28
228.333	0.00	0.01	0.029	o				0.28
228.417	0.00	0.01	0.029	o				0.28
228.500	0.00	0.01	0.029	o				0.28
228.583	0.00	0.01	0.029	o				0.28
228.667	0.00	0.01	0.029	o				0.28
228.750	0.00	0.01	0.029	o				0.28
228.833	0.00	0.01	0.029	o				0.28
228.917	0.00	0.01	0.029	o				0.28
229.000	0.00	0.01	0.028	o				0.28
229.083	0.00	0.01	0.028	o				0.28
229.167	0.00	0.01	0.028	o				0.28
229.250	0.00	0.01	0.028	o				0.28
229.333	0.00	0.01	0.028	o				0.28
229.417	0.00	0.01	0.028	o				0.28
229.500	0.00	0.01	0.028	o				0.28
229.583	0.00	0.01	0.028	o				0.28
229.667	0.00	0.01	0.028	o				0.28
229.750	0.00	0.01	0.028	o				0.28
229.833	0.00	0.01	0.028	o				0.28
229.917	0.00	0.01	0.028	o				0.28
230.000	0.00	0.01	0.028	o				0.27
230.083	0.00	0.01	0.028	o				0.27
230.167	0.00	0.01	0.028	o				0.27
230.250	0.00	0.01	0.028	o				0.27
230.333	0.00	0.01	0.028	o				0.27
230.417	0.00	0.01	0.028	o				0.27
230.500	0.00	0.01	0.028	o				0.27
230.583	0.00	0.01	0.028	o				0.27
230.667	0.00	0.01	0.028	o				0.27
230.750	0.00	0.01	0.028	o				0.27
230.833	0.00	0.01	0.028	o				0.27

230.917	0.00	0.01	0.028	o					0.27
231.000	0.00	0.01	0.028	o					0.27
231.083	0.00	0.01	0.028	o					0.27
231.167	0.00	0.01	0.028	o					0.27
231.250	0.00	0.01	0.027	o					0.27
231.333	0.00	0.01	0.027	o					0.27
231.417	0.00	0.01	0.027	o					0.27
231.500	0.00	0.01	0.027	o					0.27
231.583	0.00	0.01	0.027	o					0.27
231.667	0.00	0.01	0.027	o					0.27
231.750	0.00	0.01	0.027	o					0.27
231.833	0.00	0.01	0.027	o					0.27
231.917	0.00	0.01	0.027	o					0.27
232.000	0.00	0.01	0.027	o					0.27
232.083	0.00	0.01	0.027	o					0.27
232.167	0.00	0.01	0.027	o					0.27
232.250	0.00	0.01	0.027	o					0.26
232.333	0.00	0.01	0.027	o					0.26
232.417	0.00	0.01	0.027	o					0.26
232.500	0.00	0.01	0.027	o					0.26
232.583	0.00	0.01	0.027	o					0.26
232.667	0.00	0.01	0.027	o					0.26
232.750	0.00	0.01	0.027	o					0.26
232.833	0.00	0.01	0.027	o					0.26
232.917	0.00	0.01	0.027	o					0.26
233.000	0.00	0.01	0.027	o					0.26
233.083	0.00	0.01	0.027	o					0.26
233.167	0.00	0.01	0.027	o					0.26
233.250	0.00	0.01	0.027	o					0.26
233.333	0.00	0.01	0.027	o					0.26
233.417	0.00	0.01	0.027	o					0.26
233.500	0.00	0.01	0.026	o					0.26
233.583	0.00	0.01	0.026	o					0.26
233.667	0.00	0.01	0.026	o					0.26
233.750	0.00	0.01	0.026	o					0.26
233.833	0.00	0.01	0.026	o					0.26
233.917	0.00	0.01	0.026	o					0.26
234.000	0.00	0.01	0.026	o					0.26
234.083	0.00	0.01	0.026	o					0.26
234.167	0.00	0.01	0.026	o					0.26
234.250	0.00	0.01	0.026	o					0.26
234.333	0.00	0.01	0.026	o					0.26
234.417	0.00	0.01	0.026	o					0.26
234.500	0.00	0.01	0.026	o					0.26
234.583	0.00	0.01	0.026	o					0.26
234.667	0.00	0.01	0.026	o					0.25
234.750	0.00	0.01	0.026	o					0.25
234.833	0.00	0.01	0.026	o					0.25
234.917	0.00	0.01	0.026	o					0.25
235.000	0.00	0.01	0.026	o					0.25
235.083	0.00	0.01	0.026	o					0.25
235.167	0.00	0.01	0.026	o					0.25
235.250	0.00	0.01	0.026	o					0.25
235.333	0.00	0.01	0.026	o					0.25
235.417	0.00	0.01	0.026	o					0.25
235.500	0.00	0.01	0.026	o					0.25
235.583	0.00	0.01	0.026	o					0.25
235.667	0.00	0.01	0.026	o					0.25
235.750	0.00	0.01	0.026	o					0.25
235.833	0.00	0.01	0.026	o					0.25
235.917	0.00	0.00	0.025	o					0.25
236.000	0.00	0.00	0.025	o					0.25
236.083	0.00	0.00	0.025	o					0.25
236.167	0.00	0.00	0.025	o					0.25
236.250	0.00	0.00	0.025	o					0.25
236.333	0.00	0.00	0.025	o					0.25
236.417	0.00	0.00	0.025	o					0.25
236.500	0.00	0.00	0.025	o					0.25
236.583	0.00	0.00	0.025	o					0.25
236.667	0.00	0.00	0.025	o					0.25
236.750	0.00	0.00	0.025	o					0.25
236.833	0.00	0.00	0.025	o					0.25
236.917	0.00	0.00	0.025	o					0.25
237.000	0.00	0.00	0.025	o					0.25
237.083	0.00	0.00	0.025	o					0.25
237.167	0.00	0.00	0.025	o					0.24
237.250	0.00	0.00	0.025	o					0.24
237.333	0.00	0.00	0.025	o					0.24
237.417	0.00	0.00	0.025	o					0.24

237.500	0.00	0.00	0.025	o				0.24
237.583	0.00	0.00	0.025	o				0.24
237.667	0.00	0.00	0.025	o				0.24
237.750	0.00	0.00	0.025	o				0.24
237.833	0.00	0.00	0.025	o				0.24
237.917	0.00	0.00	0.025	o				0.24
238.000	0.00	0.00	0.025	o				0.24
238.083	0.00	0.00	0.025	o				0.24
238.167	0.00	0.00	0.025	o				0.24
238.250	0.00	0.00	0.025	o				0.24
238.333	0.00	0.00	0.024	o				0.24
238.417	0.00	0.00	0.024	o				0.24
238.500	0.00	0.00	0.024	o				0.24
238.583	0.00	0.00	0.024	o				0.24
238.667	0.00	0.00	0.024	o				0.24
238.750	0.00	0.00	0.024	o				0.24
238.833	0.00	0.00	0.024	o				0.24
238.917	0.00	0.00	0.024	o				0.24
239.000	0.00	0.00	0.024	o				0.24
239.083	0.00	0.00	0.024	o				0.24
239.167	0.00	0.00	0.024	o				0.24
239.250	0.00	0.00	0.024	o				0.24
239.333	0.00	0.00	0.024	o				0.24
239.417	0.00	0.00	0.024	o				0.24
239.500	0.00	0.00	0.024	o				0.24
239.583	0.00	0.00	0.024	o				0.24
239.667	0.00	0.00	0.024	o				0.23
239.750	0.00	0.00	0.024	o				0.23
239.833	0.00	0.00	0.024	o				0.23
239.917	0.00	0.00	0.024	o				0.23
240.000	0.00	0.00	0.024	o				0.23
240.083	0.00	0.00	0.024	o				0.23
240.167	0.00	0.00	0.024	o				0.23
240.250	0.00	0.00	0.024	o				0.23
240.333	0.00	0.00	0.024	o				0.23
240.417	0.00	0.00	0.024	o				0.23
240.500	0.00	0.00	0.024	o				0.23
240.583	0.00	0.00	0.024	o				0.23
240.667	0.00	0.00	0.024	o				0.23
240.750	0.00	0.00	0.024	o				0.23
240.833	0.00	0.00	0.024	o				0.23
240.917	0.00	0.00	0.023	o				0.23
241.000	0.00	0.00	0.023	o				0.23
241.083	0.00	0.00	0.023	o				0.23
241.167	0.00	0.00	0.023	o				0.23
241.250	0.00	0.00	0.023	o				0.23
241.333	0.00	0.00	0.023	o				0.23
241.417	0.00	0.00	0.023	o				0.23
241.500	0.00	0.00	0.023	o				0.23
241.583	0.00	0.00	0.023	o				0.23
241.667	0.00	0.00	0.023	o				0.23
241.750	0.00	0.00	0.023	o				0.23
241.833	0.00	0.00	0.023	o				0.23
241.917	0.00	0.00	0.023	o				0.23
242.000	0.00	0.00	0.023	o				0.23
242.083	0.00	0.00	0.023	o				0.23
242.167	0.00	0.00	0.023	o				0.23
242.250	0.00	0.00	0.023	o				0.23
242.333	0.00	0.00	0.023	o				0.23
242.417	0.00	0.00	0.023	o				0.22
242.500	0.00	0.00	0.023	o				0.22
242.583	0.00	0.00	0.023	o				0.22
242.667	0.00	0.00	0.023	o				0.22
242.750	0.00	0.00	0.023	o				0.22
242.833	0.00	0.00	0.023	o				0.22
242.917	0.00	0.00	0.023	o				0.22
243.000	0.00	0.00	0.023	o				0.22
243.083	0.00	0.00	0.023	o				0.22
243.167	0.00	0.00	0.023	o				0.22
243.250	0.00	0.00	0.023	o				0.22
243.333	0.00	0.00	0.023	o				0.22
243.417	0.00	0.00	0.023	o				0.22
243.500	0.00	0.00	0.023	o				0.22
243.583	0.00	0.00	0.022	o				0.22
243.667	0.00	0.00	0.022	o				0.22
243.750	0.00	0.00	0.022	o				0.22
243.833	0.00	0.00	0.022	o				0.22
243.917	0.00	0.00	0.022	o				0.22
244.000	0.00	0.00	0.022	o				0.22

244.083	0.00	0.00	0.022	o					0.22
244.167	0.00	0.00	0.022	o					0.22
244.250	0.00	0.00	0.022	o					0.22
244.333	0.00	0.00	0.022	o					0.22
244.417	0.00	0.00	0.022	o					0.22
244.500	0.00	0.00	0.022	o					0.22
244.583	0.00	0.00	0.022	o					0.22
244.667	0.00	0.00	0.022	o					0.22
244.750	0.00	0.00	0.022	o					0.22
244.833	0.00	0.00	0.022	o					0.22
244.917	0.00	0.00	0.022	o					0.22
245.000	0.00	0.00	0.022	o					0.22
245.083	0.00	0.00	0.022	o					0.22
245.167	0.00	0.00	0.022	o					0.21
245.250	0.00	0.00	0.022	o					0.21
245.333	0.00	0.00	0.022	o					0.21
245.417	0.00	0.00	0.022	o					0.21
245.500	0.00	0.00	0.022	o					0.21
245.583	0.00	0.00	0.022	o					0.21
245.667	0.00	0.00	0.022	o					0.21
245.750	0.00	0.00	0.022	o					0.21
245.833	0.00	0.00	0.022	o					0.21
245.917	0.00	0.00	0.022	o					0.21
246.000	0.00	0.00	0.022	o					0.21
246.083	0.00	0.00	0.022	o					0.21
246.167	0.00	0.00	0.022	o					0.21
246.250	0.00	0.00	0.022	o					0.21
246.333	0.00	0.00	0.022	o					0.21
246.417	0.00	0.00	0.021	o					0.21
246.500	0.00	0.00	0.021	o					0.21
246.583	0.00	0.00	0.021	o					0.21
246.667	0.00	0.00	0.021	o					0.21
246.750	0.00	0.00	0.021	o					0.21
246.833	0.00	0.00	0.021	o					0.21
246.917	0.00	0.00	0.021	o					0.21
247.000	0.00	0.00	0.021	o					0.21
247.083	0.00	0.00	0.021	o					0.21
247.167	0.00	0.00	0.021	o					0.21
247.250	0.00	0.00	0.021	o					0.21
247.333	0.00	0.00	0.021	o					0.21
247.417	0.00	0.00	0.021	o					0.21
247.500	0.00	0.00	0.021	o					0.21
247.583	0.00	0.00	0.021	o					0.21
247.667	0.00	0.00	0.021	o					0.21
247.750	0.00	0.00	0.021	o					0.21
247.833	0.00	0.00	0.021	o					0.21
247.917	0.00	0.00	0.021	o					0.21
248.000	0.00	0.00	0.021	o					0.21
248.083	0.00	0.00	0.021	o					0.21
248.167	0.00	0.00	0.021	o					0.20
248.250	0.00	0.00	0.021	o					0.20
248.333	0.00	0.00	0.021	o					0.20
248.417	0.00	0.00	0.021	o					0.20
248.500	0.00	0.00	0.021	o					0.20
248.583	0.00	0.00	0.021	o					0.20
248.667	0.00	0.00	0.021	o					0.20
248.750	0.00	0.00	0.021	o					0.20
248.833	0.00	0.00	0.021	o					0.20
248.917	0.00	0.00	0.021	o					0.20
249.000	0.00	0.00	0.021	o					0.20
249.083	0.00	0.00	0.021	o					0.20
249.167	0.00	0.00	0.021	o					0.20
249.250	0.00	0.00	0.021	o					0.20
249.333	0.00	0.00	0.020	o					0.20
249.417	0.00	0.00	0.020	o					0.20
249.500	0.00	0.00	0.020	o					0.20
249.583	0.00	0.00	0.020	o					0.20
249.667	0.00	0.00	0.020	o					0.20
249.750	0.00	0.00	0.020	o					0.20
249.833	0.00	0.00	0.020	o					0.20
249.917	0.00	0.00	0.020	o					0.20
250.000	0.00	0.00	0.020	o					0.20
250.083	0.00	0.00	0.020	o					0.20
250.167	0.00	0.00	0.020	o					0.20
250.250	0.00	0.00	0.020	o					0.20
250.333	0.00	0.00	0.020	o					0.20
250.417	0.00	0.00	0.020	o					0.20
250.500	0.00	0.00	0.020	o					0.20
250.583	0.00	0.00	0.020	o					0.20

250.667	0.00	0.00	0.020	o				0.20
250.750	0.00	0.00	0.020	o				0.20
250.833	0.00	0.00	0.020	o				0.20
250.917	0.00	0.00	0.020	o				0.20
251.000	0.00	0.00	0.020	o				0.20
251.083	0.00	0.00	0.020	o				0.20
251.167	0.00	0.00	0.020	o				0.20
251.250	0.00	0.00	0.020	o				0.19
251.333	0.00	0.00	0.020	o				0.19
251.417	0.00	0.00	0.020	o				0.19
251.500	0.00	0.00	0.020	o				0.19
251.583	0.00	0.00	0.020	o				0.19
251.667	0.00	0.00	0.020	o				0.19
251.750	0.00	0.00	0.020	o				0.19
251.833	0.00	0.00	0.020	o				0.19
251.917	0.00	0.00	0.020	o				0.19
252.000	0.00	0.00	0.020	o				0.19
252.083	0.00	0.00	0.020	o				0.19
252.167	0.00	0.00	0.020	o				0.19
252.250	0.00	0.00	0.020	o				0.19
252.333	0.00	0.00	0.020	o				0.19
252.417	0.00	0.00	0.019	o				0.19
252.500	0.00	0.00	0.019	o				0.19
252.583	0.00	0.00	0.019	o				0.19
252.667	0.00	0.00	0.019	o				0.19
252.750	0.00	0.00	0.019	o				0.19
252.833	0.00	0.00	0.019	o				0.19
252.917	0.00	0.00	0.019	o				0.19
253.000	0.00	0.00	0.019	o				0.19
253.083	0.00	0.00	0.019	o				0.19
253.167	0.00	0.00	0.019	o				0.19
253.250	0.00	0.00	0.019	o				0.19
253.333	0.00	0.00	0.019	o				0.19
253.417	0.00	0.00	0.019	o				0.19
253.500	0.00	0.00	0.019	o				0.19
253.583	0.00	0.00	0.019	o				0.19
253.667	0.00	0.00	0.019	o				0.19
253.750	0.00	0.00	0.019	o				0.19
253.833	0.00	0.00	0.019	o				0.19
253.917	0.00	0.00	0.019	o				0.19
254.000	0.00	0.00	0.019	o				0.19
254.083	0.00	0.00	0.019	o				0.19
254.167	0.00	0.00	0.019	o				0.19
254.250	0.00	0.00	0.019	o				0.19
254.333	0.00	0.00	0.019	o				0.19
254.417	0.00	0.00	0.019	o				0.19
254.500	0.00	0.00	0.019	o				0.18
254.583	0.00	0.00	0.019	o				0.18
254.667	0.00	0.00	0.019	o				0.18
254.750	0.00	0.00	0.019	o				0.18
254.833	0.00	0.00	0.019	o				0.18
254.917	0.00	0.00	0.019	o				0.18
255.000	0.00	0.00	0.019	o				0.18
255.083	0.00	0.00	0.019	o				0.18
255.167	0.00	0.00	0.019	o				0.18
255.250	0.00	0.00	0.019	o				0.18
255.333	0.00	0.00	0.019	o				0.18
255.417	0.00	0.00	0.019	o				0.18
255.500	0.00	0.00	0.019	o				0.18
255.583	0.00	0.00	0.019	o				0.18
255.667	0.00	0.00	0.018	o				0.18
255.750	0.00	0.00	0.018	o				0.18
255.833	0.00	0.00	0.018	o				0.18
255.917	0.00	0.00	0.018	o				0.18
256.000	0.00	0.00	0.018	o				0.18
256.083	0.00	0.00	0.018	o				0.18
256.167	0.00	0.00	0.018	o				0.18
256.250	0.00	0.00	0.018	o				0.18
256.333	0.00	0.00	0.018	o				0.18
256.417	0.00	0.00	0.018	o				0.18
256.500	0.00	0.00	0.018	o				0.18
256.583	0.00	0.00	0.018	o				0.18
256.667	0.00	0.00	0.018	o				0.18
256.750	0.00	0.00	0.018	o				0.18
256.833	0.00	0.00	0.018	o				0.18
256.917	0.00	0.00	0.018	o				0.18
257.000	0.00	0.00	0.018	o				0.18
257.083	0.00	0.00	0.018	o				0.18
257.167	0.00	0.00	0.018	o				0.18

257.250	0.00	0.00	0.018	o				0.18
257.333	0.00	0.00	0.018	o				0.18
257.417	0.00	0.00	0.018	o				0.18
257.500	0.00	0.00	0.018	o				0.18
257.583	0.00	0.00	0.018	o				0.18
257.667	0.00	0.00	0.018	o				0.18
257.750	0.00	0.00	0.018	o				0.18
257.833	0.00	0.00	0.018	o				0.18
257.917	0.00	0.00	0.018	o				0.17
258.000	0.00	0.00	0.018	o				0.17
258.083	0.00	0.00	0.018	o				0.17
258.167	0.00	0.00	0.018	o				0.17
258.250	0.00	0.00	0.018	o				0.17
258.333	0.00	0.00	0.018	o				0.17
258.417	0.00	0.00	0.018	o				0.17
258.500	0.00	0.00	0.018	o				0.17
258.583	0.00	0.00	0.018	o				0.17
258.667	0.00	0.00	0.018	o				0.17
258.750	0.00	0.00	0.018	o				0.17
258.833	0.00	0.00	0.018	o				0.17
258.917	0.00	0.00	0.018	o				0.17
259.000	0.00	0.00	0.018	o				0.17
259.083	0.00	0.00	0.017	o				0.17
259.167	0.00	0.00	0.017	o				0.17
259.250	0.00	0.00	0.017	o				0.17
259.333	0.00	0.00	0.017	o				0.17
259.417	0.00	0.00	0.017	o				0.17
259.500	0.00	0.00	0.017	o				0.17
259.583	0.00	0.00	0.017	o				0.17
259.667	0.00	0.00	0.017	o				0.17
259.750	0.00	0.00	0.017	o				0.17
259.833	0.00	0.00	0.017	o				0.17
259.917	0.00	0.00	0.017	o				0.17
260.000	0.00	0.00	0.017	o				0.17
260.083	0.00	0.00	0.017	o				0.17
260.167	0.00	0.00	0.017	o				0.17
260.250	0.00	0.00	0.017	o				0.17
260.333	0.00	0.00	0.017	o				0.17
260.417	0.00	0.00	0.017	o				0.17
260.500	0.00	0.00	0.017	o				0.17
260.583	0.00	0.00	0.017	o				0.17
260.667	0.00	0.00	0.017	o				0.17
260.750	0.00	0.00	0.017	o				0.17
260.833	0.00	0.00	0.017	o				0.17
260.917	0.00	0.00	0.017	o				0.17
261.000	0.00	0.00	0.017	o				0.17
261.083	0.00	0.00	0.017	o				0.17
261.167	0.00	0.00	0.017	o				0.17
261.250	0.00	0.00	0.017	o				0.17
261.333	0.00	0.00	0.017	o				0.17
261.417	0.00	0.00	0.017	o				0.17
261.500	0.00	0.00	0.017	o				0.16
261.583	0.00	0.00	0.017	o				0.16
261.667	0.00	0.00	0.017	o				0.16
261.750	0.00	0.00	0.017	o				0.16
261.833	0.00	0.00	0.017	o				0.16
261.917	0.00	0.00	0.017	o				0.16
262.000	0.00	0.00	0.017	o				0.16
262.083	0.00	0.00	0.017	o				0.16
262.167	0.00	0.00	0.017	o				0.16
262.250	0.00	0.00	0.017	o				0.16
262.333	0.00	0.00	0.017	o				0.16
262.417	0.00	0.00	0.017	o				0.16
262.500	0.00	0.00	0.017	o				0.16
262.583	0.00	0.00	0.017	o				0.16
262.667	0.00	0.00	0.017	o				0.16
262.750	0.00	0.00	0.016	o				0.16
262.833	0.00	0.00	0.016	o				0.16
262.917	0.00	0.00	0.016	o				0.16
263.000	0.00	0.00	0.016	o				0.16
263.083	0.00	0.00	0.016	o				0.16
263.167	0.00	0.00	0.016	o				0.16
263.250	0.00	0.00	0.016	o				0.16
263.333	0.00	0.00	0.016	o				0.16
263.417	0.00	0.00	0.016	o				0.16
263.500	0.00	0.00	0.016	o				0.16
263.583	0.00	0.00	0.016	o				0.16
263.667	0.00	0.00	0.016	o				0.16
263.750	0.00	0.00	0.016	o				0.16

263.833	0.00	0.00	0.016	o				0.16
263.917	0.00	0.00	0.016	o				0.16
264.000	0.00	0.00	0.016	o				0.16
264.083	0.00	0.00	0.016	o				0.16
264.167	0.00	0.00	0.016	o				0.16
264.250	0.00	0.00	0.016	o				0.16
264.333	0.00	0.00	0.016	o				0.16
264.417	0.00	0.00	0.016	o				0.16
264.500	0.00	0.00	0.016	o				0.16
264.583	0.00	0.00	0.016	o				0.16
264.667	0.00	0.00	0.016	o				0.16
264.750	0.00	0.00	0.016	o				0.16
264.833	0.00	0.00	0.016	o				0.16
264.917	0.00	0.00	0.016	o				0.16
265.000	0.00	0.00	0.016	o				0.16
265.083	0.00	0.00	0.016	o				0.16
265.167	0.00	0.00	0.016	o				0.16
265.250	0.00	0.00	0.016	o				0.16
265.333	0.00	0.00	0.016	o				0.16
265.417	0.00	0.00	0.016	o				0.15
265.500	0.00	0.00	0.016	o				0.15
265.583	0.00	0.00	0.016	o				0.15
265.667	0.00	0.00	0.016	o				0.15
265.750	0.00	0.00	0.016	o				0.15
265.833	0.00	0.00	0.016	o				0.15
265.917	0.00	0.00	0.016	o				0.15
266.000	0.00	0.00	0.016	o				0.15
266.083	0.00	0.00	0.016	o				0.15
266.167	0.00	0.00	0.016	o				0.15
266.250	0.00	0.00	0.016	o				0.15
266.333	0.00	0.00	0.016	o				0.15
266.417	0.00	0.00	0.016	o				0.15
266.500	0.00	0.00	0.016	o				0.15
266.583	0.00	0.00	0.015	o				0.15
266.667	0.00	0.00	0.015	o				0.15
266.750	0.00	0.00	0.015	o				0.15
266.833	0.00	0.00	0.015	o				0.15
266.917	0.00	0.00	0.015	o				0.15
267.000	0.00	0.00	0.015	o				0.15
267.083	0.00	0.00	0.015	o				0.15
267.167	0.00	0.00	0.015	o				0.15
267.250	0.00	0.00	0.015	o				0.15
267.333	0.00	0.00	0.015	o				0.15
267.417	0.00	0.00	0.015	o				0.15
267.500	0.00	0.00	0.015	o				0.15
267.583	0.00	0.00	0.015	o				0.15
267.667	0.00	0.00	0.015	o				0.15
267.750	0.00	0.00	0.015	o				0.15
267.833	0.00	0.00	0.015	o				0.15
267.917	0.00	0.00	0.015	o				0.15
268.000	0.00	0.00	0.015	o				0.15
268.083	0.00	0.00	0.015	o				0.15
268.167	0.00	0.00	0.015	o				0.15
268.250	0.00	0.00	0.015	o				0.15
268.333	0.00	0.00	0.015	o				0.15
268.417	0.00	0.00	0.015	o				0.15
268.500	0.00	0.00	0.015	o				0.15
268.583	0.00	0.00	0.015	o				0.15
268.667	0.00	0.00	0.015	o				0.15
268.750	0.00	0.00	0.015	o				0.15
268.833	0.00	0.00	0.015	o				0.15
268.917	0.00	0.00	0.015	o				0.15
269.000	0.00	0.00	0.015	o				0.15
269.083	0.00	0.00	0.015	o				0.15
269.167	0.00	0.00	0.015	o				0.15
269.250	0.00	0.00	0.015	o				0.15
269.333	0.00	0.00	0.015	o				0.15
269.417	0.00	0.00	0.015	o				0.15
269.500	0.00	0.00	0.015	o				0.14
269.583	0.00	0.00	0.015	o				0.14
269.667	0.00	0.00	0.015	o				0.14
269.750	0.00	0.00	0.015	o				0.14
269.833	0.00	0.00	0.015	o				0.14
269.917	0.00	0.00	0.015	o				0.14
270.000	0.00	0.00	0.015	o				0.14
270.083	0.00	0.00	0.015	o				0.14
270.167	0.00	0.00	0.015	o				0.14
270.250	0.00	0.00	0.015	o				0.14
270.333	0.00	0.00	0.015	o				0.14

270.417	0.00	0.00	0.015	o					0.14
270.500	0.00	0.00	0.015	o					0.14
270.583	0.00	0.00	0.015	o					0.14
270.667	0.00	0.00	0.015	o					0.14
270.750	0.00	0.00	0.014	o					0.14
270.833	0.00	0.00	0.014	o					0.14
270.917	0.00	0.00	0.014	o					0.14
271.000	0.00	0.00	0.014	o					0.14
271.083	0.00	0.00	0.014	o					0.14
271.167	0.00	0.00	0.014	o					0.14
271.250	0.00	0.00	0.014	o					0.14
271.333	0.00	0.00	0.014	o					0.14
271.417	0.00	0.00	0.014	o					0.14
271.500	0.00	0.00	0.014	o					0.14
271.583	0.00	0.00	0.014	o					0.14
271.667	0.00	0.00	0.014	o					0.14
271.750	0.00	0.00	0.014	o					0.14
271.833	0.00	0.00	0.014	o					0.14
271.917	0.00	0.00	0.014	o					0.14
272.000	0.00	0.00	0.014	o					0.14
272.083	0.00	0.00	0.014	o					0.14
272.167	0.00	0.00	0.014	o					0.14
272.250	0.00	0.00	0.014	o					0.14
272.333	0.00	0.00	0.014	o					0.14
272.417	0.00	0.00	0.014	o					0.14
272.500	0.00	0.00	0.014	o					0.14
272.583	0.00	0.00	0.014	o					0.14
272.667	0.00	0.00	0.014	o					0.14
272.750	0.00	0.00	0.014	o					0.14
272.833	0.00	0.00	0.014	o					0.14
272.917	0.00	0.00	0.014	o					0.14
273.000	0.00	0.00	0.014	o					0.14
273.083	0.00	0.00	0.014	o					0.14
273.167	0.00	0.00	0.014	o					0.14
273.250	0.00	0.00	0.014	o					0.14
273.333	0.00	0.00	0.014	o					0.14
273.417	0.00	0.00	0.014	o					0.14
273.500	0.00	0.00	0.014	o					0.14
273.583	0.00	0.00	0.014	o					0.14
273.667	0.00	0.00	0.014	o					0.14
273.750	0.00	0.00	0.014	o					0.14
273.833	0.00	0.00	0.014	o					0.14
273.917	0.00	0.00	0.014	o					0.13
274.000	0.00	0.00	0.014	o					0.13
274.083	0.00	0.00	0.014	o					0.13
274.167	0.00	0.00	0.014	o					0.13
274.250	0.00	0.00	0.014	o					0.13
274.333	0.00	0.00	0.014	o					0.13
274.417	0.00	0.00	0.014	o					0.13
274.500	0.00	0.00	0.014	o					0.13
274.583	0.00	0.00	0.014	o					0.13
274.667	0.00	0.00	0.014	o					0.13
274.750	0.00	0.00	0.014	o					0.13
274.833	0.00	0.00	0.014	o					0.13
274.917	0.00	0.00	0.014	o					0.13
275.000	0.00	0.00	0.014	o					0.13
275.083	0.00	0.00	0.014	o					0.13
275.167	0.00	0.00	0.013	o					0.13
275.250	0.00	0.00	0.013	o					0.13
275.333	0.00	0.00	0.013	o					0.13
275.417	0.00	0.00	0.013	o					0.13
275.500	0.00	0.00	0.013	o					0.13
275.583	0.00	0.00	0.013	o					0.13
275.667	0.00	0.00	0.013	o					0.13
275.750	0.00	0.00	0.013	o					0.13
275.833	0.00	0.00	0.013	o					0.13
275.917	0.00	0.00	0.013	o					0.13
276.000	0.00	0.00	0.013	o					0.13
276.083	0.00	0.00	0.013	o					0.13
276.167	0.00	0.00	0.013	o					0.13
276.250	0.00	0.00	0.013	o					0.13
276.333	0.00	0.00	0.013	o					0.13
276.417	0.00	0.00	0.013	o					0.13
276.500	0.00	0.00	0.013	o					0.13
276.583	0.00	0.00	0.013	o					0.13
276.667	0.00	0.00	0.013	o					0.13
276.750	0.00	0.00	0.013	o					0.13
276.833	0.00	0.00	0.013	o					0.13
276.917	0.00	0.00	0.013	o					0.13

277.000	0.00	0.00	0.013	o					0.13
277.083	0.00	0.00	0.013	o					0.13
277.167	0.00	0.00	0.013	o					0.13
277.250	0.00	0.00	0.013	o					0.13
277.333	0.00	0.00	0.013	o					0.13
277.417	0.00	0.00	0.013	o					0.13
277.500	0.00	0.00	0.013	o					0.13
277.583	0.00	0.00	0.013	o					0.13
277.667	0.00	0.00	0.013	o					0.13
277.750	0.00	0.00	0.013	o					0.13
277.833	0.00	0.00	0.013	o					0.13
277.917	0.00	0.00	0.013	o					0.13
278.000	0.00	0.00	0.013	o					0.13
278.083	0.00	0.00	0.013	o					0.13
278.167	0.00	0.00	0.013	o					0.13
278.250	0.00	0.00	0.013	o					0.13
278.333	0.00	0.00	0.013	o					0.13
278.417	0.00	0.00	0.013	o					0.13
278.500	0.00	0.00	0.013	o					0.13
278.583	0.00	0.00	0.013	o					0.13
278.667	0.00	0.00	0.013	o					0.12
278.750	0.00	0.00	0.013	o					0.12
278.833	0.00	0.00	0.013	o					0.12
278.917	0.00	0.00	0.013	o					0.12
279.000	0.00	0.00	0.013	o					0.12
279.083	0.00	0.00	0.013	o					0.12
279.167	0.00	0.00	0.013	o					0.12
279.250	0.00	0.00	0.013	o					0.12
279.333	0.00	0.00	0.013	o					0.12
279.417	0.00	0.00	0.013	o					0.12
279.500	0.00	0.00	0.013	o					0.12
279.583	0.00	0.00	0.013	o					0.12
279.667	0.00	0.00	0.013	o					0.12
279.750	0.00	0.00	0.013	o					0.12
279.833	0.00	0.00	0.013	o					0.12
279.917	0.00	0.00	0.012	o					0.12
280.000	0.00	0.00	0.012	o					0.12
280.083	0.00	0.00	0.012	o					0.12
280.167	0.00	0.00	0.012	o					0.12
280.250	0.00	0.00	0.012	o					0.12
280.333	0.00	0.00	0.012	o					0.12
280.417	0.00	0.00	0.012	o					0.12
280.500	0.00	0.00	0.012	o					0.12
280.583	0.00	0.00	0.012	o					0.12
280.667	0.00	0.00	0.012	o					0.12
280.750	0.00	0.00	0.012	o					0.12
280.833	0.00	0.00	0.012	o					0.12
280.917	0.00	0.00	0.012	o					0.12
281.000	0.00	0.00	0.012	o					0.12
281.083	0.00	0.00	0.012	o					0.12
281.167	0.00	0.00	0.012	o					0.12
281.250	0.00	0.00	0.012	o					0.12
281.333	0.00	0.00	0.012	o					0.12
281.417	0.00	0.00	0.012	o					0.12
281.500	0.00	0.00	0.012	o					0.12
281.583	0.00	0.00	0.012	o					0.12
281.667	0.00	0.00	0.012	o					0.12
281.750	0.00	0.00	0.012	o					0.12
281.833	0.00	0.00	0.012	o					0.12
281.917	0.00	0.00	0.012	o					0.12
282.000	0.00	0.00	0.012	o					0.12
282.083	0.00	0.00	0.012	o					0.12
282.167	0.00	0.00	0.012	o					0.12
282.250	0.00	0.00	0.012	o					0.12
282.333	0.00	0.00	0.012	o					0.12
282.417	0.00	0.00	0.012	o					0.12
282.500	0.00	0.00	0.012	o					0.12
282.583	0.00	0.00	0.012	o					0.12
282.667	0.00	0.00	0.012	o					0.12
282.750	0.00	0.00	0.012	o					0.12
282.833	0.00	0.00	0.012	o					0.12
282.917	0.00	0.00	0.012	o					0.12
283.000	0.00	0.00	0.012	o					0.12
283.083	0.00	0.00	0.012	o					0.12
283.167	0.00	0.00	0.012	o					0.12
283.250	0.00	0.00	0.012	o					0.12
283.333	0.00	0.00	0.012	o					0.12
283.417	0.00	0.00	0.012	o					0.12
283.500	0.00	0.00	0.012	o					0.12

283.583	0.00	0.00	0.012	o				0.12
283.667	0.00	0.00	0.012	o				0.12
283.750	0.00	0.00	0.012	o				0.12
283.833	0.00	0.00	0.012	o				0.11
283.917	0.00	0.00	0.012	o				0.11
284.000	0.00	0.00	0.012	o				0.11
284.083	0.00	0.00	0.012	o				0.11
284.167	0.00	0.00	0.012	o				0.11
284.250	0.00	0.00	0.012	o				0.11
284.333	0.00	0.00	0.012	o				0.11
284.417	0.00	0.00	0.012	o				0.11
284.500	0.00	0.00	0.012	o				0.11
284.583	0.00	0.00	0.012	o				0.11
284.667	0.00	0.00	0.012	o				0.11
284.750	0.00	0.00	0.012	o				0.11
284.833	0.00	0.00	0.012	o				0.11
284.917	0.00	0.00	0.012	o				0.11
285.000	0.00	0.00	0.011	o				0.11
285.083	0.00	0.00	0.011	o				0.11
285.167	0.00	0.00	0.011	o				0.11
285.250	0.00	0.00	0.011	o				0.11
285.333	0.00	0.00	0.011	o				0.11
285.417	0.00	0.00	0.011	o				0.11
285.500	0.00	0.00	0.011	o				0.11
285.583	0.00	0.00	0.011	o				0.11
285.667	0.00	0.00	0.011	o				0.11
285.750	0.00	0.00	0.011	o				0.11
285.833	0.00	0.00	0.011	o				0.11
285.917	0.00	0.00	0.011	o				0.11
286.000	0.00	0.00	0.011	o				0.11
286.083	0.00	0.00	0.011	o				0.11
286.167	0.00	0.00	0.011	o				0.11
286.250	0.00	0.00	0.011	o				0.11
286.333	0.00	0.00	0.011	o				0.11
286.417	0.00	0.00	0.011	o				0.11
286.500	0.00	0.00	0.011	o				0.11
286.583	0.00	0.00	0.011	o				0.11
286.667	0.00	0.00	0.011	o				0.11
286.750	0.00	0.00	0.011	o				0.11
286.833	0.00	0.00	0.011	o				0.11
286.917	0.00	0.00	0.011	o				0.11
287.000	0.00	0.00	0.011	o				0.11
287.083	0.00	0.00	0.011	o				0.11
287.167	0.00	0.00	0.011	o				0.11
287.250	0.00	0.00	0.011	o				0.11
287.333	0.00	0.00	0.011	o				0.11
287.417	0.00	0.00	0.011	o				0.11
287.500	0.00	0.00	0.011	o				0.11
287.583	0.00	0.00	0.011	o				0.11
287.667	0.00	0.00	0.011	o				0.11
287.750	0.00	0.00	0.011	o				0.11
287.833	0.00	0.00	0.011	o				0.11
287.917	0.00	0.00	0.011	o				0.11
288.000	0.00	0.00	0.011	o				0.11
288.083	0.00	0.00	0.011	o				0.11
288.167	0.00	0.00	0.011	o				0.11
288.250	0.00	0.00	0.011	o				0.11
288.333	0.00	0.00	0.011	o				0.11
288.417	0.00	0.00	0.011	o				0.11
288.500	0.00	0.00	0.011	o				0.11
288.583	0.00	0.00	0.011	o				0.11
288.667	0.00	0.00	0.011	o				0.11
288.750	0.00	0.00	0.011	o				0.11
288.833	0.00	0.00	0.011	o				0.11
288.917	0.00	0.00	0.011	o				0.11
289.000	0.00	0.00	0.011	o				0.11
289.083	0.00	0.00	0.011	o				0.11
289.167	0.00	0.00	0.011	o				0.11
289.250	0.00	0.00	0.011	o				0.11
289.333	0.00	0.00	0.011	o				0.11
289.417	0.00	0.00	0.011	o				0.10
289.500	0.00	0.00	0.011	o				0.10
289.583	0.00	0.00	0.011	o				0.10
289.667	0.00	0.00	0.011	o				0.10
289.750	0.00	0.00	0.011	o				0.10
289.833	0.00	0.00	0.011	o				0.10
289.917	0.00	0.00	0.011	o				0.10
290.000	0.00	0.00	0.011	o				0.10
290.083	0.00	0.00	0.011	o				0.10

290.167	0.00	0.00	0.011	o				0.10
290.250	0.00	0.00	0.011	o				0.10
290.333	0.00	0.00	0.011	o				0.10
290.417	0.00	0.00	0.011	o				0.10
290.500	0.00	0.00	0.011	o				0.10
290.583	0.00	0.00	0.011	o				0.10
290.667	0.00	0.00	0.010	o				0.10
290.750	0.00	0.00	0.010	o				0.10
290.833	0.00	0.00	0.010	o				0.10
290.917	0.00	0.00	0.010	o				0.10
291.000	0.00	0.00	0.010	o				0.10
291.083	0.00	0.00	0.010	o				0.10
291.167	0.00	0.00	0.010	o				0.10
291.250	0.00	0.00	0.010	o				0.10
291.333	0.00	0.00	0.010	o				0.10
291.417	0.00	0.00	0.010	o				0.10
291.500	0.00	0.00	0.010	o				0.10
291.583	0.00	0.00	0.010	o				0.10
291.667	0.00	0.00	0.010	o				0.10
291.750	0.00	0.00	0.010	o				0.10
291.833	0.00	0.00	0.010	o				0.10
291.917	0.00	0.00	0.010	o				0.10
292.000	0.00	0.00	0.010	o				0.10
292.083	0.00	0.00	0.010	o				0.10
292.167	0.00	0.00	0.010	o				0.10
292.250	0.00	0.00	0.010	o				0.10
292.333	0.00	0.00	0.010	o				0.10
292.417	0.00	0.00	0.010	o				0.10
292.500	0.00	0.00	0.010	o				0.10
292.583	0.00	0.00	0.010	o				0.10
292.667	0.00	0.00	0.010	o				0.10
292.750	0.00	0.00	0.010	o				0.10
292.833	0.00	0.00	0.010	o				0.10
292.917	0.00	0.00	0.010	o				0.10
293.000	0.00	0.00	0.010	o				0.10
293.083	0.00	0.00	0.010	o				0.10
293.167	0.00	0.00	0.010	o				0.10
293.250	0.00	0.00	0.010	o				0.10
293.333	0.00	0.00	0.010	o				0.10
293.417	0.00	0.00	0.010	o				0.10
293.500	0.00	0.00	0.010	o				0.10
293.583	0.00	0.00	0.010	o				0.10
293.667	0.00	0.00	0.010	o				0.10
293.750	0.00	0.00	0.010	o				0.10
293.833	0.00	0.00	0.010	o				0.10
293.917	0.00	0.00	0.010	o				0.10
294.000	0.00	0.00	0.010	o				0.10
294.083	0.00	0.00	0.010	o				0.10
294.167	0.00	0.00	0.010	o				0.10
294.250	0.00	0.00	0.010	o				0.10
294.333	0.00	0.00	0.010	o				0.10
294.417	0.00	0.00	0.010	o				0.10
294.500	0.00	0.00	0.010	o				0.10
294.583	0.00	0.00	0.010	o				0.10
294.667	0.00	0.00	0.010	o				0.10
294.750	0.00	0.00	0.010	o				0.10
294.833	0.00	0.00	0.010	o				0.10
294.917	0.00	0.00	0.010	o				0.10
295.000	0.00	0.00	0.010	o				0.10
295.083	0.00	0.00	0.010	o				0.10
295.167	0.00	0.00	0.010	o				0.10
295.250	0.00	0.00	0.010	o				0.10
295.333	0.00	0.00	0.010	o				0.10
295.417	0.00	0.00	0.010	o				0.10
295.500	0.00	0.00	0.010	o				0.10
295.583	0.00	0.00	0.010	o				0.09
295.667	0.00	0.00	0.010	o				0.09
295.750	0.00	0.00	0.010	o				0.09
295.833	0.00	0.00	0.010	o				0.09
295.917	0.00	0.00	0.010	o				0.09
296.000	0.00	0.00	0.010	o				0.09
296.083	0.00	0.00	0.010	o				0.09
296.167	0.00	0.00	0.010	o				0.09
296.250	0.00	0.00	0.010	o				0.09
296.333	0.00	0.00	0.010	o				0.09
296.417	0.00	0.00	0.010	o				0.09
296.500	0.00	0.00	0.010	o				0.09
296.583	0.00	0.00	0.010	o				0.09
296.667	0.00	0.00	0.010	o				0.09

296.750	0.00	0.00	0.010	o				0.09
296.833	0.00	0.00	0.009	o				0.09
296.917	0.00	0.00	0.009	o				0.09
297.000	0.00	0.00	0.009	o				0.09
297.083	0.00	0.00	0.009	o				0.09
297.167	0.00	0.00	0.009	o				0.09
297.250	0.00	0.00	0.009	o				0.09
297.333	0.00	0.00	0.009	o				0.09
297.417	0.00	0.00	0.009	o				0.09
297.500	0.00	0.00	0.009	o				0.09
297.583	0.00	0.00	0.009	o				0.09
297.667	0.00	0.00	0.009	o				0.09
297.750	0.00	0.00	0.009	o				0.09
297.833	0.00	0.00	0.009	o				0.09
297.917	0.00	0.00	0.009	o				0.09
298.000	0.00	0.00	0.009	o				0.09
298.083	0.00	0.00	0.009	o				0.09
298.167	0.00	0.00	0.009	o				0.09
298.250	0.00	0.00	0.009	o				0.09
298.333	0.00	0.00	0.009	o				0.09
298.417	0.00	0.00	0.009	o				0.09
298.500	0.00	0.00	0.009	o				0.09
298.583	0.00	0.00	0.009	o				0.09
298.667	0.00	0.00	0.009	o				0.09
298.750	0.00	0.00	0.009	o				0.09
298.833	0.00	0.00	0.009	o				0.09
298.917	0.00	0.00	0.009	o				0.09
299.000	0.00	0.00	0.009	o				0.09
299.083	0.00	0.00	0.009	o				0.09
299.167	0.00	0.00	0.009	o				0.09
299.250	0.00	0.00	0.009	o				0.09
299.333	0.00	0.00	0.009	o				0.09
299.417	0.00	0.00	0.009	o				0.09
299.500	0.00	0.00	0.009	o				0.09
299.583	0.00	0.00	0.009	o				0.09
299.667	0.00	0.00	0.009	o				0.09
299.750	0.00	0.00	0.009	o				0.09
299.833	0.00	0.00	0.009	o				0.09
299.917	0.00	0.00	0.009	o				0.09
300.000	0.00	0.00	0.009	o				0.09
300.083	0.00	0.00	0.009	o				0.09
300.167	0.00	0.00	0.009	o				0.09
300.250	0.00	0.00	0.009	o				0.09
300.333	0.00	0.00	0.009	o				0.09
300.417	0.00	0.00	0.009	o				0.09
300.500	0.00	0.00	0.009	o				0.09
300.583	0.00	0.00	0.009	o				0.09
300.667	0.00	0.00	0.009	o				0.09
300.750	0.00	0.00	0.009	o				0.09
300.833	0.00	0.00	0.009	o				0.09
300.917	0.00	0.00	0.009	o				0.09
301.000	0.00	0.00	0.009	o				0.09
301.083	0.00	0.00	0.009	o				0.09
301.167	0.00	0.00	0.009	o				0.09
301.250	0.00	0.00	0.009	o				0.09
301.333	0.00	0.00	0.009	o				0.09
301.417	0.00	0.00	0.009	o				0.09
301.500	0.00	0.00	0.009	o				0.09
301.583	0.00	0.00	0.009	o				0.09
301.667	0.00	0.00	0.009	o				0.09
301.750	0.00	0.00	0.009	o				0.09
301.833	0.00	0.00	0.009	o				0.09
301.917	0.00	0.00	0.009	o				0.09
302.000	0.00	0.00	0.009	o				0.09
302.083	0.00	0.00	0.009	o				0.09
302.167	0.00	0.00	0.009	o				0.09
302.250	0.00	0.00	0.009	o				0.09
302.333	0.00	0.00	0.009	o				0.09
302.417	0.00	0.00	0.009	o				0.09
302.500	0.00	0.00	0.009	o				0.08
302.583	0.00	0.00	0.009	o				0.08
302.667	0.00	0.00	0.009	o				0.08
302.750	0.00	0.00	0.009	o				0.08
302.833	0.00	0.00	0.009	o				0.08
302.917	0.00	0.00	0.009	o				0.08
303.000	0.00	0.00	0.009	o				0.08
303.083	0.00	0.00	0.009	o				0.08
303.167	0.00	0.00	0.009	o				0.08
303.250	0.00	0.00	0.009	o				0.08

303.333	0.00	0.00	0.009	o				0.08
303.417	0.00	0.00	0.009	o				0.08
303.500	0.00	0.00	0.009	o				0.08
303.583	0.00	0.00	0.009	o				0.08
303.667	0.00	0.00	0.008	o				0.08
303.750	0.00	0.00	0.008	o				0.08
303.833	0.00	0.00	0.008	o				0.08
303.917	0.00	0.00	0.008	o				0.08
304.000	0.00	0.00	0.008	o				0.08
304.083	0.00	0.00	0.008	o				0.08
304.167	0.00	0.00	0.008	o				0.08
304.250	0.00	0.00	0.008	o				0.08
304.333	0.00	0.00	0.008	o				0.08
304.417	0.00	0.00	0.008	o				0.08
304.500	0.00	0.00	0.008	o				0.08
304.583	0.00	0.00	0.008	o				0.08
304.667	0.00	0.00	0.008	o				0.08
304.750	0.00	0.00	0.008	o				0.08
304.833	0.00	0.00	0.008	o				0.08
304.917	0.00	0.00	0.008	o				0.08
305.000	0.00	0.00	0.008	o				0.08
305.083	0.00	0.00	0.008	o				0.08
305.167	0.00	0.00	0.008	o				0.08
305.250	0.00	0.00	0.008	o				0.08
305.333	0.00	0.00	0.008	o				0.08
305.417	0.00	0.00	0.008	o				0.08
305.500	0.00	0.00	0.008	o				0.08
305.583	0.00	0.00	0.008	o				0.08
305.667	0.00	0.00	0.008	o				0.08
305.750	0.00	0.00	0.008	o				0.08
305.833	0.00	0.00	0.008	o				0.08
305.917	0.00	0.00	0.008	o				0.08
306.000	0.00	0.00	0.008	o				0.08
306.083	0.00	0.00	0.008	o				0.08
306.167	0.00	0.00	0.008	o				0.08
306.250	0.00	0.00	0.008	o				0.08
306.333	0.00	0.00	0.008	o				0.08
306.417	0.00	0.00	0.008	o				0.08
306.500	0.00	0.00	0.008	o				0.08
306.583	0.00	0.00	0.008	o				0.08
306.667	0.00	0.00	0.008	o				0.08
306.750	0.00	0.00	0.008	o				0.08
306.833	0.00	0.00	0.008	o				0.08
306.917	0.00	0.00	0.008	o				0.08
307.000	0.00	0.00	0.008	o				0.08
307.083	0.00	0.00	0.008	o				0.08
307.167	0.00	0.00	0.008	o				0.08
307.250	0.00	0.00	0.008	o				0.08
307.333	0.00	0.00	0.008	o				0.08
307.417	0.00	0.00	0.008	o				0.08
307.500	0.00	0.00	0.008	o				0.08
307.583	0.00	0.00	0.008	o				0.08
307.667	0.00	0.00	0.008	o				0.08
307.750	0.00	0.00	0.008	o				0.08
307.833	0.00	0.00	0.008	o				0.08
307.917	0.00	0.00	0.008	o				0.08
308.000	0.00	0.00	0.008	o				0.08
308.083	0.00	0.00	0.008	o				0.08
308.167	0.00	0.00	0.008	o				0.08
308.250	0.00	0.00	0.008	o				0.08
308.333	0.00	0.00	0.008	o				0.08
308.417	0.00	0.00	0.008	o				0.08
308.500	0.00	0.00	0.008	o				0.08
308.583	0.00	0.00	0.008	o				0.08
308.667	0.00	0.00	0.008	o				0.08
308.750	0.00	0.00	0.008	o				0.08
308.833	0.00	0.00	0.008	o				0.08
308.917	0.00	0.00	0.008	o				0.08
309.000	0.00	0.00	0.008	o				0.08
309.083	0.00	0.00	0.008	o				0.08
309.167	0.00	0.00	0.008	o				0.08
309.250	0.00	0.00	0.008	o				0.08
309.333	0.00	0.00	0.008	o				0.08
309.417	0.00	0.00	0.008	o				0.08
309.500	0.00	0.00	0.008	o				0.08
309.583	0.00	0.00	0.008	o				0.08
309.667	0.00	0.00	0.008	o				0.08
309.750	0.00	0.00	0.008	o				0.08
309.833	0.00	0.00	0.008	o				0.08

309.917	0.00	0.00	0.008	o				0.08
310.000	0.00	0.00	0.008	o				0.08
310.083	0.00	0.00	0.008	o				0.08
310.167	0.00	0.00	0.008	o				0.07
310.250	0.00	0.00	0.008	o				0.07
310.333	0.00	0.00	0.008	o				0.07
310.417	0.00	0.00	0.008	o				0.07
310.500	0.00	0.00	0.008	o				0.07
310.583	0.00	0.00	0.008	o				0.07
310.667	0.00	0.00	0.008	o				0.07
310.750	0.00	0.00	0.008	o				0.07
310.833	0.00	0.00	0.008	o				0.07
310.917	0.00	0.00	0.008	o				0.07
311.000	0.00	0.00	0.008	o				0.07
311.083	0.00	0.00	0.008	o				0.07
311.167	0.00	0.00	0.008	o				0.07
311.250	0.00	0.00	0.008	o				0.07
311.333	0.00	0.00	0.008	o				0.07
311.417	0.00	0.00	0.007	o				0.07
311.500	0.00	0.00	0.007	o				0.07
311.583	0.00	0.00	0.007	o				0.07
311.667	0.00	0.00	0.007	o				0.07
311.750	0.00	0.00	0.007	o				0.07
311.833	0.00	0.00	0.007	o				0.07
311.917	0.00	0.00	0.007	o				0.07
312.000	0.00	0.00	0.007	o				0.07
312.083	0.00	0.00	0.007	o				0.07
312.167	0.00	0.00	0.007	o				0.07
312.250	0.00	0.00	0.007	o				0.07
312.333	0.00	0.00	0.007	o				0.07
312.417	0.00	0.00	0.007	o				0.07
312.500	0.00	0.00	0.007	o				0.07
312.583	0.00	0.00	0.007	o				0.07
312.667	0.00	0.00	0.007	o				0.07
312.750	0.00	0.00	0.007	o				0.07
312.833	0.00	0.00	0.007	o				0.07
312.917	0.00	0.00	0.007	o				0.07
313.000	0.00	0.00	0.007	o				0.07
313.083	0.00	0.00	0.007	o				0.07
313.167	0.00	0.00	0.007	o				0.07
313.250	0.00	0.00	0.007	o				0.07
313.333	0.00	0.00	0.007	o				0.07
313.417	0.00	0.00	0.007	o				0.07
313.500	0.00	0.00	0.007	o				0.07
313.583	0.00	0.00	0.007	o				0.07
313.667	0.00	0.00	0.007	o				0.07
313.750	0.00	0.00	0.007	o				0.07
313.833	0.00	0.00	0.007	o				0.07
313.917	0.00	0.00	0.007	o				0.07
314.000	0.00	0.00	0.007	o				0.07
314.083	0.00	0.00	0.007	o				0.07
314.167	0.00	0.00	0.007	o				0.07
314.250	0.00	0.00	0.007	o				0.07
314.333	0.00	0.00	0.007	o				0.07
314.417	0.00	0.00	0.007	o				0.07
314.500	0.00	0.00	0.007	o				0.07
314.583	0.00	0.00	0.007	o				0.07
314.667	0.00	0.00	0.007	o				0.07
314.750	0.00	0.00	0.007	o				0.07
314.833	0.00	0.00	0.007	o				0.07
314.917	0.00	0.00	0.007	o				0.07
315.000	0.00	0.00	0.007	o				0.07
315.083	0.00	0.00	0.007	o				0.07
315.167	0.00	0.00	0.007	o				0.07
315.250	0.00	0.00	0.007	o				0.07
315.333	0.00	0.00	0.007	o				0.07
315.417	0.00	0.00	0.007	o				0.07
315.500	0.00	0.00	0.007	o				0.07
315.583	0.00	0.00	0.007	o				0.07
315.667	0.00	0.00	0.007	o				0.07
315.750	0.00	0.00	0.007	o				0.07
315.833	0.00	0.00	0.007	o				0.07
315.917	0.00	0.00	0.007	o				0.07
316.000	0.00	0.00	0.007	o				0.07
316.083	0.00	0.00	0.007	o				0.07
316.167	0.00	0.00	0.007	o				0.07
316.250	0.00	0.00	0.007	o				0.07
316.333	0.00	0.00	0.007	o				0.07
316.417	0.00	0.00	0.007	o				0.07

316.500	0.00	0.00	0.007	o					0.07
316.583	0.00	0.00	0.007	o					0.07
316.667	0.00	0.00	0.007	o					0.07
316.750	0.00	0.00	0.007	o					0.07
316.833	0.00	0.00	0.007	o					0.07
316.917	0.00	0.00	0.007	o					0.07
317.000	0.00	0.00	0.007	o					0.07
317.083	0.00	0.00	0.007	o					0.07
317.167	0.00	0.00	0.007	o					0.07
317.250	0.00	0.00	0.007	o					0.07
317.333	0.00	0.00	0.007	o					0.07
317.417	0.00	0.00	0.007	o					0.07
317.500	0.00	0.00	0.007	o					0.07
317.583	0.00	0.00	0.007	o					0.07
317.667	0.00	0.00	0.007	o					0.07
317.750	0.00	0.00	0.007	o					0.07
317.833	0.00	0.00	0.007	o					0.07
317.917	0.00	0.00	0.007	o					0.07
318.000	0.00	0.00	0.007	o					0.07
318.083	0.00	0.00	0.007	o					0.07
318.167	0.00	0.00	0.007	o					0.07
318.250	0.00	0.00	0.007	o					0.07
318.333	0.00	0.00	0.007	o					0.07
318.417	0.00	0.00	0.007	o					0.07
318.500	0.00	0.00	0.007	o					0.07
318.583	0.00	0.00	0.007	o					0.07
318.667	0.00	0.00	0.007	o					0.07
318.750	0.00	0.00	0.007	o					0.07
318.833	0.00	0.00	0.007	o					0.07
318.917	0.00	0.00	0.007	o					0.07
319.000	0.00	0.00	0.007	o					0.06
319.083	0.00	0.00	0.007	o					0.06
319.167	0.00	0.00	0.007	o					0.06
319.250	0.00	0.00	0.007	o					0.06
319.333	0.00	0.00	0.007	o					0.06
319.417	0.00	0.00	0.007	o					0.06
319.500	0.00	0.00	0.007	o					0.06
319.583	0.00	0.00	0.007	o					0.06
319.667	0.00	0.00	0.007	o					0.06
319.750	0.00	0.00	0.007	o					0.06
319.833	0.00	0.00	0.007	o					0.06
319.917	0.00	0.00	0.007	o					0.06
320.000	0.00	0.00	0.007	o					0.06
320.083	0.00	0.00	0.007	o					0.06
320.167	0.00	0.00	0.007	o					0.06
320.250	0.00	0.00	0.006	o					0.06
320.333	0.00	0.00	0.006	o					0.06
320.417	0.00	0.00	0.006	o					0.06
320.500	0.00	0.00	0.006	o					0.06
320.583	0.00	0.00	0.006	o					0.06
320.667	0.00	0.00	0.006	o					0.06
320.750	0.00	0.00	0.006	o					0.06
320.833	0.00	0.00	0.006	o					0.06
320.917	0.00	0.00	0.006	o					0.06
321.000	0.00	0.00	0.006	o					0.06
321.083	0.00	0.00	0.006	o					0.06
321.167	0.00	0.00	0.006	o					0.06
321.250	0.00	0.00	0.006	o					0.06
321.333	0.00	0.00	0.006	o					0.06
321.417	0.00	0.00	0.006	o					0.06
321.500	0.00	0.00	0.006	o					0.06
321.583	0.00	0.00	0.006	o					0.06
321.667	0.00	0.00	0.006	o					0.06
321.750	0.00	0.00	0.006	o					0.06
321.833	0.00	0.00	0.006	o					0.06
321.917	0.00	0.00	0.006	o					0.06
322.000	0.00	0.00	0.006	o					0.06
322.083	0.00	0.00	0.006	o					0.06
322.167	0.00	0.00	0.006	o					0.06
322.250	0.00	0.00	0.006	o					0.06
322.333	0.00	0.00	0.006	o					0.06
322.417	0.00	0.00	0.006	o					0.06
322.500	0.00	0.00	0.006	o					0.06
322.583	0.00	0.00	0.006	o					0.06
322.667	0.00	0.00	0.006	o					0.06
322.750	0.00	0.00	0.006	o					0.06
322.833	0.00	0.00	0.006	o					0.06
322.917	0.00	0.00	0.006	o					0.06
323.000	0.00	0.00	0.006	o					0.06

323.083	0.00	0.00	0.006	o				0.06
323.167	0.00	0.00	0.006	o				0.06
323.250	0.00	0.00	0.006	o				0.06
323.333	0.00	0.00	0.006	o				0.06
323.417	0.00	0.00	0.006	o				0.06
323.500	0.00	0.00	0.006	o				0.06
323.583	0.00	0.00	0.006	o				0.06
323.667	0.00	0.00	0.006	o				0.06
323.750	0.00	0.00	0.006	o				0.06
323.833	0.00	0.00	0.006	o				0.06
323.917	0.00	0.00	0.006	o				0.06
324.000	0.00	0.00	0.006	o				0.06
324.083	0.00	0.00	0.006	o				0.06
324.167	0.00	0.00	0.006	o				0.06
324.250	0.00	0.00	0.006	o				0.06
324.333	0.00	0.00	0.006	o				0.06
324.417	0.00	0.00	0.006	o				0.06
324.500	0.00	0.00	0.006	o				0.06
324.583	0.00	0.00	0.006	o				0.06
324.667	0.00	0.00	0.006	o				0.06
324.750	0.00	0.00	0.006	o				0.06
324.833	0.00	0.00	0.006	o				0.06
324.917	0.00	0.00	0.006	o				0.06
325.000	0.00	0.00	0.006	o				0.06
325.083	0.00	0.00	0.006	o				0.06
325.167	0.00	0.00	0.006	o				0.06
325.250	0.00	0.00	0.006	o				0.06
325.333	0.00	0.00	0.006	o				0.06
325.417	0.00	0.00	0.006	o				0.06
325.500	0.00	0.00	0.006	o				0.06
325.583	0.00	0.00	0.006	o				0.06
325.667	0.00	0.00	0.006	o				0.06
325.750	0.00	0.00	0.006	o				0.06
325.833	0.00	0.00	0.006	o				0.06
325.917	0.00	0.00	0.006	o				0.06
326.000	0.00	0.00	0.006	o				0.06
326.083	0.00	0.00	0.006	o				0.06
326.167	0.00	0.00	0.006	o				0.06
326.250	0.00	0.00	0.006	o				0.06
326.333	0.00	0.00	0.006	o				0.06
326.417	0.00	0.00	0.006	o				0.06
326.500	0.00	0.00	0.006	o				0.06
326.583	0.00	0.00	0.006	o				0.06
326.667	0.00	0.00	0.006	o				0.06
326.750	0.00	0.00	0.006	o				0.06
326.833	0.00	0.00	0.006	o				0.06
326.917	0.00	0.00	0.006	o				0.06
327.000	0.00	0.00	0.006	o				0.06
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327.833	0.00	0.00	0.006	o				0.06
327.917	0.00	0.00	0.006	o				0.06
328.000	0.00	0.00	0.006	o				0.06
328.083	0.00	0.00	0.006	o				0.06
328.167	0.00	0.00	0.006	o				0.06
328.250	0.00	0.00	0.006	o				0.06
328.333	0.00	0.00	0.006	o				0.06
328.417	0.00	0.00	0.006	o				0.06
328.500	0.00	0.00	0.006	o				0.06
328.583	0.00	0.00	0.006	o				0.06
328.667	0.00	0.00	0.006	o				0.06
328.750	0.00	0.00	0.006	o				0.06
328.833	0.00	0.00	0.006	o				0.06
328.917	0.00	0.00	0.006	o				0.06
329.000	0.00	0.00	0.006	o				0.06
329.083	0.00	0.00	0.006	o				0.06
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329.250	0.00	0.00	0.006	o				0.06
329.333	0.00	0.00	0.006	o				0.05
329.417	0.00	0.00	0.006	o				0.05
329.500	0.00	0.00	0.006	o				0.05
329.583	0.00	0.00	0.006	o				0.05

329.667	0.00	0.00	0.006	o	|	|	|	|	0.05
329.750	0.00	0.00	0.006	o	|	|	|	|	0.05
329.833	0.00	0.00	0.006	o	|	|	|	|	0.05
329.917	0.00	0.00	0.006	o	|	|	|	|	0.05
330.000	0.00	0.00	0.006	o	|	|	|	|	0.05
330.083	0.00	0.00	0.006	o	|	|	|	|	0.05
330.167	0.00	0.00	0.006	o	|	|	|	|	0.05
330.250	0.00	0.00	0.006	o	|	|	|	|	0.05
330.333	0.00	0.00	0.006	o	|	|	|	|	0.05
330.417	0.00	0.00	0.006	o	|	|	|	|	0.05
330.500	0.00	0.00	0.006	o	|	|	|	|	0.05
330.583	0.00	0.00	0.005	o	|	|	|	|	0.05
330.667	0.00	0.00	0.005	o	|	|	|	|	0.05
330.750	0.00	0.00	0.005	o	|	|	|	|	0.05
330.833	0.00	0.00	0.005	o	|	|	|	|	0.05
330.917	0.00	0.00	0.005	o	|	|	|	|	0.05
331.000	0.00	0.00	0.005	o	|	|	|	|	0.05
331.083	0.00	0.00	0.005	o	|	|	|	|	0.05
331.167	0.00	0.00	0.005	o	|	|	|	|	0.05
331.250	0.00	0.00	0.005	o	|	|	|	|	0.05
331.333	0.00	0.00	0.005	o	|	|	|	|	0.05
331.417	0.00	0.00	0.005	o	|	|	|	|	0.05
331.500	0.00	0.00	0.005	o	|	|	|	|	0.05
331.583	0.00	0.00	0.005	o	|	|	|	|	0.05
331.667	0.00	0.00	0.005	o	|	|	|	|	0.05
331.750	0.00	0.00	0.005	o	|	|	|	|	0.05
331.833	0.00	0.00	0.005	o	|	|	|	|	0.05
331.917	0.00	0.00	0.005	o	|	|	|	|	0.05
332.000	0.00	0.00	0.005	o	|	|	|	|	0.05
332.083	0.00	0.00	0.005	o	|	|	|	|	0.05
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332.250	0.00	0.00	0.005	o	|	|	|	|	0.05
332.333	0.00	0.00	0.005	o	|	|	|	|	0.05
332.417	0.00	0.00	0.005	o	|	|	|	|	0.05
332.500	0.00	0.00	0.005	o	|	|	|	|	0.05
332.583	0.00	0.00	0.005	o	|	|	|	|	0.05
332.667	0.00	0.00	0.005	o	|	|	|	|	0.05
332.750	0.00	0.00	0.005	o	|	|	|	|	0.05
332.833	0.00	0.00	0.005	o	|	|	|	|	0.05
332.917	0.00	0.00	0.005	o	|	|	|	|	0.05
333.000	0.00	0.00	0.005	o	|	|	|	|	0.05
333.083	0.00	0.00	0.005	o	|	|	|	|	0.05
333.167	0.00	0.00	0.005	o	|	|	|	|	0.05
333.250	0.00	0.00	0.005	o	|	|	|	|	0.05
333.333	0.00	0.00	0.005	o	|	|	|	|	0.05
333.417	0.00	0.00	0.005	o	|	|	|	|	0.05
333.500	0.00	0.00	0.005	o	|	|	|	|	0.05
333.583	0.00	0.00	0.005	o	|	|	|	|	0.05
333.667	0.00	0.00	0.005	o	|	|	|	|	0.05
333.750	0.00	0.00	0.005	o	|	|	|	|	0.05
333.833	0.00	0.00	0.005	o	|	|	|	|	0.05
333.917	0.00	0.00	0.005	o	|	|	|	|	0.05
334.000	0.00	0.00	0.005	o	|	|	|	|	0.05
334.083	0.00	0.00	0.005	o	|	|	|	|	0.05
334.167	0.00	0.00	0.005	o	|	|	|	|	0.05
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334.333	0.00	0.00	0.005	o	|	|	|	|	0.05
334.417	0.00	0.00	0.005	o	|	|	|	|	0.05
334.500	0.00	0.00	0.005	o	|	|	|	|	0.05
334.583	0.00	0.00	0.005	o	|	|	|	|	0.05
334.667	0.00	0.00	0.005	o	|	|	|	|	0.05
334.750	0.00	0.00	0.005	o	|	|	|	|	0.05
334.833	0.00	0.00	0.005	o	|	|	|	|	0.05
334.917	0.00	0.00	0.005	o	|	|	|	|	0.05
335.000	0.00	0.00	0.005	o	|	|	|	|	0.05
335.083	0.00	0.00	0.005	o	|	|	|	|	0.05
335.167	0.00	0.00	0.005	o	|	|	|	|	0.05

**********HYDROGRAPH DATA**********

Number of intervals = 4022
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 3.618 (CFS)
Total volume = 2.169 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

APPENDIX E

HYDRAULIC DATA

STA TO STA	Q	S_o	Z	B	n	dn	Vn	dc	Vc
18+00 TO 15+00	3100	010	RCB	16 0	014	73	25 1	10 56	18 30
15+00 TO 14 00	3100	080	RCB	16 0	014	448	43 2	10 56	18 30
14+00 TO 13+30	3100	010	RCB	16 0	014	773	25 1	10 56	18 30
13+00 TO 12+80	3100	010	VARIES	16 0	015	—	—	—	—
12+80 TO 11+50	3100	010	2 0	16 0	030	755	13 2	7 68	12 87

PROFILE SCALES
HORIZ 1 40
VERT 1 4

PLAN
1" 40

SECTION (13+30 TO 18+00)
NO SCALE

SECTION (11+50 TO 12+80)
NO SCALE

TYP LATERAL PROFILE
NO SCALE

SD STA	(A)	(B)	(C)	(D)	CB R	CB
13+48	89 06	84 06	83 50	140	100'	5 0
13 92	89 12	84 12	83 50	155	100'	5 0
16+21	95 15	89 15	88 50	093	100'	6 0
16+66	95 15	90 15	89 50	163	100	5 0

CURVE DATA

CURVE Nº	DELTA	RADIUS	LENGTH	TANGENT
(1)	5° 12 11	600 00	54 49	27 26

C N RUC N NOT
H N CR K H NN L (R LT)

- C N RU X R XC NDU ER LAN R LE ND N H HEE ND S UC URAL D TA LS N HEET N
- C N UC UTL RAN T N UCTUR R LAN ND R LE TH HEET ND RUC URAL T L N H N
- N UCT H K R RA LAN L ND EC N VARY B DTH ND D LOP FROM T +0 TO N X N NV ND NK
- C N T U XM NH LE R E M T NDARD LAN NO
- REMOVE X T N R PRAP ROUTED RAP ND M N S RY FOR CON TRUCTI N
- LA MP CT D LL L M H N LAN TH HEET ND GRAD DRA N T CH NNEL
- (1) C N RUC NL TYP V R M ND D LAN N (∅ D = D L L_2) W TH L R (D)
- C N TRUC L F N E LON CH NN L / E M D LAN N
- N RU L ENCE LON H WALL ND RAN T N LLS R M D LAN N
- CON UCT x L G T P M D LAN N
- C N RU x L GA R M LAN N
- C N U NL T YP H LOC L DEPR ON M TD LAN ND (V ND R LAN) LATERAL PR F L H HE

REVISIONS

BENCH MARK	ELEV
ALUM NUM C LINE RT G H Y T CA CH B N	SID N D RO N F C N NW C RN R X C N

CITY OF SAN JUAN CAPISTRANO
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

ORTEGA PROPERTIES ASSESSMENT DISTRICT AD 78 3

HORNO CREEK CHANNEL (RCB ALTERNATE)

11 08 TO 18 00

PA Y
WILLDAN ASSOCIATES
N HE M L ( ) 7 4
MICHAEL A. CURTIN 9 11/8/79

AW G | GNED M | HE M | H MA.

EN 23405 AT 23-80

SHEET 43 OF 92

OCFCD DWG NO LO5-701 1 SHEET 2 OF 11

Paseo Tirador TTM 18148

San Juan Capistrano, California

PRELIMINARY WATER QUALITY MANAGEMENT PLAN (PWQMP)

PREPARED FOR:

San Juan Tirador, LLC

520 Newport Center Drive, Suite 780

Newport Beach, CA 92660

949.723.8989

Date Prepared: 11/2017

Date Revised: 1/2019

PREPARED BY:

X Engineering & Consulting, Inc.

6 Hutton Centre Drive, Suite 650

Santa Ana, California 92707

949.522.7100

Project Manager: Puneet Comar, P.E., Q.S.D.

Project Number:

ENGINEERING & CONSULTING

Preliminary Water Quality Management Plan (WQMP)

Project Name:

Paseo Tirador TTM 18148

Prepared for:

San Juan Tirador, LLC

520 Newport Center Drive, Suite 780

Newport Beach, CA 92660

949.723.8989

Prepared by:

X Engineering & Consulting, Inc.

Engineer: Puneet Comar

Registration No. 73065

6 Hutton Centre Drive, Suite 650

Santa Ana, CA, 92707

949.522.7100

Engineer's Seal

Prepared on:

11/2017

Project Owner's Certification			
Permit/Application No.	AC 17-033 CA 17-005	Grading Permit No.	
Tract/Parcel Map No.	18148	Building Permit No.	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract)			666-131-07 666-131-09 666-131-13 666-131-14 666-131-15 666-131-16

This Water Quality Management Plan (WQMP) has been prepared for San Juan Tirador, LLC by X Engineering & Consulting. The WQMP is intended to comply with the requirements of the local NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the San Diego Region (South Orange County). Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner/Developer: Efrem Joelson			
Title	Director of Forward Planning		
Company	San Juan Tirador, LLC		
Address	520 Newport Center Drive, Suite 780 Newport Beach, CA 92660		
Email	ejoelson@wattcompanies.com		
Telephone #	949.723.8989		
Signature		Date	

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Section 1 Discretionary Permit(s) and Water Quality Conditions

Project Infomation			
Permit/Application No.	AC 17-033 CA 17-005	Site Address or Tract/Parcel Map No.	TTM 18148
Additional Information/ Comments:			

Water Quality Conditions	
Water Quality Conditions from prior approvals or applicable watershed-based plans	A previous project was approved for this site in 2008 with conditions of approval. The previous plan for an office park is no longer applicable as this project proposes a residential development. At this stage of entitlements, no conditions have been issued. Per South Orange County Water Quality Improvement Plan approved on June 20, 2018, following conditions apply to San Juan Creek: Highest Priority Water Quality Conditions (HPWQCs): • Channel Erosion and Associated Geomorphic Impacts; • Unnatural Water Balance /Flow Regime. Pollutants: San Juan Creek is listed in the 2010 303(d) List of Impaired Waters and has TMDLs for the following pollutants [() indicates proposed TMDL completion): • DDE (2019) • Indicator Bacteria (2019) • Phosphorus (2021)

	• Selenium (2021) • Total Nitrogen as N (2021) • Toxicity (2021) Highest Priority Water Quality Conditions (HPWQCs): San Juan is exempt from the Hydromodification Conditions of Concern (HCOC)

Section 2 Project Description

2.1 General Description

Description of Proposed Project		
Site Location	33°29'54.26"N 117°39'25.11"W Refer to WQMP Site Plan in Attachment C.	
Project Area (ft²): 455202	Number of Dwelling Units: 132	SIC Code: N/A
Narrative Project Description:	The subject site consists of approximately 16.55 gross acres located in the center of the City of San Juan Capistrano, CA. The subject site is made up of parcels with six APNs: 666-131-07, 666-131-09, 666-131-13, 666-131-14, 666-131-15, and 666-131-16. The south and east portions of the site are bounded by the San Juan Creek, the west by the San Diego Freeway, and to the north by Calle Arroyo along with commercial developments. A scour wall is located along the east side of the subject site which provides protection for San Juan Creek. The northwest corner is currently under construction for a planned 24 Hour Fitness Center. Based on available imagery obtained through previous reports, the subject site currently is and has been vacant since at least 1994. No available documentation suggests the subject site has been previously developed. The project site is vacant with Paseo Tirador running along the east side of the property. Paseo Tirador is a two lane paved road and was approved by the City of San Juan Capistrano in 1980, and recently vacated. The San Juan Creek trail connects to Paseo Tirador and runs along the southeast portion of the site. The trail exits the south side of the developable area and continues under the San Diego Freeway. The land developer is proposing a residential community consisting of 132 residential dwelling units along with open space areas on 16.55 gross acres. The residential community will provide for both detached (43 units) and attached (89 units) products, and onsite amenities. A portion of the property which encompasses San Juan Creek will remain undisturbed and dedicated for conservation. All 132 units will be accessible via three entrances on Calle Arroyo. A portion of the property currently including Calle Arroyo will be dedicated to the City. The project qualifies as a priority project due to the new development of more than 10,000 square feet of impervious area. The minimum required parking spaces for the project is 384 spaces; no additional spaces above the minimum have been provided. Parking along the southerly	

	portion of the project may be constructed as pervious concrete if feasible, to be determined during final engineering. Planted and irrigated areas are proposed throughout the site. Biofiltration areas may also be introduced if feasible, to be determined during final engineering. See preliminary WQMP Site Plan in Attachment C for locations of all common landscaped areas and open space amenities. The common areas and amenities will be owned and maintained by the future Home Owner's Association (HOA). All landscaping shall be equipped with efficient irrigation systems, including smart timers and designed to city standards. Landscape pests and insect control will be implemented by the future landscape maintenance company. Trash collection will take place through a combination of both individual residential cans as well as community trash bins. Trash bins will be stored within city standard trash enclosures.			
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions	9.55 acres	91.4%	0.9 acres	8.6%
Post-Project Conditions	2.69 acres	26%	7.76 acres	74%

2.2 Post Development Drainage Characteristics

In the proposed condition, overall site drainage patterns remain the similar to the pre-project conditions. Storm flows will continue to reach San Juan Creek at two main locations, which are via the existing 27" RCP in the south west corner, and the Horno Creek Channel, a 16' wide x 8.5' tall reinforced concrete box.

The westerly side of the project (DMAs A-C), consisting of 4.90 acres will conveyed to a subsurface dual purpose water quality and detention system, located just adjacent to the 5 freeway within an open space area. Both the required Design Capture Volume (DCV) along with the peak flow storm will be conveyed to this system. Being that this area of the project is the only portion of the site that is favorable to infiltration, the required DCV will infiltrate utilizing an extended draw down time acceptable under the capture efficiency method. Peak storm volume will be detained above the DCV for flow attenuation and released at below existing condition flow rates into an existing earthen swale running along the 5 freeway where it reaches an existing 27" RCP and conveyed into San Juan Creek.

The easterly side of the project (DMAs D-G), consisting of 5.55 acres falls within areas of the project which are not suitable for infiltration due to high ground water levels, clayey type soils, as well as the proximity to an existing city owned water well within and adjacent city owned parcel. The city has stated that infiltration shall not be allowed within a 250' radius of the city parcel. Due to the infeasibility of infiltration within this area and the limited amount of irrigation demands for the proposed project, the proposed water quality treatment BMPs for the easterly side of the project are Modular Wetland Systems (MWS). All onsite runoff from the easterly portions of the proposed development will be conveyed to a MWS, prior to joining into the Horno Creek Channel. Modular Wetlands Systems are a flow based BMP and therefore a 1.5 multiplying factor has been applied to the treatment requirement. Horno Creek Channel is an existing channel, owned and maintained by the City of San Juan Capistrano, and discharges into San Juan Creek.

See WQMP Site Plan Exhibit in Attachment C.

2.3 Property Ownership/Management

The proposed project will create 5 lots under a tentative map application. Two numbered lots (1 & 2) totaling 10.54 acres will be for residential units, open space areas/common, and roadways/sidewalks. Two lettered lots (A &B) totaling 5.55 acres are made up of San Juan Creek and jurisdictional areas, which will be dedicated as conservation areas. Lot C, a portion of the property currently including Calle Arroyo will be dedicated to the City.

A future HOA shall be formed to provide maintenance of the onsite areas within lot 1 & 2, which shall include maintenance for landscaping and amenities, roadways/sidewalks, a public trail, and storm water management facilities including water quality BMPs. A detailed operations and maintenance plan will be provided within the final WQMP.

The proposed onsite sewer and water utilities providing served to the residential and common areas shall also be owned and maintained by the future HOA.

Section 3 Site & Watershed Characterization

3.1 Site Conditions

3.1.1 Existing Site Conditions

The subject site consists of approximately 16.55 gross acres located in the center of the City of San Juan Capistrano, CA. The south and east portions of the site are bounded by the San Juan Creek, the west by the San Diego Freeway, and to the north by Calle Arroyo along with commercial developments. A scour wall is located along the southeast edge of the subject site which provides protection from erosion potential caused by San Juan Creek. The northwest corner is currently under construction for a planned 24 Hour Fitness Center.

Based on available imagery obtained through previous reports, the subject site currently is and has been vacant since at least 1994. No available documentation suggest the subject site has been previously developed. The project site is vacant with Paseo Tirador running along the east side of the property. Paseo Tirador is a two lane paved road and was approved by the City of San Juan Capistrano in 1980 and recently vacated. The paved San Juan Creek trail connects to Paseo Tirador and runs along the southeast portion of the site. The trail exits the south side of the developable area and continues under the San Diego Freeway. The subject site's existing condition consists of slopes averaging 2%-5% with minimal vegetation draining toward the San Juan Creek, which runs along the southeast edge of the site. Refer to attachment C for an existing condition hydrology map.

Despite the recent construction of the adjacent fitness center, which has resulted in minor modification to the existing drainage patterns, the subject site currently conveys all onsite storm flows towards San Juan Creek within four drainage areas (A, B, C, & D); see project Preliminary Hydrology Report and refer to the existing condition hydrology map which has been included in this report for clarity. Currently, the project site accepts storm run on from the entire 2.71-acre 24 Hour Fitness site. Once construction of the 24-hour Fitness center is completed, storm runoff from its site will be intercepted within its property and conveyed via a storm drain pipe in Calle Arroyo to the Horno Creek Channel. With the exception of the 24 Hour Fitness center site, no other onsite storm run on enters the project site via overland flow.

Based upon the Flood Insurance Rate Map (FIRM), posted by the Flood Emergency Map Agency (FEMA) dated 2009, portions of the project site are located within the delineated 100 year flood area zone AE with base flood elevations provided. A floodway is also delineated by FEMA which is generally located along Horno Creek Channel and San Juan Creek. See WQMP Site Plan in Attachment C.

Storm drain facilities that capture onsite storm flows exist within the project limits.

Just outside the property limits, an existing earthen swale, located along the western edge of the subject site, running along the 5 Freeway collects any potential stormwater run-on from the westerly areas and conveys storm flows to an existing 27" RCP, which leads to San Juan Creek. The proposed project may take advantage of this existing storm drain that currently conveys onsite storm flow to San Juan Creek.

Two catch basins, located at low points within Calle Arroyo just north of the site, collect any potential run-on from the north, and join to the existing Horno Creek Channel. Horno Creek Channel is a 16' wide by 8.5' tall reinforced concrete box which bisects the project in the north/south direction and conveys storm water into the San Juan Creek. See existing plans in Attachment E.

A scour protection wall within the project limits was constructed along San Juan Creek in 2009, which will provide flood protection and soil stability for the overall project. Just downstream of the project San Juan Creek is improved as a concrete lined earthen channel with a soft bottom, however the portion adjacent to the project is an unimproved natural watercourse.

Existing Land Uses

Land Use Description	Total Area (acres)	Impervious Area (acres)	Pervious Area (acres)	Imperviousness (%)
Vacant	15.19	0.76	14.43	5%
Paseo Tirador	0.90	0.90	0	100%
Calle Arroyo	0.46	0.46	0	100%
Total	16.55	2.12	14.43	12.8%

3.1.2 Infiltration-Related Characteristics

Based upon geotechnical investigations and soil testing for infiltration, the project provides for limited areas that are feasible for infiltration. As described previously, the westerly side of the project (DMAs A, B, & C), consisting of 4.90 acres will conveyed to a subsurface dual purpose water quality and detention system, located just adjacent to the 5 freeway within an open space area. Both the required Design Capture Volume (DCV) along with the peak flow storm will be conveyed to this system. Being that this area of the project is the only portion of the site that is favorable to infiltration with a minimum infiltration rate of 0.3 in/hr, the required DCV will infiltrate utilizing an extended draw down time acceptable under the Capture Efficiency Method.

The easterly side of the project (DMAs D-G), consisting of 5.55 acres, falls within areas of the project which are not suitable for infiltration due to high ground water levels, clayey type soils, as well as the proximity to an existing city owned water well within and adjacent city owned parcel. The city has stated that infiltration shall not be allowed within a 250' distance of the city parcel boundary. Due to the infeasibility of infiltration within this area and the limited amount of irrigation demands for the proposed project, the proposed water quality treatment BMPs for the easterly side of the project are Modular Wetland Systems (MWS). All onsite runoff from the easterly portions of the proposed development will be conveyed to a MWS, prior to joining into the Horno Creek Channel. Modular Wetlands Systems are a flow based BMP and therefore a 1.5 multiplying factor has been applied to the treatment requirement.

See Attachment D for geotechnical supporting documents.

3.1.2.1 Hydrogeologic Conditions

The subject site is under the jurisdiction of the San Juan Basin Authority, Metropolitan Water District of Southern California. Ground water was found throughout the site at depths as shallow as 17' below existing grade. See Attachment D for geotechnical supporting documents.

3.1.2.2 Soil and Geologic Infiltration Characteristics

A recent soil investigation was performed in June of 2017, 6 borings were taken and soils samples were evaluated. The boring map can be found within Attachment D. Following this investigation, additional soil testing was performed in September of 2017 in order to obtain infiltration rates for the purpose of water quality mitigation. Based upon the information provided by the geotechnical engineer, the recommended unfactored rate for infiltration is 0.882 inches per hour. Attachment D.

3.1.2.3 Geotechnical Conditions

Refer to Soils Reports in Attachment D.

3.1.2.4 Summary of Infiltration Opportunities and Constraints of Existing Site

The easterly side of the project is not suitable for infiltration due to high ground water levels, clayey type soils, as well as the proximity to an existing city owned water well within and adjacent city owned parcel. The city has stated that infiltration shall not be allowed within a 250' radius of the city parcel. However on the west side, infiltration is feasible on the westerly portion of project as shown in Attachment D.

3.2 Proposed Site Development Activities

3.2.1 Overview of Site Development Activities

The land developer is proposing a residential community consisting of 132 residential dwelling units along with open space areas on 16.55 gross acres. The residential community with provide for both detached (43 units) and attached (89 units) products, and onsite amenities. A portion of the property which encompasses San Juan Creek will remain undisturbed and dedicated for conservation. All 132 units will be accessible via three entrances on Calle Arroyo.

Planted and irrigated areas are proposed throughout the site, bio filtration areas may also be introduced if feasible, to be determined during final engineering. See WQMP Site Plan in Attachment C for locations of all common landscaped areas and open space amenities. The common areas and amenities will be owned and maintained by the future Home Owner's Association (HOA). All landscaping shall be equipped with efficient irrigation systems, including smart timers and designed to city standards. Landscape pests and insect control will be implemented by the future landscape maintenance company.

Trash collection will take place through a combination of both individual residential cans as well as community trash bins. Trash bins will be stored within city standard trash enclosures.

The site will be graded such that all City of San Juan Capistrano standards are met while preserving the existing drainage pattern, when possible. Currently, the project site accepts storm run on from the entire 2.71-acre 24 Hour Fitness site. Once construction of the 24-hour Fitness center is completed, storm runoff from its site will be intercepted within its property and conveyed via a storm drain pipe in Calle Arroyo to the Horno Creek Channel. With the exception of the 24 Hour Fitness center site, no other adjacent development interfaces with the project.

Adjacent properties shall not be impacted by the proposed development.

3.2.2 Project Attributes Influencing Stormwater Management

As described in Sections 3.1 and 3.2.1, the site is proposed to be developed into a residential community. Refer to WQMP Site Plan in Attachment C for visual site description.

Proposed Land Uses				
Land Use Description	Total Area (acres)	Impervious Area (acres)	Pervious Area (acres)	Imperviousness (%)
Attached Residential	5.38	4.03	1.35	75%
Detached Residential	5.07	3.83	1.24	76%
Total	10.45	7.86	2.62	75%

3.2.3 Effects on Infiltration and Harvest and Use Feasibility

Infiltration is only feasible in the westerly portion of the project adjacent to Interstate 5 as described previously in section 3.1.2 Furthermore, compacted fill is required to keep the site above the base flood elevations which further reduces opportunities for infiltration.

For the easterly portion of the project, proposed landscaping will not provide irrigation demands to support harvest and use, furthermore it would not be economically feasible for the site. Therefore, bio-filtration is proposed.

3.3 Receiving Waterbodies

Stormwater will drain into the San Juan Creek, which will discharge the stormwater into the Pacific Ocean through the mouth of the San Juan Creek. The table below shows the 303(d) listings and TMDLs for each of the receiving waterbodies. The San Juan Creek is an environmentally sensitive area (ESA).

Receiving Waterbodies	303(d) Listing	TMDLs
San Juan Creek	DDE Indicator Bacteria Phosphorus Selenium Total Nitrogen as N Toxicity	Indicator Bacteria

	Benthic Community Effects Dissolved Oxygen	
San Juan Creek (mouth)	Indicator Bacteria Cadmium Copper Nickel Total Ammonia	Indicator Bacteria
Pacific Ocean Shoreline, Lower San Juan HSA, at San Juan Creek	Enterococcus Fecal Coliform Total Coliform	Enterococcus Fecal Coliform Total Coliform

3.4 Stormwater Pollutants of Conditions of Concern

Pollutants or Conditions of Concern				
Pollutant	Expected from Proposed Land Uses/Activities (Yes or No)	Receiving Waterbody Impaired (Yes or No)	Priority Pollutant from WQIP or other Water Quality Condition? (Yes or No)	**Pollutant of Concern (Primary, Other, or No)**
Suspended-Solids	Yes	No	Yes	Primary
Nutrients	Yes	Yes	Yes	Primary
Heavy Metals	No	Yes	No	No
Bacteria/Virus/Pathogens	Yes	Yes	Yes	Primary
Pesticides	Yes	Yes	Yes	Primary
Oil and Grease	Yes	No	No	Other
Toxic Organic Compounds	No	Yes	Yes	Primary

Trash and Debris	Yes	No	Yes	Primary
Dry Weather Runoff	Yes	No	Yes	Primary

3.5 Hydrologic Conditions of Concern

Does a hydrologic condition of concern exist for this project?

☒ No – An HCOC does not exist for this receiving water because:

☐ Project discharges directly to a protected conveyance (bed and bank are concrete lined the entire way from the point(s) of discharge to a receiving lake, reservoir, embayment, or the Ocean

☐ Project discharges directly to storm drains which discharge directly to a reservoir, lake, embayment, ocean or protected conveyance (as described above)

☒ The project discharges to an area identified in the WMAA as exempt from hydromodification concerns. See Attachment D for exemption map.

☐ Yes – An HCOC does exist for this receiving water because none of the above are applicable.

The proposed development discharges directly into San Juan Creek, which is classified as a large river based on the WMAA map provided in Attachment D. At the time of the writing of this report, the RWQCB has approved the Water Quality Improvement Plan (WQIP), which includes the HCOC exemptions for the 2017 MS4 permit. This project is exempt from hydromodification control requirements based upon provision E.3.c.(2) of the permit based upon the large rivers exemption and shown on table 3-27 of the WQIP.

3.6 Critical Course Sediment Yield Areas

Based on narrative in section 3.5, CCSYA analysis is not necessary due to the project's exemption from HCOC concerns.

Section 4 Site Plan and Drainage Plan

4.1 Drainage Management Area Delineation

Refer to Attachment C for WQMP Site Plan exhibit delineating DMAs, BMP locations, impervious and pervious areas, and site features. As described in Sections 3.1 and 3.2, the site is highly constrained. To devise a water quality treatment solution for the development, the site was divided into DMAs A-G based on existing flow patterns, proposed, grading, and other site constraints. Infiltration capacity in the westerly portion of the site was maximized by directing proposed storm flows for the westerly portion of the site towards the proposed infiltration BMP. The remaining portion of the site, for which infiltration and harvest and use is not feasible, is proposed to be treated for water quality mitigation with biofiltration BMPs.

4.2 Overall Site Design BMPs

Minimize Impervious Area – Impervious area will be minimized by reducing the area of sidewalks on-site and maximize the amount of landscaping. All streets and sidewalks will be constructed to the minimum widths to maximize the amount of pervious area.

Maximize Natural Infiltration Capacity – The infiltration capacity of the native soils is maximized by implementation of LID infiltration BMPs.

Preserve Existing Drainage Patterns and Time of Concentration – Existing condition drainage patterns, both localized and regional, are preserved.

Disconnect Impervious Areas – Impervious areas will be disconnected where possible

Protect Existing Vegetation and Sensitive Areas – The jurisdictional area within the site boundary will not be disturbed. Two parcels are to be dedicated to the City for conservation purposes.

Revegetate Disturbed Areas - Landscaping consultant will implement native species on disturbed area as applicable per separate plan.

Soil Stockpiling and Site Generated Organics – To be implemented in final WQMP as applicable.

Firescaping – N/A

Water Efficient Landscaping - Landscaping consultant to implement water efficient landscaping areas as applicable per separate plan.

Slopes and Channel Buffers – Discharge at top of slopes is minimized and energy dissipaters are provided at new outlets.

4.3 DMA Characteristics and Site Design BMPs

4.3.1 DMAs A-B

Located on the western side of the development area, proposed water quality and peak storm runoff from DMAs A and B are tributary to the WQ/Detention facility on the west side of the project. Since this westerly pocket of land is the only feasible infiltration location on the site, the project maximized infiltration capacity in this area to be consistent with recommendations in the TGD. Harvest and use (H&U) is not required to be examined for these DMAs because full infiltration is feasible.

4.3.2 DMA C

Located on the western side of the development area, proposed peak storm runoff from DMA C is tributary to the WQ/Detention facility on the west side of the project. Infiltration capacity in the facility was maximized to treat the water quality runoff from DMAs A and B, and therefore water quality treatment for DMA C is not provided by infiltration. H&U is not feasible due to low landscaping demand, high drawdown time, and economic infeasibility. DMA C is proposed to be treated with a proprietary biofiltration BMP with treated water quality runoff conveyed to Horno Creek Channel.

4.3.3 DMAs D-G

DMAs D-G share similar characteristics. These DMAs are composed of detached residential uses. Peak storm runoff from these areas is tributary to Horno Creek Channel. H&U is not feasible due to low landscaping demand, high drawdown time, and economic infeasibility. Water quality runoff is treated by proprietary biofiltration BMPs located at downstream points in each DMA.

4.3.4 DMA Summary

Drainage Management Areas				
DMA (Number/Description)	Total Area (acres)	Imperviousness (%)	Infiltration Feasibility Category (Full, Partial, or No Infiltration)	Hydrologic Source Controls Used
A	3.03	60	Full	None
B	0.89	50	Full	None
C	0.98	75	No	None
D	0.99	80	No	None
E	1.63	80	No	None
F	1.55	80	No	None
G	1.38	50	No	None

4.4 Source Control BMPs

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**Reason Source Control is Not Applicable**
		Included	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☒	☐	Educational materials shall be provided to home owners upon close of escrow by the merchant home builder. They will be provided at a later time.
N2	Activity Restrictions	☒	☐	Will be listed in CC&Rs
N3	Common Area Landscape Management	☒	☐	Will be maintaned and managed by HOA
N4	BMP Maintenance	☒	☐	Maintance schedule will be listed in the O&M Plan
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	Project is not known to violate Title 22.
N6	Local Industrial Permit Compliance	☐	☒	Not an industrial site.
N7	Spill Contingency Plan	☒	☐	Spill Contingincy plans will be provided with the educational materials at the close of escrow by the merchant home builder.
N8	Underground Storage Tank Compliance	☒	☐	Underground tanks will comply with the state's regulations.
N9	Hazardous Materials Disclosure Compliance	☒	☐	Educational materials will be made available to Home Owners to provide information on hazardous materials.
N10	Uniform Fire Code Implementation	☒	☐	HOA must comply with Article 80 of the Uniform Fire Code.
N11	Common Area Litter Control	☒	☐	The HOA will be responsible for controling litter on the project site.
N12	Employee Training	☒	☐	Employee training materials will be provided in the educational materials.
N13	Housekeeping of Loading Docks	☐	☒	N/A

N14	Common Area Catch Basin Inspection	☒	☐	Catch Basin Inspection and Maintance Program will be provided in the Final WQMP.
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	HOA will be respondible for scheduling street sweeping. Street sweeping is required to be completed prior to the storm season, in late summer or early fall, prior to the start of the rainy season.
N16	Retail Gasoline Outlets	☐	☒	Not a site feature.

Structural Source Control BMPs

Identifier	Name	Check One		Reason Source Control is Not Applicable
		Included	Not Applicable	
S1	Provide storm drain system stenciling and signage	☒	☐	Stenciling/ Signage will be placed around or above each catch basin.
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	Outdoor material storage areas are not a site feature.
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☒	☐	Storage areas will be constructed to reduce the chance of pollutant introduction.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	Per seperate Landscaping Plan
S5	Protect slopes and channels and provide energy dissipation	☒	☐	Slopes and vegetation along San Juan Creek will be protected and remain undisturbed.
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☒	☐	Included as noted above
S6	Dock areas	☐	☒	Not a site feature.
S7	Maintenance bays	☐	☒	Not a site feature.
S8	Vehicle wash areas	☐	☒	Not a site feature.
S9	Outdoor processing areas	☐	☒	Not a site feature.
S10	Equipment wash areas	☐	☒	Not a site feature.
S11	Fueling areas	☐	☒	Not a site feature.
S12	Hillside landscaping	☐	☒	Not a site feature.
S13	Wash water control for food preparation areas	☐	☒	Food processing areas are not a site feature.
S14	Community car wash racks	☐	☒	Not a site feature.

Section 5 Low Impact Development BMPs

LID BMP sizing criteria is outlined in TGD section 2.5.1. The proposed BMPs provided for DMAs A-G comply with the applicable sizing criteria.

5.1 LID BMPs in DMAs A & B (Infiltration)

Full infiltration is feasible for DMAs A and B. Harvest and use (H&U) is not feasible. Useable open space is limited by a number of constraints previously described in this report.

5.1.1 Hydrologic Source Controls for DMAs A & B

No credit is taken for HSC BMPs in these DMAs. In lieu of HSCs, the infiltration-type BMP selected in the next section maximizes retention by infiltrating the required DCV.

5.1.2 Structural LID BMP for DMAs A & B

An infiltration-type BMP (INF-6) is proposed to treat the water quality flows from DMAs A and B. This BMP removes the pollutants of concern as described in Section 3.4.

The BMP is sized per worksheet 6, capture efficiency method for full infiltration BMPs. See calculations in Attachment E.

Refer to the WQMP site plan exhibit in Attachment C for conceptual BMP schematic design. Upstream pretreatment is provided to minimize the risk of premature clogging.

5.2 LID BMPs in DMAs C-G (Biofiltration)

No infiltration is feasible for DMAs A and B. Harvest and use (H&U) is not feasible. Useable open space is limited by a number of constraints previously described in this report.

5.2.1 Hydrologic Source Controls for DMAs C-G

No credit is taken for HSC BMPs in these DMAs. Per the TGD section 4.3.1, “projects that fully conform to LID sizing requirements and fully address HCOCs, the use of HSCs is optional”.

5.2.2 Structural LID BMP for DMAs C-G

Because infiltration and H&U BMPs are not feasible in these DMAs, biofiltration-type BMPs (BIO-7) are proposed to treat water quality runoff from DMAs C-G.

One proprietary Modular Wetland System (MWS), which treats the proposed pollutants of concern, is proposed for each DMA C-G.

These BMPs are sized per worksheets in Attachment E.

Conceptual schematics are depicted in Attachment F.

5.3 Summary of LID BMPs

Refer to WQMP Site Plan exhibit in Attachment C and calculations and worksheets in Attachment E.

LID BMP Summary		
DMA	Total Area (acres)	BMP Selected
A	3.03	Infiltration
B	0.89	Infiltration
C	0.98	MWS
D	0.99	MWS
E	1.63	MWS
F	1.55	MWS
G	1.38	MWS

Section 6 Educational Materials Index

Educational Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☒	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☒	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☒	Proper Maintenance Practices for Your Business	☐
Household Tips	☒	Compliance BMPs for Mobile Businesses	☐
Proper Disposal of Household Hazardous Waste	☒	**Other Material**	**Check If Attached**
Recycle at Your Local Used Oil Collection Center (North County)	☐		
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☒		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☒		☐
Sewer Spill	☒		☐
Tips for the Home Improvement Projects	☒		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☒		☐
Tips for Projects Using Paint	☒		☐

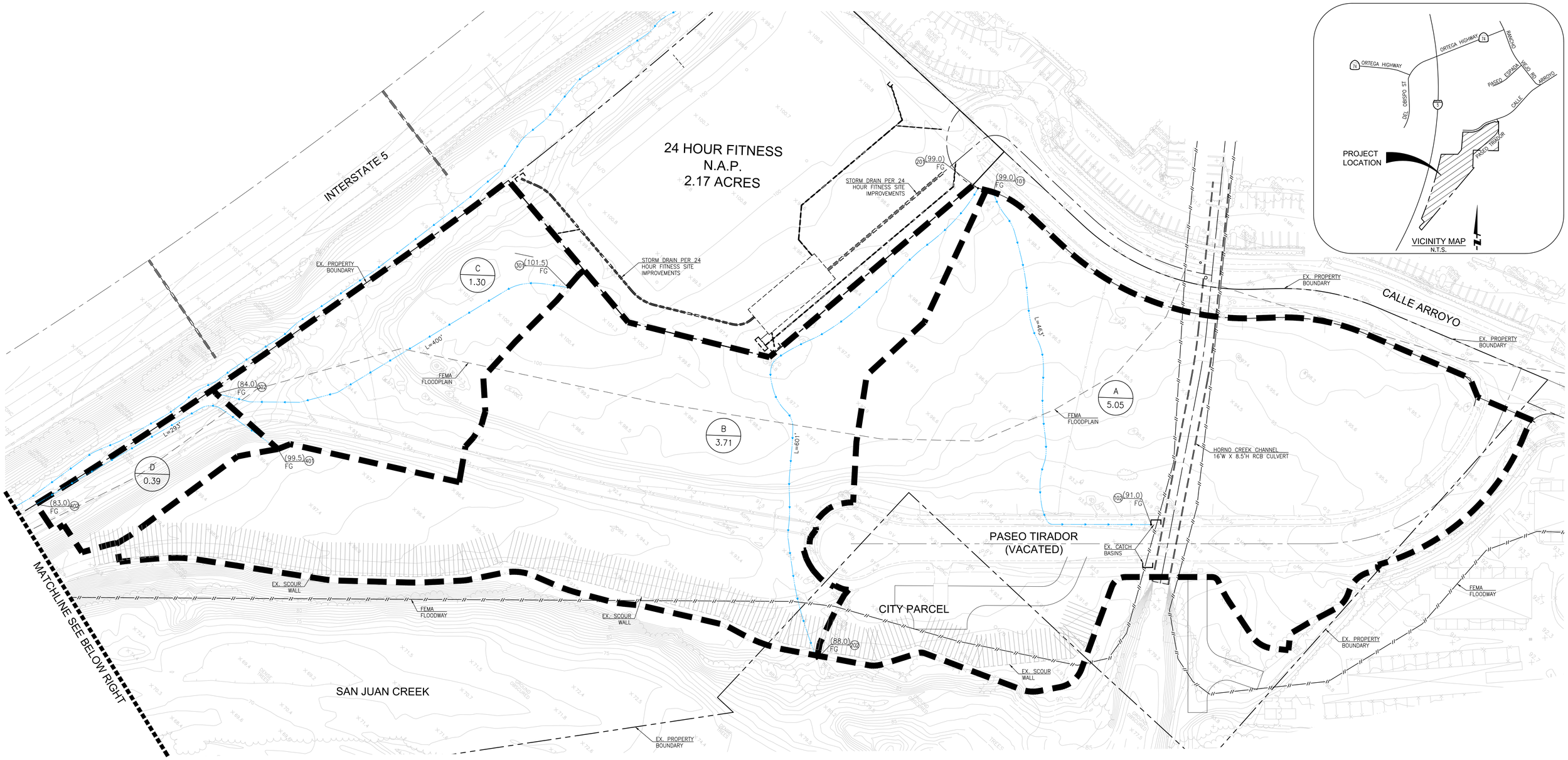
Attachment A: Educational Materials

To be included in final WQMP.

Attachment B: Operations and Maintenance Plan

To be included in final WQMP.

Attachment C: WQMP Site Plan Exhibit



HYDROLOGY SUMMARY

NODE	Q_{25} (CFS)	Q_{100} (CFS)	ΣA (AC)
102	11.2	14.6	5.05
202	7.8	10.1	3.71
302	3.4	4.4	1.30
402	1.1	1.5	0.39

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED MAJOR AREA BOUNDARY
- DIRECTION OF SURFACE FLOW
- EXISTING STORM DRAIN
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- (XXX.XX) EXISTING ELEVATION
- (101) PROPOSED NODE
- FG FINISHED GRADE
- L=XXXX' SURFACE FLOW PATH LENGTH
- A / 0.83 MAJOR AREA NAME / ACREAGE

40' 0' 20' 40'
SCALE: 1" = 40'

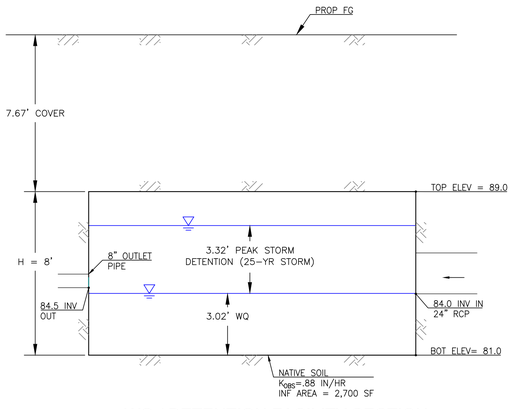
EXHIBIT A:
EXISTING CONDITION RATIONAL METHOD HYDROLOGY MAP

TTM 18148

SAN JUAN CAPISTRANO, CA

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

J:\112767_SJ_Mixed_Use\20\5.2 Reports\Hydrology – Preliminary\Exhibits\Rational Method\112767 Existing RM Hydrology Map.dwg Plotted At: March 26, 2018 2:33 PM Last Saved By: ericlasmer Last Saved At: March 26, 2018 12:35 PM



WQ / DETENTION FACILITY SECTION
NOT TO SCALE

LEGEND

- EXISTING PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED ASPHALT AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED WQ/DETENTION FACILITY
- PROPOSED DEDICATION FOR CONSERVATION
- PROPOSED RCP PEAK FLOW STORM DRAIN
- EXISTING STORM DRAIN
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- PROPOSED CATCH BASIN
- PROPOSED MODULAR WETLAND SYSTEM
- DIRECTION OF SURFACE FLOW
- A / 0.83 — DMA / ACREAGE

40' 0' 20' 40'
SCALE: 1" = 40'

ATTACHMENT C:
WQMP SITE PLAN EXHIBIT

TTM 18148

SAN JUAN CAPISTRANO, CA

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

Attachment D: Geotechnical Reports

GeoSoils Consultants Inc.
GEOTECHNICAL GEOLOGIC ENVIRONMENTAL

September 18, 2017
W.O. 7050

WATT COMMUNITIES, LLC
2716 Ocean Park Boulevard, Suite 2025
Santa Monica, California 90405

Attention: Mr. Efrem Joelson
Mr. Dave Johnson

Subject: **Infiltration Testing, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California**

Reference: GeoSoils Consultants Inc. dated July 10, 2017, "Geotechnical Engineering Investigation, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California"

Gentlemen:

At your request, GeoSoils Consultants, Inc. (GSC) has prepared this infiltration report for the proposed residential housing located at Calle Arroyo and Paseo Tirador in San Juan Capistrano, California.

Boring B-7 (Plate A-10) was initially drilled to determine the depth to fill the alluvium contact in that area. The contact was observed to be at 11 feet. During site grading the fill will be removed and recompacted. Therefore, the top of the infiltration system will be at approximately a depth of 11 feet. The groundwater in this boring was encountered at 29.5 feet.

Borings B-8 and B-9 (Plates A-11 and A-12) were drilled to 18 and 18.5 feet respectively.

6634 Valjean Avenue Van Nuys, California 91406 Phone: (818) 785-2158 Fax: (818) 785-1548

A 2-inch diameter pipe was installed in each boring, B-8 and B-9. A cap was placed on the base of the pipe. A 7-foot section of perforated pipe was installed in B-8 and a 7.5-foot section of perforated pipe was installed in B-9. The exterior void was backfilled with pea gravel. A bentonite seal was placed above the perforated section of pipe and the remaining area above the bentonite seal was backfilled with on-site material.

Both percolation borings drained more than 6 inches in the initial 25 minutes. Boring B-8 drained 1.78 feet in the second 25 minute reading, while B-9 drained completely (the entire perforated section) in the second 25 minutes. Since boring B-9 drained completely and boring B-8 did not, the design of the system should be based on the readings and calculations from boring B-8. The correction factor per the Orange County Technical Guidance Document was applied. The calculation is included along with the boring logs and infiltration sheets in Appendix A. Periodic readings were taken in order to determine the percolation rate of each boring. The results are included below.

TEST LOCATION	RATE (inches per hour)
B-8	0.882
Note: This rate includes the correction factor	

Based upon the field and laboratory test data provided in the referenced reports, it is our professional opinion on-site percolation will not be a hazard to potential development and the site is suitable for storm water infiltration.

We hope this satisfies your requirements at this time. If you have any questions regarding the content of this report or any other aspects of the project, please do not hesitate to contact us.

Very truly yours,

GEOSOILS CONSULTANTS, INC.

KAREN L. MILLER
GE 2257

REGISTERED PROFESSIONAL ENGINEER KAREN L. MILLER No. 2257 Exp. 3/31/18 GEOTECHNICAL STATE OF CALIFORNIA

JAMES VAN METER
CEG 2031

CERTIFIED ENGINEERING GEOLOGIST JAMES L. VAN METER ~~8-18-2031~~ Exp. 2/28/19 STATE OF CALIFORNIA

KLM.W: Infiltration Testing

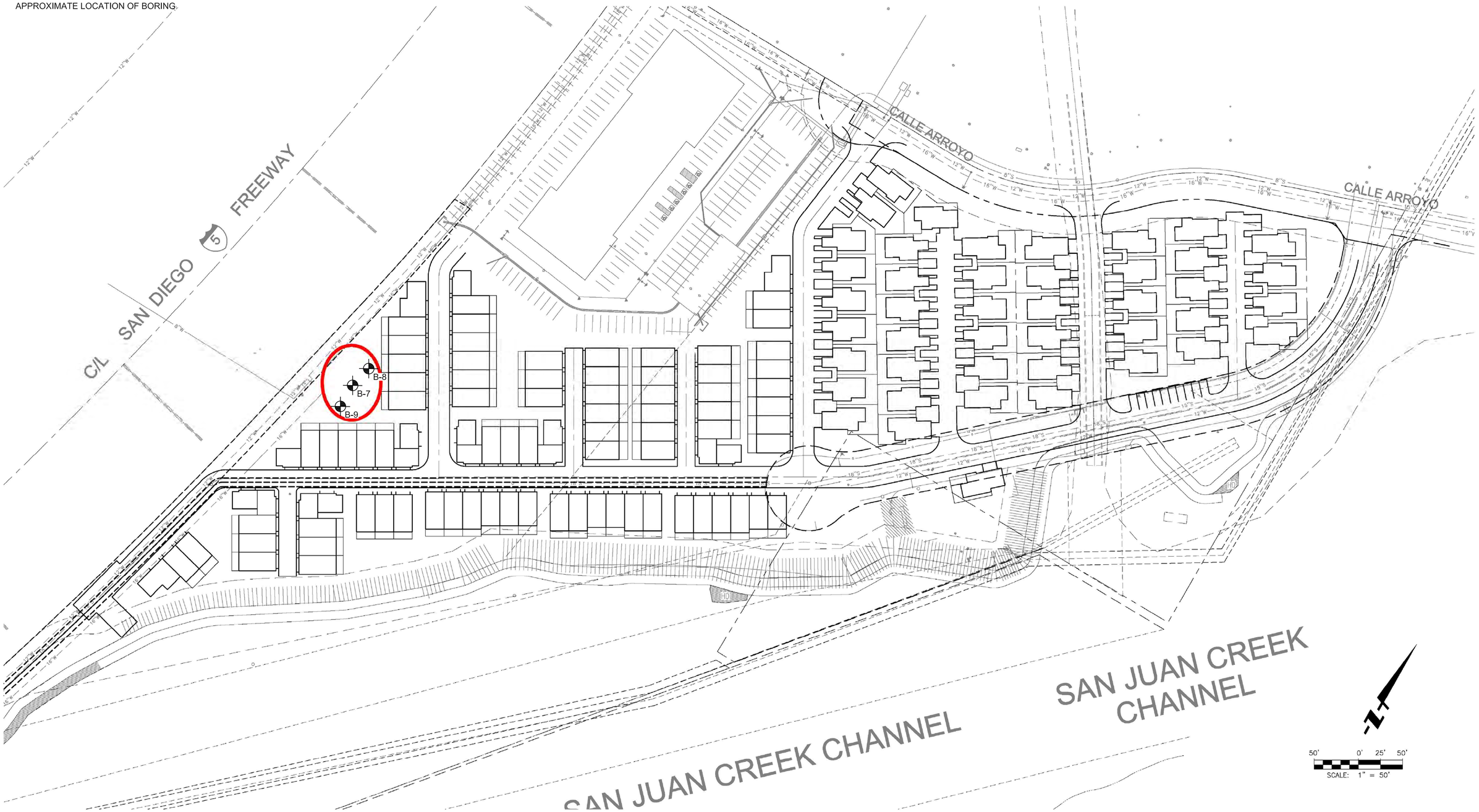
Encl: Plate 1, Boring Location Map
Appendix A, Boring Logs, Infiltration Test Sheets and Calculations
Plates A-1 through A-3

cc: (3) Addressee

MDN 19411

EXPLANATION

B-9 APPROXIMATE LOCATION OF BORING



UNIT SUMMARY

TOWNHOMES:

PLAN	DESCRIPTION	QTY
PLAN 1:	2BED/2BATH	14
PLAN 2:	3BED/3BATH	35
PLAN 3:	3BED/3BATH	44
TOTAL:		93

SINGLE FAMILY HOMES:

PLAN	DESCRIPTION	QTY
PLAN 1:	3BED/2.5BATH	15
PLAN 2:	4BED/2.5BATH	15
PLAN 3:	4BED/2.5BATH	14
TOTAL:		44

TOTAL UNITS: 137

GSC GeoSoils Consultants Inc.
GEOTECHNICAL•GEOLOGICAL•ENVIRONMENTAL
6634 Valljean Avenue
Van Nuys, CA 91406

BORING LOCATION MAP
INFILTRATION TESTING
SAN JUAN MIXED USE
CALLE ARROYO AND PASEO TIRADOR
SAN JUAN CAPISTRANO, CALIFORNIA
WATT COMMUNITIES

WORK ORDER	DATE	SCALE
7050	9/2017	1" = 50'

REVISED

PLATE 1

MDN 19411

SITE PLAN

SAN JUAN MIXED-USE

IBI GROUP
18401 Von Karman Avenue – Suite 110
Irvine CA 92612 USA
tel 949 833 5588 fax 949 833 5511
ibigroup.com

X:\2001 w.o\gsc-cad\7050\CURRENT\PLATE 1 BORING LOCATION MAP 9-15-17.dwg, 9/18/2017 2:53:39 PM, Adobe PDF

September 18, 2017
W.O. 7050

APPENDIX A

BORING LOGS, INFILTRATION SHEETS AND CALCULATIONS

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 9-11-17 | BORING NO. B-7
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow Stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8 | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-11' Fill (af)			
			@ 5' Dark to medium brown clayey silty fine to coarse sand with rock fragments, moderately moist, firm.			
5		16/22	@ 7.5' Medium brown silty fine to coarse sand with rock fragments, dry to slightly moist, slightly to moderately firm.			
		15/30				
10		13/15	@ 10' Dark to medium brown silty fine to coarse sand with rock fragments, tip of sampler observed on alluvium.			
		9/15	**11'-30' Alluvium (Qal)**			
15		11/19	@ 12.5' Dark brown clayey silt to clayey silty fine sand, moderately moist, moderately dense.			
			@ 15' Medium brown clayey fine sandy silt, moderately moist, moderately dense.			
20						
25						
30			TD: 30' GW: 29.5' Hole backfilled			

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-1

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 9-11-17 | BORING NO. B-8
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow Stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8 | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
5			**0-11' Fill (af)**			
10						
15			**11'-18' Alluvium (Qal)** Installed 18' of pipe with the perforated section from 11 to 18'. The perforated section void space between the pipe and boring wall was filled with pea gravel.			
20			Note: GW level is at 29.5' in Boring B-7.			
25						
30						

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-2

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 9-11-17 | BORING NO. B-9
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow Stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8 | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
5			**0-11' Fill (af)**			
10						
15			**11-18.5' Alluvium (Qal)** Installed 18.5' of pipe with the perforated section from 11 to 18.5'. The perforated section void space between the pipe and boring wall was filled with pea gravel.			
20			Note: GW level is at 29.5' in Boring B-7.			
25						
30						

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-3

GeoSoils Consultants, Inc.
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GeoSoils Consultants Inc.
GEOTECHNICAL · GEOLOGIC · ENVIRONMENTAL

Work Order: 7050
Date: 9/20/2017

Percolation to Infiltration Rate Conversion

Orange County Guidelines

PERCOLATION TEST DATA

Test Hole Radius (r)	4.0	in
Initial Depth to Water (D_0)	3.50	ft
Final Depth to Water (D_f)	3.76	ft
Total Depth of Test Hole (D_T)	7.00	ft
Time Interval (Δt)	10	minutes

CALCUATIONS

Change in Height over Time Interval (ΔH)	3.12	in
Average Head Height over Time Interval (H_{avg})	40.44	in
Infiltration Rate (I_t)	**0.882**	**in/hr**

Figure VII.18. Sample Test Data Form for Percolation Test

Percolation Test Data Sheet

Project	Watt		Project No.	7050	Date:	9/12/2017
Test Hole No.	B-8		Tested By:			
Depth of Test Hole, D:	18'		USCS Soil Classification			
Test Hole Dimensions (inches)				Length	Width	
Diameter (if round)=	8'		Sides (if rectangular)=			

Sandy Soil Criteria Test*

Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (ft.)	Final Depth to Water (in.)	Change in Water Level (in.)	Greater than or Equal to 6"? (y/n)
1	0	25	25	11'	12.85	1.85	y
2	0	25	25	11'	12.78	1.78	y

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (ft.)	Final Depth to Water (ft.)	Change in Water Level (ft.)	Percolation Rate (in./hr.)
1	0	10	10	12.78	13.19	0.41	
2	0	10	10	13.19	13.63	0.44	
3	0	10	10	13.63	13.95	0.32	
4	0	10	10	13.95	14.24	0.29	
5	0	10	10	14.24	14.5	0.26	
6	0	10	10	14.5	14.76	0.26	
7							
8							
9							
10							
11							
12							
13							
14							
15							

COMMENTS:
7' perforated pipe section, fill alluvium contact @ 11' groundwater @ 29.5', used stop watch

Figure VII.18. Sample Test Data Form for Percolation Test

Percolation Test Data Sheet

Project	Watt	Project No.	7050	Date:	9/12/2017	
Test Hole No.	B-9	Tested By:				
Depth of Test Hole, D:	18.5'	USCS Soil Classification				
Test Hole Dimensions (inches)			Length	Width		
Diameter (if round)=	8'	Sides (if rectangular)=				

Sandy Soil Criteria Test*

Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (ft.)	Final Depth to Water (ft.)	Change in Water Level (ft.)	Greater than or Equal to 6"? (y/n)
1	0	11.57	11.57	11'	18'	7'	y
2	0	13.59	13.59	11'	18'	7'	y

*If two consecutive measurements show that six inches of water seeps away in less than 25 minutes, the test shall be run for an additional hour with measurements taken every 10 minutes. Otherwise, pre-soak (fill) overnight. Obtain at least twelve measurements per hole over at least six hours (approximately 30 minute intervals) with a precision of at least 0.25".

Trial No.	Start Time	Stop Time	Time Interval, (min.)	Initial Depth to Water (ft.)	Final Depth to Water (ft.)	Change in Water Level (ft.)	Percolation Rate (min./in.)
1	0	10	10	11'	17.11	6.11	
2	0	10	10	11'	17.19	6.19	
3	0	10	10	11'	17.24	6.24	
4	0	10	10	11'	17.25	6.25	
5	0	10	10	11'	17.07	6.07	
6	0	10	10	11'	17.17	6.17	
7							
8							
9							
10							
11							
12							
13							
14							
15							

COMMENTS:
7.5' perforated pipe section, fill alluvium contact @ 11' groundwater @ 29.5', used stop watch

Geotechnical Engineering Investigation Proposed Residential Housing
San Juan Mixed Use Intersection of Calle Arroyo and Paseo Tirador
San Juan Capistrano, California

For

WATT COMMUNITIES, LLC

July 10, 2017 W.O. 7050

MDN 19246

GeoSoils Consultants Inc.
GEOTECHNICAL GEOLOGIC ENVIRONMENTAL

July 10, 2017
W.O. 7050

WATT COMMUNITIES, LLC
2716 Ocean Park Boulevard, Suite 2025
Santa Monica, California 90405

Attention: Mr. Efrem Joelson
Mr. Dave Johnson

Subject: Geotechnical Engineering Investigation, Proposed Residential Housing, San Juan Mixed Use, Intersection of Calle Arroyo and Paseo Tirador, San Juan Capistrano, California

Reference: Construction Testing and Engineering, Inc. dated March 15, 2007, "Preliminary Geotechnical Investigation, Proposed Commercial Development, Ventanas Business Center, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California"

Gentlemen:

At your request, GeoSoils Consultants, Inc. (GSC) has prepared this geotechnical engineering report for the proposed residential housing located at the intersection of Calle Arroyo and Paseo Tirador in San Juan Capistrano, California.

This report has been prepared in accordance with generally accepted geotechnical engineering practices.

SITE LOCATION AND DESCRIPTION

The subject site is located at the intersection of Calle Arroyo and Paseo Tirador in San Juan Capistrano, California. Irregular in shape, the site is situated on relatively flat terrain that covers approximately 16 acres. Currently, the property is vacant. The site is bordered on the west by Interstate 5 and by San Juan Creek to the east. Paseo Tirador crosses the property and is currently closed off to public vehicle use. The northwest corner is not a part of the property and currently is being graded for a proposed 24 Hour Fitness Center as shown on the Boring Location Map, Plate 1.

6634 Valjean Avenue, Van Nuys, California 91406 Phone: (818) 785-2158 Fax: (818) 785-1548

A buried scour wall was constructed in 2009 in the San Juan Greek Channel and is shown on the Site Plan, Plate 3. This wall consists of sheet piles with tieback anchors. Plans prepared by Hughes Construction**,** indicate the sheet pile wall extends approximately 915 feet on the east side of the property. Anticipated scour height of the wall varies from 16 to 31.5 feet. Tiebacks extend a minimum of 35 feet behind the scour wall.

PROPOSED DEVELOPMENT

It is our understanding 47 single family homes and 89 townhomes are planned for the site. The proposed construction will entail the demolition of the existing improvements on site and reconfiguration of the property to include new private streets, low height retaining walls, and building pads. Detailed plans are not available at this time; however, typical foundation loads are assumed for recommendations given herein. The Paseo Tirador cul-de-sac will be abandoned as part of the site development.

PREVIOUS INVESTIGATIONS

A previous investigation was performed by Construction Testing and Engineering, Inc. (CTE) dated March 15, 2007 for the then proposed business center (see reference). Their boring locations are shown on the Boring Location Map, Plate 1, and their boring logs are included in Appendix A, Field Exploration and Laboratory Testing. This report was utilized in design of the existing scour wall.

GEOLOGIC CONDITIONS

Geologic Setting

The site is located in the northern portion of the Peninsular Ranges Geomorphic Province of Southern California, which is characterized by northwest-southeast trending mountain ranges, intervening valleys and fault-block complexes. These mountain ranges extend over 900 miles from the Transverse Ranges Province (east-west trending Santa Monica and San Gabriel Mountains) southward to the tip of Baja California, Mexico. The Peninsular Ranges include the Santa Ana Mountains and San Jacinto Mountains of southern California, and the

Sierra Juarez, San Pedro Martir, and La Giganta mountains of Baja California. The mountain ranges are bounded by parallel faults, such as the San Jacinto, Elsinore, Newport-Inglewood and Rose Canyon.

The Los Angeles Basin lies at the junction of the Peninsular Ranges and the Transverse ranges Geomorphic Provinces. The Los Angeles Basin began forming in the late Miocene; subsidence was accommodated by extensional faults including the Whittier-Elsinore fault system. In mid Pliocene, the tectonic plate motion shifted, causing north-south compression of the basin folding the sediments and creating blind thrust faults (faults that do not reach the surface), including the Puente Hills Thrust system. The Coyote Hills, Santa Fe Springs and Los Angeles faults are blind thrust faults, which make up the Puente Hills Thrust system. These three faults are east-west striking echelon segments. It is the Puente Hills Thrust that that is responsible for the 1987 Whittier Narrows earthquake. Blind thrusts produce near-surface folds that grow during repeated earthquakes.

Earth Units

Fill and Alluvial deposits underlie the property. A brief description of the fill and alluvium is as follows:

Fill (af): Fill was observed in all of the borings drilled by GSC and CTE. The fill consists of clayey silty sands to silty sands with rock fragments. This material is not suitable for structural support and should be removed and recompacted in areas of proposed development. The depth of this fill, where encountered, varied from 5 to 20 feet.

Alluvium (Qal): Alluvium was observed below the fill. The alluvium consists of dark to light brown to gray brown, silty sands, sandy silts, clayey silts, and fine to medium sands that are moist to very moist, moderately dense to dense.

Geologic Structure

The regional geologic structure in the vicinity of the site is that of horizontally stratified sedimentary deposits.

Surface and Subsurface Water Conditions

Surface water on the site is limited to precipitation falling directly on the site.

Groundwater was encountered at a depth as shallow as approximately 17 feet from the ground surface during the subsurface exploration. However, groundwater maps from the Seismic Hazard Zone Report for the San Juan Capistrano 7.5 Minute Quadrangle published by the California Geologic Survey indicate that the historic high groundwater is on the order of 5 feet below original ground surface. It should be noted that the fill placed on the site may have altered the original ground elevation.

FAULTING AND SEISMICITY

The proposed site is not within an Alquist-Priolo Earthquake Fault Zone; therefore, there are no active faults on or adjacent to the property. However, this site has experienced earthquake-induced ground shaking in the past and can be expected to experience further shaking in the future. There are some faults in close enough proximity to the site to cause moderate to intense ground shaking during the lifetime of the existing and proposed development.

2016 California Building Code (CBC), Seismic Design Criteria

The 2016 CBC (California Building Code) seismic coefficient criteria are provided here for structural design consideration.

Under the Earthquake Design Regulations of Chapter 16, Section 1613 of the CBC 2016, the following coefficients apply for the proposed structures at the site.

2016 CBC Section 1616, Earthquake Loads	
Site Class Definition	D
Mapped Spectral Response Acceleration Parameter, S_s (Figure 1613.3.1 for 0.2 second)	1.312
Mapped Spectral Response Acceleration Parameter, S_1 (Figure 1613.3.1 for 1.0 second)	0.490
Site Coefficient, F_a (Table 1613.3.3(1) short period)	1.0
Site Coefficient, F_v (Table 1613.3.3(2) 1-second period)	1.5
Adjusted Maximum Considered Earthquake Spectral Response Acceleration Parameter S_{MS} (Eq. 16-37)	1.312
Adjusted Maximum Considered Earthquake Spectral Response Acceleration Parameter S_{M1} (Eq. 16-38)	0.740
Design Spectral Response Acceleration Parameter, S_{DS} (Eq. 16-39)	0.875
Design Spectral Response Acceleration Parameter, S_{D1} (Eq. 16-40)	0.493
Notes: Location: Longitude: -117.6569, Latitude: 33.4980 1. Site Class Designation: Class D is recommended based on subsurface condition. 2. Ss, SMs, and SDs are spectral response accelerations for the period of 0.2 second. 3. S1, SM1, and SD1 are spectral response accelerations for the period of 1.0 second.	

Conformance to the above criteria for seismic excitation does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a maximum level earthquake occurs. The primary goal of seismic design is to protect life and not to avoid all damage, since such design may be economically prohibitive. Following a major earthquake, a building may be damaged beyond repair, yet not collapse.

Secondary Earthquake Effects

Ground Rupture

Ground rupture occurs when movement on a fault breaks through to the surface. Surface rupture usually occurs along pre-existing fault traces where zones of weakness already exist. The State has established Earthquake Fault Zones for the purpose of mitigating the hazard of fault rupture by prohibiting the location of most human occupancy structures across the traces of active faults. Earthquake fault zones are regulatory zones that encompass surface traces of active faults with a potential for future surface fault rupture. Since the site is not located within a State established Earthquake Fault Zone, the ground rupture hazard for the site is considered to be low.

Landsliding

Earthquake-induced landsliding often occurs in areas where previous landslides have moved and in areas where the topographic, geologic, geotechnical and subsurface groundwater conditions are conducive to permanent ground displacements. Slopes are present on or near the site; however, the site is not located in an area defined by the State for earthquake-induced landslides

Seiches and Tsunamis

A seiche is the resonant oscillation of a body of water, typically a lake or swimming pool caused by earthquake shaking (waves). The hazard exists where water can be splashed out of the body of water and impact nearby structures. No bodies of constant water are near the site, therefore, the hazards associated with seiches are considered low.

Tsunamis are seismic sea waves generated by undersea earthquakes or landslides. When the ocean floor is offset or tilted during an earthquake, a set of waves are generated similar to the concentric waves caused by an object dropped in water. Tsunamis can have wavelengths of up to 120 miles and travel as fast as 500 miles per hour across hundreds of miles of deep ocean. Upon reaching shallow coastal waters, the once two-foot high wave can become up to 50 feet in height causing great devastation to structures within reach. Tsunamis can generate seiches as well. Since the site is not located near the shoreline or within 50 feet of sea level, the tsunami hazard is considered low.

Liquefaction

Liquefaction describes a phenomenon where cyclic stresses, which are produced by earthquake-induced ground motions, creates excess pore pressures in cohesionless soils. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation and settlement of loose sediments, ground oscillation, flow failure,

loss of bearing strength, ground fissuring, and sand boils, and other damaging deformations. This phenomenon occurs only below the water table, but after liquefaction has developed, it can propagate upward into overlying, non-saturated soil as excess pore water escapes. Descriptions of each of the phenomena associated with liquefaction is described below:

Lateral Spreading: Lateral spreading is the lateral movement of stiff, surficial blocks of sediments as a result of a subsurface layer liquefying. The lateral movements can cause ground fissures or extensional, open cracks at the surface as the blocks move toward a slope face, such as a stream bank or in the direction of a gentle slope. When the shaking stops, these isolated blocks of sediments come to rest in a place different from their original location and may be tilted.

Ground Oscillation: Ground oscillation occurs when liquefaction occurs at depth but the slopes are too gentle to permit lateral displacement. In this case, individual blocks may separate and oscillate on a liquefied layer. Sand boils and fissures are often associated with this phenomenon.

Flow Failure: A more catastrophic mode of ground failure than either lateral spreading or ground oscillation, involves large masses of liquefied sediment or blocks of intact material riding on a liquefied layer moving at high speeds over large distances. Generally flow failures are associated with ground slopes steeper than those associated with either lateral spreading or ground oscillation.

Bearing Strength Loss: Bearing strength decreases with a decrease in effective stress. Loss of bearing strength occurs when the effective stresses are reduced due to the cyclic loading caused by an earthquake. Even if the soil does not liquefy, the bearing of the soil may be reduced below its value either prior to or after the earthquake. If the bearing strength is sufficiently reduced, structures supported on the sediments can settle, tilt, or even float upward in the case of lightly loaded structures such as gas pipelines.

Ground Fissuring and Sand Boils: Ground fissuring and sand boils are surface manifestations associated with liquefaction and lateral spreading, ground oscillation, and flow failure. As apparent from the above descriptions, the likelihood of ground fissures developing is high when lateral spreading, ground oscillations, and flow failure occur. Sand boils occur when the high pore water pressures are relieved by drainage to the surface along weak spots that may have been created by fissuring. As the water flows to the surface, it can carry sediments, and if the pore water pressures are high enough create a gusher (sand boils) at the point of exit.

Research has shown that saturated, loose sands with a silt content less than about 25 percent are most susceptible to liquefaction, whereas other soil types are generally considered to have a low susceptibility. Liquefaction susceptibility is related to numerous factors, and the following conditions must exist for liquefaction to occur:

- Sediments must be relatively young in age and must not have developed large amounts of cementation;
- Sediments must consist mainly of cohesionless sands and silts;
- The sediment must not have a high relative density;
- Free groundwater must exist in the sediment; and
- The site must be exposed to seismic events of a magnitude large enough to induce straining of soil particles.

At the time of exploration (June, 2017), groundwater was encountered at a depth as shallow as 17 feet below existing grade. However, according to the Division of Mines and Geology Seismic Hazard Evaluation of the San Juan capistano 7.5 minute Quadrangle, Seismic Hazard Zone Report, the historical high groundwater table is 5 feet below original grade. As fill placement has altered the original grader. GSC considered the in-situ groundwater depths of the individual borings for the liquefaction analyses.

Results of our gradation analyses indicate the soil underlying the site consists of clays, silts, and sands. The soils possessed silt and clay contents varying from 2 to 84 percent in the samples that were tested. (Plates G-1 to G-11). All liquefaction analyses were performed in accordance with SCEC (1999).

The method of liquefaction assessment utilized in this report is based on the "Simplified Procedure" originally developed by *Seed et al. (1985)*. A detailed description of this procedure is presented in Appendix C. Based on data presented in the California Seismic Hazard Evaluation Report for the San Juan Capistrano Quadrangle, a maximum earthquake magnitude of 6.67 and a peak ground acceleration of 0.501g for alluvium conditions was used in our analysis. The soil strata encountered in Boring B-4 through B-6 were used in our liquefaction analysis.

The results of our liquefaction analysis indicated that the potential for liquefaction within the area of study does exist in thin layers. Should liquefaction occur in these potentially liquefiable layers the surface should not experience any manifestation of liquefaction due to the fact that these layers would be confined by less permeable soils above which would prevent the migration of excess pore pressures and thus the movement of water and surface manifestation.

Detailed results of our analyses are presented in Appendix C.

Settlement Due to Seismic Shaking

Granular soils, in particular, are susceptible to settlement during seismic shaking, whether the soils liquefy or not. The alluvium underlying the site, in general, consists of multilayers of medium dense to dense, sandy silts and silty sands, and occasional beds of dense clean sands.

The potential for seismically-induced settlement was evaluated for site. The seismic parameters used in the liquefaction analysis were also used for the seismically

induced settlement calculations (See discussion on Liquefaction above). Our seismically-induced settlement analyses were based on the procedures of Tokimatsu and Seed (1987), as recommended in the SCEC (1999) publication *Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction in California*, which provide separate methodologies for soils above groundwater (Unsaturated method) and for soils at or below the static groundwater elevation (Saturated method).

Based on subsurface explorations of the site, groundwater encountered at a depth as shallow as 17 feet below existing grade during our subsurface study. This was considered in our analyses.

The seismically induced settlement analyses were performed to a depth of 50 feet below existing ground surface and were based on information from borings B-4 through B-6. The potential seismically-induced settlement was calculated and ranged from 0.18 to 2.62 inches. A detailed description of the seismically-induced settlement methodology is discussed in Appendix C.

Total and Differential Settlement

Based upon the consolidation test results, static settlement is expected to be less than ¼-inch. The above seismically induced settlement amount should be combined with the anticipated amount of static settlement in order to obtain an estimate of the amount of differential settlement that may affect the site.

Assuming that the seismic differential settlement is ½ of the total seismic settlement and static differential is ½ the total static settlement, total differential settlement is expected to be approximately 2.0 inch.

Further, based on experience, this degree of differential settlement can be accounted for in the foundation/floor system design and, therefore, does not pose a hazard to site development.

CONCLUSIONS

The proposed development is feasible from a geotechnical engineering viewpoint, provided that the following recommendations are incorporated into the final design and construction phase of the proposed development.

RECOMMENDATIONS

Site Grading

Standard grading recommendations and grading details are enclosed in Appendix B. These recommendations should be incorporated into the development plans, where applicable.

Removals

The subsurface exploration revealed that the existing fill and localized areas of alluvium are unsuitable for structural support. This unsuitable fill and alluvium should be removed to competent native alluvium in the areas of proposed development and replaced as compacted fill. Removals should be excavated down a minimum of five feet below proposed grades and extend a minimum of five feet laterally outside the areas of proposed development, or to a distance equal to the depth of fill placement, whichever is great. All the proposed buildings and low height retaining walls will be founded entirely on certified compacted fill. The removed material may be processed and replaced as compacted fill.

CONVENTIONAL FOUNDATION CRITERIA

The on-site materials have a low expansion index. The following engineering criteria are recommended for use of non habitable structures only.

1. An allowable soil bearing pressure of 1,500 pounds per square foot can be used for design of conventional spread foundations founded in compacted fill. A one-third increase in the above bearing value may be used for transient live loadings such as wind and seismic forces. Footings should be continuous and be founded a minimum of 18 inches below the lowest adjacent grade with a minimum width of 12 inches for both one and two story structures. Footings should be reinforced with a minimum two, No. 4 rebar, both top and bottom.
2. A friction coefficient for concrete on compacted soil of 0.4, and a lateral bearing value of 250 pounds per square foot of depth may be employed to resist lateral loads. When combining passive pressure and frictional resistance, the passive pressure component should be reduced by one-third. For design of isolated poles, the allowable passive pressure may be increased by 100 percent.

3. Standard International Building Code structural setback guidelines per Section 1808.7 of the current International Building Code should be followed.

4. Subgrade soil beneath footings should be pre-moistened prior to placement of concrete.

Post-Tensioned Slab Foundation

The following should be considered for habitable structures

Anticipated surficial differential movement across the building pad areas included in this report in the form of settlement (seismic and static) could be in the order of 2 inches. These post-tensioned slabs should be designed in accordance with the recommendations of either the California Foundation Slab Method or Post-Tensioning Institute. The slabs should be

designed for at least two inches of surficial differential movement (i.e., at least 2 inches in a 30-foot span) to accommodate seismically induced settlement. Based on review of laboratory data for the on-site materials, the average soil modulus of subgrade reaction, K, to be used for design is 100 pounds per cubic inch. Specific recommendations for the design of *California Foundation Slab* and *Post Tension Institute* methods are presented below.

A surface bearing value of 1,000 pounds per square foot can also be used in design.

1. **California Foundation Slab (Spanability) Method**

It is recommended that slabs be designed for a free span of 15 feet. From a soil expansion/shrinkage standpoint, a common contributing factor to distress of structures using post-tensioned slabs is fluctuation of moisture in soils underlying the perimeter of the slab, compared to the center, causing a "dishing" or "arching" of the slabs. To mitigate this possibility, a combination of soil presaturation and construction of a perimeter "cut off" wall should be employed.

All slab foundation areas should be moisture conditioned to at least optimum moisture, but no more than 5 percent above optimum moisture for a depth of at least 12 inches for low EI soil. A continuous perimeter curtain wall should extend to a depth of at least 12 inches for low EI soil to preserve this moisture. The cut-off walls may be integrated into the slab design or independent of the slab and should be a minimum of 6 (six) inches wide.

2. **Post-Tensioning Institute Method**

Post-tensioned slabs should have sufficient stiffness to resist excessive bending due to non-uniform swell and shrinkage of subgrade soils. The differential movement can occur at the corner, edge, or center of slab. The potential for differential uplift can be evaluated using design specifications of the Post-Tensioning Institute. The

following table presents suggested minimum coefficients to be used in the Post-Tensioning Institute design method.

Suggested Coefficients	
Thornthwaite Moisture Index	-20 in/yr
Depth to Constant Soil Suction	9 (feet)
Constant Soil Suction: (pf)	3.8

The coefficients are considered minimums and may not be adequate to represent worst case conditions such as adverse drainage, excess watering, and/or improper landscaping and maintenance. The above parameters are applicable provided structures have gutters and downspouts, yard drains, and positive drainage is maintained away from structure perimeters. Also, the values may not be adequate if the soils below the foundation become saturated or dry such that shrinkage occurs. The parameters are provided with the expectation that subgrade soils below the foundations are maintained in a relatively uniform moisture condition. Responsible irrigation of landscaping adjacent to the foundation must be practiced since over-irrigation of landscaping can cause problems. Therefore, it is important that information regarding drainage, site maintenance, settlements and affects of expansive soils be passed on to future homeowners.

Based on the above parameters, the following values were obtained from the Post Tensioning Institute Design manual. If a stiffer slab is desired, higher values of y_m may be warranted.

Expansion Index of Soil Subgrade	Low EI
e_m center lift	9.0 feet
e_m edge lift	4.7 feet
Y_m center lift	0.34 inch
Y_m edge lift	0.48 inch

Deepened footings/edges around the slab perimeter must be used as indicated above to minimize non-uniform surface moisture migration (from an outside source) beneath the slab. An edge depth of at least 12 inches for low EI soil is

recommended. The bottom of the deepened footing/edge should be designed to resist tension, using cable or reinforcement per the Structural Engineer.

General Recommendations

a. The above parameters are applicable provided the structures have gutters and downspouts and positive drainage is maintained away from the structure. All slab foundation areas should be moisture conditioned to at least optimum moisture, but no more than 5 percent above optimum moisture for a depth of at least 12 inches below subgrade.

b. The above recommendations assume and GeoSoils Consultants, Inc. strongly recommends that surface water will be kept from infiltrating into the subgrade adjacent to the structures foundation system. This may include, but not be limited to rain water, roof water, landscape water and/or leaky plumbing.

Retaining Walls

As retaining walls may be used in the proposed project, the footings should have a minimum embedment depth of 18 inches into compacted fill and be designed in accordance to the recommendations presented herein. On site soils have a low expansion index.

The equivalent fluid pressures recommended are based on the assumption of a uniform backfill and no build-up of hydrostatic pressure behind the wall. To prevent the build-up of lateral soil pressures in excess of the recommended design pressures, over compaction of the fill behind the wall should be avoided. This can be accomplished by placement of the backfill above a 45-degree plane projected upward from the base of the wall, in lifts not exceeding eight inches in loose depth, and compacting with a hand-operated or small, self-propelled vibrating plates. (Note: Placement of free-draining material in this zone could also prevent the build-up of lateral soils pressures.)

1. Conventional (Yielding) Retaining Walls

All recommendations for active lateral earth pressures contained herein assume that the anticipated retaining structures are in tight contact with the fill soil (or alluvium) that they are supposed to support. The earth support system must be sufficiently stiff to hold horizontal movements in the soil to less than one percent of the height of the vertical face, but should be free-standing to the point that they yield at the top at least 0.1 percent of the height of the wall.

2. Earth Pressures on Conventional (Yielding) Retaining Walls

The earth pressures on walls retaining permeable material, compacted fill, or natural soil shall be assumed equal to that exerted by an equivalent fluid having a density not less than that shown in the following table:

Backfill Slope (Horizontal to Vertical)	Equivalent Fill Fluid Density
Level	30 pcf
2:1	43 pcf

3. Restrained (Non-Yielding) Walls

Earth pressures will be greater on walls where yielding at the top of the wall is limited to less than 1/1000 the height of the wall either by stiffness (i.e., return walls, etc.) or structural floor network prior to backfilling. Utilizing the recommended backfill compaction of 90 percent Modified Proctor Density per ASTM D-1557-12, we recommend the following equivalent fluid density for non-yielding walls:

Backfill Slope (Horizontal to Vertical)	Equivalent Fluid Density
Level	45 pcf
2:1	65 pcf

4. Seismic Pressures For Retaining Walls

The following seismic design criteria must be incorporated in to the design of the retaining walls: over 6 feet in height.

From NavFac: $P_{ae} = 3/8 \gamma H^2 k_h$

H=Height of wall

$K_h = 0.4 S_{DS} = 0.35$

$\gamma = 115$ pcf

$P_e = 3/8(115 \text{ pcf})(0.35)H^2 = 15.1 H^2$

P_e acts at 0.6H above the wall base.

General

Any anticipated superimposed loading (i.e., upper retaining walls, other structures etc.) within a 45 degree projection upward from the wall bottom, except retained earth, shall be considered as surcharge and provided in the design.

A vertical component equal to one-third of the horizontal force so obtained, may be assumed at the application of force.

The depth of the retained earth shall be the vertical distance below the ground surface, measured at the wall face for stem design or measured at the heel of the footing for overturning and sliding.

The walls should be constructed with weep holes near the bottom, on five-foot centers or with perforated drainpipe in a gravel envelope at the bottom and behind the wall. A one-foot thick zone of clean granular, free-draining material should be placed behind the wall to within three feet of the surface. On-site soil may be used for the remainder of the backfill and should be compacted to 90 percent relative compaction as determined by ASTM Test Designation D-1557-12.

A concrete-lined swale is recommended behind retaining walls that can intercept surface runoff from upslope areas. The surface runoff shall be transferred to an approved drainage channel via non-erosive drainage devices.

Pavement Sections

The following pavement recommendations assume a Traffic Index of 6 and an assumed R-value of 35. Preliminary pavement sections should be constructed with 5 inches of base and 4 inches of AC. R-value testing will be performed upon completion of grading to confirm this pavement section. All base should be compacted to a minimum 95 percent relative compaction.

Shrinkage

Based upon our field and laboratory test data, the on-site materials are expected to shrink between 5 to 10 percent.

Temporary Excavations

Where the necessary space is available, temporary unsurcharged embankments may be sloped back without shoring. The slopes should not be cut steeper than the following gradient:

Height	Temporary Gradient (Horizontal:Vertical)
0-5’	Near Vertical
Above 5’	1:1

The recommended temporary excavation slopes do not preclude local ravelling or sloughing. All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act, and the Construction Safety Act should be met.

Where sloped embankments are used, the top of the slope should be barricaded to prevent equipment and heavy storage loads within five feet of the top of the slope. If the temporary construction embankments are to be maintained for long periods, berms should be constructed along the top of the slope to prevent runoff water from eroding the slope faces. The soils exposed in the temporary backcut slopes during excavation should be observed by our personnel so that modifications of the slopes can be made if variations in the soil conditions occur.

Drainage/Landscape Maintenance

Water should not be allowed to pond or seep into the ground, or flow over slopes in a concentrated manner. Roof gutters and yard drains should be provided. Pad drainage should be directed toward the street or any approved watercourse area swale via non-erosive channel, pipe and/or dispersion devices.

Control of moisture is important in regard to control of mold within the future living environment. Molds can deteriorate building materials and lead to health problems such as asthma episodes and allergic reactions in susceptible individuals. Mold spores waft through both indoor and outdoor continually. When mold spores land on damp areas, they begin growing and digesting the host material in order to survive. Some molds propagate much more quickly than others. Molds can grow when moisture is present on and within wood, paper, carpet, and foods. Mold growth will often occur when excessive moisture accumulates in buildings or on building materials, particularly if moisture problems remain undiscovered, or are not addressed.

Obviously, the key to mold control is moisture control. Generally speaking, in the semi-arid climate of Southern California, we would not have mold problems if we did not have excessive landscape watering and the occasional leaking water, storm drain, or sewer pipe.

The average annual rainfall in Southern California is less than 15 inches per year; however, studies have shown that the average Southern California homeowner applies at least 200 inches of equivalent rainfall to their yard each year. It is important than in addition to control of landscape watering, that pad drainage slopes away from structures. Placement of planters next to houses can also lead to increased moisture under pad areas.

Scour Wall

A sheet pile scour wall is located on the east site of the site at the San Juan Creek Channel. This wall was constructed with tiebacks extending beneath the subject site. Prior to performing any grading or proposing any improvements behind this wall, it is recommended a Structural Engineer be contacted to evaluate this wall.

Review and Inspection

The site foundation and grading plans, including foundation-loading details, should be forwarded to the Geotechnical Engineer for review and approval prior to finalizing design.
All foundation and bottom excavations shall be observed by an engineering geologist or a geotechnical engineer prior to the placement of any steel to verify that the proper foundation material has been encountered. The local governing agency, Department of Building and Safety Inspector should also observe the excavation.

LIMITATIONS

The findings and recommendations of this report were prepared in compliance with the current Grading and Building Code of the City of San Juan Capistrano and in accordance with generally accepted professional geotechnical engineering principles and practices. We make no other warranty, either express or implied.

We appreciate this opportunity to be of service to you. If you have any questions regarding the content of this report or any other aspects of the project, please do not hesitate to contact us.

Very truly yours,

GEOSOILS CONSULTANTS, INC.

KAREN L. MILLER
GE 2257

JAMES VAN METER
CEG 2031

KLM.W:Geot Eng. Inv.

Encl: Plate 1, Boring Location Map
Plate 2, Geologic Cross-Sections
Plate 3, Site Plan
Appendix A, Field Exploration Procedures and Laboratory Testing
Plates A-1 through A-9, Boring Logs
Plates SH-1 and SH-2, Shear Test Diagram
Plates C-1 through C-6, Consolidation Diagrams
Plates G-1 through G-11, Grain Size Distribution Curve
Plate L-1, Sulfate Test Results
CTE Boring Logs
Appendix B, Grading Guidelines
Appendix C, Liquefaction Analyses and Seismic Settlement Analyses

cc: (3) Addressee

MDN 19246

GSC GeoSoils Consultants Inc.
GEOTECHNICAL • GEOLOGIC • ENVIRONMENTAL
6634 Valjean Avenue
Van Nuys, CA 91406

BORING LOCATION MAP
SAN JUAN MIXED USE
CALLE ARBOR AND PASEO TIRADOR
SAN JUAN CAPISTRANO, CALIFORNIA
WATT COMMUNITIES

WORK ORDER	DATE	SCALE
7050	6/2017	1" = 50'

REVISED _____

PLATE 1

MDN 19246

EXPLANATION

- APPROXIMATE LOCATION OF CTE BORING
- APPROXIMATE LOCATION OF GSC BORING
- B — B' LINE OF GEOLOGIC SECTION

CALLE ARROYO

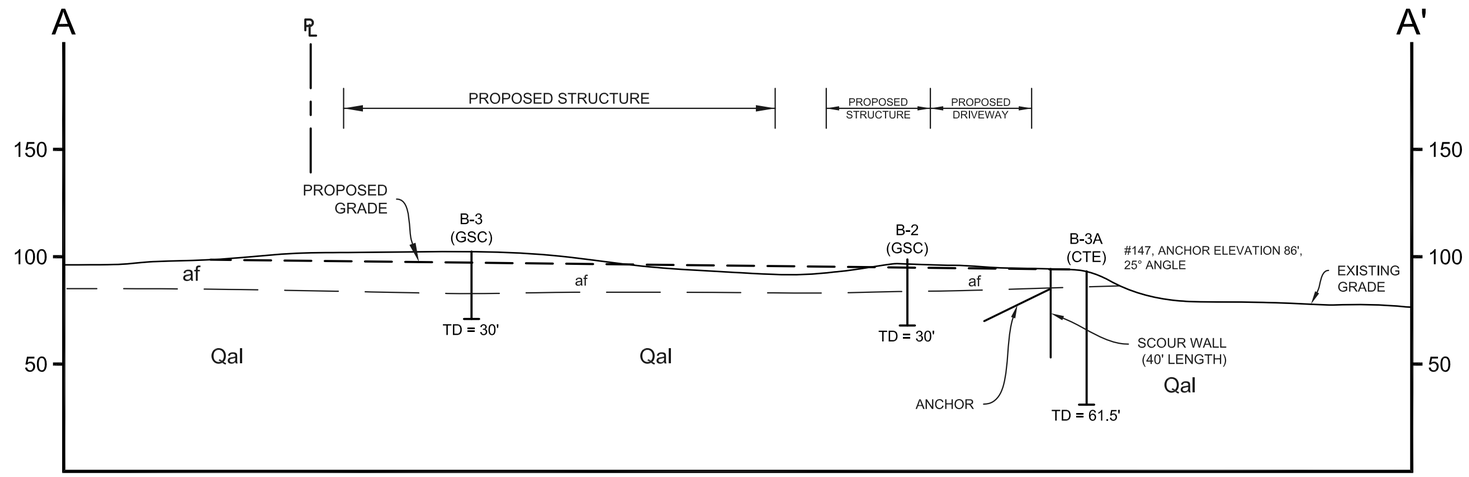
5 FREEWAY

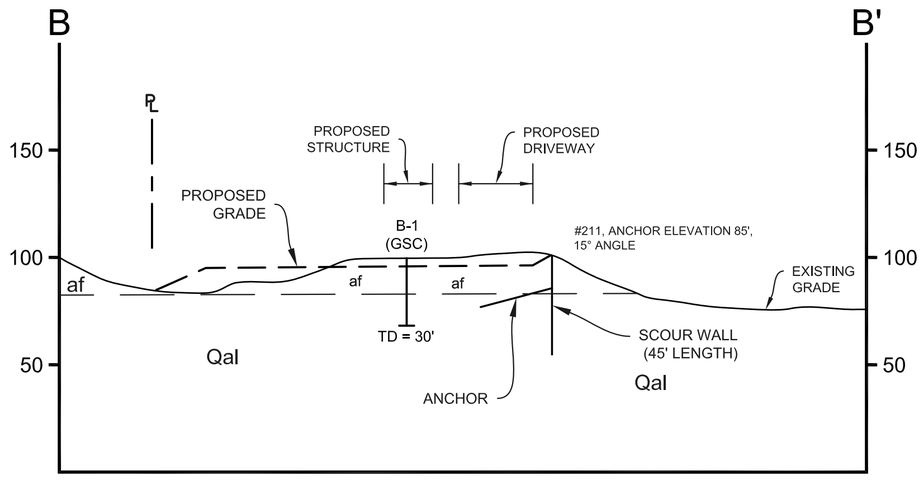
24 HOUR FITNESS SITE
AND ADJACENT PARCEL

SCALE: 1" = 1"=50'

0 25 50 100 150 200
SCALE: 1" = 50'

X:\2001 w.o\gsc-cad\7050\CURRENT\PLATE 1 BORING LOCATION MAP 6-13-17.dwg, 7/13/2017 10:22:37 AM, Adobe PDF.pc3





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GEOTECHNICAL•GEOLOGIC•ENVIRONMENTAL

6634 Valjean Avenue
Van Nuys, CA 91406

GEOLOGIC CROSS SECTIONS
SAN JUAN MIXED USE
CALLE ARBOR AND PASEO TIRADOR
SAN JUAN CAPISTRANO, CALIFORNIA
WATT COMMUNITIES

WORK ORDER	DATE	SCALE
7050	6/2017	1" = 50'

REVISED

MDN 19246

PLATE 2

X:\2001 w.o\gsc-cad\7050\CURRENT\PLATE 2 GEOLOGIC CROSS SECTIONS 6-13-17.dwg, 7/13/2017 10:17:17 AM, Adobe PDF.pc3

PROJECT SUMMARY

LOT AREA SUMMARY

GROSS SITE AREA	19.43 acres
LESS CALLE ARROYO RIGHT-OF-WAY	0.50 acres
CITY PARCEL	0.92 acres
LOT LINE ADJUSTMENT	0.13 acres
TOTAL OVERALL GROSS SITE AREA	19.98 acres
RESIDENTIAL	17.33 acres
FITNESS CENTER	2.65 acres

UNIT SUMMARY

TOWNHOMES	89 units
DETACHED	47 units
TOTAL RESIDENTIAL UNITS	136 units

GROSS DENSITY 7.85 Du / acre

TOWNHOMES

PLAN	DESCRIPTION		QNTY.	UNIT TOTAL FLOOR AREA	FLOOR AREA SUBTOTAL	PROVIDED PARKING RATIO	PROVIDED PARKING
1	2 BEDROOM / 2 BATH	TOWNHOME	14 (16%)	1,200 sf	16,800 sf	2.00	28 spaces
2	3 BEDROOM / 3 BATH	TOWNHOME	31 (35%)	1,650 sf	51,150 sf	2.00	62 spaces
3	3 BEDROOM / 3 BATH	TOWNHOME	44 (49%)	1,800 sf	79,200 sf	2.00	88 spaces
	GUEST					0.50	38 spaces
SUBTOTAL TOWNHOME UNITS:			89 residential units		147,150 sf		216 spaces

SINGLE FAMILY HOMES

PLAN	DESCRIPTION		QNTY.	UNIT TOTAL FLOOR AREA	FLOOR AREA SUBTOTAL	PROVIDED PARKING RATIO	PROVIDED PARKING
P1	3 BEDROOM / 2.5 BATH	SF	15 (32%)	1,634 sf	24,510 sf	3.00	45 spaces
P2	4 BEDROOM / 2.5 BATH	SF	16 (34%)	1,670 sf	26,720 sf	3.00	48 spaces
P3	4 BEDROOM / 2.5 BATH	SF	16 (34%)	1,766 sf	28,256 sf	3.00	48 spaces
	GUEST					0.50	24 spaces
SUBTOTAL SINGLE FAMILY UNITS:			47 residential units		79,486 sf		165 spaces

EXPLANATION

APPROXIMATE LOCATION OF CTE BORING

APPROXIMATE LOCATION OF GSC BORING

B B' LINE OF GEOLOGIC SECTION

SAN DIEGO 5 FREEWAY

CALLE ARROYO

VEHICULAR ENTRY TO FITNESS CENTER

SECURITY GATE WITH FIRE ACCESS PER ORANGE COUNTY FIRE AUTHORITY STANDARDS

EXISITNG 30' WIDE STORM DRAIN EASMENT

ENHANCE PAVING AT MAIN VEHICULAR ENTRY

SECURITY GATE

SECURITY GATE WITH FIRE ACCESS PER ORANGE COUNTY FIRE AUTHORITY STANDARDS

COMMUNITY BUILDING

POOL

SCOUR WALL LOCATION (Typical)

EXISTING CITY OF SAN JUAN CAPISTRANO WATER WELL TO REMAIN

20' WIDE MULTI-PURPOSE PEDESTRIAN, EQUESTRIAN, AND BIKE TRAIL

COLOR / HATCH INDICATES THE OPEN AREA OUTSIDE OF JURISDICTIONAL LOT AREA

SAN JUAN CREEK CHANNEL

B-1 17' af
B-2 12' af
B-2A 14' af
B-1A 18' af
B-3 20' af
B-3A 9' af
B-4A 19' af
B-4 9' af
B-5 9' af
B-6 7' af
B-1 5' af
B-5A 7' af
B-6A 7 af

GRAPHIC SCALE
0 20 40 80
IN FEET
1 inch = 40 ft.

GSC GeoSoils Consultants Inc.
6634 Valjean Avenue
Van Nuys, CA 91406

SITE PLAN
SAN JUAN MIXED USE
CALLE ARBOR AND PASEO TIRADOR
SAN JUAN CAPISTRANO, CALIFORNIA
WATT COMMUNITIES

WORK ORDER	DATE	SCALE
7050	6/2017	1" = 50'
REVISED	PLATE 3	

CONCEPTUAL SITE PLAN
SCHEME W-13

SAN JUAN SITE PLAN CONCEPT

Watt Communities
2716 Ocean Park Blvd., Suite 2025,
Santa Monica, CA 90405

WITHEE MALCOLM ARCHITECTS, LLP
2251 West 190th Street Torrance, CA 90504
t. 310. 217. 8885
www.witheemalcolm.com

JOB NO. B3002.200
PRINTED: July 13, 2017

SAN JUAN MIXED-USE SITE PLAN CONCEPT

CALIFORNIA

scale: 1" = 50'-0"
0 50 100 150 200

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July 10, 2017
W.O. 7050

APPENDIX A

FIELD EXPLORATION PROCEDURES AND LABORATORY TESTING

APPENDIX A

FIELD EXPLORATION PROCEDURES AND LABORATORY TESTING

Six borings drilled with an 8-inch diameter hollow-stem auger drill rig explored subsurface conditions to a maximum depth of 50 feet. The locations of the borings are shown on the Boring Location Map, Plate 1 and the Site Plan, Plate 3. The borings were continuously logged and classified by one of our geologists by visual examination in accordance with the Unified Soil Classification System. The boring logs are included as Plates A-1 through A-9. Undisturbed soil samples were collected by driving a ring sampler with a 140-pound hammer weight falling 30 inches. The soil samples were retained in a series of brass rings, each having an inside diameter of 2.36 (6.0 centimeters) and a height of 1.00 inch (2.54 centimeters). The central portions of the samples were retained in close-fitting, moisture-tight containers for shipment to our laboratory. Additionally, standard penetration samples (SPT) were taken to obtain blows per foot to correlate to relative density determinations.

Moisture-Density

The field moisture content and dry unit weights were determined for each undisturbed ring sample obtained from our subsurface exploration. Once the dry unit weights had been determined, in-place densities of underlying soil profile were estimated. In those cases where ring samples were obtained, the moisture content and dry unit weights are presented on Boring Logs B-1 through B-6 (Plates A-1 through A-9).

Compaction Tests

One compaction tests were performed to determine to moisture density relationships of the typical surficial soils encountered on the site. The laboratory standard used was in accordance with ASTM Test Designation D-1557-12. Summaries of the compaction test results are shown in Table A-1.

Appendix A

TABLE A-1 COMPACTION TEST RESULTS			
Boring No. and Sample Depth	**Description**	**Maximum Dry Density (pcf)**	**Optimum Moisture (%)**
B-1@ 0.5'	Brown clayey silty SAND	128.0	10.5

Direct Shear Tests

Two shear tests were performed in a strain-control type Direct Shear Machine. The sample was sheared under varying confining loads in order to determine the Coulomb shear strength parameters: cohesion (c), and angle of internal friction (ϕ) for peak and residual strength conditions. The sample was tested in an artificially-saturated condition. The results are plotted and a linear approximation is drawn of the failure curve. Results are shown on the Shear Test Diagrams included with this appendix as Plates SH-1 and SH-2.

Consolidation Tests

Six consolidation tests were performed on selected ring samples. The samples were inundated at an approximate load of one ton per square foot to monitor the hydroconsolidation. Loads were applied to the samples in several increments in geometric progression and resulting deformations were recorded at selected time intervals. Results of the consolidation tests are presented on Plates C-1 through C-6.

Gradation Analysis

Eleven (11) sieve analyses were used to determine the grain size composition of the natural alluvium at depth to make inferences about the liquefaction potential onsite. The test results are included at the end of this appendix as Plates G-1 through G-11.

Appendix A

Expansion Index Test

To determine the expansion potential of the on-site native soils, an expansion index test was conducted in accordance with the ASTD D-4829-07. The test results indicate low expansion potential.

Sulfate Test

To determine the sulfate content of onsite soils, a sample from B-2 @ 0 to 5 feet was sent to an outside laboratory. Results exhibit a negligible sulfate content of 320 parts per million (ppm). Results are included as Plate L-1.

Atterberg Tests

Two Atterberg Limit tests were performed per D-ASTM 4318-10. The results are listed below:

Sample	Liquid Limit	Plastic Limit	Plasticity Index
B-5@45’	39.0	20.2	19.4
B-6@40’	29.8	23.3	6.5

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-7-17 | BORING NO. B-1
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-17' Fill (af) Top of gray brown silty fine to coarsed with asphalt fragments.			
5		10/12/20	@ 5' Light greenish brown to silty fine sand, moderately moist, moderately firm.	13.1	110.2	
10		20/24	@ 10' Medium brown to orange brown clayey silty fine to medium sand with rock fragments, moderately moist, moderately firm.	12.0	110.5	
15		17/21	@ 15' Light brown to light orange brown clayey silty fine to medium sand with rock fragments, moderately moist, moderately dense. @ 17' Drilling smoother, no longer encountering rock fragments.	13.8	107.2	
			17'-30' Alluvium (Qal) No recovery due to rock fragments in the tip.			
20		18/20				
25		30/50 for 6"	@ 25' Light gray fine to coarse sand with occassional gravel fragments, moderately moist, dense. @ 30' Light to medium gray fine to coarse sand with occassional gravel fragments, saturated, dense.	1.8	111.5	
30		20/40	TD: 30' GW at 27.5' Hole backfilled	19.5	105.1	

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-1

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-7-17 | BORING NO. B-2
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-12' Fill (af)			
5		17/21	@ 5' Dark gray to light orange brown silty fine to coarse sand with rock fragments, modeately moist, moderately firm.	11.0	127.6	
10		45/50 for 4"	@ 10' Dark gray clayey silty fine to coarse sand with rock fragments, moderately moist, moderately firm.	11.1	95.9	
			12'-30' Alluvium (Qal)			
			@ 12' Drilling smoother, no longer encountering rock fragments.			
15		10/15	@ 15' Light gray fine to very coarse sand with occassional gravel sized fragments, moderately moist, dense.	1.8	101.9	
20		17/21	@ 20' Light brown fine to very coarse sand, moderately moist, dense. No recovery.	2.4	106.4	
25		24/30				
30		18/28	@ 30' Light brown fine to very coarse sand with occassional gravel sized fragments, saturated, dense. TD: 30' GW at 23.5' Hole backfilled	16.4	103.5	

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-2

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-7-17 | BORING NO. B-3
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 1
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-20' Fill (af)			
5		9/10	@ 5' Dark to medium brown silty fine to coarse sand with rock fragments, moderately moist, slightly to moderately firm.	11.1	113.3	
10		7/8	@ 10' Orange brown to medium brown clayey silty fine to medium sand with rock fragments, moderately moist, slightly to moderately firm.	12.9	112.5	
15		8/11	@ 15' Dark brown clayey silt in lower half of sand and medium brown silty fine to medium sand with rock fragments, moderately moist, slightly dense.	19.0	107.0	
20		7/10	**20'-30' Alluvium (Qal)** @ 20' Dark brown clayey silty fine to medium sand and medium brown silty fine to coarse sand with rock fragments, moderately moist to moist, slightly to moderately dense. (Fill/alluvium contact encountered)	18.5	107.0	
25		12/21	@ 25' Light brown fine to coarse sand with occassional gravel sized fragments, slightly moist, dense. @ 30' Light brown fine to very coarse sand with gravel, slightly to moderately moist, dense.	2.7	108.4	
30		20/43	TD: 30' No GW Hole backfilled	7.1	110.2	

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-3

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-8-17 | BORING NO. B-4
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 2
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-9' Fill (af)			
		12/15	@ 2.5' Light orange brown clayey silty fine to medium sand, moderately moist, moderately firm.	19.3	108.1	
5		4/5/7	@ 5' Light orange brown clayey silty fine to medium sand, moderately moist, moderately firm.	24.1		
		11/12	@ 7.5' Light orange brown to light medium brown silty fine sand, moderately moist, moderately firm.	17.2	107.3	
			9'-50' Alluvium (Qal)			
10		4/4/5	@ 10' Light brown silty fine to coarse sand, slightly moist, moderately dense.	1.7		
15		12/21	@ 15' Light brown fine to very coarse sand with gravel sized fragments, slightly moist, dense.	1.6		
20		4/5/7	@ 20' Light gray medium to very coarse sand with gravel sized fragments, saturated, dense.	13.7		
25		4/5	@ 25' Dark gray silty fine sand, very moist/saturated, moderately dense.	38.1	84.4	
30		3/5/10	@ 30' Light gray fine to very coarse sand, saturated, dense.	18.0		

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-4

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-8-17 | BORING NO. B-4
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 2 OF 2
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
		18/32	@ 35' Light gray fine to coarse sand with occassional gravel fragments, saturated, dense.	14.8	119.2	
40			@ 40' Light gray fine to coarse sand, saturated, dense.	2.1		
45		18/23	@ 45' Light gray fine to coarse sand, saturated , dense. @ 50' Light gray fine to coarse sand, saturated, dense.	14.8	113.1	
50		10/13/19	TD: 50' Groundwater @ 17' Hole backfilled	13.0		
55						
60						
65						

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-5

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-8-17 | BORING NO. B-5
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 1 OF 2
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-9' Fill (af)			
		9/13	@ 2.5' Light orange brown silty fine to medium sand slightly moist, moderately firm.	25.2	100.0	
5		9/12	@ 5' Light brown to dark brown silty fine to medium sand with gravel sized fragments, moderately moist, moderately firm.	19.8	102.8	
		7/8/10	@ 7.5' Medium brown silty fine to medium sand with occassional rock fragments, moderately moist, moderately firm.	15.9		
			9'-50' Alluvium (Qal)			
10		10/12	@ 10' Medium to dark brown clayey silty fine sand (topsoil?), moderately moist.	17.1	80.8	
15		3/4/4	@ 15' Light brown fine to coarse sand, slightly moist, moderately dense.	6.4		
20		28/50	@ 20' Light gray fine to very coarse sand, moist, dense.	7.0	108.8	
25		10/11/12	@ 25' Light gray fine to very coarse sand with rock fragments, saturated, dense.	15.6		
30		14/32	@ 30' Light gray fine to very coarse sand, saturated, dense.	16.3	106.0	

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-6

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-8-17 | BORING NO. B-5
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 2 OF 2
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
		50 for 6" (rock)	@ 35' Light gray fine to very coarse sand and dark gray clayey silt, saturated, dense (rock in sampler tip)	24.4		
40		9/10	@ 40' Medium gray fine to very coarse sand and dark gray brown clayey silty fine sand, saturated, dense.	18.2	108.1	
45		3/5/7	@ 45' Dark gray clayey silt, moist, dense.	24.3		
			@ 50' Dark gray clayey silty fine sand, moist, dense.			
50		11/12		26.7	97.6	
			TD: 50' GW @ 28' Hole backfilled			
55						
60						
65						

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-7

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC — W.O. NO. 7050
DRILLING COMPANY Choice Drilling — DATE STARTED: 6-8-17 — BORING NO. B-6
TYPE OF DRILL RIG Truck — LOGGED BY JLV — SHEET 1 OF 2
DRILLING METHOD Hollow stem — HAMMER WEIGHT (LBS) — GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" — DROP (IN) — GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
			0-7' Fill (af)			
		12/15	@ 2.5' Orange brown silty fine to medium sand with rock fragments, moderately moist, moderately firm to firm.	13.9	113.1	
5		4/5/5	@ 5' Light orange brown to brown silty fine to medium sand, moderately moist, moderately firm.	14.0		
		9/15	**7'-50' Alluvium (Qal)** @ 7.5' Dark brown clayey silt to clayey silty fine sand, moderately moist, moderately dense.	13.8	108.7	
10		4/15/6	@ 10' Medium to dark brown clayey fine sandy silty to clayey silt, moderately moist, moderately dense.	20.9		
15		16/20	@ 15' Light brown fine to medium sand, slightly moist, dense.	10.4	108.6	
20		7/14/15	@ 20' Light yellowish brown fine to coarse sand with occassional gravel fragments, slightly to moderately moist, dense.	2.1		
25		15/17	@ 25' No recovery.			
30		5/12/15	@ 30' Light gray fine to very coarse sand with occassional gravel fragments, saturated, dense.	10.6		

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-8

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

GEOTECHNICAL BORING LOG

PROJECT NAME Watt Communities LLC | W.O. NO. 7050
DRILLING COMPANY Choice Drilling | DATE STARTED: 6-8-17 | BORING NO. B-6
TYPE OF DRILL RIG Truck | LOGGED BY JLV | SHEET 2 OF 2
DRILLING METHOD Hollow stem | HAMMER WEIGHT (LBS) | GROUND ELEVATION (FT)
DIAMETER OF HOLE 8" | DROP (IN) | GW ELEVATION
BORING LOCATION:

DEPTH (FT)	SAMPLE TYPE	BLOWS/ 6 IN.	GEOTECHNICAL DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	OTHER TESTS
		7/11	@ 35' Dark gray clayey silty fine sand, moist, moderately dense.	26.9	90.6	
40		4/6/7	@ 40' Dark gray clayey silty fine sand, moist to saturated, moderately dense.	28.2		
45		7/10	@ 45' Dark gray silty fine sand, moist to saturated, dense.	24.4	99.6	
			@ 50' Light gray fine to very coarse sand, saturated, dense.			
50		9/10/15	TD: 50' GW at 28' Hole backfilled	19.5		
55						
60						
65						

LEGEND

- Standard Penetration Test
- California Ring
- Rock Core
- Bulk Sample
- Shelby Tube
- Water Seepage
- Groundwater

SIEVE: GRAIN SIZE ANALYSIS
MAX: MAXIMUM DRY DENSITY
DS: DIRECT SHEAR
CONS: CONSOLIDATION
HYDR: HYDROMETER ANALYSIS
EXPAN: EXPANSION INDEX
CHEM: CHEMICAL TESTS

PLATE A-9

GeoSoils Consultants, Inc.
GEOTECHNICAL * GEOLOGIC * ENVIRONMENTAL

Watt - San Juan Capistrano
W.O.: 7050

Date of Test: 6/17

Sample: B-5 @ 10.0'

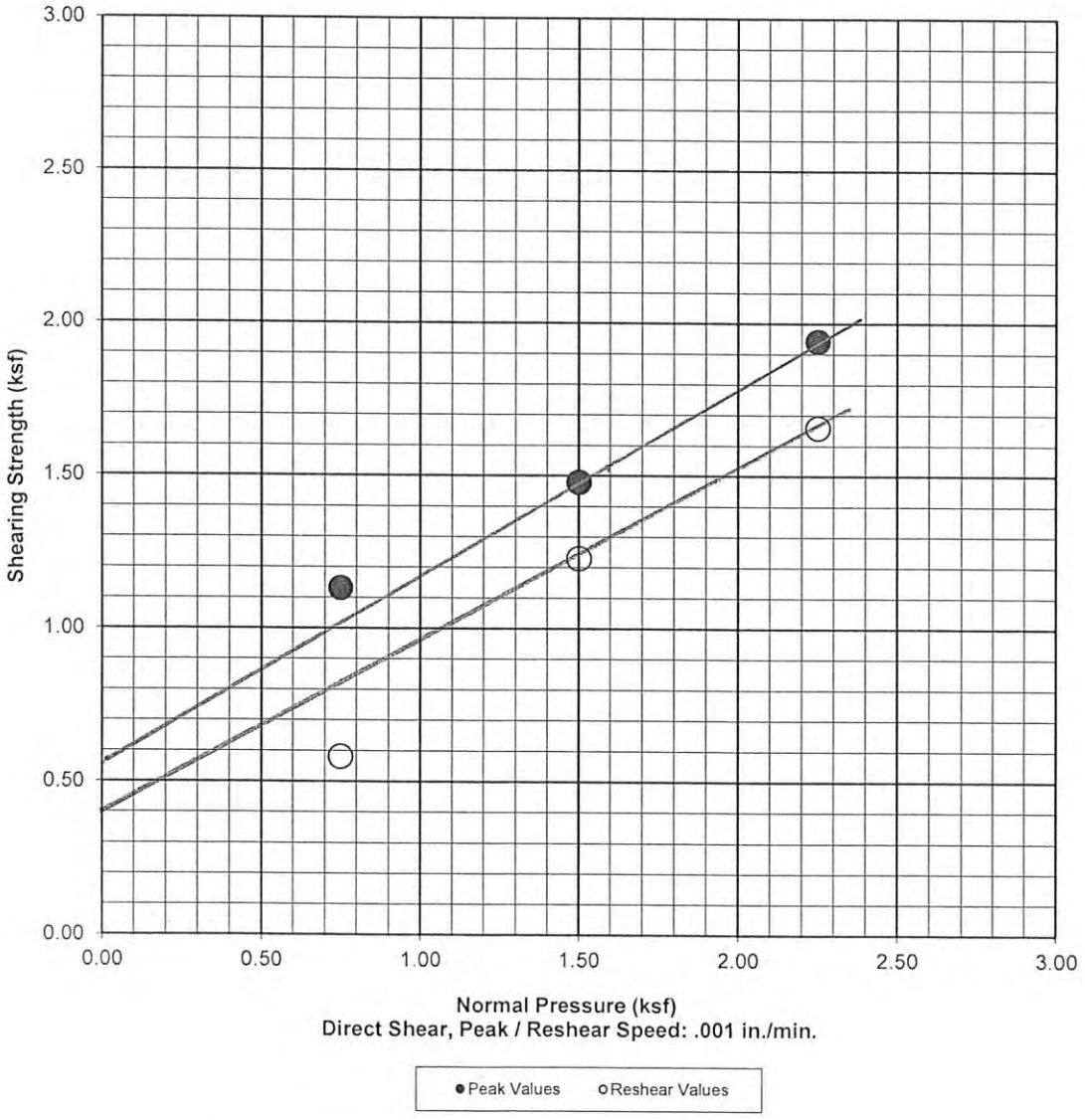
PLATE SH-1

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Shear Test Diagram
Peak
C(psf): 570 Phi (degrees): 30.0

Reshear
C(psf): 400 Phi (degrees): 28.0



Undisturbed **Natural** Shear-Saturated

Dark-brown, silty CLAY.

23.8% Saturated Moisture Content

Watt - San Juan Capistrano
W.O.: 7050

PLATE SH-2

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

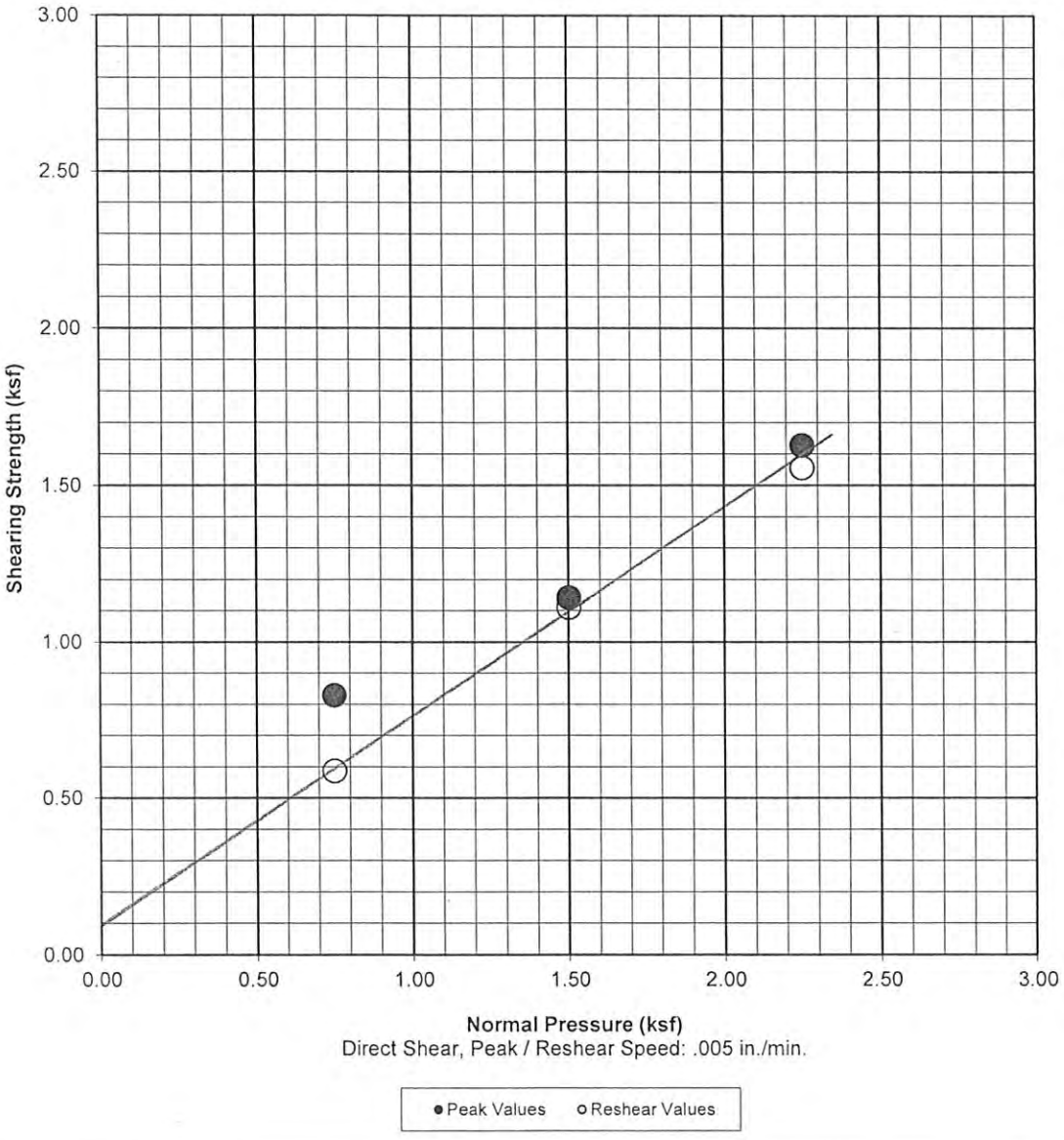
Date of Test: 6/17

Sample: **B-1 @ 0 - 5.0'**

Shear Test Diagram

Peak
C(psf): **100** Phi (degrees): **33.5**

Reshear
C(psf): **100** Phi (degrees): **33.5**



Sample **Remolded** to 90% Relative Density, saturated.
Rem. Dry Den. = 115.2 PCF

Brn, slightly clayey, silty, v.f. to coarse SAND.

MAX: 128 PCF: 10.5%

17.4% Sat. Moisture Content
7050.2.xls

Watt - San Juan Capistrano
W.O.: 7050

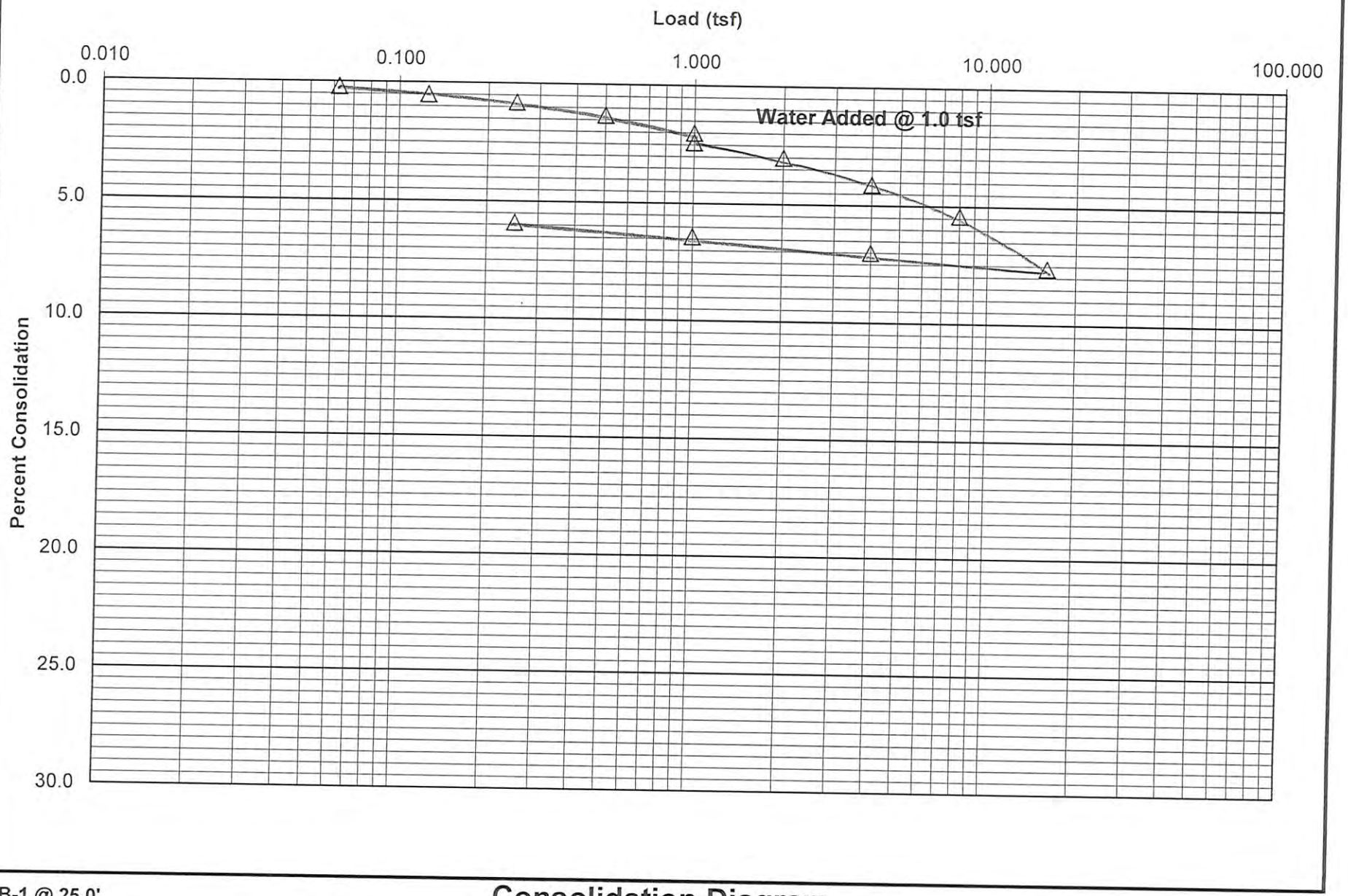
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 1.8 After: 20.1

Sample(in.)
Height: 1.00 Diameter: 2.36



B-1 @ 25.0'
Grey, slightly silty, very fine to coarse SAND, w/ gravel.

Consolidation Diagram

C7050.1.xls

Plate C-1

Watt - San Juan Capistrano
W.O.: 7050

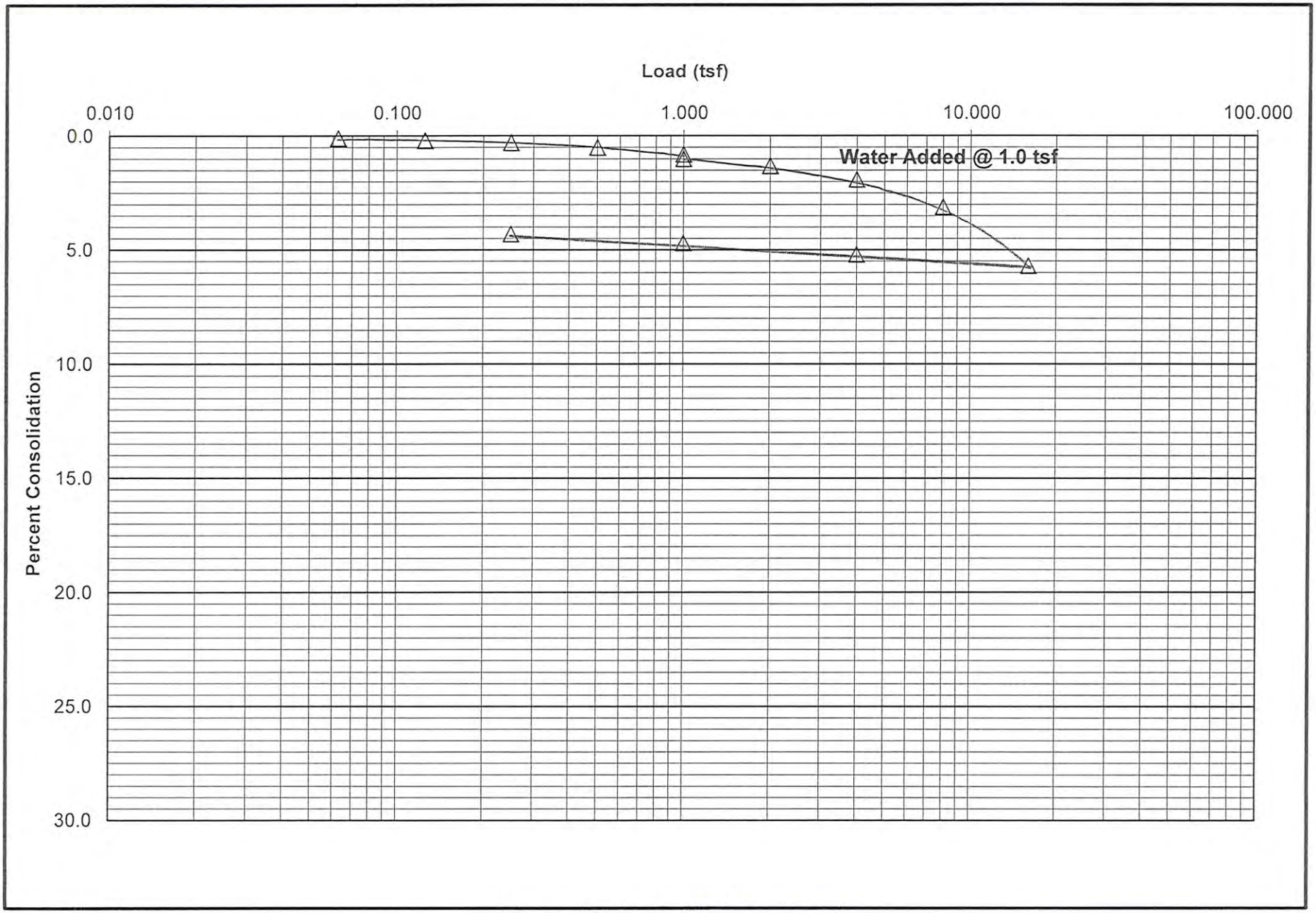
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 1.8 After: 21.1

Sample(in.)
Height: 1.00 Diameter: 2.36



B-2 @ 15.0'
Grey-brown, very fine to coarse SAND, w/ gravel.

Consolidation Diagram

C7050.2.xls

Plate C-2

Watt - San Juan Capistrano
W.O.: 7050

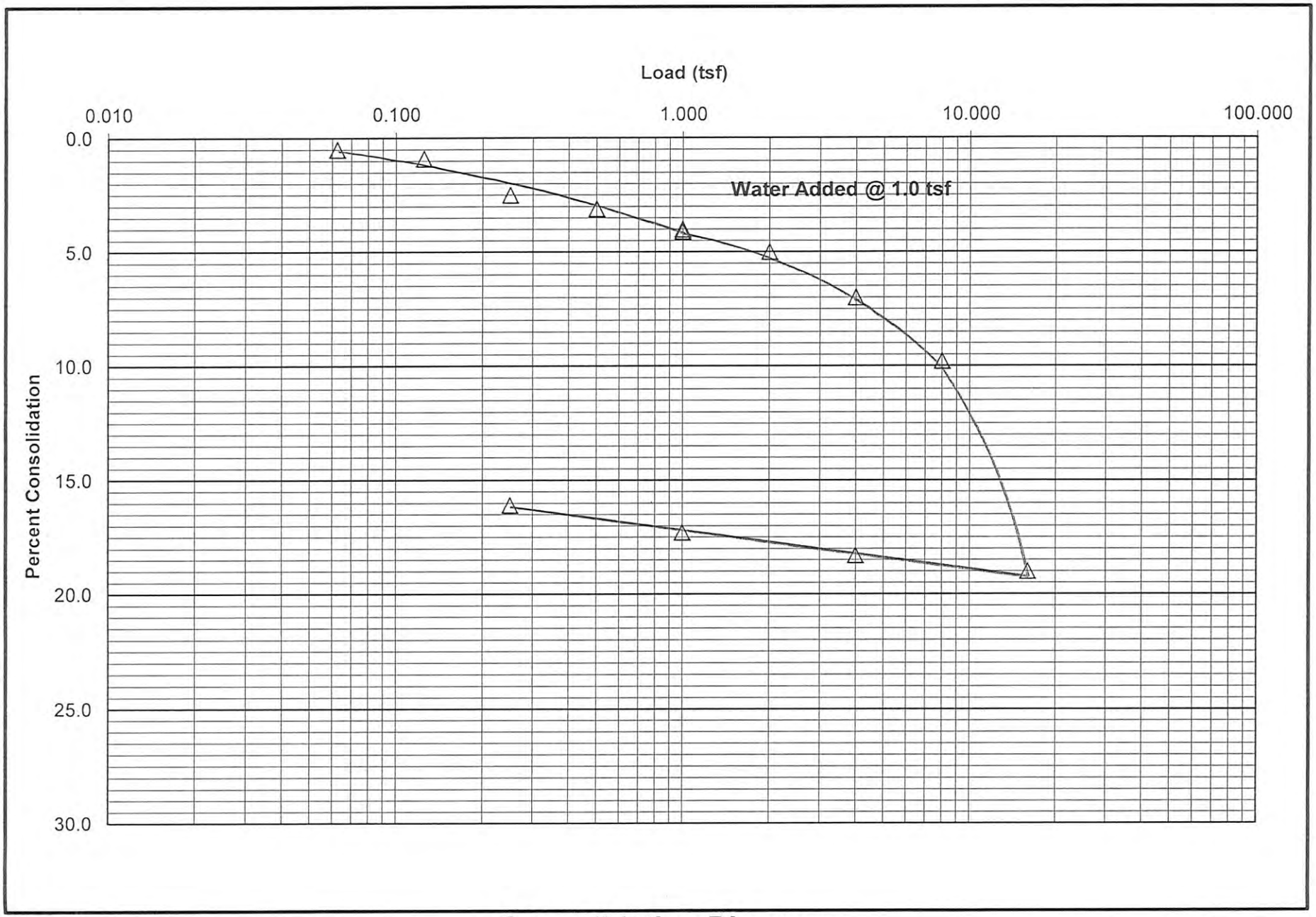
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 18.5 After: 19.2

Sample(in.)
Height: 1.00 Diameter: 2.36



B-3 @ 20.0'
Dark-brown, sandy CLAY.

Consolidation Diagram

C7050.3.xls

Plate C-3

Watt - San Juan Capistrano
W.O.: 7050

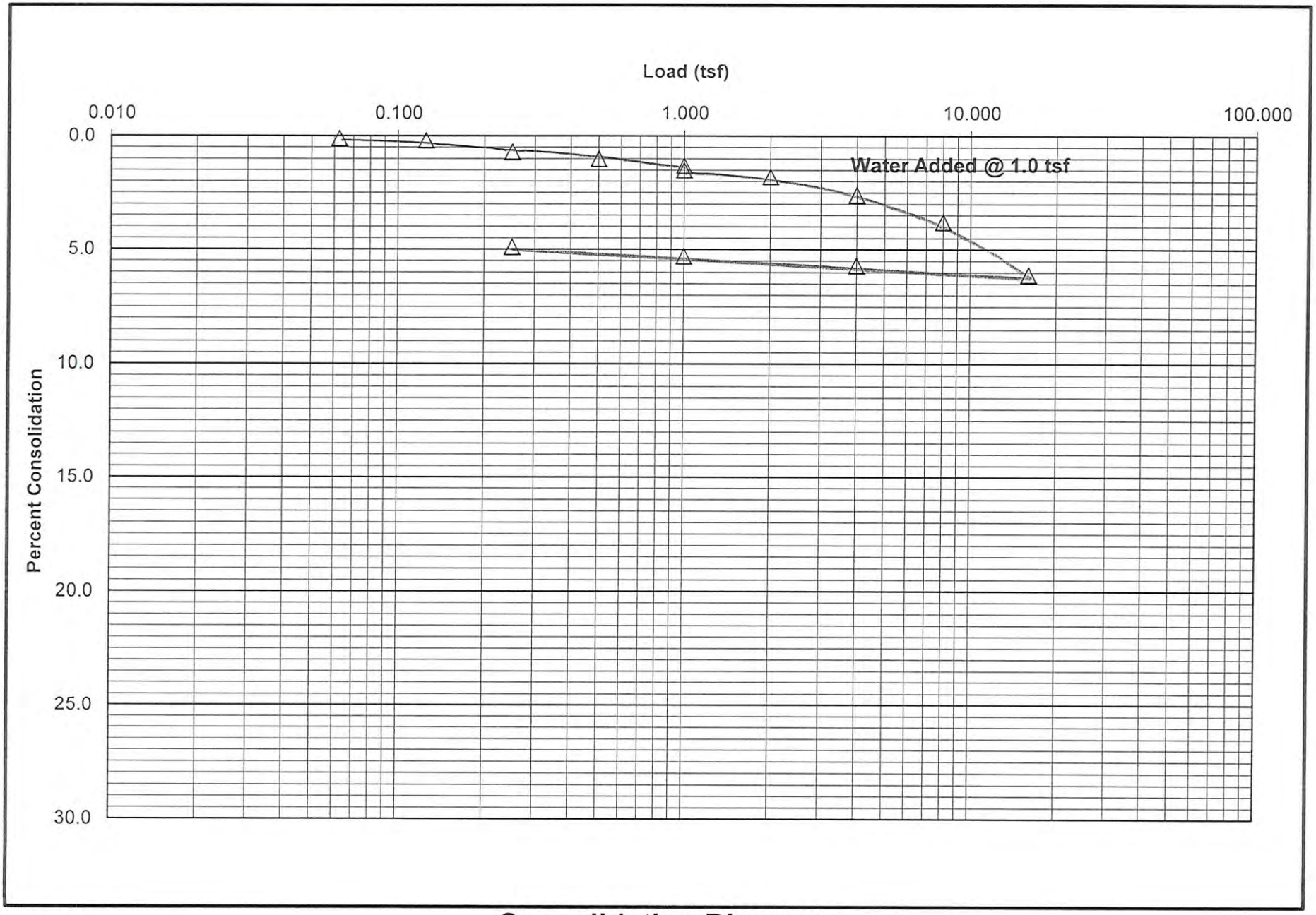
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 1.6 After: 21.8

Sample(in.)
Height: 1.00 Diameter: 2.36



B-4 @ 15.0'
Grey-brown, very fine to coarse SAND.

Consolidation Diagram

C7050.4.xls

Plate C-4

Watt - San Juan Capistrano
W.O.: 7050

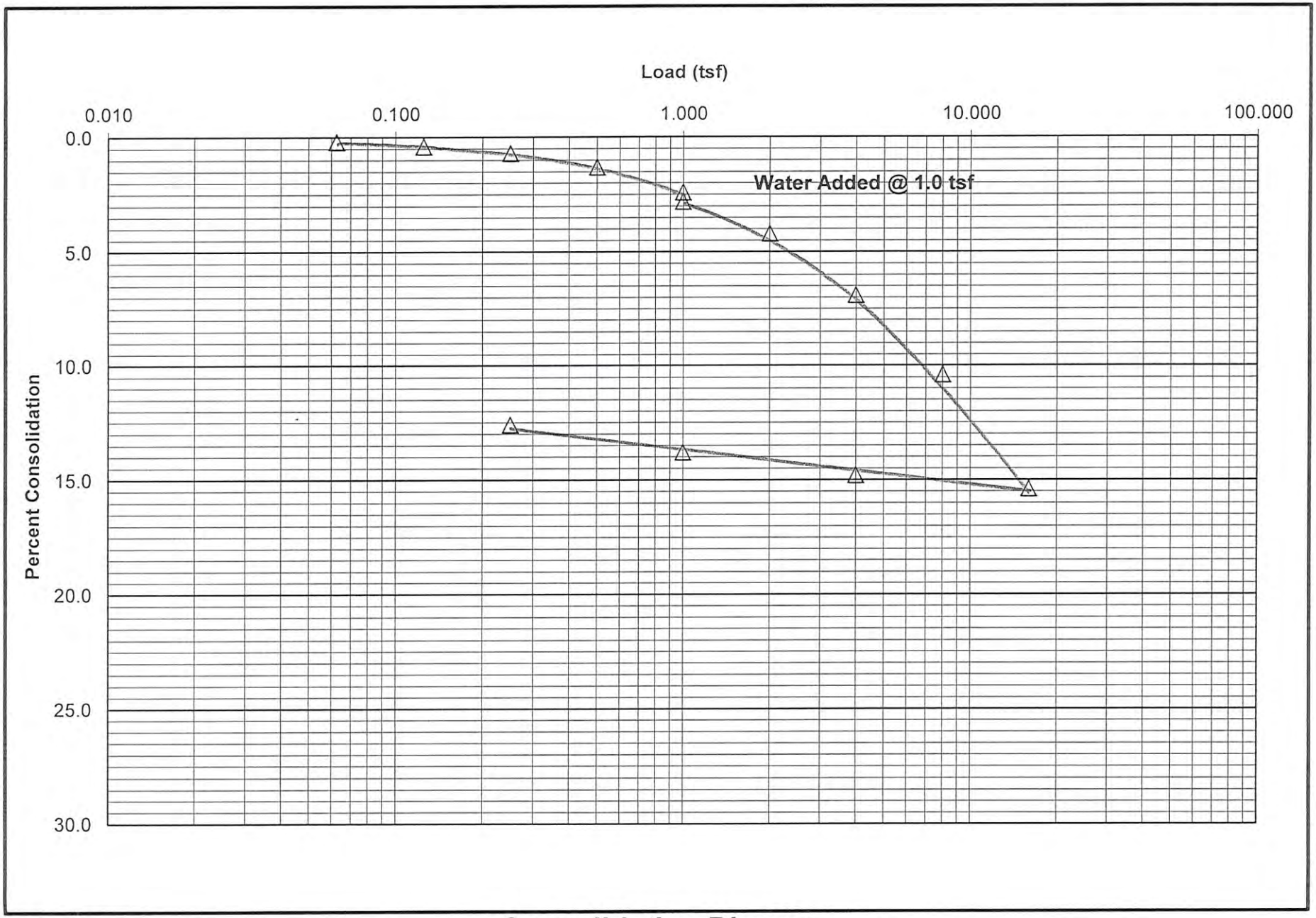
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 17.1 After: 21.2

Sample(in.)
Height: 1.00 Diameter: 2.36



B-5 @ 10.0'
Dark-brown, silty CLAY.

Consolidation Diagram

C7050.5.xls

Plate C-5

Watt - San Juan Capistrano
W.O.: 7050

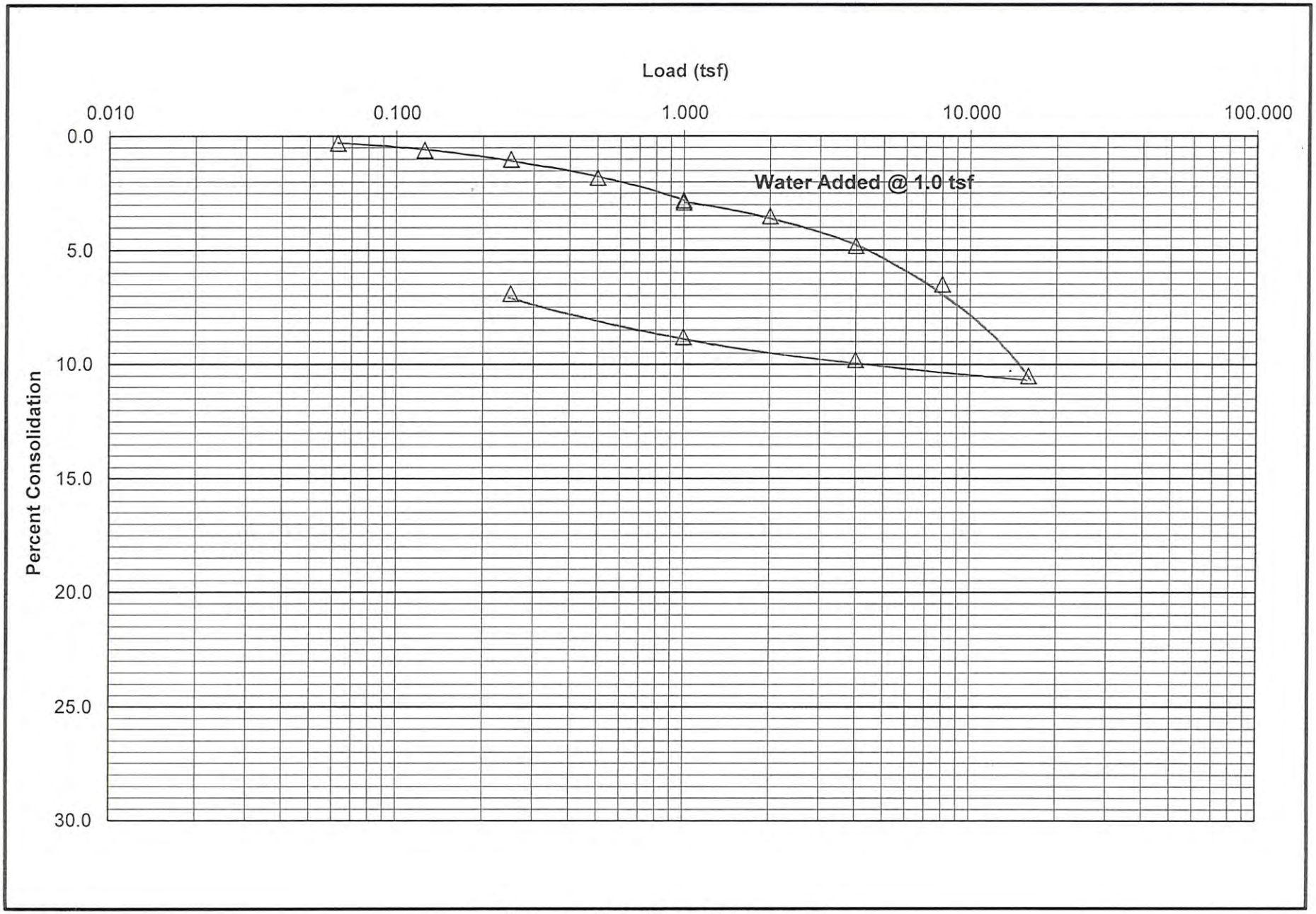
Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture(%)
Before: 10.4 After: 16.8

Sample(in.)
Height: 1.00 Diameter: 2.36



B-6 @ 15.0'
Dark-brown, slightly sandy, silty CLAY.

Consolidation Diagram

C7050.6.xls

Plate C-6

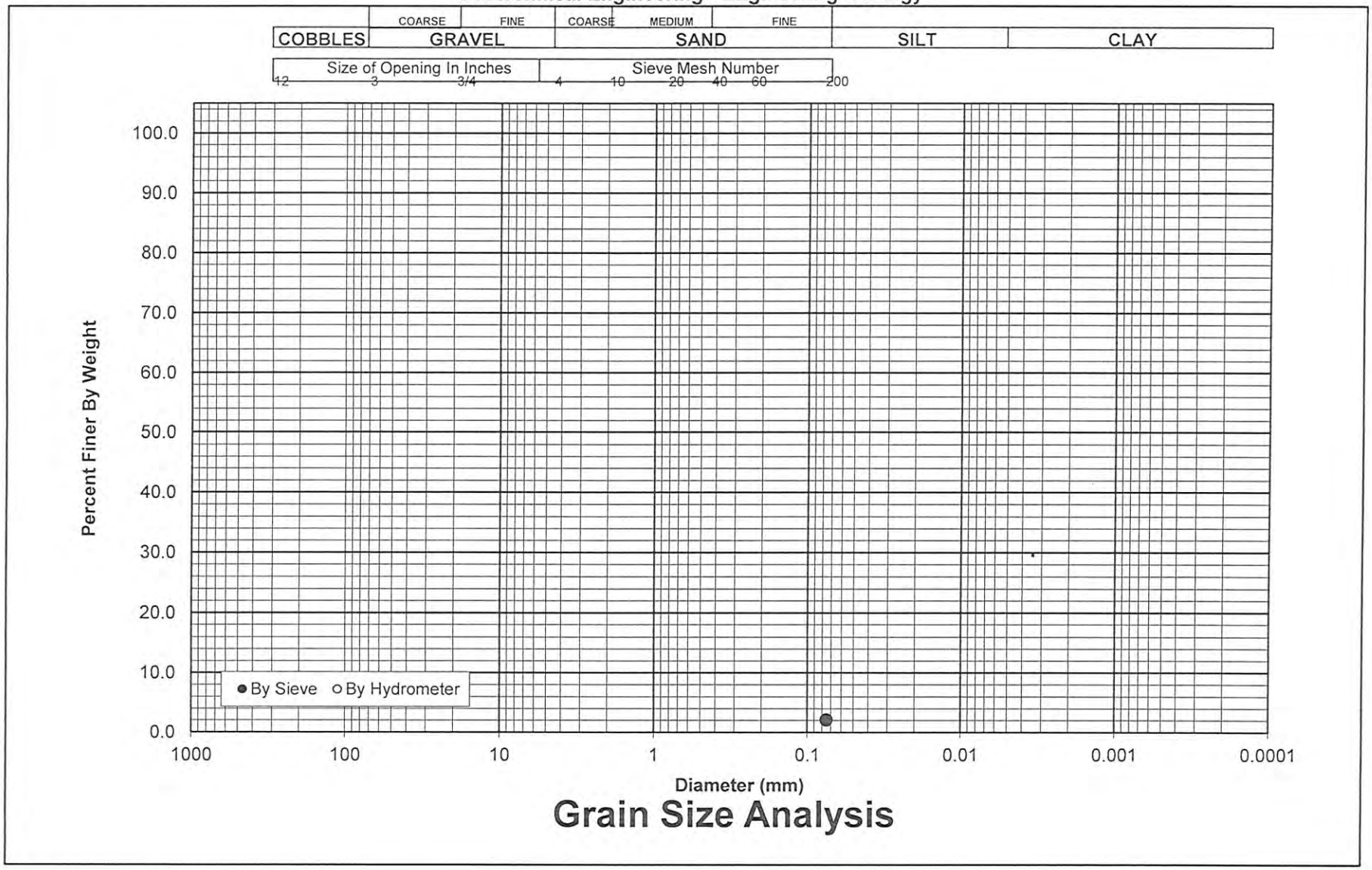
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 1.7
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-4 @ 10.0'
Brown, fine to coarse SAND, w/ gravel.

SH7050.1.xls

Plate G-1

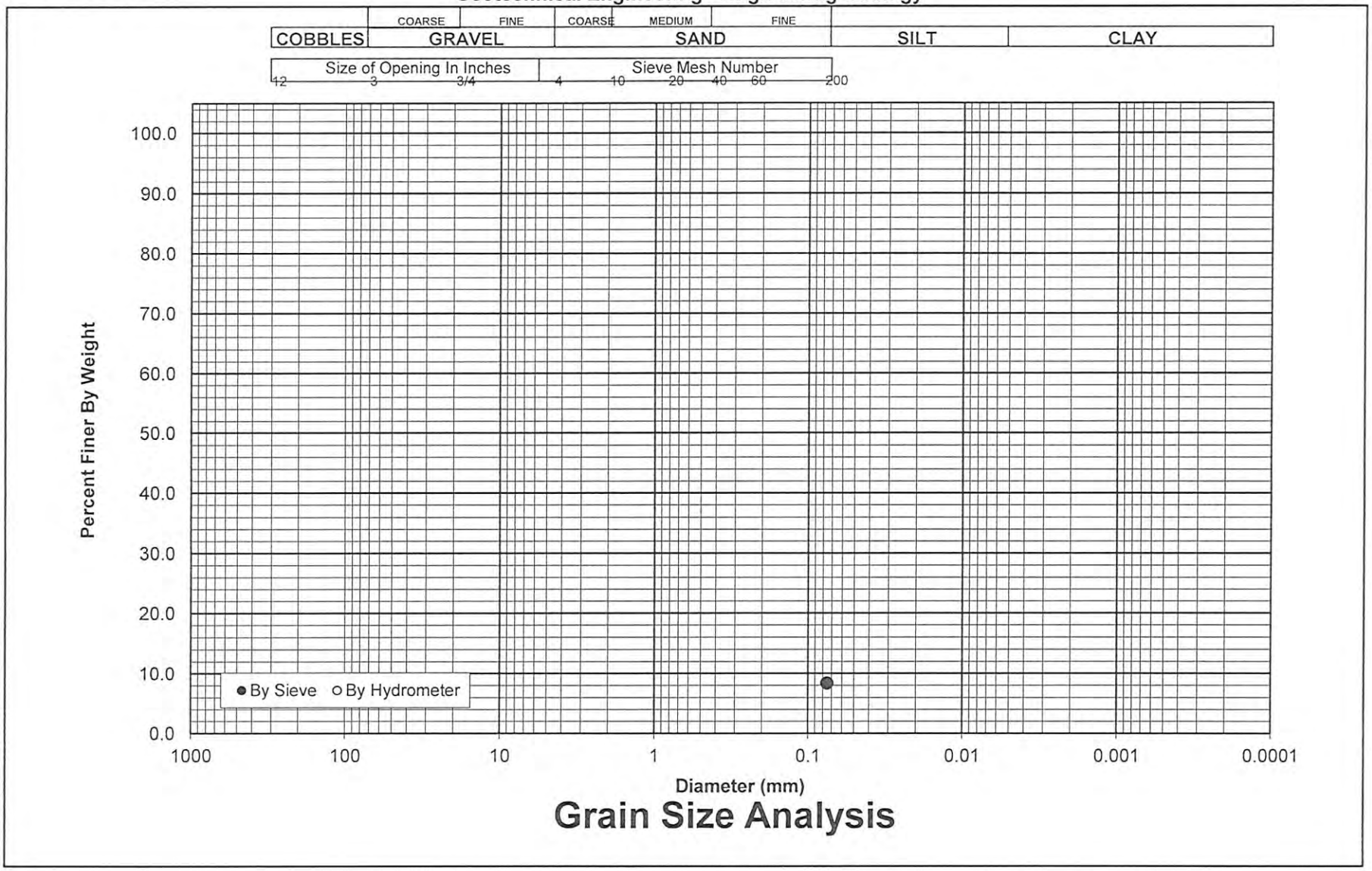
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 13.7
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-4 @ 20.0'
Grey-brown, very fine to coarse SAND.

SH7050.2.xls

Plate G-2

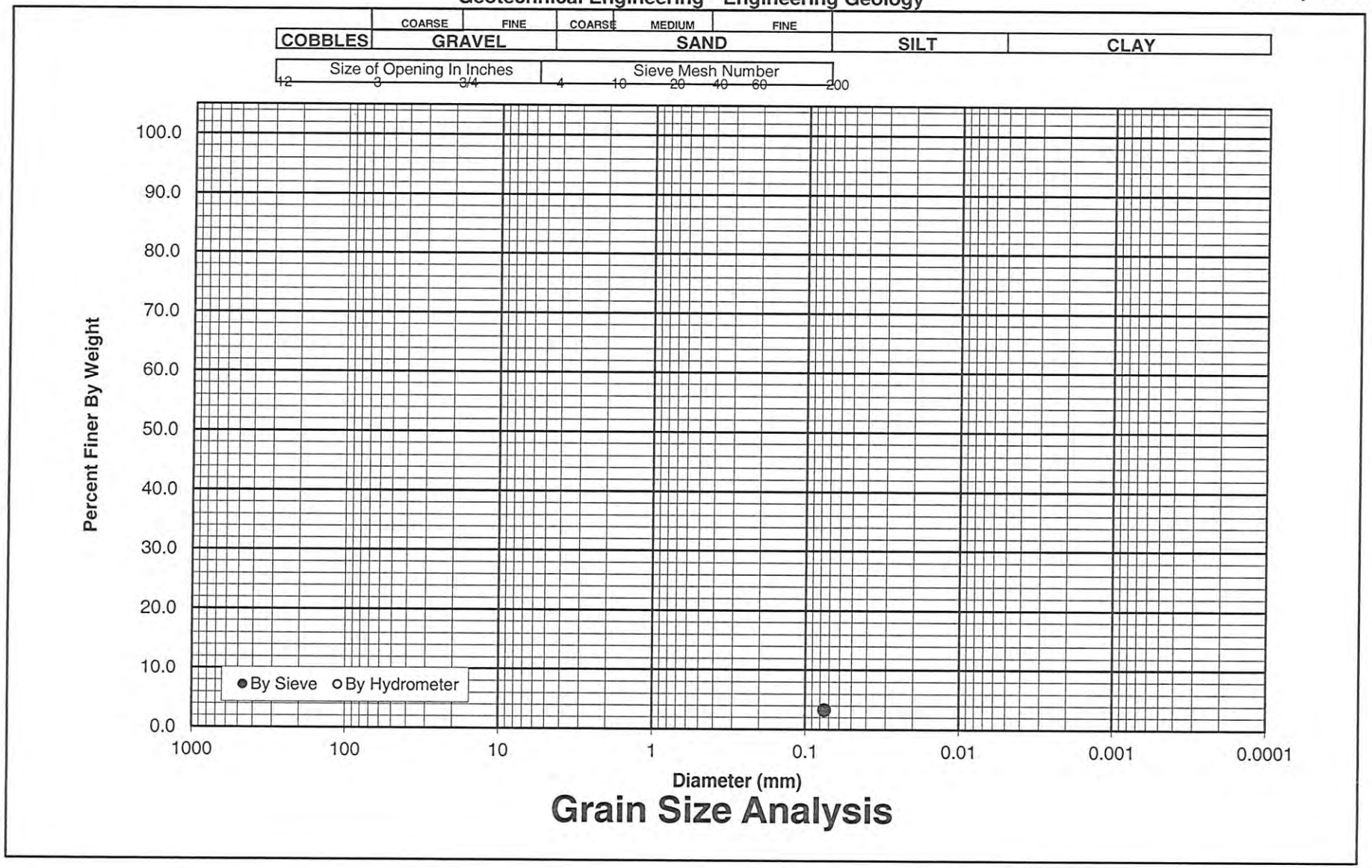
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 18.0
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-4 @ 30.0'
Grey-brown, very fine to coarse SAND.

SH7050.3.xls

Plate G-3

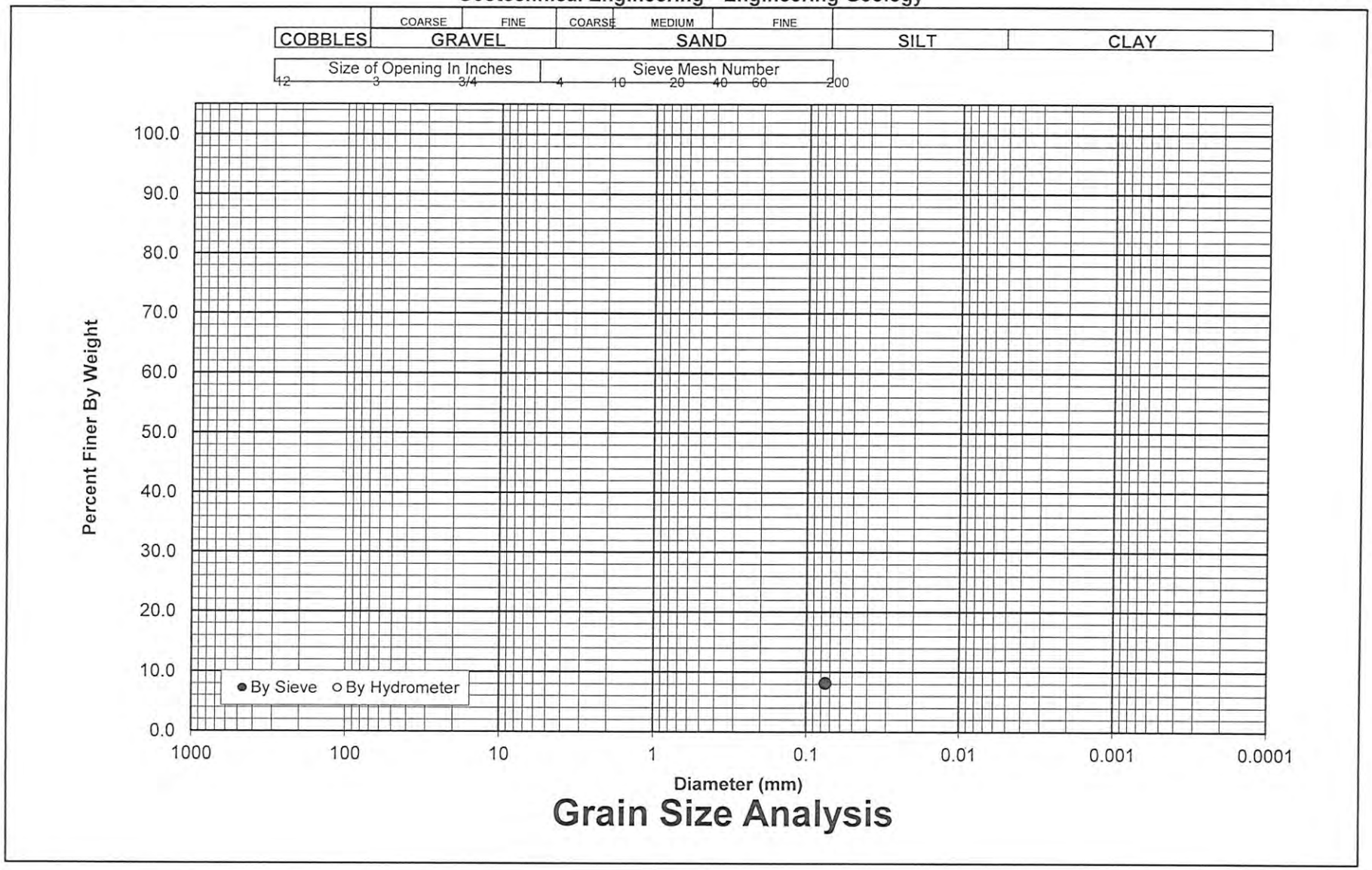
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 13.5
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-4 @ 40.0'
Orange-brown, very fine to coarse SAND.

SH7050.4.xls

Plate G-4

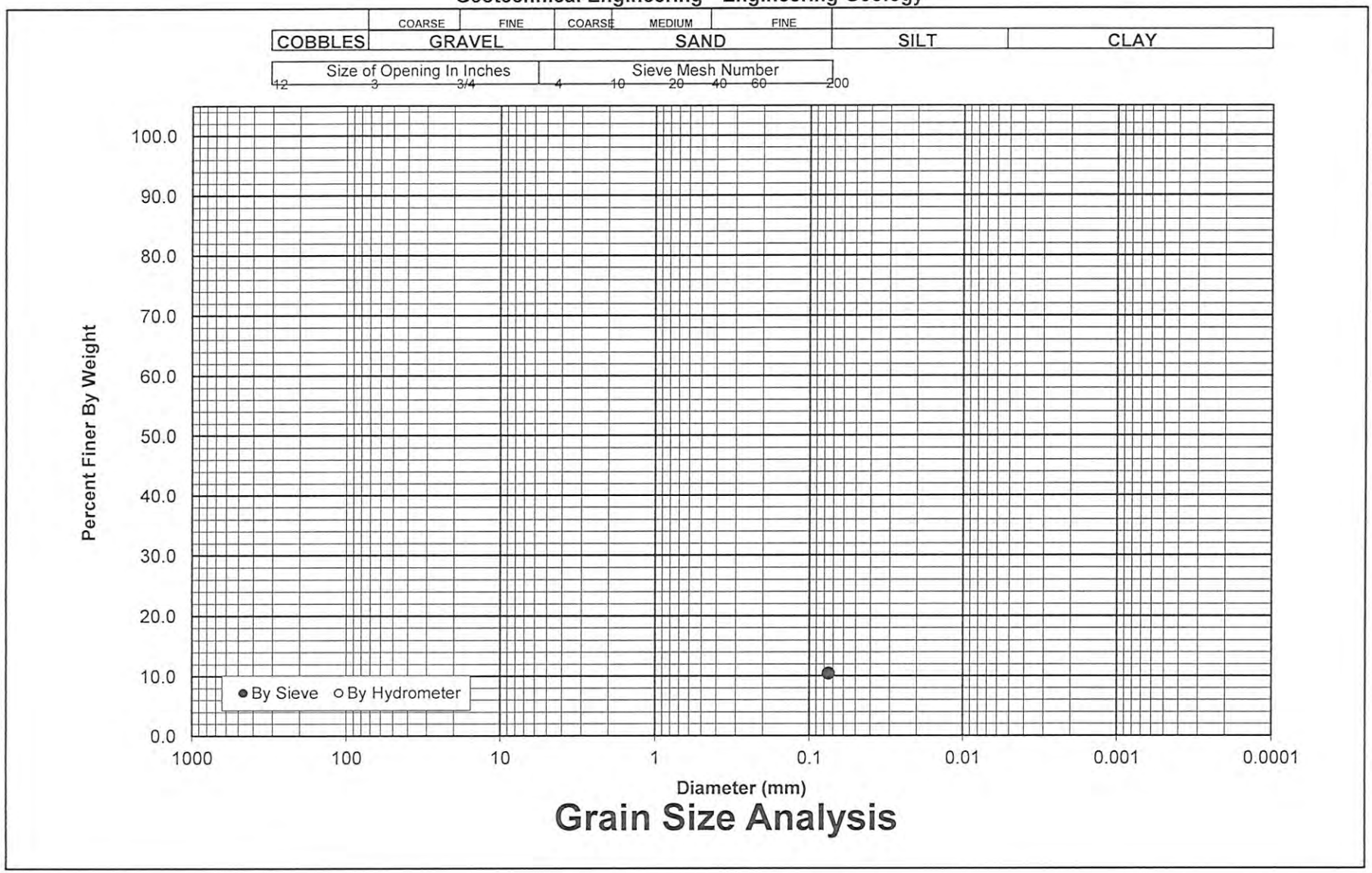
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 15.6
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-5 @ 25.0'
Brown, silty, very fine to coarse SAND.

SH7050.5.xls

Plate G-5

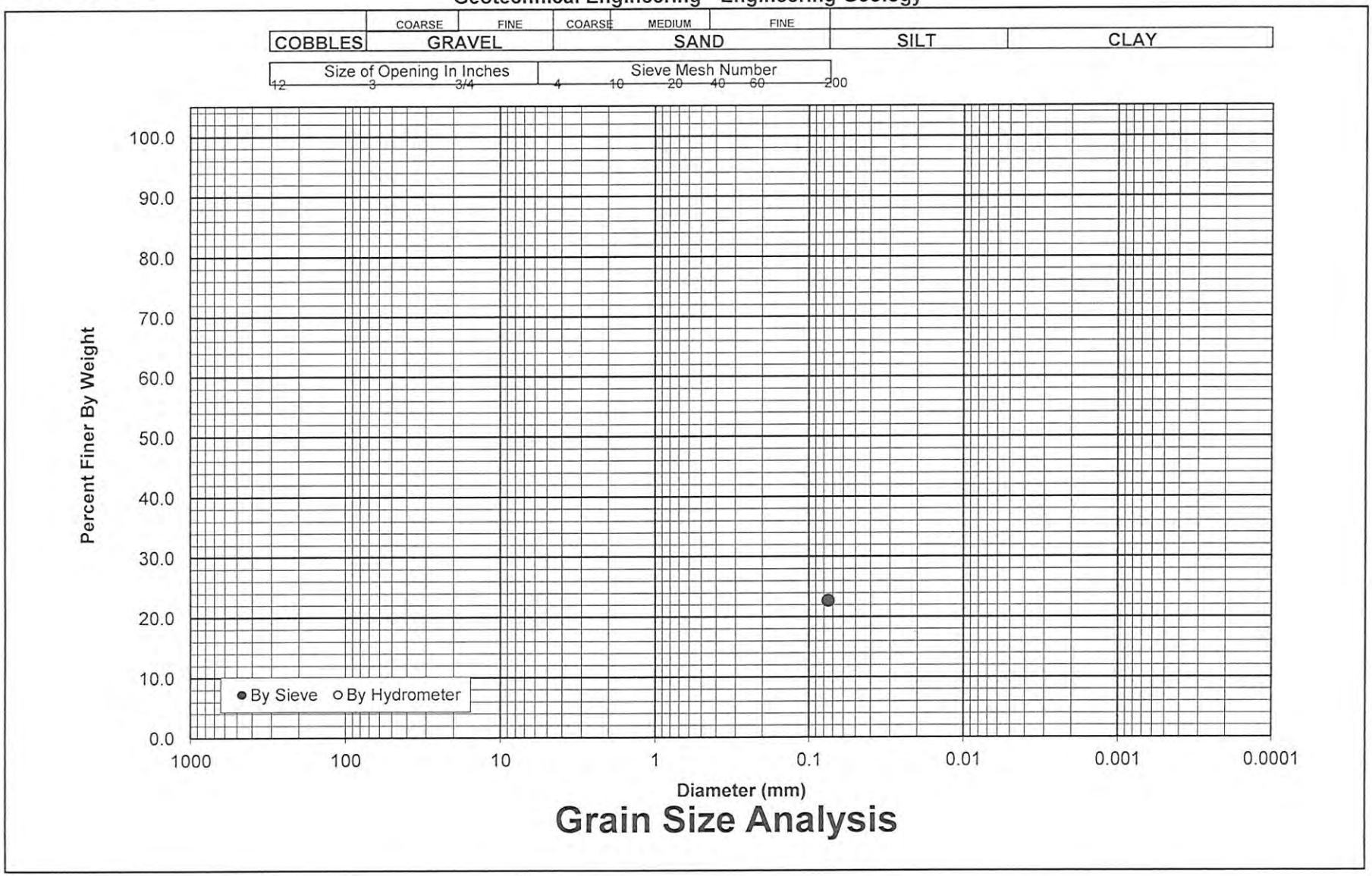
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 24.4
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-5 @ 35.0'
Grey-brown, clayey,, very fine to fine SAND.

SH7050.6.xls

Plate G-6

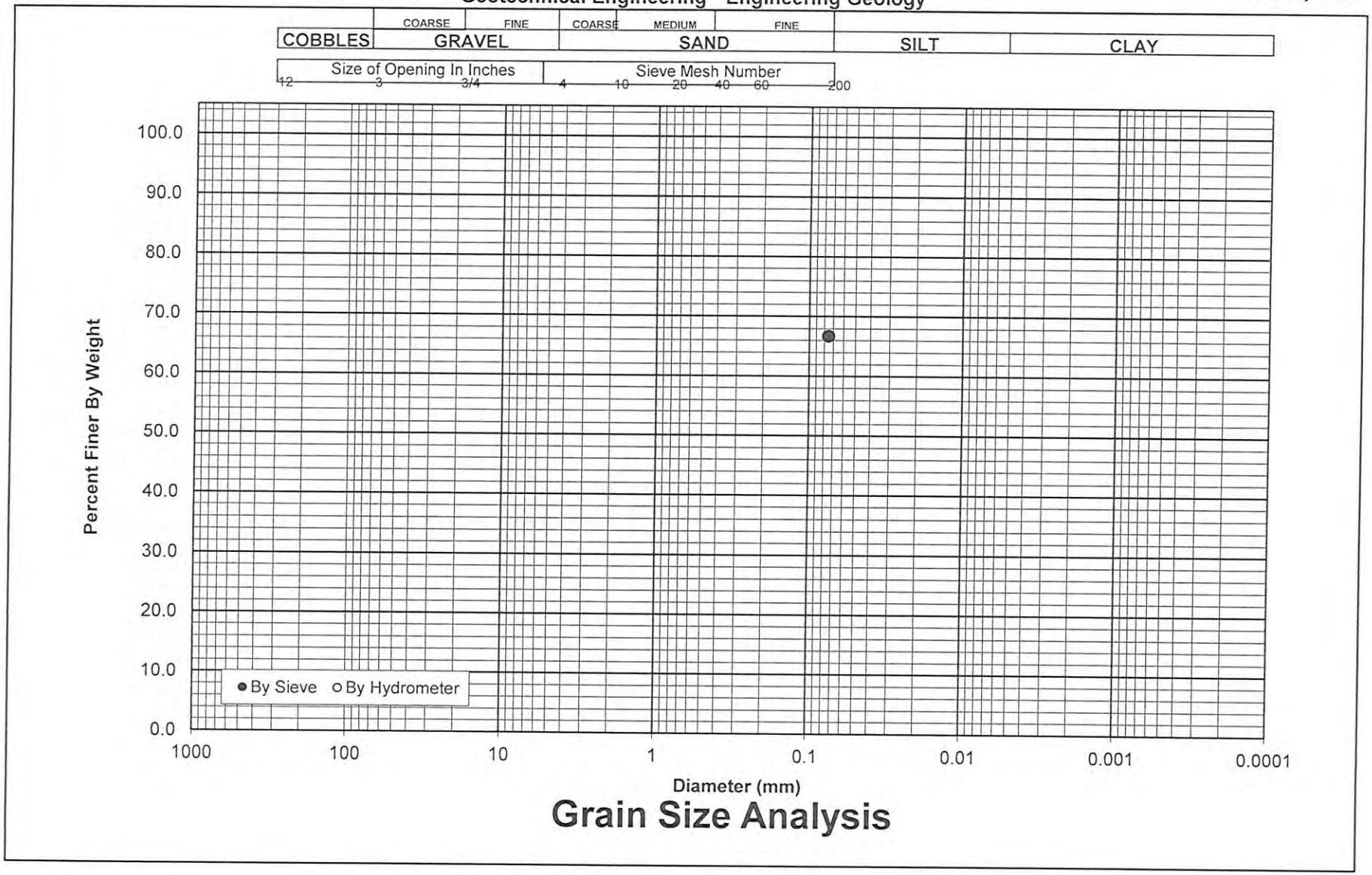
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 24.3
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-5 @ 45.0'
Grey-brown, slightly sandy, silty CLAY.

SH7050.7.xls

Plate G-7

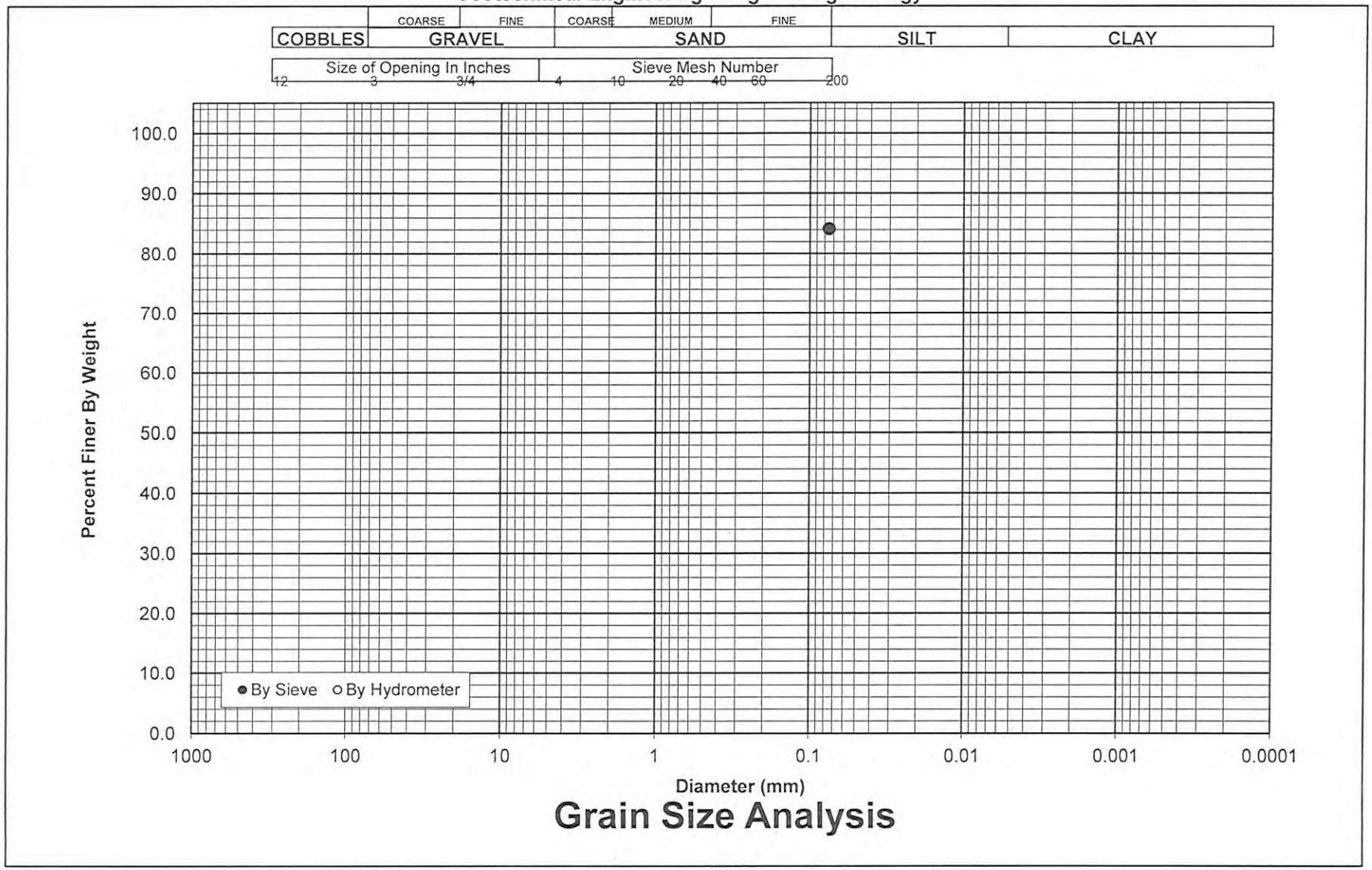
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 20.9
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-6 @ 10.0'
Dark-brown, slightly sandy, silty CLAY.

SH7050.8.xls

Plate G-8

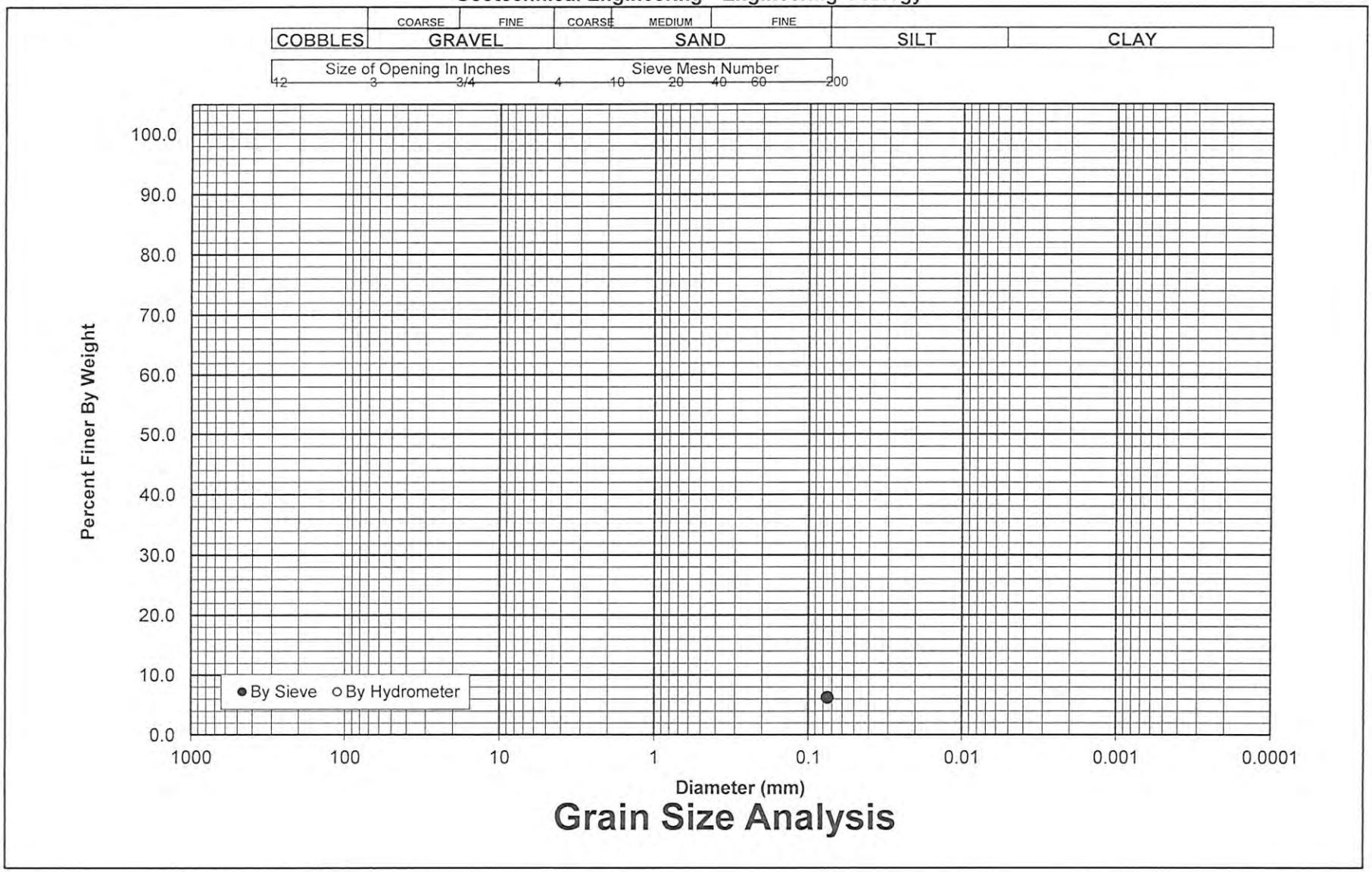
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 20.7
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-6 @ 20.0'
Orange-brown, very fine to coarse SAND.

SH7050.9.xls

Plate G-9

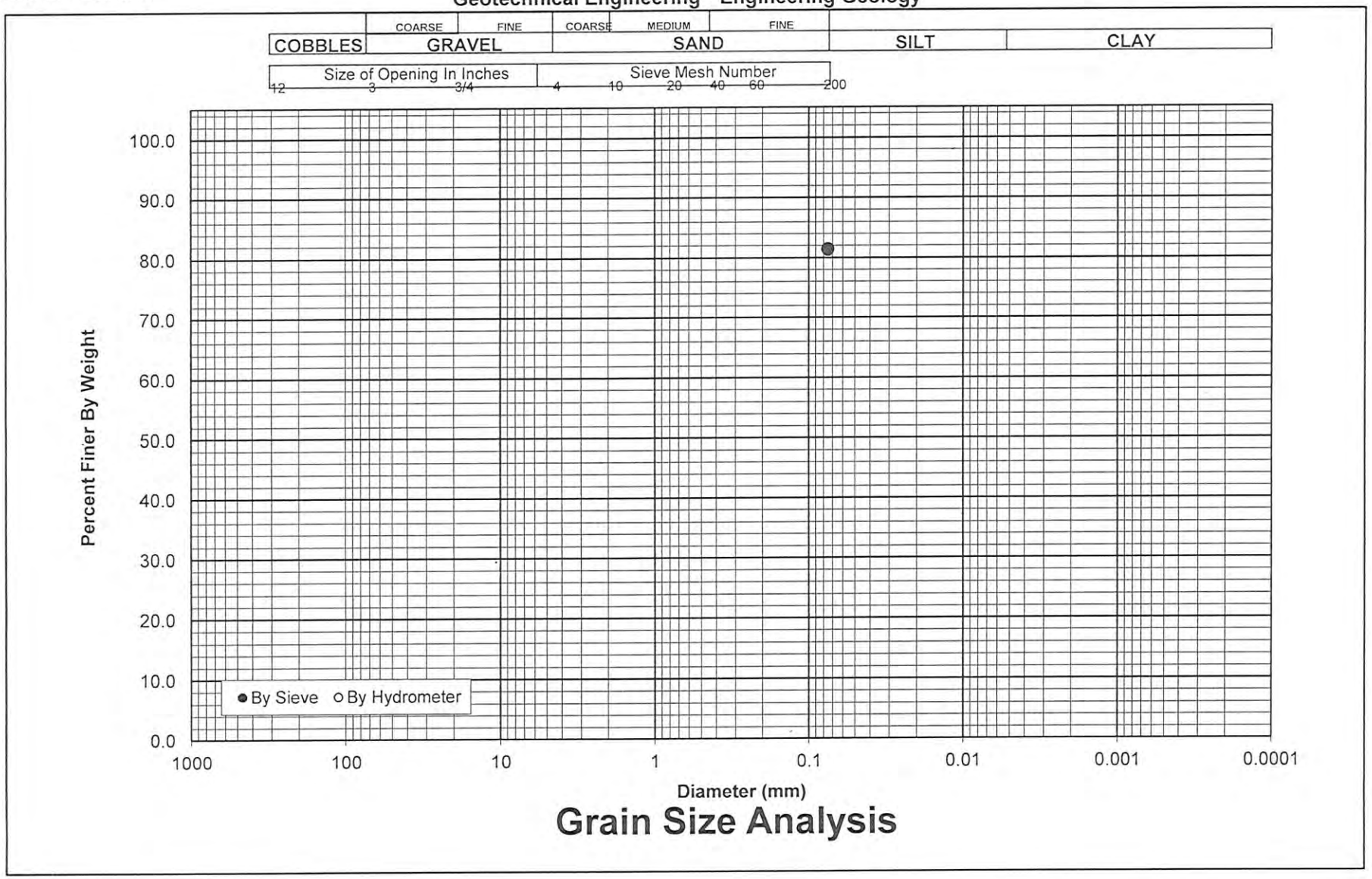
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 23.5
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-6 @ 35.0'
Dark-brown, slightly sandy, silty CLAY.

SH7050.10.xls

Plate G-10

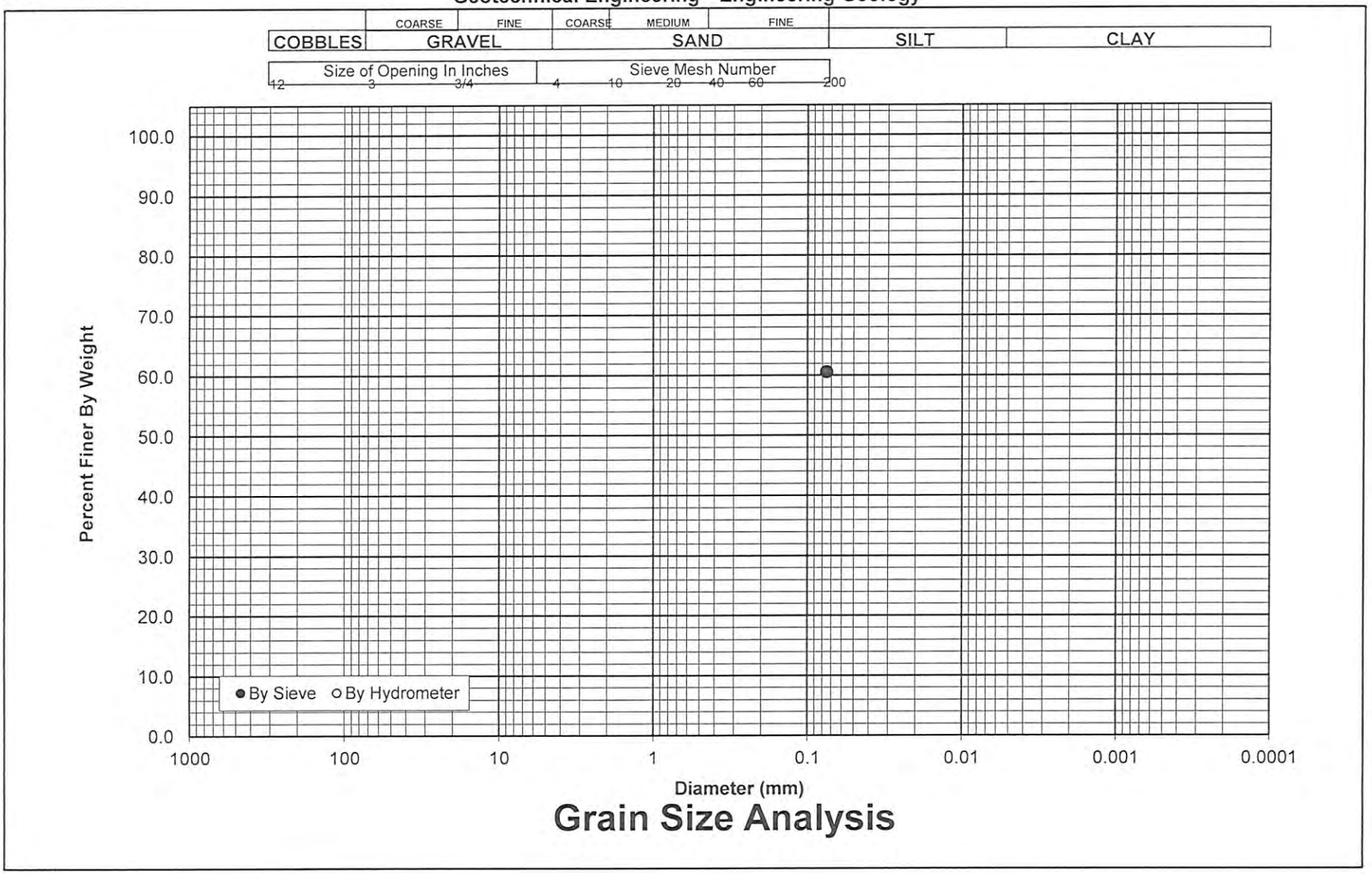
Watt - San Juan Capistrano
W.O. 7050

Date of Test: 6/17

GeoSoils Consultants, Inc.

Geotechnical Engineering * Engineering Geology

Moisture (%): 28.2
Liquid Limit (%):
Plastic Limit (%):
Plasticity Index :



Grain Size Analysis

B-6 @ 40.0'
Dark-brown, sandy, CLAY.

SH7050.11.xls

Plate G-11

LABORATORY ANALYSIS RESULTS

Client: Geosoils Consultants, Inc.
Project No: NA
Project Name: 7050
Method: Sulfate by Ion Chromatography

AA Project No: A610184
Date Received: 06/19/17
Date Reported: 06/27/17

AA I.D. No.	Client I.D. No.	Sampled	Prepared	Analyzed	Dilution	Result	Units	MRL
Sulfate by Ion Chromatography (EPA 300.0)								
7F20014-01	B-2 @ 0-5'	06/14/17	06/26/17	06/26/17	10	**320**	mg/kg	5

Allen Aminian
QA/QC Manager

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1441 MONTIA ROAD SUITE 115 ESCONDIDO CA 92026 (760) 746-4955

PROJECT:	SAN JUAN DEVELOPMENT	DRILLER:	TEST AMERICA	SHEET:	1 of 2
CTE JOB NO:	10-7947G	DRILL METHOD:	8" H.S. AUGER	DRILLING DATE:	9/29/2005
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT	ELEVATION:	~100'

BORING: B-1

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry, light brown to brown, clayey fine SAND (SC) with gravels and cobbles, organics.	RV, CHEM
5			15			CL		QUATERNARY ALLUVIUM (Qal): @ 5' Stiff, moist, gray brown to olive, fine sandy CLAY (CL) with gravels.	
10			25	134.7	11.5	SM		@ 10' Medium dense, slightly moist to moist, gray silty fine to coarse SAND (SM).	MD, HA,
						ML		@ 11' Stiff, moist, brown sandy SILT (ML).	
						SP		@ 11.25' Medium dense, slightly moist to moist, gray silty fine to coarse SAND (SP) with fine gravels and micas.	
15			27						
20			42	106.0	11.9	SP		Medium dense, slightly moist to moist, gray silty fine to coarse SAND (SP) with fine gravels and micas.	MD, GS, CN
								@ 25' Groundwater.	
25									

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PROJECT:	SAN JUAN DEVELOPMENT	DRILLER:	TEST AMERICA	SHEET:	2 of 2
CTE JOB NO	10-7947G	DRILL METHOD:	8" H.S. AUGER	DRILLING DATE	9/29/2005
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT	ELEVATION:	~100'

BORING: B-1

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25									
			43			SP		@ 25' Dense to very dense, wet, fine to coarse SAND with occasional gravels up to 3", elevated counts due to gravels.	GS
30			13					@ 30' Medium dense, dark gray to black, silty fine to coarse SAND, trace organics.	
35			22			SP-SM		@ 35' Medium dense, wet, gray, fine to medium SAND with coarse sands and silts.	GS
40			26			SP-SM		@ 40' Medium dense, wet, gray, fine to coarse SAND.	
						CL		@ 41' Becomes very stiff, wet, gray, fine sandy to silty CLAY.	
45			30			SM		@ 45' Dense, wet, gray, fine silty SAND with trace CLAY.	HA
50			35					@ 50' No recovery.	
								Total Depth 51.5' Groundwater at 23' Backfilled with Bentonite	

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1441 MONTIEL ROAD, SUITE 115 · ESCONDIDO, CA 92025 · 760.745.4555

PROJECT:	SAN JUAN DEVELOPMENT	DRILLER:	TEST AMERICA	SHEET:	1 of 2
CTE JOB NO:	10-7947G	DRILL METHOD:	8" H.S. AUGER	DRILLING DATE:	9/29/2005
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT	ELEVATION:	~100'

BORING: B-2

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry, light brown to brown, clayey, fine SAND (SC) with gravels and cobbles, organics.	
5			40	123.3	9.9	SC		@ 5' Medium dense, slightly moist, light brown, clayey SAND with gravels.	MD
10			50/6"			SC		@ 10' Dense, slightly moist, light brown, clayey SAND with gravels.	
15			21	102.9	21.7	SC		QUATERNARY ALLUVIUM (Qal): @ 15' Medium dense, slightly moist, gray brown, clayey fine SAND with 10-15% medium to coarse sand and fine gravels.	MD, CN
20			20			SP-SM		@ 20' Medium dense, dry to slightly moist, mottled gray orange brown, fine to coarse SAND with occasional gravels.	GS
25									

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1441 Monrovia Road Suite 115 | Escondido Ca 92026 | 760 746 4955

PROJECT:	SAN JUAN DEVELOPMENT	DRILLER:	TEST AMERICA	SHEET:	2 of 2
CTE JOB NO:	10-7947G	DRILL METHOD:	8" H.S. AUGER	DRILLING DATE:	9/29/2005
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT	ELEVATION:	~100'

BORING: B-2

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25			38			SP-SM		Dense, slightly moist, gray brown, fine to coarse SAND with occasional gravel.	
					▼			@ 27' Groundwater.	
30			45			SP-SM		@ 30' Dense, wet, gray brown, fine to coarse SAND with occasional gravel, trace silt.	GS
35			70			SP		@ 35' Dense, wet, gray brown, fine to coarse SAND (SP) with occasional gravels.	
40			34			SP		@ 40' Dense, wet, gray, fine to medium SAND with 5% coarse sands and gravels.	GS
						CL		@ 41' Becomes stiff, wet, gray, fine sandy to silty CLAY.	
45			36			SP-SM		@ 45' Dense, wet, gray brown, fine to coarse SAND (SP) with occasional gravels, trace silts.	
50			31			ML		@ 50.5' Very stiff, wet, dark gray, clayey SILT, trace micas.	HA
								Total Depth 51.5' Groundwater at 27' Backfilled with Bentonite	

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GEOTECHNICAL | CONSTRUCTION ENGINEERING TESTING AND INSPECTION
1441 MONTIEL ROAD SUITE 115 • ESCONDIDO, CA 92026 760 746 4955

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~102'

BORING: B-1A

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC-CL		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, light brown to olive brown, clayey fine grained SAND and sandy CLAY (SC-CL), with gravels.	
5			75	112.4	8.3	CL		@ 5' Very stiff, slightly moist, olive brown to gray brown, fine sandy CLAY (CL) with coarse SAND and gravel with sub angular clasts.	MD, EI Elevated blow counts due to cobble.
10								Interlayered to mixed sequence of very stiff, moist, olive brown to gray brown, fine sandy CLAY and dense, moist, silty, fine to coarse SAND.	
15			30						
20								QUATERNARY ALLUVIUM (Qal): Medium dense to dense, slightly moist, fine to coarse, poorly graded SAND with silt (SP-SM).	
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	2 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT, BULK	ELEVATION:	~102'

BORING: B-1A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25			20			SP-SM		@ 25' Medium dense to dense, slightly moist, fine to coarse, poorly graded SAND with silt (SP-SM).	GS
30									
					▼			Groundwater at 33'	
35			60			SP-SM		@ 35' Dense to very dense, wet, gray brown, fine to coarse poorly graded SAND with silt (SP-SM).	GS
40									
45			23			SM		@ 45' Medium dense, wet, gray, silty fine grained SAND (SM).	
50									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	3 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~102'

BORING: B-1A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50						SM		Cont: Medium dense, wet, gray, silty fine grained SAND (SM).	
55			79			SM		@ 55' Becomes very dense.	
								Total Depth 56' Groundwater at 33' Backfilled with Bentonite Grout	
60									
65									
70									
75									

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GEOTECHNICAL CONSTRUCTION ENGINEERING TESTING AND INSPECTION
1441 MONTIEL ROAD SUITE 115 ESCONDIDO CA 92026 760.745.1891

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 3
CTE JOB NO.	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~100'

BORING: B-2A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Slightly moist, olive to gray brown, fine clayey SAND (SC) with gravels.	RV. CHEM
5									
10			65			SC		@ 10' Becomes dense.	
								QUATERNARY ALLUVIUM (Qal):	14
15									
20			43			SP-SM		@ 20' Dense, slightly moist, gray brown fine to coarse poorly graded SAND (SP-SM) with silt.	
25									

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1441 Montiel Road Suite 115 · Escondido, CA 92026 · 760.747.4555

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	2 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~100'

BORING: B-2A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25						SP-SM		Cont: Dense, slightly moist, gray brown fine to coarse poorly graded SAND (SP-SM) with silt.	
30			55		▼	SP-SM		Groundwater at 30' @ 30' Very dense, wet, gray, fine to coarse, poorly graded SAND with silt and gravels (SP-SM).	
35									
40			55			SP-SM		@ 40' As above with less gravel.	
45									
50									

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1441 MONTIEL ROAD SUITE 115 · ESCONDIDO, CA 92026 / 760 746 4955

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	3 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~100'

BORING: B-2A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50			75			SM-ML		@ 50' Very dense to hard, wet, gray silty fine SAND (SM) to sandy SILT (ML) with micas.	
								Total Depth 51.5' Groundwater at 30' Backfilled with Bentonite	
55									
60									
65									
70									
75									

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1441 MONTANA AVE. SUITE 111 • EL PASO, TX 79902 (915) 545-4852

PROJECT:	SAN JUAN CAP COMM'L. BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT, BULK	ELEVATION:	~94'

BORING: B-3A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Slightly moist, yellow brown clayey SAND (SC) with gravels and cobbles.	
10			19			SM-ML		QUATERNARY ALLUVIUM (Qal): @ 10' medium dense, moist, gray brown silty fine grained SAND (SM) to sandy silt (ML).	
20			80	110.8	3.0	SP-SM		@ 20' Dense to very dense, moist to wet, gray brown to brown fine to coarse, poorly graded SAND with silt (SP-SM). Groundwater at 21'	MD, GS, CN

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	2 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~94'

BORING: B-3A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25						SP-SM		Cont: Dense to very dense, moist to wet, gray brown to brown fine to coarse, poorly graded SAND with silt (SP-SM).	
30			75			SM		@ 30' Very dense, moist to wet, gray to gray brown, fine to coarse SAND (SP) with sandy SILT to silty SAND (ML-SM) in 3 inch layers, (SM in combination).	GS
35									
40			11			SP-SM		@ 40' Medium dense, wet, gray, fine to coarse, poorly graded SAND with silt (SP-SM).	GS
45									
50									

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GEOTECHNICAL · CONSTRUCTION ENGINEERING TESTING AND INSPECTION

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET	3 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~94'

BORING: B-3A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50						SM		@ 50' Very dense, moist, gray, silty fine to coarse SAND (SM).	
			70						
55									
60			45			SM			
								Total Depth 61.5' Groundwater at 21' Backfilled with Bentonite	
65									
70									
75									

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1441 MONTIEL ROAD SUITE 115 | ESCONDIDO CA 92026 | 760.745.1955

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 2
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~100.5'

BORING: B-4A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						CL		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, olive brown, fine sandy CLAY (CL) with silt.	
5			55	105.7	19.0	CL		@ 5' Mixed, very stiff, slightly moist, olive brown, fine sandy CLAY (CL) with gravel.	MD, WA
10			30			SC		Dense, slightly moist, olive brown, clayey fine SAND (SC).	WA
15									
20			50/8"			SM		QUATERNARY ALLUVIUM (Qal): @ 20' Very dense, moist, brown, silty, fine to coarse SAND (SM).	19
25									

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PROJECT	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	2 of 2
CTE JOB NO:	10-7942G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~100.5'

BORING: B-4A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25						SM		Cont: Very dense, moist, brown, silty fine to coarse SAND (SM).	
					▼			Groundwater at 29'	
30			75			SP-SM		@ 30' Very dense, wet, gray brown, fine to coarse, poorly graded SAND with silt (SP-SM)	WA
								Total Depth 31.5' Groundwater at 29' Backfilled with Bentonite and Cuttings	
35									
40									
45									
50									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~89'

BORING: B-5A

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Slightly moist, brown, clayey SAND (SC) with gravels.	
5									7
								QUATERNARY ALLUVIUM (Qal):	
10			19			SM		@ 10' Medium dense, dry to slightly moist, brown, silty fine to coarse SAND (SM) with gravels.	
15									
20			75			SP		@ 20' Dense to very dense, wet, gray brown, fine to coarse, poorly graded SAND (SP).	GS
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	2 of 3
CTE JOB NO.	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT, BULK	ELEVATION:	~89'

BORING: B-5A

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25						SP		Cont: Dense to very dense, wet. gray brown, fine to coarse, poorly graded SAND (SP).	
30			53			SP-SM		@ 30' Dense, wet. gray brown, fine to coarse, poorly graded SAND with silt and gravels (SP-SM).	GS, CN
40			45			SP-SM		@ 40' As above, becomes finer-grained.	GS
45									
50									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	3 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~89'

BORING: B-5A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50									
			53			SP-SM		@ 50' Very dense, wet, gray brown, fine to coarse, poorly graded SAND with silt and gravels (SP-SM).	GS
55									
60			40			SP-SM		@ 60' Becomes dense.	
								Total Depth 61.5' Groundwater at 21' Backfilled with Bentonite	
65									
70									
75									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~90'

BORING: B-6A

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Slightly moist, brown clayey SAND (SC), with gravel.	MAX. DS
5			43			SM		@ 5' Dense, dry to slightly moist, gray brown silty fine to coarse SAND (SM).	WA
						SM		QUATERNARY ALLUVIUM (Qal): @ 7' Slightly moist, gray brown, silty, fine to coarse SAND (SM).	7
15			35	108.8	6.4	SP-SM		@ 15' Dense, wet, gray brown fine to coarse SAND with SILT (SP-SM). Groundwater at 16'	MD, CN
20									
25									

PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK

SHEET: 2 of 3
DRILLING DATE: 1/19/2007
ELEVATION: ~90'

BORING: B-6A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25			78			SP-SM		@ 25' Very dense, wet, gray brown, fine to coarse SAND (SP-SM) with silt.	GS
30									
35			55						GS
40									
45			55			SP		@ 45' Very dense, wet, gray brown, fine to coarse, poorly graded SAND (SP).	GS
50									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	3 of 3
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT. BULK	ELEVATION:	~90'

BORING: B-6A

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50						SP		Cont: Very dense, wet, gray brown, fine to coarse, poorly graded SAND (SP).	
55			38			SP-SM		@ 55' Very dense, wet, gray brown, fine to coarse SAND (SP-SM) with silt.	GS
						CL		@ 56' Very stiff, moist, dark gray fine sandy SILT (ML) to CLAY (CL).	
								Total Depth 56.5' Groundwater at 16' Backfilled with Bentonite	
60									
65									
70									
75									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~90'

BORING: P-1

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, light brown to olive brown, clayey fine SAND (SC).	
5								Total Depth 4' Hole Backfilled after Testing	
10									
15									
20									
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL. SPT, BULK	ELEVATION:	~90'

BORING: P-2

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, light brown to olive brown, clayey fine SAND (SC).	
5								Total Depth 3' Hole Backfilled after Testing	
10									
15									
20									
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~93'

BORING: P-3

Depth (Feet)	Sample: Bulk	Sample: Driven	Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0							SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry, light brown, clayey fine SAND (SC) with gravels, cobbles.	
									Total Depth 2' Hole Backfilled after Testing	
5										
10										
15										
20										
25										

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~96'

BORING: P-4

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry, light brown to olive brown, clayey fine SAND (SC) with gravels and cobbles.	
5								Total Depth 4' Hole Backfilled after Testing	
10									
15									
20									
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~99'

Depth (Feet)	Sample: Bulk	Sample: Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	BORING: P-5 / DESCRIPTION	Laboratory Tests
0						SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, light brown to olive brown, clayey fine SAND (SC).	
5								Total Depth 3' Hole Backfilled after Testing	
10									
15									
20									
25									

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PROJECT:	SAN JUAN CAP COMM'L BUSINESS PARK	DRILLER:	TEST AMERICA	SHEET:	1 of 1
CTE JOB NO:	10-7947G	DRILL METHOD:	8" HS AUGER	DRILLING DATE:	1/19/2007
LOGGED BY:	DK	SAMPLE METHOD:	CAL, SPT, BULK	ELEVATION:	~101'

BORING: P-6

Depth (Feet)	Sample: Bulk	Sample: Driven	Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0							SC		QUATERNARY ARTIFICIAL FILL (Qaf): Dry to slightly moist, light brown to olive brown, clayey fine SAND (SC).	
									Total Depth 2' Hole Backfilled after Testing	
5										
10										
15										
20										
25										

July 10, 2017
W.O. 7050

APPENDIX B

GRADING GUIDLINES

July 10, 2017
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APPENDIX B

GRADING GUIDLINES

These specifications present the minimum requirements for grading operations performed under the control of GeoSoils Consultants, Inc.

No deviation from these specifications would be allowed, except where specifically superseded in the preliminary geology and geotechnical report, or in other written communication signed by the Geotechnical Engineer or Engineering Geologist.

1. General

A. The Geotechnical Engineer and Engineering Geologist are the Owner's or Builder's representative on the project. For the purpose of these specifications, supervision by the Geotechnical Engineer or Engineering Geologist includes that inspection performed by any person or persons employed by, and responsible to, the licensed Geotechnical Engineer or Engineering Geologist signing the Geotechnical report.

B. All clearing, site preparation or earthwork performed on the project should be conducted by the Contractor under the observation of the Geotechnical Engineer or Engineering Geologist.

C. It is the Contractor's responsibility to prepare the ground surface to receive the fills to the satisfaction of the Geotechnical Engineer or Engineering Geologist and to place, spread, mix, water, and compact the fill in accordance with the specifications of the Geotechnical Engineer or Engineering Geologist. The Contractor should also remove all material considered unsatisfactory by the Geotechnical Engineer or Engineering Geologist.

Appendix B

D. It is also the Contractor's responsibility to have suitable and sufficient compaction equipment on the jobsite to handle the amount of fill being placed. If necessary, excavation equipment would be shut down to permit completion of compaction. Sufficient watering apparatus would also be provided by the Contractor, with due consideration for the fill material, rate of placement and time of year.

E. A final report should be issued by the Geotechnical Engineer and Engineering Geologist attesting to the Contractor's conformance with these specifications.

F. At all times, safety would have precedence over production work. If an unsafe job condition is noted by a GeoSoils Consultants, Inc. representative, it would be brought to the attention of the Grading Contractor's foreman, the on-site developer's representative or both. Once this condition is noted, it should be corrected as soon as possible, or work related to the unsafe condition may be terminated.

2. Site Preparation

A. All vegetation and deleterious material, such as rubbish, should be disposed of off-site. This removal must be concluded prior to placing fill.

B. The Contractor should locate all houses, sheds, sewage disposal systems, large trees or structures on the site, or on the grading plan, to the best of his knowledge prior to preparing the ground surface.

Appendix B

C. Soils, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills should be removed and wasted from the site. Any material incorporated as a part of a compacted fill must be approved by the Geotechnical Engineer.

D. After the ground surface to receive fill has been cleared, it should be scarified, disced or bladed by the Contractor until it is uniform and free from ruts, hollows, hummocks or other uneven features, which may prevent uniform compaction.

The scarified ground surface should then be brought to approximately 120 percent of optimum moisture, mixed as required, and compacted as specified. If the scarified zone is greater than 12 inches in depth, the excess should be removed and placed in lifts restricted to 6 inches.

Prior to placing fill, the ground surface to receive fill should be inspected, tested and approved by the Geotechnical Engineer.

E. Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer.

3. **Compacted Fills**

A. Material imported or excavated on the property may be utilized in the fill, provided such material has been determined to be suitable by the Geotechnical Engineer. Roots, tree branches and other deleterious matter missed during clearing should be removed from the fill as directed by the Geotechnical Engineer.

Appendix B

B. Rock fragments less than six inches in diameter may be utilized in the fill, provided:

1. they are not placed in concentrated pockets;
2. there is a sufficient percentage of fine-grained material to surround the rocks.
3. the distribution of the rocks is supervised by the Geotechnical Engineer.

C. Rocks greater than six inches in diameter should be taken off-site, or placed in accordance with the recommendations of the Geotechnical Engineer in fill areas designated as suitable for rock disposal.

D. Material that is spongy, subject to decay, or otherwise considered unsuitable should not be used in the compacted fill.

E. Representative samples of materials to be utilized as compacted fill should be analyzed in the laboratory by the Geotechnical Engineer to determine their physical properties. If any material other than that previously tested is encountered during grading, the appropriate analysis of this material should be conducted by the Geotechnical Engineer as soon as possible.

F. Material used in the compacting process should be evenly spread in thin lifts not to exceed six inches in thickness, watered, processed and compacted to obtain a uniformly dense layer. The fill should be placed and compacted on a horizontal plane, unless otherwise approved by the

Appendix B

Geotechnical Engineer. This includes material placed for slope repairs, and utility trench backfills on slope areas.

G. Each layer should be compacted to at least a minimum of 90 percent of the maximum density in compliance with the testing method specified by the controlling governmental agency (in general, ASTM D-1557-12 would be used).

If compaction to a lesser percentage is authorized by the controlling governmental agency because of a specific land use or expansive geotechnical conditions, the area to receive fill compacted to less than 90 percent should either be delineated on the grading plan or appropriate reference made to the area in the geotechnical report.

H. All fills must be placed at approximately 120 percent of optimum moisture. If excessive moisture in the fill results in failing tests or an unacceptable "pumping" condition, then the fill should be allowed to dry until the moisture content is within the necessary range to meet above compaction requirements, or should be removed or reworked until acceptable conditions are obtained.

I. If the moisture content or relative density varies from that required by the Geotechnical Engineer, the Contractor should rework the fill until it is in accordance with the requirements of the Geotechnical Engineer. If a compaction test indicates that the fill meets or exceeds the minimum required relative compaction but is below 120 percent of optimum, then the fill should be reworked until it meets the moisture content requirements.

Appendix B

5. **Grading Control**

A. Inspection of the fill placement should be provided by the Geotechnical Engineer during the progress of grading.

B. In general, density tests should be made at intervals not exceeding two feet of fill height or every 500 cubic yards of fill placed. These criteria would vary depending on soil conditions and the size of the job. In any event, an adequate number of field density tests should be made to verify that the required compaction is being achieved.

C. Density tests should also be made on the surface material to receive fill as required by the Geotechnical Engineer.

D. All cleanout, processed ground to receive fill, key excavations, subdrains and rock disposal should be inspected and approved by the Geotechnical Engineer prior to placing any fill. It should be the Contractor's responsibility to notify the Geotechnical Engineer when such areas are ready for inspection. In most jurisdictions, these items must also be inspected by a representative of the controlling governmental agency prior to fill placement.

6. **Construction Considerations**

A. Erosion control measures, when necessary, should be provided by the Contractor during grading and prior to the completion and construction of permanent drainage controls.

B. Upon completion of grading and termination of inspections by the Geotechnical Engineer, no further filling or excavating, including that necessary for footings, foundations, large tree wells, retaining walls, or other

Appendix B

C. features should be performed without the approval and observation of the Geotechnical Engineer or Engineering Geologist.

D. Care should be taken by the Contractor during final grading to preserve any berms, drainage terraces, interceptor swales, or other devices of a permanent nature on or adjacent to the property.

July 10, 2017
W.O. 7050

APPENDIX C

LIQUEFACTION ANALYSES AND SEISMIC SETTLEMENT ANALYSES

APPENDIX C

LIQUEFACTION & SETTLEMENT ANALYSIS

Introduction

Liquefaction describes a phenomenon where cyclic stresses, which are produced by earthquake-induced ground motions, create excess pore pressures in predominately cohesionless soils. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation, and settlement of loose sediments, ground oscillation, flow failure, loss of bearing strength, ground fissuring, sand boils, and other damaging deformations. This phenomenon occurs only below the water table, but after liquefaction has developed, it can propagate upward into overlying, non-saturated soil.

Research has shown that saturated, loose sands with silt content less than about 25 percent are most susceptible to liquefaction, whereas other soil types are generally considered to have a low susceptibility.

Seismically-included settlement in unsaturated (dry) and saturated soils generally occur due to the dissipation of pore pressure in a liquefiable soil layer. The controlling factors affecting settlement in saturated sands consist of the pore pressure drainage path, magnitude and duration of the seismic event, cyclic stresses, maximum shear strains, and the recorded normalized SPT blow-counts, $(N_1)_{60}$, of the soils.

The potential for seismically-induced settlement is greatest in loose granular soils (i.e., sands and silty sands), whereas cohesive soils (i.e., clays and silts) are generally not prone to settlement. It should be noted that granular soils are susceptible to settlement during a seismic event whether the soils liquefy or not.

Appendix C

Procedure

The method of liquefaction assessment in this report is based on the "simplified procedure" originally developed by Seed and Idriss (1971, 1982), with subsequent refinements by Seed et al. (1983), Seed and De Alba (1986), and Seed and Harder (1990). As generally defined by *CGS Special Publication 117A: Guidelines for Analyzing and Mitigating Liquefaction Hazards in California,* the procedure compares the cyclic resistance ratio (CRR) with the earthquake-induced cyclic stress ratio (CSR) at that depth from a specified design earthquake. The CRR is the ratio required to induce liquefaction for a cohesionless soil stratum at a given depth and is essentially the capacity of the soil to resist liquefaction. The CSR is defined generally as the seismic demand placed on a soil layer or the peak ground surface acceleration and an associated earthquake moment magnitude.

Values of CRR were established that were empirically correlated using extensive databases for sites that did or did not liquefy during previous earthquakes, values of $(N_1)_{60}$ could be correlated with the liquefied soil zones. The 1997 version of the baseline chart defines values of CRR as a function of $(N_1)_{60}$ for a moment magnitude 7.5 earthquake, CSR, and the percent fines. The factor of safety against liquefaction is obtained by calculating the ratio of CRR and CSR. The potential for seismically-induced settlement occurs when the factor of safety is less than 1.0.

The methodology used in estimating probable seismically-induced settlement in unsaturated and saturated soil deposits from SPT data is based on the procedures suggested by *CGS Special Publication 117A* and Tokimatsu and Seed (1987) with a magnitude scaling factor. The settlement analysis considers very thin layers for the soil deposit and calculates the settlement for each layer. The total settlement is the sum of these settlements in both dry (soil above the groundwater table) and saturated soils at their respective depths.

The CRR curves are based on clean sands, necessitating fines content correction to accurately assess liquefaction potential. Fines content correction for SPT data is generated

Appendix C

using formulas developed by Idriss and Seed (1997). For specific depths where gradation tests were performed, the value of percent fines (passing the #200 sieve) obtained from laboratory testing was used in the analysis.

Analysis

The assessment of liquefaction potential provided in this report maintains current code requirements and generally accepted practice.

The predominant earthquake magnitude used is based on a 2 percent probability of exceedance in 50 years, obtained from the USGS Unified Hazard Tool. The peak ground acceleration corresponds to the PGA_M without any reductions and was obtained from the USGS Seismic Design Maps website. Table C-1 shows a summary of the parameters used in this analysis.

TABLE C-1
ANALYSIS PARAMETERS

Earthquake Magnitude	6.67
Peak Ground Acceleration, PGA_M	0.501 g
Design Groundwater Table	17- 28 feet
Energy Ratio, C_E	1.25
Borehole Diameter, C_B	1.15
Sampling Method, C_S	1.0

Site exploration for the assessment of liquefaction potential consisted of Borings B-4, B-5, and B-6. At the time of exploration, groundwater was encountered at depths below the historical high groundwater table. The liquefaction analysis considers the in-situ ground water table for the individual boring analyzed.

Appendix C

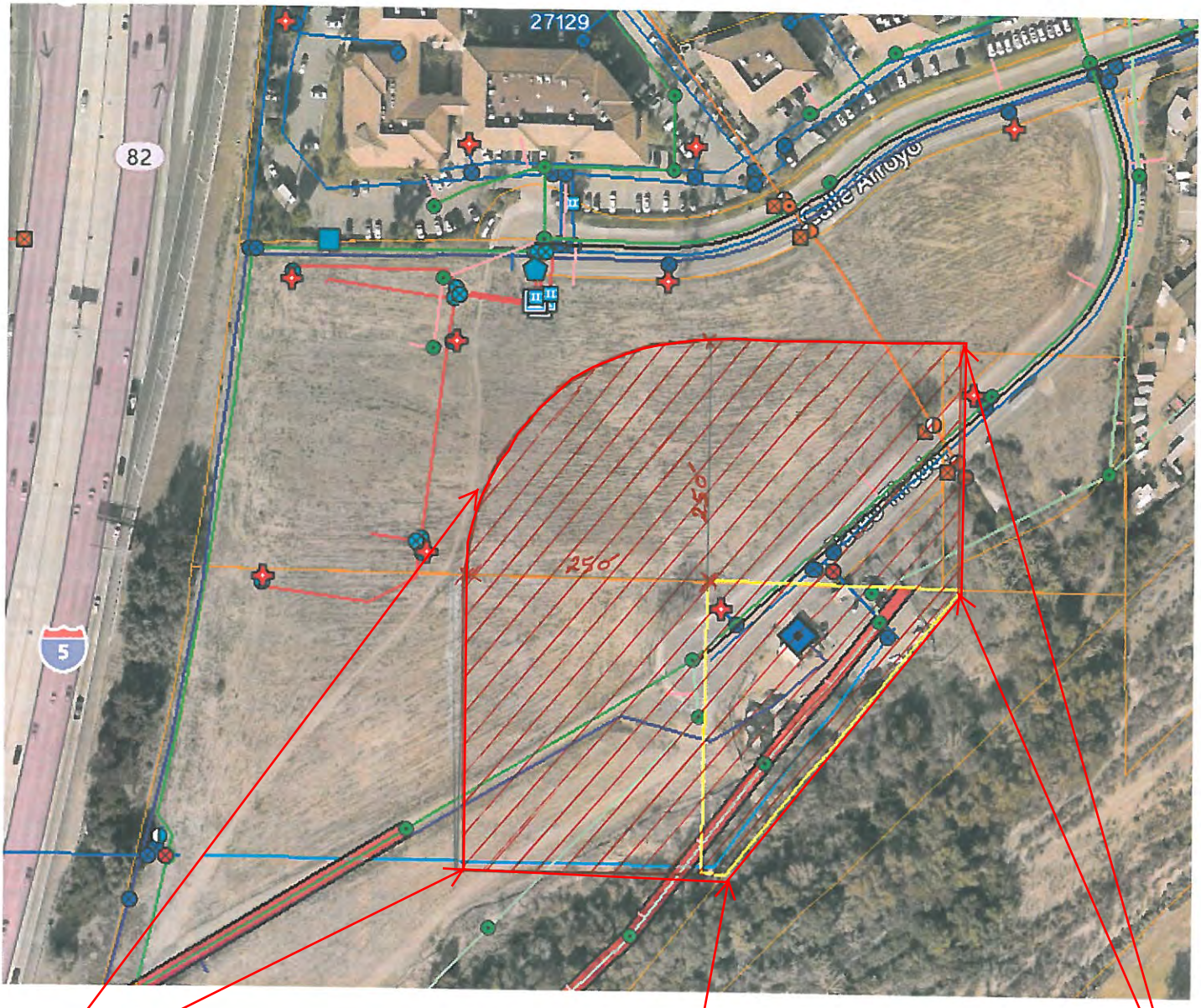
Results

Based on the results of this investigation, evaluated from blow count data and laboratory testing of the borings, the potential for liquefaction does exist within the area of study. If liquefaction should develop in liquefiable soil layers, the migration of excess pore pressure within these layers (i.e. the movement of water) and potential settlement would be limited due to the confinement of these layers by less permeable silts. Therefore, the potential for liquefaction on the proposed tract poses a low risk to site development, assuming the conclusions and recommendations provided are incorporated into the final design and construction of the project.

The liquefaction settlement analysis was performed to a depth of 50 feet below the existing ground surface and is presented in Table C-2. Differential settlement was taken as 1/2 of the maximum total settlement. The results of the analysis using the LiquefyPro software are given below, detailed output is provided at the end of this appendix.

TABLE C-2
LIQUEFACTION SETTLEMENT ANALYSIS

Boring	Unsaturated Settlement (in)	Saturated Settlement (in)	Total Settlement (in)	Differential Settlement (in)
B-4	0	2.62	2.62	1.31
B-5	0.25	0.75	1.01	
B-6	0.08	0.11	0.18	



250 feet from the Tirado Well site property lines is off limit area, delineated above, to any kind of WQMP infiltration systems such as filterra bioretention filtration, traditional bioretention, drywell....

Attachment E: Calculations and Worksheets

Laguna Beach
Laguna Niguel
San Juan Capistrano
Dana Point
Project Site Location
San Clemente
Pacific Ocean

Disclaimer: this map is only for planning level use.

Legend

- Regional Board Boundary
- City Boundary
- County Boundary

Hydromodification Exemptions

- Engineered Channels/Large River - Exempt
- Non-Engineered Channels - Not Exempt

County Storm Drain Data - Dec.15, 2010

Storm Drain Type

- Unknown
- Engineered
- Non-Engineered

0 0.5 1 Miles

South Orange County Engineered Channel Exemption Areas
Dana Point Exemption Map

Sources: County of Orange; Caltrans; ESRI; RBF Consulting; San Diego RWQCB; SWRCB

03/27/2015 M:\Wdata\10107630\GIS\HMP_Map_byCity_Exemptions_2014.mxd DR

Worksheet 1: Infiltration Feasibility Categorization

Categorization of Infiltration Feasibility Condition			*Page 1 of 5*
Part 1: Physical Limitations of Infiltration Based on the criteria for physical limitations of infiltration described in Section 4.2.2.2, what level of physical feasibility of infiltration is the maximum that the BMP location will support?			
	Physical Infiltration Feasibility Category	**Mark applicable category**	**Next step**
1	Full Infiltration of the DCV	DMAs A & B	Continue to Part 2
	Biotreatment with Partial Infiltration		Continue to Part 3
	Biotreatment with No Infiltration	DMAs C-G	Select and Utilize Biotreatment without Infiltration
Provide summary of basis: Refer to "Infiltration Testing, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California" prepared by Geosoils Consultants, Inc in September 2017 in Attachment D. Per this report, infiltration is feasible in a small portion of the site along the westerly property boundary. Based on the geotechnical report in Attachment D and city well site infiltration restrictions, also shown in Attachment D, infiltration is not feasible in DMAs C-G. Summarize findings of studies, provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

<table>
<tr><th colspan="2">Categorization of Infiltration Feasibility Condition</th><th colspan="2">Page 2 of 5</th></tr>
<tr><td colspan="2">Part 2: Risks Limiting Full Infiltration of the DCV –Would infiltration of the full DCV introduce risks of undesirable consequences that cannot reasonably be mitigated?</td><td>Yes</td><td>No</td></tr>
<tr><td>2</td><td>Would infiltration of the DCV pose significant risk for groundwater related concerns? Use criteria described in Section 4.2.2.3 and results from Worksheet 2 (Appendix C) to describe groundwater-related infiltration feasibility criteria.</td><td></td><td>No</td></tr>
<tr><td colspan="4">Provide basis:

Based upon worksheet 2, infiltration of DCV for DMAs A & B would not pose significant risk for groundwater-related concerns.

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</td></tr>
<tr><td>3</td><td>Would infiltration of the full DCV pose significant risk of increasing risk of geotechnical hazards that cannot be mitigated to an acceptable level? Use criteria described in Section 4.2.2.4.</td><td></td><td>No</td></tr>
<tr><td colspan="4">Provide basis:

Based upon criteria in TGD section 4.2.2.4, infiltration of DCV for DMAs A&B does not pose significant risk of geotechnical hazards. The geotechnical studies in attachment D outline the project design parameters.

Refer to “Infiltration Testing, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California” prepared by Geosoils Consultants, Inc in September 2017 in Attachment D.

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</td></tr>
<tr><td>4</td><td>Would infiltration of the DCV cause an increase in groundwater flow or decrease in surface runoff over predevelopment conditions that would cause impairment to downstream beneficial uses, such as change of seasonality of ephemeral washes or increased discharge of contaminated groundwater to surface waters? Use criteria in Section 4.2.2.5</td><td></td><td>No</td></tr>
</table>

Provide basis:

Based upon screening criteria in TGD section 4.2.2.5, for projects proposing any type of infiltration, decrease in surface runoff to downstream surface waters must be considered. The site is located close to a large ephemeral river that is designed for 32,000 cfs in the peak storm (refer to project specific hydrology report). Due to the increase in impervious area caused by development of the site, runoff from storms up to the 85th percentile will remain roughly the same as in the existing condition. This is caused by only a portion of the site DCV being infiltrated. Downstream beneficial uses will not be impacted.

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

Categorization of Infiltration Feasibility Condition		***Page 3 of 5***	
Part 2 (continued): Risks Limiting Full Infiltration of the DCV –*Would infiltration of the full DCV introduce risks of undesirable consequences that cannot reasonably be mitigated?*		***Yes***	***No***
5	Is there substantial evidence that infiltration of the DCV would **result in a significant increase in I&I to the sanitary sewer** that cannot be sufficiently mitigated?		No

Provide basis:

Any I&I of infiltrated DCV into sanitary sewer would be minimal, as I&I is maximally estimated at 400 gallons per day per inch diameter sewer pipe per mile length. Due to small infiltration area, the length of pipe potentially affected is small. Therefore, I&I potential is small.

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

6	Would infiltration of the DCV **violate downstream water rights**?		No

Provide basis:

Downstream water rights are extremely uncommon in this area of Orange County. No downstream water rights are known to the developer and therefore infiltration of the DCV for part of the site does not exclude infiltration feasibility.

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

Part 2 Result	If the answer to all questions 2-6 are "No", then the DMA is categorized as "Full Infiltration" for the purposes of LID BMP type selection. Describe finding. At the Preliminary/Conceptual WQMP phase, describe the additional design-phase testing required to confirm this determination and identify contingencies for final design. At the Final Project WQMP phase, identify any required construction-phase testing and identify the design contingencies that should result based on construction-phase testing. If the answer to any of questions 2-6 is "Yes" then the site cannot be categorized as "Full Infiltration". Continue to Part 3: Partial Infiltration Feasibility	Full infiltration

Part 3: Partial Infiltration Feasibility Criteria –*Would infiltration of any appreciable volume of stormwater result in risks of undesirable consequences that cannot reasonably be mitigated?*		***Yes***	***No***
8	**Would use of biotreatment BMPs with partial infiltration pose significant risk for groundwater related concerns?** Refer to criteria in Section 4.2.2.3 and Worksheet 1 (Appendix C) for guidance on groundwater-related infiltration feasibility criteria.		
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
9	**Would the use of biotreatment BMPs with partial infiltration pose elevated risks of geotechnical hazards that cannot be mitigated to an acceptable level**? Refer to Section 4.2.2.4.		
Provide basis: Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

10	**Would the use of biotreatment BMPs with partial infiltration elevate risks or introduced conflicts related to groundwater balance, inflow and infiltration, or water rights?** Refer to Section 4.2.2.5. Note: this is uncommon and must be supported by site-specific analysis if it is used as a basis to reject biotreatment with partial infiltration.		

Provide basis:

Summarize findings of studies provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.

Categorization of Infiltration Feasibility Condition		***Page 5 of 5***
Part 3 Result	If the answer to all questions 8-10 are "No", then the DMA is categorized as "Biotreatment with Partial Infiltration" for the purposes of LID BMP type selection. If the answer to any of questions 8-10 is "Yes" then the site is categorized as "Biotreatment with No Infiltration" for the purposes of LID BMP type selection.	

Worksheet 2: Summary of Groundwater-related Feasibility Criteria

1	Is project large or small? (as defined by Table C-2) circle one	Small		
2	What is the tributary area to the BMP?	A	3.92	acres
3	What type of BMP is proposed?	Infiltration		
4	What is the infiltrating surface area of the proposed BMP? *Refer to BMP site plan for derivation of this number.	A_{BMP}	2700	sq-ft
5	What land use activities are present in the tributary area (list all) Attached residential Open space amenities			
6	What land use-based risk category is applicable?	L		
7	If M or H, what pretreatment and source isolation BMPs have been considered and are proposed (describe all): Based upon land use and tributary area, the land use-based risk category is low per table C-1 in the TGD.			
8	What minimum separation to mounded seasonally high groundwater applies to the proposed BMP? See Appendix C.2 (circle one)	10 ft		
9	Provide rationale for selection of applicable minimum separation to seasonally high mounded groundwater: According to TGD Appendix C.2, the required separation between groundwater and an underground infiltration BMP is 10'.			
10	What is the separation from the infiltrating surface to seasonally high groundwater?		>15	ft
11	What is the separation from the infiltrating surface to mounded seasonally high groundwater?		N/A	ft
12	Describe assumptions and methods used for mounding analysis: Refer to "Infiltration Testing, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California" prepared by Geosoils Consultants, Inc in September 2017 in Attachment D. At boring B-7, groundwater was encountered 29.5' below the surface. Mounding analysis is not required to be completed due to the >15' separation between infiltration surface and high groundwater level per TGD Appendix C.2.			

Worksheet 2: Summary of Groundwater-related Feasibility Criteria

13	Is the site within a plume protection boundary?	No
14	Is the site within a selenium source area or other natural plume area?	No
15	Is the site within 250 feet of a contaminated site?	No
16	If site-specific study has been prepared, provide citation and briefly summarize relevant findings: Per TGD maps in Appendix C, the project site is not within a groundwater plume or other site of concern.	
17	Is the site within 100 feet of a water supply well, spring, or septic system?	No
18	Is infiltration feasible on the site relative to groundwater-related criteria?	Y
Provide rationale for feasibility determination: Based on worksheet above and lack of groundwater concerns, no groundwater-related infiltration restrictions are present. An infiltration BMP may be proposed in the western portion of the site.		

Note: if a single criterion or group of criteria would render infiltration infeasible, it is not necessary to evaluate every question in this worksheet.

Worksheet 3: Factor of Safety and Design Infiltration Rate and Worksheet

Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	2	0.50
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	2	0.50
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.50
B	Design	Tributary area size	0.25	2	0.50
		Level of pretreatment/ expected sediment loads	0.25	2	0.50
		Redundancy/contingency plan	0.25	2	0.50
		Compaction during construction	0.25	1	0.25
		Design Safety Factor, $S_B = \Sigma p$			1.75
Combined Safety Factor, $S_{Total} = S_A \times S_B$					2.625
Observed Infiltration Rate, inch/hr, K_{obs} (corrected for test-specific bias)					0.88 in/hr
Design Infiltration Rate, in/hr, $K_{design} = K_{obs} / S_{Total}$					0.34 in/hr

Supporting Data

Briefly describe infiltration test and provide reference to test forms:

Refer to "Infiltration Testing, Proposed Residential Housing, San Juan Mixed Use, Calle Arroyo and Paseo Tirador, San Juan Capistrano, California" prepared by Geosoils Consultants, Inc in September 2017 in Attachment D.

The factor values as shown in sections A and B were derived from Tables D-6 and D-7 in the TGD. The resulting safety factor is shown in the table above.

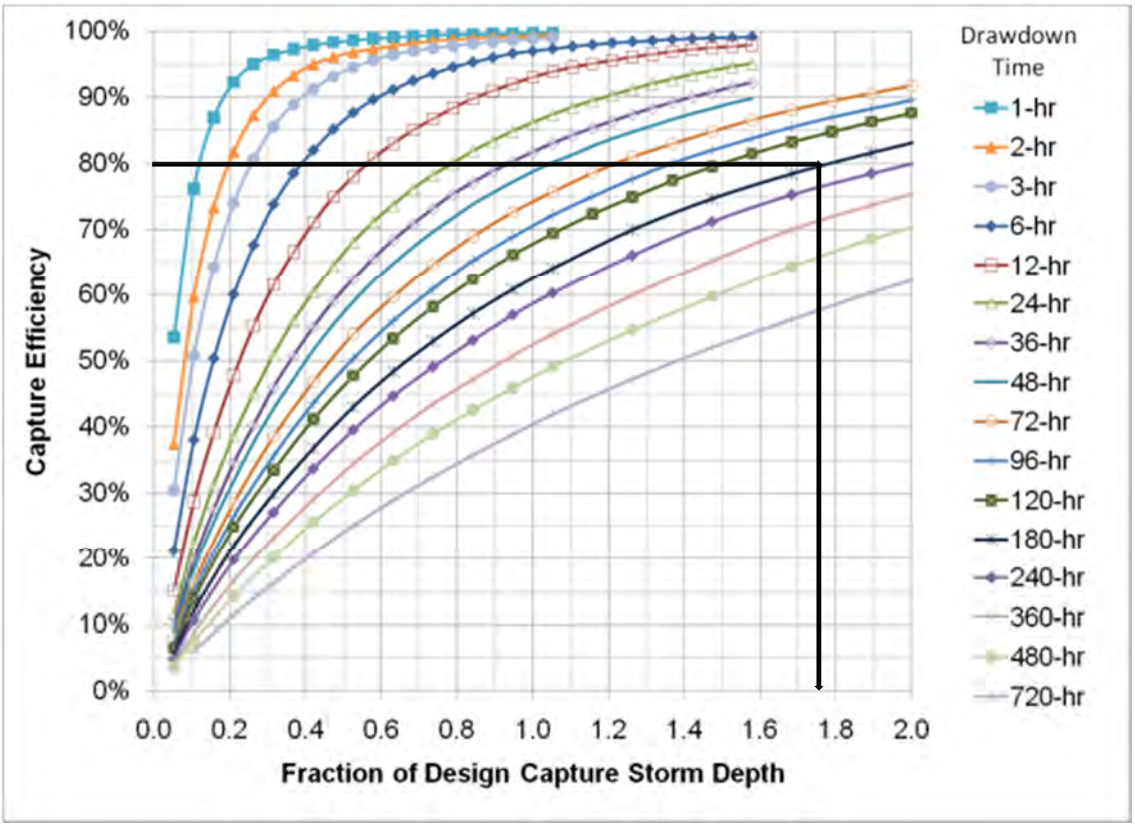
Note: The minimum combined adjustment factor shall not be less than 2.0 and the maximum combined adjustment factor shall not exceed 9.0.

Worksheet 6: Capture Efficiency Method for Full Infiltration, Constant Drawdown BMPs

Part 1: Calculate the design depth and drawdown time				
1	Enter total effective storage depth (sum of values below)	$D_{total_effective}$	60	inches
1a	Ponding storage depth	D_{pond}	60	inches
1b	Media effective storage depth (depth * 0.2)	$D_{media_effective}$		inches
1c	Gravel effective storage (depth * 0.4)	$D_{gravel_effective}$		inches
2a	Calculate design infiltration rate, $K_{design} = K_{observed} / S_{total}$ (See Worksheet 3 and Appendix D)	K_{design}=	0.34	in/hr
2b	Calculate drawdown time ($D_{total_effective} / K_{design}$)	$T_{drawdown}$=	176	hours
2c	If using Method 2 for drawdown (Section E.2.5) which accounts for sidewall infiltration, insert result and attach relevant calculations below.	$T_{drawdown}$=		hours
Part 2: Determine the portion of the design storm for the BMP				
3	Using Figure E-4 or the figure within the worksheet below, determine the "fraction of design capture storm depth" at which the BMP drawdown time line intersects with 80% capture efficiency. Trace down to determine X_1	X_1=	1.75	
4	Enter capture efficiency corresponding to upstream HSCs and/or upstream Harvest and Use BMPs, Y_2.	Y_2 =	0	%
5	Using Figure E-4 or the figure within the worksheet below, determine the fraction of "design capture storm depth" at which the drawdown time of the BMP intersects with the equivalent of the upstream capture efficiency (Y_2). Trace down to determine X_2	X_2=	0	
6	Calculate the fraction of design capture storm depth that must be provided by the BMP, fraction = $X_1 - X_2$	fraction=	1.75	
7	Enter design capture storm depth from N-1, d (inches)	d=	0.825	inches
8	Calculate the storm depth to use in sizing calculations, $d_{fraction}$= fraction × d	$d_{fraction}$=	1.44	inches
Part 3 Calculate the DCV (Section E.2.2)				
9a	Enter DMA area tributary to BMP (s), *A* (acres) (not including any self-retaining areas)	A=	3.92	acres
9b	Enter DMA Imperviousness, *imp*	imp=	58%	unitless
9c	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.585	unitless
9d	Calculate the DCV= *(C x $d_{fraction}$ x A x 43560 x (1/12))*	DCV=	11,987	cu-ft

Worksheet 6: Capture Efficiency Method for Full Infiltration, Constant Drawdown BMPs

Part 3: Check footprint and drawdown times				
10	Footprint required to retain the DCV, $DCV/D_{effective}$ (A_{BMP} is measured at the mid ponding depth for systems with side slopes)	A_{BMP}	2,397	sq ft
11a	Infiltrating surface area required to avoid premature clogging (from Section E.4.1), as percent of tributary impervious area	$\%A_{min,clog}$	For full treatment, 2.2	%
11b	Provided infiltrating surface area as a fraction of the tributary impervious surface (included wetted infiltrating area when BMP is half full)	$\%A_{infiltration_surface}$	2700 sf provided divided by 3.92 acres at 58% impervious = 2.7%	%
Supporting Calculations				



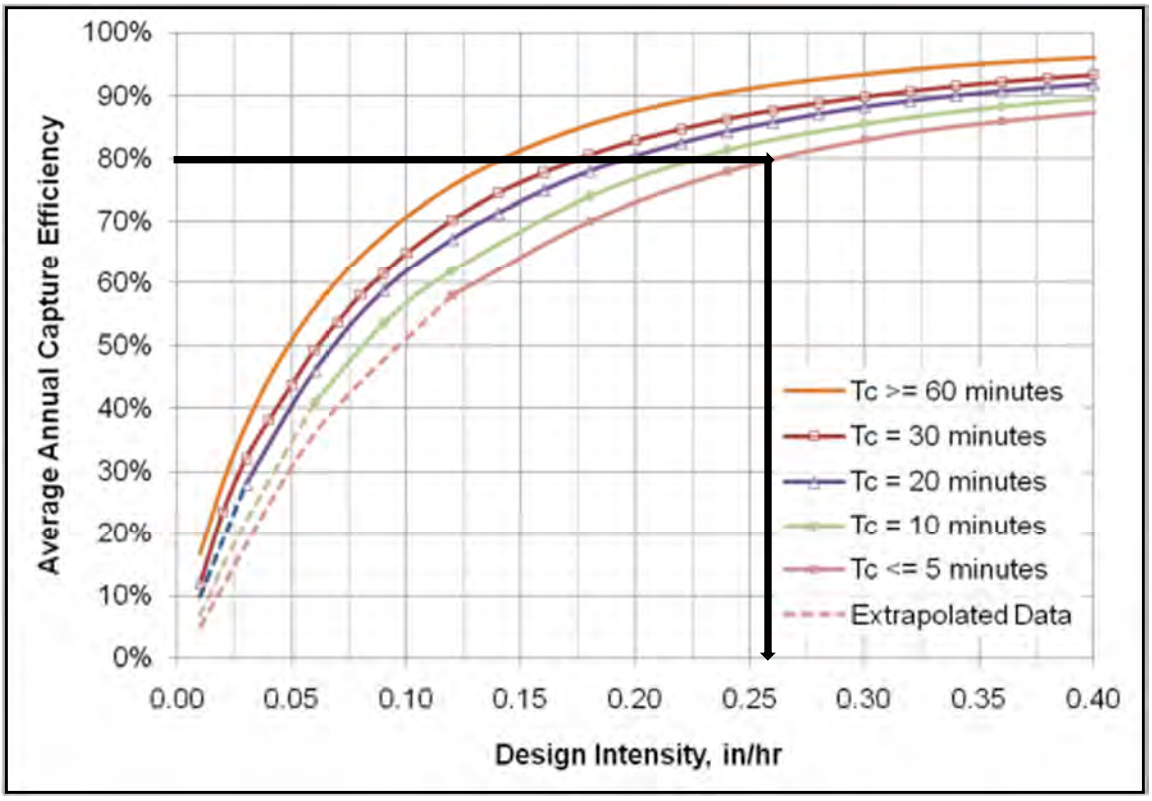
Provide supporting graphical operations.

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA C)

Part 1: Determine the design storm intensity of the compact biofiltration BMP				
1	Enter the time of concentration, T_c (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided)	T_c=	5	min
2	Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.26	in/hr
3	Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y_2. Attach associated calculations.	Y_2 =	0	%
4	Using Figure E-7, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0	in/hr
5	Determine the design intensity that must be provided by BMP to achieve 80 percent capture, $I_{design}= I_1-I_2$	$I_{design_80\%}$ =	0.26	in/hr
Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6)				
6a	Enter DMA area tributary to BMP (s), *A* (acres)	A=	0.98	acres
6b	Enter DMA Imperviousness, imp (unitless)	imp=	0.80	
6c	Calculate runoff coefficient, *c= (0.75 x imp) + 0.15*	c=	0.525	
6d	Calculate flowrate to achieve 80 percent capture, $Q_{80\%}$= *(c x* I_{design} *x A)*	$Q_{80\%}$=	0.182	cfs
7	Calculate design flowrate, $Q_{design}= Q_{80\%}$ *x 150%*	Q_{design}=	0.273	cfs
Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as "Biotreatment with Partial Infiltration")				
8	Describe system, including features to maximize volume reduction (if applicable): N/A			
9	Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable. N/A			

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA C)

Supporting Calculations
Provide time of concentration assumptions: Small Tc used to estimate conservatively.

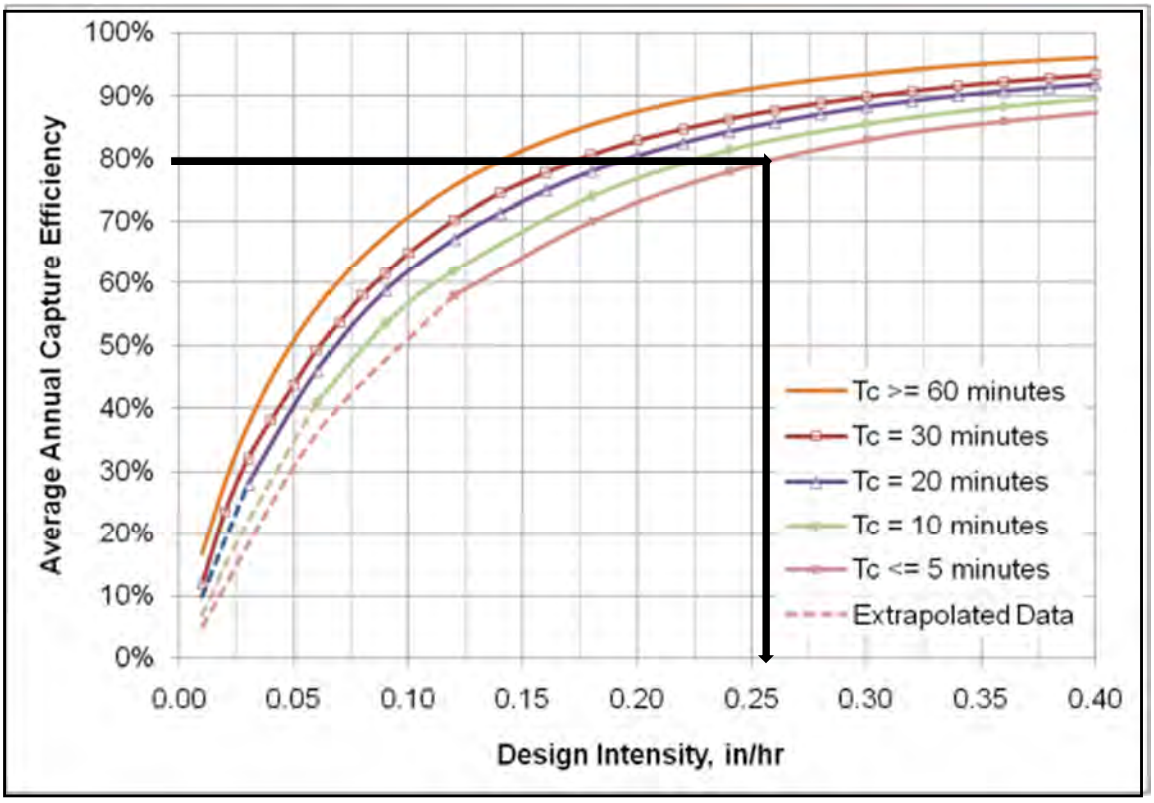
Graphical Operations
   Provide supporting graphical operations in figure above.

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA D)

Part 1: Determine the design storm intensity of the compact biofiltration BMP				
1	Enter the time of concentration, T_c (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided)	T_c=	5	min
2	Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.26	in/hr
3	Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y_2. Attach associated calculations.	Y_2 =	0	%
4	Using Figure E-7, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0	in/hr
5	Determine the design intensity that must be provided by BMP to achieve 80 percent capture, $I_{design}= I_1-I_2$	$I_{design_80\%}$ =	0.26	in/hr
Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6)				
6a	Enter DMA area tributary to BMP (s), *A* (acres)	A=	0.99	acres
6b	Enter DMA Imperviousness, imp (unitless)	imp=	0.80	
6c	Calculate runoff coefficient, *c= (0.75 x imp) + 0.15*	c=	0.750	
6d	Calculate flowrate to achieve 80 percent capture, $Q_{80\%}$= *(c x* I_{design} *x A)*	$Q_{80\%}$=	0.192	cfs
7	Calculate design flowrate, $Q_{design}= Q_{80\%}$ *x 150%*	Q_{design}=	0.288	cfs
Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as "Biotreatment with Partial Infiltration")				
8	Describe system, including features to maximize volume reduction (if applicable): N/A			
9	Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable. N/A			

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA D)

Supporting Calculations
Provide time of concentration assumptions: Small Tc used to estimate conservatively.

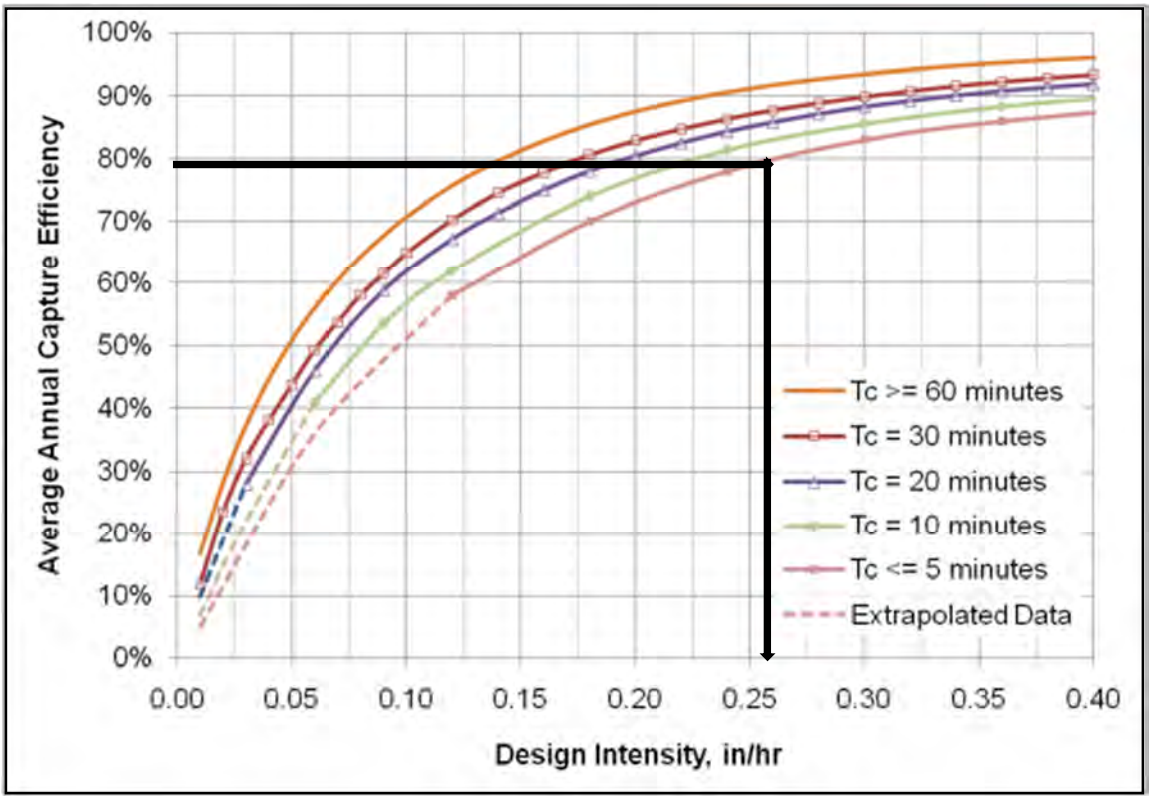
Graphical Operations
   Provide supporting graphical operations in figure above.

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA E)

Part 1: Determine the design storm intensity of the compact biofiltration BMP				
1	Enter the time of concentration, T_c (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided)	T_c=	5	min
2	Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.26	in/hr
3	Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y_2. Attach associated calculations.	Y_2 =	0	%
4	Using Figure E-7, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0	in/hr
5	Determine the design intensity that must be provided by BMP to achieve 80 percent capture, $I_{design}= I_1-I_2$	$I_{design_80\%}$ =	0.26	in/hr
Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6)				
6a	Enter DMA area tributary to BMP (s), *A* (acres)	A=	1.63	acres
6b	Enter DMA Imperviousness, imp (unitless)	imp=	0.80	
6c	Calculate runoff coefficient, *c= (0.75 x imp) + 0.15*	c=	0.750	
6d	Calculate flowrate to achieve 80 percent capture, $Q_{80\%}$= *(c x* I_{design} *x A)*	$Q_{80\%}$=	0.318	cfs
7	Calculate design flowrate, $Q_{design}= Q_{80\%}$ *x 150%*	Q_{design}=	0.477	cfs
Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as "Biotreatment with Partial Infiltration")				
8	Describe system, including features to maximize volume reduction (if applicable): N/A			
9	Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable. N/A			

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA E)

Supporting Calculations
Provide time of concentration assumptions: Small Tc used to estimate conservatively.

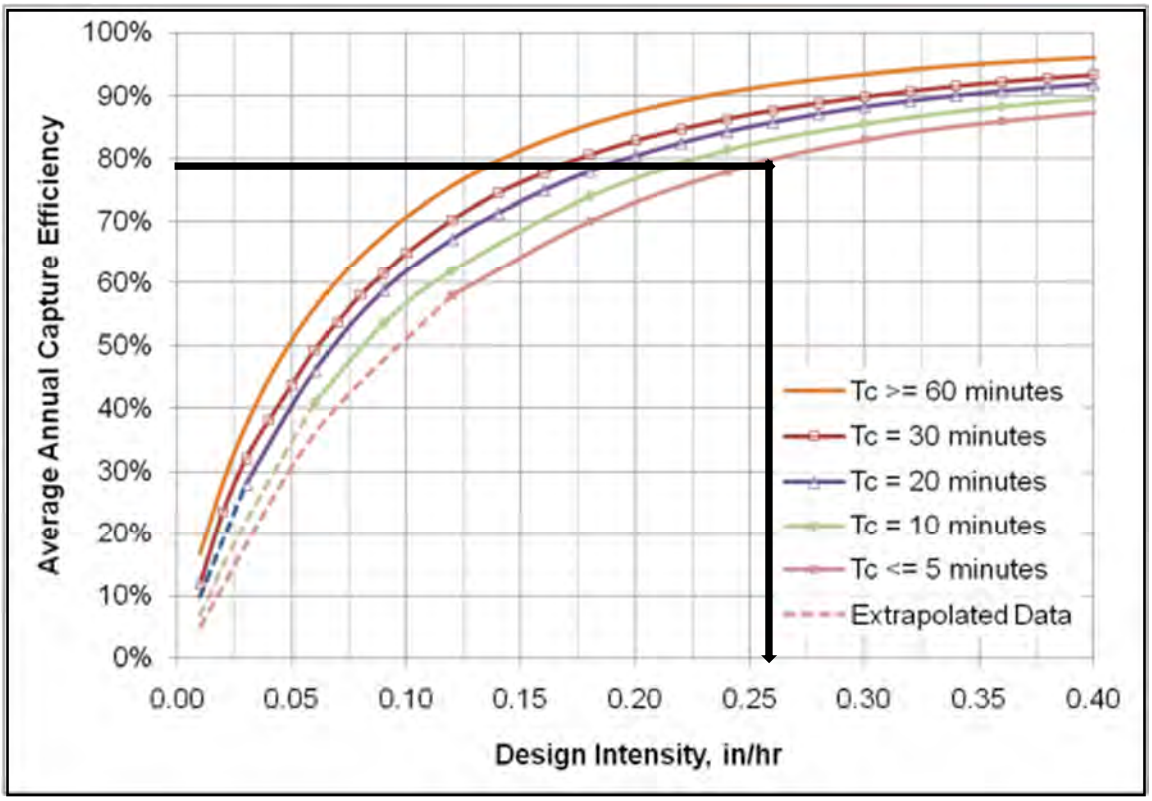
Graphical Operations
   Provide supporting graphical operations in figure above.

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA F)

Part 1: Determine the design storm intensity of the compact biofiltration BMP				
1	Enter the time of concentration, T_c (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided)	T_c=	5	min
2	Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.26	in/hr
3	Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y_2. Attach associated calculations.	Y_2 =	0	%
4	Using Figure E-7, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0	in/hr
5	Determine the design intensity that must be provided by BMP to achieve 80 percent capture, $I_{design}= I_1-I_2$	$I_{design_80\%}$ =	0.26	in/hr
Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6)				
6a	Enter DMA area tributary to BMP (s), *A* (acres)	A=	1.55	acres
6b	Enter DMA Imperviousness, imp (unitless)	imp=	0.80	
6c	Calculate runoff coefficient, *c= (0.75 x imp) + 0.15*	c=	0.750	
6d	Calculate flowrate to achieve 80 percent capture, $Q_{80\%}$= *(c x* I_{design} *x A)*	$Q_{80\%}$=	0.302	cfs
7	Calculate design flowrate, $Q_{design}= Q_{80\%}$ *x 150%*	Q_{design}=	0.453	cfs
Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as "Biotreatment with Partial Infiltration")				
8	Describe system, including features to maximize volume reduction (if applicable): N/A			
9	Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable. N/A			

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA F)

Supporting Calculations
Provide time of concentration assumptions: Small Tc used to estimate conservatively.

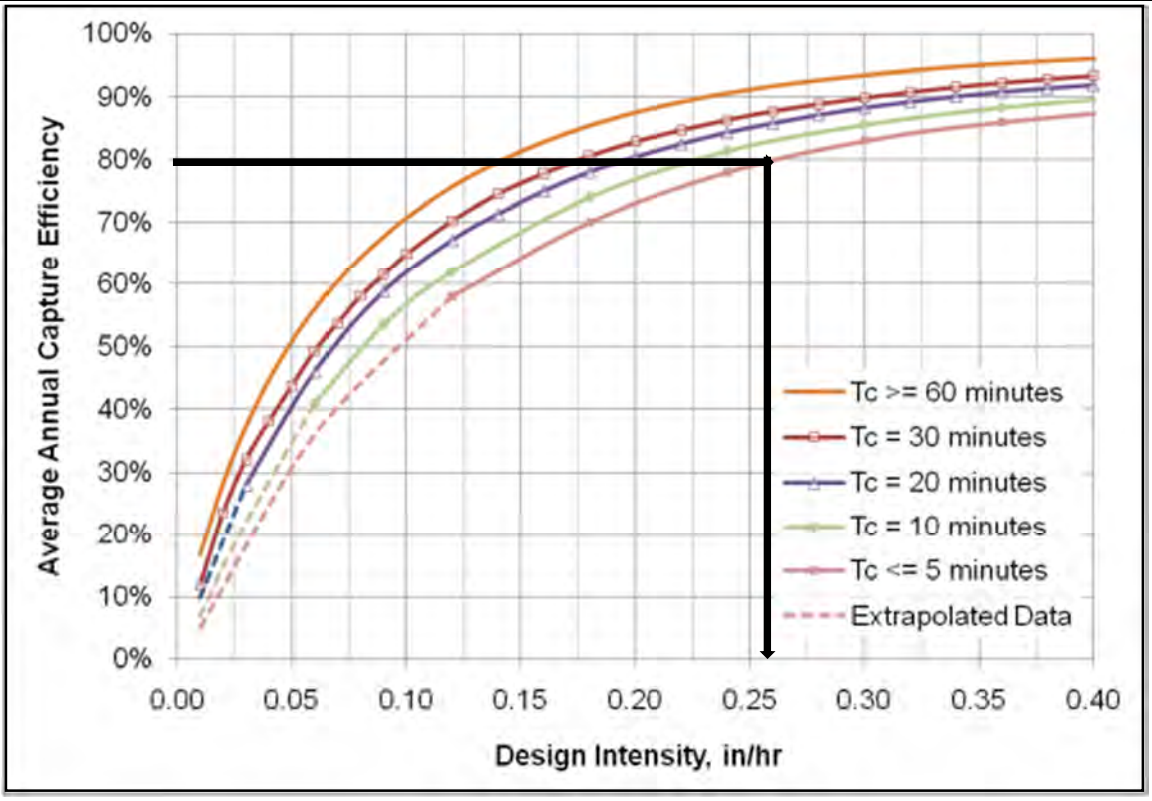
Graphical Operations
   Provide supporting graphical operations in figure above.

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA G)

Part 1: Determine the design storm intensity of the compact biofiltration BMP				
1	Enter the time of concentration, T_c (min) (See E.2.3**)** (account for upstream detention by increasing Tc to a maximum 60 minutes per Section E.3.5.2 if detention is provided)	T_c=	5	min
2	Using Figure E-7 or the figure included in the worksheet, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.26	in/hr
3	Enter capture efficiency corresponding to upstream HSCs and/or upstream BMPs, Y_2. Attach associated calculations.	Y_2 =	0	%
4	Using Figure E-7, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency(Y_2), I_2	I_2=	0	in/hr
5	Determine the design intensity that must be provided by BMP to achieve 80 percent capture, $I_{design}= I_1-I_2$	$I_{design_80\%}$ =	0.26	in/hr
Part 2: Calculate the design flowrate of the compact biofiltration BMP (Section E.2.6)				
6a	Enter DMA area tributary to BMP (s), *A* (acres)	A=	1.38	acres
6b	Enter DMA Imperviousness, imp (unitless)	imp=	0.50	
6c	Calculate runoff coefficient, *c= (0.75 x imp) + 0.15*	c=	0.525	
6d	Calculate flowrate to achieve 80 percent capture, $Q_{80\%}$= *(c x* I_{design} *x A)*	$Q_{80\%}$=	0.188	cfs
7	Calculate design flowrate, $Q_{design}= Q_{80\%}$ *x 150%*	Q_{design}=	0.282	cfs
Part 3: Demonstrate that Supplemental Retention BMPs Conform to Volume Reduction Targets (Only DMAs Categorized as "Biotreatment with Partial Infiltration")				
8	Describe system, including features to maximize volume reduction (if applicable): N/A			
9	Summarize calculations to demonstrate that volume reduction targets are met, where feasible and applicable. N/A			

Worksheet 9: Flow-Based Compact Biofiltration with Supplemental Retention Method (DMA G)

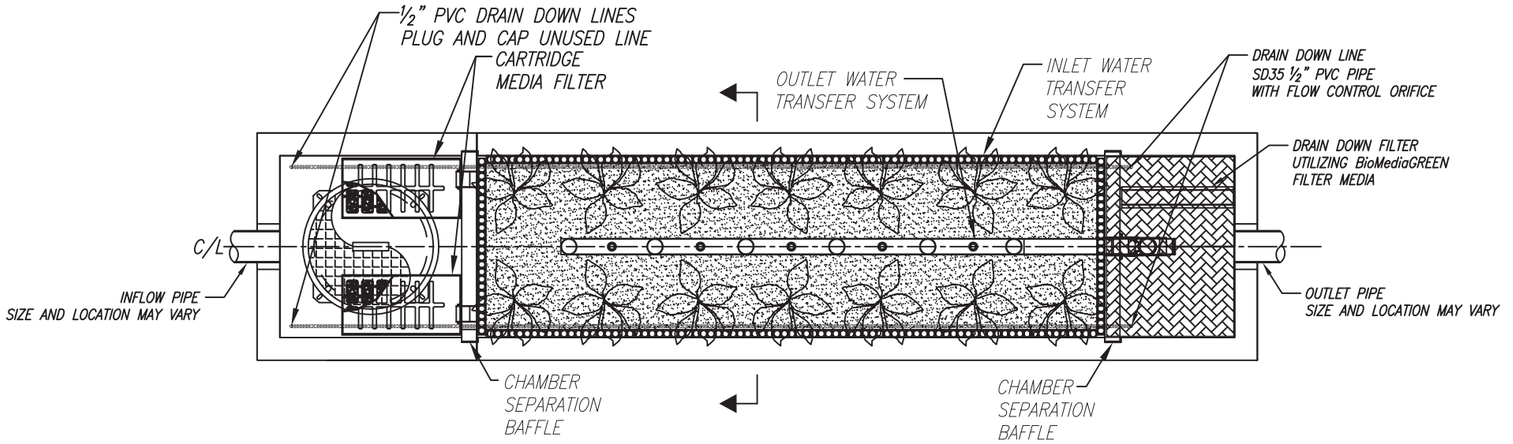
Supporting Calculations
Provide time of concentration assumptions: Small Tc used to estimate conservatively.

Graphical Operations
   Provide supporting graphical operations in figure above.

Attachment F: Specifications

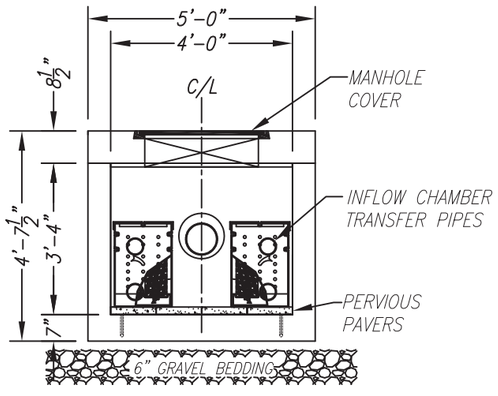
MODULAR WETLAND SYSTEMS - LINEAR 2.0
21' VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = .267 CFS OR 119.83 GPM
PEAK BYPASS FLOW RATE = N/A
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 22' X 5' X 4.7'
TOP OF CURB TO INVERT OUT = 4.13'
SEDIMENT STORAGE CAPACITY = 1000 LBS OR 23.5 CF

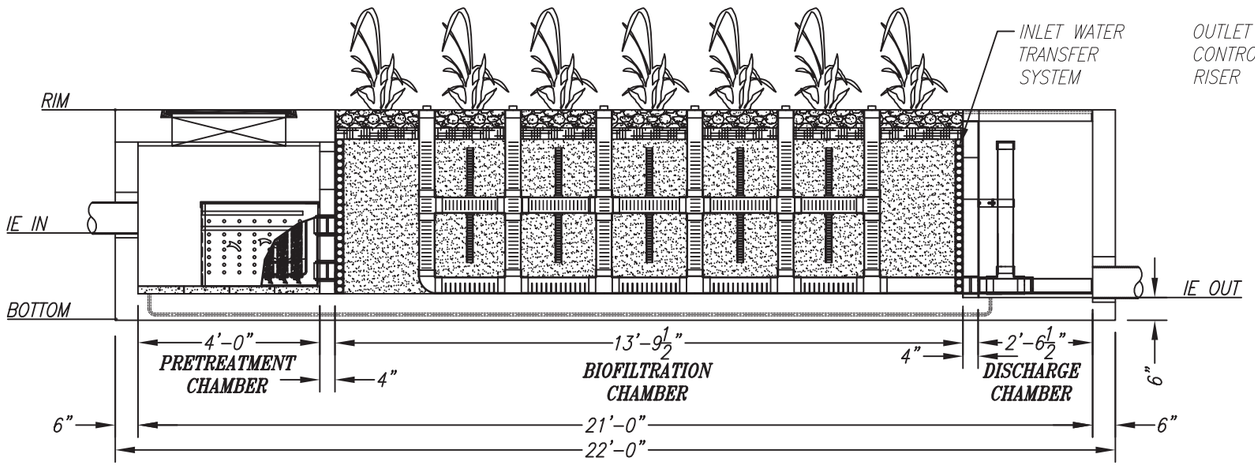


PLAN VIEW

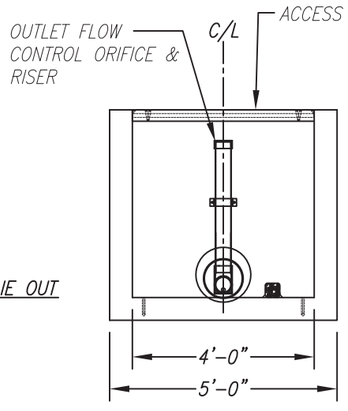
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 2
13.5' L x 3.4' H = 45.9 SF
SIDE SURFACE AREA = 91.8 SF
ENDS = 2
3.7' L x 3.4' H = 12.6 SF
END SURFACE AREA = 25.2 SF
TOTAL WETLAND MEDIA SURFACE AREA **= 117.0 SF**
WETLAND MEDIA LOADING RATE 119.83 GPM / 117.0 SF **= 1.02 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
SIDES = 2
0.50' L x 1.67' H = 0.84 SF
SIDE SURFACE AREA = 1.68 SF
ENDS = 2
0.25' L x 1.67' H = 0.42 SF
END SURFACE AREA = 0.84 SF
TOTAL PRETREATMENT SURFACE AREA 2.52 SF x 28 FILTERS **= 70.56 SF**
PRETREATMENT FILTER LOADING RATE 119.83 GPM / 70.56 SF **= 1.69 GPM/SF**



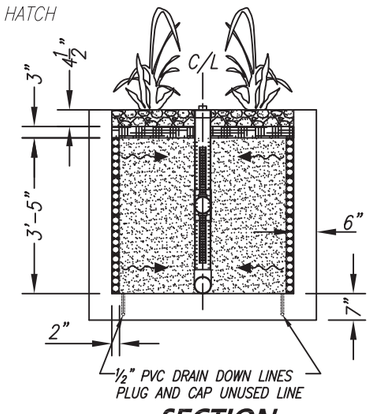
LEFT END VIEW
PRETREATMENT CHAMBER



ELEVATION VIEW



RIGHT END VIEW
DISCHARGE CHAMBER



SECTION
BIOFILTRATION CHAMBER

LEGEND

- 2" DRAIN CELL PERMITER / INLET WATER TRANSFER SYSTEM
- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. ALL WALLS ARE 6" THICK, BAFFLES ARE 4" THICK, BOTTOM 7" OR 8" THICK, TOP 8.5" THICK.
6. JOINT SEALANT: BUTYL RUBBER SS-S-00210

MODULAR WETLAND SYSTEMS INC.
P.O. BOX 869
OCEANSIDE, CA 92049
www.ModularWetlands.com

PROPRIETARY AND CONFIDENTIAL

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	NAME	DATE
DRAWN		
EDITED		

COMMENTS:

TITLE: MWS LINEAR 2.0 VAULT TYPE

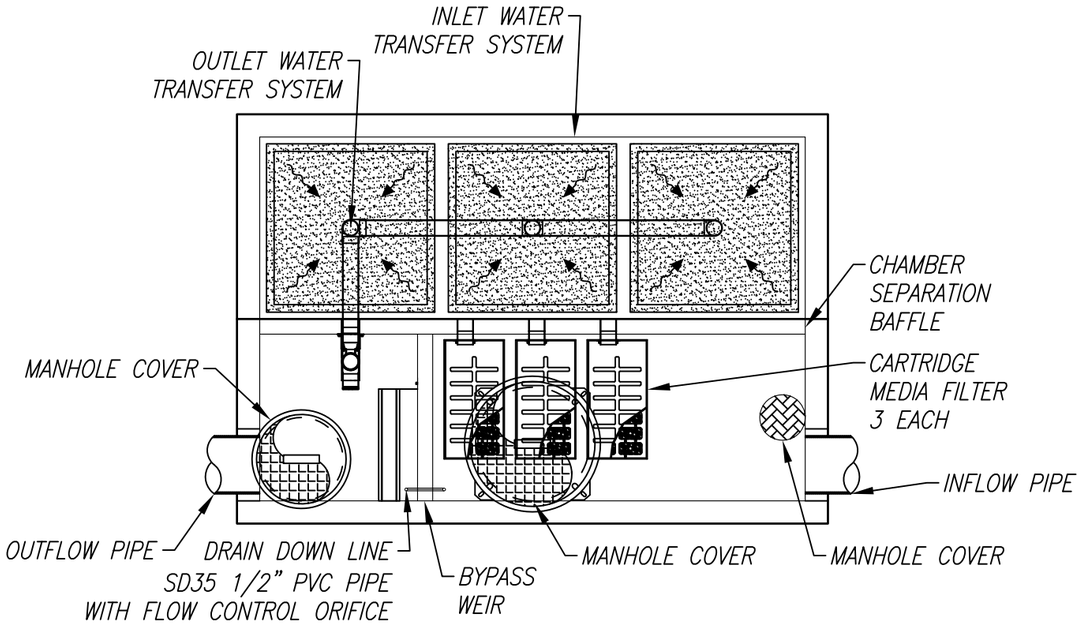
SIZE	DWG. NO.	REV
	MWS-L-4-21-V	

SCALE 1:40 | UNITS = INCHES | SHEET 1 OF 1

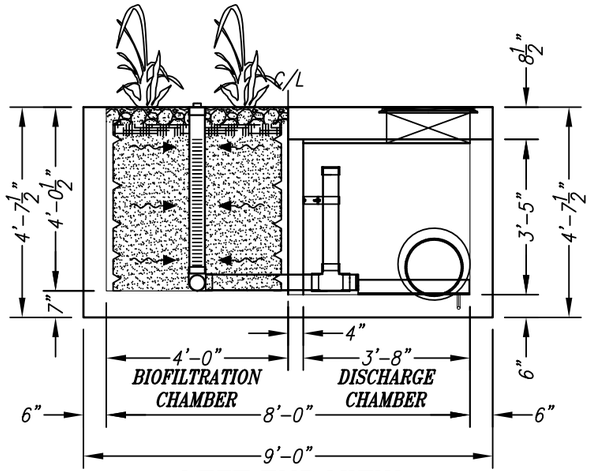
MODULAR WETLAND SYSTEMS LINEAR 2.0
VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = 0.35 CFS OR 155.49 GPM
PEAK BYPASS FLOW RATE = N/A
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 13' X 9' X 4.63'
RIM ELEVATION TO IE OUT: = 4.13'

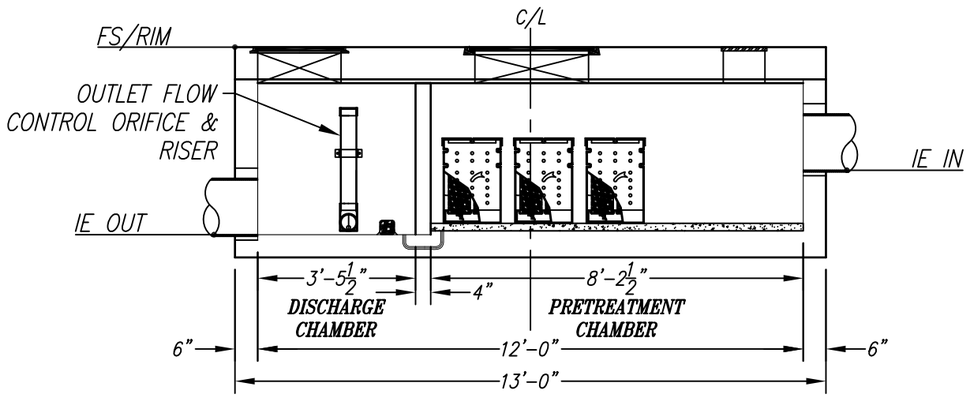
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 4
3.7' L x 3.4' H = 12.58 SF
12.58 SF X 4 SIDES = 50.32
CELLS = 3
50.32 X 3 CELLS = 150.96
TOTAL WETLAND MEDIA SURFACE AREA **= 150.96 SF**
WETLAND MEDIA LOADING RATE 155.49 GPM / 150.96 SF **= 1.03 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
TOTAL PRETREATMENT SURFACE AREA **= 75 SF**
PRETREATMENT FILTER LOADING RATE 155.49 GPM / 75 SF **= 2.07 GPM/SF**



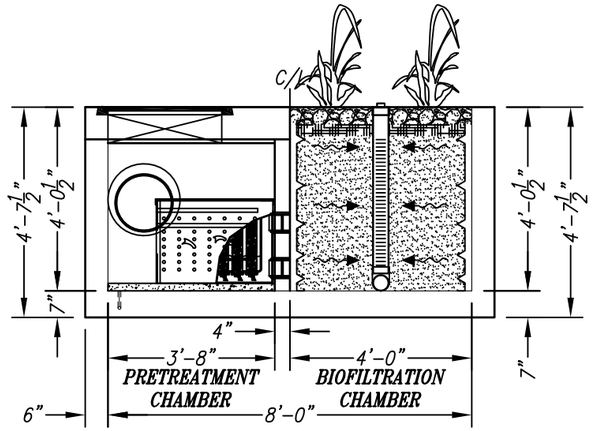
PLAN VIEW



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

LEGEND

- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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	NAME	DATE
DRAWN		
REVIEWED		
APPROVED		

COMMENTS:

TITLE: MWS LINEAR 2.0 VAULT TYPE

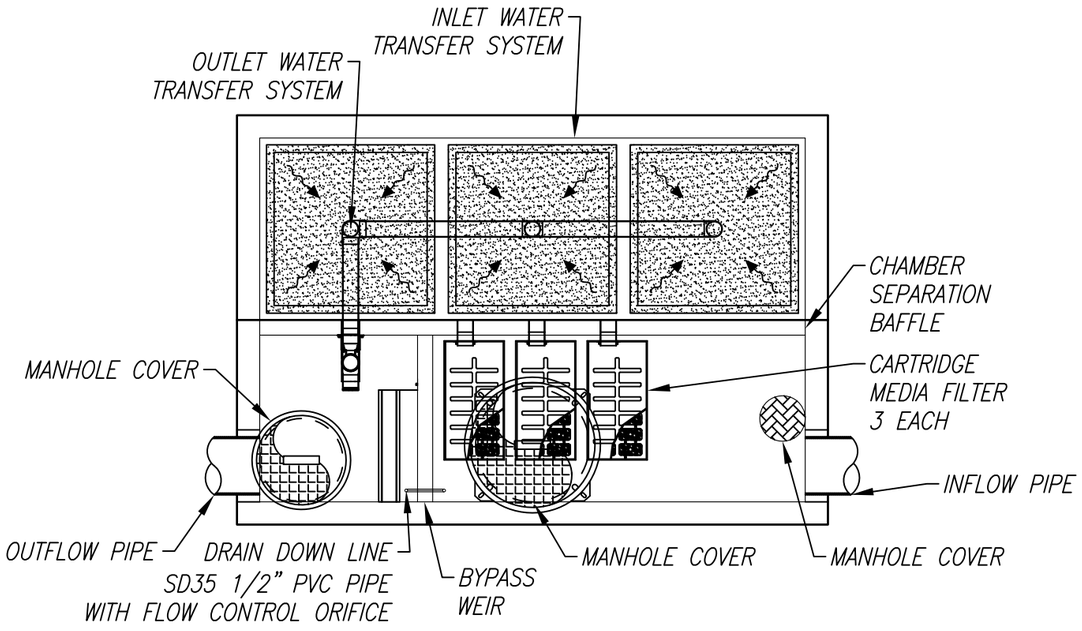
SIZE	DWG. NO.	REV
	MWS-L-8-12-UG-V	

SCALE NTS | UNITS = INCHES | SHEET 1 OF 2

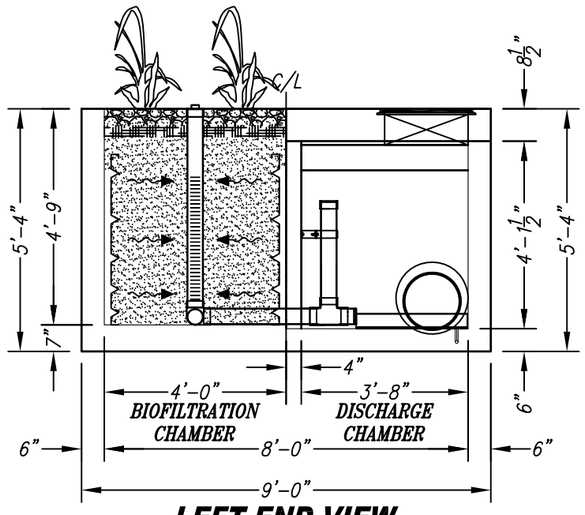
MODULAR WETLAND SYSTEMS LINEAR 2.0
VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = 0.35 CFS OR 155.49 GPM
PEAK BYPASS FLOW RATE = DEPENDENT ON PIPE SIZE
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 13' X 9' X 5.33'
RIM ELEVATION TO IE OUT: = 4.83'

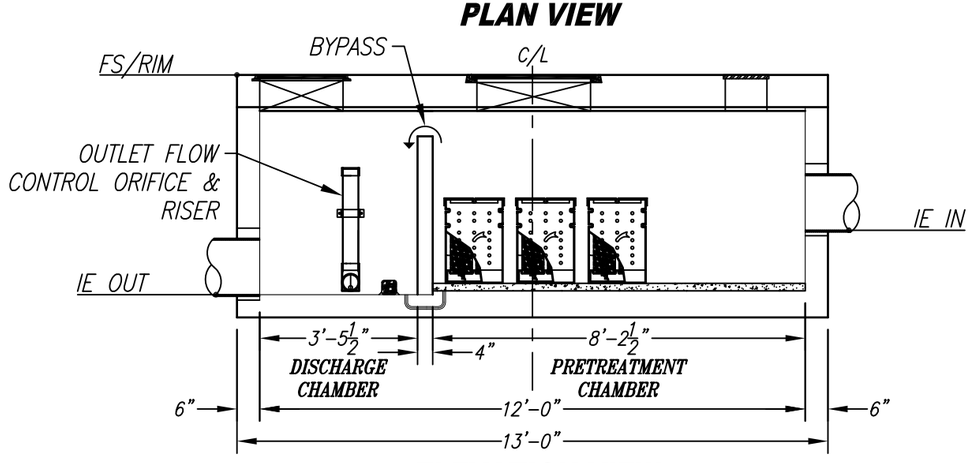
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 4
3.7' L x 3.4' H = 12.58 SF
12.58 SF X 4 SIDES = 50.32
CELLS = 3
50.32 X 3 CELLS = 150.96
TOTAL WETLAND MEDIA SURFACE AREA **= 150.96 SF**
WETLAND MEDIA LOADING RATE 155.49 GPM / 150.96 SF **= 1.03 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
TOTAL PRETREATMENT SURFACE AREA **= 75 SF**
PRETREATMENT FILTER LOADING RATE 155.49 GPM / 75 SF **= 2.07 GPM/SF**



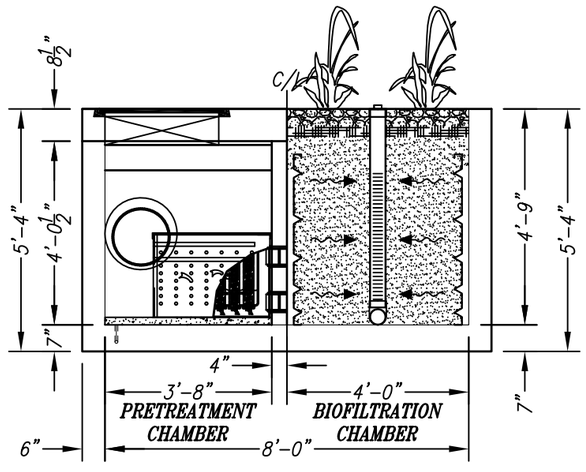
PLAN VIEW



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

LEGEND

- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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	NAME	DATE
DRAWN		
REVIEWED		
APPROVED		

COMMENTS:

TITLE: MWS LINEAR 2.0 VAULT TYPE

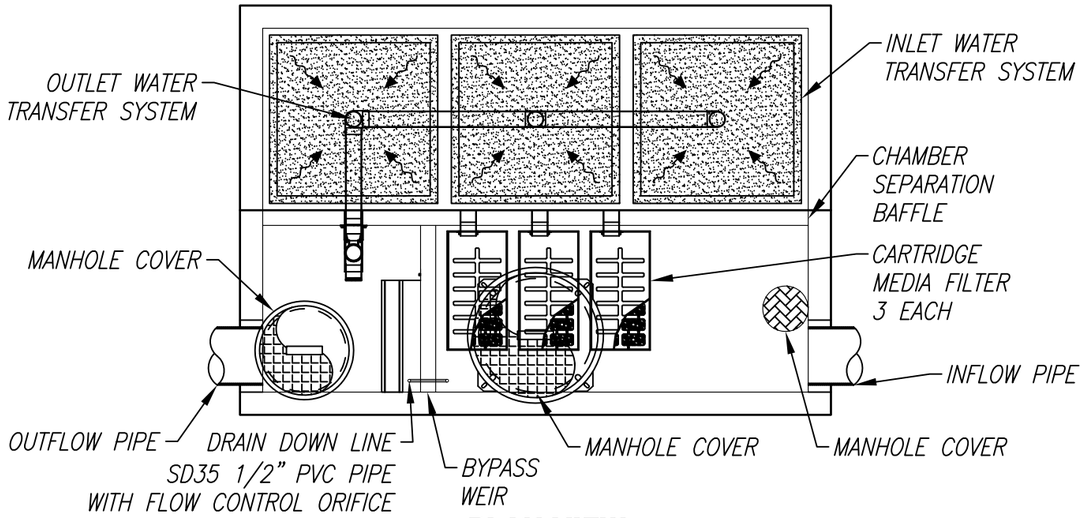
SIZE	DWG. NO.	REV
	MWS-L-8-12-UG-V	

SCALE NTS | UNITS = INCHES | SHEET 1 OF 2

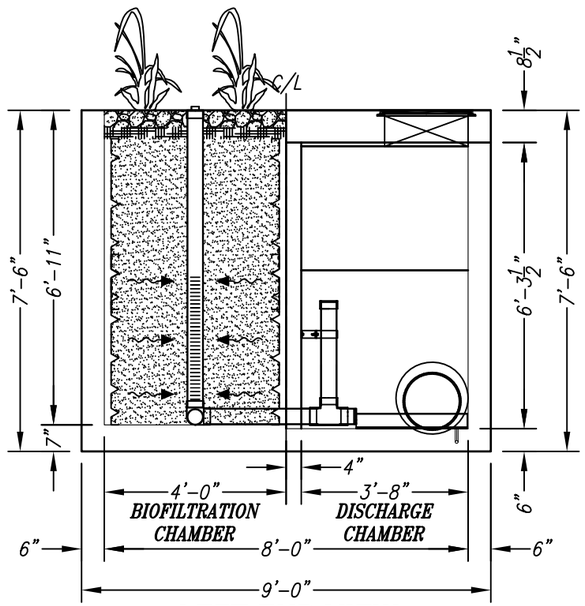
MODULAR WETLAND SYSTEMS LINEAR 2.0
VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = 0.35 CFS OR 155.49 GPM
PEAK BYPASS FLOW RATE = DEPENDENT ON PIPE SIZE
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 13' X 9' X 7.5'
RIM ELEVATION TO IE OUT: = 7.00'

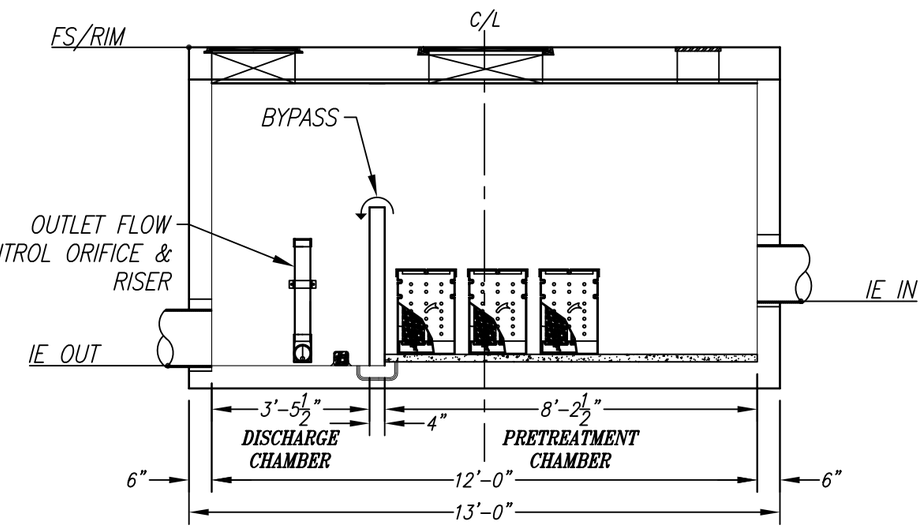
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 4
3.7' L x 3.4' H = 12.58 SF
12.58 SF X 4 SIDES = 50.32
CELLS = 3
50.32 X 3 CELLS = 150.96
TOTAL WETLAND MEDIA SURFACE AREA **= 150.96 SF**
WETLAND MEDIA LOADING RATE 155.49 GPM / 150.96 SF **= 1.03 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
TOTAL PRETREATMENT SURFACE AREA **= 75 SF**
PRETREATMENT FILTER LOADING RATE 155.49 GPM / 75 SF **= 2.07 GPM/SF**



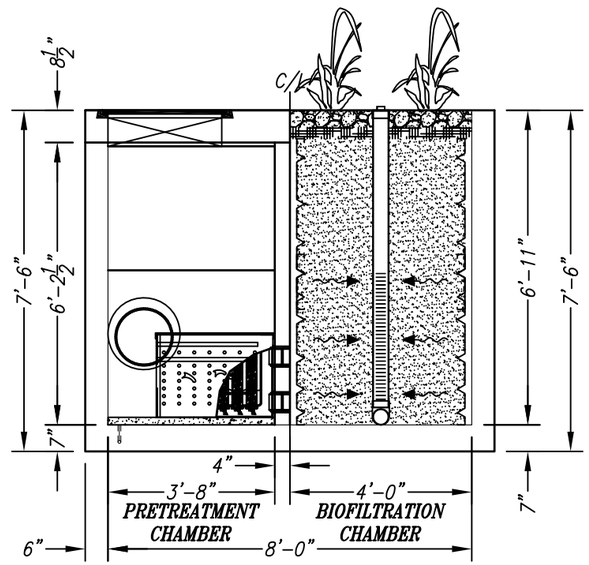
PLAN VIEW



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

LEGEND

- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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	NAME	DATE
DRAWN		
REVIEWED		
APPROVED		

COMMENTS:

TITLE: MWS LINEAR 2.0 VAULT TYPE

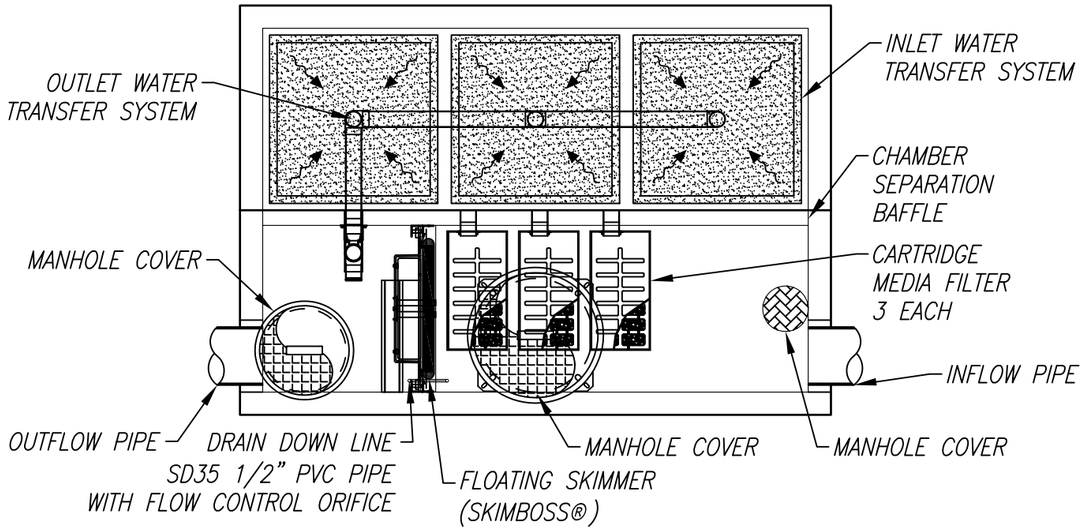
SIZE	DWG. NO.	REV
	MWS-L-8-12-UG-V	

SCALE NTS | UNITS = INCHES | SHEET 1 OF 2

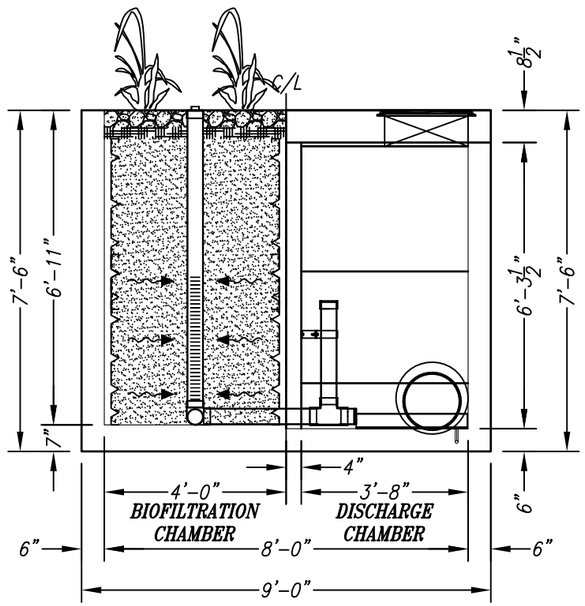
MODULAR WETLAND SYSTEMS LINEAR 2.0
VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = 0.35 CFS OR 155.49 GPM
PEAK BYPASS FLOW RATE = DEPENDENT ON PIPE SIZE
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 13' X 9' X 7.5'
RIM ELEVATION TO IE OUT: = 7.00'

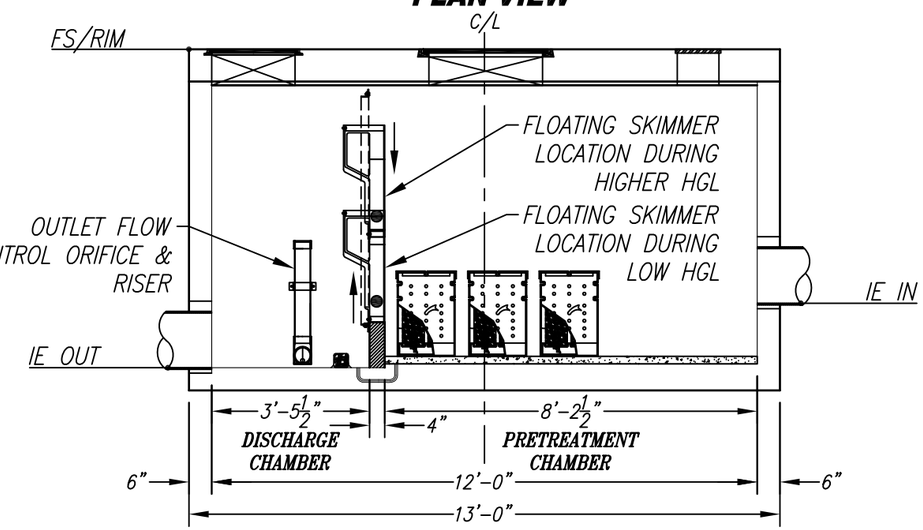
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 4
3.7' L x 3.4' H = 12.58 SF
12.58 SF X 4 SIDES = 50.32
CELLS = 3
50.32 X 3 CELLS = 150.96
TOTAL WETLAND MEDIA SURFACE AREA **= 150.96 SF**
WETLAND MEDIA LOADING RATE 155.49 GPM / 150.96 SF **= 1.03 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
TOTAL PRETREATMENT SURFACE AREA **= 75 SF**
PRETREATMENT FILTER LOADING RATE 155.49 GPM / 75 SF **= 2.07 GPM/SF**



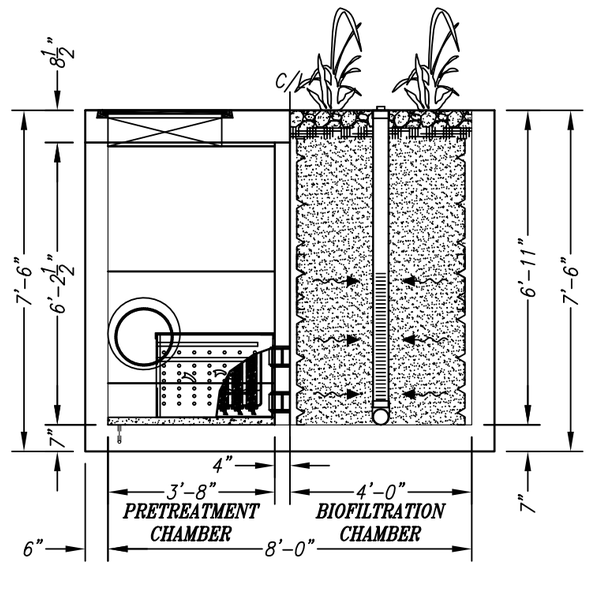
PLAN VIEW



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

LEGEND

- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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	NAME	DATE
DRAWN		
REVIEWED		
APPROVED		

COMMENTS:

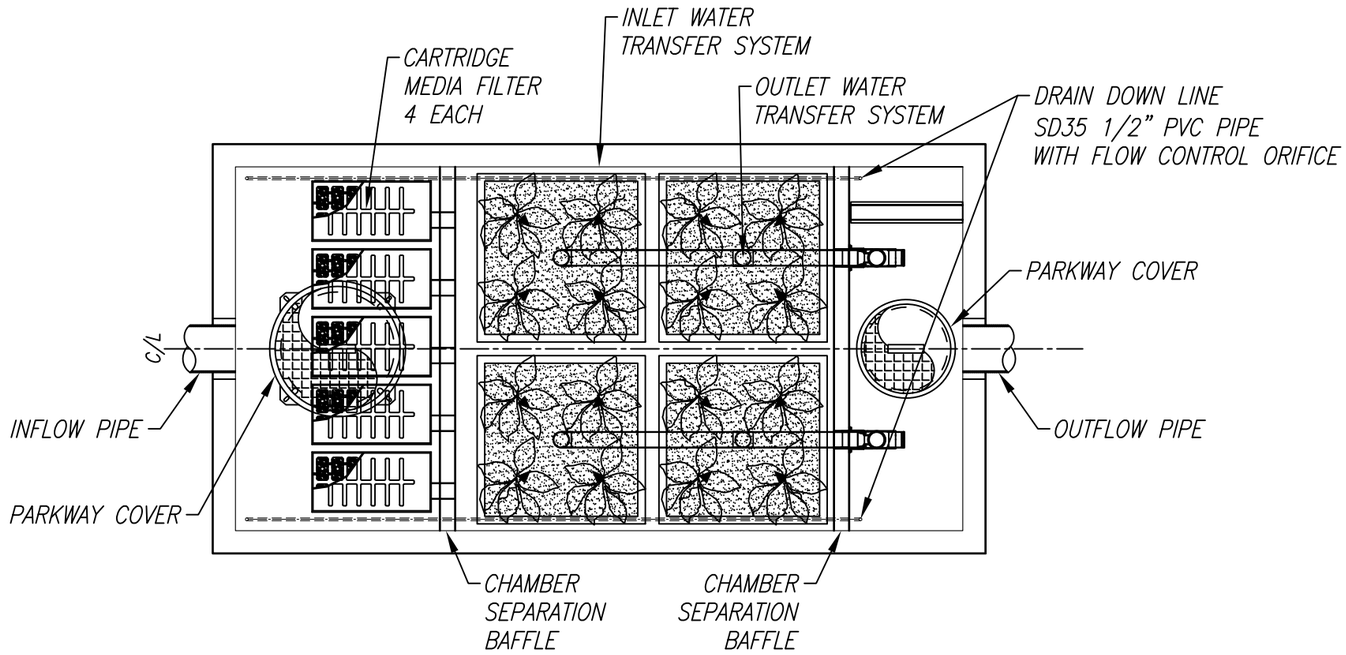
TITLE: MWS LINEAR 2.0 VAULT TYPE

SIZE	DWG. NO.	REV
	MWS-L-8-12-UG-V	

SCALE NTS | UNITS = INCHES | SHEET 1 OF 2

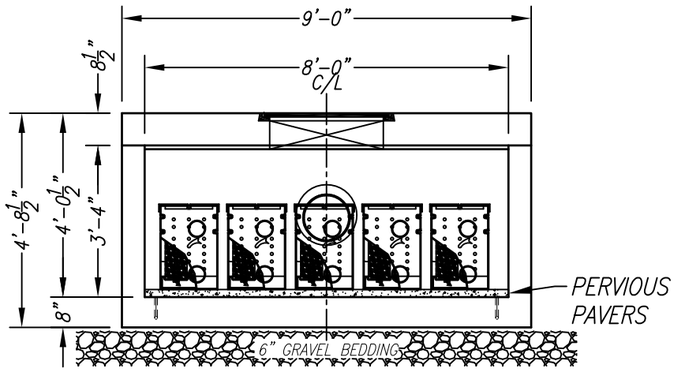
MODULAR WETLAND SYSTEMS LINEAR 2.0 VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = 0.462 CFS OR 207.31 GPM
PEAK BYPASS FLOW RATE = N/A
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 17' X 9' X 4.7'

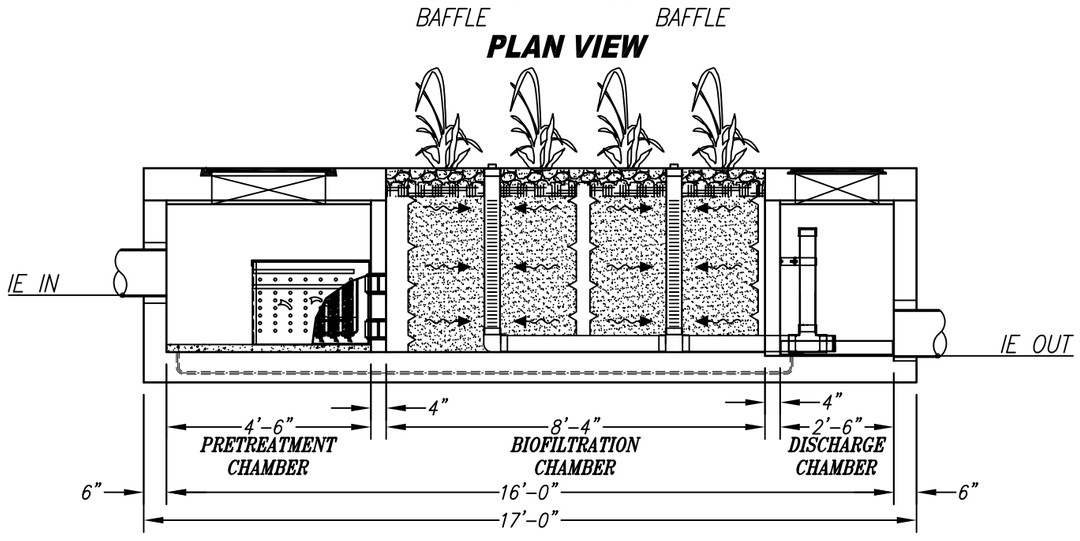


PLAN VIEW

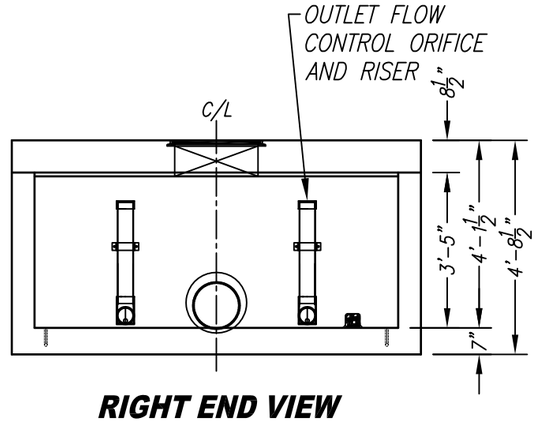
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 4
3.7' L x 3.4' H = 12.58 SF
12.58 SF X 4 SIDES = 50.32
CELLS = 4
50.32 X 4 CELLS = 201.28
TOTAL WETLAND MEDIA SURFACE AREA **= 201.28 SF**
WETLAND MEDIA LOADING RATE 207.31 GPM / 201.28 SF **= 1.03 GPM/SF**
PRETREATMENT FILTER SURFACE AREA CALCS
TOTAL PRETREATMENT SURFACE AREA 25 SF x 5 FILTERS **= 125.00 SF**
PRETREATMENT FILTER LOADING RATE 207.31 GPM / 125.00 SF **= 1.66 GPM/SF**



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

LEGEND

- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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	NAME	DATE
DRAWN		
REVIEWED		
APPROVED		

COMMENTS:

TITLE: MWS LINEAR 2.0 CURB TYPE

SIZE	DWG. NO.	REV
	MWS-L-8-16-V	

SCALE NTS | UNITS = INCHES | SHEET 1 OF 1