34 Park Avenue – PO Box 426
LYNDHURST, NEW JERSEY 07071
Tel: 201.939.8805 • Fax: 201.939.0846

NEGLIA
ENGINEERING ASSOCIATES

200 Central Avenue – Suite 102
MOUNTAINSIDE, NJ 07092
Tel: 201.939.8805 • Fax: 732.943.7249

ADDENDUM #1 TO DRAINAGE CALCULATIONS FOR BLOCK 416, LOT 3 555 BERGEN BOULEVARD BOROUGH OF PALISADES PARK BERGEN COUNTY, NEW JERSEY

PROJECT NO.: PAPKPRV20.010
ADDENDUM #1 DATE: SEPTEMBER 11, 2020

NEGLIA ENGINEERING ASSOCIATES
34 Park Avenue
P.O. Box 426
Lyndhurst, NJ 07071

Anthony Kurus, Professional Engineer
New Jersey License No. 46445

Addendum #1 Table of Contents

ADDENDUM #1 FIGURE

Proposed Conveyance Pipe Capacity Calculations
Manning Equation - full flow
Live Work Units Project
Borough of Palisades Park

Existing Downstream Pipe in NJ State Route 63 - Bergen Boulevard

D	18	in	
A	1.76714587	ft^2	
P	4.71238898	ft	
R	0.375	ft	
n	0.013	manning's roughness coefficient	
s	0.025	ft/ft	
Q (capacity)	16.65	cfs	
Pre Development = Post Development Flow to Pipe	1.23	cfs	100 year storm
C	0.95		
I	8.4	in/hr	
A	1.14	ac	Existing Offsite Contributory Flow
Q Existing off-tract	9.10	cfs	100 year storm
total flow to existing downstream pipe in NJ Rt 63	10.33		100 year storm

Conclusion: The existing downstream 18" RCP has sufficient capacity.

WATER QUALITY CALCULATIONS	Area Acres	TSS Removal Requirement	Treatment Area Acres
EXISTING IMPERVIOUS AREA (PRE-DEVELOPED)	0.66	50%	0.33
New Impervious Area	0.03	80%	0.02
total post development impervious	0.69		
Total Treatment Area Required			***0.35***

PROPOSED WATER QUALITY TREATMENT	Area Acres	TSS Removal Rate	Treatment Area Provided Acres
TREAT 100 YR BASIN OUTFLOW (MAX FLOW) WITH CDS	0.69	50%	***0.35***

CONCLUSION: USE CDS 4 WITH NJDEP CERTIFICATION FOR ON-LINE USE (0.70 TREATMENT FLOW RATE) TO TREAT PEAK FLOW OF NJ WATER QUALITY STORM (WQ-0.52 cfs) AT 50% TSS REMOVAL FOR REDEVELOPMENT SITE

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Nonpoint Pollution Control
Division of Water Quality
401-02B
Post Office Box 420
Trenton, New Jersey 08625-0420
609-633-7021 Fax: 609-777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. MCCABE
Commissioner

May 18, 2020

Derek M. Berg
Director – Stormwater Regulatory Management - East
Contech Engineered Solutions LLC
71 US Route 1, Suite F
Scarborough, ME 04074

Re: MTD Lab Certification
Cascade Separator™
On-line Installation

TSS Removal Rate 50%

Dear Mr. Berg:

This revised certification letter supersedes the Department's prior certification dated October 1, 2019. This revision was completed to reflect Contech's enhanced fabrication capability to manufacture a smaller-size unit of its the Cascade Separator™ Manufactured Treatment Device (MTD), while still meeting the scaling methodology as agreed upon by the manufacturers' working group on September 19, 2016. Based on this modification, Table A-1 of the New Jersey Corporation for Advanced Technology (NJCAT) Verification report located at http://www.njcat.org/uploads/newDocs/NJCATTechnologyVerificationFinal.pdf has been revised to specify this smaller unit and associated maximum treatment flow rate. Table 1 below has been revised to reflect this same updated model size and flow rate.

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7(c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Contech Engineered Solutions, LLC (Contech) has requested an MTD Laboratory Certification for the Cascade Separator™ stormwater treatment system.

The project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25,

2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated September 2019) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

The NJDEP certifies the use of the Cascade Separator™ stormwater treatment system at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The Cascade Separator™ shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This Cascade Separator™ cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.

5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Cascade Separator™. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at https://www.conteches.com/Portals/0/Documents/Maintenance%20Guides/Cascade-Maintenance%20Guide.pdf?ver=2018-11-05-093254-300. for any changes to the maintenance requirements.

6. Sizing Requirement:

   The example below demonstrates the sizing procedure for the Cascade Separator™:

   Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using a Cascade Separator™. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

   Maximum Treatment Flow Rate (MTFR) Evaluation:

   The site runoff (Q) was based on the following:

time of concentration = 10 minutes
i = 3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
c = 0.99 (runoff coefficient for impervious)
Q = ciA = 0.99 x 3.2 x 0.25 = 0.79 cfs

Given the site runoff is 0.79 cfs and based on Table A-1 below, the Cascade Separator™ Model CS-3 with an MTFR of 1.02 cfs would be the smallest model approved that could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1.

Table A-1 Cascade Separator™ Models and Associated MTFRs

Model	Manhole Diameter (ft)	MTFR (cfs)	50% Maximum Sediment Storage Area Volume (ft^3)
CS-3	3	1.02	5.3
CS-4	4	1.80	9.4
CS-5	5	2.81	14.7
CS-6	6	4.05	21.2
CS-8	8	7.20	37.7
CS-10	10	11.3	58.9
CS-12	12	16.2	84.8

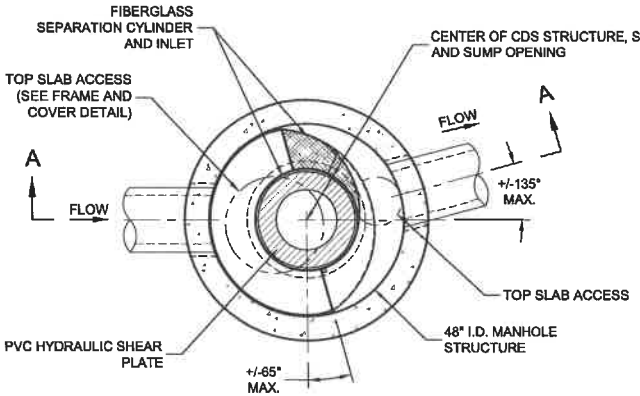
A detailed maintenance plan is mandatory for any project with a stormwater BMP subject to the Stormwater Management rules under N.J.A.C. 7:8. The plan must include all of the items identified in the Maintenance requirements section of the Stormwater Management rules under N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo of my office at (609) 633-7021.

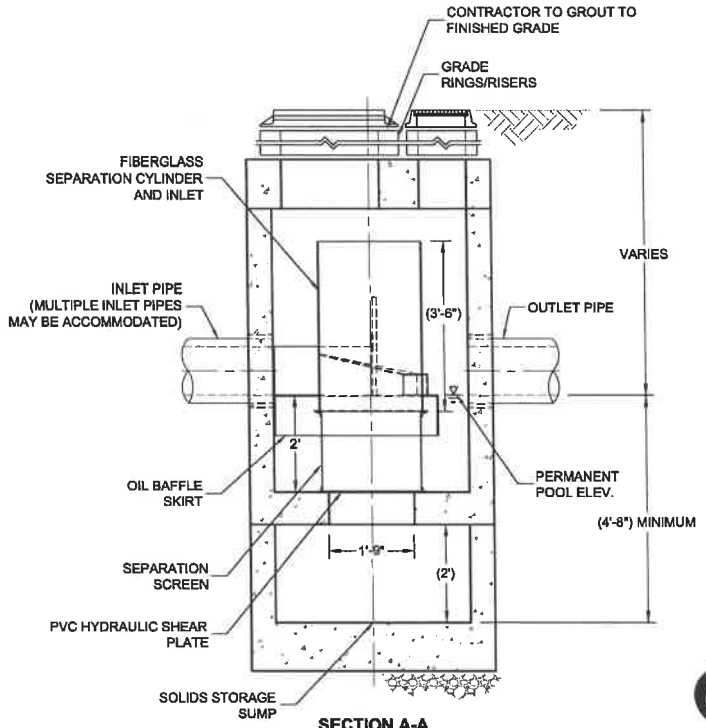
Sincerely,

Gabriel Mahon

Gabriel Mahon, Chief
Bureau of Nonpoint Pollution Control



PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.

CDS2015-4 DESIGN NOTES

CDS2015-4 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS. IF THE SITE CONDITIONS EXCEED 10.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2015-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

DESIGNATION (MODEL SUFFIX)	CONFIGURATION DESCRIPTION
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS)			*
PEAK FLOW RATE (CFS)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST	WIDTH		HEIGHT
	*		*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH STORMWATER SOLUTIONS
contechstormwater.com

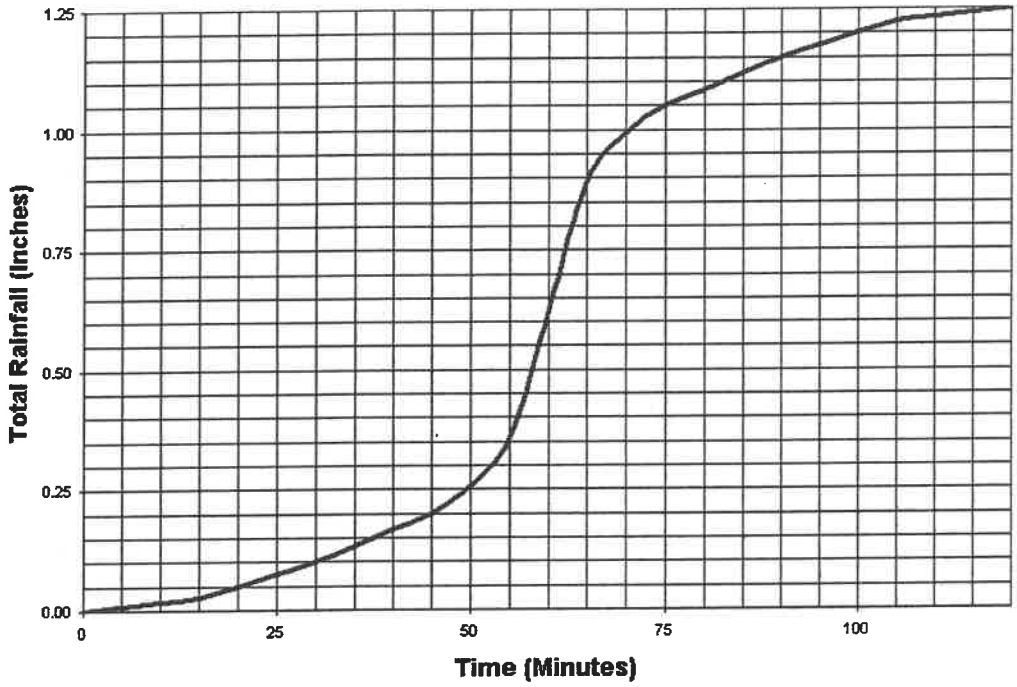
CDS2015-4
PRECAST CONCRETE WATER QUALITY SYSTEM
STANDARD DETAIL

Table 5-1: NJDEP 1.25-Inch/2-Hour Stormwater Quality Design Storm Cumulative and Incremental Rainfall Distributions

Time (minutes)	Cumulative Rainfall (inches)	Incremental Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)	Incremental Rainfall (inches)
0	0.0000	0.0000	65	0.8917	0.2667
5	0.0083	0.0083	70	0.9917	0.1000
10	0.0166	0.0083	75	1.0500	0.0583
15	0.0250	0.0084	80	1.0840	0.0340
20	0.0500	0.0250	85	1.1170	0.0330
25	0.0750	0.0250	90	1.1500	0.0330
30	0.1000	0.0250	95	1.1750	0.0250
35	0.1330	0.0330	100	1.2000	0.0250
40	0.1660	0.0330	105	1.2250	0.0250
45	0.2000	0.0340	110	1.2334	0.0084
50	0.2583	0.0583	115	1.2417	0.0083
55	0.3583	0.1000	120	1.2500	0.0083
60	0.6250	0.2667			

Note: See Figure 5-1 for plot of cumulative rainfall distribution.

Figure 5-2: NJDEP 1.25-Inch/2-Hour Stormwater Quality Design Storm



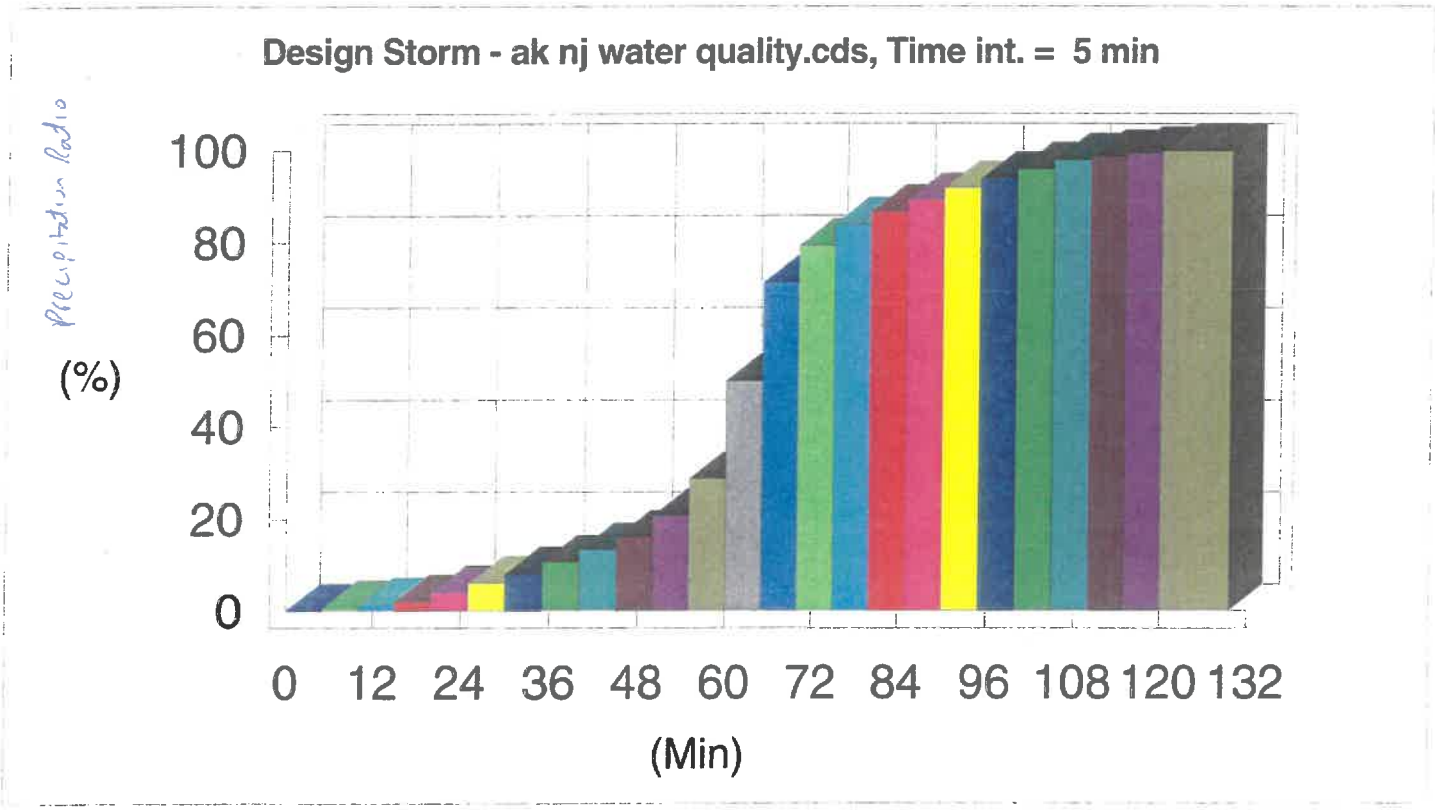
The NJDEP stormwater quality design storm can be used to analyze and design stormwater quality BMPs based on the Rational, Modified Rational, or NRCS methods. Selection of the appropriate method will depend on the type of BMP selected and its required design data. BMPs that essentially store, treat, and slowly release the stormwater quality design storm runoff (such as extended detention basins, wet ponds, constructed stormwater wetlands, and sand filters) generally require a runoff volume at the very least and, ideally, an entire runoff hydrograph. This mandates the use of either the NRCS methodology or Modified Rational Method. However, BMPs that treat the stormwater quality design storm runoff as it is conveyed through them (such a filter strip, buffer or manufactured treatment device) generally require only a peak runoff rate. This can be computed using either the NRCS or Rational Methods. Further information on the use of these methods is presented below. When using either the Rational or Modified Rational Methods, it is important to remember their 20-acre drainage area limitations.

Table 5-1 was prepared for those using the NRCS methodology to compute stormwater quality design storm runoff peaks or hydrographs. It contains cumulative and incremental rainfall values for the stormwater quality design storm in five minute increments. These values can be used in computer programs such as TR-20, HEC-1, HEC-HMS, and other programs that both contain the NRCS methodology and allow user-specified rainfalls.

Time	Cumulative Rainfall	Precip Ratio
0	0	0
5	0.0083	0.00664
10	0.0166	0.01328
15	0.025	0.02
20	0.05	0.04
25	0.075	0.06
30	0.1	0.08
35	0.133	0.1064
40	0.166	0.1328
45	0.2	0.16
50	0.2583	0.20664
55	0.3583	0.28664
60	0.625	0.5
65	0.8917	0.71336
70	0.9917	0.79336
75	1.05	0.84
80	1.084	0.8672
85	1.117	0.8936
90	1.15	0.92
95	1.175	0.94
100	1.2	0.96
105	1.225	0.98
110	1.2334	0.98672
115	1.2417	0.99336
120	1.25	1

$$\text{Precip Ratio} = \frac{\text{Cumulative Rainfall}}{\text{Total Rainfall}}$$

Note: Cumulative Rainfall is as per NJDEP BMP manual, Chapter 5, table 5-1, "NJDEP 1.25 inch/2-Hour Stormwater Quality Design Storm Cumulative and Incremental Rainfall Distribution."



Precip Ratio = $\frac{\text{Cumulative Rainfall}}{\text{Total Rainfall}}$

Total Rainfall = 1.25 inches

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Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
2	SCS Runoff	1.53	5	70	2,428	----	------	------	PR TO BASIN WQ FLOW
3	Reservoir	0.52	5	85	2,425	2	303.42	1,174	BASIN FLOW - WQ

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

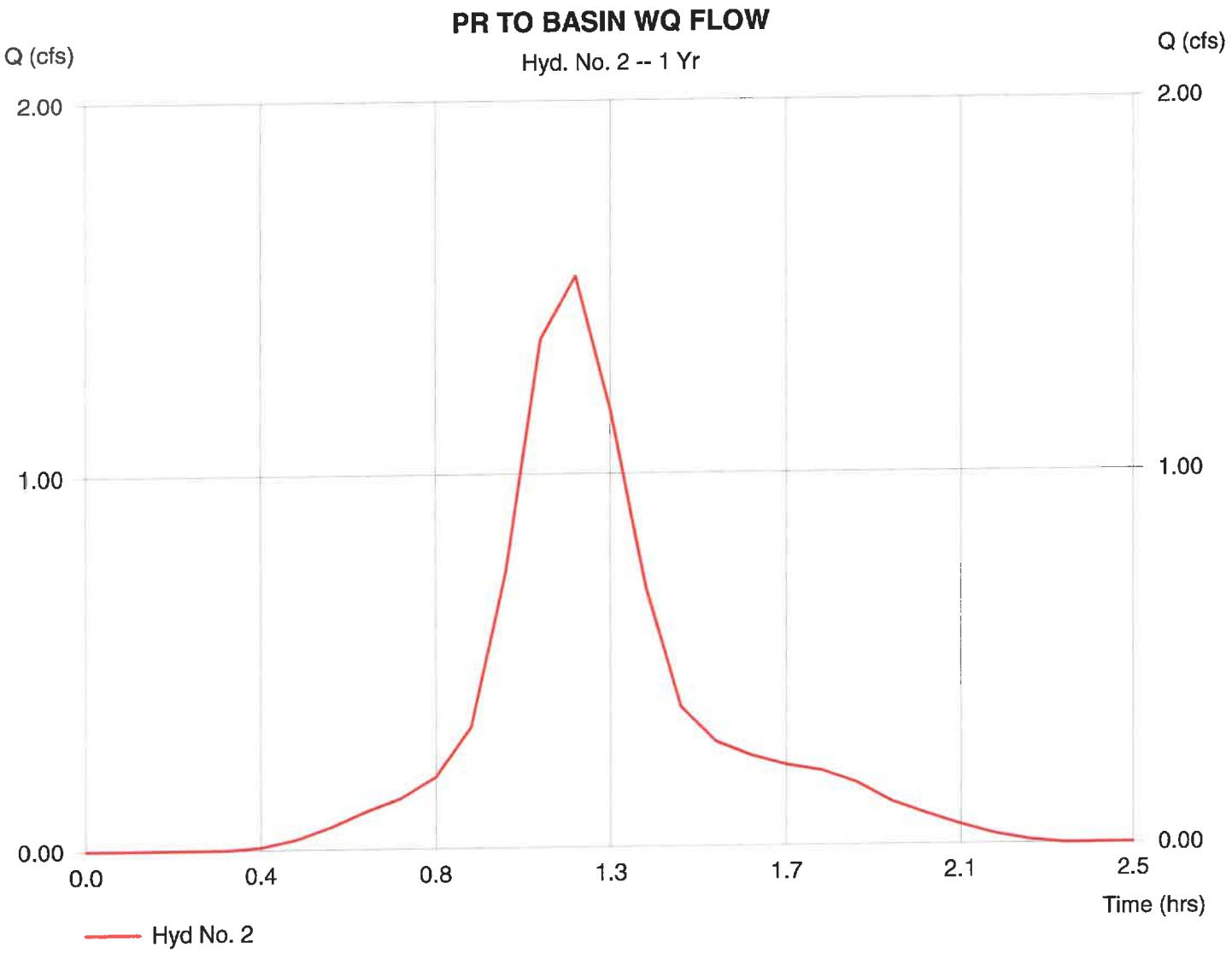
Tuesday, Aug 28 2012, 8:54 AM

Hyd. No. 2

PR TO BASIN WQ FLOW

Hydrograph type	= SCS Runoff	Peak discharge	= 1.53 cfs
Storm frequency	= 1 yrs	Time interval	= 5 min
Drainage area	= 0.69 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10 min
Total precip.	= 1.25 in	Distribution	= Custom
Storm duration	= njdep water quality.cds	Shape factor	= 484

Hydrograph Volume = 2,428 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Tuesday, Aug 28 2012, 8:54 AM

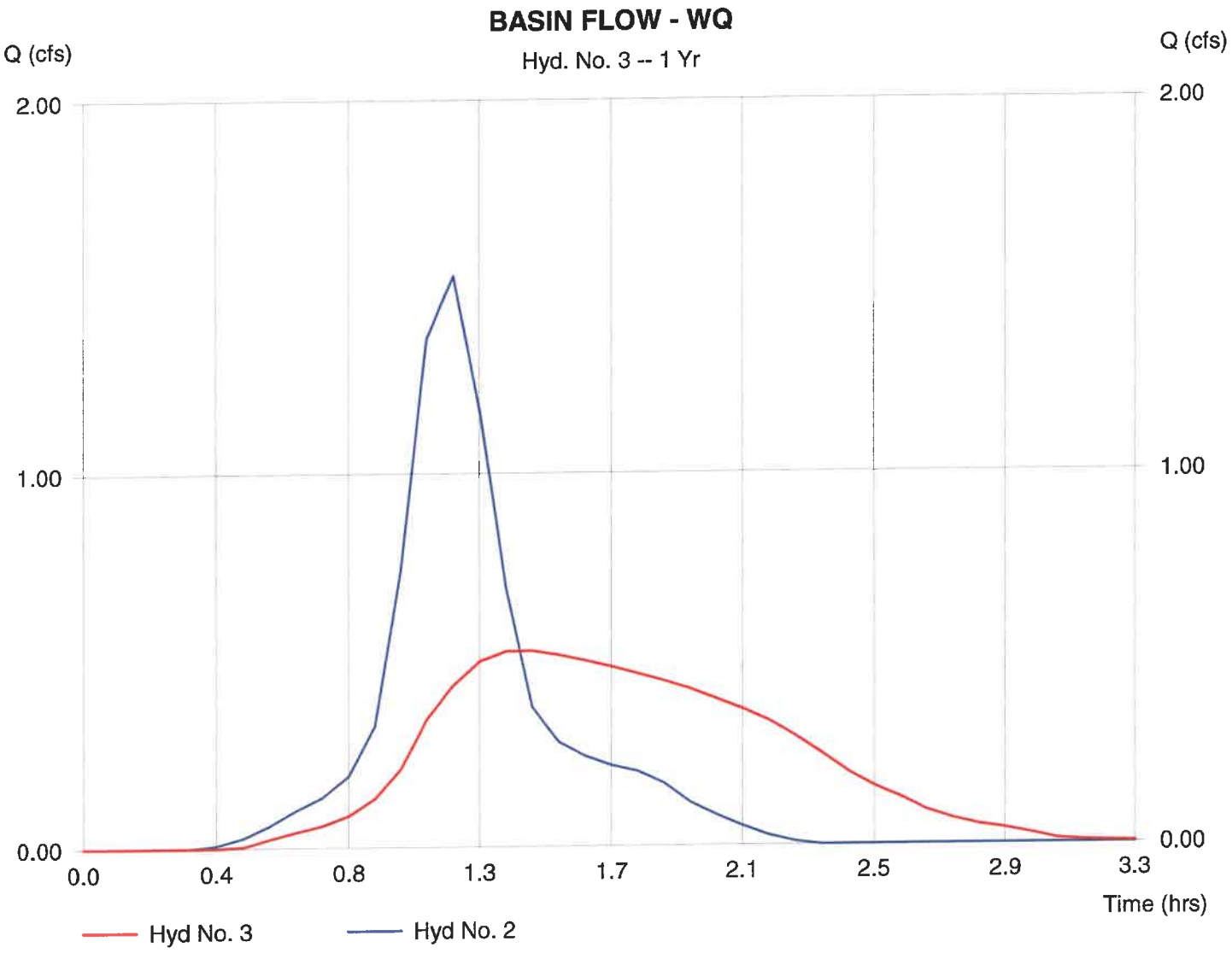
Hyd. No. 3

BASIN FLOW - WQ

Hydrograph type	= Reservoir	Peak discharge	= 0.52 cfs
Storm frequency	= 1 yrs	Time interval	= 5 min
Inflow hyd. No.	= 2	Max. Elevation	= 303.42 ft
Reservoir name	= PIPE STORAGE - OAKDENE	Max. Storage	= 1,174 cuft

Storage Indication method used.

Hydrograph Volume = 2,425 cuft



Pond Report

Hydraflow Hydrographs by Intelisolve

Tuesday, Aug 28 2012, 8:54 AM

Pond No. 6 - PIPE STORAGE - OAKDENE

Pond Data

Pipe dia. = 2.50 ft Pipe length = 141.0 ft No. Barrels = 6.0 Slope = 0.20 % Invert elev. = 302.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	302.50	00	0	0
0.14	302.64	00	17	17
0.28	302.78	00	91	108
0.42	302.92	00	163	271
0.56	303.06	00	211	482
0.70	303.20	00	243	725
0.83	303.33	00	266	991
0.97	303.47	00	283	1,274
1.11	303.61	00	296	1,570
1.25	303.75	00	304	1,874
1.39	303.89	00	308	2,182
1.53	304.03	00	308	2,489
1.67	304.17	00	304	2,793
1.81	304.31	00	296	3,089
1.95	304.45	00	284	3,373
2.09	304.59	00	266	3,638
2.23	304.73	00	243	3,881
2.36	304.86	00	210	4,091
2.50	305.00	00	163	4,254
2.64	305.14	00	90	4,345
2.78	305.28	00	17	4,362

Culvert / Orifice Structures

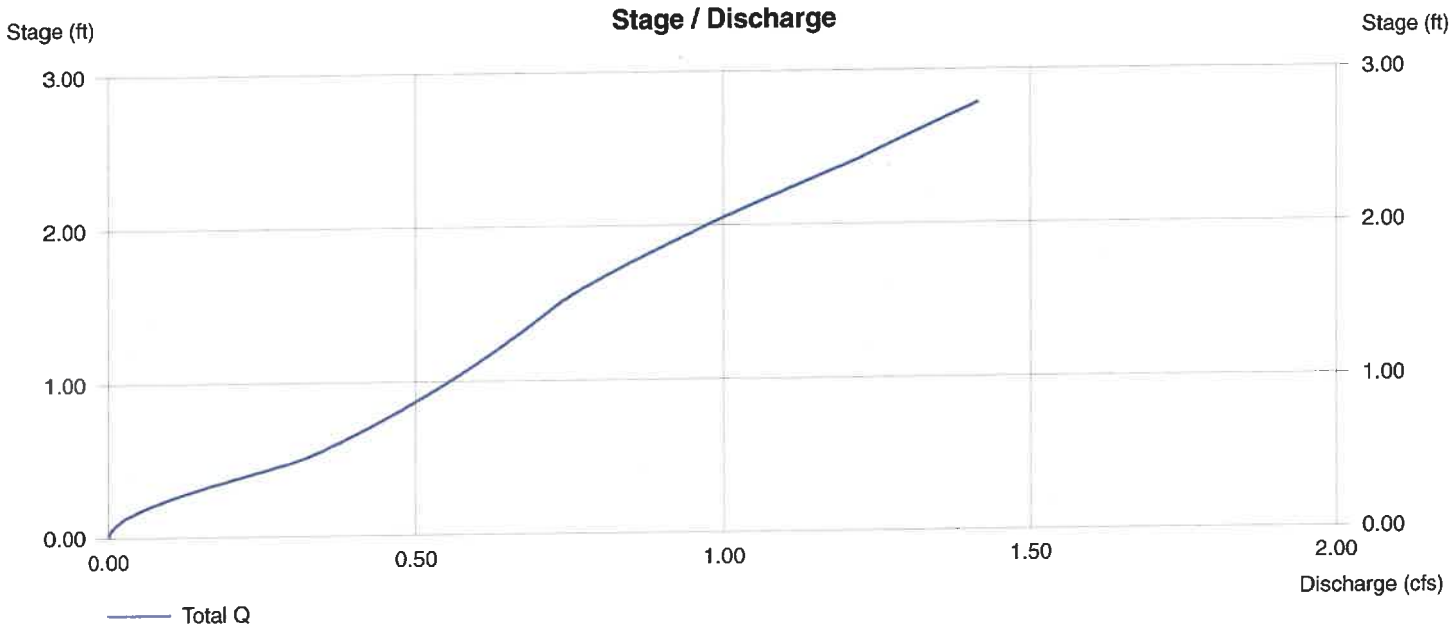
	[A]	[B]	[C]	[D]
Rise (in)	= 8.00	6.20	0.00	0.00
Span (in)	= 8.00	6.20	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 302.50	302.50	0.00	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 0.81	0.00	0.00	0.00
N-Value	= .011	.013	.000	.000
Orif. Coeff.	= 0.60	0.44	0.00	0.00
Multi-Stage	= n/a	Yes	No	No

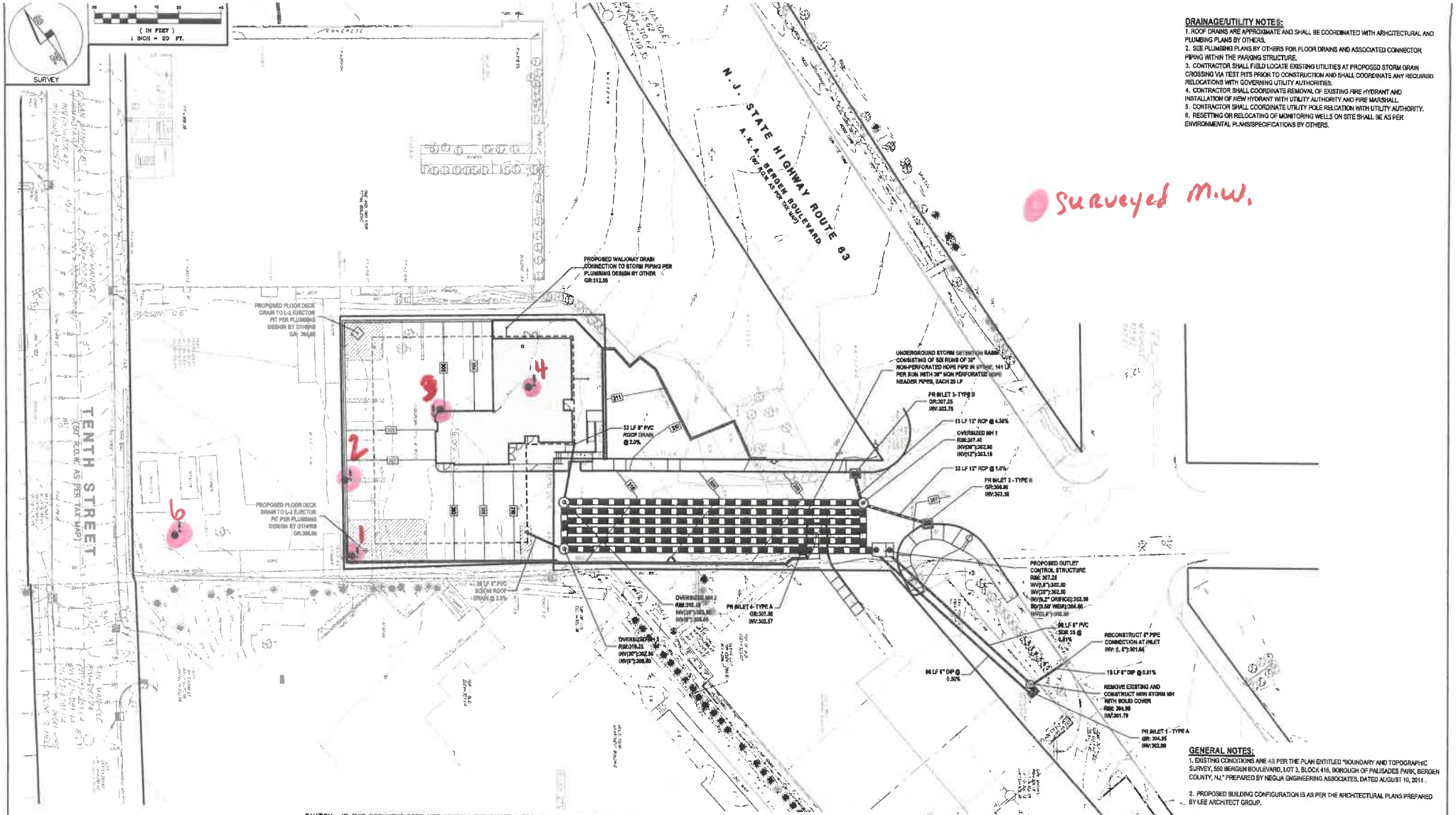
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.10	0.00	0.00	0.00
Crest El. (ft)	= 304.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration = 0.000 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.





DRAINAGE/UTILITY NOTES:

1. ROOF DRAINS ARE APPROXIMATE AND SHALL BE COORDINATED WITH ARHCITECTURAL AND PLUMBING PLANS BY OTHERS.
2. SEE PLUMBING PLANS BY OTHERS FOR FLOOR DRAINS AND ASSOCIATED CONNECTOR PIPING WITHIN THE PARKING STRUCTURE.
3. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES AT PROPOSED STORM DRAIN CROSSING VIA TEST PITS PRIOR TO CONSTRUCTION AND SHALL COORDINATE ANY REQUIRED RELOCATIONS WITH GOVERNING UTILITY AUTHORITIES.
4. CONTRACTOR SHALL COORDINATE REMOVAL OF EXISTING FIRE HYDRANT AND INSTALLATION OF NEW HYDRANT WITH UTILITY AUTHORITY AND FIRE MARSHALL.
5. CONTRACTOR SHALL COORDINATE UTILITY POLE RELOCATION WITH UTILITY AUTHORITY.
6. RESETTING OR RELOCATING OF MONITORING WELLS ON SITE SHALL BE AS PER ENVIRONMENTAL PLANS/SPECIFICATIONS BY OTHERS.

GENERAL NOTES:

1. EXISTING CONDITIONS ARE AS PER THE PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 550 BERGEN BOULEVARD, LOT 3, BLOCK 416, BOROUGH OF PALISADES PARK, BERGEN COUNTY, NJ," PREPARED BY NEGLIA ENGINEERING ASSOCIATES, DATED AUGUST 10, 2011 .
2. PROPOSED BUILDING CONFIGURATION IS AS PER THE ARCHITECTURAL PLANS PREPARED BY LEE ARCHITECT GROUP.

CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-36) GA 276880

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	CHECKED

GREGORY J. POLYNIAK, P.E., P.P.
PROFESSIONAL ENGINEER N.J. LICENSE NO. 43136
PROFESSIONAL PLANNER N.J. LICENSE NO. 5883

A PROJECT OF
NEGLIA ENGINEERING ASSOCIATES
34 PARK AVENUE LYNDHURST NEW JERSEY
TEL: 201-939-8805 FAX: 201-939-0846 neai@negliaengineering.com
MICHAEL J. NEGLIA
PROFESSIONAL ENGINEER N.J. LICENSE NO. 36604
PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 36604
PROFESSIONAL PLANNER N.J. LICENSE NO. 5880

GROUNDWATER ELEVATION EHXIBIT
LIVE/WORK UNITS
LOT 3, BLOCK 416
BOROUGH OF PALISADES PARK
BERGEN COUNTY NEW JERSEY

DRAWN BY:	A.K.	CHECKED BY:	G.P.	PROJECT NO.:	SHEET NO.:
DESIGNED BY:	A.K.	SCALE:	1" = 20'	PAPKPRY11.010	GW-1
FIELD BOOK NO.:		PAGE:		DATE: AUGUST 2011	

TABLE 2

Former Raimondo Property
550 Bergen Boulevard
Palisades Park, New Jersey

Ground Water Elevation Data

Well ID	Total Depth (feet bgs)	TIC Elevation	Screened Inteval (feet bgs)	March 11, 2005		June 14, 2005		March 28, 2007		June 5, 2007		December 22, 2008		June 16, 2011	
				DTW	Elevation	DTW	Elevation	DTW	Elevation	DTW	Elevation	DTW	Elevation	DTW	Elevation
MW-1	17	300.19	7 to 17	10.56	289.63	11.80	288.39	-	-	9.75	290.44	9.89	290.30	10.75	289.44
MW-2	17	300.45	7 to 17	9.79	290.66	11.26	289.19	-	-	-	-	-	-	-	-
MW-3	15	303.07	5 to 15	9.06	294.01	11.67	291.40	8.35	294.72	8.95	294.12	-	-	-	-
MW-4	14	303.08	4 to 14	4.77	298.31	5.61	297.47	4.46	298.62	4.65	298.43	-	-	-	-
MW-5	15	301.42	5 to 15	NI	NI	8.70	292.72	-	-	-	-	-	-	-	-
MW-6	17	298.3	7 to 17	NI	NI	Dry	-	-	-	15.70	282.60	-	-	-	-

Well ID	December 22, 2008 DTW (ft)	June 16, 2011 DTW (ft)
TWP-1	11.58	-
TWP-2	11.27	-
TWP-3	9.65	-
WP-1	-	12

bgs - Below Ground Surface
TIC - Top of Inner Casing
DTW - Depth to Water
NI - Not installed

N

FORMER RAIMONDO PROPERTY

Legend

- Monitoring Well Locations
- Proposed Temporary Wells
- Approximate Property Line

1 inch equals 40 feet

G:\PROJECTS\2003\03-10-05 Rich Intl\GIS\TempWellFigure

NORTH

SURVEY

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

N.J. STATE HIGHWAY ROUTE 63
A.K.A. BERGEN BOULEVARD
(80' R.O.W. AS PER TAX MAP)

TENTH STREET
(50' R.O.W. AS PER TAX MAP)

SA 6
A = 0.01
C = 0.95

ROOF 1
A = 0.12 AC
C = 0.95

SA 3
A = 0.13
C = 0.95

SA 2
A = 0.08
C = 0.95

SA 5
A = 0.02
C = 0.95

ROOF 2
A = 0.10 AC
C = 0.95

SA 4
A = 0.09
C = 0.95
(DIRECT TO BASIN)

SA 1
A = 0.12
C = 0.95

OFFSITE EX DA
TO EX NJDOT CB
A = 1.14
C = 0.95

GENERAL NOTES:

1. EXISTING CONDITIONS ARE AS PER THE PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 550 BERGEN BOULEVARD, LOT 3, BLOCK 416, BOROUGH OF PALISADES PARK, BERGEN COUNTY, NJ," PREPARED BY NEGLIA ENGINEERING ASSOCIATES, DATED AUGUST 10, 2011 .

2. PROPOSED BUILDING CONFIGURATION IS AS PER THE ARCHITECTURAL PLANS PREPARED BY LEE ARCHITECT GROUP.

CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) GA 276800

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN	DESIGNED	CHECKED
1.	8/28/12	REVISED PER NJDOT COMMENTS	AK	AK	GJP

GREGORY J. POLYNIAK, P.E., P.P.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 43136
PROFESSIONAL PLANNER
N.J. LICENSE NO. 5883

A PROJECT OF
NEGLIA ENGINEERING ASSOCIATES
34 PARK AVENUE
LYNDHURST
NEW JERSEY
TEL: 201-939-8805
FAX: 201-939-0846
neg@negliaengineering.com

MICHAEL J. NEGLIA
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 38604
PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604
PROFESSIONAL PLANNER
N.J. LICENSE NO. 5698

PROPOSED SUB AREA MAP
LIVE/WORK UNITS
LOT 3, BLOCK 416
BOROUGH OF PALISADES PARK
BERGEN COUNTY NEW JERSEY

DRAWN BY:	A.K.	CHECKED BY:	G.P.	PROJECT NO.:	PAPKPRV11.010
DESIGNED BY:	A.K.	SCALE:	1"= 20'	SHEET NO.:	FIG-8
FIELD BOOK NO.:		PAGE:		DATE:	NOVEMBER 2, 2011