

# **STORMWATER DRAINAGE REPORT FOR**

## **WEST SENECA STORAGE BUILDING ADDITION**

1711 UNION ROAD  
TOWN OF WEST SENECA, NEW YORK 14224  
**Project No. 20-346**

May 19, 2021

Prepared for:

**West Seneca Self Storage  
1711 Union Road  
West Seneca, New York 14224**



**studio T3**

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## EXHIBITS

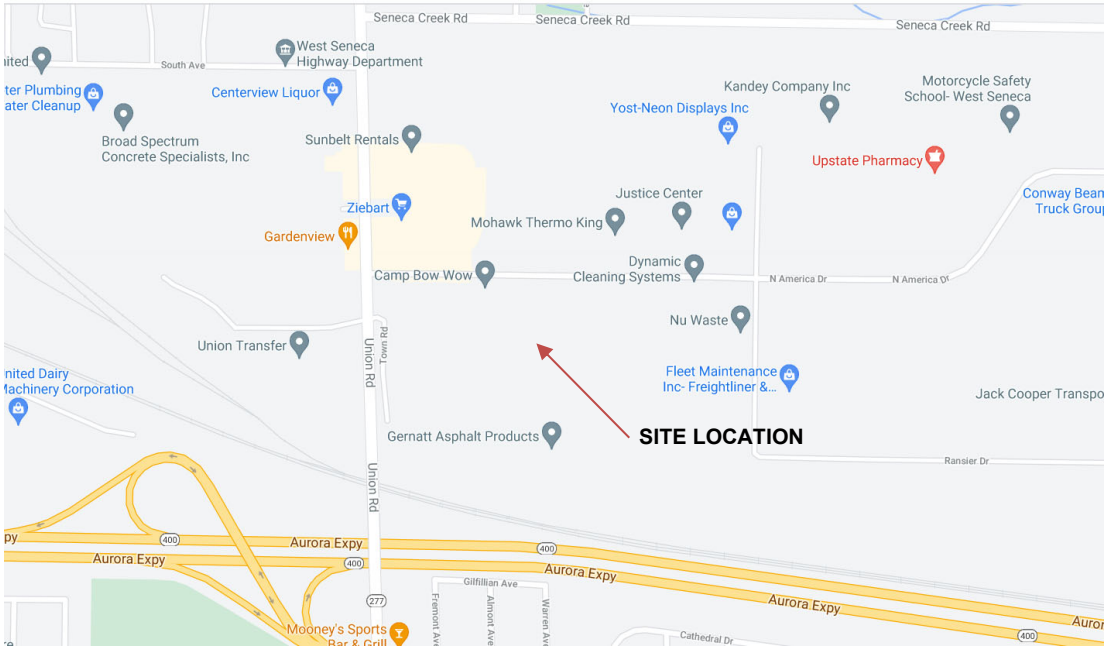
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**I. INTRODUCTION**

**Project Description:**

The existing 4.03 acre parcel is located at 1711 Union Rd. in the Town of West Seneca, NY and involves the addition of 5 new 1 story storage buildings and 2 future storage buildings of various sizes. The project involves minor regrading of the existing gravel parking lot on the east side to build 3 new buildings and 2 future buildings. There will also be two new buildings located on the west side, one on existing pavement and the other located to the east of the small office building by the entry gate. All electrical will come from the existing buildings. The proposed project will have less than 1 acre of soil disturbance. Post drainage flows have been designed to convey the 10 year storm event. Since the difference between the pre and post developed conditions are insignificant there will be no storm water detention required by the Town of West Seneca engineer. All drainage pipes shall be designed to convey the 10 yr storm event of 3.14”.

**SITE LOCATION MAP**



**Figure 1**

The proposed site drainage plan includes the addition of new storm receivers and storm pipe to control the run-off and outlet through the existing 18” cmp pipe that runs west and off site location towards Union Road. The existing drainage flows into the subsoils through a gravel surface classified as type “D” soils with little infiltration capabilities. The proposed site will collect the drainage from the new buildings and parking areas and control the peak flow of a 10 yr storm thorough a series of 8” hdpe pipes and outlet through the existing 18” cmp pipe between buildings “E” & “F”. There will be no need for any stormwater detention as the difference between asphalt and gravel is insignificant and the pre and post outflows would be similar. There is also no need for a NYSDEC stormwater pollution prevention plan (SWPPP) as the project will not disturb more than an acre of soil.

## POST DEVELOPED AREA LISTING

<u>Acres</u>	<u>CN</u>	<u>Ground Surface</u>
0.511	98	Paved parking, HSG D (1S, 2S, 3S)
0.376	98	Roofs, HSG D (1S, 2S, 3S)
0.887	98	TOTAL AREA

**Figure 2**

The peak runoff rates for the developed site were calculated by the S.C.S. TR-20 Unit Hydrograph Method, assuming a 24-hour 10 year storm of 3.14" rainfall per the northeast climate center (see exhibit 5). A Type II storm distribution was assumed and yielded the following run-off rate from the connecting storm manhole to the existing receiver of 3.98 cfs. The existing 18" metal pipe at 0.30% slope can handle up to 4.16 cfs. The final outlet for the site cannot be determined from the information or survey collected. It is assumed it goes west towards the existing Union Road storm system.

### PIPE FLOW CALCULATIONS

8" HDPE PIPE at 1.0% slope (n = 0.012)

$$\begin{aligned} V &= 1.49/n (R^{2/3} \times S^{1/2}) & R &= D'/4 = 0.1675 \\ V &= 1.49/0.012 (.17^{.67} \times 0.01^{.5}) & A &= \pi r^2 = .353 \\ V &= 124.17 (.305 \times .1) \\ V &= 3.79 \text{ f/s} \end{aligned}$$

$$Q = VA = 3.79 \times .353 = 1.34 \text{ cfs}$$

$$DA1 = 1.29 \text{ cfs}$$

$$DA3 = 1.26 \text{ cfs}$$

18" METAL PIPE SMOOTH INTERIOR at 0.30% slope (n = 0.018)

$$\begin{aligned} V &= 1.49/n (R^{2/3} \times S^{1/2}) & R &= D'/4 = 0.375 \\ V &= 1.49/0.018 (.375^{.67} \times 0.003^{.5}) & A &= \pi r^2 = 1.77 \\ V &= 82.78 (.518 \times .055) \\ V &= 2.35 \text{ f/s} \end{aligned}$$

$$Q = VA = 2.35 \times 1.77 = 4.16 \text{ cfs}$$

$$ST \text{ MH} = 3.98 \text{ cfs}$$

(See appendix A for HydroCAD report)

# **APPENDIX A**

## **POST-DEVELOPED DRAINAGE REPORT**

# 20-346 WEST SENECA STORAGE\_HYDROCAD REPORT

Prepared by {enter your company name here}

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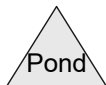
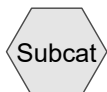
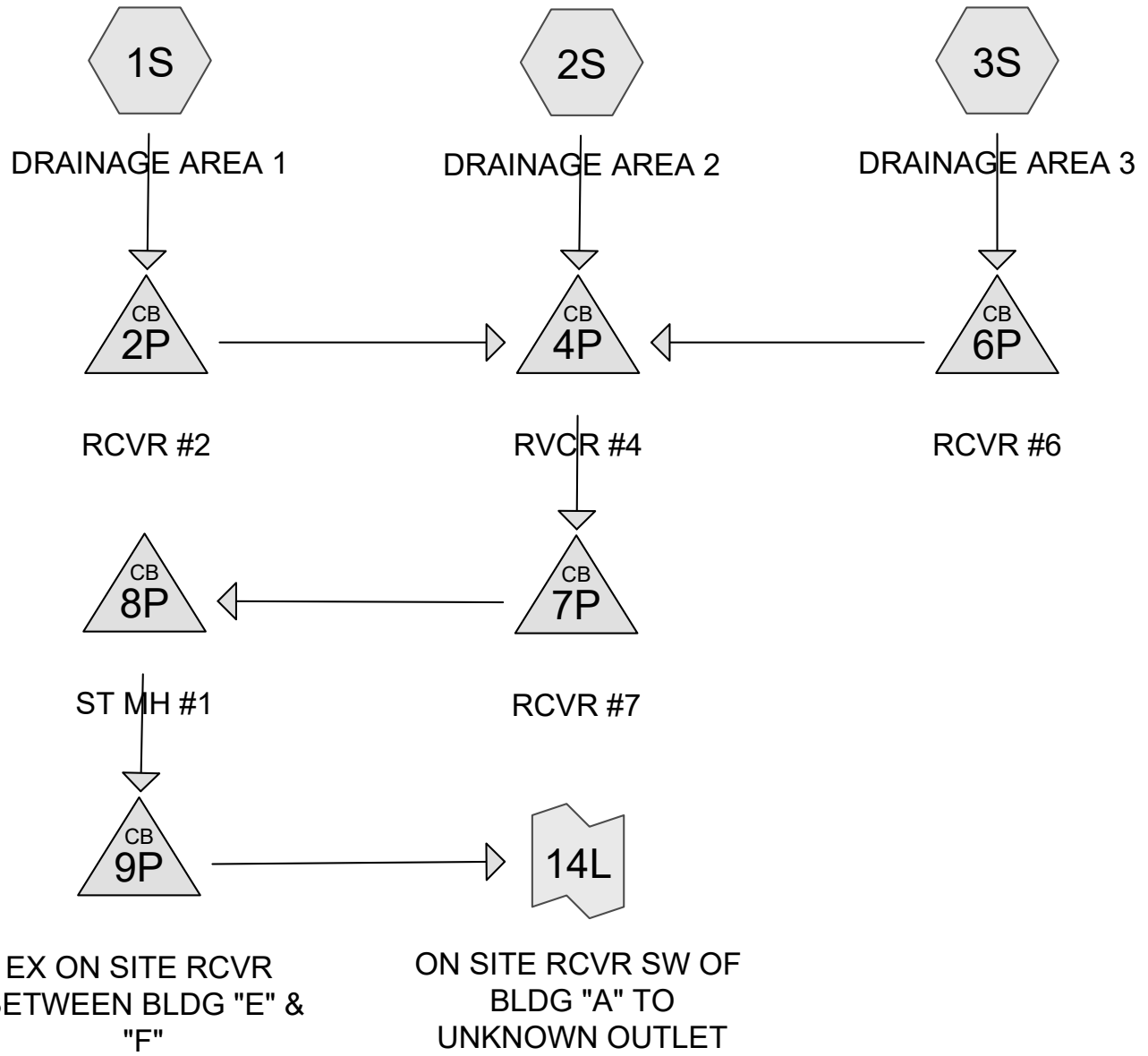
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## Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	10 YR	Type II 24-hr		Default	24.00	1	3.14	2



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## Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.511	98	Paved parking, HSG D (1S, 2S, 3S)
0.376	98	Roofs, HSG D (1S, 2S, 3S)
<b>0.887</b>	<b>98</b>	<b>TOTAL AREA</b>

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### Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	2P	638.46	637.90	56.0	0.0100	0.012	0.0	8.0	0.0
2	4P	637.24	636.94	100.0	0.0030	0.012	0.0	18.0	0.0
3	6P	638.46	637.90	56.0	0.0100	0.012	0.0	8.0	0.0
4	7P	636.94	636.83	38.0	0.0029	0.012	0.0	18.0	0.0
5	8P	636.83	636.60	78.0	0.0029	0.025	0.0	18.0	0.0
6	9P	636.60	635.91	233.5	0.0030	0.025	0.0	18.0	0.0

**20-346 WEST SENECA STORAGE\_HYDROCAD REPO Type II 24-hr 10 YR Rainfall=3.14"**

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: DRAINAGE AREA 1**      Runoff Area=12,569 sf    100.00% Impervious    Runoff Depth>2.91"  
Tc=5.0 min    CN=98    Runoff=1.29 cfs    0.070 af

**Subcatchment 2S: DRAINAGE AREA 2**      Runoff Area=13,622 sf    100.00% Impervious    Runoff Depth>2.91"  
Tc=5.0 min    CN=98    Runoff=1.40 cfs    0.076 af

**Subcatchment 3S: DRAINAGE AREA 3**      Runoff Area=12,447 sf    100.00% Impervious    Runoff Depth>2.91"  
Tc=5.0 min    CN=98    Runoff=1.28 cfs    0.069 af

**Pond 2P: RCVR #2**      Peak Elev=639.44'    Inflow=1.29 cfs    0.070 af  
8.0" Round Culvert    n=0.012    L=56.0'    S=0.0100 '/    Outflow=1.29 cfs    0.070 af

**Pond 4P: RCVR #4**      Peak Elev=638.42'    Inflow=3.98 cfs    0.215 af  
18.0" Round Culvert    n=0.012    L=100.0'    S=0.0030 '/    Outflow=3.98 cfs    0.215 af

**Pond 6P: RCVR #6**      Peak Elev=639.42'    Inflow=1.28 cfs    0.069 af  
8.0" Round Culvert    n=0.012    L=56.0'    S=0.0100 '/    Outflow=1.28 cfs    0.069 af

**Pond 7P: RCVR #7**      Peak Elev=638.13'    Inflow=3.98 cfs    0.215 af  
18.0" Round Culvert    n=0.012    L=38.0'    S=0.0029 '/    Outflow=3.98 cfs    0.215 af

**Pond 8P: ST MH #1**      Peak Elev=638.40'    Inflow=3.98 cfs    0.215 af  
18.0" Round Culvert    n=0.025    L=78.0'    S=0.0029 '/    Outflow=3.98 cfs    0.215 af

**Pond 9P: EX ON SITE RCVR BETWEEN BLDG "E" & "F"**      Peak Elev=638.80'    Inflow=3.98 cfs    0.215 af  
18.0" Round Culvert    n=0.025    L=233.5'    S=0.0030 '/    Outflow=3.98 cfs    0.215 af

**Link 14L: ON SITE RCVR SW OF BLDG "A" TO UNKNOWN OUTLET**      Inflow=3.98 cfs    0.215 af  
Primary=3.98 cfs    0.215 af

**Total Runoff Area = 0.887 ac    Runoff Volume = 0.215 af    Average Runoff Depth = 2.91"**  
**0.00% Pervious = 0.000 ac    100.00% Impervious = 0.887 ac**

**Summary for Subcatchment 1S: DRAINAGE AREA 1**

Runoff = 1.29 cfs @ 11.95 hrs, Volume= 0.070 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10 YR Rainfall=3.14"

Area (sf)	CN	Description
7,619	98	Paved parking, HSG D
4,950	98	Roofs, HSG D
12,569	98	Weighted Average
12,569		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry, PAVEMENT</b>

**Summary for Subcatchment 2S: DRAINAGE AREA 2**

Runoff = 1.40 cfs @ 11.95 hrs, Volume= 0.076 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10 YR Rainfall=3.14"

Area (sf)	CN	Description
7,322	98	Paved parking, HSG D
6,300	98	Roofs, HSG D
13,622	98	Weighted Average
13,622		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry, PAVEMENT</b>

**Summary for Subcatchment 3S: DRAINAGE AREA 3**

Runoff = 1.28 cfs @ 11.95 hrs, Volume= 0.069 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10 YR Rainfall=3.14"

Area (sf)	CN	Description
7,297	98	Paved parking, HSG D
5,150	98	Roofs, HSG D
12,447	98	Weighted Average
12,447		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					<b>Direct Entry, PAVEMENT</b>

**Summary for Pond 2P: RCVR #2**

Inflow Area = 0.289 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event  
 Inflow = 1.29 cfs @ 11.95 hrs, Volume= 0.070 af  
 Outflow = 1.29 cfs @ 11.95 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.29 cfs @ 11.95 hrs, Volume= 0.070 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 639.44' @ 11.95 hrs  
 Flood Elev= 640.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	638.46'	<b>8.0" Round Culvert</b> L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 638.46' / 637.90' S= 0.0100 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.29 cfs @ 11.95 hrs HW=639.43' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 1.29 cfs @ 3.71 fps)

**Summary for Pond 4P: RVCR #4**

Inflow Area = 0.887 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event  
 Inflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af  
 Outflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 638.42' @ 11.95 hrs  
 Flood Elev= 640.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	637.24'	<b>18.0" Round Culvert</b> L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 637.24' / 636.94' S= 0.0030 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.98 cfs @ 11.95 hrs HW=638.42' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 3.98 cfs @ 3.66 fps)

**Summary for Pond 6P: RCVR #6**

Inflow Area = 0.286 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event  
 Inflow = 1.28 cfs @ 11.95 hrs, Volume= 0.069 af  
 Outflow = 1.28 cfs @ 11.95 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.28 cfs @ 11.95 hrs, Volume= 0.069 af

**20-346 WEST SENECA STORAGE\_HYDROCAD REPO** Type II 24-hr 10 YR Rainfall=3.14"

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Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 639.42' @ 11.95 hrs

Flood Elev= 640.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	638.46'	<b>8.0" Round Culvert</b> L= 56.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 638.46' / 637.90' S= 0.0100 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.28 cfs @ 11.95 hrs HW=639.42' (Free Discharge)

↑**1=Culvert** (Barrel Controls 1.28 cfs @ 3.67 fps)

**Summary for Pond 7P: RCVR #7**

Inflow Area = 0.887 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event

Inflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Outflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 638.13' @ 11.95 hrs

Flood Elev= 640.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	636.94'	<b>18.0" Round Culvert</b> L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 636.94' / 636.83' S= 0.0029 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.98 cfs @ 11.95 hrs HW=638.13' (Free Discharge)

↑**1=Culvert** (Barrel Controls 3.98 cfs @ 3.61 fps)

**Summary for Pond 8P: ST MH #1**

Inflow Area = 0.887 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event

Inflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Outflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 638.40' @ 11.95 hrs

Flood Elev= 640.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	636.83'	<b>18.0" Round Culvert</b> L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 636.83' / 636.60' S= 0.0029 '/ Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.98 cfs @ 11.95 hrs HW=638.40' (Free Discharge)

↑1=Culvert (Barrel Controls 3.98 cfs @ 2.68 fps)

**Summary for Pond 9P: EX ON SITE RCVR BETWEEN BLDG "E" & "F"**

Inflow Area = 0.887 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event  
 Inflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af  
 Outflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min  
 Primary = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 638.80' @ 11.95 hrs  
 Flood Elev= 639.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	636.60'	<b>18.0" Round Culvert</b> L= 233.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 636.60' / 635.91' S= 0.0030 '/ Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.98 cfs @ 11.95 hrs HW=638.80' (Free Discharge)

↑1=Culvert (Barrel Controls 3.98 cfs @ 2.25 fps)

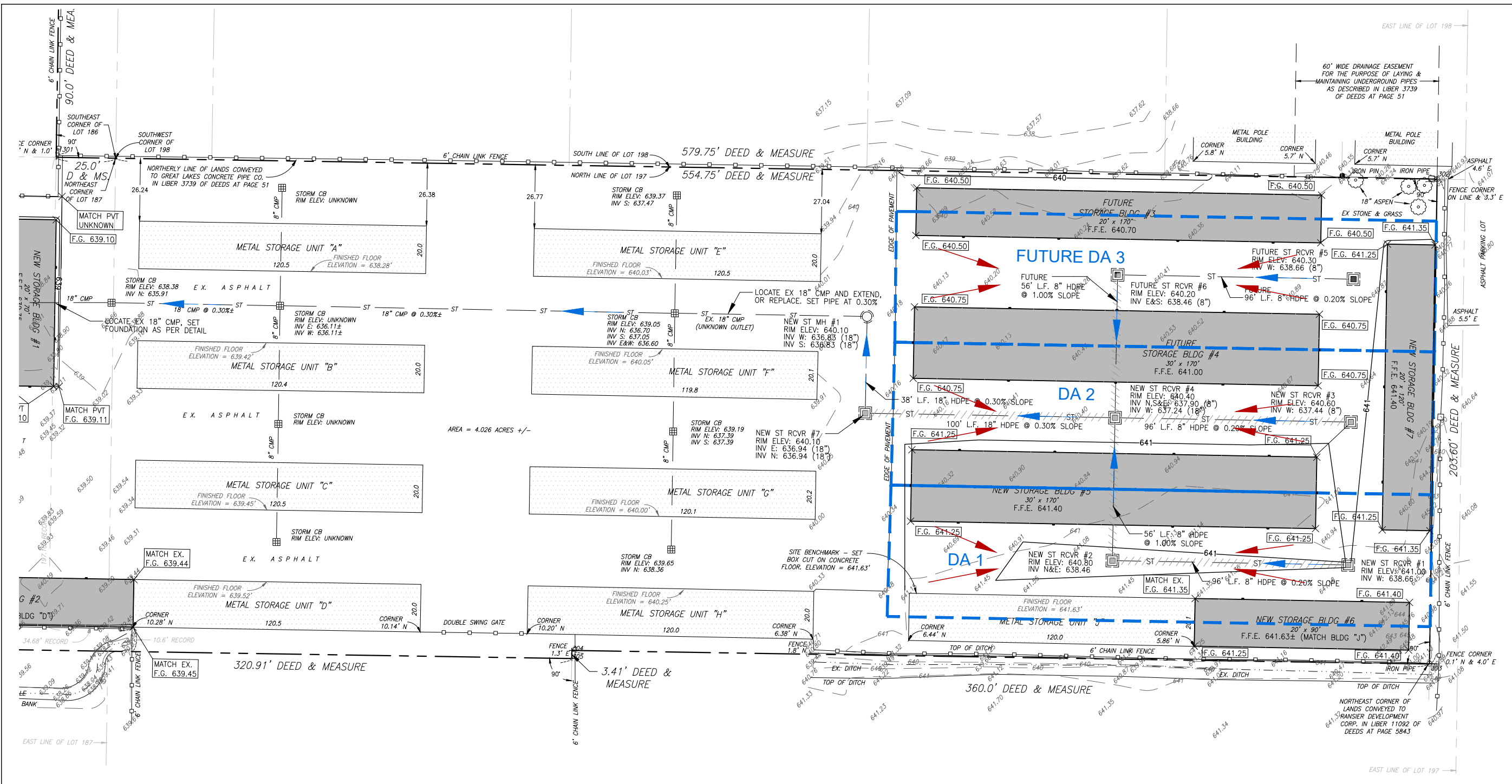
**Summary for Link 14L: ON SITE RCVR SW OF BLDG "A" TO UNKNOWN OUTLET**

Inflow Area = 0.887 ac, 100.00% Impervious, Inflow Depth > 2.91" for 10 YR event  
 Inflow = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af  
 Primary = 3.98 cfs @ 11.95 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

# **EXHIBITS**





THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE EXCAVATION & CONSTRUCTION TO ENSURE HE/SHE HAS THE FINAL SET OF DESIGN DOCUMENTS AS ISSUED FOR CONSTRUCTION. THIS PLAN IS CURRENT AS OF THE DATE IT WAS ISSUED. SUBSEQUENT UPDATES OF THIS PLAN BY THE DESIGN ENGINEER DOES NOT AFFORD ANY TRANSFEREE THE RIGHT TO RECEIVE SAID UPDATES, BUT PLACES THE RESPONSIBILITY TO THE TRANSFEREE TO OBTAIN UPDATED PLANS WHICH ARE ISSUED FOR CONSTRUCTION AS THESE MAY DIFFER FROM PREVIOUS PLANS ISSUED FOR PER OR BID.

WEST SENECA SELF STORAGE – ADDITION  
 1711 UNION ROAD  
 WEST SENECA, NEW YORK 14224  
 POST Q DRAINAGE MAP

**SITE DRAINAGE MAP**  
 SCALE: 1" = 20'-0"

**LEGEND**

- EXISTING FENCE
- NEW FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- NEW EDGE OF PAVEMENT
- NEW CURB (8")
- SITE PARCEL PROPERTY/R.O.W. LINE
- ADJACENT PROPERTY/R.O.W. LINES
- EASEMENT / BLDG SETBACKS LINE
- EXISTING WATER LINE
- NEW WATER LINE
- EXISTING UNDERGROUND ELEC
- NEW UNDERGROUND ELEC
- EXISTING OVERHEAD ELEC
- NEW OVERHEAD ELEC
- EXISTING GAS LINE
- NEW GAS LINE
- NEW GEOTHERMO LINES
- EXISTING COMBINED SEWER
- EXISTING SANITARY LINE
- NEW SANITARY LINE
- EXISTING STORM SEWER LINE
- NEW STORM SEWER LINE
- EXISTING CABLE/TELE
- NEW CABLE/TELE
- EXISTING CONCRETE AREAS
- NEW CONCRETE AREAS
- EX AREAS TO BE EXCAVATED
- EXISTING YARD DRAIN
- NEW YARD DRAIN
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING GAS VALVE
- NEW GAS VALVE
- EXISTING WATER VALVE
- NEW WATER VALVE
- EXISTING MANHOLE
- NEW MANHOLE
- EXISTING UTILITY POLE
- NEW UTILITY POLE
- EXISTING LIGHT FIXTURE
- NEW LIGHT FIXTURE
- EXISTING FIRE HYDRANT
- NEW FIRE HYDRANT
- EXISTING CLEAN-OUT
- NEW CLEAN-OUT
- EXISTING GEOTHERMO WELL
- NEW GEOTHERMO WELL
- EXISTING SIGN
- NEW SIGN
- NEW PARKING SPACE COUNT
- NEW TREE
- NEW SHRUB
- EXISTING TREE
- VEGETATION TO BE REMOVED

**GENERAL NOTE:**

LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. (HORIZONTAL AND VERTICAL) THESE PLANS DO NOT ASSURE THE PRESENCE OR LOCATION OF UTILITIES, JUST APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" FOR LOCATION OF ALL UNDERGROUND UTILITIES. AT LEAST 2 TO 10 WORKING DAYS PRIOR TO ANY MECHANIZED WORK (DOES NOT INCLUDE THE DATE OF THE CALL) NOTICE MUST BE PROVIDED TO THE ONE-CALL NOTIFICATION SYSTEM, WHICH WILL TRANSMIT THE PROJECT INFORMATION TO INVOLVED MEMBERS SO THAT THEY CAN MARK THE LOCATION OF ANY FACILITIES AT THE EXCAVATION SITE.

FOR EXCAVATION ON LONG ISLAND AND THE FIVE BOROUGHES OF NEW YORK CITY, NEW YORK 811 MUST BE CALLED AT 1-800-272-4480. FOR EXCAVATION ELSEWHERE IN NEW YORK STATE, DIG SAFELY NEW YORK MUST BE CALLED AT 1-800-962-7992. NOTIFICATION FOR EXCAVATION WORK ANYWHERE IN THE STATE CAN BE MADE BY DIALING 811, WHETHER DIALING THE 1-800 NUMBER OR 811, THERE IS NO CHARGE FOR THE CALL. CONTRACTOR SHALL TAKE REASONABLE MEASURES TO PROTECT EXISTING TREES WHERE NECESSARY ON NEIGHBORING PROPERTY FROM ALL TYPES OF DAMAGE TO BOTH TRUNK AND ROOTS. LIMIT FILLING OVER TREE ROOTS TO 4" MAX.

STAMP/SEAL		DATE
#	REVISION	
1	ISSUED FOR SITE PLAN REV.	5/ 21

studio T3  
 Engineering PLLC  
 2495 Main Street, Suite 301  
 Buffalo, New York 14214  
 Phone: (716) 803-6400  
 Fax: (716) 810-9504

DRAWN BY: [ ]  
 CHECKED BY: AT [ ]  
 JOB # [ ]

SHEET  
 DM-1

WARNING: IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY, PLANS, SPECIFICATIONS, OR REPORTS TO WHICH THE SEAL OF A LICENSED ARCHITECT OR PROFESSIONAL ENGINEER HAS BEEN APPLIED.

# Extreme Precipitation Tables

## Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

<b>Smoothing</b>	Yes
<b>State</b>	New York
<b>Location</b>	
<b>Longitude</b>	78.754 degrees West
<b>Latitude</b>	42.847 degrees North
<b>Elevation</b>	0 feet
<b>Date/Time</b>	Mon, 10 May 2021 10:59:59 -0400

### Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.27	0.41	0.51	0.67	0.83	1.02	<b>1yr</b>	0.72	0.95	1.15	1.36	1.59	1.84	2.17	<b>1yr</b>	1.62	2.09	2.53	3.03	3.52	<b>1yr</b>
<b>2yr</b>	0.31	0.48	0.60	0.79	1.00	1.22	<b>2yr</b>	0.86	1.12	1.38	1.63	1.90	2.20	2.52	<b>2yr</b>	1.95	2.43	2.87	3.42	3.92	<b>2yr</b>
<b>5yr</b>	0.37	0.58	0.72	0.97	1.24	1.52	<b>5yr</b>	1.07	1.40	1.72	2.03	2.35	2.69	3.08	<b>5yr</b>	2.38	2.97	3.48	4.10	4.70	<b>5yr</b>
<b>10yr</b>	0.42	0.66	0.83	1.13	1.47	1.81	<b>10yr</b>	1.27	1.67	2.05	2.41	2.77	3.14	3.59	<b>10yr</b>	2.78	3.45	4.02	4.70	5.40	<b>10yr</b>
<b>25yr</b>	0.49	0.79	1.00	1.38	1.83	2.27	<b>25yr</b>	1.58	2.09	2.57	3.00	3.42	3.84	4.39	<b>25yr</b>	3.40	4.22	4.87	5.63	6.49	<b>25yr</b>
<b>50yr</b>	0.56	0.90	1.15	1.61	2.17	2.70	<b>50yr</b>	1.87	2.49	3.05	3.54	4.02	4.48	5.11	<b>50yr</b>	3.96	4.91	5.63	6.47	7.45	<b>50yr</b>
<b>100yr</b>	0.64	1.03	1.33	1.89	2.58	3.22	<b>100yr</b>	2.22	2.96	3.63	4.20	4.73	5.22	5.95	<b>100yr</b>	4.62	5.72	6.51	7.42	8.57	<b>100yr</b>
<b>200yr</b>	0.73	1.20	1.55	2.22	3.06	3.82	<b>200yr</b>	2.64	3.52	4.30	4.96	5.55	6.10	6.93	<b>200yr</b>	5.39	6.67	7.54	8.53	9.85	<b>200yr</b>
<b>500yr</b>	0.88	1.45	1.89	2.74	3.84	4.81	<b>500yr</b>	3.31	4.44	5.40	6.19	6.87	7.48	8.49	<b>500yr</b>	6.62	8.16	9.15	10.24	11.86	<b>500yr</b>

### Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.23	0.36	0.44	0.59	0.72	0.86	<b>1yr</b>	0.62	0.84	0.86	1.12	1.46	1.64	1.98	<b>1yr</b>	1.45	1.90	2.25	2.72	3.25	<b>1yr</b>
<b>2yr</b>	0.30	0.47	0.57	0.78	0.96	1.10	<b>2yr</b>	0.83	1.08	1.21	1.47	1.76	2.14	2.46	<b>2yr</b>	1.89	2.37	2.80	3.33	3.82	<b>2yr</b>
<b>5yr</b>	0.34	0.53	0.65	0.89	1.14	1.31	<b>5yr</b>	0.98	1.28	1.45	1.75	2.07	2.49	2.89	<b>5yr</b>	2.21	2.78	3.27	3.86	4.41	<b>5yr</b>
<b>10yr</b>	0.37	0.57	0.71	1.00	1.29	1.47	<b>10yr</b>	1.11	1.43	1.65	1.98	2.35	2.79	3.26	<b>10yr</b>	2.47	3.14	3.68	4.31	4.88	<b>10yr</b>
<b>25yr</b>	0.43	0.65	0.81	1.16	1.53	1.72	<b>25yr</b>	1.32	1.68	1.94	2.31	2.76	3.25	3.83	<b>25yr</b>	2.87	3.69	4.29	4.99	5.56	<b>25yr</b>
<b>50yr</b>	0.47	0.72	0.90	1.29	1.73	1.93	<b>50yr</b>	1.50	1.89	2.20	2.61	3.13	3.64	4.34	<b>50yr</b>	3.22	4.17	4.82	5.59	6.14	<b>50yr</b>
<b>100yr</b>	0.52	0.79	0.99	1.43	1.96	2.17	<b>100yr</b>	1.69	2.13	2.50	2.94	3.53	4.07	4.91	<b>100yr</b>	3.60	4.72	5.42	6.27	6.77	<b>100yr</b>
<b>200yr</b>	0.58	0.87	1.10	1.60	2.23	2.44	<b>200yr</b>	1.92	2.38	2.82	3.30	3.99	4.55	5.55	<b>200yr</b>	4.03	5.34	6.09	7.03	7.46	<b>200yr</b>
<b>500yr</b>	0.66	0.99	1.27	1.85	2.63	2.83	<b>500yr</b>	2.27	2.76	3.33	3.84	4.67	5.27	6.56	<b>500yr</b>	4.66	6.30	7.12	8.19	8.49	<b>500yr</b>

### Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.30	0.46	0.57	0.76	0.94	1.09	<b>1yr</b>	0.81	1.06	1.21	1.43	1.73	2.01	2.33	<b>1yr</b>	1.78	2.24	2.69	3.21	3.72	<b>1yr</b>
<b>2yr</b>	0.33	0.50	0.62	0.84	1.03	1.21	<b>2yr</b>	0.89	1.19	1.33	1.61	1.90	2.29	2.62	<b>2yr</b>	2.02	2.52	2.97	3.52	4.09	<b>2yr</b>
<b>5yr</b>	0.40	0.62	0.77	1.06	1.34	1.57	<b>5yr</b>	1.16	1.53	1.74	2.10	2.51	2.91	3.29	<b>5yr</b>	2.57	3.16	3.68	4.35	4.99	<b>5yr</b>
<b>10yr</b>	0.48	0.73	0.91	1.27	1.64	1.92	<b>10yr</b>	1.42	1.88	2.15	2.59	3.10	3.50	3.91	<b>10yr</b>	3.10	3.76	4.35	5.12	5.86	<b>10yr</b>
<b>25yr</b>	0.61	0.92	1.15	1.64	2.15	2.60	<b>25yr</b>	1.86	2.55	2.86	3.43	4.09	4.48	4.94	<b>25yr</b>	3.97	4.75	5.43	6.34	7.28	<b>25yr</b>
<b>50yr</b>	0.72	1.09	1.36	1.96	2.63	3.23	<b>50yr</b>	2.27	3.16	3.55	4.25	5.06	5.41	5.89	<b>50yr</b>	4.79	5.66	6.43	7.44	8.58	<b>50yr</b>
<b>100yr</b>	0.86	1.30	1.63	2.35	3.23	4.01	<b>100yr</b>	2.78	3.92	4.41	5.27	6.26	6.54	7.01	<b>100yr</b>	5.79	6.74	7.62	8.76	10.10	<b>100yr</b>
<b>200yr</b>	1.03	1.55	1.96	2.84	3.96	4.97	<b>200yr</b>	3.41	4.86	5.50	6.54	7.73	7.91	8.34	<b>200yr</b>	7.00	8.02	9.02	10.30	11.91	<b>200yr</b>
<b>500yr</b>	1.31	1.95	2.51	3.64	5.18	6.60	<b>500yr</b>	4.47	6.46	7.36	8.70	10.24	10.20	10.52	<b>500yr</b>	9.03	10.11	11.26	12.76	14.81	<b>500yr</b>