## DESIGN REPORT

## STORMWATER MANAGEMENT SYSTEM

## 254 Scofield Avenue Bridgeport, Connecticut



Prepared By:

## GENERAL INFORMATION

Per the City of Bridgeport Tax Assessor records, 254 Scofield Avenue is listed as Block 213, Lot 3. The parcel has an area of $\mathbf{5 , 0 0 0} \pm$ square feet and is within zone NX1. Parcel is currently vacant with sparse vegetation and poor lawn areas. The total grade change is approximately three feet pitching in a northwesterly direction.

The site is NOT within a FEMA Special Flood Hazard Zone. The site is within Zone X (Un-shaded) per FEMA FIRM Map Number 09001C0436G, Panel Number 436 of 626, Map Revised July 8, 2013.

Sanitary sewer, gas, water and electric services are available on Scofield Avenue and Hansen Avenue. Proposed Improvements include the construction of a $2^{1 / 2}$ story, four-unit building, a 1 story, one unit cottage, lawn areas and paved walkways. Two underground, infiltration systems have been designed at the southerly side of the site along with two surface, water quality basins. The proposed roofed areas will discharge into the water quality basins. Once basins are full, storm water will overflow into underground, drainage chambers and a crushed stone bed. The chambers and crushed stone bed are designed with overflow devices also. Water quality and water quantity methods are utilized in this design. Under this analysis, the proposed conditions will accommodate the theoretical storage volume and peak flow rates required by the City of Bridgeport Storm Management Manual. Best Management Practices (BMP's) are implemented also. All remaining yard areas are to be loamed and seeded to establish good grass cover.

## DESIGN METHODOLOGY

The stormwater runoff resulting from the existing and proposed conditions was analyzed using a 24-hour, 2year, 10-year, 25-year frequency, Type III storm event. HydroCAD software was used to run the storm analysis based on the SCS TR-20 method. A 2-year storm frequency for the Bridgeport area has a rainfall of 3.49 inches, a 10 -year storm frequency has a rainfall of 5.37 inches and a 25 -year storm frequency has a rainfall of 6.55 inches per NOAA Point Precipitation Frequency Estimates. The minimum time of concentration of five (5) minutes is utilized as a conservative option. Hydrographs are also included in this report reflecting runoff information for the existing and proposed conditions under the 2, 10, and 25-year storm events.

## DRAINAGE AREA 1

Hydrographs provided the following information for the 25-year storm event and a runoff area of $\mathbf{5 , 0 0 0} \mathbf{F t}^{\mathbf{2}}$

## Offsite Peak Flow Reduction

Existing Peak Flow Rate: $\mathbf{0 . 6 8} \mathrm{Ft}^{3} / \mathbf{s}\left(10 \%\right.$ Reduction Requirement $\left.=0.68 \times 0.9=0.61 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Peak Flow Rate: $\mathbf{0 . 2 7} \mathbf{F t}^{3} / \mathrm{s}\left(0.61 \mathrm{Ft}^{3} / \mathrm{s}\right.$ Allowed)
Proposed Peak Flow Rate Reduction: $\mathbf{0 . 4 1} \mathrm{Ft}^{3} / \mathrm{s}\left(0.68 \mathrm{Ft}^{3} / \mathrm{s}-0.27 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Reduction in Peak Flow Rate: $\mathbf{6 0 \%}\left(0.41 \mathrm{Ft}^{3} / \mathrm{s} / 0.68 \mathrm{Ft}^{3} / \mathrm{s} \times 100=60 \%\right)$

## Offsite Runoff Volume Reduction

Existing Conditions Runoff Volume .............................................................2,194.0 Ft ${ }^{3}$
10\% Reduction Runoff Requirement ............................................................. 219.4 Ft ${ }^{3}$
Maximum Runoff Volume Allowed.............................................................. 1,974.6 Ft ${ }^{3}$
Proposed Conditions Runoff Volume.............................................................885.0 Ft ${ }^{3}$
Proposed Volume Reduction.......................................................................1,309.0 Ft ${ }^{3}$
Proposed Reduction Percentage..................................60\% (1,309/2,194 $\times 100=60 \%$ )

## PROPOSED SYSTEM

The proposed system consists of two, 12-inch-deep drainage basins at the southerly side of the parcel that will capture runoff from the proposed roof areas. Once basins are full stormwater will overflow into the 330 Cultec Chambers on the southwesterly side of the parcel and a 7 foot by 22 foot by 12-inch-deep crushed stone bed on the southerly side of the parcel. The basins provide a combined storage capacity of $296 \mathrm{Ft}^{3}$. The chambers provide a storage capacity of $256 \mathrm{Ft}^{3} \mathrm{embedded}$ in its crushed stone envelope and the crushed stone bed provides a storage capacity of $154 \mathrm{Ft}^{3}$ including the overflow drain. This system as a whole provides a total storage of $706.0 \mathrm{Ft}^{3}$. PVC pipe volume connecting each device is not included. The calculations for sizing the system are included below. Filter Fabric to be installed on all sides of crushed stone.

## Stormwater Storage - Required

From hydrographs of 25-Year Event:
Pre Conditions Runoff Volume $=2,194 \mathrm{Ft}^{3}$
$10 \%$ Storm Runoff Volume Reduction $=219.4 \mathrm{Ft}^{3}\left(25-Y e a r\right.$ Storm Event $\left.=0.10\left(2,194.0 \mathrm{Ft}^{3}\right)=219.4 \mathrm{Ft}^{3}\right)$
Allowed Runoff Volume Per City: 2,194.0-219.4 = 1,974.6 Ft ${ }^{3}$
Post Conditions Runoff Volume: 885 Ft³ (See Hydrograph Summary "Proposed Offsite Flows")

## Water Quality Equation

WQV= 1" RA/12 and $R=0.05+0.009$ (\% Proposed Impervious)
$R=0.05+0.009(60 \%)=0.5900$
WQV = 1" (0.5900) (0.115)/12 = 0.0057 Acre-Ft = 248.3 Ft ${ }^{3}$
Pre Conditions Runoff Volume $=2,194 \mathrm{Ft}^{3}$
Allowed Runoff Volume Per $W Q V=2,194-248.3=1,945.7$ Ft $^{3}$
Post Conditions Runoff Volume: 885 Ft $^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")
Design Storage (See Hydrograph Summary "Pond 1P")
Basin \#1, 12 inch deep, $=127.0 \mathrm{Ft}^{3}$
Basin \#2, 12 inch deep, $=169.0 \mathrm{Ft}^{3}$
Two rows of One, 330 Cultec Chambers embedded in crushed stone envelope $=256 \mathrm{Ft}^{\mathbf{3}}$
Overflow Drain: 1 Ft $\times 1$ Ft $\times 1.1$ Ft $=1 \mathrm{Ft}^{3}$
Crushed Stone Bed: 6.87 Ft x 22.42 Ft x 1.0 Ft = 154 Ft³
Combined Storage Provided $=706 \mathrm{Ft}^{3}$

| Pre VS. Post Runoff (Multi-Family Residential) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Storm <br> Frequency | Pre- <br> Conditions <br> $\left(\mathbf{F t}^{\mathbf{3})}\right.$ | Post <br> Conditions <br> $\left(\mathbf{F t}^{3}\right)$ | Reduction <br> $\left(\mathbf{F t}^{3}\right)$ | Percent <br> Reduction | Pre-Peak <br> Flows <br> $\left(\mathrm{Ft}^{3} / \mathbf{s}\right)$ | Post Peak <br> Flows <br> $\left(\mathrm{Ft}^{3} / \mathbf{s}\right)$ | Reduction <br> $\left(\mathrm{Ft}^{3} / \mathbf{s}\right)$ | Percent <br> Reduction |
| $\mathbf{2}$ | 978 | 329 | 649 | $66 \%$ | 0.31 | 0.11 | 0.20 | $64 \%$ |
| $\mathbf{1 0}$ | 1,719 | 640 | 1,079 | $63 \%$ | 0.54 | 0.21 | 0.33 | $61 \%$ |
| $\mathbf{2 5}$ | 2,194 | 885 | 1,309 | $60 \%$ | 0.68 | 0.27 | 0.41 | $60 \%$ |



## Existing Conditions



Captured Roof \& Lawn
Drainage|Basins \& Cultecs


Un-Captured Pavement \& Lawn

Proposed Offsite Flows


Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method
Subcatchment1SA: Existing Conditions Runoff Area=5,000 sf $0.00 \%$ Impervious Runoff Depth $>2.35$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=89$ Runoff $=0.31 \mathrm{cfs} 978 \mathrm{cf}$

Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,680 sf 86.98\% Impervious Runoff Depth>3.03" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=96$ Runoff $=0.20 \mathrm{cfs} 678 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,320 sf 9.61\% Impervious Runoff Depth>1.70" Tc=5.0 min UI Adjusted CN=81 Runoff=0.11 cfs 329 cf

Pond 1P: Drainage Basins \& Cultecs Peak Elev=36.19' Storage=283 cf Inflow=0.20 cfs 678 cf Discarded $=0.02$ cfs 613 cf Primary $=0.00$ cfs 0 cf Outflow=0.02 cfs 613 cf

## Link 1L: Proposed Offsite Flows

Inflow=0.11 cfs 329 cf Primary=0.11 cfs 329 cf

Total Runoff Area $=10,000$ sf Runoff Volume $=1,984$ cf Average Runoff Depth $=2.38$ " 74.46\% Pervious $=7,446$ sf

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.31$ cfs @ 12.07 hrs, Volume= 978 cf , Depth> 2.35"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | ea (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | $89<$ | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 | 100.00\% Pervious Area |  |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \\ \hline \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 1SA: Existing Conditions


## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.20$ cfs @ 12.07 hrs, Volume= 678 cf, Depth> 3.03"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 | Roofs, HSG D |  |  |
|  | 684 | 98 | Roofs, HSG D |  |  |
|  | 195 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 154 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,680 | 96 | Weighted Average |  |  |
|  | 349 |  | 13.02\% Pervious Area |  |  |
|  | 2,331 |  | 86.98\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity <br> (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.11$ cfs @ 12.08 hrs, Volume $=\quad 329 \mathrm{cf}$, Depth> 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

| Area (sf) |  | CN A | Adj De | Description |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 98 | 98 | Unco | nnected Im | pervious, HSG D |
| * | 125 | 98 | Unco | nnected Im | pervious, HSG D |
|  | 2,097 | 80 | $>75 \%$ | \% Grass co | ver, Good, HSG D |
|  | 2,320 | 82 | 81 Weig | hted Avera | ge, UI Adjusted |
|  | 2,097 |  | 90.3 | \% Perviou | Area |
|  | 223 |  | 9.61 | \% Impervio | us Area |
|  | 223 |  | 100. | 00\% Uncon | nected |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity <br> (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \\ \hline \end{array}$ | Description |

## Subcatchment 3SA: Un-Captured Pavement \& Lawn



## Summary for Pond 1P: Drainage Basins \& Cultecs

| Inflow Area = | 2,680 | pervious, | Inflow Depth > 3.03" for 2 Year Frequency event |
| :---: | :---: | :---: | :---: |
| Inflow | 0.20 cfs @ | 12.07 hrs , Volume= | 678 cf |
| Outflow | 0.02 cfs @ | 12.74 hrs , Volume= | 613 cf, Atten= 89\%, Lag= 40.1 min |
| Discarded = | 0.02 cfs @ | 12.74 hrs , Volume= | 613 cf |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |

Routing by Stor-Ind method, Time Span= $0.00-24.00 \mathrm{hrs}, \mathrm{dt}=0.05 \mathrm{hrs}$ Peak Elev= 36.19' @ 12.74 hrs Surf.Area= 265 sf Storage= 283 cf

Plug-Flow detention time $=208.7$ min calculated for 612 of ( $90 \%$ of inflow)
Center-of-Mass det. time $=162.0 \mathrm{~min}(932.3-770.3)$


Discarded OutFlow Max=0.02 cfs @ 12.74 hrs HW=36.19' (Free Discharge)
—1=Exfiltration (Exfiltration Controls 0.02 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

Pond 1P: Drainage Basins \& Cultecs
Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area = Inflow = Primary = Primary

5,000 sf, 51.08\% Impervious, Inflow Depth > 0.79" for 2 Year Frequency event 0.11 cs @ 12.08 hrs. Volum 329 cf 329 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$

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

## Link 1L: Proposed Offsite Flows


$\square$ Inflow
$\square$ Primary

Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ 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 1SA: Existing Conditions Runoff Area=5,000 sf $0.00 \%$ Impervious Runoff Depth $>4.12$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=89$ Runoff $=0.54 \mathrm{cfs} 1,719 \mathrm{cf}$

Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,680 sf 86.98\% Impervious Runoff Depth>4.90" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=96$ Runoff $=0.32 \mathrm{cfs} 1,094 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,320 sf 9.61\% Impervious Runoff Depth>3.31" Tc=5.0 min UI Adjusted CN=81 Runoff=0.21 cfs 640 cf

Pond 1P: Drainage Basins \& Cultecs Peak Elev=37.37' Storage=481 cf Inflow=0.32 cfs 1,094 cf Discarded $=0.04$ cfs 962 cf Primary $=0.00$ cfs 0 cf Outflow=0.04 cfs 962 cf

## Link 1L: Proposed Offsite Flows <br> Inflow=0.21 cfs 640 cf Primary $=0.21$ cfs 640 cf

Total Runoff Area $=10,000$ sf Runoff Volume $=3,453$ cf Average Runoff Depth $=4.14$ "
74.46\% Pervious $=7,446$ sf
25.54\% Impervious $=\mathbf{2 , 5 5 4} \mathbf{~ s f}$

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.54$ cfs @ 12.07 hrs, Volume $=\quad 1,719 \mathrm{cf}$, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | 89 | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 |  | 100.00\% Pe | rvious Are |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope $(\mathrm{ft} / \mathrm{ft})$ | Velocity (ft/sec) | $\begin{aligned} & \text { Capacity } \\ & \text { (cfs) } \end{aligned}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 1SA: Existing Conditions


## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.32$ cfs @ 12.07 hrs, Volume $=\quad 1,094$ cf, Depth> 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 | Roofs, HSG D |  |  |
|  | 684 | 98 | Roofs, HSG D |  |  |
|  | 195 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 154 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,680 | 96 | Weighted Average |  |  |
|  | 349 |  | 13.02\% Pervious Area |  |  |
|  | 2,331 |  | 86.98\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity <br> (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.21$ cfs @ 12.08 hrs, Volume $=\quad 640 \mathrm{cf}$, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

| Area (sf) |  | CN A | Adj De | Description |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 98 | 98 | Unco | nnected Im | pervious, HSG D |
| * | 125 | 98 | Unco | nnected Im | pervious, HSG D |
|  | 2,097 | 80 | $>75 \%$ | \% Grass co | ver, Good, HSG D |
|  | 2,320 | 82 | 81 Weig | hted Avera | ge, UI Adjusted |
|  | 2,097 |  | 90.3 | \% Perviou | Area |
|  | 223 |  | 9.61 | \% Impervio | us Area |
|  | 223 |  | 100. | 00\% Uncon | nected |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity <br> (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \\ \hline \end{array}$ | Description |

## Subcatchment 3SA: Un-Captured Pavement \& Lawn



254 SCOFIELD AVENUE - 2 UNITS - 3 IN PEype III 24-hr 10 Year Frequency Rainfall=5.37" Prepared by Cabezas DeAngelis Engineers and Surveyors

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Page 13

## Summary for Pond 1P: Drainage Basins \& Cultecs



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 37.37 ' @ 12.64 hrs Surf.Area= 462 sf Storage= 481 cf

Plug-Flow detention time $=181.3 \mathrm{~min}$ calculated for 962 cf ( $88 \%$ of inflow)
Center-of-Mass det. time $=125.4 \mathrm{~min}(884.9-759.5)$


Discarded OutFlow Max=0.04 cfs @ 12.30 hrs HW=37.10' (Free Discharge)
—1 $_{1=\text { Exfiltration (Exfiltration Controls } 0.04 \mathrm{cfs} \text { ) }}$
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

Pond 1P: Drainage Basins \& Cultecs
Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 5,000$ sf, $51.08 \%$ Impervious, Inflow Depth > 1.54" for 10 Year Frequency event Inflow $=0.21$ cfs @ 12.08 hrs , Volume= 640 cf Primary $=0.21 \mathrm{cfs} @ 12.08 \mathrm{hrs}$, Volume $=\quad 640 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

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

## Link 1L: Proposed Offsite Flows



Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ 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 1SA: Existing Conditions $\quad$ Runoff Area $=5,000 \mathrm{sf} \quad 0.00 \%$ Impervious Runoff Depth $>5.27$ "
$\mathrm{Tc}=5.0 \mathrm{~min} \quad \mathrm{CN}=89$ Runoff $=0.68$ cfs $2,194 \mathrm{cf}$

Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,680 sf $86.98 \%$ Impervious Runoff Depth>6.07" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=96$ Runoff $=0.39 \mathrm{cfs} 1,356 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,320 sf 9.61\% Impervious Runoff Depth>4.39" $\mathrm{Tc}=5.0 \mathrm{~min}$ UI Adjusted CN=81 Runoff $=0.27 \mathrm{cfs} 848 \mathrm{cf}$

Pond 1P: Drainage Basins \& Cultecs Peak Elev=38.03' Storage=583 cf Inflow=0.39 cfs 1,356 cf Discarded $=0.05 \mathrm{cfs} 1,155 \mathrm{cf}$ Primary $=0.10 \mathrm{cfs} 37 \mathrm{cf}$ Outflow= $0.15 \mathrm{cfs} 1,192 \mathrm{cf}$

Link 1L: Proposed Offsite Flows $\begin{array}{r}\text { Inflow }=0.27 \mathrm{cfs} 885 \mathrm{cf} \\ \text { Primary }=0.27 \mathrm{cfs} 885 \mathrm{cf}\end{array}$
Total Runoff Area $=10,000$ sf Runoff Volume $=4,398$ cf Average Runoff Depth $=5.28$ " 74.46\% Pervious = 7,446 sf

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.68$ cfs @ 12.07 hrs, Volume $=\quad 2,194$ cf, Depth> 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | 89 | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 |  | 100.00\% Pe | rvious Are |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope $(\mathrm{ft} / \mathrm{ft})$ | Velocity (ft/sec) | $\begin{aligned} & \text { Capacity } \\ & \text { (cfs) } \end{aligned}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 1SA: Existing Conditions


254 SCOFIELD AVENUE - 2 UNITS - 3 IN PEype III 24-hr 25 Year Frequency Rainfall=6.55"
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## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.39$ cfs @ 12.07 hrs, Volume $=\quad 1,356$ cf, Depth> 6.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 R |  |  |  |
|  | 684 | 98 R | Roofs, HSG D |  |  |
|  | 195 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 154 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,680 | 96 | Weighted Average |  |  |
|  | 349 |  | 13.02\% Pervious Area |  |  |
|  | 2,331 |  | 86.98\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope $(\mathrm{ft} / \mathrm{ft})$ | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ (\mathrm{cfs}) \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



254 SCOFIELD AVENUE - 2 UNITS - 3 IN PEype III 24-hr 25 Year Frequency Rainfall=6.55"

## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.27$ cfs @ 12.07 hrs, Volume $=\quad 848$ cf, Depth> 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"


Subcatchment 3SA: Un-Captured Pavement \& Lawn


254 SCOFIELD AVENUE - 2 UNITS - 3 IN PEype III 24-hr 25 Year Frequency Rainfall=6.55"
Prepared by Cabezas DeAngelis Engineers and Surveyors
Printed 3/11/2024
HydroCAD® 10.00-20 s/n 09513 © 2017 HydroCAD Software Solutions LLC
Page 20

## Summary for Pond 1P: Drainage Basins \& Cultecs

| Inflow Area = | 2,680 sf, | 86.98\% Impervious, | pth > | 6.07" for 25 Year Frequency event |
| :---: | :---: | :---: | :---: | :---: |
| Inflow | 0.39 cfs @ | 12.07 hrs, Volume= | 1,356 cf |  |
| Outflow | 0.15 cfs @ | 12.40 hrs, Volume= | 1,192 cf, | , Atten= 62\%, Lag= 19.9 min |
| Discarded = | 0.05 cfs @ | 12.40 hrs, Volume= | 1,155 cf |  |
| Primary | 0.10 cfs @ | 12.40 hrs, Volume= | 37 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 38.03' @ 12.40 hrs Surf.Area= 563 sf Storage= 583 cf

Plug-Flow detention time $=173.9 \mathrm{~min}$ calculated for $1,189 \mathrm{cf}(88 \%$ of inflow)
Center-of-Mass det. time $=118.3$ min ( 873.4 -755.1)


Discarded OutFlow Max=0.05 cfs @ 12.40 hrs HW=38.03' (Free Discharge)
—1=Exfiltration (Exfiltration Controls 0.05 cfs )
Primary OutFlow Max=0.08 cfs @ 12.40 hrs HW=38.03' (Free Discharge)
L2=Orifice/Grate (Weir Controls 0.08 cfs @ 0.60 fps )

Pond 1P: Drainage Basins \& Cultecs
Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 5,000$ sf, $51.08 \%$ Impervious, Inflow Depth > 2.12" for 25 Year Frequency event Inflow $=0.27$ cfs @ 12.07 hrs, Volume= 885 cf Primary $=0.27$ cfs @ 12.07 hrs , Volume $=\quad 885 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

Primary outflow $=$ Inflow, Time Span= 0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows





NOAA Atlas 14, Volume 10, Version 3 Location name: Bridgeport, Connecticut, USA*

Latitude: $\mathbf{4 1 . 1 6 3 1}^{\circ}$, Longitude: $-73.2262^{\circ}$
Elevation: $23 \mathrm{ft}^{* *}$
source: ESRI Maps
** source: USGS

## POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland
PF tabular | PF_graphical | Maps \& aerials
PF tabular

| PDS-based point precipitation frequency estimates with 90\% confidence intervals (in inches) ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Duration | Average recurrence interval (years) |  |  |  |  |  |  |  |  |  |
|  | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.353 <br> $(0.281-0.439)$ | $\begin{gathered} \mathbf{0 . 4 2 0} \\ (0.333-0.522) \end{gathered}$ | 0.529 <br> $(0.418-0.660)$ | $\mathbf{0 . 6 1 9}$ <br> $(0.486-0.777)$ | 0.743 <br> $(0.563-0.972)$ | 0.837 <br> $(0.620-1.12)$ | 0.935 <br> $(0.669-1.29)$ | $\begin{gathered} 1.04 \\ (0.707-1.48) \\ \hline \end{gathered}$ | $\begin{gathered} 1.20 \\ (0.776-1.75) \\ \hline \end{gathered}$ | $\begin{gathered} 1.32 \\ (0.834-1.97) \\ \hline \end{gathered}$ |
| 10- | $\begin{gathered} \hline \mathbf{0 . 5 0 0} \\ (0.398-0.622) \\ \hline \end{gathered}$ | $\begin{array}{r} \mathbf{0} \\ 0.47 \\ \hline \end{array}$ | $\begin{array}{r} \mathbf{0} \\ (0.59 \\ \hline \end{array}$ | (0.6 | $\begin{gathered} 1.05 \\ (0798-1.38) \end{gathered}$ | $(0.878-1.58)$ | $(0.948-1.83)$ | $\begin{gathered} 1.48 \\ (1.00-2.09) \\ \hline \end{gathered}$ | $\begin{gathered} 1.69 \\ (1.10-2.48) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 1.87 \\ (1.18-2.79) \\ \hline \end{gathered}$ |
| 15 | 0.589 <br> $(0.468-0.732)$ | $(0.555-0.87$ |  |  | $\begin{gathered} \hline 1.24 \\ (0.939-1.62) \\ \hline \hline \end{gathered}$ |  |  |  | $\begin{gathered} 1.99 \\ (1.29-2.91) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 2 0} \\ (1.39-3.28) \\ \hline \end{gathered}$ |
| 30- |  | $(0.774-1.21)$ | (0.971-1.53) |  |  |  |  |  |  |  |
| 60 | $\begin{gathered} \hline 1.05 \\ (0.837-1.31) \\ \hline \hline \end{gathered}$ | $\begin{gathered} \hline 1.25 \\ (0.993-1.56) \\ \hline \hline \end{gathered}$ |  |  |  |  |  |  |  | $\begin{gathered} \hline 3.88 \\ (2.46-5.78) \\ \hline \end{gathered}$ |
| 2 |  |  |  |  |  |  |  |  |  |  |
| 3-hr | $\begin{gathered} 1.57 \\ (1.26-1.93) \\ \hline \end{gathered}$ | $\begin{gathered} 1.89 \\ (1.52-2.33) \end{gathered}$ | $\begin{gathered} \mathbf{2 . 4 1} \\ (1.92-2.98) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.25-3.53) \\ \hline \end{gathered}$ |  |  | $(3.15-5.97)$ | $\begin{gathered} \hline 4.88 \\ (3.33-6.83) \\ \hline \end{gathered}$ | 5.66 <br> $(3.69-8.18)$ | $\begin{gathered} \hline 6.30 \\ (4.00-9.29) \\ \hline \end{gathered}$ |
| 6 | $\begin{gathered} 1.98 \\ (1.60-2.42) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 3 9} \\ (1.93-2.92) \\ \hline \end{gathered}$ | $\begin{gathered} 3.06 \\ (2.46-3.75) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.61 \\ (2.89-4.45) \\ \hline \end{gathered}$ |  |  |  |  | (4.77-10.5) |  |
| 12-h | $\begin{gathered} \mathbf{2 . 4 4} \\ (1.98-2.96) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.95 \\ (2.40-3.58 \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.78 \\ (3.06-4.61) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 4.47 \\ (3.60-5.48) \\ \hline \end{gathered}$ |  |  |  | $\begin{gathered} \hline 7.78 \\ (5.34-10.7) \\ \hline \end{gathered}$ | $\begin{gathered} 9.10 \\ (5.98-13.0) \\ \hline \end{gathered}$ | $\begin{array}{c\|} \hline 10.2 \\ (6.53-14.8) \\ \hline \end{array}$ |
| 24 | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.33-3.42) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.47 \\ (2.84-4.18) \\ \hline \end{gathered}$ |  | $\begin{gathered} \hline 5.35 \\ (4.33-6.51) \\ \hline \end{gathered}$ |  |  |  |  | $\begin{gathered} 11.2 \\ (7.37-15.8) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 12.7 \\ (8.12-18.3) \\ \hline \end{gathered}$ |
| 2-day | $\begin{gathered} \hline 3.16 \\ (2.61-3.78) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.93 \\ (3.24-4.70) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.18 \\ (4.25-6.22) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 6.22 \\ (5.07-7.50) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 7.65 \\ (6.02-9.70) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 8.70 \\ (6.70-11.3) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 9.85 \\ (7.37-13.4) \\ \hline \end{array}$ | $\begin{gathered} 11.3 \\ (7.80-15.4) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (8.95-19.0) \end{gathered}$ | $\begin{gathered} 15.5 \\ (9.98-22.2) \\ \hline \end{gathered}$ |
| 3-d | $\begin{gathered} \hline 3.42 \\ (2.83-4.07) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{4 . 2 6} \\ (3.52-5.07) \\ \hline \end{gathered}$ | $\begin{gathered} 5.63 \\ (4.63-6.73) \\ \hline \end{gathered}$ | $\begin{gathered} 6.76 \\ (5.53-8.13) \\ \hline \end{gathered}$ |  | 9.48 <br> $(7.33-12.3)$ | $\begin{array}{c\|} \hline 10.7 \\ (8.07-14.5) \\ \hline \hline \end{array}$ | $\begin{gathered} \hline 12.3 \\ (8.54-16.7) \\ \hline \end{gathered}$ | $\begin{gathered} 14.8 \\ (9.83-20.8) \\ \hline \end{gathered}$ | $\begin{gathered} 17.0 \\ (11.0-24.3) \\ \hline \end{gathered}$ |
| 4-day | $\begin{gathered} 3.66 \\ (3.04-4.35) \\ \hline \end{gathered}$ | $\begin{gathered} 4.55 \\ (3.77-5.40) \\ \hline \end{gathered}$ | $\begin{gathered} 5.99 \\ (4.95-7.14) \\ \hline \end{gathered}$ | $\begin{gathered} 7.19 \\ (5.90-8.62) \\ \hline \end{gathered}$ | $\begin{gathered} 8.84 \\ (7.00-11.1) \\ \hline \end{gathered}$ | 10.0 <br> $(7.78-13.0)$ | $\begin{array}{c\|} \hline 11.4 \\ (8.56-15.3) \\ \hline \end{array}$ | $\begin{gathered} 13.0 \\ (9.06-17.6) \\ \hline \end{gathered}$ | $\begin{gathered} 15.7 \\ (10.4-21.9) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 18.0 \\ (11.6-25.5) \\ \hline \end{gathered}$ |
| 7-da | $\begin{gathered} \hline 4.38 \\ (3.66-5.17) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.33 \\ (4.44-6.30) \\ \hline \end{gathered}$ | $\begin{gathered} 6.88 \\ (5.72-8.16) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.17 \\ (6.74-9.74) \\ \hline \end{gathered}$ | $\begin{gathered} 9.95 \\ (7.91-12.4) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 11.3 \\ (8.75-14.4) \\ \hline \end{array}$ | $\begin{gathered} 12.7 \\ (9.55-16.9) \\ \hline \end{gathered}$ | 14.4 <br> $(10.1-19.4)$ | $\begin{gathered} 17.2 \\ (11.4-23.8) \end{gathered}$ | $\begin{array}{c\|} \hline 19.5 \\ (12.6-27.6) \\ \hline \end{array}$ |
| 10-day | $\begin{gathered} 5.07 \\ (4.25-5.96) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 6.06 \\ (5.08-7.14) \\ \hline \end{gathered}$ | $\begin{gathered} 7.68 \\ (6.40-9.07) \\ \hline \end{gathered}$ | $\begin{gathered} 9.03 \\ (7.48-10.7) \\ \hline \end{gathered}$ | $\begin{gathered} 10.9 \\ (8.67-13.5) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 12.3 \\ (9.53-15.6) \\ \hline \end{array}$ | $\begin{gathered} 13.7 \\ (10.3-18.2) \\ \hline \end{gathered}$ | 15.5 <br> $(10.8-20.7)$ | $\begin{gathered} 18.2 \\ (12.1-25.1) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 0 . 5} \\ (13.3-28.8) \\ \hline \end{gathered}$ |
| 20- | $\begin{gathered} \hline 7.15 \\ (6.04-8.35) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.24 \\ (6.95-9.63) \\ \hline \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.42-11.8) \\ \hline \end{gathered}$ | $\begin{gathered} 11.5 \\ (9.59-13.6) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (10.8-16.6) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 15.1 \\ (11.7-18.9) \\ \hline \end{array}$ | $\begin{gathered} 16.7 \\ (12.5-21.6) \end{gathered}$ | $\begin{array}{\|c\|} \hline 18.5 \\ (13.0-24.5) \\ \hline \end{array}$ | $\begin{gathered} 21.0 \\ (14.1-28.8) \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 3 . 1} \\ (15.0-32.2) \\ \hline \end{gathered}$ |
| 30-day | $\begin{gathered} 8.87 \\ (7.52-10.3) \\ \hline \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.50-11.7) \\ \hline \end{gathered}$ | $\begin{gathered} 11.9 \\ (10.1-13.9) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (11.3-15.9) \end{gathered}$ | $\begin{gathered} 15.7 \\ (12.6-19.1) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} 17.4 \\ (13.5-21.5) \\ \hline \end{array}$ | $\begin{gathered} 19.0 \\ (14.2-24.4) \\ \hline \end{gathered}$ | $\begin{gathered} 20.8 \\ (14.7-27.5) \\ \hline \end{gathered}$ | $\begin{gathered} 23.3 \\ (15.6-31.7) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 5 . 2} \\ (16.4-35.0) \\ \hline \end{gathered}$ |
| 45-day | $\begin{gathered} 11.0 \\ (9.37-12.7) \\ \hline \end{gathered}$ | $\begin{gathered} 12.3 \\ (10.4-14.2) \\ \hline \end{gathered}$ | $\begin{gathered} 14.3 \\ (12.1-16.6) \end{gathered}$ | $\begin{gathered} 16.0 \\ (13.4-18.7) \\ \hline \end{gathered}$ | $\begin{gathered} 18.3 \\ (14.7-22.1) \end{gathered}$ | $\begin{array}{\|c\|} \hline 20.1 \\ (15.7-24.8) \\ \hline \end{array}$ | $\begin{gathered} 21.9 \\ (16.4-27.8) \\ \hline \end{gathered}$ | $\begin{gathered} 23.7 \\ (16.8-31.1) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 6 . 0} \\ (17.6-35.3) \end{gathered}$ | $\begin{gathered} 27.8 \\ (18.1-38.5) \\ \hline \end{gathered}$ |
| 60-day | $\begin{gathered} 12.8 \\ (10.9-14.8) \\ \hline \end{gathered}$ | $\begin{gathered} 14.1 \\ (12.0-16.3) \\ \hline \end{gathered}$ | $\begin{gathered} 16.3 \\ (13.8-18.8) \\ \hline \end{gathered}$ | $\begin{gathered} 18.0 \\ (15.2-21.0) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 0 . 5} \\ (16.5-24.6) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{2 2 . 4} \\ (17.5-27.4) \\ \hline \end{array}$ | $\begin{gathered} \hline 24.3 \\ (18.1-30.6) \\ \hline \end{gathered}$ | 26.1 <br> $(18.5-34.1)$ | $\begin{array}{c\|} \hline \hline \mathbf{2 8 . 4} \\ (19.2-38.3) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline \mathbf{3 0 . 0} \\ (19.6-41.4) \\ \hline \end{array}$ |

[^0]PDS-based depth-duration-frequency (DDF) curves
Latitude: $41.1631^{\circ}$, Longitude: $-73.2262^{\circ}$


NOAA Atlas 14, Volume 10, Version 3
Created (GMT): Mon Oct 23 19:55:14 2023
Back to Top
Maps \& aerials
Small scale terrain


Large scale aerial


Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov
Disclaimer


## Secretary of the State of Connecticut Certificate of Organization

Domestic Limited Liability Company

## Filing Details

Filing Number: 0010122296 Number of Pages: 2 Filed On: 09/28/2021 11:47 AM

## Primary Details

Name of Limited Liability Company:
Business ALEI:
Business Email Address:
NAICS Information:

## Business Location

Principal Office Address:
Mailing Address:

JIJR Real Estate Holdings, LLC
US-CT.BER:2353134
vgonzalez@blumb.com
N/A

Appointment of Registered Agent Appointment of Statutory Agent for Service of Process

| Type: | Individual |
| :--- | :--- |
| Agent's Name: | Joseph lanelli |
| Business Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |
| Residence Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |
| Mailing Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |

## Agent Appointment Acceptance

Agent Signature: Joseph lanelli
This signature has been executed electronically


# Secretary of the State of Connecticut Certificate of Organization 

Domestic Limited Liability Company

Manager or Member Information

| Name | Title | Business Address | Residence Address |
| :--- | :--- | :--- | :--- |
| Joseph lanelli | Member | 783 Reef Rd, | 783 Reef Rd, |
|  |  | Fairfield, CT, | Fairfield, CT, |
|  |  | 06824-6547 | 06824-6547 |
|  |  | United States | United States |

## Acknowledgement

I hereby certify and state under penalties of false statement that all the information set forth on this document is true.

I hereby electronically sign this document on behalf of:
Name of Organizer: Joseph lanelli
Organizer Title: Member

Filer Name: VERONICA GONZALEZ
Filer Signature: VERONICA GONZALEZ
Execution Date: 09/28/2021
This signature has been executed electronically

254 SCOFIELD AVENUE - 100-FOOT ABUTTERS

| LOCATION | OWNER NAME | CO-OWNER NAME | OWNER ADDRESS | CITY | STATE | ZIPCODE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 237 SCOFIELD AV | STEVENS DAVID J |  | PO BOX 7082 N/A | WILTON | CT | 06897 |
| 247 SCOFIELD AV | KELLY MOLLY \& TRITTY |  | 247 SCOFIELD AV | BRIDGEPORT | CT | 06605-2929 |
| 232 SCOFIELD AV | FRENCH SPEAKING BAPT CHURCH | OF BPT | 155 SCOFIELD AVENUE | BRIDGEPORT | CT | 06605 |
| 257 SCOFIELD AV | NEW WAVE HOLDING LLC |  | 82 UNION AVENUE | NEW ROCHELLE | NY | 10801 |
| 287 HANSEN AV | WANDURAGALA MALALA ET AL | (SURV OF THEM) | 287 HANSEN AVENUE | BRIDGEPORT | CT | 06605 |
| 271 HANSEN AV | CRUZ HANDERSON DE LA |  | 271 HANSEN AV | BRIDGEPORT | CT | 06605-2539 |
| 267 SCOFIELD AV | MIKOS GREGORY ETAL |  | 62 SIGWIN DR | FAIRFIELD | CT | 06284 |
| 277 SCOFIELD AV | W \& M PROPERTIES 2 LLC |  | 4640 MAIN ST | BRIDGEPORT | CT | 06606 |
| 290 HANSEN AV | SIMON RAMON ETAL |  | 290 HANSEN AVE | BRIDGEPORT | CT | 06605 |
| 276 HANSEN AV | VARELA DANIELS | LISABETE BARREIRA | 276 HANSEN AV | BRIDGEPORT | CT | 06605-2538 |
| 270 HANSEN AV | YAREMA MICHAEL S JR |  | 270 HANSEN AVENUE | BRIDGEPORT | CT | 06605 |
| 282 SCOFIELD AV | YAZBAK ALFRED |  | 170 MIDLAND ST | BRIDGEPORT | CT | 06605 |
| 139 DAVIS AV | 179 ORLAND ST LLC |  | 139 DAVIS AVE | BRIDGEPORT | CT | 06605-2558 |
| 127 DAVIS AV | MAHR ANDRAS |  | 606 POST RD EAST | WESTPORT | CT | 06880 |
| 264 SCOFIELD AV | JIJR REAL ESTATE HOLDINGS LLC |  | 357 COMMERCE DRIVE SUITE 320904 | FAIRFIELD | CT | 06825 |

## SHEET LIST

## Scofield Multi-Family

## 254 Scofield Ave Bridgeport, Ct

| PROJECT STATUS: |  |  | PROJECT DATA |  |
| :---: | :---: | :---: | :---: | :---: |
| Schematic Design |  |  |  |  |
| SCOPE OF WORK: |  |  | memome |  |
|  |  |  | FIRST FLOOR 500 SQFT <br> TOTAL OCCUPIABLE SPACE $=$ 500 SQFT <br> BACKYARD COTTAGE-LIVING UNITS INFORMATIN  <br> FIRST FLOOR - 1 ONE BEDROOM |  |
| PROJECT TEAM: |  |  | VICINITY MAP: |  |
| Architect <br> Wiles+Architects, LLC 257 Naugatuck Avenue, Milford, CT 06460 ph \| 203-366-6003 fax | 203-583-3557 | Owner JIJR Real Estate 357 Commerce Driv Suite 320904 Fairfield, Ct 0682 | Civil Engineer <br> Cabezas-DeAngelis. Ilc Engineering \& Surveying 79 Elm Street <br> ph 203-330-8700 <br> fax 203-33-8701 |  |  |









## Note : In Section 3.80 .10 "SUPPLEmental Regulations"

## Half Stories in Roof. See 14.20. 10.F for definition of hal


Note : Occupiable Footprint of half story is $55.28^{\circ}$
(2) Dormers or gabled ends of roofs on half stories are







[^1]





$\qquad$

## PLANNING \& ZONING COMMISSION APPLICATION

1. NAME OF APPLICANT: JIJR Real Estate Holdings, LLC
2. Is the Applicant's name Trustee of Record? Yes $\qquad$ No X If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 254 Scofield Avenue, Bridgeport, CT 06604
(number)
(street)
4. Assessor's Map Information: Block No. 213
5. Amendments to Zoning Regulations: (indicate) Article: $\qquad$ (state)
(zip code)
6. Assessor's Map Information: Block No
(stret)
Lot No. 3
Section: $\qquad$
(Attach copies of Amendment)
7. Description of Property (Metes \& Bounds): Rectangular Lot, 100' frontage South on Hansen Avenue, 50' frontage West on Scofield Avenue; 100' at North boundary; 50' at East boundary.
8. Existing Zone Classification: NX1
9. Zone Classification requested: $\qquad$
10. Describe Proposed Development of Property: Proposed use is $21 / 2$ story Double House A Building with four-units and a one-unit backyard cottage

Approval(s) requested: Coastal Site Plan Approval
Signature:
Print Name:
If signed by Agent, state capacity (Lawyer, Developer, etc.) Signature:

Mailing Address: 1115 Broad Street, Bridgeport, CT 06604
Phone: 203-414-6455 Cell: 203-414-6455 Fax: 203-337-5524
E-mail Address: psullivan@cohenandwolf.com
\$ $\qquad$ Fee received
Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST



PATRICIA C. SULLIVAN
Please Reply To Bridgeport
Writer's Direct Dial: (203) 414-6455
E-Mail: psullivan@cohenandwolf.com
January 25, 2024

## Via Hand Delivery

Paul Boucher, Zoning Administrator
Zoning Department
45 Lyon Terrace
Bridgeport, CT 06604

## Re: JIJR Real Estate Holdings, LLC 254 Scofield Ave.

Dear Mr. Boucher,
Enclosed please find an Application to the Bridgeport Planning and Zoning Commission for property located at 254 Scofield Ave. ("Property"). The Property is in the NX1 Zone. It is owned by JIJR Real Estate Holdings, LLC.

## Approval Requested

This Application is filed in connection with a CAM Site Plan Approval to permit the establishment of a four-unit Double House A Building with a one-unit backyard cottage at 254 Scofield Ave.

## Narrative-Proposed Development and Use

The owner proposes to develop currently vacant property at 254 Scofield Ave ("Property") into a $2 \frac{1}{2}$ story Double House A Building with four-units and a one-unit backyard cottage all pursuant to Zoning Regulation 3.80. These units will be attractive, one-bedroom units designed and intended to fill an existing need. This Property is in an NX1 zone. It is located very close to a bus line, train station, and includes neighborhood amenities, including a convenience store, variety of restaurants and a grocery store within walking distance. Adjacent properties are improved with multifamily developments. This development will enhance this area. The improvements are under the Double House A Regulations and are designed to be fully zoning compliant.


PCS/gpt
Enclosure

# APPLICATION FOR REVIEW OF COASTAL SITE PLANS 

# PREPARED FOR: <br> JIJR Real Estate Holdings, LLC 

## 254 Scofield Avenue BRIDGEPORT, CONNECTICUT

January 24, 2024


TABLE OF CONTENTS

## Project Narrative

CAM Application Form

Figure A - Location Map

Figure B - FEMA Firm Map

Figure C - Coastal Resource Map (Per Coastal Master Plan of Bridgeport, Connecticut On file City of Bridgeport Engineering Department)

Figure D - Zone Map

## PROJECT NARRATIVE

This proposed development is located at 254 Scofield Avenue and is known as Lot 3 in Block 213 and map 11 per City of Bridgeport Assessor records. This parcel is zoned NX1. FEMA FIRM depicts this parcel within Zone X (Un-Shaded) per FEMA Panel 436 of 626, Map Number 09001C0436G, Map Revised July 8, 2013. Lot area is $5,000 \pm$ SF.

The parcel is within a Residential Section of the Ash Creek Coastal Area Management Zone per Coastal Master Plan of Bridgeport, Connecticut (Sheet 2 of 4) found on file in the City of Bridgeport Engineering Department.

This site is currently vacant with vegetated surfaces and bounded by a multi-unit residential building on the east. The developer is proposing the construction of a zoning compliant, four-unit, $21 / 2$ story, wood-frame residential building, a one-unit, one story, wood-frame cottage, and paved walkways. The remainder of the site is proposed to be lawn and plantings surfaces. A storm drainage system consisting of two water quality basins, infiltration chambers and a crushed stone bed has been designed at the northerly yard areas that will treat the storm water run-off from the new roofed areas. The proposed stormwater system implements best management practices to aid in storm water quality.

This property will be developed in keeping with the integrity of this Zone. Construction is anticipated to have a duration of twelve to twenty-four months.

## Application Form <br> Municipal Coastal Site Plan Review <br> For Projects Located Fully or Partially Within the Coastal Boundary

Please complete this form in accordance with the attached instructions and submit it with the appropriate plans to appropriate municipal agency.

## Section I: Applicant Identification



## Section II: Project Site Plans

Please provide project site plans that clearly and accurately depict the following information, and check the appropriate boxes to indicate that the plans are included in this application:

[^2]
## Section III: Written Project Information

Please check the appropriate box to identify the plan or application that has resulted in this Coastal Site Plan Review:

| $\square$ | Site Plan for Zoning Compliance |
| :--- | :--- |
| $\square$ | Subdivision or Resubdivision |
| $\square$ | Special Permit or Special Exception |
| $\square$ | Variance |
| $\square$ | Municipal Project (CGS Section 8-24) |

## Part I: Site Information

1. Street Address or Geographical Description: 254 Scofield Avenue

## Bridgeport, Connecticut

City or Town:
2. Is project or activity proposed at a waterfront site (includes tidal wetlands frontage)?
 YES

3. Name of on-site, adjacent or downstream coastal, tidal or navigable waters, if applicable: Ash Creek
4. Identify and describe the existing land use on and adjacent to the site. Include any existing structures, municipal zoning classification, significant features of the project site:
Existing land use for this site is a vacant parcel and the proposed use is a residential, four-unit building and a one unit cottage. Present land use within the vicinity of this parcel is a mixture of single to multi-family dwellings, nearby commercial buildings and a religious assemblies. The proposed five-unit development is an allowed use within this zone and building type and fits the general character of the neighborhood.
5. Indicate the area of the project site: $\qquad$ acres orsquare feet (circle one)
6. Check the appropriate box below to indicate total land area of disturbance of the project or activity (please also see Part II.B. regarding proposed stormwater best management practices):


Project or activity will disturb 5 or more total acres of land area on the site. It may be eligible for registration for the Department of Environmental Protection's (DEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities


Project or activity will disturb one or more total acres but less than 5 total acres of land area. A soil erosion and sedimentation control plan must be submitted to the municipal land use agency reviewing this application.


Project or activity will not disturb 1 acre total of land area. Stormwater management controls may be required as part of the coastal site plan review.
7. Does the project include a shoreline flood and erosion control structure as defined in CGS section 22a-109(d) $\square$ Yes $\quad$ No

## Part II.A.: Description of Proposed Project or Activity

Describe the proposed project or activity including its purpose and related activities such as site clearing, grading, demolition, and other site preparations; percentage of increase or decrease in impervious cover over existing conditions resulting from the project; phasing, timing and method of proposed construction; and new uses and changes from existing uses (attach additional pages if necessary):

The project consists of the construction of a 2.5 story, four-unit building and an one story, one-unit cottage. Each unit will be served by common access, and public utilities. All construction will be confined to the existing property boundary using perimeter soil and erosion controls as a barrier. Construction is anticipated to be completed within twenty-four (24) months from commencement. Activity will be overseen by the developer - a builder well versed and experienced with new home construction. This property will be developed in keeping with the integrity of this zone. Approvals by the Zoning Planning Commission is required under Coastal Site Plan review.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Part II.B.: Description of Proposed Stormwater Best Management Practices

Describe the stormwater best management practices that will be utilized to ensure that the volume of runoff generated by the first inch of rainfall is retained on-site, especially if the site or stormwater discharge is adjacent to tidal wetlands. If runoff cannot be retained on-site, describe the site limitations that prevent such retention and identify how stormwater will be treated before it is discharged from the site. Also demonstrate that the loadings of total suspended solids from the site will be reduced by 80 percent on an average annual basis, and that post-development stormwater runoff rates and volumes will not exceed pre-development runoff rates and volumes (attach additional pages if necessary):
Storm water run-off from the structures and paved areas will be treated by two open basin systems, infiltration units and a crushed stone bed. Primary stormwater treatments will be implemented to comply with Best Management Practices (BMP's). Proposed open basins will provide water quality measures and the infiltration chambers will provide water quantity requirements which will also aid in the attenuation of storm water run-off. Pre- and post-development stormwater run-off rates and volumes were computed using the TR-55 method. Water quality volume (WQV) was determined using methods as outlined in CT DEEP Stormwater Quality Manual (SWQM). Routing of the drainage system demonstrates the reduction in peak flow rates and overall site runoff volumes. This primary treatment method will remove at least $80 \%$ of the average annual total suspended solids (TSS) load.

Part III: Identification of Applicable Coastal Resources and Coastal Resource Policies
Identify the coastal resources and associated policies that apply to the project by placing a check mark in the appropriate box(es) in the following table.

| Coastal Resources |  | Off-site <br> but <br> within <br> the <br> influence <br> of <br> project |
| :--- | :--- | :--- | :--- |

[^3]
## Part IV: Consistency with Applicable Coastal Resource Policies and Standards

Describe the location and condition of the coastal resources identified in Part III above and explain how the proposed project or activity is consistent with all of the applicable coastal resource policies and standards; also see adverse impacts assessment in Part VII.A below (attach additional pages if necessary):

Complies w/ CGS 22a-92(a)(1) "...by promoting economic growth without significantly disrupting the environment..."
Complies w/ CGS 22a-92(b)(2)(F) "...manage coastal hazard areas to minimize hazards to property..."
Complies w/ CGS 22a-92(c)(2)(B) "...maintain patterns of water circulation in the placement of drainage control structures..."

## Part V: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all coastal policies and standards in or referenced by CGS Section 22a-92 applicable to the proposed project or activity:

X General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), and 22a-92(a)(9)
Water-Dependent Uses** - CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A);
Definition CGS Section 22a-93(16)
Ports and Harbors - CGS Section 22a-92(b)(1)(C)
Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
Dredging and Navigation - CGS Sections 22a-92(c)(1)(C) and 22a-92(c)(1)(D)
Boating - CGS Section 22a-92(b)(1)(G)
Fisheries - CGS Section 22a-92(c)(1)(I)
Coastal Recreation and Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j) and 22a-92(c)(1)(K)
Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
Fuel, Chemicals and Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E) and 22a-92(c)(1)(A)

Transportation - CGS Sections 22a-92(b)(1)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), and
22a-92(c)(1)(H)
Solid Waste - CGS Section 22a-92(a)(2)
Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
Cultural Resources - CGS Section 22a-92(b)(1)(J)
Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* General Development policies are applicable to all proposed activities
** Water-dependent Use policies are applicable to all activities proposed at waterfront sites, including those with tidal wetlands frontage.

Part VI: Consistency With Applicable Coastal Use Policies And Standards

Explain how the proposed activity or use is consistent with all of the applicable coastal use and activity policies and standards identified in Part V. For projects proposed at waterfront sites (including those with tidal wetlands frontage), particular emphasis should be placed on the evaluation of the project's consistency with the water-dependent use policies and standards contained in CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A) -- also see adverse impacts assessment in Part VII.B below (attach additional pages if necessary):
No adverse impacts were determined on off-site coastal resources. Stormwater treatment is proposed which will help reduce erosion impacts as well as provide water infiltration. This project will be limited to the confines of the site and will be completed within twentyfour (24) months. All disturbed areas will be loamed, seeded and planted upon completion of construction. The proposed building will have new laterals to the existing street utilities.

## Part VII.A.: Identification of Potential Adverse Impacts on Coastal Resources

Please complete this section for all projects.
Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(15). If an adverse impact may result from the proposed project or activity, please use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on Coastal Resources | Applicable | Not Applicable |
| :---: | :---: | :---: |
| Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments through significant alteration of their natural characteristics or functions - CGS Section 22a-93(15)(H) |  | K |
| Increasing the hazard of coastal flooding through significant alteration of shoreline configurations or bathymetry, particularly within high velocity flood zones - CGS Section 22a-93(15)(E) |  | X |
| Degrading existing circulation patterns of coastal water through the significant alteration of patterns of tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours CGS Section 22a-93(15)(B) |  | $\mathbb{X}$ |
| Degrading natural or existing drainage patterns through the significant alteration of groundwater flow and recharge and volume of runoff - cGS Section 22a-93(15)(D) |  | K |
| Degrading natural erosion patterns through the significant alteration of littoral transport of sediments in terms of deposition or source reduction CGS Section 22a-93(15)(C) |  | X |
| Degrading visual quality through significant alteration of the natural features of vistas and view points - cGS Section 22a-93(15)(F) |  | X |
| Degrading water quality through the significant introduction into either coastal waters or groundwater supplies of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH , dissolved oxygen or salinity - cGS Section 22a-93(15)(A) |  | X |
| Degrading or destroying essential wildlife, finfish, or shellfish habitat through significant alteration of the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significant alterations of the natural components of the habitat CGS Section 22a-93(15)(G) |  | $\mathbb{X}$ |

## Part VII.B.: Identification of Potential Adverse Impacts on Water-dependent Uses

Please complete the following two sections only if the project or activity is proposed at a waterfront site:

1. Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(17). If an adverse impact may result from the proposed project or activity, use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on |  | Not |
| :--- | :---: | :---: |
| Future Water-dependent Development Opportunities and Activities | Applicable | Applicable |
| Locating a non-water-dependent use at a site physically suited for or <br> planned for location of a water-dependent use - cGs Section 22a-93(17) |  | $\$$ |
| Replacing an existing water-dependent use with a non-water- <br> dependent use - cGs Section 22a-93(17) |  | $\$$ |
| Siting a non-water-dependent use which would substantially reduce or <br> inhibit existing public access to marine or tidal waters - cGS Section <br> 22a-93(17) |  | $\$$ |

2. Identification of existing and/or proposed Water-dependent Uses

Describe the features or characteristics of the proposed activity or project that qualify as water-dependent uses as defined in CGS Section 22a-93(16). If general public access to coastal waters is provided, please identify the legal mechanisms used to ensure public access in perpetuity, and describe any provisions for parking or other access to the site and proposed amenities associated with the access (e.g., boardwalk, benches, trash receptacles, interpretative signage, etc.)*:

Not applicable as the parcel is not in the immediate vicinity of the Ash Creek and there is no water dependent use applicable to this site. Proposed development will consist of a four-unit, residential building and a one-unit cottage with paved walkways for accessing each structure.
*If there are no water-dependent use components, describe how the project site is not appropriate for the development of a water-dependent use.

## Part VIII: Mitigation of Potential Adverse Impacts

Explain how all potential adverse impacts on coastal resources and/or future water-dependent development opportunities and activities identified in Part VII have been avoided, eliminated, or minimized (attach additional pages if necessary):

No adverse impacts were determined on adjacent or nearby coastal resources. The proposed activity will be constructed with the appropriate soil erosion and control measures and will include the design of a storm drainage system to ensure there will be no adverse impact on the adjoining properties. New basins will also help reduce erosion and provide storm water quality.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Part IX: Remaining Adverse Impacts

Explain why any remaining adverse impacts resulting from the proposed activity or use have not been mitigated and why the project as proposed is consistent with the Connecticut Coastal Management Act (attach additional pages if necessary):

No adverse impacts resulting from the proposed activity is anticipated and appropriate measures will be utilized and designed as outlined above.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$



SCALE: 1" = 500'

MAP NUMBER 09001C0436G
ZONE X (UN-SHADED)
MAP REVISED JULY 8, 2013

## Cabezas DeAngelis

ENGINEERS \& SURVEYORS
78 ELM STREET, BRIDGEPORT, CT 06604 P:203 3308700 • $F: 2033308701$

FEMA FIRM MAP

JIJR REAL ESTATE HOLDINGS, LLC 254 SCOFIELD AVENUE BRIDGEPORT, CONNECTICUT



SCALE: $1^{\prime \prime}=100^{\prime}$

| ZONE MAP |  |
| :---: | :---: |
| JIJR REAL ESTATE HOLDINGS, LLC |  |
| 254 SCOFIELD AVENUE |  |
| BRIDGEPORT, CONNECTICUT |  |
| DATE: JANUARY 20, 2024 | FIGURE D |

$\qquad$

## PLANNING \& ZONING COMMISSION APPLICATION

1. NAME OF APPLICANT: JIJR Real Estate Holdings, LLC
2. Is the Applicant's name Trustee of Record? Yes $\qquad$ No X If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 264 Scofield Avenue, Bridgeport, CT 06604
(number) (street) (state) (zip code)
4. Assessor's Map Information: Block No. 213 Lot No. 2
5. Amendments to Zoning Regulations: (indicate) Article: $\qquad$ Section: $\qquad$ (Attach copies of Amendment)
6. Description of Property (Metes \& Bounds): Rectangular Lot, 50' Frontage West on Scofield Avenue; 100' at South boundary; 50' at East boundary; 100' at North boundary
7. Existing Zone Classification: NX1
8. Zone Classification requested: $\qquad$
9. Describe Proposed Development of Property: Proposed use is $21 / 2$ story Double House A Building with four-units and a one-unit backyard cottage

Approval(s) requested: Coastal Site Plan Approval


Mailing Adaress: 1115 Broad Street, Bridgeport, CT 06604
Phone: 203-414-6455 Cell: 203-414-6455 Fax: 203-337-5524 E-mail Address: psullivan@cohenandwolf.com
\$ $\qquad$ Fee received

Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST



PATRICIA C. SULLIVAN
Please Reply To Bridgeport
Writer's Direct Dial: (203) 414-6455
E-Mail: psullivan@cohenandwolf.com
January 25, 2024

## Via Hand Delivery

Paul Boucher, Zoning Administrator
Zoning Department
45 Lyon Terrace
Bridgeport, CT 06604

## Re: JIJR Real Estate Holdings, LLC 264 Scofield Ave.

Dear Mr. Boucher,
Enclosed please find an Application to the Bridgeport Planning and Zoning Commission for property located at 264 Scofield Ave. ("Property"). The Property is in the NX1 Zone. It is owned by JIJR Real Estate Holdings, LLC.

## Approval Requested

This Application is filed in connection with a CAM Site Plan Approval to permit the establishment of a four-unit Double House A Building with a one-unit backyard cottage at 264 Scofield Ave.

## Narrative-Proposed Development and Use

The owner proposes to develop currently vacant property at 264 Scofield Ave ("Property") into a $2 \frac{1}{2}$ story Double House A Building with four-units and a one-unit backyard cottage all pursuant to Zoning Regulation 3.80. These units will be attractive, one-bedroom units designed and intended to fill an existing need. This Property is in an NX1 zone. It is located very close to a bus line, train station, and includes neighborhood amenities, including a convenience store, variety of restaurants and a grocery store within walking distance. Adjacent properties are improved with multifamily developments. This development will enhance this area. The improvements are under the Double House A Regulations and are designed to be fully zoning compliant.


PCS/gpt
Enclosure

# APPLICATION FOR REVIEW OF COASTAL SITE PLANS 

# PREPARED FOR: <br> JIJR Real Estate Holdings, LLC 

## 264 Scofield Avenue BRIDGEPORT, CONNECTICUT

January 24, 2024


TABLE OF CONTENTS

## Project Narrative

CAM Application Form

Figure A - Location Map

Figure B - FEMA Firm Map

Figure C - Coastal Resource Map (Per Coastal Master Plan of Bridgeport, Connecticut On file City of Bridgeport Engineering Department)

Figure D - Zone Map

## PROJECT NARRATIVE

This proposed development is located at 254 Scofield Avenue and is known as Lot 2 in Block 213 and map 11 per City of Bridgeport Assessor records. This parcel is zoned NX1. FEMA FIRM depicts this parcel within Zone X (Un-Shaded) per FEMA Panel 436 of 626, Map Number 09001C0436G, Map Revised July 8, 2013. Lot area is $5,000 \pm$ SF.

The parcel is within a Residential Section of the Ash Creek Coastal Area Management Zone per Coastal Master Plan of Bridgeport, Connecticut (Sheet 2 of 4) found on file in the City of Bridgeport Engineering Department.

This site is currently vacant with vegetated surfaces and bounded by a multi-unit residential building on the east. The developer is proposing the construction of a zoning compliant, four-unit, $21 / 2$ story, wood-frame residential building, a one-unit, one story, wood-frame cottage, and paved walkways. The remainder of the site is proposed to be lawn and plantings surfaces. A storm drainage system consisting of two water quality basins, infiltration chambers and a crushed stone bed has been designed at the northerly yard areas that will treat the storm water run-off from the new roofed areas. The proposed stormwater system implements best management practices to aid in storm water quality.

This property will be developed in keeping with the integrity of this Zone. Construction is anticipated to have a duration of twelve to twenty-four months.

## Application Form <br> Municipal Coastal Site Plan Review <br> For Projects Located Fully or Partially Within the Coastal Boundary

Please complete this form in accordance with the attached instructions and submit it with the appropriate plans to appropriate municipal agency.

## Section I: Applicant Identification



## Section II: Project Site Plans

Please provide project site plans that clearly and accurately depict the following information, and check the appropriate boxes to indicate that the plans are included in this application:

[^4]
## Section III: Written Project Information

Please check the appropriate box to identify the plan or application that has resulted in this Coastal Site Plan Review:

| $\square$ | Site Plan for Zoning Compliance |
| :--- | :--- |
| $\square$ | Subdivision or Resubdivision |
| $\square$ | Special Permit or Special Exception |
| $\square$ | Variance |
| $\square$ | Municipal Project (CGS Section 8-24) |

## Part I: Site Information

1. Street Address or Geographical Description: 264 Scofield Avenue

## Bridgeport, Connecticut

City or Town:
2. Is project or activity proposed at a waterfront site (includes tidal wetlands frontage)?
 YES

3. Name of on-site, adjacent or downstream coastal, tidal or navigable waters, if applicable: Ash Creek
4. Identify and describe the existing land use on and adjacent to the site. Include any existing structures, municipal zoning classification, significant features of the project site: Existing land use for this site is a vacant parcel and the proposed use is a residential, four-unit building and a one unit cottage. Present land use within the vicinity of this parcel is a mixture of single to multi-family dwellings, nearby commercial buildings and a religious assemblies. The proposed seven-unit development is an allowed use within this zone and building type and fits the general character of the neighborhood.
5. Indicate the area of the project site: $\qquad$ acres orsquare feet (circle one)
6. Check the appropriate box below to indicate total land area of disturbance of the project or activity (please also see Part II.B. regarding proposed stormwater best management practices):


Project or activity will disturb 5 or more total acres of land area on the site. It may be eligible for registration for the Department of Environmental Protection's (DEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities


Project or activity will disturb one or more total acres but less than 5 total acres of land area. A soil erosion and sedimentation control plan must be submitted to the municipal land use agency reviewing this application.
 Project or activity will not disturb 1 acre total of land area. Stormwater management controls may be required as part of the coastal site plan review.
7. Does the project include a shoreline flood and erosion control structure as defined in CGS section 22a-109(d) $\square$ Yes $\quad$ No

## Part II.A.: Description of Proposed Project or Activity

Describe the proposed project or activity including its purpose and related activities such as site clearing, grading, demolition, and other site preparations; percentage of increase or decrease in impervious cover over existing conditions resulting from the project; phasing, timing and method of proposed construction; and new uses and changes from existing uses (attach additional pages if necessary):

The project consists of the construction of a 2.5 story, four-unit building and an one story, one-unit cottage. Each unit will be served by common access, and public utilities. All construction will be confined to the existing property boundary using perimeter soil and erosion controls as a barrier. Construction is anticipated to be completed within twenty-four (24) months from commencement. Activity will be overseen by the developer - a builder well versed and experienced with new home construction. This property will be developed in keeping with the integrity of this zone. Approvals by the Zoning Planning Commission is required under Coastal Site Plan review.

## Part II.B.: Description of Proposed Stormwater Best Management Practices

Describe the stormwater best management practices that will be utilized to ensure that the volume of runoff generated by the first inch of rainfall is retained on-site, especially if the site or stormwater discharge is adjacent to tidal wetlands. If runoff cannot be retained on-site, describe the site limitations that prevent such retention and identify how stormwater will be treated before it is discharged from the site. Also demonstrate that the loadings of total suspended solids from the site will be reduced by 80 percent on an average annual basis, and that post-development stormwater runoff rates and volumes will not exceed pre-development runoff rates and volumes (attach additional pages if necessary):
Storm water run-off from the structures and paved areas will be treated by two open basin systems, infiltration units and a crushed stone bed. Primary stormwater treatments will be implemented to comply with Best Management Practices (BMP's). Proposed open basins will provide water quality measures and the infiltration chambers will provide water quantity requirements which will also aid in the attenuation of storm water run-off. Pre- and post-development stormwater run-off rates and volumes were computed using the TR-55 method. Water quality volume (WQV) was determined using methods as outlined in CT DEEP Stormwater Quality Manual (SWQM). Routing of the drainage system demonstrates the reduction in peak flow rates and overall site runoff volumes. This primary treatment method will remove at least $80 \%$ of the average annual total suspended solids (TSS) load.

Part III: Identification of Applicable Coastal Resources and Coastal Resource Policies
Identify the coastal resources and associated policies that apply to the project by placing a check mark in the appropriate box(es) in the following table.

| Coastal Resources |  | Off-site <br> but <br> within <br> the <br> influence <br> of <br> project |
| :--- | :--- | :--- | :--- |

[^5]
## Part IV: Consistency with Applicable Coastal Resource Policies and Standards

Describe the location and condition of the coastal resources identified in Part III above and explain how the proposed project or activity is consistent with all of the applicable coastal resource policies and standards; also see adverse impacts assessment in Part VII.A below (attach additional pages if necessary):

Complies w/ CGS 22a-92(a)(1) "...by promoting economic growth without significantly disrupting the environment..."
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Identify all coastal policies and standards in or referenced by CGS Section 22a-92 applicable to the proposed project or activity:

X General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), and 22a-92(a)(9)
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Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* General Development policies are applicable to all proposed activities
** Water-dependent Use policies are applicable to all activities proposed at waterfront sites, including those with tidal wetlands frontage.

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Explain how the proposed activity or use is consistent with all of the applicable coastal use and activity policies and standards identified in Part V. For projects proposed at waterfront sites (including those with tidal wetlands frontage), particular emphasis should be placed on the evaluation of the project's consistency with the water-dependent use policies and standards contained in CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A) -- also see adverse impacts assessment in Part VII.B below (attach additional pages if necessary):
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| Potential Adverse Impacts on Coastal Resources | Applicable | Not Applicable |
| :---: | :---: | :---: |
| Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments through significant alteration of their natural characteristics or functions - CGS Section 22a-93(15)(H) |  | K |
| Increasing the hazard of coastal flooding through significant alteration of shoreline configurations or bathymetry, particularly within high velocity flood zones - CGS Section 22a-93(15)(E) |  | X |
| Degrading existing circulation patterns of coastal water through the significant alteration of patterns of tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours CGS Section 22a-93(15)(B) |  | $\mathbb{X}$ |
| Degrading natural or existing drainage patterns through the significant alteration of groundwater flow and recharge and volume of runoff - cGS Section 22a-93(15)(D) |  | K |
| Degrading natural erosion patterns through the significant alteration of littoral transport of sediments in terms of deposition or source reduction CGS Section 22a-93(15)(C) |  | X |
| Degrading visual quality through significant alteration of the natural features of vistas and view points - cGS Section 22a-93(15)(F) |  | X |
| Degrading water quality through the significant introduction into either coastal waters or groundwater supplies of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH , dissolved oxygen or salinity - cGS Section 22a-93(15)(A) |  | X |
| Degrading or destroying essential wildlife, finfish, or shellfish habitat through significant alteration of the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significant alterations of the natural components of the habitat CGS Section 22a-93(15)(G) |  | $\mathbb{X}$ |

## Part VII.B.: Identification of Potential Adverse Impacts on Water-dependent Uses

Please complete the following two sections only if the project or activity is proposed at a waterfront site:

1. Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(17). If an adverse impact may result from the proposed project or activity, use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on |  | Not |
| :--- | :---: | :---: |
| Future Water-dependent Development Opportunities and Activities | Applicable | Applicable |
| Locating a non-water-dependent use at a site physically suited for or <br> planned for location of a water-dependent use - cGs Section 22a-93(17) |  | $\$$ |
| Replacing an existing water-dependent use with a non-water- <br> dependent use - cGs Section 22a-93(17) |  | $\$$ |
| Siting a non-water-dependent use which would substantially reduce or <br> inhibit existing public access to marine or tidal waters - cGS Section <br> 22a-93(17) |  | $\$$ |

2. Identification of existing and/or proposed Water-dependent Uses

Describe the features or characteristics of the proposed activity or project that qualify as water-dependent uses as defined in CGS Section 22a-93(16). If general public access to coastal waters is provided, please identify the legal mechanisms used to ensure public access in perpetuity, and describe any provisions for parking or other access to the site and proposed amenities associated with the access (e.g., boardwalk, benches, trash receptacles, interpretative signage, etc.)*:

Not applicable as the parcel is not in the immediate vicinity of the Ash Creek and there is no water dependent use applicable to this site. Proposed development will consist of a four-unit, residential building and a one-unit cottage with paved walkways for accessing each structure.
*If there are no water-dependent use components, describe how the project site is not appropriate for the development of a water-dependent use.

## Part VIII: Mitigation of Potential Adverse Impacts

Explain how all potential adverse impacts on coastal resources and/or future water-dependent development opportunities and activities identified in Part VII have been avoided, eliminated, or minimized (attach additional pages if necessary):

No adverse impacts were determined on adjacent or nearby coastal resources. The proposed activity will be constructed with the appropriate soil erosion and control measures and will include the design of a storm drainage system to ensure there will be no adverse impact on the adjoining properties. New basins will also help reduce erosion and provide storm water quality.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Part IX: Remaining Adverse Impacts

Explain why any remaining adverse impacts resulting from the proposed activity or use have not been mitigated and why the project as proposed is consistent with the Connecticut Coastal Management Act (attach additional pages if necessary):

No adverse impacts resulting from the proposed activity is anticipated and appropriate measures will be utilized and designed as outlined above.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$



SCALE: 1" = 500'

MAP NUMBER 09001C0436G
ZONE X (UN-SHADED)
MAP REVISED JULY 8, 2013

## Cabezas DeAngelis

ENGINEERS \& SURVEYORS
78 ELM STREET, BRIDGEPORT, CT 06604 P:203 3308700 • $F: 2033308701$

FEMA FIRM MAP

JIJR REAL ESTATE HOLDINGS, LLC 264 SCOFIELD AVENUE BRIDGEPORT, CONNECTICUT



SCALE: $1^{\prime \prime}=100^{\prime}$

## ZONE MAP

JIJR REAL ESTATE HOLDINGS, LLC
264 SCOFIELD AVENUE BRIDGEPORT, CONNECTICUT

## DESIGN REPORT

## STORMWATER MANAGEMENT SYSTEM

## 264 Scofield Avenue Bridgeport, Connecticut



Prepared By:

## GENERAL INFORMATION

Per the City of Bridgeport Tax Assessor records, 264 Scofield Avenue is listed as Block 213, Lot 2. The parcel has an area of $\mathbf{5 , 0 0 0} \pm$ square feet and is within zone NX1. Parcel is currently vacant with sparse vegetation and poor lawn areas. The total grade change is approximately four feet pitching in a northwesterly direction.

The site is NOT within a FEMA Special Flood Hazard Zone. The site is within Zone X (Un-shaded) per FEMA FIRM Map Number 09001C0436G, Panel Number 436 of 626, Map Revised July 8, 2013.

Sanitary sewer, gas, water and electric services are available on Scofield Avenue. Proposed Improvements include the construction of a 212 story, four-unit building, a 1 story, one unit cottage, lawn areas and paved walkways. Two underground, infiltration systems have been designed at the northerly side of the site along with two surface, water quality basins. The proposed roofed areas will discharge into the water quality basins. Once basins are full, storm water will overflow into the underground, drainage chambers and a crushed stone bed. The chambers and crushed stone bed are designed with overflow devices also. Water quality and water quantity methods are utilized in this design. Under this analysis, the proposed conditions will accommodate the theoretical storage volume and peak flow rates required by the City of Bridgeport Storm Management Manual. Best Management Practices (BMP's) are implemented also. All remaining yard areas are to be loamed and seeded to establish good grass cover.

## DESIGN METHODOLOGY

The stormwater runoff resulting from the existing and proposed conditions was analyzed using a 24-hour, 2year, 10-year, 25-year frequency, Type III storm event. HydroCAD software was used to run the storm analysis based on the SCS TR-20 method. A 2-year storm frequency for the Bridgeport area has a rainfall of 3.49 inches, a 10-year storm frequency has a rainfall of 5.37 inches and a 25 -year storm frequency has a rainfall of 6.55 inches per NOAA Point Precipitation Frequency Estimates. The minimum time of concentration of five (5) minutes is utilized as a conservative option. Hydrographs are also included in this report reflecting runoff information for the existing and proposed conditions under the 2, 10, and 25-year storm events.

## DRAINAGE AREA 1

Hydrographs provided the following information for the 25-year storm event and a runoff area of $\mathbf{5 , 0 0 0} \mathbf{F t}^{2}$
Offsite Peak Flow Reduction
Existing Peak Flow Rate: $0.68 \mathbf{F t}^{3} / \mathrm{s}\left(10 \%\right.$ Reduction Requirement $\left.=0.68 \times 0.9=0.61 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Peak Flow Rate: $0.27 \mathrm{Ft}^{3} / \mathrm{s}\left(0.61 \mathrm{Ft}^{3} / \mathrm{s}\right.$ Allowed)
Proposed Peak Flow Rate Reduction: $\mathbf{0 . 4 1} \mathrm{Ft}^{3} / \mathrm{s}\left(0.68 \mathrm{Ft}^{3} / \mathrm{s}-0.27 \mathrm{Ft}^{3} \mathrm{~s}\right)$
Proposed Reduction in Peak Flow Rate: 60\% ( $0.41 \mathrm{Ft}^{3} / \mathrm{s} / 0.68 \mathrm{Ft}^{3} / \mathrm{s} \times 100=60 \%$ )
Offsite Runoff Volume Reduction
Existing Conditions Runoff Volume ............................................................. 2,194.0 Ft ${ }^{3}$
10\% Reduction Runoff Requirement .............................................................219.4 Ft ${ }^{3}$
Maximum Runoff Volume Allowed............................................................... 1,974.6 Ft ${ }^{3}$
Proposed Conditions Runoff Volume..............................................................835.0 Ft³
Proposed Volume Reduction...................................................................... 1,359.0 Ft ${ }^{3}$
Proposed Reduction Percentage...................................62\% (1,359/2,194 $\times 100=62 \%$ )

## PROPOSED SYSTEM

The proposed system consists of two, 12-inch-deep drainage basins at the northerly side of the parcel that will capture runoff from the proposed roof areas. Once basins are full stormwater will overflow into the 330 Cultec Chambers on the northwesterly side of the parcel and an 11 foot by 17 foot by 44 inch deep crushed stone bed on the northerly side of the parcel. The basins provide a combined storage capacity of $271 \mathrm{Ft}^{3}$. The chambers provide a storage capacity of $423 \mathrm{Ft}^{3}$ embedded in its crushed stone envelope and the crushed stone bed provides a storage capacity of $275 \mathrm{Ft}^{3}$ including the crushed stone envelope and overflow drain. This system as a whole provides a total storage of $969.0 \mathrm{Ft}^{3}$. PVC pipe volume connecting each device is not included. The calculations for sizing the system are included below. Filter Fabric to be installed on all sides of crushed stone.

## Stormwater Storage - Required

From hydrographs of 25-Year Event:
Pre Conditions Runoff Volume $=2,194 \mathrm{Ft}^{3}$
$10 \%$ Storm Runoff Volume Reduction $=219.4 \mathrm{Ft}^{3}\left(25-\right.$ Year Storm Event $\left.=0.10\left(2,194.0 \mathrm{Ft}^{3}\right)=219.4 \mathrm{Ft}^{3}\right)$
Allowed Runoff Volume Per City: 2,194.0-219.4 = 1,974.6 Ft ${ }^{3}$
Post Conditions Runoff Volume: 835 Ft $^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")

## Water Quality Equation

WQV=1" RA/12 and $\mathrm{R}=0.05+0.009$ (\% Proposed Impervious)
$R=0.05+0.009(61 \%)=0.5990$
WQV = 1" (0.5990) (0.115)/12 = 0.0057 Acre-Ft = 248.3 Ft ${ }^{3}$
Pre Conditions Runoff Volume $=2,194 \mathrm{Ft}^{3}$
Allowed Runoff Volume Per WQV $=2,194-248.3=1,945.7$ Ft $^{3}$
Post Conditions Runoff Volume: $\mathbf{8 3 5} \mathrm{Ft}^{\mathbf{3}}$ (See Hydrograph Summary "Proposed Offsite Flows")
Design Storage (See Hydrograph Summary "Pond 1P")
Basin \#1, 12 inch deep, $=145.0$ Ft $^{3}$
Basin \#2, 12 inch deep, $=126.0$ Ft $^{3}$
Two rows of One, 330 Cultec Chambers embedded in crushed stone envelope $=423 \mathrm{Ft}^{\mathbf{3}}$
Overflow Drain: $1 \mathrm{Ft} \times 1 \mathrm{Ft} \times 1 \mathrm{Ft}=1 \mathrm{Ft}^{\mathbf{3}}$
Crushed Stone Bed: 11 Ft x $17 \mathrm{Ft} \times 3.67 \mathrm{Ft}=\mathbf{2 7 5} \mathrm{Ft}^{\mathbf{3}}$
Combined Storage Provided $=969 \mathrm{Ft}^{3}$

| Pre Vs. Post Runoff (Multi-Family Residential) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Storm Frequency | PreConditions (Ft ${ }^{3}$ ) | $\begin{gathered} \text { Post } \\ \text { Conditions } \\ \left(\mathrm{Ft}^{3}\right) \\ \hline \end{gathered}$ | Reduction (Ft ${ }^{3}$ ) | Percent Reduction | Pre-Peak Flows ( $\mathrm{Ft}^{3} / \mathrm{s}$ ) | Post Peak Flows (Ft ${ }^{3} / \mathrm{s}$ ) | $\begin{gathered} \text { Reduction } \\ \left(\mathrm{Ft}^{3} / \mathrm{s}\right) \end{gathered}$ | Percent Reduction |
| 2 | 978 | 323 | 655 | 67\% | 0.31 | 0.10 | 0.21 | 68\% |
| 10 | 1,719 | 630 | 1,089 | 63\% | 0.54 | 0.20 | 0.34 | 63\% |
| 25 | 2,194 | 835 | 1,359 | 62\% | 0.68 | 0.27 | 0.41 | 60\% |



## Existing Conditions



Captured Roof \& Lawn
Drainage|Basins \& Cultecs


Un-Captured Pavement \& Lawn

Proposed Offsite Flows


Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method
Subcatchment1SA: Existing Conditions Runoff Area $=5,000$ sf $0.00 \%$ Impervious Runoff Depth $>2.35$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=89$ Runoff $=0.31 \mathrm{cfs} 978 \mathrm{cf}$

Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,716 sf 85.82\% Impervious Runoff Depth>2.93" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=95$ Runoff=$=0.20 \mathrm{cfs} 663 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,284 sf 16.42\% Impervious Runoff Depth>1.70" Tc=5.0 min UI Adjusted CN=81 Runoff=0.10 cfs 323 cf

Pond 1P: Drainage Basins \& Cultecs Peak Elev=31.21' Storage=251 cf Inflow=0.20 cfs 663 cf Discarded $=0.02$ cfs 662 cf Primary $=0.00$ cfs 0 cf Outflow=0.02 cfs 662 cf

Link 1L: Proposed Offsite Flows

Total Runoff Area $=10,000$ sf Runoff Volume $=1,964$ cf Average Runoff Depth $=\mathbf{2 . 3 6 "}$ 72.94\% Pervious $=7,294$ sf

Inflow=0.10 cfs 323 cf Primary $=0.10$ cfs 323 cf 27.06\% Impervious $=\mathbf{2 , 7 0 6} \mathbf{~ s f}$

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.31$ cfs @ 12.07 hrs, Volume= 978 cf, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | $89<$ | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 | 100.00\% Pervious Area |  |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entr |

Subcatchment 1SA: Existing Conditions


## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.20$ cfs @ 12.07 hrs, Volume= 663 cf , Depth> 2.93"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 | Roofs, HSG D |  |  |
|  | 684 | 98 | Roofs, HSG D |  |  |
|  | 194 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 191 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,716 | 95 | Weighted Average |  |  |
|  | 385 |  | 14.18\% Pervious Area |  |  |
|  | 2,331 |  | 85.82\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity <br> (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.10$ cfs @ 12.08 hrs, Volume $=323 \mathrm{cf}$, Depth> 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"


## Subcatchment 3SA: Un-Captured Pavement \& Lawn



## Summary for Pond 1P: Drainage Basins \& Cultecs

| Inflow Area = | 2,716 | 85.82\% Imperviou | 2 | 2.93" for 2 Year Frequency event |
| :---: | :---: | :---: | :---: | :---: |
| Inflow | 0.20 cfs @ | 12.07 hrs , Volume= | 663 cf |  |
| Outflow | 0.02 cfs @ | 11.45 hrs , Volume= | 662 cf, | Atten= 91\%, Lag= 0.0 min |
| Discarded | 0.02 cfs @ | 11.45 hrs , Volume= | 662 cf |  |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 31.21' @ 12.99 hrs Surf.Area= 208 sf Storage= 251 cf

Plug-Flow detention time $=111.5 \mathrm{~min}$ calculated for 662 cf ( $100 \%$ of inflow)
Center-of-Mass det. time $=110.7 \mathrm{~min}(887.8-777.1)$


Discarded OutFlow Max=0.02 cfs @ 11.45 hrs HW=28.93' (Free Discharge)
—1=Exfiltration (Exfiltration Controls 0.02 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.83' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

Pond 1P: Drainage Basins \& Cultecs
Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area =
5,000 sf, 54.12\% Impervious, Inflow Depth > 0.78" for 2 Year Frequency event Inflow = 0.10 cfs @ 12.08 hrs , Volume= 323 cf Primary =
0.10 cfs @ 12.08 hrs, Volume=

323 cf, Atten= 0\%, Lag= 0.0 min
Primary outflow $=$ Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

## Link 1L: Proposed Offsite Flows



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


Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,716 sf $85.82 \%$ Impervious Runoff Depth>4.78" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=95$ Runoff $=0.32 \mathrm{cfs} 1,083 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,284 sf $16.42 \%$ Impervious Runoff Depth>3.31" Tc=5.0 min UI Adjusted CN=81 Runoff=0.20 cfs 630 cf

Pond 1P: Drainage Basins \& Cultecs Peak Elev=33.30' Storage=454 cf Inflow=0.32 cfs 1,083 cf Discarded $=0.03$ cfs 1,054 cf Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow=$=0.03 \mathrm{cfs} 1,054 \mathrm{cf}$ 72.94\% Pervious $=\mathbf{7 , 2 9 4} \mathbf{~ s f} \quad \mathbf{2 7 . 0 6 \%}$ Impervious $=\mathbf{2 , 7 0 6} \mathbf{~ s f}$

Link 1L: Proposed Offsite Flows

Total Runoff Area $=10,000$ sf Runoff Volume $=3,432$ cf Average Runoff Depth $=4.12$ "

Inflow=0.20 cfs 630 cf Primary $=0.20$ cfs 630 cf

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.54$ cfs @ 12.07 hrs, Volume $=\quad 1,719 \mathrm{cf}$, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | 89 < | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 |  | 00.00\% P | rvious Are |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 1SA: Existing Conditions


## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.32$ cfs @ 12.07 hrs, Volume $=\quad 1,083 \mathrm{cf}$, Depth> 4.78"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 R | Roofs, HSG D |  |  |
|  | 684 | 98 R | Roofs, HSG D |  |  |
|  | 194 | 80 > | >75\% Grass cover, Good, HSG D |  |  |
|  | 191 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,716 | 95 | Weighted Average |  |  |
|  | 385 |  | 14.18\% Pervious Area |  |  |
|  | 2,331 |  | 85.82\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.20$ cfs @ 12.08 hrs , Volume $=\quad 630 \mathrm{cf}$, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | rea (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 98 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 102 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 149 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 26 | 98 | Unconnected Impervious, HSG D |  |  |
|  | 1,909 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,284 | 83 | 81 Weighted Average, UI Adjusted |  |  |
|  | 1,909 |  | 83.5 | \% Pervious | s Area |
| 375 16.42\% Impervious Area |  |  |  |  |  |
|  | 375 |  | 100.00\% Unconnected |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry, |

Subcatchment 3SA: Un-Captured Pavement \& Lawn


## Summary for Pond 1P: Drainage Basins \& Cultecs



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 33.30' @ 13.00 hrs Surf.Area= 321 sf Storage= 454 cf

Plug-Flow detention time $=198.0$ min calculated for 1,052 of ( $97 \%$ of inflow)
Center-of-Mass det. time $=181.7$ min (946.8-765.1)


Discarded OutFlow Max=0.03 cfs @ 13.00 hrs HW=33.30' (Free Discharge)
L-1=Exfiltration (Exfiltration Controls 0.03 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.83' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 1P: Drainage Basins \& Cultecs

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 5,000$ sf, $54.12 \%$ Impervious, Inflow Depth > 1.51" for 10 Year Frequency event Inflow $=0.20$ cfs @ 12.08 hrs , Volume= 630 cf Primary $=0.20 \mathrm{cfs}$ @ 12.08 hrs , Volume $=\quad 630 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

Primary outflow $=$ Inflow, Time Span= 0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows



Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ 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 1SA: Existing Conditions $\quad$ Runoff Area $=5,000 \mathrm{sf} \quad 0.00 \%$ Impervious Runoff Depth $>5.27$ "
Tc $=5.0 \mathrm{~min} \mathrm{CN}=89$ Runoff $=0.68 \mathrm{cfs} 2,194 \mathrm{cf}$

Subcatchment2SA: Captured Roof \& Lawn Runoff Area=2,716 sf $85.82 \%$ Impervious Runoff Depth $>5.96$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=95$ Runoff $=0.40 \mathrm{cfs} 1,348 \mathrm{cf}$

Subcatchment3SA: Un-Captured Pavement Runoff Area=2,284 sf 16.42\% Impervious Runoff Depth>4.39" Tc=5.0 min UI Adjusted CN=81 Runoff=0.27 cfs 835 cf

Pond 1P: Drainage Basins \& Cultecs Peak Elev=33.79' Storage=551 cf Inflow=0.40 cfs 1,348 cf Discarded $=0.05 \mathrm{cfs} 1,270 \mathrm{cf}$ Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow $=0.05 \mathrm{cfs} 1,270 \mathrm{cf}$

## Link 1L: Proposed Offsite Flows

Inflow=0.27 cfs 835 cf Primary=0.27 cfs 835 cf

Total Runoff Area $=10,000$ sf Runoff Volume $=4,377$ cf Average Runoff Depth $=5.25$ " 72.94\% Pervious $=\mathbf{7 , 2 9 4}$ sf 27.06\% Impervious $=\mathbf{2 , 7 0 6} \mathbf{~ s f}$

## Summary for Subcatchment 1SA: Existing Conditions

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.68$ cfs @ 12.07 hrs, Volume $=\quad 2,194$ cf, Depth> 5.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5,000 | $89<$ | <50\% Grass cover, Poor, HSG D |  |  |
|  | 5,000 | 100.00\% Pervious Area |  |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 1SA: Existing Conditions


## Summary for Subcatchment 2SA: Captured Roof \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.40$ cfs @ 12.07 hrs, Volume $=\quad 1,348 \mathrm{cf}$, Depth> 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,647 | 98 R | Roofs, HSG D |  |  |
|  | 684 | 98 R | Roofs, HSG D |  |  |
|  | 194 | 80 > | >75\% Grass cover, Good, HSG D |  |  |
|  | 191 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,716 | 95 | Weighted Average |  |  |
|  | 385 |  | 14.18\% Pervious Area |  |  |
|  | 2,331 |  | 85.82\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2SA: Captured Roof \& Lawn



## Summary for Subcatchment 3SA: Un-Captured Pavement \& Lawn

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.27$ cfs @ 12.07 hrs, Volume $=\quad 835 \mathrm{cf}$, Depth> 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | rea (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 98 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 102 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 149 | 98 | Unconnected Impervious, HSG D |  |  |
| * | 26 | 98 | Unconnected Impervious, HSG D |  |  |
|  | 1,909 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 2,284 | 83 | 81 Weighted Average, UI Adjusted |  |  |
|  | 1,909 |  | 83.5 | \% Pervious | s Area |
| 375 16.42\% Impervious Area |  |  |  |  |  |
|  | 375 |  | 100.00\% Unconnected |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry, |

Subcatchment 3SA: Un-Captured Pavement \& Lawn


## Summary for Pond 1P: Drainage Basins \& Cultecs

| Inflow Area = | 2,716 sf, | 85.82\% Impervious, | Inflow Depth > 5.96" for 25 Year Frequency event |
| :---: | :---: | :---: | :---: |
| Inflow | 0.40 cfs @ | 12.07 hrs , Volume= | 1,348 cf |
| Outflow | 0.05 cfs @ | 12.67 hrs , Volume= | 1,270 cf, Atten= 89\%, Lag= 36.2 min |
| Discarded = | 0.05 cfs @ | 12.67 hrs, Volume= | 1,270 cf |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 33.79' @ 12.67 hrs Surf.Area= 543 sf Storage= 551 cf

Plug-Flow detention time $=182.6 \mathrm{~min}$ calculated for $1,270 \mathrm{cf}$ ( $94 \%$ of inflow)
Center-of-Mass det. time $=150.1$ min (910.3-760.3)


Discarded OutFlow Max=0.05 cfs @ 12.67 hrs HW=33.79' (Free Discharge)
—1=Exfiltration (Exfiltration Controls 0.05 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.83' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 1P: Drainage Basins \& Cultecs

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 5,000$ sf, $54.12 \%$ Impervious, Inflow Depth > 2.00" for 25 Year Frequency event Inflow = 0.27 cfs @ 12.07 hrs, Volume= 835 cf Primary =
0.27 cfs @ 12.07 hrs, Volume=

835 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$
Primary outflow $=$ Inflow, Time Span= $0.00-24.00 \mathrm{hrs}, \mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows





NOAA Atlas 14, Volume 10, Version 3 Location name: Bridgeport, Connecticut, USA*

Latitude: $\mathbf{4 1 . 1 6 3 1}^{\circ}$, Longitude: $-73.2262^{\circ}$
Elevation: $23 \mathrm{ft}^{* *}$
source: ESRI Maps
** source: USGS

## POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland
PF tabular | PF_graphical | Maps \& aerials
PF tabular

| PDS-based point precipitation frequency estimates with 90\% confidence intervals (in inches) ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Duration | Average recurrence interval (years) |  |  |  |  |  |  |  |  |  |
|  | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.353 <br> $(0.281-0.439)$ | $\begin{gathered} \mathbf{0 . 4 2 0} \\ (0.333-0.522) \end{gathered}$ | 0.529 <br> $(0.418-0.660)$ | $\mathbf{0 . 6 1 9}$ <br> $(0.486-0.777)$ | 0.743 <br> $(0.563-0.972)$ | 0.837 <br> $(0.620-1.12)$ | 0.935 <br> $(0.669-1.29)$ | $\begin{gathered} 1.04 \\ (0.707-1.48) \\ \hline \end{gathered}$ | $\begin{gathered} 1.20 \\ (0.776-1.75) \\ \hline \end{gathered}$ | $\begin{gathered} 1.32 \\ (0.834-1.97) \\ \hline \end{gathered}$ |
| 10- | $\begin{gathered} \hline \mathbf{0 . 5 0 0} \\ (0.398-0.622) \\ \hline \end{gathered}$ | $\begin{array}{r} \mathbf{0} \\ 0.47 \\ \hline \end{array}$ | $\begin{array}{r} \mathbf{0} \\ (0.59 \\ \hline \end{array}$ | (0.6 | $\begin{gathered} 1.05 \\ (0798-1.38) \end{gathered}$ | $(0.878-1.58)$ | $(0.948-1.83)$ | $\begin{gathered} 1.48 \\ (1.00-2.09) \\ \hline \end{gathered}$ | $\begin{gathered} 1.69 \\ (1.10-2.48) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 1.87 \\ (1.18-2.79) \\ \hline \end{gathered}$ |
| 15 | 0.589 <br> $(0.468-0.732)$ | $(0.555-0.87$ |  |  | $\begin{gathered} \hline 1.24 \\ (0.939-1.62) \\ \hline \hline \end{gathered}$ |  |  |  | $\begin{gathered} 1.99 \\ (1.29-2.91) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 2 0} \\ (1.39-3.28) \\ \hline \end{gathered}$ |
| 30- |  | $(0.774-1.21)$ | (0.971-1.53) |  |  |  |  |  |  |  |
| 60 | $\begin{gathered} \hline 1.05 \\ (0.837-1.31) \\ \hline \hline \end{gathered}$ | $\begin{gathered} \hline 1.25 \\ (0.993-1.56) \\ \hline \hline \end{gathered}$ |  |  |  |  |  |  |  | $\begin{gathered} \hline 3.88 \\ (2.46-5.78) \\ \hline \end{gathered}$ |
| 2 |  |  |  |  |  |  |  |  |  |  |
| 3-hr | $\begin{gathered} 1.57 \\ (1.26-1.93) \\ \hline \end{gathered}$ | $\begin{gathered} 1.89 \\ (1.52-2.33) \end{gathered}$ | $\begin{gathered} \mathbf{2 . 4 1} \\ (1.92-2.98) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.25-3.53) \\ \hline \end{gathered}$ |  |  | $(3.15-5.97)$ | $\begin{gathered} \hline 4.88 \\ (3.33-6.83) \\ \hline \end{gathered}$ | 5.66 <br> $(3.69-8.18)$ | $\begin{gathered} \hline 6.30 \\ (4.00-9.29) \\ \hline \end{gathered}$ |
| 6 | $\begin{gathered} 1.98 \\ (1.60-2.42) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 3 9} \\ (1.93-2.92) \\ \hline \end{gathered}$ | $\begin{gathered} 3.06 \\ (2.46-3.75) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.61 \\ (2.89-4.45) \\ \hline \end{gathered}$ |  |  |  |  | (4.77-10.5) |  |
| 12-h | $\begin{gathered} \mathbf{2 . 4 4} \\ (1.98-2.96) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.95 \\ (2.40-3.58 \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.78 \\ (3.06-4.61) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 4.47 \\ (3.60-5.48) \\ \hline \end{gathered}$ |  |  |  | $\begin{gathered} \hline 7.78 \\ (5.34-10.7) \\ \hline \end{gathered}$ | $\begin{gathered} 9.10 \\ (5.98-13.0) \\ \hline \end{gathered}$ | $\begin{array}{c\|} \hline 10.2 \\ (6.53-14.8) \\ \hline \end{array}$ |
| 24 | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.33-3.42) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.47 \\ (2.84-4.18) \\ \hline \end{gathered}$ |  | $\begin{gathered} \hline 5.35 \\ (4.33-6.51) \\ \hline \end{gathered}$ |  |  |  |  | $\begin{gathered} 11.2 \\ (7.37-15.8) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 12.7 \\ (8.12-18.3) \\ \hline \end{gathered}$ |
| 2-day | $\begin{gathered} \hline 3.16 \\ (2.61-3.78) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.93 \\ (3.24-4.70) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.18 \\ (4.25-6.22) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 6.22 \\ (5.07-7.50) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 7.65 \\ (6.02-9.70) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 8.70 \\ (6.70-11.3) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 9.85 \\ (7.37-13.4) \\ \hline \end{array}$ | $\begin{gathered} 11.3 \\ (7.80-15.4) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (8.95-19.0) \end{gathered}$ | $\begin{gathered} 15.5 \\ (9.98-22.2) \\ \hline \end{gathered}$ |
| 3-d | $\begin{gathered} \hline 3.42 \\ (2.83-4.07) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{4 . 2 6} \\ (3.52-5.07) \\ \hline \end{gathered}$ | $\begin{gathered} 5.63 \\ (4.63-6.73) \\ \hline \end{gathered}$ | $\begin{gathered} 6.76 \\ (5.53-8.13) \\ \hline \end{gathered}$ |  | 9.48 <br> $(7.33-12.3)$ | $\begin{array}{c\|} \hline 10.7 \\ (8.07-14.5) \\ \hline \hline \end{array}$ | $\begin{gathered} \hline 12.3 \\ (8.54-16.7) \\ \hline \end{gathered}$ | $\begin{gathered} 14.8 \\ (9.83-20.8) \\ \hline \end{gathered}$ | $\begin{gathered} 17.0 \\ (11.0-24.3) \\ \hline \end{gathered}$ |
| 4-day | $\begin{gathered} 3.66 \\ (3.04-4.35) \\ \hline \end{gathered}$ | $\begin{gathered} 4.55 \\ (3.77-5.40) \\ \hline \end{gathered}$ | $\begin{gathered} 5.99 \\ (4.95-7.14) \\ \hline \end{gathered}$ | $\begin{gathered} 7.19 \\ (5.90-8.62) \\ \hline \end{gathered}$ | $\begin{gathered} 8.84 \\ (7.00-11.1) \\ \hline \end{gathered}$ | 10.0 <br> $(7.78-13.0)$ | $\begin{array}{c\|} \hline 11.4 \\ (8.56-15.3) \\ \hline \end{array}$ | $\begin{gathered} 13.0 \\ (9.06-17.6) \\ \hline \end{gathered}$ | $\begin{gathered} 15.7 \\ (10.4-21.9) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 18.0 \\ (11.6-25.5) \\ \hline \end{gathered}$ |
| 7-da | $\begin{gathered} \hline 4.38 \\ (3.66-5.17) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.33 \\ (4.44-6.30) \\ \hline \end{gathered}$ | $\begin{gathered} 6.88 \\ (5.72-8.16) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.17 \\ (6.74-9.74) \\ \hline \end{gathered}$ | $\begin{gathered} 9.95 \\ (7.91-12.4) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 11.3 \\ (8.75-14.4) \\ \hline \end{array}$ | $\begin{gathered} 12.7 \\ (9.55-16.9) \\ \hline \end{gathered}$ | 14.4 <br> $(10.1-19.4)$ | $\begin{gathered} 17.2 \\ (11.4-23.8) \end{gathered}$ | $\begin{array}{c\|} \hline 19.5 \\ (12.6-27.6) \\ \hline \end{array}$ |
| 10-day | $\begin{gathered} 5.07 \\ (4.25-5.96) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 6.06 \\ (5.08-7.14) \\ \hline \end{gathered}$ | $\begin{gathered} 7.68 \\ (6.40-9.07) \\ \hline \end{gathered}$ | $\begin{gathered} 9.03 \\ (7.48-10.7) \\ \hline \end{gathered}$ | $\begin{gathered} 10.9 \\ (8.67-13.5) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 12.3 \\ (9.53-15.6) \\ \hline \end{array}$ | $\begin{gathered} 13.7 \\ (10.3-18.2) \\ \hline \end{gathered}$ | 15.5 <br> $(10.8-20.7)$ | $\begin{gathered} 18.2 \\ (12.1-25.1) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 0 . 5} \\ (13.3-28.8) \\ \hline \end{gathered}$ |
| 20- | $\begin{gathered} \hline 7.15 \\ (6.04-8.35) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.24 \\ (6.95-9.63) \\ \hline \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.42-11.8) \\ \hline \end{gathered}$ | $\begin{gathered} 11.5 \\ (9.59-13.6) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (10.8-16.6) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 15.1 \\ (11.7-18.9) \\ \hline \end{array}$ | $\begin{gathered} 16.7 \\ (12.5-21.6) \end{gathered}$ | $\begin{array}{\|c\|} \hline 18.5 \\ (13.0-24.5) \\ \hline \end{array}$ | $\begin{gathered} 21.0 \\ (14.1-28.8) \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 3 . 1} \\ (15.0-32.2) \\ \hline \end{gathered}$ |
| 30-day | $\begin{gathered} 8.87 \\ (7.52-10.3) \\ \hline \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.50-11.7) \\ \hline \end{gathered}$ | $\begin{gathered} 11.9 \\ (10.1-13.9) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (11.3-15.9) \end{gathered}$ | $\begin{gathered} 15.7 \\ (12.6-19.1) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} 17.4 \\ (13.5-21.5) \\ \hline \end{array}$ | $\begin{gathered} 19.0 \\ (14.2-24.4) \\ \hline \end{gathered}$ | $\begin{gathered} 20.8 \\ (14.7-27.5) \\ \hline \end{gathered}$ | $\begin{gathered} 23.3 \\ (15.6-31.7) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 5 . 2} \\ (16.4-35.0) \\ \hline \end{gathered}$ |
| 45-day | $\begin{gathered} 11.0 \\ (9.37-12.7) \\ \hline \end{gathered}$ | $\begin{gathered} 12.3 \\ (10.4-14.2) \\ \hline \end{gathered}$ | $\begin{gathered} 14.3 \\ (12.1-16.6) \end{gathered}$ | $\begin{gathered} 16.0 \\ (13.4-18.7) \\ \hline \end{gathered}$ | $\begin{gathered} 18.3 \\ (14.7-22.1) \end{gathered}$ | $\begin{array}{\|c\|} \hline 20.1 \\ (15.7-24.8) \\ \hline \end{array}$ | $\begin{gathered} 21.9 \\ (16.4-27.8) \\ \hline \end{gathered}$ | $\begin{gathered} 23.7 \\ (16.8-31.1) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 6 . 0} \\ (17.6-35.3) \end{gathered}$ | $\begin{gathered} 27.8 \\ (18.1-38.5) \\ \hline \end{gathered}$ |
| 60-day | $\begin{gathered} 12.8 \\ (10.9-14.8) \\ \hline \end{gathered}$ | $\begin{gathered} 14.1 \\ (12.0-16.3) \\ \hline \end{gathered}$ | $\begin{gathered} 16.3 \\ (13.8-18.8) \\ \hline \end{gathered}$ | $\begin{gathered} 18.0 \\ (15.2-21.0) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 0 . 5} \\ (16.5-24.6) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{2 2 . 4} \\ (17.5-27.4) \\ \hline \end{array}$ | $\begin{gathered} \hline 24.3 \\ (18.1-30.6) \\ \hline \end{gathered}$ | 26.1 <br> $(18.5-34.1)$ | $\begin{array}{c\|} \hline \hline \mathbf{2 8 . 4} \\ (19.2-38.3) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline \mathbf{3 0 . 0} \\ (19.6-41.4) \\ \hline \end{array}$ |

[^6]PDS-based depth-duration-frequency (DDF) curves
Latitude: $41.1631^{\circ}$, Longitude: $-73.2262^{\circ}$


NOAA Atlas 14, Volume 10, Version 3
Created (GMT): Mon Oct 23 19:55:14 2023
Back to Top
Maps \& aerials
Small scale terrain


Large scale aerial


Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov
Disclaimer


## Secretary of the State of Connecticut Certificate of Organization

Domestic Limited Liability Company

## Filing Details

Filing Number: 0010122296 Number of Pages: 2 Filed On: 09/28/2021 11:47 AM

## Primary Details

Name of Limited Liability Company:
Business ALEI:
Business Email Address:
NAICS Information:

## Business Location

Principal Office Address:
Mailing Address:

JIJR Real Estate Holdings, LLC
US-CT.BER:2353134
vgonzalez@blumb.com
N/A

Appointment of Registered Agent Appointment of Statutory Agent for Service of Process

| Type: | Individual |
| :--- | :--- |
| Agent's Name: | Joseph lanelli |
| Business Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |
| Residence Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |
| Mailing Address: | 783 Reef Rd, Fairfield, CT, 06824-6547, United States |

## Agent Appointment Acceptance

Agent Signature: Joseph lanelli
This signature has been executed electronically


# Secretary of the State of Connecticut Certificate of Organization 

Domestic Limited Liability Company

Manager or Member Information

| Name | Title | Business Address | Residence Address |
| :--- | :--- | :--- | :--- |
| Joseph lanelli | Member | 783 Reef Rd, | 783 Reef Rd, |
|  |  | Fairfield, CT, | Fairfield, CT, |
|  |  | 06824-6547 | 06824-6547 |
|  |  | United States | United States |

## Acknowledgement

I hereby certify and state under penalties of false statement that all the information set forth on this document is true.

I hereby electronically sign this document on behalf of:
Name of Organizer: Joseph lanelli
Organizer Title: Member

Filer Name: VERONICA GONZALEZ
Filer Signature: VERONICA GONZALEZ
Execution Date: 09/28/2021
This signature has been executed electronically

## 264 SCOFIELD AVENUE - 100-FOOT ABUTTERS

| LOCATION | OWNER NAME | CO-OWNER NAME | OWNER ADDRESS | CITY | STATE | ZIPCODE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 247 SCOFIELD AV | KELLY MOLLY \& TRITTY |  | 247 SCOFIELD AV | BRIDGEPORT | CT | 06605-2929 |
| 232 SCOFIELD AV | FRENCH SPEAKING BAPT CHURCH | OF BPT | 155 SCOFIELD AVENUE | BRIDGEPORT | CT | 06605 |
| 257 SCOFIELD AV | NEW WAVE HOLDING LLC |  | 82 UNION AVENUE | NEW ROCHELLE | NY | 10801 |
| 287 HANSEN AV | WANDURAGALA MALALA ET AL | (SURV OF THEM) | 287 HANSEN AVENUE | BRIDGEPORT | CT | 06605 |
| 267 SCOFIELD AV | MIKOS GREGORY ETAL |  | 62 SIGWIN DR | FAIRFIELD | CT | 06284 |
| 277 SCOFIELD AV | W \& M PROPERTIES 2 LLC |  | 4640 MAIN ST | BRIDGEPORT | CT | 06606 |
| 290 HANSEN AV | SIMON RAMON ETAL |  | 290 HANSEN AVE | BRIDGEPORT | CT | 06605 |
| 276 HANSEN AV | VARELA DANIELS | LISABETE BARREIRA | 276 HANSEN AV | BRIDGEPORT | CT | 06605-2538 |
| 270 HANSEN AV | YAREMA MICHAEL S JR |  | 270 HANSEN AVENUE | BRIDGEPORT | CT | 06605 |
| 282 SCOFIELD AV | YAZBAK ALFRED |  | 170 MIDLAND ST | BRIDGEPORT | CT | 06605 |
| 139 DAVIS AV | 179 ORLAND ST LLC |  | 139 DAVIS AVE | BRIDGEPORT | CT | 06605-2558 |
| 127 DAVIS AV | MAHR ANDRAS |  | 606 POST RD EAST | WESTPORT | CT | 06880 |
| 111 DAVIS AV | SANCHEZ XAVIER | VALERIA BENAVIDES | 111 DAVIS AV | BRIDGEPORT | CT | 06605-2558 |
| 287 SCOFIELD AV | MONROE JOAN A |  | 169 WEST ROCKS RD | NORWALK | CT | 06851 |
| 254 SCOFIELD AV | JIJR REAL ESTATE HOLDINGS LLC |  | 357 COMMERCE DRIVE SUITE 320904 | FAIRFIELD | CT | 06825 |

## SHEET LIST

## Scofield Multi-Family

## 264 Scofield Ave Bridgeport, Ct

| PROJECT STATUS: |  |  | PROJECT DATA |  |
| :---: | :---: | :---: | :---: | :---: |
| Schematic Design |  |  |  |  |
| SCOPE OF WORK: |  |  |  |  |
|  |  |  |  |  |
| PROJECT TEAM: |  |  | VICINITY MAP: |  |
| Architect <br> Wiles+Architects, LLC 257 Naugatuck Avenue, <br> Milford, CT 06460 <br> ph \| 203-366-6003 fax | 203-583-3557 |  | Civil Engineer Cabezas-DeAngelis. Ilc 79 Elm Street Bridgeport, CT 06604 fax 203-33-8701 |  |  |








264 Scofield Ave - Double House A-







[^7]






$\qquad$

## PLANNING \& ZONING COMMISSION <br> APPLICATION

1. NAME OF APPLICANT: 375 Boston Ave LLC
2. Is the Applicant's name Trustee of Record? Yes No X

If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 375 Boston Avenue, Bridgeport, CT 06610
(number)
(street) (state)
(zip code)
4. Assessor's Map Information: Block No. 61/2016 Lot No. 2/A
5. Amendments to Zoning Regulations: (indicate) Article: N/A Section: $\qquad$
(Attach copies of Amendment)

7. Existing Zone Classification: MX2
8. Zone Classification requested: N/A
9. Describe Proposed Development of Property: Construction of a 697 SF addition to existing building for a proposed convenience store accessory to the existing fueling station use, a new fueling canopy, a proposed multi-family dwelling, landscaping and associates site improvements.

Approval(s) requested: Coastal Site Plan Review and Site Plan Review

\$ $\qquad$ Fee received

Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST

- Completed \& Signed Application Form
- A-2 Site Survey
- Building Floor Plans
- Completed Site / Landscape Plan
- Drainage Plan
- Building Elevations

E Written Statement of Development and Use

- Property Owner's List
- Fee
- Cert. of Incorporation \& Organization and First Report (Corporations \& LLC's)

PROPERTY OWNER'S ENDORSEMENT OF APPLICATION


Print Owner's Name


Owner's Signature

03/15/2024
Date

Date

# APPLICATION FOR REVIEW OF COASTAL SITE PLANS 

PREPARED FOR:<br>375 Boston Avenue, LLC

## 375 Boston Avenue BRIDGEPORT, CONNECTICUT

February 16, 2024


TABLE OF CONTENTS

Project Narrative

CAM Application Form

Figure A - Location Map

Figure B - FEMA Firm Map

Figure C - Coastal Resource Map (Per Coastal Master Plan of Bridgeport, Connecticut On file City of Bridgeport Engineering Department)

Figure D - Zone Map

## PROJECT NARRATIVE

This proposed development is located at 375 Boston Avenue and is known as Block 2016, Lot 2A per City of Bridgeport Assessor records. The parcel has a parcel area of $23,553 \pm$ square feet and is within zone MX2 with frontage on Concord Street. This parcel is currently occupied by an existing masonry building used as a vehicle repair facility. The pavement is in poor condition and the vegetation is not well kept. The total site grade change is approximately four feet pitching in a westerly direction.

The site is located within Zone X (Un-shaded) per FEMA FIRM Map Number 09001C0433G, Panel Number 433 of 626, Map Revised July 8, 2013.

The parcel is within the Pequonnock River Coastal Area Management Zone per Coastal Master Plan of Bridgeport, Connecticut (Sheet 4 of 4) found on file in the City of Bridgeport Engineering Department.

This site is located in a high traffic commercial corridor and is bounded by other commercial parcels and multi-unit residential buildings adjacent to Concord Street. The developer is proposing the construction of a zoning compliant, six unit, 3 story, residential building and a paved parking and driveway area adjacent to Concord Street. The existing masonry building will receive and addition on the westerly side and will be converted to a retail convenience store. Additionally, a six pump fueling station is proposed adjacent to Boston Avenue. The remainder of the site will be lawn/planting areas at the perimeter. Two storm drainage systems consisting of infiltration chambers have been designed for this development that will to contain the storm water run-off from the new roof and pavement areas. The storm water system complies with best management practices and aids in storm water quality.

This property will be developed in keeping with the integrity of this Zone. Construction is anticipated to have a duration of twenty-four months.

City of Bridgeport

## Zoning Department

## PLANNING AND ECONOMIC DEVELOPMENTI

45 Lyon Terrace • Bridgeport, Connecticut 06604
Telephone (203) 576-7217
Fax (203) 576-7213

## Application Form

Municipal Coastal Site Plan Review
For Projects Located Fully or Partially Within the Coastal Boundary
Please complete this form in accordance with the attached instructions and submit it with the appropriate plans to appropriate municipal agency.

## Section I: Applicant Identification

| Applicant: 375 Boston Ave, LLC $\qquad$ Date: $02 / 16 / 2024$ <br> Address: 375 Boston Avenue, Bridgeport, Connecticut 06610 Phone: $\qquad$ <br> Project Address or Location: 375 Boston Avenue, Bridgeport, Connecticut <br> Interest in Property: $V$ fee simple $\square$ option $\square$ lessee $\square$ easement $\square$ other (specify) $\qquad$ <br> List primary contact for correspondence if other than applicant: <br> Name: $\qquad$ Cabezas DeAngelis, LLC c/o Washington Cabezas <br> Address: 78 78 Elm Street <br> City/Town: Bridgeport $\qquad$ State: $\qquad$ CT Zip Code: $\qquad$ 06604 <br> Business Phone: 203-330-8700 $\qquad$ <br> e-mail: wcj@cd-engineers.com |
| :---: |
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## Section II: Project Site Plans

Please provide project site plans that clearly and accurately depict the following information, and check the appropriate boxes to indicate that the plans are included in this application:

> Project location
> Existing and proposed conditions, including buildings and grading
> N/A Coastal resources on and contiguous to the site
> N/A $\square$ High tide line [as defined in CGS Section 22a-359(c)] and mean high water mark elevation contours (for parcels abutting coastal waters and/or tidal wetlands only)

> Soil erosion and sediment controls
> Stormwater treatment practices
> Ownership and type of use on adjacent properties
> Reference datum (i.e., National Geodetic Vertical Datum, Mean Sea Level, etc.)

## Section III: Written Project Information

Please check the appropriate box to identify the plan or application that has resulted in this Coastal Site Plan Review:

\author{

| $\square$ | Site Plan for Zoning Compliance |
| :--- | :--- |
| $\square$ | Subdivision or Resubdivision |
| $\square$ | Special Permit or Special Exception |
| $\square$ | Variance |
| $\square$ | Municipal Project (CGS Section 8-24) |

}

## Part I: Site Information

1. Street Address or Geographical Description: 375 Boston Avenue Bridgeport, Connecticut

City or Town:
2. Is project or activity proposed at a waterfront site (includes tidal wetlands frontage)?

3. Name of on-site, adjacent or downstream coastal, tidal or navigable waters, if applicable:

Pequonnock River
4. Identify and describe the existing land use on and adjacent to the site. Include any existing structures, municipal zoning classification, significant features of the project site:
Existing land use for this site is a vehicle repair facility to be converted to a fueling station with a convenience store and a new six unit residential building. Present land use within the vicinity of this parcel is a mixture of commercial buildings consisting of retail use, other fueling stations, multi-family buildings, nearby and a religious assemblies. The proposed development is an allowed use within this zone and coincides with the general character of the neighborhood.
5. Indicate the area of the project site: $\qquad$ acres or square feet (circle one)
6. Check the appropriate box below to indicate total land area of disturbance of the project or activity (please also see Part II.B. regarding proposed stormwater best management practices):


Project or activity will disturb 5 or more total acres of land area on the site. It may be eligible for registration for the Department of Environmental Protection's (DEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities
 Project or activity will disturb one or more total acres but less than 5 total acres of land area. A soil erosion and sedimentation control plan must be submitted to the municipal land use agency reviewing this application. Project or activity will not disturb 1 acre total of land area. Stormwater management controls may be required as part of the coastal site plan review.
7. Does the project include a shoreline flood and erosion control structure as defined in CGS section 22a-109(d) $\square$ Yes No

## Part II.A.: Description of Proposed Project or Activity

Describe the proposed project or activity including its purpose and related activities such as site clearing, grading, demolition, and other site preparations; percentage of increase or decrease in impervious cover over existing conditions resulting from the project; phasing, timing and method of proposed construction; and new uses and changes from existing uses (attach additional pages if necessary):

The project consists of the construction of a 3 story, six unit residential building, a convenience store addition and a fueling station. The residential building will be accessed from Concord Street by a new driveway access and served by four parking stalls. The fueling station and the convenience store will be accessed from Boston Avenue. The existing pavement will be removed and replaced to provide new parking stalls, fueling_ pump areas and a refuse pad. Remaining perimeter areas will be converted to landscape buffers and lawn areas and will provide a minimum of $20 \%$ landscape areas as required by zoning. All construction will be confined to the parcel boundary using perimeter soil and erosion controls as a barrier. Construction is anticipated to be completed within twenty-four (24) months from commencement. Activity will be overseen by the developer who is well versed and experienced with fuel station construction. This property will be developed in keeping with the integrity of this zone. Approvals by the Zoning Planning Commission is required under Coastal Site Plan review.

## Part II.B.: Description of Proposed Stormwater Best Management Practices

> Describe the stormwater best management practices that will be utilized to ensure that the volume of runoff generated by the first inch of rainfall is retained on-site, especially if the site or stormwater discharge is adjacent to tidal wetlands. If runoff cannot be retained on-site, describe the site limitations that prevent such retention and identify how stormwater will be treated before it is discharged from the site. Also demonstrate that the loadings of total suspended solids from the site will be reduced by 80 percent on an average annual basis, and that post-development stormwater runoff rates and volumes will not exceed pre-development runoff rates and volumes (attach additional pages if necessary): Storm water run-off from the structures and pavement will be routed to two underground infiltration systems. Primary stormwater treatments will be implemented to comply with Best Management Practices (BMP's). The proposed infiltration system will provide water quantity requirements which will aid in the attenuation of storm water run-off. Pre- and postdevelopment stormwater run-off rates and volumes were computed using the TR- 55 method. Water quality volume (WQV) was determined using methods as outlined in CT DEEP Stormwater Quality Manual (SWQM). The proposed stormwater management systems demonstrates the reduction in peak flow rates and overall site runoff volumes. This primary treatment method will remove at least $80 \%$ of the average annual total suspended solids (TSS) load.

## Part III: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated policies that apply to the project by placing a check mark in the appropriate box(es) in the following table.

| Coastal ResOurces |  |  | Off-site <br> but <br> within <br> the <br> influence <br> of <br> project | Not <br> Applicable |
| :--- | :--- | :--- | :--- | :---: |
| General Coastal Resources* - Definition: CGS Section 22a-93(7); <br> Policy: CGS Section 22a-92(a)(2) |  |  |  |  |
| Beaches \& Dunes - Definition: CGS Section 22a-93(7)(C); Policies: <br> CGS Sections 22a-92-(b)(2)(C) and 22a-92(c)(1)(K) |  | Adjacent |  |  |

[^8]
## Part IV: Consistency with Applicable Coastal Resource Policies and Standards

Describe the location and condition of the coastal resources identified in Part III above and explain how the proposed project or activity is consistent with all of the applicable coastal resource policies and standards; also see adverse impacts assessment in Part VII.A below (attach additional pages if necessary):

Complies w/ CGS 22a-92(a)(1) "...by promoting economic growth without significantly disrupting the environment..."
Complies w/ CGS 22a-92(b)(2)(F) "...manage coastal hazard areas to minimize hazards to property..."
Complies w/ CGS 22a-92(c)(2)(B) "...maintain patterns of water circulation in the placement of drainage control structures..."

## Part V: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all coastal policies and standards in or referenced by CGS Section 22a-92 applicable to the proposed project or activity:
$X$ General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), and 22a-92(a)(9)
Water-Dependent Uses** - CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A);
Definition CGS Section 22a-93(16)Ports and Harbors - CGS Section 22a-92(b)(1)(C)
Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
Dredging and Navigation - CGS Sections 22a-92(c)(1)(C) and 22a-92(c)(1)(D)
Boating - CGS Section 22a-92(b)(1)(G)
Fisheries - CGS Section 22a-92(c)(1)(I)
Coastal Recreation and Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j) and 22a-92(c)(1)(K)
Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
Fuel, Chemicals and Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E) and 22a-92(c)(1)(A)

Transportation - CGS Sections 22a-92(b)(1)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), and
22a-92(c)(1)(H)
Solid Waste - CGS Section 22a-92(a)(2)
Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
Cultural Resources - CGS Section 22a-92(b)(1)(J)
Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* General Development policies are applicable to all proposed activities
** Water-dependent Use policies are applicable to all activities proposed at waterfront sites, including those with tidal wetlands frontage.


## Part VI: Consistency With Applicable Coastal Use Policies And Standards

> Explain how the proposed activity or use is consistent with all of the applicable coastal use and activity policies and standards identified in Part V. For projects proposed at waterfront sites (including those with tidal wetlands frontage), particular emphasis should be placed on the evaluation of the project's consistency with the water-dependent use policies and standards contained in CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A) -- also see adverse impacts assessment in Part VII.B below (attach additional pages if necessary):
> No adverse impacts were_determined on off-site coastal resources. Stormwater treatment. is proposed which will help reduce erosion impacts as well as provide water infiltration. This project will be limited to the confines of the site and will be completed within twentyfour (24) months. All disturbed areas will be loamed, seeded and planted upon completion of construction. The proposed building will have new connections to the street utilities.

## Part VII.A.: Identification of Potential Adverse Impacts on Coastal Resources

Please complete this section for all projects.
Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(15). If an adverse impact may result from the proposed project or activity, please use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on Coastal Resources | Applicable | Not Applicable |
| :---: | :---: | :---: |
| Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments through significant alteration of their natural characteristics or functions - CGS Section 22a-93(15)(H) |  | S |
| Increasing the hazard of coastal flooding through significant alteration of shoreline configurations or bathymetry, particularly within high velocity flood zones - CGS Section 22a-93(15)(E) |  | S |
| Degrading existing circulation patterns of coastal water through the significant alteration of patterns of tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours CGS Section 22a-93(15)(B) |  | 3 |
| Degrading natural or existing drainage patterns through the significant alteration of groundwater flow and recharge and volume of runoff - CGS Section 22a-93(15)(D) |  | S |
| Degrading natural erosion patterns through the significant alteration of littoral transport of sediments in terms of deposition or source reduction CGS Section 22a-93(15)(C) |  | 8 |
| Degrading visual quality through significant alteration of the natural features of vistas and view points - CGS Section 22a-93(15)(F) |  | 8 |
| Degrading water quality through the significant introduction into either coastal waters or groundwater supplies of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH , dissolved oxygen or salinity - CGS Section 22a-93(15)(A) |  | 2 |
| Degrading or destroying essential wildlife, finfish, or shellfish habitat through significant alteration of the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significant alterations of the natural components of the habitat CGS Section 22a-93(15)(G) |  | 3 |

## Part VII.B.: Identification of Potential Adverse Impacts on Water-dependent Uses

Please complete the following two sections only if the project or activity is proposed at a waterfront site:

1. Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(17). If an adverse impact may result from the proposed project or activity, use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on <br> Future Water-dependent Development Opportunities and Activities | Applicable | Not Applicable |
| :---: | :---: | :---: |
| Locating a non-water-dependent use at a site physically suited for or planned for location of a water-dependent use - CGS Section 22a-93(17) |  | $\otimes$ |
| Replacing an existing water-dependent use with a non-waterdependent use - CGS Section 22a-93(17) |  | S |
| Siting a non-water-dependent use which would substantially reduce or inhibit existing public access to marine or tidal waters - CGS Section 22a-93(17) |  | W |

2. Identification of existing and/or proposed Water-dependent Uses

Describe the features or characteristics of the proposed activity or project that qualify as water-dependent uses as defined in CGS Section 22a-93(16). If general public access to coastal waters is provided, please identify the legal mechanisms used to ensure public access in perpetuity, and describe any provisions for parking or other access to the site and proposed amenities associated with the access (e.g., boardwalk, benches, trash receptacles, interpretative signage, etc.)*:

Not applicable as the parcel is not in the immediate vicinity of the Pequonnock River and there is no water dependent use applicable to this site. Proposed development will consist of a fueling station, a convenience store and a six unit, residential building with dedicated parking areas for each proposed use. The residential building will be accessed from Concord Street only and the fueling station with convenience store will be accessed from Boston Avenue only.

[^9]
## Part VIII: Mitigation of Potential Adverse Impacts

Explain how all potential adverse impacts on coastal resources and/or future water-dependent development opportunities and activities identified in Part VII have been avoided, eliminated, or minimized (attach additional pages if necessary):

No adverse impacts were determined on adjacent or nearby coastal resources. The proposed activity will be constructed with the appropriate soil erosion and control measures and will include the design of a storm drainage system to ensure there will be no adverse impact on the adjoining properties. The proposed perimeter landscape and lawn areas will also help reduce erosion and provide storm water quality.
$\qquad$
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## Part IX: Remaining Adverse Impacts

Explain why any remaining adverse impacts resulting from the proposed activity or use have not been mitigated and why the project as proposed is consistent with the Connecticut Coastal Management Act (attach additional pages if necessary):

No adverse impacts resulting from the proposed activity is anticipated and appropriate measures will be utilized and designed as outlined above.
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SCALE: $1^{\prime \prime}=500^{\prime}$

## Cabezas <br> DeAngelis

ENGINEERS \& SURVEYORS
78 ELM STREET, BRIDGEPORT, CT 06604 P:203 3308700 • $F: 2033308701$

| FEMA FIRM MAP <br> MAP NUMBER O9001C0433G <br> MAP REVISED JULY 8, 2013 <br> 375 BOSTON AVE, LLC <br> 3B5 BOSTON AVENE <br> BRIDGEPORT, CONNECTCUT <br> DATE: FEBRUARY 16, 2024 FIGURE B |
| :---: | :---: |



SCALE: $1^{\prime \prime}=500^{\prime}$

## Cabezas $\triangle$ DeAngelis <br> ENGINEERS \& SURVEYORS

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Cabezas
DeAngelis
ENGINEERS \& SURVEYORS
78 ELM STREET, BRIDGEPORT, CT 06604 P:203 3308700 • $\mathrm{F}: 2033308701$

## BRIDGEPORT ZONE MAP

## 375 BOSTON AVE, LLC <br> 375 BOSTON AVENUE <br> BRIDGEPORT, CONNECTICUT

DATE: FEBRUARY 16, 2024 FIGURE D
iam S. Burke iam@russorizio.com
'olin B. Connor olin@russorizio.com

Villiam J. Fitzpatrick, III
FFitzpatrick@russorizio.com
manda T. Heffernan manda@russorizio.com lavid K. Kurata 'Kurata@russorizio.com tanton H. Lesser ${ }^{+}$ tanton@russorizio.com
ictoria L. Miller ${ }^{4}$
ictoria@russorizio.com
nthony J. Novella*
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110 Merchants Row, Suite 3 Rutland, VT 05702 Tel 8o2-251-6556

March 15, 2024

Paul Boucher<br>Zoning Administrator<br>Zoning Department<br>45 Lyon Terrace<br>Bridgeport, CT 06604<br>HAND-DELIVERED

## Re: Petition for Coastal Site Plan Review and Site Plan Review - 375 Boston Avenue

Dear Mr. Boucher:

Please accept the following narrative and enclosed application materials as part of an application for coastal site plan review and site plan review under the Bridgeport Zoning Regulations (the "Regulations") for the property located at 375 Boston Avenue (the "Site") to construct a 697 SF addition to the existing $1,492 \mathrm{SF}$ building on the Site for a proposed retail convenience store in connection with the existing fueling station use. In addition, the Applicant proposes to replace the existing fuel pump canopy with six (6) fuel pumps along Boston Avenue as well as construct a threestory multifamily residential building containing six (6) dwelling units along with associated Site improvements and landscaping in the MX2 Zone under the Commercial Center building type.

## Narrative

The Site contains two (2) street frontages along Boston Avenue and Concord Street. Boston Avenue is obviously a major commercial corridor while Concord Street mainly contains residential dwellings. The Applicant proposes a mixed-use development that will transition between the two (2) streets. To the West, the Site abuts a commercial property containing a KFC restaurant, and to the East, the Site abuts a commercial retail building. The Site itself contains an existing 1,492 SF automotive service building containing three (3) service bays. It also contains a dilapidated fuel pump canopy. The Applicant proposes to construct a 697 SF one-story addition to the existing building and converting it to a convenience store. The redesign of the Site will create seven (7) parking spaces in front of the proposed building for customers to the convenience store. In addition, the Applicant proposes to reorient the new fuel pump canopy, so it is perpendicular to Boston Avenue. This reorientation allows for greater stacking and access to the fuel pumps. An addition four (4) parking spaces are able to be created on the northern part of the Site, which will have access to an air pump, vacuum and electric charging station. The redesign also allows for extensive landscaping along the frontage and perimeter of the Site to enhance the visual appearance
of the Site. The Applicant proposes an interior concrete walk that connects the public sidewalk directly to the convenience store entrance thereby enhancing pedestrian connectivity.

On the northern half of the Site, the Applicant proposes to construct a three-story residential building containing six (6) dwelling units. This building and use are a perfect transition between the busy commercial corridor of Boston Avenue and the residential Concord Street. It provides a buffer in both use and appearance. It screens the commercial Boston Avenue. The dwelling will be accessed from Concord Street into a parking area containing four (4) off-street parking spaces. This area of the Site will also feature extensive landscaping to buffer the neighboring residential dwellings.

## Site Plan Review

The Petition satisfies Sec. 11.70 Site Plan Review standards of the Regulations as it fully complies with the standards of the Regulations. The design of the proposed buildings and landscaping create a harmonious building-street interaction providing a tremendous improvement to the existing streetscape from the existing dilapidated site. The proposed uses and buildings present a perfect transition from the busy commercial corridor to the residential street. The scale and proportion of the buildings conform to the MX2 Zone development standards for the Commercial. The Petition proposes significant landscaping along the perimeter and street frontage. The proposed use will be a tremendous complement to the surrounding commercial and residential areas as a vital resource to the range of activities that occur in the area. It is an ideal rehabilitation of the Site.

## Coastal Site Plan Review

The Petition also complies with Section 11.80 of the Regulations regarding coastal site plan review. As stated above, the Petition fully complies with the site plan review standards of the Regulations. The Petition poses no danger or threat to coastal resources and it has no potential adverse impacts. The proposed area for development is located a significant distance from the Pequonnock River, which is the nearest coastal resource. The proposed building and Site improvements will all be constructed in accordance with current codes and regulations, including the appropriate stormwater drainage systems. Sediment and erosion controls, such as silt fencing and anti-tracking aprons, will be utilized during construction. Storm water run-off from the structures and pavement will be routed to two (2) underground infiltration systems utilizing Best Management Practices and attenuating storm water run-off. The proposed systems will reduce peak flow rates and overall Site runoff volumes. No adverse impacts were determined for off-Site coastal resources. Construction is anticipated to be completed within twenty-four (24) months. There could be no possibility of a water-dependent use as the Site is not in the vicinity of the Pequonnock River.

For the above-stated reasons, the Application satisfies all the applicable standards of the Regulations and the Applicant respectfully requests its approval.


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PROPERTIES WITHIN 100＇OF 375 BOSTON AVENUE




## DESIGN REPORT

## STORMWATER MANAGEMENT SYSTEM

## 375 Boston Avenue Bridgeport, Connecticut



Prepared By:

## GENERAL INFORMATION

Per the City of Bridgeport Tax Assessor records, 375 Boston Avenue is listed as Block 2016, Lot 2A. The parcel has a parcel area of $\mathbf{2 3 , 5 5 3} \pm$ square feet and is within zone MX2 with frontage on Concord Street. This parcel is currently occupied by an existing masonry building used as a vehicle repair facility. The pavement is in poor condition and the vegetation is not well kept. The total site grade change is approximately four feet pitching in a westerly direction.
The site is NOT within a FEMA Special Flood Hazard Zone. The site is within Zone X (Un-shaded) per FEMA FIRM Map Number 09001C0433G, Panel Number 433 of 626, Map Revised July 8, 2013.
Sanitary sewer, gas, water and electric services are available on Boston Avenue and Concord Street. Proposed Improvements include the construction of a 3 story, six unit building and a paved parking area adjacent to Concord Street. A one story addition is proposed on the westerly side of the existing masonry building, a six pump fueling station with adjacent parking areas and perimeter landscape buffers. The masonry building and addition will serve as a future convenience store. Two underground, infiltration systems have been designed for this development. "Drainage System I" will serve the convenience store and fueling station and "Drainage System II" will serve the six unit apartment building. The roofed and paved areas will discharge into the underground, drainage chambers. The chambers are designed with overflow devices that discharge into adjacent City rights-of-way. This report is partitioned into two drainage areas and analyzed accordingly. Under this analysis, the proposed conditions will accommodate the theoretical storage volume and peak flow rates required by the City of Bridgeport Storm Management Manual and Best Management Practices (BMP). All remaining yard areas are to be loamed and seeded to establish good grass cover.

## DESIGN METHODOLOGY

The stormwater runoff resulting from the existing and proposed conditions was analyzed using a 24 -hour, 2year, 10-year, 25-year, and 50-year frequency, Type III storm event. HydroCAD software was used to run the storm analysis based on the SCS TR-20 method. A 2-year storm frequency for the Bridgeport area has a rainfall of 3.48 inches, a 10-year storm frequency has a rainfall of 5.37 inches, a 25 -year storm frequency has a rainfall of 6.55 inches, and a 50 -year storm frequency has a rainfall of 7.42 inches per NOAA Point Precipitation Frequency Estimates. The minimum time of concentration of five (5) minutes is utilized as a conservative option. Hydrographs are also included in this report reflecting runoff information for the existing and proposed conditions under the $2,10,25$ and 50 -year storm events.

## DRAINAGE ANALYSIS I (Fueling Station and Convenience Store)

Hydrographs provided the following information for the $\mathbf{5 0}$ year storm event and a runoff area of $\mathbf{1 7 , 2 8 1} \mathbf{F t}^{2}$

## Offsite Peak Flow Reduction

Existing Peak Flow Rate: 3.29 Ft ${ }^{3} / \mathbf{s}\left(10 \%\right.$ Reduction Requirement $\left.=3.29 \times 0.9=2.96 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Peak Flow Rate: $\mathbf{0 . 4 5} \mathrm{Ft}^{3} / \mathrm{s}\left(0.58 \mathrm{Ft}^{3} / \mathrm{s}\right.$ Allowed)
Proposed Peak Flow Rate Reduction: $\mathbf{2 . 8 4} \mathrm{Ft}^{3} / \mathrm{s}\left(3.29 \mathrm{Ft}^{3} / \mathrm{s}-0.45 \mathrm{Ft}^{3} / \mathrm{s}\right)$ or $\mathbf{8 6 \%}$ ( $2.84 \mathrm{Ft}^{3} / \mathrm{s} / 3.29 \mathrm{Ft}^{3} / \mathrm{s} \times 100=86 \%$ )

## Offsite Runoff Volume Reduction

Existing Conditions Runoff Volume: 10,169 Ft ${ }^{3}$
$10 \%$ Reduction Runoff Requirement: 1,016.9 Ft ${ }^{3}$
Maximum Runoff Volume Allowed: 9,152.1 $\mathrm{Ft}^{3}$
Proposed Conditions Runoff Volume: 1,392 $\mathrm{Ft}^{3}$
Proposed Volume Reduction: 8,777 $\mathrm{Ft}^{3}$ or $\mathbf{8 6 \%}(8,777 / 10,169 \times 100=86 \%)$

## PROPOSED DRAINAGE SYSTEM I

The proposed system in drainage area I consists of four rows of nine 330HD Cultec Chambers for a total of 36 330 HD Cultec Chambers. The chambers provide a storage capacity of $3,499 \mathrm{Ft}^{3}$ which includes the crushedstone envelope surrounding the chambers and four catch basins. PVC pipe volume connecting each device is not included. The calculations for sizing the system are included below. Filter Fabric to be installed on all sides of crushed stone.

## Stormwater Storage - Required

## From hydrographs of 50-Year Event:

Pre Conditions Runoff Volume $=10,169 \mathrm{Ft}^{3}$
$10 \%$ Storm Runoff Volume Reduction $=1,016.9 \mathrm{Ft}^{3}\left(50\right.$-Year Storm Event $\left.=0.10\left(10,169 \mathrm{Ft}^{3}\right)=1,016.9 \mathrm{Ft}^{3}\right)$
Allowed Runoff Volume Per City: 10,169-1,016.9 = 9,152.1 Ft ${ }^{3}$
Post Conditions Runoff Volume: 1,392 Ft³ (See Hydrograph Summary "Proposed Offsite Flows")

## Water Quality Equation

WQV= 1" RA/12 and R = 0.05+0.009(\% Proposed Impervious)
$R=0.05+0.009(81 \%)=0.7790$
WQV = 1" (0.7790) (0.397)/12 = 0.0258 Acre-Ft $=1,123.8 \mathrm{Ft}^{3}$
Pre Conditions Runoff Volume $=10,169 \mathrm{Ft}^{3}$
Allowed Runoff Volume Per $W Q V=10,169-1,123.8=9,045.2$ Ft $^{3}$
Post Conditions Runoff Volume: 1,392 Ft ${ }^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")
Design Storage (See Hydrograph Summary "Pond 1P")
Four rows of Nine, 330HD Cultec Chambers $=1,922 \mathrm{Ft}^{3}$
Crushed-Stone Envelope $\left.=\left((21 \mathrm{Ft} \times 65 \mathrm{Ft} \times 4 \mathrm{Ft})-1,922 \mathrm{Ft}^{3}\right)\right) \times 0.4=\mathbf{1 , 4 1 5} \mathrm{Ft}^{\mathbf{3}}$
Two Catch Basins $=(2.5 \mathrm{Ft} \times 4 \mathrm{Ft} \times 4 \mathrm{Ft}) \times 2=80 \mathrm{Ft}^{3}$
Two Catch Basins $=(2.5 \mathrm{Ft} \times 4 \mathrm{Ft} \times 4.1 \mathrm{Ft}) \times 2=82 \mathrm{Ft}^{3}$
Total Anticipated Storage $=3,499 \mathrm{Ft}^{3}$

| Pre Vs. Post Runoff (Commercial Use) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Storm Frequency | PreConditions $\left(\mathrm{Ft}^{3}\right)$ | $\qquad$ | $\begin{aligned} & \text { Reduction } \\ & \left(\mathrm{Ft}^{3}\right) \end{aligned}$ | Percent Reduction | $\begin{gathered} \text { Pre-Peak } \\ \text { Flows } \\ \left(\mathrm{Ft}^{3} / \mathrm{s}\right) \\ \hline \end{gathered}$ | Post Peak Flows (Ft ${ }^{3} / \mathrm{s}$ ) | Reduction $\left(\mathrm{Ft}^{3} / \mathrm{s}\right)$ | Percent Reduction |
| 2 | 4,528 | 446 | 4,082 | 90\% | 1.52 | 0.14 | 1.38 | 91\% |
| 10 | 7,223 | 881 | 6,342 | 88\% | 2.37 | 0.28 | 2.09 | 88\% |
| 25 | 8,918 | 1,172 | 7,746 | 87\% | 2.90 | 0.38 | 2.52 | 87\% |
| 50 | 10,169 | 1,392 | 8,777 | 86\% | 3.29 | 0.45 | 2.84 | 86\% |

## DRAINAGE ANALYSIS II (Six Unit Apartment Building)

Hydrographs provided the following information for the $\mathbf{5 0}$ year storm event and a runoff area of 6,272 $\mathrm{Ft}^{2}$

## Offsite Peak Flow Reduction

Existing Peak Flow Rate: 1.17 Ft ${ }^{3} / \mathrm{s}\left(10 \%\right.$ Reduction Requirement $\left.=1.17 \times 0.9=1.05 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Peak Flow Rate: $0.33 \mathrm{Ft}^{3} / \mathrm{s}$ ( $1.05 \mathrm{Ft}^{3} / \mathrm{s}$ Allowed)
Proposed Peak Flow Rate Reduction: 0.84 Ft³ ${ }^{3}$ ( $1.17 \mathrm{Ft}^{3} / \mathrm{s}-0.33 \mathrm{Ft}^{3} / \mathrm{s}$ ) or $\mathbf{7 2 \%}$ ( $0.84 \mathrm{Ft}^{3} / \mathrm{s} / 1.17 \mathrm{Ft}^{3} / \mathrm{s} \times 100=72 \%$ )

## Offsite Runoff Volume Reduction

## Existing Conditions Runoff Volume: 3,443 $\mathrm{Ft}^{3}$

10\% Reduction Runoff Requirement: $344.3 \mathrm{Ft}^{3}$
Maximum Runoff Volume Allowed: $3,098.7 \mathrm{Ft}^{3}$
Proposed Conditions Runoff Volume: 1,032 $\mathrm{Ft}^{3}$
Proposed Volume Reduction: 2,411 Ft ${ }^{3}$ or 70\% (2,411 $\left.3,443 \times 100=70 \%\right)$

## PROPOSED DRAINAGE SYSTEM II

The proposed system in drainage area II consists of two rows of five 330HD Cultec Chambers for a total of ten 330 HD Cultec Chambers. The chambers provide a storage capacity of $909 \mathrm{Ft}^{3}$ which includes the crushedstone envelope surrounding the chambers. PVC pipe volume connecting each device is not included. The calculations for sizing the system are included below. Filter Fabric to be installed on all sides of crushed stone.

## Stormwater Storage - Required

## From hydrographs of 50-Year Event:

Pre Conditions Runoff Volume $=3,443 \mathrm{Ft}^{3}$
$10 \%$ Storm Runoff Volume Reduction $=344.3 \mathrm{Ft}^{3}\left(50-\right.$ Year Storm Event $\left.=0.10\left(3,443 \mathrm{Ft}^{3}\right)=344.3 \mathrm{Ft}^{3}\right)$
Allowed Runoff Volume Per City: 3,443-344.3=3,098.7 Ft ${ }^{3}$
Post Conditions Runoff Volume: 1,032 $\mathrm{Ft}^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")

## Water Quality Equation

WQV= 1" RA/12 and R = 0.05+0.009(\% Proposed Impervious)
$R=0.05+0.009(61 \%)=0.5990$
WQV $=1$ " ( 0.5990 ) ( 0.144 )/12 $=0.0078$ Acre-Ft $=339.8 \mathrm{Ft}^{3}$
Pre Conditions Runoff Volume $=3,443 \mathrm{Ft}^{3}$
Allowed Runoff Volume Per WQV = 3,443-339.8 = 3,103.2 Ft ${ }^{3}$
Post Conditions Runoff Volume: 1,032 Ft ${ }^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")
Design Storage (See Hydrograph Summary "Pond 2P")
Two rows of Five, 330HD Cultec Chambers = $544 \mathrm{Ft}^{3}$
Crushed-Stone Envelope $\left.=\left((11.25 \mathrm{Ft} \times 37 \mathrm{Ft} \times 3.50 \mathrm{Ft})-544 \mathrm{Ft}^{3}\right)\right) \times 0.4=365 \mathrm{Ft}^{3}$
Total Anticipated Storage $=909 \mathrm{Ft}^{3}$

| Pre Vs. Post Runoff (Multi-Residential) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Storm <br> Frequency | PreConditions $\left(\mathrm{Ft}^{3}\right)$ | $\qquad$ | Reduction $\left(\mathrm{Ft}^{3}\right)$ | Percent Reduction | Pre-Peak Flows (Ft ${ }^{3} / \mathrm{s}$ ) | $\qquad$ | Reduction $\left(\mathrm{Ft}^{3} / \mathrm{s}\right)$ | Percent Reduction |
| 2 | 1,424 | 330 | 1,094 | 77\% | 0.51 | 0.11 | 0.40 | 78\% |
| 10 | 2,384 | 653 | 1,731 | 73\% | 0.82 | 0.21 | 0.61 | 74\% |
| 25 | 2,993 | 869 | 2,124 | 71\% | 1.02 | 0.28 | 0.74 | 73\% |
| 50 | 3,443 | 1,032 | 2,411 | 70\% | 1.17 | 0.33 | 0.84 | 72\% |



| SCALE: $1^{\prime \prime}=30^{\prime}$ |
| :--- |
| FIELD FILE: 375 boston survey.rw5 |
| PROJECT NO. CD 1713 |
| DATE: February 16,2023 |
| CAD FILE: 375 Boston Ave_SDP.dwg |
| SHEET 1 OF 1 |
| REV: |



| SCALE: $1^{\prime \prime}=30^{\prime}$ |
| :--- |
| FIELD FILE: 375 boston survey.rw5 |
| PROJECT NO. CD1713 |
| DATE: February 16,2023 |
| CAD FILE: 375 Boston Ave_SDP.dwg |
| SHEET 1 OF 1 |
| REV: |

## Drainage Analysis I Fueling Station and Convenience Store



Existing Conditions


Captured Roof \& Pavement Link

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


Subcatchment3S: Captured Roof \&

SubcatchmentE1: Existing Conditions

Pond 1P: Drainage System 1 Discarded $=0.16$ cfs 3,794 cf Primary $=0.00$ cfs 0 cf Outflow $=0.16$ cfs 3,794 cf

Inflow=0.14 cfs 446 cf Primary=0.14 cfs 446 cf

Total Runoff Area $=34,562$ sf Runoff Volume $=8,770$ cf Average Runoff Depth $=3.04$ "
$\mathbf{1 4 . 5 2 \%}$ Pervious $=\mathbf{5 , 0 2 0}$ sf $85.48 \%$ Impervious $=\mathbf{2 9 , 5 4 2}$ sf

## Summary for Subcatchment 2S: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.14$ cfs @ 12.08 hrs, Volume $=\quad 446$ cf, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2,378 | 80 > | >75\% Grass cover, Good, HSG D |  |  |
|  | 371 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 350 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 189 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 3,288 | 80 | Weighted Average |  |  |
|  | 3,288 |  | 100.00\% Pervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2S: Un-Captured Lawn Buffer



## Summary for Subcatchment 3S: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 1.10$ cfs @ 12.07 hrs, Volume $=\quad 3,796$ cf, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN D | Description Paved parking, HSG D |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9,288 | 98 |  |  |  |
|  | 1,492 | 98 R | Roofs, HSG D |  |  |
|  | 697 | 98 R | Roofs, HSG D |  |  |
|  | 2,516 | 98 R | Roofs, HSG D |  |  |
|  | 13,993 | 98 | Weighted Average |  |  |
|  | 13,993 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 3S: Captured Roof \& Pavement


$\square$ Runoff

## Summary for Subcatchment E1: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=1.52$ cfs @ 12.00 hrs, Volume $=\quad 4,528 \mathrm{cf}$, Depth> 3.14"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 1,492 | 98 | Roofs, HSG D |
| 210 | 98 | Roofs, HSG D |
| 83 | 98 | Roofs, HSG D |
| 980 | 98 | Roofs, HSG D |
| 1,732 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 12,784 | 98 | Unconnected pavement, HSG D |
| 17,281 | 97 | Weighted Average |
| 1,732 |  | $10.02 \%$ Pervious Area |
| 15,549 |  | $89.98 \%$ Impervious Area |
| 12,784 |  | $82.22 \%$ Unconnected |

## Subcatchment E1: Existing Conditions



## Summary for Pond 1P: Drainage System 1

| Inflow Area = | 13,993 | 00.00\% Impervious, | Inflow Dep | 3.25 " for 2 Year Frequency event |
| :---: | :---: | :---: | :---: | :---: |
| Inflow = | 1.10 cfs @ | 12.07 hrs , Volume= | 3,796 cf |  |
| Outflow | 0.16 cfs @ | 12.10 hrs , Volume= | 3,794 cf, | Atten $=86 \%$, Lag= 1.8 min |
| Discarded = | 0.16 cfs @ | 12.10 hrs , Volume= | 3,794 cf |  |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 39.95' @ 12.57 hrs Surf.Area= 1,405 sf Storage= $1,090 \mathrm{cf}$
Plug-Flow detention time $=41.7 \mathrm{~min}$ calculated for 3,786 cf ( $100 \%$ of inflow)
Center-of-Mass det. time= 41.3 min (794.7-753.4)

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 38.50' | 1,415 cf | $21.00^{\prime} \mathrm{W}$ x $65.00^{\prime} \mathrm{L} \times 4.00^{\prime} \mathrm{H}$ Stone Envelope <br> 5,460 cf Overall - 1,922 cf Embedded $=3,538$ cf x $40.0 \%$ Voids |
| \#2 | 39.50' | 1,922 cf | Cultec R-330XLHD $\times 36$ Inside \#1 <br> Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0^{\prime \prime} \mathrm{W} \times 30.5^{\prime \prime} \mathrm{H} \times 8.50^{\prime} \mathrm{L}$ with 1.50 ' Overlap Row Length Adjustment $=+1.50$ ' $\times 7.45 \mathrm{sf} \times 4$ rows |
| \#3 | 39.40' | $\begin{aligned} & 80 \mathrm{cf} \\ & 82 \mathrm{cf} \end{aligned}$ | 2.50 'W $\times 4.00^{\prime} \mathrm{L} \times 4.00$ 'H Prismatoid $\times 2$ |
| \#4 | 39.30' |  | 2.50'W $\times 4.00$ ' $\times 4.10^{\prime} \mathrm{H}$ Prismatoid $\times 2$ |
| $3,499 \mathrm{cf}$ Total Available Storage |  |  |  |
| Device | Routing | Invert Outle | et Devices |
| \#1 | Discarded | 38.50 ' 4.80 | $0 \mathrm{in} / \mathrm{hr}$ Exfiltration over Surface area |
| \#2 | Primary | 43.30' 24.0 | x 48.0" Horiz. Orifice/Grate X 2.00 C= 0.600 ed to weir flow at low heads |

Discarded OutFlow Max=0.16 cfs @ 12.10 hrs HW=39.57' (Free Discharge)
_1=Exfiltration (Exfiltration Controls 0.16 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=38.50' (Free Discharge)
$L_{2}=$ Orifice/Grate (Controls 0.00 cfs )

Fuleing Station \& Convenience Store
375 BOSTON AVE_FUELING STATION
Type III 24-hr 2 Year Frequency Rainfall=3.49"
Prepared by Cabezas DeAngelis Engineers and Surveyors
Printed 2/16/2024
HydroCAD® 10.00-20 s/n 09513 © 2017 HydroCAD Software Solutions LLC
Pond 1P: Drainage System 1


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area = $\quad 17,281 \mathrm{sf}, 80.97 \%$ Impervious, Inflow Depth > 0.31" for 2 Year Frequency event Inflow $=0.14$ cfs @ 12.08 hrs , Volume= 446 cf Primary $=0.14 \mathrm{cfs} @ 12.08 \mathrm{hrs}$, Volume $=\quad 446 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

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

## Link 1L: Proposed Offsite Flows



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
Subcatchment2S: Un-Captured Lawn Buffer Runoff Area $=3,288$ sf $0.00 \%$ Impervious Runoff Depth>3.22" $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=80$ Runoff $=0.28 \mathrm{cfs} 881 \mathrm{cf}$

Subcatchment3S: Captured Roof \& Runoff Area=13,993 sf $100.00 \%$ Impervious Runoff Depth $>5.13$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=98$ Runoff=$=1.70 \mathrm{cfs} 5,982 \mathrm{cf}$

SubcatchmentE1: Existing Conditions Runoff Area=17,281 sf $89.98 \%$ Impervious Runoff Depth $>5.02$ " Tc=0.0 min CN=97 Runoff=2.37 cfs 7,223 cf

Pond 1P: Drainage System 1
Peak Elev=40.78' Storage=2,043 cf Inflow=1.70 cfs 5,982 cf Discarded $=0.16$ cfs 5,980 cf Primary $=0.00$ cfs 0 cf Outflow= 0.16 cfs $5,980 \mathrm{cf}$

Link 1L: Proposed Offsite Flows<br>Inflow=0.28 cfs 881 cf Primary=0.28 cfs 881 cf

Total Runoff Area $=34,562$ sf Runoff Volume $=14,087$ cf Average Runoff Depth $=4.89$ "
$14.52 \%$ Pervious $=\mathbf{5 , 0 2 0}$ sf $85.48 \%$ Impervious $=\mathbf{2 9 , 5 4 2} \mathbf{~ s f}$

## Summary for Subcatchment 2S: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.28$ cfs @ 12.08 hrs, Volume= 881 cf , Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2,378 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 371 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 350 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 189 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 3,288 | 80 | Weighted Average 100.00\% Pervious Area |  |  |
|  | 3,288 |  |  |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2S: Un-Captured Lawn Buffer



## Summary for Subcatchment 3S: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 1.70$ cfs @ 12.07 hrs, Volume $=\quad 5,982 \mathrm{cf}$, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN D | Description Paved parking, HSG D |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9,288 | 98 |  |  |  |
|  | 1,492 | 98 R | Roofs, HSG D |  |  |
|  | 697 | 98 R | Roofs, HSG D |  |  |
|  | 2,516 | 98 R | Roofs, HSG D |  |  |
|  | 13,993 | 98 | Weighted Average |  |  |
|  | 13,993 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 3S: Captured Roof \& Pavement


$\square$ Runoff

## Summary for Subcatchment E1: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=\quad 2.37$ cfs @ 12.00 hrs, Volume= $7,223 \mathrm{cf}$, Depth> 5.02"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 1,492 | 98 | Roofs, HSG D |
| 210 | 98 | Roofs, HSG D |
| 83 | 98 | Roofs, HSG D |
| 980 | 98 | Roofs, HSG D |
| 1,732 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 12,784 | 98 | Unconnected pavement, HSG D |
| 17,281 | 97 | Weighted Average |
| 1,732 |  | $10.02 \%$ Pervious Area |
| 15,549 |  | $89.98 \%$ Impervious Area |
| 12,784 |  | $82.22 \%$ Unconnected |

## Subcatchment E1: Existing Conditions



## Summary for Pond 1P: Drainage System 1

| Inflow Area = | 13,993 | 00.00\% Impervious, | Inflow Depth > | 5.13" for 10 Year Frequency event |
| :---: | :---: | :---: | :---: | :---: |
| Inflow = | 1.70 cfs @ | 12.07 hrs , Volume= | 5,982 cf |  |
| Outflow | 0.16 cfs @ | 11.95 hrs , Volume= | 5,980 cf | Atten= 91\%, Lag= 0.0 min |
| Discarded | 0.16 cfs @ | 11.95 hrs , Volume= | 5,980 cf |  |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 40.78' @ 12.89 hrs Surf.Area= $1,405 \mathrm{sf}$ Storage= $2,043 \mathrm{cf}$
Plug-Flow detention time $=89.4 \mathrm{~min}$ calculated for 5,967 cf ( $100 \%$ of inflow)
Center-of-Mass det. time= 88.9 min ( 834.5-745.6)

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | $38.50{ }^{\prime}$ | 1,415 cf | $21.00^{\prime} \mathrm{W}$ x 65.00 'L x 4.00 'H Stone Envelope <br> 5,460 cf Overall - 1,922 cf Embedded $=3,538$ cf $\times 40.0 \%$ Voids |
| \#2 | $39.50 '$ | 1,922 cf | Cultec R-330XLHD x 36 Inside \#1 <br> Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0^{\prime \prime} \mathrm{W} \times 30.5^{\prime \prime} \mathrm{H} \times 8.50^{\prime} \mathrm{L}$ with 1.50 ' Overlap Row Length Adjustment $=+1.50 \times 7.45 \mathrm{sf} \times 4$ rows |
| \#3 | 39.40' | $\begin{aligned} & 80 \mathrm{cf} \\ & 82 \mathrm{cf} \\ & \hline \end{aligned}$ | 2.50 'W x 4.00'L x 4.00'H Prismatoid $\times 2$ |
| \#4 | 39.30' |  | 2.50 'W x 4.00'L x 4.10'H Prismatoid $\times 2$ |
| $3,499 \mathrm{cf}$ Total Available Storage |  |  |  |
| Device | Routing | Invert Outle | t Devices |
| \#1 | Discarded | 38.50' 4.800 | in/hr Exfiltration over Surface area |
| \#2 | Primary | $43.30^{\prime} \quad \begin{aligned} & \text { 24.0'0 } \\ & \text { Limit }\end{aligned}$ | x 48.0" Horiz. Orifice/Grate X $2.00 \quad \mathrm{C}=0.600$ ed to weir flow at low heads |

Discarded OutFlow Max=0.16 cfs @ 11.95 hrs HW=39.44' (Free Discharge)
_1=Exfiltration (Exfiltration Controls 0.16 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=38.50' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

Pond 1P: Drainage System 1


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 17,281$ sf, $80.97 \%$ Impervious, Inflow Depth > 0.61" for 10 Year Frequency event Inflow = 0.28 cfs @ 12.08 hrs , Volume= 881 cf Primary = 0.28 cfs @ 12.08 hrs, Volume= 881 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$

Primary outflow $=$ Inflow, Time Span= $0.00-24.00 \mathrm{hrs}, \mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows



Time span=0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}, 481$ points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method
Subcatchment2S: Un-Captured Lawn Buffer Runoff Area $=3,288$ sf $0.00 \%$ Impervious Runoff Depth $>4.28$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=80$ Runoff $=0.38 \mathrm{cfs} 1,172 \mathrm{cf}$

Subcatchment3S: Captured Roof \&
Runoff Area=13,993 sf $100.00 \%$ Impervious Runoff Depth>6.31" Tc=5.0 min CN=98 Runoff=2.08 cfs 7,356 cf

SubcatchmentE1: Existing Conditions Runoff Area=17,281 sf 89.98\% Impervious Runoff Depth>6.19" Tc=0.0 min CN=97 Runoff=2.90 cfs 8,918 cf

Pond 1P: Drainage System 1
Peak Elev=41.43' Storage=2,716 cf Inflow=2.08 cfs 7,356 cf Discarded $=0.16$ cfs 7,353 cf Primary $=0.00$ cfs 0 cf Outflow $=0.16$ cfs $7,353 \mathrm{cf}$

Link 1L: Proposed Offsite Flows
Inflow=0.38 cfs 1,172 cf Primary=0.38 cfs 1,172 cf

Total Runoff Area $=34,562$ sf Runoff Volume $=17,447$ cf Average Runoff Depth $=6.06$ "
$14.52 \%$ Pervious $=\mathbf{5 , 0 2 0}$ sf $85.48 \%$ Impervious $=\mathbf{2 9 , 5 4 2} \mathbf{~ s f}$

## Summary for Subcatchment 2S: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.38$ cfs @ 12.07 hrs, Volume $=\quad 1,172 \mathrm{cf}$, Depth> 4.28"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2,378 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 371 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 350 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | 189 | 80 | >75\% Grass cover, Good, HSG D |  |  |
|  | $\begin{aligned} & 3,288 \\ & 3,288 \end{aligned}$ | 80 | Weighted Average 100.00\% Pervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | $\begin{array}{r} \text { Capacity } \\ \text { (cfs) } \end{array}$ | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2S: Un-Captured Lawn Buffer



## Summary for Subcatchment 3S: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 2.08$ cfs @ 12.07 hrs, Volume $=\quad 7,356$ cf, Depth> 6.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN D | Description Paved parking, HSG D |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9,288 | 98 |  |  |  |
|  | 1,492 | 98 R | Roofs, HSG D |  |  |
|  | 697 | 98 R | Roofs, HSG D |  |  |
|  | 2,516 | 98 R | Roofs, HSG D |  |  |
|  | 13,993 | 98 | Weighted Average |  |  |
|  | 13,993 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 3S: Captured Roof \& Pavement


$\square$ Runoff

## Summary for Subcatchment E1: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=\quad 2.90$ cfs @ 12.00 hrs, Volume $=\quad 8,918 \mathrm{cf}$, Depth> 6.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 1,492 | 98 | Roofs, HSG D |
| 210 | 98 | Roofs, HSG D |
| 83 | 98 | Roofs, HSG D |
| 980 | 98 | Roofs, HSG D |
| 1,732 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 12,784 | 98 | Unconnected pavement, HSG D |
| 17,281 | 97 | Weighted Average |
| 1,732 |  | $10.02 \%$ Pervious Area |
| 15,549 |  | $89.98 \%$ Impervious Area |
| 12,784 |  | $82.22 \%$ Unconnected |

## Subcatchment E1: Existing Conditions



## Summary for Pond 1P: Drainage System 1



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 41.43 @ 13.09 hrs Surf.Area= 1,405 sf Storage= $2,716 \mathrm{cf}$
Plug-Flow detention time $=126.0 \mathrm{~min}$ calculated for 7,338 cf ( $100 \%$ of inflow )
Center-of-Mass det. time $=125.4 \mathrm{~min}(868.0-742.6)$

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 38.50' | 1,415 cf | $21.00^{\prime} \mathrm{W}$ x $65.00^{\prime} \mathrm{L} \times 4.00$ 'H Stone Envelope <br> 5,460 cf Overall - 1,922 cf Embedded $=3,538$ cf x $40.0 \%$ Voids |
| \#2 | $39.50{ }^{\prime}$ | 1,922 cf | Cultec R-330XLHD x 36 Inside \#1 <br> Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0^{\prime \prime} \mathrm{W} \times 30.5^{\prime \prime} \mathrm{H} \times 8.50^{\prime} \mathrm{L}$ with 1.50 ' Overlap Row Length Adjustment $=+1.50$ ' $\times 7.45 \mathrm{sf} \times 4$ rows |
| \#3 | 39.40' | $\begin{aligned} & 80 \mathrm{cf} \\ & 82 \mathrm{cf} \\ & \hline \end{aligned}$ | 2.50 'W x 4.00'L x 4.00'H Prismatoid $\times 2$ |
| \#4 | 39.30' |  | 2.50'W $\times 4.00^{\prime} \mathrm{L} \times 4.10$ 'H Prismatoid $\times 2$ |
| $3,499 \mathrm{cf}$ Total Available Storage |  |  |  |
| Device | Routing | Invert Outle | t Devices |
| \#1 | Discarded | 38.50 ' 4.800 | in/hr Exfiltration over Surface area |
| \#2 | Primary | $43.30{ }^{24.0} \begin{aligned} & \text { 24imit }\end{aligned}$ | x 48.0" Horiz. Orifice/Grate X $2.00 \quad \mathrm{C}=0.600$ ed to weir flow at low heads |

Discarded OutFlow Max=0.16 cfs @ 11.90 hrs HW=39.53' (Free Discharge)
_1=Exfiltration (Exfiltration Controls 0.16 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=38.50' (Free Discharge)
$L_{2=O r i f i c e / G r a t e ~(~ C o n t r o l s ~} 0.00 \mathrm{cfs}$ )

Pond 1P: Drainage System 1


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 17,281$ sf, $80.97 \%$ Impervious, Inflow Depth $>0.81 "$ for 25 Year Frequency event Inflow $=0.38$ cfs @ 12.07 hrs , Volume $=1,172 \mathrm{cf}$ Primary $=0.38 \mathrm{cfs} @ 12.07 \mathrm{hrs}$, Volume $=1,172 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

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

## Link 1L: Proposed Offsite Flows



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
Subcatchment2S: Un-Captured Lawn Buffer Runoff Area $=3,288$ sf $0.00 \%$ Impervious Runoff Depth $>5.08$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=80$ Runoff $=0.45 \mathrm{cfs} 1,392 \mathrm{cf}$

Subcatchment 3S: Captured Roof \& $\quad$ Runoff Area=13,993 sf $100.00 \%$ Impervious Runoff Depth $>7.18$ "
Tc $=5.0 \mathrm{~min}$ CN $=98$ Runoff $=2.35 \mathrm{cfs} 8,369 \mathrm{cf}$
SubcatchmentE1: Existing Conditions Runoff Area=17,281 sf 89.98\% Impervious Runoff Depth>7.06" $\mathrm{Tc}=0.0 \mathrm{~min} \mathrm{CN}=97$ Runoff=3.29 cfs $10,169 \mathrm{cf}$

Pond 1P: Drainage System 1
Peak Elev=42.14' Storage=3,251 cf Inflow=2.35 cfs 8,369 cf Discarded $=0.16$ cfs 8,366 cf Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow=$=0.16 \mathrm{cfs} 8,366 \mathrm{cf}$

Link 1L: Proposed Offsite Flows
Inflow=0.45 cfs 1,392 cf Primary=0.45 cfs 1,392 cf

Total Runoff Area $=34,562$ sf Runoff Volume $=19,930$ cf Average Runoff Depth $=6.92$ "
$14.52 \%$ Pervious $=\mathbf{5 , 0 2 0}$ sf $85.48 \%$ Impervious $=\mathbf{2 9 , 5 4 2} \mathbf{~ s f}$

## Summary for Subcatchment 2S: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.45$ cfs @ 12.07 hrs, Volume $=\quad 1,392 \mathrm{cf}$, Depth> 5.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2,378 | 80 > | >75\% Grass cover, Good, HSG D |  |  |
|  | 371 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 350 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 189 | $80>$ | >75\% Grass cover, Good, HSG D |  |  |
|  | 3,288 | 80 | Weighted Average |  |  |
|  | 3,288 |  | 100.00\% Pervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 2S: Un-Captured Lawn Buffer



Summary for Subcatchment 3S: Captured Roof \& Pavement
[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 2.35$ cfs @ 12.07 hrs, Volume $=\quad 8,369 \mathrm{cf}$, Depth> 7.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

|  | Area (sf) | CN D | Description Paved parking, HSG D |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9,288 | 98 |  |  |  |
|  | 1,492 | 98 R | Roofs, HSG D |  |  |
|  | 697 | 98 R | Roofs, HSG D |  |  |
|  | 2,516 | 98 R | Roofs, HSG D |  |  |
|  | 13,993 | 98 | Weighted Average |  |  |
|  | 13,993 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope <br> (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

## Subcatchment 3S: Captured Roof \& Pavement


$\square$ Runoff

## Summary for Subcatchment E1: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=\quad 3.29$ cfs @ 12.00 hrs, Volume= $10,169 \mathrm{cf}$, Depth> 7.06"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 1,492 | 98 | Roofs, HSG D |
| 210 | 98 | Roofs, HSG D |
| 83 | 98 | Roofs, HSG D |
| 980 | 98 | Roofs, HSG D |
| 1,732 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 12,784 | 98 | Unconnected pavement, HSG D |
| 17,281 | 97 | Weighted Average |
| 1,732 |  | $10.02 \%$ Pervious Area |
| 15,549 |  | $89.98 \%$ Impervious Area |
| 12,784 |  | $82.22 \%$ Unconnected |

## Subcatchment E1: Existing Conditions



## Summary for Pond 1P: Drainage System 1



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev=42.14' @ 13.41 hrs Surf.Area= 1,405 sf Storage= 3,251 cf

Plug-Flow detention time $=155.9 \mathrm{~min}$ calculated for 8,366 cf ( $100 \%$ of inflow )
Center-of-Mass det. time $=155.6 \mathrm{~min}(896.5-740.9)$

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 38.50' | 1,415 cf | $21.00^{\prime} \mathrm{W}$ x $65.00^{\prime} \mathrm{L} \times 4.00$ 'H Stone Envelope <br> 5,460 cf Overall - 1,922 cf Embedded $=3,538$ cf x $40.0 \%$ Voids |
| \#2 | 39.50' | 1,922 cf | Cultec R-330XLHD $\times 36$ Inside \#1 <br> Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0^{\prime \prime} \mathrm{W} \times 30.5^{\prime \prime} \mathrm{H} \times 8.50^{\prime} \mathrm{L}$ with 1.50 ' Overlap Row Length Adjustment $=+1.50$ ' $\times 7.45 \mathrm{sf} \times 4$ rows |
| \#3 | $39.40{ }^{\prime}$ | $\begin{aligned} & 80 \mathrm{cf} \\ & 82 \mathrm{cf} \\ & \hline \end{aligned}$ | 2.50 'W $\times 4.00^{\prime} \mathrm{L} \times 4.00^{\prime} \mathrm{H}$ Prismatoid $\times 2$ |
| \#4 | 39.30' |  | 2.50'W $\times 4.00$ ' $\times 4.10^{\prime} \mathrm{H}$ Prismatoid $\times 2$ |
| $3,499 \mathrm{cf}$ Total Available Storage |  |  |  |
| Device | Routing | Invert Outlet Devices |  |
| \#1 | Discarded | 38.50 ' $4.800 \mathrm{in} / \mathrm{hr}$ Exfiltration over Surface area |  |
| \#2 | Primary | 43.30 24.0 | x 48.0" Horiz. Orifice/Grate X $2.00 \quad \mathrm{C}=0.600$ ed to weir flow at low heads |

Discarded OutFlow Max=0.16 cfs @ 11.85 hrs HW=39.54' (Free Discharge)
_1=Exfiltration (Exfiltration Controls 0.16 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=38.50' (Free Discharge)
$L_{2=O r i f i c e / G r a t e ~(~ C o n t r o l s ~} 0.00 \mathrm{cfs}$ )

Pond 1P: Drainage System 1


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 17,281$ sf, $80.97 \%$ Impervious, Inflow Depth > 0.97" for 50 Year Frequency event Inflow $=0.45 \mathrm{cfs}$ @ 12.07 hrs , Volume= $1,392 \mathrm{cf}$ Primary $=0.45 \mathrm{cfs} @ 12.07 \mathrm{hrs}$, Volume $=1,392 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

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

## Link 1L: Proposed Offsite Flows



## Drainage Analysis II 6 Unit Apartment Building




Captured Roof \& Pavement
 Link

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

Subcatchment2SA: Un-Captured Lawn

Subcatchment2SB: Captured Roof \&

SubcatchmentE2: Existing Conditions

Pond 2P: Drainage System 2

Peak Elev=41.09' Storage=284 cf $\begin{aligned} & \text { Inflow }=0.30 \mathrm{cfs} \\ & \text { Discarded }=0.05 \mathrm{cfs} \\ & 1,040 \mathrm{cf} \\ & 1,040 \mathrm{cf} \\ & \text { Primary }=0.00 \mathrm{cfs} 0 \mathrm{cf} \text { Outflow }=0.05 \mathrm{cfs} \\ & 1,040 \mathrm{cf}\end{aligned}$ Discarded $=0.05 \mathrm{cfs} 1,040 \mathrm{cf}$ Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow $=0.05 \mathrm{cfs} 1,040 \mathrm{cf}$

Runoff Area $=2,437$ sf $4.06 \%$ Impervious Runoff Depth $>1.63$ " $\mathrm{Tc}=5.0 \mathrm{~min}$ UI Adjusted $\mathrm{CN}=80$ Runoff $=0.11 \mathrm{cfs} 330 \mathrm{cf}$

Runoff Area $=3,835$ sf $100.00 \%$ Impervious Runoff Depth $>3.25^{\prime \prime}$ $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=98$ Runoff $=0.30 \mathrm{cfs} 1,040 \mathrm{cf}$

Runoff Area=6,272 sf $42.97 \%$ Impervious Runoff Depth $>2.73$ " $\mathrm{Tc}=0.0 \mathrm{~min} \mathrm{CN}=93$ Runoff $=0.51 \mathrm{cfs} 1,424 \mathrm{cf}$

Inflow=0.11 cfs 330 cf Primary=0.11 cfs 330 cf

Total Runoff Area $=12,544$ sf Runoff Volume $=2,795$ cf Average Runoff Depth $=2.67$ " 47.15\% Pervious $=\mathbf{5 , 9 1 5}$ sf

## Summary for Subcatchment 2SA: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.11$ cfs @ 12.08 hrs, Volume $=\quad 330$ cf, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| 99 | 98 |  | Unconnected pavement, HSG D |
| 164 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 483 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 1,691 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 2,437 | 81 | 80 | Weighted Average, UI Adjusted |
| 2,338 |  |  | 95.94\% Pervious Area |
| 99 |  | $4.06 \%$ Impervious Area |  |
| 99 |  |  |  |
|  |  |  |  |

\(\left.$$
\begin{array}{rrrl}\begin{array}{r}\text { Tc } \\
(\mathrm{min})\end{array} & \begin{array}{c}\text { Length } \\
(\mathrm{feet})\end{array} & \begin{array}{r}\text { Slope } \\
(\mathrm{ft} / \mathrm{ft})\end{array} & \begin{array}{c}\text { Velocity } \\
(\mathrm{ft} / \mathrm{sec})\end{array}\end{array}
$$ \begin{array}{r}Capacity <br>

(\mathrm{cfs})\end{array}\right)\) Description | Direct Entry, |
| :--- |

## Subcatchment 2SA: Un-Captured Lawn Buffer



## Summary for Subcatchment 2SB: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.30$ cfs @ 12.07 hrs, Volume $=\quad 1,040 \mathrm{cf}$, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,867 | 98 P | Paved parking, HSG D |  |  |
|  | 1,728 | 98 R | Roofs, HSG D |  |  |
|  | 240 | 98 R | Roofs, HSG D |  |  |
|  | 3,835 | 98 | Weighted Average |  |  |
|  | 3,835 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 2SB: Captured Roof \& Pavement


## Summary for Subcatchment E2: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=\quad 0.51$ cfs @ 12.00 hrs, Volume $=1,424 \mathrm{cf}$, Depth> 2.73"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.49"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 300 | 98 | Roofs, HSG D |
| 136 | 98 | Roofs, HSG D |
| 3,577 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 2,259 | 98 | Unconnected pavement, HSG D |
| 6,272 | 93 | Weighted Average |
| 3,577 |  | 57.03\% Pervious Area |
| 2,695 |  | $42.97 \%$ Impervious Area |
| 2,259 |  | $83.82 \%$ Unconnected |

## Subcatchment E2: Existing Conditions



## Summary for Pond 2P: Drainage System 2

| Inflow Area = | 3,835 | 0.00\% Impervious, | Inflow Depth | 3.25 " for 2 Year Frequency event |
| :---: | :---: | :---: | :---: | :---: |
| Inflow = | 0.30 cfs @ | 12.07 hrs, Volume= | 1,040 cf |  |
| Outflow | 0.05 cfs @ | 11.65 hrs , Volume= | 1,040 cf, | , Atten= 85\%, Lag= 0.0 min |
| Discarded | 0.05 cfs @ | 11.65 hrs , Volume= | 1,040 cf |  |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev=41.09' @ 12.55 hrs Surf.Area= 416 sf Storage= 284 cf

Plug-Flow detention time $=34.9 \mathrm{~min}$ calculated for $1,040 \mathrm{cf}$ ( $100 \%$ of inflow)
Center-of-Mass det. time $=34.7 \mathrm{~min}(788.0-753.4)$


## Pond 2P: Drainage System 2



## Summary for Link 2L: Proposed Offsite Flows

Inflow Area = Inflow = Primary =

6,272 sf, 62.72\% Impervious, Inflow Depth > 0.63" for 2 Year Frequency event 0.11 cfs @ 12.08 hrs , Volume= 330 cf 330 cf, Atten= 0\%, Lag= 0.0 min

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

## Link 2L: Proposed Offsite Flows



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

Subcatchment2SA: Un-Captured Lawn $\quad$| Runoff Area=2,437 sf $4.06 \%$ Impervious Runoff Depth $>3.22 "$ |
| :---: |
| Tc $=5.0$ min UI Adjusted $C N=80$ Runoff $=0.21 \mathrm{cfs} 653 \mathrm{cf}$ |

Subcatchment2SB: Captured Roof \&

SubcatchmentE2: Existing Conditions

Pond 2P: Drainage System 2
Discarded $=0.05$ cfs 1,639 cf Primary $=0.00$ cfs 0 cf Outflow=0.05 cfs 1,639 cf
Link 2L: Proposed Offsite Flows

Total Runoff Area $=12,544$ sf Runoff Volume $=4,677$ cf Average Runoff Depth $=4.47$ " 47.15\% Pervious $=5,915$ sf

Inflow=0.21 cfs 653 cf Primary $=0.21$ cfs 653 cf
52.85\% Impervious $=\mathbf{6 , 6 2 9} \mathbf{~ s f}$

## Summary for Subcatchment 2SA: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.21$ cfs @ 12.08 hrs, Volume $=\quad 653 \mathrm{cf}$, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| 99 | 98 |  | Unconnected pavement, HSG D |
| 164 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 483 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 1,691 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 2,437 | 81 | 80 | Weighted Average, UI Adjusted |
| 2,338 |  |  | 95.94\% Pervious Area |
| 99 |  | $4.06 \%$ Impervious Area |  |
| 99 |  |  |  |
|  |  |  |  |

\(\left.$$
\begin{array}{rrrl}\begin{array}{r}\text { Tc } \\
(\mathrm{min})\end{array} & \begin{array}{c}\text { Length } \\
(\mathrm{feet})\end{array} & \begin{array}{r}\text { Slope } \\
(\mathrm{ft} / \mathrm{ft})\end{array} & \begin{array}{c}\text { Velocity } \\
(\mathrm{ft} / \mathrm{sec})\end{array}\end{array}
$$ \begin{array}{r}Capacity <br>

(\mathrm{cfs})\end{array}\right)\) Description | Direct Entry, |
| :--- |

## Subcatchment 2SA: Un-Captured Lawn Buffer



## Summary for Subcatchment 2SB: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.47$ cfs @ 12.07 hrs, Volume $=1,640 \mathrm{cf}$, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,867 | 98 P | Paved parking, HSG D |  |  |
|  | 1,728 | 98 R | Roofs, HSG D |  |  |
|  | 240 | 98 R | Roofs, HSG D |  |  |
|  | 3,835 | 98 | Weighted Average |  |  |
|  | 3,835 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 2SB: Captured Roof \& Pavement


## Summary for Subcatchment E2: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=0.82$ cfs @ 12.00 hrs, Volume= $2,384 \mathrm{cf}$, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.37"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 300 | 98 | Roofs, HSG D |
| 136 | 98 | Roofs, HSG D |
| 3,577 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 2,259 | 98 | Unconnected pavement, HSG D |
| 6,272 | 93 | Weighted Average |
| 3,577 |  | $57.03 \%$ Pervious Area |
| 2,695 |  | $42.97 \%$ Impervious Area |
| 2,259 |  | $83.82 \%$ Unconnected |

## Subcatchment E2: Existing Conditions



## Summary for Pond 2P: Drainage System 2



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 41.88' @ 12.81 hrs Surf.Area= 416 sf Storage= 537 cf
Plug-Flow detention time $=76.4 \mathrm{~min}$ calculated for $1,639 \mathrm{cf}$ ( $100 \%$ of inflow)
Center-of-Mass det. time= $76.1 \mathrm{~min}(821.7-745.6)$

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 40.00' | 365 cf | 11.25 'W x 37.00'L x 3.50'H Prismatoid |
|  |  |  | 1,457 cf Overall - 544 cf Embedded $=913$ cf $\times 40.0 \%$ Voids |
| \#2 | 40.50' | 544 cf | Cultec R-330XLHD $\times 10$ Inside \#1 |
|  |  |  | Effective Size= 47.8"W $\times 30.0$ "H => $7.45 \mathrm{sf} \times 7.00 \mathrm{~L}=52.2 \mathrm{cf}$ |
|  |  |  | Overall Size $=52.0$ " $\mathrm{W} \times 30.5$ "H $\times 8.50$ 'L with 1.50 ' Overlap |
|  |  |  | Row Length Adjustment $=+1.50$ ' $7.45 \mathrm{sf} \times 2$ rows |
|  |  | 909 cf | Total Available Storage |


| Device | Routing | Invert | Outlet Devices |
| :---: | :--- | :---: | :--- |
| \#1 | Discarded | $40.00^{\prime}$ | 4.800 in/hr Exfiltration over Surface area |
| \#2 | Primary | $43.80^{\prime}$ | $24.0 " \times 48.0^{\prime \prime}$ Horiz. Orifice/Grate $\mathrm{C}=0.600$ |
|  |  |  | Limited to weir flow at low heads |

Discarded OutFlow Max=0.05 cfs @ 11.40 hrs HW=40.04' (Free Discharge)
—1=Exfiltration (Exfiltration Controls 0.05 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=40.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 2P: Drainage System 2



## Summary for Link 2L: Proposed Offsite Flows

Inflow Area $=\quad 6,272$ sf, $62.72 \%$ Impervious, Inflow Depth > 1.25" for 10 Year Frequency event Inflow = 0.21 cfs @ 12.08 hrs, Volume= 653 cf Primary =
0.21 cfs @ 12.08 hrs, Volume= 653 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$

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

## Link 2L: Proposed Offsite Flows



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

Subcatchment2SA: Un-Captured Lawn

Subcatchment2SB: Captured Roof \&

SubcatchmentE2: Existing Conditions

Pond 2P: Drainage System 2
Peak Elev=42.50' Storage=716 cf Inflow $=0.57 \mathrm{cfs} 2,016 \mathrm{cf}$
Discarded $=0.05 \mathrm{cfs} 2,015 \mathrm{cf}$ Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow $=0.05 \mathrm{cfs} 2,015 \mathrm{cf}$
Runoff Area $=2,437$ sf $4.06 \%$ Impervious Runoff Depth $>4.28$ " Tc=5.0 min UI Adjusted CN=80 Runoff $=0.28$ cfs 869 cf

Runoff Area $=3,835 \mathrm{sf} 100.00 \%$ Impervious Runoff Depth $>6.31^{\prime \prime}$ $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=98$ Runoff $=0.57 \mathrm{cfs} 2,016 \mathrm{cf}$

Runoff Area=6,272 sf $42.97 \%$ Impervious Runoff Depth $>5.73$ " Tc=0.0 min CN=93 Runoff=1.02 cfs 2,993 cf

Link 2L: Proposed Offsite Flows
Inflow=0.28 cfs 869 cf Primary $=0.28$ cfs 869 cf

Total Runoff Area $=12,544$ sf Runoff Volume $=5,878$ cf Average Runoff Depth $=5.62$ "
47.15\% Pervious $=5,915$ sf
52.85\% Impervious $=\mathbf{6 , 6 2 9} \mathbf{~ s f}$

## Summary for Subcatchment 2SA: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.28$ cfs @ 12.07 hrs, Volume= 869 cf , Depth> 4.28"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| 99 | 98 |  | Unconnected pavement, HSG D |
| 164 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 483 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 1,691 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 2,437 | 81 | 80 | Weighted Average, UU Adjusted |
| 2,338 |  |  | 95.94\% Pervious Area |
| 99 |  | $4.06 \%$ Impervious Area |  |
| 99 |  | $100.00 \%$ Unconnected |  |

\(\left.$$
\begin{array}{rrrl}\begin{array}{r}\text { Tc } \\
(\mathrm{min})\end{array} & \begin{array}{c}\text { Length } \\
(\mathrm{feet})\end{array} & \begin{array}{r}\text { Slope } \\
(\mathrm{ft} / \mathrm{ft})\end{array} & \begin{array}{c}\text { Velocity } \\
(\mathrm{ft} / \mathrm{sec})\end{array}\end{array}
$$ \begin{array}{r}Capacity <br>

(\mathrm{cfs})\end{array}\right)\) Description | Direct Entry, |
| :--- |

## Subcatchment 2SA: Un-Captured Lawn Buffer



## Summary for Subcatchment 2SB: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.57$ cfs @ 12.07 hrs, Volume $=\quad 2,016$ cf, Depth> 6.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,867 | 98 P | Paved parking, HSG D |  |  |
|  | 1,728 | 98 R | Roofs, HSG D |  |  |
|  | 240 | 98 R | Roofs, HSG D |  |  |
|  | 3,835 | 98 | Weighted Average |  |  |
|  | 3,835 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 2SB: Captured Roof \& Pavement


## Summary for Subcatchment E2: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=1.02$ cfs @ 12.00 hrs, Volume= 2,993 cf, Depth> 5.73"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.55"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 300 | 98 | Roofs, HSG D |
| 136 | 98 | Roofs, HSG D |
| 3,577 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 2,259 | 98 | Unconnected pavement, HSG D |
| 6,272 | 93 | Weighted Average |
| 3,577 |  | $57.03 \%$ Pervious Area |
| 2,695 | 42.97\% Impervious Area |  |
| 2,259 |  | $83.82 \%$ Unconnected |

## Subcatchment E2: Existing Conditions



## Summary for Pond 2P: Drainage System 2

| Inflow Area = | 3,835 sf, 100.00\% Impervious, Inflow Depth > 6.31" |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Inflow = | 0.57 cfs @ | 12.07 hrs , Volume= | 2,016 cf |  |
| Outflow | 0.05 cfs @ | 11.20 hrs , Volume= | 2,015 cf, | Atten= 92\%, Lag= 0.0 min |
| Discarded | 0.05 cfs @ | 11.20 hrs , Volume= | 2,015 cf |  |
| Primary | 0.00 cfs @ | 0.00 hrs , Volume= | 0 cf |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev=42.50' @ 13.01 hrs Surf.Area= 416 sf Storage= 716 cf

Plug-Flow detention time $=108.5 \mathrm{~min}$ calculated for $2,011 \mathrm{cf}$ ( $100 \%$ of inflow )
Center-of-Mass det. time $=108.1 \mathrm{~min}(850.7-742.6)$

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 40.00' |  | 11.25 'W x 37.00'L x 3.50'H Prismatoid |
|  |  |  | 1,457 cf Overall - 544 cf Embedded $=913$ cf $\times 40.0 \%$ Voids |
| \#2 | 40.50' | 544 cf | Cultec R-330XLHD $\times 10$ Inside \#1 |
|  |  |  | Effective Size $=47.8$ " $\mathrm{W} \times 30.0 \mathrm{O}^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00 \mathrm{~L}=52.2 \mathrm{cf}$ |
|  |  |  | Overall Size $=52.0$ "W x 30.5"H x 8.50'L with 1.50' Overlap |
|  | 909 cf Total Available Storage |  |  |
| Device | Routing | Invert Outlet Devices |  |
| \#1 | Discarded | 40.00 ' 4.800 | in/hr Exfiltration over Surface area |
|  | Primary | 43.80' 24.0' $\times$ 48.0' Horiz. Orifice/Grate $\mathrm{C}=0.600$ |  |
|  |  |  | ed to weir flow at low heads |
| Discarded OutFlow Max=0.05 cfs @ 11.20 hrs HW=40.04' (Free Discharge) _1=Exfiltration (Exfiltration Controls 0.05 cfs ) |  |  |  |
|  |  |  |  |  |  |
| Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=40.00' (Free Discharge) $亡_{2=O r i f i c e / G r a t e ~(C o n t r o l s ~} 0.00 \mathrm{cfs}$ ) |  |  |  |

## Pond 2P: Drainage System 2



## Summary for Link 2L: Proposed Offsite Flows

Inflow Area = 6,272 sf, 62.72\% Impervious, Inflow Depth > 1.66" for 25 Year Frequency event Inflow = 0.28 cfs @ 12.07 hrs, Volume= 869 cf Primary =
0.28 cfs @ 12.07 hrs, Volume=

869 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

## Link 2L: Proposed Offsite Flows



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

Subcatchment2SA: Un-Captured Lawn

Subcatchment2SB: Captured Roof \&

SubcatchmentE2: Existing Conditions

Pond 2P: Drainage System 2

Peak Elev=43.18' Storage=855 cf Inflow=0.65 cfs 2,294 cf Discarded $=0.05$ cfs $2,293 \mathrm{cf}$ Primary $=0.00 \mathrm{cfs} 0 \mathrm{cf}$ Outflow=0.05 cfs 2,293 cf

Runoff Area $=2,437$ sf $4.06 \%$ Impervious Runoff Depth $>5.08$ " $\mathrm{Tc}=5.0 \mathrm{~min}$ UI Adjusted $\mathrm{CN}=80$ Runoff=0.33 cfs $1,032 \mathrm{cf}$

Runoff Area $=3,835 \mathrm{sf} \quad 100.00 \%$ Impervious Runoff Depth $>7.18$ " $\mathrm{Tc}=5.0 \mathrm{~min} \mathrm{CN}=98$ Runoff $=0.65 \mathrm{cfs} 2,294 \mathrm{cf}$

Runoff Area=6,272 sf $42.97 \%$ Impervious Runoff Depth $>6.59$ " $\mathrm{Tc}=0.0 \mathrm{~min} \mathrm{CN}=93$ Runoff=$=1.17 \mathrm{cfs} 3,443 \mathrm{cf}$

## Summary for Subcatchment 2SA: Un-Captured Lawn Buffer

[49] Hint: Tc<2dt may require smaller dt
Runoff $=\quad 0.33$ cfs @ 12.07 hrs, Volume $=\quad 1,032 \mathrm{cf}$, Depth> 5.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

| Area (sf) | CN | Adj | Description |
| :---: | :---: | :---: | :---: |
| 99 | 98 |  | Unconnected pavement, HSG D |
| 164 | 80 |  | >75\% Grass cover, Good, HSG D |
| 483 | 80 |  | >75\% Grass cover, Good, HSG D |
| 1,691 | 80 |  | >75\% Grass cover, Good, HSG D |
| 2,437 | 81 | 80 | Weighted Average, UI Adjusted |
| 2,338 |  |  | 95.94\% Pervious Area |
| 99 |  |  | 4.06\% Impervious Area |
| 99 |  |  | 100.00\% Unconnected |

\(\left.$$
\begin{array}{rrrl}\begin{array}{r}\text { Tc } \\
(\mathrm{min})\end{array} & \begin{array}{c}\text { Length } \\
(\mathrm{feet})\end{array} & \begin{array}{r}\text { Slope } \\
(\mathrm{ft} / \mathrm{ft})\end{array} & \begin{array}{c}\text { Velocity } \\
(\mathrm{ft} / \mathrm{sec})\end{array}\end{array}
$$ \begin{array}{r}Capacity <br>

(\mathrm{cfs})\end{array}\right)\) Description | Direct Entry, |
| :--- |

## Subcatchment 2SA: Un-Captured Lawn Buffer



## Summary for Subcatchment 2SB: Captured Roof \& Pavement

[49] Hint: Tc<2dt may require smaller dt
Runoff $=0.65$ cfs @ 12.07 hrs, Volume $=\quad 2,294$ cf, Depth> 7.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1,867 | 98 P | Paved parking, HSG D |  |  |
|  | 1,728 | 98 R | Roofs, HSG D |  |  |
|  | 240 | 98 R | Roofs, HSG D |  |  |
|  | 3,835 | 98 | Weighted Average |  |  |
|  | 3,835 |  | 100.00\% Impervious Area |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry |

Subcatchment 2SB: Captured Roof \& Pavement


## Summary for Subcatchment E2: Existing Conditions

[46] Hint: Tc=0 (Instant runoff peak depends on dt)
Runoff $=\quad 1.17$ cfs @ 12.00 hrs, Volume= $3,443 \mathrm{cf}$, Depth> 6.59"
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.42"

| Area (sf) | CN | Description |
| ---: | ---: | :--- |
| 300 | 98 | Roofs, HSG D |
| 136 | 98 | Roofs, HSG D |
| 3,577 | 89 | $<50 \%$ Grass cover, Poor, HSG D |
| 2,259 | 98 | Unconnected pavement, HSG D |
| 6,272 | 93 | Weighted Average |
| 3,577 |  | 57.03\% Pervious Area |
| 2,695 |  | $42.97 \%$ Impervious Area |
| 2,259 |  | $83.82 \%$ Unconnected |

## Subcatchment E2: Existing Conditions



## Summary for Pond 2P: Drainage System 2



Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev=43.18' @ 13.19 hrs Surf.Area= 416 sf Storage= 855 cf

Plug-Flow detention time $=134.6 \mathrm{~min}$ calculated for 2,288 cf ( $100 \%$ of inflow )
Center-of-Mass det. time $=134.1 \mathrm{~min}(875.0-740.9)$


## Pond 2P: Drainage System 2



## Summary for Link 2L: Proposed Offsite Flows

Inflow Area $=\quad 6,272$ sf, $62.72 \%$ Impervious, Inflow Depth > 1.97" for 50 Year Frequency event Inflow $=\quad 0.33$ cfs @ 12.07 hrs , Volume $=1,032 \mathrm{cf}$ Primary $=0.33 \mathrm{cfs} @ 12.07 \mathrm{hrs}$, Volume $=1,032 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

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

## Link 2L: Proposed Offsite Flows




NOAA Atlas 14, Volume 10, Version 3 Location name: Bridgeport, Connecticut, USA*

Latitude: $\mathbf{4 1 . 2 0 0 5}^{\circ}$, Longitude: $-73.1832^{\circ}$
Elevation: $30 \mathrm{ft}^{* *}$
source: ESRI Maps
** source: USGS

## POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland
PF tabular | PF_graphical | Maps \& aerials
PF tabular

| PDS-based point precipitation frequency estimates with 90\% confidence intervals (in inches) ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dura | Average recurrence interval (years) |  |  |  |  |  |  |  |  |  |
|  | 1 | 2 | 5 | 10 | 25 | 50 | 10 | 200 | 00 | 1000 |
| 5-m | $(0.27$ | $(0.332-0.521)$ | $(0.417-0.659)$ | $(0.487-0.778)$ | $(0.566-0.976)$ | $(0.624-1.12)$ |  | (0.713-1.48) | $(0.786-1.76)$ |  |
| 10 | (0.395-0. | $\\|(0.471-0.738)$ | $0.593-0 .$ |  | $(0.801-1.38)$ | $(0.883-1.59)$ | (0.955-1.84) |  |  |  |
| 15 | $(0.465-0 .$ | $(0.554-0$ |  | (0.812- | (0.943-1. |  |  |  |  |  |
| 30-mi |  | $(0.772-1.21)$ |  |  |  |  |  |  |  |  |
| 60-min | (0.831-1.30) | (0.989-1.55) |  |  |  |  |  |  |  |  |
| 2-hr |  |  |  |  |  |  |  |  |  |  |
| 3-hr |  |  |  |  |  |  |  |  |  |  |
| 6-hr |  | (1.92-2.92) |  |  |  |  |  | (4.27-8.66) | (4.77-10.4) | (5.20-11.9) |
| 12-h |  |  |  |  |  |  |  |  | $\begin{gathered} \hline \mathbf{9 . 1 2} \\ (6.00-13.0) \\ \hline \end{gathered}$ |  |
| 24-h | (2.33-3.43) | (2.84-4.19) |  | $\begin{gathered} \hline 5.37 \\ (4.34-6.53) \\ \hline \end{gathered}$ | (5.10-8.34) |  | (6.19-11.3) | (6.55-13.0) | (7.41-15.9) | (8.17-18.3) |
| 2-d | $(2.61-3.80)$ | $(3.24-4.72)$ | $(4.25-6.24)$ | $\begin{gathered} 6.24 \\ (5.07-7.53) \\ \hline \end{gathered}$ |  | (6.70-11.3) | $(7.38-13.4)$ | (7.82-15.4) | (8.99-19.1) | (10.0-22.3) |
| 3-c | (2.84-4.09) | $(3.52-5.10)$ | (4.64-6.75) | (5.53-8.16) | (6.59-10.6) | (7.34-12.3) | $\begin{gathered} \hline 10.8 \\ (8.08-14.6) \end{gathered}$ | $\begin{gathered} 12.4 \\ (8.56-16.8) \end{gathered}$ | (9.87-20.8) | $\begin{gathered} \hline 17.1 \\ (11.0-24.4) \end{gathered}$ |
| 4- | $(3.05-4.38)$ | $(3.78-5.43)$ | $(4.95-7.17)$ | $(5.90-8.65)$ | (7.00-11.2) | $(7.79-13.0)$ | $(8.58-15.4)$ | $(9.08-17.7)$ | (10.4-22.0) | $(11.7-25.7)$ |
| 7-d | $(3.67-5.21)$ | $(4.46-6.34)$ | $(5.72-8.20)$ | (6.75-9.78) | (7.92-12.5) | $(8.76-14.4)$ | $(9.57-17.0)$ | (10.1-19.4) | (11.5-23.9) | $(12.7-27.7)$ |
|  | $(4.27-6.01)$ | (5.09-7.19) | $(6.42-9.13)$ | (7.48-10.8) | (8.68-13.6) | $(9.54-15.6)$ | $(10.3-18.2)$ | (10.9-20.8) | (12.2-25.2) | (13.4-29.0) |
| 20 | (6.06-8.42) | $(6.96-9.70)$ | $(8.42-11.8)$ | $(9.59-13.6)$ | (10.8-16.7) | (11.7-18.9) | $(12.5-21.6)$ | (13.0-24.5) | (14.1-28.8) | $(15.1-32.3)$ |
| 30 | (7.54-10.4) | (8.51-11.8) | (10.1-14.0) | (11.3-15.9) | $(12.6-19.1)$ | (13.5-21.6) | $(14.2-24.4)$ | $(14.7-27.4)$ | $(15.7-31.7)$ | $(16.4-35.0)$ |
| 45 | (9.40-12.9) | (10.4-14.3) | (12.1-16.7) | (13.4-18.8) | (14.7-22.2) | (15.7-24.8) | (16.3-27.7) | $(16.8-31.0)$ | $(17.6-35.2)$ | $(18.1-38.4)$ |
| 60-day | (11.0-14.9) | $\begin{gathered} \hline 14.2 \\ (12.0-16.4) \end{gathered}$ | $\begin{gathered} 16.3 \\ (13.8-18.9) \\ \hline \end{gathered}$ | $\begin{gathered} 18.1 \\ (15.2-21.1) \end{gathered}$ | $\begin{gathered} \mathbf{2 0 . 5} \\ (16.5-24.7) \end{gathered}$ | $\begin{gathered} \mathbf{2 2 . 4} \\ (17.5-27.4) \end{gathered}$ | $(18.1-30.5)$ | (18.5-34.0) | $\|(19.1-38.2)\|$ | (19.6-41.3) |

[^10]PDS-based depth-duration-frequency (DDF) curves
Latitude: $41.2005^{\circ}$, Longitude: $-73.1832^{\circ}$

Average recurrence interval (years)

- 1
$-2$
- 5
- 10
$-25$
- 50
- 100
- 200
- 500
- 1000


| Duration |  |
| :---: | :---: |
| — $5-\mathrm{min}$ $-10-\mathrm{min}$ $-15-\mathrm{min}$ $-30-\mathrm{min}$ $-60-\mathrm{min}$ $-2-\mathrm{hr}$ $-3-\mathrm{hr}$ -6 hr $-12-\mathrm{hr}$ $-\quad 24 \mathrm{hr}$ | $\begin{aligned} & \text { — } 2 \text {-day } \\ & \text { — } 3 \text {-day } \\ & \text { - } 4 \text {-day } \\ & \text { - } 7 \text {-day } \\ & \text { 10-day } \\ & \text { 20-day } \\ & \text { — }{ }^{40-d a y ~} \\ & \text { 60-day } \end{aligned}$ |

NOAA Atlas 14, Volume 10, Version 3
Created (GMT): Thu Nov 2 17:17:16 2023
Back to Top
Maps \& aerials
Small scale terrain



Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov
Disclaimer
$\qquad$

## PLANNING \& ZONING COMMISSION APPLICATION

1. NAME OF APPLICANT: 633 East Main LLC
2. Is the Applicant's name Trustee of Record? Yes $\qquad$ No X

If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 619-625 East Main Street
(number)
(street) (state)
(zip code)
4. Assessor's Map Information: Block No. 813 Lot No. 7
5. Amendments to Zoning Regulations: (indicate) Article: $\qquad$ Section: $\qquad$ (Attach copies of Amendment)
6. Description of Property (Metes \& Bounds): 98 feet north on East Main Street; 98 feet on West boundary; 98 feet on South boundary; East 98 feet along Burroughs St. to the beginning.
7. Existing Zone Classification:

## RX1

8. Zone Classification requested: $\qquad$
9. Describe Proposed Development of Property: Proposed use is a residential twenty-four unit, three story apartment building

Approval(s) requested: Coastal Site Plan Approval
 Print Name: Patricia C. Sullivan, Esq.

If signed by Agent, state capacity (Lawyer, Developer, etc.) Signature:
Print Name:
Patricia C. Sullivan, Attorney
Mailing Address: 1115 Broad Street, Bridgeport, CT 06604
Phone: $\frac{203-4 \overline{14-6455}}{\text { psullivan }}$
Cell: 203-414-6455
Fax:
203-337-5524
E-mail Address: psullivan@cohenandwolf.com
\$ $\qquad$ Fee received

Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST

- 

Completed \& Signed Application Form

- A-2 Site Survey
- Building Floor Plans
- Completed Site / Landscape Plan
- Drainage Plan
- Building Elevations
Written Statement of Development and Use
- Property Owner's List
- Fee
- Cert. of Incorporation \& Organization and First Report (Corporations \& LLC's)

PROPERTY OWNER'S ENDORSEMENT OF APPLICATION


PATRICIA C. SULLIVAN
Please Reply To Bridgeport
Writer's Direct Dial: (203) 414-6455
E-Mail: psullivan@cohenandwolf.com
March 14, 2024
Via Hand Delivery
Paul Boucher, Zoning Administrator
Zoning Department
45 Lyon Terrace
Bridgeport, CT 06604

## Re: $\quad 633$ East Main LLC- 619-625 East Main Street.

Dear Mr. Boucher,
Enclosed please find an Application to the Bridgeport Planning and Zoning Commission for property located at 619-625 East Main Street. ("Property"). The Property is in the RX1 Zone. It is owned by 633 East Main LLC.

## Approval Requested

This Application is filed in connection with a CAM Site Plan Approval to permit the establishment of a twenty-four-unit Apartment Building at 619-625 East Main Street.

## Narrative-Proposed Development and Use

The owner proposes to develop currently vacant property at 619-625 East Main Street (the "Property") into a three story twenty-four-unit Apartment Building, pursuant to Zoning Regulation 3.60. These units will be attractive, two-bedroom units designed and intended to fill an existing need. This Property is in an RX1 zone. It is located very close to transportation and includes neighborhood amenities. Adjacent properties are improved with multifamily
developments institutional and commercial uses. This development will enhance this area. The improvements are under the Small General Building's Type Regulations and are designed to be fully zoning compliant.


PCS/gpt
Enclosure

# APPLICATION FOR REVIEW OF COASTAL SITE PLANS 

PREPARED FOR:<br>633 East Main, LLC

## 619-625 East Main Street BRIDGEPORT, CONNECTICUT

February 23, 2024


TABLE OF CONTENTS

## Project Narrative

CAM Application Form

Figure A - Location Map

Figure B - FEMA Firm Map

Figure C - Coastal Resource Map (Per Coastal Master Plan of Bridgeport, Connecticut On file City of Bridgeport Engineering Department)

Figure D - Zone Map

## PROJECT NARRATIVE

This proposed development is located at 619-625 East Main Street and is known as Lot 7 in Block 813 and map 42 per City of Bridgeport Assessor records. This parcel is zoned RX1. FEMA FIRM depicts this parcel within Zone X (Un-Shaded) per FEMA Panel 441 of 626, Map Number 09001C0441G, Map Revised July 8, 2013. Lot area is 9,659士 SF.

The parcel is within Pequonnock River Coastal Area Management Zone per Coastal Master Plan of Bridgeport, Connecticut (Sheet 4 of 4) found on file in the City of Bridgeport Engineering Department.

This site is currently vacant with sparse vegetation and gravel surfaces and bounded by an existing building on the west. The developer is proposing the construction of a zoning compliant, twenty-four unit, three story, apartment building, a paved driveway for refuse retrieval and paved walkways. The remainder of the site is proposed to be lawn and plantings surfaces. A storm drainage system consisting of infiltration chambers enveloped in a crushed stone bed has been designed at the northwesterly yard area that will treat the storm water run-off from the new roofed and driveway areas. The proposed stormwater system implements best management practices to aid in storm water quality.

This property will be developed in keeping with the integrity of this Zone. Construction is anticipated to have a duration of twelve to twenty-four months.

## Application Form <br> Municipal Coastal Site Plan Review <br> For Projects Located Fully or Partially Within the Coastal Boundary

Please complete this form in accordance with the attached instructions and submit it with the appropriate plans to appropriate municipal agency.

## Section I: Applicant Identification



## Section II: Project Site Plans

Please provide project site plans that clearly and accurately depict the following information, and check the appropriate boxes to indicate that the plans are included in this application:


Project location
Existing and proposed conditions, including buildings and grading
Coastal resources on and contiguous to the site
High tide line [as defined in CGS Section 22a-359(c)] and mean high water mark elevation
contours (for parcels abutting coastal waters and/or tidal wetlands only)


Soil erosion and sediment controls
Stormwater treatment practices
Ownership and type of use on adjacent properties
Reference datum (i.e., National Geodetic Vertical Datum, Mean Sea Level, etc.)

## Section III: Written Project Information

Please check the appropriate box to identify the plan or application that has resulted in this Coastal Site Plan Review:


## Part I: Site Information

1. Street Address or Geographical Description: 619-625 East Main Street

## Bridgeport, Connecticut

City or Town:
2. Is project or activity proposed at a waterfront site (includes tidal wetlands frontage)?
 YES

3. Name of on-site, adjacent or downstream coastal, tidal or navigable waters, if applicable: Pequonnock River
4. Identify and describe the existing land use on and adjacent to the site. Include any existing structures, municipal zoning classification, significant features of the project site: Existing land use for this site is a vacant parcel and the proposed use is a residential, twenty-four-unit building. Present land use within the vicinity of this parcel is a mixture of multi-family dwellings and nearby commercial buildings and a religious assembly. The proposed twenty-four-unit development is an allowed use within this zone and building type and fits the general character of the neighborhood.
5. Indicate the area of the project site: $\qquad$ acres orsquare feet (circle one)
6. Check the appropriate box below to indicate total land area of disturbance of the project or activity (please also see Part II.B. regarding proposed stormwater best management practices):


Project or activity will disturb 5 or more total acres of land area on the site. It may be eligible for registration for the Department of Environmental Protection's (DEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities


Project or activity will disturb one or more total acres but less than 5 total acres of land area. A soil erosion and sedimentation control plan must be submitted to the municipal land use agency reviewing this application. Project or activity will not disturb 1 acre total of land area. Stormwater management controls may be required as part of the coastal site plan review.
7. Does the project include a shoreline flood and erosion control structure as defined in CGS section 22a-109(d) $\qquad$ $\square$ Yes $\qquad$

## Part II.A.: Description of Proposed Project or Activity

Describe the proposed project or activity including its purpose and related activities such as site clearing, grading, demolition, and other site preparations; percentage of increase or decrease in impervious cover over existing conditions resulting from the project; phasing, timing and method of proposed construction; and new uses and changes from existing uses (attach additional pages if necessary):

The parcel is currently a vacant lot with sparse vegetation and gravel areas. The project consists of the construction of a 3 story, twenty-four-unit apartment building and will be served by public utilities and a sub-grade drainage infiltration system. There is an increase of $57 \%$ of impervious area, however, the development will be served by a new drainage system sized to the 50-year storm event that will capture all roof run-off and driveway run-off. All construction will be confined to the existing property boundary using perimeter soil and erosion controls as a barrier. Construction is anticipated to be completed within twenty-four (24) months from commencement. This property will be developed in keeping with the integrity of this zone. Approvals by the Zoning Planning Commission is required under Coastal Site Plan review.

## Part II.B.: Description of Proposed Stormwater Best Management Practices

Describe the stormwater best management practices that will be utilized to ensure that the volume of runoff generated by the first inch of rainfall is retained on-site, especially if the site or stormwater discharge is adjacent to tidal wetlands. If runoff cannot be retained on-site, describe the site limitations that prevent such retention and identify how stormwater will be treated before it is discharged from the site. Also demonstrate that the loadings of total suspended solids from the site will be reduced by 80 percent on an average annual basis, and that post-development stormwater runoff rates and volumes will not exceed pre-development runoff rates and volumes (attach additional pages if necessary):
Storm water run-off from the structures and paved areas will be treated, infiltration units enveloped in a crushed stone bed. Primary stormwater treatments will be implemented to comply with Best Management Practices (BMP's). Proposed infiltration system will provide water quantity measures which will also aid in the attenuation of storm water run-off. Preand post-development stormwater run-off rates and volumes were computed using the TR-55 method. Water quality volume (WQV) was determined using methods as outlined in CT DEEP Stormwater Quality Manual (SWQM). Routing of the drainage system demonstrates the reduction in peak flow rates and overall site runoff volumes. This primary treatment method will remove at least $80 \%$ of the average annual total suspended solids (TSS) load.

## Part III: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated policies that apply to the project by placing a check mark in the appropriate box(es) in the following table.

| Coastal Resources |  | Off-site <br> but <br> within <br> the <br> influence <br> of <br> project | Not <br> Applicable |
| :--- | :--- | :--- | :--- |
| General Coastal Resources* - Definition: CGS Section 22a-93(7); <br> Policy: CGS Section 22a-92(a)(2) | X |  | X |

[^11]
## Part IV: Consistency with Applicable Coastal Resource Policies and Standards

Describe the location and condition of the coastal resources identified in Part III above and explain how the proposed project or activity is consistent with all of the applicable coastal resource policies and standards; also see adverse impacts assessment in Part VII.A below (attach additional pages if necessary):

Complies w/ CGS 22a-92(a)(1) "...by promoting economic growth without significantly disrupting the environment..."
Complies w/ CGS 22a-92(b)(2)(F) "...manage coastal hazard areas to minimize hazards to property..."
Complies w/ CGS 22a-92(c)(2)(B) "...maintain patterns of water circulation in the placement of drainage control structures..."

## Part V: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all coastal policies and standards in or referenced by CGS Section 22a-92 applicable to the proposed project or activity:
$X$ General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), and 22a-92(a)(9)
Water-Dependent Uses** - CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A);
Definition CGS Section 22a-93(16)
Ports and Harbors - CGS Section 22a-92(b)(1)(C)
Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
Dredging and Navigation - CGS Sections 22a-92(c)(1)(C) and 22a-92(c)(1)(D)
Boating - CGS Section 22a-92(b)(1)(G)
Fisheries - CGS Section 22a-92(c)(1)(I)
Coastal Recreation and Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j) and 22a-92(c)(1)(K)
Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
Fuel, Chemicals and Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E) and 22a-92(c)(1)(A)
Transportation - CGS Sections 22a-92(b)(1)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), and
22a-92(c)(1)(H)
Solid Waste - CGS Section 22a-92(a)(2)
Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
Cultural Resources - CGS Section 22a-92(b)(1)(J)
Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

[^12]
## Part VI: Consistency With Applicable Coastal Use Policies And Standards

Explain how the proposed activity or use is consistent with all of the applicable coastal use and activity policies and standards identified in Part V. For projects proposed at waterfront sites (including those with tidal wetlands frontage), particular emphasis should be placed on the evaluation of the project's consistency with the water-dependent use policies and standards contained in CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A) -- also see adverse impacts assessment in Part VII.B below (attach additional pages if necessary):
No adverse impacts were determined on off-site coastal resources. Stormwater treatment is proposed which will help reduce erosion impacts as well as provide water infiltration. This project will be limited to the confines of the site and will be completed within twentyfour (24) months. All disturbed areas will be loamed, seeded and planted upon completion of construction. The proposed building will have new laterals to the existing street utilities.

## Part VII.A.: Identification of Potential Adverse Impacts on Coastal Resources

Please complete this section for all projects.
Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(15). If an adverse impact may result from the proposed project or activity, please use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on Coastal Resources | Applicable | Not Applicable |
| :---: | :---: | :---: |
| Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments through significant alteration of their natural characteristics or functions - CGS Section 22a-93(15)(H) |  | X |
| Increasing the hazard of coastal flooding through significant alteration of shoreline configurations or bathymetry, particularly within high velocity flood zones - CGS Section 22a-93(15)(E) |  | X |
| Degrading existing circulation patterns of coastal water through the significant alteration of patterns of tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours CGS Section 22a-93(15)(B) |  | $\mathbb{X}$ |
| Degrading natural or existing drainage patterns through the significant alteration of groundwater flow and recharge and volume of runoff - cGS Section 22a-93(15)(D) |  | $\mathbb{X}$ |
| Degrading natural erosion patterns through the significant alteration of littoral transport of sediments in terms of deposition or source reduction CGS Section 22a-93(15)(C) |  | X |
| Degrading visual quality through significant alteration of the natural features of vistas and view points - CGS Section 22a-93(15)(F) |  | X |
| Degrading water quality through the significant introduction into either coastal waters or groundwater supplies of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH , dissolved oxygen or salinity - CGS Section 22a-93(15)(A) |  | $\mathbb{X}$ |
| Degrading or destroying essential wildlife, finfish, or shellfish habitat through significant alteration of the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significant alterations of the natural components of the habitat CGS Section 22a-93(15)(G) |  | X |

## Part VII.B.: Identification of Potential Adverse Impacts on Water-dependent Uses

Please complete the following two sections only if the project or activity is proposed at a waterfront site:

1. Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(17). If an adverse impact may result from the proposed project or activity, use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on |  |
| :--- | :---: |
| Future Water-dependent Development Opportunities and Activities |  |$\quad$ Applicable | Not |
| :---: |
| Applicable |

2. Identification of existing and/or proposed Water-dependent Uses

Describe the features or characteristics of the proposed activity or project that qualify as water-dependent uses as defined in CGS Section 22a-93(16). If general public access to coastal waters is provided, please identify the legal mechanisms used to ensure public access in perpetuity, and describe any provisions for parking or other access to the site and proposed amenities associated with the access (e.g., boardwalk, benches, trash receptacles, interpretative signage, etc.)*:

Not applicable as the parcel is not in the immediate vicinity of the Pequonnock River and there is no water dependent use applicable to this site. Proposed development will consist of a twenty-four-unit, apartment building with a paved driveway for refuse retrieval and paved walkways for accessing the structure.
*If there are no water-dependent use components, describe how the project site is not appropriate for the development of a water-dependent use.

## Part VIII: Mitigation of Potential Adverse Impacts

Explain how all potential adverse impacts on coastal resources and/or future water-dependent development opportunities and activities identified in Part VII have been avoided, eliminated, or minimized (attach additional pages if necessary):

No adverse impacts were determined on adjacent or nearby coastal resources. The proposed activity will be constructed with the appropriate soil erosion and control measures and will include the design of a storm drainage system to ensure there will be no adverse impact on the adjoining properties.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Part IX: Remaining Adverse Impacts

Explain why any remaining adverse impacts resulting from the proposed activity or use have not been mitigated and why the project as proposed is consistent with the Connecticut Coastal Management Act (attach additional pages if necessary):

No adverse impacts resulting from the proposed activity is anticipated and appropriate measures will be utilized and designed as outlined above.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$



SCALE: NTS

MAP NUMBER 09001C0441G. MAP REVISED JULY 8, 2013

78 ELM STREET, BRIDGEPORT, CT 06604 $P: 2033308700 \cdot F: 2033308701$

FEMA FIRM MAP

633 EAST MAIN, LLC
619 THRU 625 EAST MAIN STREET BRIDGEPORT, CONNECTICUT



## DESIGN REPORT

## STORMWATER MANAGEMENT SYSTEM

## 619-625 East Main Street <br> Bridgeport, Connecticut



Prepared By:

[^13]
## GENERAL INFORMATION

Per the City of Bridgeport Tax Assessor records, 619-625 East Main Street is listed as Block 813, Lot 7. The parcel has an area of $9,659 \pm$ square feet and is within zone RX1. Parcel is currently vacant with sparse vegetation and poor lawn areas. The total grade change is approximately two feet pitching in an easterly direction.

The site is NOT within a FEMA Special Flood Hazard Zone. The site is within Zone X (Un-shaded) per FEMA FIRM Map Number 09001C0441G, Panel Number 441 of 626, Map Revised July 8, 2013.

Sanitary sewer, gas, water and electric services are available on East Main Street and Burroughs Street. Proposed Improvements include the construction of a 3 story, twenty-four unit apartment building, paved driveway for refuse retrieval, lawn areas and paved walkways. One underground, infiltration system has been designed at the northwesterly side of the site. The proposed roofed areas will discharge into the infiltration system. Once the system is full, storm water will overflow to the Burrough Street right of way. The chambers and crushed stone bed are designed with an overflow trench drain. Water quantity method is utilized in this design. Under this analysis, the proposed conditions will accommodate the theoretical storage volume and peak flow rates required by the City of Bridgeport Storm Management Manual. Best Management Practices (BMP's) are implemented also. All remaining yard areas are to be loamed and seeded to establish good grass cover.

## DESIGN METHODOLOGY

The stormwater runoff resulting from the existing and proposed conditions was analyzed using a 24 -hour, 2year, 10-year, 25 -year and 50 -year frequency, Type III storm event. HydroCAD software was used to run the storm analysis based on the SCS TR-20 method. A 2-year storm frequency for the Bridgeport area has a rainfall of 3.47 inches, a 10 -year storm frequency has a rainfall of 5.35 inches, a 25 -year storm frequency has a rainfall of 6.52 inches and a 50 -year storm frequency has a rainfall of 7.39 inches per NOAA Point Precipitation Frequency Estimates. The minimum time of concentration of five (5) minutes is utilized as a conservative option. Hydrographs are also included in this report reflecting runoff information for the existing and proposed conditions under the $2,10,25$ and 50 -year storm events.

## DRAINAGE AREA

Hydrographs provided the following information for the 50-year storm event and a runoff area of 9,659 $\mathbf{F t}^{2}$
Offsite Peak Flow Reduction
Existing Peak Flow Rate: $1.51 \mathrm{Ft}^{3} / \mathrm{s}\left(10 \%\right.$ Reduction Requirement $\left.=1.51 \times 0.9=1.35 \mathrm{Ft}^{3} / \mathrm{s}\right)$
Proposed Peak Flow Rate: $\mathbf{0 . 3 8} \mathrm{Ft}^{3} / \mathbf{s}$ ( $1.35 \mathrm{Ft}^{3} / \mathrm{s}$ Allowed)
Proposed Peak Flow Rate Reduction: $1.13 \mathrm{Ft}^{3} / \mathrm{s}\left(1.51 \mathrm{Ft}^{3} / \mathrm{s}-0.38 \mathrm{Ft}^{3} \mathrm{~s}\right)$
Proposed Reduction in Peak Flow Rate: 74\% (1.13 Ft ${ }^{3} / \mathrm{s} / 1.51 \mathrm{Ft}^{3} / \mathrm{s} \times 100=74 \%$ )
Offsite Runoff Volume Reduction
Existing Conditions Runoff Volume .............................................................4,899.0 Ft ${ }^{3}$
10\% Reduction Runoff Requirement ............................................................. $489.9 \mathrm{Ft}^{3}$
Maximum Runoff Volume Allowed ................................................................4,409.1 ft ${ }^{3}$
Proposed Conditions Runoff Volume........................................................... 1,393.0 Ft ${ }^{3}$
Proposed Volume Reduction .......................................................................3,506.0 Ft ${ }^{3}$
Proposed Reduction Percentage..................................71\% (3,506/4,899 $\times 100=71 \%$ )

## PROPOSED SYSTEM

The proposed system consists of sixteen, 330 Cultec Chambers in a $2 \times 8$ array enveloped in a $11.67 \times 59.5 \times$ 42 -inch-deep crushed stone bed on the northwesterly side of the parcel. The system will provide a combined storage capacity of $\mathbf{1 , 4 9 3} \mathrm{Ft}^{3}$ including trench drain overflow. PVC pipe volume connecting each device is not included. The calculations for sizing the system are included below. Filter Fabric to be installed on all sides of crushed stone.

## Stormwater Storage - Required

From hydrographs of 50-Year Event:
Pre-Conditions Runoff Volume $=4,899 \mathrm{Ft}^{3}$
$10 \%$ Storm Runoff Volume Reduction $=489.9 \mathrm{Ft}^{3}\left(25-\mathrm{Year}\right.$ Storm Event $\left.=0.10\left(4,899.0 \mathrm{Ft}^{3}\right)=489.9 \mathrm{Ft}^{3}\right)$
Allowed Runoff Volume Per City: 4,899.0 - 489.9 = 4,409.1 Ft ${ }^{3}$
Post Conditions Runoff Volume: 1,393 Ft ${ }^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")

## Water Quality Equation

WQV=1" RA/12 and R = 0.05+0.009(\% Proposed Impervious)
$R=0.05+0.009(81 \%)=0.7790$
WQV = 1" (0.7790) (0.222)/12 = 0.0144 Acre-Ft $=627.3 \mathrm{Ft}^{3}$
Pre Conditions Runoff Volume $=4,899 \mathrm{Ft}^{3}$
Allowed Runoff Volume Per WQV $=4,899-627.3=4,271.7$ Ft $^{3}$
Post Conditions Runoff Volume: 1,393 Ft ${ }^{3}$ (See Hydrograph Summary "Proposed Offsite Flows")
Design Storage (See Hydrograph Summary "Pond 1P")
Two rows of Eight, 330 Cultec Chambers embedded in crushed stone envelope $=\mathbf{1 , 4 8 6} \mathrm{Ft}^{\mathbf{3}}$
Overflow Drain: $1 \mathrm{Ft} \times 9 \mathrm{Ft} \times 0.8 \mathrm{Ft}=7 \mathrm{Ft}^{3}$
Combined Storage Provided $=1,493 \mathrm{Ft}^{3}$

| Pre Vs. Post Runoff (Commercial District) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Storm Frequency | PreConditions (Ft ${ }^{3}$ ) | Post Conditions $\left(\mathrm{Ft}^{3}\right)$ | $\begin{aligned} & \text { Reduction } \\ & \quad\left(\mathrm{Ft}^{3}\right) \end{aligned}$ | Percent Reduction | Pre-Peak Flows ( $\mathrm{Ft}^{3} / \mathrm{s}$ ) | Post Peak Flows ( $\mathrm{Ft}^{3} / \mathrm{s}$ ) | Reduction $\left(\mathrm{Ft}^{3} / \mathrm{s}\right)$ | Percent Reduction |
| 2 | 1,874 | 404 | 1,470 | 78\% | 0.60 | 0.13 | 0.47 | 78\% |
| 10 | 3,305 | 769 | 2,536 | 76\% | 1.04 | 0.25 | 0.79 | 75\% |
| 25 | 4,216 | 1,008 | 3,208 | 76\% | 1.31 | 0.32 | 0.99 | 75\% |
| 50 | 4,899 | 1,393 | 3,506 | 71\% | 1.51 | 0.38 | 1.13 | 74\% |

## Existing Conditions



Captured Roof \& Driveway

Cultec System


Un-Captured Lawn \& Impervious Areas
 Link

## Summary for Subcatchment Ex: Existing Conditions

Runoff $=\quad 0.60$ cfs @ 12.07 hrs, Volume $=1,874 \mathrm{cf}$, Depth> 2.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Frequency Rainfall=3.47"


## Subcatchment Ex: Existing Conditions



## Summary for Subcatchment 1SB: Captured Roof \& Driveway

Runoff $=\quad 0.55$ cfs @ 12.07 hrs, Volume= $\quad 1,891 \mathrm{cf}$, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Frequency Rainfall=3.47"

|  | Area (sf) | CN | Description |
| :--- | ---: | ---: | :--- |
| $*$ | 85 | 98 | Paved Driveway, HSG D |
| 6,930 | 98 | Roofs, HSG D |  |

Subcatchment 1SB: Captured Roof \& Driveway


## Summary for Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 404 cf, Depth> 1.83"<br>Routed to Link 1L : Proposed Offsite Flows

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Frequency Rainfall=3.47"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| 776 | 98 |  | Unconnected Impervious, HSG D |
| 1,868 | 80 |  | $>75 \%$ Grass cover, Good, HSG D |
| 2,644 | 85 | 83 | Weighted Average, UI Adjusted |
| 1,868 |  |  | 70.65\% Pervious Area |
| 776 |  | $29.35 \%$ Impervious Area |  |
| 776 |  |  | $100.00 \%$ Unconnected |


| Tc <br> $(\mathrm{min})$ | Length <br> $(\mathrm{feet})$ | Slope <br> $(\mathrm{ft} / \mathrm{ft})$ | Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Capacity <br> $(\mathrm{cfs})$ |
| ---: | ---: | ---: | ---: | :--- |

## Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas



## Summary for Pond 1P: Cultec System

| Inflow Area = | 7,015 sf,100.00\% Impervious, | Inflow Depth > 3.24" for 2 Year Frequency event |
| :---: | :---: | :---: |
| Inflow = | 0.55 cfs @ 12.07 hrs, Volume= | 1,891 cf |
| Outflow | 0.08 cfs @ 11.65 hrs, Volume= | $1,891 \mathrm{cf}$, Atten= 86\%, Lag $=0.0 \mathrm{~min}$ |
| Discarded = | 0.08 cfs @ 11.65 hrs , Volume= | 1,891 cf |
| Primary | 0.00 cfs @ 0.00 hrs, Volume= | 0 cf |
| Routed to | : Proposed Offsite Flows |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 32.23' @ 12.57 hrs Surf.Area= 694 sf Storage= 539 cf
Plug-Flow detention time $=41.0 \mathrm{~min}$ calculated for 1,887 of ( $100 \%$ of inflow)
Center-of-Mass det. time $=40.7 \mathrm{~min}(794.2-753.5)$

\begin{tabular}{|c|c|c|c|}
\hline Volume \& Invert \& Avail.Storage \& Storage Description \\
\hline \#1 \& 31.00' \& 629 cf \& \begin{tabular}{l}
11.67 'W x 59.50'L x 3.50'H Prismatoid \\
2,430 cf Overall -857 cf Embedded \(=1,573\) cf \(\times 40.0 \%\) Voids
\end{tabular} \\
\hline \#2 \& 31.50

33.50 \& 857 cf \& | Cultec R-330XLHD $\times 16$ Inside \#1 |
| :--- |
| Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0^{\prime \prime} \mathrm{W} \times 30.5^{\prime \prime} \mathrm{H} \times 8.50^{\prime} \mathrm{L}$ with $1.50^{\prime}$ Overlap |
| Row Length Adjustment $=+1.50$ ' $\times 7.45 \mathrm{sf} \times 2$ rows | <br>

\hline \multicolumn{4}{|r|}{$1,493 \mathrm{cf}$ Total Available Storage} <br>
\hline Device \& Routing \& \multicolumn{2}{|l|}{Invert Outlet Devices} <br>
\hline \#1 \& Discarded \& 31.00' 4.80 \& in/hr Exfiltration over Surface area <br>

\hline \#2 \& Primary \& $$
34.20^{\prime} \begin{aligned}
& 12.0^{\prime} \\
& \\
& \text { Limit }
\end{aligned}
$$ \& x 108.0" Horiz. Orifice/Grate C= 0.600 ed to weir flow at low heads <br>

\hline
\end{tabular}

Discarded OutFlow Max=0.08 cfs @ 11.65 hrs HW=31.04' (Free Discharge)
1-1=Exfiltration (Exfiltration Controls 0.08 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 1P: Cultec System

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area =
9,659 sf, $80.66 \%$ Impervious, Inflow Depth > 0.50" for 2 Year Frequency event Inflow = 0.13 cfs @ 12.08 hrs , Volume= 404 cf Primary = 0.13 cfs @ 12.08 hrs, Volume= 404 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$

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

## Link 1L: Proposed Offsite Flows


$\square$ Inflow
$\square$ Primary

## Summary for Subcatchment Ex: Existing Conditions

Runoff $=\quad 1.04$ cfs @ 12.07 hrs, Volume $=\quad 3,305 \mathrm{cf}$, Depth> 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Frequency Rainfall=5.35"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 1,975 | 86 D | DENSE VEGETATION., Poor, HSG D < $50 \%$ Grass cover, Poor, HSG D |  |  |
|  | 5,335 | 89 < |  |  |  |
| * | 2,349 | 91 G | Gravel Surface, HSG D |  |  |
|  | 9,659 | 89 | Weighted Average 100.00\% Pervious Area |  |  |
|  | 9,659 |  |  |  |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry, |

## Subcatchment Ex: Existing Conditions



## Summary for Subcatchment 1SB: Captured Roof \& Driveway

Runoff $=0.85$ cfs @ 12.07 hrs, Volume=
Routed to Pond 1P : Cultec System
2,987 cf, Depth> 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Frequency Rainfall=5.35"
$\left.\begin{array}{rrrl}\text { Area (sf) } & \text { CN } & \text { Description } \\ \text { * } & \begin{array}{rl}85 & 98\end{array} & \text { Paved Driveway, HSG D } \\ 6,930 & 98 & \text { Roofs, HSG D }\end{array}\right]$

Subcatchment 1SB: Captured Roof \& Driveway


## Summary for Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas

Runoff $=\quad 0.25$ cfs @ 12.07 hrs, Volume= 769 cf, Depth> 3.49"<br>Routed to Link 1L : Proposed Offsite Flows

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Frequency Rainfall=5.35"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| * | 776 | 98 |  |
| 1,868 | 80 |  | Unconnected Impervious, HSG D |
| $>75 \%$ Grass cover, Good, HSG D |  |  |  |
| 2,644 | 85 | 83 | Weighted Average, UI Adjusted |
| 1,868 |  |  | 70.65\% Pervious Area |
| 776 |  | $29.35 \%$ Impervious Area |  |
| 776 |  |  | $100.00 \%$ Unconnected |


| Tc <br> $(\mathrm{min})$ | Length <br> $(\mathrm{feet})$ | Slope <br> $(\mathrm{ft} / \mathrm{ft})$ | Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Capacity <br> $(\mathrm{cfs})$ |
| ---: | ---: | ---: | ---: | :--- | Description | Direct Entry, |
| :--- |

## Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas



## Summary for Pond 1P: Cultec System

| Inflow Area = | 7,015 sf, 100.00\% Impervious, | Inflow Depth > 5.11" for 10 Year Frequency event |
| :---: | :---: | :---: |
| Inflow = | 0.85 cfs @ 12.07 hrs, Volume= | 2,987 cf |
| Outflow = | 0.08 cfs @ 11.35 hrs, Volume= | 2,986 cf, Atten= 91\%, Lag= 0.0 min |
| Discarded = | 0.08 cfs @ 11.35 hrs , Volume= | 2,986 cf |
| Primary | 0.00 cfs @ 0.00 hrs , Volume= | 0 cf |
| Routed to | : Proposed Offsite Flows |  |

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 33.17' @ 12.90 hrs Surf.Area= 694 sf Storage= 1,016 cf
Plug-Flow detention time $=89.4$ min calculated for 2,980 cf ( $100 \%$ of inflow)
Center-of-Mass det. time $=89.0 \mathrm{~min}(834.7-745.7$ )

\begin{tabular}{|c|c|c|c|}
\hline Volume \& Invert \& Avail.Storage \& Storage Description \\
\hline \#1 \& 31.00' \& 629 cf \& \begin{tabular}{l}
11.67 'W x \(59.50^{\prime} \mathrm{L} \times 3.50^{\prime} \mathrm{H}\) Prismatoid \\
2,430 cf Overall - 857 cf Embedded \(=1,573\) cf \(\times 40.0 \%\) Voids
\end{tabular} \\
\hline \#2 \& 31.50

33.50 \& 857 cf

7 cf \& | Cultec R-330XLHD $\times 16$ Inside \#1 |
| :--- |
| Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ Overall Size $=52.0$ "W x 30.5"H x 8.50'L with 1.50' Overlap |
| Row Length Adjustment= +1.50' x 7.45 sf $\times 2$ rows |
| $100 \mathrm{~W} \times 9.00^{\prime} \mathrm{L} \times 0.80^{\prime} \mathrm{H}$ Prismatoid | <br>

\hline \multicolumn{4}{|r|}{1,493 cf Total Available Storage} <br>
\hline Device \& Routing \& Invert Outle \& D Devices <br>
\hline \#1 \& Discarded \& 31.00 4.800 \& in/hr Exfiltration over Surface area <br>
\hline \#2 \& Primary \& 34.20 ' 12.0 \& x 108.0" Horiz. Orifice/Grate C= 0.600 <br>
\hline
\end{tabular}

Discarded OutFlow Max=0.08 cfs @ 11.35 hrs HW=31.04' (Free Discharge)
-1=Exfiltration (Exfiltration Controls 0.08 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 1P: Cultec System

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 9,659$ sf, $80.66 \%$ Impervious, Inflow Depth > 0.96" for 10 Year Frequency event Inflow = 0.25 cfs @ 12.07 hrs, Volume= 769 cf Primary = 0.25 cfs @ 12.07 hrs, Volume=

769 cf, Atten $=0 \%$, Lag $=0.0 \mathrm{~min}$
Primary outflow $=$ Inflow, Time Span= 0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows


$\square$ Inflow
$\square$ Primary

Summary for Subcatchment Ex: Existing Conditions
Runoff $=\quad 1.31$ cfs @ 12.07 hrs, Volume $=\quad 4,216 \mathrm{cf}$, Depth> 5.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.52"


## Subcatchment Ex: Existing Conditions



## Summary for Subcatchment 1SB: Captured Roof \& Driveway

Runoff $=\quad 1.04$ cfs @ 12.07 hrs, Volume= $\quad 3,670 \mathrm{cf}$, Depth> 6.28"
Routed to Pond $1 \mathrm{P}:$ Cultec System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25 Year Frequency Rainfall=6.52"

| Area (sf) | CN | Description |  |
| :--- | ---: | ---: | :--- |
| $*$ | 85 | 98 | Paved Driveway, HSG D |
| 6,930 | 98 | Roofs, HSG D |  |

Subcatchment 1SB: Captured Roof \& Driveway


## Summary for Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas

Runoff $=\quad 0.32$ cfs @ 12.07 hrs, Volume= $1,008 \mathrm{cf}$, Depth> 4.57"<br>Routed to Link 1L : Proposed Offsite Flows

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Frequency Rainfall=6.52"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| * | 776 | 98 |  |
| 1,868 | 80 |  | Unconnected Impervious, HSG D |
| $>75 \%$ Grass cover, Good, HSG D |  |  |  |
| 2,644 | 85 | 83 | Weighted Average, UI Adjusted |
| 1,868 |  |  | 70.65\% Pervious Area |
| 776 |  | $29.35 \%$ Impervious Area |  |
| 776 |  |  | $100.00 \%$ Unconnected |


| Tc <br> $(\mathrm{min})$ | Length <br> $(\mathrm{feet})$ | Slope <br> $(\mathrm{ft} / \mathrm{ft})$ | Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Capacity <br> $(\mathrm{cfs})$ |
| ---: | ---: | ---: | ---: | :--- |

## Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas



## Summary for Pond 1P: Cultec System



Plug-Flow detention time $=124.8 \mathrm{~min}$ calculated for $3,669 \mathrm{cf}$ ( $100 \%$ of inflow)
Center-of-Mass det. time $=124.6 \min (867.3-742.7)$

| Volume | Invert | Avail.Storage | Storage Description |
| :---: | :---: | :---: | :---: |
| \#1 | 31.00' | 629 cf | 11.67'W x 59.50'L x 3.50'H Prismatoid |
|  |  |  | 2,430 cf Overall - 857 cf Embedded $=1,573$ cf $\times 40.0 \%$ Voids |
| \#2 | 31.50 | 857 cf | Cultec R-330XLHD $\times 16$ Inside \#1 |
|  |  |  | Effective Size $=47.8^{\prime \prime} \mathrm{W} \times 30.0{ }^{\prime \prime} \mathrm{H}=>7.45 \mathrm{sf} \times 7.00^{\prime} \mathrm{L}=52.2 \mathrm{cf}$ |
|  |  |  | Overall Size $=52.0$ " $\mathrm{W} \times 30.5{ }^{\prime \prime} \mathrm{H} \times 8.50$ 'L with 1.50' Overlap |
|  |  |  | Row Length Adjustment= +1.50' $\times 7.45 \mathrm{sf} \times 2$ rows |
| \#3 | 33.50' | 7 cf | $1.00^{\prime} \mathrm{W} \times 9.00^{\prime} \mathrm{L} \times 0.80{ }^{\prime} \mathrm{H}$ Prismatoid |
|  | $1,493 \mathrm{cf}$ Total Available Storage |  |  |
| Device | Routing | Invert Outlet Devices |  |
| \#1 | Discarded | 31.00 4.800 | $4.800 \mathrm{in} / \mathrm{hr}$ Exfiltration over Surface area |
| \#2 | Primary | $34.20^{\prime}$ | $12.0 " \times 108.0$ " Horiz. Orifice/Grate $C=0.600$ Limited to weir flow at low heads |
|  |  |  |  |

Discarded OutFlow Max=0.08 cfs @ 12.35 hrs HW=33.52' (Free Discharge)
1-1=Exfiltration (Exfiltration Controls 0.08 cfs )
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.00' (Free Discharge)
L2=Orifice/Grate (Controls 0.00 cfs )

## Pond 1P: Cultec System

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area $=\quad 9,659$ sf, $80.66 \%$ Impervious, Inflow Depth > 1.25" for 25 Year Frequency event Inflow $=0.32$ cfs @ 12.07 hrs , Volume $=1,008 \mathrm{cf}$ Primary $=0.32 \mathrm{cfs} @ 12.07 \mathrm{hrs}$, Volume $=1,008 \mathrm{cf}$, Atten= $0 \%$, Lag= 0.0 min

Primary outflow $=$ Inflow, Time Span= 0.00-24.00 hrs, $\mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows


$\square$ Inflow
$\square$ Primary

Summary for Subcatchment Ex: Existing Conditions
Runoff $=\quad 1.51$ cfs @ 12.07 hrs, Volume $=\quad 4,899$ cf, Depth> 6.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.39"

|  | Area (sf) | CN D | Description |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * | 1,975 | 86 | DENSE VEGETATION., Poor, HSG D |  |  |
|  | 5,335 | 89 < | <50\% Gras | cover, Po | or, HSG D |
| * | 2,349 | 91 G | Gravel Surface, HSG D |  |  |
|  | 9,659 | 89 | Weighted Average |  |  |
|  | 9,659 |  | 100.00\% P | rvious Are |  |
| $\begin{array}{r} \mathrm{Tc} \\ (\mathrm{~min}) \\ \hline \end{array}$ | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
| 5.0 |  |  |  |  | Direct Entry, |

## Subcatchment Ex: Existing Conditions



## Summary for Subcatchment 1SB: Captured Roof \& Driveway

Runoff $=\quad 1.18$ cfs @ 12.07 hrs, Volume= $\quad 4,178 \mathrm{cf}$, Depth> 7.15"
Routed to Pond $1 \mathrm{P}:$ Cultec System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50 Year Frequency Rainfall=7.39"

| Area (sf) | CN | Description |  |
| :--- | ---: | ---: | :--- |
| $*$ | 85 | 98 | Paved Driveway, HSG D |
| 6,930 | 98 | Roofs, HSG D |  |

Subcatchment 1SB: Captured Roof \& Driveway


## Summary for Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas

Runoff $=\quad 0.38$ cfs @ 12.07 hrs, Volume= $1,188 \mathrm{cf}$, Depth> 5.39"<br>Routed to Link 1L : Proposed Offsite Flows

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Frequency Rainfall=7.39"

| Area (sf) | CN | Adj | Description |
| ---: | ---: | ---: | :--- |
| * | 776 | 98 |  |
| 1,868 | 80 |  | Unconnected Impervious, HSG D |
| $>75 \%$ Grass cover, Good, HSG D |  |  |  |
| 2,644 | 85 | 83 | Weighted Average, UI Adjusted |
| 1,868 |  |  | 70.65\% Pervious Area |
| 776 |  | $29.35 \%$ Impervious Area |  |
| 776 |  |  | $100.00 \%$ Unconnected |


| Tc <br> $(\mathrm{min})$ | Length <br> $(\mathrm{feet})$ | Slope <br> $(\mathrm{ft} / \mathrm{ft})$ | Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Capacity <br> $(\mathrm{cfs})$ |
| ---: | ---: | ---: | ---: | :--- |

## Subcatchment 1SA: Un-Captured Lawn \& Impervious Areas



## Summary for Pond 1P: Cultec System



Discarded OutFlow Max=0.08 cfs @ 12.20 hrs HW=33.51' (Free Discharge)
1-1=Exfiltration (Exfiltration Controls 0.08 cfs )
Primary OutFlow Max=0.22 cfs @ 12.42 hrs HW=34.22' (Free Discharge)
L2=Orifice/Grate (Weir Controls 0.22 cfs @ 0.49 fps )

## Pond 1P: Cultec System

Hydrograph


## Summary for Link 1L: Proposed Offsite Flows

Inflow Area =
9,659 sf, $80.66 \%$ Impervious, Inflow Depth > 1.73" for 50 Year Frequency event Inflow = 0.38 cfs @ 12.07 hrs, Volume= 1,393 cf Primary = 0.38 cfs @ 12.07 hrs, Volume= $1,393 \mathrm{cf}$, Atten $=0 \%, L a g=0.0 \mathrm{~min}$

Primary outflow $=$ Inflow, Time Span= $0.00-24.00 \mathrm{hrs}, \mathrm{dt}=0.05 \mathrm{hrs}$

## Link 1L: Proposed Offsite Flows


$\square$ Inflow
$\square$ Primary



NOAA Atlas 14, Volume 10, Version 3
Location name: Bridgeport, Connecticut, USA*
Latitude: $41.1831^{\circ}$, Longitude: $\mathbf{- 7 3 . 1 8 1 1 ^ { \circ }}$
Elevation: 20 ft**

* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES
Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite
NOAA, National Weather Service, Silver Spring, Maryland
PF tabular | PF_graphical | Maps \& aerials

## PF tabular

| PDS-based point precipitation frequency estimates with 90\% confidence intervals (in inches) ${ }^{\mathbf{1}}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Duration | Average recurrence interval (years) |  |  |  |  |  |  |  |  |  |
|  | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-mi | 0.351 <br> $(0.280-0.434)$ | $(0.334-0.519)$ | $(0.421-0.658)$ | 0.623 <br> $(0.491-0.777)$ | $\mathbf{0 . 7 5 0}$ <br> $(0.570-0.976)$ | $\begin{gathered} 0.846 \\ (0.628-1.12) \end{gathered}$ | 0.946 <br> $(0.679-1.30)$ | 1.06 <br> $(0.717-1.49)$ | $\begin{gathered} 1.22 \\ (0.789-1.77) \\ \hline \end{gathered}$ | $(0.850-2.00)$ |
| 10- | $(0.396-0.615$ | $(0.473-0.735)$ | $(0.597-0.934)$ | $(0.695-1.10)$ | 1.06 <br> $(0.807-1.38)$ | $(0.890-1.59)$ | $(0.962-1.85)$ | $\begin{array}{\|c\|} \hline 1.50 \\ (1.02-2.11) \\ \hline \end{array}$ | $\begin{gathered} \hline 1.72 \\ (1.12-2.51) \\ \hline \end{gathered}$ | $\begin{gathered} 1.90 \\ (1.20-2.83) \end{gathered}$ |
| 15 | $(0.466-0.723)$ | $(0.556-0.864)$ | (0.701-1.10) | 1.04 <br> $(0.818-1.30)$ | 1.25 <br> $(0.950-1.63)$ | $(1.05-1.87)$ | $(1.13-2.17)$ | (1.19-2.48) | $\begin{gathered} \hline 2.02 \\ (1.32-2.96) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 2 4} \\ (1.42-3.33) \end{gathered}$ |
| 30 | (0.650-1.01) | $(0.775-1.20)$ | $\begin{gathered} \hline 1.23 \\ (0.977-1.53) \\ \hline \hline \end{gathered}$ |  |  | $\begin{gathered} 1.96 \\ (1.46-2.61) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.20 \\ (1.57-3.02) \\ \hline \end{gathered}$ | $\mathbf{2 . 4 5}$ <br> $(1.66-3.45)$ | $\begin{gathered} 2.81 \\ (1.82-4.10) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.10 \\ (1.96-4.61) \\ \hline \end{gathered}$ |
| 60 | $\begin{array}{c\|} \hline 1.05 \\ (0.834-1.29) \\ \hline \hline \end{array}$ | $\begin{array}{c\|} \hline 1.25 \\ (0.994-1.54) \\ \hline \hline \end{array}$ | $\begin{gathered} \hline 1.58 \\ (1.25-1.96) \\ \hline \end{gathered}$ | $\begin{gathered} 1.85 \\ (1.46-2.31) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 . 2 3} \\ (1.69-2.90) \\ \hline \end{gathered}$ |  |  | $\begin{array}{\|c\|} \hline 3.14 \\ (2.13-4.42) \\ \hline \end{array}$ | $\begin{gathered} \hline 3.59 \\ (2.34-5.24) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.96 \\ (2.51-5.89) \\ \hline \end{gathered}$ |
| 2 | $\begin{gathered} \hline 1.36 \\ (1.09-1.66) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 1.63 \\ (1.30-2.00) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 0 7} \\ (1.66-2.56) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 4 4} \\ (1.94-3.03) \\ \hline \end{gathered}$ |  | $\begin{gathered} 3.33 \\ (2.49-4.41) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.73 \\ (2.70-5.12) \\ \hline \end{gathered}$ | 4.19 <br> $(2.85-5.86)$ |  | $\begin{gathered} \hline 5.38 \\ (3.41-7.95) \\ \hline \end{gathered}$ |
| 3-hr | $\begin{gathered} \hline 1.57 \\ (1.26-1.92) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 1.88 \\ (1.52-2.31) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 4 1} \\ (1.93-2.96) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.26-3.51) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.44 \\ (2.64-4.44) \\ \hline \end{gathered}$ |  |  | 4.90 <br> $(3.34-6.83)$ |  | $\begin{gathered} \hline 6.34 \\ (4.04-9.34) \\ \hline \end{gathered}$ |
| 6-hr | $\begin{gathered} 1.98 \\ (1.60-2.40) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 . 3 8} \\ (1.93-2.90) \\ \hline \end{gathered}$ | $\begin{gathered} 3.05 \\ (2.46-3.72) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.61 \\ (2.89-4.43) \\ \hline \end{gathered}$ |  | $\begin{array}{c\|} \hline 4.94 \\ (3.73-6.48) \\ \hline \end{array}$ |  | $\begin{array}{\|c\|} \hline \mathbf{6 . 2 6} \\ (4.28-8.67) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 7.30 \\ (4.78-10.5) \\ \hline \end{array}$ | $\begin{gathered} \hline 8.18 \\ (5.22-12.0) \\ \hline \end{gathered}$ |
| 12-hr | (1.98-2.93) | $\begin{gathered} \hline 2.94 \\ (2.40-3.55) \end{gathered}$ | $\begin{gathered} \hline 3.78 \\ (3.07-4.58) \end{gathered}$ | $\begin{gathered} 4.47 \\ (3.60-5.45) \end{gathered}$ | $\begin{gathered} \hline 5.42 \\ (4.21-6.92) \end{gathered}$ |  |  | $\begin{array}{\|c\|} \hline 7.78 \\ (5.35-10.7) \end{array}$ | $\begin{gathered} 9.11 \\ (5.99-13.0) \end{gathered}$ | $\begin{gathered} \hline 10.2 \\ (6.55-14.8) \end{gathered}$ |
| 24-h | $\begin{gathered} \hline \mathbf{2 . 8 4} \\ (2.33-3.40) \end{gathered}$ | $\begin{gathered} \hline 3.47 \\ (2.84-4.16) \end{gathered}$ | $\begin{gathered} 4.49 \\ (3.67-5.41) \end{gathered}$ | $\begin{gathered} 5.35 \\ (4.34-6.47) \end{gathered}$ | $\begin{gathered} \hline 6.52 \\ (5.10-8.28) \end{gathered}$ | 7.39 <br> $(5.66-9.60)$ | $\begin{array}{c\|} \hline 8.33 \\ (6.18-11.3) \end{array}$ | (6.53-12.9) | $\begin{gathered} 11.2 \\ (7.38-15.8) \end{gathered}$ | $\begin{gathered} \hline 12.7 \\ (8.13-18.3) \end{gathered}$ |
| 2-day | $\begin{gathered} \hline 3.16 \\ (2.61-3.76) \end{gathered}$ | $\begin{gathered} \hline 3.92 \\ (3.24-4.67) \end{gathered}$ | $\begin{gathered} \mathbf{5 . 1 7} \\ (4.25-6.18) \end{gathered}$ | $\begin{gathered} 6.20 \\ (5.07-7.46) \end{gathered}$ | $\begin{gathered} \hline 7.63 \\ (6.02-9.65) \end{gathered}$ | 8.68 <br> $(6.69-11.2)$ | $\begin{gathered} 9.83 \\ (7.36-13.3) \end{gathered}$ | $\begin{array}{c\|} \hline 11.3 \\ (7.79-15.3) \\ \hline \end{array}$ | $\begin{gathered} 13.5 \\ (8.94-19.0) \end{gathered}$ | $\begin{gathered} \hline 15.5 \\ (9.98-22.2) \end{gathered}$ |
| 3-day | $\begin{gathered} 3.41 \\ (2.83-4.05) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 4.25 \\ (3.52-5.04) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.62 \\ (4.63-6.69) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 6.75 \\ (5.53-8.08) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.31 \\ (6.58-10.5) \\ \hline \end{gathered}$ | 9.45 <br> $(7.32-12.2)$ | $\begin{gathered} 10.7 \\ (8.06-14.5) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 12.3 \\ (8.53-16.7) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 14.8 \\ (9.82-20.7) \\ \hline \end{array}$ | $\begin{gathered} 17.0 \\ (11.0-24.3) \\ \hline \end{gathered}$ |
| 4-day | $\begin{gathered} \hline 3.66 \\ (3.05-4.33) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 4.54 \\ (3.77-5.38) \\ \hline \end{gathered}$ | $\begin{gathered} 5.98 \\ (4.95-7.10) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 7.17 \\ (5.90-8.56) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.82 \\ (6.99-11.1) \\ \hline \end{gathered}$ | 10.0 <br> $(7.78-12.9)$ | $\begin{gathered} 11.3 \\ (8.55-15.3) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 13.0 \\ (9.04-17.6) \\ \hline \end{array}$ | $\begin{gathered} \hline 15.7 \\ (10.4-21.8) \\ \hline \end{gathered}$ | $\begin{gathered} 18.0 \\ (11.6-25.5) \\ \hline \end{gathered}$ |
| 7-day | $\begin{gathered} \hline 4.38 \\ (3.66-5.15) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 5.32 \\ (4.45-6.27) \\ \hline \end{gathered}$ | $\begin{gathered} 6.87 \\ (5.72-8.11) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 8.16 \\ (6.74-9.68) \\ \hline \end{gathered}$ | $\begin{gathered} 9.92 \\ (7.90-12.4) \end{gathered}$ | $\begin{array}{\|c\|} \hline 11.2 \\ (8.74-14.3) \\ \hline \end{array}$ | $\begin{gathered} 12.6 \\ (9.54-16.8) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 14.4 \\ (10.0-19.3) \\ \hline \end{array}$ | $\begin{gathered} \hline 17.2 \\ (11.4-23.7) \\ \hline \end{gathered}$ | $\begin{gathered} 19.5 \\ (12.6-27.5) \\ \hline \end{gathered}$ |
| 10-day | $\begin{gathered} \hline 5.07 \\ (4.26-5.94) \end{gathered}$ | $\begin{gathered} 6.06 \\ (5.08-7.10) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 7.67 \\ (6.40-9.02) \\ \hline \end{gathered}$ | $\begin{gathered} 9.01 \\ (7.47-10.7) \end{gathered}$ | $\begin{gathered} \hline \mathbf{1 0 . 8} \\ (8.66-13.4) \\ \hline \end{gathered}$ | 12.2 <br> $(9.51-15.5)$ | $\begin{gathered} 13.7 \\ (10.3-18.1) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} 15.5 \\ (10.8-20.6) \\ \hline \end{array}$ | $\begin{gathered} 18.2 \\ (12.1-25.1) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{2 0 . 5} \\ (13.3-28.8) \end{gathered}$ |
| 20-day | $\begin{gathered} \hline 7.15 \\ (6.04-8.31) \end{gathered}$ | $\begin{gathered} 8.23 \\ (6.94-9.58) \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.40-11.7) \end{gathered}$ | $\begin{gathered} 11.5 \\ (9.56-13.5) \end{gathered}$ | $\begin{gathered} 13.5 \\ (10.8-16.5) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 15.0 \\ (11.7-18.7) \\ \hline \end{array}$ | $\begin{array}{c\|} 16.6 \\ (12.4-21.4) \\ \hline \end{array}$ | $\begin{array}{\|c\|} \mathbf{1 8 . 4} \\ (12.9-24.3) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 20.9 \\ (14.0-28.6) \\ \hline \end{array}$ | $\begin{gathered} \mathbf{2 3 . 0} \\ (15.0-32.1) \end{gathered}$ |
| 30-day | $\begin{gathered} 8.86 \\ (7.52-10.3) \\ \hline \end{gathered}$ | $\begin{gathered} 10.0 \\ (8.49-11.6) \\ \hline \end{gathered}$ | $\begin{gathered} 11.9 \\ (10.0-13.8) \\ \hline \end{gathered}$ | $\begin{gathered} 13.5 \\ (11.3-15.7) \\ \hline \end{gathered}$ | $\begin{gathered} \mathbf{1 5 . 6} \\ (12.5-18.9) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{1 7 . 2} \\ (13.5-21.3) \\ \hline \end{array}$ | $\begin{array}{c\|} 18.9 \\ (14.2-24.2) \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \mathbf{2 0 . 7} \\ (14.6-27.2) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 23.1 \\ (15.6-31.5) \\ \hline \end{array}$ | $\begin{array}{c\|} \mathbf{2 5 . 1} \\ (16.3-34.8) \\ \hline \end{array}$ |
| 45-day | $\begin{gathered} 11.0 \\ (9.37-12.7) \\ \hline \end{gathered}$ | $\begin{gathered} 12.2 \\ (10.4-14.1) \\ \hline \end{gathered}$ | $\begin{gathered} 14.2 \\ (12.1-16.5) \\ \hline \end{gathered}$ | $\begin{gathered} 15.9 \\ (13.4-18.5) \\ \hline \end{gathered}$ | $\begin{gathered} 18.2 \\ (14.7-21.9) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{2 0 . 0} \\ (15.6-24.5) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 21.7 \\ (16.3-27.5) \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline 23.5 \\ (16.7-30.8) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 25.9 \\ (17.4-35.0) \\ \hline \end{array}$ | $\begin{array}{c\|} \mathbf{2 7 . 6} \\ (18.0-38.2) \\ \hline \end{array}$ |
| 60-day | $\begin{gathered} 12.8 \\ (10.9-14.7) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 14.1 \\ (12.0-16.2) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 16.2 \\ (13.8-18.7) \\ \hline \end{gathered}$ | $\begin{gathered} 17.9 \\ (15.1-20.8) \\ \hline \end{gathered}$ | $\begin{gathered} \hline \mathbf{2 0 . 4} \\ (16.4-24.4) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{2 2 . 2} \\ (17.4-27.2) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline 24.1 \\ (18.0-30.2) \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \mathbf{2 5 . 9} \\ (18.4-33.7) \\ \hline \end{array}$ | $\begin{array}{c\|} \hline \mathbf{2 8 . 2} \\ (19.0-37.9) \\ \hline \end{array}$ | $\begin{gathered} \hline 29.8 \\ (19.5-41.1) \\ \hline \end{gathered}$ |

${ }^{1}$ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the $90 \%$ confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is $5 \%$. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.


| Average recurrence <br> interval <br> (years) |
| :---: |
| -1 |
| -2 |
| -5 |
| — 10 |
| — 25 |
| — 50 |
| — 100 |
| — 200 |
| — 500 |



| Duration |  |
| :---: | :---: |
| - $\quad 5-\mathrm{min}$ $-10-\mathrm{min}$ $-\quad 15-\mathrm{min}$ $-30-\mathrm{min}$ $-60-\mathrm{min}$ $-\quad 2-\mathrm{hr}$ $-3-\mathrm{hr}$ $-\quad 6-\mathrm{hr}$ $-\quad 12-\mathrm{hr}$ - $24-\mathrm{hr}$ | $\begin{aligned} & \text { - 2-day } \\ & \text { - 3-day } \\ & \text { - 4-day } \\ & \text { - 7-day } \\ & \text { — 10-day } \\ & \text { - 20-day } \\ & \text { - 30-day } \\ & \text { - 45-day } \\ & \text { 60-day } \end{aligned}$ |

NOAA Atlas 14, Volume 10, Version 3
Created (GMT): Thu Feb 15 14:55:26 2024
Back to Top



Large scale aerial


Back to Top

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: $\underline{\text { HDSC.Questions@noaa.gov }}$
Disclaimer

Secretary of the State of Connecticut Certificate of Organization

## Filing Details

Filing Number: 0010648765

## Primary Details

Name of Limited Liability Company:633 East Main LLC
Business ALEI:
Business Email Address:
NAICS Information:

Filed On: 6/21/2022 11:59:15 AM

US-CT.BER:2584441
bnmbuilders@gmail.com
Residential Property Managers (531311)

## Business Location

Principal Office Address: 156 Morehouse Rd, Easton, CT, 06612-2147, United States
Mailing Address: p.o. box 110095, Trumbull, CT, 06611, United States

## Appointment of Registered Agent

Type:
Agent's Name: Bangalore Mahesh
Business Address: 156 Morehouse Rd, Easton, CT, 06612-2147, United States
Residence Address: 156 Morehouse Rd , Easton, CT, 06612-2147, United States
Mailing Address: 156 Morehouse Rd, Easton, CT, 06612-2147, United States
Agent Appointment Acceptance
Agent Signature:
This signature has been executed electronically
Manager or Member Information

| Name | Title | Business Address | Residence Address |
| :--- | :--- | :--- | :--- |
| MPG | Managing | 115 TECHNOLOGY | N/A |
| MANAGEMENT | Member | DRIVE SUITE A 303 |  |
| COMPANY |  | SUITE A 303, |  |
|  |  | TRUMBULL, CT, |  |
|  |  | 06611, |  |
|  |  | United States |  |



## Secretary of the State of Connecticut Certificate of Organization

| Gayatri Rao Mahesh | Member | N/A | 156 Morehouse Rd, |
| :--- | :--- | :--- | :--- |
|  |  |  | Easton, CT, |
|  |  |  | 06612-2147, |
|  |  | United States |  |
| Bangalore Mahesh | Managing | 156 Morehouse Rd, | 156 Morehouse Rd, |
|  | Member | Easton, CT, | Easton, CT, |
|  |  | 06612-2147, | $06612-2147$, |
|  |  | United States | United States |

## Acknowledgement

I hereby certify and state under penalties of false statement that all the information set forth on this document is true.

I hereby electronically sign this document on behalf of:
Name of Organizer: Bangalore Mahesh
Organizer Title: Managing Member
Filer Name: bangalore mahesh
Filer Signature: bangalore mahesh
Execution Date: 06/21/2022
This signature has been executed electronically

## 619 East Main Street \#625 100́ Abutters

| LOCATION | OWNER NAME | OWNER ADDRESS | CITY | STATE | ZIPCODE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 601 EAST MAIN ST \#603 | 255 KOSSUTH LLC | 133 RIVER RD | MYSTIC | CT | 06355 |
| 168 BURROUGHS ST \#174 | 255 KOSSUTH LLC | 133 RIVER RD | MYSTIC | CT | 06355 |
| 158 BURROUGHS ST | 255 KOSSUTH ST | 133 RIVER RD | MYSTIC | CT | 06355 |
| 588-612 EAST MAIN ST | 588 EAST MAIN STREET LLC | 588 EAST MAIN ST \#612 | BRIDGEPORT | CT | 06608 |
| 624 EAST MAIN ST \#638 | MASTER LLC | 22 GOLEC AVENUE | SHELTON | CT | -06484 |
| 171 BURROUGHS ST | ST MICHAELS ARCHANGEL POLISH | 310 PULASKI ST | BRIDGEPORT | CT | 06608 |
| 169 BURROUGHS ST | ST MICHAELS ARCHANGEL POLISH | 310 PULASKI ST | BRIDGEPORT | CT | -06608 |
| 652 EAST MAIN ST \#654 | COLLAZO LISA | 652 EAST MAIN STREET \#654 | BRIDGEPORT | CT | 06608 |
| 651 EAST MAIN ST | SHEIKH FURQAN \& RUBINS | 900 STATE STREET | BRIDGEPORT | CT | 06605 |
| 657 EAST MAIN ST \#667 | SHEIKH FURQAN \& RUBINA | 564 BROOKLAWN AVE | BRIDGEPORT | CT | 06604-1527 |
| 246 PULASKI ST \#310 | ST MICHAELS ARCHANGEL POLISH | 310 PULASKI ST | BRIDGEPORT | CT | "06608 |


NOTE: ALL EXTERIOR DIMENSIONS ARE MEASURED TO BARE STUD, UNLESS NOTED OTHERWISE.








WILSON T. CARROLL, ESQ.
Please Reply To Bridgeport
Writer's Direct Dial: (203) 337-4123
E-Mail: wcarroll@cohenandwolf.com

## VIA PARK-CITY PORTAL

February 22, 2024

Paul Boucher
Bridgeport Zoning Department
45 Lyon Terrace \#210
Bridgeport, CT 06604

## Re: $\quad 790$ Madison Avenue Application for Location Approval for Package Store

Dear Mr. Boucher,
Enclosed please find an Application to the Bridgeport Planning and Zoning Commission for property located at 790 Madison Avenue ("Property"). The Property is in the MX1 Zone. It is owned by Michael Liberatore and Nicola Urbani, and Luciano Martins-Oliveira is the Applicant.

## Location Approval Requested

This Application requests a Location Approval, under Bridgeport Zoning Regulations § 11.120.1.A, to permit the establishment of a Liquor Package Store at 790 Madison Avenue in an MX1 Zone.

## Narrative - Proposed Development and Use

The Applicant proposes a Liquor Package Store at 790 Madison Avenue. The Property is located on Madison Avenue between Charles Street and Wheeler Avenue. The Property is currently improved with a two-story building, which is the subject of this Application. The Applicant proposes to use the first floor of the existing building for the Liquor Package Store, which would occupy approximately 1,130 square feet.

$\qquad$

## PLANNING \& ZONING COMMISSION APPLICATION

1. NAME OF APPLICANT: Luciano Martins-DeOliveira
2. Is the Applicant's name Trustee of Record? Yes $\qquad$ No $\qquad$
If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 790 Madison Avenue, Bridgeport, CT 06606
(number) (street) (state) (zip code)
4. Assessor's Map Information: Block No. 1407
5. Amendments to Zoning Regulations: (indicate) Article: $\qquad$ Section: $\qquad$
(Attach copies of Amendment)
6. Description of Property (Metes \& Bounds): NW 56.77 along Madison Avenue, NE 128 feet, SE 55.12 feet, SW 143.89 feet
7. Existing Zone Classification:

## MX1

8. Zone Classification requested: $\qquad$
9. Describe Proposed Development of Property:
Liquor Package Store

| Approval(s) requested: Location Approval for Package Store |  |  |
| :---: | :---: | :---: |
| $\longrightarrow$ |  |  |
| Signature: the Date: $2 / 22 / 2$ |  |  |
| Print Name: Jushua Pedreisa |  |  |
| If signed by Agent, state capacity (Lawyer, Developer, etc.) Signature: |  |  |
| Mailing Address: 1115 Broad Street, Bridgeport, CT 0G604 |  |  |
| Phone: 203-337-4107 Cell: 203-296-3263 | Fax: | 203-337-5544 |
| E-mail Address: jpedreira@cohenandwolf.com |  |  |

\$ $\qquad$ Fee received

Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST

| ( Completed \& Signed Application Form | A-2 Site Survey | $\boxed{\text { Building Floor Plans }}$ |  |
| :--- | :--- | :--- | :--- |
| Completed Site / Landscape Plan | $\square$ | Drainage Plan | $\square$ Building Elevations |
| Written Statement of Development and Use | / Property Owner's List | $\square$ Fee |  |
| ( Cert. of Incorporation \& Organization and First Report (Corporations \& LLC's) |  |  |  |




| CITY | STATE |
| :--- | :--- |
| SHELTON | CT |
| BRIDGEPORT | CT |
| BRIDGEPORT | CT |
| ASHLAND | NH |
| SHELTON | CT |
| BRIDGEPORT | CT |
| BRIDGEPORT | CT |
| COS COB | CT |
| BRIDGEPORT | CT |
| MONROE | CT |
| EASTON | CT |
| EASTON | CT |
| BRIDGEPORT | CT |
| BRIDGEPORT | CT |


| LOCATION | OWNER NAME | CO-OWNER | MAILING ADDRESS |
| :---: | :---: | :---: | :---: |
| 771 MADISON AV \#779 | 771-75 MADISON AVENUE LLC |  | 121 WELLSVIEW RD |
| 781 MADISON AV | LIBERATORE MICHAEL \& NICOLA | URBANI (TENANTS IN COMMON) | 781 MADISON AVE |
| 764 MADISON AV | MELENDEZ MARITZA |  | 762 MADISON AVE \#764 |
| 789 MADISON AV \#795 | MADISON MCKINLEY LLC LEAH ADAMS MEMBER | C/O FRANK P CASELLA | PO BOX 1415 |
| 774 MADISON AV | DAGRACA CARLOS \& CHRISTINA |  | 12 MARIE ALICIA ROAD |
| 25 ROSSINOFF PL | BELL LILLIAN A \& ET AL | C/O DEBORAH B MOYLE | 288 WHEELER AVE 2 FL |
| 780 MADISON AV | LIBERATORE MICHAEL \& | NICOLA URBANI | 781 MADISON AVE |
| 807 MADISON AV \#809 | MADISON BRIDGEPORT LLC |  | 36 ORCHARD STREET |
| 800 MADISON AV | LIBERATORE MICHAEL \& | NICOLA URBANI | 781 MADISON AVE |
| 41 ROSSINOFF PL | 41 ROSSINOFF PLACE LLC |  | 37 FAR HORIZON DRIVE |
| 810 MADISON AV \#816 | SANTANGELI PIETRINA \& CATERINA TRUSTEES |  | 60 BANKS RD |
| 818 MADISON AV \#824 | SANTANGELI PIETRINA \& CATERINA TRUSTEES |  | 60 BANKS ST |
| 493 CHARLES ST | BRACAGLIA PAOLO |  | 495 CHARLES ST |
| 475 CHARLES ST | SHILOH APOSTALIC CHURCH OF |  | 475 CHARLES ST |









|  |  | $\begin{aligned} & \hline \text { oig } \\ & \text { 請 } \\ & \text { 部吅 } \end{aligned}$ | Carpentry Design |  | 7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Luciano Martins <br> 792 Madison Avenue，Bridgeport，CT，06606 |  | NM以TM |  |





$\qquad$

## PLANNING \& ZONING COMMISSION <br> APPLICATION

1. NAME OF APPLICANT: Seaview Bridgeport, LLC
2. Is the Applicant's name Trustee of Record? Yes $\qquad$ No X
If yes, a sworn statement disclosing the Beneficiary shall accompany this application upon filing.
3. Address of Property: 837 Seaview Avenue, Bridgeport, CT 06607
(number) (street) (state) (zip code)
4. Assessor's Map Information: Block No. 30/600

Lot No. 16/C
5. Amendments to Zoning Regulations: (indicate) Article: N/A Section: ___

## (Attach copies of Amendment)

6. Description of Property (Metes \& Bounds): $663.41^{\prime} \times 545.14^{\prime} \times 861.58^{\prime} \times 43.64^{\prime} \times 106.01^{\prime} \times 120.09^{\prime} \times 797.95 \mathrm{x}$ $59.75^{\prime} \times 2.88^{\prime} \times 85.44^{\prime} \times 326.84^{\prime} \times 55.59^{\prime} \times 3.59^{\prime} \times 93.00^{\prime} \times 100.00 ' \times 171.21^{\prime} \times 156.69 ' \times 70.84^{\prime} \times 6.53^{\prime}$
7. Existing Zone Classification: I
8. Zone Classification requested: $\qquad$
9. Describe Proposed Development of Property: Construction of a 5,000 SF vehicle wash facility with accessory parking area equipped with vacuum pumps, a double queue lane, landscaping and associates site improvements.

Approval(s) requested: Coastal Site Plan Review and Site Plan Review


E-mail Address: Chris@russorizio.com
\$ $\qquad$ Fee received

Date: $\qquad$ Clerk: $\qquad$

## THIS APPLICATION MUST BE SUBMITTED IN PERSON AND WITH COMPLETED CHECKLIST

- Completed \& Signed Application Form
- A-2 Site Survey
- Drainage Plan
- Property Owner's List
- Building Floor Plans

Building Elevations

- Fee
- Cert. of Incorporation \& Organization and First Report (Corporations \& LLC's)

PROPERTY OWNER'S ENDORSEMENT OF APPLICATION

| $\frac{\text { Seaview Bridgeport, LLC }}{\text { Print Owner's Name }}$ |  |  | $\frac{03 / 15 / 2024}{\text { Date }}$ |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Print Owner's Name |  | Owner's Signature |  |



## 54CITY OF BRIDGEPORT

## Application Form

Municipal Coastal Site Plan Review
For Projects Located Fully or Partially Within the Coastal Boundary

Please complete this form in accordance with the attached instructions (CSPR-INST-11/99) and submit it with the appropriate plans to the Zoning office.

## Section I: Applicant Identification

| Applicant: Seaview Bridgeport, LLC <br> Date: $10 / 20 / 2023$ <br> Address: c/o Russo \& Rizio, LLC, 10 Sasco Hill Rd, Fairfield, CT Phone: 203-528-0590 |  |
| :---: | :---: |
|  |  |
| Project Address or Location: 837 Seaview Avenue, Bridgeport, CT 06607 |  |
| Interest in Property: $\mathbb{X}$ fee simple $\Gamma$ option $\Gamma$ lessee $\Gamma$ easement $\Gamma$ other (specify) $\qquad$ |  |
| List primary contact for correspondence if other than applicant: Name: Chris Russo, Russo \& Rizio, LLC |  |
| Address: 10 Sasco Hill Road |  |
| City/Town:Fairfield State: CT | Zip |
| Code: 06824 |  |
| Business Phone: 203-528-0590 |  |
| e-mail: <br> Chris@russorizio.com |  |

## Section II: Project Site Plans

Please provide project site plans that clearly and accurately depict the following information, and check the appropriate boxes to indicate that the plans are included in this application:

## ХProject location

XExisting and proposed conditions, including buildings and grading
XCoastal resources on and contiguous to the site
$\Gamma$ High tide line [as defined in CGS Section 22a-359(c)] and mean high water mark elevation contours (for parcels abutting coastal waters and/or tidal wetlands only)
$X$ Soil erosion and sediment controls
X Stormwater treatment practices
X Ownership and type of use on adjacent properties
KReference datum (i.e., National Geodetic Vertical Datum, Mean Sea Level, etc.)

## Section III: Written Project Information

Please check the appropriate box to identify the plan or application that has resulted in this Coastal Site Plan Review:

X Site Plan for Zoning Compliance
$\Gamma$ Subdivision or Resubdivision
$\Gamma$ Special Permit or Special Exception
$\Gamma$ Variance
$\Gamma$ Municipal Project (CGS Section 8-24)

## Part I: Site Information

1. Street Address or Geographical Description:

837 Seaview Avenue, Bridgeport, CT 06607
City or Town: Bridgeport
2. Is project or activity proposed at a waterfront site (includes tidal wetlands frontage)? IXYES 「 NO
3. Name of on-site, adjacent or downstream coastal, tidal or navigable waters, if applicable: The Site is adjacent to Bridgeport Harbor.
4. Identify and describe the existing land use on and adjacent to the site. Include any existing structures, municipal zoning classification, significant features of the project site:

The Site is predominantly vacant, except for an outdoor storage yard, an industrial building containing North Sails and various paved areas. Bridgeport Harbor lies to the West, Yellow

Mill Bridge and I-95 are to the north, and then industrial building and properties as well as
a multi-family residential development lie to the east and south.
5. Indicate the area of the project site: 28.3 acres $r$ square feet (circle one)
6. Check the appropriate box below to indicate total land area of disturbance of the project or activity (please also see Part II.B. regarding proposed stormwater best management practices):
$\Gamma \quad$ Project or activity will disturb 5 or more total acres of land area on the site. It may be eligible for registration for the Department of Environmental Protection's (DEP) General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities
X Project or activity will disturb one or more total acres but less than 5 total acres of land area. A soil erosion and sedimentation control plan must be submitted to the municipal land use agency reviewing this application.
$\Gamma \quad$ Project or activity will not disturb 1 acre total of land area. Stormwater management controls may be required as part of the coastal site plan review.
7. Does the project include a shoreline flood and erosion control structure as defined in CGS section 22a-109(d) $\triangle$ YesNo

## Part II.A.: Description of Proposed Project or Activity

Describe the proposed project or activity including its purpose and related activities such as site clearing, grading, demolition, and other site preparations; percentage of increase or decrease in impervious cover over existing conditions resulting from the project; phasing, timing and method of proposed construction; and new uses and changes from existing uses (attach additional pages if necessary):

The Applicant is proposing to construct a 5,000 SF vehicle car wash facility with an accessory parking area equipped with vacuum pumps, a double queue lane, landscaping and additional site improvements in the Industrial Zone north of the recently approved gas station on the same property. The proposed work will include grading, paving and stormwater management.
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## Part II.B.: Description of Proposed Stormwater Best Management Practices

Describe the stormwater best management practices that will be utilized to ensure that the volume of runoff generated by the first inch of rainfall is retained on-site, especially if the site or stormwater discharge is adjacent to tidal wetlands. If runoff cannot be retained on-site, describe the site limitations that prevent such retention and identify how stormwater will be treated before it is discharged from the site. Also demonstrate that the loadings of total suspended solids from the site will be reduced by 80 percent on an average annual basis, and that post-development stormwater runoff rates and volumes will not exceed pre-development runoff rates and volumes (attach additional pages if necessary):

Stormwater tun-off from the building and the driveway and parking areas will be treated with a subsurface system. The primary stormwater treatment will be implemented as to Stormwater Best Management Practice.

## Part III: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated policies that apply to the project by placing a check mark in the appropriate box(es) in the following table.

| Coastal Resources | On-site | Adjacent | Off-site but within the influence of project | Not Applicable |
| :---: | :---: | :---: | :---: | :---: |
| General Coastal Resources* - Definition: CGS Section 22a-93(7); Policy: CGS Section 22a-92(a)(2) |  |  |  |  |
| Beaches \& Dunes - Definition: CGS Section 22a-93(7)(C); Policies: CGS Sections 22a-92-(b)(2)(C) and 22a-92(c)(1)(K) |  |  |  | $X$ |
| Bluffs \& Escarpments - Definition: CGS Section 22a-93(7)(A); Policy: CGS Section 22a-92(b)(2)(A) |  |  | $X$ |  |
| Coastal Hazard Area - Definition: CGS Section 22a-93(7)(H); Policies: CGS Sections 22a-92(a)(2), 22a-92(a)(5), 22a-92(b)(2)(F), 22a92(b)(2)(J), and 22a-92(c)(2)(B) | $K$ |  | $X$ |  |
| Coastal Waters, Estuarine Embayments, Nearshore Waters, Offshore Waters - Definition: CGS Sections 22a-93(5), 22a-93(7)(G), and 22a93(7)(K), and 22a-93(7)(L) respectively; <br> Policies: CGS Sections 22a-92(a)(2) and 22a-92(c)(2)(A) |  |  | $N$ |  |
| Developed Shorefront - Definition: CGS Section 22a-93(7)(I); Policy: 22a-92(b)(2)(G) | $M$ | $K$ | $N$ |  |
| Freshwater Wetlands and Watercourses - Definition: CGS Section 22a-93(7)(F); Policy: CGS Section 22a-92(a)(2) |  |  |  | $K$ |
| Intertidal Flats - Definition: CGS Section 22a-93(7)(D); Policies: 22a-92(b)(2)(D) and 22a-92(c)(1)(K) |  |  |  | $M$ |
| Islands - Definition: CGS Section 22a-93(7)(J); <br> Policy: CGS Section 22a-92(b)(2)(H) |  |  |  |  |
| Rocky Shorefront - Definition: CGS Section 22a-93(7)(B); Policy: CGS Section 22a-92(b)(2)(B) | $M$ |  |  |  |
| Shellfish Concentration Areas - Definition: CGS Section 22a-93(7)(N); Policy: CGS Section 22a-92(c)(1)(I) |  |  |  | $K$ |
| Shorelands - Definition: CGS Section 22a-93(7)(M); Policy: CGS Section 22a-92(b)(2)(I) |  |  |  | $X$ |
| Tidal Wetlands - Definition: CGS Section 22a-93(7)(E); <br> Policies: CGS Sections 22a-92(a)(2), 22a-92(b)(2)(E), and 22a- 92(c)(1)(B) |  |  |  |  |

[^14]
## Part IV: Consistency with Applicable Coastal Resource Policies and Standards

Describe the location and condition of the coastal resources identified in Part III above and explain how the proposed project or activity is consistent with all of the applicable coastal resource policies and standards; also see adverse impacts assessment in Part VII.A below (attach additional pages if necessary): Bridgeport Harbor is adjacent to the Site. The project complies with CGS Sec. 22a-92(a)(1) "...by promoting economic growth without significantly disrupting the environment...", with CGS Sec. 22a-92(b)(2)(F) as it "...manage coastal hazard areas to minimize hazards to property. and with CGS Sec. 22a-92(c)(2)(B) to "...maintain patterns of water circulation in the placement

## Part V: Identification of Applicable Coastal Use and Activity Policies and Standards

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Identify all coastal policies and standards in or referenced by CGS Section 22a-92 applicable to the
proposed project or activity:
X General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), and 22a-92(a)(9)
9 Water-Dependent Uses** - CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A);
    Definition CGS Section 22a-93(16)
9 Ports and Harbors - CGS Section 22a-92(b)(1)(C)
9 Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
9 Dredging and Navigation - CGS Sections 22a-92(c)(1)(C) and 22a-92(c)(1)(D)
9 Boating - CGS Section 22a-92(b)(1)(G)
9 Fisheries - CGS Section 22a-92(c)(1)(I)
9 Coastal Recreation and Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j) and 22a-92(c)(1)(K)
X Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
9 Fuel, Chemicals and Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E) and
    22a-92(c)(1)(A)
9 Transportation-CGS Sections 22a-92(b)(1)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), and
    22a-92(c)(1)(H)
9 Solid Waste - CGS Section 22a-92(a)(2)
9 Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
9 Cultural Resources - CGS Section 22a-92(b)(1)(J)
9 Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)
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[^15]
## Part VI: Consistency With Applicable Coastal Use Policies And Standards

Explain how the proposed activity or use is consistent with all of the applicable coastal use and activity policies and standards identified in Part V. For projects proposed at waterfront sites (including those with tidal wetlands frontage), particular emphasis should be placed on the evaluation of the project's consistency with the water-dependent use policies and standards contained in CGS Sections 22a-92(a)(3) and 22a-92(b)(1)(A) -- also see adverse impacts assessment in Part VII.B below (attach additional pages if necessary):
No adverse impacts were determined on adjacent coastal resources. Stormwater treatment will be proposed which will help reduce
erosion impacts as well as provide water infiltration. This project will be limited to the confines of the Site and will be completed within
an approximate eighteen (18) months. All disturbed pervious areas will be loamed, seeded and planted upon completion of
construction.

## Part VII.A.: Identification of Potential Adverse Impacts on Coastal Resources

Please complete this section for all projects.
Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicableㅉ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(15). If an adverse impact may result from the proposed project or activity, please use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| $\quad$Potential Adverse Impacts on Coastal Resources | Applicable |
| :--- | :--- | :--- |
| Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and <br> bluffs and escarpments through significant alteration of their natural <br> characteristics or functions - CGS Section 22a-93(15)(H) |  |
| Increasing the hazard of coastal flooding through significant alteration of <br> shoreline configurations or bathymetry, particularly within high velocity <br> flood zones - CGS Section 22a-93(15)(E) |  |
| Degrading existing circulation patterns of coastal water through the <br> significant alteration of patterns of tidal exchange or flushing rates, <br> freshwater input, or existing basin characteristics and channel contours - <br> CGS Section 22a-93(15)(B) |  |
| Degrading natural or existing drainage patterns through the significant <br> alteration of groundwater flow and recharge and volume of runoff - cGs <br> Section 22a-93(15)(D) |  |
| Degrading natural erosion patterns through the significant alteration of <br> littoral transport of sediments in terms of deposition or source reduction - <br> CGS Section 22a-93(15)(C) |  |
| Degrading visual quality through significant alteration of the natural <br> features of vistas and view points - CGS Section 22a-93(15)(F) |  |
| Degrading water quality through the significant introduction into either <br> coastal waters or groundwater supplies of suspended solids, nutrients, <br> toxics, heavy metals or pathogens, or through the significant alteration of <br> temperature, pH, dissolved oxygen or salinity - CGS Section 22a-93(15)(A) |  |
| Degrading or destroying essential wildlife, finfish, or shellfish habitat <br> through significant alteration of the composition, migration patterns, <br> distribution, breeding or other population characteristics of the natural <br> species or significant alterations of the natural components of the habitat - <br> cGs Section 22a-93(15)(G) |  |

## Part VII.B.: Identification of Potential Adverse Impacts on Water-dependent Uses

Please complete the following two sections only if the project or activity is proposed at a waterfront site:

1. Identify the adverse impact categories below that apply to the proposed project or activity. The Aapplicable $\cong$ column must be checked if the proposed activity has the potential to generate any adverse impacts as defined in CGS Section 22a-93(17). If an adverse impact may result from the proposed project or activity, use Part VIII to describe what project design features may be used to eliminate, minimize, or mitigate the potential for adverse impacts.

| Potential Adverse Impacts on <br> Future Water-dependent Development Opportunities and Activities | Applicable | Not <br> Applicable |
| :---: | :---: | :---: |
| Locating a non-water-dependent use at a site physically suited for or planned for location of a water-dependent use - CGS Section 22a-93(17) |  |  |
| Replacing an existing water-dependent use with a non-waterdependent use - CGS Section 22a-93(17) |  | 1 |
| Siting a non-water-dependent use which would substantially reduce or inhibit existing public access to marine or tidal waters - CGS Section 22a-93(17) |  |  |

2. Identification of existing and/or proposed Water-dependent Uses

Describe the features or characteristics of the proposed activity or project that qualify as waterdependent uses as defined in CGS Section 22a-93(16). If general public access to coastal waters is provided, please identify the legal mechanisms used to ensure public access in perpetuity, and describe any provisions for parking or other access to the site and proposed amenities associated with the access (e.g., boardwalk, benches, trash receptacles, interpretative signage, etc.)*:

There is no proposed activity that qualifies as a water-dependent use. There is no water-dependent use currently at the Site. However, the Application still preserves a significant portion of the Site for a future water-dependent use.
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*If there are no water-dependent use components, describe how the project site is not appropriate for the development of a water-dependent use.

## Part VIII: Mitigation of Potential Adverse Impacts

Explain how all potential adverse impacts on coastal resources and/or future water-dependent development opportunities and activities identified in Part VII have been avoided, eliminated, or minimized (attach additional pages if necessary):
No adverse impacts were determined on adjacent coastal resources. Stormwater treatment is proposed which will help reduce erosion impacts. New lawn areas will also reduce erosion and provide storm water infiltration.
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## Part IX: Remaining Adverse Impacts

Explain why any remaining adverse impacts resulting from the proposed activity or use have not been mitigated and why the project as proposed is consistent with the Connecticut Coastal Management Act (attach additional pages if necessary):
There will be no remaining adverse impacts resulting from the proposed activity.
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March 15, 2024

Paul Boucher
Zoning Administrator
Zoning Department
45 Lyon Terrace
Bridgeport, CT 06604
HAND-DELIVERED

## Re: Petition for Coastal Site Plan Review and Site Plan Review - 837 Seaview Avenue

Dear Mr. Boucher:
Please accept the following narrative and enclosed application materials as part of an application for coastal site plan review and site plan review under the Bridgeport Zoning Regulations (the "Regulations") for the property located at 837 Seaview Avenue (the "Site") to construct an accessory vehicle wash facility with accessory parking area equipped with vacuum pumps, a double queue lane, landscaping and associated site improvements in the proposed I Zone.

## Narrative

The Site is located adjacent to an exit ramp for I-95 to its north as it intersects Seaview Avenue. The Site abuts a large industrial building and property to its south where North Sails is located and a number of industrial properties are located in the vicinity. To the west and north of the Site lies vacant land that is a part of the future development of Steelpointe East. Bridgeport Harbor lies further west of the Site and abuts the overall Steelpointe East property.

The Site will border a proposed private driveway to its south. This is an entrance-only driveway. The Applicant proposes to install a private drive along the southern and western side of the Site from Seaview Avenue. These private drives will be a part of a larger roadway network to access the remainder of Steelpointe East that will also exit onto Stratford Avenue. The southern driveway will be a right turn only entrance from Seaview Avenue. It will not feature an exit out onto Seaview Avenue. The Site itself will be accessed from two (2) full access entrance driveways off the southern and western private drives and, in addition, it can be exited from an exit-only driveway on its southern side.

Currently, the Site is vacant. The Applicant proposes to construct a $5,000 \mathrm{SF}$ vehicle wash facility as an accessory use to the already approved retail gas station with convenience store to the
south of the Site on the other side of the private drive. The facility will be accessed via a double queue lane to contain stacking for Seventeen (17) vehicles, which will wrap around the side and rear of the proposed building. In addition, the Applicant is proposing a parking area of twenty-one (21) spaces with each space equipped with vacuum pumps. There is an additional parking area for five (5) spaces.

The Applicant proposes extensive landscaping along the perimeter and interior of the Site to significantly enhance the currently vacant Site and to screen the proposed stacking lane. There's considerable green space along Seaview Avenue to create an inviting appearance from the I-95 exit ramp. The Site is uniquely situated as it is in the viewscape of vehicles located at ground level traveling along Seaview Avenue, but also those vehicles traveling on Interstate 95, which is at a considerably higher elevation than the Site. In total, the Application represents a tremendous redevelopment of the vacant Site. The facility, as an accessory use to the gas station, will provide an amenity to the East End neighborhood. This Application will provide a use that is needed in an economy and area that requires many people to use their personal vehicles.

## Site Plan Review

The Petition satisfies Sec. 11.70 Site Plan Review standards of the Regulations as it fully complies with the standards of the Regulations. The necessary variances for the Site to be able to utilize a Tower design and regarding fencing were previously received. The design of the proposed buildings and landscaping create a harmonious building-street interaction providing a tremendous improvement to the existing streetscape from the existing vacant site. It also matches the aesthetic of the approved gas station. The scale and proportion of the buildings conform to the I Zone Development Standards. The Petition proposes significant landscaping along the perimeter and street frontage. The proposed use will be a tremendous complement to the surrounding commercial and residential areas. It is located in close proximity to I-95, a major thoroughfare, and also multiple water access points. It is an ideal location for this use.

## Coastal Site Plan Review

The Petition also complies with Section 11.80 of the Regulations regarding coastal site plan review. As stated above, the Petition fully complies with the site plan review standards of the Regulations. The Petition poses no danger or threat to coastal resources and it has no potential adverse impacts. The proposed area for development is located a significant distance from the shoreline. While the Application does not propose a waterdependent use, the proposed development does not occupy the portion of the Site abutting the waterfront, so it will remain available for future development. The proposed building and Site improvements will all be constructed in accordance with current codes and regulations, including the appropriate stormwater drainage systems. Sediment and erosion controls, such as silt fencing and anti-tracking aprons, will be utilized during construction.

For the above-stated reasons, the Application satisfies all the applicable standards of the Regulations and the Applicant respectfully requests its approval.

Sincerely,

PROPERTIES LOCATED WITHIN 100' OF 837 SEAVIEW AVENUE

179 WILLIAM STREET
179 WILLIAM STREET
866 SEAVIEW AVENUE
868 SEAVIEW AVENUE
886 SEAVIEW AVENUE
817 NAUGATUCK AVE
817 NAUGUTUCK AVENUE
919 STRATFORD AVE \#6
PO BOX 3580
10 EAST MAIN STREET





[^0]:    1 Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
    Numbers in parenthesis are PF estimates at lower and upper bounds of the $90 \%$ confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is $5 \%$. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[^1]:    (1) Plan Scofield Ave - Backyard Cotrage - Roof

[^2]:    N/A
    N/A $\square$
    Project location
    Existing and proposed conditions, including buildings and grading
    Coastal resources on and contiguous to the site
    High tide line [as defined in CGS Section 22a-359(c)] and mean high water mark elevation
    contours (for parcels abutting coastal waters and/or tidal wetlands only)
    

    Soil erosion and sediment controls
    Stormwater treatment practices
    Ownership and type of use on adjacent properties
    Reference datum (i.e., National Geodetic Vertical Datum, Mean Sea Level, etc.)

[^3]:    * General Coastal Resource policy is applicable to all proposed activities

[^4]:    N/A
    N/A $\square$
    Project location
    Existing and proposed conditions, including buildings and grading
    Coastal resources on and contiguous to the site
    High tide line [as defined in CGS Section 22a-359(c)] and mean high water mark elevation
    contours (for parcels abutting coastal waters and/or tidal wetlands only)
    

    Soil erosion and sediment controls
    Stormwater treatment practices
    Ownership and type of use on adjacent properties
    Reference datum (i.e., National Geodetic Vertical Datum, Mean Sea Level, etc.)

[^5]:    * General Coastal Resource policy is applicable to all proposed activities

[^6]:    1 Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
    Numbers in parenthesis are PF estimates at lower and upper bounds of the $90 \%$ confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is $5 \%$. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[^7]:    264 Scofiel Ave - Backyard Cotage -First
    (1) FForr
    $11 / 4=10^{\prime \prime}$
    (1) ${ }^{2} \mathrm{~F}$

[^8]:    * General Coastal Resource policy is applicable to all proposed activities

[^9]:    *If there are no water-dependent use components, describe how the project site is not appropriate for the development of a water-dependent use.

[^10]:    ${ }^{1}$ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
    Numbers in parenthesis are PF estimates at lower and upper bounds of the $90 \%$ confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is $5 \%$. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[^11]:    * General Coastal Resource policy is applicable to all proposed activities

[^12]:    * General Development policies are applicable to all proposed activities
    ** Water-dependent Use policies are applicable to all activities proposed at waterfront sites, including those with tidal wetlands frontage.

[^13]:    Washington Cabezas, Jr., PEL 70210

[^14]:    * General Coastal Resource policy is applicable to all proposed activities

[^15]:    * General Development policies are applicable to all proposed activities
    ** Water-dependent Use policies are applicable to all activities proposed at waterfront sites, including those with tidal wetlands frontage.

