SITE ENGINEERING REPORT

Prepared For

Hogg Holdings
648, 670, 686, & 690 Pacific Street
and 171 Henry Street
Stamford, CT 06902

Prepared by

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22 First Street
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Issued on
October 8, 2021

Revised on
January 7, 2022
(Revisions ***bold & italicized***)

Bret Holzwarth, P.E.
CT Lic. No. 27812

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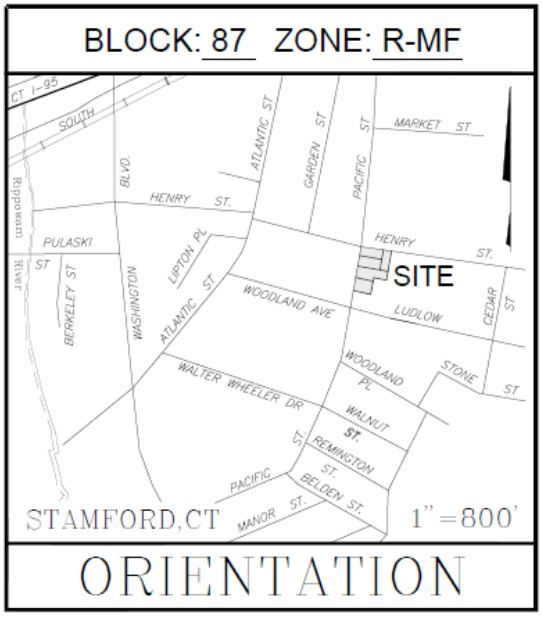
Appendices


BLOCK: 87 ZONE: R-MF
CT I-95
SOUTH
BLVD.
ATLANTIC ST
GARDEN ST
PACIFIC ST
MARKET ST
HENRY ST.
PULASKI ST
LIPTON PL
HENRY ST.
SITE
RIVER
BERKELEY ST
WASHINGTON
ATLANTIC ST
WOODLAND AVE
LUDLOW
CEDAR ST
WOODLAND PL
STONE ST
WALTER WHEELER DR
WALNUT ST.
REMINGTON ST.
PACIFIC
BELDEN ST.
MANOR ST.
STAMFORD, CT
1"=800'
ORIENTATION

Narrative

Project Description:

The applicant, Hogg Holdings, is seeking approval to develop a 6-story residential building on properties located at 648, 670, 686, & 690 Pacific Street and 171 Henry Street (Parcel IDs 002-6704, 002-6068, 002-3371, 002-4598 and 002-2705 respectively). Included with the development will be the demolition of one existing building along with existing parking lots. The combined size of the parcels is 0.949 acres (648 Pacific St.-0.199 ac; 670 Pacific St.-0.153 ac, 686 Pacific St.-0.271 ac, 690 Pacific St.-0.193 ac, 171 Henry St.-0.132 ac) and located in the V-C zone on the southeast corner of Henry Street and Pacific Street. The properties are served by public water supply and connected into the public sewer system.

Existing Conditions:

648 Pacific Street is currently developed with a one-story church, a shed, and parking area. 670 Pacific Street is currently developed with a two-story brick building and parking area. That is referenced as the old fire house. 686 Pacific Street is currently developed with a parking lot surrounded by lawn. 690 Pacific Street is currently developed with a one-story church, a parking lot, and a brick walk. 171 Pacific Street is currently developed with a two and a half story building, an asphalt driveway, and parking lot. The existing landscape includes trees, shrubs, and manicured lawns immediately surrounding the developments. Elevations for all sites range from elevation 7± at the southern property boundary to elevation 9± at the northern portion of the sites.

The parking lot on 686 Pacific Street was constructed roughly 3 years ago. Prior to that construction, the lot was developed with a multifamily dwelling, sheds and compacted gravel parking areas. A Google earth image from 2010 shows this development with cars parked all around the building. Since the parking lot was an approved project and was constructed in general accordance with the proposed design, the current parking lot is used as the "pre-construction condition".

Stormwater runoff at 648, 670, 686, and 690 Pacific Street generally flows north to south overland utilizing catch basins in the asphalt driveway and parking. Stormwater runoff generated from the buildings and parking on the Pacific Street properties and 171 Henry Street are collected via a series of downspouts, catch basins or trench drains and discharges into the existing storm system within Pacific Street. The existing impervious coverage totals 34,439sf. The properties are within an area with reduced flood risk due to the hurricane barrier (Flood Zone X) as depicted on FEMA Map #09001C0516g effective date July 8, 2013.

Soil testing, consisting of a series of test pits were performed on-site to identify any sub-grade restrictive soil conditions (ledge, groundwater, etc.) and to confirm the hydrologic soil classification. A total 4 pits were performed. Ledge was encountered in test pit #1. Groundwater was not found in any of test pits while mottling, which is evidence of seasonally high groundwater levels, was present only in test pit #2 at a depth of 65 inches. The USDA Web Soil Survey classifies the on-site soils for these properties as hydraulic soil group class D, which is consistent with poorly to non-draining. The results of our soil testing

showed more permeable soils below the fill and non-native soils from prior developments. Test pit results can be reviewed on site plan sheet SE-8.

Proposed Conditions:

General Design Criteria & Project Classification

The proposed improvements disturb 26,266± sf of the property and will decrease impervious coverage by ***474*** sf when compared to pre-construction site conditions. The decrease in coverage will decrease the volume and peak rates of stormwater runoff without providing any on-site mitigation. The proposed development is classified as a redevelopment project with more than ½ an acre of disturbance and directly connected impervious area (DCIA) being ***decreased***, therefore must comply with Standards 1 through 5 of the Stamford Drainage Manual. The existing DCIA exceeds 40% of the site. To comply with Standard 1, this project must provide at least ½ Water Quality Volume (WQV) via non-structural practices OR infiltration best management practices (BMP's).

Proposed Stormwater Treatment Practices

The design approach chosen to satisfy Standard 1 of the Stamford Drainage Manual is to provide the required storage volume (½ WQV) via infiltration BMP's to the maximum extent possible given the on-site soil conditions. The required storage for the site is ***1,360*** cf and the provided storage is 1,441cf. This has been accomplished by proposing a parking area to be constructed using porous pavement and an underground infiltration system within the parking area under the proposed building. A hydrodynamic separator is also proposed ahead of the infiltration system. Each system is described in detail below.

- **Porous Pavement** is located within the new parking lot behind 171 Henry Street. It consists of porous asphalt with a crushed stone reservoir below. It is sized to provide water quality volume storage and peak attenuation. A total of ***5,170*** sf of impervious coverage, including driveway, parking and a portion of the lower roof is tributary to this system. This BMP is designed to treat 1,162 cf of stormwater. A perforated under drain is installed near the bottom of the system and is tied to a flat top catch basin. The catch basin outlet sets the overflow of the system.

- **Infiltration System** is located within the surface parking underneath the proposed building. It consists of 64 linear feet of 18" concrete galleries. It will collect & treat stormwater runoff generated from the uncovered parking area, and the majority of the roof of the new building totaling 15,721 sf of impervious coverage. The BMP is designed to store 279 cf of stormwater, which is below the water quality volume of the tributary area. Therefore, this system does not reduce the DCIA for the site.

- A **Hydrodynamic Separator** is proposed at the end of the treatment system to ensure all runoff leaving the property will be treated. The unit will consist of a Cascade hydrodynamic separator from Contech and has been sized to treat the 25-year storm event.

Hydraulic Analysis of Peak Rates of Runoff

As runoff leaves the property in one general direction, North to South, the hydraulic model for this project will analyze the existing and proposed peak rates of runoff for the entire site. Refer to the existing and proposed drainage basin maps found in Appendix B.

Compliance with Stormwater Management Standards

Standard 1. Runoff and Pollutant Reduction

A. The proposed Stormwater Treatment Practices include a porous pavement system and a conventional infiltration system with a hydrodynamic separator. Combined they will retain, at minimum, the required ½ WQV. See "Proposed Conditions" for a detailed description of each system, it's required WQV, and provided storage volume.
B. Not Applicable. The proposed stormwater systems retain the required ½ WQV.
C. The proposed development has been designed to minimize site disturbance by primarily staying within already disturbed limits of development. Construction fence will protect the neighbors on either side of the parcel, and sediment filters will be placed around each catch basin. At the end of construction, all disturbed areas are required to be stabilized with grass seed or erosion control blankets/hay.
D. Noted. We will meet with staff prior to building permit.
E. A hydrodynamic separator is proposed to provide a minimum removal rate of 80% of the average annual post-construction load of Total Suspended Solids (TSS) and floatable debris. See TSS Removal Rate calculations in Appendix B.
F. Due to the tight development envelop onsite, non-structural BMPs are difficult to accommodate. However, the proposed development project will work within already disturbed and improved areas of the property which will minimize over compaction, and to the extent able, existing paved surfaces will remain as long as possible minimizing the potential impact of erosive soils on the downstream drainage systems. There are no steep slopes on this project.

Standard 2. Peak Flow Control

A. Stream channel protection is not required for this project as the subject development does not discharge directly or indirectly into a water body or watercourse and has less than 1 acre of impervious coverage.

B. The proposed stormwater system is designed to adequately pass flows up to and including the 25-year design storm event as required in Section 3 of the Drainage Manual. Refer to pipe conveyance calculations in Appendix B.

C. The post-development peak flow rates from the 1-year, 2-year, 5-year, 10-year, 25-year and 50-year, 24-hour storms are controlled to the corresponding pre-development peak discharge rates onsite. Reference is made to the HydroCAD report found in Appendix C. Pre-development vs. post-development peak flow rates for both study points are tabulated below:

Table 1. Existing V.S. Proposed Peak Flows

Return Period (years)	Existing Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)	Change (cfs)	Percent Change (%)
1	2.56	***2.17***	***-0.39***	***-15.2%***
2	3.18	***2.71***	***-0.47***	***-14.8%***
5	4.21	***3.89***	***-0.32***	***-7.6%***
10	5.04	***4.76***	***-0.32***	***-6.3%***
25	6.19	***6.02***	***-0.17***	***-2.7%***
50	7.04	***6.64***	***-0.40***	***-5.6%***
100	7.95	***7.59***	***-0.36***	***-4.5%***

D. All proposed structural BMP's are equipped with primary outflow devices that pass the 100-year storm event without eroding outlet works and downstream drainages. Refer to project HydroCAD report in Appendix C for information on each BMP's outlet and pipe conveyance calculations in Appendix B.

E. Not Applicable, no detention system is proposed.

Standard 3: Construction Erosion and Sediment Control

A. Site plan sheet SE-5 depicts erosion control measures to be implemented to control construction related impacts. Sediment and erosion controls such as silt fencing, stone tracking pads at construction zone entrance/exit points, hay bale & insert catch basin protection, and tree protection are proposed.

Standard 4: Operation and Maintenance

A. A Standard City of Stamford Drainage Maintenance Agreement will be executed with the Environmental Protection Board prior to certificate of occupancy. A draft maintenance agreement has been prepared and is included in Appendix E.

B. The construction plans will include notes describing the long-term maintenance requirements for the site-specific drainage system(s) including routine and non-route inspection and maintenance tasks to be undertaken after construction is completed as well as the schedule for implementing

these tasks. This information will be added to the plan set prior to filing for a building permit.

Standard 5: Stormwater Management Report

A. This document and its associated appendices serve as the required Stormwater Management Report.
B. (See below)

Based on the above information, the proposed improvements are designed in accordance with the City of Stamford Stormwater Drainage Manual and will not adversely impact adjacent or downstream properties or City-owned drainage facilities.

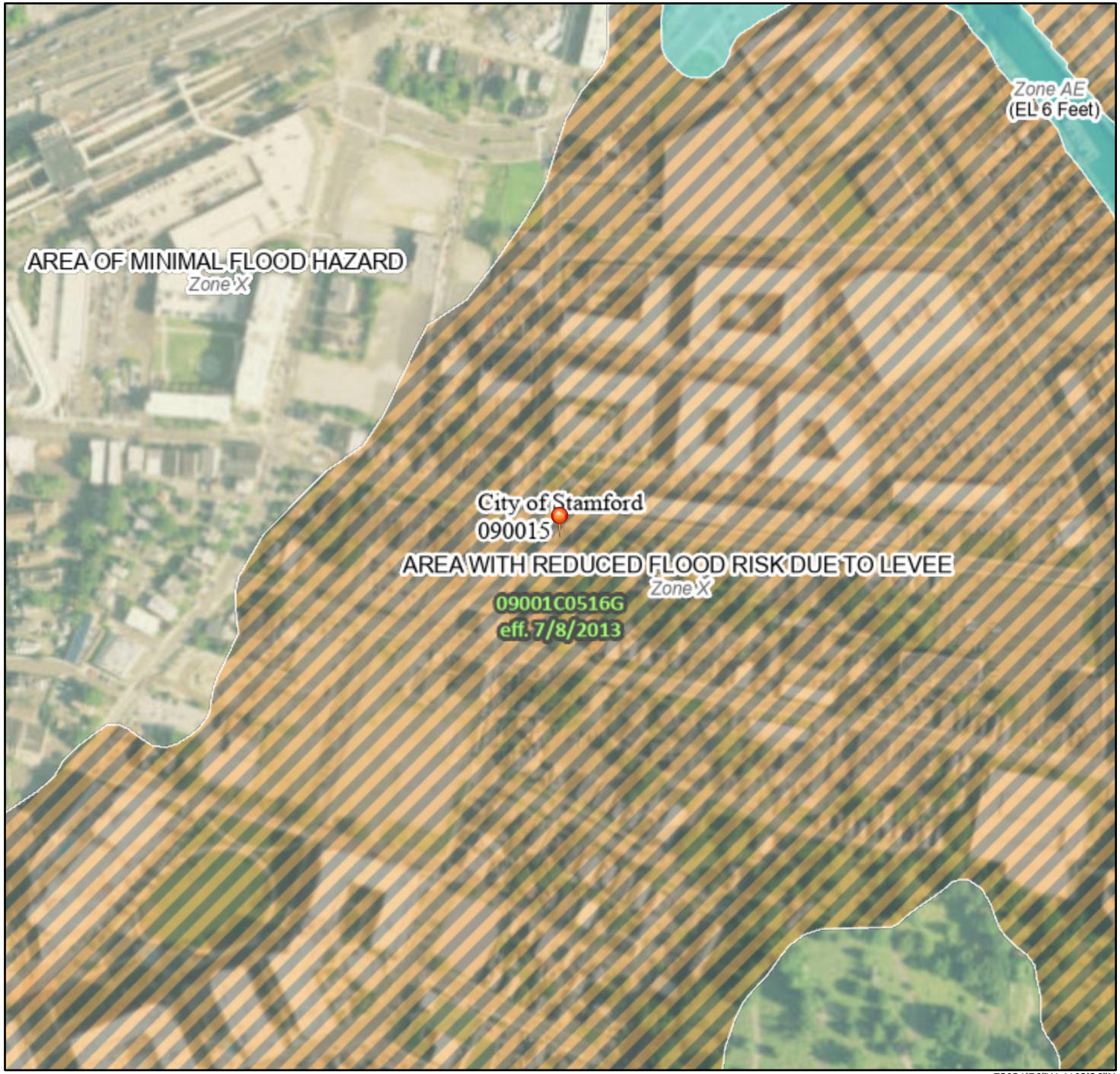
Appendix A

FEMA Flood Insurance Map
USGS Quadrangle Map – Site Vicinity Map
NOAA-Atlas 14 Volume 10 – Precipitation Frequency
NRCS Web Soil Survey

National Flood Hazard Layer FIRMette

FEMA

73°32'33"W 41°2'53"N



73°31'56"W 41°2'26"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

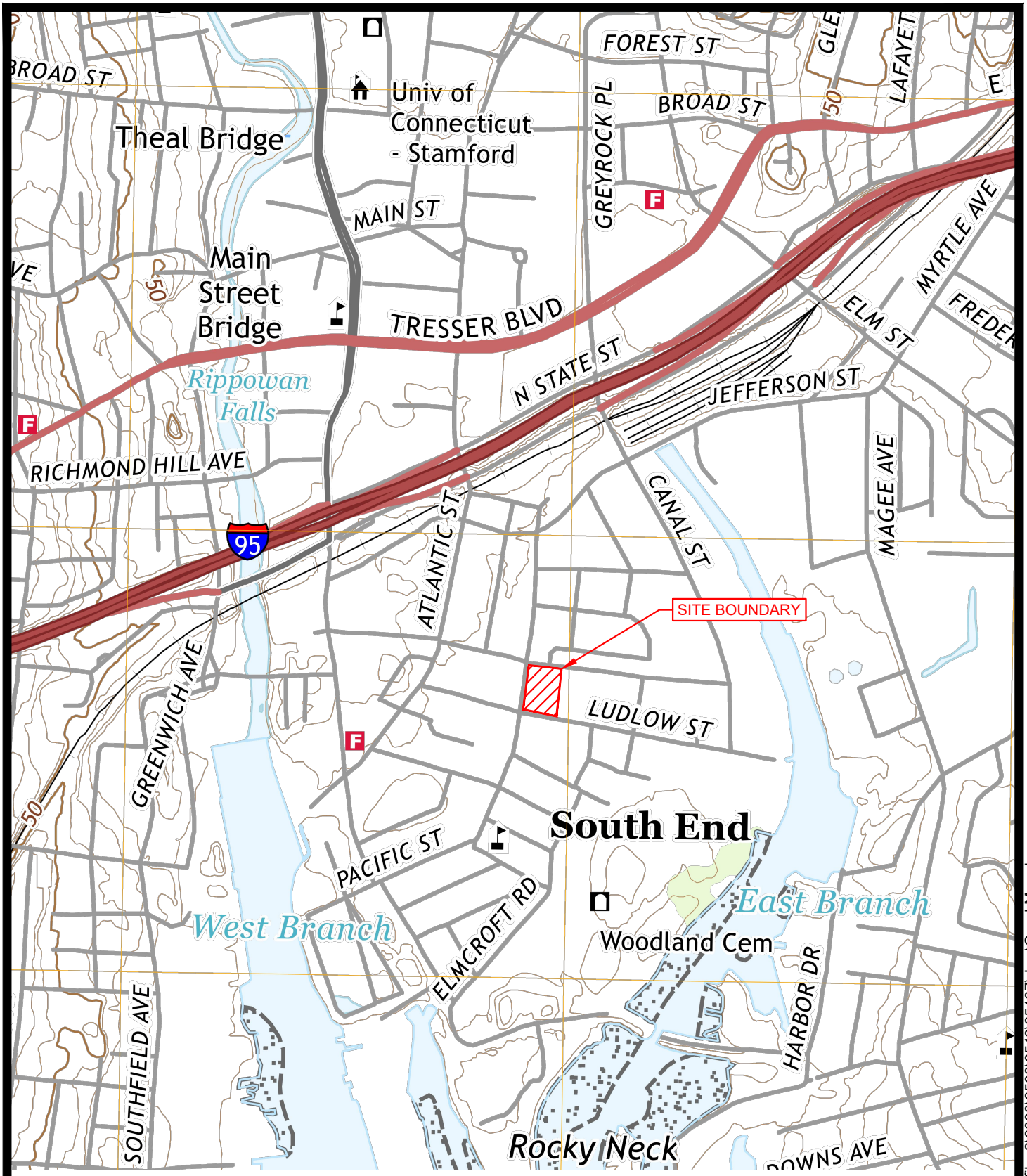
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/24/2021 at 3:58 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



USGS QUADRANGLE MAP

NAME: STAMFORD NO.:113

648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET, STAMFORD, CT

REDNISS & MEAD

COMM. NO.: 6546Z DATE: 09/XX/2021 SCALE: 1"=1,000'

9/8/2021 12:01 PM H:\Jobfiles2\6000\6500\6546\6546Z\dwg\Quad Map.dwg

NOAA Atlas 14, Volume 10, Version 3
Location name: Stamford, Connecticut, USA*
Latitude: 41.044°, Longitude: -73.5376°
Elevation: 5.93 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	**0.364** (0.281-0.465)	**0.425** (0.327-0.543)	**0.524** (0.402-0.671)	**0.606** (0.463-0.780)	**0.719** (0.532-0.957)	**0.805** (0.584-1.09)	**0.894** (0.630-1.25)	**0.991** (0.665-1.41)	**1.13** (0.730-1.65)	**1.23** (0.781-1.84)
10-min	**0.516** (0.398-0.659)	**0.602** (0.463-0.769)	**0.742** (0.570-0.952)	**0.859** (0.655-1.11)	**1.02** (0.754-1.36)	**1.14** (0.827-1.54)	**1.27** (0.892-1.77)	**1.40** (0.943-2.00)	**1.59** (1.03-2.34)	**1.75** (1.11-2.61)
15-min	**0.607** (0.468-0.775)	**0.708** (0.545-0.904)	**0.873** (0.670-1.12)	**1.01** (0.771-1.30)	**1.20** (0.887-1.60)	**1.34** (0.973-1.82)	**1.49** (1.05-2.08)	**1.65** (1.11-2.35)	**1.88** (1.21-2.75)	**2.06** (1.30-3.07)
30-min	**0.849** (0.654-1.08)	**0.991** (0.763-1.27)	**1.22** (0.939-1.57)	**1.42** (1.08-1.82)	**1.68** (1.24-2.24)	**1.89** (1.37-2.55)	**2.09** (1.47-2.91)	**2.31** (1.55-3.29)	**2.62** (1.70-3.83)	**2.86** (1.81-4.26)
60-min	**1.09** (0.841-1.39)	**1.27** (0.981-1.63)	**1.58** (1.21-2.02)	**1.82** (1.39-2.35)	**2.17** (1.60-2.88)	**2.43** (1.76-3.28)	**2.70** (1.89-3.74)	**2.98** (2.00-4.24)	**3.36** (2.18-4.92)	**3.66** (2.32-5.45)
2-hr	**1.42** (1.10-1.79)	**1.67** (1.29-2.11)	**2.08** (1.60-2.64)	**2.42** (1.86-3.09)	**2.89** (2.15-3.82)	**3.24** (2.36-4.36)	**3.61** (2.55-4.99)	**4.01** (2.70-5.66)	**4.56** (2.96-6.64)	**5.00** (3.18-7.41)
3-hr	**1.63** (1.27-2.06)	**1.93** (1.50-2.44)	**2.42** (1.87-3.06)	**2.82** (2.17-3.59)	**3.38** (2.52-4.45)	**3.80** (2.78-5.09)	**4.23** (3.01-5.85)	**4.71** (3.19-6.64)	**5.39** (3.51-7.82)	**5.94** (3.78-8.76)
6-hr	**2.05** (1.61-2.58)	**2.44** (1.91-3.07)	**3.08** (2.40-3.88)	**3.61** (2.80-4.56)	**4.34** (3.26-5.69)	**4.88** (3.60-6.52)	**5.46** (3.90-7.52)	**6.10** (4.14-8.54)	**7.03** (4.59-10.1)	**7.79** (4.97-11.4)
12-hr	**2.52** (1.99-3.15)	**3.02** (2.38-3.77)	**3.83** (3.01-4.79)	**4.50** (3.51-5.66)	**5.43** (4.10-7.09)	**6.12** (4.54-8.14)	**6.86** (4.94-9.41)	**7.70** (5.24-10.7)	**8.93** (5.85-12.8)	**9.94** (6.36-14.5)
24-hr	**2.95** (2.34-3.65)	**3.57** (2.83-4.43)	**4.59** (3.62-5.70)	**5.43** (4.26-6.78)	**6.59** (5.01-8.56)	**7.45** (5.56-9.86)	**8.38** (6.08-11.5)	**9.46** (6.46-13.1)	**11.1** (7.28-15.8)	**12.4** (7.99-18.0)
2-day	**3.29** (2.63-4.05)	**4.05** (3.23-4.99)	**5.30** (4.21-6.54)	**6.33** (5.00-7.85)	**7.74** (5.93-10.0)	**8.80** (6.61-11.6)	**9.93** (7.27-13.6)	**11.3** (7.75-15.5)	**13.4** (8.82-18.9)	**15.2** (9.76-21.8)
3-day	**3.56** (2.85-4.36)	**4.39** (3.51-5.38)	**5.75** (4.58-7.07)	**6.87** (5.45-8.49)	**8.43** (6.48-10.9)	**9.57** (7.22-12.6)	**10.8** (7.95-14.7)	**12.3** (8.47-16.9)	**14.6** (9.65-20.6)	**16.6** (10.7-23.7)
4-day	**3.81** (3.06-4.66)	**4.68** (3.76-5.73)	**6.11** (4.89-7.50)	**7.30** (5.80-8.99)	**8.93** (6.88-11.5)	**10.1** (7.66-13.3)	**11.5** (8.43-15.5)	**13.0** (8.97-17.8)	**15.4** (10.2-21.7)	**17.5** (11.3-24.9)
7-day	**4.54** (3.66-5.52)	**5.49** (4.42-6.67)	**7.03** (5.65-8.58)	**8.32** (6.64-10.2)	**10.1** (7.80-12.9)	**11.4** (8.64-14.8)	**12.8** (9.44-17.2)	**14.5** (10.0-19.6)	**17.0** (11.3-23.7)	**19.1** (12.4-27.1)
10-day	**5.25** (4.25-6.36)	**6.25** (5.05-7.57)	**7.87** (6.35-9.57)	**9.22** (7.39-11.3)	**11.1** (8.59-14.1)	**12.5** (9.46-16.1)	**13.9** (10.3-18.6)	**15.6** (10.8-21.1)	**18.1** (12.1-25.2)	**20.2** (13.1-28.6)
20-day	**7.40** (6.04-8.91)	**8.52** (6.94-10.3)	**10.3** (8.39-12.5)	**11.9** (9.56-14.4)	**13.9** (10.8-17.5)	**15.5** (11.8-19.8)	**17.2** (12.6-22.5)	**18.9** (13.2-25.3)	**21.3** (14.2-29.4)	**23.2** (15.1-32.6)
30-day	**9.18** (7.52-11.0)	**10.4** (8.49-12.5)	**12.4** (10.1-14.9)	**14.0** (11.3-16.9)	**16.2** (12.7-20.2)	**18.0** (13.7-22.7)	**19.7** (14.4-25.6)	**21.5** (15.0-28.7)	**23.8** (16.0-32.7)	**25.6** (16.7-35.8)
45-day	**11.4** (9.35-13.6)	**12.7** (10.4-15.2)	**14.8** (12.1-17.8)	**16.6** (13.5-20.0)	**19.1** (14.9-23.6)	**21.0** (16.0-26.3)	**22.8** (16.7-29.3)	**24.6** (17.3-32.7)	**26.9** (18.1-36.8)	**28.6** (18.7-39.9)
60-day	**13.2** (10.9-15.7)	**14.6** (12.0-17.4)	**16.9** (13.8-20.2)	**18.8** (15.3-22.5)	**21.4** (16.7-26.3)	**23.4** (17.9-29.3)	**25.4** (18.6-32.5)	**27.2** (19.1-36.0)	**29.6** (19.9-40.3)	**31.2** (20.4-43.3)

[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.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves
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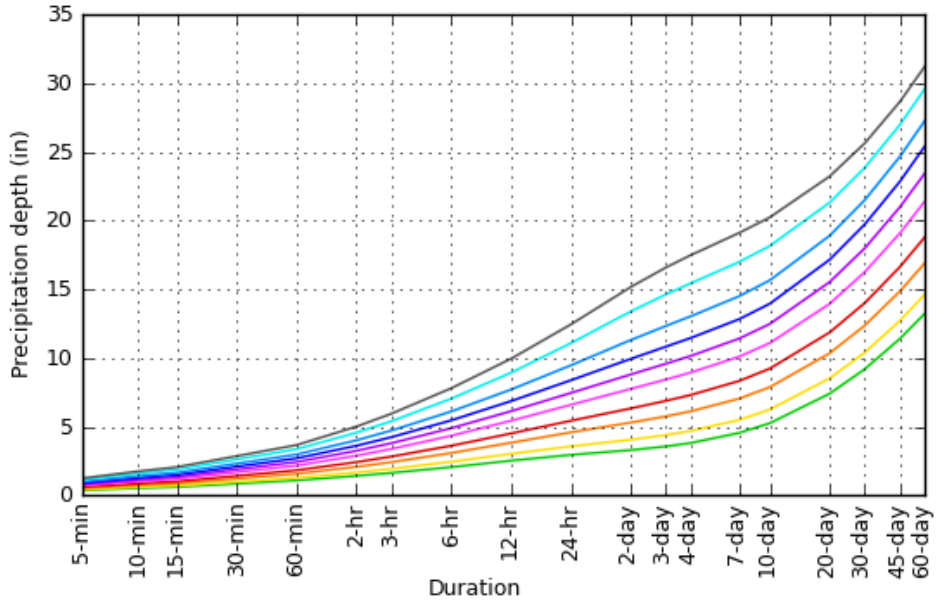

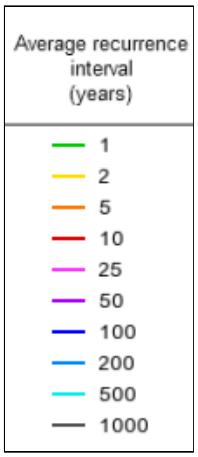

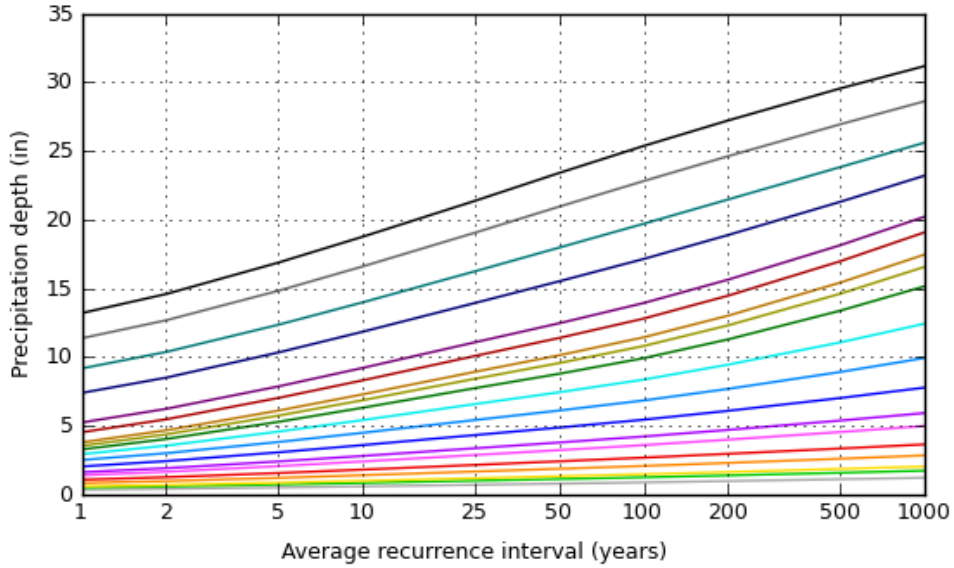

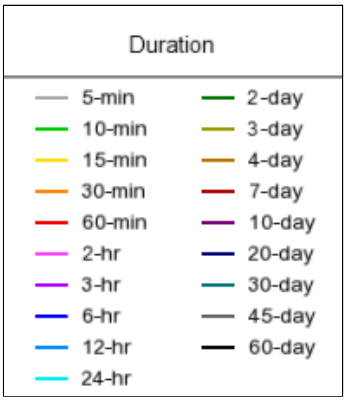

NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Tue Aug 24 20:01:47 2021

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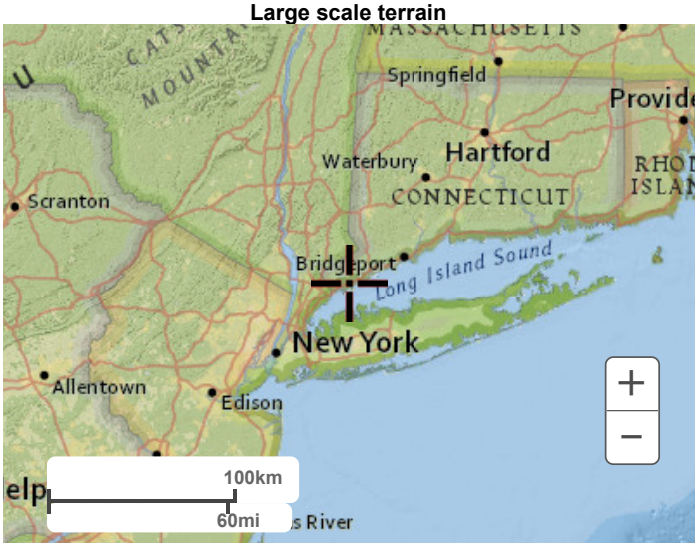
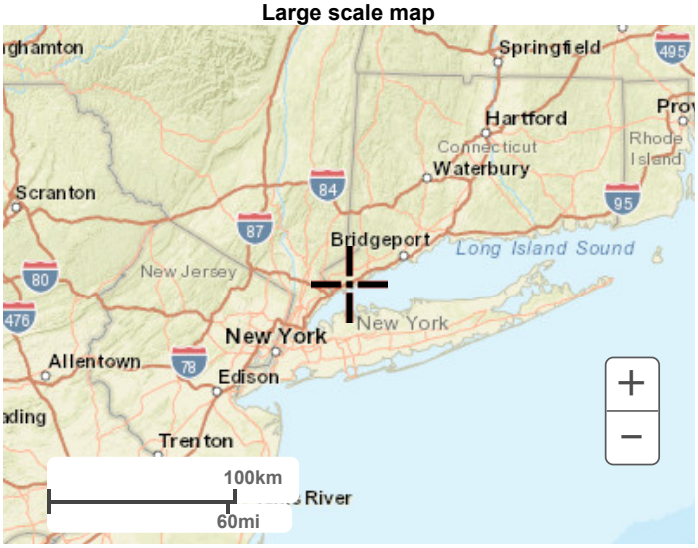
Maps & aerials

Small scale terrain

Large scale terrain



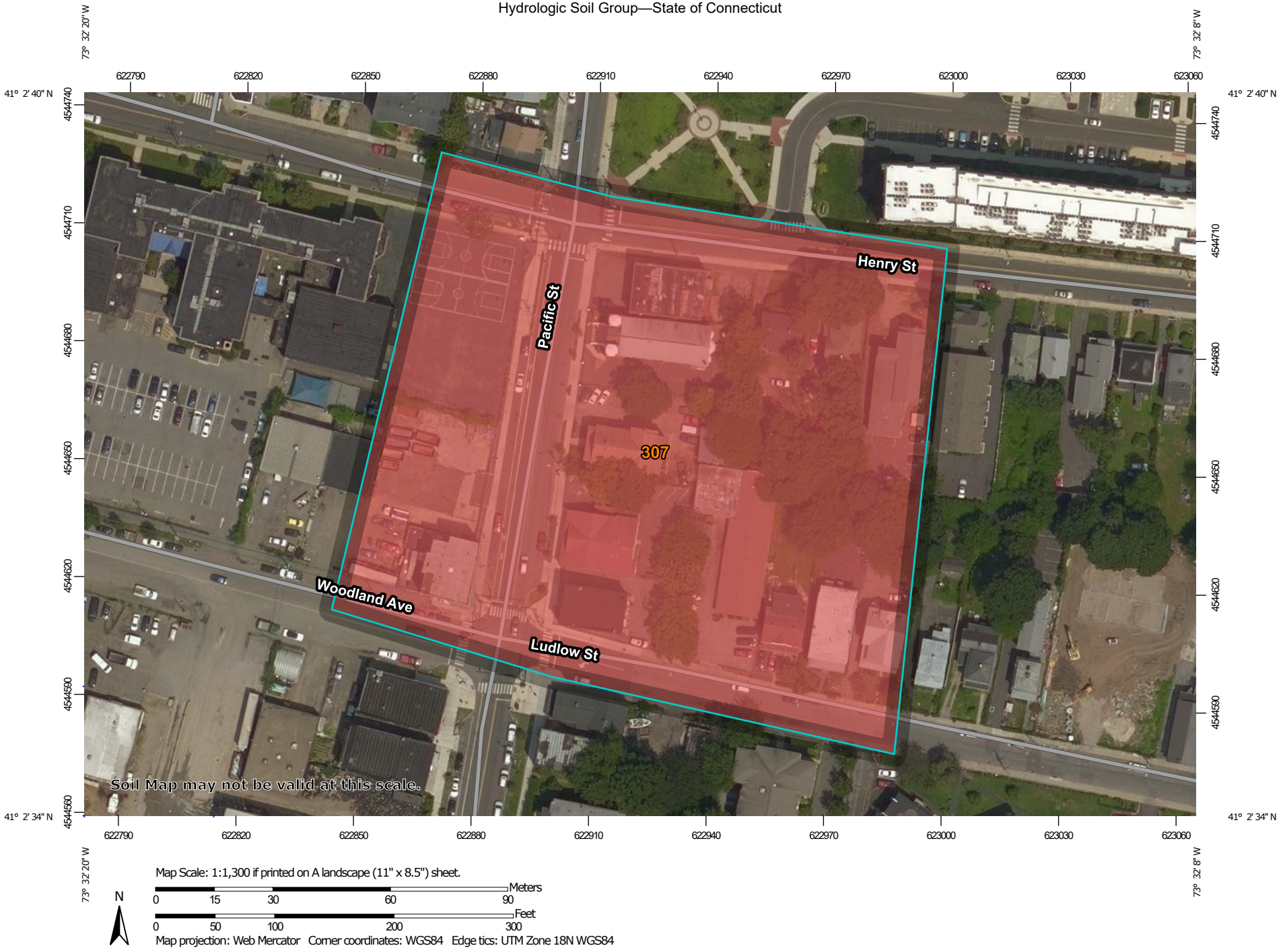
Large scale map



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



Map Scale: 1:1,300 if printed on A landscape (11" x 8.5") sheet.

N

0 15 30 60 90 Meters

0 50 100 200 300 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
307	Urban land	D	4.3	100.0%
Totals for Area of Interest			**4.3**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

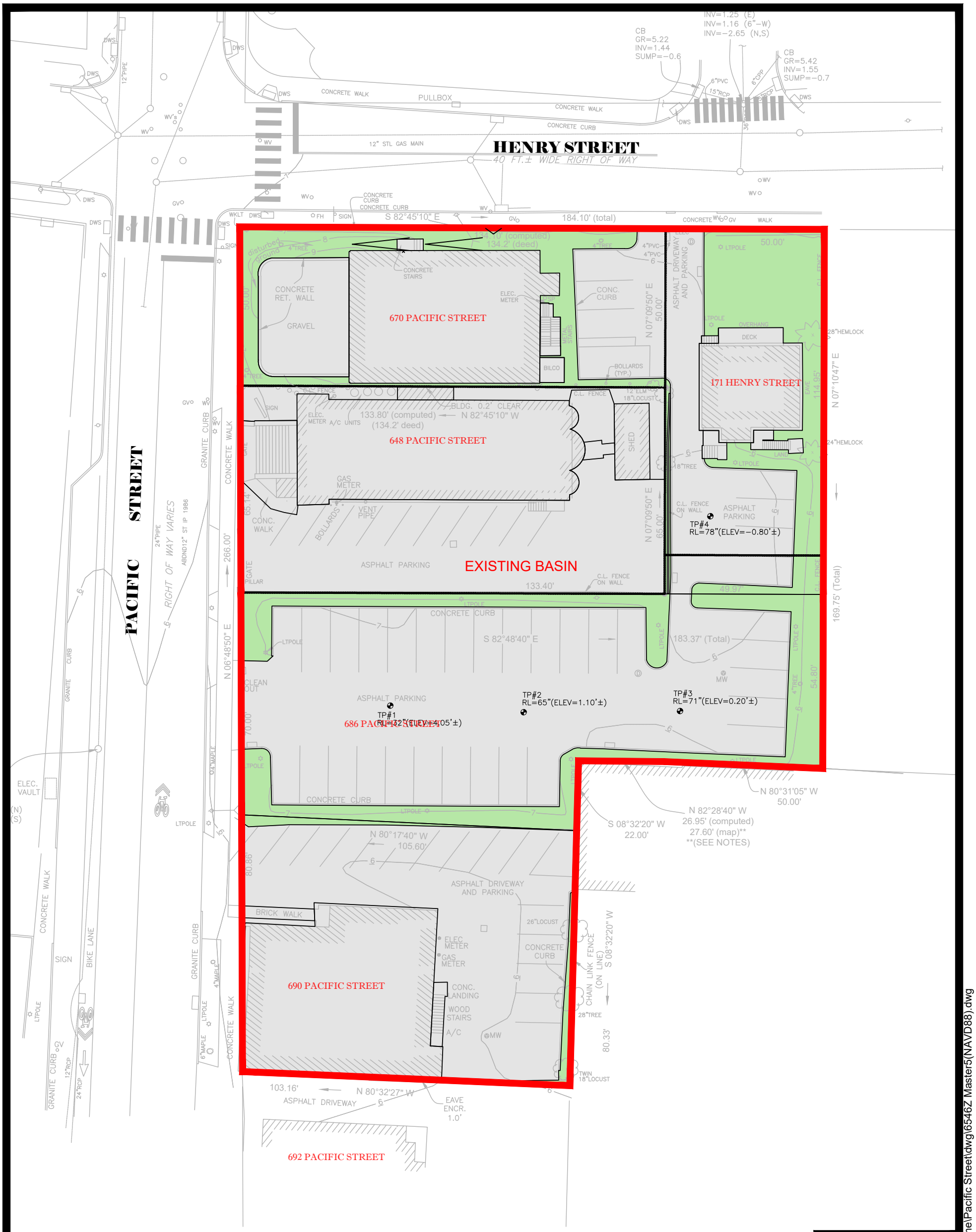
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B

Existing On-Site Drainage Basin Map
Proposed On-Site Drainage Basin Map
WQV & Conveyance Calculations



DRAINAGE BASIN SUMMARY TABLE				
BASIN	**CN**	**SIZE (SF.)**	**TC (HR.)**	**RUNOFF VOLUME (CF)**
EXISTING BASIN	94.00	41,331	0.833 (ASSUMED)	23,182

EXISTING DRAINAGE BASIN MAP

648,670,686 & 690 PACIFIC STREET

STAMFORD, CT

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

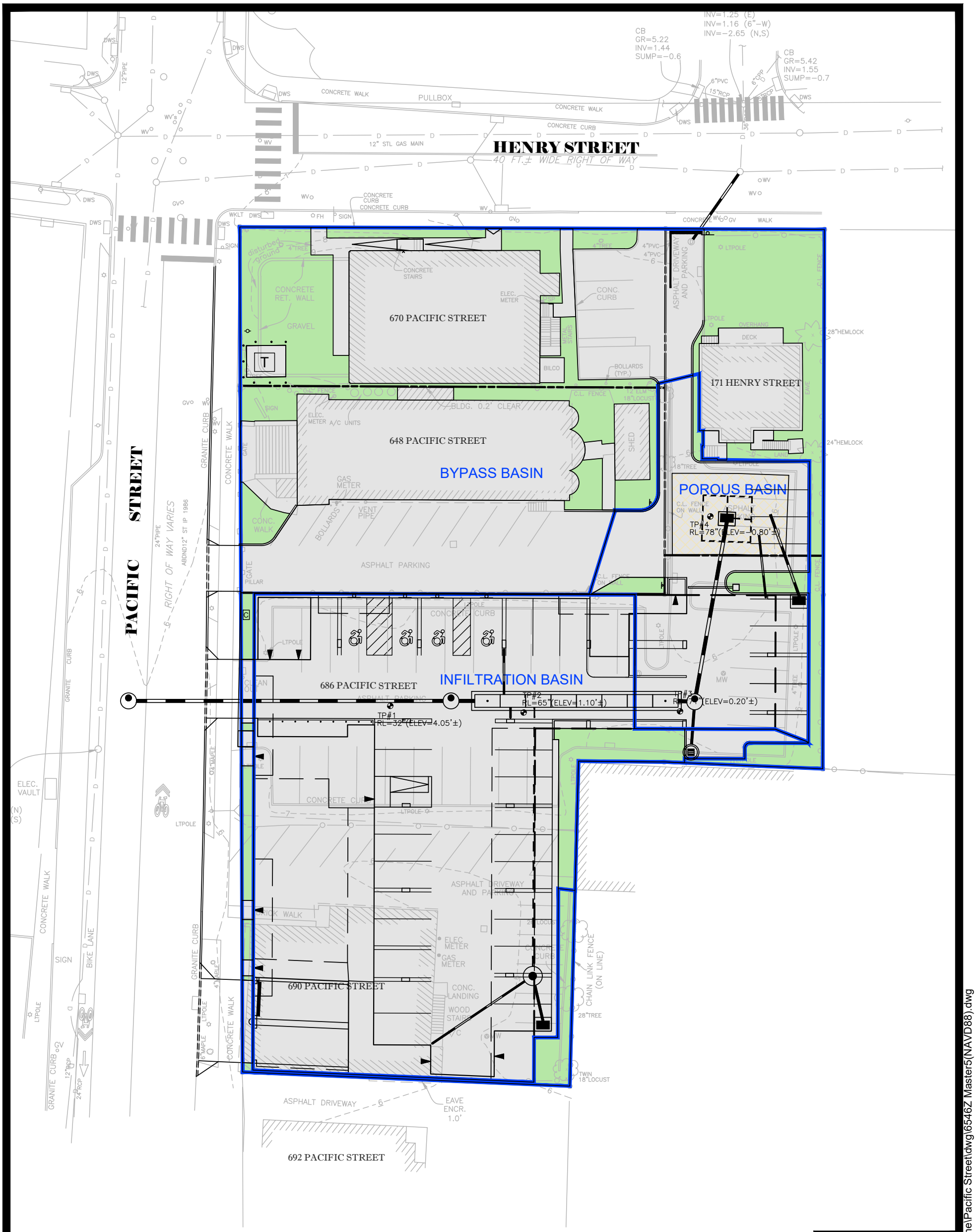
22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

COMM. NO.: 6546Z

DATE: 01/07/2022

SCALE: 1"=30'

1/7/2022 11:22 AM C:\Users\jbailey\Desktop\Working From Home\Pacific Street\dwg\6546Z Master5(NAVD88).dwg



DRAINAGE BASIN SUMMARY TABLE				
BASIN	**CN**	**SIZE (SF.)**	**TC (HR.)**	**RUNOFF VOLUME (CF)**
PROPOSED BYPASS	90.26	19,791	0.833 (ASSUMED)	10,375
PROPOSED TO POROUS	96.46	5,170	0.833 (ASSUMED)	3,025
PROPOSED INFIL	97.05	16,370	0.833 (ASSUMED)	9,676

PROPOSED DRAINAGE BASIN MAP

648,670,686 & 690 PACIFIC STREET

STAMFORD, CT

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

COMM. NO.: 6546Z

DATE: 01/07/2022

SCALE: 1"=30'

1/7/2022 11:28 AM C:\Users\jbailey\Desktop\Working From Home\Pacific Street\dwg\6546Z Master5(NAVD88).dwg

Water Quality Volume Calculations

Project: *Pacific Street*	**Project #:** *6546Z*	**Date:** *1/7/2022*
Location: *690 Pacific Street & 171 Henry Street*	**By:** *JWB*	**Checked:** *BDH*

North Porous Asphalt Parking

Area=	0.119	acres
Impervious Area=	0.111	acres
I=	0.936	[a]
R=	0.892	[b]
WQV=	0.009	ac. ft. [c]

WQV=	**384 ft.^{3}**
1/2 WQV=	**192 ft.^{4}**
WQV Provided=	**1162 ft.^{3}**

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[d] 1/2 WQV is required since existing DCIA exceeds 40% of the site.

Water Quality Volume Calculations

Project: *Pacific Street*	**Project #:** *6546Z*	**Date:** *1/7/2022*
Location: *690 Pacific Street & 171 Henry Street*	**By:** *JWB*	**Checked:** *BDH*

Infiltration System

Area=	0.376	acres
Impervious Area=	0.361	acres
I=	0.960	[a]
R=	0.914	[b]
WQV=	0.029	ac. ft. [c]

WQV=	**1247 ft.^{3}**
1/2 WQV=	**624 ft.^{4}**
WQV Provided=	**279 ft.^{3}**

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[d] 1/2 WQV is required since existing DCIA exceeds 40% of the site.

Water Quality Volume Calculations

Project: *Pacific Street*	**Project #:** *6546Z*	**Date:** *1/7/2022*
Location: *690 Pacific Street & 171 Henry Street*	**By:** *JWB*	**Checked:** *BDH*

Bypass Basin

Area=	0.454	acres
Impervious Area=	0.308	acres
I=	0.677	[a]
R=	0.660	[b]
WQV=	0.025	ac. ft. [c]

WQV=	**1088 ft.^{3}**
1/2 WQV=	**544 ft.^{4}**
WQV Provided=	**N/A ft.^{3}**

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

HYDRAULIC DATA FOR RATIONAL METHOD

Project:	*648, 670, 686 & 690 Pacific Street and 171 Henry Street*	**Project #:** *6546Z*	**Date:** 1/7/2022
Location:	*Stamford, CT*	**By:** *JWB*	**Checked:** *BDH*

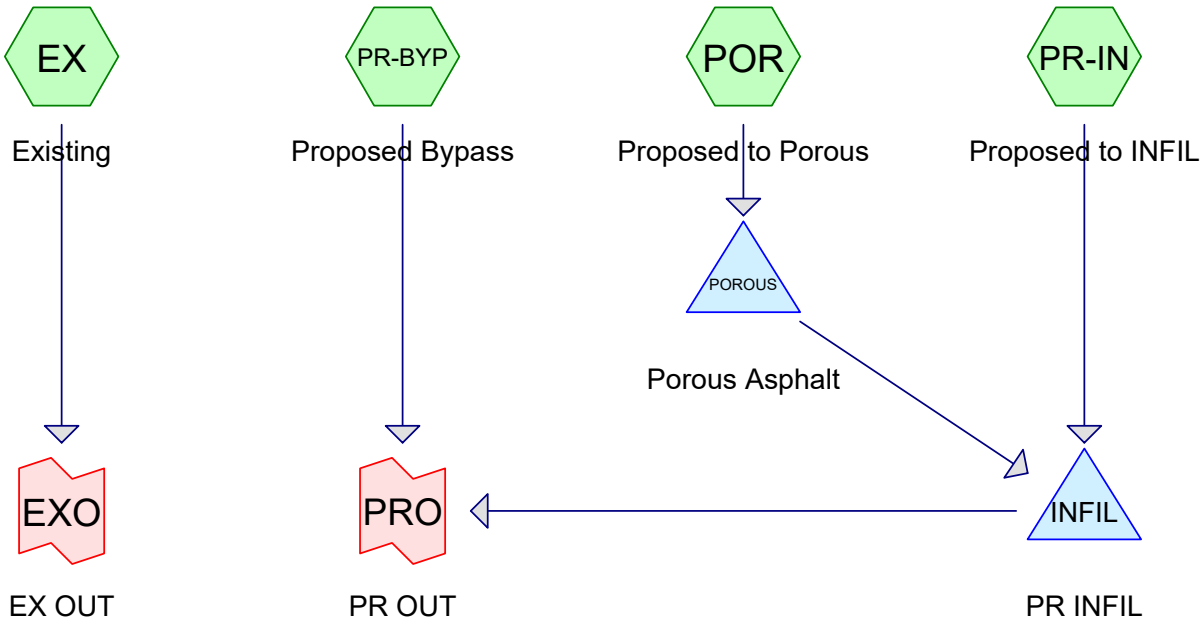
25-Year Storm Conveyance Calculations

Pipe Section	Q in system (cfs)*	Pipe Size (in)	Pipe Length (ft)	Roughness coefficient	Material	Slope (ft/ft)	Q_{full} (cfs)	Q_{system} / Q_{full} (%)
CB#1 to Infil#1	0.79	8	55	0.011	PVC	0.021	2.08	38.1%
Infil#1 to MH#1	3.26	12	5	0.011	PVC	0.020	5.97	54.6%

*25-Year flow rates obtained from HydroCAD Report

Appendix C

HydroCAD Report



Subcat Reach Pond Link

Routing Diagram for 6546Z HydroCAD Model
Prepared by Microsoft, Printed 1/7/2022

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>2.30"
Tc=5.0 min CN=94.00 Runoff=2.56 cfs 7,922 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>2.55"
Tc=5.0 min CN=96.46 Runoff=0.34 cfs 1,098 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>1.96"
Tc=5.0 min CN=90.26 Runoff=1.07 cfs 3,230 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>2.61"
Tc=5.0 min CN=97.05 Runoff=1.09 cfs 3,564 cf

Pond INFIL: PR INFIL Peak Elev=4.19' Storage=409 cf Inflow=1.09 cfs 4,161 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=1.09 cfs 3,868 cf

Pond POROUS: Porous Asphalt Peak Elev=4.02' Storage=620 cf Inflow=0.34 cfs 1,098 cf
Outflow=0.14 cfs 597 cf

Link EXO: EX OUT Inflow=2.56 cfs 7,922 cf
Primary=2.56 cfs 7,922 cf

Link PRO: PR OUT Inflow=2.17 cfs 7,098 cf
Primary=2.17 cfs 7,098 cf

Total Runoff Area = 82,662 sf Runoff Volume = 15,814 cf Average Runoff Depth = 2.30"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=94.00 Runoff=3.18 cfs 9,994 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>3.16"
Tc=5.0 min CN=96.46 Runoff=0.42 cfs 1,362 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>2.54"
Tc=5.0 min CN=90.26 Runoff=1.38 cfs 4,182 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>3.23"
Tc=5.0 min CN=97.05 Runoff=1.34 cfs 4,403 cf

Pond INFIL: PR INFIL Peak Elev=4.26' Storage=413 cf Inflow=1.34 cfs 5,262 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=1.33 cfs 4,967 cf

Pond POROUS: Porous Asphalt Peak Elev=4.22' Storage=693 cf Inflow=0.42 cfs 1,362 cf
Outflow=0.30 cfs 859 cf

Link EXO: EX OUT Inflow=3.18 cfs 9,994 cf
Primary=3.18 cfs 9,994 cf

Link PRO: PR OUT Inflow=2.71 cfs 9,149 cf
Primary=2.71 cfs 9,149 cf

Total Runoff Area = 82,662 sf Runoff Volume = 19,941 cf Average Runoff Depth = 2.89"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>3.90"
Tc=5.0 min CN=94.00 Runoff=4.21 cfs 13,436 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>4.17"
Tc=5.0 min CN=96.46 Runoff=0.54 cfs 1,798 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>3.51"
Tc=5.0 min CN=90.26 Runoff=1.88 cfs 5,782 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>4.24"
Tc=5.0 min CN=97.05 Runoff=1.73 cfs 5,786 cf

Pond INFIL: PR INFIL Peak Elev=4.47' Storage=421 cf Inflow=2.11 cfs 7,104 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=2.12 cfs 6,807 cf

Pond POROUS: Porous Asphalt Peak Elev=4.52' Storage=804 cf Inflow=0.54 cfs 1,798 cf
Outflow=0.54 cfs 1,292 cf

Link EXO: EX OUT Inflow=4.21 cfs 13,436 cf
Primary=4.21 cfs 13,436 cf

Link PRO: PR OUT Inflow=3.99 cfs 12,589 cf
Primary=3.99 cfs 12,589 cf

Total Runoff Area = 82,662 sf Runoff Volume = 26,803 cf Average Runoff Depth = 3.89"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>4.73"
Tc=5.0 min CN=94.00 Runoff=5.04 cfs 16,289 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>5.01"
Tc=5.0 min CN=96.46 Runoff=0.65 cfs 2,158 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>4.32"
Tc=5.0 min CN=90.26 Runoff=2.28 cfs 7,120 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>5.08"
Tc=5.0 min CN=97.05 Runoff=2.06 cfs 6,927 cf

Pond INFIL: PR INFIL Peak Elev=4.60' Storage=421 cf Inflow=2.55 cfs 8,598 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=2.56 cfs 8,300 cf

Pond POROUS: Porous Asphalt Peak Elev=4.66' Storage=854 cf Inflow=0.65 cfs 2,158 cf
Outflow=0.64 cfs 1,650 cf

Link EXO: EX OUT Inflow=5.04 cfs 16,289 cf
Primary=5.04 cfs 16,289 cf

Link PRO: PR OUT Inflow=4.84 cfs 15,420 cf
Primary=4.84 cfs 15,420 cf

Total Runoff Area = 82,662 sf Runoff Volume = 32,494 cf Average Runoff Depth = 4.72"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>5.88"
Tc=5.0 min CN=94.00 Runoff=6.19 cfs 20,243 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>6.17"
Tc=5.0 min CN=96.46 Runoff=0.79 cfs 2,656 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>5.45"
Tc=5.0 min CN=90.26 Runoff=2.84 cfs 8,984 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>6.23"
Tc=5.0 min CN=97.05 Runoff=2.51 cfs 8,505 cf

Pond INFIL: PR INFIL Peak Elev=4.89' Storage=421 cf Inflow=3.19 cfs 10,687 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=3.25 cfs 10,387 cf

Pond POROUS: Porous Asphalt Peak Elev=4.89' Storage=939 cf Inflow=0.79 cfs 2,656 cf
Outflow=0.80 cfs 2,145 cf

Link EXO: EX OUT Inflow=6.19 cfs 20,243 cf
Primary=6.19 cfs 20,243 cf

Link PRO: PR OUT Inflow=6.00 cfs 19,371 cf
Primary=6.00 cfs 19,371 cf

Total Runoff Area = 82,662 sf Runoff Volume = 40,388 cf Average Runoff Depth = 5.86"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>6.73"
Tc=5.0 min CN=94.00 Runoff=7.04 cfs 23,182 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>7.02"
Tc=5.0 min CN=96.46 Runoff=0.89 cfs 3,025 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>6.29"
Tc=5.0 min CN=90.26 Runoff=3.26 cfs 10,375 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>7.09"
Tc=5.0 min CN=97.05 Runoff=2.84 cfs 9,676 cf

Pond INFIL: PR INFIL Peak Elev=4.92' Storage=421 cf Inflow=3.32 cfs 12,244 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=3.33 cfs 11,942 cf

Pond POROUS: Porous Asphalt Peak Elev=5.06' Storage=1,003 cf Inflow=0.89 cfs 3,025 cf
Outflow=0.89 cfs 2,513 cf

Link EXO: EX OUT Inflow=7.04 cfs 23,182 cf
Primary=7.04 cfs 23,182 cf

Link PRO: PR OUT Inflow=6.56 cfs 22,317 cf
Primary=6.56 cfs 22,317 cf

Total Runoff Area = 82,662 sf Runoff Volume = 46,258 cf Average Runoff Depth = 6.72"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Summary for Subcatchment EX: Existing

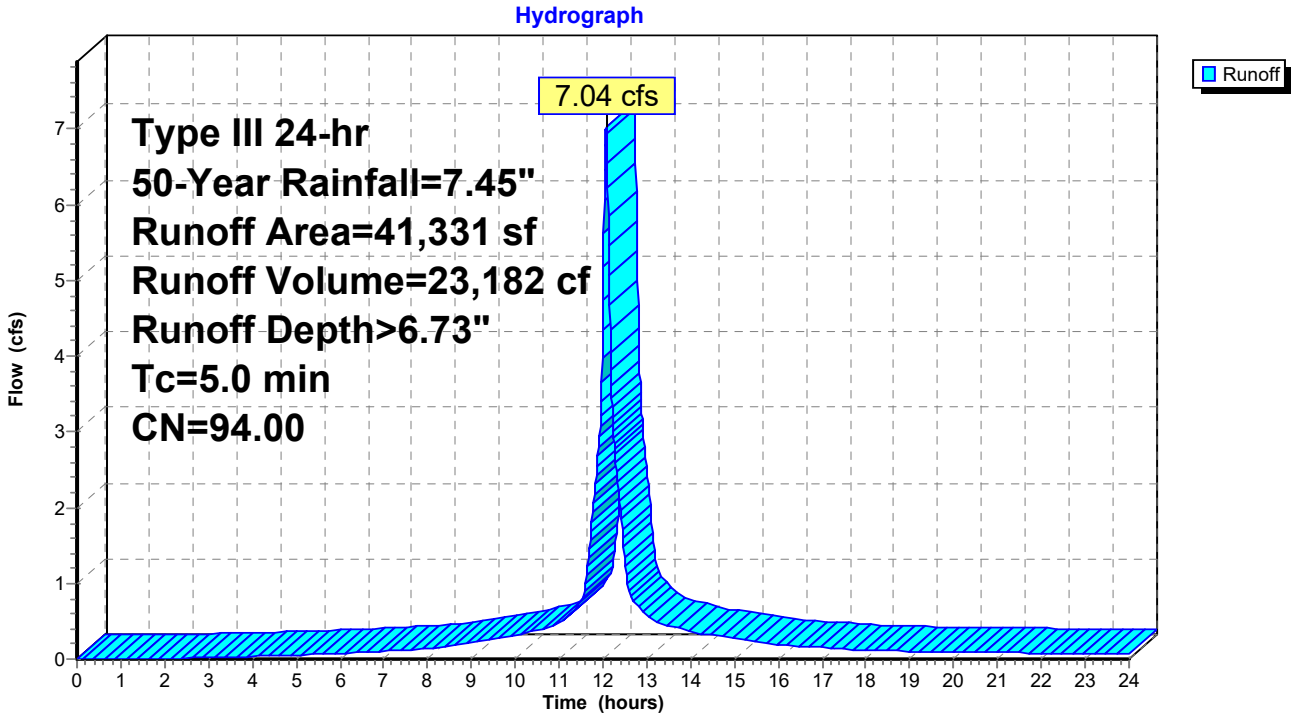
Runoff = 7.04 cfs @ 12.07 hrs, Volume= 23,182 cf, Depth> 6.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.45"

Area (sf)	CN	Description
34,439	98.00	Unconnected pavement, HSG C
6,892	74.00	>75% Grass cover, Good, HSG C
41,331	94.00	Weighted Average
6,892		16.68% Pervious Area
34,439		83.32% Impervious Area
34,439		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment EX: Existing



Summary for Subcatchment POR: Proposed to Porous

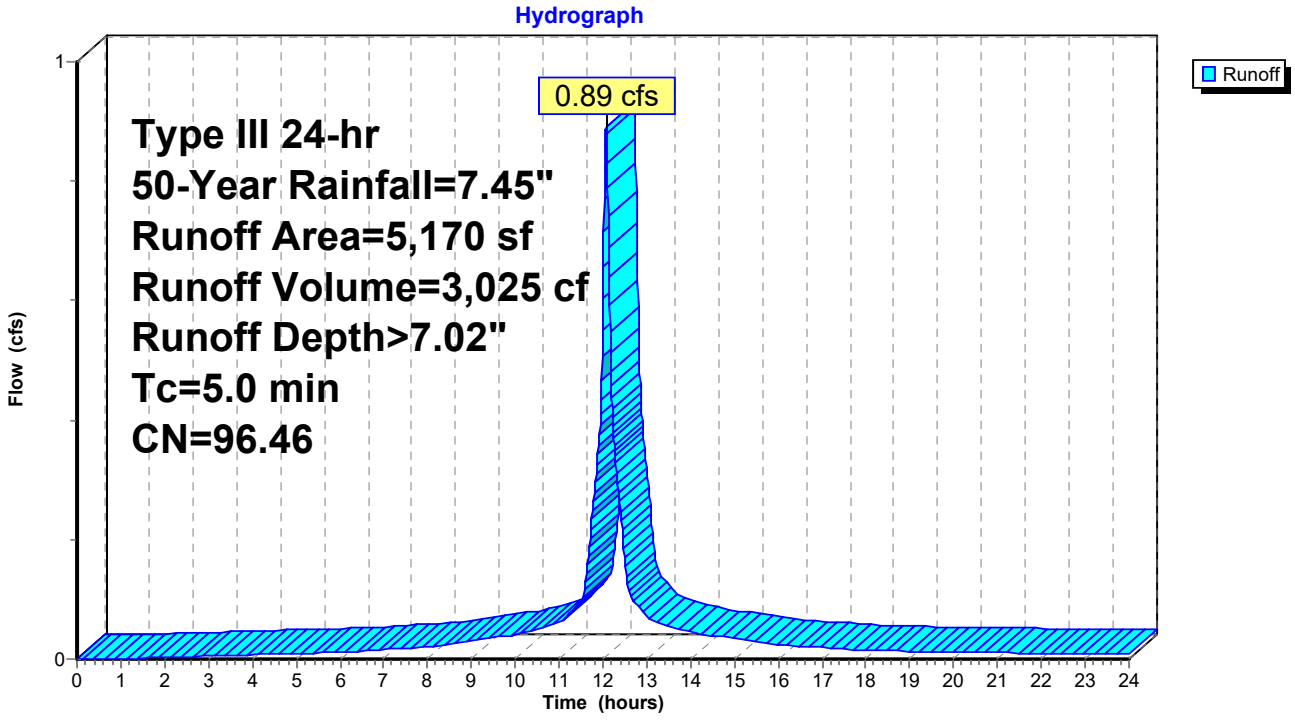
Runoff = 0.89 cfs @ 12.07 hrs, Volume= 3,025 cf, Depth> 7.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.45"

Area (sf)	CN	Description
4,839	98.00	Unconnected pavement, HSG C
331	74.00	>75% Grass cover, Good, HSG C
5,170	96.46	Weighted Average
331		6.40% Pervious Area
4,839		93.60% Impervious Area
4,839		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment POR: Proposed to Porous



Summary for Subcatchment PR-BYP: Proposed Bypass

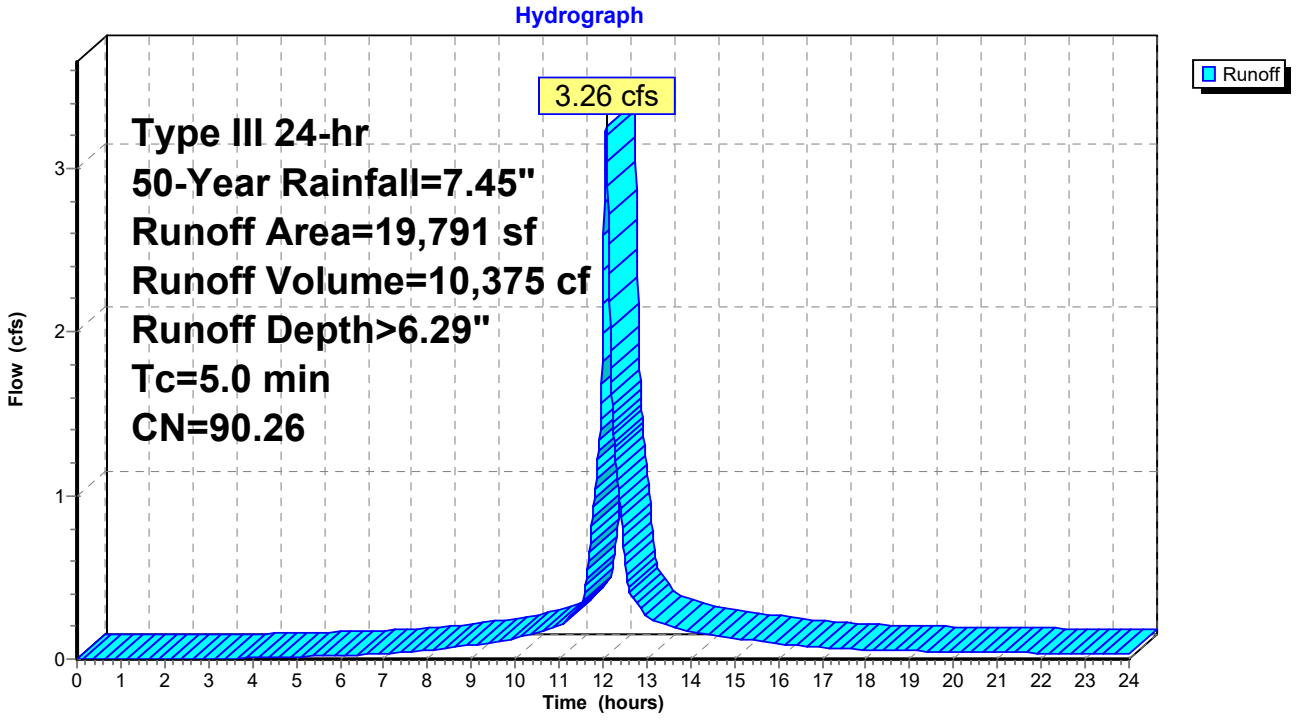
Runoff = 3.26 cfs @ 12.07 hrs, Volume= 10,375 cf, Depth> 6.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.45"

Area (sf)	CN	Description
13,405	98.00	Unconnected pavement, HSG C
6,386	74.00	>75% Grass cover, Good, HSG C
19,791	90.26	Weighted Average
6,386		32.27% Pervious Area
13,405		67.73% Impervious Area
13,405		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment PR-BYP: Proposed Bypass



Summary for Subcatchment PR-IN: Proposed to INFIL

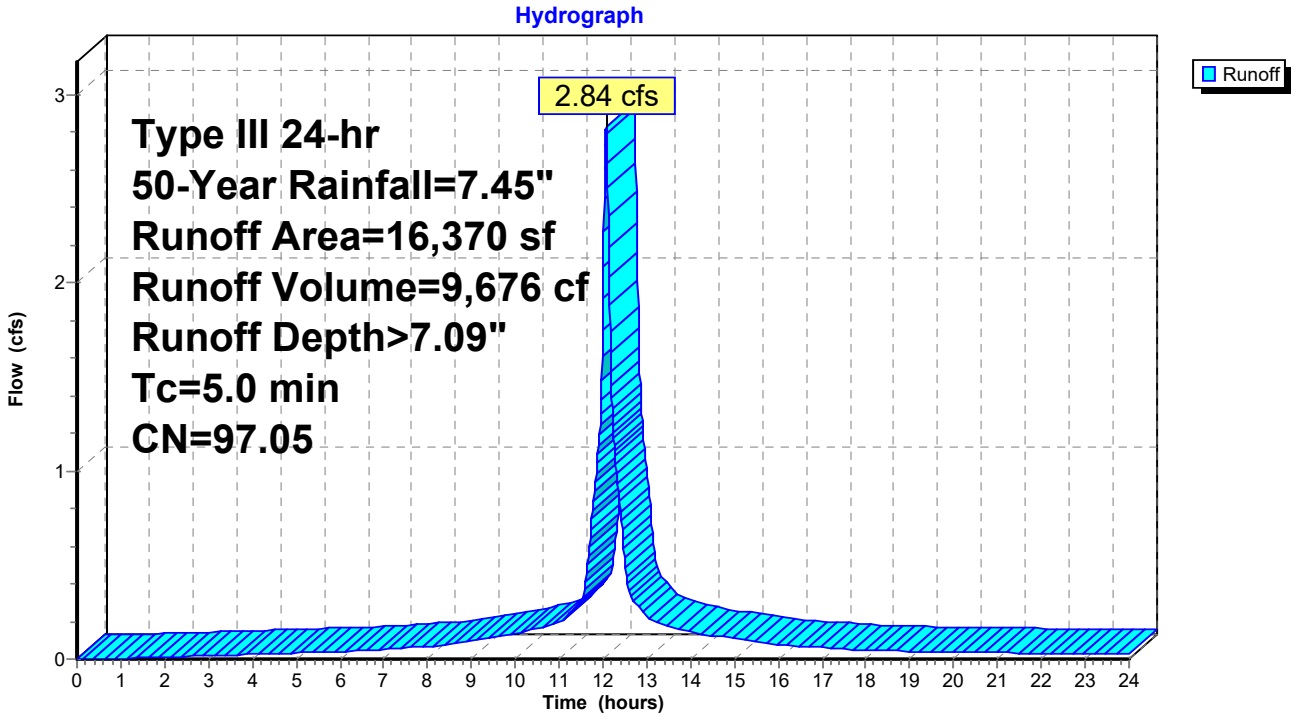
Runoff = 2.84 cfs @ 12.07 hrs, Volume= 9,676 cf, Depth> 7.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.45"

Area (sf)	CN	Description
15,721	98.00	Unconnected pavement, HSG C
649	74.00	>75% Grass cover, Good, HSG C
16,370	97.05	Weighted Average
649		3.96% Pervious Area
15,721		96.04% Impervious Area
15,721		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment PR-IN: Proposed to INFIL



Summary for Pond INFIL: PR INFIL

[93] Warning: Storage range exceeded by 0.52'
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[80] Warning: Exceeded Pond POROUS by 1.14' @ 5.44 hrs (0.73 cfs 15,661 cf)

Inflow Area = 21,540 sf, 95.45% Impervious, Inflow Depth > 6.82" for 50-Year event
Inflow = 3.32 cfs @ 12.09 hrs, Volume= 12,244 cf
Outflow = 3.33 cfs @ 12.09 hrs, Volume= 11,942 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 12.09 hrs, Volume= 11,942 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 4.92' @ 12.09 hrs Surf.Area= 396 sf Storage= 421 cf

Plug-Flow detention time= 30.7 min calculated for 11,942 cf (98% of inflow)
Center-of-Mass det. time= 15.4 min (777.1 - 761.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	2.40'	163 cf	**6.00'W x 66.00'L x 2.00'H Field A** 792 cf Overall - 384 cf Embedded = 408 cf x 40.0% Voids
#2A	2.90'	257 cf	**Concrete Galley 4x8x1.5** x 8 Inside #1 Inside= 42.0"W x 15.0"H => 4.29 sf x 7.50'L = 32.2 cf Outside= 48.0"W x 18.0"H => 6.00 sf x 8.00'L = 48.0 cf
		421 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	3.65'	**12.0" Round Culvert** L= 97.0' Ke= 0.500 Inlet / Outlet Invert= 3.65' / 1.45' S= 0.0227 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Primary OutFlow Max=3.32 cfs @ 12.09 hrs HW=4.92' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.32 cfs @ 4.23 fps)

Pond INFIL: PR INFIL - Chamber Wizard Field A

Chamber Model = Concrete Galley 4x8x1.5 (Concrete Galley, UCPI 18" Low Profile Galley or equivalent)
Inside= 42.0"W x 15.0"H => 4.29 sf x 7.50'L = 32.2 cf
Outside= 48.0"W x 18.0"H => 6.00 sf x 8.00'L = 48.0 cf

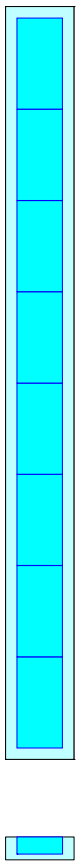
8 Chambers/Row x 8.00' Long = 64.00' Row Length +12.0" End Stone x 2 = 66.00' Base Length
1 Rows x 48.0" Wide + 12.0" Side Stone x 2 = 6.00' Base Width
6.0" Stone Base + 18.0" Chamber Height = 2.00' Field Height

8 Chambers x 32.2 cf = 257.4 cf Chamber Storage
8 Chambers x 48.0 cf = 384.0 cf Displacement

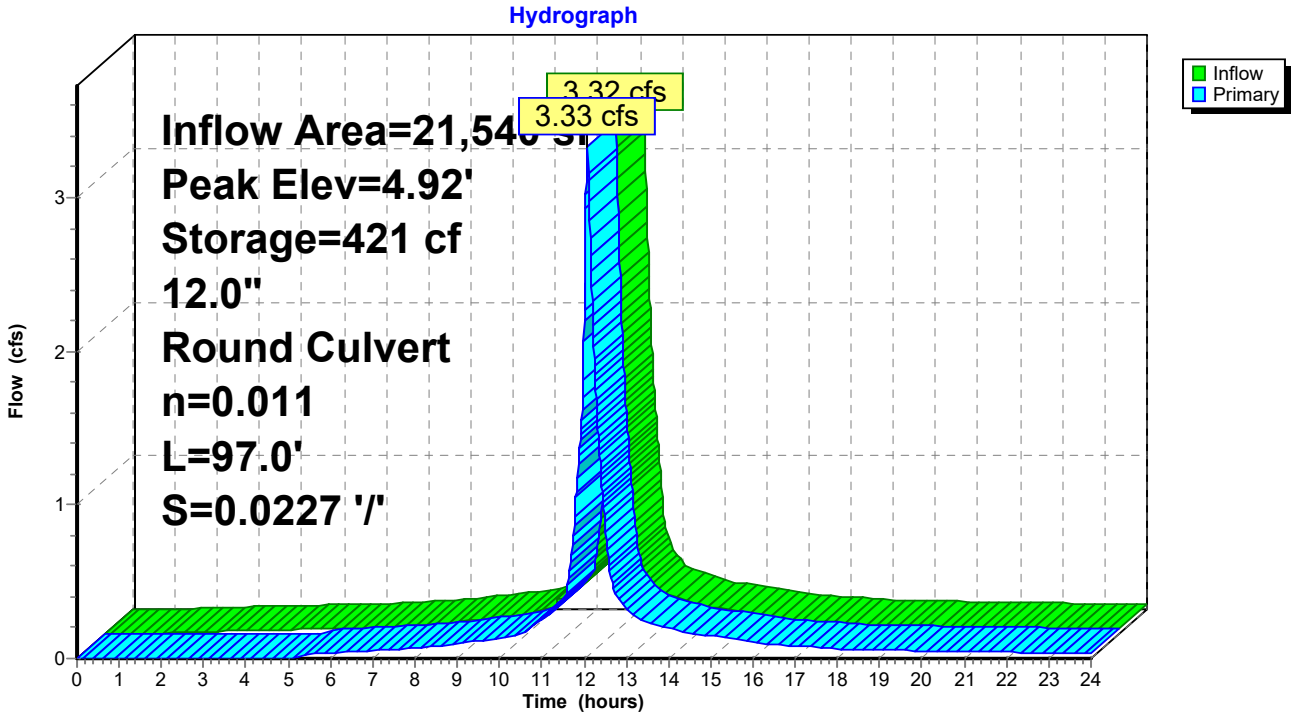
792.0 cf Field - 384.0 cf Chambers = 408.0 cf Stone x 40.0% Voids = 163.2 cf Stone Storage

Chamber Storage + Stone Storage = 420.6 cf = 0.010 af
Overall Storage Efficiency = 53.1%
Overall System Size = 66.00' x 6.00' x 2.00'

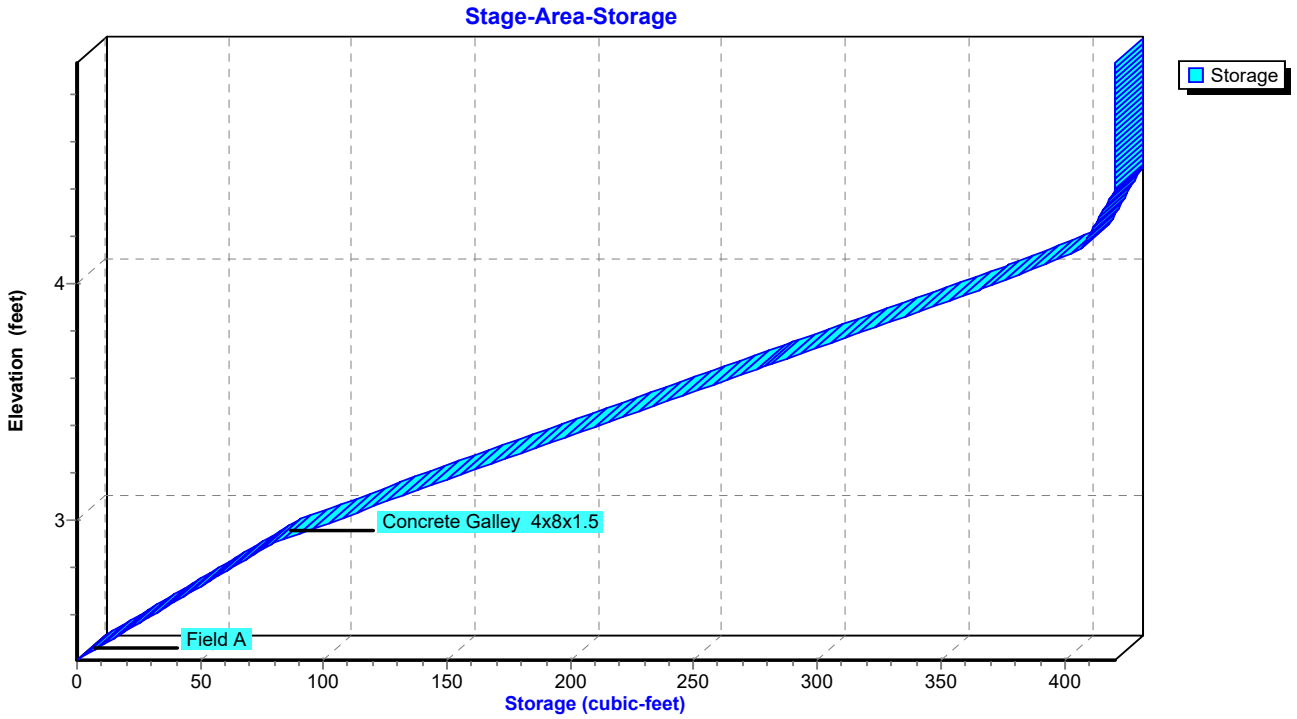
8 Chambers
29.3 cy Field
15.1 cy Stone



Pond INFIL: PR INFIL



Pond INFIL: PR INFIL



Stage-Area-Storage for Pond INFIL: PR INFIL

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
2.40	0	3.46	228	4.52	421
2.42	3	3.48	233	4.54	421
2.44	6	3.50	239	4.56	421
2.46	10	3.52	244	4.58	421
2.48	13	3.54	249	4.60	421
2.50	16	3.56	255	4.62	421
2.52	19	3.58	260	4.64	421
2.54	22	3.60	265	4.66	421
2.56	25	3.62	271	4.68	421
2.58	29	3.64	276	4.70	421
2.60	32	3.66	281	4.72	421
2.62	35	3.68	287	4.74	421
2.64	38	3.70	292	4.76	421
2.66	41	3.72	297	4.78	421
2.68	44	3.74	303	4.80	421
2.70	48	3.76	308	4.82	421
2.72	51	3.78	313	4.84	421
2.74	54	3.80	319	4.86	421
2.76	57	3.82	324	4.88	421
2.78	60	3.84	329	4.90	421
2.80	63	3.86	335	4.92	421
2.82	67	3.88	340	4.94	421
2.84	70	3.90	345		
2.86	73	3.92	351		
2.88	76	3.94	356		
2.90	79	3.96	361		
2.92	85	3.98	366		
2.94	90	4.00	371		
2.96	95	4.02	376		
2.98	100	4.04	381		
3.00	106	4.06	386		
3.02	111	4.08	390		
3.04	116	4.10	395		
3.06	122	4.12	400		
3.08	127	4.14	404		
3.10	132	4.16	407		
3.12	138	4.18	408		
3.14	143	4.20	409		
3.16	148	4.22	411		
3.18	154	4.24	412		
3.20	159	4.26	413		
3.22	164	4.28	414		
3.24	170	4.30	415		
3.26	175	4.32	416		
3.28	180	4.34	417		
3.30	186	4.36	418		
3.32	191	4.38	419		
3.34	196	4.40	**421**		
3.36	202	4.42	421		
3.38	207	4.44	421		
3.40	212	4.46	421		
3.42	218	4.48	421		
3.44	223	4.50	421		

Summary for Pond POROUS: Porous Asphalt

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=8)

Inflow Area = 5,170 sf, 93.60% Impervious, Inflow Depth > 7.02" for 50-Year event
Inflow = 0.89 cfs @ 12.07 hrs, Volume= 3,025 cf
Outflow = 0.89 cfs @ 12.17 hrs, Volume= 2,513 cf, Atten= 0%, Lag= 6.2 min
Primary = 0.89 cfs @ 12.17 hrs, Volume= 2,568 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 5.06' @ 12.12 hrs Surf.Area= 925 sf Storage= 1,003 cf

Plug-Flow detention time= 139.9 min calculated for 2,513 cf (83% of inflow)
Center-of-Mass det. time= 70.5 min (820.4 - 749.9)

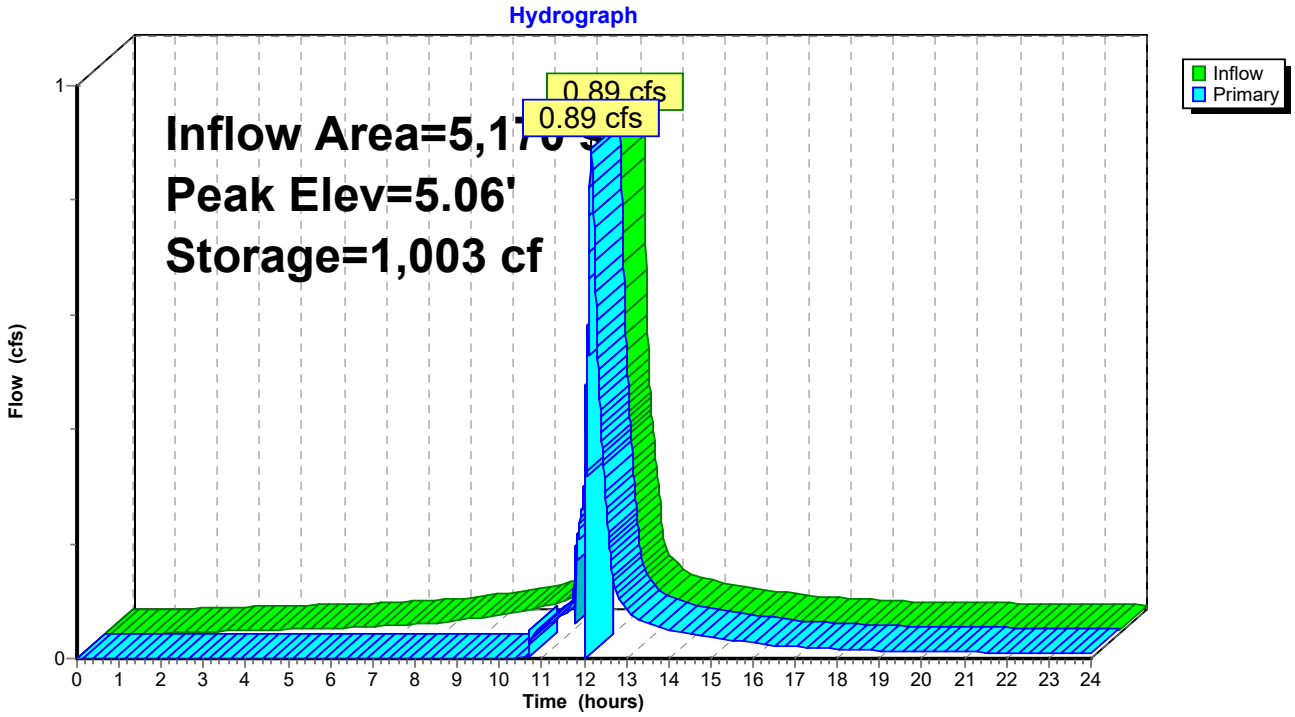
Volume	Invert	Avail.Storage	Storage Description
#1	2.35'	1,717 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.35	925	0.0	0	0
5.35	925	40.0	1,110	1,110
5.70	925	16.0	52	1,162
6.30	925	100.0	555	1,717

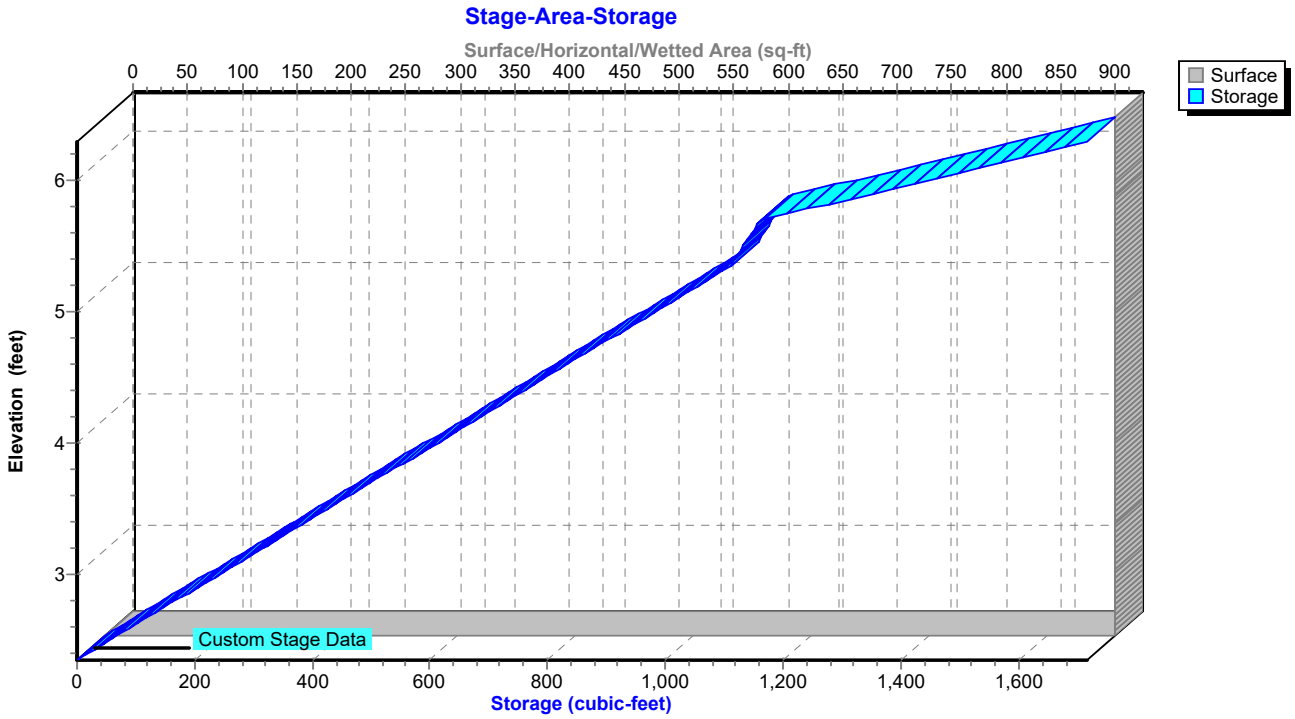
Device	Routing	Invert	Outlet Devices
#1	Primary	5.70'	**3.0" x 3.0" Horiz. Orifice/Grate X 7.00 columns** X 9 rows C= 0.600 in 30.0" x 48.0" Grate (39% open area) Limited to weir flow at low heads
#2	Primary	3.20'	**8.0" Round Culvert** L= 55.0' Ke= 0.500 Inlet / Outlet Invert= 3.20' / 2.60' S= 0.0109 '/' Cc= 0.900 n= 0.011, Flow Area= 0.35 sf

Primary OutFlow Max=0.90 cfs @ 12.17 hrs HW=4.95' TW=4.58' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Culvert** (Outlet Controls 0.90 cfs @ 2.57 fps)

Pond POROUS: Porous Asphalt



Pond POROUS: Porous Asphalt



Stage-Area-Storage for Pond POROUS: Porous Asphalt

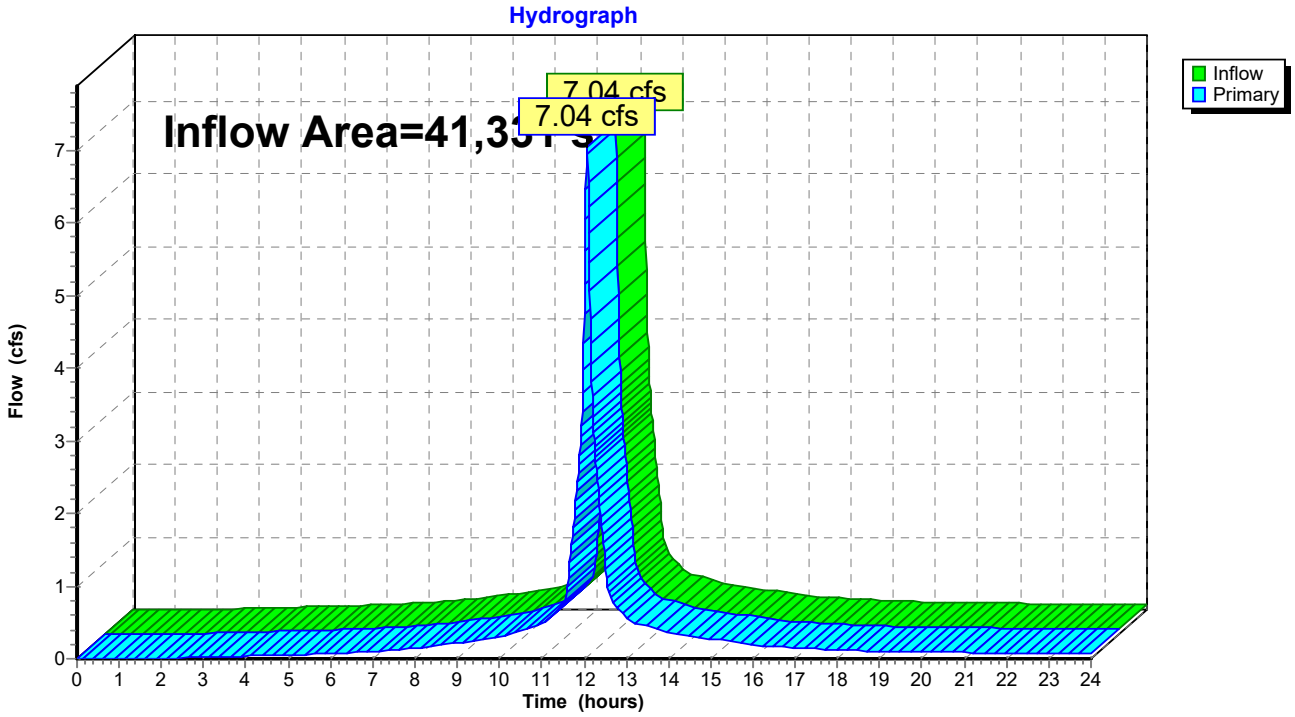
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
2.35	**925**	0
2.40	925	18
2.45	925	37
2.50	925	55
2.55	925	74
2.60	925	93
2.65	925	111
2.70	925	130
2.75	925	148
2.80	925	167
2.85	925	185
2.90	925	203
2.95	925	222
3.00	925	240
3.05	925	259
3.10	925	278
3.15	925	296
3.20	925	315
3.25	925	333
3.30	925	352
3.35	925	370
3.40	925	389
3.45	925	407
3.50	925	426
3.55	925	444
3.60	925	463
3.65	925	481
3.70	925	500
3.75	925	518
3.80	925	537
3.85	925	555
3.90	925	573
3.95	925	592
4.00	925	611
4.05	925	629
4.10	925	648
4.15	925	666
4.20	925	685
4.25	925	703
4.30	925	722
4.35	925	740
4.40	925	759
4.45	925	777
4.50	925	796
4.55	925	814
4.60	925	833
4.65	925	851
4.70	925	870
4.75	925	888
4.80	925	906
4.85	925	925
4.90	925	944
4.95	925	962
5.00	925	981
5.05	925	999
5.10	925	1,018
5.15	925	1,036
5.20	925	1,055
5.25	925	1,073
5.30	925	1,091
5.35	925	1,110
5.40	925	1,117
5.45	925	1,125
5.50	925	1,132
5.55	925	1,140
5.60	925	1,147
5.65	925	1,154
5.70	925	1,162
5.75	925	1,208
5.80	925	1,254
5.85	925	1,301
5.90	925	1,347
5.95	925	1,393
6.00	925	1,439
6.05	925	1,486
6.10	925	1,532
6.15	925	1,578
6.20	925	1,624
6.25	925	1,671
6.30	925	**1,717**

Summary for Link EXO: EX OUT

Inflow Area = 41,331 sf, 83.32% Impervious, Inflow Depth > 6.73" for 50-Year event
Inflow = 7.04 cfs @ 12.07 hrs, Volume= 23,182 cf
Primary = 7.04 cfs @ 12.07 hrs, Volume= 23,182 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link EXO: EX OUT

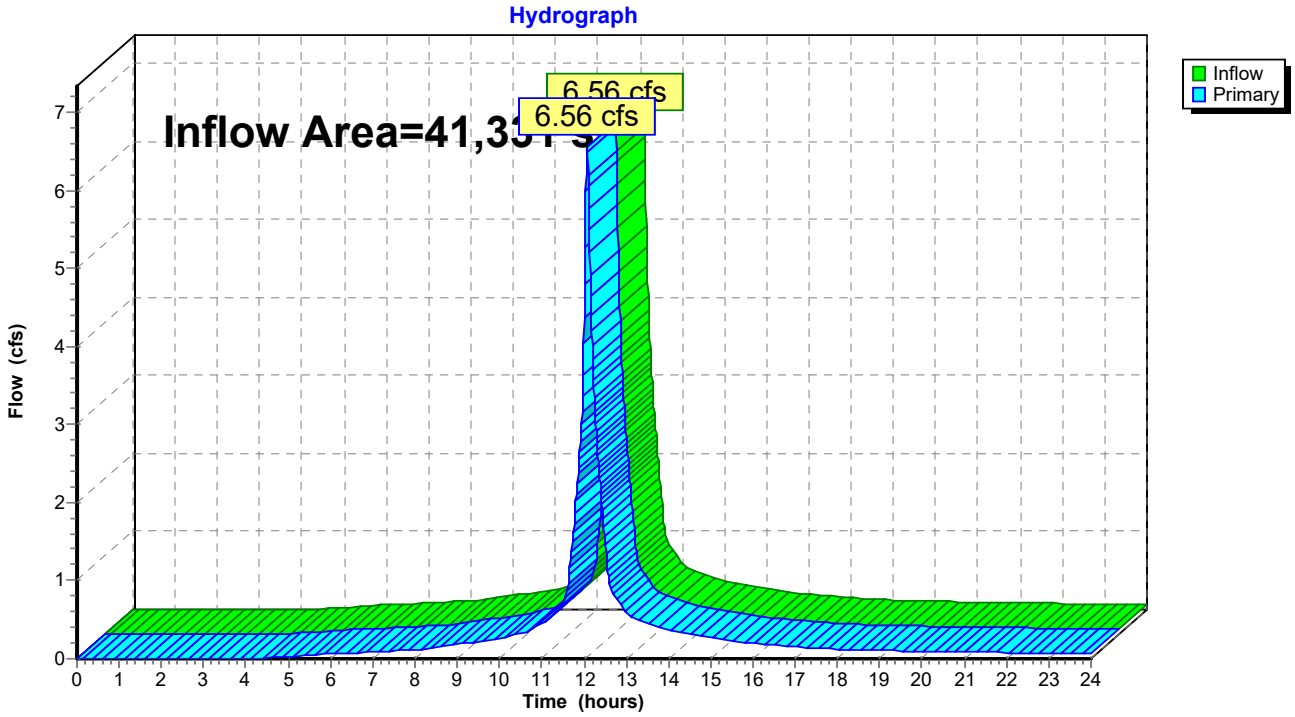


Summary for Link PRO: PR OUT

Inflow Area = 41,331 sf, 82.18% Impervious, Inflow Depth > 6.48" for 50-Year event
Inflow = 6.56 cfs @ 12.07 hrs, Volume= 22,317 cf
Primary = 6.56 cfs @ 12.07 hrs, Volume= 22,317 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link PRO: PR OUT



Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EX: Existing Runoff Area=41,331 sf 83.32% Impervious Runoff Depth>7.65"
Tc=5.0 min CN=94.00 Runoff=7.95 cfs 26,365 cf

Subcatchment POR: Proposed to Porous Runoff Area=5,170 sf 93.60% Impervious Runoff Depth>7.95"
Tc=5.0 min CN=96.46 Runoff=1.01 cfs 3,425 cf

Subcatchment PR-BYP: Proposed Bypass Runoff Area=19,791 sf 67.73% Impervious Runoff Depth>7.21"
Tc=5.0 min CN=90.26 Runoff=3.70 cfs 11,884 cf

Subcatchment PR-IN: Proposed to INFIL Runoff Area=16,370 sf 96.04% Impervious Runoff Depth>8.02"
Tc=5.0 min CN=97.05 Runoff=3.20 cfs 10,942 cf

Pond INFIL: PR INFIL Peak Elev=5.16' Storage=421 cf Inflow=3.80 cfs 13,959 cf
12.0" Round Culvert n=0.011 L=97.0' S=0.0227 '/' Outflow=3.80 cfs 13,656 cf

Pond POROUS: Porous Asphalt Peak Elev=5.32' Storage=1,098 cf Inflow=1.01 cfs 3,425 cf
Outflow=1.01 cfs 2,910 cf

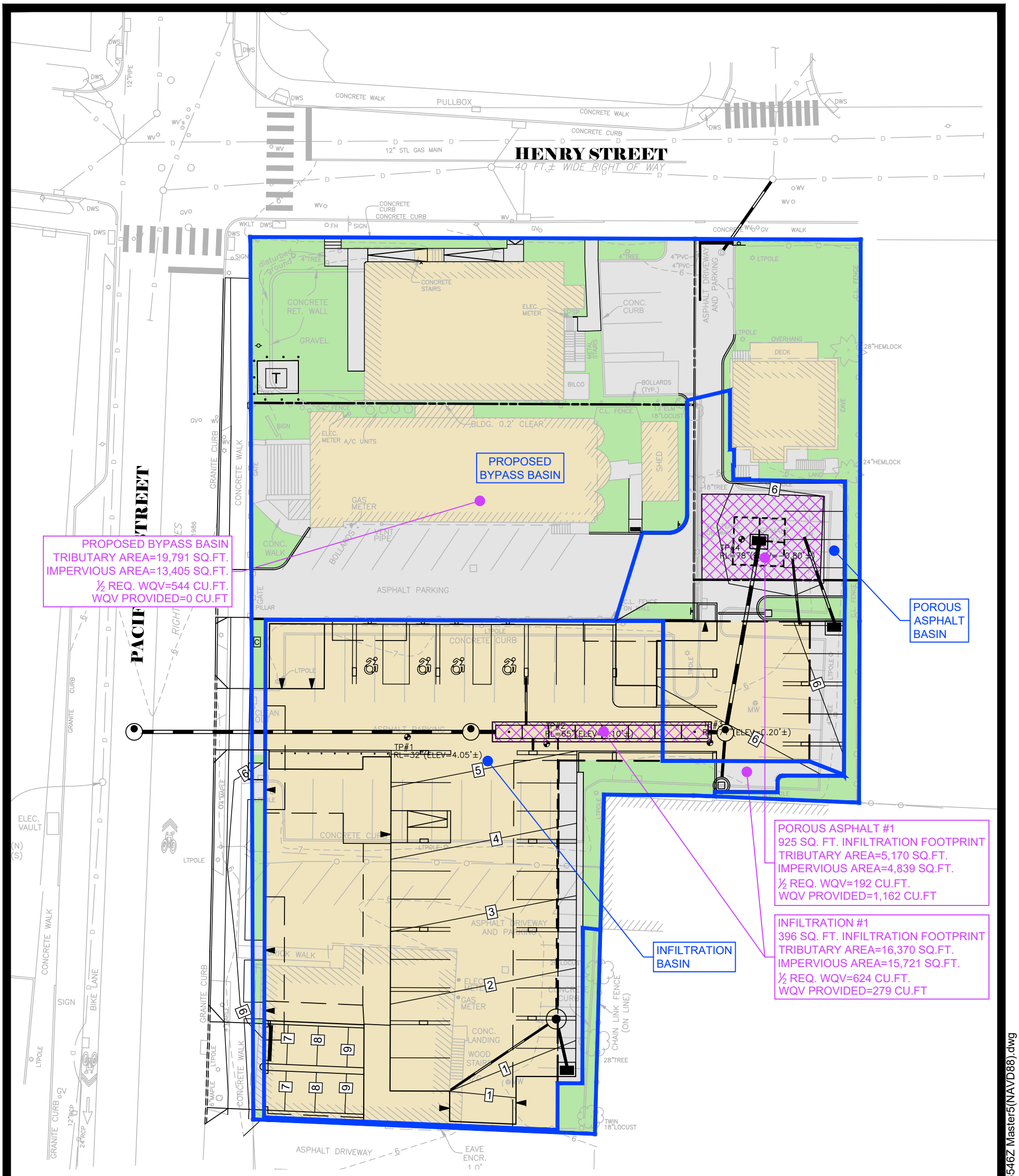
Link EXO: EX OUT Inflow=7.95 cfs 26,365 cf
Primary=7.95 cfs 26,365 cf

Link PRO: PR OUT Inflow=7.52 cfs 25,540 cf
Primary=7.52 cfs 25,540 cf

Total Runoff Area = 82,662 sf Runoff Volume = 52,616 cf Average Runoff Depth = 7.64"
17.25% Pervious = 14,258 sf 82.75% Impervious = 68,404 sf

Appendix D

LID Review Map



LID SUMMARY TABLE

Drainage Area ID	Total Area (SF)	Impervious Area (SF)	% Impervious	WQV (CF)	Retention Volume Required (1/2 WQV)	Retention Volume Provided (CF)
Design Point - South Basin Discharge						
Porous	5,170	4,839	94%	384	192	1,162
Infiltration	16,369	15,721	96%	1,247	624	279
Bypass	19,791	13,405	68%	1,088	544	-
TOTAL	**41,331**	**33,965**	**82%**	**2,719**	**1,360**	**1,441**

PROPOSED LID MAP

648,670,686 & 690 PACIFIC STREET

STAMFORD, CT

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

COMM. NO.: 6546Z

DATE: 01/07/2022

SCALE: 1"=30'

1/7/2022 11:33 AM C:\Users\jbailey\Desktop\Working From Home\Pacific Street\dwg\6546Z Master5(NAVD88).dwg

Appendix E

Drainage Maintenance Agreement

Block _____ .

AGREEMENT COVENANT

AGREEMENT made this____ day of_____by and between _____of South End Pacific LLC _____in the City of Stamford, County of Fairfield and State of Connecticut (hereinafter referred to as "Owner"); and the **CITY OF STAMFORD**, a municipal corporation lying within the County of Fairfield and State of Connecticut, acting herein by its duly authorized Mayor, David R. Martin (hereinafter referred to as the "CITY"), the **ENVIRONMENTAL PROTECTION BOARD OF THE CITY OF STAMFORD**, acting herein by its duly authorized Chairman, Gary H. Stone (hereinafter referred to as the "EPB").

WITNESSETH

WHEREAS, OWNER has commenced the planning and construction of a new 6-story building and parking lot on land owned by it and as more particularly described on Schedule "A" annexed hereto and made of part hereof (hereinafter referred to as the "Property"); and

WHEREAS, certain drainage facilities ("Drainage Facilities"), including but not limited to catch basins, manholes, pipes, infiltration systems, and porous asphalt as more particularly described on Schedule "B" attached (the "Construction Plans") shall be installed in connection with the aforesaid construction and in accordance with the Construction Plans and _____Permit No._____issued by the_____Board of the City of Stamford (_____) issued

therefore, ("Permit") and;

WHEREAS, OWNER, the CITY and EPB share a joint concern that the Drainage Facilities be maintained in a functioning condition so as to avoid pollution of surface and groundwaters, flooding and/or improper drainage.

NOW, THEREFORE, in consideration of ten dollars and other good and valuable consideration receipt of which is hereby acknowledged by the OWNER, it is hereby agreed as follows:

1) OWNER shall clean the drainage facilities or cause such facilities to be cleaned by periodic removal of accumulated sediment and debris in a good and workman-like manner, at least two (2) times during every twelve (12) month period, which times shall be in the period between April and June and between October and December and more often as the City may determine to be necessary.

2) OWNER shall sweep, or cause to be swept, garage facilities, driveways and roadway surfaces located on the Property at least once per calendar quarter.

3) OWNER shall utilize only sand or calcium chloride in connection with the de-icing of areas within the Property meaning and intending that road salt (Sodium Chloride) shall not be used for said purpose.

4) OWNER shall repair or replace any defects or defective drainage

facilities so as to maintain the drainage facilities, at all times, in a fully functional capacity.

5) OWNER shall file as-built drainage plans with the EPB immediately upon the completion of work. Said plans shall be prepared by a professional engineer/surveyor registered in the State of Connecticut.

6) OWNER grants the CITY and/or EPB, its agents, and employees, the right to enter the Property at all reasonable times upon twenty-four (24) hours notice to the OWNER for the purpose of inspecting the Property to determine if OWNER is complying with the requirements hereunder. A representative of the Owner shall have the right to accompany the City and/or EPB on their inspection of the Property.

7) If, after an inspection is made pursuant to Paragraph Six (6) hereof, the CITY and/or EPB determines that the owner has failed to comply with the aforesaid undertakings, then the CITY and/or EPB shall give written notice of said determination to the then OWNER of the Property which notice shall also specify the said failure. Said notice shall be sent by registered or certified mail to the last known address of said Owner. If the Owner disputes the claim, he shall give written notice thereof to City and/or EPB within ten (10) days of receipt of said notice, and the EPB shall hold a hearing as promptly as possible to decide the merits of the disputed claim. If the claim is not disputed within

said ten (10) days, the OWNER shall have thirty (30) days from the receipt of said notice to correct said failure, unless it is impossible to cure said defect within said time, in which case, the necessary repairs shall be immediately commenced and diligently pursued to completion within a reasonable time.

8) If the said failure is not remedied within the time frame herein stated, the CITY and/or EPB may proceed to cure the same and charge the actual cost thereof to the OWNER of the Property.

9) OWNER agrees to reimburse the CITY and/or EPB for reasonable legal fees and court costs if it becomes necessary for the CITY and/or EPB to sue for reimbursement of sums expended by the CITY and/or EPB in performance of OWNER'S obligation.

10) OWNER agrees and covenants to indemnify and save harmless the CITY and the EPB against any and all claims, suits, actions or judgments arising out of the delay in the performance of any of their obligations pursuant to this Agreement.

11) OWNER agrees that this covenant and restriction shall apply to and run with the land. It shall be binding on all future owners, administrators, executors, successors and assigns.

12) The OWNER hereby represents to the CITY and EPB that he/she is the owner, in fee simple, of all of the property described in "Schedule A" attached hereto and made a part hereof.

13) OWNER agrees that this Agreement and restrictive covenant upon execution of the same, shall be recorded on the land records at the OWNER'S expense at the time that a permit is issued for the Property herein and while the OWNER is in title.

14) OWNER agrees not to assert the invalidity of this document.

15) OWNER agrees that nothing herein shall be construed to be a limitation upon the right of the EPB to assert and enforce any rights it may have under federal, state or City statute, ordinance or regulation.

16) This agreement shall be governed by the laws of the State of Connecticut.

IN WITNESS WHEREOF, the said parties hereto have hereunto set their hands and seals, the day and year first above written.

WITNESSED:

_____ **THE CITY OF STAMFORD**

BY: _____

_____ David R. Martin
Its duly authorized Mayor

(ACKNOWLEDGEMENT ON THE FOLLOWING PAGE)

_____ **THE ENVIRONMENTAL PROTECTION BOARD**

_____ BY: _____

Gary H. Stone
Its duly authorized Chairman

_____ **OWNER**

_____ BY: _____

_____ **OWNER**

_____ BY: _____

_____

STATE OF CONNECTICUT}
} ss: STAMFORD Date: _____
COUNTY OF FAIRFIELD }

Personally appeared David R. Martin, Mayor of the City of Stamford, signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed and the free act and deed of said City, before me.

_____
Commissioner of the Superior Court
or Notary Public

STATE OF CONNECTICUT}
} ss: STAMFORD Date: _____
COUNTY OF FAIRFIELD }

Personally appeared Gary H. Stone, Chairman of the Environmental Protection Board of the City of Stamford, signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed and the free act and deed of said Commission, before me.

_____
Commissioner of the Superior Court
or Notary Public

STATE OF CONNECTICUT }
} ss: STAMFORD Date: _____
COUNTY OF FAIRFIELD }

Personally appeared _____, signer and sealer of the foregoing instrument, and acknowledge the same to be_____free act and deed, before me.

_____
Commissioner of the Superior Court
or Notary Public

Appendix F

DCIA Tracking Spreadsheets

Directly Connected Impervious Area Tracking Worksheet
City of Stamford Drainage Manual

Note to user: complete all cells of this color *only*

Part 1: General Information

Project Name	Pacific Street
Project Address	648, 670, 686 & 690 Pacific Street & 171 Henry Street
Project Applicant	Redniss & Mead, Inc.
Date of Submittal	1/7/2022
Tax Account Number	002-6704, 002-6068, 002-3371, 002-4598, 002-2705 (respectively)

Part 2: Project Details

1. What type of development is this? (choose from dropdown)	Redevelopment	
2. What is the total area of the project site?	41,331	ft^2
3. What is the total area of land disturbance for this project?	26,266	ft^2
4. Does project site drain to High Quality Waters, a Direct Waterfront, or within 500 ft. of Tidal Wetlands? (Yes/No)	No	
5. What is the current ***DCIA*** for the site?	34,440	ft^2
6. Will the proposed development increase ***DCIA*** (without consideration of proposed stormwater management)? (Yes/No)	No	
7. What is the proposed-development ***total impervious area*** for the site?	34,116	ft^2

Part 3: Water Quality Target Total

Does Standard 1 apply based on information above?	Yes	
Water Quality Volume (WQV)	2730.9	ft^3
Standard 1 requirement	Retain 1/2 WQV on-site	
Required retention volume	1365.5	ft^3
Provided retention volume for proposed development	Retain 1/2 WQV on-site	ft^3

Part 4: Proposed DCIA Tracking

Pre-development ***total impervious area***	34,440	ft^2
Current ***DCIA***	34,440	ft^2
Proposed-development ***total impervious area***	34,116	ft^2
Proposed-development ***DCIA*** (after stormwater management)	31,142	ft^2
Net change in ***DCIA*** from pre-development to proposed-development	-3,298	ft^2

Part 5: Post-Development (As-Built Certified) DCIA Tracking

Post-development (per as-built) ***total impervious area***		ft^2
Post-development (per as-built) ***DCIA*** (after stormwater management)		ft^2
Net change in ***DCIA*** from pre-development to post-development		ft^2

Certification Statement

I hereby certify that the information contained in this worksheet is true and correct.

Engineer's Signature _____ Date _____ Engineer's Seal _____

Appendix G

Checklist for Stormwater Management Report

City of Stamford
Engineering Bureau
888 Washington Boulevard, 7th Floor Stamford, CT 06901
Phone 203-977-4189

CHECKLISTS

Project Name: South End Pacific LLC

Project Address 648, 670, 686, & 690 Pacific Street, and 171 Henry Street

Property Owner(s) South End Pacific LLC

Tax Account Number(s) 002-6704, 002-6068, 002-3371, 002-4598, 002-2705 (respectively)

Engineer's Signature _____ Date: 01/07/2022

All checklists must be completed and submitted. Provide a brief explanation for any items not provided. Check boxes as completed or N/A as not applicable.

✓	**Existing Conditions Plan**
✓	**Stormwater Management Report**
✓	**Stormwater Management Plan / Construction Plan**
	Certificate of Occupancy

Checklist for Existing Conditions Plan

I. General Information

✓	Site address
✓	Orientation, block, zone, City, street name
✓	Applicant name and legal address
✓	Surveyor name, address, contact information
✓	North arrow, bar scale, horizontal and vertical datum
✓	24" x 36" sheet size unless otherwise approved
✓	Existing conditions survey shall be prepared in accordance with the Minimum Standards for Surveys and Maps in the State of Connecticut. The class of survey shall be A-2 and T-2 and shall be represented as such on the map. The base map shall be sealed and signed by a Professional Land Surveyor licensed in the State of Connecticut.
✓	Drawing scale shall be set at 1" = 20' or 1" = 40' when possible

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II. Existing Conditions Plan Elements

✓	Show and label all property boundaries with linear bearing / distances and curve information
✓	Required zoning setbacks
✓	Show and label monument information
✓	Show and label at least one permanent benchmark on the parcel with northing, easting and elevation
✓	Label adjacent property ownership information
✓	Existing contours based on NAVD 88 (no exceptions) at 2 foot contour interval or 1 foot contour interval when slope is flatter than 2 percent at a minimum of 20 ft. beyond the property boundaries of the subject parcel
✓	Show spot elevations at low points, high points, and where topography is flatter than 2 percent
✓	All buildings and structures (label current use and finished floor elevations)
✓	All pavement, parking, driveways, property access points
✓	All roadways, streets, and rights-of-way. Label streets as public or private with street name
✓	All patios, decks, walkways, sidewalks, curb ramps (both adjacent to and opposite and existing roadways or intersections)
✓	Show and label (size, material, inverts) all existing utilities (overhead and underground) within the right-of-way and the project site (label ownership) including but not limited to water, gas and electrical services, wells, storm sewers, sanitary sewers and subsurface sewerage disposal systems.
✓	Show and label existing conveyance systems (swales, ditches, storm drains) including dimensions, elevations, sizes, slopes, and direction of flow
✓	Show and label boundaries of all easements, both public and private, with type, owner, and width
✓	Show and label all other existing features and improvements (e.g. light poles, mature trees of 8" (dbh) diameter or greater, vegetation, walls with top and bottom elevations, fences, pavement markings)

III. Resource Areas

N/A		Show and label limits of inland wetlands, tidal wetlands and any associated setbacks.
N/A		Show and label existing natural site features including tree canopy, outcroppings, permanent and intermittent watercourses, waterbodies, streams
N/A		Show and label limits of floodplain and floodway along with FIRM references (Community Number, Panel, Suffix, and Date) including any effective Letters of Map Revision/Amendment, zone designation and elevation.
N/A		Show and label any Conservation Easement Areas
N/A		Show and label Connecticut Coastal Jurisdiction Line (CJL)
N/A		Show and label existing steep slopes (25% and greater)

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Checklist for Stormwater Management Report

I. Project Report

A. Applicant / Site Information

✓	Applicant name, legal address, contact information (email & phone)
✓	Engineers name, legal address, contact information (email & phone)
✓	Site address and legal description
✓	Current / proposed zoning and land use
✓	Site vicinity map (8.5" x 11")

B. Project Description and Purpose

✓	Project description including proposed project elements and anticipated construction schedule

C. Existing Conditions Description

✓	Site area, ground cover, vegetation, features (roads, buildings, utilities, etc.)
✓	Site topography, slopes, drainage patterns, conveyances systems (swales, storm drains, etc.), stormwater discharge locations
✓	Receiving waterbody information including stormwater impairments and TMDL information (See the most recent State of Connecticut Integrated Water Quality Report)
✓	Site soils information including soil types, hydrologic soil group, bedrock / outcroppings, groundwater elevation, significant geologic features
✓	Provide NRCS Soils Mapping
N/A	Resource protection areas (wetlands, streams, lakes, etc.), buffers, floodplains, floodways

D. Summary of Applicable General Design Criteria

✓	Methodology, design storm frequency
✓	Hydrologic design criteria
✓	Hydraulic design criteria
✓	Flood hazard areas

	Applying under "Lite" Stormwater Management: Skip to Section I (Refer to Flow Chart on page vii of the City of Stamford Stormwater Drainage Manual)

E. Project Type in Accordance with Standard 1 Definitions

✓	Area of disturbance, receiving waterbody classification (High Quality, Tidal Wetlands, Direct Waterfront)
✓	Project type (development, redevelopment, linear development)
✓	Pollutant reduction standard per flowchart Section 2.4

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F. Summary of LID Site Constraints

N/A		Description of sensitive areas for protection
	✓	Mature tree inventory, which shall include 8-inch (dbh) diameter trees or greater
	✓	Steep slopes
	✓	Ledge and bedrock depth
	✓	Seasonal high groundwater elevation
N/A		Pollutant hotspots
	✓	Summary of infiltration rates

G. Summary of Proposed Stormwater Treatment Practices

✓	Proposed LID controls (i.e. minimize impervious, minimize DCIA, minimize disturbance, increase time of concentrations, other LID controls and strategies)
✓	Location, size, types
✓	Design criteria and references
✓	Stormwater treatment practice, drainage area characteristics / details

H. Summary of Compliance with Standards 1

✓	Required pollutant reduction criteria
✓	Provided pollutant reduction (WQV) by stormwater treatment practice
✓	Summary of compliance with Standard 1

I. Summary of Compliance with Standards 2, 3, and 4

	✓	Description of proposed stormwater management system
	✓	Pre-development site hydrology with delineation of each watershed area and sub-basin
	✓	Post-development site hydrology with delineation of each watershed area and sub-basin
	✓	Comparison table of pre- and post-development hydrology, peak flow, volume, and percent difference
	✓	Summary table of watershed areas and sub-basin areas, time of concentration and runoff coefficients
N/A		Summary table demonstrating the 2-year, 24-hour post development peak flow rate is less than or equal to the lowest of either: - The pre-development 1-year, 24-hour storm peak flow rate - 50 percent of the pre-development 2-year, 24-hour storm peak flow rate
	✓	Conveyance protection, emergency outlet sizing
N/A		Hydraulic grade line summary and tail water elevation used in analysis
	✓	Construction erosion and sediment control description, Standard 3
	✓	Operation and Maintenance, maintenance tasks and schedule on construction plans per Standard 4

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J. Summary of Compliance with Applicable Drainage Facility Design Requirements

✓	Description of applicable design requirements and compliance
✓	Description of proposed drainage facilities and compliance

K. Stormwater Management Report

✓	Signed and stamped by professional engineer licensed in the State of Connecticut
✓	Drainage impact statement in accordance with Standard 5B.

II. Supporting Calculations (as appendix to Project Report)

	Applying under "Lite" Stormwater Management: Skip to Section N

L. Water Quality Volume / Water Quality Flow Calculations

✓	Calculations demonstrating the total Water Quality Volume generated by the post-development site and the required retention/treatment volume per Standard 1 in cubic feet.
✓	Calculations demonstrating the total Water Quality Volume retained/treated by each stormwater treatment practice and the total Water Quality Volume generated by the post-development contributing drainage area to each stormwater treatment practice

M. Stormwater Treatment Practice Sizing Calculations

✓	Calculations demonstrating how each stormwater treatment practice has been designed and sized in accordance with the Structural Stormwater BMP Design references in Appendix B. Calculations will vary by stormwater treatment practice, but a minimum, applicants shall provide calculations in accordance with design criteria from the Connecticut Stormwater Quality Manual.

N. Hydrologic and Hydraulic Design Calculations

N/A		Stream channel protection, Standard 2A
	✓	Conveyance protection, Standard 2B
	✓	Peak flow control (1-year, 2-year, 5-year, 10-year, 25-year, and 50-year storms), Standard 2C
N/A		Inlet analysis
N/A		Gutter flow (Site by site basis as requested by Engineering Bureau)
N/A		Storm sewers and culverts (velocities, capacity, hydraulics)
N/A		Hydraulic grade line required when pipe is flowing at full capacity o Provide existing and proposed summary table o Provide existing and proposed mapping, label structures
N/A		Detention facilities (outlet structure, stage/storage, freeboard)
	✓	Emergency outlet sizing, safely pass the 100 year storm, Standard 2D
	✓	Outlet protection calculations, based on conveyance protection (i.e. riprap, energy dissipater)

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O. Hydrologic and Hydraulic Model, Existing and Proposed

✓	Drainage routing diagram
✓	Summary
✓	Storage pond input

P. Downstream analysis (Site by site basis as required by the Engineering Bureau)

N/A		Downstream analysis, Standard 2E

III. Supporting Mapping (as appendix to Project Report)

Q. Pre-Development Drainage Basin Area Mapping

✓	11" x 17" or 8.5" x 11" sheet size
✓	Topography, drainage patterns, drainage area boundaries and sub basins, flow paths, times of concentration
✓	Locations of existing stormwater discharges
N/A	Perennial and intermittent streams, wetlands, and floodplain / floodways
✓	NRCS soil types, locations, boring locations, infiltration testing locations
✓	Vegetation and groundcover
✓	Existing roads, buildings, driveways, parking areas, walks, patios, pools and other impervious surfaces, decks and other structures
✓	Location, size, type of existing structural stormwater controls, facilities and conveyance systems

R. Post-Development Drainage Basin Area Mapping

✓	11" x 17" or 8.5" x 11" sheet size
✓	Topography, drainage patterns, drainage area boundaries and sub basins, flow paths, times of concentration
✓	Locations of proposed stormwater discharges
N/A	Perennial and intermittent streams, wetlands, and floodplain / floodways
✓	NRCS soil types, locations, boring locations, infiltration testing locations
✓	Vegetation, ground cover and proposed limits of clearing/disturbance
✓	Proposed, roads, buildings, driveways, parking areas, walks, patios, pools and other impervious surfaces, decks and other structures
✓	Location, size, type of proposed structural stormwater controls, facilities and conveyance systems

IV. DCIA Tracking Worksheet (as appendix to Project Report)

✓	DCIA Tracking Worksheet (Use form found in Appendix E)

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Engineering Bureau
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V. Proposed LID Review Map

	Applying under "Lite" Stormwater Management - Proposed LID Review Map NOT required.

A. General

✓	Site address
✓	Applicant name, legal address, contact information
✓	Engineers name, address, contact information
✓	North arrow, bar scale, horizontal and vertical datum
✓	Drawing scale shall be set at 1"=20' or 1"=40' when possible
✓	Signed and stamped by a Licensed Professional Engineer in the State of Connecticut
✓	11" x 17" or 24" x 36" sheet size unless otherwise approved
✓	Existing and proposed contours based on NAVD 88 at 2 foot contour interval or 1 foot contour interval when slope is flatter than 2 percent
✓	Locations of existing stormwater discharges
✓	Roads, buildings, driveways, parking areas, walks, patios, pools and other impervious surfaces, and decks and other structures
✓	Location, size, ownership of stormwater conveyance systems (swales, pipes, etc.)

B. LID Constraints:

✓	Boring / test pit locations
✓	Infiltration testing locations and results
✓	Vegetation and proposed limits of clearing / disturbance
✓	NRCS soils mapping
✓	Steep slopes
✓	Surface waters / Perennial and intermittent streams
✓	Resource protection areas and buffers, wetlands, floodplain / floodways
✓	Existing vegetation and mature trees, which shall include 8-inch (dbh) diameter trees or greater
✓	Poor soils (HSG C & D)
✓	Shallow bedrock / ledge
✓	Seasonal high groundwater elevation
✓	Other site constraints (e.g. brownfield caps)

C. Proposed Stormwater Treatment Measures:

✓	Location, size, type, limits, and WQV provided by each proposed stormwater treatment practices
✓	Drainage area to each proposed stormwater treatment practice (total area, impervious area, WQV)

D. Site Summary Table:

✓	Total site area, disturbed area, pre- and post-development impervious areas
✓	Required pollutant reduction volume (retention or detention)
✓	Provided pollutant reduction volume (retention or detention)

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Engineering Bureau
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Checklist for Stormwater Management Plan / Construction Plans

A. General

✓	Site orientation, address and legal description
✓	Applicant name, legal address, contact information
✓	Engineers name, address, contact information
✓	North arrow, bar scale, horizontal and vertical datum
✓	Drawing scale shall be set at 1"=20' or 1"=40' when possible
✓	Stamped by a Licensed Professional Engineer in the State of Connecticut
✓	24" x 36" sheet size unless otherwise approved

B. Site Development Plans

✓	City of Stamford Standard Notes
✓	As required by the Drainage Maintenance Agreement, provide a written narrative describing the nature of the proposed development activity and the program for operation and maintenance of drainage facilities and control measures throughout the life of the project.
✓	Existing and proposed contours based on NAVD 88 at 2 foot contour interval or 1 foot contour interval when slope is flatter than 2 percent
✓	All required spot elevations to clearly depict positive pitch
✓	Top and bottom elevation of all walls
✓	Roads, buildings, driveways, parking areas, walks, patios, pools and other impervious surfaces, and decks and other structures
✓	All utilities and easements
✓	Location, size, maintenance access, type of proposed structural stormwater controls and facilities with elevations and inverts
✓	Location, size, maintenance access, type of proposed non-structural stormwater controls and facilities with elevations and inverts
✓	Location, size, type of proposed stormwater infrastructure, inlets, manholes, infiltration and detentions systems, control structures with elevations and inverts
✓	Location, size, ownership of stormwater conveyance systems (swales, pipes, etc.) with elevations and inverts
✓	Identify roof leaders, curtain drains and foundation drains with elevations and inverts
✓	Proposed water quality treatment systems, size and model type
✓	Final stabilization measures which may include slope stabilization

C. Erosion and Sedimentation Control Plan

✓	Phasing and schedule
✓	Construction access and staging and stock pile areas
✓	Operation and maintenance of erosion and sedimentation controls
✓	Tree protection
✓	Downstream protection such as location of silt fencing
✓	Limit of disturbance
✓	Construction fencing

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D. Construction Details

✓	Standard City of Stamford details
✓	Infiltration system details
✓	Control structure details
✓	Water quality treatment details
✓	Infiltration testing results

Checklist for Certificate of Occupancy

	Final Improvement Location Survey
	Stormwater Management Certification Form
	Final DCIA Tracking Worksheet
	Standard City of Stamford Drainage Maintenance Agreement (Agreement Covenant)

Other Certifications at the discretion of the Engineering Bureau and/or EPB

	Wall Certification
	Landscape Certification
	Landscape Maintenance Agreement
	Waiver Covering Storm Sewer Connection
	Waiver Covering Granite Block, Depressed Curb, and Driveway Aprons
	Flood Certification

January 12, 2022

City of Stamford
Zoning Board
c/o Ralph Blessing, Land Use Bureau Chief
888 Washington Boulevard
Stamford, CT 06901

Re: ZB 221-29 – 648, 670, 686, & 690 Pacific Street, and 171 Henry Street

Dear Mr. Blessing and Board Members,

On behalf of South End Pacific LLC (applicant), enclosed please find updated plans and application materials. The revisions are in response to comments received from HPAC, Planning Board, Engineering, TTP, WPCA, the South End NRZ and area neighbors. Many of the changes are in response to typical technical comments relating to drainage, utilities, and other site plan details, but some of the more visible and substantive revisions are summarized below, including:

a) Building height along Pacific Street frontage was reduced. The double-height portions of the 6th floor were reduced by approximately 9'.

b) The penthouse level was reduced and pulled back from the perimeter of the building to be less visible.

c) Windows within the brick elements of the building were reduced in size at the suggestion of HPAC.

d) Traffic flow was revised to allow 2-way operation from Pacific Street while limiting the Henry Street driveway to be used by the firehouse building, 2-family home, and exiting of the church's 9 onsite spaces. This change was implemented in response to comments from neighbors and the Planning Board, and has been reviewed with TTP staff.

e) The driveway toward Henry Street has been relocated to provide a buffer along the 2-family home which does not exist currently. This too was a suggestion of the Planning Board and area neighbors.

f) Landscaping and perimeter fencing has been added around the 2-family home.

g) Landscaping has been added to the building perimeter at the 5th and 6th floor roof levels.

h) A list of proposed improvements to the three historic buildings has been submitted and reviewed by HPAC.

In support of the applications, enclosed please find:

1. Project Narrative revised 1/12/22;
2. Zoning Data Chart revised 1/12/22;
3. Revised architectural plans prepared by Do H. Chung & Partners dated 1/10/22;
4. Revised civil site plans prepared by Redniss & Mead dated 1/7/22;

5. Revised landscaping plans prepared by Eric Rains Landscape Architects dated 1/12/22;
6. Traffic Study Addendum prepared by SLR dated 1/7/22;
7. Revised Drainage Report prepared by Redniss & Mead dated 1/7/22;
8. Draft Zoning Lot Agreement;
9. Historic Preservation & Improvements dated 11/30/21;

Please feel free to contact us with any questions or comments. We look forward to continuing to work with you and the Planning & Zoning Boards on this exciting redevelopment.

Sincerely,

Raymond R. Mazzeo, AICP

Enclosures
CC: V. Mathur, Associate Planner
Development Team
Interested Parties

Revised 1/12/2022

Zoning Data

Pacific Street - Zoning Lot *

Standard	Required (V-C)	Required** (VC + §7.3 Special Standards)	Proposed Development	Notes
Min. Lot Area	5,000	N/A	36,196	**Complies.** Does not include add'l 5,135 sf of property within the RMF Zone;
Min. Frontage	50'	N/A	400'	**Complies.** Does not include property within the RMF Zone**;**
Max. Building Stories	4-5	5-7	7 (Arterial) 5 (Non-Arterial)	**Complies.** 7th floor is less than 50% of the floor below; V-C: 5 stories permitted within 125' of front lot line; 4 stories beyond 125'; 7.3 Special Standard: +2 stories within 125' of front lot line; +1 story beyond 125';
Max. Building Height	45'-55'	60'-80'	75'± (Arterial) 55'± (Non-Arterial)	**Complies.** V-C: 55' permitted within 125' of front lot line; 45' when beyond 125'; 7.3 Special Standard: +25' within 125' of front lot line, +15' when beyond 125';
Max. Building Coverage	63.7% (23,053)	N/A (no Special Standard requested)	62% (22,428)	**Complies.** V-C: Blended ratio of 65% (arterial) and 55% (non-arterial) areas of the site; 7.3 Special Standard: Base + 25%;
Min. Green Space	15% (5,429)		15.2% (5,519)	**Complies**. Min. 15% at-grade pourous/planted area;
Max. Floor Area	1.97 (71,206)	2.27 (82,186)	2.10 (75,980)	**Complies.** V-C: Blended ratio of 2.0 (arterial) and 1.75 (non-arterial) - includes BMR bonus; 7.3 Special Standard: VC + FAR of historic structures (10,980 sf) provided additional area does not exceed 25% underlying FAR permitted);
Max. Dwelling Units	110	N/A (no Special Standard requested)	61	**Complies.** Max. based on 650 min Floor Area per DU;
Min. BMR	12%		12%	**Complies.** Per. Section 7.4; See attached BMR Calculations;
Min. Usable Open Space	4,575		6,700	**Complies.** Includes communal rooftop areas and private balconies;
Min. Front Setback (Pacific)	Min 15'		15'	**Complies.** As measured from Curb Line
Min. Front Setback (Henry)	Min 10'		12'	**Complies.** Permitted encroachments less than 6' and w/in limit of prior existing stair/wall;
Min. Side Setback (south)	0' or 10'		0'	**Complies.** No setbacks for lot lines interior to the oveall Zoning Lot;
Min. Rear Setback (east)	20'	10'	10'	**Complies.** 7.3 Special Standard may reduce Rear Setback by 50%;
Min. Light & Air	20' (12' to property line)	10' (2' to property line)	18' (10' to property line)	**Complies.** Onsite requirement of 12' based on adjacent zone setback of 8' and total L&A of 20'; 7.3 Special Standard may reduce 20' requirement to 10';

*Zoning Analysis does not include R-MF area of 171 Henry Street. The property is included as part of the Zoning Lot for parking and access purposes but does not contribute to the development rights. See separate charts for Parking and BMR requirements.

**Special Standards for Historic Preservation permitted by Special Permit per §7.3.C of the Zoning Regulations.

REDNISS & MEAD

Zoning Data (cont.)
Pacific Street - Zoning Lot

Parking Calculation

Residential (by unit)		Req. per Unit	(total req)	Provided	Notes
Studio (BMR)	2	0.50	1.00		
1-BR (BMR)	3	0.75	2.25		
2-BR (BMR)	2	1.00	2.00		**Complies.** Per §12.D.2, Table 12.7;
Studio (market)	10	0.75	7.50		Overall residential ratio of 1.22 striped spaces per DU.
1-BR (market)	29	1.00	29.00		Technically 74 spaces as 5 required EV charging spaces count as
2-BR (market)	15	1.25	18.75		50% each. (77 - 2.5 = 74.5 ≈ 74 "spaces").
171 Henry	2	2.00	4.00		
SUBTOTAL	***63***	-	***64.5***	***77***	
Non-Residential Spaces		***Req. per SF***	**(total req)**	**Provided**	
Church	**6,150**	**n/a**	**9.0**	**9**	Existing nonconformng parking to remain.
Firehouse 1	**2,430**	**3/,100**	**1.3**		**Complies.**
Firehouse 2	**2,400**	**(excludes**	**1.2**		Commercial tenants may have the opportunity to share parking with
New Bldg 1	**2,130**	**2,000sf per**	**0.4**		residential depending on the relationship of demand periods.
New Bldg 2	**993**	**business)**	**0.0**	**4**	Sharing may be approved administratively by the ZB pursuant to
TOTAL			**76.4**	**90**	Section 12-I of the Zoning Regulations once specific tenants are

BMR Calculation

Total Units		Affordability Level (AMI)	Conversion Rate (per §7.4)	Required BMR			Proposed BMR		Notes
				Number of Units		Equivalency Units	Number of Units	Equivalency Units	
Studio	**12**	50%	0.33	6%	0.72	0.24	2	0.67	
		65%	0.20	6%	0.72	0.14	0	0.00	
1BR	**32**	50%	0.50	6%	1.92	0.96	2	1.00	**Complies.**
		65%	0.30	6%	1.92	0.58	1	0.30	Special Permit Request
2BR	**17**	50%	1.00	6%	1.02	1.02	1	1.00	per §7.4.C.1
		65%	0.60	6%	1.02	0.61	1	0.60	subsections (g) and (k)
TOTAL	**61**				**7.32**	**3.55**	**7**	**3.57**	

REDNISS & MEAD

Project Narrative
670, 648, 686, & 690 Pacific Street and 171 Henry Street
Applications for Special Permit, and Site and Architectural Plans and Requested Uses, and Coastal Site Plan Review
Revised – January 12, 2022

1. Introduction/Background

Hogg Holdings ("the Applicant") is the owner and contract purchaser of several contiguous parcels along Pacific Street. The combined parcels are approximately 0.95 acres with frontage on Pacific Street and Henry Street and includes the following properties (collectively "the Site"):

a) 670 Pacific – former Pacific Street Firehouse
b) 648 Pacific – Tabernacle of Grace Church
c) 686 Pacific – existing parking lot
d) 690 Pacific – former New Hope Church
e) 171 Henry – existing 2-family structure

The Applicant is proposing a comprehensive redevelopment of the Site that will (a) preserve and repurpose the historic firehouse with a mix of retail, commercial and/or residential uses; (b) preserve and maintain the existing 2-family home at 171 Henry Street; (c) preserve and maintain the existing Tabernacle of Grace church; and (d) create a new multifamily residential building with an activated street-front, covered parking and 61 new apartments.

In order to facilitate the potential redevelopment, the Applicant is proposing Special Permit and Site Plan Applications, including the request to utilize section 7.3.C of the Zoning Regulations relating to the preservation of Historic Structures and the inclusion of properties on the Cultural Resource List. The Applicant also seeks Zoning Board approval to designate the collective parcels as a Zoning Lot.

2. Surrounding Area

The surrounding area consists of Master Plan Categories 16 (Transit-Oriented Development district), 9 (Urban Mixed-Use), 6 (Commercial – Neighborhood Business), 5 (Residential – High Density Multifamily) and 4 (Residential – Medium Density Multifamily. The surrounding Zoning designations, including M-G (General Industrial), SRD-N (South End Redevelopment District North), V-C (Village Commercial District), C-B (Community Business District) and R-MF (Multiple Family Residence Design District), follow a similar pattern.

The surrounding South End neighborhood contains a mix of medium-to-high density residential, commercial, religious, and community uses.

3. Project Area and History

The site consists of 5 separate parcels, generally within the V-C (Village Commercial) Zoning District. Two of the properties (684 and 690 Pacific Street) will be consolidated as part of the development. A 2-family home at 171 Henry Street will remain within its existing R-MF Zoning

designation but is included in the overall Site and Zoning Lot for the purposes of access and circulation.

The site is conveniently situated along the main north-south artery running through the South End approximately 1,000' from the Stamford Transportation Center (STC) and a well-connected sidewalk network throughout the neighborhood. The Site has a Walk Score of 86 ("very walkable" and a Bike Score of 88 ("very bikeable") with a wide variety of restaurant, shopping, and convenience services within the neighborhood. Stamford's 326 Bus Line has a stop along the site frontage with service to Shippan, the South End, the STC, and parts of Downtown Stamford which connect to other inter- and intra-City transit lines.

Pacific Steet has benefitted from the re-occupancy and repurposing of some the former industrial buildings along the block north of Henry Street. However, this block between Henry and Ludlow has seen little positive change over the past few years, with much of the street frontage remaining blighted or dormant swaths of asphalt, and is in need of revitalization.

Portions of the Site were the subject of several recent approvals from both the Planning and Zoning Board, including:

- In June of 2020 the Planning Board approved an application put forth by the Land Use Bureau to amend the Master Plan designations of parts of the South End. This included putting this stretch of Pacific Street into Category 6.
- In August of 2020, the Zoning Board approved a Zone Change to NX-D and a Special Permit for 670 and 686 Pacific Street to facilitate a potential future restaurant/retail use of the firehouse with a large surface parking lot occupying most of the Pacific Street frontage. While the approval served as an improvement by providing the potential to reactivate the firehouse building, a more comprehensive redevelopment is needed to achieve the planning goals set forth by the Master Plan changes.
- Most recently, in June of 2021, the Zoning Board approved a Text Change and Zone Change to rezone the site to the V-C (Village Commercial) district and create an "Arterial" designation for the properties along Pacific Street. The 171 Henry Street property remains in the RMF district.

  The Zoning Board also adopted regulations enabling the creation of a "Zoning Lot". This enables the properties to be combined for Zoning purposes, while allowing the Tabernacle of Grace Church to retain separate ownership of their property and building.

4. Proposed Development

The proposed building will be situated in the area of an existing parking lot and former New Hope Church building (to be removed). The ground floor will include approximately 2,130 sf of retail space, a residential lobby, storage and mechanical space, and covered parking. The second floor will include residential amenities, an additional 990± sf of retail/commercial space (which may be converted to amenity space depending on market conditions) and parking garage/circulation areas. Floors 3-6 will house the 61 apartments in a mix of Studio, 1BR, and 2BR units, of which approximately 12% will be Below Market Rate (BMR) units. The partial 7th floor will have some lofts that walk out onto the 6th floor roof level. Most of the 6th floor units will have lofted space on a partial 7th level that opens out to the roof deck. The roof includes both private and communal open

space for the residents. The rear portion of the building, which is beyond the extent of the V-C Arterial designation, is limited to 5 stories.

A. Historic Preservation

The Site maintains three historically significant buildings, all of which are listed as "contributing structures" in the South End Historic District National register nomination narrative, entered into the National Register in 1986. All 3 buildings are proposed to be rehabilitated and preserved as part of the redevelopment.

1. 171 Henry Street – 2-Family structure, circa 1885
   The property will be maintained as a 2-family home.

2. 670 Pacific Street – former South End Firehouse (Engine Co. 2), circa 1900
   The building has undergone some cosmetic changes already as part of prior approvals and a purchase and sale agreement from the prior owner (City of Stamford). The Applicant proposes to repurpose the building for multi-tenant commercial use. In addition to any required maintenance relating to the building's historic and structural integrity, proposed improvements include new pedestrian access and reuse of the former driveway/parking area at the corner of Pacific and Henry Streets as usable open space.

3. 648 Pacific Street – Tabernacle of Grace Church (former Annunciation Greek Orthodox Church), circa 1917

   The structure will be maintained for its current use as a religious institution. The Tabernacle of Grace Church will also maintain ownership of the building and property. Development rights are incorporated into the overall project as part of a Zoning Lot Agreement (to be approved by the Zoning Board and recorded on the Land Records prior to the issuance of any Building Permit for the development).

Additional details relating to the history of each property described in a separate report prepared by Lynn Drobbin & Associates (enclosed).

B. Unit Mix

The proposed unit mix includes 12 Studio, 32 one-bedroom. and 17 two-bedroom apartments. However, exact unit size and mix may change slightly depending on market conditions and other factors which may arise as the plans develop. Upper stories of the Firehouse may be repurposed for residential use. In all scenarios, the proposed mix will comply with applicable parking and affordability requirements.

C. Below Market Rate Housing

The V-C District includes a BMR unit requirement of 12% - with 6% of the total units affordable at 50% of the Area Median Income (AMI) and 6% affordable at 65% AMI. The Applicant is proposing to satisfy this requirement entirely onsite with 7 BMR units consisting of 2 Studio, 3 one-bedroom, and 2 two-bedroom units. The proposed mix, which includes 5 units at 50% AMI and 2 units at 65%

AMI, differs slightly than the fractional breakdown prescribed by the regulation, but exceeds the minimum requirement on an equivalency basis.

D. Building Composition & Features

The building is designed with 4+ stories of primarily residential space over 2 levels of parking. The ground floor is activated by the new residential lobby and retail spaces along Pacific Street, which also serve to shield much of the at-grade parking. Similarly on the second floor, the proposed amenity and commercial spaces line most of the primary building frontage with the parking area sitting behind. Depending on the market, the 2nd floor commercial space may be used to simply expand the indoor residential amenity area. Additional outdoor amenities are provided by way of both private balconies and terraces – which also provide a visual interest to the building façade – and communal rooftop space above the 6th floor. A portion of the rooftop will serve as a child play area – with appropriate surfacing, equipment and fencing.

The massing of the building displays several distinct elements. The first two floors are capped with a cornice/trim line across the entirety of the front (Pacific) and north façade. These levels are comprised of mostly brick with cementitious block columns defining the location of vertical elements that continue above. In between these elements the building differentiates both in depth and material, with the finished wall stepped in and lap siding accented with cable-rail balconies on levels 3-5. The top floors are further differentiated by changing the direction of the siding to a vertical boar and batten. Most of the 6th floor units have loft space on a partial 7th level located centrally within the building footprint with highly desirable living space that walks out onto the 6th floor roof terrace.

At the rear (east) of the site, the building steps down to only 5 stories. This limits the perceived height and bulk of the building from the adjacent neighbors and residential neighborhood further east along Henry Street.

The building serves as an attractive package for a multi-family residential apartment that is appropriate in scale and mass to both the street front and the surrounding neighborhood. The design, colors and materials are mindful and compatible with the historic structures in the neighborhood.

E. Access and Parking

Overall the site will maintain the same number of curb cuts as exist today. Vehicles accessing the Tabernacle of Grace Church will continue to enter from Pacific Street and utilize the 9 onsite angled parking spaces. Instead of having to make an awkward turnaround in the rear of the church site to return to Pacific Street, they will have the ability to continue through the combined site to exit onto Henry Street. The firehouse and 171 Henry Street buildings will continue their use of a shared driveway to access the 4 spaces at the rear of each building (8 total). The new multi-family building will have two-way vehicular access from Pacific Street to the surface parking below and behind the building. A second curb cut will serve the two-way ramp accessing the second level parking garage. The Applicant is proposing to maintain the closure of the former firehouse driveway and parking area at the corner of Pacific and Henry Streets, and reclaim that space as a lawn area.

All required parking is satisfied onsite within the Zoning Lot, with the church maintaining its historic nonconforming parking. Depending on the proposed non-residential tenants and the realized demand of residential users, there may be the ability to share available onsite parking with nonresidential uses. However, no such sharing is required to meet the minimum parking requirements, nor is any specific sharing proposed at this time.

F. Landscaping, Open Space, and Streetscapes

The V-C District has two separate requirements relating to open space. One is a 15% requirement for pervious/planted areas, which is largely met through the use of perimeter planted areas and reclaiming paved spaces on the church and firehouse properties for lawn and landscaping. The second is a Usable Open Space requirement for residents of the multi-family building. With limited at-grade space available given the location and relationship of the historic buildings, this requirement is met on upper floors of the building. Nearly two-thirds of the units will have private balconies/terraces. The roof of the 6th floor will have approximately 2,750 sf of communal open space including 1,000± sf dedicated to a child play area. The Site is also located directly next to Yale & Towne Park – a nearly half-acre open lawn area with walkways, benches and landscaping.

None of the open space serving the 2-family home in the RMF district was used in either of the open space calculations.

New contiguous sidewalks will wrap the site frontages and be enlivened by ground floor retail uses both in the new building and the repurposed Firehouse. The front parking area of the Firehouse has been reclaimed as lawn space and improved with ADA accessible pedestrian entrances. The exact use of the law space will ultimately be determined by the tenant(s) of the building.

G. Construction Timing

Site work would likely begin in summer of 2022 with an 18± month construction schedule to be completed by winter of 2024.

H. Conformity with Stamford Zoning Regulations and Master Plan

Master Plan

Category 6 (Commercial - Neighborhood) of the Master Plan "is intended to provide for and promote pedestrian-scaled "Main Street" environments: (1) encourage a variety of retail, office, other compatible business and residential uses distinct from the most intensive Downtown development…" The proposed design provides an activated street front with ground floor retail and commercial uses in a mixed-use residential development that preserves existing historic buildings and uses. Additional Master Plan goals and initiatives served by the development are noted below.

Zoning Regulations

The Village Commercial district is intended to "promote the preservation and development of sustainable, transit-oriented and pedestrian friendly "Main Streets" for neighborhood centers." The proposed redevelopment is appropriately scaled among the varying development types within the South End neighborhood and meets all the Zoning requirements of the V-C District in conjunction with the permitted special standards for historic structures and sites. Please refer to the Zoning Data Charts for additional zoning information.

5. Action Items

To facilitate the potential redevelopment and implement the many goals of Stamford's Master Plan, the Applicant has submitted the following applications.

- **Site and Architectural Plans and Requested Uses (Final) –** The Applicant requests approval for the proposed 61-unit residential building, including approval of the proposed location, height, coverage, relationships with buildings and property lines, parking, landscaping, open space, and designation of the combined Site as a single Zoning Lot, subject to a subsequent Zoning Lot Development Agreement. The Applicant also requests the ability to occupy the designated commercial spaces, including the firehouse, with allowable uses of the Village Commercial District as defined in §4.B.7.b of the Regulations.

  While the proposed plan meets the minimum parking requirement for the commercial spaces, once specific tenants are identified, the Applicant may request administrative approval of the Zoning Board for shared use of residential parking spaces (pursuant to §12-I) to accommodate additional onsite parking for users of the commercial spaces, if warranted.

  The properties at 648 Pacific Street and 171 Henry Street will continue their existing use as a religious institution and 2-family house, respectively. The church will continue the existing use of 9 nonconforming onsite parking spaces.

  The Applicant also requests Zoning Board approval of a modified sidewalk requirement, pursuant to §12.K.5, along areas of the historic buildings which do not currently permit the prescribed sidewalk width/design.

- **Coastal Site Plan Review** – While the property is not on the water, it is within the Coastal Area Boundary. With proposed drainage mitigation, no adverse impacts are anticipated. The application will be referred to the Stamford Harbor Management Commission for recommendation.

- **Special Permit pursuant to the following sections of the Zoning Regulations**:
  - §4.B.7.e.6 for new construction within the V-C District;
  - §4.B.7.c.9.e to modify permitted curb cut locations in order to accommodate existing uses on the subject site. This request has been coordinated with both Land Use and TTP staff;
  - §7.Q to permit the child play are to be located on the rooftop;
  - §7.3.C relating to "Special Use Bulk and Density Standards for Historic Structures and Sites" to permit the following Special Standards under §7.3.C.4:
    - Increased Floor Area equal to the area of the Historic Structures within the V-C zoned portion of the site (which are less than 25% of the as-of-right Floor Area);
    - Reduced Rear Yard Setback of 50% (from 20' to 10');
    - Increased Building Height from 5 stories to 7 stories (and 55' to not more than 80') in the Arterial portion of the site (i.e. within 125' of the Pacific Street right-of-way) and generally subject to the same limitations as 5th stories in the V-C District; and from 4 stories to 5 stories (and 45' to not more than 60') in the Non-Arterial portion of the site;

- Reduced Light & Air requirement (from 20' to no less than 10'), where the proposed plan provides 10' onsite and an additional 8' of spacing based on the required setback of the adjacent property.

- §7.4.C.1.g and 7.4.C.1.k relating to the proposed bedroom and affordability mix of onsite Below Market Rate units, as described in paragraph 4-C above and further detailed in the enclosed Zoning Data Charts.

- **Addition of the 3 historic properties to the Cultural Resource Inventory**

6. Conclusions

The proposed development continues the efforts of the Land Use Bureau and Planning and Zoning Boards to facilitate development that will preserve historic buildings, activate a blighted and underutilized block, and provide new and affordable housing opportunities at a neighborhood scale within the South End. The potential redevelopment will advance many goals and objectives of the City of Stamford including the preservation of 3 unique structures over 100 years old.

7. Statement of Findings

I. The above referenced specific Special Permit requests are integral to the development project as a whole. Thus, for purposes of demonstrating compliance with the standards and conditions below, the entire development proposal is considered. The Applicants submit that all applicable criteria contained in Stamford Zoning Regulations Article V, Section 19.C.2 are met for the following specific reasons:

a. Special Permits shall be granted by the reviewing board only upon a finding that the proposed use or structure or the proposed extension or alteration of an existing use or structure is in accord with the public convenience and welfare after taking into account, where appropriate:

1) the location and nature of the proposed site including its size and configuration, the proposed size, scale and arrangement of structures, drives and parking areas and the proximity of existing dwellings and other structures.

The proposed development is appropriately located within a mixed residential and commercial neighborhood and the Commercial-Neighborhood Master Plan Category. The proposed building is compatible in scale and style with the surrounding area, particularly historic former Yale & Towne manufacturing building along Henry Street. The proposed setbacks and arrangement of buildings are appropriate for the district and serve to activate pedestrian street frontages while maintaining appropriate sidewalk width. All new parking is appropriately accommodated within 2 levels of parking below and behind the buildings and generally screened from public view.

2) the nature and intensity of the proposed use in relation to its site and the surrounding area. Operations in connection with special permit uses shall not be injurious to the neighborhood, shall be in harmony with the general purpose and intent of these Regulations and shall not be more objectionable to nearby properties by reason of noise, fumes, vibration, artificial lighting or other potential disturbances to the health, safety or peaceful enjoyment of property than the public necessity demands.

The proposed density, height, and building coverage are all within the allowable standards of the underlying zone and appropriate to the standards relating to the preservation of historic structures and sites. The proposed building complements the historic buildings being preserved and improves the surrounding mixed-use community with new residences and ground floor retail uses. There are no anticipated objectionable impacts or potential disturbances to nearby properties.

3) *the resulting traffic patterns, the adequacy of existing streets to accommodate the traffic associated with the proposed use, the adequacy of proposed off-street parking and loading, and the extent to which proposed driveways may cause a safety hazard, or traffic nuisance.*

Traffic can be safely and adequately accommodated on the surrounding streets. The enclosed Traffic Study anticipates that all nearby intersections will continue to operate well within acceptable levels. Parking is safely and adequately provided onsite at a ratio of 1.16 spaces per unit with the potential for shared use of parking for onsite commercial uses.

4) *the nature of the surrounding area and the extent to which the proposed use or feature might impair its present and future development.*

The surrounding area includes a variety of residential, commercial, industrial and retail uses. The proposed residential use is compatible with these uses and will serve as a further catalyst for others to invest in their properties. It will also place people on the streets thereby increasing the patronage of nearby retail and service establishments.

5) *the Master Plan of the City of Stamford and all statements of the purpose and intent of these regulations.*

Category 6 (Commercial - Neighborhood) of the Master Plan "is intended to provide for and promote pedestrian-scaled "Main Street" environments: (1) encourage a variety of retail, office, other compatible business and residential uses distinct from the most intensive Downtown development…" The proposed design provides an activated street front with ground floor retail and commercial uses in a mixed-use residential development that preserves existing historic buildings and uses. Additional City of Stamford goals and initiatives served by the development are noted below.

From the Master Plan…

- **3C.3:** Maintain the affordable housing stock to ensure that people who work in Stamford can afford to live in Stamford.
- **5E.1**: Promote neighborhood revitalization.
- **6A**.**1**: Balance new development with preservation of existing residential communities.
- **6B**: Preserve Existing and Create New Affordable Housing
- **6C.2**: Promote development of a variety of housing types.
- **6D**: Preserve Historic Buildings and Districts
- **6D.3**: Provide tax and zoning incentives for historic preservation and adaptive reuse

From the 2018 South End Study…

- **Seven Widely Shared Priorities (pg. 4)**
  2. Protection of and reinvestment in the remaining historic district buildings to avoid permanent erasure of character, community culture, and affordable homes and retail spaces.
  6. Upgrades to streetscape and lighting to improve safety, bring people out, connect the different districts of the South End, and create lively commercial areas.
- **Major Recommendations (pg. 5)**
  - Upgrade South End streetscape design and lighting to improve safety, bring people out, connect the different districts of the South End, create lively commercial areas, and increase the percentage of trips people make on foot, on bike and transit. Prioritize streetscape improvements on Pacific Street.
- **Transfer of Development Rights (pg. 21)**
  - The team recommends the use of Transfers of Development Rights (TDRs) to permit the exchange of unused development rights from parcels containing existing affordable housing and retail, and historically or architecturally significant buildings.

II. Pursuant to Section 19.C.2.a of the Zoning Regulations, the Zoning Board must find that the proposed use or structure or the proposed extension or alteration of an existing use or structure is in accord with the public convenience and welfare.

The Applicant is proposing to infill an existing parking lot and former church building by constructing a new mixed-use building with associated parking and streetscape improvements in their place. The proposed development will increase the tax base and significantly improve the appearance of an arterial street in the South End, while preserving 3 separate historic structures. The active ground floor frontage, 61 new residential units, both affordable and market rate, will enliven this long-underutilized block and breathe new life into this stretch of Pacific Street. For all of these reasons, the Applicants submit that the proposal, and the associated Special Permit requests which are inextricably intertwined, are in accord with the public convenience and welfare.

III. Pursuant to Section 7-Q of the Stamford Zoning Regulations, the Zoning Board must find that the design, site or location of the Development render child play areas at grade undesirable or unsafe and the child play areas can be provided at an alternative location within the Development.

The preservation of Historic buildings and sites severely limits the at-grade areas available for child play areas. Two available areas exist – one at the corner of Pacific and Henry Street directly in front of the historic firehouse, and the other in the front yard of the historic 2-family home at 171 Henry Street. Neither location is particularly safe, directly abutting heavily traveled roadways. Furthermore, the play equipment in the front yard of historic buildings would significantly distract and detract from the historic integrity of the structures being preserved. A sizable play area can be safely and appropriately located on the building rooftop, making it easily accessible to residents. The site is also located directly across from Yale & Towne Park – a nearly half-acre open lawn area with walkways, seating, and landscaping.

IV. Pursuant to Section 7.3.C.1 of the Stamford Zoning Regulations, the Zoning Board must find that (a) the proposed use and site plan are compatible with the objectives and policies of the Master Plan; (b) the proposed use and site plan are superior to a plan conforming to the standard dimensional requirements and use standards of the underlying zoning district and will not impair the future development of the surrounding area; (c) the proposed use and site and architectural plans serve to rehabilitate, restore, Critically Reconstruct, or preserve Historic Structures or Sites; and (d) the loss of said Historic Structure would be detrimental to the neighborhood character, Local Historic District or the cultural and historical heritage and identity of the City of Stamford.

The development's compatibility with the neighborhood and Master Plan has been stated above, and the proposed restoration and preservation of the historic structures will meet the Secretary of the Interior Standards. The application will also be referred to Stamford's Historic Preservation Advisory Commission for their review and recommendations. While a plan fully conforming to the underlying zoning requirements could be attempted, it would require the elimination of parking, removal of ground floor retail space, and/or the demolition of or additions to the historic structures – none of which are desirable for the neighborhood or City of Stamford. The demolition of century old buildings to make way for "conforming" redevelopment would be detrimental to the culture and history of the South End. Additions to the historic buildings would disrupt their largely intact historic integrity and setting. The buildings are simply inefficient in their use of space for zoning compliance – as they are only 2 stories tall where 4 or 5 are permitted. Their preservation requires the implementation of permitted development rights on the limited remaining areas of the site, which in turn requires the new building to be taller and more expansive. These concessions are what makes historic preservation feasible.

January 7, 2022

Mr. Andres Hoggs
Hoggs Holdings, LLC
79 Madison Avenue, 17th Floor
New York, NY 10016

RE: Traffic Study – Addendum
Proposed Mixed-Use Development
Pacific Street between Henry Street and Ludlow Street
Stamford, Connecticut
SLR #141.16393.00002

Dear Mr. Hoggs:

This letter has been prepared as an addendum to our October 6, 2021, traffic study for the subject development. Our traffic study found that this development is not expected to create any traffic impacts and that vehicular traffic conditions at and adjacent to the site are expected to remain good during peak hours at Levels of Service (LOS) A or B. Our traffic study was completed in connection with a prior version of the site redevelopment plan that would have provided a main egress driveway to Henry Street from the first level parking on the site. The latest version of the site plan has revised this egress to instead be at Pacific Street. We do not expect this relatively minor change to be problematic and anticipate that the driveway LOS to Pacific Street will also operate at LOS B. In a recent discussion with the City of Stamford Traffic, Transportation & Parking (TTP) Department on December 2, 2021, it was verbally indicated that they agree. And as they and you know, LOS D or better during peak hours is acceptable and in city/transit-oriented-development environments even LOS E during peak hours is often deemed acceptable and an appropriate tradeoff between traffic flow and the amount of land devoted to the movement of motor vehicles. In summary, it is our continued opinion that there will be no adverse traffic impact from this development.

We hope this addendum letter is useful to you and the City of Stamford. If you have any questions or need anything further, please do not hesitate to contact either of the undersigned.

Sincerely,

SLR International Corporation

David G. Sullivan, PE
U.S. Manager of Traffic & Transportation Planning

Neil C. Olinski, MS, PTP
Senior Transportation Planner

Cc: Ray Mazzeo, AICP

141.16393.00002.j722.ltr

DRAFT

Block 87

ZONING LOT DEVELOPMENT AGREEMENT

AGREEMENT made this____ day of FEBRUARY, 2022 by and between, **SOUTH END PACIFIC, LLC,** a Connecticut limited liability company having a principal place of business at INSERT ADDRESS City of Stamford County of Fairfield and State of Connecticut (hereinafter referred to as the "SEP"); and the **TABERNACLE OF GRACE CHURCH** a Connecticut nonstock corporation with a business address of 79 Orchard Street in the City of Stamford County of Fairfield and State of Connecticut)(hereinafter referred to as the "CHURCH") (collectively, the "PROPERTY OWNERS"),

WITNESSETH:

WHEREAS, SEP is the owner of 670 Pacific Street, Stamford, Connecticut (hereinafter referred to as "Lot A") as more particularly described n Schedule "A" annexed hereto and made a part hereof; and

WHEREAS, the CHURCH is the owner of 648 Pacific Street Stamford, Connecticut (hereinafter referred to as "Lot B") as more particularly described in Schedule "B" annexed hereto and made a part hereof; and

WHEREAS, SEP is the owner of 686 and 690 Pacific Street, Stamford, Connecticut (hereinafter referred to as "Lot C") as more particularly described in Schedule "C") annexed hereto and made a part hereof; and

WHEREAS, SEP is the owner of 171 Henry Street (hereinafter referred to as "Lot D") as more particularly described on Schedule "D" annexed hereto and made a part hereof;

WHEREAS, Lot A, Lot B, Lot C and Lot D (collectively, the "Properties") are each individually Tax Lots under the standards contained in the Zoning Regulations of the City of Stamford (hereinafter referred to as the "Zoning Regulations"); and

WHEREAS the Properties are located in the Village Commercial District (the "V-C Zone") and the Multiple Family Residence Design District (the "R-MF Zone"); and

WHEREAS SEP has obtained Zoning Board Approval #221-29 (the "Approval") to preserve and rehabilitate the historic buildings located on Lot A, Lot B and Lot D, and to permit the construction of a mixed-use building on Lot C containing 61 dwelling units, ground floor commercial space and associated site improvements; and

WHEREAS, the approved development are achievable via the allocation of certain Development Rights and Shared Access Rights among the Properties as stated herein; and

WHEREAS, the allocation of Development Rights facilitating the approved development results in the more rational development of the Properties than would otherwise be permitted by the Zoning Regulations; and

NOW, THEREFORE, the PROPERTY OWNERS agree to the following: the sharing/transfer and allocation of Development Rights among the Properties as follows:

1) The Development Rights of Properties are transferred/allocated as shown on Schedule "E" annexed hereto and made a part hereof.

2) Lot D shall be permitted to access and utilize one (1) parking space partially located on Lot C.

3) Lot D shall maintain the rights to pass and repass over portions of Lot A and Lot B for ingress and egress purposes to and from Henry Street.

4) Lot A shall maintain the rights to pass and repass over portions of Lot D for ingress and egress purposes to and from Henry Street.

5) Lot B shall maintain the rights to pass and repass over Lot A and Lot D for egress purposes onto Henry Street.

6) Lot C shall maintain the right to pass and repass over portions of Lot A, Lot B, and Lot D for egress purposes, which may or may not be limited to "emergency only" subject to the conditions of the Approval.

7) All future development of the Properties shall be in accordance with the Zoning Regulations, the transfer of Development Rights as stated in Schedule "E", the conditions of the Approval, and in accordance with the access rights as stated herein.

8) All future development of the Properties that requires the further transfer of Development Rights shall be subject to the review and approval of Land Use Bureau staff and, if required, the Zoning Board.

9) This agreement shall be binding upon the PROPERTY OWNERS, their heirs, successors and assigns.

10) This agreement shall not be terminated without the unanimous written consent of each of the PROPERTY OWNERS, their heirs, successors or assigns. Said termination must be approved by Land Use Bureau staff, whose approval shall not be withheld in the event the properties

comply or are proposed to be brought into compliance with the Zoning Regulations of the City of Stamford in effect at the time of said termination.

11) The PROPERTY OWNERS agree not to assert the invalidity of this document.

12) This agreement shall be governed by the laws of the State of Connecticut.

13) In the event that any provision of this Agreement is deemed to be invalid or unenforceable for any reason, this Agreement shall be construed as not containing such provision, and the invalidity or unenforceability thereof shall not render any other provision of this Agreement invalid or unenforceable.

14) Each party executing this Agreement does represent to the other that the parties executing on behalf of each party is duly authorized to enter into and execute this Agreement.

15) This Agreement may only be changed, modified, waived or discharged by agreement in writing, signed by the parties hereto.

16) No failure of any party to enforce any term hereof shall be deemed to be a waiver.

IN WITNESS WHEREOF, the said parties hereto have hereunto set their hands and seals, the day and year first above written.

WITNESSED:

_____ **SOUTH END PACIFIC LLC**

DRAFT

Name:_____

BY: _____

_____

Andres Hogg
Duly Authorized

Name:_____

STATE OF CONNECTICUT}
} ss: STAMFORD Date: _____
COUNTY OF FAIRFIELD }

Personally appeared Andres Hogg, duly authorized signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed and the free act and deed of said City, before me.

_____

Commissioner of the Superior Court
or Notary Public

_____

TABERNACLE OF GRACE CHURCH

Name:_____

BY:_____

_____

INSERT NAME
Duly Authorized

Name:_____

STATE OF CONNECTICUT}
} ss: STAMFORD Date: _____
COUNTY OF FAIRFIELD }

Personally appeared _____, duly authorized, signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed and the free act and deed of said Commission, before me.

Commissioner of the Superior Court
or Notary Public

DRAFT

Schedule "A"

DRAFT

Schedule "B"

DRAFT

Schedule "C"

DRAFT

Schedule "D"

DRAFT

Schedule "E"

Allocation of Development Rights

	Lot A **670 Pacific** **"Fire House"**	**Lot B** **648 Pacific** **"Church"**	**Lot C** **686+690 Pacific** **(as consolidated)** **"Development Lot (DL)"**	**Lot D** **171 Henry** **(as adjusted)** **"2-Family House"**
Lot Area	6,698	8,693	20,806	5,135
Zoning District	V-C	V-C	V-C	R-MF
Building Coverage	Permitted: 4,309 Proposed: -2,559 Transferred to DL: -1,600 Remaining: 150	Permitted: 5,595 Proposed: -3,250 Transferred to DL: -2,200 Remaining: 145	Permitted: 13,150 Rights from others: +3,800 Subtotal Allowed: 16,950 Proposed: -16,620 Remaining: 330	Permitted: 1,540 Proposed: -1,000 Transferred to DL: n/a Remaining: 540
Floor Area /Density	Permitted: 13,283 Proposed: -4,830 Exemption: 4,830 Transferred to DL: -12,500 Remaining: 783	Permitted: 17,246 Proposed: -6,150 Exemption: 6,150 Transferred to DL: -17,000 Remaining: 246	Permitted: 40,677 Rights from others: +29,500 Subtotal Allowed: 70,177 Proposed: -65,000 Remaining: 5,177	Permitted: 2 DU Proposed: 2 DU Transferred to DL: n/a Remaining: 0
Green Space	Provided: 2,060 Required: -1,005 Transferred to DL: -1,030 Remaining/Surplus: 25	Provided: 1,387 Required: -1,304 Transferred to DL: -65 Remaining/Surplus: 22	Required: 3,121 Provided: 2,072 Rights from others: 1,095 Remaining/Surplus: 46	Provided: 1,848 Required: n/a Transferred to DL: n/a Remaining/Surplus: n/a
Parking	Required: 3 Provided: 4 Remaining/Surplus: 1	Required: 9 (existing nonconformity) Provided: 9 Remaining/Surplus: 0	Required: 61 Provided: 73 Remaining/Surplus: 12	Required: 4 Provided: 4 Remaining/Surplus: 0 (one space crosses property line with DL)


Historic Preservation
& Improvements
648 & 670 Pacific Street and 171 Henry Street
November 30, 2021
REDNISS
& MEAD

171 Henry Street

Vernacular Cottage (1885)

1970s photo

Existing porch (present day)

Proposed Improvements

1. Improve appearance of porch: Add period style porch posts, railings, lattice. Paint wood members of porch white.

Other porches along Henry Street

Example image of potential porch style

REDNISS & MEAD

171 Henry Street

Vernacular Cottage (1885)

Proposed Improvements

2. Add landscaping (low shrubbery) along porch lattice.

Existing porch (present day)

REDNISS & MEAD

171 Henry Street
Vernacular Cottage
(1885)

Proposed Improvements

3. Add new matching historic style double front entry doors in compatible color.

Existing front doors

Potential front door example

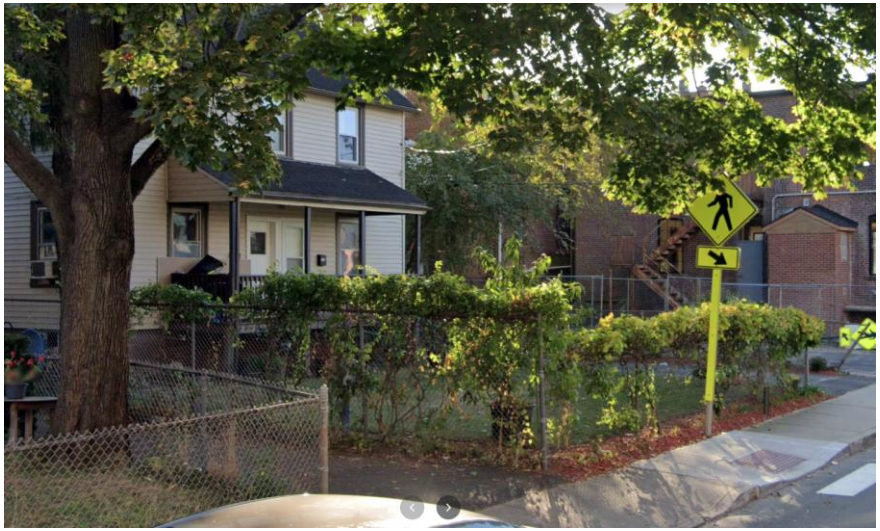
REDNISS & MEAD

171 Henry Street

Vernacular Cottage (1885)

Proposed Improvements

4. Replace chain link fence with period style fencing.



Existing Chain Link Fence

Potential fence type

REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

1. Restore windows to resemble historic configuration:

- Remove applied window mullions building-wide
- Apply one intermediate rail to resemble double hung windows

Existing Building
(Henry Street frontage)

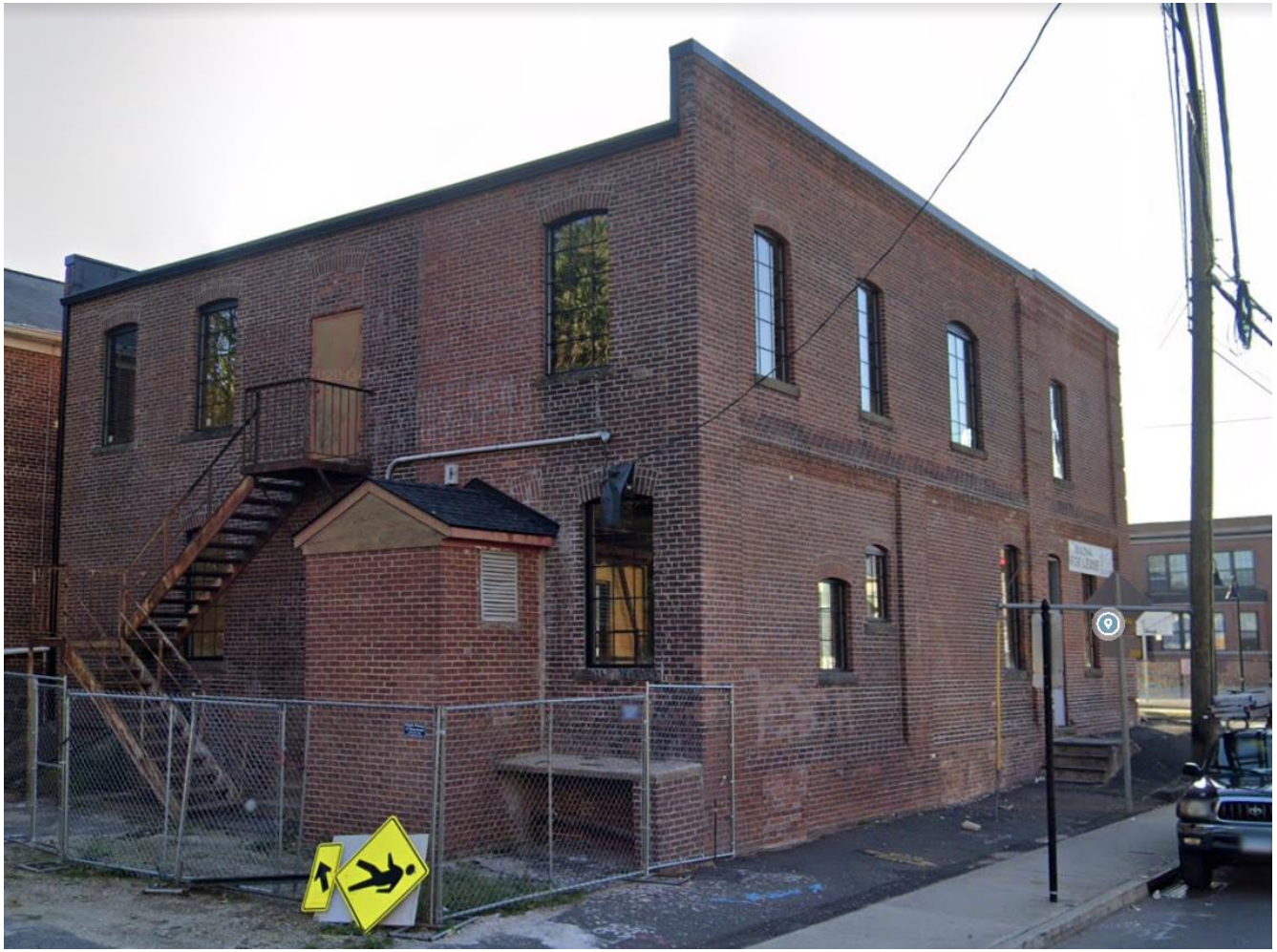
REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

2. Repoint brick, as needed, with similar masonry profile and composition



Existing Building

REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

3. Make necessary modifications to meet building codes for new use(s) including grading of site and completion of outdoor platform and installing bathrooms.
4. Interior tenant fit-outs, as needed.

Existing building

REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

5. Make all necessary structural improvements.

Basement photos

REDNISS & MEAD

670 Pacific Street

Engine Company No. 2 (aka South End Fire Station)

Existing Building

Proposed Improvements

6. Clean keystones, and sills, as needed, with non-abrasive products recommended by the SHPO and approved by the National Park Service.

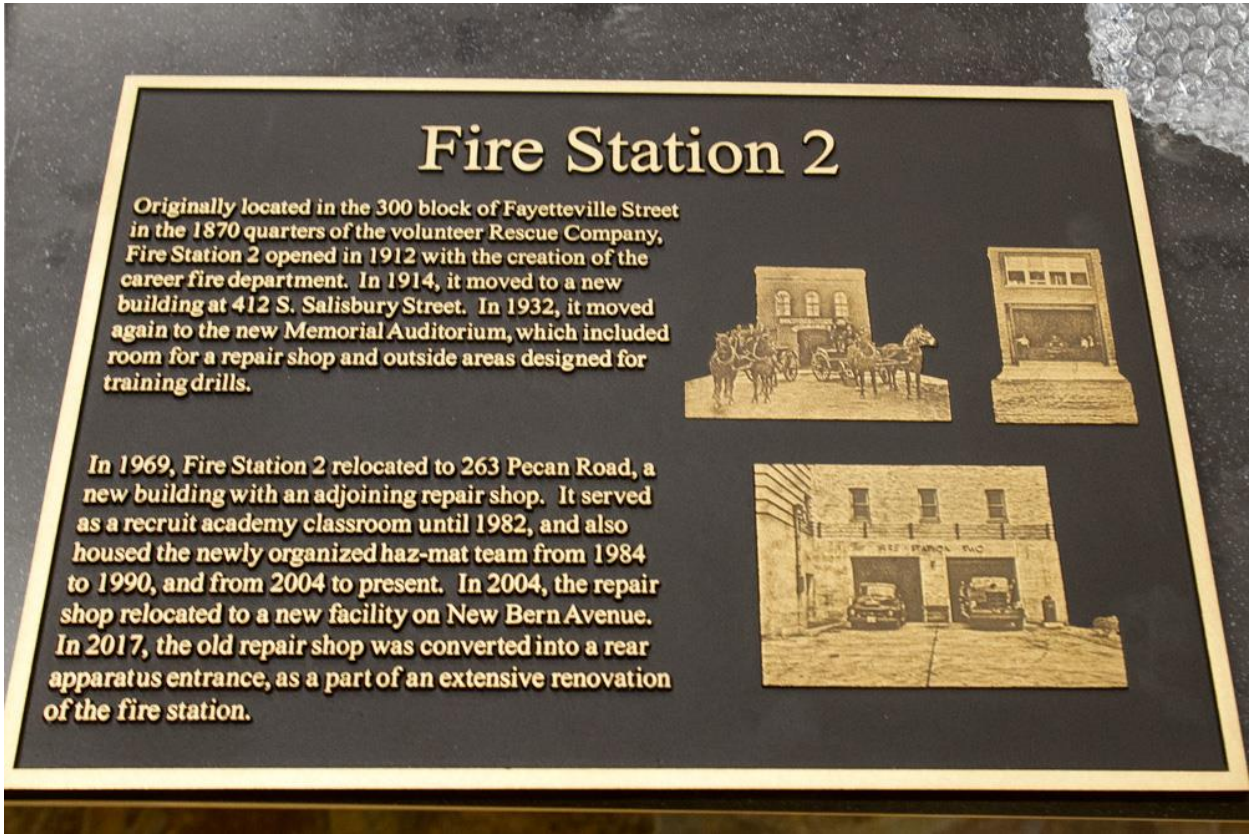
REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

7. Add exterior historic interpretive plaque as required in the Preservation Easement



Example Plaque

REDNISS & MEAD

670 Pacific Street

Engine Company No. 2
(aka South End Fire Station)

Proposed Improvements

8. Create artistic design or applique for required utility equipment

(pursuant to approval by utility company)

Inspiration Images



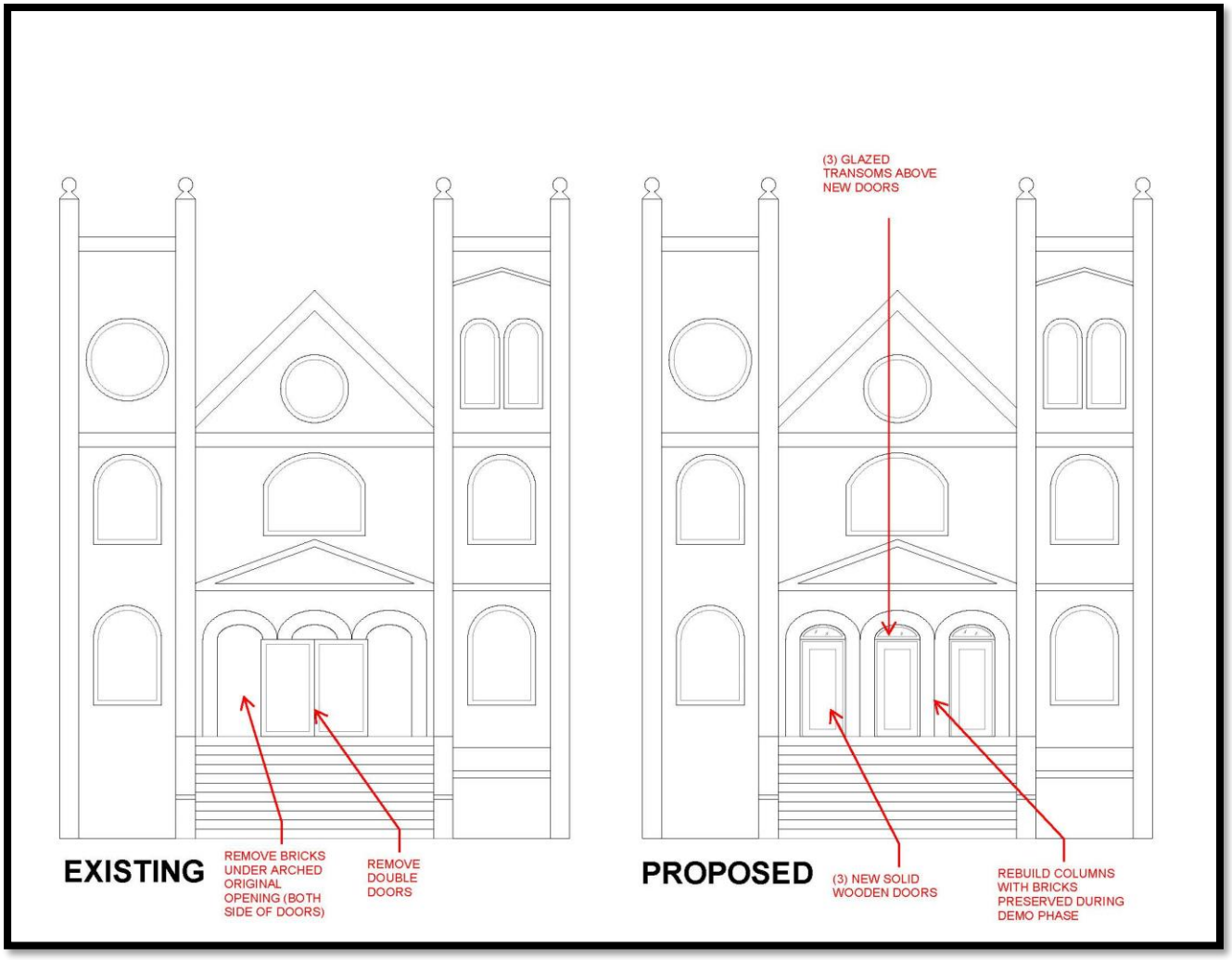



REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

1. Replace existing double doors with (3) single Wooden doors (with glass transom) and rebuild brick columns below arches



Existing Building

REDNISS & MEAD

Proposed Improvements

2. Remove paint and clean stone sills.

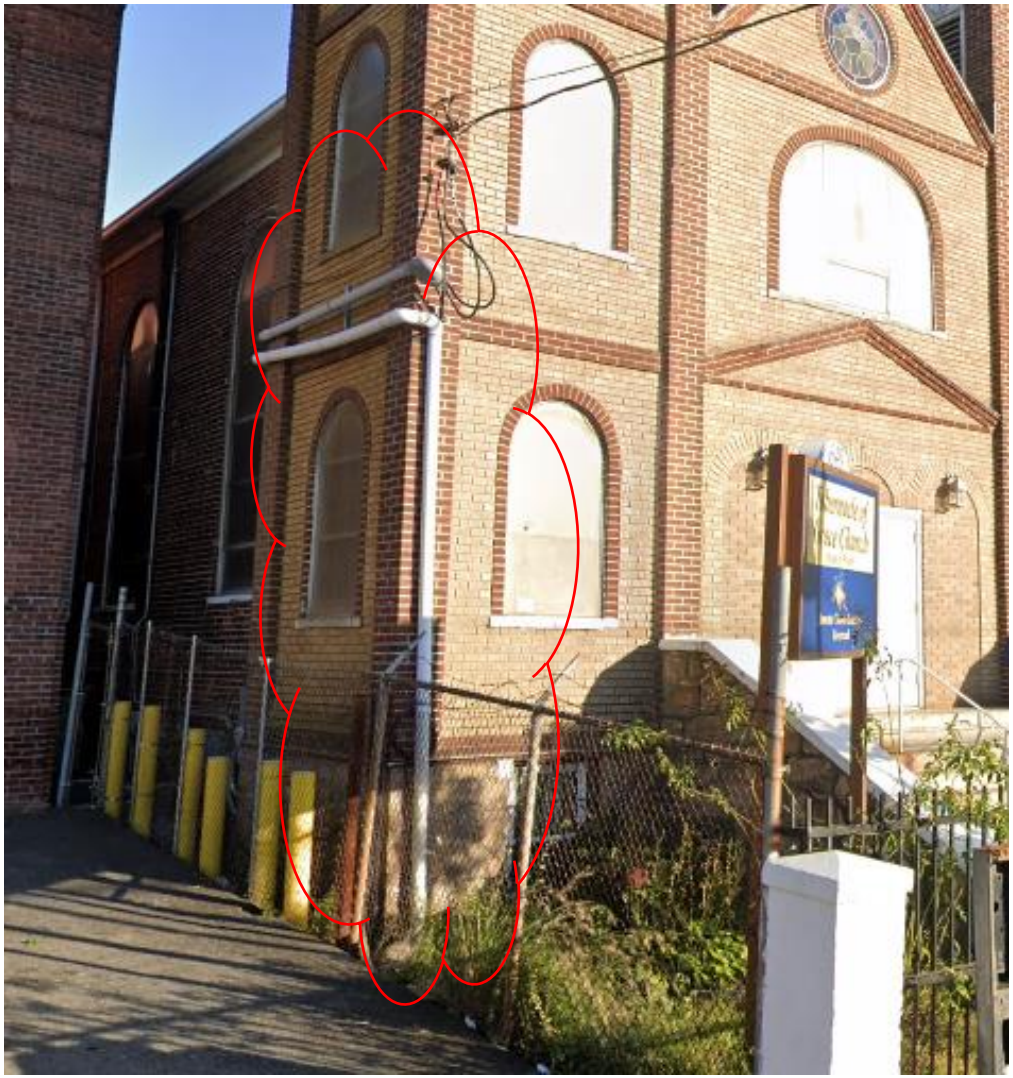
648 Pacific Street
Annunciation Greek Orthodox Church

REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

3. Paint large pvc pipes on façade to match brick color

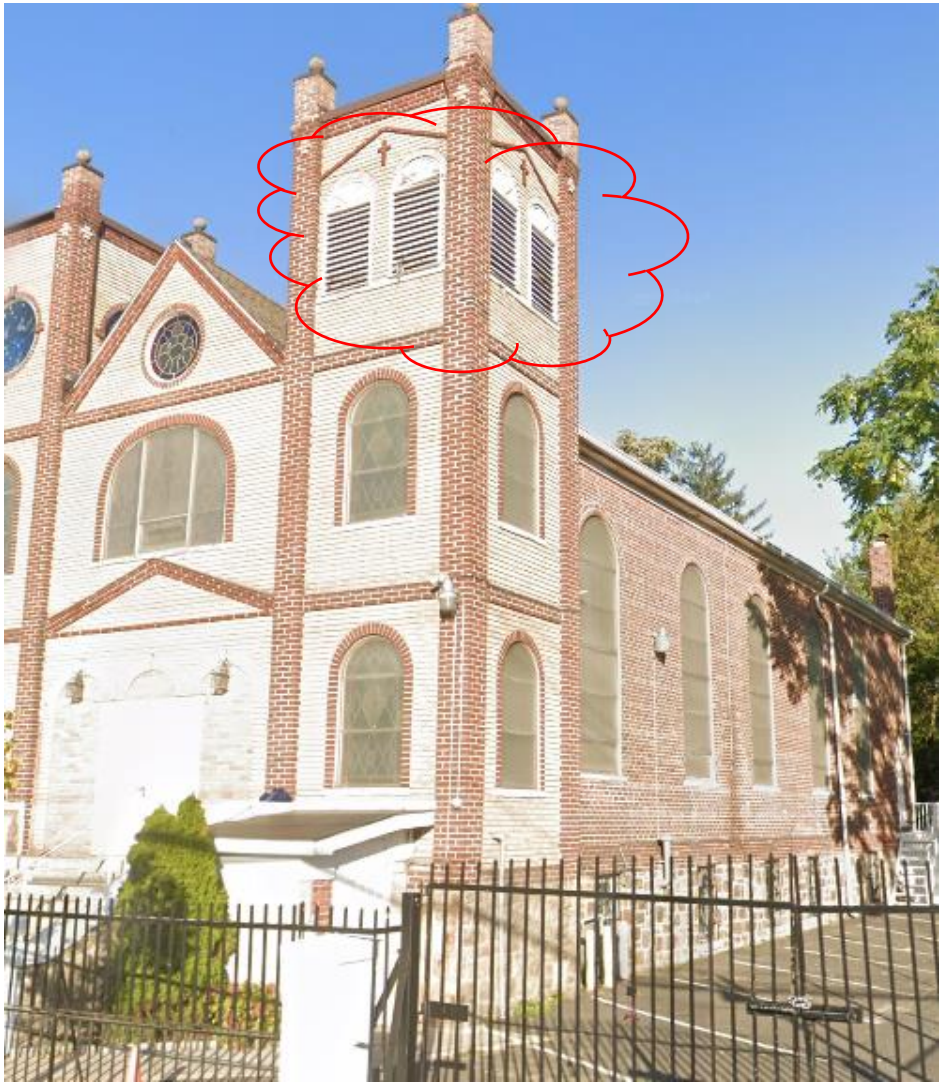


REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

4. Paint tower louvers and window trim/frames to match doors.



REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

5. Install compatible period style light fixtures at front entry.

No fixtures on historic building

Existing fixtures

REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

6. Clean window polycarbonate protection

REDNISS & MEAD

648 Pacific Street
Annunciation Greek Orthodox Church

Proposed Improvements

7. Paint handrails black.

REDNISS & MEAD

*NOTE: UNIT MIX AND INTERIOR LAYOUT SUBJECT TO CHANGE

SIDE SETBACK

EXIST. 2-UNIT HOUSE

FF(sill)=11.50

FF(sill)=11.43

3'-0"

LINE OF BLDG. ABOVE

15'-0 1/16"

+7.0

+6.8

EXIST. SHED

CONC. CURB

H

H

ELEC. METERS

REAR SETBACK

10'-0"

EXIT STAIR

7 CLASS B BIKE PKG.

+6.0

LINE OF BLDG. ABOVE

REAR SETBACK

10'-9"

12 CLASS A BIKE PKG.

TOTAL 37 PKG. ON 1ST LEVEL

DN +6.0

+5.0

+4.0

+3.0

+2.0

+6.75

EV EV EV

WATER

ELEV. ELEV.

RESID. LOBBY 540 SF

+7.25

RETAIL (1ST FL) 2,100 SF

+7.25

+10.0

+9.0

+8.0

+7.66

UP

EXIT STAIR

LINE OF BLDG. ABOVE

RAMP TO 2ND FL. PARKING (TWO WAY)

+7.125

+6.95

+6.45

ELEC. / TELCOMM.

+6.0

+7.125

+6.5

15'-0"

NEW TRANSFORMER LOCATION

FRONT SETBACK (TO CURB)

ENTRY TO 1ST FL. PARKING (TWO WAY)

LINE OF BLDG. ABOVE

EXIST. FIREHOUSE BLDG.

FF(sill)=10.53

EXIST. CHURCH

HENRY STREET

40 FT.± WIDE RIGHT OF WAY

PARKING SUMMARY

1ST FL. PARKING	:	37 CARS
2ND FL. PARKING	:	33 CARS
TOTAL	:	70 CARS (INCL. 7 HC)

HENRY & PACIFIC ST.

STAMFORD, CT

N

0 8 16'

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

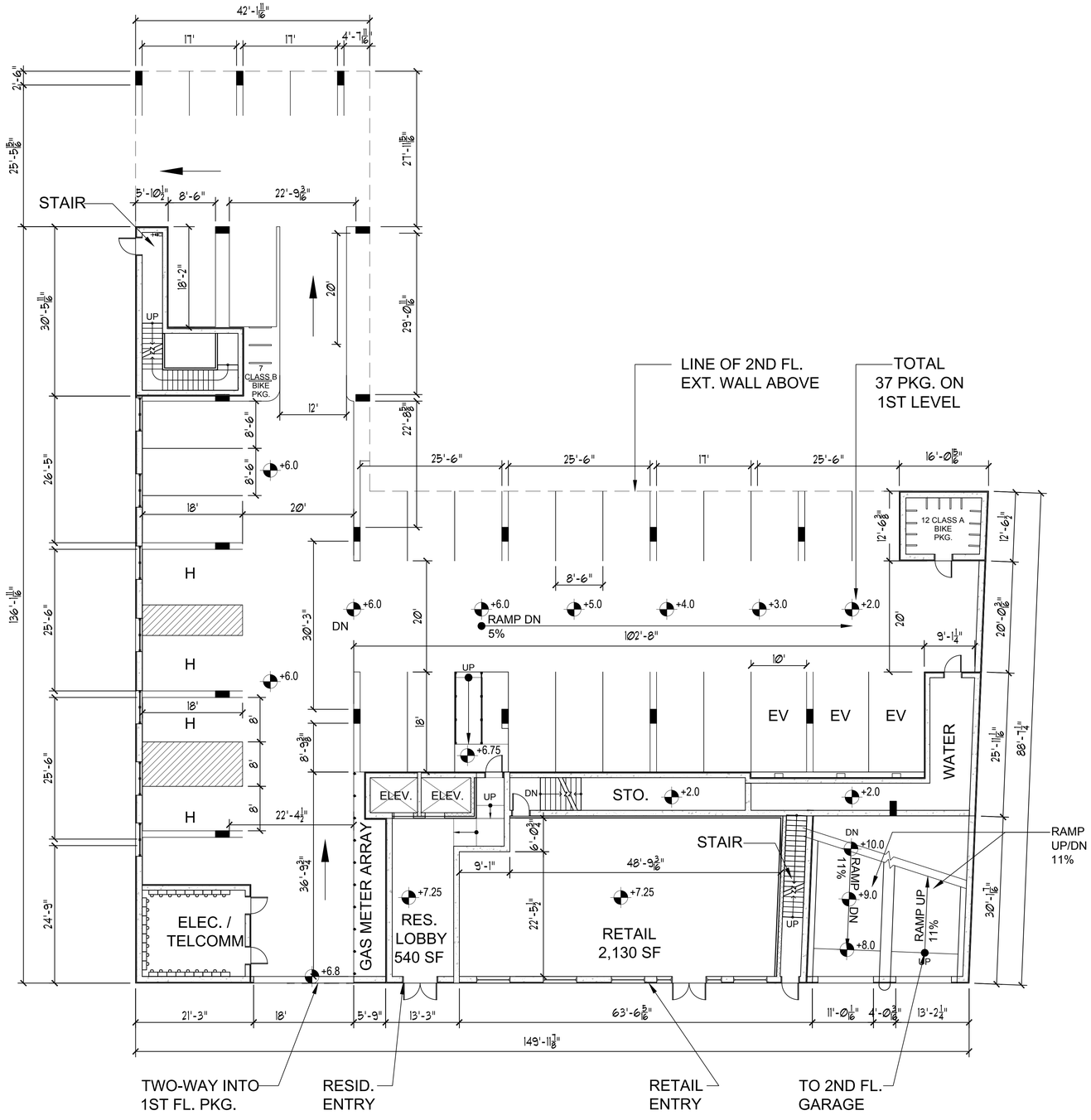
SCHEMATIC SITE PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

S - 001

*NOTE: UNIT MIX AND
INTERIOR LAYOUT
SUBJECT TO CHANGE



HENRY & PACIFIC ST.

STAMFORD, CT

0 8 16'

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

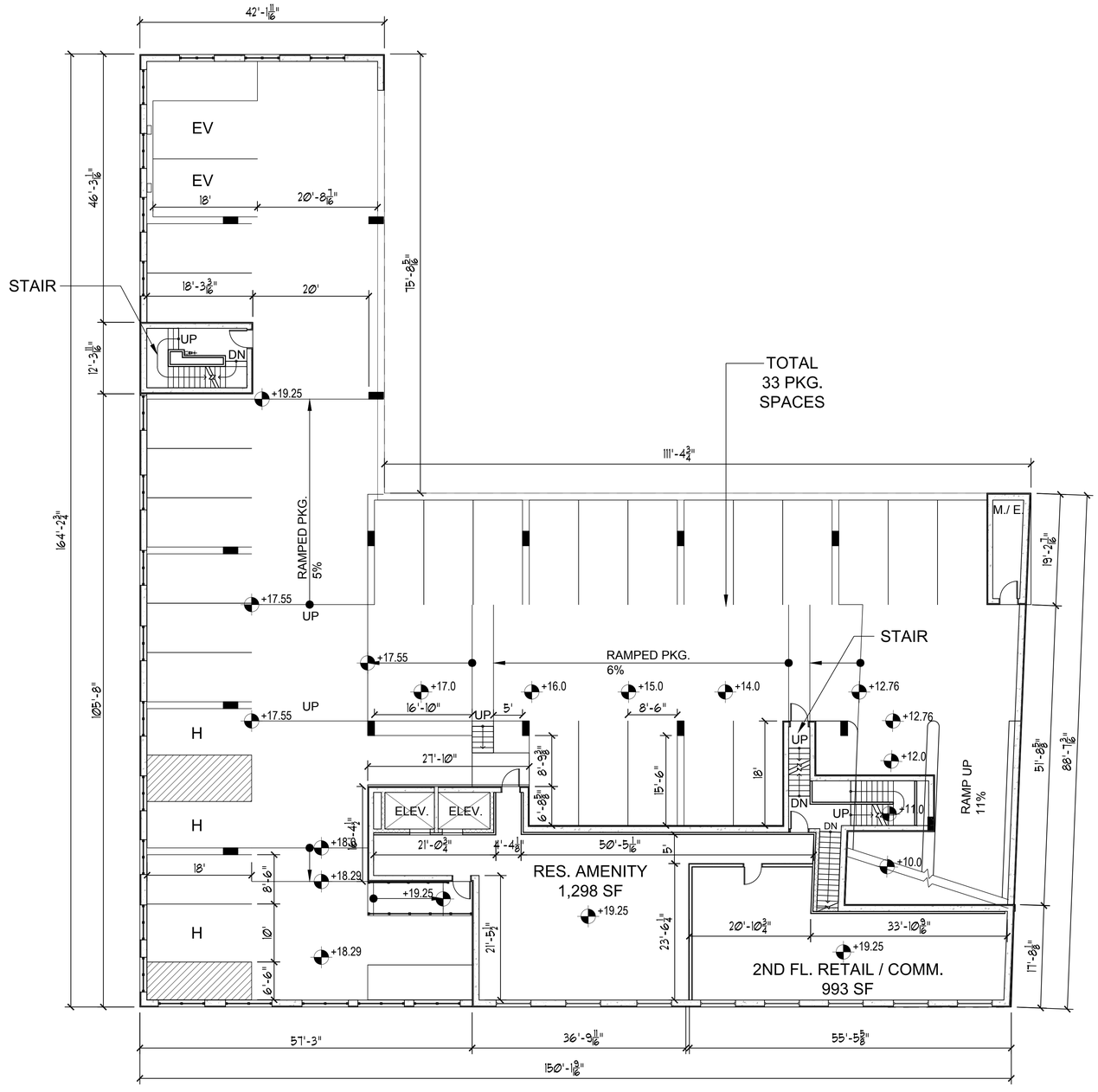
1ST FLOOR PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

A - 101

*NOTE: UNIT MIX AND
INTERIOR LAYOUT
SUBJECT TO CHANGE



HENRY & PACIFIC ST.

STAMFORD, CT

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

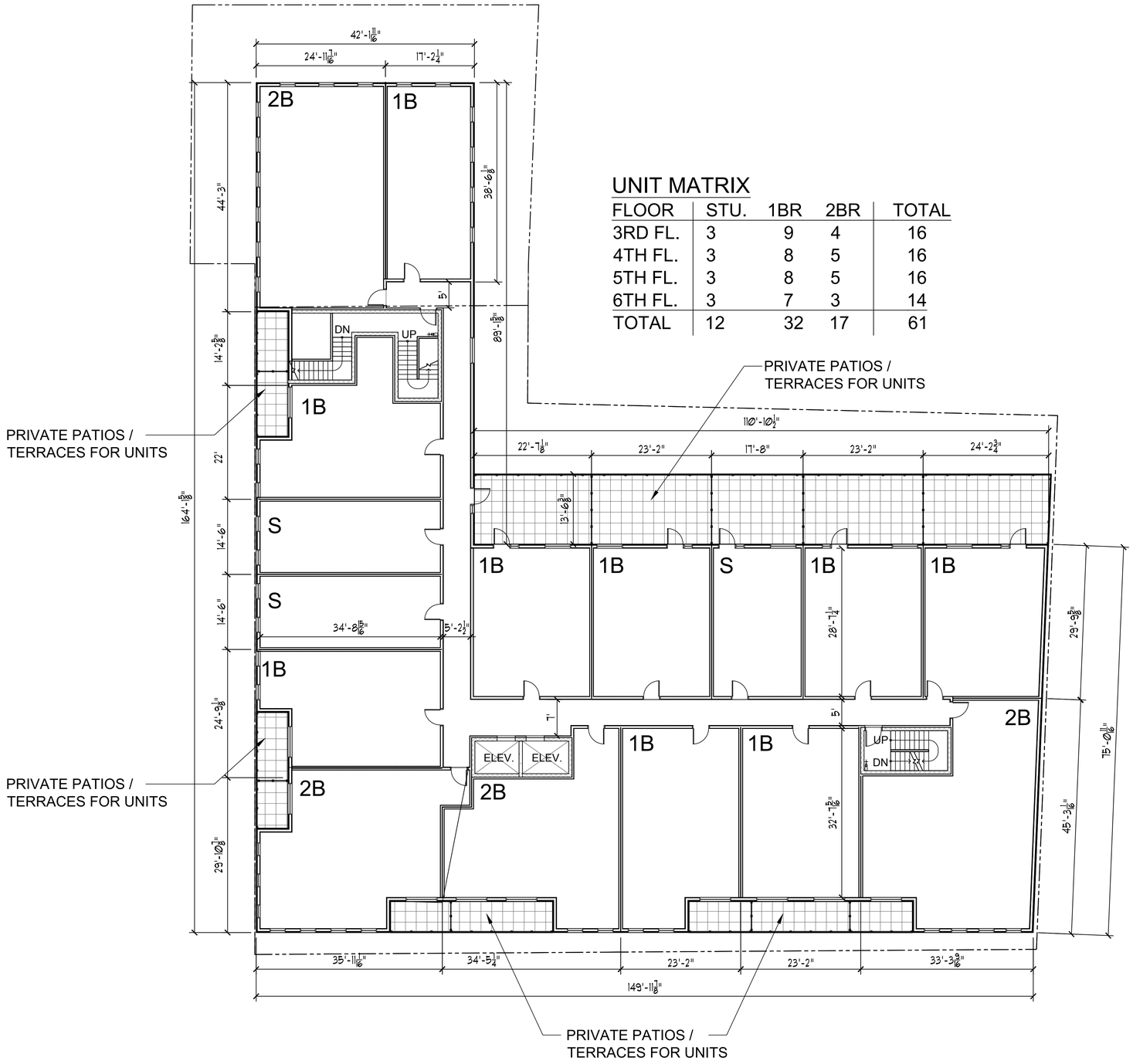
2ND FLOOR PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

A - 102

*NOTE: UNIT MIX AND
INTERIOR LAYOUT
SUBJECT TO CHANGE



UNIT MATRIX

FLOOR	STU.	1BR	2BR	TOTAL
3RD FL.	3	9	4	16
4TH FL.	3	8	5	16
5TH FL.	3	8	5	16
6TH FL.	3	7	3	14
TOTAL	12	32	17	61

HENRY & PACIFIC ST.

STAMFORD, CT

N

0 8 16'

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

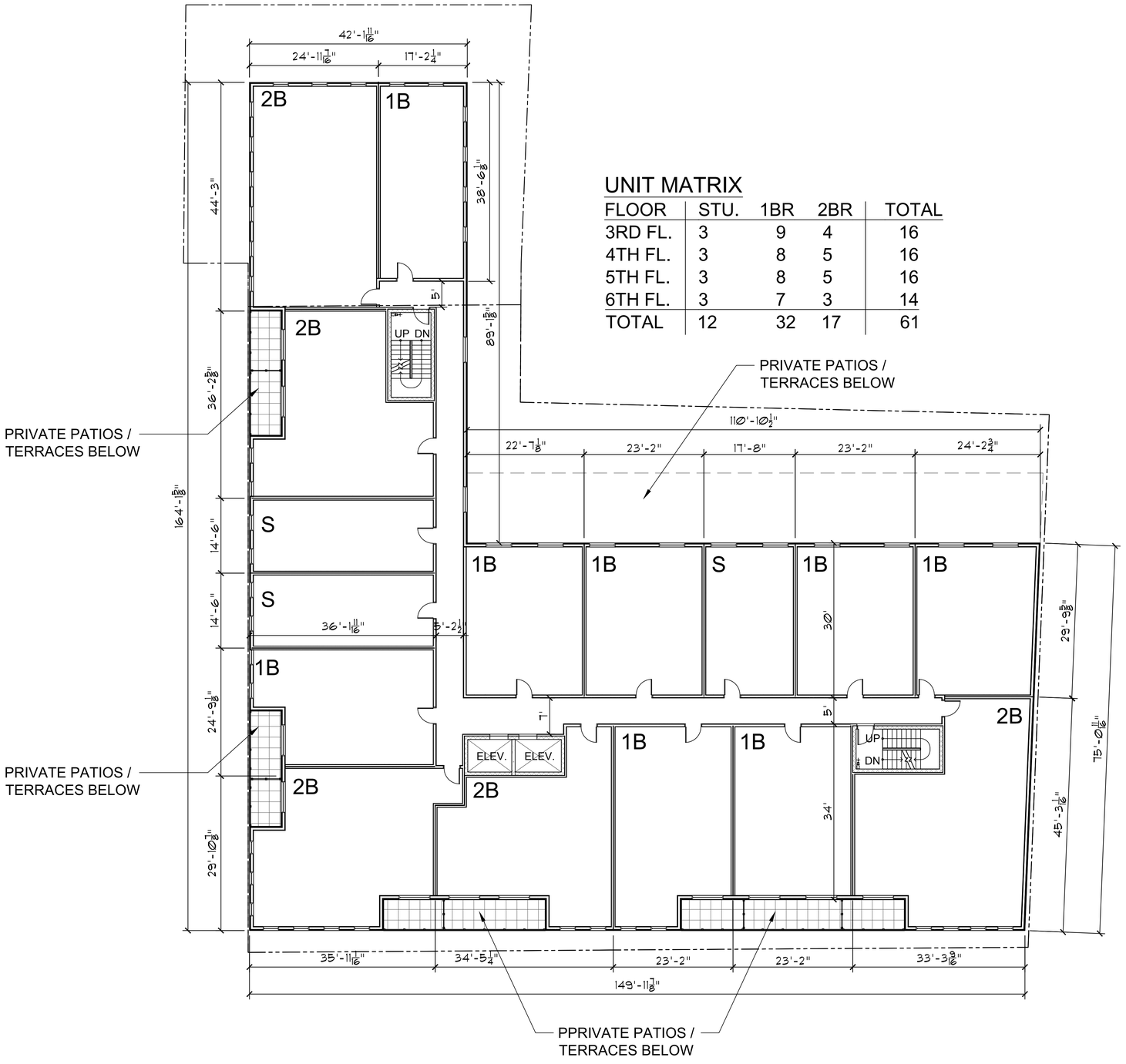
3RD FLOOR PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

A - 103

*NOTE: UNIT MIX AND
INTERIOR LAYOUT
SUBJECT TO CHANGE



UNIT MATRIX

FLOOR	STU.	1BR	2BR	TOTAL
3RD FL.	3	9	4	16
4TH FL.	3	8	5	16
5TH FL.	3	8	5	16
6TH FL.	3	7	3	14
TOTAL	12	32	17	61

HENRY & PACIFIC ST.

STAMFORD, CT

N

0 8 16'

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

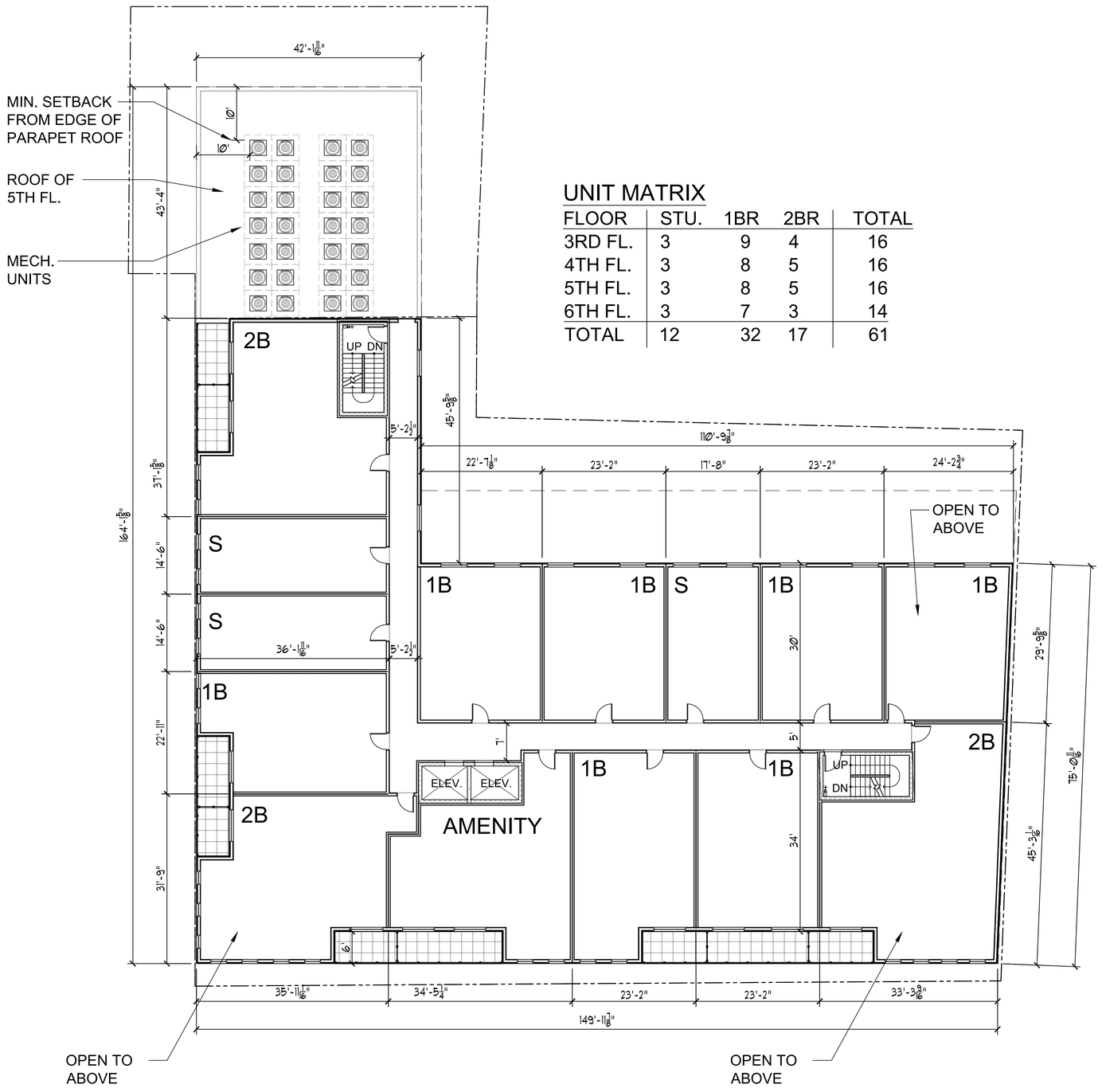
4TH - 5TH FLOOR PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

A - 104

*NOTE: UNIT MIX AND INTERIOR LAYOUT SUBJECT TO CHANGE



UNIT MATRIX

FLOOR	STU.	1BR	2BR	TOTAL
3RD FL.	3	9	4	16
4TH FL.	3	8	5	16
5TH FL.	3	8	5	16
6TH FL.	3	7	3	14
TOTAL	12	32	17	61

HENRY & PACIFIC ST.

STAMFORD, CT

N

0 8 16'

HOGG HOLDINGS

DO H. CHUNG & PARTNERS

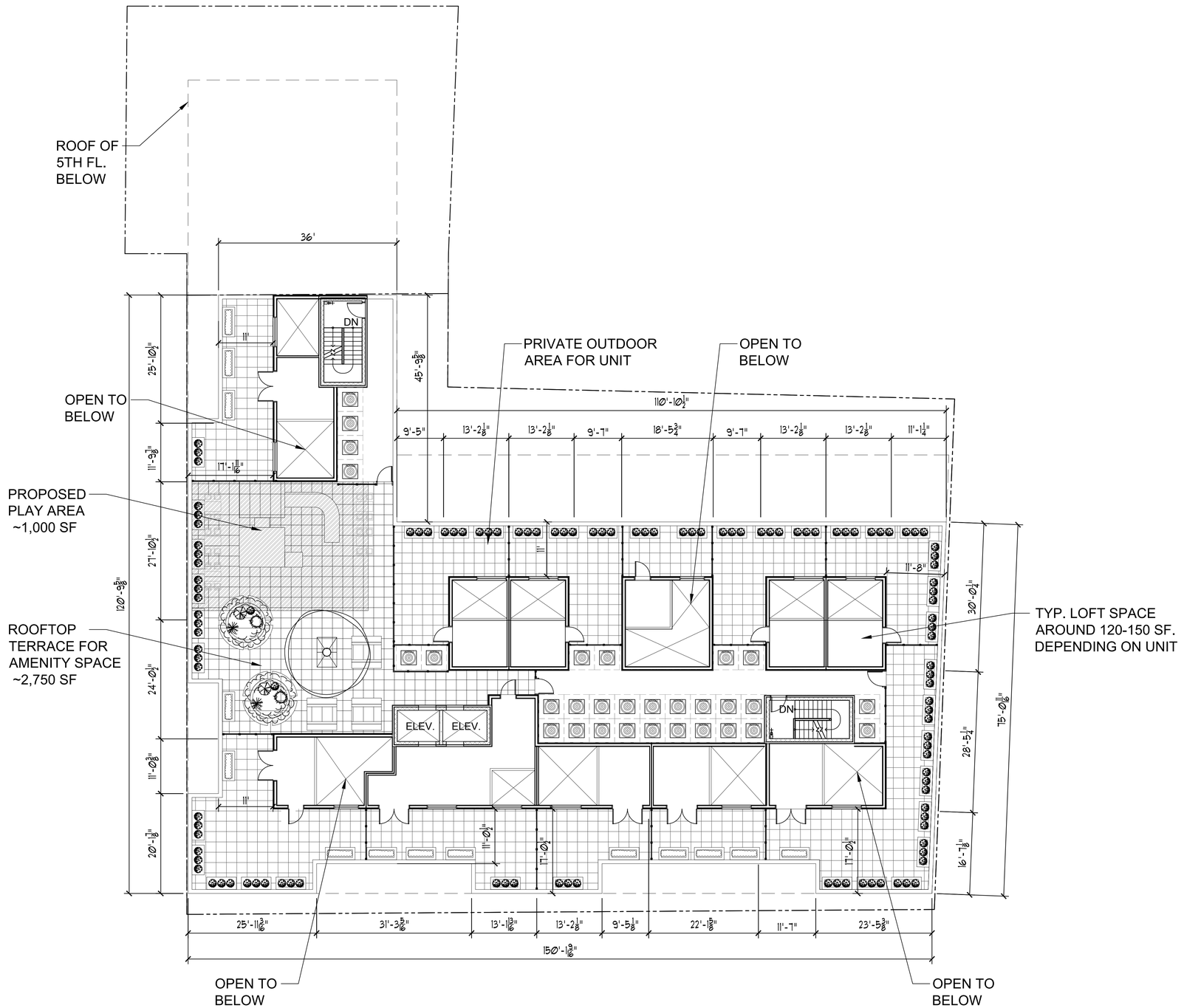
6TH FLOOR PLAN

S: 3/32" = 1'-0"

DATE: 1-10-2022

A - 105

*NOTE: UNIT MIX AND
INTERIOR LAYOUT
SUBJECT TO CHANGE



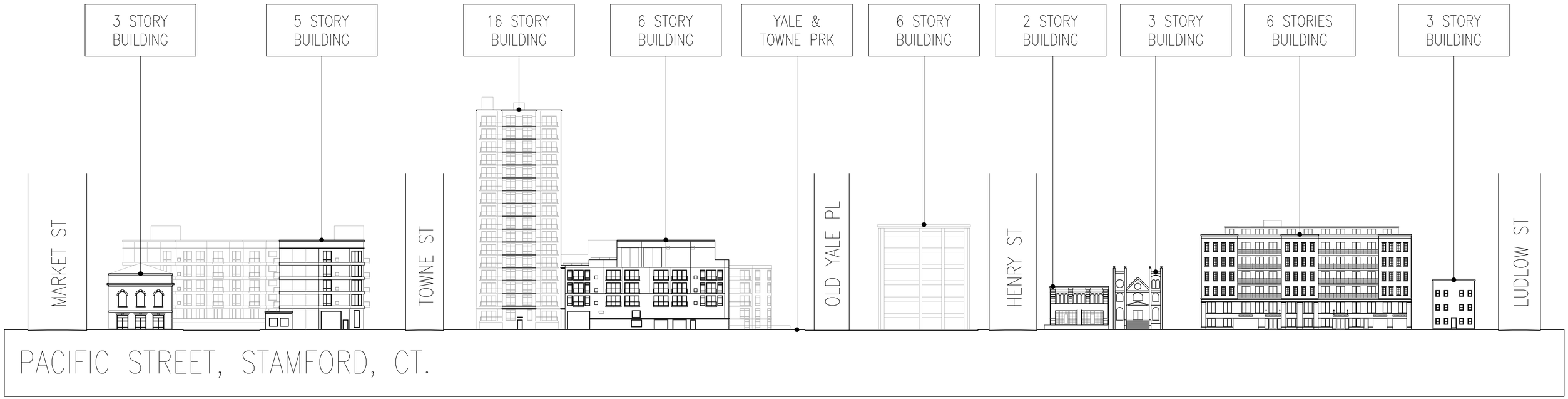
HENRY & PACIFIC ST.
STAMFORD, CT

N
0 8 16'

HOGG HOLDINGS
DO H. CHUNG & PARTNERS

ROOF PLAN
S: 3/32" = 1'-0"
DATE: 1-10-2022

A - 106



1 STREETSCAPE ELEVATION @ PACIFIC STREET
1/32"=1'-0"

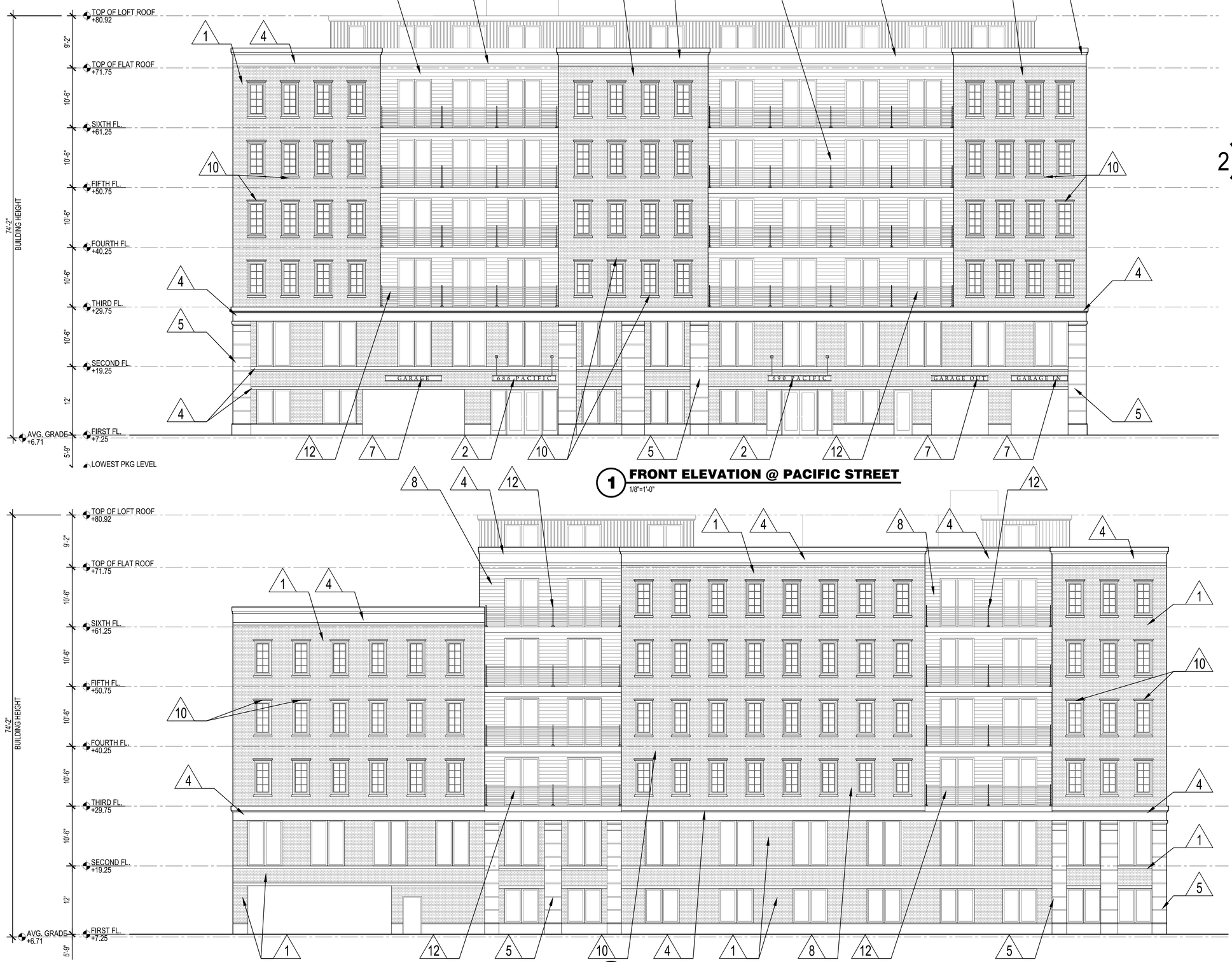
HENRY & PACIFIC ST.
STAMFORD, CT

0 16 32'

HOGG HOLDINGS
DO H. CHUNG & PARTNERS

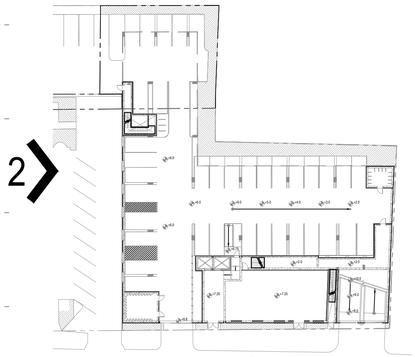
PROPOSED STREETSCAPE ELEVATION
S: 1/32" = 1'-0"
DATE: 1-10-2022

A - 200



1 **FRONT ELEVATION @ PACIFIC STREET**
1/8"=1'-0"

2 **NORTH ELEVATION**
1/8"=1'-0"



KEY PLAN

LEGEND

1 BRICK VENEER	7 METAL SIGNAGE
2 METAL CANOPY	8 LAP SIDING
3 BOARD & BATTEN SIDING	9 STO CREATIV BRICK
4 STONE FINISH CORNICE	10 STONE FINISH TRIM
5 CEMENTITIOUS STUCCO FINISH	4 AZEK BOARD AND TRIM
6 TEXTURED STUCCO FINISH	12 CABLE SYSTEM RAILING

HENRY & PACIFIC ST.

STAMFORD, CT

0 4 8'

HOGG HOLDINGS

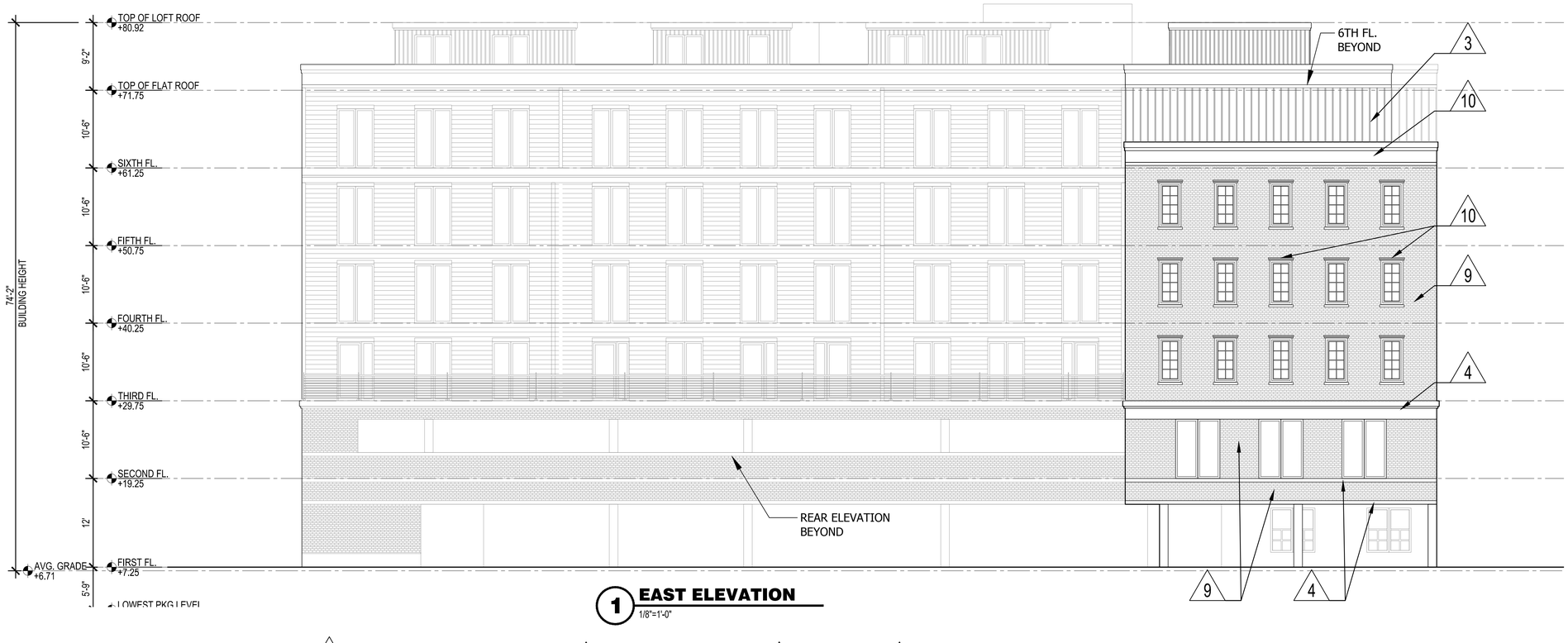
DO H. CHUNG & PARTNERS

ELEVATIONS

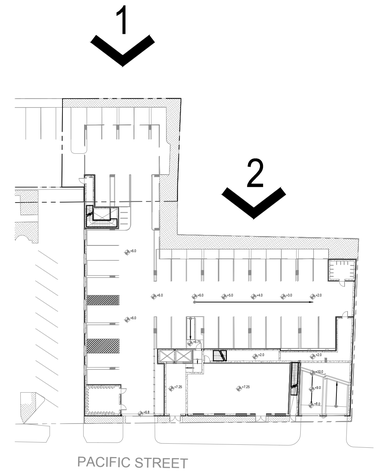
S: 1/8" = 1'-0"

DATE: 1-10-2022

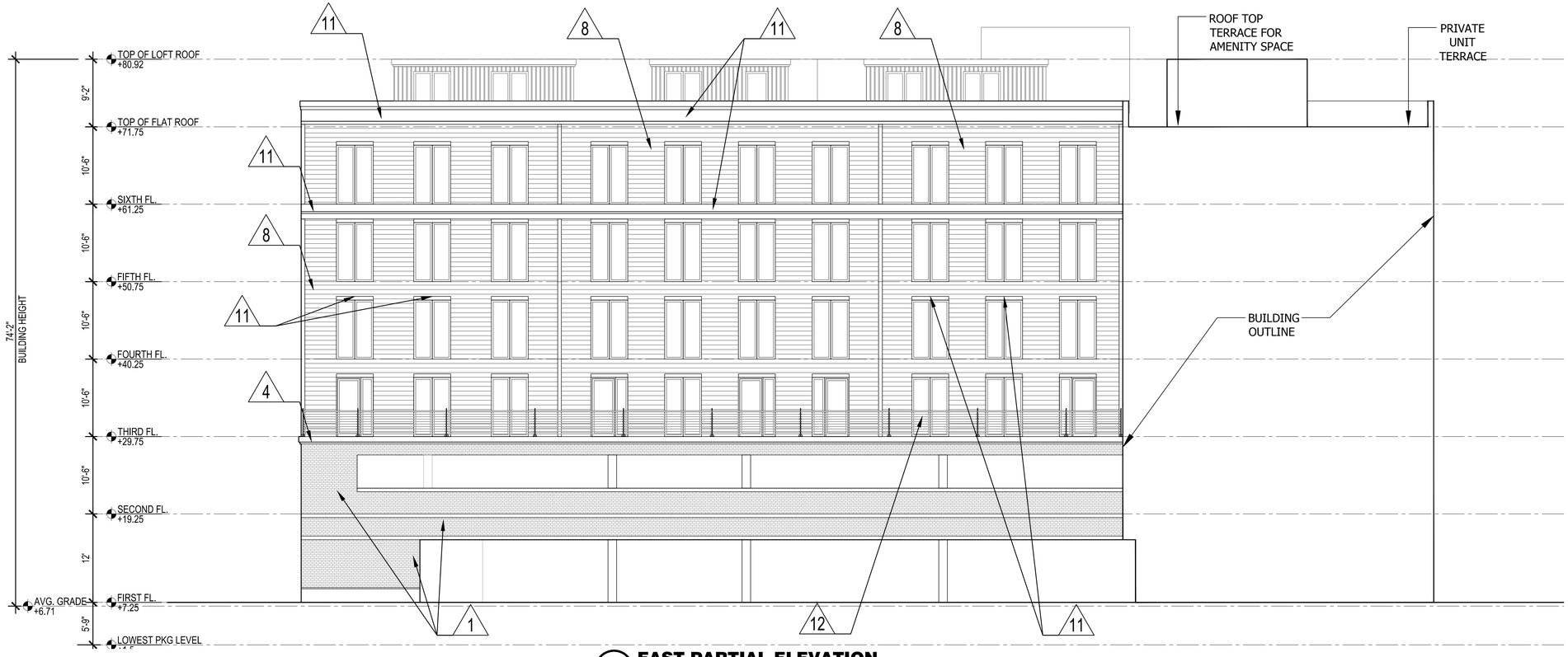
A - 201



1 EAST ELEVATION
1/8"=1'-0"



KEY PLAN



2 EAST PARTIAL ELEVATION
1/8"=1'-0"

LEGEND

1 BRICK VENEER	7 METAL SIGNAGE
2 METAL CANOPY	8 LAP SIDING
3 BOARD & BATTEN SIDING	9 STO CREATIV BRICK
4 STONE FINISH CORNICE	10 STONE FINISH TRIM
5 CEMENTITIOUS STUCCO FINISH	4 AZEK BOARD AND TRIM
6 TEXTURED STUCCO FINISH	12 CABLE SYSTEM RAILING

HENRY & PACIFIC ST.

STAMFORD, CT

0 4 8'

HOGG HOLDINGS

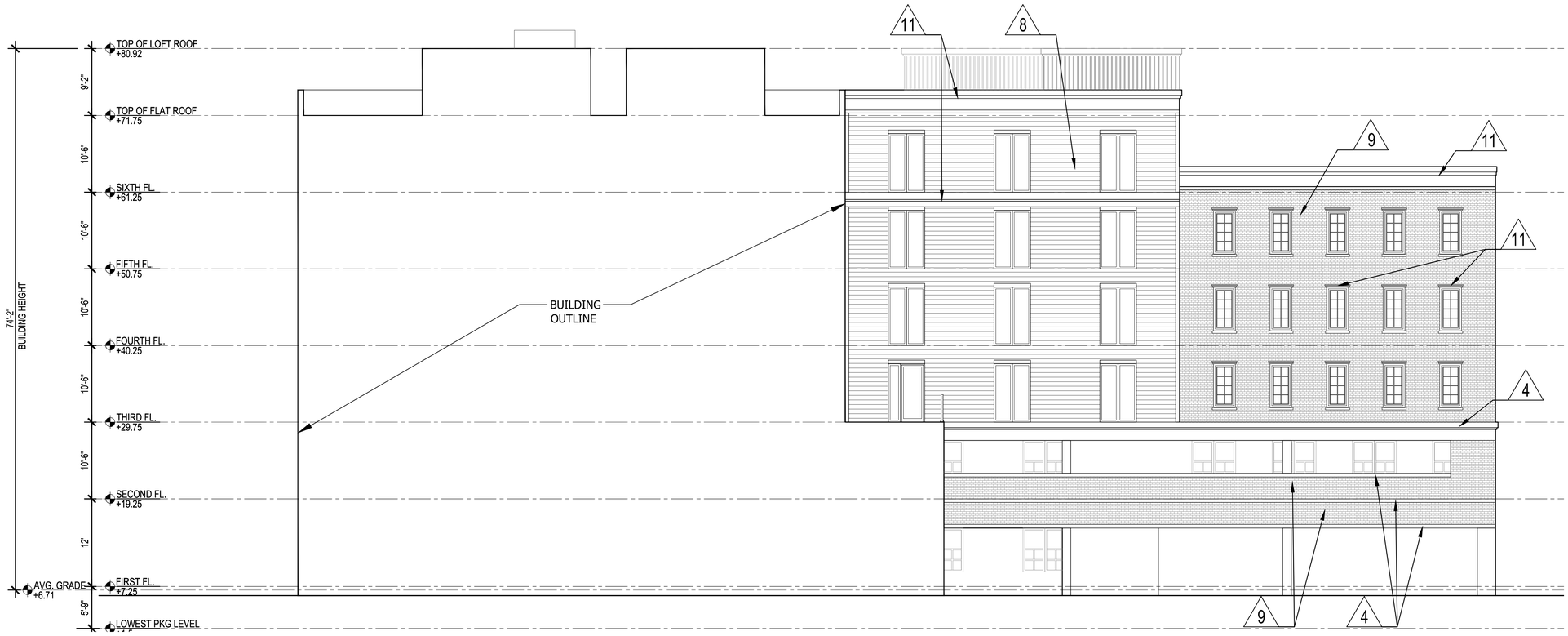
DO H. CHUNG & PARTNERS

ELEVATIONS

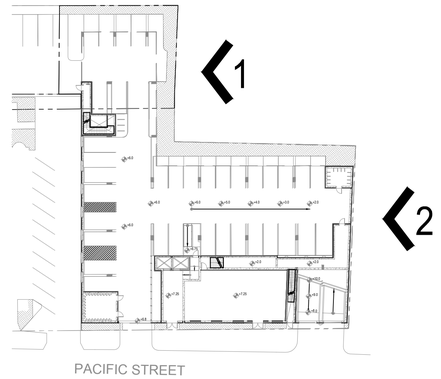
S: 1/8" = 1'-0"

DATE: 1-10-2022

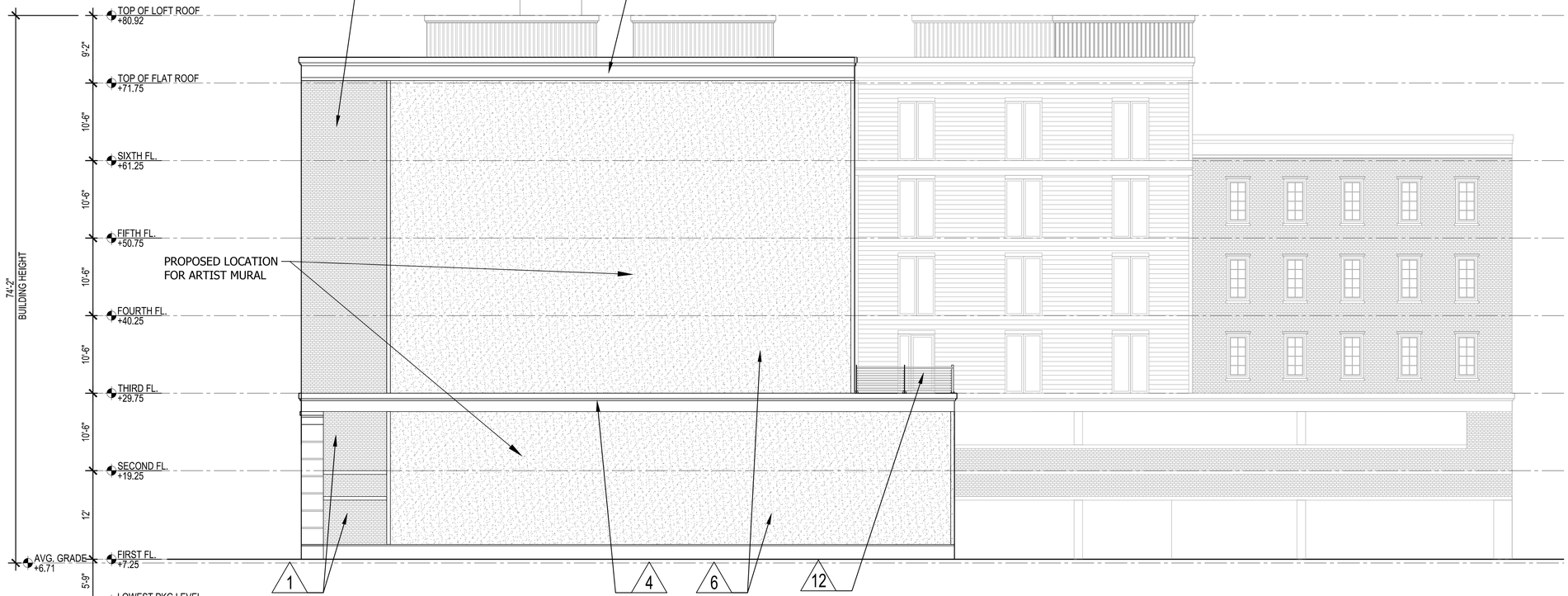
A - 202



1 SOUTH PARTIAL ELEVATION
1/8"=1'-0"



KEY PLAN



2 SOUTH ELEVATION
1/8"=1'-0"

LEGEND

1 BRICK VENEER	7 METAL SIGNAGE
2 METAL CANOPY	8 LAP SIDING
3 BOARD & BATTEN SIDING	9 STO CREATIV BRICK
4 STONE FINISH CORNICE	10 STONE FINISH TRIM
5 CEMENTITIOUS STUCCO FINISH	4 AZEK BOARD AND TRIM
6 TEXTURED STUCCO FINISH	12 CABLE SYSTEM RAILING

HENRY & PACIFIC ST.
STAMFORD, CT

0 4 8'

HOGG HOLDINGS
DO H. CHUNG & PARTNERS

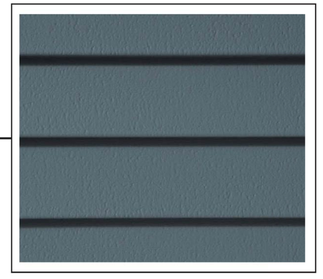
ELEVATIONS
S: 1/8" = 1'-0"
DATE: 1-10-2022

A - 203

THIN BRICK

PANELIZED
STONE
CORNICE

CERTAINTEED
LAP SIDING
PACIFIC BLUE



FRAMED METAL
WITH MESH INSERTS

CEMENTITIOUS
STUCCO

METAL CANOPY &
STOREFRONT WINDOWS

ALUMINUM CABLE WIRE
RAILINGS

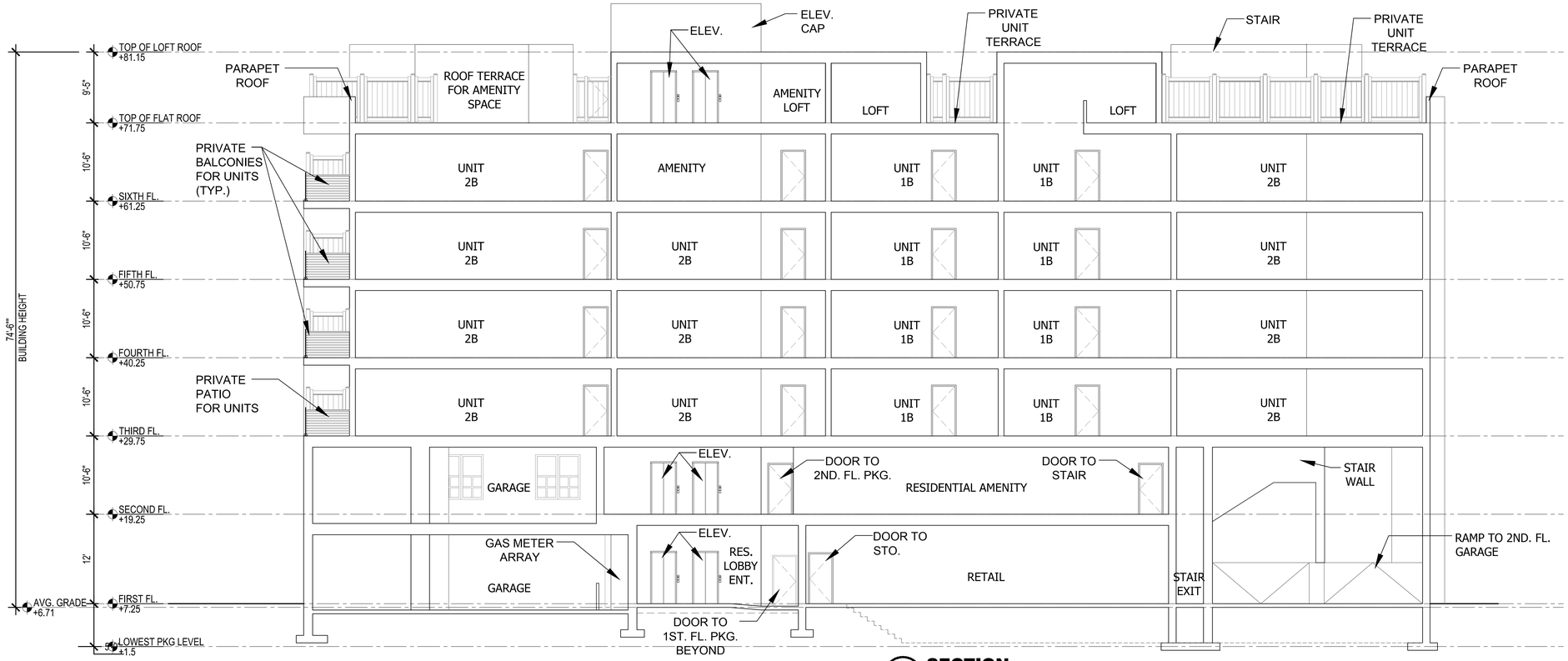
HENRY & PACIFIC ST.
STAMFORD, CT

0 4 8'

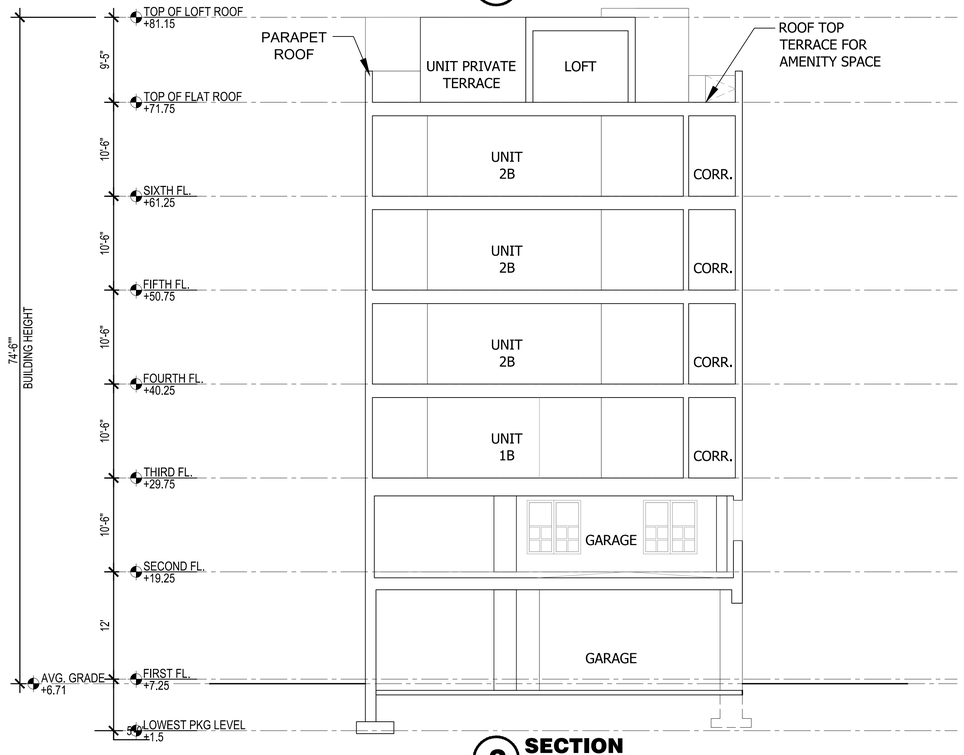
HOGG HOLDINGS
DO H. CHUNG & PARTNERS

FINISH & MATERIALS
S: ⅛" = 1'-0"
DATE: 12-30-2021

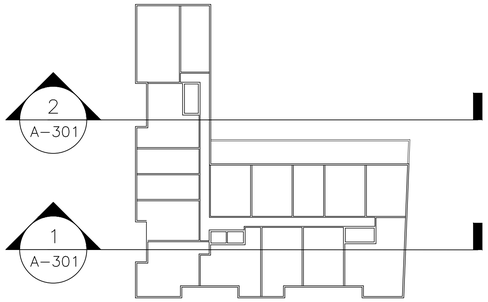
A - 210



1 SECTION
1/8"=1'-0"



2 SECTION
1/8"=1'-0"



KEY PLAN

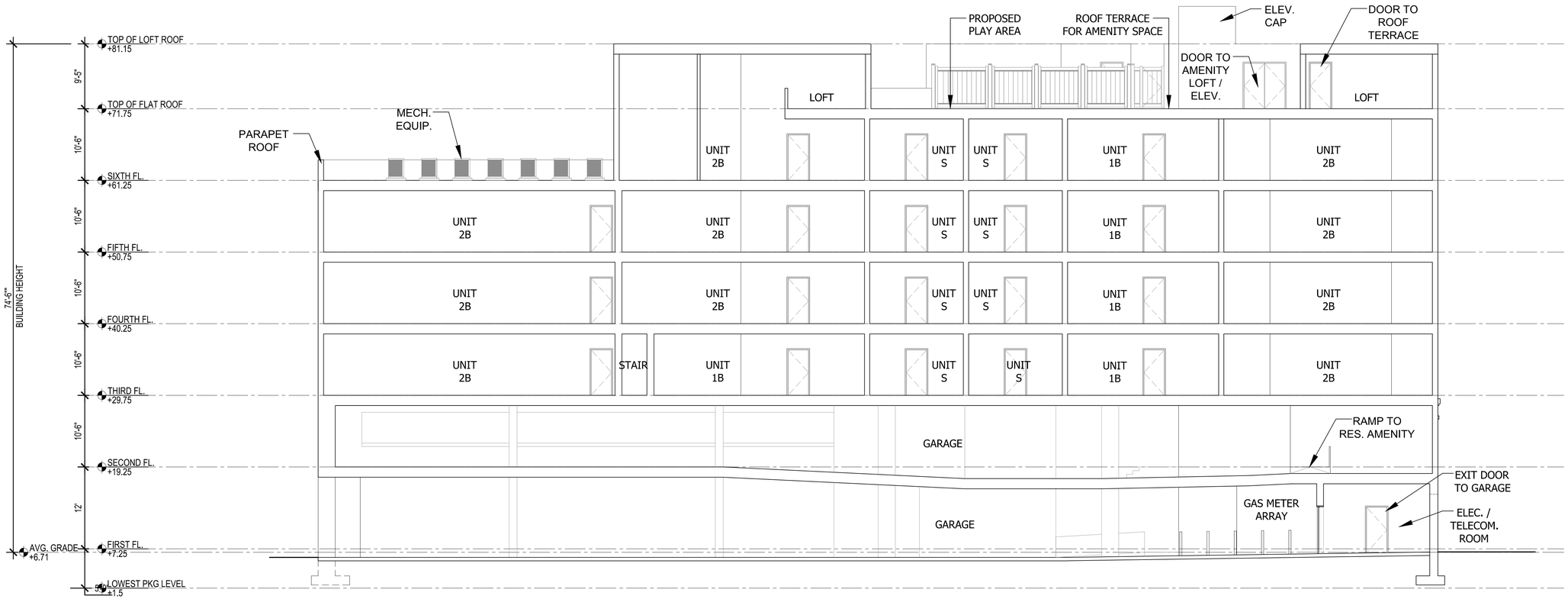
HENRY & PACIFIC ST.
STAMFORD, CT

0 4 8'

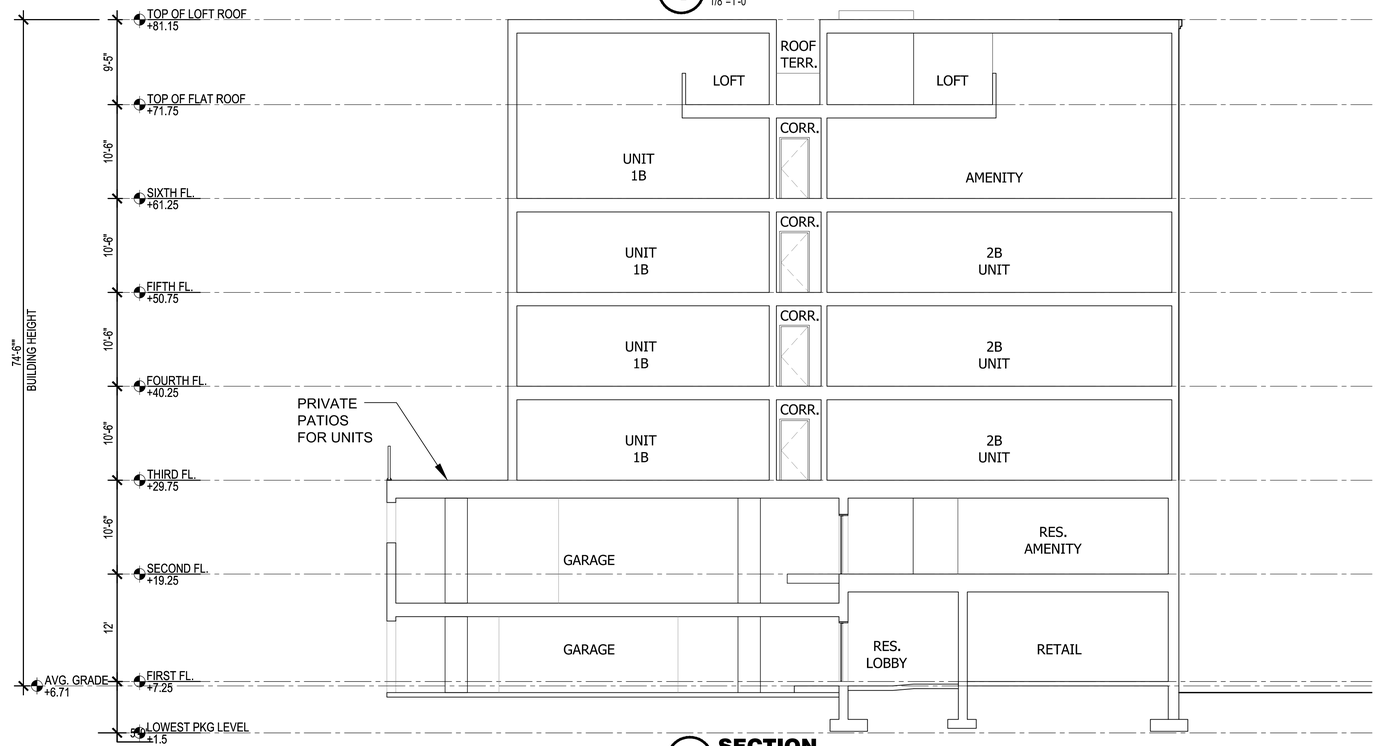
HOGG HOLDINGS
DO H. CHUNG & PARTNERS

TYP. SECTIONS
S: 1/8" = 1'-0"
DATE: 10-8-2021

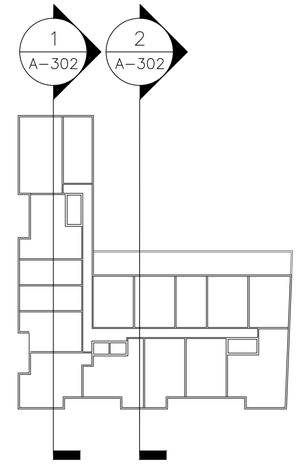
A - 301



1 SECTION
1/8"=1'-0"



2 SECTION
1/8"=1'-0"



KEY PLAN

HENRY & PACIFIC ST.

STAMFORD, CT

0 4 8'

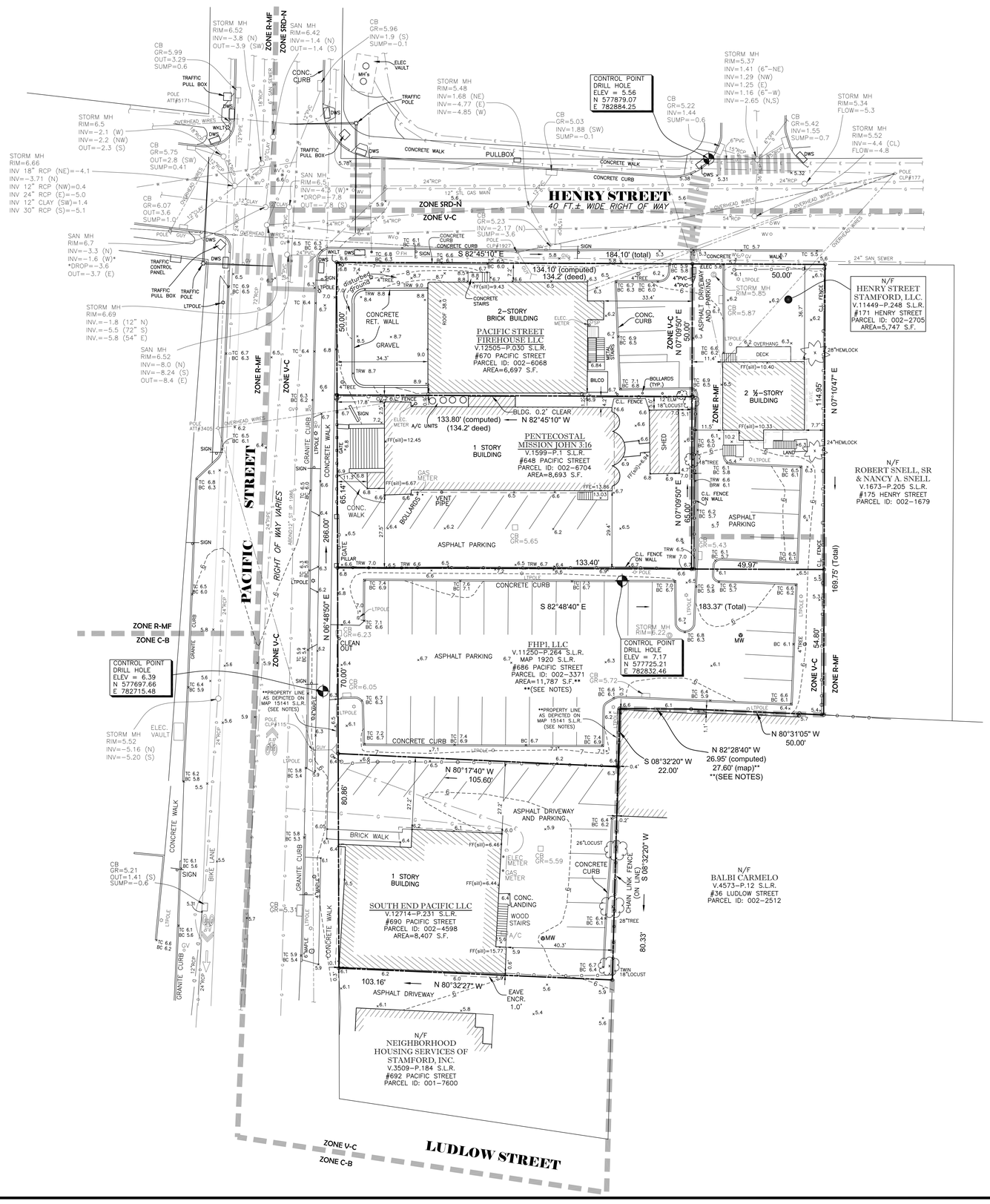
HOGG HOLDINGS
DO H. CHUNG & PARTNERS

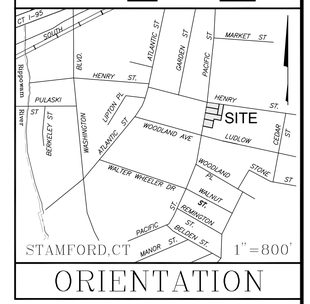
TYP. SECTIONS
S: 1/8" = 1'-0"
DATE: 10-8-2021

A - 302

LEGEND

	PROPERTY LINE
	CURB LINE
O ——— O ——— O	CHAIN LINK FENCE
□ ——— □ ——— □	STOCKADE FENCE
GM	GAS METER
WV	WATER VALVE
FH	FIRE HYDRANT
GV	GAS VALVE
MW	MONITORING WELL
DWS	DETECTABLE WARNING STRIP
POLE CLP#12345	UTILITY POLE
	CONCRETE WALL
o.h.w.'s	OVERHEAD WIRES
SAN MHO	SANITARY MANHOLE
STORM MHO	STORM MANHOLE
CB	CATCH BASIN
LTPOLE	LIGHT POLE
ELEC MHO	ELECTRIC MANHOLE
D	UNDERGROUND STORM LINE
S	UNDERGROUND SANITARY LINE
G	UNDERGROUND GAS LINE
W	UNDERGROUND WATER LINE
T ——— T ———	UNDERGROUND TELEPHONE LINE
173.2	BC=Bottom Curb TC=Top Curb BRW=Bottom Wall TRW=Bottom Wall SPOT ELEVATION
10	CONTOURS
DECIDUOUS	TREES (SIZE AND TYPE AS SHOWN)
EVERGREEN	TREES (SIZE AND TYPE AS SHOWN)
	ZONE LINE





NORTH - CT Coord. System

NOTES:

1. This survey has been prepared in accordance with Sections 20-300b-1 thru 20-300b-20 of the Regulations of Connecticut State Agencies and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. as a Property and Topographic Survey the Boundary Determination Category of which is a Resurvey conforming to Horizontal Accuracy Class A-2 and the locations and elevations of which conform to Topographic Accuracy Class T-2. It is intended to depict property boundaries, locations and elevations of improvements and topographic features on the property.

2. Total area of surveyed parcels = 41,331 S.F. (0.9488 acres).
   a. 648 Pacific Street (Parcel ID: 002-6704) = 8,693 S.F.
   b. 670 Pacific Street (Parcel ID: 002-6068) = 6,697 S.F.
   c. 686 Pacific Street (Parcel ID: 002-3371) = 11,787 S.F.
   d. 690 Pacific Street (Parcel ID: 002-4598) = 8,407 S.F.
   e. 171 Henry Street (Parcel ID: 002-2705) = 5,747 S.F.

3. Reference is made to Maps 214, 1920 and 15141 of the Stamford Land Records (S.L.R.).

4. Elevations depicted hereon are based on the North American Vertical Datum of 1988 (NAVD-88).

5. Reference is made to Zoning Board Certificates recorded in Vol 12244 at Pg 102, Vol. 12244 at Pg. 105 and Vol. 12247 at Pg. 160 S.L.R.

6. Reference is made to Easements, Declaration of Covenants, and Declaration of Preservation Restrictions recorded in Vol. 12505 at Pg. 33 S.L.R.

7. Reference is made to instruments of record as labeled hereon.

8. Reference is made to FEMA Flood Insurance Rate Map Commmunity City of Stamford, Number 090015, Panel 0516 Suffix G. Map revised July 8, 2013. Subject properties do not lie within a Special Flood Hazard Zone.

9. Reference is made to a map titled "Property Survey Depicting An Adjustment of Lot Lines Between 686 Pacific St. and 171 Henry St. - Stamford, Connecticut - Prepared For Building And Land Technology", dated 8/8/2020 and prepared by Redniss and Mead, Inc.; and recorded in the Stamford Land Records as Map 15141 S.L.R.. Boundary information denoted with an asterisk (*) on this survey differ from those in the above-referenced survey due to additional physical evidence discovered while conducting this survey.

10. Reference is made to Zoning Board Certificate recorded in Vol. 12730, Pg. 171 S.L.R. Application 221-07 Amendment of Zoning Map. Properties known as 648, 670, 686 , 690 & 692 Pacific Street and a portion of 171 Henry Street rezoned to Zone V-C.

No.	By	Date	Revision Note
1	CJP	10/1/2021	Updated Zones information; changed elevation datum to NAVD-88

PROPERTY & TOPOGRAPHIC SURVEY

DEPICTING

648, 670, 686 & 690 Pacific Street and 171 Henry Street

STAMFORD, CONNECTICUT

PREPARED FOR

HOGG HOLDINGS

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

Scale: 1"=20' (0, 20, 40)

Drawn By: | Checked By: | Date: 04/22/2021

To my knowledge and belief, this map is substantially correct as noted hereon.

CESAR J. POLONIA (CT. L.S. #70256
10/1/2021
DATE

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Sheet No: PSTS

Comm. No.: 6546Z-2

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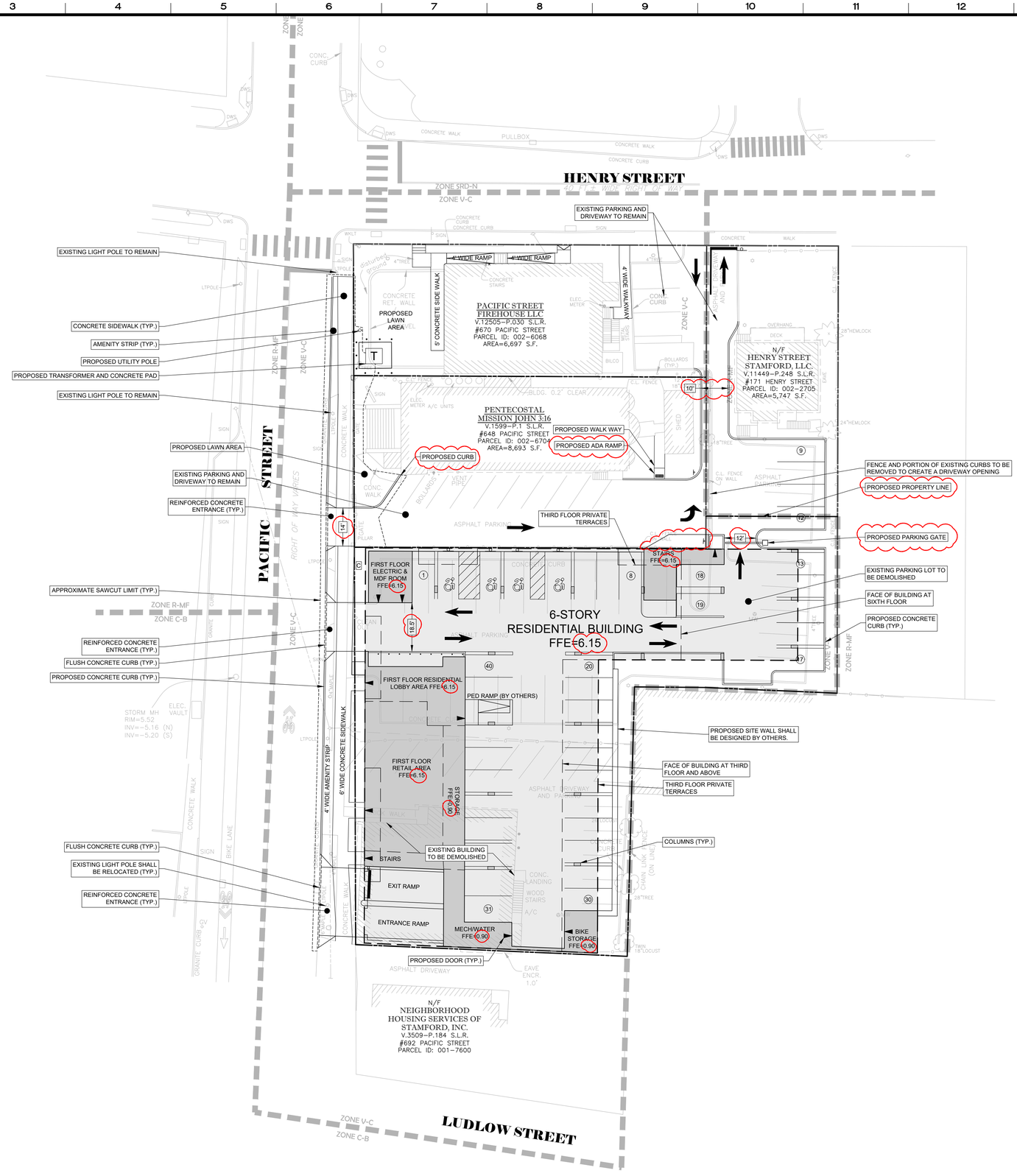

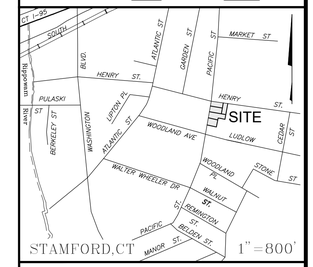

No.	Date	Revision
3	01/07/2022	REVISED PER ENGINEERING COMMENTS
2	10/18/2021	ISSUED FOR COORDINATION
1	10/08/21	ZONING SUBMISSION

SITE DEVELOPMENT PLAN
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: JWB | CHECKED BY: BDH

ROBERT D. HOLZWARTH CT. P.E. 27812

January 7, 2022
DATE

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SHEET No: SE-1

Comm. No.: 6546Z

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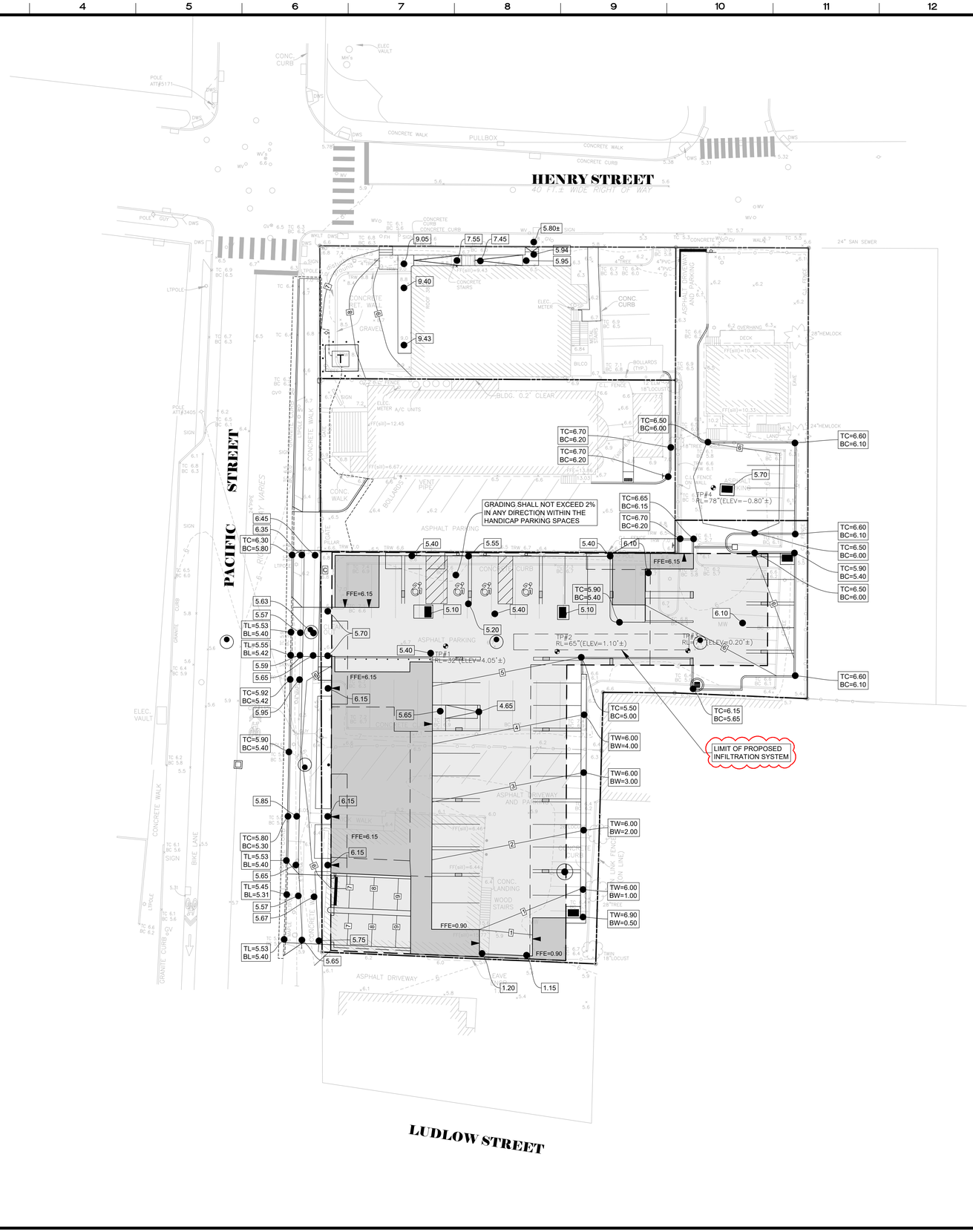

ALL CONTOURS, SPOT ELEVATIONS, AND PROPOSED GRADING HAVE BEEN REVISED FROM NGVD-29 TO NAVD-88

No.	Date	Revision
3	01/07/2022	REVISED PER ENGINEERING COMMENTS
2	10/18/2021	ISSUED FOR COORDINATION
1	10/08/21	ZONING SUBMISSION

SITE GRADING PLAN
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: JWB | CHECKED BY: BDH

ROBERT D. HOLZWARTH CT. P.E. 27812

January 7, 2022
DATE

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SHEET No: SE-2

Comm. No.: 6546Z

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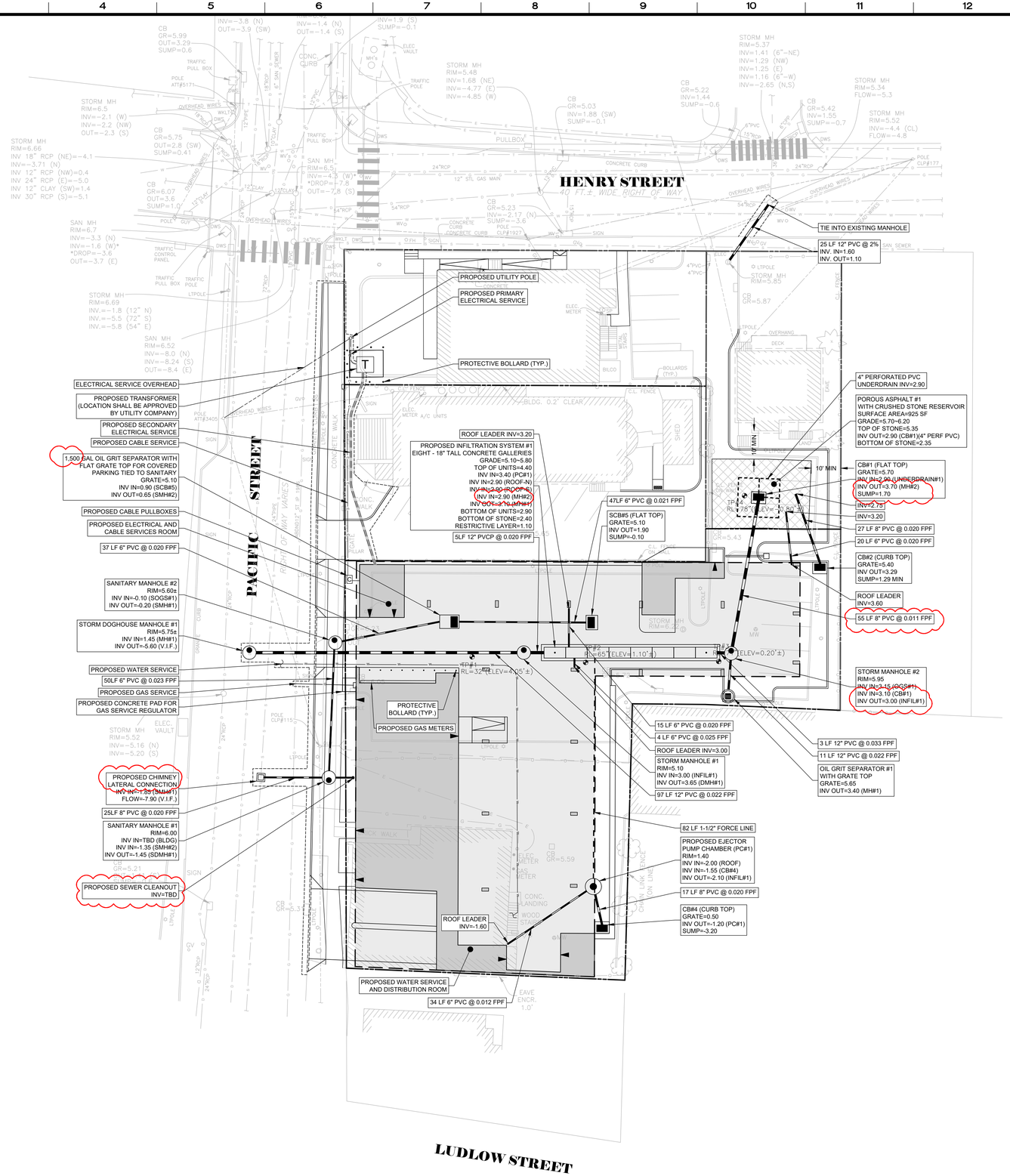

No.	Date	Revision
3	01/07/2022	REVISED PER ENGINEERING COMMENTS
2	10/18/2021	ISSUED FOR COORDINATION
1	10/08/21	ZONING SUBMISSION

SITE UTILITY PLAN

DEPICTING

648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET

STAMFORD, CT

PREPARED FOR

HOGG HOLDINGS

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: JWB | CHECKED BY: BDH

BRETT D. HOLZWARTH CT. P.E. 27812

January 7, 2022

DATE

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SHEET No:

SE-3

Comm. No.: 6546Z

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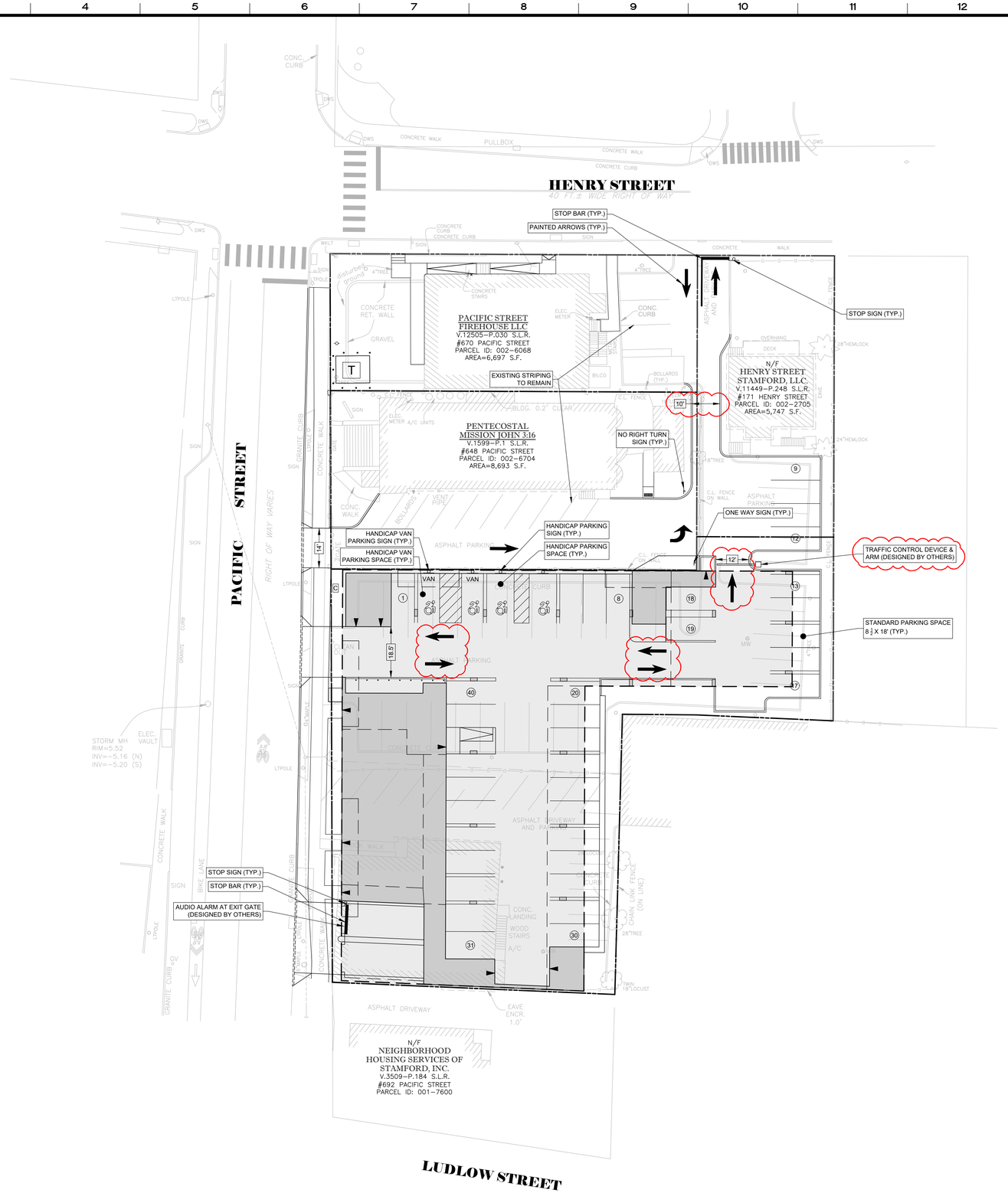
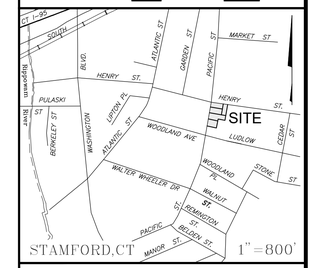


BLOCK: 87 ZONE: V-C



ORIENTATION

No.	Date	Revision
3	01/07/2022	REVISED PER ENGINEERING COMMENTS
2	10/18/2021	ISSUED FOR COORDINATION
1	10/08/21	ZONING SUBMISSION

SIGNAGE & MARKINGS PLAN
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: JWB | CHECKED BY: BDH

ROBERT D. HOLZWARTH CT. P.E. 27812

January 7, 2022
DATE

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SHEET No: SE-4

Comm. No.: 6546Z

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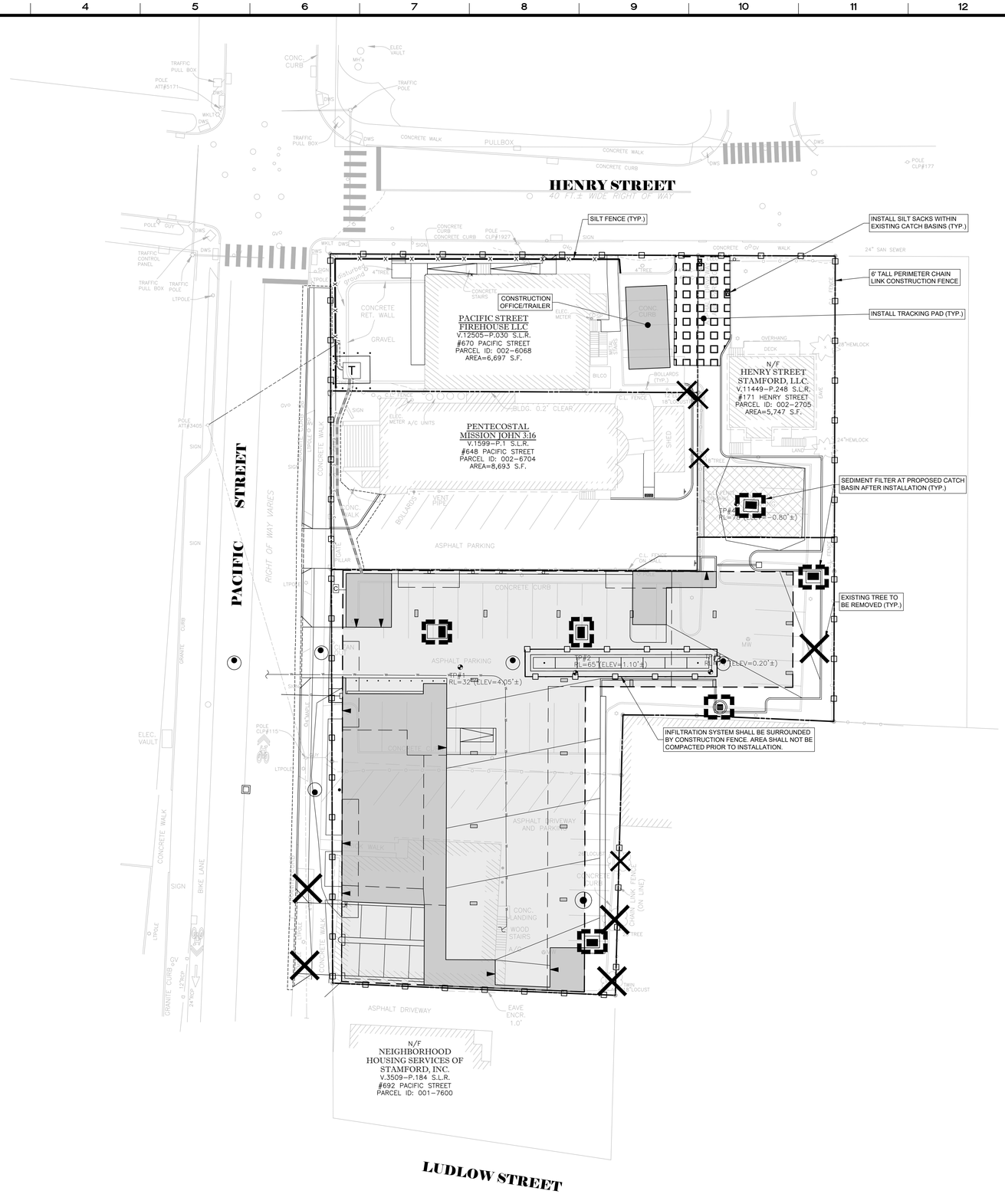

No.	Date	Revision
3	01/07/2022	REVISED PER ENGINEERING COMMENTS
2	10/18/2021	ISSUED FOR COORDINATION
1	10/08/21	ZONING SUBMISSION

SEDIMENT & EROSION CONTROL PLAN
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: JWB | CHECKED BY: BDH

BRET D. HOLZWARTH CT. P.E. 27812

January 7, 2022
DATE

Unauthorized alterations render any declaration hereon null & void.

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SHEET No: SE-5

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GENERAL NOTES:

1. These drawings are intended only to depict the design of site GRADING, PAVING, DRAINAGE, SANITARY, UTILITIES, SEDIMENT & EROSION CONTROLS. These drawings are for approval purposes only. No construction may begin prior to obtaining all necessary permits and approvals.
2. All survey data, boundary lines, topography, building locations and area calculations are from a survey prepared by this office entitled PROPERTY & TOPOGRAPHIC SURVEY dated October 1, 2021. Elevations depicted or labeled are based on NAVD-88.
3. Refer to drawings by DO H Chung & Partners for information regarding the proposed building.
4. Refer to plans prepared by Hogg Holdings, LLC. for information and design of the proposed buildings. These drawings depict site plans corresponding to the latest architectural plans received from Hogg Holdings, LLC. received on October 1, 2021.
5. Property lies in V-C zones and R-MF zone.
6. The property lies within the FEMA FLOOD ZONE-X. Flood zones as shown on the Flood Insurance Rate Map Community No. 090015 Panel 0516 Suffix G, effective date July 8, 2013.
7. All construction shall comply with the CITY of Stamford requirements, the State of Connecticut Basic Building Code Americans with Disabilities Act (ADA), the Connecticut Guidelines for Soil and Erosion and Sediment Control, OSHA, CT DOT Form 818 (latest edition), and FEMA Flood Regulations.
8. All development activities to be undertaken within the street right-of-way and other public lands shall comply fully with CITY standards unless approved deviation is specifically set forth as part of this application. All work within the State right-of-way will comply with the CT DOT Form 818 with the latest special Provisions and Typical State Standard Details.
9. Contractor shall supply complete shop drawings including manufacturer's product data sheets to the Site Engineer, for all construction material used in conjunction with these drawings. Contractor shall allow a 5 day review period, prior to fabrication and installation.
10. Information on existing utilities has been compiled from various sources including utility company records, municipal record maps and field survey and is not guaranteed to be correct or complete. The contractor is solely responsible for determining actual locations and elevations of all utilities including underground services.
11. The property shall be served by public water and sewers.
12. Prior to any excavation the Contractor and/or Applicant, in accordance with Public Act 77-350, shall be required to contact "Call Before You Dig" at 1-800-922-4455 for mark-out of underground utilities. Dig test pit(s) at utility crossing(s) to check actual clearances with new utilities prior to construction. If conflicts are found the contractor shall notify the engineer, at which time the sewer in question shall be redesigned. If such redesign is not possible, the existing pipes or utilities shall be relocated to avoid the conflict. Such relocation shall be done with knowledge of and in accordance with the owner of the utility.
13. It shall be the responsibility of the contractor to provide any excavation safeguards, necessary barricades, flagmen, etc., for traffic control and site safety. All work shall be done in accordance with OSHA requirements. The contractor shall be responsible for compliance with OSHA requirements.
14. When preparing the existing site for the proposed development, all materials removed shall be disposed of in conformance with all governing agencies.
15. Remove stumps and brush from site, or chip and use during landscaping. Do not bury stumps on site.
16. Building elevations are subject to change and shall be finalized prior to building permit.
17. Special attention of the contractor is called to the required type and compaction of pipe bedding and backfill specified on these drawings. These requirements will be strictly enforced.
18. Prior to issuance of a Certificate of Occupancy, the Engineering Bureau may require a certification letter stating that the development was constructed in accordance to the approved plans, and an "as-built" drawing shall be submitted
19. The Contractor is responsible for coordinating with a licensed surveyor to prepare an "as-built" plan. The Contractor is responsible to coordinate with a site engineer 48 hours prior to any inspections.
20. The Engineering Bureau and the inspecting engineer shall be notified by the contractor three (3) days prior to the commencement of each phase of construction.
21. The work shall be done in conformance with the contract documents/plans unless changes have been approved in writing by the design engineer prior to the work being done.
22. No pool back wash water may be discharged into or adjacent to inland wetland and watercourse areas per the Health Department regulations.
23. A preconstruction meeting shall be held with the Owner, Architect and Engineer to review the scope of construction. The Contractor shall be responsible to coordinate the preconstruction meeting.

EARTHWORK & GRADING:

24. Grade away from building walls at 2% minimum (typical).
25. Earth slopes shall be no steeper than 2:1 (horz.:vert.)
26. No work shall commence until erosion controls have been inspected and approved by the EPB or their designee(s).
27. General fill beyond paved areas shall be free of brush rubbish, stumps and stones larger than 8". Fill shall be placed in compacted layers not to exceed 8" in thickness. The dry density after compaction shall not be less than 95% of the Standard Proctor Test and done in accordance with the requirements of ASTM D698. After compacting, the fill shall be 4" below the required grade as shown on the plan.
28. Subgrade and fill shall be uniformly compacted by the use of equipment manufactured for that purpose. Rollers shall deliver a ground pressure of not less than 300 pounds per linear inch of contact width and weigh not less than 10 tons. Vibratory units shall have a static weight of not less than 4 tons. The amount of compactive effort shall be as directed by the Engineer, but in no case shall be less than 4 complete passes of the compacting equipment being used.
29. Disturbed areas shall be top soiled, seeded with grass and mulched in a manner conforming to the recommendations of the "Guidelines for Soil Erosion and Sediment Control", published by The Connecticut Council on Soil and Water Conservation, May 2002.
30. After the areas to be topsoiled have been brought to grade, the subgrade shall be loosened by scarifying to a depth of at least 2" to ensure bonding of the topsoil and subsoil.
31. Fill or topsoil shall not be placed nor compacted while in a frozen or muddy condition or while subgrade is frozen.
32. Excavation for pipes or concrete pavement repair may require either a braced excavation or open cut designed according to the requirements of OSHA, 29 CFR Part 1926. The lateral support systems and slopes should also be designed such that building footings, slabs on grade, adjacent pavement and existing ut ilities are protected and supported and not allowed to settle. The contractor shall be responsible for having a Professional Engineer, registered in the State of Connecticut design the excavation support method. The designs shall be submitted to the owner or his geotechnical engineer for review. The contractor shall submit plans showing the type, limits, design and sequence of construction for the lateral support system.
33. During the excavation, it is anticipated that existing utilities and sewers may be exposed. The contractor shall provide protection and support of these facilities and repair any damage caused by the work in a manner satisfactory to the owner. The condition of the existing facilities shall be observed by the owner's representative who shall determine if the facilities shall be replaced. Replacement of the facilities shall be done in a manner satisfactory to the owner and in compliance with applicable Codes.

STORM AND SANITARY SEWER SYSTEMS:

34. All pipe shall be installed straight and at the vertical and horizontal alignment shown. Pipes shall have a uniform slope as specified.
35. Minimum cover on all pipes shall be two feet (2') unless otherwise noted.
36. All storm pipe specified as Poly Vinyl Chloride Pipe (PVCP) shall be SDR 35 with rubber gasketed joints and meet the requirements of ASTM D3034 and D3212.
37. All sanitary sewer pipe shall be Poly Vinyl Chloride Pipe (PVCP) and shall be Schedule 40 with solvent weld joints.
38. Dig test pits at utility and sewer crossings to check actual clearances with these facilities prior to construction. Dig test pits at the connection points to existing sanitary sewer pipes to confirm that the elevation of the proposed gravity sewer is appropriate. If conflicts are found the contractor shall notify the engineer at which time the sewer in question shall be redesigned. If such redesign is not possible, the existing pipes or utilities shall be relocated to avoid conflict.
39. All catch basins and area drains shall have a two foot (2') sump with bell traps or 90° PVC elbows.
40. Manhole diameters listed are minimum sizes and are assumed to be 4' inside diameter. If precast manholes are used, larger manholes must be used if recommended by the manufacturer.
41. All existing and proposed catch basins, manhole rims and utility facilities shall be raised or lowered to be flush with finished grade.
42. Locate and abandon existing sanitary laterals at the property line with the end capped and mortared. Other existing utilities shall be abandoned in accordance with the requirements of the utility owner(s).
43. When connecting new pipes to existing structures such as manholes and catch basins, the structure shall be completely cleaned out. The hole made in the structure shall be made as small as possible. The structure shall be repaired to match its original type of construction. The joint between the structure and the pipe shall be made watertight by filling the joint with mortar.
44. Flow in existing sewer system must not be interrupted. Any temporary routing of this sewer flow must be done in conformance with all applicable rules and regulations.
45. Under no circumstances shall trench water be allowed to drain off through sanitary sewer lines.
46. All crushed stone shall be Gradation No. 4 as per CT DOT Form 818, Article M.01.02. Stone shall consist of sound, tough, durable particles free from soft, thin, elongated, laminated, friable, micaceous, or disintegrated pieces of mud, dirt or other deleterious material.
47. The storm and sanitary sewer shall be encased in concrete for a distance of 10 feet on either side of any intersection between the sanitary sewer and storm sewer. Where concrete encasement is required, temporarily support the pipes in place. Use sufficient concrete to encase piping not less than 6 inches at all points. The encasement shall be adequately supported with a stone base and shall be keyed into the foundation wall to prevent damage from settlement.
48. Sanitary Sewer Testing: The sanitary sewer line shall be Low Pressure Air Tested, at the expense of the contractor; Testing to be in accordance with recommended procedure in "Unibell's" "Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe" UNI B-6. The minimum starting pressure for the test is 3.5 P.S.I. (in excess of the groundwater pressure at the top of the pipe) and there shall be no more than 0.5 P.S.I. drop in five (5) minutes. Manholes to be visually inspected. Lateral plugs shall be airtight to allow proper testing. Inspecting Engineer and the Engineering Bureau shall be informed of testing schedule three days in advance so they can witness the testing.
49. At the end of construction, after the site has be fully stabilized, all new and previously existing storm sewer facilities including, but not limited to, catch basins, area drains, manholes, junction boxes, flow control structures, pipes, oil grit separators, permeable pavers and porous pavement shall be fully cleaned with equipment designed for that purpose to the satisfaction of the inspecting engineer.

STORM WATER INFILTRATION SYSTEM:

50. All galleries to handle H-20 loadings and shall comply with the detail. Interior sections to have no end walls. End sections to have one end wall and access cover.
51. All gallery sections to have holes broken to allow flow prior to placement.
52. There shall be a minimum of one foot (1') of crushed stone on the sides of the outer galleries.
53. There shall be 6" of 1 1/4" crushed stone below all galleries.
54. Connect gallery runs with 2.67' sections of 12" PVC. Bottom of connection pipes to be flush with bottoms of galleries.
55. The infiltration systems are to remain disconnected until up gradient areas are fully stabilized.
56. The infiltration systems shall be a minimum of 12" above high groundwater and shall be a minimum of 10' from any footing drain.
57. Each gallery run to have access MH's as shown on plan. Use standard City of Stamford MH casting. Casting cover shall be equal pattern to No. 1201 as manufactured by Campbell Foundry Company, Harrison, NJ. Raise casting the grade using solid concretee block and mortar.
58. All roof runoff to go to the infiltration gallery system as specified. Roofs shall be piped to gallery with 6" diameter PVC at 1/8" per foot minimum with 6" minimum cover in landscaped areas and 18" cover below pavement.
59. Remove any topsoil and replace with select fill prior to installation of gallery.
60. All non-select fill on the downhill sides of galleries shall be a silty soil (Type SM, SC, or MI as per the Unified Soil Classification System). Native material can be used if it conforms to these requirements.
61. All existing fill material below the infiltration systems shall be removed and select fill shall be installed.
62. Select fill shall be a material with a percolation rate of 1" in 20 minutes or faster after compaction. It shall have no more than 5% fines passing the #200 sieve and no stones larger than 6" and less than 10% passing the #100 sieve and be approved by the Inspecting Engineer.
63. Contact the Design Engineer three (3) days prior to excavation for the galleries. During the excavation, the Design Engineer may revise the elevations of the galleries if field conditions dictate.
64. Maintenance of all onsite drainage facilities shall be the responsibility of the property owner.

UTILITIES:

65. Utilities shown on these plans are "not guaranteed" to be complete or correct. Prior to any site activities, the contractor shall be responsible for verification of clearances of proposed utilities from existing utilities. This verification shall include physical observation by means of test pits of the locations of affected utilities. The contractor shall notify the site engineer immediately of any conflict.
66. Easements may be required in favor of the various utility companies.
67. Electric, telephone, cable, gas, and water services shall be installed in conformance to the requirements of the governing utility companies.
68. It is the contractor's responsibility to install utilities as shown on this sheet. The contractor shall work with the utility companies and site engineer to insure the installation is in conformance to the requirements of the governing utility company. All conduits shall be concrete encased as may be required by the governing utility company. Proposed electric, telephone, cable, gas and water services are shown for schematic purposes only and are subject to change pending utility company review. These utilities shall be designed by others and installed in conformance to the requirements of the governing utility companies.
69. All proposed utility facilities shall be raised or lowered to be flush with finished grade.
70. Where necessary, existing utilities shall be reinstalled to meet all minimum coverage requirements.
71. Utility connections at building face shall be coordinated with the building contractors.
72. The contractor must supply and install drag lines with all conduits.
73. Assume one 1 1/2" PVCP conduit for all site lighting. Service location to be determined.
74. In general, each utility shall have a minimum clearance of three feet to any other underground utility.
75. Any and all utilities abandoned shall be capped or removed in accordance with utility companies' requirements.
76. Existing fire valves shall be cut flush to grade in accordance with Aquarion Water Company requirements.
77. Contractor installing water service shall be on the Aquarion Water Company approved contractors list.
78. All utilities shall be installed per FEMA regulations for flood protection. All utilities (i.e., HVAC condensers, electric transformers, etc.) must be set one foot above the Base Flood Elevation (BFE) or waterproofed.
79. Detectable Tape shall be used to mark piping listed below. The identification tape shall be buried at least 6-inches to 10-inches below final grade but no closer than 12-inches to the buried utility piping or service.

Electric	Red	Caution Electric Line Buried Below
Telephone & Control	Orange	Caution Telephone Line Buried Below
Natural Gas	Yellow	Caution Gas Line Buried Below
Water Systems	Blue	Caution Water Line Buried Below
Fire Protection Systems	Blue	Caution Fire Line Buried Below Sprinkler
Mains	Blue	Caution Sprinkler Line Buried Below Sewer
System	Green	Caution Sewer Line Buried Below
IS & S Communication Conduit	Orange	Conc. N/A

80. Underground-Type Plastic Line Marker: Manufacturer's standard permanent, bright-colored detectable tape, continuous-printed plastic tape, intended for direct-burial service; not less than 6" wide X 4 mils thick.

PAVEMENT AND PAVEMENT MARKINGS:

81. Areas of new asphalt shall follow the details on Sheet SE-7.
82. Areas of asphalt pavement that are disturbed by the construction of this project shall be replaced in accordance with the asphalt pavement repair detail. The finished grade of asphalt paving shall blend to existing grade and the edge of the concrete pavement smoothly with no slopes exceeding 4%.
83. Existing features such as but not limited to walks, curbs, and pavement damaged by construction activities shall be repaired at no additional cost to the owner.
84. Bituminous curbs damaged by the project shall be replaced with the new bituminous curbing machine laid Class 3 as described in Sections 8.15 and M.04 of the CT DOT Form 818.
85. Saw cut perimeter of area to be excavated. Saw cut shall be straight and vertical.
86. Contractor shall engage a testing lab who shall verify the base course material by means of a sieve analysis and perform compaction testing of the base and each course of pavement. Site Engineer shall review with the contractor the required testing at the preconstruction meeting. Site Engineer shall approve base course prior to placement of each layer of pavement.
87. The Contractor shall engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
88. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements as directed by the Site Engineer.
89. Contractor is responsible to place the hot-mix asphalt mix as required in the drawings, details and the applicable Section of the CT DOT FORM 818 (latest edition).
90. Compaction shall be constructed as specified in the CT DOT FORM 818 (latest edition), Section 4.06 specification, the drawings and the details. Testing lab shall verify compaction of each course of pavement as directed by the Site Engineer.
91. After the asphalt pavement has cured sufficiently to support the weight of a water truck without marking the newly installed pavement, it shall be water tested for low spots, areas of little or no drainage, etc. A water truck shall spray a sufficient amount of water on all pavement sections to observe the drainage of water. There shall be positive drainage on all areas of the pavement. Any visible low spots where significant water (greater than or equal to 3/16" in depth) is left standing, shall be clearly marked for the Contractor to repair prior to final acceptance. These areas must be sawcut and removed down to the base course prior to replacement with asphalt mixture as per the original approved design. The base course and edges of sawcut asphalt must be treated with tack oil prior to new section of asphalt being installed. The Owner's Representative or inspecting A/E shall be notified 48 hours in advance of water test so that he may be present during the test.
92. The inspecting engineer and contractor will review the testing requirements at the preconstruction meeting. At this meeting, samples to be tested and compaction testing protocol will be discussed. Testing and approval of the subgrade, base course and asphalt layers prior to the installation of the next layer to determine if the work complies or deviates from the specified requirements. Prior to installation of the base course, contractor shall contact inspecting engineer to determine the suitability of the subgrade material, base course and asphalt. Additional excavation or base course may be required.
93. Finished paving shall be free of ``bird baths" and be smooth at the slopes specified on the plans.
94. Finished grade shall be within 1/2 inch of that noted on the drawings.
95. The pavement shall be protected from vehicular traffic of any kind with the use of barricades, etc. for a minimum period of 24 hours after final rolling. Maintain and protect asphalt surface from scrapes, sears, spills, hydraulic leaks, and any other construction damage for the remainder of construction until Owner's Representative acceptance. Contractor is responsible for clearing, repairing, seal coating, patching, and re-striping as necessary to obtain Owner's Representative's final approval/acceptance.
96. Thicknesses of all layers shown are after compaction. Compact all layers to 95% per ASTM D 1557 (Modified Proctor Method).
97. Removal of pavement markings along state road ways shall be completed by non-destructive method in compliance with the CT DOT Form 818 Section 12.11 as revised.
98. New pavement markings shall be painted with epoxy resin paint in compliance with the CT DOT Form 818 Section 12.10 as revised.
99. All signs and pavement markings installed along the state road must conform to the ``Manual on Uniform Traffic Control Devices," the latest State of Connecticut Catalog of Signs and standard as revised.
100. All pavement striping and replacement shall conform to the City of Stamford standards and the latest edition of AASHTO Highway Design Manual.

SEDIMENT AND EROSION CONTROL NARRATIVE:

The purpose of the Sediment and Erosion Control Plan, details, and notes is to outline a program that minimizes soil erosion during construction. The primary policies of this program are:

a) Trapping particles at source by promptly stabilizing disturbed areas;
b) Avoid concentration of water;
c) Avoid contamination of existing storm drains;
d) Maintenance (weekly maintenance and after storm events) of controls to ensure they are functioning properly;

SEDIMENT AND EROSION CONTROL NOTES:

101. Sheet SE-5 is intended to describe the soil sediment and erosion control treatment of this site only. For other details with respect to construction, see appropriate drawings.
102. All sediment and erosion controls shall be done in conformance with the "Connecticut Guidelines for Soil Erosion and Sediment Control" dated May 2002 prepared by The Connecticut Council on Soil and Water Conservation.
103. The contractor is assigned the responsibility for implementing this sediment and erosion control plan. This responsibility includes the installation and maintenance of control measures, informing all parties engaged on the construction site of the requirements and objectives of the plan notifying the Zoning Department of any transfer of this responsibility, and EPB that construction is to begin three (3) days prior to commencing work.
104. Temporary sediment control measures and tree protection must be installed in accordance with drawings and manufacturer recommendations prior to work in any upland areas.
105. No construction or construction equipment or storage of materials will be allowed on the downhill side of the silt fence or within fenced off areas, except during construction of the proposed facilities shown beyond the fences.
106. Where existing trees are to be saved, trees shall be protected with trunk armoring where shown. Tree limbs shall be trimmed as needed to protect the trees from damage by construction operations. Such trimming shall be minimized. Armoring and any limb trimming should be done before construction begins. Tree protection should be maintained during construction. Equipment Trafficking and materials storage over the tree roots shall be avoided.
107. Anti-tracking pads shall be installed at start of construction and maintained in an effective condition throughout the duration of construction. Pads consist of 2" - 4" crushed stone, 6" minimum thickness and extend the width of the construction access. The length of the access shall be sufficient to prevent dirt from being tracked onto off site roads (minimum length of 50').
108. The location of each stockpile will vary throughout the construction period. Excavated silt and earth stockpiles shall be stored on site. Silt fence shall be placed at the base of the stockpile to prevent sediment from leaving the site and to protect storm drains, wetlands and watercourses.
109. Silt fence shall be Mirafi envirofence, Amoco siltstop or equivalent approved by Site Engineer. Filter fabric used shall be Mirafi 100x or equivalent. Install silt fence according to manufacturer's instruction, particularly, bury lower edge of fabric into ground.
110. All roof leader downspouts shall temporarily discharge onto splash pads measuring at least 8" wide by 18" long, or approved equal.
111. Land disturbance shall be kept to a minimum. All disturbed area shall be planted in where permanent plantings are called for as soon as practicable. Seed and mulch disturbed areas with grass seed where permanent plantings are not called for, as soon as practicable. Prepare seedbed (4" thick minimum) with topsoil. Seed, rake, roll, water and mulch areas according to mixes below. Water as often as necessary (up to 3 times per day) to establish cover. Mulch seeded areas at 1 to 2 tons/acre with salt hay. Maintain mulch and watering until grass is 3" high with 85% cover. Reseed or overseed if necessary.

Temporary Seed Mix:
Perennial ryegrass 40 lbs/ac. (1 lb/1000 sf.)

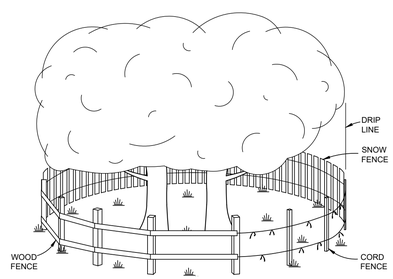
Permanent Lawns:
Kentucky Bluegrass 20 lbs/ac.
Creeping Red Fescue 20 lbs/ac.
Perennial Ryegrass 5 lbs/ac.
45 lbs/ac. (1 lb/1000 sf.)

Optimum Seeding Dates:
April 15 through June 15
August 15 through October 1

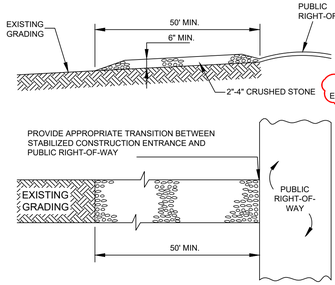
112. Any disturbed area shall be restored to the preconstruction condition. Existing shrubs shall be carefully dug up, stored in a temporary nursery during the project and replanted as directed by the Owner. The time during which these bushes are out of the ground must be minimized. The contractor shall keep the shrubs watered and out of the direct sun during this time.
113. If disturbed areas can not be seeded immediately due to the time of year, mulch area until seeding can occur; remove mulch and seed and remulch when season permits.
114. Mulch shall be replaced with erosion control blankets where specified on the plan. Blankets shall be jute netting installed as per the details. Additional areas may have to be covered with blankets as directed by the Site Engineer. Other blankets and methods may be used if approved by the site engineer.
115. Upon installation of each catch basin and area drain, immediately surround it with haybales as per sediment filter detail.
116. Haybales shall be new and are to be replaced whenever their condition deteriorates beyond reasonable usability.
117. Temporarily block pipes leading into the storm water infiltration system until upland areas are thoroughly stabilized. Under no circumstances shall sediment or silty water be allowed to enter the infiltration system.
118. Pavement and curbing should be placed as soon as possible after drainage is installed.
119. Loaded trucks shall be covered as required to keep down dust.
120. Affected portions of off site roads and sidewalks must be swept clean when required to keep down dust and prevent safety hazards or at least once a week during construction and as directed by Site Engineer.
121. Dust control to be achieved with watering down disturbed areas as required.
122. After each storm event or once bi-weekly, all sediment and erosion controls shall be inspected. Any corrective actions to mitigate environmental concerns will be ordered by the site engineer or environmental engineer. It is the Owner's responsibility to retain such consultant.
123. Additional sediment and erosion control measures may be installed during the construction period if found necessary by the inspecting engineer or any Governing Agency.
124. All permanent and temporary sediment control devices will be maintained in effective condition throughout the construction period until upland disturbed areas are thoroughly stabilized. Upon completion of work and stabilization of all upland areas, all temporary sediment control devices and tree protection should be removed from the site and any silt disposed of legally.
125. Periodically and upon completion of the job, clean silt from any effected storm sewer systems including pipes and inlets. Use silt during final landscaping or dispose off-site legally.

STANDARD CITY OF STAMFORD NOTES:

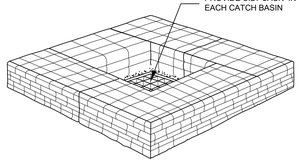
1. A Street Opening Permit is required for all work within the City of Stamford Right-of-Way.
2. All work within the City of Stamford Right-of-Way shall be constructed to City of Stamford requirements, the State of Connecticut Basic Building Code and the Connecticut Guidelines for Soil Erosion and Sedimentation Control.
3. The Engineering Bureau of the City of Stamford shall be notified three days prior to any commencement of construction work within the City of Stamford Right-of-Way.
4. Trees within the City of Stamford Right-of-Way to be removed shall be posted in accordance with the Tree Ordinance.
5. Prior to any excavation the Contractor and/or Applicant/Owner, in accordance with Public Act 77-350, shall be required to contact "Call Before You Dig" at 1-800-922-4455 for mark our of underground utilities.
6. All retaining walls three (3) feet or higher measured from finished grade at the bottom of the wall to finished grade at the top of the wall and retaining walls supporting a surcharge or impounding Class I, II, or III-A liquids are required to have a Building Permit. Retaining walls shall be designed and inspected during construction by a Professional Engineer licensed in the State of Connecticut. Prior to the issuance of a Certificate of Occupancy, retaining walls shall be certified by a Professional Engineer licensed in the State of Connecticut.
7. Certification will be required by a professional engineer licensed in the State of Connecticut that work has been completed in compliance with the approved drawings.
8. A Final Improvement Location Survey will be required by a professional land surveyor licensed in the State of Connecticut.
9. Connection to a city-owned storm sewer shall required the Waver Covering Storm Connection to be filed with the City of Stamford Engineering Bureau.
10. Granite block or other decorative stone or brick, depressed curb, driveway apron, and curbing within the City of Stamford Right-of-Way shall require the Waiver Covering Granite Block Depressed Curb and Driveway Aprons to be filed with the City of Stamford Engineering Bureau.
11. Sediment and erosion controls shall be maintained and repaired as necessary throughout construction until the site is stabilized.
12. To obtain a Certificate of Occupancy, submittal must include all items outlined in the Checklist for Certificate of Occupancy (Appendix D of the City of Stamford Drainage Manual).



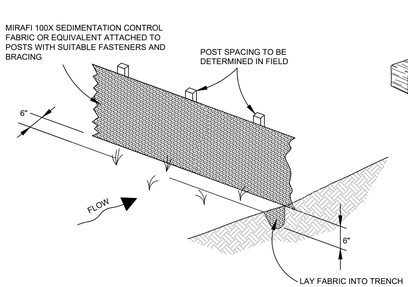
TREE PROTECTION
(SHOWING ACCEPTABLE TYPES OF FENCING)
N.T.S.



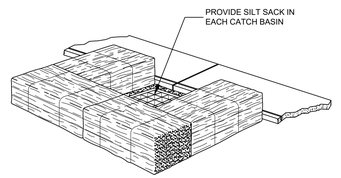
STABILIZED CONSTRUCTION ENTRANCE
(TRACKING PAD)
N.T.S.



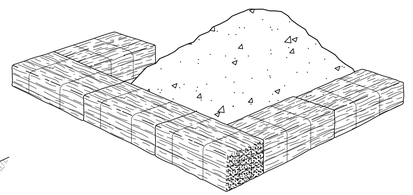
SEDIMENT FILTER FOR CATCH BASINS
N.T.S.



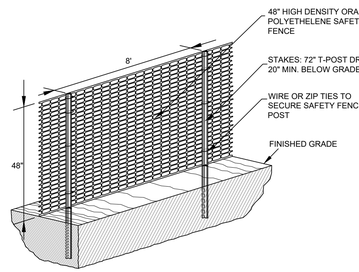
FABRIC & POST SILTATION BARRIER
(SILT FENCE)
N.T.S.



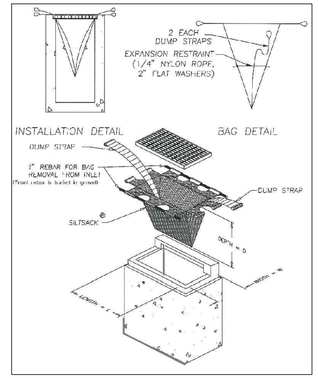
SEDIMENT FILTER FOR CATCH BASINS AT CURB
N.T.S.



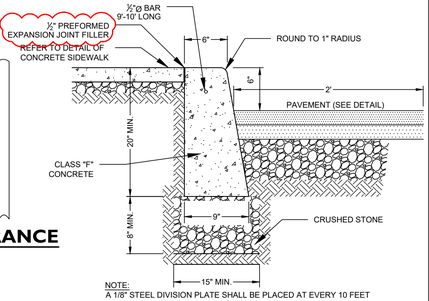
SEDIMENT FILTER FOR STOCK PILE ON PAVEMENT
N.T.S.



FABRIC & POST CONSTRUCTION FENCE
N.T.S.

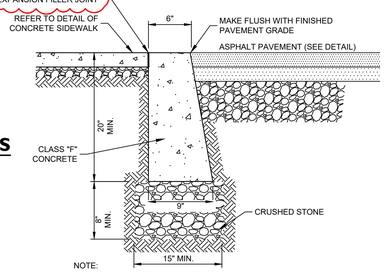


INLET SEDIMENT CONTROL DEVICE
(SILT SACK)
N.T.S.



NOTE:
A 1/8" STEEL DIVISION PLATE SHALL BE PLACED AT EVERY 10 FEET OF CURBING AND REMOVED AFTER THE CONCRETE HAS SET. A 1/2" APPROVED BITUMINOUS JOINT SHALL BE PLACED EVERY 20 FEET.

CONCRETE CURB
N.T.S.



NOTE:
A 1/8" STEEL DIVISION PLATE SHALL BE PLACED AT EVERY 10 FEET OF CURBING AND REMOVED AFTER THE CONCRETE HAS SET. A 1/2" APPROVED BITUMINOUS JOINT SHALL BE PLACED EVERY 20 FEET.

FLUSH CONCRETE CURB
N.T.S.

No.	Date	Revision
2	01/07/2022	REVISED PER ENGINEERING COMMENTS
1	10/08/21	ZONING SUBMISSION

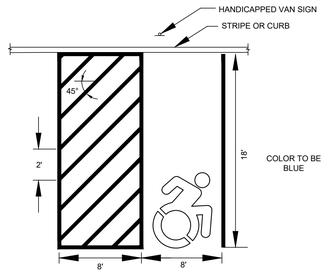
NOTES AND DETAILS
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

REDNISS & MEAD
LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING
22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

SCALE: N.T.S.
DRAWN BY: JWB | CHECKED BY: BDH

ROBERT D. HOLZWARTH CT. P.E. 27812
January 7, 2022
DATE

SHEET No: SE-6
Comm. No.: 6546Z



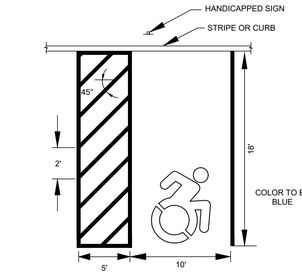
NOTE:
HANDICAPPED PARKING SHALL BE GRADED NO GREATER THAN 2% IN ANY DIRECTION.

HANDICAPPED VAN PARKING
N.T.S.

CONN. D.O.T. SERIES 30 #31-0629

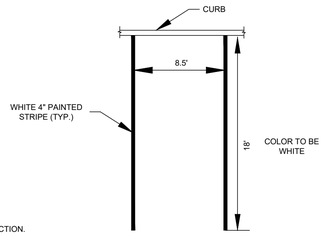
CONN. D.O.T. SERIES 30 #31-0648

HANDICAPPED PARKING SIGN DETAIL
N.T.S.



NOTE:
HANDICAPPED PARKING SHALL BE GRADED NO GREATER THAN 2% IN ANY DIRECTION.

HANDICAPPED PARKING
N.T.S.

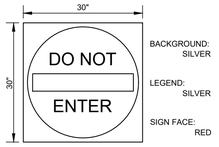


REGULAR PARKING SPACE
N.T.S.

CONN. D.O.T. SERIES R1-1

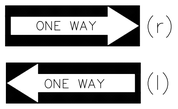
NOTE: SIGNAGE TO BE COORDINATED WITH THE TOWN OF NORTH HAVEN DEPARTMENT OF PUBLIC WORKS

STOP SIGN DETAIL
N.T.S.

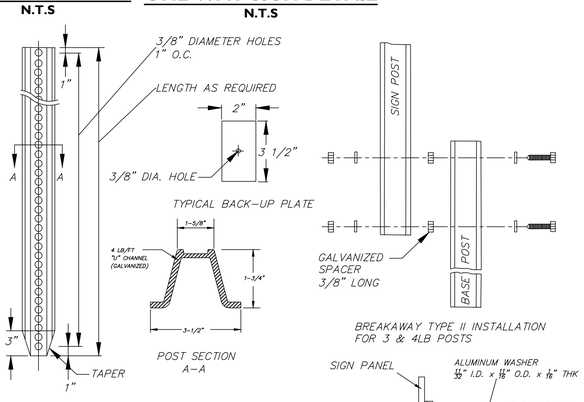


CONN. D.O.T. SERIES R5-1 #31-0509

D.N.E SIGN DETAIL
N.T.S

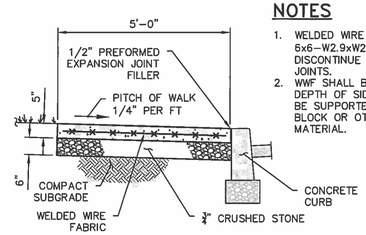


ONE WAY SIGN DETAIL
N.T.S



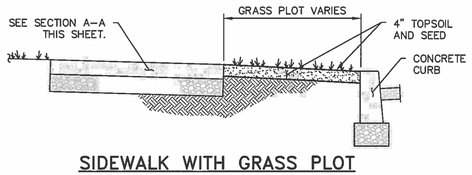
NOTES:
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499-81 GRADE 50 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF 91 LBS. OR GREATER PER LINEAR YARD. STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL.
2. AFTER FABRICATION, ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A 123.
3. ALL SIGN POSTS SHALL HAVE "BREAKAWAY" FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 1985." THE "BREAKAWAY" FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. TYPE A POSTS - 3 LB/FT TYPE B POSTS - 4 LB/FT
5. PLEASE REFER TO THE STATE OF CONNECTICUT DOT "TYPICAL METAL SIGN POSTS AND SIGN MOUNTING DETAILS" SHEET NO. 39 (1999) FOR MORE INFORMATION.

METAL SIGN POST
N.T.S.



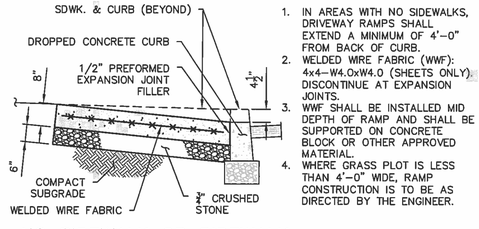
SECTION A–A

NOTES
1. WELDED WIRE FABRIC (WWF): 6x6–W2.9xW2.9 (SHEETS ONLY). DISCONTINUE AT EXPANSION JOINTS.
2. WWF SHALL BE INSTALLED MID DEPTH OF SIDEWALK AND SHALL BE SUPPORTED ON CONCRETE BLOCK OR OTHER APPROVED MATERIAL.

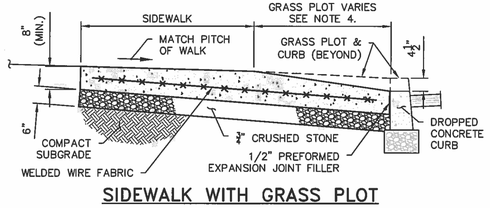


SIDEWALK WITH GRASS PLOT

NOTES
1. IN AREAS WITH NO SIDEWALKS, DRIVEWAY RAMPS SHALL EXTEND A MINIMUM OF 4'–0" FROM BACK OF CURB.
2. WELDED WIRE FABRIC (WWF): 4x4–W4.0xW4.0 (SHEETS ONLY). DISCONTINUE AT EXPANSION JOINTS.
3. WWF SHALL BE INSTALLED MID DEPTH OF RAMP AND SHALL BE SUPPORTED ON CONCRETE BLOCK OR OTHER APPROVED MATERIAL.
4. WHERE GRASS PLOT IS LESS THAN 4'–0" WIDE, RAMP CONSTRUCTION IS TO BE AS DIRECTED BY THE ENGINEER.

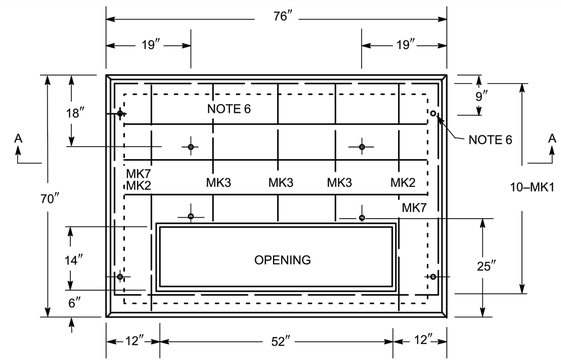


NO SIDEWALK OR SIDEWALK WITHOUT GRASS PLOT

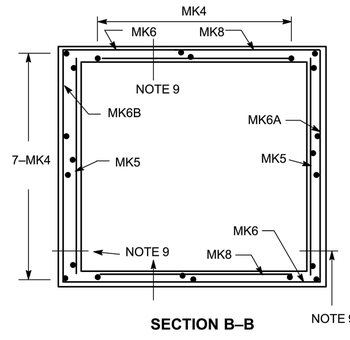


SIDEWALK WITH GRASS PLOT

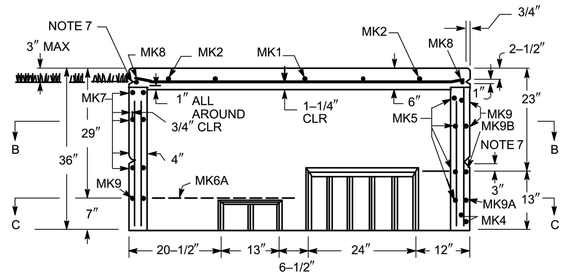
TYPICAL DRIVEWAY APRON DETAILS



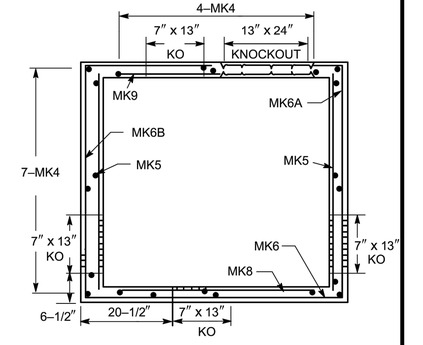
TOP PLAN



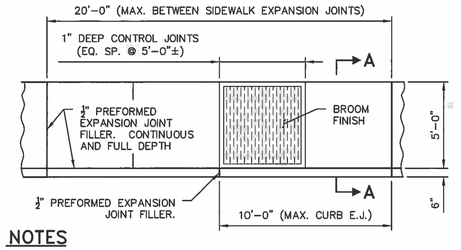
SECTION B–B



SECTION A–A



SECTION C–C

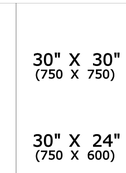


NOTES
1. SIDEWALK CONCRETE SHALL BE POURED TO A UNIFORM DEPTH ON APPROVED BASE.
2. CONCRETE SHALL BE ConnDOT CLASS "C" (3000 PSI MIN.) UTILIZING TYPE II CEMENT, AND SHALL HAVE BETWEEN 6–7% AIR ENTRAINMENT.
3. 1/2" PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED BETWEEN NEW SIDEWALK WORK AND ALL RIGID STRUCTURES SUCH AS SANITARY AND DRAINAGE STRUCTURES AND BUILDINGS AND STONE AND CONCRETE MASONRY WALLS.
4. EDGES SHALL BE ROUNDED TO A RADIUS OF 1/4".
5. ADDITIONAL CONTROL JOINTS SHALL BE PLACED AS REQUIRED TO ELIMINATE ANY CONDITION WHICH WILL CAUSE STRESS CONCENTRATIONS (EXAMPLE AT CORNERS OF STRUCTURES). JOINTS SHALL BE ORIENTED AS DIRECTED BY THE ENGINEER.
6. SURFACE SHALL BE GIVEN A BROOM FINISH ORIENTED PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAFFIC FLOW.

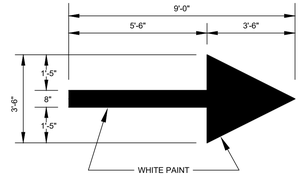
PLAN – CONCRETE SIDEWALK

ORIGINAL	PAD – PRECAST CONCRETE – THREE–PHASE TRANSFORMER 500–2500 KVA–76" x 70" x 36"			
12/21/78				
APPROVED				
3/1/02	NORTHEAST UTILITIES	MATERIAL SPECIFICATION	SPC P–015	7

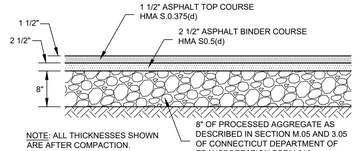
NO LEFT TURN SIGN DETAIL
N.T.S



NO RIGHT TURN SIGN DETAIL
N.T.S



PAINTED DIRECTIONAL ARROW
N.T.S.



ASPHALT PAVEMENT DETAIL
N.T.S.

No.	Date	Revision
2	01/07/2022	REVISED PER ENGINEERING COMMENTS
1	10/08/21	ZONING SUBMISSION

DETAIL SHEET
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
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Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

SCALE: N.T.S.
DRAWN BY: JWB CHECKED BY: BDH
ROBERT D. HOLZWARTH CT. P.E. 27812
DATE: January 7, 2022
This document and copies thereof are valid only if they bear the signature and embossed seal of the designated licensed professional. Unauthorized alterations render any declaration hereon null & void.
SHEET No: SE-7
Comm. No.: 6546Z

1/7/2022 1:31 PM\\Jobfiles2\6000\6500\6546Z\dwg\6546Z Notes And Details.dwg

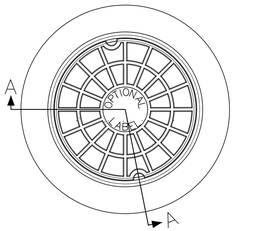
TEST PIT SOIL DATA

Subsurface Soil Investigation — Soil Profile		
Test Pit #: 1		Date: 01/27/2021
Inspector: BDH		Sanitarian: -
Ledge at: 32"		Mottling at: -
Water at: -		Roots at: -
Depth: 32"	Soil Description	
0"-3"	Asphalt	
3"-20"	Processed Base Materials	
20"-32"	Broken up concrete, boulders	
	Bottom= "Concrete Slab"	

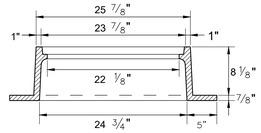
Subsurface Soil Investigation — Soil Profile		
Test Pit #: 2		Date: 01/27/2021
Inspector: BDH		Sanitarian: -
Ledge at: -		Mottling at: 65"
Water at: -		Roots at: -
Depth: 71"	Soil Description	
0"-3"	Asphalt	
3"-30"	Processed Base Materials/ Gravel Fill	
30"-71"	Brown Sand & Gravel	
	RL=65"	

Subsurface Soil Investigation — Soil Profile		
Test Pit #: 3		Date: 01/27/2021
Inspector: BDH		Sanitarian: -
Ledge at: -		Mottling at: -
Water at: -		Roots at: 40"
Depth: 71"	Soil Description	
0"-3"	Asphalt	
3"-38"	Gravel Fill/Rubble	
38"-56"	Original Topsoil	
56"-71"	Orange Sandy Gravel	

Subsurface Soil Investigation — Soil Profile		
Test Pit #: 4		Date: 01/27/2021
Inspector: BDH		Sanitarian: -
Ledge at: -		Mottling at: -
Water at: -		Roots at: 46"
Depth: 78"	Soil Description	
0"-3"	Asphalt	
3"-18"	Fill/Processed Aggregate	
18"-27"	Sandy Fill	
27"-32"	Original Topsoil	
32"-42"	Orange Brown Sandy Loam	
42"-78"	Brown Sandy Gravel	



COVER
SECTION A–A



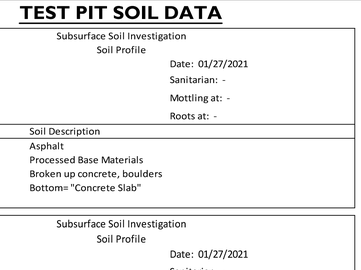
FRAME

APPROXIMATE WEIGHTS		
	STEEL	IRON
COVER	157.54 LBS.	144.53 LBS.
FRAME	327.98 LBS.	300.90 LBS.
TOTAL	485.52 LBS.	445.43 LBS.

MANHOLE FRAME & COVER
N.T.S.

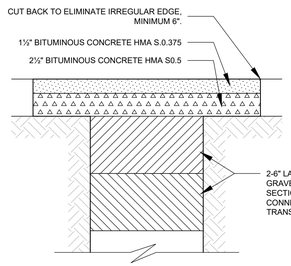
INFILTRATION SYSTEM NOTES

1. ALL GALLERIES TO HANDLE H-20 LOADINGS AND SHALL COMPLY WITH THE DETAIL. INTERIOR SECTIONS TO HAVE NO END WALLS. END SECTIONS TO HAVE ONE END WALL.
2. ALL GALLERY SECTIONS TO HAVE HOLES BROKEN TO ALLOW FLOW PRIOR TO PLACEMENT.
3. THERE SHALL BE A 6" LAYER OF 1¼" CRUSHED STONE BELOW ALL GALLERIES.
4. THERE SHALL BE A MINIMUM OF 1' OF 1¼" CRUSHED STONE BETWEEN THE ROWS OF GALLERIES.
5. THERE SHALL BE A MINIMUM OF 1' OF 1¼" CRUSHED STONE ON THE SIDES OF THE OUTER GALLERIES.
6. A 6" BY 5' BY 4' CONCRETE SLAB (1-2-3 CONCRETE) SHALL BE INSTALLED AT ANY PIPE ENTRANCE TO THE GALLERIES TO PREVENT EROSION.
7. EACH GALLERY RUN TO HAVE ACCESS MHS AS SHOWN ON THE PLAN. CASTING AND COVER SHALL BE EQUAL TO PATTERN NO. 1201 AS MANUFACTURED BY CAMPBELL FOUNDRY COMPANY, HARRISON, NJ. RAISE CASTING TO GRADE USING SOLID CONCRETE BLOCK AND MORTAR.
8. REMOVE ANY TOPSOIL PRIOR TO INSTALLATION OF GALLERY.
9. CONTACT THE DESIGN ENGINEER THREE DAYS PRIOR TO EXCAVATION FOR THE GALLERIES. DURING THE EXCAVATION, THE DESIGN ENGINEER MAY REVISE THE ELEVATIONS OF THE GALLERIES IF FIELD CONDITIONS DICTATE.
10. ALL CRUSHED STONE SHALL BE GRADATION NO. 4 AS PER CT D.O.T. FORM 818, ARTICLE M.01.01. STONE SHALL CONSIST OF SOUND, TOUGH, DURABLE PARTICLES FREE FROM SOFT, THIN, ELONGATED, LAMINATED, FRIABLE, MICACEOUS, OR DISINTEGRATED PIECES, MUD, DIRT, OR OTHER DELETERIOUS MATERIAL.

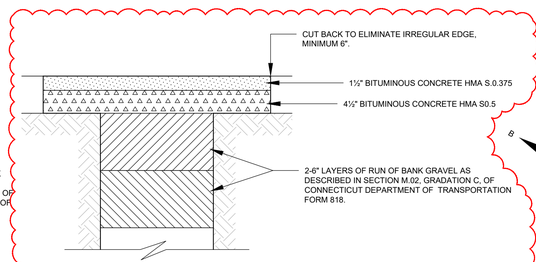


NOTE:
END UNITS TO BE INSTALLED AT ENDS OF ALL GALLERY RUNS.

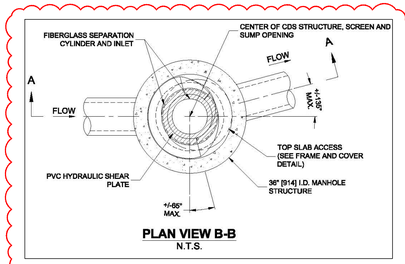
18" GALLERY DETAIL
N.T.S.



ASPHALT TRENCH REPAIR (HENRY STREET)
N.T.S.



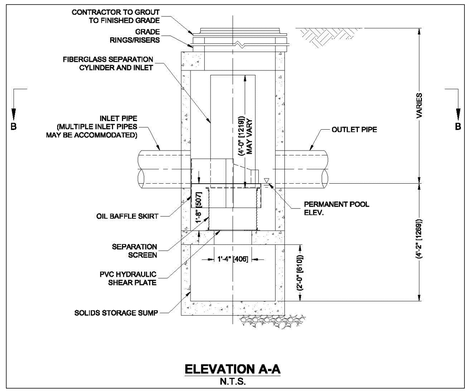
ASPHALT TRENCH REPAIR (PACIFIC STREET)
N.T.S.



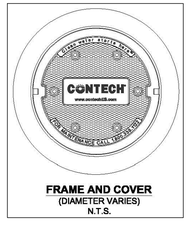
PLAN VIEW B-B
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO H320 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

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

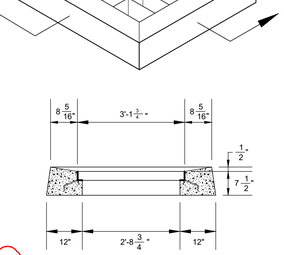


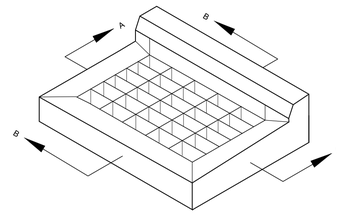
ELEVATION A-A
N.T.S.



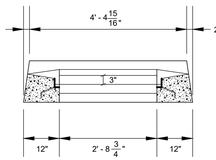
FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

CONTECH OIL/GRIT SEPARATOR DETAIL MODEL NO. CDS1515-3 (OGS#1)
N.T.S.

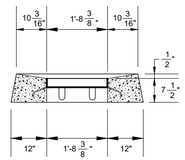




SECTION A-A

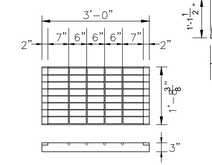


SECTION A-A FOR ALL CURB STYLES

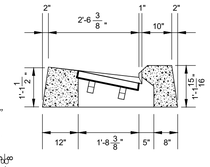


SECTION B-B

TYPE C-L TOP



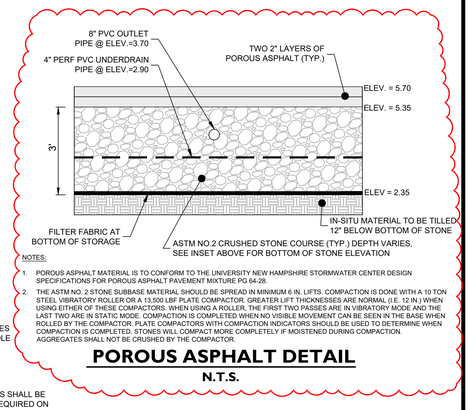
CHD 228D STEEL GRATE



SECTION B-B PARK CURB STYLE

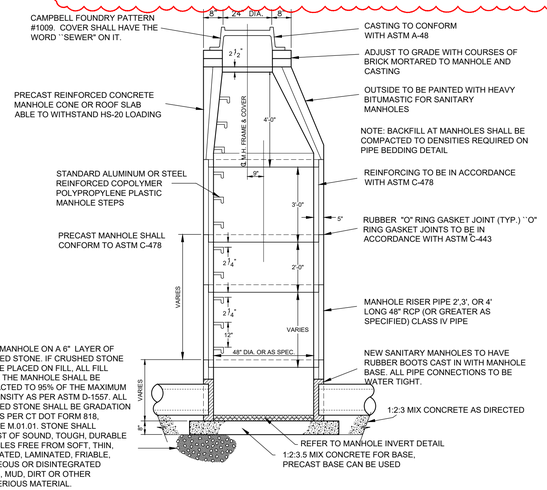
TYPE C TOP

CATCH BASIN TOP DETAILS
N.T.S.

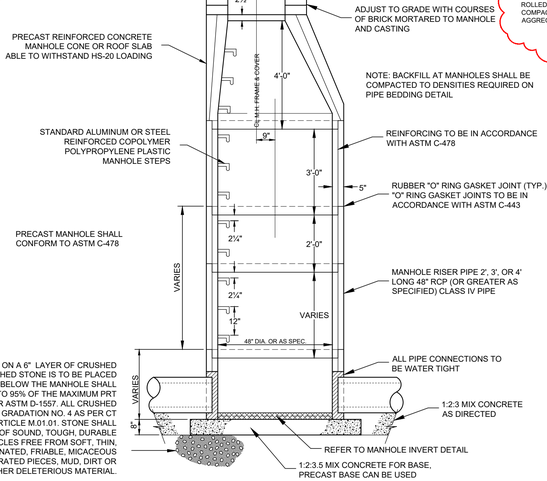


NOTES:
1. POROUS ASPHALT MATERIAL IS TO CONFORM TO THE UNIVERSITY NEW HAMPSHIRE STORMWATER CENTER DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT MIXTURE PG 64-28.
2. THE ASTM NO. 2 STONE SUBBASE MATERIAL SHOULD BE SPREAD IN MINIMUM 6 IN. LIFTS. COMPACTION IS DONE WITH A 10 TON STEEL VIBRATORY ROLLER OR A 13,500 LBF PLATE COMPACTOR. GREATER LIFT THICKNESSES ARE NORMAL (I.E. 12 IN.) WHEN USING EITHER OF THESE COMPACTORS. WHEN USING A ROLLER, THE FIRST TWO PASSES ARE IN VIBRATORY MODE AND THE LAST TWO ARE IN STATIC MODE. COMPACTION IS COMPLETED WHEN NO VISIBLE MOVEMENT CAN BE SEEN IN THE BASE WHEN ROLLED BY THE COMPACTOR. PLATE COMPACTORS WITH COMPACTION INDICATORS SHOULD BE USED TO DETERMINE WHEN COMPACTION IS COMPLETED. STONES WILL COMPACT MORE COMPLETELY IF MOISTENED DURING COMPACTION. AGGREGATES SHALL NOT BE CRUSHED BY THE COMPACTOR.

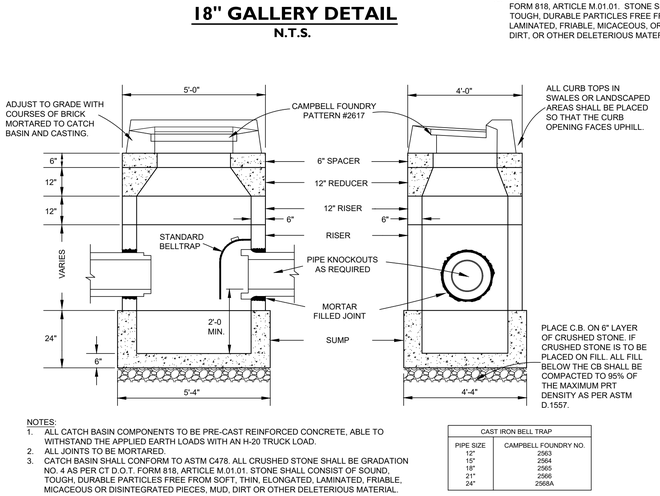
POROUS ASPHALT DETAIL
N.T.S.



SANITARY MANHOLE DETAIL
N.T.S.



STORM MANHOLE DETAIL
N.T.S.



NOTES:
1. ALL CATCH BASIN COMPONENTS TO BE PRE-CAST REINFORCED CONCRETE, ABLE TO WITHSTAND THE APPLIED EARTH LOADS WITH AN H-20 TRUCK LOAD.
2. ALL JOINTS TO BE MORTARED.
3. CATCH BASIN SHALL CONFORM TO ASTM C478. ALL CRUSHED STONE SHALL BE GRADATION NO. 4 AS PER CT D.O.T. FORM 818, ARTICLE M.01.01. STONE SHALL CONSIST OF SOUND, TOUGH, DURABLE PARTICLES FREE FROM SOFT, THIN, ELONGATED, LAMINATED, FRIABLE, MICACEOUS OR DISINTEGRATED PIECES, MUD, DIRT OR OTHER DELETERIOUS MATERIAL.

CAST IRON BELL TRAP	
PIPE SIZE	CAMPBELL FOUNDRY NO.
12"	2563
15"	2564
18"	2565
21"	2566
24"	2566A

CATCH BASIN DETAIL
N.T.S.

No.	Date	Revision
2	01/07/2022	REVISED PER ENGINEERING COMMENTS
1	10/08/21	ZONING SUBMISSION

DETAIL SHEET
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
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SCALE: N.T.S.
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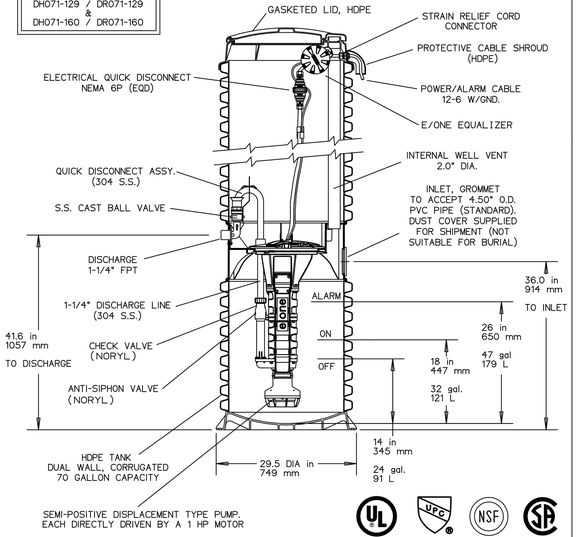
OPTIONS : ☐ DH071 (HARD WIRED LEVEL CONTROLS) ☐ DR071 (WIRELESS LEVEL CONTROLS)

FIELD JOINT REQUIRED FOR MODELS
DH071-129 / DR071-129
&
DH071-160 / DR071-160



CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTION FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

AD	CH	10/20/10	E	
DR BY	CHK'D	DATE	ISSUE	SCALE

SEWER SYSTEMS

MODEL DH071 / DR071
DETAIL SHEET

NA0050P02

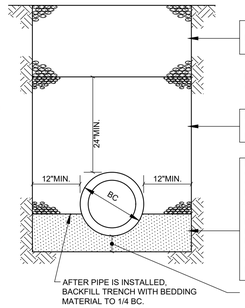
EJECTOR PUMP CHAMBER (PC#1)

N.T.S.

WATER STOP: 10' UPSTREAM OF STRUCTURES AND WHERE SHOWN, FOUNDATION MATERIAL, BEDDING, HAUNCHING, INITIAL BACKFILL, AND THE BOTTOM FOOT OF GENERAL BACKFILL TO BE REPLACED WITH SM, SC, OR ML SOIL AS PER UNIFIED SOIL CLASSIFICATION SYSTEM* WITH MAXIMUM PARTICLE SIZE OF 1-1/2", FOR 3 LINEAR FEET OF TRENCH. WATER STOP TO BE KEYED INTO TRENCH BOTTOM AND WALLS A MINIMUM OF ONE FOOT. NO STONES LARGER THAN 6" SHALL BE WITHIN 12" OF THE PIPE.
ALL FOUNDATION, INITIAL BACKFILL & BACKFILL MATERIAL TO BE APPROVED BY THE INSPECTING ENGINEER.

ANY DEVIATION FROM THESE METHODS & MATERIALS MUST BE APPROVED IN WRITING BY THE INSPECTING ENGINEER.

ALL MATERIAL TO BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557, EXCEPT COMPACTED BACKFILL" NOT UNDER PAVEMENT WHICH SHALL BE COMPACTED TO A DENSITY AT LEAST EQUAL TO THAT OF THE ADJACENT UNDISTURBED MATERIAL.



COMPACTED BACKFILL SHALL BE WELL GRADED MATERIAL FREE OF ORGANICS, FROZEN MATERIAL & PARTICLES LARGER THAN 12".

BACKFILL MUST BE PLACED & COMPACTED IN SIX INCH (6") LAYERS (AFTER COMPACTION).

INITIAL BACKFILL SHALL BE WELL GRADED GRANULAR MATERIAL WITH STONES NO LARGER THAN 2". STONES TO BE KEPT FROM TOUCHING PIPE.

BEDDING MATERIAL AS PER CONN. D.O.T. FORM 818, ARTICLE M 08.03. BEDDING MATERIAL SHALL BE SAND OR SANDY SOIL, ALL OF WHICH PASSES A 3/8 INCH SIEVE AND NOT MORE THAN 10% PASSES A No. 200 SIEVE. IF GROUND WATER IS ENCOUNTERED, ENGINEER SHALL BE NOTIFIED FOR POSSIBLE MODIFICATION. IF THE INSPECTING ENGINEER DETERMINES THAT THE MATERIAL BELOW THE FOUNDATION IS UNACCEPTABLE, MATERIAL SHALL BE REMOVED TO A DEPTH DETERMINED BY THE INSPECTING ENGINEER AND REPLACED WITH MATERIAL COMPLYING WITH THE INITIAL BACKFILL SPECIFICATION. THIS MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.

AFTER PIPE IS INSTALLED, BACKFILL TRENCH WITH BEDDING MATERIAL TO 1/4 BC.

4" MIN. IN EARTH EXCAVATION 12" MIN. IN ROCK EXCAVATION.

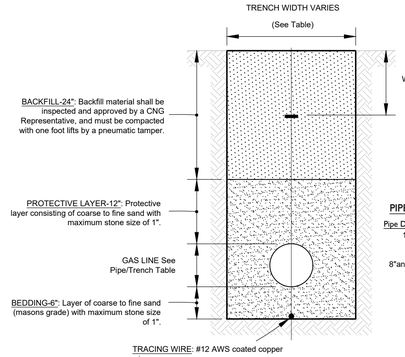
PVC/RCP PIPE TRENCH BEDDING DETAIL

(48" DIA. & UNDER)

N.T.S.

Notes:

1. A minimum of 1'0" vertical clearance and 5'0" horizontal clearance will be maintained between the gas line and all other structures.
2. Minimum cover for mains shall be 3'0" from finished grade as measured from gutter line.
   a. In the traveled portion of the road - from the top of the pipe to the top of the trench using the shallow side for measurement.
   b. Off the traveled portion when section is at a higher elevation than the traveled way - elevation to be taken from gutter line.
   c. Off the traveled portion when section is at a lower elevation than the traveled way from the top of the pipe to the top of the trench using the shallow side for measurement.
3. Minimum cover of service lines in private property shall be 2'0" only when approved by the CNG inspector or designee.
4. The bottom of the trench must be free of rocks, debris, or water that could damage the pipe or its coating.
5. Tracing Wire is a #12 AWS coated copper tracing wire to be installed in the center of the trench prior to 6" of sand padding. (Connection will be made by a CNG Representative).
6. Exposed piping will be backfilled with a minimum of 12" of sand prior to leaving the job site each day and witnessed by a CNG Representative or CNG Contractor.
7. Only personnel qualified by CNG will be allowed to install gas lines.
8. The builder will supply a suitable location to store the pipe and materials and will be responsible for its security.

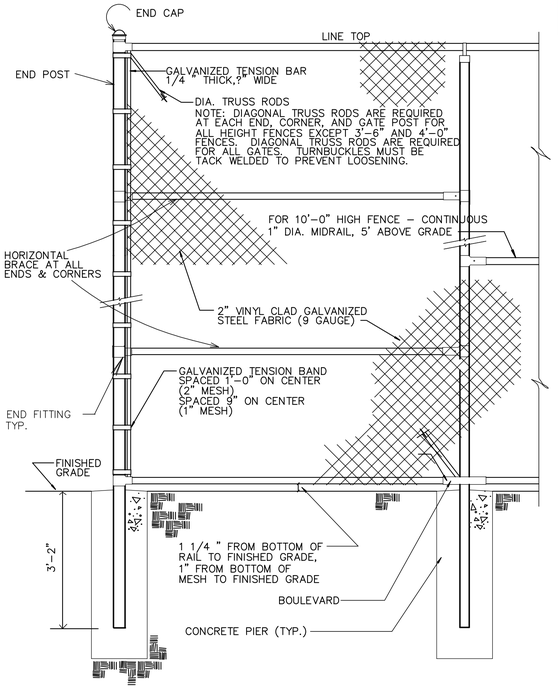


PIPE/TRENCH TABLE

Pipe Diameter	Trench Width
1"-4"	12"
6"	18"
8"and above	24"

GAS LINE TRENCH DETAIL

N.T.S.



6 FT CHAIN LINK FENCE

N.T.S.

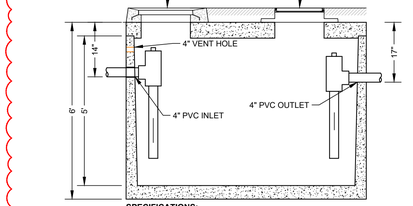
NOTE: EXISTING SEWER MAIN TO BE BYPASSED DURING INSTALLATION. INSTALLATION TO OCCUR AT TIME OF LOW FLOW.

PROFILE
SECTION A–A

PROFILE
SECTION B–B

SANITARY LATERAL CONNECTION DETAIL

N.T.S.

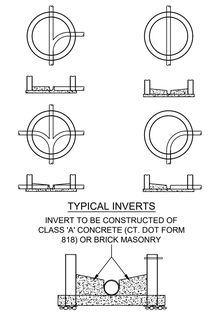


SPECIFICATIONS:
1. Concrete: Has a Design Strength of 5,000 psi at 28 Days.
2. Steel Reinforcement: ASTM A-615, Grade 60 or ASTM A-497 Welded Wire Fabric.
3. Loading: Designed for H20 Loading.
4. C.I. Castings: ASTM A48, Class 30/35.

GENERAL NOTES:
1. Unit Comes with Interior Inflow Piping Installed.
2. Unit Must be Filled 1 with at least 14 " 2 of Clear Water Prior to Use.

1,500 GALLON GREASE TRAP

N.T.S.



TYPICAL INVERTS

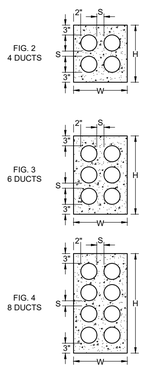
INVERT TO BE CONSTRUCTED OF CLASS 'A' CONCRETE (CT. DOT FORM 818) OR BRICK MASONRY

MANHOLE INVERT

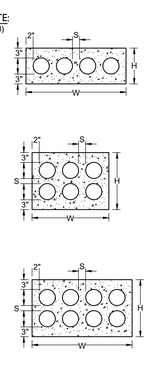
N.T.S.

PREFERRED:

FIG	DUCT BANK DIMENSIONS 4" DUCT W	4" DUCT H	4" DUCT S	5" DUCT W	5" DUCT H	5" DUCT S	6" DUCT W	6" DUCT H	6" DUCT S
1	14½"	10½"	1½"	16½"	11½"	1½"	19"	12½"	2"
2	14½"	16½"	1½"	16½"	18½"	1½"	19"	21"	2"
2A	26½"	10½"	1½"	30½"	11½"	1½"	36"	12½"	2"
3	14½"	22½"	1½"	16½"	25½"	1½"	19"	29½"	2"
3A	20½"	16½"	1½"	23½"	18½"	1½"	27½"	21"	2"
4	14½"	28½"	1½"	16½"	32½"	1½"	19"	38"	2"
4A	26½"	16½"	1½"	30½"	18½"	1½"	36"	21"	2"



ALTERNATE: (SEE NOTE 3)



NOTES:

1. AT MANHOLES CONDUIT BANKS SHALL BE PER FIGS. 1, 2, 3 OR 4.
2. MINIMUM COVER FROM TOP OF A CONDUIT BANK TO THE PAVEMENT OR EARTH SURFACE TO BE:
   a) STATE HIGHWAYS - 36"
   b) RAILROAD TRACKS - 60"
   c) ALL OTHER AREAS - 24"
3. IN THE CONDUIT RUN BETWEEN MANHOLES IF OBSTRUCTIONS ARE ENCOUNTERED OR TO REDUCE TRENCH DEPTH, FIGS. 2A, 3A OR 4A ARE PERMISSIBLE.
4. CONCRETE SHALL BE 2500 P.S.I., 1/2" MAXIMUM STONE, 6"-9" SLUMP OF SUCH CONSISTENCY THAT SPADING WILL INSURE THE FLOW OF CONCRETE BETWEEN AND UNDER THE INDIVIDUAL DUCTS, BUT NOT SO WET AS TO FLOAT THE DUCTS. FOR TIER BUILDUP CONSTRUCTION A STIFFER CONSISTENCY SHOULD BE USED.
5. DUCTS SHALL BE SCHEDULE 40 PVC.

CONDUIT BANK CONSTRUCTION

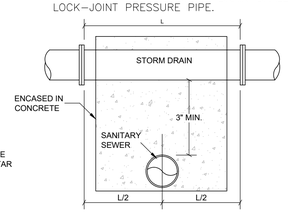
N.T.S.

DOG HOUSE STORM MANHOLE DETAIL

N.T.S.

NOTE:

THE JOINTS OF THE PIPE SHALL BE A MINIMUM OF 10' FROM THE POINT OF CROSSING. THE SANITARY SEWER SHALL BE CLASS 150 PRESSURE PIPE. THE STORM DRAIN SHALL BE LOCK-JOINT PRESSURE PIPE.



REQUIREMENTS AS STATED ABOVE WILL APPLY WHEN HORIZONTAL SEPARATION BETWEEN THE STORM & SANITARY LINES ARE LESS THAN 10' AND VERTICAL SEPARATION IS LESS THAN 18".

CROSSINGS OF SANITARY PIPES AND STORM PIPES

N.T.S.

No.	Date	Revision
2	01/07/2022	REVISED PER ENGINEERING COMMENTS
1	10/08/21	ZONING SUBMISSION

DETAIL SHEET
DEPICTING
648, 670, 686 & 690 PACIFIC STREET AND 171 HENRY STREET
STAMFORD, CT
PREPARED FOR
HOGG HOLDINGS

SCALE: N.T.S.

DRAWN BY: JWB | CHECKED BY: BDH

REDNISS & MEAD

Land Surveying
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Planning & Zoning Consulting
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Tel: 203.327.0500 | Fax: 203.357.1118
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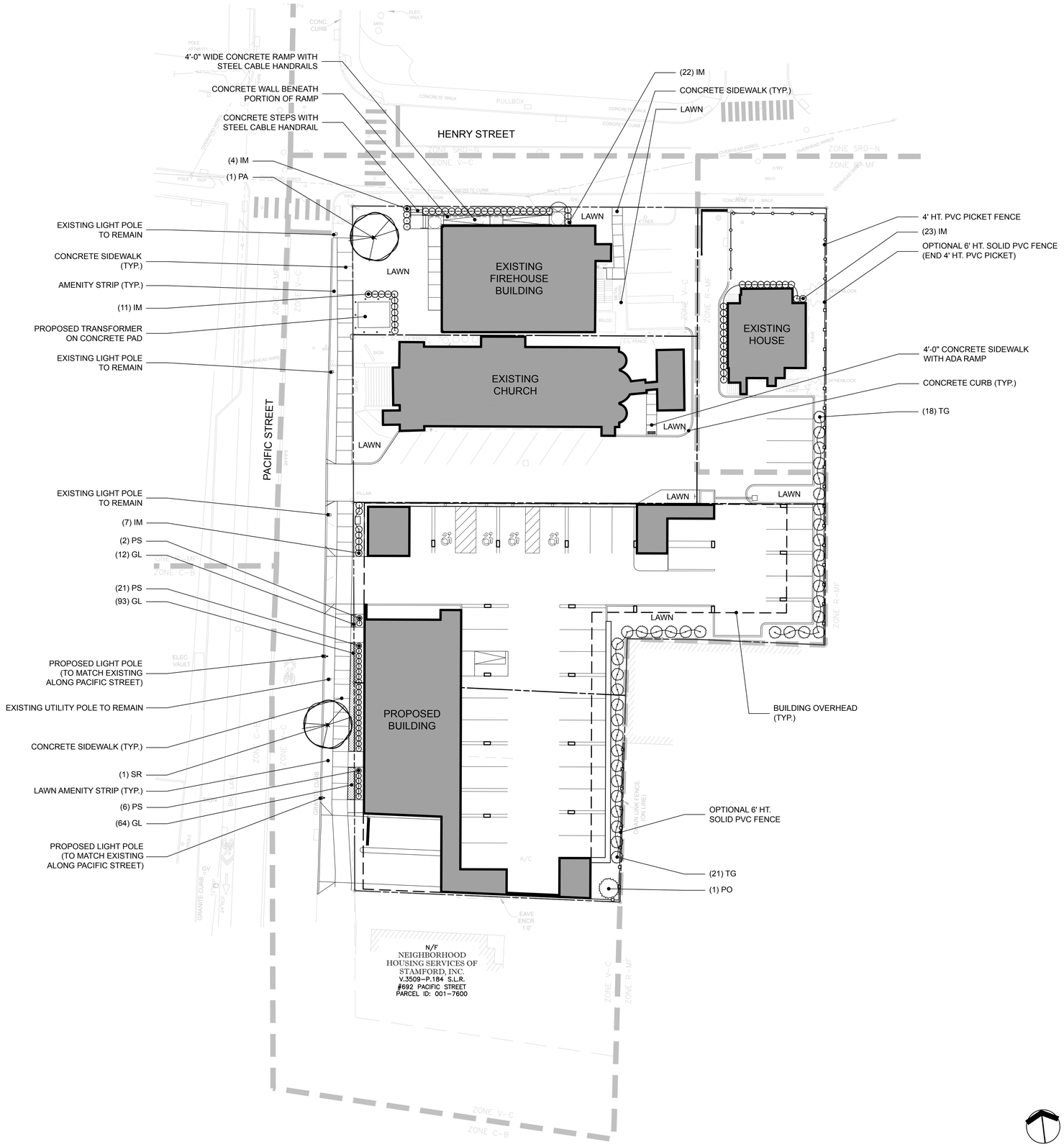
BRET D. HOLZWARTH CT. P.E. 27812

January 7, 2022
DATE

SHEET No:

SE-9

Comm. No.: 6546Z



NOTES:
1. REFER TO SPL-2.0 FOR PLANTING SCHEDULE, NOTES AND DETAILS.
2. THIS DRAWING IS FOR APPROVALS ONLY AND NOT TO BE USED FOR CONSTRUCTION.

GRAPHIC SCALE
20 0 10 20 40 80
SCALE: 1" = 20'-0"

eric raines landscape architecture, llc
11a N Main Street SoNo, CT 203.354.6500 www.ericraines.com

NO.	ISSUE	DATE
7		
6		
5	ZONING SUBMISSION - REVISED PER COMMENTS	22.01.12
4	ZONING SUBMISSION	21.10.08
3	DRAFT CITY SUBMISSION	21.10.01
2	DRAFT - FOR TEAM REVIEW	21.09.21
1		

PROJECT
648, 670, 686 & 690 PACIFIC STREET & 171 HENRY STREET
STAMFORD, CT

DWG TITLE
LANDSCAPE SITE PLAN

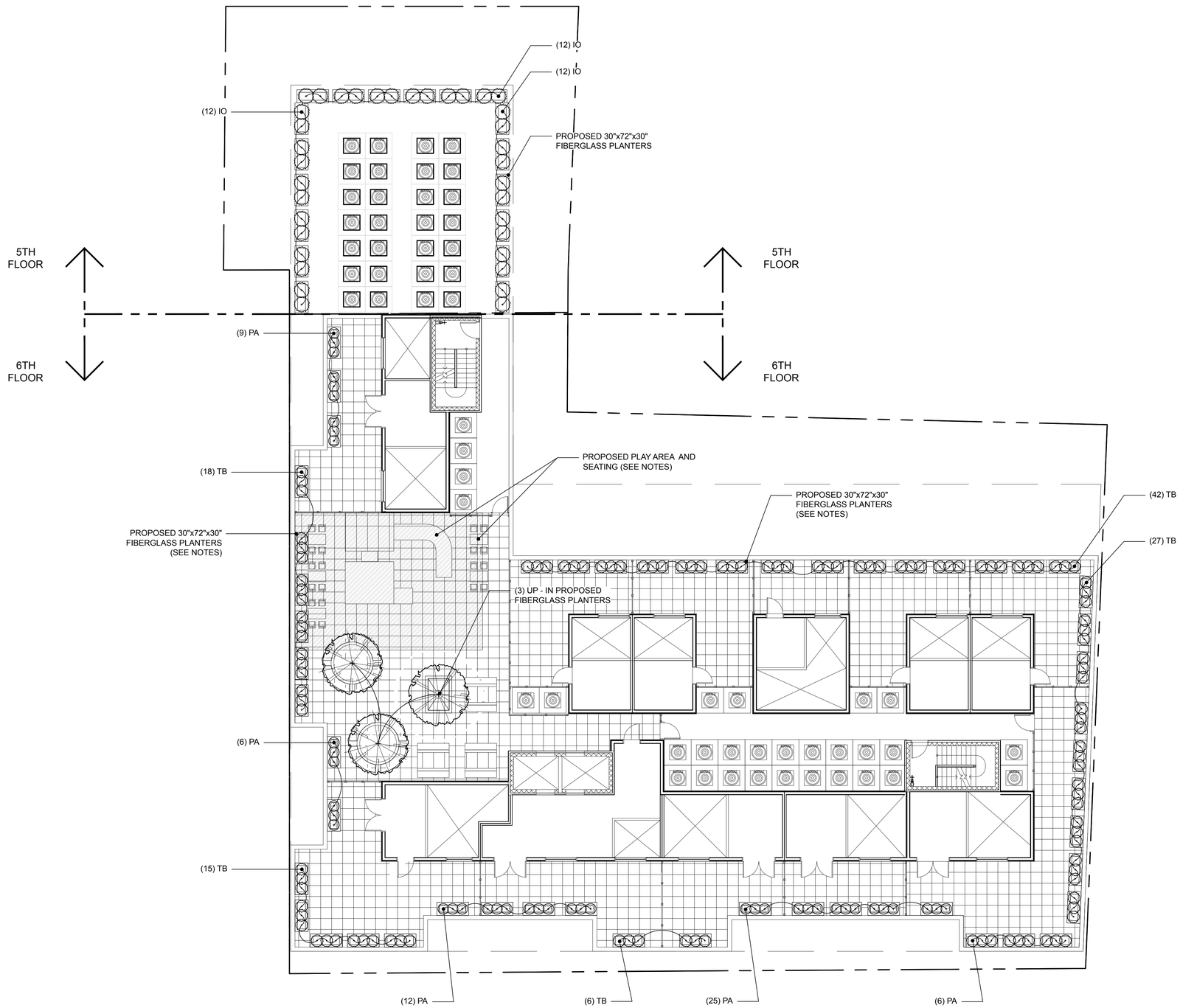
JOB NO.

DATE
2021.10.08

SCALE
1"=20'-0"

SPL-1.0

NOTES:
1. REFER TO SPL-2.0 FOR PLANTING SCHEDULE, NOTES AND DETAILS.
2. IRRIGATION WILL BE PROVIDED TO PLANTERS AS REQUIRED.
3. PLANTERS SHOWN IN PRIVATE TERRACE AREAS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. FINAL QUANTITIES AND LOCATIONS WILL BE DETERMINED DURING CONSTRUCTION.
4. PROPOSED SEATING IS SHOWN FOR REFERENCE. FINAL LOCATION(S) WILL BE DETERMINED BASED ON SELECTION OF PLAY EQUIPMENT.
5. THIS DRAWING IS FOR APPROVALS ONLY AND NOT TO BE USED FOR CONSTRUCTION.



GRAPHIC SCALE
10 0 5 10 20 40
SCALE: 1" = 10'-0"

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6	ZONING SUBMISSION	21.10.08
5	DRAFT CITY SUBMISSION	21.10.01
4	DRAFT - FOR TEAM REVIEW	21.09.21

648, 670, 686 & 690 PACIFIC STREET & 171 HENRY STREET
STAMFORD, CT

PROJECT

DWG TITLE
5TH & 6TH FLOOR ROOF LANDSCAPE PLAN

JOB NO.

DATE
2021.10.08

SCALE
1"=10'-0"

SPL-1.1

PLANTING SCHEDULE - SITE

SYM	QTY.	BOTANICAL NAME	COMMON NAME	ROOT	MIN.SIZE	COMMENTS	MATURE SIZE
TREES							
PA	1	Platanus x acerifolia 'Mortons Circle'	EXCLAMATION PLANE TREE	B&B	3.5"-4" CAL. / 16'-18' HT.	Full, 6' Branching min.	50-60' H x 35-45' W
PO	1	Picea omorika	SERBIAN SPRUCE	B&B	12'-14' HT.	Full, Heavy	40-60' H x 15-20' W
SR	1	Syringa reticulata	JAPANESE TREE LILAC	B&B	3.5"-4" CAL. / 16'-18' HT.	Full, Heavy	20-30' H x 15-20' W
TG	39	Thuja 'Green Giant'	GREEN GIANT ARBOVITAE	B&B	10'-12' HT.	Full, Heavy - Hedged	40-60' H x 12-15' W
PERENNIALS AND SHRUBS							
GL	168	Gaura lindheimeri	WHIRLING BUTTERFLIES GAURA	CONT	1 Gal. / 12" HT.	Spacing 12" O.C.	30" H x 3" W
IM	70	Ilex x merserveae 'Heckenstar'	CASTLE WALL HOLLY	CONT	30" - 36" HT.	Heavy, Spacing 36" O.C.	5-8' H x 3-4' W
PS	29	Pinus strobus 'Nana'	DWARF WHITE PINE	CONT	18" - 24" HT.	Heavy, Spacing 24" O.C.	3-4' H x 3-4' W

PLANTING SCHEDULE - ROOF (FLOOR 5 AND 6)

SYM	QTY.	BOTANICAL NAME	COMMON NAME	ROOT	MIN.SIZE	COMMENTS	MATURE SIZE
TREES							
UP	3	Ulmus parvifolia	LACEBARK ELM	B&B	3"-3.5" CAL. / 12'-14' HT.	Full, Heavy	15-22' H x 20-25' W
PERENNIALS AND SHRUBS							
IO	36	Ilex opaca	AMERICAN HOLLY	CONT	24"-30" HT.	Full, Heavy - Hedged	36" H x 36" W
PA	58	Pennisetum alopecuroides 'Hameln'	DWARF FOUNTAIN GRASS	CONT	1 GAL. / 12"-18"	Full, Heavy	30" H x 30" W
TB	108	Taxus baccata 'Repandens'	ENGLISH YEW	CONT	20"-24" HT.	Full, Heavy	36" H x 36" W

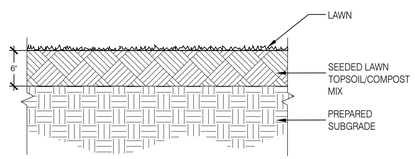
SOIL CHART - SITE

POST CONSTRUCTION SOIL CONDITION	TYPE OF PREPARATION
GOOD SOIL	LOOSEN EXISTING SOIL
COMPACTED SOIL	LOOSEN EXISTING SOIL, ADD COMPOSTED ORGANIC MATTER TO BRING ORGANIC CONTENT TO 5% DRY WEIGHT
CLAY CONTENT 5-35%	LOOSEN EXISTING SOIL, ADD ORGANIC MATTER TO BRING ORGANIC CONTENT TO 5% DRY WEIGHT
SANDY LOAM SOILS	ADD CLEAN COMPOSTED ORGANIC MATERIAL (20% MAX. BY VOLUME) TO THE EXISTING SOIL
POOR QUALITY, HEAVY CLAY SOIL	REMOVE EXISTING SOIL, ADD LOAM TOPSOIL

LIGHTWEIGHT SOIL MIX - ROOF

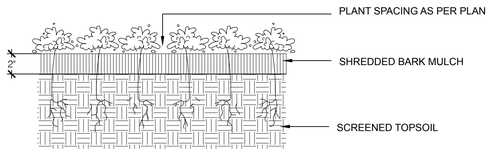
ROOFLITE 'INTENSIVE 600'. SUPPLIED BY ROOFLITE. www.rooflite.com

* MIX SHALL BE TESTED AFTER SETTLING TO ENSURE APPROPRIATE PH AND NUTRIENT LEVELS
* CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR APPROVAL.
* LIGHTWEIGHT SOIL SHALL BE USED IN ALL COURTYARD PLANTING AREAS AND ROOF TERRACE PLANTERS.



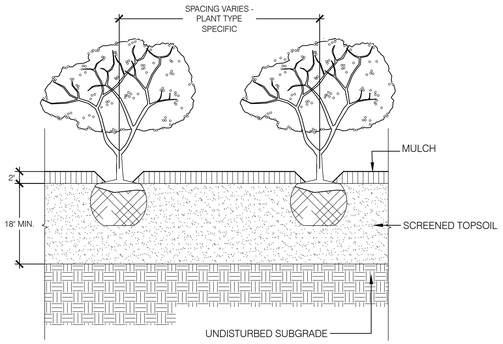
1 SEEDED LAWN

SCALE: NTS



2 PERENNIAL / GROUNDCOVER PLANTING

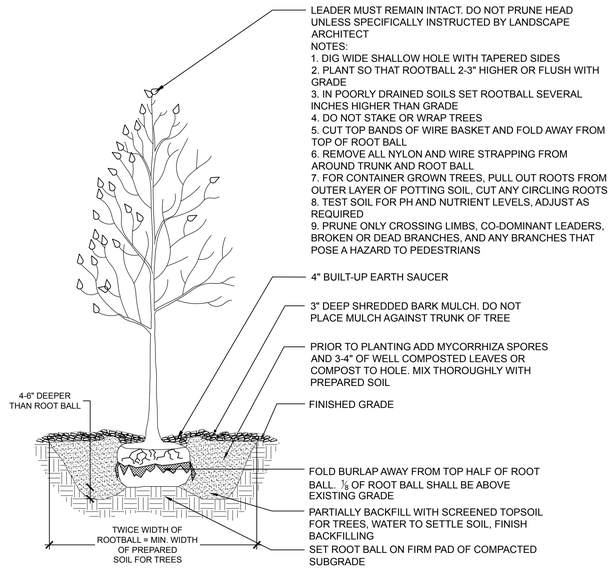
SCALE: NTS



NOTE: PLANTS ARE TO BE SPACED AS REQUIRED BY PLANTING SCHEDULE

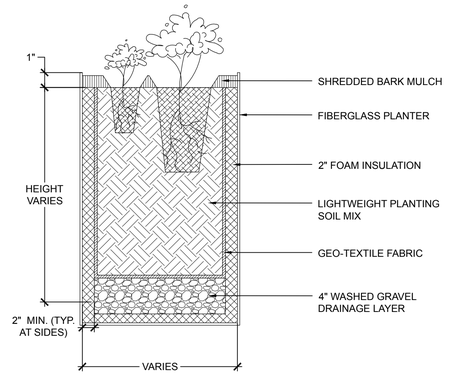
3 SHRUB PLANTING

SCALE: NTS



4 TREE PLANTING

SCALE: NTS



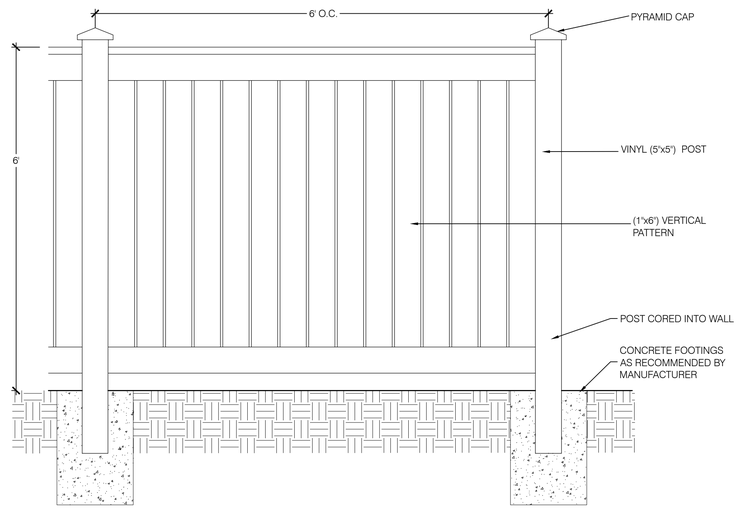
5 FIBERGLASS PLANTER - ROOF PLANTINGS

SCALE: NTS

NOTES: FENCE AND ALL ACCESSORIES SHALL BE COLOR: WHITE.

6 4' HT. PVC PICKET FENCE (REFERENCE IMAGE)

SCALE: NTS



NOTES: FENCE AND ALL ACCESSORIES SHALL BE COLOR: WHITE.

7 6' HT. SOLID PVC PRIVACY FENCE

SCALE: NTS

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DWG TITLE
LANDSCAPE SITE DETAILS

JOB NO.

DATE
2021.10.08

SCALE
AS NOTED

SPL-2.0