

**CITY OF DOVER**

## PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting  
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820  
Meeting Date: **Thursday, July 6, 2023**  
Meeting Time: **10:30 AM**

1. 10:30 AM- 11:15 AM: Site Review Amendment for Civil Consultants (Owners: One First Street, LLC), Assessor's Map 6, Lot 2, zoned CBD-G, located at 10 First Street. (Proposal is to revise utilities along First Street, revise storefront along Second Street, replace landscaping with porous paver patio, revise east alley to accommodate existing utilities.) (WAIV-2023-0006).



## PLAN SNAPSHOT REPORT WAIV-2023-0006 FOR CITY OF DOVER, N.H.

**Plan Type:** Waiver / Extension / Amendment      **Project:**      **App Date:** 06/08/2023  
**Work Class:** Plan      **District:** None      **Exp Date:** 08/14/2023  
**Status:** Submitted - Online      **Square Feet:** 0.00      **Completed:** NOT COMPLETED  
**Valuation:** \$0.00      **Assigned To:** Blonigen, Rachel      **Approval**  
**Description:** Amendment of approved plan      **Expire Date:**

|                             |      |                                           |      |              |
|-----------------------------|------|-------------------------------------------|------|--------------|
| <b>Parcel:</b> 06020-000000 | Main | <b>Address:</b> 10 Second St<br>Dover, NH | Main | <b>Zone:</b> |
|-----------------------------|------|-------------------------------------------|------|--------------|

|                                                                                                                                                      |                                                                                                                                                       |                                                       |                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Engineer<br>Neil Rapoza<br>293 Main Street PO Box 100<br>PO Box 100<br>South Berwick, ME 03908<br>Business: (207) 384-2550<br>Mobile: (603) 973-9231 | Applicant<br>Neil Rapoza<br>293 Main Street PO Box 100<br>PO Box 100<br>South Berwick, ME 03908<br>Business: (207) 384-2550<br>Mobile: (603) 973-9231 | Architect<br>Bill Bartell<br>Business: (603) 431-2808 | Owner<br>One First Street, LLC<br>3 Penstock Way<br>Newmarket, NH 03857<br>Business: (603) 868-5995<br>Mobile: (207) 451-8704 |
| Landscape Architect<br>Ironwood Design Group LLC<br>Business: (603) 772-0590                                                                         | Applicant<br>One First Street, LLC<br>3 Penstock Way<br>Newmarket, NH 03857<br>Business: (603) 868-5995<br>Mobile: (207) 451-8704                     |                                                       |                                                                                                                               |

### Plan Custom Fields

|                             |                                                                                                                                                                                                  |                                                       |                       |                                              |                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------|----------------------------------------------|--------------------------------------------------|
| Project Location            | 10 Second Street                                                                                                                                                                                 | Waiver Request Type                                   | Amendment             | Project Name                                 | Second Street<br>Courthouse                      |
| Owner Phone                 |                                                                                                                                                                                                  | Owner Name                                            | One First Street, LLC | Original Plan Approval<br>Date               | Jan 10 2022 12:00AM                              |
| Owner Address               | 3 Penstock Way,<br>Newmarket, NH 03857                                                                                                                                                           | Owner EMail                                           | pgoodwin@chinburg.com | Plan ID Number                               | P21-30                                           |
| Plan Type                   | Site Plan                                                                                                                                                                                        | Extension Request<br>Detail                           |                       | Condition / Portion of<br>Plan to be Amended | First and Second Street<br>frontages, east alley |
| Amendment Request<br>Detail | First Street utilities to be<br>revised, Second Street<br>store front revised and<br>porous paver patio<br>replacing landscaping,<br>east alley revised to<br>accommodate existing<br>utilities. | Site / Subdivision<br>Portion of Plan to be<br>Waived |                       | Waiver Request Detail                        |                                                  |

| Attachment File Name               | Added On         | Added By     | Attachment Group | Notes            |
|------------------------------------|------------------|--------------|------------------|------------------|
| Signature_Neil_Rapoza_6/9/2023.jpg | 06/08/2023 21:44 | Rapoza, Neil |                  | Uploaded via CSS |

| Invoice No.                    | Fee                                                | Fee Amount | Amount Paid |
|--------------------------------|----------------------------------------------------|------------|-------------|
| INV-00003718                   | Planning Waiver / Extension /Amend Application Fee | \$200.00   | \$200.00    |
| Total for Invoice INV-00003718 |                                                    | \$200.00   | \$200.00    |
| Grand Total for Plan           |                                                    | \$200.00   | \$200.00    |

| Workflow Step / Action Name                   | Action Type       | Start Date | End Date |
|-----------------------------------------------|-------------------|------------|----------|
| Review v.1                                    |                   |            |          |
| Confirm application complete v.1              | Generic Action    |            |          |
| Technical Review Committee Meeting Agenda v.1 | Task              |            |          |
| Land Use Plan Technical Review v.1            | Receive Submittal |            |          |
| Technical Review Committee Meeting v.1        | Hold Meeting      |            |          |



## PLAN SNAPSHOT REPORT (WAIV-2023-0006)

### Planning Board v.1

|                                           |               |
|-------------------------------------------|---------------|
| Planning Board Agenda v.1                 | Task          |
| Invoice for Notices v.1                   | Task          |
| Send Notices v.1                          | Task          |
| Planner Creates Staff Recommendations v.1 | Plan Activity |
| Distribute Planning Board Materials v.1   | Task          |
| Planning Board Hearing v.1                | Hold Hearing  |
| Planning Board Decision v.1               | Plan Activity |
| NOD Sent to Applicant v.1                 | Create Report |

### Final Plan v.1

|                                        |                   |
|----------------------------------------|-------------------|
| Land Use Plan Final Review v.1         | Receive Submittal |
| Land Use Plan Stamped and Signed v.1   | Generic Action    |
| Plans uploaded to Treeno v.1           | Generic Action    |
| Recording v.1                          | Task              |
| Property Info Group v.1                | Generic Action    |
| Building Official Notifies Address v.1 | Generic Action    |
| Pre-Con Meeting v.1                    | Hold Meeting      |

### Create/Link to Records v.1

|                                                       |                   |
|-------------------------------------------------------|-------------------|
| Create / Link to Permit - Building Complex v.1        | Create Sub Permit |
| Create / Link to Permit - Site Work, Construction v.1 | Create Sub Permit |



# CITY OF DOVER, NEW HAMPSHIRE

## PLANNING APPLICATION OWNER AUTHORIZATION

### OWNER AUTHORIZATION

I/We hereby submit this application to the City of Dover / City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Property Owner Name:

One First Street LLC

Signature(s) of Property Owner(s):

Date: 2023-06-08

Signature of Applicant:

*if different from owner*

Date:

### AUTHORIZATION TO ENTER SUBJECT PROPERTY

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity..

Property Owner Name:

One First Street LLC

Signature(s) of Property Owner(s):

Date: 2023-06-08

Signature of Applicant:

*if different from owner*

Date:

### IF SIGN PERMIT, SIGN PERMIT APPLICATION INFORMATION

If the sign permit applicant is not the property owner, this form must be completed and included as part of application submission.

I have read this application and state that, to the best of my knowledge, the information provided is true and that the proposed sign(s) will comply with all applicable regulations in Section 170-32 of the Zoning Ordinance of the City of Dover and shall conform to the submitted materials and designs. Furthermore, after 90 days, any application still waiting information will be denied.

Address of Sign Location:

Sign Permit Application Type:  
(check one)

- ☐ Permanent Sign
- ☐ Temporary Sign
- ☐ Community Sign



**CIVIL  
CONSULTANTS**

*P. O. Box 100  
South Berwick  
Maine  
03908  
207-384-2550  
FAX 384-2112*

June 8, 2023

Donna Benton, AICP  
Dover Director of Planning and Community Development  
288 Central Avenue  
Dover, NH 03820

Email: [d.benton@dover.nh.gov](mailto:d.benton@dover.nh.gov)

**RE: Second Street Courthouse – Site Plan Amendment  
10 Second Street  
Dover Planning File: P21-30**

Ms. Benton:

The Owner of the above referenced property is proposing an amendment to the approved plans for the 'Second Street Courthouse Redevelopment and Expansion'. This is required to both accommodate both City and utility company requests, and potential tenant needs. Also indicated on the revised plans are locations of utilities that were modified at the direction of Eversource, NH DES and Unutil.

It is our contention that the modifications maintain the intentions and goals of the originally approved plans, and that they will produce an improved development for the Owner and the City when implemented. The amended items include the following:

- a. Conversion of approved landscaped area to an outdoor dining space with a combination of pervious paver and landscape planters constructed with architectural block walls. This will also include modifications to the stormwater management plan as appropriate to account for the site coverage changes.
- b. Modification of the front façade of the Second Street commercial space to include additional fenestration and revised entrance layout.
- c. Modification to the approved main entry canopy to remove a center pillar and include signage.
- d. Modification to the approved east exterior stair and planters as required to accommodate existing subsurface utilities discovered during excavation.

- e. Modifications to the approved First Street utility plan as required to accommodate existing subsurface utilities discovered during excavation.
- f. Addition of a concrete pad for use by Eversource personnel at the electric meter bank.
- g. Relocation of the transformer pad per Eversource direction.
- h. Reconfiguring the approved exterior lighting plan to accommodate items a. – d. noted above.

Included in this submission is an application for plan revision, a full set of revised plans, and a revised Stormwater Management Plan. A list of each sheet in the plan set has also been prepared that describes the revisions made to each individual sheet to assist in review.

It is our intention to meet the previously approved C.U.P.'s for the project, which will not be revised with this submission.

Please feel free to contact us with any questions as you perform your review.

Respectfully yours,  
CIVIL CONSULTANTS



Neil J. Rapoza, P.E.,  
Vice President  
Sr. Project Engineer  
Cell: 603-973-9231

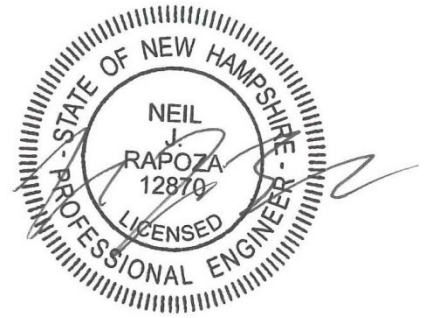
Enclosures: Revised Plan Set, Plan Revision Memo, Revised Stormwater Management Plan

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## CIVIL CONSULTANTS MEMORANDUM

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**TO:** Donna Benton, Planner, City of Dover      **DATE:** 6/8/2023  
**FROM:** Neil J. Rapoza, PE  
CIVIL CONSULTANTS  
**SUBJECT:** Plan Revision Memo  
**PROJECT:** 20-279.00 One First Street, LLC (Dover project #P21-30)



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The applicant for Dover project #P21-30 is proposing modifications to the approved site plans for the purpose of accommodating existing utilities and allowing for upfitting a commercial space for use by a potential tenant. The changes required several changes on multiple sheets of the plan set that include building facades, landscaping layouts, and utility modifications.

This memo is intended to outline the revisions made to each sheet of the approved plan set. Revisions on each plan are not noted on the plan sheets themselves, as the number of small changes would have rendered them unreadable and not useful for final review or construction.

Each sheet is listed, with the revisions made noted below. If it is noted that “no revision” has been made, please be aware that the revision date has still been updated to coincide with the full revised set.

### **Site Plans:**

#### Sheet C1

- a. Added sheets LP6 – LP8 to index.
- b. Updated owner information on abutting lots.
- c. Revised site outline to reflect proposed site modifications.

#### Sheet EC1

No Revision

#### Sheet L1

- a. Updated owner information on abutting lots.
- b. Revised First Street site modification to include patio and planter.
- c. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.
- d. Revised transformer pad per Eversource request.
- e. Added fire hydrant information inadvertently left off the approved plan.
- f. Added topography inadvertently left off the approved plan.

#### Sheet L2

- a. Revised coverage information, Note 8. Increase from 90.0% to 93.7%.
- b. Revised First Street site modification to include patio and planter.



- c. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot (electric bank and vault shown).
- d. Revised transformer pad per Eversource request.
- e. Added spot grades and notes relevant to proposed Second Street patio.
- f. Added electric meter and associated workplace platform.
- g. Added note for guy wire to be relocated on Second Street.

#### Sheet L3

- a. Added note for guy wire to be relocated on Second Street.
- b. Existing electric bank and vault indicated in east alley.

#### Sheet L4

- a. Revised First Street site modification to include patio and planter.
- b. Added underdrained paver patio layout and associated drainage structures.
- c. Added spot grades and notes relevant to proposed Second Street patio.
- d. Added detail for tiered block planter system at proposed patio.
- e. Indicate partial proposed lighting (refer to landscaping plans for final lighting).
- f. Added reinforced concrete notes applicable to exterior stairs and slabs.

#### Sheet L5

- a. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.
- b. Added construction details for east alley stair with associated fence and rails.
- c. Revised transformer pad per Eversource request.
- d. Relocated gas meters per Unitil request.
- e. Revised utility layout at First Street per existing conditions upon excavation of area.
- f. Added electric meter and associated worker platform.

#### Sheet L6

- a. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.
- b. Added erosion control berm to legend.

#### Sheet L7

- a. Added construction details for electric meter pad.
- b. Added construction details for drainage field inlet.

#### Sheet L8

- a. Added construction details for Nyloplast drain basin.

#### Sheet S1

- a. Revised sewer plan and profile per NH DES and Dover Sewer Department recommendations, and as required by field conditions.
- b. Revised water service per Dover Water recommendations.



## **Landscaping Plans:**

### Sheet LP1

- a. Revised First Street site modification to include patio and planter.
- b. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.
- c. Revised lighting layout at First Street, Second Street, and alley.
- d. Added details for wall mount light and catenary fixture.
- e. Revised Light Fixture Schedule and Lighting Legend.

### Sheet LP2

- a. Revised First Street site modification to include patio and planter.
- b. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.
- c. Revised lighting layout at First Street, Second Street, and alley.
- d. Revised Second Street entry for installation of standard brick replacing concrete pavers and removed granite threshold.
- e. Revised Plant Schedule as appropriate for modifications to layout.

### Sheet LP3

No Revision

### Sheet LP4

- a. Removed concrete unit paver detail.
- b. Added brick pavement detail.
- c. Added note for spacers and fill joints for porous concrete paver detail.

### Sheet LP5

- a. Removed lighting details.

### Sheet LP6

- a. This sheet added to indicate lighting elevations and fixture depictions, South and East elevation of building.

### Sheet LP7

- a. This sheet added to indicate lighting elevations and fixture depictions, Interior Courtyard and North entrance of building.

### Sheet LP8

- a. This sheet added to lighting details.



## **Architectural Plans:**

### Sheet A0

- a. Second Street isometric view revised to indicate modified site plan and commercial patio area.
- b. Building modified to indicate new entry to commercial space and revised canopy to main entrance.

### Sheet A1.0

- a. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.

### Sheet A1.1

- a. Revised stair and planter configuration at east alley to accommodate existing utilities encroaching on subject lot.

### Sheet A1.2

No Revision.

### Sheet A1.3

No Revision.

### Sheet A1.4

No Revision.

### Sheet A1.5

No Revision.

### Sheet A2

- a. North elevation modified to indicate new patio and entry to commercial space and revised canopy to main entrance.

### Sheet A3

- a. Revised elevations to indicate modified stair and planter configuration at east alley.

### Sheet A4

No Revision.

J:\aaa\2020\2027900\DOVER\20230602-2027900-REVISION\20230607-2027900-Revised-Plan\_Items\_Memo.docx



**CIVIL  
CONSULTANTS**

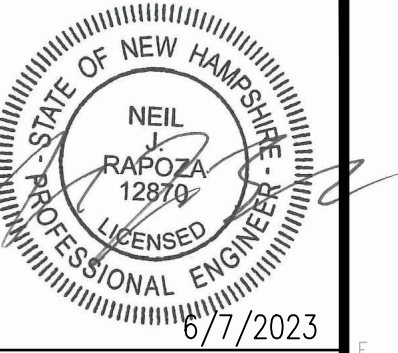
P.O. Box 100 South Berwick, Maine 03908 207-384-2550



# FORMER STRAFFORD COUNTY COURT HOUSE REDEVELOPMENT AND EXPANSION "SECOND STREET COURT HOUSE"

10 SECOND STREET  
DOVER, NEW HAMPSHIRE

PREPARED FOR:  
ONE FIRST STREET, LLC.  
3 PENSTOCK WAY  
NEWMARKET, NH 03857



## SUBJECT PROPERTY

6-20 ONE FIRST STREET, LLC  
3 PENSTOCK WAY  
NEWMARKET, NH 03857

- 6-22 WEST CONCORD INVESTMENTS LLC,  
222 CASS ST PORTSMOUTH, NH 03801-4945
- 6-18 SOUDAKIM, LLC  
750 LAFAYETTE RD, SUITE 201, PORTSMOUTH, NH 03801
- 6-19 MACGREGOR, JOHN M. & KATRINE B.,  
92 DOVER RD DURHAM, NH 03824
- 6-21A HENRY PETER T & HENRY JOAN  
454 CENTRAL AVE DOVER, NH 03820
- 6-21-3 CARTELLI'S LLC,  
PO BOX 1494 DOVER, NH 03821-1494
- 6-21-2 MARKER 21 HOLDINGS LLC,  
130 CENTRAL AVE DOVER, NH 03820
- 6-21-1 BUILD UPON LLC,  
32 JOCO DR TYNGSBORO, MA 01879
- 6-24 CAMIRE DAVID R & CAMIRE STACEY LEE  
281 WASHINGTON STREET, DOVER, NH 03820
- 6-15 KAB REALTY MANAGEMENT LLC,  
35 THIRD ST DOVER, NH 03820-3316
- 6-16 ANDERSON, KIMBERLEY E., TRUSTEE, FIRST DOVER REALTY TRUST  
84 SHORE DRIVE, NORTHWOOD, NH 03261
- 6-17 HOLGATE LIMITED PARTNERSHIP  
130 CENTRAL AVE DOVER, NH 03820
- 6-25 CAMIRE DAVID R & CAMIRE STACEY LEE  
281 WASHINGTON STREET, DOVER, NH 03820-3608
- 6-26 FREEBOARD PROPERTIES LLC,  
PO BOX 1818, DOVER, NH 03821-1818
- 6-1 432 CENTRAL AVE LLC,  
PO BOX 1384 HAMPTON, NH 03843
- 6-3 RIPARIA - ONE HUNDRED FIRST STREET LLC,  
466 CENTRAL AVE STE 12 DOVER, NH 03820
- 6-37 ANBELWOLD LLC,  
101 MILL ROAD, DURHAM, NH 03824-2910
- 6-38 ROSS FURNITURE COMPANY INC,  
38 THIRD STREET DOVER, NH 03820
- 6-39 ROSS FURNITURE COMPANY INC,  
38 THIRD STREET DOVER, NH 03820
- 6-33 ROSS FURNITURE COMPANY INC,  
38 THIRD STREET DOVER, NH 03820
- 6-34 17-19 SECOND ST LLC,  
43 NELSON STREET OFFICE DOVER, NH 03820
- 6-36 BAMFORD INVESTMENT CO LLC,  
466 CENTRAL AVE SUITE 12 DOVER, NH 03820
- 6-36A BAMFORD INVESTMENT CO LLC,  
466 CENTRAL AVE SUITE 12 DOVER, NH 03820
- 6-35 SOUDAKIM, LLC,  
38 WASHINGTON ST, HAVERHILL, MA 01832
- 6-35A BAMFORD INVESTMENT CO LLC,  
466 CENTRAL AVE SUITE 12 DOVER, NH 03820
- 3-64 PILLAR INVESTMENT CORP  
340 CENTRAL AVE #202 DOVER, NH 03820
- 3-66 COCHECO MILLS HOLDINGS LLC,  
3 PENSTOCK WAY NEWMARKET, NH 03857-4416
- 3-67 421 CENTRAL AVENUE LLC,  
113 BUNKER HILL AVENUE STRATHAM, NH 03885



NEIGHBORHOOD PLAN & TAX MAP SKETCH  
APPROXIMATE SCALE: 1" = 60'

## INDEX:

- C1 NEIGHBORHOOD PLAN AND ABUTTER INFORMATION
- EC1 EXISTING CONDITIONS PLAN
- L1 NEIGHBORHOOD TOPOGRAPHY PLAN  
L2 PROPOSED SITE PLAN  
L3 DEMOLITION PLAN  
L4 SECOND STREET UTILITY PLAN  
L5 FIRST STREET UTILITY PLAN  
L6 EROSION CONTROL PLAN  
L7 CONSTRUCTION NOTES AND DETAILS  
L8 CONSTRUCTION NOTES AND DETAILS  
S1 SEWER PLAN & PROFILE, UTILITY PLAN
- LP1 EXTERIOR LIGHTING PLAN (IRONWOOD)  
LP2 LANDSCAPE PLAN (IRONWOOD)  
LP3 LANDSCAPE DETAILS (IRONWOOD)  
LP4 LANDSCAPE DETAILS (IRONWOOD)  
LP5 LANDSCAPE DETAILS (IRONWOOD)  
LP6 LIGHTING ELEVATIONS (IRONWOOD)  
LP7 LIGHTING ELEVATIONS (IRONWOOD)  
LP8 LANDSCAPE DETAILS (IRONWOOD)
- A0 PROPOSED VIEWS (CJ)  
A1.0 LOWER LEVEL FLOOR PLAN (CJ)  
A1.1 FIRST FLOOR PLAN (CJ)  
A1.2 SECOND FLOOR PLAN (CJ)  
A1.3 THIRD FLOOR PLAN (CJ)  
A1.4 FOURTH FLOOR PLAN (CJ)  
A1.5 ROOF PLAN (CJ)  
A2 ELEVATIONS (CJ)  
A3 ELEVATIONS (CJ)  
A4 ELEVATIONS (CJ)

## OWNER:

6-20 ONE FIRST STREET, LLC  
3 PENSTOCK WAY  
NEWMARKET, NH 03857

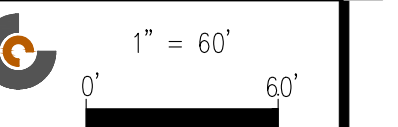
Paul Goodwin,  
Agent for owner

OWNER SIGNATURE

PROPOSED SITE MODIFICATIONS  
LAND OF ONE FIRST STREET, LLC  
10 SECOND STREET - TAX MAP 6, LOT 20  
DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE

PREPARED FOR:

ONE FIRST STREET, LLC  
3 PENSTOCK WAY, NEWMARKET, NH 03857  
FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707



DATE: 4/9/2021  
DRAWN BY: NJR  
CHECKED BY:  
APPROVED BY:

NEIGHBORHOOD  
PLAN AND ABUTTER  
INFORMATION

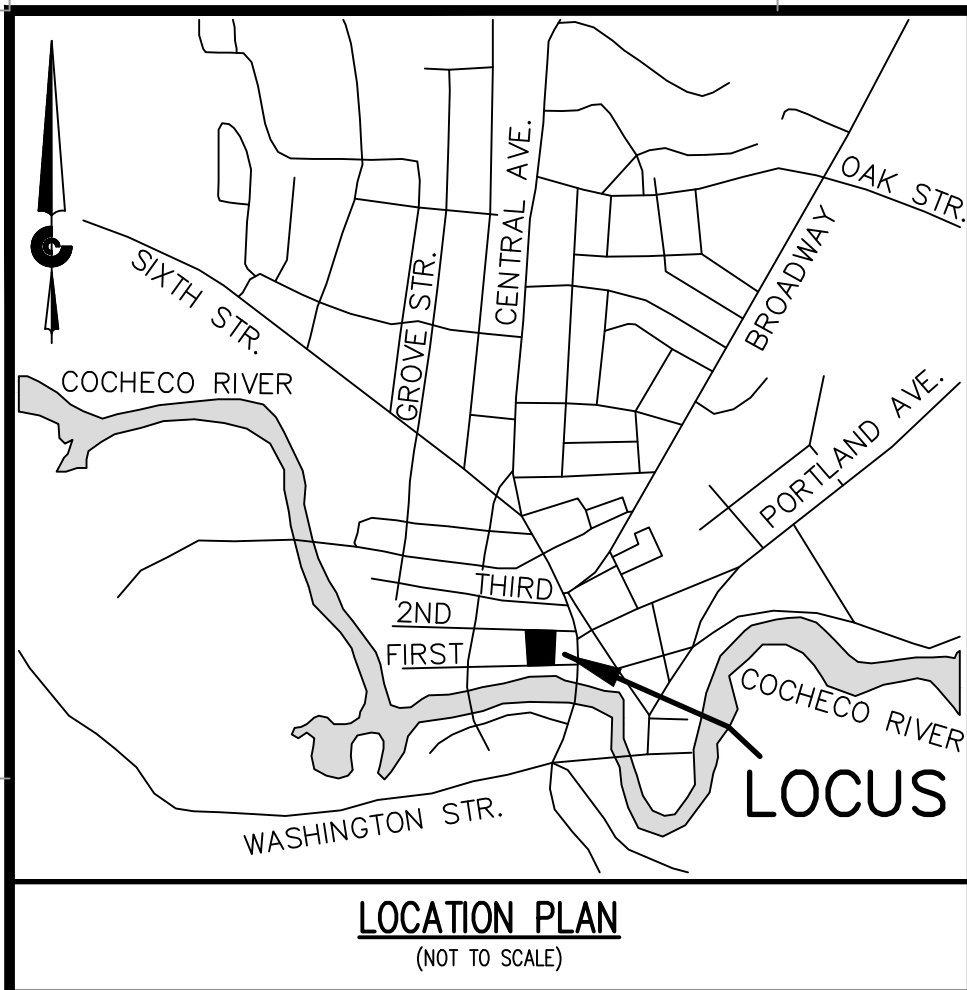
PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

C1

SHEET: 1 OF 29

TAX MAP 6, LOT 20





### NOTES:

- PLANIMETRIC DETAIL DEPICTED HEREON IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY BY CIVIL CONSULTANTS ON APRIL 13 & 15, 2016 AND MARCH 15 & 23, 2021.
- NORTH AS DEPICTED HEREON IS REFERENCED TO GRID NORTH, NAD83, NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM. COORDINATE VALUES AND ORIENTATION ARE DERIVED FROM A GPS SURVEY COMPUTED UTILIZING THE NGS OPUS ON-LINE PROCESSING SERVICE. REFERENCE FRAME IS NAD83 COGS90 EPOCH 2010.0000. THE SURVEY IS TIED TO CORN STATIONS BOSTON WAS 1 CORN (ZEW), BARLETT CORN (BARN) AND BRUNSMOCK 1 CORN (BRU1). DISTANCES DEPICTED HEREON ARE GRID. TO CONVERT GRID DISTANCES TO GROUND DISTANCES, MULTIPLY THE GRID DISTANCES BY 0.999980490 (AVERAGE COMBINED SCALE FACTOR FOR THE SITE).
- ELEVATIONS DEPICTED HEREON ARE REFERENCED TO NAVD83, DERIVED FROM THE ABOVE REFERENCED GPS SURVEY. [TO CONVERT NAVD83 ELEVATIONS TO NGVD29 ELEVATIONS ADD 0.72']
- RECORD OWNER: ONE FIRST STREET, LLC
- ASSESSOR'S INFORMATION: CITY OF DOVER  
ASSESSOR'S MAP 6, LOT 20
- DEED REFERENCE: S.C.R.D. 4877/844
- UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. THE APPROXIMATE UNDERGROUND WATER, SEWER, GAS AND DRAINAGE LINES DEPICTED HEREON ARE BASED ON FIELD LOCATION OF DISSAFE PAINT (BY OTHERS). CONTRACTORS NEED TO CONTACT DISSAFE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- THE BOUNDARY LINES AS SHOWN HEREON ARE BASED ON REFERENCE PLANS 1 AND 2. RECORD GEOMETRY AS SHOWN ON THE PLANS WAS HELD FIXED AND FIT TO FOUND MONUMENTS AND BUILDING CORNERS AS SHOWN ON THE PLANS. ROAD LINES AS SHOWN ARE BASED ON THESE SAME PLANS.
- THE SUBJECT PARCEL IS SHOWN TO BE LOCATED IN FLOOD ZONE X ON FLOOD INSURANCE RATE MAPS (FIRM) 3301700330E AND 3301700310E FOR STRAFFORD COUNTY, NEW HAMPSHIRE, DATED SEPTEMBER 9, 2015. THE BUILDING IS LOCATED IN THAT PORTION OF ZONE X DESIGNATED AS HAVING LESS THAN A 0.2% ANNUAL CHANCE FLOOD HAZARD. A PORTION OF THE PARKING AREA IS LOCATED IN THAT PORTION OF ZONE X WITH A 0.2% ANNUAL CHANCE FLOOD HAZARD.

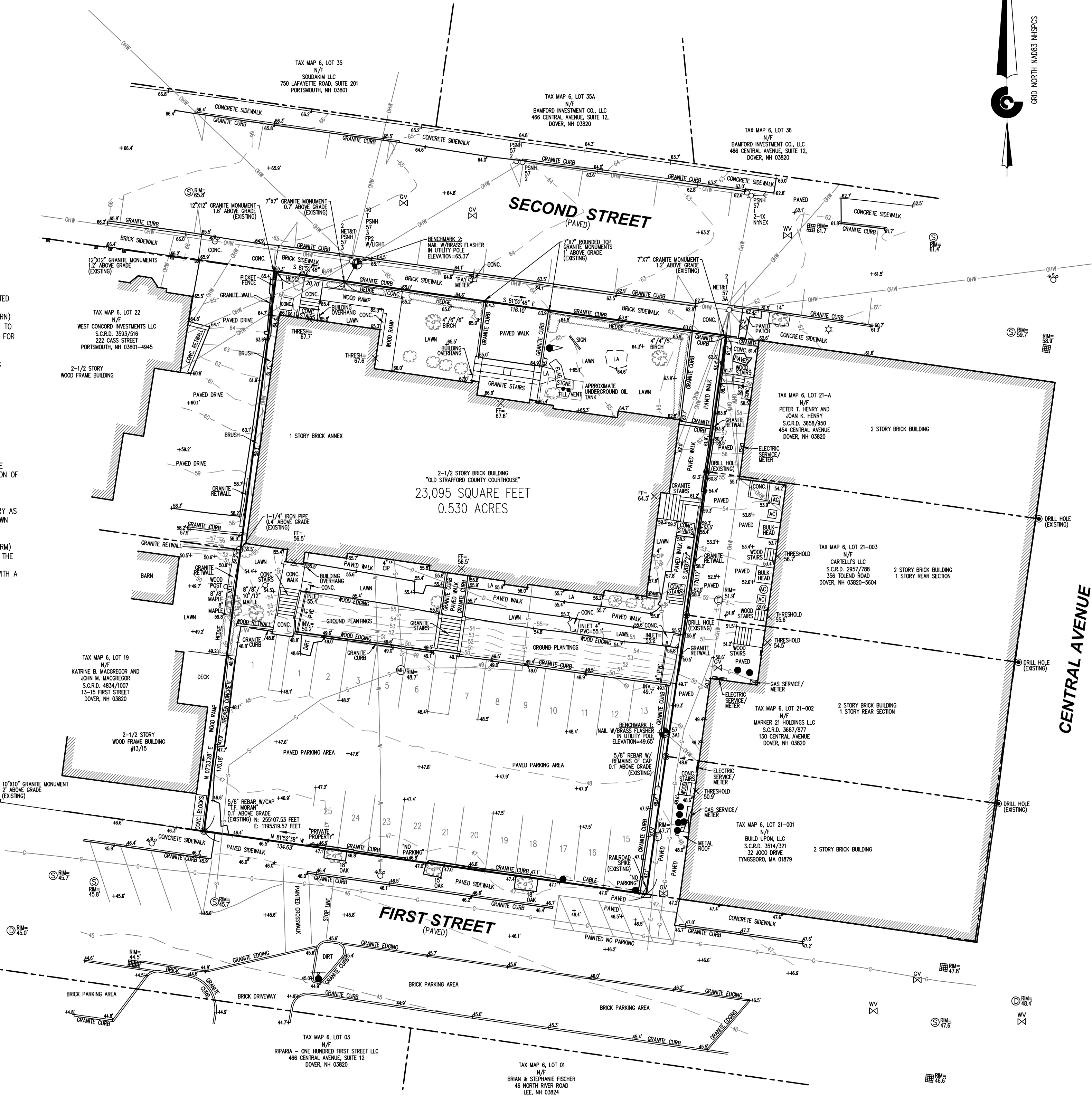
### CERTIFICATION:

(IN ACCORDANCE WITH NHRSA 676:18, III - EFFECTIVE JANUARY 1, 1996) I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

THIS SURVEY WAS PERFORMED UNDER MY DIRECTION IN ACCORDANCE WITH THE ETHICS AND STANDARDS ESTABLISHED BY THE NEW HAMPSHIRE BOARD OF LICENSURE FOR LAND SURVEYORS ON JANUARY 1, 2009 FOR A STANDARD PROPERTY SURVEY, URBAN CLASSIFICATION.

CHRISTOPHER H. MENDE  
NEW HAMPSHIRE LICENSED LAND SURVEYOR #792  
CIVIL CONSULTANTS  
SOUTH BERNICK, MAINE 03908

DATE: MARCH 30, 2021



### LEGEND:

|          |                                           |
|----------|-------------------------------------------|
| 3528/151 | DEED BOOK/PAGE                            |
| CIP      | CAST IRON PIPE                            |
| CONC.    | CONCRETE                                  |
| INV.     | INVERT                                    |
| LA       | LANDSCAPED AREA                           |
| N/F      | NOW OR FORMERLY                           |
| PVC      | POLYVINYL CHLORIDE                        |
| RET WALL | RETAINING WALL                            |
| S.C.R.D. | STRAFFORD COUNTY REGISTRY OF DEEDS        |
| AC       | AIR CONDITIONER                           |
| WV       | WATER VALVE                               |
| WSO      | WATER SHUT OFF                            |
| UWL      | APPROXIMATE UNDERGROUND WATER LINE        |
| CB       | CATCH BASIN                               |
| DMH      | DRAIN MANHOLE                             |
| UDL      | APPROXIMATE UNDERGROUND DRAIN LINE        |
| SSMH     | SANITARY SEWER MANHOLE                    |
| USL      | APPROXIMATE UNDERGROUND SEWER LINE        |
| GV       | GAS VALVE                                 |
| UGL      | APPROXIMATE UNDERGROUND GAS LINE          |
| EMH      | ELECTRIC MANHOLE                          |
| UP       | UTILITY POLE                              |
| GW       | GUY WIRE                                  |
| OW       | OVERHEAD WIRES                            |
| UEL      | APPROXIMATE UNDERGROUND ELECTRIC LINE     |
| LP       | LIGHT POLE                                |
| FP       | FLAG POLE                                 |
| B        | BOLLARD                                   |
| DT       | DECIDUOUS TREE                            |
| B        | BUSH                                      |
| SB       | SURVEY BENCHMARK                          |
| EDH      | EXISTING DRILL HOLE (AS NOTED)            |
| ER       | EXISTING REBAR (AS NOTED)                 |
| ERS      | EXISTING RAILROAD SPIKE (AS NOTED)        |
| EGM      | EXISTING GRANITE MONUMENT (AS NOTED)      |
| FLE      | FINISH FLOOR ELEVATION                    |
| TE       | THRESHOLD ELEVATION                       |
| SE       | SPOT ELEVATION                            |
| LPL      | LOCUS PARCEL BOUNDARY LINE                |
| APBL     | APPROXIMATE ABUTTING PARCEL BOUNDARY LINE |
| NHSPC    | NEW HAMPSHIRE STATE PLANE COORDINATES     |

### REFERENCE PLANS:

- "SUBDIVISION PLAN PREPARED FOR ROGERS LIVING TRUST 'NATIONAL BLOCK', 436 - 446 CENTRAL AVENUE, DOVER, NEW HAMPSHIRE", DATED OCTOBER 3, 1996, LAST REVISED DECEMBER 17, 1996, PREPARED BY MCNEANEY SURVEY ASSOCIATES, INC., RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 49-19.
- "BOUNDARY PLAN PREPARED FOR GREGORIOS KOUTRELAKOS, DOVER, N.H.", DATED DECEMBER 5, 1985, PREPARED BY THOMAS F. MORAN, INC.
- "BOUNDARY PLAN PREPARED FOR JEAN FIELD, TAX MAP 6, LOT 36, 24 SECOND STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE", DATED APRIL 18, 2006, PREPARED BY MCNEANEY SURVEY ASSOCIATES, INC., RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 85-63.
- "DISPOSITION PLAN OF LAND TO THE CITY OF DOVER, PARCEL M/1/1, PARCEL P/1/1, DOWNTOWN DOVER NO. 1 URBAN RENEWAL PROJECT, DOVER, NEW HAMPSHIRE", PREPARED BY METCALF & EDDY, INC., DATED APRIL 29, 1977, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 19-43.
- "MINOR SUBDIVISION OF LAND PREPARED FOR THE CITY OF DOVER, NH, TAX MAP 6, LOT NO. 3, FIRST STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE", DATED JANUARY 6, 2014, PREPARED BY MCNEANEY SURVEY ASSOCIATES, INC., RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 107-62.
- "EASEMENT AND LICENSE PLAN PREPARED FOR FIRST STREET AT GARRISON, LLC, TAX MAP 6, LOT NO. 3, FIRST STREET & CHESTNUT STREET, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE", DATED JANUARY 2, 2014, PREPARED BY MCNEANEY SURVEY ASSOCIATES, INC., RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 107-63.
- "SURVEY PLAN FOR ROLAND A. HANSOME, #28 & 30 SECOND STREET IN DOVER, N.H.", DATED NOVEMBER 12, 1987, PREPARED BY BRUCE POHOPEK, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 26-118.
- "PLAN OF LOTS FOR NASEM P. HASEM, DOVER, NEW HAMPSHIRE", DATED FEBRUARY 1970, BY G.L. DAVIS & ASSOCIATES, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS AS PLAN NUMBER 26-76.
- SKETCH OF LAND OF COCHECO MANG. CO. ADJOINING DEBORAH DUNN'S, SECOND STREET, DOVER, NH, DATED MAY 6, 1889, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS IN BOOK 290, PAGE 351A.
- PLAN IN THE VICINITY OF CHESTNUT STREET, SECOND STREET AND FIRST STREET - NO TITLE, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS IN BOOK 264, PAGE 443.
- PLAN OF LOTS IN THE VICINITY OF CHESTNUT STREET, FIRST STREET AND SECOND STREET - NO TITLE, DATED MARCH 19, 1842, DRAW BY ALEX WADSWORTH, SURVEYOR, RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS IN BOOK 191, PAGE 88.
- "STANDARD PROPERTY/EXISTING CONDITIONS SURVEY, LAND OF FREEBOARD PROPERTIES, LLC, 1 FIRST STREET - TAX MAP 6, LOT 20, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE, TENNYSON PROPERTY MANAGEMENT, CLIENT ADDRESS: P.O. BOX 1818 DOVER, NH 03281", DATED MAY 12, 2016, LAST REVISED JUNE 2, 2016, PREPARED BY CIVIL CONSULTANTS.

STANDARD PROPERTY / EXISTING CONDITIONS SURVEY  
LAND OF ONE FIRST STREET, LLC  
1 FIRST STREET - TAX MAP 6, LOT 20  
DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE

PREPARED FOR:  
ONE FIRST STREET, LLC  
3 PENSTOCK WAY, NEWMARKET, NH 03857  
FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707

1" = 20'  
0' 20'

DATE: MARCH 30, 2021  
DRAWN BY: MPP  
CHECKED BY: CHM  
APPROVED BY: CHM

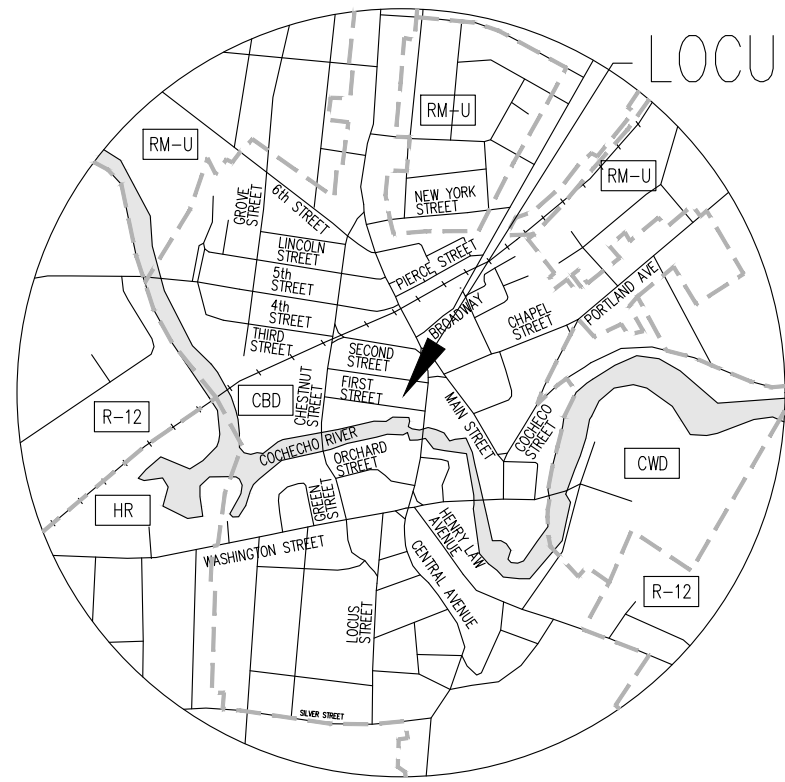
BOUNDARY/EXISTING  
CONDITIONS  
PLAN

PROJECT NO: 2027900  
DOVER PLANNING FILE: P16-15

EC1

SHEET: 1 OF 1

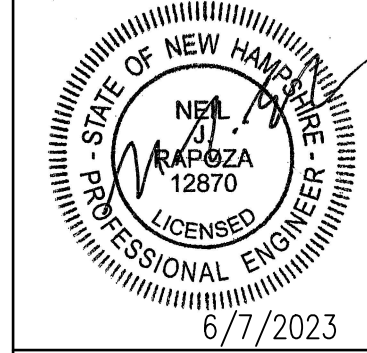
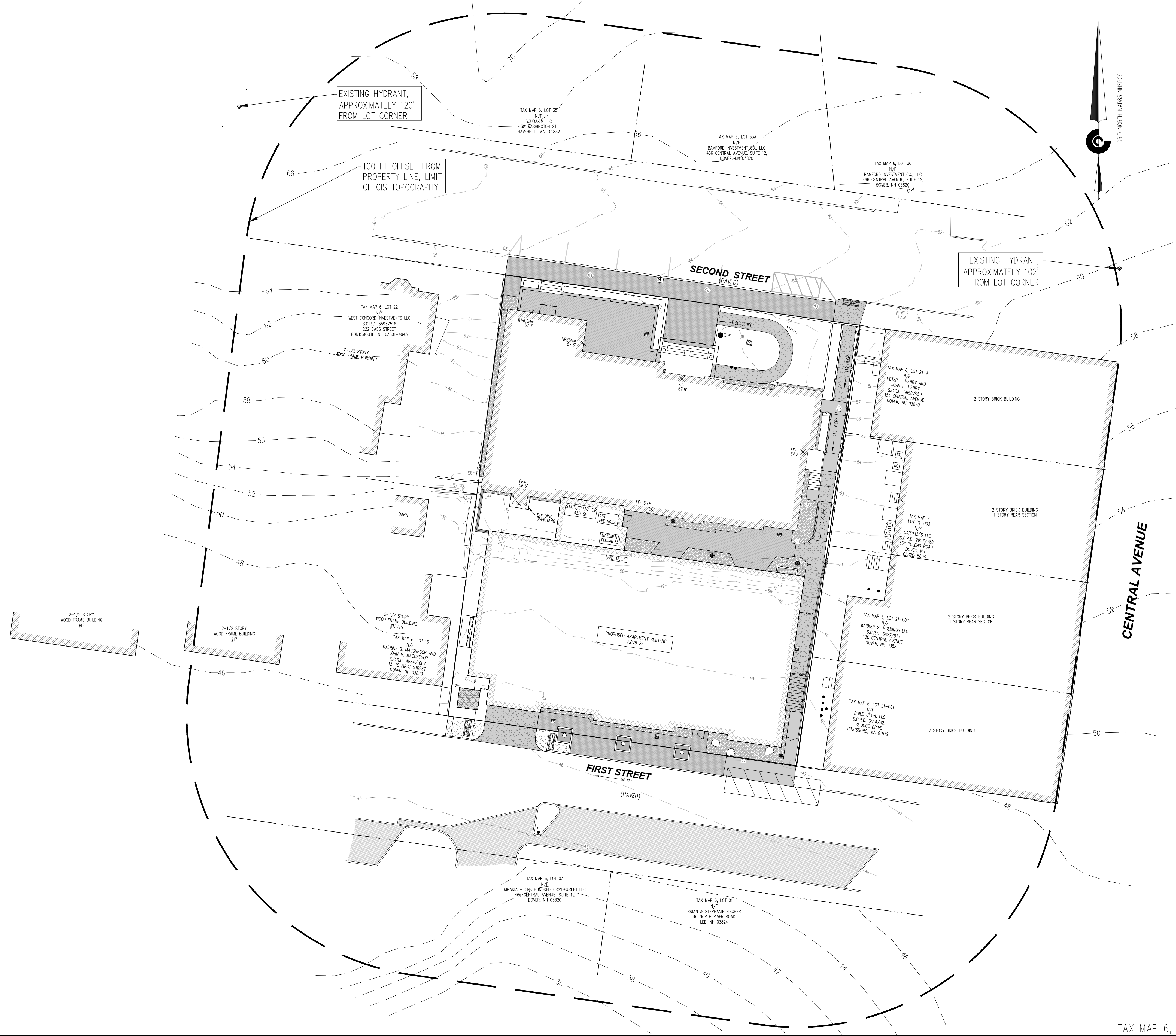




LOCATION PLAN  
SCALE: 1"=1500' +/-

### NOTES:

1. THIS PLAN HAS BEEN PROVIDED TO INDICATE THE TOPOGRAPHY OFF-SITE WITHIN A RADIUS OF 100FT.
2. TOPOGRAPHIC INFORMATION INDICATED HEREON WAS OBTAINED FROM THE GRANITVIEW GIS MAPPING SYSTEM. .
3. ALL EXISTING TOPOGRAPHY WITHIN THE LOT BOUNDARIES WAS OBTAINED VIA ON THE GROUND SURVEY.

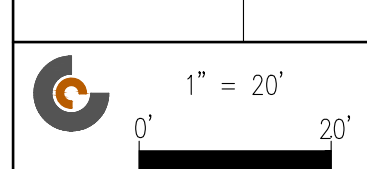


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| DATE     | REVISIONS | INT. | NUR |
|----------|-----------|------|-----|
| 6/7/23   |           |      |     |
| 4/18/23  |           |      |     |
| 6/20/22  |           |      |     |
| 12/22/21 |           |      |     |
| 12/3/21  |           |      |     |
| 10/29/21 |           |      |     |
| 9/27/21  |           |      |     |
| 6/23/21  |           |      |     |

RECORD OWNER:  
ONE FIRST STREET, LLC  
ADDRESS:  
3 PENSTOCK WAY  
NEWMARKET, NH 03857

**PROPOSED SITE MODIFICATIONS**  
**LAND OF ONE FIRST STREET, LLC**  
**10 SECOND STREET - TAX MAP 6, LOT 20**  
**DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE**  
PREPARED FOR:  
ONE FIRST STREET, LLC  
3 PENSTOCK WAY, NEWMARKET, NH 03857  
FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707



DATE: 4/9/2021  
DRAWN BY: NUR  
CHECKED BY:  
APPROVED BY:

**NEIGHBORHOOD TOPOGRAPHY PLAN**

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

**L1**  
SHEET: 3 OF 29

TAX MAP 6, LOT 20

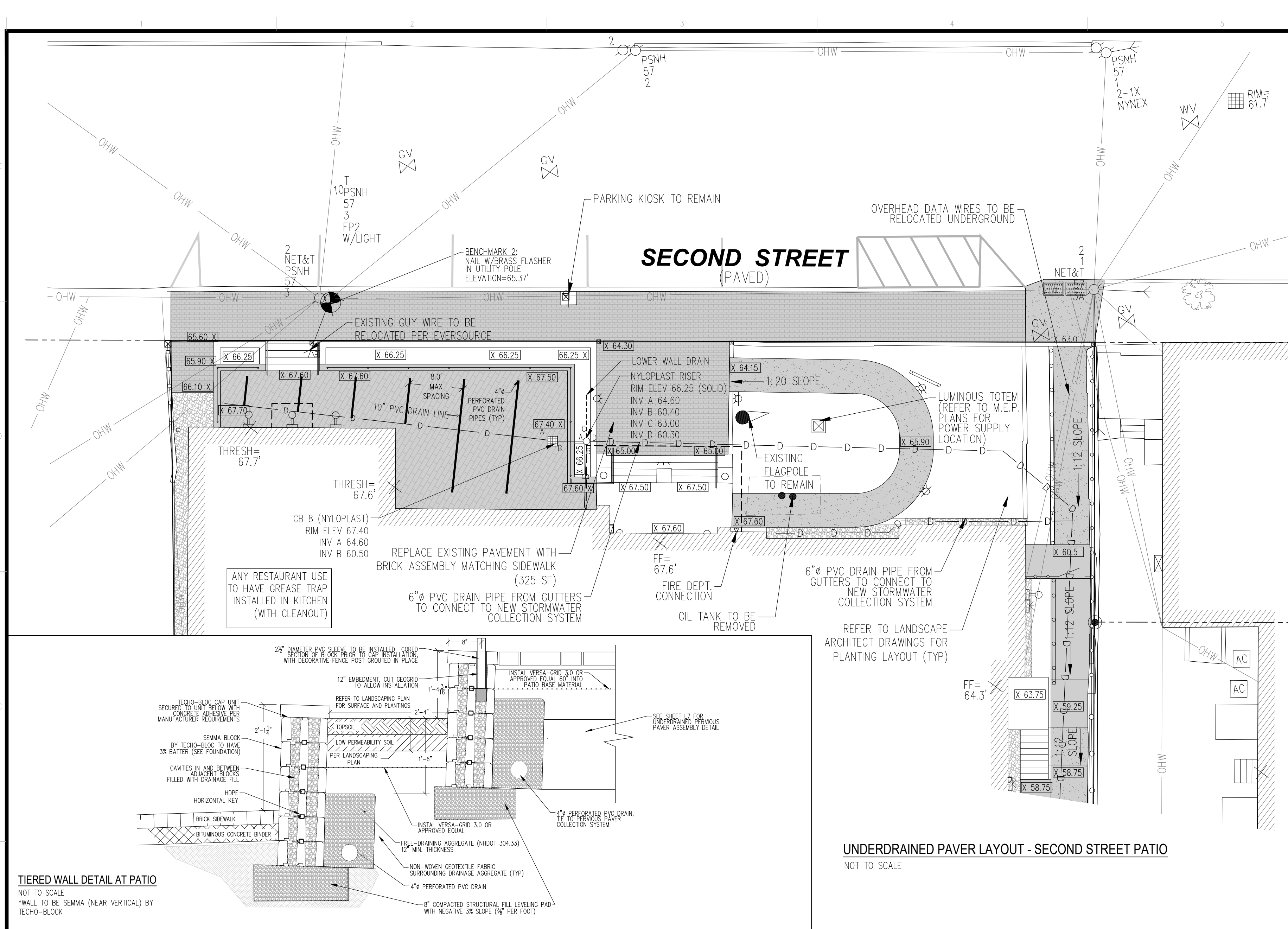












#### REINFORCED CONCRETE STAIR AND SLAB NOTES

##### GENERAL:

- STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
- PORTIONS OF THE FOUNDATION IN THE VICINITY OF THE STAIRS ARE TO BE CONSTRUCTED PER THE STRUCTURAL PLANS APPROVED BY THE CITY OF DOVER.
- EXAMINE OTHER TRADE DRAWINGS FOR VERIFICATION OF LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, WASHES, DRIPS, REVEALS, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IN WRITING. THE GENERAL CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER THE DISCREPANCY HAS BEEN RESOLVED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.
- SHOP DRAWINGS FOR FABRICATED RAIL ASSEMBLY, REINFORCING STEEL, CONCRETE MIX AND FOUR SCHEDULES SHALL BE SUBMITTED TO THE ENGINEER AND A STAMPED APPROVAL RECEIVED BEFORE FABRICATION CAN PROCEED. CONSTRUCTION SHALL BE FROM APPROVED SHOP DRAWINGS ONLY.
- DETAILS SHOWN ON ANY DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS, UNLESS OTHERWISE NOTED.
- WORK FROM GIVEN DIMENSIONS ONLY. SCALE IS INDICATED ON THE DRAWINGS FOR CONVENIENCE ONLY. IT IS NOT INTENDED THAT INFORMATION BE DETERMINED BY SCALING THE DRAWING, SOME ITEMS MAY NOT BE TO THE SCALE SHOWN DUE TO CHANGES.

##### CONCRETE:

- CONCRETE WORK SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).
- CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.
- UNLESS NOTED OTHERWISE, CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH AND BE OF A TYPE AS FOLLOWS:  
A. STAIRS (AIR-ENTAINED), 4,000 PSI (NRM, WT)  
B. SLAB (AIR-ENTAINED), 3,000 PSI (NRM, WT)
- CONSTRUCTION JOINTS AND CONTROL JOINTS SHOWN ON DRAWINGS ARE MANDATORY, OMISSIONS, ADDITIONS, OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMITTAL OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE FORMED WITH A STANDARD KEY AND ALL REINFORCEMENT EXTENDED 48 INCHES.
- MINIMUM OF 72 HOURS BETWEEN ADJACENT CONCRETE PLACEMENTS.
- CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.

##### REINFORCEMENT:

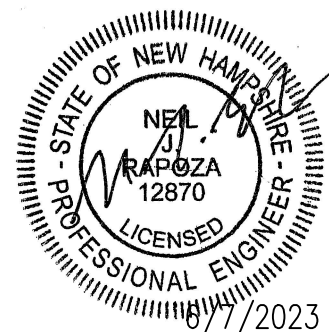
- REINFORCEMENT WORK OF DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), ACI DETAILING MANUAL (ACI 315), CRS MANUAL OF STANDARD PRACTICE, AND STRUCTURAL WELDING CODE - REINFORCING STEEL.
- STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO THE FOLLOWING:  
A. BARS, TIES, AND STRUTS - ASTM A615 GRADE 60 (YIELD STRESS 60,000 PSI)
- PROVIDE A SCHEDULE ON THE SHOP DRAWINGS SHOWING THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" O.C. WITH CONTINUOUS #4 SUPPORT BARS; SLAB BOLSTERS, CONTINUOUS AND 3'-6" O.C.
- MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:  
A. SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3.0"  
B. FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER  
#8 BARS, 5.0" DIAMETER WIRE, AND SMALLER 1.5"  
C. WHERE CONTINUOUS REINFORCEMENT IS CALLED FOR IT SHALL BE EXTENDED CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPICES OR HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE CLASS B TENSION LAP SPICES, UNLESS NOTED OTHERWISE.
- WHERE REINFORCEMENT IS REQUIRED IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
- DOWELS SHALL MATCH BAR SIZE AND NUMBER, UNLESS NOTED OTHERWISE.
- REINFORCEMENT SHALL NOT BE TACK WELDED.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO THE SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO THE SCHEDULED COMPLETION OF THE INSTALLATION OF REINFORCEMENT.
- NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS OR RECESSES. NO BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE APPROVAL OF THE ENGINEER.
- NO PIPES SHALL PASS THROUGH CONCRETE WITHOUT THE PERMISSION OF THE ENGINEER. STEEL PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM OF THREE PIPE DIAMETERS APART.

##### FOUNDATIONS:

- BUILDING AND RETAINING WALL FOUNDATIONS FOR THIS PROJECT ARE TO BE INSTALLED PER THE FOUNDATION PLANS APPROVED BY THE CITY OF DOVER (BY OTHERS).

#### LEGEND:

|          |                                                  |
|----------|--------------------------------------------------|
| 3528/151 | DEED BOOK/PAGE                                   |
| CONC.    | CONCRETE                                         |
| INV.     | INVERT                                           |
| LA       | LANDSCAPED AREA                                  |
| PVC      | POLYVINYL CHLORIDE                               |
| RET WALL | RETAINING WALL                                   |
| S.C.R.D. | STRAFFORD COUNTY REGISTRY OF DEEDS               |
|          | AIR CONDITIONER                                  |
|          | WATER VALVE                                      |
|          | WATER SHUT OFF                                   |
|          | CATCH BASIN                                      |
|          | DRAIN MANHOLE                                    |
|          | SANITARY SEWER MANHOLE                           |
|          | GAS VALVE                                        |
|          | UTILITY POLE                                     |
|          | GUY WIRE                                         |
|          | OVERHEAD WIRES                                   |
|          | LIGHT POLE                                       |
|          | FLAG POLE                                        |
|          | BOLLARD                                          |
|          | DECIDUOUS TREE                                   |
|          | BUSH                                             |
|          | SURVEY BENCHMARK                                 |
|          | EXISTING DRILL HOLE (AS NOTED)                   |
|          | EXISTING REBAR (AS NOTED)                        |
|          | EXISTING RAILROAD SPIKE (AS NOTED)               |
|          | FINISH FLOOR ELEVATION                           |
|          | THRESHOLD ELEVATION                              |
|          | EXISTING SPOT ELEVATION                          |
|          | PROPOSED SPOT ELEVATION                          |
|          | LOCUS PARCEL BOUNDARY LINE                       |
|          | APPROXIMATE ABUTTING PARCEL BOUNDARY LINE        |
|          | APPROXIMATE EXISTING SEWER                       |
|          | APPROXIMATE EXISTING WATER                       |
|          | EXISTING OVERHEAD ELECTRIC                       |
|          | PROPOSED WATER (SIZE PER SPRINKLER DESIGN)       |
|          | PROPOSED SEWER                                   |
|          | PROPOSED NATURAL GAS                             |
|          | PROPOSED STORM DRAIN LINE                        |
|          | EXISTING CONTOUR                                 |
|          | PROPOSED CONTOUR                                 |
|          | PROPOSED DRAINAGE STRUCTURE                      |
|          | PROPOSED BOLLARD LIGHT (REFER TO LANDSCAPE PLAN) |



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| DATE     | REVISIONS | INT. | NO. |
|----------|-----------|------|-----|
| 6/7/23   | NUR       |      | 10  |
| 4/18/23  | NUR       |      | 9   |
| 6/20/22  | NUR       |      | 8   |
| 12/22/21 | NUR       |      | 7   |
| 12/23/21 | NUR       |      | 6   |
| 10/29/21 | NUR       |      | 5   |
| 9/27/21  | NUR       |      | 4   |
| 6/23/21  | NUR       |      | 3   |

RECORD OWNER: ONE FIRST STREET, LLC  
ADDRESS: 3 PENSTOCK WAY  
NEW MARKET, NH 03857

**PROPOSED SITE MODIFICATIONS**  
**LAND OF ONE FIRST STREET, LLC**  
**10 SECOND STREET - TAX MAP 6, LOT 20**  
**DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE**

PREPARED FOR:  
ONE FIRST STREET, LLC  
3 PENSTOCK WAY, NEW MARKET, NH 03857  
FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707

DATE: 4/9/2021  
DRAWN BY: NUR  
CHECKED BY:  
APPROVED BY:

**PROPOSED SECOND STREET UTILITY PLAN**

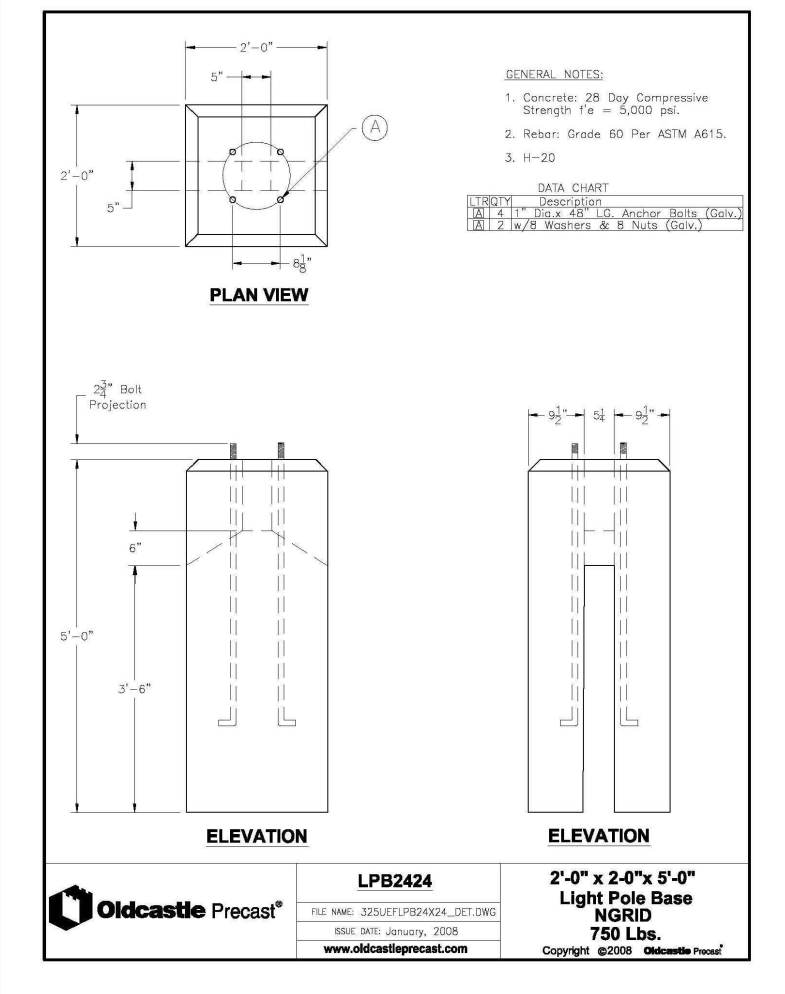
PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

**L4**  
SHEET: 6 OF 29

#### Outdoor Luminous Totem Detail



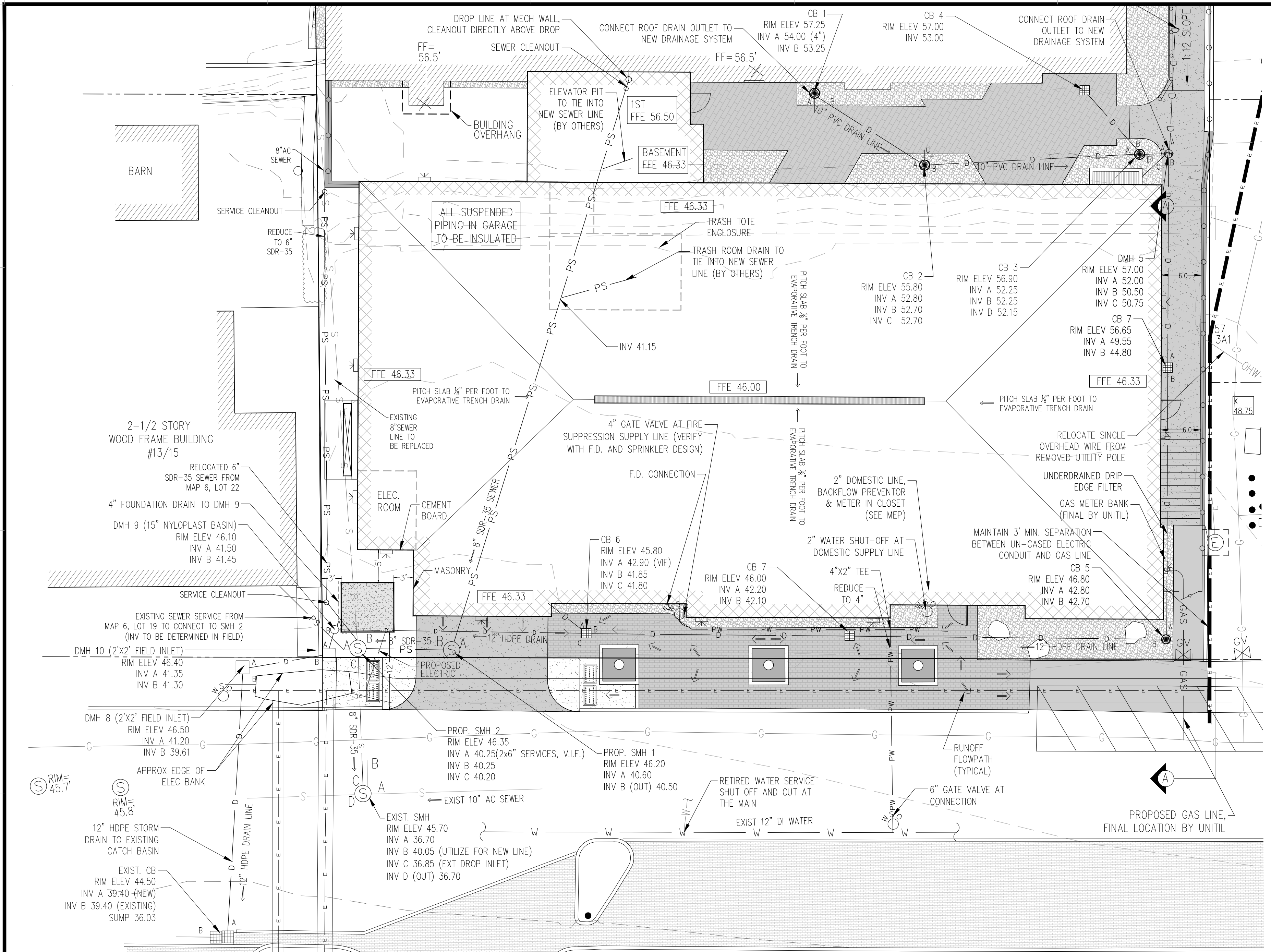
**PUBLIC ART DETAIL - LUMINOUS TOTEM**  
NOT TO SCALE



**PRECAST FOUNDATION DETAIL - LUMINOUS TOTEM**  
NOT TO SCALE

TAX MAP 6, LOT 20





### UTILITY NOTES:

- CUT AND CAP ANY EXISTING WATER SERVICES AT THE MAIN.
- TRANSFORMER PAD PLACED TO ALLOW 3' CLEAR AT SIDEWALK BEYOND 10' WORK AREA IN FRONT OF PAD.
- THE EXISTING UTILITY POLE ON THE EAST PROPERTY LINE WILL BE REMOVED, WITH THE OVERHEAD WIRE RELOCATED TO CONNECT DIRECTLY TO THE ADJACENT BUILDING.
- PVC GRAVITY SEWER PIPE SHALL CONFORM WITH ASTM D3034 AND ASTM D2412.
- PVC GRAVITY SEWER PIPE JOINT SEALS SHALL CONFORM WITH ASTM D3212.
- PVC GRAVITY SEWER PIPES SHALL BE TESTED PER THE REQUIREMENTS OF ENV-WQ 704.06.
- NEW BUILDING FOUNDATION DRAINS ARE TO TIE INTO THE NEW STORMWATER COLLECTION SYSTEM AT FIRST STREET. DRAINS ARE TO BE INSTALLED IN A MANNER THAT WILL PREVENT HYDROSTATIC PRESSURE ON THE FOUNDATION. COORDINATE WITH FOUNDATION DESIGNER.

### LEGEND:

|          |                                                  |
|----------|--------------------------------------------------|
| 3528/151 | DEED BOOK/PAGE                                   |
| CONC.    | CONCRETE                                         |
| INV.     | INVERT                                           |
| LA       | LANDSCAPED AREA                                  |
| PVC      | POLYVINYL CHLORIDE                               |
| RET.WALL | RETAINING WALL                                   |
| S.C.R.D. | STAFFORD COUNTY RECORD OF DEEDS                  |
| AC       | AIR CONDITIONER                                  |
| WV       | WATER VALVE                                      |
| WS       | WATER SHUT OFF                                   |
| CB       | CATCH BASIN                                      |
| DMH      | DRAIN MANHOLE                                    |
| SMH      | SANITARY SEWER MANHOLE                           |
| GS       | GAS VALVE                                        |
| UT       | UTILITY POLE                                     |
| GW       | GUY WIRE                                         |
| OW       | OVERHEAD WIRES                                   |
| LP       | LIGHT POLE                                       |
| FP       | FLAG POLE                                        |
| B        | BOLLARD                                          |
| DT       | DECIDUOUS TREE                                   |
| B        | BUSH                                             |
| SB       | SURVEY BENCHMARK                                 |
| EDH      | EXISTING DRILL HOLE (AS NOTED)                   |
| ER       | EXISTING REBAR (AS NOTED)                        |
| ERS      | EXISTING RAILROAD SPIKE (AS NOTED)               |
| FE       | FINISH FLOOR ELEVATION                           |
| TE       | THRESHOLD ELEVATION                              |
| SE       | EXISTING SPOT ELEVATION                          |
| PE       | PROPOSED SPOT ELEVATION                          |
| LP       | LOCUS PARCEL BOUNDARY LINE                       |
| AP       | APPROXIMATE ABUTTING PARCEL BOUNDARY LINE        |
| S        | APPROXIMATE EXISTING SEWER                       |
| W        | APPROXIMATE EXISTING WATER                       |
| E        | EXISTING OVERHEAD ELECTRIC                       |
| PW       | PROPOSED WATER (SIZE PER SPRINKLER DESIGN)       |
| PS       | PROPOSED SEWER                                   |
| GS       | PROPOSED NATURAL GAS                             |
| D        | PROPOSED STORM DRAIN LINE                        |
| SC       | EXISTING CONTOUR                                 |
| SD       | PROPOSED CONTOUR                                 |
| SL       | PROPOSED BOLLARD STRUCTURE                       |
| EL       | PROPOSED BOLLARD LIGHT (REFER TO LANDSCAPE PLAN) |
| EE       | EXISTING UNDERGROUND ELECTRIC                    |
| ED       | EXISTING UNDERGROUND ELECTRIC DUCT BANK (APPROX) |

### EAST STAIR FENCE & RAIL DETAIL

SCALE: 1" = 3"

BALESTERS INSTALLED WHERE ADJACENT GRADE DROPS 18" OR GREATER

WALL PER APPROVED FOUNDATION PLAN

NOTE: RAIL ASSEMBLY SHOP DRAWINGS TO BE REVIEWED AND APPROVED BY CIVIL CONSULTANTS PRIOR TO FABRICATION

### EAST STAIR FENCE & RAIL LAYOUT

SCALE: 1" = 3"

SEE SHEET ST-2 FOR SEE CONCRETE STAIR DETAILS, THIS SHEET

13" TOP OF STEP TO TOP OF CURB

6" TOP OF SIDEWALK TO TOP OF CURB

5/8"x6"x8" PLATE WELDED TO POST WITH 3/8"x6" GALVANIZED ANCHOR BOLTS (TIE HD OR APPROVED ALTERNATIVE)

WALL PER APPROVED FOUNDATION PLAN

### EAST STAIR PLAN

SCALE: 1" = 3"

EXTEND 12" AT BASE OF STAIR

STAIR HANDRAIL PER DETAIL THIS SHEET

EXTEND 12" AT TOP OF STAIR

FENCE AND RAIL PER DETAIL THIS SHEET

### EXTERIOR STAIR DETAILS

SCALE: 1/2" = 1'-0"

EXTEND WALL REINFORCEMENT 12" AND END INTO STAIR FOUR (WHERE APPLICABLE)

REFER TO APPROVED FOUNDATION PLANS FOR WALL DESIGN

#4 LONGITUDINAL @ 12" OC

#4 TRANSVERSE @ 12" OC

3" COVER

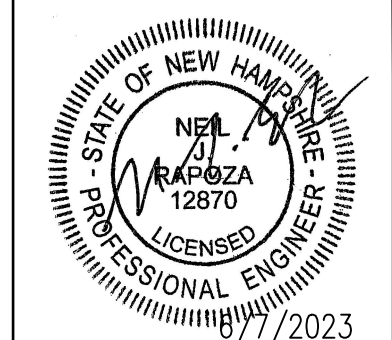
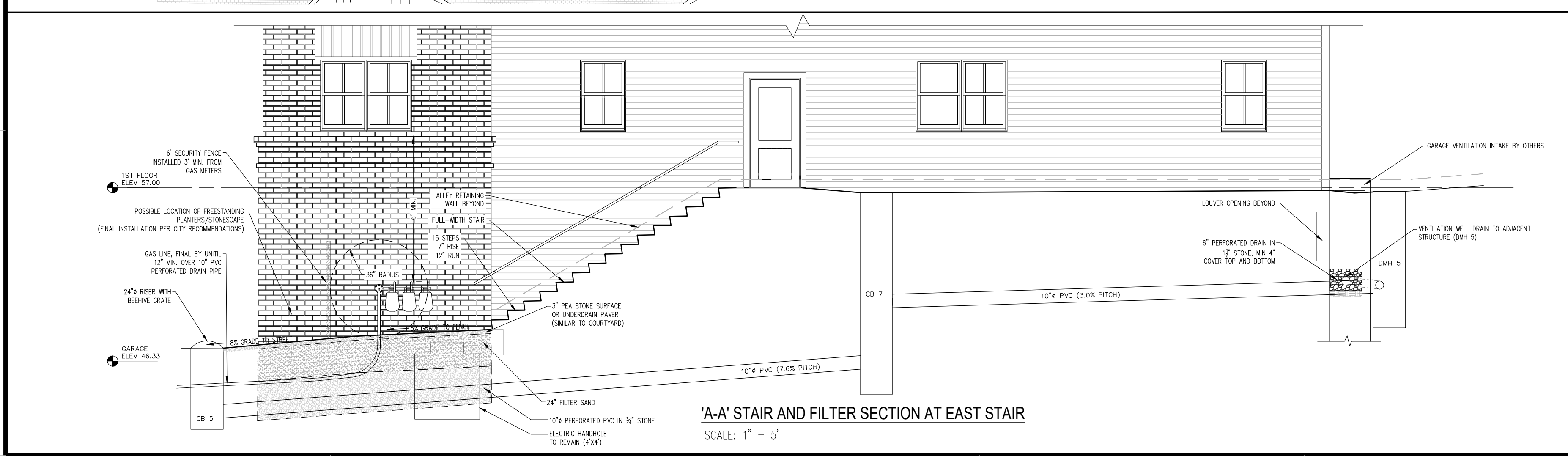
1/2" FIBERBOARD AT JOINT

1'-0"

MIN 12" WIDEST CRUSHED GRAVEL

8'-2"

NOTE: REFER TO SHEET L4 FOR APPLICABLE NOTES PERTAINING TO CONCRETE STAIRS AND SLABS



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| NO. | REVISIONS                              | DATE     |
|-----|----------------------------------------|----------|
| 10  | REVISED TO INCLUDE 1ST STREET RATIO    | 6/7/23   |
| 9   | REVISED FOR AS-BUILT ELEC PANEL INFO   | 4/18/23  |
| 8   | REVISED STAIRS & 1ST ST UTILITIES      | 6/20/22  |
| 7   | REVISED VENT DRAIN, PUBLIC ART & ROOF  | 12/22/21 |
| 6   | REVISED GARAGE ELEVATION & GRADING     | 12/23/21 |
| 5   | REVISED CLIENT INFORMATION             | 10/29/21 |
| 4   | REVISED PER CITY & DES REVIEW COMMENTS | 9/27/21  |
| 3   | REVISED PER TRC/STAFF REVIEW COMMENTS  | 6/23/21  |

RECORD OWNER: ONE FIRST STREET, LLC  
ADDRESS: 3 PENISTOCK WAY  
NEW MARKET, NH 03857

**PROPOSED SITE MODIFICATIONS**  
**LAND OF ONE FIRST STREET, LLC**  
**10 SECOND STREET - TAX MAP 6, LOT 20**  
**DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE**  
PREPARED FOR: ONE FIRST STREET, LLC  
3 PENISTOCK WAY, NEW MARKET, NH 03857  
FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707

1" = 10'  
0' 10'

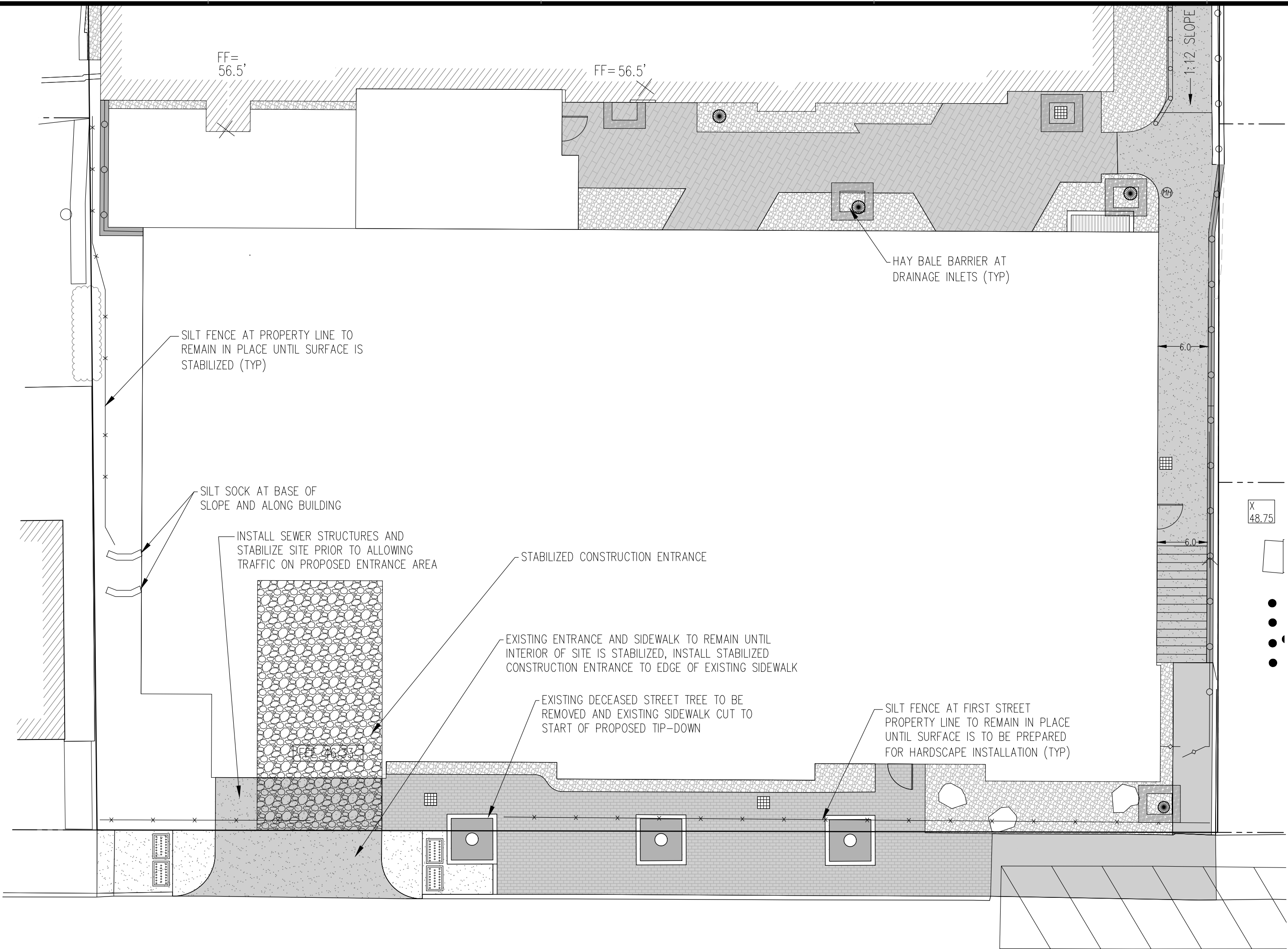
DATE: 4/9/2021  
DRAWN BY: NJR  
CHECKED BY:  
APPROVED BY:

**PROPOSED FIRST STREET UTILITY PLAN**

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

**L5**  
SHEET: 7 OF 29





EROSION AND SEDIMENT CONTROL PRACTICES

- NO SOIL SHALL BE DISTURBED DURING THE PERIOD OF MARCH 1 THROUGH APRIL 15, NOR DURING ANY OTHER PERIOD WHEN SOILS ARE SATURATED DUE TO RAIN OR SNOW MELT.
- DISTURBED SOILS SHALL BE STABILIZED WITHIN ONE (1) WEEK FROM THE TIME IT WAS LAST ACTIVELY WORKED USING TEMPORARY OR PERMANENT MEASURES SUCH AS PLACEMENT OF RIPRAP, MULCH OR EROSION CONTROL BLANKET, OR OTHER COMPARABLE MEASURES.
- HAY OR STRAW MULCH SHALL BE APPLIED AT A RATE OF AT LEAST ONE (1) BALE PER 500 SQUARE FEET (1-2 TONS PER ACRE).
- IF MULCH IS LIKELY TO BE REMOVED DUE TO STEEP SLOPES OR WIND, IT SHALL BE ANCHORED WITH NETTING, PEG OR TWINE, OR OTHER SUITABLE METHOD AND SHALL BE MAINTAINED UNTIL A CATCH OF VEGETATION IS ESTABLISHED OVER THE ENTIRE DISTURBED AREA.
- IN ADDITION TO PLACEMENT OF RIPRAP, MULCH OR EROSION CONTROL BLANKETS, ADDITIONAL STEPS SHALL BE TAKEN WHERE NECESSARY IN ORDER TO PREVENT SEDIMENTATION OF THE WATER. EVIDENCE OF SEDIMENTATION INCLUDES VISIBLE GULLY EROSION, DISCOLORATION OF WATER BY SUSPENDED PARTICLES AND SLUMPING OF BANKS, SILT FENCES, STAKED HAY BALES AND OTHER SEDIMENTATION CONTROL MEASURES, WHERE PLANNED FOR, SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF WORK, BUT SHALL ALSO BE INSTALLED WHEREVER NECESSARY DUE TO SEDIMENTATION.
- MULCH OR OTHER TEMPORARY MEASURES SHALL BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED WITH VEGETATION OR OTHER PERMANENT CONTROL MEASURES AFTER WHICH TEMPORARY MEASURES WILL BE REMOVED.
- PERMANENT RE-VEGETATION OF ALL DISTURBED AREAS, USING NATIVE PLANT MATERIAL WHEN POSSIBLE, SHALL OCCUR WITHIN 30 DAYS FROM THE TIME THE AREAS WERE LAST ACTIVELY WORKED, OR FOR FALL AND WINTER ACTIVITIES, BY JUNE 15, EXCEPT WHERE PRECLUDED BY THE TYPE OF ACTIVITY (E.G. RIPRAP, ROAD SURFACES, ETC.). THE VEGETATIVE COVER SHALL BE MAINTAINED.
- DISPOSAL OF COLLECTED DEBRIS MUST BE IN CONFORMANCE WITH APPLICABLE LOCAL AND STATE REGULATIONS. REFER TO CHAPTER 145 OF THE CITY OF DOVER ORDINANCES FOR ADDITIONAL INFORMATION.
- LIME AND FERTILIZER APPLICATION RATES SHALL NOT EXCEED THE FOLLOWING:  
GROUND LIMESTONE: 3 TONS/ACRE (130 LBS./1000 S.F.)  
FERTILIZER, 10-10-10 OF EQUIVALENT: 600 LBS./ACRE (14 LBS./1000 S.F.)

FERTILIZER SHALL NOT BE APPLIED BEFORE START OF THE GROWING SEASON NOR AFTER SEPTEMBER 30. FERTILIZED AREAS SHALL BE MULCHED TO REDUCE OFF-SITE TRANSPORT OF NUTRIENTS UNTIL USED BY VEGETATIVE GROWTH.

SEEDING MIXTURE AND SCHEDULE:

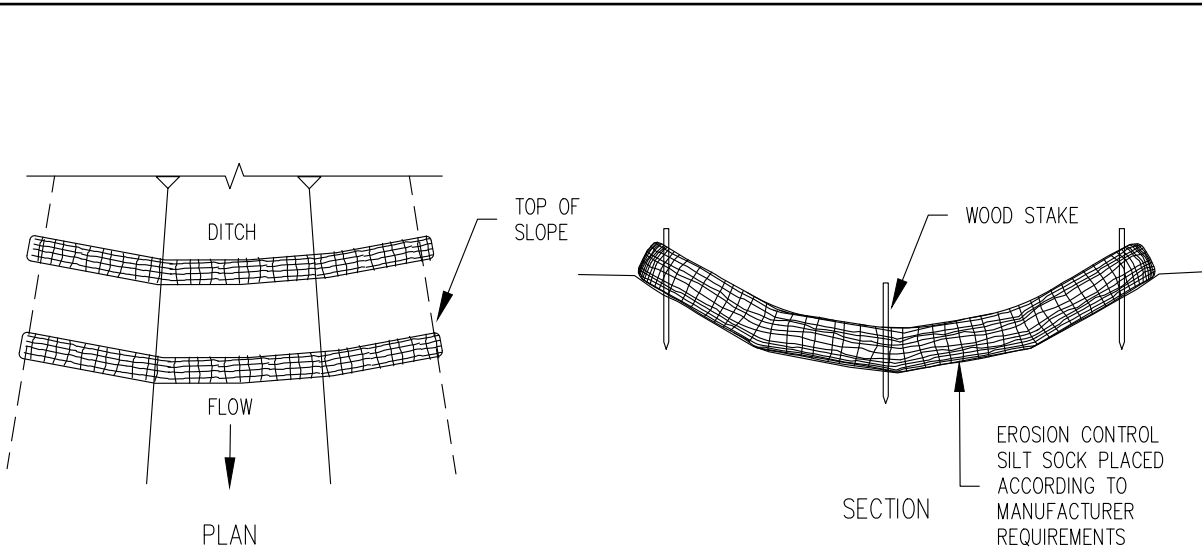
SPREAD TOPSOIL UNIFORMLY 6" DEEP OVER AREAS TO BE RECLAIMED. THE FOLLOWING SEED MIXTURE SHALL BE USED:

|                     |                     |
|---------------------|---------------------|
| LAWNS:              |                     |
| KENTUCKY BLUEGRASS  | 0.46 LBS./1000 S.F. |
| CREeping RED FESCUE | 0.46 LBS./1000 S.F. |
| PERENNIAL RYE GRASS | 0.11 LBS./1000 S.F. |
| TOTAL               | 1.03 LBS./1000 S.F. |

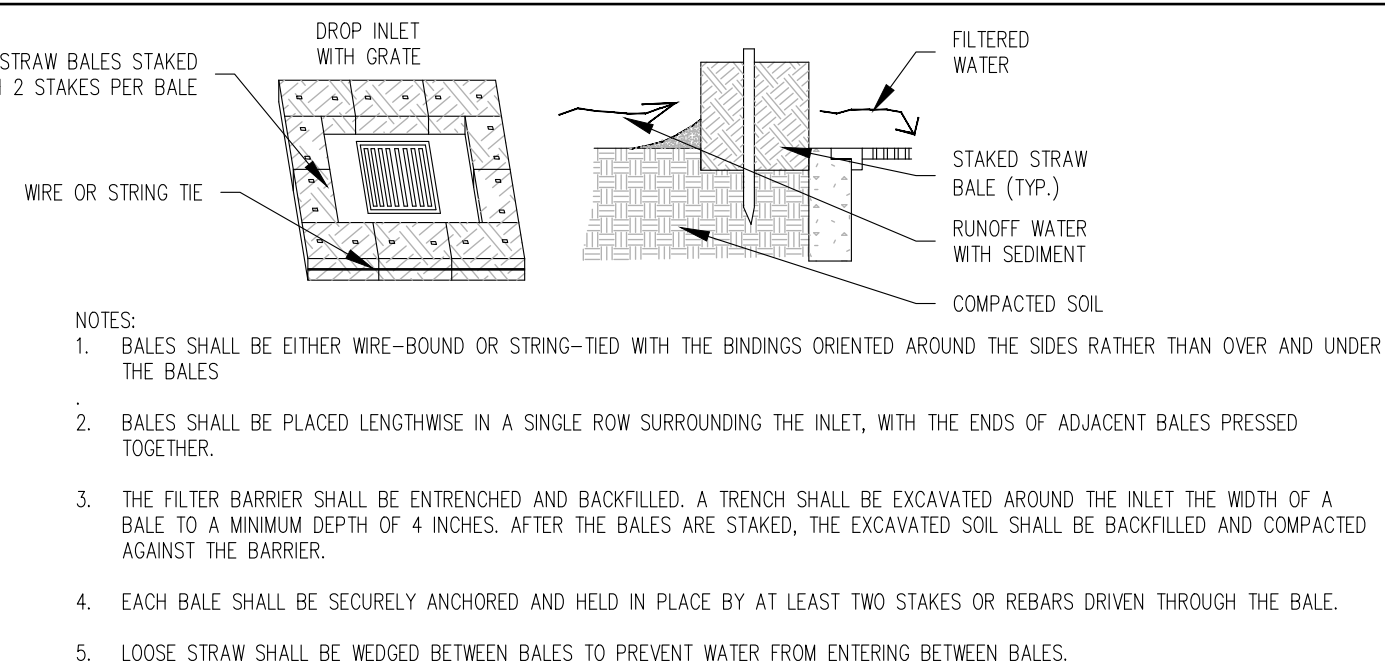
APPLY LIME AND FERTILIZER AS SPECIFIED UNDER THE EROSION AND SEDIMENTATION CONTROL NOTES. WORK INTO THE TOP (4) INCHES OF SOIL PRIOR TO SEEDING. AFTER SEEDING, APPLY MULCH HAY AS SPECIFIED. ON FLAT AREAS AND NOT EXPOSED TO WIND, THE MULCH WILL BE ANCHORED BY WETTING DOWN. IN OTHER AREAS, JUTE NETTING SHALL BE USED FOR ANCHORAGE. THE ABOVE SEEDING SCHEDULE IS APPLICABLE IF SEEDING DURING THE GROWING SEASON (APRIL 15 TO JUNE 15 AND AUGUST 30 TO SEPTEMBER 30). BETWEEN JUNE 15 AND AUGUST 30, SEEDING WILL BE DELAYED UNTIL AUGUST 30. IF SOIL IS DISTURBED BETWEEN OCTOBER 1 AND NOVEMBER 1, DELAY SEEDING UNTIL NOVEMBER 1. AFTER NOVEMBER 1 AND BEFORE A SNOW COVER FORMS, THE SAME PROCEDURE WILL BE FOLLOWED EXCEPT THE SEED RATE WILL BE DOUBLED. AFTER SNOW COVER AND BEFORE APRIL 15, SEEDING WILL BE DELAYED UNTIL APRIL 15. HAY MULCH WILL BE APPLIED AT A RATE OF 150 LBS./1000 SQUARE FEET. THIS WILL BE ANCHORED BY NON-ASPHALTIC TACKIFIER SPRAYED ON LAWNS AND JUTE NETTING IN DRAINAGE WAYS AND OTHER AREAS.

LEGEND:

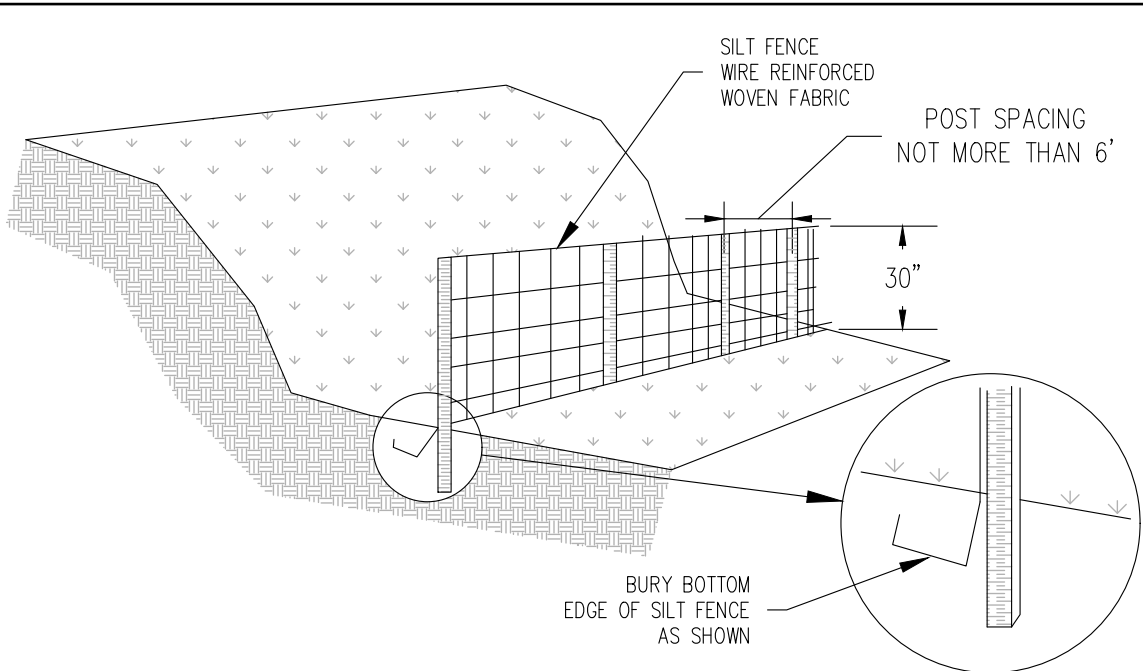
|          |                                                  |
|----------|--------------------------------------------------|
| 3528/151 | DEED BOOK/PAGE                                   |
| CONC.    | CONCRETE                                         |
| INV.     | INVERT                                           |
| LA       | LANDSCAPED AREA                                  |
| PVC      | POLYVINYL CHLORIDE                               |
| RETWALL  | RETAINING WALL                                   |
| S.C.R.D. | STRAFFORD COUNTY REGISTRY OF DEEDS               |
| WV       | AIR CONDITIONER                                  |
| WV       | WATER VALVE                                      |
| WV       | WATER SHUT OFF                                   |
| WV       | CATCH BASIN                                      |
| WV       | DRAIN MANHOLE                                    |
| WV       | SANITARY SEWER MANHOLE                           |
| WV       | GAS VALVE                                        |
| WV       | UTILITY POLE                                     |
| WV       | GUY WIRE                                         |
| WV       | OVERHEAD WIRES                                   |
| WV       | LIGHT POLE                                       |
| WV       | FLAG POLE                                        |
| WV       | BOLLARD                                          |
| WV       | DECIDUOUS TREE                                   |
| WV       | BUSH                                             |
| WV       | SURVEY BENCHMARK                                 |
| WV       | EXISTING DRILL HOLE (AS NOTED)                   |
| WV       | EXISTING REBAR (AS NOTED)                        |
| WV       | EXISTING RAILROAD SPIKE (AS NOTED)               |
| WV       | FINISH FLOOR ELEVATION                           |
| WV       | THRESHOLD ELEVATION                              |
| WV       | EXISTING SPOT ELEVATION                          |
| WV       | PROPOSED SPOT ELEVATION                          |
| WV       | LOCUS PARCEL BOUNDARY LINE                       |
| WV       | APPROXIMATE ABUTTING PARCEL BOUNDARY LINE        |
| WV       | APPROXIMATE EXISTING SEWER                       |
| WV       | APPROXIMATE EXISTING WATER                       |
| WV       | EXISTING OVERHEAD ELECTRIC                       |
| WV       | PROPOSED WATER (SIZE PER SPRINKLER DESIGN)       |
| WV       | PROPOSED SEWER                                   |
| WV       | PROPOSED NATURAL GAS                             |
| WV       | PROPOSED STORM DRAIN LINE                        |
| WV       | EXISTING CONTOUR                                 |
| WV       | PROPOSED CONTOUR                                 |
| WV       | PROPOSED DRAINAGE STRUCTURE                      |
| WV       | PROPOSED BOLLARD LIGHT (REFER TO LANDSCAPE PLAN) |
| WV       | SILT FENCE/EROSION CONTROL BERM                  |



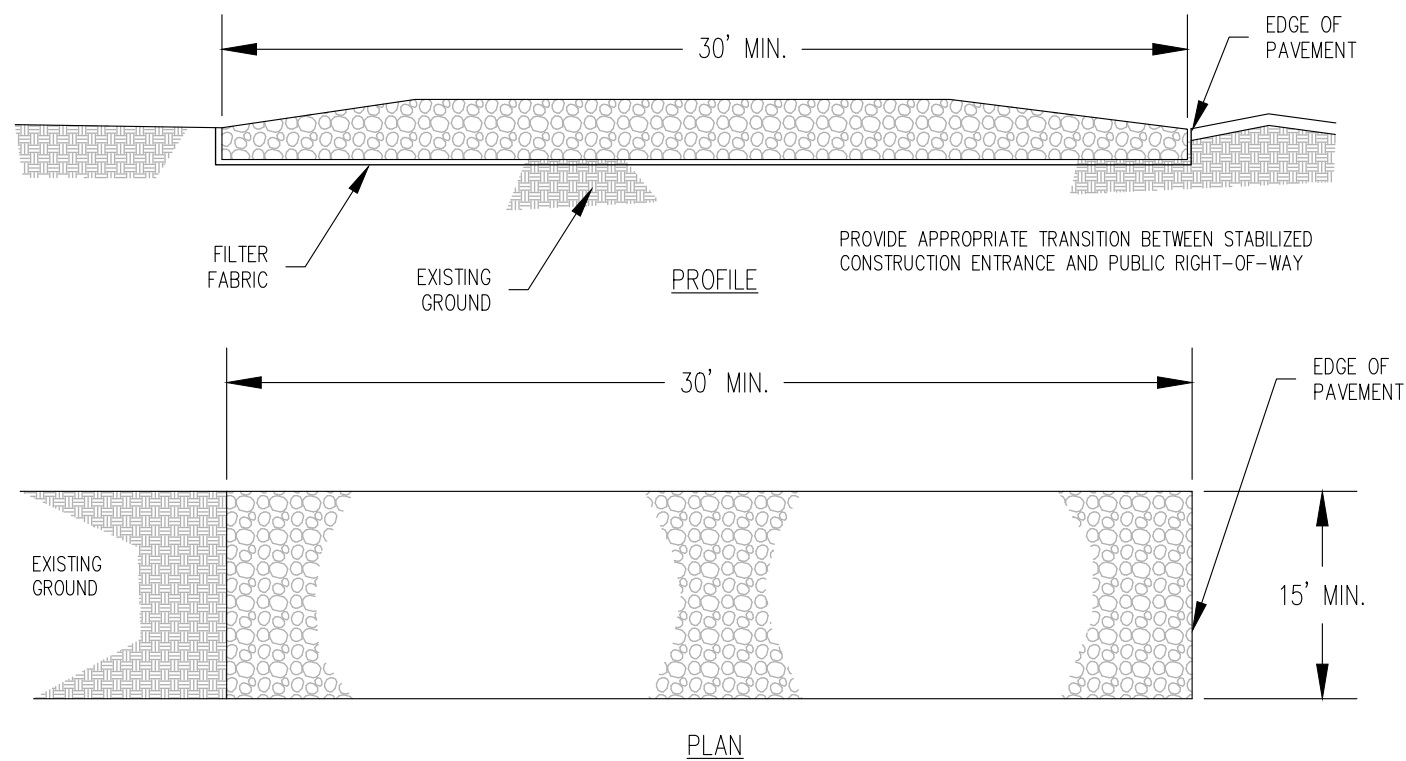
SILT SOCK - DITCH LINE  
NOT TO SCALE



CATCH BASIN HAY BALE BARRIER  
NOT TO SCALE



SILT FENCE DETAIL  
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- STONE SIZE - AASHTO DESIGNATION M43, SIZE NO 2 (2-1/2" TO 1-1/2"). USE CRUSHED STONE.
- LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 30 FEET (SITE SPECIFIC, LIMITED AVAILABLE LENGTH).
- THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
- WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATER COURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED, ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE  
NOT TO SCALE

TAX MAP 6, LOT 20

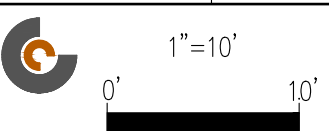


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**CIVIL CONSULTANTS**  
Engineers  
Planners  
Surveyors  
P.O. Box 100  
South Berwick  
Maine  
03908  
207-384-2550  
www.civcon.com

| DATE     | REVISIONS | INT. |
|----------|-----------|------|
| 6/17/23  | NUR       |      |
| 4/18/23  | NUR       |      |
| 6/20/22  | NUR       |      |
| 12/22/21 | NUR       |      |
| 12/23/21 | NUR       |      |
| 10/29/21 | NUR       |      |
| 9/27/21  | NUR       |      |
| 6/23/21  | NUR       |      |

RECORD OWNER: ONE FIRST STREET, LLC  
ADDRESS: 3 PENSTOCK WAY  
NEWMARKET, NH 03857

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**10 SECOND STREET - TAX MAP 6, LOT 20**  
**DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE**  
PREPARED FOR:  
ONE FIRST STREET, LLC  
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FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707



DATE: 4/9/2021  
DRAWN BY: NUR  
CHECKED BY:  
APPROVED BY:

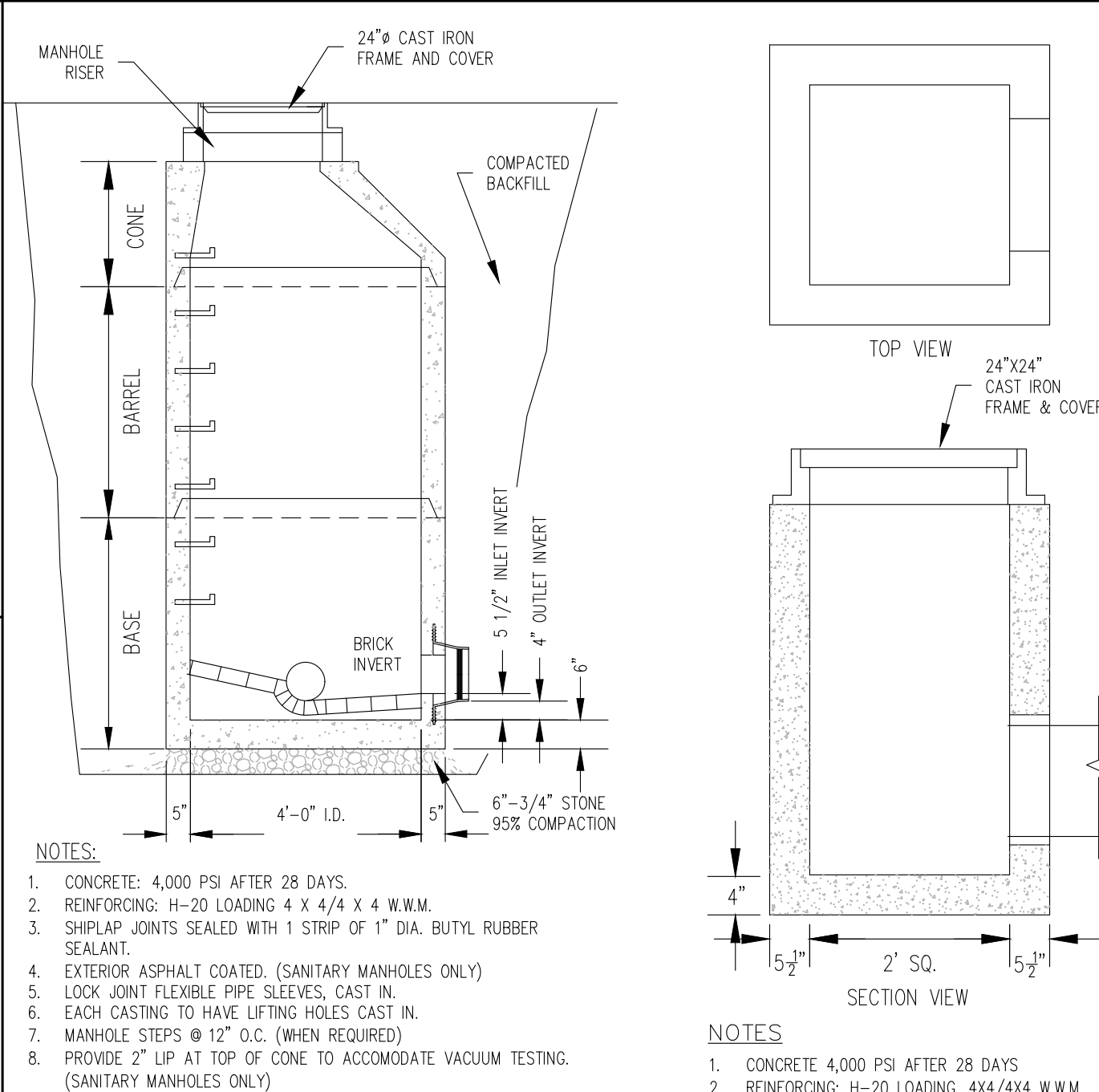
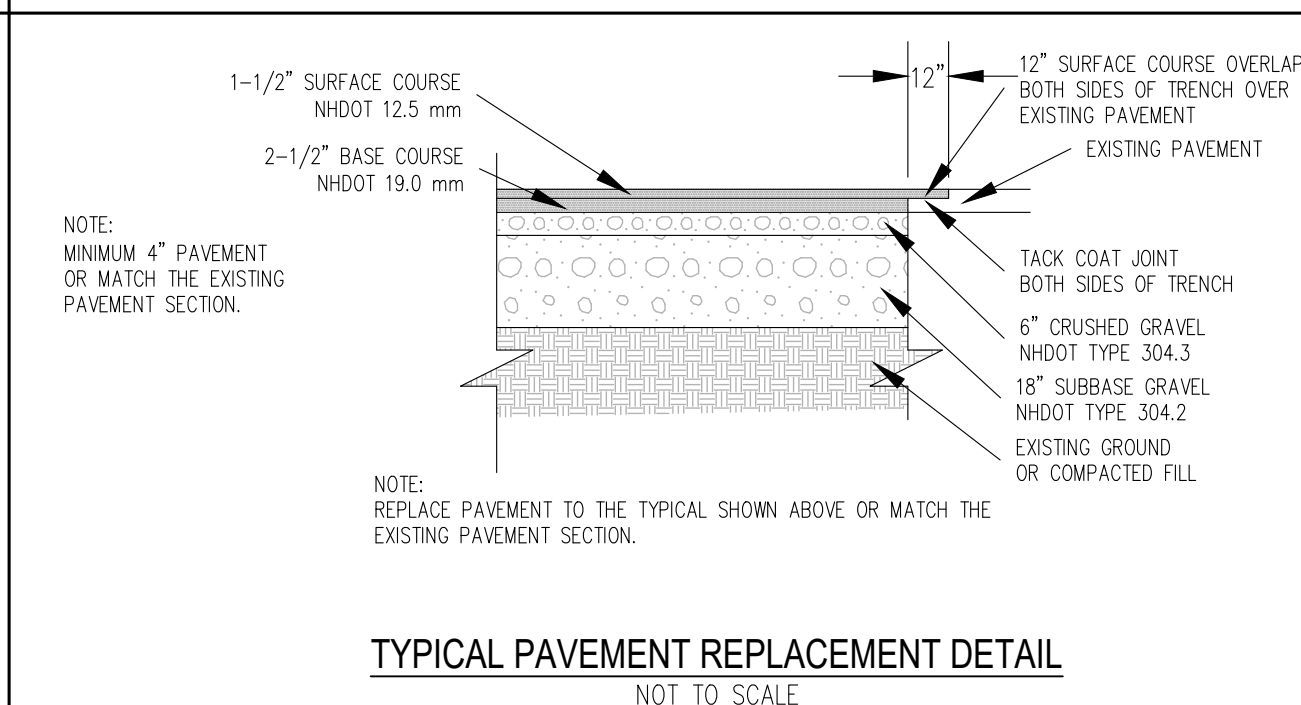
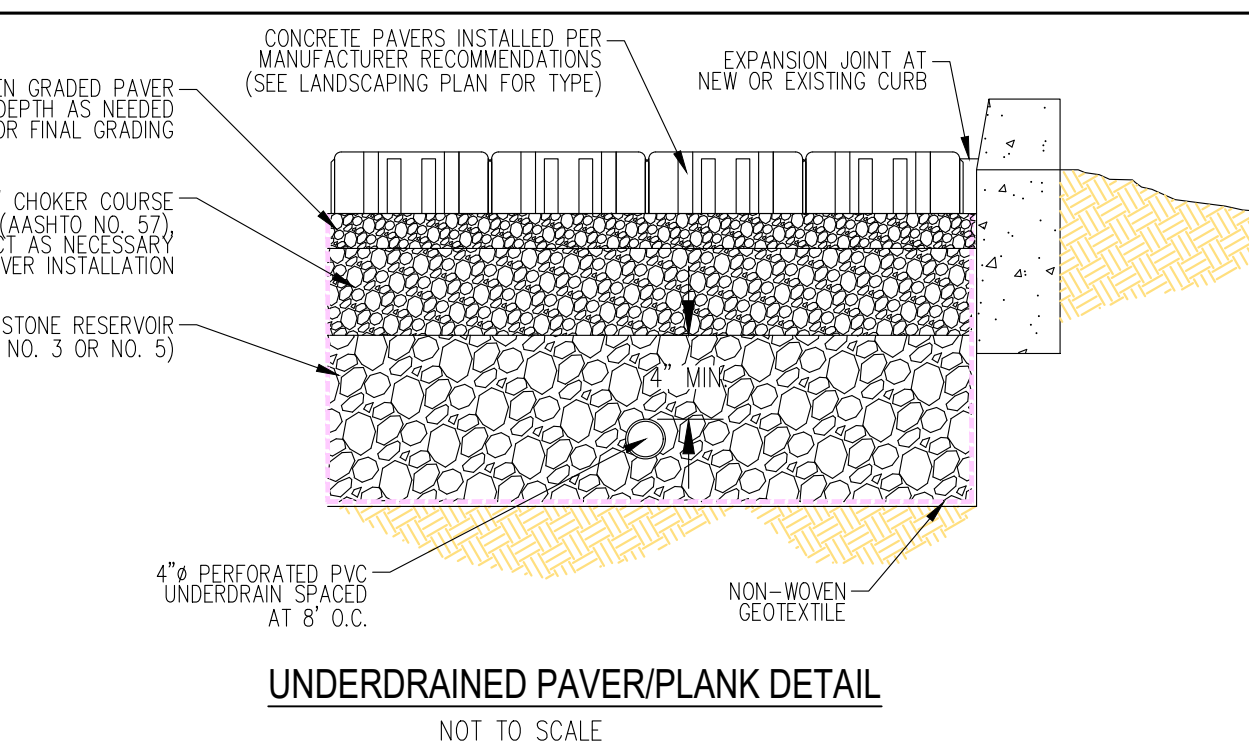
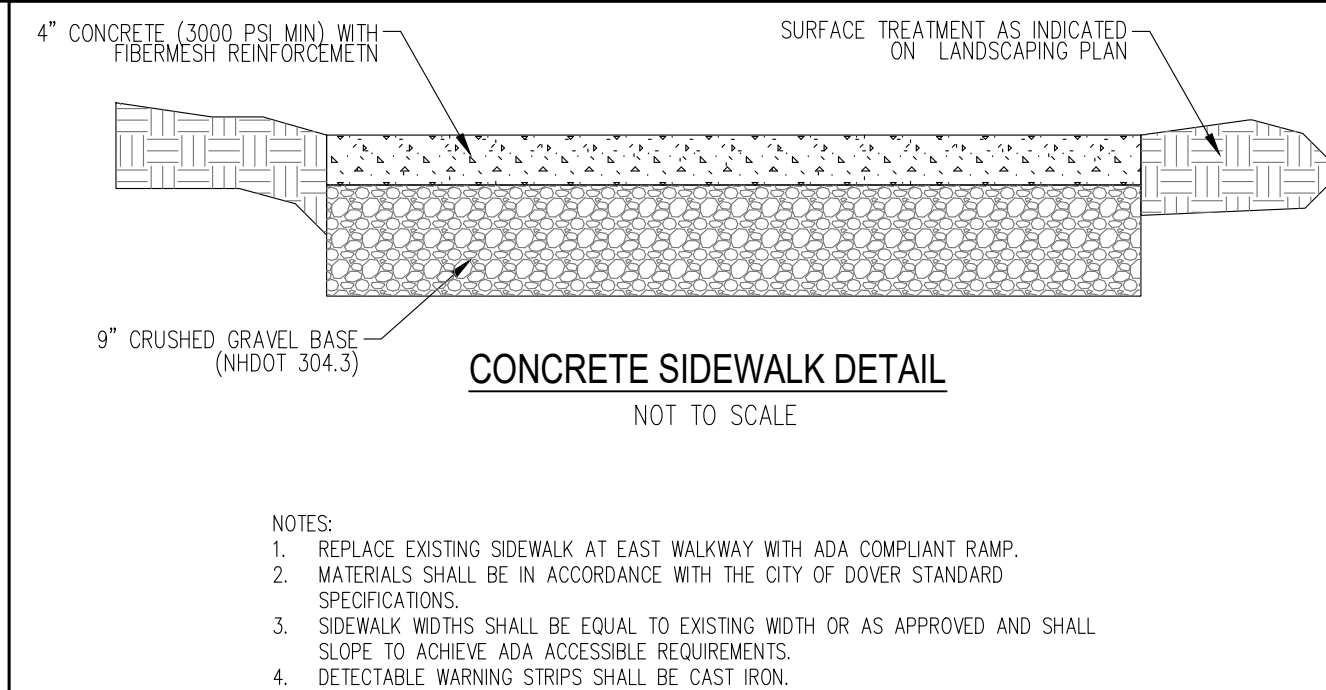
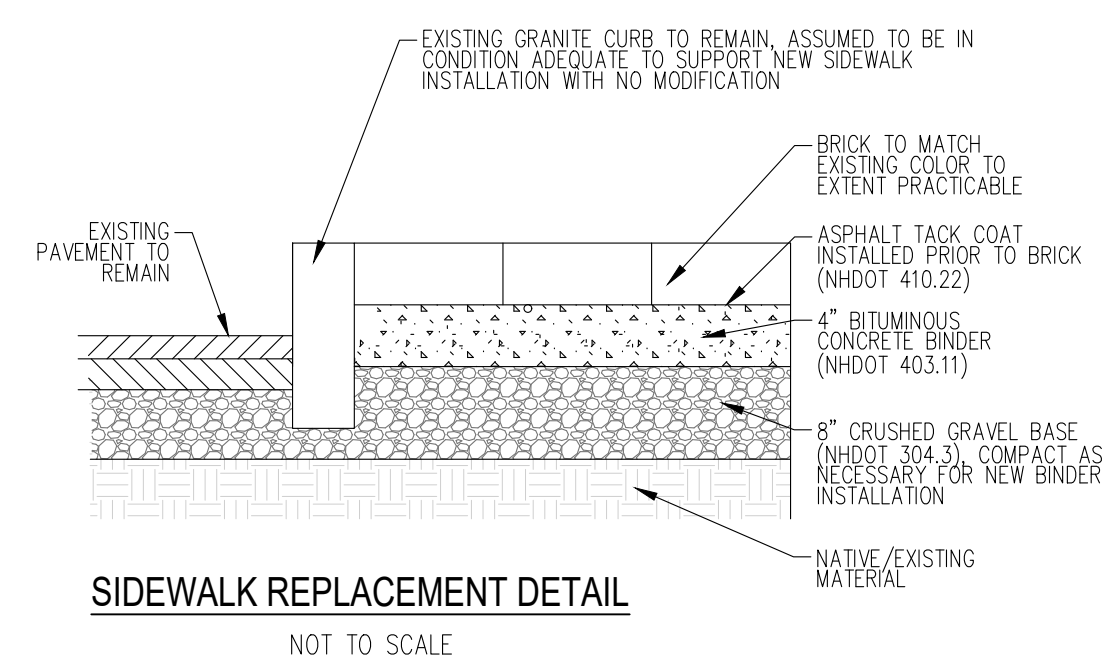
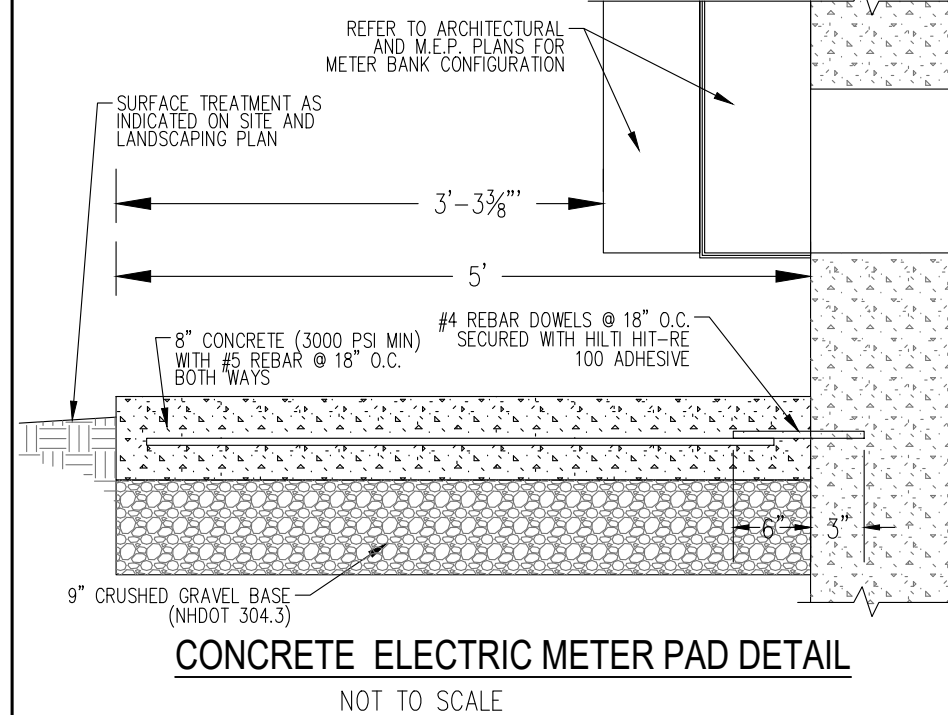
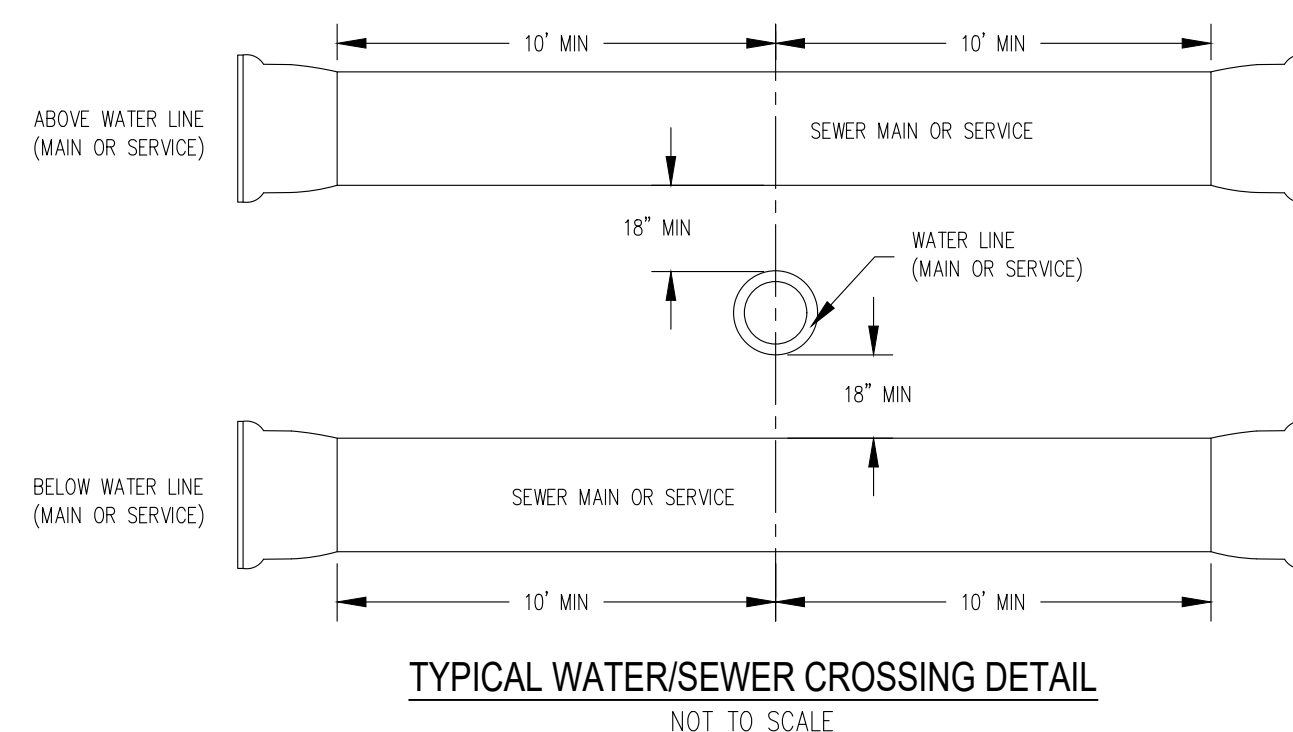
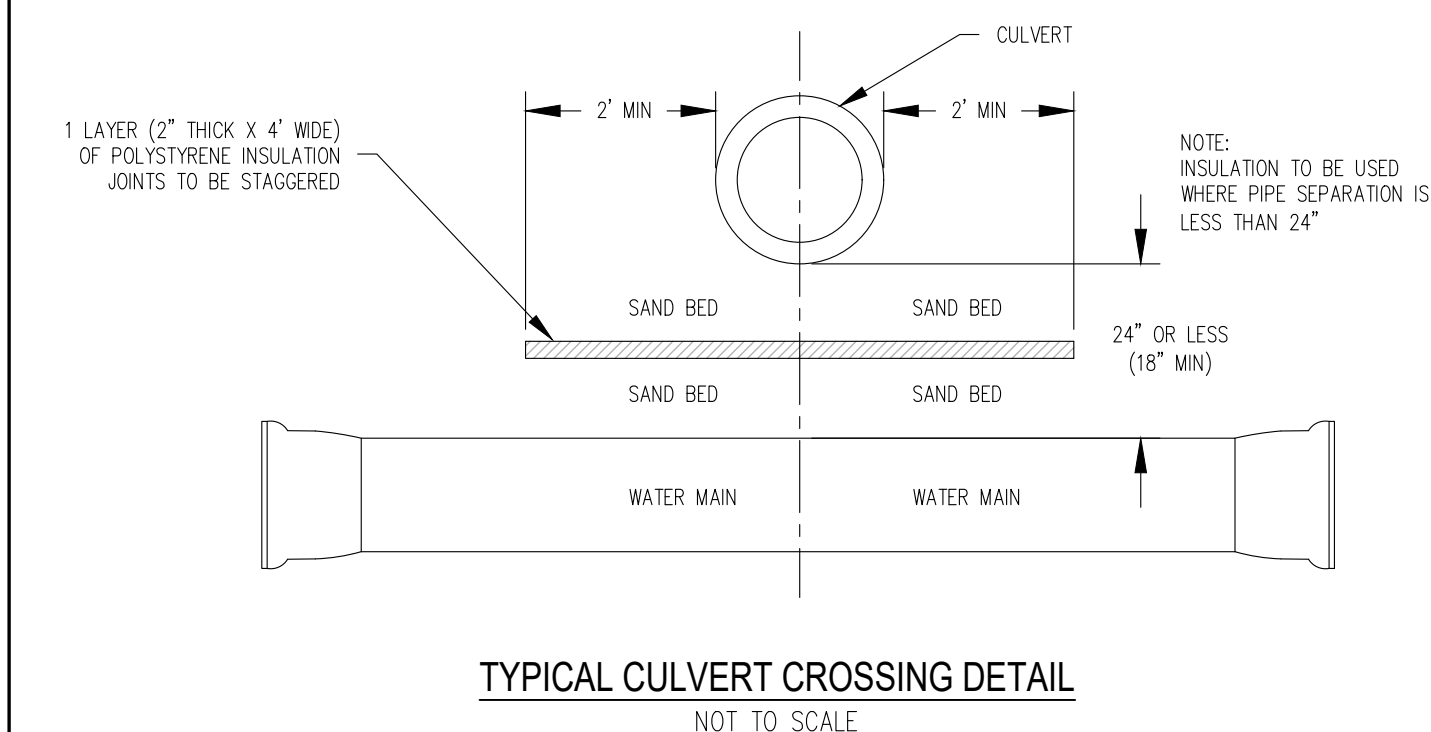
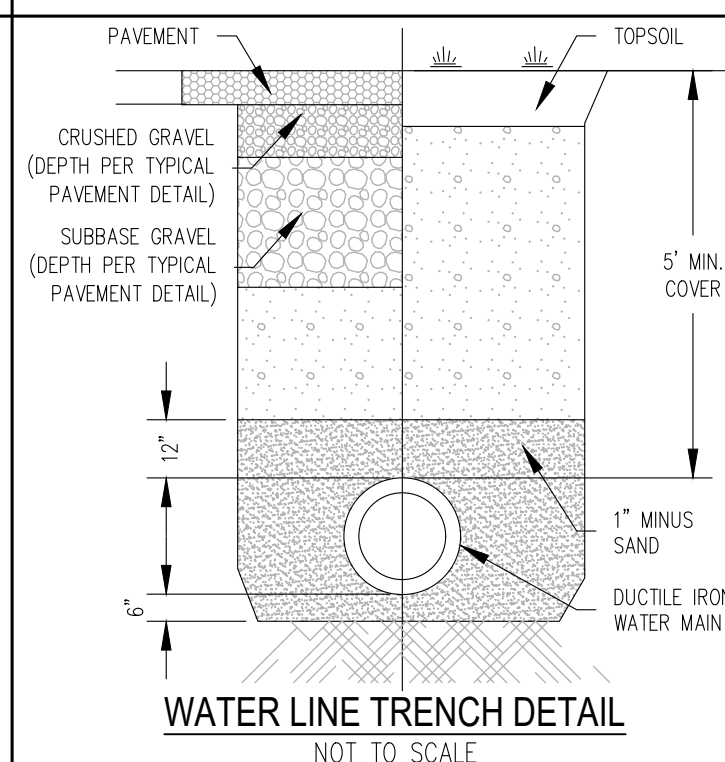
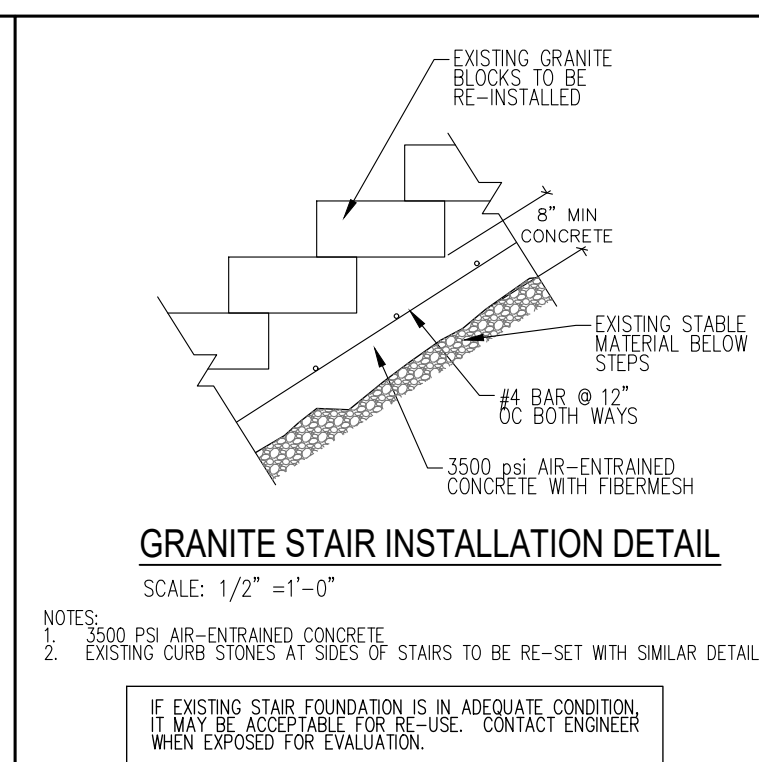
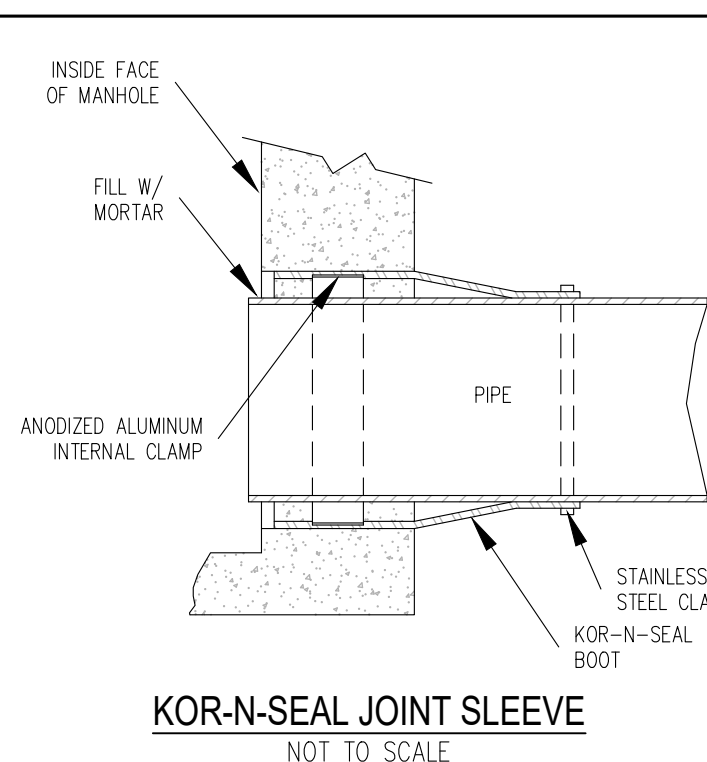
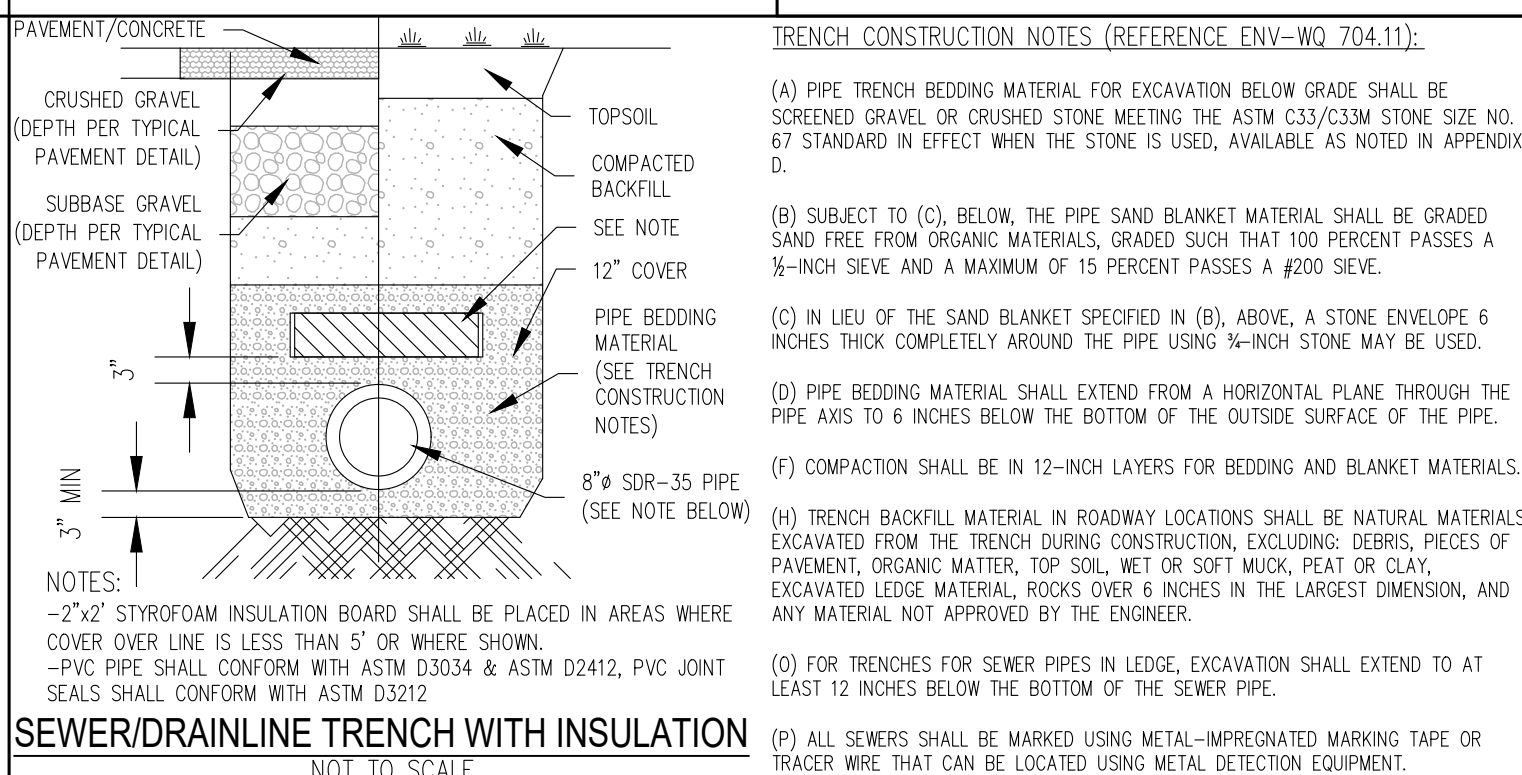
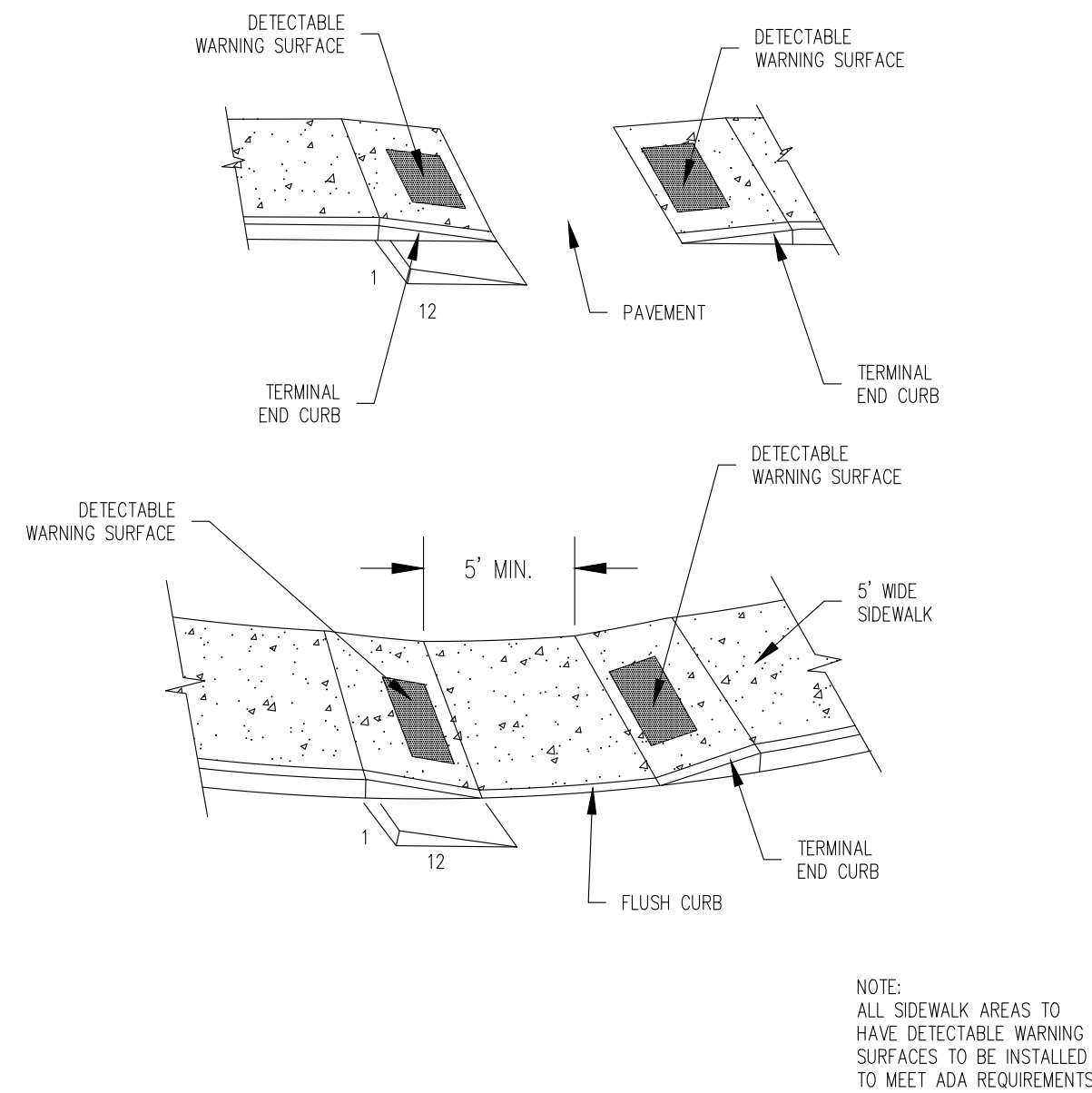
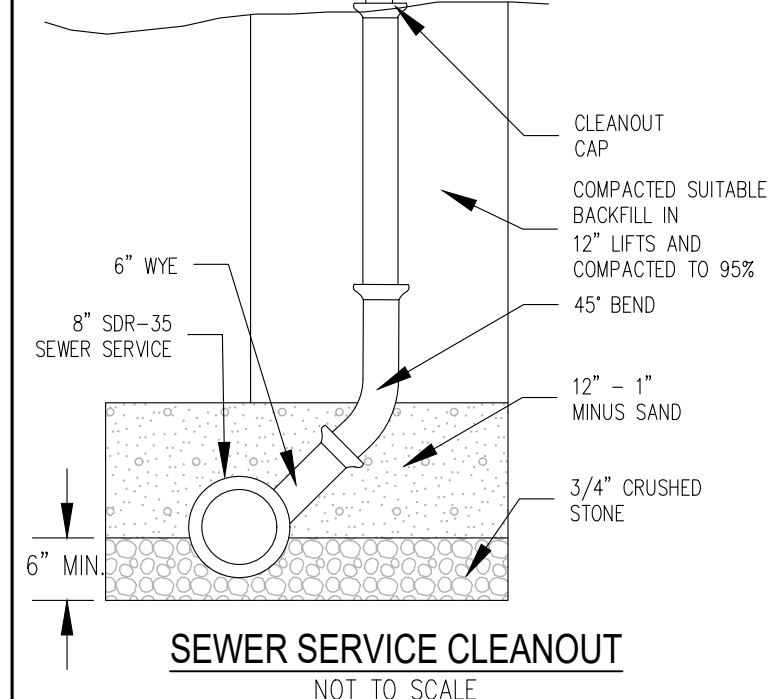
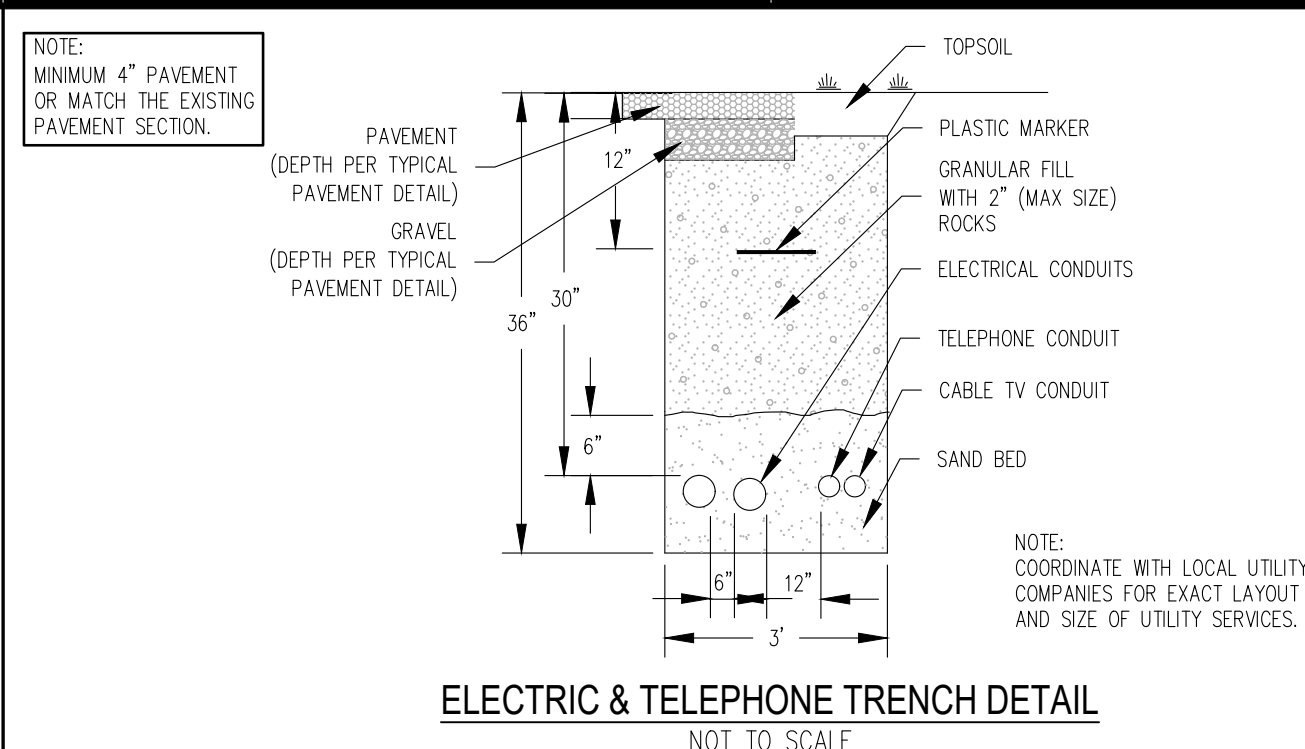
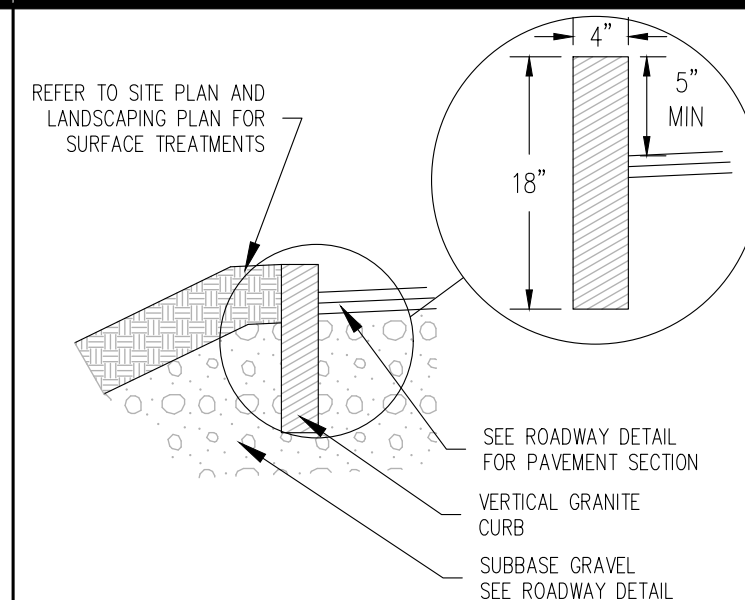
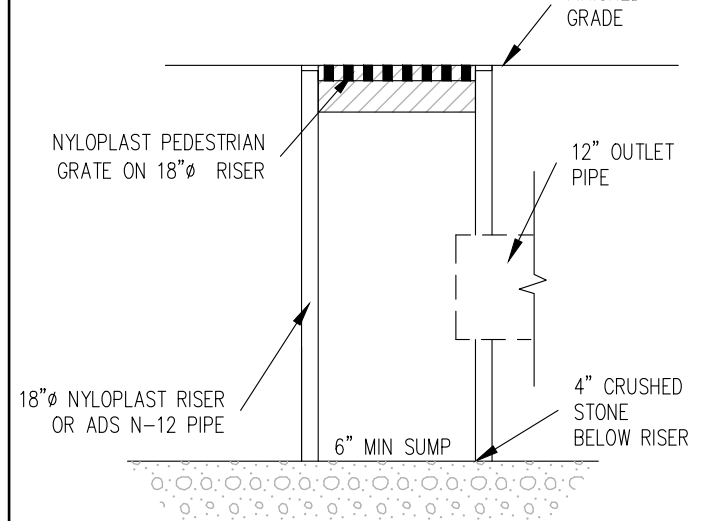
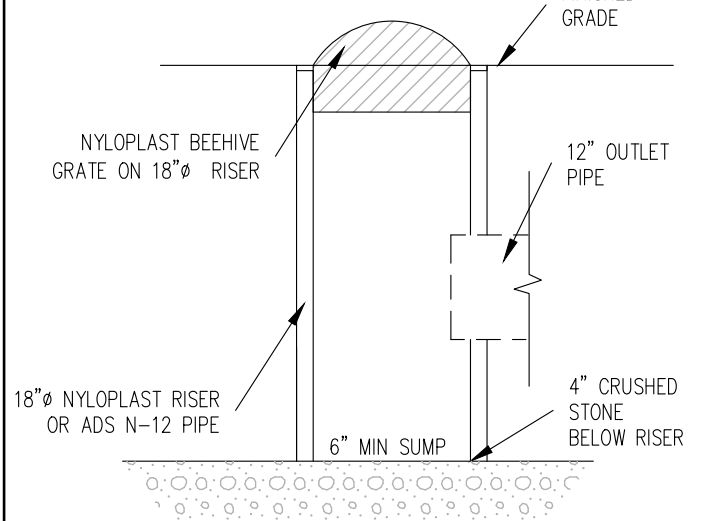
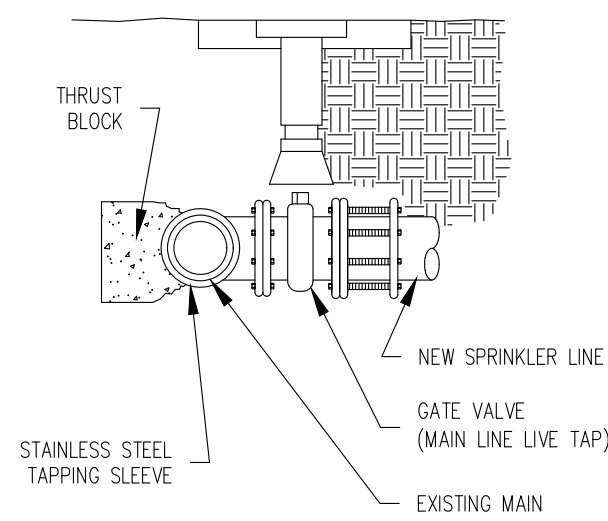
EROSION  
CONTROL  
PLAN

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

**L6**

SHEET: 8 OF 29

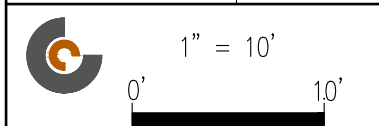




|     |                                        |      |          |                                                                                                                                                                                                                                                                                                                           |  |
|-----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| NO. | REVISONS                               | INT. | DATE     |                                                                                                                                                                                                                                        |  |
|     |                                        |      |          |  <p><b>CIVIL CONSULTANTS</b><br/> <i>Engineers</i><br/> <i>Planners</i><br/> <i>Surveyors</i><br/> P.O. Box 100<br/> South Berwick<br/> Maine<br/> 03808<br/> 202-384-2550<br/> <a href="http://www.civcon.com">www.civcon.com</a></p> |  |
| 10  | REVISED TO INCLUDE 1ST STREET PATIO    | NUR  | 6/7/23   |                                                                                                                                                                                                                                                                                                                           |  |
| 9   | REVISED FOR AS-BUILT ELEC PANEL INFO   | NUR  | 4/18/23  |                                                                                                                                                                                                                                                                                                                           |  |
| 8   | REVISED STAIRS & 1ST ST UTILITIES      | NUR  | 6/20/22  |                                                                                                                                                                                                                                                                                                                           |  |
| 7   | REVISED VENT DRAIN, PUBLIC ART & ROOF  | NUR  | 12/22/21 |                                                                                                                                                                                                                                                                                                                           |  |
| 6   | REVISED GARAGE ELEVATION & GRADING     | NUR  | 12/31/21 |                                                                                                                                                                                                                                                                                                                           |  |
| 5   | REVISED CLIENT INFORMATION             | NUR  | 10/29/21 |                                                                                                                                                                                                                                                                                                                           |  |
| 4   | REVISED PER CITY & DES REVIEW COMMENTS | NUR  | 9/21/21  |                                                                                                                                                                                                                                                                                                                           |  |
| 3   | REVISED PER TRC/STAFF REVIEW COMMENTS  | NUR  | 6/23/21  |                                                                                                                                                                                                                                                                                                                           |  |

PROPOSED SITE MODIFICATIONS  
LAND OF ONE FIRST STREET, LLC  
10 SECOND STREET - TAX MAP 6, LOT 20  
DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE

PREPARED FOR: ONE FIRST STREET, LLC  
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FIRST AMERICAN FINANCIAL CORPORATION  
1 FIRST AMERICAN WAY, SANTA ANA, CA 92707



DATE: 4/9/2021  
DRAWN BY: NJR  
CHECKED BY:  
APPROVED BY:

## CONSTRUCTION NOTES & DETAILS

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

L7

SHEET: 9 OF 29

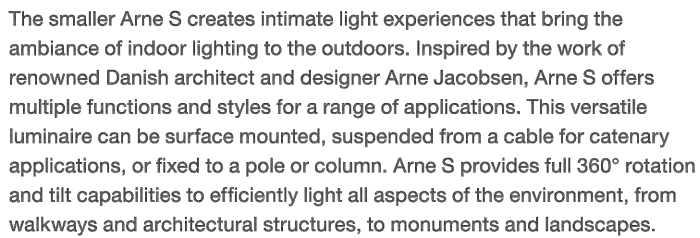












- Pole, catenary, or surface mounting options
- Pole and surface mount brackets provide tilt and roll capabilities
- Offered in 4 standard pole heights (3.4m, 4.2m, 5.0m, 5.8m)
- Poles for catenary applications can be custom engineered for each project (cable not included)
- Available in multiple power outputs and beam options
- Zero up-light, International Dark-Sky approved
- UL Listed, suitable for wet locations

120V-277V 50/60 Hz, Class 2 integrated dimmable driver. 1-10V dimming interface is standard, DALI compatible dimming interface available upon request. Arre S ships prewired and fully assembled. Reference the installation guide for the wiring diagram and other electrical support information.

Housing: Die-cast aluminum  
Lens: Tempered glass (clear or opal / diffused)  
Light Source: PCB LED - Cree XPG2

Color Temperature: 3000K, 4000K  
Power Supply: 120V-277V  
Dimming: 1-10V (DALI available upon request)  
Protection Class: IP66  
Weight: 8 lbs (luminaire only)  
EPA: .36 ft<sup>2</sup>

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Don't see what you are looking for? Our goal is to partner with you as the designer to manufacture solutions needed for the space you are creating. We offer the option to modify our standard product to meet certain design specifications or needs. Contact your local Landscape Forms representative to learn more about these offerings.

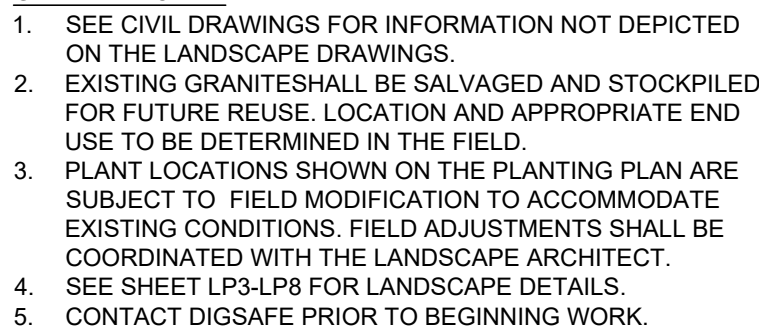
LED lighting products are warranted for six years

UL Listed, RoHS Compliant, Dark-Sky Approved  
US Patent Pending



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| KEY | QTY | GENERAL DESCRIPTION | MANUFACTURER       | MODEL              | MODEL NUMBER              | HEIGHT              | VOLTAGE            | WATT | DESCRIPTION             | DISTRIBUTION | COMMENT                               |
|-----|-----|---------------------|--------------------|--------------------|---------------------------|---------------------|--------------------|------|-------------------------|--------------|---------------------------------------|
| C1  |     | CATENARY            | LANDSCAPE FORMS    | ARNE S             | ARPS-8-A-1-WF-O-C-BLK     | 12'                 | 100-277VAC         | 11W  | 896 LUMENS, 3000K       | TYPE III     | X                                     |
| L1  |     | LANDSCAPE SPOT      | KICHLER            |                    | KCH2189806                | GROUND MOUNT        | 12V                | 3.5  | 300 LUMENS, 3000K       | SPOT         | 60 DEGREE BEAM                        |
| L2  |     | BOLLARD             | AMERILUX           |                    | BSHQF1X16U3K              | NA                  | 100-277VAC         | 19W  | 508 LUMENS, 3000K       |              |                                       |
| W1  |     | WALL SCONCE         | HINKLEY            | MIST (22")         | HKY666855                 | 5'-6" ABOVE LANDING | 120                | 6W   | MR16 GU10, 3000K        |              | SATIN BLACK, 420 LUMENS               |
| W2  |     | WALL LIGHT          | WAC LIGHTING       | TUBE               | WS-W2610-BK               | 7' +/-              | 120-277 VAC        | 16W  | 825 LUMENS              |              | W3(B) WHERE WINDOWS INTERFERE WITH W3 |
| W3  |     | WALL LIGHT          | LANDSCAPE FORMS    | TORRES WALL MOUNT  | AH-004L3-100F-UV1-MW1-BLK | 12'                 | 100-277VAC         | 28W  | 2005 LUMENS, 3000K      | TYPE III     | X                                     |
| W4  |     | GOOSENECK           | MISENO             | RUSHMORE (MULTA10) | WS-W2610-BK               | SEE LP6             |                    |      |                         | TYPE IV      | COPPER (CP)                           |
| W5  |     | SIGN LIGHT          | VERSA LED LIGHTING | LINEAR SIGN LIGHT  | LSLED2                    | NA                  | 120/208/240/277VAC |      | 3200 LUMENS (4'), 3000K | LINEAR       | SMOOTH CLEAR ACRYLIC DIFFUSER/LENSE   |



## EXTERIOR LIGHTING PLAN

|   |                                                                                       |        |                             |
|---|---------------------------------------------------------------------------------------|--------|-----------------------------|
| 1 |  | 6/3/21 | REVISED PER TRC COMMENTS    |
| 2 |  | 6/4/21 | REVISED PER TRC COMMENTS    |
| 3 |  | 6/8/23 | REV. PER OWNER/TENANT NEEDS |
|   |  |        |                             |

| REV#        | DATE                | DESCRIPTION |
|-------------|---------------------|-------------|
| PROJECT NO. | 21014.0             |             |
| DESIGN BY   | J.HYLAND / J.MARTEL |             |
| DRAWN BY    | J.COLOPY / S.WRIGHT |             |
| CHECKED BY  | J. HYLAND /D.JENSEN |             |
| DATE        | APRIL 15, 2021      |             |

**SCALE**

5' 0' 10' 20'

SCALE: 1"=10'-0"

SEAL



# LP1

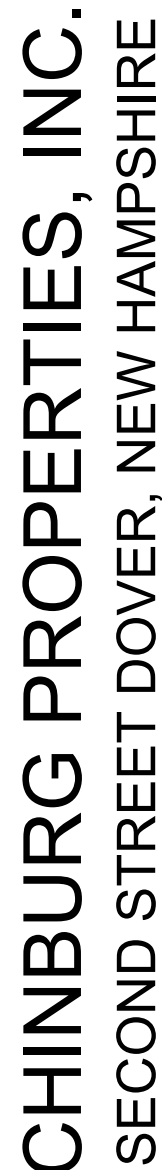
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מחברת: ד"ר חגית גורן, מנהלית מחקר, מרכז המחקר והייעוץ למערכת המשפט, משרד המשפטים, תל אביב, ישראל. e-mail: hagit.goren@mis.gov.il



1. PLEASE REVIEW AND BECOME FULLY ACQUAINTED WITH THESE NOTES, THE PLANTING PLAN.
2. LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING, AND SHALL REPORT ANY CONFLICT TO THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN SOCIETY OF NURSERY MEN, INC. LATEST EDITION.
4. THE LOCATION OF ALL THE PROPOSED PLANT MATERIAL FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. NO PLANTS SHALL BE PLANTED BEFORE THE ACCEPTANCE OF ROUGH GRADING.
5. THE BASE OF THE FLARE OF THE TREE TRUNK SHALL BE EXPOSED AND SET 1'-2" ABOVE FINISH GRADE.
6. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES WILL BE PLANTS WITH EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER COLOR, LEAF COLOR, FRUIT COLOR, AND TIME OF BLOOM, AS APPROVED BY THE LANDSCAPE ARCHITECT.
7. EXISTING LOAM: REMOVE CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1" AND LARGER, AND ANY DEBRIS AND FOREIGN MATERIALS.
8. ADDITIONAL LOAM: IF STOCKPILED LOAM QUANTITY IS INSUFFICIENT, PROVIDE LOAM THAT IS A "FINE SANDY LOAM", OR A "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "U.S.D.A. CLASSIFICATION SYSTEM," IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL. LOAM SHALL HAVE AN ACIDITY RANGE OF PH 5.8 TO PH 7.0 AND SHALL CONTAIN NOT LESS THAN 4% NOR MORE THAN 10% ORGANIC MATTER AS DETERMINED BY THE LOSS OF IGNITION OF OVEN-DRIED SAMPLES. PROVIDE LOAM THAT IS FERTILE, FRIABLE, NATURAL LOAM, FREE FROM SUBSOIL, CLAY LUMPS, BRUSH, LITTER, ROOTS, STONES 1/2" AND LARGER, AND ANY DEBRIS AND FOREIGN MATERIALS.
9. PINE MULCH: PROVIDE PARTIALLY DECOMPOSED MINIMUM SIX MONTH AGED FINELY SHREDDED PINE BARK MULCH WITH DARK BROWN COLOR AND FREE OF WEEDS, EXCESSIVE FINE PARTICLES, STRINGY MATERIAL, AND CHUNKS OF WOOD THICKER THAN 1/4". PROVIDE BARK MULCH APPROVED BY THE LANDSCAPE ARCHITECT.
10. ALL PLANTS SHALL BE PLUM VERTICALLY AFTER SETTLING.
11. ALL PLANT MATERIAL SHALL BE MULCHED AFTER PLANTING.
12. LESS OTHERWISE INDICATED, DICTATED BY CONDITIONS AT THE SITE, AND DIRECTED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE, BACKFILL SHALL CONSIST OF UNAMENDED SOIL EXCAVATED FROM THE PLANTING PIT. BACKFILL IN 3-4" LAYERS AND CONSOLIDATE EACH LAYER WITH WATER TO ELIMINATE VOIDS AND ARE POCKETS BEFORE PLACING SUBSEQUENT LAYERS. CONTINUE UNTIL BACKFILL HAS REACHED FINISHED GRADE. WATER THOROUGHLY WHEN EXCAVATION IS BACK FILLED AND CONTINUE WATERING UNTIL SATURATED. IF EXISTING UNAMENDED SOIL IS NOT ACCEPTED, PROVIDE PLANTING SOIL MIXTURE CONSISTING OF 7 PARTS LOAM AND 1 PART COMPOST. MIX QUANTITY OF FERTILIZER AND SOIL AMENDMENTS AS RECOMMENDED BY SOIL ANALYSIS AND APPROVED BY THE LANDSCAPE ARCHITECT.
13. WATERING: FLOOD ALL PLANTS WITH WATER TWICE WITHIN THE FIRST 24 HOURS AFTER PLANTING.
14. LOAMING: LOOSEN SUBGRADE AND EXISTING LOAM AREAS BY DISCING OR ROTOTILLING TO MINIMUM DEPTH OF 6". REMOVE STONES GREATER THAN 1" AND ALL RUBBISH AND DEBRIS. PLACE LOAM IN TWO EQUAL LIFTS MIXING FIRST APPLICATION INTO LOOSENED SUBGRADE THEN PLACE SECOND LIFT TO BRING LOAM AFTER SETTLING AND COMPACTING TO THE LINES AND GRADES SHOWN ON THE PLANS. DO NOT HANDLE LOAM OR SUBSOIL IF IT IS WET OR FROZEN.
15. AFTER LOAM HAS BEEN SPREAD, IT SHALL BE CAREFULLY PREPARED BY SCARIFYING AND HAND RAKING. ALL LARGE STIFF CLODS, LUMPS, BRUSH, ROOTS, STUMPS, LITTER AND FOREIGN MATTER, AND STONES OVER 1/2" IN DIAMETER SHALL BE REMOVED FROM THE LOAM. LOAM SHALL ALSO BE FREE OF SMALLER STONES IN EXCESSIVE QUANTITIES AS DETERMINED BY THE LANDSCAPE ARCHITECT.
16. FINE GRADING: SET SUFFICIENT GRADE STAKES FOR CHECKING THE FINISHED GRADES. STAKES MUST BE SET AT THE BOTTOM AND TOP OF SLOPES. GRADES SHALL BE ESTABLISHED THAT ARE ACCURATE TO +/- 1/10TH OF A FOOT. CONNECT CONTOURS AND SPOT ELEVATIONS WITH AN EVEN SLOPE. ALL GRADING WILL INSURE DRAINAGE AWAY FROM STRUCTURES.
17. FINE GRADE LAWN AREAS TO SMOOTH, FREE DRAINING, EVEN SURFACES WITH FINE TEXTURE. ROLL, RAKE AND DRAW LAWN AREAS TO FLATTEN RIDGES AND FILL DEPRESSIONS. EXCEPT AT SELECT AREAS SHOWN ON THE DRAWINGS. CONTROL MOISTURE CONTENT TO MAINTAIN OPTIMUM CONDITIONS, BUT DO NOT CREATE A MUDDY CONDITION.
18. ROLLING - TYPICAL: ROLL THE ENTIRE AREA WITH A HAND ROLLER WEIGHTING NOT MORE THAN 100 POUNDS. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM AND THE SURFACE SHALL BE REGARDED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE OR TO THE SHAPES AND CONFIGURATIONS AS SHOWN ON THE DETAILS.
19. APPLY TACKIFIED MULCH TO ALL SEEDED AREAS AFTER SEEDING.
20. THE SILT FENCE SHALL BE LIMIT OF SEEDING UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE SEEDED AS INDICATED ON THE DRAWINGS.
21. IN CASE OF DISCREPANCIES BETWEEN THE QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THE QUANTITIES SHOWN ON THE PLANTING PLAN, THE QUANTITIES ON THE PLANTING PLAN SHALL BE PROVIDED BY THE CONTRACTOR.

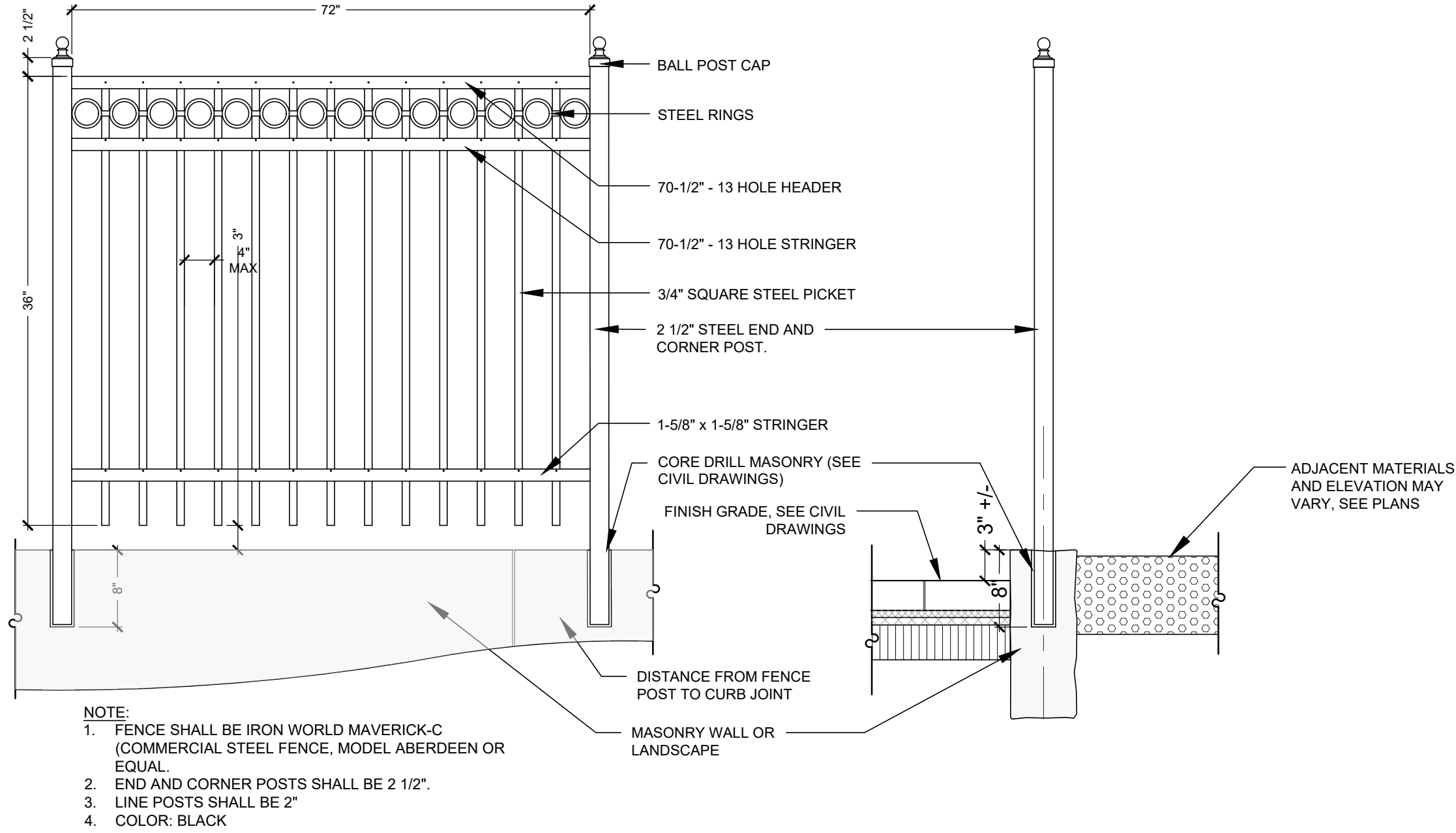
| DECIDUOUS SHADE OR STREET TREES |     |                                                 |                                |                                 |
|---------------------------------|-----|-------------------------------------------------|--------------------------------|---------------------------------|
| 3                               | TCG | TILIA CORDATA 'GREENSPIRE'                      | GREENSPIRE LITTLE-LEAF LINDEN  | 3 1/2"-4" CAL. B&B              |
| DECIDUOUS TREES: UNDERSTORY     |     |                                                 |                                |                                 |
| 2                               | AGA | AMELANCHIER GRANDIFLORA 'AUTUMN BRILLIANCE'     | AUTUMN BRILLIANCE SERVICEBERRY | 8'-10" HT. MULTI-STEM/HEAVY/B&B |
| 13                              | CCP | CARPINUS CAROLINIANA 'PALISADE'                 | PALISADE AMERICAN HORNBEAM     | 2"-2 1/2" CAL. B&B              |
| 1                               | PP  | PARROTIA PERSICA 'RUBY VASE'                    | RUBY VASE PARROTIA             | 2"-2 1/2" CAL. B&B              |
| EVERGREEN TREES                 |     |                                                 |                                |                                 |
| 3                               | JVC | JUNIPERUS VIRGINIANA 'CANAERTII'                | CANAERT EASTERN RED CEDAR      | 7'-8" HT. B&B                   |
| SHRUBS                          |     |                                                 |                                |                                 |
| 13                              | HAL | HYDRANGEA ARBORESCENS 'INVINCIBELLE LIMETTA'    | LIMETTA INVINCIBELLE HYDRANGEA | #3 CONTAINER                    |
| 4                               | H4H | HYDRANGEA ARBORESCENS 'HAAS HALO'               | HAAS HALO HYDRANGEA            | #3 CONTAINER                    |
| 2                               | HQM | HYDRANGEA QUERCIFOLIA 'MUNCHKIN'                | MUNCHKIN OAKLEAF HYDRANGEA     | #3 CONTAINER                    |
| 20                              | IGC | ILEX GLABRA COMPACTA                            | COMPACT INKBERY                | #5 CONTAINER                    |
| 3                               | KLC | KALMIA LATIFOLIA 'CAROL'                        | HYBRID MOUNTAIN LAUREL         | #3 CONTAINER                    |
| 6                               | KLE | KALMIA LATIFOLIA 'ELF'                          | HYBRID MOUNTAIN LAUREL         | #5 CONTAINER                    |
| 7                               | KLO | KALMIA LATIFOLIA 'OLYMPIC FIRE'                 | OLYMPIC FIRE MOUNTAIN LAUREL   | #5 CONTAINER                    |
| 5                               | JCB | JUNIPERUS COMMUNIS DEPRESSA 'BLUEBERRY DELIGHT' | BLUEBERRY DELIGHT JUNIPER      | #2 CONTAINER                    |
| 8                               | RA  | RHUS AROMATICA 'GRO LOW'                        | GROUNDCOVER SUMAC              | #3 CONTAINER                    |
| 7                               | RM  | RHODODENDRON MAXECAT                            | MAXECAT RHODODENDRON           | #5 CONTAINER                    |
| 6                               | SBA | SPIREAE BIMALDA 'ANTHONY WATERER'               | JAPANESE SPIREA                | #3 CONTAINER                    |
| 5                               | SPB | SYRINGA PATULA 'BABY KIM'                       | BABY KIM LILAC                 | #3 CONTAINER                    |
| 3                               | TME | TAXUS MEDIA 'EVER-LOW'                          | EVER-LOW YEW                   | #5 CONTAINER                    |
| 4                               | TMG | TAXUS MEDIA 'GREENWAVE'                         | GREENWAVE YEW                  | #5 CONTAINER                    |
| PERENNIALS                      |     |                                                 |                                |                                 |
| 3                               | BA  | BAPTISIA AUSTRALIS                              | FALSE INDIGO                   | #2 CONTAINER                    |
| 7                               | BAL | BAPTISIA AUSTRALIS 'LEMON MERINGUE'             | LEMON MERINGUE FALSE INDIGO    | #2 CONTAINER                    |
| 2                               | HBH | HEMEROCALLIS 'BIG TIME HAPPY'                   | BIG TIME HAPPY YELLOW DAYLILY  | #2 CONTAINER                    |
| 9                               | HBS | HEMEROCALLIS 'BLACK EYED STELLA'                | BLACK EYED YELLOW DAYLILY      | #2 CONTAINER                    |
| 6                               | HVC | HEUCHERA VILLOSA 'CAMEL'                        | CAMEL CORAL BELLS              | #2 CONTAINER                    |
| 6                               | SBM | SALVIA 'BLUE MARVEL'                            | BLUE MARVEL SALVIA             | #2 CONTAINER                    |
| GRASSES                         |     |                                                 |                                |                                 |
| 9                               | CA  | CALAMAGROSTIS X ACUTIFLORA 'OVERDAM'            | OVERDA FEATHER REED GRASS      | #3 CONTAINER                    |
| 72                              | CP  | CAREX PENSYLVANICA                              | PENNSYLVANIA SEDGE             | #1 CONTAINER                    |
| 10                              | HMA | HAKONECHLOA MACRA 'AUROLEA'                     | GOLDEN JAPANESE FOREST GRASS   | #2 CONTAINER                    |
| 21                              | PVS | PANICUM VIRGATUM 'SHENANDOAH'                   | SHENANDOAH SWITCH GRASS        | #3 CONTAINER                    |



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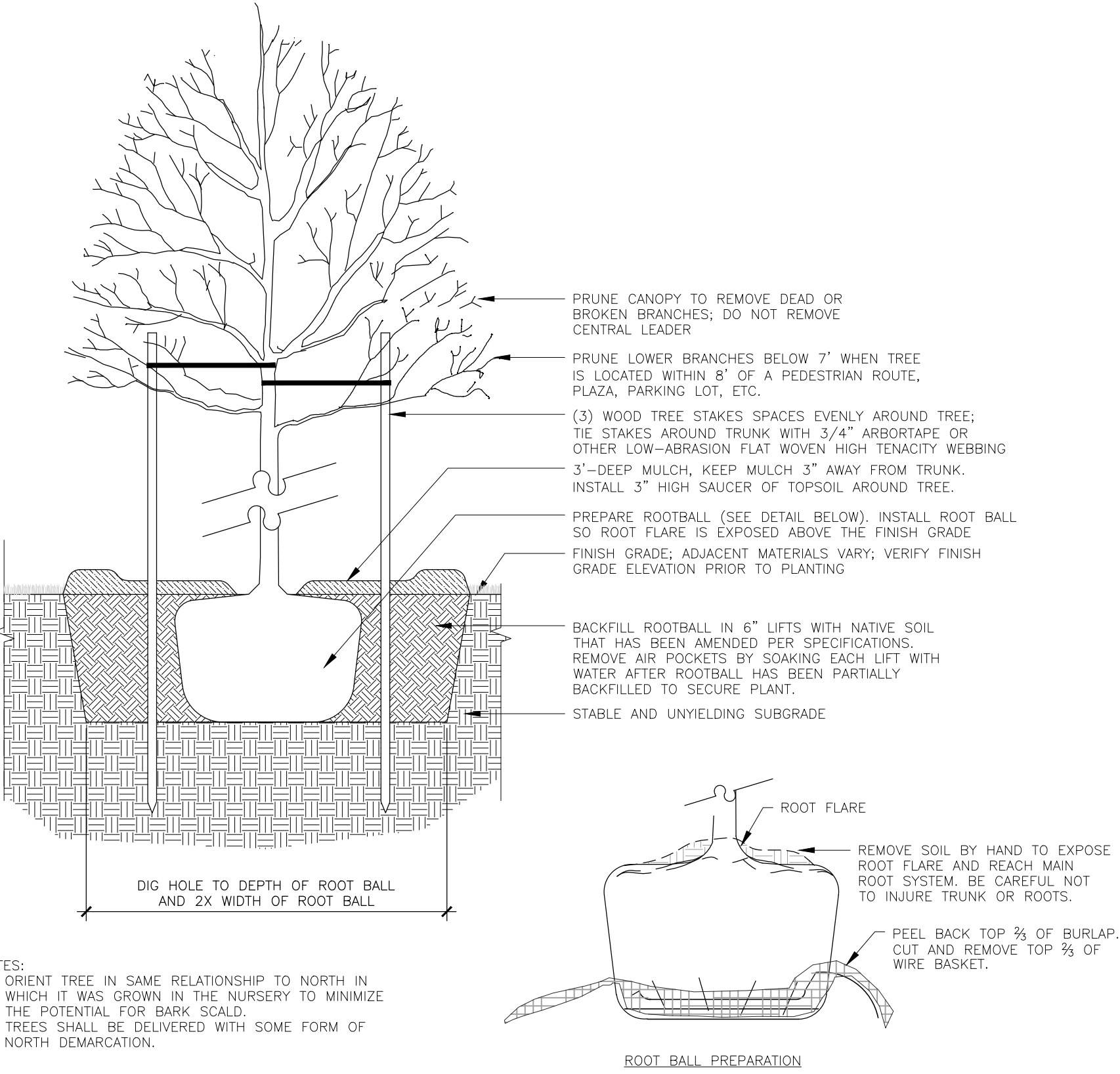


ORNAMENTAL FENCE AND GATE

Not to Scale

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1  
LP3

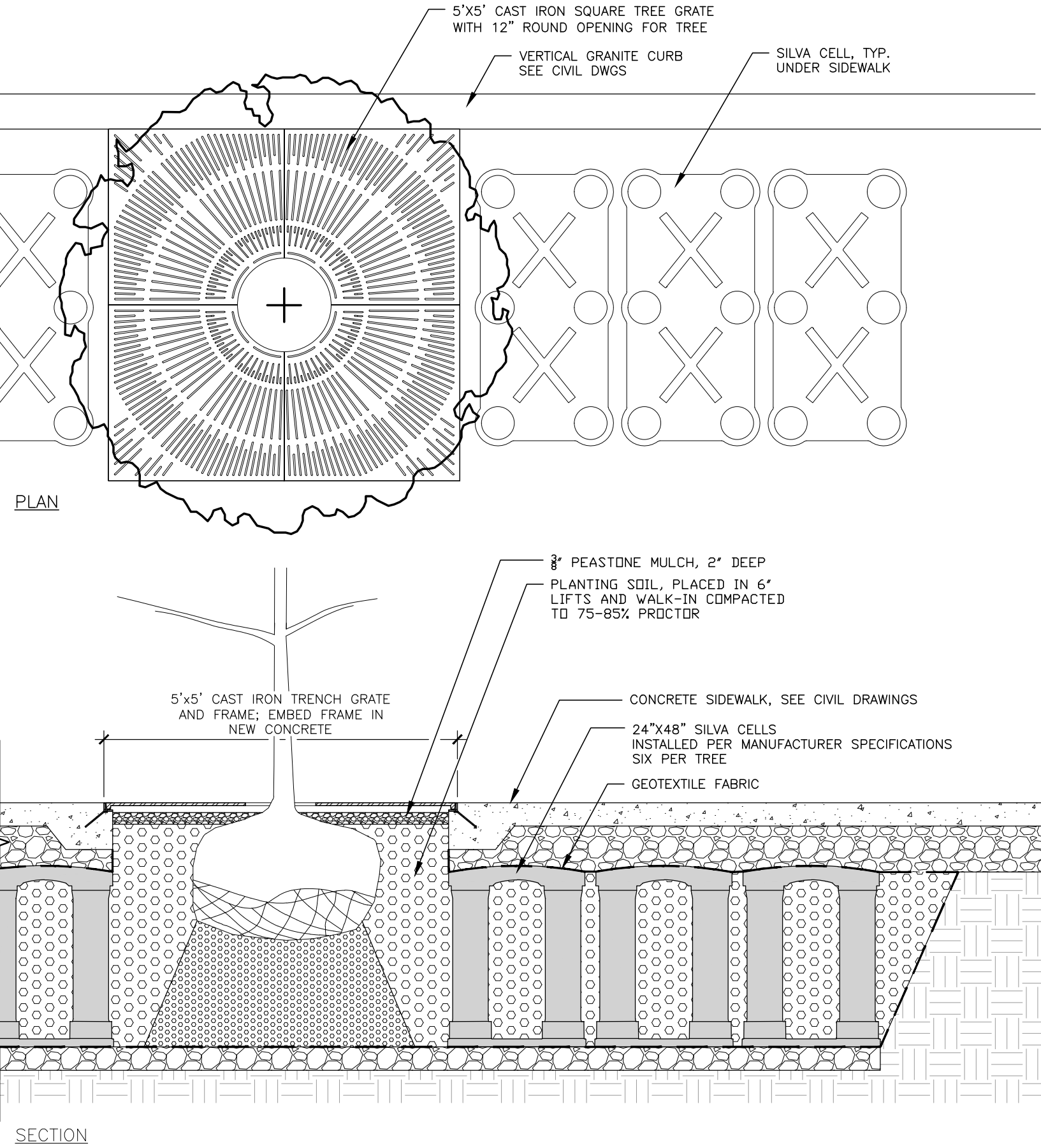


TREE IN PLANTING BED

Not to Scale

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3  
LP3

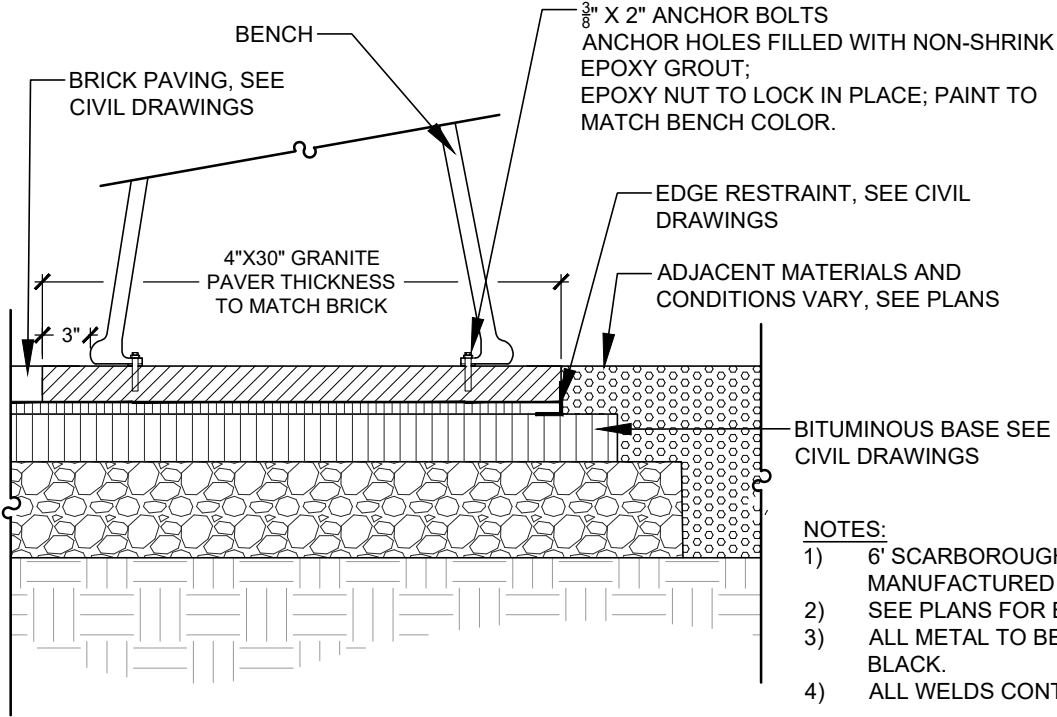


TREE IN TREE GRATE

Not to Scale

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4  
LP3

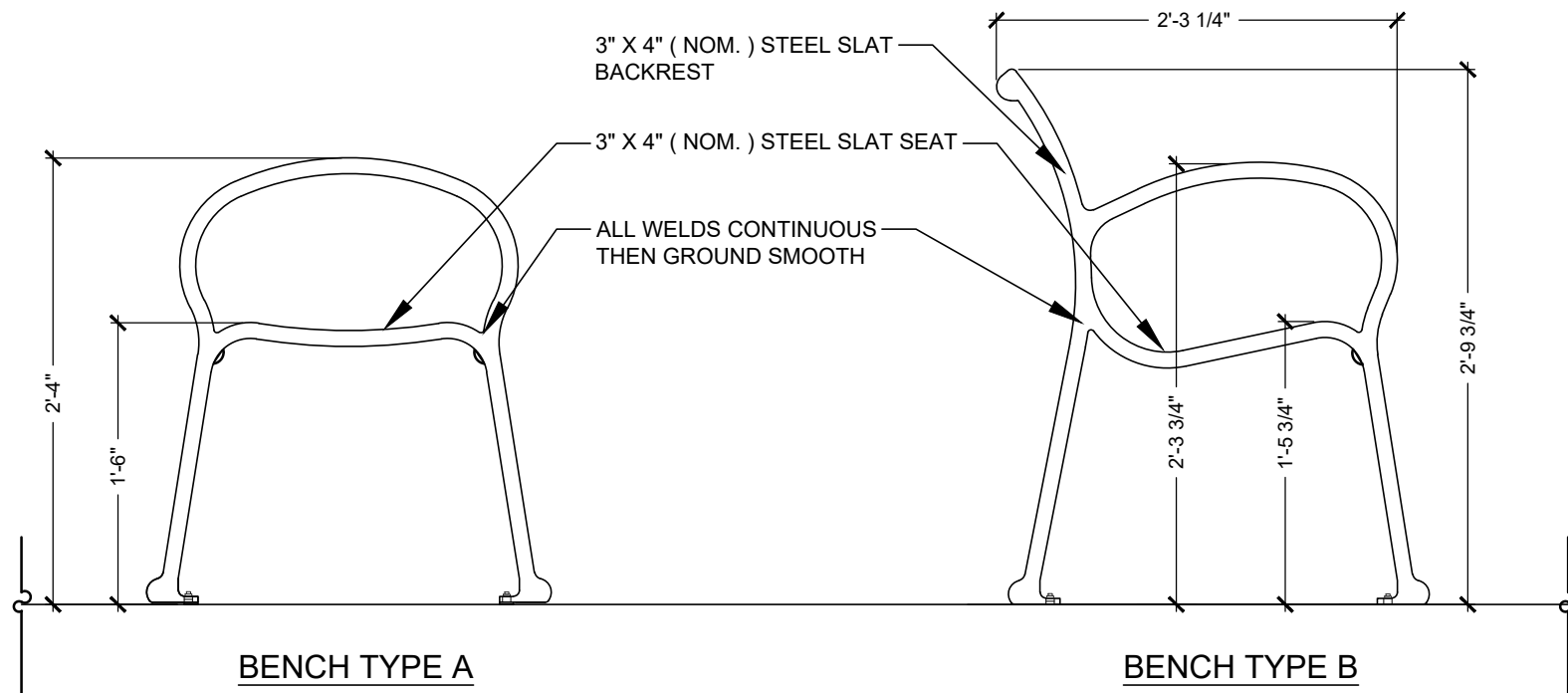


BENCH

Not to Scale

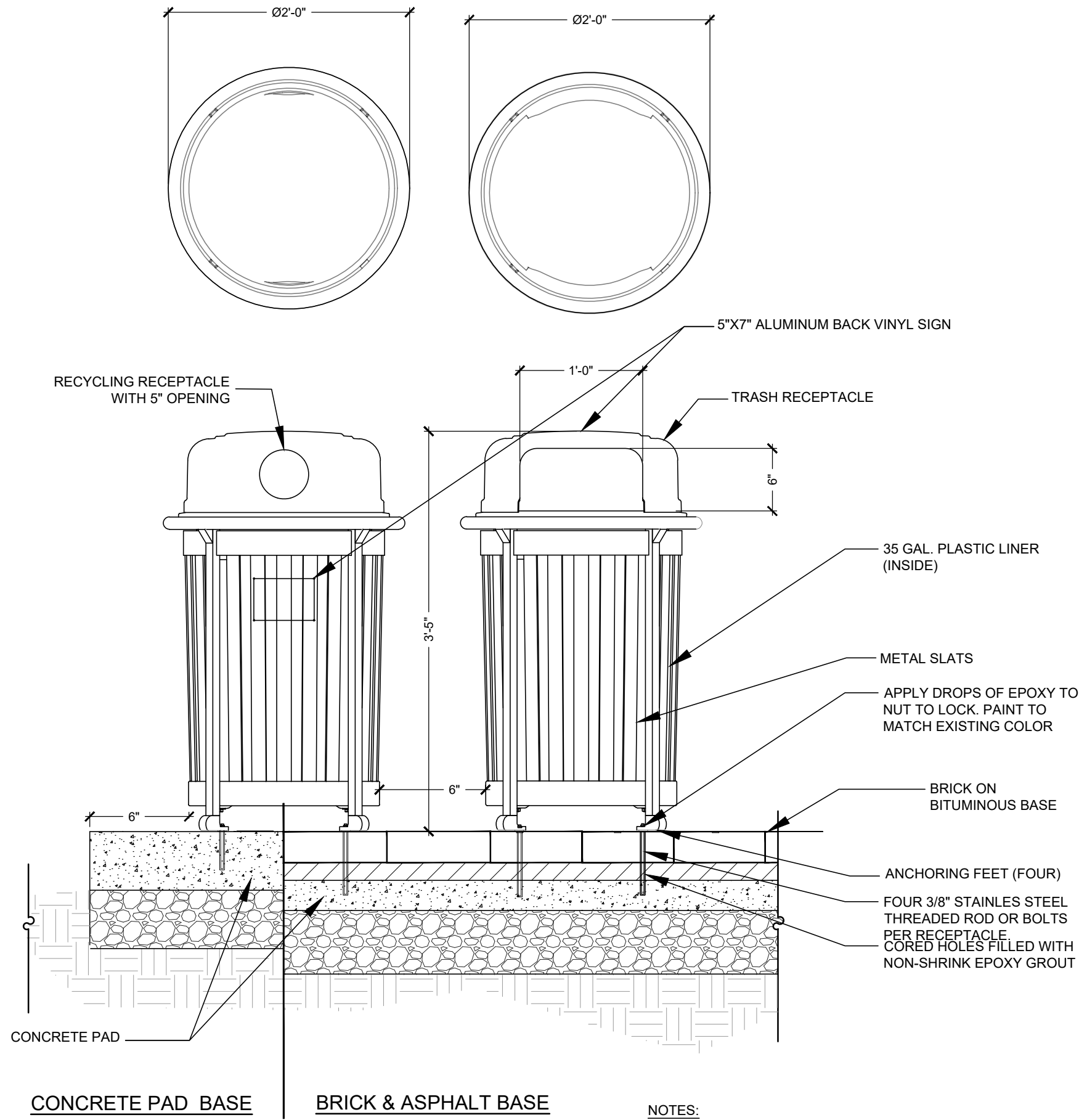
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2  
LP3



BENCH TYPE A

BENCH TYPE B



CONCRETE PAD BASE

BRICK & ASPHALT BASE

NOTES:

1. SCARBOROUGH TRASH & RECYCLING RECEPTACLES MANUFACTURED BY LANDSCAPE FORMS INC OR EQUAL.
2. ALL METAL TO BE FINISHED WITH A POLYESTER POWDER COAT-BLACK.
3. ALL WELDS CONTINUOUS THEN GROUND SMOOTH.
4. CONCRETE SLAB TO EXTEND 6\"/>

RECEPTACLE GROUPING

Not to Scale

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5  
LP3

SHEET TITLE

LANDSCAPE  
DETAILS

REVISION LOG

|   |   |         |                             |
|---|---|---------|-----------------------------|
| 1 | △ | 6/3/21  | REVISED PER TRC COMMENTS    |
| 2 | △ | 6/16/21 | REVISED PER TRC COMMENTS    |
| 3 | △ | 6/8/23  | REV. PER OWNER/TENANT NEEDS |

| REV#        | DATE                  | DESCRIPTION |
|-------------|-----------------------|-------------|
| PROJECT NO. | 21014.0               |             |
| DESIGN BY   | J. HYLAND / J. MARTEL |             |
| DRAWN BY    | J. COLOPY / S. WRIGHT |             |
| CHECKED BY  | J. HYLAND / D. JENSEN |             |
| DATE        | APRIL 15, 2021        |             |
| SCALE       |                       |             |

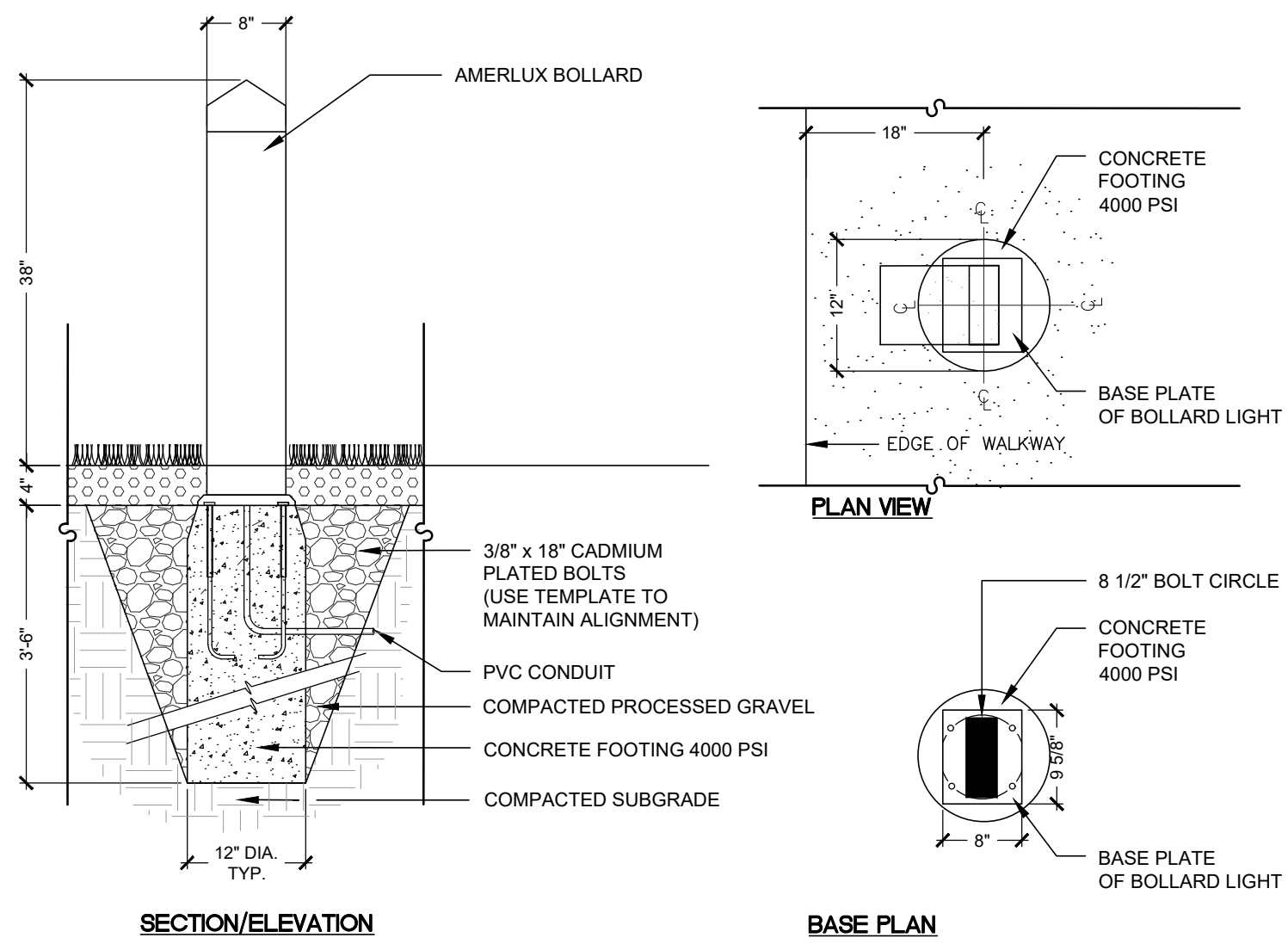
SEAL



LP3

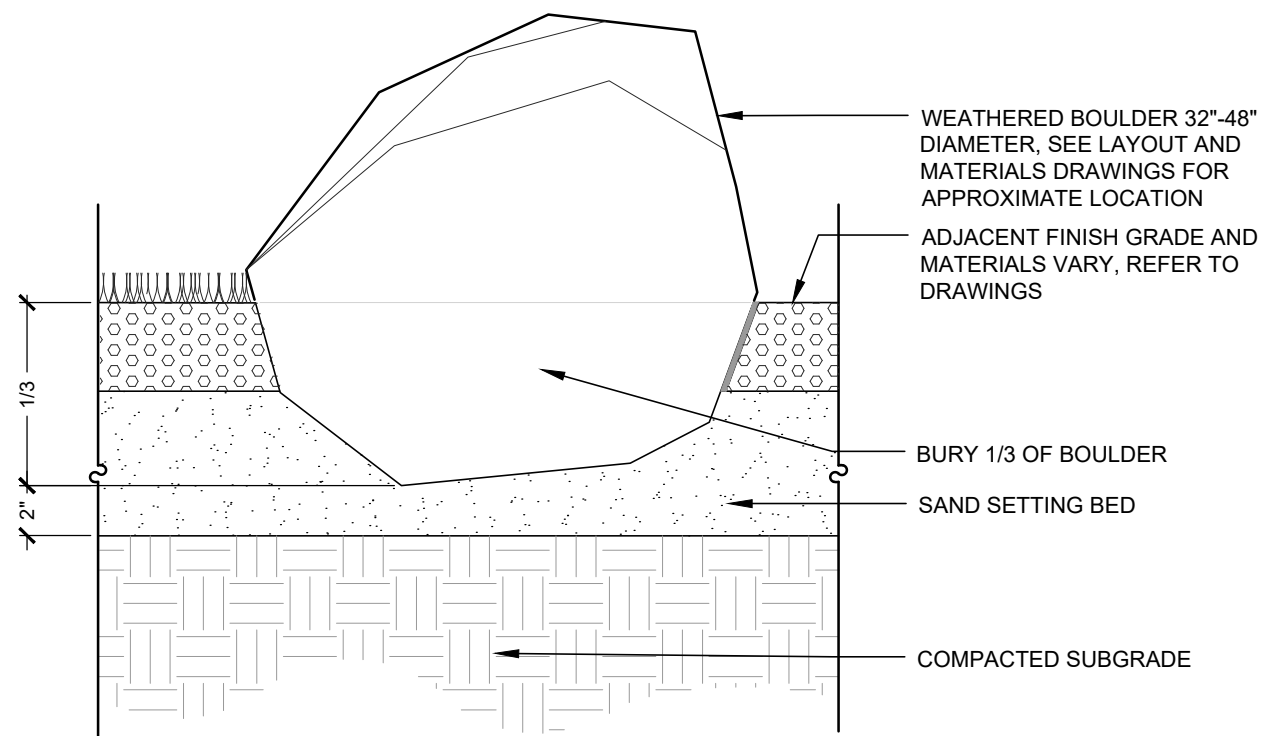


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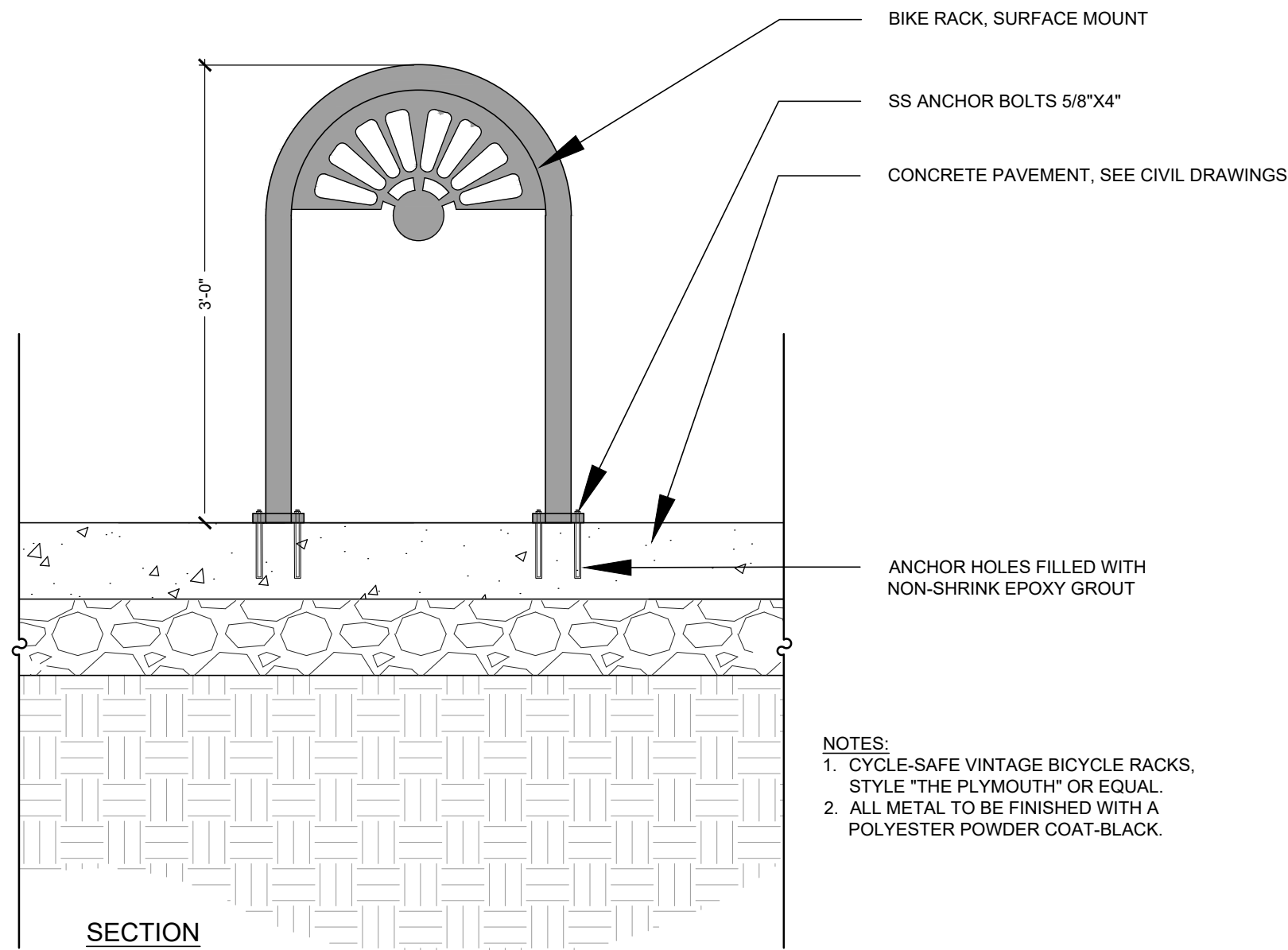
**BOLLARD LIGHT**  
Not to Scale

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**1**  
**LP4**



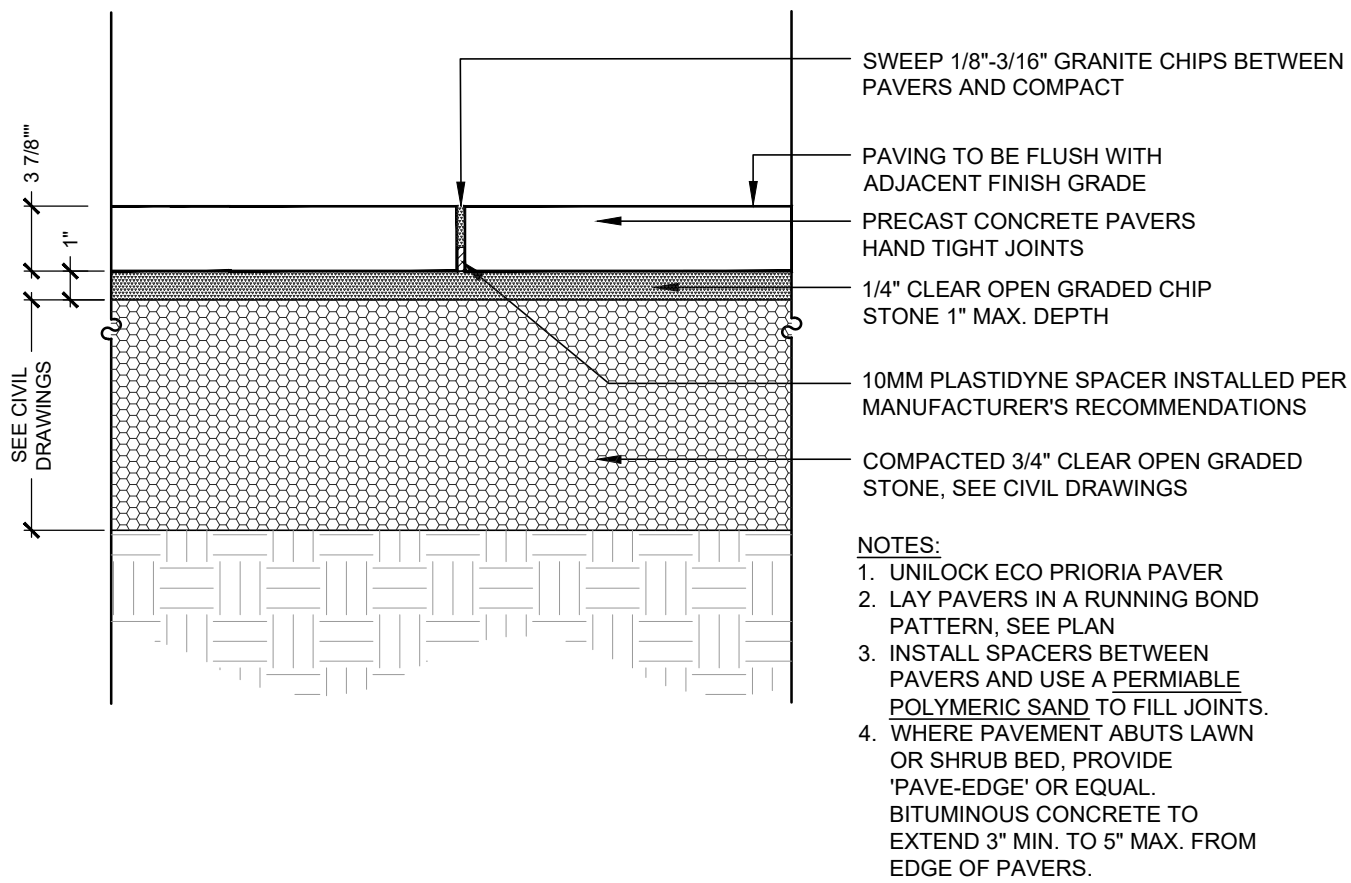
**WEATHERED BOULDER**  
Not to Scale

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**2**  
**LP4**



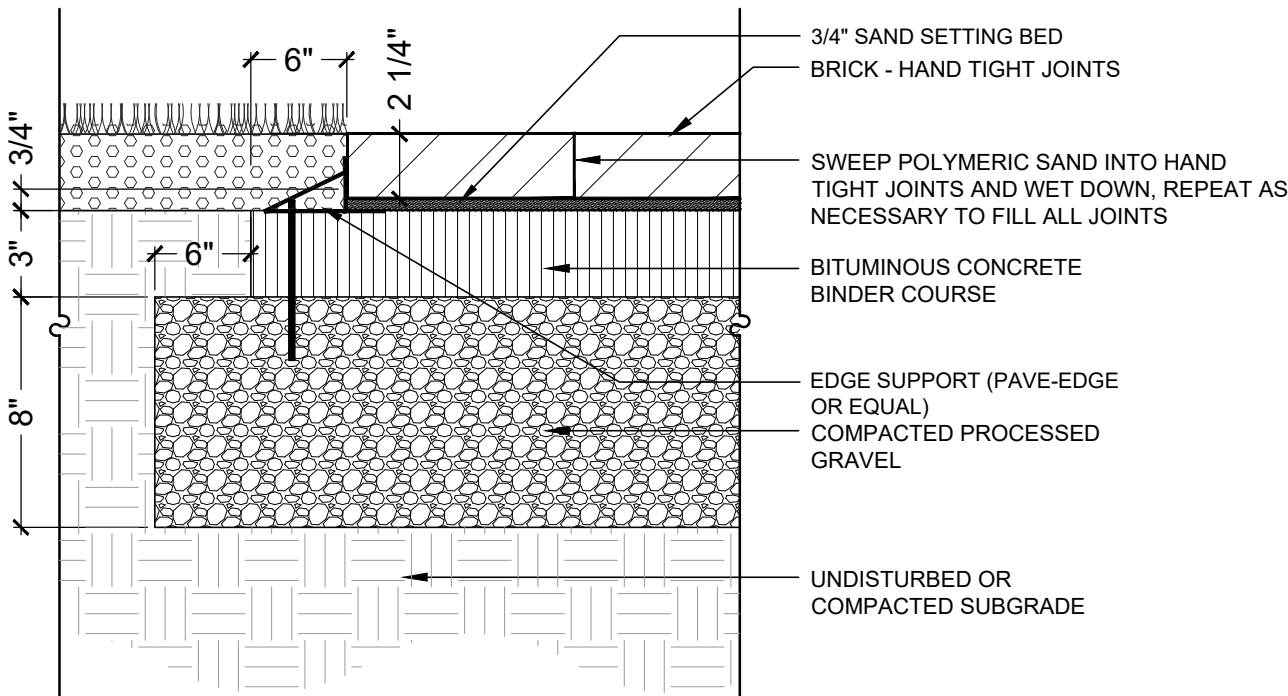
**SECTION**

- NOTES:  
1. CYCLE-SAFE VINTAGE BICYCLE RACKS, STYLE "THE PLYMOUTH" OR EQUAL.  
2. ALL METAL TO BE FINISHED WITH A POLYESTER POWDER COAT-BLACK.



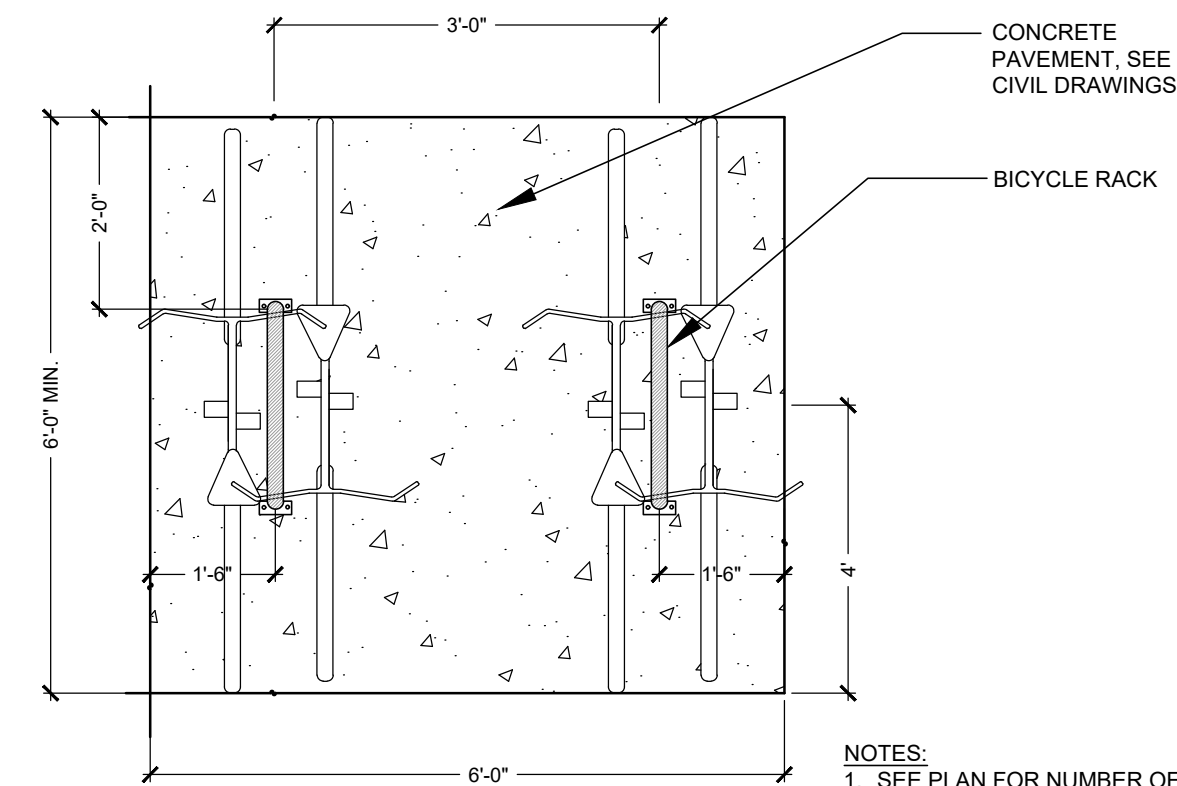
**POROUS CONCRETE PAVER**  
Not to Scale

©IRONWOOD 2023  
**3**  
**LP4**



**BRICK PAVEMENT**  
Not to Scale

©IRONWOOD 2023  
**4**  
**LP4**



**PLAN**

- NOTES:  
1. SEE PLAN FOR NUMBER OF BIKE RACKS IN EACH GROUPING.

**BICYCLE RACK**  
Not to Scale

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**5**  
**LP4**

**SECOND STREET COURTHOUSE  
REDEVELOPMENT**

**CHINBURG PROPERTIES, INC.**  
SECOND STREET DOVER, NEW HAMPSHIRE

SHEET TITLE

**LANDSCAPE  
DETAILS**

REVISION LOG

|   |   |         |                             |
|---|---|---------|-----------------------------|
| 1 | △ | 6/3/21  | REVISED PER TRC COMMENTS    |
| 2 | △ | 6/16/21 | REVISED PER TRC COMMENTS    |
| 3 | △ | 6/8/23  | REV. PER OWNER/TENANT NEEDS |
|   | △ |         |                             |

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| DRAWN BY    | J. COLOPY / S. WRIGHT |             |
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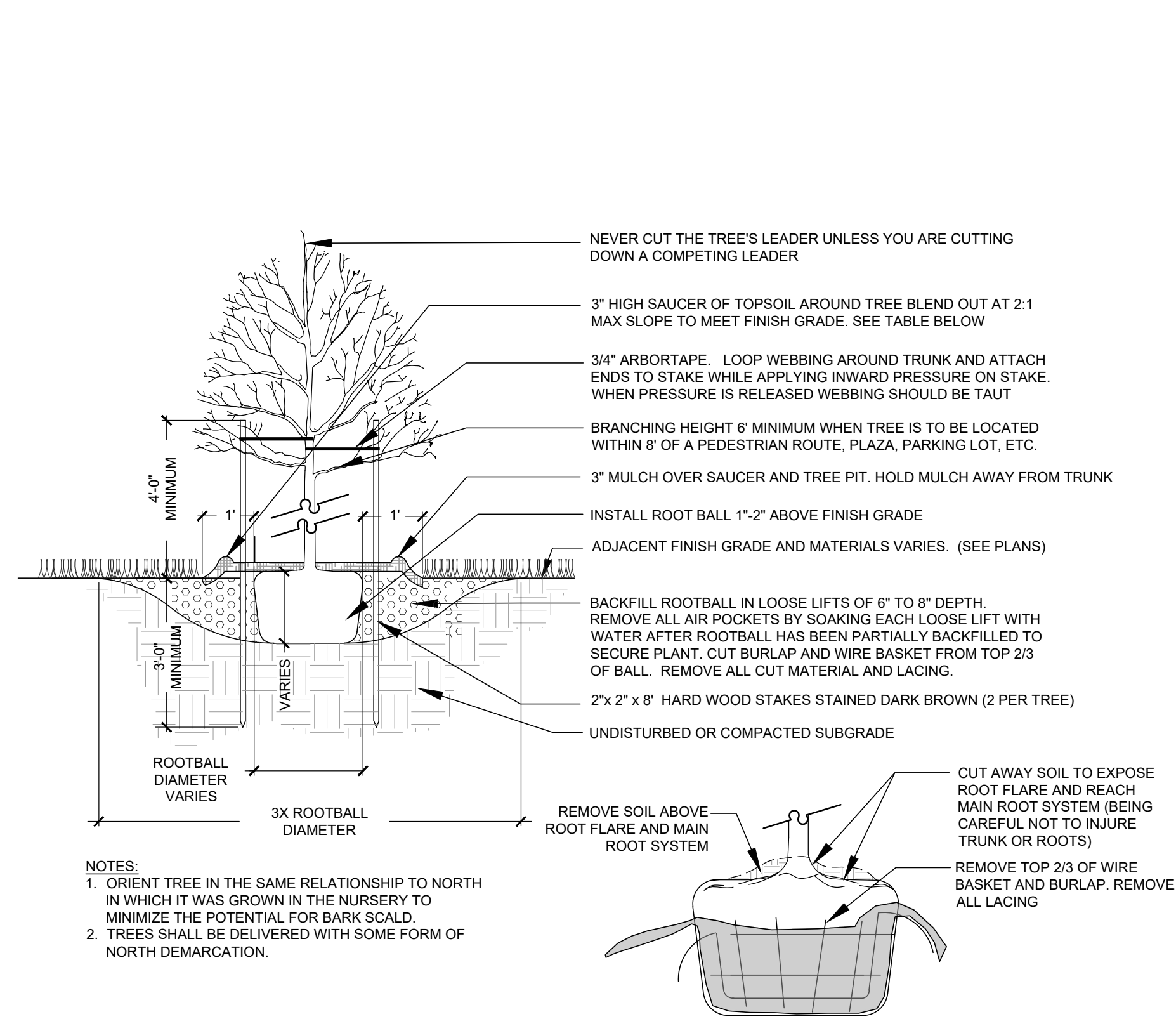


**LP4**

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## Deciduous Shade Tree

Not to Scale

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1  
LP5

## Evergreen Tree

Not to Scale

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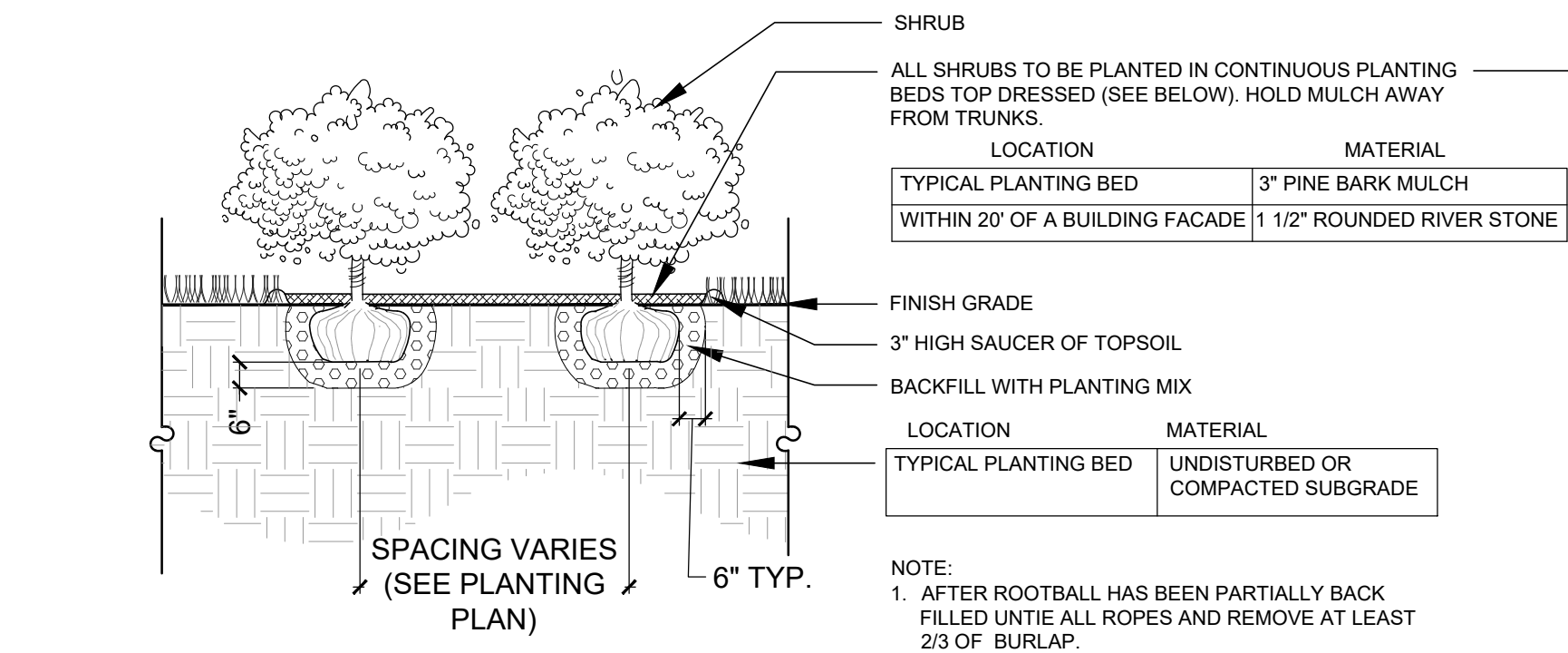
2  
LP5

## Deciduous Multi-Stemmed Tree

Not to Scale

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3  
LP5

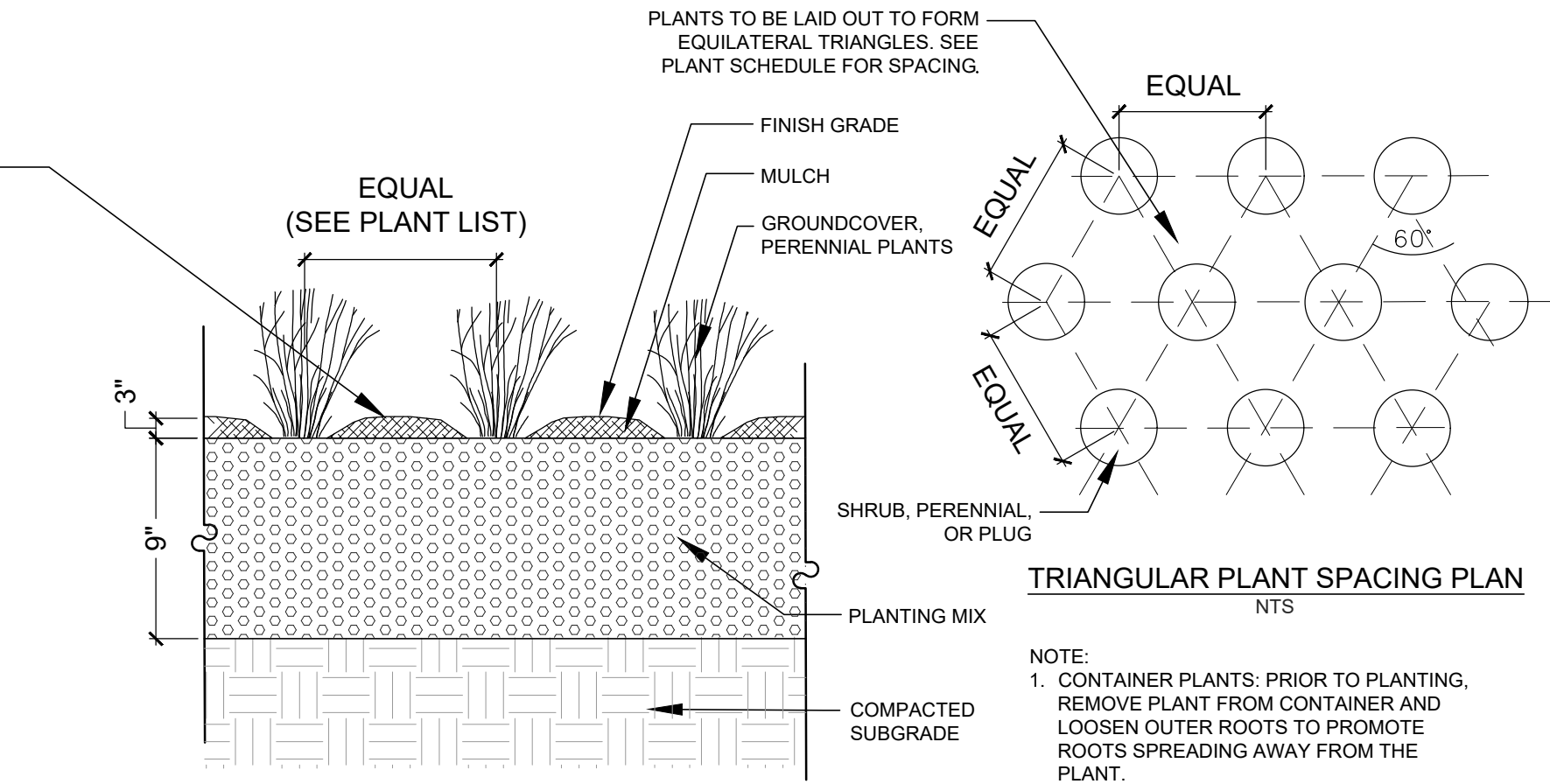


## Shrub Planting

Not to Scale

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4  
LP5

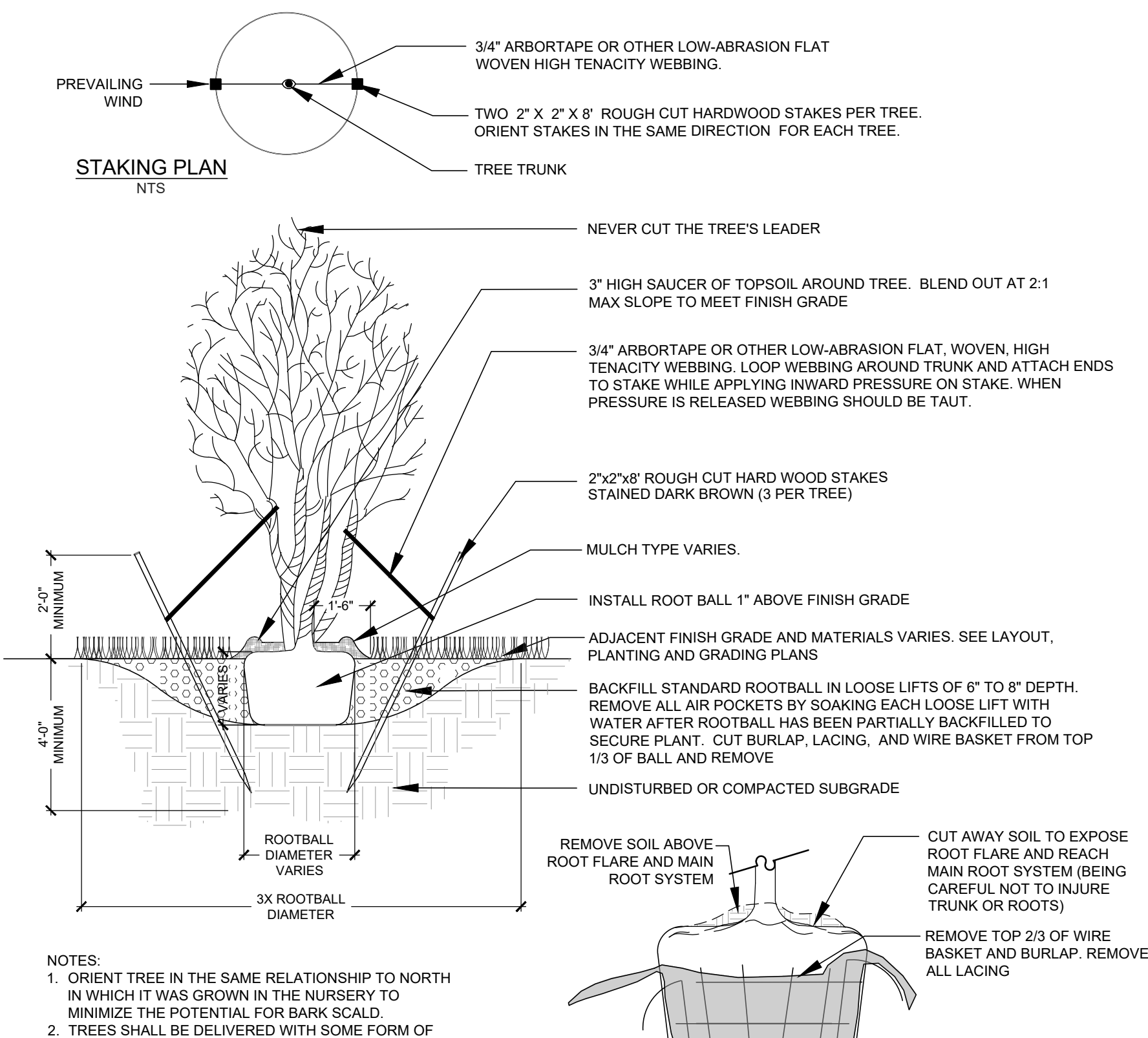
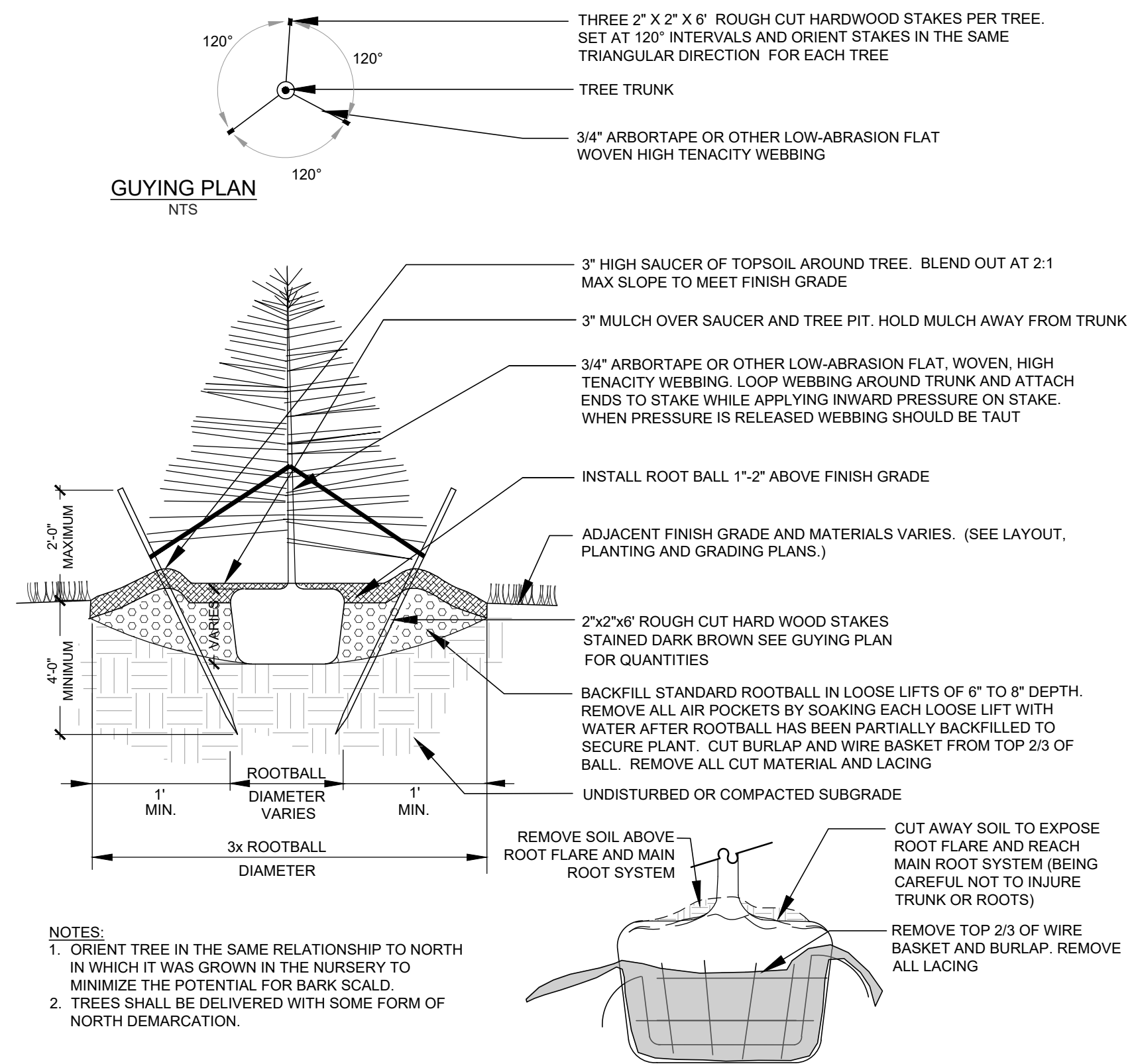


## Perennial/Ornamental Grass/Groundcover Planting

Not to Scale

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5  
LP5



SHEET TITLE

## LANDSCAPE DETAILS

REVISION LOG

|   |   |         |                             |
|---|---|---------|-----------------------------|
| 1 | △ | 6/3/21  | REVISED PER TRC COMMENTS    |
| 2 | △ | 6/16/21 | REVISED PER TRC COMMENTS    |
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| SCALE       |                      |             |

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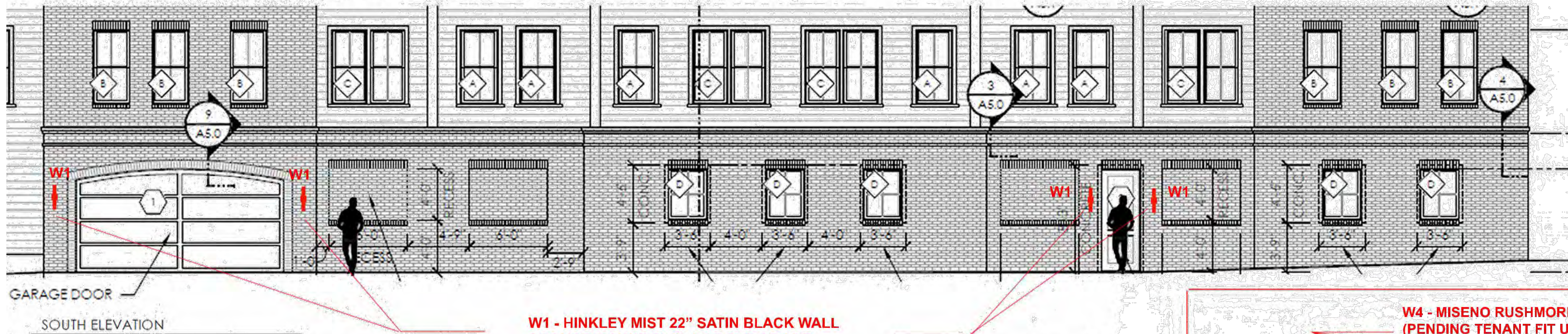
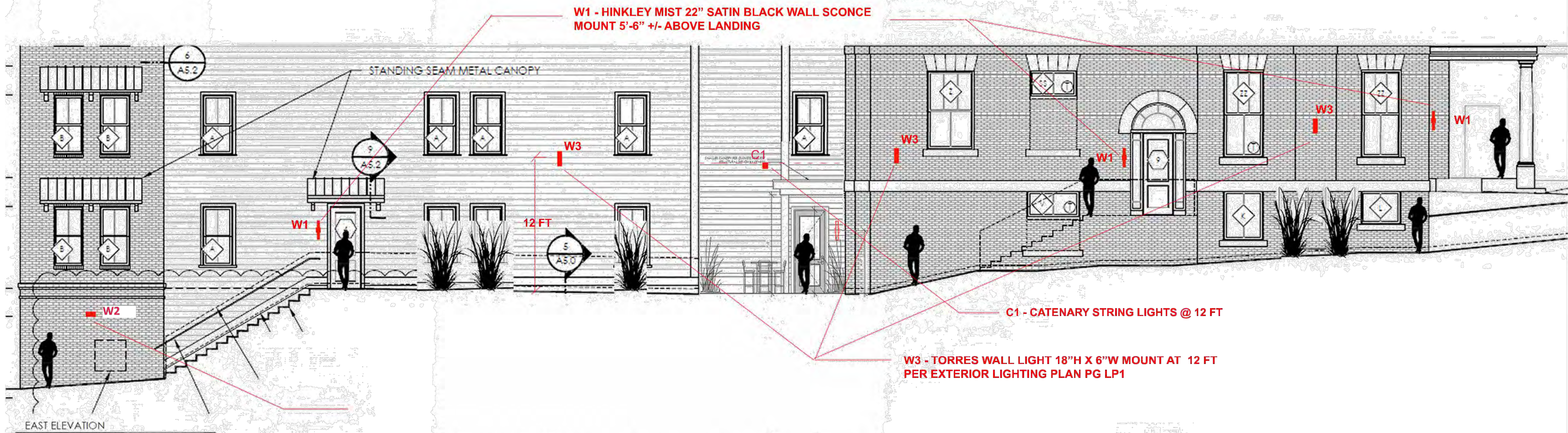
LP5

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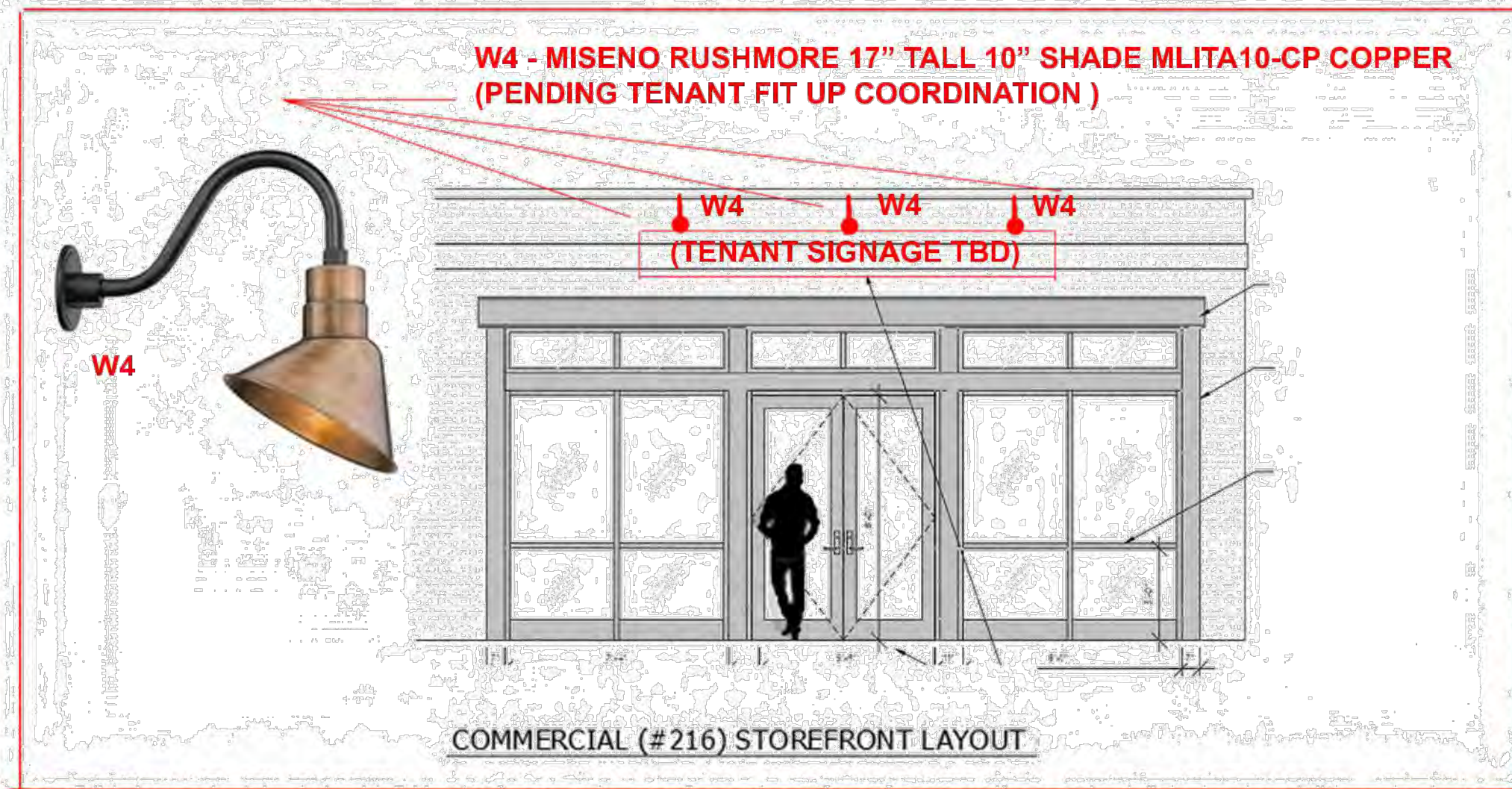
W1 - HINKLEY MIST 22" SATIN BLACK WALL  
SCONCE MOUNT 5' 6" +/- ABOVE GRADE



W3 - LANDSCAPE FORMS (BLACK)  
TORRES WALL FIXTURE (SEE LP1)



UNIT 112 ENTRANCE



SECOND STREET COURTHOUSE  
REDEVELOPMENT

CHINBURG PROPERTIES, INC.  
SECOND STREET DOVER, NEW HAMPSHIRE

SHEET TITLE

LIGHTING  
ELEVATIONS

REVISION LOG

|   |           |                             |
|---|-----------|-----------------------------|
| 1 | △ 6/3/21  | REVISED PER TRC COMMENTS    |
| 2 | △ 6/16/21 | REVISED PER TRC COMMENTS    |
| 3 | △ 6/8/23  | REV. PER OWNER/TENANT NEEDS |
| △ |           |                             |

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| SCALE       |                       |             |

SEAL



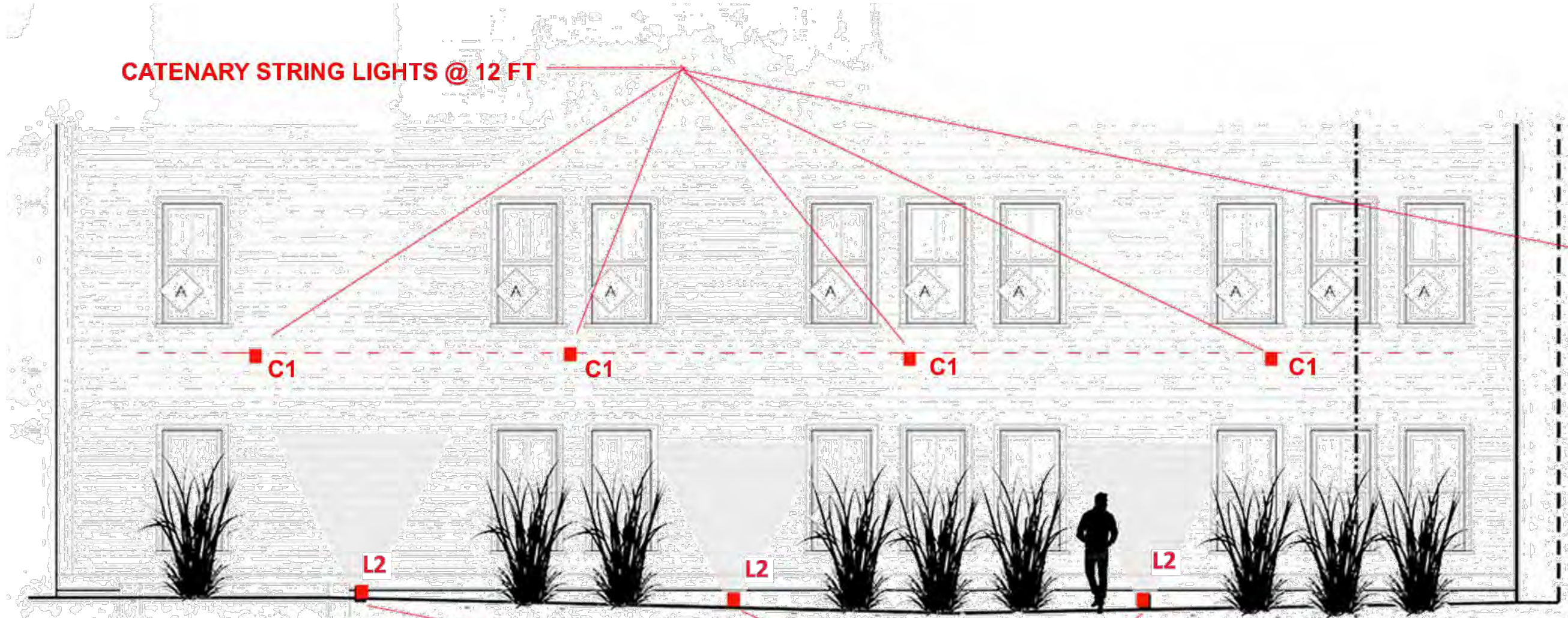
LP6

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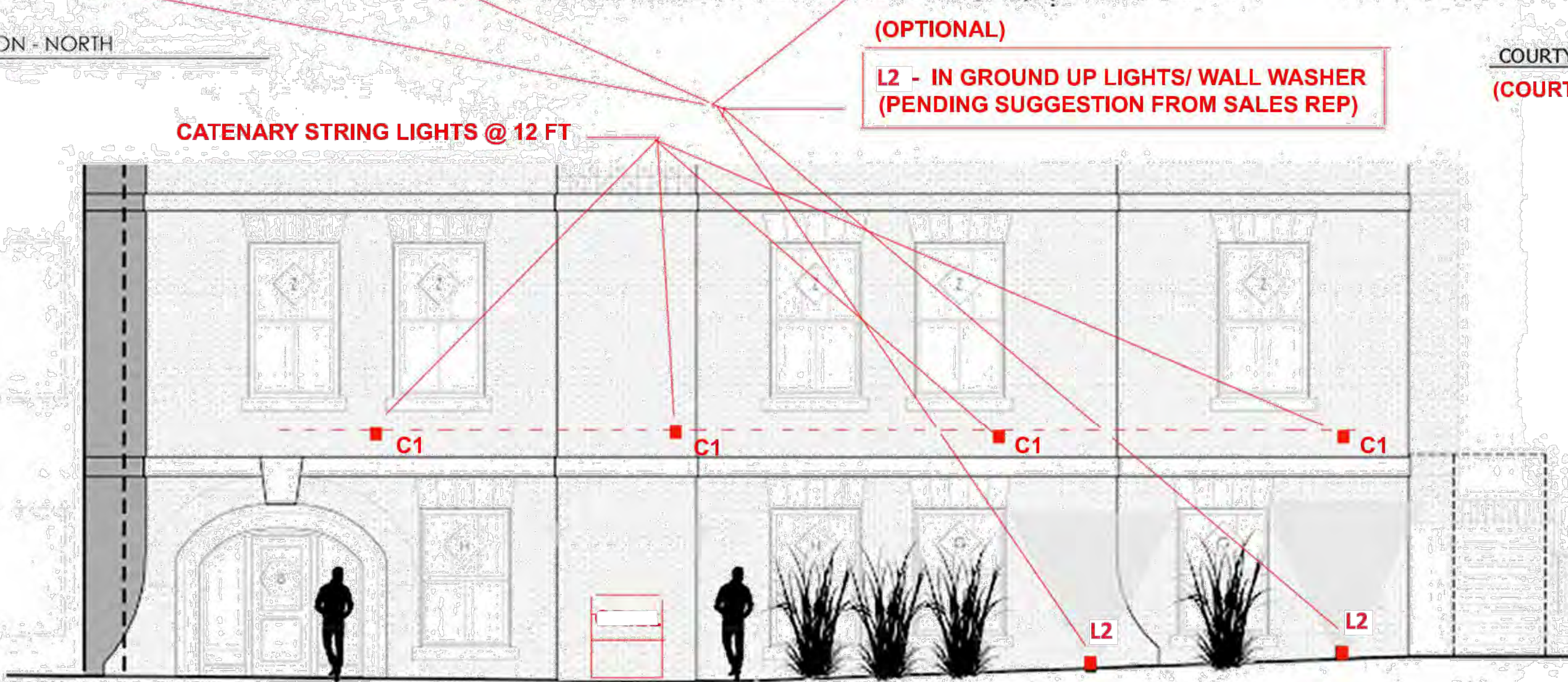
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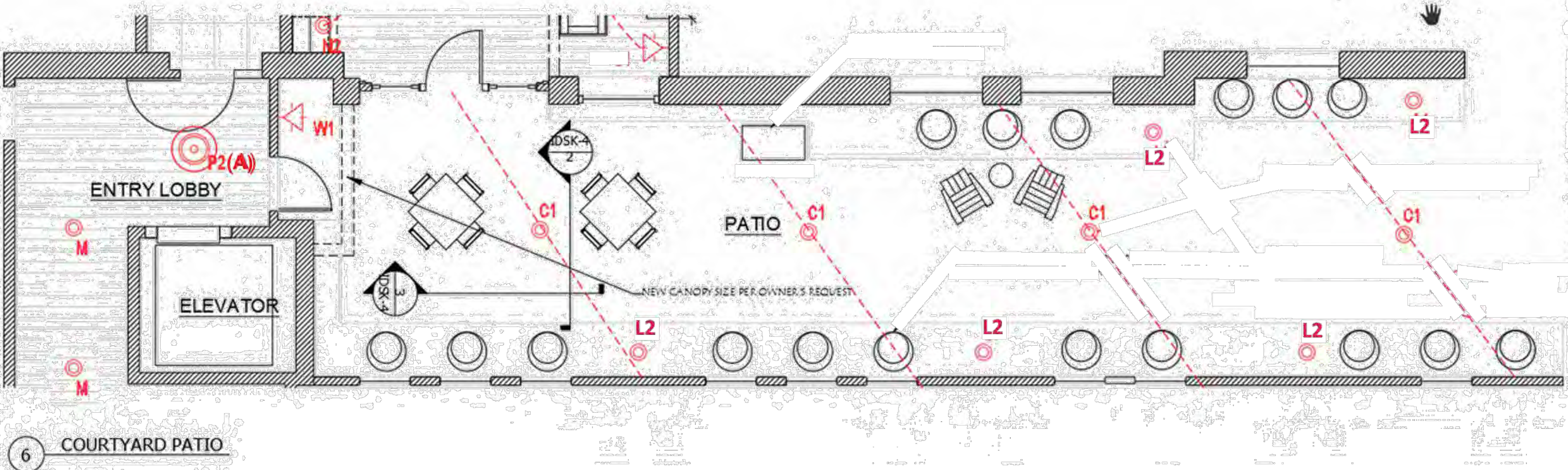
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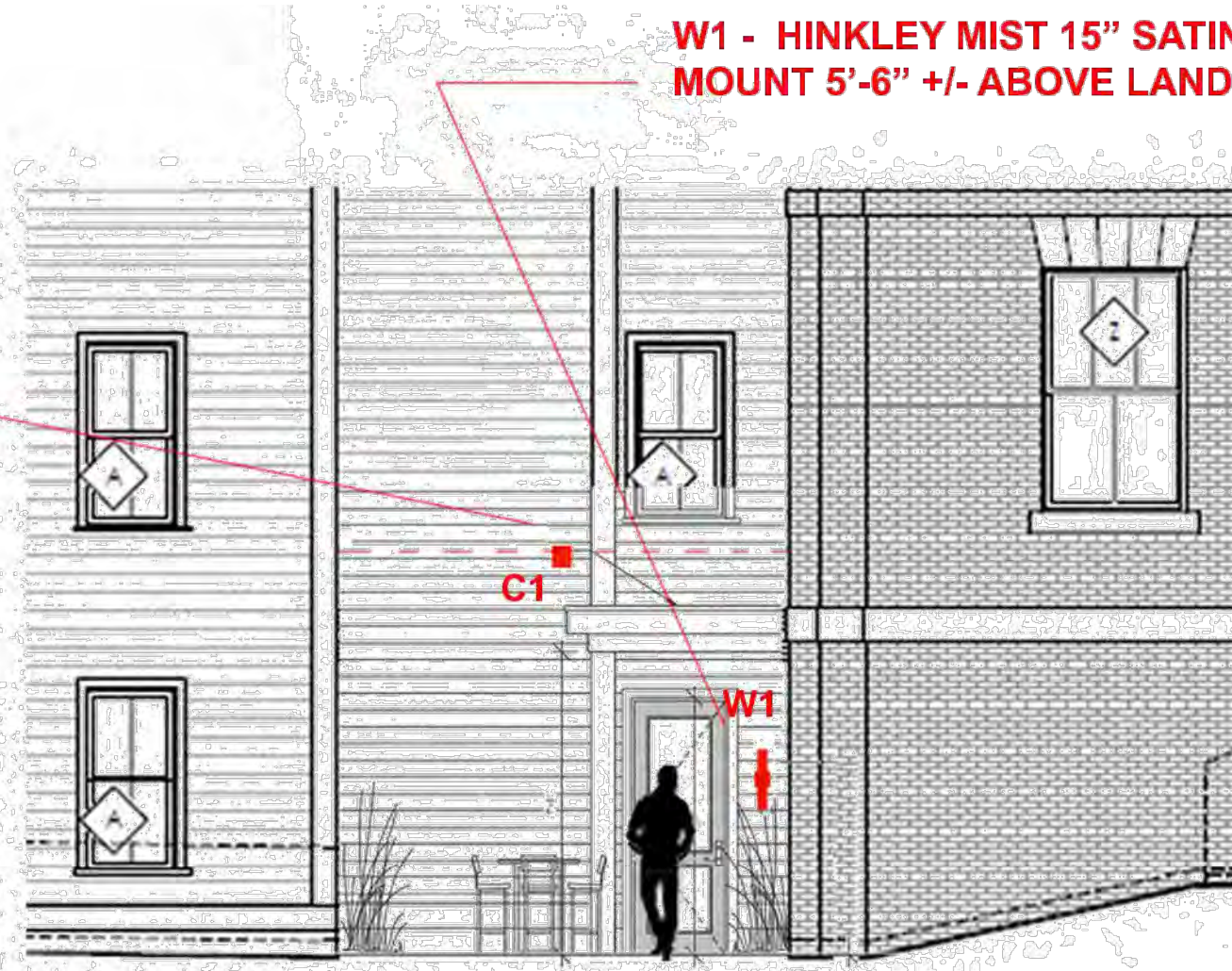
ALLEY ELEVATION - NORTH  
(COURTYARD)



ALLEY ELEVATION - SOUTH  
(COURTYARD)



6 COURTYARD PATIO



COURTYARD LOBBY DOOR & CANOPY  
(COURTYARD)



NORTH ENTRY DOOR



C1 - CATENARY STRING LIGHTS  
LANDSCAPE FORMS ARNE (SEE LP)



L2 - EXTERIOR IN GROUND/ WASH W/  
KICHLER LANDSCAPE ACCENT LIGHTING

W1 HINKLEY MIST 1225BK

22" BLACK

W1 - HINKLEY MIST 15" SATIN BLACK WALL SCONCE  
MOUNT 5'-6" +/- ABOVE LANDING

(OPTIONAL)  
L2 - IN GROUND UP LIGHTS/ WALL WASHER  
(PENDING SUGGESTION FROM SALES REP)

S1 - BACK LIGHTING AT CANOPY LETTERING OR  
LINEAR ALCON 31029 LED COMMERCIAL SIGN LIGHT

(BUILDING SIGNAGE HERE)

W1 - KINKLEY MIST 22" SATIN BLACK WALL SCONCE  
MOUNT 5'-6" +/- ABOVE LANDING

SHEET TITLE

**LIGHTING  
ELEVATIONS**

REVISION LOG

|   |   |         |                             |
|---|---|---------|-----------------------------|
| 1 | △ | 6/3/21  | REVISED PER TRC COMMENTS    |
| 2 | △ | 6/14/21 | REVISED PER TRC COMMENTS    |
| 3 | △ | 6/8/23  | REV. PER OWNER/TENANT NEEDS |

| REV#        | DATE                  | DESCRIPTION |
|-------------|-----------------------|-------------|
| PROJECT NO. | 21014.0               |             |
| DESIGN BY   | J. HYLAND / J. MARTEL |             |
| DRAWN BY    | J. COLOPY / S. WRIGHT |             |
| CHECKED BY  | J. HYLAND / D. JENSEN |             |
| DATE        | APRIL 15, 2021        |             |
| SCALE       |                       |             |

SEAL





S:\2014.0 - Stafford County Courthouse\Drawings\ID-D\_230608.dwg, JRH 6/8/2023 4:35:39 PM

## Dark Sky LED Walkway Bollard

amerlux  
A Delta Group Company

ASD Dark Sky Bollard

### Features

The LED Full Cutoff Bollard with a choice of shielding options, is designed to replace HID lighting systems up to 70W MH or HPS. This bollard is ideal for retail centers, industrial parks, schools and universities, public transit and airports, office buildings and medical facilities.

### Product Overview

Type: Exterior Walkway  
Wattage: 19W  
Lumen Output: 674 lm  
Color Temp: 3000K, 4000K, 6000K  
Standard Height: 40 inches  
Diameter: 4 3/4 inches

### Housing:

Extruded aluminum housing with flush mounting base & vandal-resistant screws, flat top. Bollards can be cut to custom lengths upon request.

### Listing & Ratings:

CSA listed for wet location, ANSI/UL 1598,8750  
IP66 Sealed LED compartment

### Styles:

360° light distribution or 180° shield

### Lens:

Clear polycarbonate vandal-resistant horizontal lens is recessed in the top of the bollard

### Driver:

- Electronic driver, 120-277V, 50/60Hz; Less than 20% THD PF>0.90.
- 0-10V dimming standard, down to 10%.
- 12V is available, consult factory. Note: 12V version is not dimmable.

### Mounting Options:

Mounting Kit with 8" Anchor Bolts, included. Cannot be pre-shipped.

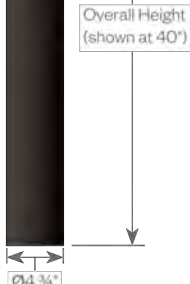
### Finish:

Premium quality thermoset polyester powdercoat for a durable finish over a chromate conversion coating. Custom colors available upon request.



PROJECT:

TYPE:



## Bollard with Light (L1)

Not to Scale

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1  
LP8

## WAC LIGHTING

### Tube Wall Mount 3000K

| Model & Size | Color Temp & CRI | Watt | Lumens | Finish              |
|--------------|------------------|------|--------|---------------------|
| WS-W2609     | 3000K 90         | 16W  | 825    | AL Brushed Aluminum |
| WS-W2610     | 3000K 90         | 30W  | 1525   | BK Black            |
|              |                  |      |        | BR Bronze           |
|              |                  |      |        | GH Graphite         |
|              |                  |      |        | WT White            |

Example: WS-W2609-AL

### DESCRIPTION

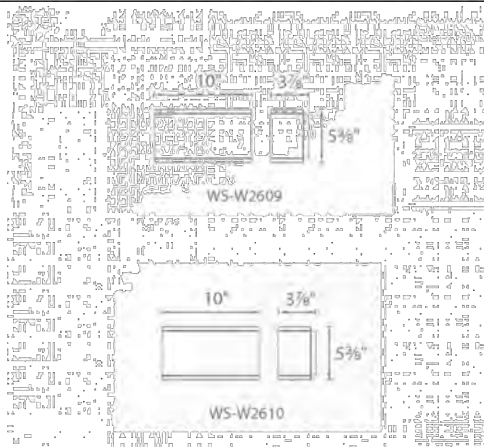
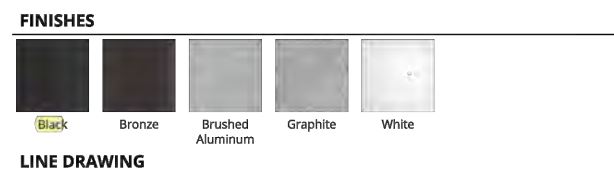
A curved contemporary look with impactful style. Perfect for illuminating the perimeter of a home or creating a safe entryway to a building, the modern, minimalist Tube wall mount features a crescent profile. Crafted of aluminum with etched glass, this LED luminaire is offered in five handsome finishes and two energy-efficient LED configurations. Mounts upward or downward to suit nearly any exterior design scheme.

### FEATURES

- Title 24 may not be available for all finishes, check for availability
- Driver concealed within the fixture
- 5 year warranty

### SPECIFICATIONS

Construction: Die-cast Aluminum  
Power: 30W, 16W  
Input: 120-277 VAC, 50/60Hz  
Dimming: ELY: 100-15%, 0-10V; 100-10%  
Light Source: Integrated LED  
Rated Life: 70000 Hours  
Mounting: Mounts directly to junction box. Can be mounted on wall in all orientations.  
Finish: Electrostatically Powder Coated White, Brushed Aluminum, Black, Bronze, Graphite  
Operating Temp: -40°F to 122°F (-40°C to 50°C)  
Standards: UL, cUL, Wet Location Listed, IP65, ADA, Title 24 JA8-2016 Compliant



## Alternative Wall Mount Light (W2)

Not to Scale

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4  
LP8

## Mist Outdoor Wall Sconce By Hinkley

Mist Outdoor Wall Sconce  
By Hinkley

### Product Options

Finish: Satin Black,  
Size: Medium

### Dimensions

Medium Option Backplate: Width 4.8", Height 4.8"  
Medium Option Fixture: Width 4.75", Height 22",  
Depth 3.75", Weight 5Lbs

### Lighting

| Medium                                          |                   |  |
|-------------------------------------------------|-------------------|--|
| Lamp Type                                       | LED               |  |
| Total Lumens                                    | 420.0             |  |
| # of Bulbs                                      | 1 (Not Included)  |  |
| Bulb Type                                       | 6W MR16 GU10      |  |
| Volts                                           | 120               |  |
| Color Temp                                      | 3000 (Soft White) |  |
| Average Lifespan (Hours)                        | 25,000            |  |
| CRI                                             | 90                |  |
| Equivalent Halogen, CFL or LED Bulb Can Be Used | Yes               |  |

### Additional Details

### Product URL:

<https://www.lumens.com/mist-outdoor-wall-sconce-by-hinkley-HKY666855.html>

ITEM#: HKY666855

LUMENS

Call Us (877) 445-4486



Notes:

Prepared by:

Prepared for:  
Project:  
Room:  
Placement:  
Approval:

## Sconce Light (W1)

Not to Scale

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2  
LP8

VersaLED Lighting  
Versatile Lighting Solutions

### SPECIFICATIONS

#### HOUSING

- Sealed Aluminum extrusion housing with lens
- White interior and cast aluminum end plates
- Available in 4' and 8' housings
- Socket bar, end plate, and ballast cover snap on easily

#### ELECTRICAL

- Quad Tap (QT) - 120/208/240/277V

#### OPTICAL SYSTEM

- Smooth, clear acrylic diffuser/lens
- Offered in 30K, 35K, 40K, 50K
- Typically mounted on conduit
- End plate doubles as coupler when used in continuous run

#### CODE COMPLIANCE

- ETL Listed for Wet Locations
- Meets UL Requirements

#### WARRANTY

- 5 Year
- 10 Year Warranty available

### ORDERING INFORMATION

| CATALOG #          | Length | Lumens |
|--------------------|--------|--------|
| LSLED2-4X32L-QT.*  | 4'     | 3,200  |
| LSLED2-4X48L-QT.*  | 4'     | 4,800  |
| LSLED2-4X57L-QT.*  | 4'     | 5,700  |
| LSLED2-8X65L-QT.*  | 8'     | 6,500  |
| LSLED2-8X96L-QT.*  | 8'     | 9,600  |
| LSLED2-8X114L-QT.* | 8'     | 11,400 |

\*Specify 30K, 35K, 40K, 50K

### OPTIONS (Factory Installed)

10YR - 10 Year Warranty



A Division of EELP, Inc.

One Nashamutt Interplex Dr. - Suite 300 - Trowers, PA 15063  
(800) 450-4486  
[www.versaledlighting.com](http://www.versaledlighting.com)

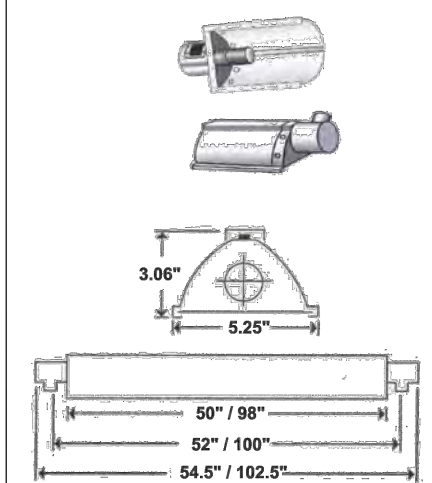


LSLED2 LED  
w/ 120/208V

|                |                  |
|----------------|------------------|
| Project        | Dover Courthouse |
| Type           | W5 (pending)     |
| Catalog Number |                  |



## LSLED2 LED Linear Sign Light



## Linear Sign Light (S1)

Not to Scale

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5  
LP8

## Landscape 12V LED Spot Light By Kichler

Landscape 12V LED Spot Light  
By Kichler

### Product Options

Finish: Textured Black,  
Color Temperature: 3000,  
Light Output: 300 Lumens,  
Beam Spread: 60

### Details

Low voltage transformer required, sold separately  
40000-hour LED lifespan  
Material: Aluminum, Brass  
ETL Listed Wet  
Warranty: Limited 10 Year  
Made In China

### Dimensions

Fixture: Width 3.5", Height 4.5", Depth 3.25", Weight 11Lbs

### Lighting

| 3000                                            |                   |
|-------------------------------------------------|-------------------|
| Lamp Type                                       | LED Built-in      |
| Total Lumens                                    | 300               |
| Total Watts                                     | 3.50              |
| Volts                                           | 12                |
| Color Temp                                      | 3000 (Soft White) |
| CRI                                             | 80                |
| Equivalent Halogen, CFL or LED Bulb Can Be Used | No                |

### Additional Details

### Product URL:

<https://www.lumens.com/landscape-12v-led-spot-light-by-kichler-KCH2189806.html>

Rating: ETL Listed Wet

ITEM#: KCH2189806

LUMENS

Call Us (877) 445-4486



Notes:

Prepared by:

Prepared for:  
Project:  
Room:  
Placement:  
Approval:

## Landscape Spot Light (L2)

Not to Scale

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3  
LP8

## MISENO MLITA10

SPECIFICATIONS

phone 855.480.2915  
infoservice@miseno.com

Rushmore Wall Sconce with 10" Angle Shade and 15" Gooseneck

### PRODUCT SPECIFICATIONS

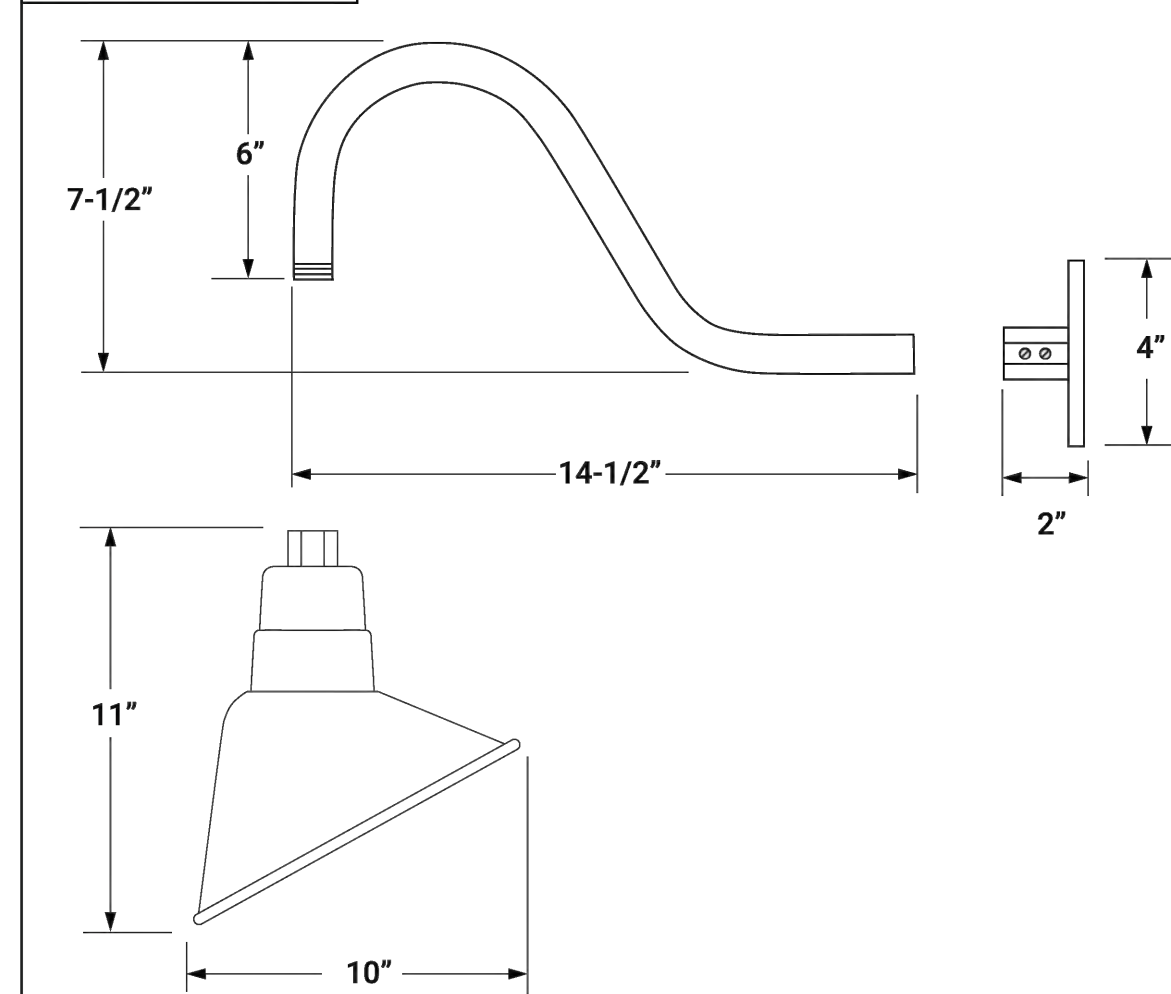
Shade Height: 11"  
Shade Width: 10"  
Gooseneck Length: 14.5"  
Canopy Diameter: 4"  
Extension: 19.5"  
Number of Bulbs: 1  
Bulb Type: A  
Max Wattage: 200

UL Listed: Yes  
UL Rating: Wet  
Warranty: 1 Year

### AVAILABLE FINISHES

BRONZE (-BZ)  
COPPER (-CP)  
GALVANIZED (-GL)  
SATIN BLACK (-SBL)

### PRODUCT DIMENSIONS



## Goose neck Light (W4)

Not to Scale

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6  
LP8

DRAWING SUBMITTED FOR REVIEW



Ironwood  
Landscape Architecture • Planning

Newmarket, NH | Portland, ME | 603.772.0590 | [www.Ironwood.com](http://www.Ironwood.com)

SECOND STREET COURTHOUSE  
REDEVELOPMENT

CHINBURG PROPERTIES, INC.  
SECOND STREET DOVER, NEW HAMPSHIRE

SHEET TITLE

## LANDSCAPE DETAILS

### REVISION LOG

| REV# | DATE   | DESCRIPTION                 |
|------|--------|-----------------------------|
| 1    | 6/3/21 | REVISED PER TRC COMMENTS    |
| 2    | 6/4/21 | REVISED PER TRC COMMENTS    |
| 3    | 6/8/23 | REV. PER OWNER/TENANT NEEDS |

| REV#        | DATE                  | DESCRIPTION |
|-------------|-----------------------|-------------|
| PROJECT NO. | 21014.0               |             |
| DESIGN BY   | J. HYLAND / J. MARTEL |             |
| DRAWN BY    | J. COLOPY / S. WRIGHT |             |
| CHECKED BY  | J. HYLAND / D. JENSEN |             |
| DATE        | APRIL 15, 2021        |             |
| SCALE       |                       |             |

SEAL



LP8

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VIEW FROM FIRST STREET

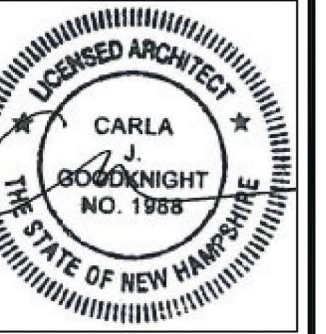


VIEW FROM SECOND STREET

NOT FOR CONSTRUCTION

|                    |
|--------------------|
| REVISIONS:         |
| PB REV 1: 12/21/21 |
| DELETE ROOF DECK   |
| PB REV 2: 06/08/23 |
|                    |
|                    |

SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

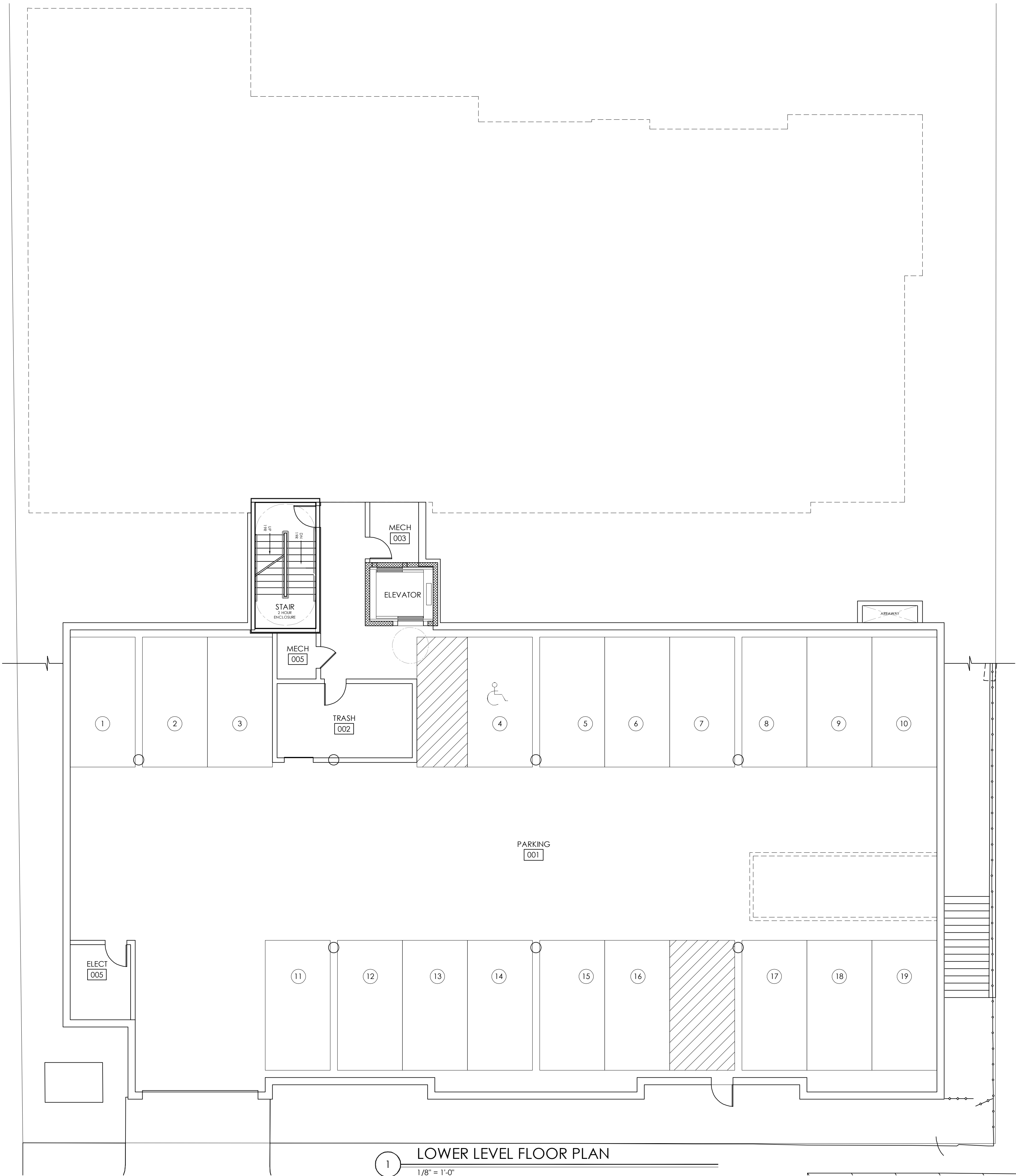


PROPOSED  
VIEWS

|              |              |
|--------------|--------------|
| DATE:        | 06/30/21     |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A0





1 LOWER LEVEL FLOOR PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS:  
PB REV 2: 06/08/23

SECOND STREET COURTHOUSE

CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

LICENSED ARCHITECT  
CARLA J. GOODKNIGHT  
No. 1988  
STATE OF NEW HAMPSHIRE

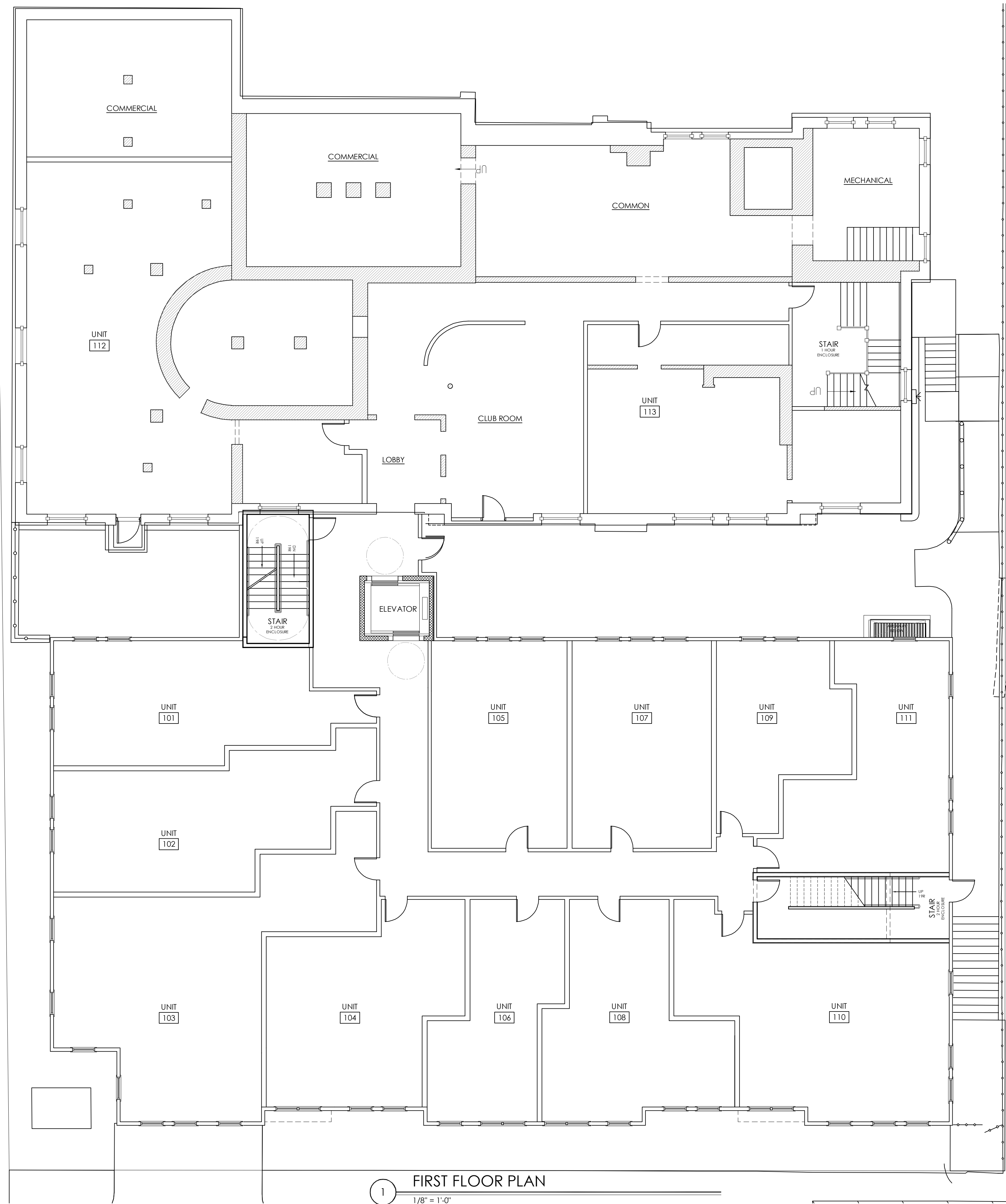
**CJ ARCHITECTS**  
233 VAUGHAN ST. SUITE 101 03801-4312-2008  
PORTSMOUTH, NH 03801 www.cjarchitects.net

LOWER LEVEL  
FLOOR PLAN

DATE: 06/24/2021  
DRAWN BY: KGM  
APPROVED BY: CJG  
SCALE: 1/8" = 1'-0"  
JOB NUMBER: -

A1.0





1 FIRST FLOOR PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

REVISIONS:  
PB REV 2: 06/08/23

SECOND STREET COURTHOUSE

CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

LICENSED ARCHITECT  
CARLA J. GOODKNIGHT  
No. 1988  
STATE OF NEW HAMPSHIRE

CJ ARCHITECTS

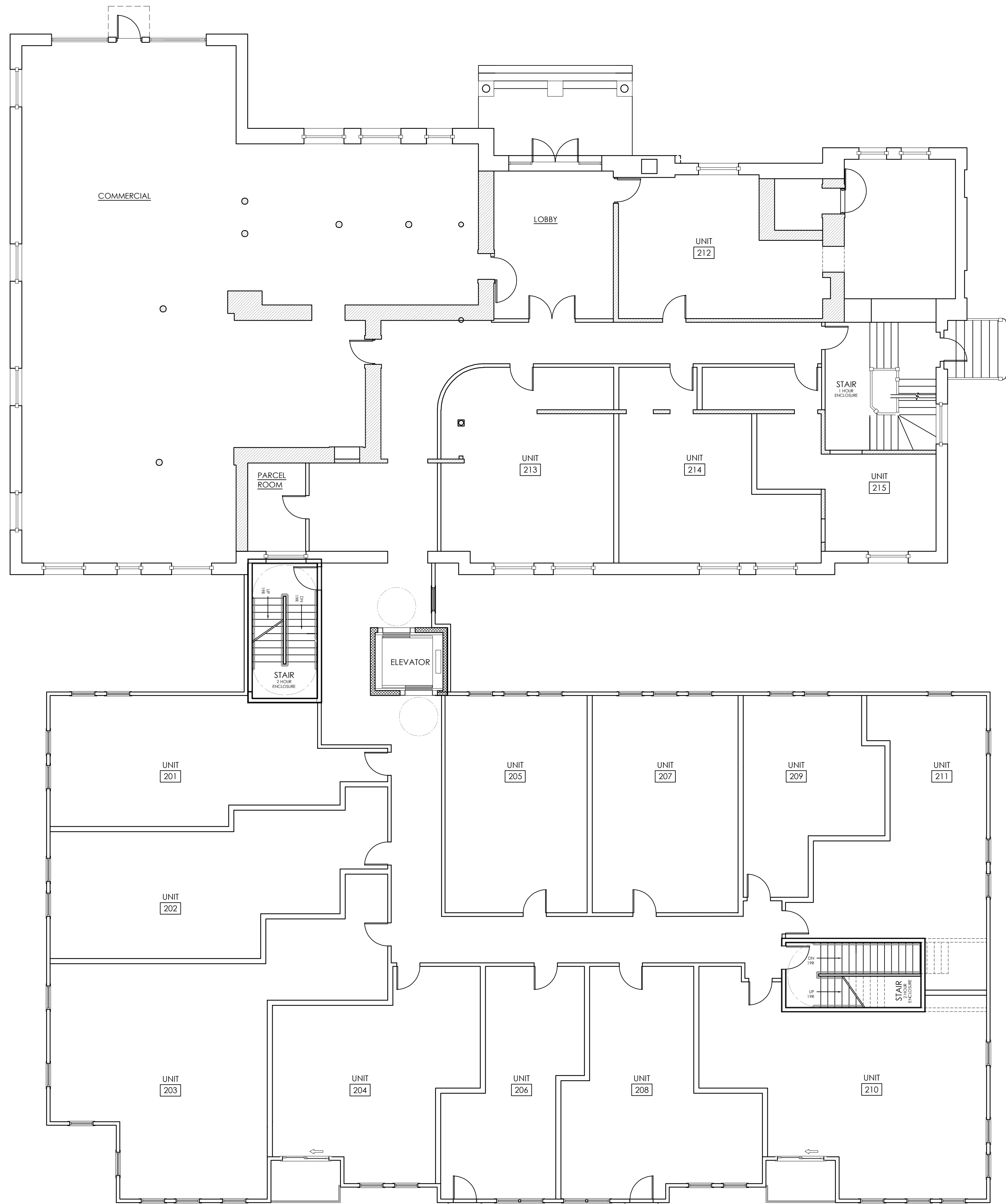
233 VAUGHAN ST. SUITE 101 603.431.2808  
PORTSMOUTH, NH 03801 www.cjarchitects.net

FIRST FLOOR PLAN

DATE: 06/24/2021  
DRAWN BY: KGM  
APPROVED BY: CJG  
SCALE: 1/8" = 1'-0"  
JOB NUMBER: -

A1.1





1 SECOND FLOOR PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

|                    |
|--------------------|
| REVISIONS:         |
| PB REV 2: 06/08/23 |
|                    |
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|                    |

SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

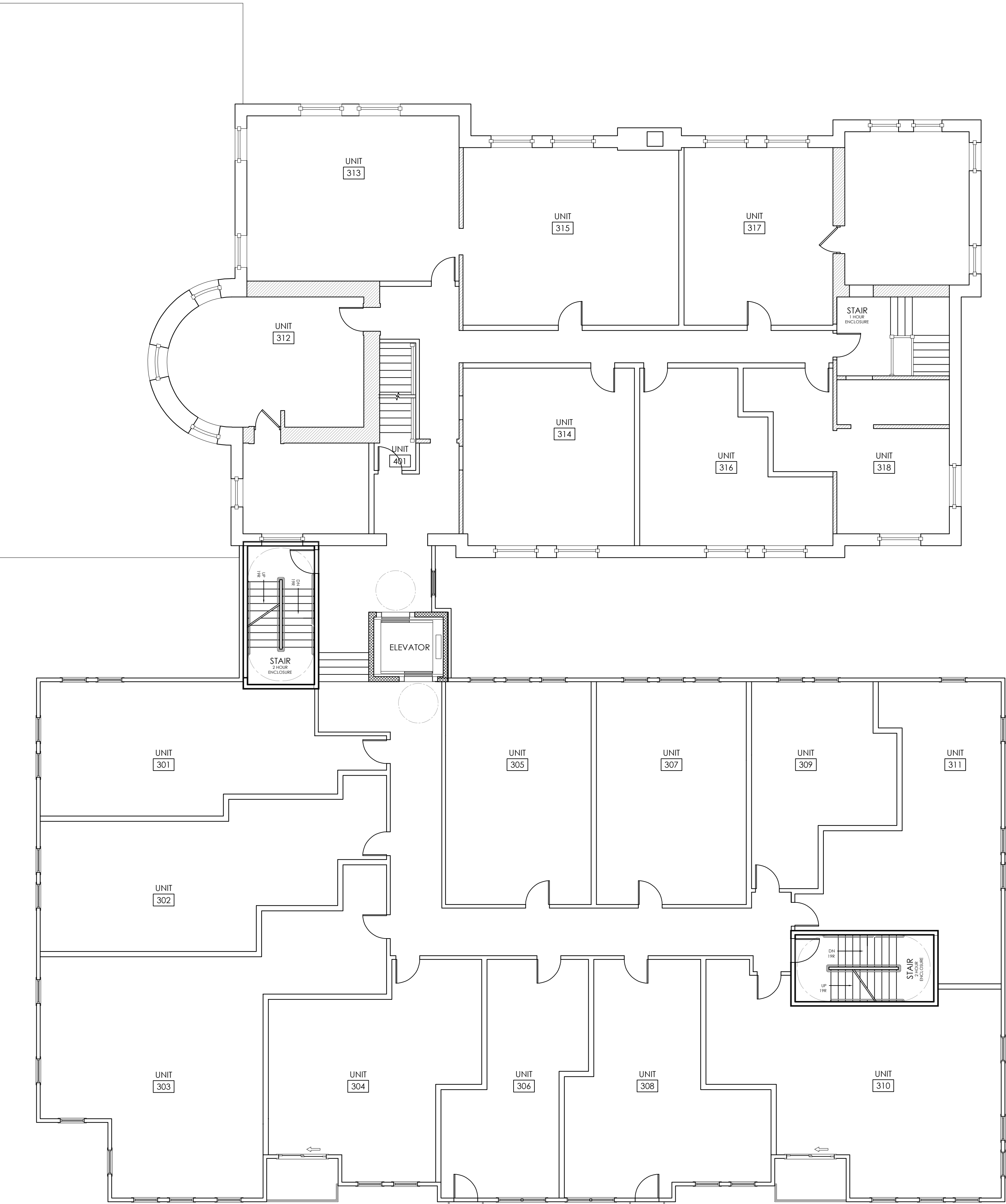


SECOND FLOOR PLAN

|              |              |
|--------------|--------------|
| DATE:        | 06/24/2021   |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A1.2

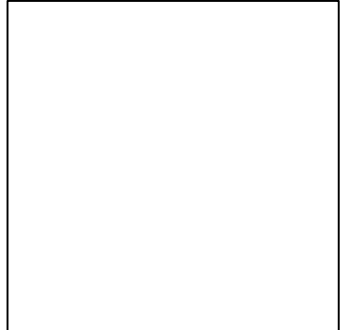




1 THIRD FLOOR PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

|            |
|------------|
| REVISIONS: |
|            |
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SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

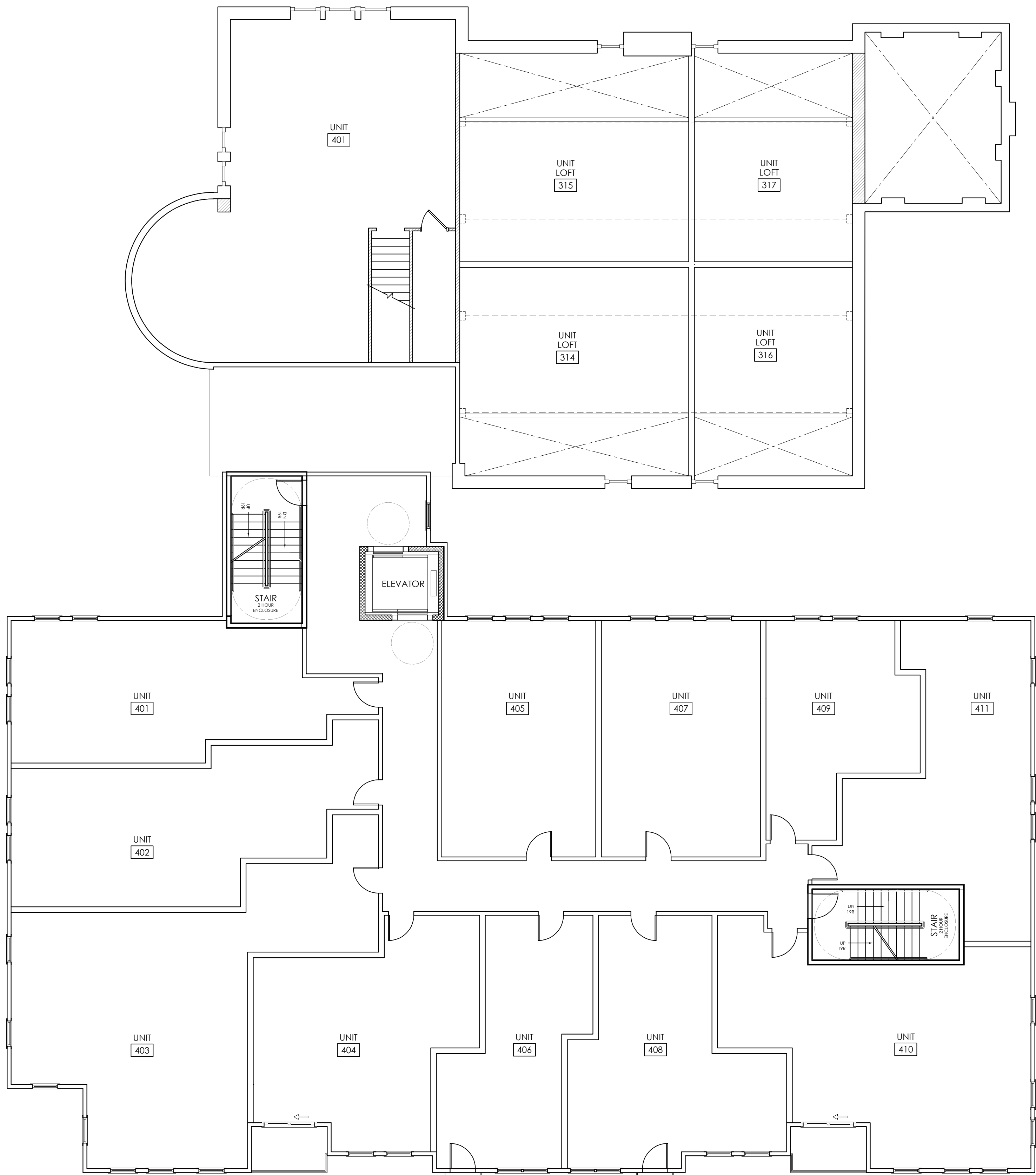


THIRD  
FLOOR PLAN

|              |              |
|--------------|--------------|
| DATE:        | 06/24/2021   |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A1.3





1 FOURTH FLOOR PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

|            |
|------------|
| REVISIONS: |
|            |
|            |
|            |
|            |
|            |

SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH

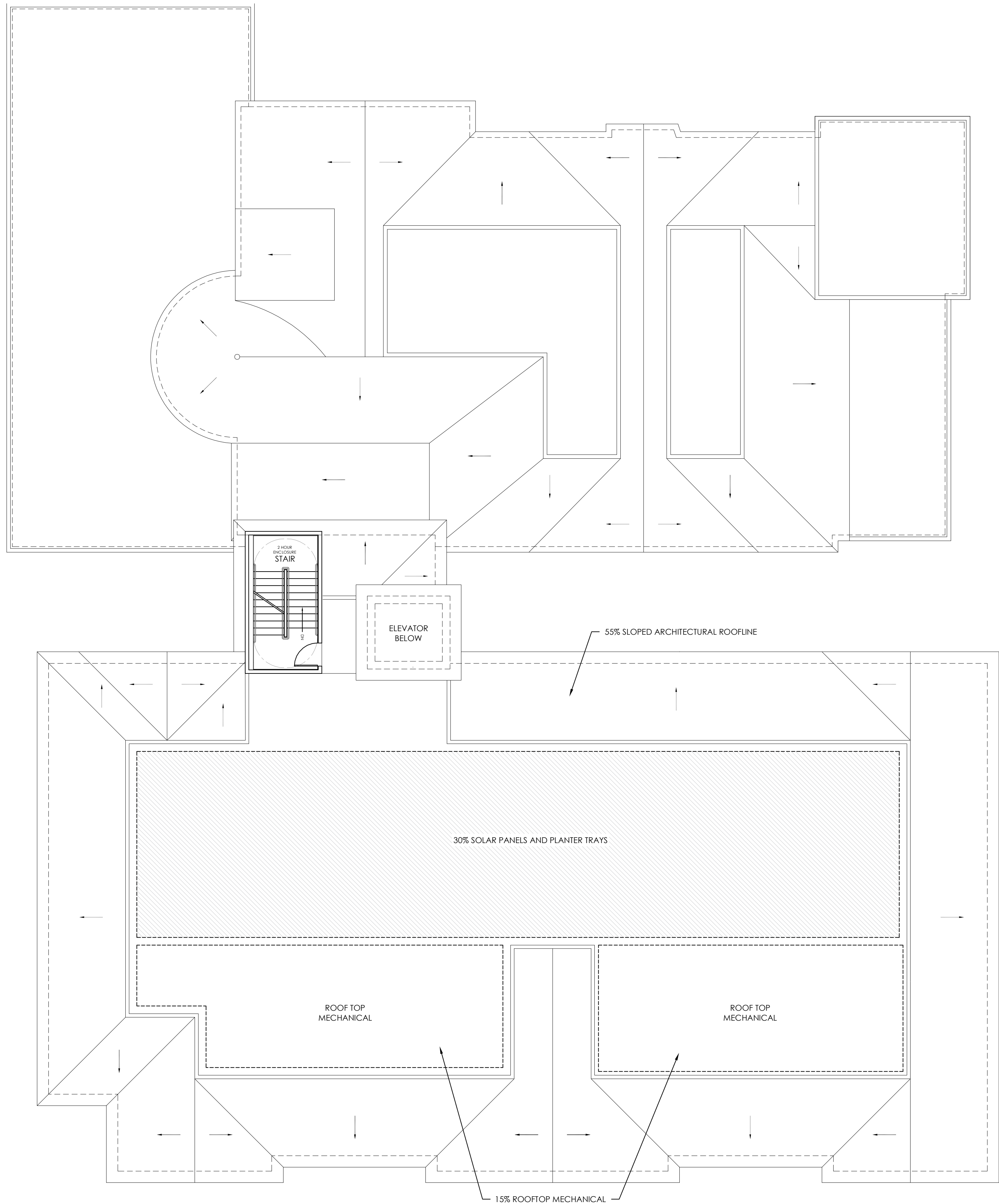


FOURTH  
FLOOR PLAN

|              |              |
|--------------|--------------|
| DATE:        | 06/24/2021   |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A1.4

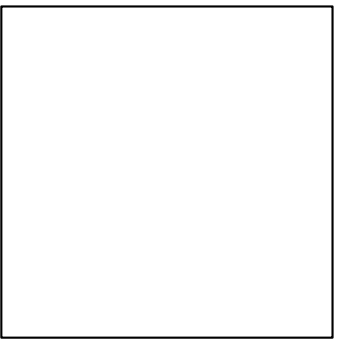




1 ROOF PLAN  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

|                    |
|--------------------|
| REVISIONS:         |
| PB REV 1: 12/21/21 |
| DELETE ROOF DECK   |
|                    |
|                    |
|                    |



SECOND STREET COURTHOUSE

CHINBURG PROPERTIES, INC.

SECOND STREET, DOVER, NH



CJ ARCHITECTS

233 VAUGHAN ST, SUITE 101, 603.431.2808

PORTSMOUTH, NH 03801 www.cjarchitects.net

ROOF PLAN

|              |              |
|--------------|--------------|
| DATE:        | 06/24/2021   |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A1.5





1 NORTH ELEVATION (SECOND STREET)  
1/8" = 1'-0"

AVERAGE GRADE PLANE



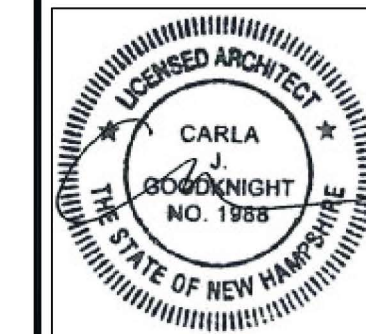
2 WEST ELEVATION  
1/8" = 1'-0"

AVERAGE GRADE PLANE

NOT FOR CONSTRUCTION

|                    |
|--------------------|
| REVISIONS:         |
| PB REV 1: 12/21/21 |
| DELETE ROOF DECK   |
| PB REV 2: 06/08/23 |
|                    |
|                    |

SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH



ELEVATIONS

|              |              |
|--------------|--------------|
| DATE:        | 06/30/21     |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A2









1 SOUTH ELEVATION AT EXISTING BUILDING (COURTYARD)  
1/8" = 1'-0"

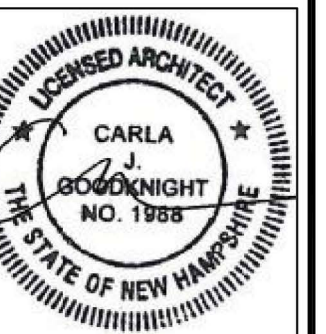


2 NORTH ELEVATION AT NEW ADDITION (COURTYARD)  
1/8" = 1'-0"

NOT FOR CONSTRUCTION

|                    |
|--------------------|
| REVISIONS:         |
| PB REV 1: 12/21/21 |
| PB REV 2: 06/08/23 |
|                    |
|                    |
|                    |

SECOND STREET COURTHOUSE  
CHINBURG PROPERTIES, INC.  
SECOND STREET, DOVER, NH



ELEVATIONS

|              |              |
|--------------|--------------|
| DATE:        | 06/30/21     |
| DRAWN BY:    | KGM          |
| APPROVED BY: | CJG          |
| SCALE:       | 1/8" = 1'-0" |
| JOB NUMBER:  | -            |

A4



*City of Dover*  
*Site Plan Review Application*

**STORMWATER MANAGEMENT SUBMISSION**

**COURTHOUSE REDEVELOPMENT**

**10 Second Street  
Dover, New Hampshire**

Prepared for

**One First Street, LLC  
3 Penstock Way  
Newmarket, NH 03857  
April, 2021 (Rev June, 2023)**





---

## **CIVIL CONSULTANTS**

*Engineers*

*Planners*

*Surveyors*

---

## ***Stormwater Management Narrative***



**CITY OF DOVER  
SITE REVIEW PERMIT APPLICATION  
STORMWATER MANAGEMENT PLAN**

Site Redevelopment  
One First Street

10 Second Street  
Dover, New Hampshire

Prepared for:

One First Street, LLC  
3 Penstock Way  
Newington, NH 03857

April, 2021  
May, 2021

**Revised June, 2023**

**INTRODUCTION:**

Stormwater runoff conditions have been evaluated for the proposed site redevelopment to house a new apartment building and renovated space in the former Strafford County Court House located at 1 First Street. This report includes a review of the 1-, 2-, 10-, 25- and 50-yr storm events, as well as a description of treatment and flow attenuation methods proposed.

The site is on a fully developed lot, Tax Map 6, Lot 20, in the Commercial Business District (General). The area to be developed is currently occupied by the former court house building on Second Street and an associated paved parking lot on First Street.

The proposed project does not result in a significant change in impervious or developed area, as the lot has been fully built-out for decades.

The area at the First Street entrance will be converted from pavement to a grassed green space between the proposed building and the existing sidewalk. A portion of the existing lawn at Second Street will be converted to an ADA accessible pathway. Various other locations on the site will be modified as

needed for drainage and accessibility requirements.

A series of small filters are proposed along the east alley stairs. These will act as limited planters, as well as filters to reduce runoff from the proposed roof in smaller rain events.

The analysis was performed to assess the influence of the proposed project area on future runoff and to recommend measures to control or mitigate runoff increases due to development, and to address ground water recharge as required by Dover Site Review Regulations.

**METHODOLOGY:**

All runoff calculations were performed using the methods based on USDA-SCS Technical Release No. 20 (also known as TR-20). The two-, ten-, twenty five-, and fifty-year, twenty-four hour storm event (Type III rainfall distribution) were used for the site specific analysis to determine pre- and post-development peak discharge rates. Runoff curve numbers (CN) and times of concentration (Tc) were determined by the methods outlined in USDA-SCS Technical Release No. 55 (better known as TR-55). Watershed areas were determined from the topographic map prepared for the site by on the ground survey.

**SITE & SOIL INFORMATION:**

The area to be developed is Suffield soils and urban fill, as determined by the USDA Web Soil Survey.

Per the SSSNNE Special Publication No. 5 (2009), the Ksat for Suffield soils is unsuitable for infiltration, and as such no infiltration has been proposed for the site.

Flow from the site drains to the municipal storm sewer, and eventually discharges into the Cocheco River.

There are no wetlands and/or streams that will be directly impacted by the proposed work.



**CIVIL  
CONSULTANTS**

P.O. Box 100 South Berwick, Maine 03908 207-384-2550



**ANALYSIS:**

As noted above, all surface waters within the site flow into the City storm sewer system. The north portion of the property drains to a catch basin at the intersection of Second Street and Central Avenue. The south portion drains to a catch basin just west of the site on the opposite side of First Street.

**Pre-Development Areas**

Two subcatchments were used to model the existing drainage conditions.

Subcatchment 1S drains to First Street (OUT 1) and includes the majority of the lot and contributing areas from adjacent lots.

Subcatchment 2S drains to Second Street (OUT 2) and mostly consists of the former court house entrance and lawn.

**Post-Development Areas**

Eight sub-areas were identified for the post development analysis. These reflect the intended separation of flows due to new building area and modified land cover.

Subcatchments 10S, 30S, 40S, 50S, 60S, 70S & 80S all contribute to the catch basin system on First Street (OUT 1). Several catch basins are proposed to control runoff and prevent overland flow across the street.

Subcatchment 20S represents roughly the same as the pre-developed subcatchment 2S contributing to Second Street. However, to alleviate conflicts with utilities that exist within the Second Street ROW all flow will now be directed to First Street (OUT 1).

**To accommodate an exterior seating area for a restaurant use on the ground floor of the Second Street face of the building, an underdrained paver system is proposed. This has been modeled as Pond 21P and is evaluated similarly to the previously approved pavers system located at the center courtyard.**

**RESULTS:**

Pre- and post- development runoff rates were computed for the project as outlined above.

The detailed analysis for this project was performed by computer utilizing "HYDROCAD". The computer print-outs are attached. The following table summarizes the results of the analysis:

**SITE RUNOFF RATES - 2 Year Storm**

| Outlet         | Runoff Runoff Rate (CFS) |             |              |
|----------------|--------------------------|-------------|--------------|
|                | Pre                      | Post        | Change       |
| OUT 1          | 2.52                     | <b>2.56</b> | <b>+0.04</b> |
| Volume (ac-ft) | 0.19                     | 0.23        | +0.04        |
| OUT 2          | 0.36                     | 0.00        | -0.36        |
| Volume (ac-ft) | 0.03                     | 0.00        | -0.03        |

**SITE RUNOFF RATES - 10 Year Storm**

| Outlet         | Site Runoff Rates (CFS) |             |              |
|----------------|-------------------------|-------------|--------------|
|                | Pre                     | Post        | Change       |
| OUT 1          | 3.90                    | <b>3.94</b> | <b>+0.04</b> |
| Volume (ac-ft) | 0.31                    | 0.36        | +0.05        |
| OUT 2          | 0.59                    | 0.00        | -0.59        |
| Volume (ac-ft) | 0.04                    | 0.00        | -0.04        |

**SITE RUNOFF RATES - 25 Year Storm**

| Outlet         | Site Runoff Rates (CFS) |             |              |
|----------------|-------------------------|-------------|--------------|
|                | Pre                     | Post        | Change       |
| OUT 1          | 4.97                    | <b>5.01</b> | <b>+0.04</b> |
| Volume (ac-ft) | 0.39                    | <b>0.47</b> | <b>+0.08</b> |
| OUT 2          | 0.76                    | 0.00        | -0.76        |
| Volume (ac-ft) | 0.06                    | 0.00        | -0.06        |

**SITE RUNOFF RATES - 50 Year Storm**

| Outlet         | Site Runoff Rates (CFS) |             |              |
|----------------|-------------------------|-------------|--------------|
|                | Pre                     | Post        | Change       |
| OUT 1          | 5.96                    | <b>6.01</b> | <b>+0.05</b> |
| Volume (ac-ft) | 0.48                    | 0.56        | +0.08        |
| OUT 2          | 0.93                    | 0.00        | -0.93        |
| Volume (ac-ft) | 0.07                    | 0.00        | -0.07        |

See the attached plans and HydroCAD reports for details and calculations.

**STORMWATER TREATMENT:**

The development does not propose any new coverage requiring treatment.

An effort has been made to provide some filtration along the east stairs in the form of narrow underdrained **planters** **drip-edge filters** that will utilize stone layers at the





surface to store runoff prior to filtering it to the underdrain below. In larger storm events (3"+ in 24 hours), runoff will flow through small risers in these basins and drain directly to the downstream culverts.

The center courtyard outdoor patio area will also utilize an underdrained paver system (30P) that will detain a small amount of runoff, but is intended more to prevent stormwater from ponding in the area and creating safety issues.

The garage area is intended to be graded in a manner to prevent outside runoff from entering the garage, and will utilize an evaporative drain system to accommodate snowmelt and moisture brought into the structure by vehicular traffic.

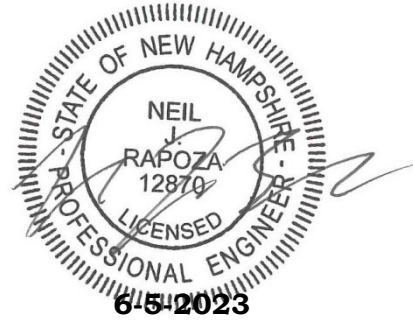
### CONCLUSIONS:

The project is designed to improve the existing drainage conditions on site by directing flows to appropriately sized culverts and BMPs. It is intended that this will improve current drainage shortfalls at the site and provide a more predictable and controlled flow to the City storm drain system.

The results of the analysis predict post-development flows will remain approximately the same to the project outlet points for the 2-, 10-, 25- and 50-year events.

In our opinion, redevelopment of the property and implementation of the facilities described on the plan will not adversely affect downstream property, City storm drain system, or associated waterways.

A stormwater maintenance plan has also been attached to indicate the procedures and requirements to maintain the stormwater management system.



The seal affixed above applies to this report which consists of 3 pages of text and attached calculations.

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# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

|           |                                 |
|-----------|---------------------------------|
| Smoothing | Yes                             |
| State     | New Hampshire                   |
| Location  |                                 |
| Longitude | 70.875 degrees West             |
| Latitude  | 43.197 degrees North            |
| Elevation | 0 feet                          |
| Date/Time | Tue, 06 Apr 2021 19:24:07 -0400 |

## Extreme Precipitation Estimates

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr | 24hr  | 48hr  |       | 1day  | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1yr   | 0.26 | 0.40  | 0.50  | 0.65  | 0.81  | 1.03   | 1yr   | 0.70 | 0.98 | 1.20 | 1.54 | 2.00 | 2.60  | 2.87  | 1yr   | 2.30  | 2.76  | 3.16  | 3.88  | 4.45  | 1yr   |
| 2yr   | 0.32 | 0.49  | 0.61  | 0.81  | 1.01  | 1.29   | 2yr   | 0.88 | 1.17 | 1.50 | 1.91 | 2.45 | 3.15  | 3.51  | 2yr   | 2.79  | 3.37  | 3.87  | 4.60  | 5.24  | 2yr   |
| 5yr   | 0.37 | 0.57  | 0.72  | 0.96  | 1.23  | 1.58   | 5yr   | 1.06 | 1.44 | 1.85 | 2.39 | 3.08 | 3.98  | 4.49  | 5yr   | 3.52  | 4.32  | 4.94  | 5.81  | 6.57  | 5yr   |
| 10yr  | 0.40 | 0.63  | 0.80  | 1.09  | 1.42  | 1.85   | 10yr  | 1.22 | 1.69 | 2.18 | 2.83 | 3.66 | 4.75  | 5.42  | 10yr  | 4.20  | 5.21  | 5.95  | 6.93  | 7.80  | 10yr  |
| 25yr  | 0.46 | 0.74  | 0.94  | 1.30  | 1.72  | 2.27   | 25yr  | 1.49 | 2.09 | 2.70 | 3.53 | 4.61 | 6.00  | 6.95  | 25yr  | 5.31  | 6.68  | 7.62  | 8.77  | 9.79  | 25yr  |
| 50yr  | 0.52 | 0.83  | 1.06  | 1.48  | 2.00  | 2.67   | 50yr  | 1.73 | 2.46 | 3.18 | 4.19 | 5.49 | 7.17  | 8.40  | 50yr  | 6.35  | 8.07  | 9.19  | 10.47 | 11.64 | 50yr  |
| 100yr | 0.58 | 0.94  | 1.21  | 1.71  | 2.32  | 3.12   | 100yr | 2.01 | 2.89 | 3.75 | 4.96 | 6.53 | 8.57  | 10.15 | 100yr | 7.58  | 9.76  | 11.08 | 12.52 | 13.84 | 100yr |
| 200yr | 0.64 | 1.05  | 1.36  | 1.95  | 2.70  | 3.67   | 200yr | 2.33 | 3.40 | 4.43 | 5.89 | 7.79 | 10.25 | 12.26 | 200yr | 9.07  | 11.79 | 13.36 | 14.97 | 16.46 | 200yr |
| 500yr | 0.76 | 1.24  | 1.62  | 2.36  | 3.31  | 4.54   | 500yr | 2.85 | 4.22 | 5.50 | 7.37 | 9.81 | 12.98 | 15.75 | 500yr | 11.49 | 15.15 | 17.14 | 18.97 | 20.72 | 500yr |

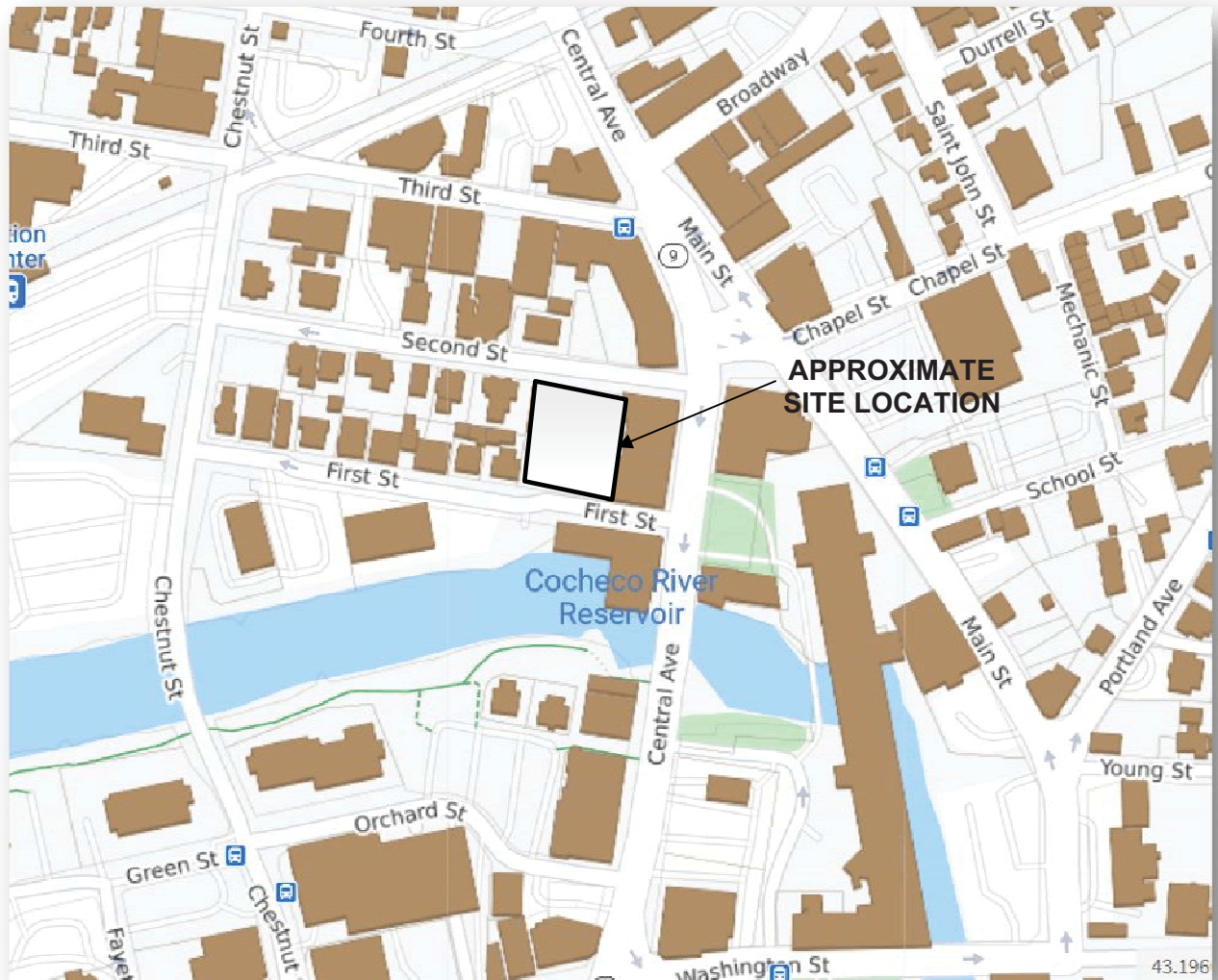
## Lower Confidence Limits

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr | 24hr | 48hr  |       | 1day | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|
| 1yr   | 0.24 | 0.37  | 0.45  | 0.60  | 0.74  | 0.90   | 1yr   | 0.64 | 0.88 | 0.92 | 1.25 | 1.57 | 2.13 | 2.46  | 1yr   | 1.88 | 2.36  | 2.89  | 3.36  | 4.04  | 1yr   |
| 2yr   | 0.31 | 0.49  | 0.60  | 0.81  | 1.00  | 1.18   | 2yr   | 0.86 | 1.16 | 1.36 | 1.83 | 2.36 | 3.04 | 3.40  | 2yr   | 2.69 | 3.27  | 3.75  | 4.47  | 5.06  | 2yr   |
| 5yr   | 0.35 | 0.54  | 0.67  | 0.91  | 1.16  | 1.40   | 5yr   | 1.00 | 1.37 | 1.61 | 2.15 | 2.78 | 3.71 | 4.12  | 5yr   | 3.28 | 3.97  | 4.61  | 5.41  | 6.11  | 5yr   |
| 10yr  | 0.38 | 0.59  | 0.73  | 1.02  | 1.32  | 1.60   | 10yr  | 1.14 | 1.56 | 1.81 | 2.44 | 3.13 | 4.27 | 4.78  | 10yr  | 3.78 | 4.60  | 5.32  | 6.24  | 7.01  | 10yr  |
| 25yr  | 0.44 | 0.66  | 0.83  | 1.18  | 1.55  | 1.91   | 25yr  | 1.34 | 1.87 | 2.11 | 2.84 | 3.65 | 4.95 | 5.78  | 25yr  | 4.38 | 5.56  | 6.48  | 7.54  | 8.41  | 25yr  |
| 50yr  | 0.48 | 0.73  | 0.91  | 1.31  | 1.76  | 2.19   | 50yr  | 1.52 | 2.14 | 2.35 | 3.19 | 4.10 | 5.65 | 6.67  | 50yr  | 5.00 | 6.41  | 7.53  | 8.70  | 9.64  | 50yr  |
| 100yr | 0.54 | 0.81  | 1.02  | 1.47  | 2.01  | 2.51   | 100yr | 1.74 | 2.45 | 2.63 | 3.57 | 4.57 | 6.44 | 7.68  | 100yr | 5.70 | 7.39  | 8.74  | 10.03 | 11.03 | 100yr |
| 200yr | 0.59 | 0.90  | 1.13  | 1.64  | 2.29  | 2.87   | 200yr | 1.98 | 2.81 | 2.93 | 3.99 | 5.10 | 7.33 | 8.85  | 200yr | 6.48 | 8.51  | 10.13 | 11.57 | 12.65 | 200yr |
| 500yr | 0.69 | 1.03  | 1.33  | 1.93  | 2.74  | 3.46   | 500yr | 2.37 | 3.38 | 3.40 | 4.62 | 5.92 | 8.67 | 10.65 | 500yr | 7.67 | 10.24 | 12.31 | 14.00 | 15.11 | 500yr |

## Upper Confidence Limits

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr  | 24hr  | 48hr  |       | 1day  | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1yr   | 0.28 | 0.43  | 0.53  | 0.71  | 0.87  | 1.08   | 1yr   | 0.75 | 1.05 | 1.23 | 1.74 | 2.21  | 2.87  | 3.09  | 1yr   | 2.54  | 2.97  | 3.43  | 4.22  | 4.81  | 1yr   |
| 2yr   | 0.33 | 0.51  | 0.62  | 0.85  | 1.04  | 1.25   | 2yr   | 0.90 | 1.22 | 1.48 | 1.95 | 2.51  | 3.29  | 3.63  | 2yr   | 2.91  | 3.49  | 4.00  | 4.75  | 5.45  | 2yr   |
| 5yr   | 0.39 | 0.61  | 0.75  | 1.03  | 1.31  | 1.58   | 5yr   | 1.13 | 1.55 | 1.86 | 2.50 | 3.20  | 4.24  | 4.86  | 5yr   | 3.75  | 4.67  | 5.28  | 6.23  | 7.00  | 5yr   |
| 10yr  | 0.46 | 0.70  | 0.87  | 1.22  | 1.57  | 1.92   | 10yr  | 1.36 | 1.88 | 2.23 | 3.04 | 3.86  | 5.21  | 6.07  | 10yr  | 4.61  | 5.83  | 6.67  | 7.65  | 8.54  | 10yr  |
| 25yr  | 0.56 | 0.85  | 1.05  | 1.50  | 1.97  | 2.48   | 25yr  | 1.70 | 2.42 | 2.88 | 3.96 | 4.96  | 7.05  | 8.15  | 25yr  | 6.24  | 7.84  | 8.93  | 10.08 | 11.12 | 25yr  |
| 50yr  | 0.64 | 0.98  | 1.22  | 1.75  | 2.35  | 2.99   | 50yr  | 2.03 | 2.93 | 3.49 | 4.83 | 6.02  | 8.71  | 10.22 | 50yr  | 7.70  | 9.82  | 11.17 | 12.39 | 13.60 | 50yr  |
| 100yr | 0.75 | 1.13  | 1.42  | 2.04  | 2.80  | 3.62   | 100yr | 2.42 | 3.54 | 4.24 | 5.90 | 7.32  | 10.75 | 12.80 | 100yr | 9.52  | 12.31 | 13.95 | 15.27 | 16.64 | 100yr |
| 200yr | 0.87 | 1.30  | 1.65  | 2.39  | 3.34  | 4.39   | 200yr | 2.88 | 4.29 | 5.15 | 7.22 | 8.89  | 13.32 | 16.07 | 200yr | 11.79 | 15.45 | 17.44 | 18.80 | 20.38 | 200yr |
| 500yr | 1.06 | 1.58  | 2.03  | 2.95  | 4.20  | 5.63   | 500yr | 3.62 | 5.51 | 6.66 | 9.45 | 11.52 | 17.70 | 21.69 | 500yr | 15.66 | 20.86 | 23.46 | 24.79 | 26.67 | 500yr |





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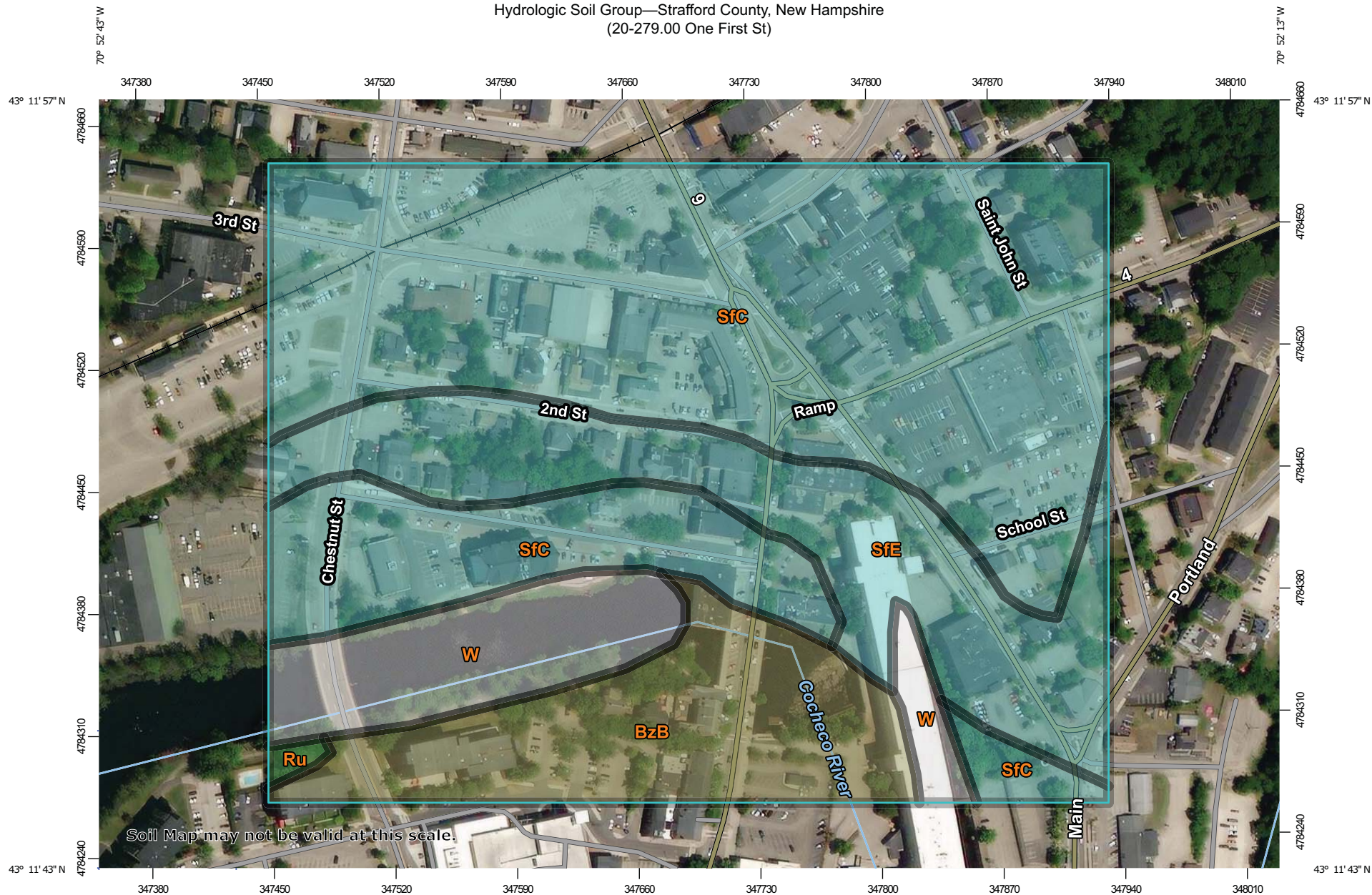


**CIVIL  
CONSULTANTS**

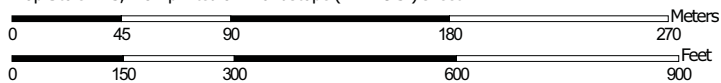
P.O. Box 100 South Berwick, Maine 03908 207-384-2550



# Hydrologic Soil Group—Strafford County, New Hampshire (20-279.00 One First St)



Map Scale: 1:3,110 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84



**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey

4/6/2021  
Page 1 of 4



## 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 1:20,000.

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: Strafford County, New Hampshire  
Survey Area Data: Version 20, May 29, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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 |
|------------------------------------|---------------------------------------------|--------|--------------|----------------|
| BzB                                | Buxton silt loam, 3 to 8 percent slopes     | C/D    | 6.3          | 14.4%          |
| Ru                                 | Rumney fine sandy loam                      | A/D    | 0.2          | 0.4%           |
| SfC                                | Suffield silt loam, 8 to 15 percent slopes  | C      | 25.5         | 57.9%          |
| SfE                                | Suffield silt loam, 15 to 35 percent slopes | C      | 7.9          | 18.0%          |
| W                                  | Water                                       |        | 4.2          | 9.5%           |
| <b>Totals for Area of Interest</b> |                                             |        | <b>44.0</b>  | <b>100.0%</b>  |



## 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



# Extreme Precipitation Tables

## Northeast Regional Climate Center

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

|           |                                 |
|-----------|---------------------------------|
| Smoothing | Yes                             |
| State     | New Hampshire                   |
| Location  |                                 |
| Longitude | 70.875 degrees West             |
| Latitude  | 43.197 degrees North            |
| Elevation | 0 feet                          |
| Date/Time | Tue, 06 Apr 2021 19:24:07 -0400 |

## Extreme Precipitation Estimates

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr | 24hr  | 48hr  |       | 1day  | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1yr   | 0.26 | 0.40  | 0.50  | 0.65  | 0.81  | 1.03   | 1yr   | 0.70 | 0.98 | 1.20 | 1.54 | 2.00 | 2.60  | 2.87  | 1yr   | 2.30  | 2.76  | 3.16  | 3.88  | 4.45  | 1yr   |
| 2yr   | 0.32 | 0.49  | 0.61  | 0.81  | 1.01  | 1.29   | 2yr   | 0.88 | 1.17 | 1.50 | 1.91 | 2.45 | 3.15  | 3.51  | 2yr   | 2.79  | 3.37  | 3.87  | 4.60  | 5.24  | 2yr   |
| 5yr   | 0.37 | 0.57  | 0.72  | 0.96  | 1.23  | 1.58   | 5yr   | 1.06 | 1.44 | 1.85 | 2.39 | 3.08 | 3.98  | 4.49  | 5yr   | 3.52  | 4.32  | 4.94  | 5.81  | 6.57  | 5yr   |
| 10yr  | 0.40 | 0.63  | 0.80  | 1.09  | 1.42  | 1.85   | 10yr  | 1.22 | 1.69 | 2.18 | 2.83 | 3.66 | 4.75  | 5.42  | 10yr  | 4.20  | 5.21  | 5.95  | 6.93  | 7.80  | 10yr  |
| 25yr  | 0.46 | 0.74  | 0.94  | 1.30  | 1.72  | 2.27   | 25yr  | 1.49 | 2.09 | 2.70 | 3.53 | 4.61 | 6.00  | 6.95  | 25yr  | 5.31  | 6.68  | 7.62  | 8.77  | 9.79  | 25yr  |
| 50yr  | 0.52 | 0.83  | 1.06  | 1.48  | 2.00  | 2.67   | 50yr  | 1.73 | 2.46 | 3.18 | 4.19 | 5.49 | 7.17  | 8.40  | 50yr  | 6.35  | 8.07  | 9.19  | 10.47 | 11.64 | 50yr  |
| 100yr | 0.58 | 0.94  | 1.21  | 1.71  | 2.32  | 3.12   | 100yr | 2.01 | 2.89 | 3.75 | 4.96 | 6.53 | 8.57  | 10.15 | 100yr | 7.58  | 9.76  | 11.08 | 12.52 | 13.84 | 100yr |
| 200yr | 0.64 | 1.05  | 1.36  | 1.95  | 2.70  | 3.67   | 200yr | 2.33 | 3.40 | 4.43 | 5.89 | 7.79 | 10.25 | 12.26 | 200yr | 9.07  | 11.79 | 13.36 | 14.97 | 16.46 | 200yr |
| 500yr | 0.76 | 1.24  | 1.62  | 2.36  | 3.31  | 4.54   | 500yr | 2.85 | 4.22 | 5.50 | 7.37 | 9.81 | 12.98 | 15.75 | 500yr | 11.49 | 15.15 | 17.14 | 18.97 | 20.72 | 500yr |

## Lower Confidence Limits

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr | 24hr | 48hr  |       | 1day | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|-------|-------|
| 1yr   | 0.24 | 0.37  | 0.45  | 0.60  | 0.74  | 0.90   | 1yr   | 0.64 | 0.88 | 0.92 | 1.25 | 1.57 | 2.13 | 2.46  | 1yr   | 1.88 | 2.36  | 2.89  | 3.36  | 4.04  | 1yr   |
| 2yr   | 0.31 | 0.49  | 0.60  | 0.81  | 1.00  | 1.18   | 2yr   | 0.86 | 1.16 | 1.36 | 1.83 | 2.36 | 3.04 | 3.40  | 2yr   | 2.69 | 3.27  | 3.75  | 4.47  | 5.06  | 2yr   |
| 5yr   | 0.35 | 0.54  | 0.67  | 0.91  | 1.16  | 1.40   | 5yr   | 1.00 | 1.37 | 1.61 | 2.15 | 2.78 | 3.71 | 4.12  | 5yr   | 3.28 | 3.97  | 4.61  | 5.41  | 6.11  | 5yr   |
| 10yr  | 0.38 | 0.59  | 0.73  | 1.02  | 1.32  | 1.60   | 10yr  | 1.14 | 1.56 | 1.81 | 2.44 | 3.13 | 4.27 | 4.78  | 10yr  | 3.78 | 4.60  | 5.32  | 6.24  | 7.01  | 10yr  |
| 25yr  | 0.44 | 0.66  | 0.83  | 1.18  | 1.55  | 1.91   | 25yr  | 1.34 | 1.87 | 2.11 | 2.84 | 3.65 | 4.95 | 5.78  | 25yr  | 4.38 | 5.56  | 6.48  | 7.54  | 8.41  | 25yr  |
| 50yr  | 0.48 | 0.73  | 0.91  | 1.31  | 1.76  | 2.19   | 50yr  | 1.52 | 2.14 | 2.35 | 3.19 | 4.10 | 5.65 | 6.67  | 50yr  | 5.00 | 6.41  | 7.53  | 8.70  | 9.64  | 50yr  |
| 100yr | 0.54 | 0.81  | 1.02  | 1.47  | 2.01  | 2.51   | 100yr | 1.74 | 2.45 | 2.63 | 3.57 | 4.57 | 6.44 | 7.68  | 100yr | 5.70 | 7.39  | 8.74  | 10.03 | 11.03 | 100yr |
| 200yr | 0.59 | 0.90  | 1.13  | 1.64  | 2.29  | 2.87   | 200yr | 1.98 | 2.81 | 2.93 | 3.99 | 5.10 | 7.33 | 8.85  | 200yr | 6.48 | 8.51  | 10.13 | 11.57 | 12.65 | 200yr |
| 500yr | 0.69 | 1.03  | 1.33  | 1.93  | 2.74  | 3.46   | 500yr | 2.37 | 3.38 | 3.40 | 4.62 | 5.92 | 8.67 | 10.65 | 500yr | 7.67 | 10.24 | 12.31 | 14.00 | 15.11 | 500yr |

## Upper Confidence Limits

|       | 5min | 10min | 15min | 30min | 60min | 120min |       | 1hr  | 2hr  | 3hr  | 6hr  | 12hr  | 24hr  | 48hr  |       | 1day  | 2day  | 4day  | 7day  | 10day |       |
|-------|------|-------|-------|-------|-------|--------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1yr   | 0.28 | 0.43  | 0.53  | 0.71  | 0.87  | 1.08   | 1yr   | 0.75 | 1.05 | 1.23 | 1.74 | 2.21  | 2.87  | 3.09  | 1yr   | 2.54  | 2.97  | 3.43  | 4.22  | 4.81  | 1yr   |
| 2yr   | 0.33 | 0.51  | 0.62  | 0.85  | 1.04  | 1.25   | 2yr   | 0.90 | 1.22 | 1.48 | 1.95 | 2.51  | 3.29  | 3.63  | 2yr   | 2.91  | 3.49  | 4.00  | 4.75  | 5.45  | 2yr   |
| 5yr   | 0.39 | 0.61  | 0.75  | 1.03  | 1.31  | 1.58   | 5yr   | 1.13 | 1.55 | 1.86 | 2.50 | 3.20  | 4.24  | 4.86  | 5yr   | 3.75  | 4.67  | 5.28  | 6.23  | 7.00  | 5yr   |
| 10yr  | 0.46 | 0.70  | 0.87  | 1.22  | 1.57  | 1.92   | 10yr  | 1.36 | 1.88 | 2.23 | 3.04 | 3.86  | 5.21  | 6.07  | 10yr  | 4.61  | 5.83  | 6.67  | 7.65  | 8.54  | 10yr  |
| 25yr  | 0.56 | 0.85  | 1.05  | 1.50  | 1.97  | 2.48   | 25yr  | 1.70 | 2.42 | 2.88 | 3.96 | 4.96  | 7.05  | 8.15  | 25yr  | 6.24  | 7.84  | 8.93  | 10.08 | 11.12 | 25yr  |
| 50yr  | 0.64 | 0.98  | 1.22  | 1.75  | 2.35  | 2.99   | 50yr  | 2.03 | 2.93 | 3.49 | 4.83 | 6.02  | 8.71  | 10.22 | 50yr  | 7.70  | 9.82  | 11.17 | 12.39 | 13.60 | 50yr  |
| 100yr | 0.75 | 1.13  | 1.42  | 2.04  | 2.80  | 3.62   | 100yr | 2.42 | 3.54 | 4.24 | 5.90 | 7.32  | 10.75 | 12.80 | 100yr | 9.52  | 12.31 | 13.95 | 15.27 | 16.64 | 100yr |
| 200yr | 0.87 | 1.30  | 1.65  | 2.39  | 3.34  | 4.39   | 200yr | 2.88 | 4.29 | 5.15 | 7.22 | 8.89  | 13.32 | 16.07 | 200yr | 11.79 | 15.45 | 17.44 | 18.80 | 20.38 | 200yr |
| 500yr | 1.06 | 1.58  | 2.03  | 2.95  | 4.20  | 5.63   | 500yr | 3.62 | 5.51 | 6.66 | 9.45 | 11.52 | 17.70 | 21.69 | 500yr | 15.66 | 20.86 | 23.46 | 24.79 | 26.67 | 500yr |





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*Engineers*

*Planners*

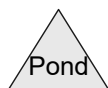
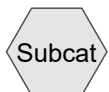
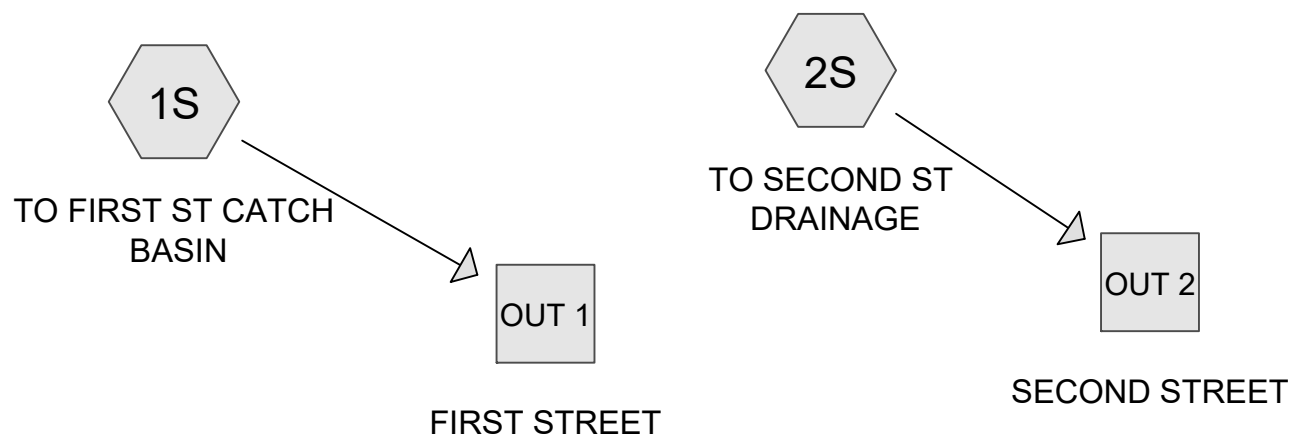
*Surveyors*

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***Pre-Development Calculations***

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**Area Listing (all nodes)**

| Area<br>(acres) | CN        | Description<br>(subcatchment-numbers)    |
|-----------------|-----------|------------------------------------------|
| 0.136           | 79        | 50-75% Grass cover, Fair, HSG C (1S, 2S) |
| 0.856           | 98        | Paved parking, HSG C (1S, 2S)            |
| <b>0.992</b>    | <b>95</b> | <b>TOTAL AREA</b>                        |



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**Soil Listing (all nodes)**

| Area<br>(acres) | Soil<br>Group | Subcatchment<br>Numbers |
|-----------------|---------------|-------------------------|
| 0.000           | HSG A         |                         |
| 0.000           | HSG B         |                         |
| 0.992           | HSG C         | 1S, 2S                  |
| 0.000           | HSG D         |                         |
| 0.000           | Other         |                         |
| <b>0.992</b>    |               | <b>TOTAL AREA</b>       |



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**Ground Covers (all nodes)**

| HSG-A<br>(acres) | HSG-B<br>(acres) | HSG-C<br>(acres) | HSG-D<br>(acres) | Other<br>(acres) | Total<br>(acres) | Ground<br>Cover          | Subcatchment<br>Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------|-------------------------|
| 0.000            | 0.000            | 0.136            | 0.000            | 0.000            | 0.136            | 50-75% Grass cover, Fair | 1S, 2S                  |
| 0.000            | 0.000            | 0.856            | 0.000            | 0.000            | 0.856            | Paved parking            | 1S, 2S                  |
| <b>0.000</b>     | <b>0.000</b>     | <b>0.992</b>     | <b>0.000</b>     | <b>0.000</b>     | <b>0.992</b>     | <b>TOTAL AREA</b>        |                         |



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*Type III 24-hr 2-YR Rainfall=3.15"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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

**Subcatchment1S: TO FIRST ST CATCH**

Runoff Area=0.855 ac 89.24% Impervious Runoff Depth=2.70"

Tc=6.0 min CN=96 Runoff=2.52 cfs 0.192 af

**Subcatchment2S: TO SECOND ST**

Runoff Area=0.137 ac 67.88% Impervious Runoff Depth=2.30"

Tc=6.0 min CN=92 Runoff=0.36 cfs 0.026 af

**Reach OUT 1: FIRST STREET**

Inflow=2.52 cfs 0.192 af

Outflow=2.52 cfs 0.192 af

**Reach OUT 2: SECOND STREET**

Inflow=0.36 cfs 0.026 af

Outflow=0.36 cfs 0.026 af

**Total Runoff Area = 0.992 ac Runoff Volume = 0.219 af Average Runoff Depth = 2.65"**  
**13.71% Pervious = 0.136 ac 86.29% Impervious = 0.856 ac**



**2027900-PRE**

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*Type III 24-hr 10-YR Rainfall=4.75"*

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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

**Subcatchment1S: TO FIRST ST CATCH**

Runoff Area=0.855 ac 89.24% Impervious Runoff Depth=4.28"

Tc=6.0 min CN=96 Runoff=3.90 cfs 0.305 af

**Subcatchment2S: TO SECOND ST**

Runoff Area=0.137 ac 67.88% Impervious Runoff Depth=3.85"

Tc=6.0 min CN=92 Runoff=0.59 cfs 0.044 af

**Reach OUT 1: FIRST STREET**

Inflow=3.90 cfs 0.305 af

Outflow=3.90 cfs 0.305 af

**Reach OUT 2: SECOND STREET**

Inflow=0.59 cfs 0.044 af

Outflow=0.59 cfs 0.044 af

**Total Runoff Area = 0.992 ac Runoff Volume = 0.349 af Average Runoff Depth = 4.22"**  
**13.71% Pervious = 0.136 ac 86.29% Impervious = 0.856 ac**



**2027900-PRE**

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*Type III 24-hr 25-YR Rainfall=6.00"*

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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

**Subcatchment1S: TO FIRST ST CATCH**

Runoff Area=0.855 ac 89.24% Impervious Runoff Depth=5.53"

Tc=6.0 min CN=96 Runoff=4.97 cfs 0.394 af

**Subcatchment2S: TO SECOND ST**

Runoff Area=0.137 ac 67.88% Impervious Runoff Depth=5.07"

Tc=6.0 min CN=92 Runoff=0.76 cfs 0.058 af

**Reach OUT 1: FIRST STREET**

Inflow=4.97 cfs 0.394 af

Outflow=4.97 cfs 0.394 af

**Reach OUT 2: SECOND STREET**

Inflow=0.76 cfs 0.058 af

Outflow=0.76 cfs 0.058 af

**Total Runoff Area = 0.992 ac Runoff Volume = 0.452 af Average Runoff Depth = 5.46"**  
**13.71% Pervious = 0.136 ac 86.29% Impervious = 0.856 ac**



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Type III 24-hr 25-YR Rainfall=6.00"

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**Summary for Subcatchment 1S: TO FIRST ST CATCH BASIN**

Runoff = 4.97 cfs @ 12.08 hrs, Volume= 0.394 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.092     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.763     | 98 | Paved parking, HSG C            |
| 0.855     | 96 | Weighted Average                |
| 0.092     |    | 10.76% Pervious Area            |
| 0.763     |    | 89.24% Impervious Area          |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description              |
|-------------|------------------|------------------|----------------------|-------------------|--------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 1.1</b> |

**Summary for Subcatchment 2S: TO SECOND ST DRAINAGE**

Runoff = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af, Depth= 5.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.044     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.093     | 98 | Paved parking, HSG C            |
| 0.137     | 92 | Weighted Average                |
| 0.044     |    | 32.12% Pervious Area            |
| 0.093     |    | 67.88% Impervious Area          |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description              |
|-------------|------------------|------------------|----------------------|-------------------|--------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 2.1</b> |

**Summary for Reach OUT 1: FIRST STREET**

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.855 ac, 89.24% Impervious, Inflow Depth = 5.53" for 25-YR event  
 Inflow = 4.97 cfs @ 12.08 hrs, Volume= 0.394 af  
 Outflow = 4.97 cfs @ 12.08 hrs, Volume= 0.394 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3



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*Type III 24-hr 25-YR Rainfall=6.00"*

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### **Summary for Reach OUT 2: SECOND STREET**

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.137 ac, 67.88% Impervious, Inflow Depth = 5.07" for 25-YR event

Inflow = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af

Outflow = 0.76 cfs @ 12.08 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3



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*Type III 24-hr 50-YR Rainfall=7.17"*

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 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

**Subcatchment1S: TO FIRST ST CATCH**      Runoff Area=0.855 ac   89.24% Impervious   Runoff Depth=6.69"  
Tc=6.0 min   CN=96   Runoff=5.96 cfs   0.477 af

**Subcatchment2S: TO SECOND ST**      Runoff Area=0.137 ac   67.88% Impervious   Runoff Depth=6.22"  
Tc=6.0 min   CN=92   Runoff=0.93 cfs   0.071 af

**Reach OUT 1: FIRST STREET**      Inflow=5.96 cfs   0.477 af  
Outflow=5.96 cfs   0.477 af

**Reach OUT 2: SECOND STREET**      Inflow=0.93 cfs   0.071 af  
Outflow=0.93 cfs   0.071 af

**Total Runoff Area = 0.992 ac   Runoff Volume = 0.548 af   Average Runoff Depth = 6.63"**  
**13.71% Pervious = 0.136 ac   86.29% Impervious = 0.856 ac**





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**CIVIL  
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*Engineers*

*Planners*

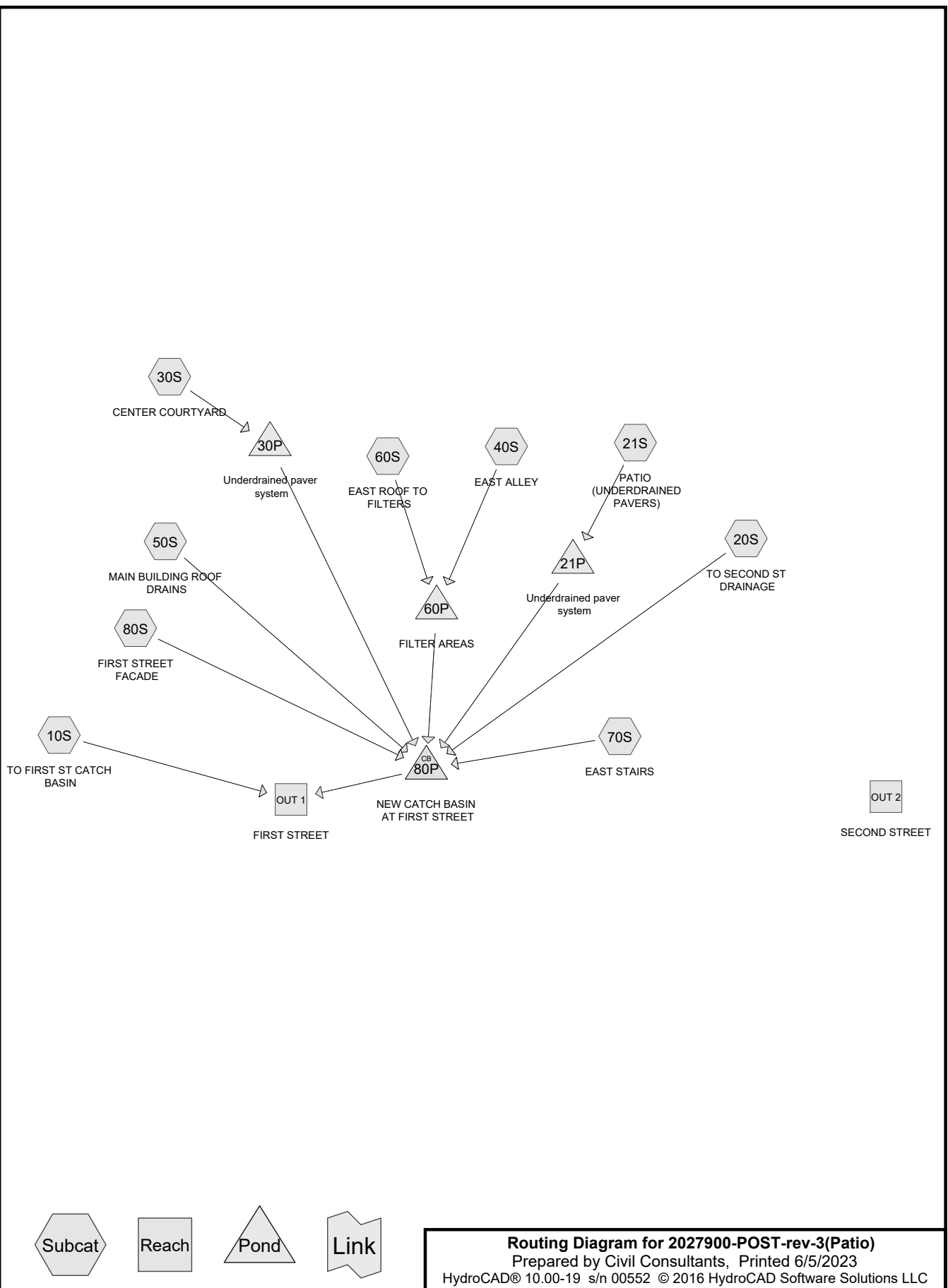
*Surveyors*

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***Post-Development Calculations***

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**Area Listing (all nodes)**

| Area<br>(acres) | CN        | Description<br>(subcatchment-numbers)                              |
|-----------------|-----------|--------------------------------------------------------------------|
| 0.014           | 79        | 50-75% Grass cover, Fair, HSG C (10S)                              |
| 0.005           | 86        | <50% Grass cover, Poor, HSG C (21S)                                |
| 0.023           | 74        | >75% Grass cover, Good, HSG C (20S)                                |
| 0.906           | 98        | Paved parking, HSG C (10S, 20S, 21S, 30S, 40S, 50S, 60S, 70S, 80S) |
| 0.043           | 98        | Roofs, HSG C (20S)                                                 |
| <b>0.991</b>    | <b>97</b> | <b>TOTAL AREA</b>                                                  |



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**Soil Listing (all nodes)**

| Area<br>(acres) | Soil<br>Group | Subcatchment<br>Numbers                     |
|-----------------|---------------|---------------------------------------------|
| 0.000           | HSG A         |                                             |
| 0.000           | HSG B         |                                             |
| 0.991           | HSG C         | 10S, 20S, 21S, 30S, 40S, 50S, 60S, 70S, 80S |
| 0.000           | HSG D         |                                             |
| 0.000           | Other         |                                             |
| <b>0.991</b>    |               | <b>TOTAL AREA</b>                           |



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**Ground Covers (all nodes)**

| HSG-A<br>(acres) | HSG-B<br>(acres) | HSG-C<br>(acres) | HSG-D<br>(acres) | Other<br>(acres) | Total<br>(acres) | Ground<br>Cover          | Subcatchment<br>Numbers                                          |
|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------|------------------------------------------------------------------|
| 0.000            | 0.000            | 0.014            | 0.000            | 0.000            | 0.014            | 50-75% Grass cover, Fair | 10S                                                              |
| 0.000            | 0.000            | 0.005            | 0.000            | 0.000            | 0.005            | <50% Grass cover, Poor   | 21S                                                              |
| 0.000            | 0.000            | 0.023            | 0.000            | 0.000            | 0.023            | >75% Grass cover, Good   | 20S                                                              |
| 0.000            | 0.000            | 0.906            | 0.000            | 0.000            | 0.906            | Paved parking            | 10S,<br>20S,<br>21S,<br>30S,<br>40S,<br>50S,<br>60S,<br>70S, 80S |
| 0.000            | 0.000            | 0.043            | 0.000            | 0.000            | 0.043            | Roofs                    | 20S                                                              |
| <b>0.000</b>     | <b>0.000</b>     | <b>0.991</b>     | <b>0.000</b>     | <b>0.000</b>     | <b>0.991</b>     | <b>TOTAL AREA</b>        |                                                                  |



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*Type III 24-hr 2-YR Rainfall=3.15"*

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment10S: TO FIRST ST CATCH** Runoff Area=21,824 sf 97.30% Impervious Runoff Depth=2.81"  
Tc=6.0 min CN=97 Runoff=1.51 cfs 0.117 af

**Subcatchment20S: TO SECOND ST** Runoff Area=0.111 ac 79.28% Impervious Runoff Depth=2.40"  
Tc=6.0 min CN=93 Runoff=0.30 cfs 0.022 af

**Subcatchment21S: PATIO** Runoff Area=0.026 ac 80.77% Impervious Runoff Depth=2.70"  
Tc=6.0 min CN=96 Runoff=0.08 cfs 0.006 af

**Subcatchment30S: CENTER COURTYARD** Runoff Area=5,704 sf 100.00% Impervious Runoff Depth=2.92"  
Tc=100.0 min CN=98 Runoff=0.12 cfs 0.032 af

**Subcatchment40S: EAST ALLEY** Runoff Area=0.062 ac 100.00% Impervious Runoff Depth=2.92"  
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.015 af

**Subcatchment50S: MAIN BUILDING** Runoff Area=0.092 ac 100.00% Impervious Runoff Depth=2.92"  
Tc=6.0 min CN=98 Runoff=0.28 cfs 0.022 af

**Subcatchment60S: EAST ROOF TO** Runoff Area=0.018 ac 100.00% Impervious Runoff Depth=2.92"  
Tc=6.0 min CN=98 Runoff=0.06 cfs 0.004 af

**Subcatchment70S: EAST STAIRS** Runoff Area=0.008 ac 100.00% Impervious Runoff Depth=2.92"  
Tc=6.0 min CN=98 Runoff=0.02 cfs 0.002 af

**Subcatchment80S: FIRST STREET** Runoff Area=0.042 ac 100.00% Impervious Runoff Depth=2.92"  
Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af

**Reach OUT 1: FIRST STREET** Inflow=2.56 cfs 0.231 af  
Outflow=2.56 cfs 0.231 af

**Reach OUT 2: SECOND STREET** Outflow=0.00 cfs 0.000 af

**Pond 21P: Underdrained paver system** Peak Elev=62.56' Storage=25 cf Inflow=0.08 cfs 0.006 af  
Outflow=0.06 cfs 0.006 af

**Pond 30P: Underdrained paver system** Peak Elev=53.68' Storage=50 cf Inflow=0.12 cfs 0.032 af  
Outflow=0.12 cfs 0.032 af

**Pond 60P: FILTER AREAS** Peak Elev=47.05' Storage=0.001 af Inflow=0.24 cfs 0.019 af  
Outflow=0.24 cfs 0.019 af

**Pond 80P: NEW CATCH BASIN AT FIRST STREET** Peak Elev=43.38' Inflow=1.06 cfs 0.114 af  
Primary=1.06 cfs 0.114 af Secondary=0.00 cfs 0.000 af Outflow=1.06 cfs 0.114 af

**Total Runoff Area = 0.991 ac Runoff Volume = 0.231 af Average Runoff Depth = 2.80"**  
**4.19% Pervious = 0.042 ac 95.81% Impervious = 0.949 ac**



**2027900-POST-rev-3(Patio)**

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*Type III 24-hr 10-YR Rainfall=4.75"*

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment10S: TO FIRST ST CATCH** Runoff Area=21,824 sf 97.30% Impervious Runoff Depth=4.40"  
Tc=6.0 min CN=97 Runoff=2.31 cfs 0.184 af

**Subcatchment20S: TO SECOND ST** Runoff Area=0.111 ac 79.28% Impervious Runoff Depth=3.95"  
Tc=6.0 min CN=93 Runoff=0.49 cfs 0.037 af

**Subcatchment21S: PATIO** Runoff Area=0.026 ac 80.77% Impervious Runoff Depth=4.28"  
Tc=6.0 min CN=96 Runoff=0.12 cfs 0.009 af

**Subcatchment30S: CENTER COURTYARD** Runoff Area=5,704 sf 100.00% Impervious Runoff Depth=4.51"  
Tc=100.0 min CN=98 Runoff=0.18 cfs 0.049 af

**Subcatchment40S: EAST ALLEY** Runoff Area=0.062 ac 100.00% Impervious Runoff Depth=4.51"  
Tc=6.0 min CN=98 Runoff=0.29 cfs 0.023 af

**Subcatchment50S: MAIN BUILDING** Runoff Area=0.092 ac 100.00% Impervious Runoff Depth=4.51"  
Tc=6.0 min CN=98 Runoff=0.43 cfs 0.035 af

**Subcatchment60S: EAST ROOF TO** Runoff Area=0.018 ac 100.00% Impervious Runoff Depth=4.51"  
Tc=6.0 min CN=98 Runoff=0.08 cfs 0.007 af

**Subcatchment70S: EAST STAIRS** Runoff Area=0.008 ac 100.00% Impervious Runoff Depth=4.51"  
Tc=6.0 min CN=98 Runoff=0.04 cfs 0.003 af

**Subcatchment80S: FIRST STREET** Runoff Area=0.042 ac 100.00% Impervious Runoff Depth=4.51"  
Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af

**Reach OUT 1: FIRST STREET** Inflow=3.94 cfs 0.362 af  
Outflow=3.94 cfs 0.362 af

**Reach OUT 2: SECOND STREET** Outflow=0.00 cfs 0.000 af

**Pond 21P: Underdrained paver system** Peak Elev=62.60' Storage=38 cf Inflow=0.12 cfs 0.009 af  
Outflow=0.09 cfs 0.009 af

**Pond 30P: Underdrained paver system** Peak Elev=53.80' Storage=86 cf Inflow=0.18 cfs 0.049 af  
Outflow=0.17 cfs 0.049 af

**Pond 60P: FILTER AREAS** Peak Elev=47.11' Storage=0.001 af Inflow=0.37 cfs 0.030 af  
Outflow=0.37 cfs 0.030 af

**Pond 80P: NEW CATCH BASIN AT FIRST STREET** Peak Elev=43.74' Inflow=1.63 cfs 0.179 af  
Primary=1.63 cfs 0.179 af Secondary=0.00 cfs 0.000 af Outflow=1.63 cfs 0.179 af

**Total Runoff Area = 0.991 ac Runoff Volume = 0.362 af Average Runoff Depth = 4.39"**  
**4.19% Pervious = 0.042 ac 95.81% Impervious = 0.949 ac**



**2027900-POST-rev-3(Patio)**

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*Type III 24-hr 25-YR Rainfall=6.00"*

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment10S: TO FIRST ST CATCH** Runoff Area=21,824 sf 97.30% Impervious Runoff Depth=5.64"  
Tc=6.0 min CN=97 Runoff=2.93 cfs 0.236 af

**Subcatchment20S: TO SECOND ST** Runoff Area=0.111 ac 79.28% Impervious Runoff Depth=5.18"  
Tc=6.0 min CN=93 Runoff=0.63 cfs 0.048 af

**Subcatchment21S: PATIO** Runoff Area=0.026 ac 80.77% Impervious Runoff Depth=5.53"  
Tc=6.0 min CN=96 Runoff=0.15 cfs 0.012 af

**Subcatchment30S: CENTER COURTYARD** Runoff Area=5,704 sf 100.00% Impervious Runoff Depth=5.76"  
Tc=100.0 min CN=98 Runoff=0.23 cfs 0.063 af

**Subcatchment40S: EAST ALLEY** Runoff Area=0.062 ac 100.00% Impervious Runoff Depth=5.76"  
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.030 af

**Subcatchment50S: MAIN BUILDING** Runoff Area=0.092 ac 100.00% Impervious Runoff Depth=5.76"  
Tc=6.0 min CN=98 Runoff=0.54 cfs 0.044 af

**Subcatchment60S: EAST ROOF TO** Runoff Area=0.018 ac 100.00% Impervious Runoff Depth=5.76"  
Tc=6.0 min CN=98 Runoff=0.11 cfs 0.009 af

**Subcatchment70S: EAST STAIRS** Runoff Area=0.008 ac 100.00% Impervious Runoff Depth=5.76"  
Tc=6.0 min CN=98 Runoff=0.05 cfs 0.004 af

**Subcatchment80S: FIRST STREET** Runoff Area=0.042 ac 100.00% Impervious Runoff Depth=5.76"  
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.020 af

**Reach OUT 1: FIRST STREET** Inflow=5.01 cfs 0.465 af  
Outflow=5.01 cfs 0.465 af

**Reach OUT 2: SECOND STREET** Outflow=0.00 cfs 0.000 af

**Pond 21P: Underdrained paver system** Peak Elev=62.64' Storage=49 cf Inflow=0.15 cfs 0.012 af  
Outflow=0.11 cfs 0.012 af

**Pond 30P: Underdrained paver system** Peak Elev=54.25' Storage=215 cf Inflow=0.23 cfs 0.063 af  
Outflow=0.17 cfs 0.063 af

**Pond 60P: FILTER AREAS** Peak Elev=47.16' Storage=0.001 af Inflow=0.47 cfs 0.038 af  
Outflow=0.47 cfs 0.038 af

**Pond 80P: NEW CATCH BASIN AT FIRST STREET** Peak Elev=44.12' Inflow=2.08 cfs 0.229 af  
Primary=2.08 cfs 0.229 af Secondary=0.00 cfs 0.000 af Outflow=2.08 cfs 0.229 af

**Total Runoff Area = 0.991 ac Runoff Volume = 0.465 af Average Runoff Depth = 5.63"**  
**4.19% Pervious = 0.042 ac 95.81% Impervious = 0.949 ac**



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**Summary for Subcatchment 10S: TO FIRST ST CATCH BASIN**

Runoff = 2.93 cfs @ 12.08 hrs, Volume= 0.236 af, Depth= 5.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (sf) | CN | Description                     |
|-----------|----|---------------------------------|
| 589       | 79 | 50-75% Grass cover, Fair, HSG C |
| 21,235    | 98 | Paved parking, HSG C            |
| 21,824    | 97 | Weighted Average                |
| 589       |    | 2.70% Pervious Area             |
| 21,235    |    | 97.30% Impervious Area          |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 10.1</b> |

**Summary for Subcatchment 20S: TO SECOND ST DRAINAGE**

Runoff = 0.63 cfs @ 12.08 hrs, Volume= 0.048 af, Depth= 5.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 0.023     | 74 | >75% Grass cover, Good, HSG C |
| 0.045     | 98 | Paved parking, HSG C          |
| 0.043     | 98 | Roofs, HSG C                  |
| 0.111     | 93 | Weighted Average              |
| 0.023     |    | 20.72% Pervious Area          |
| 0.088     |    | 79.28% Impervious Area        |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 20.1</b> |

**Summary for Subcatchment 21S: PATIO (UNDERDRAINED PAVERS)**

Runoff = 0.15 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 5.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 0.021     | 98 | Paved parking, HSG C          |
| 0.005     | 86 | <50% Grass cover, Poor, HSG C |
| 0.026     | 96 | Weighted Average              |
| 0.005     |    | 19.23% Pervious Area          |
| 0.021     |    | 80.77% Impervious Area        |



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| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 20.1</b> |

**Summary for Subcatchment 30S: CENTER COURTYARD**

Runoff = 0.23 cfs @ 13.23 hrs, Volume= 0.063 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (sf) | CN | Description             |
|-----------|----|-------------------------|
| 5,704     | 98 | Paved parking, HSG C    |
| 5,704     |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 100.0       |                  |                  |                      |                   | <b>Direct Entry, 80.1</b> |

**Summary for Subcatchment 40S: EAST ALLEY**

Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.030 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description             |
|-----------|----|-------------------------|
| 0.062     | 98 | Paved parking, HSG C    |
| 0.062     |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 60.1</b> |

**Summary for Subcatchment 50S: MAIN BUILDING ROOF DRAINS**

Runoff = 0.54 cfs @ 12.08 hrs, Volume= 0.044 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description             |
|-----------|----|-------------------------|
| 0.092     | 98 | Paved parking, HSG C    |
| 0.092     |    | 100.00% Impervious Area |



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Type III 24-hr 25-YR Rainfall=6.00"

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| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 50.1</b> |

**Summary for Subcatchment 60S: EAST ROOF TO FILTERS**

Runoff = 0.11 cfs @ 12.08 hrs, Volume= 0.009 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description             |
|-----------|----|-------------------------|
| 0.018     | 98 | Paved parking, HSG C    |
| 0.018     |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 60.1</b> |

**Summary for Subcatchment 70S: EAST STAIRS**

Runoff = 0.05 cfs @ 12.08 hrs, Volume= 0.004 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description             |
|-----------|----|-------------------------|
| 0.008     | 98 | Paved parking, HSG C    |
| 0.008     |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 60.1</b> |

**Summary for Subcatchment 80S: FIRST STREET FACADE**

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25-YR Rainfall=6.00"

| Area (ac) | CN | Description             |
|-----------|----|-------------------------|
| 0.042     | 98 | Paved parking, HSG C    |
| 0.042     |    | 100.00% Impervious Area |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description               |
|-------------|------------------|------------------|----------------------|-------------------|---------------------------|
| 6.0         |                  |                  |                      |                   | <b>Direct Entry, 80.1</b> |



**Summary for Reach OUT 1: FIRST STREET**

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.991 ac, 95.81% Impervious, Inflow Depth = 5.63" for 25-YR event  
 Inflow = 5.01 cfs @ 12.08 hrs, Volume= 0.465 af  
 Outflow = 5.01 cfs @ 12.08 hrs, Volume= 0.465 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 6

**Summary for Reach OUT 2: SECOND STREET**

[40] Hint: Not Described (Outflow=Inflow)

**Summary for Pond 21P: Underdrained paver system**

Inflow Area = 0.026 ac, 80.77% Impervious, Inflow Depth = 5.53" for 25-YR event  
 Inflow = 0.15 cfs @ 12.08 hrs, Volume= 0.012 af  
 Outflow = 0.11 cfs @ 12.15 hrs, Volume= 0.012 af, Atten= 25%, Lag= 4.1 min  
 Primary = 0.11 cfs @ 12.15 hrs, Volume= 0.012 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 6

Peak Elev= 62.64' @ 12.15 hrs Surf.Area= 786 sf Storage= 49 cf

Flood Elev= 67.45' Surf.Area= 2,452 sf Storage= 1,443 cf

Plug-Flow detention time= 7.2 min calculated for 0.012 af (100% of inflow)

Center-of-Mass det. time= 7.2 min ( 765.4 - 758.2 )

| Volume | Invert | Avail.Storage | Storage Description                                                                          |
|--------|--------|---------------|----------------------------------------------------------------------------------------------|
| #1     | 62.48' | 1,026 cf      | <b>20.00'W x 39.00'L x 3.07'H Prismatoid - STONE Z=0.3</b><br>2,565 cf Overall x 40.0% Voids |
| #2     | 65.55' | 240 cf        | <b>20.00'W x 39.00'L x 2.05'H Prismatoid CHOKER</b><br>1,599 cf Overall x 15.0% Voids        |
| #3     | 67.20' | 195 cf        | <b>Ponding over filter surface (Conic)</b> Listed below (Recalc)                             |
|        |        | 1,461 cf      | Total Available Storage                                                                      |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) | Wet.Area<br>(sq-ft) |
|---------------------|----------------------|---------------------------|---------------------------|---------------------|
| 67.20               | 780                  | 0                         | 0                         | 780                 |
| 67.45               | 780                  | 195                       | 195                       | 805                 |

| Device | Routing  | Invert | Outlet Devices                                                                                                                                                                                                                    |
|--------|----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary  | 60.50' | <b>10.0" Round Culvert - through alley to First</b><br>L= 213.6' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 60.50' / 42.80' S= 0.0829 ' / ' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf |
| #2     | Device 1 | 60.93' | <b>10.0" Round Culvert-collector</b><br>L= 9.1' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 60.93' / 60.75' S= 0.0198 ' / ' Cc= 0.900                                                                       |



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n= 0.010 PVC, smooth interior, Flow Area= 0.55 sf  
 #3 Device 2 62.48' **10.000 in/hr Exfiltration over Surface area** Phase-In= 0.25'  
 #4 Device 1 67.20' **24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600  
 Limited to weir flow at low heads

**Primary OutFlow** Max=0.11 cfs @ 12.15 hrs HW=62.64' TW=43.73' (Dynamic Tailwater)

1=Culvert - through alley to First (Passes 0.11 cfs of 2.72 cfs potential flow)

2=Culvert-collector (Passes 0.11 cfs of 2.35 cfs potential flow)

3=Exfiltration (Exfiltration Controls 0.11 cfs)

4=Orifice/Grate ( Controls 0.00 cfs)

### Summary for Pond 30P: Underdrained paver system

Inflow Area = 0.131 ac, 100.00% Impervious, Inflow Depth = 5.76" for 25-YR event  
 Inflow = 0.23 cfs @ 13.23 hrs, Volume= 0.063 af  
 Outflow = 0.17 cfs @ 13.85 hrs, Volume= 0.063 af, Atten= 25%, Lag= 37.6 min  
 Primary = 0.17 cfs @ 13.85 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 6

Peak Elev= 54.25' @ 13.85 hrs Surf.Area= 736 sf Storage= 215 cf

Flood Elev= 59.25' Surf.Area= 2,373 sf Storage= 749 cf

Plug-Flow detention time= 10.6 min calculated for 0.063 af (100% of inflow)

Center-of-Mass det. time= 10.6 min ( 842.9 - 832.3 )

| Volume | Invert | Avail.Storage | Storage Description                                                                         |
|--------|--------|---------------|---------------------------------------------------------------------------------------------|
| #1     | 53.50' | 442 cf        | <b>10.00'W x 70.00'L x 1.50'H Prismatic - STONE Z=0.3</b><br>1,104 cf Overall x 40.0% Voids |
| #2     | 55.00' | 105 cf        | <b>10.00'W x 70.00'L x 1.00'H Prismatic CHOKER</b><br>700 cf Overall x 15.0% Voids          |
| #3     | 57.00' | 203 cf        | <b>Ponding over filter surface (Conic)</b> Listed below (Recalc)                            |
|        |        | 749 cf        | Total Available Storage                                                                     |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) | Wet.Area<br>(sq-ft) |
|---------------------|----------------------|---------------------------|---------------------------|---------------------|
| 57.00               | 725                  | 0                         | 0                         | 725                 |
| 57.25               | 900                  | 203                       | 203                       | 902                 |

| Device | Routing  | Invert | Outlet Devices                                                                                                                                                                                                                           |
|--------|----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary  | 53.00' | <b>12.0" Round Culvert - through alley to First</b><br>L= 76.0' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 53.00' / 43.80' S= 0.1211 '/' Cc= 0.900<br>n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf |
| #2     | Device 1 | 53.15' | <b>4.0" Round Culvert-collector</b><br>L= 30.0' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 53.15' / 53.00' S= 0.0050 '/' Cc= 0.900<br>n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf                           |
| #3     | Device 2 | 53.50' | <b>10.000 in/hr Exfiltration over Surface area</b> Phase-In= 0.25'                                                                                                                                                                       |
| #4     | Device 1 | 57.00' | <b>24.0" x 24.0" Horiz. Orifice/Grate</b> C= 0.600<br>Limited to weir flow at low heads                                                                                                                                                  |



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**Primary OutFlow** Max=0.17 cfs @ 13.85 hrs HW=54.25' TW=43.02' (Dynamic Tailwater)↑ **1=Culvert - through alley to First** (Passes 0.17 cfs of 2.58 cfs potential flow)↑ **2=Culvert-collector** (Passes 0.17 cfs of 0.32 cfs potential flow)↑ **3=Exfiltration** (Exfiltration Controls 0.17 cfs)↑ **4=Orifice/Grate** ( Controls 0.00 cfs)**Summary for Pond 60P: FILTER AREAS**

Inflow Area = 0.080 ac, 100.00% Impervious, Inflow Depth = 5.76" for 25-YR event  
 Inflow = 0.47 cfs @ 12.08 hrs, Volume= 0.038 af  
 Outflow = 0.47 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.1 min  
 Primary = 0.47 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 6

Peak Elev= 47.16' @ 12.09 hrs Surf.Area= 0.002 ac Storage= 0.001 af

Plug-Flow detention time= 24.6 min calculated for 0.038 af (100% of inflow)

Center-of-Mass det. time= 24.6 min ( 769.7 - 745.1 )

| Volume | Invert | Avail.Storage | Storage Description                                                                      |
|--------|--------|---------------|------------------------------------------------------------------------------------------|
| #1     | 46.00' | 0.000 af      | <b>1.50'W x 14.00'L x 0.25'H Prismatic-TOP STONE</b><br>0.000 af Overall x 20.0% Voids   |
| #2     | 44.00' | 0.000 af      | <b>1.50'W x 14.00'L x 2.00'H Prismatic-FILTER SAND</b><br>0.001 af Overall x 20.0% Voids |
| #3     | 42.80' | 0.001 af      | <b>1.50'W x 14.00'L x 1.20'H Prismatic-PIPE STONE</b>                                    |
| #4     | 46.80' | 0.000 af      | <b>1.50'W x 14.00'L x 0.75'H Prismatic</b>                                               |
|        |        | 0.001 af      | Total Available Storage                                                                  |

| Device | Routing  | Invert | Outlet Devices                                                    |
|--------|----------|--------|-------------------------------------------------------------------|
| #1     | Device 2 | 42.80' | <b>6.000 in/hr Exfiltration over Surface area</b> Phase-In= 0.10' |
| #2     | Primary  | 42.80' | <b>12.0" Vert. Orifice/Grate</b> C= 0.600                         |
| #3     | Device 2 | 46.80' | <b>10.0" Vert. Orifice/Grate</b> C= 0.600                         |

**Primary OutFlow** Max=0.47 cfs @ 12.09 hrs HW=47.16' TW=44.12' (Dynamic Tailwater)↑ **2=Orifice/Grate** (Passes 0.47 cfs of 6.59 cfs potential flow)↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)↑ **3=Orifice/Grate** (Orifice Controls 0.46 cfs @ 2.04 fps)**Summary for Pond 80P: NEW CATCH BASIN AT FIRST STREET**

Inflow Area = 0.490 ac, 94.29% Impervious, Inflow Depth = 5.62" for 25-YR event  
 Inflow = 2.08 cfs @ 12.09 hrs, Volume= 0.229 af  
 Outflow = 2.08 cfs @ 12.09 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.08 cfs @ 12.09 hrs, Volume= 0.229 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 6

Peak Elev= 44.12' @ 12.09 hrs

Flood Elev= 46.80'



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Type III 24-hr 25-YR Rainfall=6.00"

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| Device | Routing   | Invert | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 42.70' | <b>10.0" Round Culvert</b><br>L= 180.0' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 42.70' / 39.40' S= 0.0183 '/' Cc= 0.900<br>n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf                                                                  |
| #2     | Secondary | 46.80' | <b>10.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65<br>2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

**Primary OutFlow** Max=2.08 cfs @ 12.09 hrs HW=44.12' TW=0.00' (Dynamic Tailwater)↑**1=Culvert** (Inlet Controls 2.08 cfs @ 3.81 fps)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=42.70' TW=0.00' (Dynamic Tailwater)↑**2=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)



**2027900-POST-rev-3(Patio)**

Prepared by Civil Consultants

HydroCAD® 10.00-19 s/n 00552 © 2016 HydroCAD Software Solutions LLC

Type III 24-hr 100-YR Rainfall=8.57"

Printed 6/5/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment10S: TO FIRST ST CATCH** Runoff Area=21,824 sf 97.30% Impervious Runoff Depth=8.21"  
Tc=6.0 min CN=97 Runoff=4.21 cfs 0.343 af

**Subcatchment20S: TO SECOND ST** Runoff Area=0.111 ac 79.28% Impervious Runoff Depth=7.73"  
Tc=6.0 min CN=93 Runoff=0.91 cfs 0.071 af

**Subcatchment21S: PATIO** Runoff Area=0.026 ac 80.77% Impervious Runoff Depth=8.09"  
Tc=6.0 min CN=96 Runoff=0.22 cfs 0.018 af

**Subcatchment30S: CENTER COURTYARD** Runoff Area=5,704 sf 100.00% Impervious Runoff Depth=8.33"  
Tc=100.0 min CN=98 Runoff=0.32 cfs 0.091 af

**Subcatchment40S: EAST ALLEY** Runoff Area=0.062 ac 100.00% Impervious Runoff Depth=8.33"  
Tc=6.0 min CN=98 Runoff=0.52 cfs 0.043 af

**Subcatchment50S: MAIN BUILDING** Runoff Area=0.092 ac 100.00% Impervious Runoff Depth=8.33"  
Tc=6.0 min CN=98 Runoff=0.77 cfs 0.064 af

**Subcatchment60S: EAST ROOF TO** Runoff Area=0.018 ac 100.00% Impervious Runoff Depth=8.33"  
Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af

**Subcatchment70S: EAST STAIRS** Runoff Area=0.008 ac 100.00% Impervious Runoff Depth=8.33"  
Tc=6.0 min CN=98 Runoff=0.07 cfs 0.006 af

**Subcatchment80S: FIRST STREET** Runoff Area=0.042 ac 100.00% Impervious Runoff Depth=8.33"  
Tc=6.0 min CN=98 Runoff=0.35 cfs 0.029 af

**Reach OUT 1: FIRST STREET** Inflow=7.20 cfs 0.677 af  
Outflow=7.20 cfs 0.677 af

**Reach OUT 2: SECOND STREET** Outflow=0.00 cfs 0.000 af

**Pond 21P: Underdrained paver system** Peak Elev=62.70' Storage=70 cf Inflow=0.22 cfs 0.018 af  
Outflow=0.16 cfs 0.018 af

**Pond 30P: Underdrained paver system** Peak Elev=55.01' Storage=442 cf Inflow=0.32 cfs 0.091 af  
Outflow=0.35 cfs 0.091 af

**Pond 60P: FILTER AREAS** Peak Elev=47.24' Storage=0.001 af Inflow=0.67 cfs 0.056 af  
Outflow=0.67 cfs 0.056 af

**Pond 80P: NEW CATCH BASIN AT FIRST STREET** Peak Elev=45.21' Inflow=3.00 cfs 0.334 af  
Primary=3.00 cfs 0.334 af Secondary=0.00 cfs 0.000 af Outflow=3.00 cfs 0.334 af

**Total Runoff Area = 0.991 ac Runoff Volume = 0.677 af Average Runoff Depth = 8.20"**  
**4.19% Pervious = 0.042 ac 95.81% Impervious = 0.949 ac**



## **Stormwater Maintenance & Inspection Plan**

**Prepared by: Neil J. Rapoza, PE, CIVIL CONSULTANTS**

During the construction of the One First Street development, maintenance of all erosion, sedimentation, and stormwater flow control structures and devices will be the responsibility of the contractor on site. Upon stabilization of the completed Development (or current phase), the developer will assume all responsibilities. The developer will be responsible for the required maintenance of the stormwater treatment system.

The developer will be responsible for the maintenance of all erosion, sedimentation, and stormwater flow control structures and devices within the limits of the development and will retain that responsibility until such time as another individual and/or agency (acceptable to the City) accepts the responsibility.

During and after construction all erosion control devices and structures shall be checked monthly and after each “significant rainfall”\*\*. Necessary repairs will be made to correct undermining or deterioration of the devices and/or structures. Sediment in the stormwater structures, pretreatment structures and forebays will be removed annually or as needed to maintain functionality of the structure.

The developer shall maintain inspection logs as shown below (or similar) of all stormwater and erosion control measures. The log shall reflect the dates of the inspections and describe actions taken (if any) and be kept on file for a minimum of 5 years. This logbook will be made available to the City upon request.

Where a major storm event is noted in the plan, this is classified as a rainfall exceeding 3.0 inches (2yr) storm event.

\*\* significant rainfall is ½” in 24 hr





## **Catch Basins & Culverts**

All catch basins, and any other field inlets throughout the collection system, need to be inspected on a monthly basis to assure that the inlet entry point is clear of debris and will allow the intended water entry. These will be cleared, if necessary on a yearly basis or when sediment reaches two thirds of total volume. Catch basins need to be vacuumed and cleaned of all accumulated sediment. This work must be done by a vacuum truck. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

| <b>Catch Basins Systems</b>                                                                                                                                        |        |                      |                           |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------|---------------------------|------------------------|
|                                                                                                                                                                    | Spring | Fall<br>or<br>Yearly | After a<br>Major<br>Storm | Every<br>2– 5<br>Years |
| Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins. | X      | X                    |                           |                        |
| Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such                                                               | X      | X                    |                           |                        |

| <b>Culverts</b>                                                                             |        |                      |                           |                        |
|---------------------------------------------------------------------------------------------|--------|----------------------|---------------------------|------------------------|
|                                                                                             | Spring | Fall<br>or<br>Yearly | After a<br>Major<br>Storm | Every<br>2– 5<br>Years |
| Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit | X      | X                    | X                         |                        |
| Repair any erosion damage at the culvert's inlet and outlet                                 | X      | X                    | X                         |                        |

## **Vegetated Areas**

All areas of maintained lawn are to be inspected regularly for signs of erosions and channelization. Areas where erosion is occurring or areas of sparse growth shall be replanted and stabilized. Channelized flows from the eroded land shall be diverted to buffers or other areas able to withstand the high sediment load in the erosive runoff.

|                                                                                                                                                                                                                                                                                                    | Spring | Fall<br>or<br>Yearly | After a<br>Major<br>Storm | Every<br>2– 5<br>Years |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------|---------------------------|------------------------|
| <b>Vegetated Areas</b>                                                                                                                                                                                                                                                                             |        |                      |                           |                        |
| Inspect all slopes and embankments                                                                                                                                                                                                                                                                 | X      |                      | X                         |                        |
| Replant bare areas or areas with sparse growth                                                                                                                                                                                                                                                     | X      |                      | X                         |                        |
| A armor areas with fill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows. Any materials used to armor/stabilize the affected areas shall be submitted to the Town and Engineer for review and approval prior to installation. | X      |                      | X                         |                        |





## **Filtration Facilities**

*Applicable structures: East stair drip edge filter*

**Soil Filter Inspection:** The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining between 24 and 48 hours.

**Soil Filter Replacement:** The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. The removed sediments should be disposed in an acceptable manner.

**Sediment Removal:** Sediment and plant debris should be removed from the pre-treatment structure at least annually.

**Fertilization:** Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation in the individual planter containments (per landscape architect).

**Harvesting and Weeding:** Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.

| <b>Filtration Facilities</b>                                                                                                                                                                                                                   |        |                      |                           |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------|---------------------------|------------------------|
|                                                                                                                                                                                                                                                | Spring | Fall<br>or<br>Yearly | After a<br>Major<br>Storm | Every<br>2– 5<br>Years |
| The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining between 24 and 48 hours | X      | X                    | X                         |                        |
| Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation                                                                                                                            |        |                      |                           |                        |
| Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary                                                                                             |        | X                    |                           |                        |





### **Filtration Facilities (Underdrained Pavers)**

*Applicable structures: Center courtyard and First Street patio*

**Monitoring and Inspections:** The filter area should be inspected several times in the first year of operation and at least annually thereafter. Conduct inspections after large storms to check for surface ponding at the inlet that may indicate clogging. Water levels in the observation wells (if applicable) should be recorded over several days after the storm to ensure that the system drains as designed. Records should be kept of all maintenance operations to help plan future work and identify problem areas.

**Clearing Outlet Structures:** The outlet structures should be checked periodically to ensure that they are not blocked by debris. Inspections should be conducted monthly during wet weather conditions from March to November.

**Snow Storage:** Snow removed from any on-site or off-site areas may not be stored over an infiltration area.

**Surface condition maintenance:** Areas of underdrained pavers shall not be sealed or repaved with impermeable materials. Permeable pavers shall be inspected annually for deterioration or spalling. Power washing may be necessary to dislodge trapped particles.

| <b>Filtration Facilities – Underdrained Pavers</b>                                                                                                     |        |                      |                           |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------|---------------------------|------------------------|
|                                                                                                                                                        | Spring | Fall<br>or<br>Yearly | After a<br>Major<br>Storm | Every<br>2– 5<br>Years |
| The BMP surface should be inspected several times in the first several months and at least annually thereafter                                         |        | X                    |                           |                        |
| Monitor sediment accumulation on the BMP surface, remove sediment as needed (see below)                                                                |        | X                    | X                         |                        |
| Inspect and clear outlet structures. Inspections to be conducted monthly from March to November.                                                       | X      | X                    | X                         |                        |
| Any pervious asphalt shall be inspected annually for pavement deterioration or spalling. Power washing may be necessary to dislodge trapped particles. | X      |                      |                           |                        |

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**CIVIL  
CONSULTANTS**

P.O. Box 100 South Berwick, Maine 03908 207-384-2550



## Stormwater Maintenance *One First Street Development* Maintenance Log

This log is intended to accompany the Stormwater Management Facilities Maintenance Plan for the One First Street Development. The following items shall be checked, cleaned and maintained on regular basis as specified in the Maintenance Plan and as described in the table below. This log shall be kept on file for a minimum of five years and shall be available for review by the City. Qualified personnel familiar with drainage systems and soils shall perform all inspections.

| Item                             | Maintenance Required & Frequency                                                                                                                                   |        |                |                     |                  | Date Completed | Maintenance Personnel | Comments |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------|---------------------|------------------|----------------|-----------------------|----------|
| <b>Catch Basins and Culverts</b> |                                                                                                                                                                    | Spring | Fall or Yearly | After a Major Storm | Every 2– 5 Years |                |                       |          |
|                                  | Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins. | X      | X              |                     |                  |                |                       |          |
|                                  | Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such                                                               | X      | X              |                     |                  |                |                       |          |
|                                  | Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit                                                                        | X      | X              | X                   |                  |                |                       |          |
|                                  | Repair any erosion damage at the culvert's inlet and outlet                                                                                                        | X      | X              | X                   |                  |                |                       |          |





| Item           | Maintenance Required & Frequency                                                                                                                                                                                                               |        |                |                     |                  | Date Completed | Maintenance Personnel | Comments |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------|---------------------|------------------|----------------|-----------------------|----------|
| <b>Filters</b> | <b>Filtration Facilities</b>                                                                                                                                                                                                                   |        |                |                     |                  |                |                       |          |
|                |                                                                                                                                                                                                                                                | Spring | Fall or Yearly | After a Major Storm | Every 2– 5 Years |                |                       |          |
|                | The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining between 24 and 48 hours | X      | X              | X                   |                  |                |                       |          |
|                | Sediment and plant debris should be removed from the pre-treatment structure at least annually                                                                                                                                                 | X      |                |                     |                  |                |                       |          |
|                | Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation                                                                                                                            |        |                |                     |                  |                |                       |          |
|                | Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary                                                                                             |        | X              |                     |                  |                |                       |          |





| Item                       | Maintenance Required & Frequency                                                                                                                       |        |                |                     |                  | Date Completed | Maintenance Personnel | Comments |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------|---------------------|------------------|----------------|-----------------------|----------|
| <b>Underdrained pavers</b> | <b>Filtration Facilities – Underdrained Pavers</b>                                                                                                     |        |                |                     |                  |                |                       |          |
|                            |                                                                                                                                                        | Spring | Fall or Yearly | After a Major Storm | Every 2– 5 Years |                |                       |          |
|                            | The BMP surface should be inspected several times in the first several months and at least annually thereafter                                         |        | X              |                     |                  |                |                       |          |
|                            | Monitor sediment accumulation on the BMP surface, remove sediment as needed (see below)                                                                |        | X              | X                   |                  |                |                       |          |
|                            | Inspect and clear outlet structures. Inspections to be conducted monthly from March to November.                                                       | X      | X              | X                   |                  |                |                       |          |
|                            | Any pervious asphalt shall be inspected annually for pavement deterioration or spalling. Power washing may be necessary to dislodge trapped particles. | X      |                |                     |                  |                |                       |          |

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**Stormwater Management System**  
*One First Street Development*

**Inspection & Maintenance Checklist**

| <b>BMP/System Component</b> | <b>Date Inspected</b> | <b>Inspector</b> | <b>Cleaning/Repair Needed<br/>(List Items/Comments)</b> | <b>Date of Cleaning/Repair</b> | <b>Performed By</b> |
|-----------------------------|-----------------------|------------------|---------------------------------------------------------|--------------------------------|---------------------|
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |
|                             |                       |                  |                                                         |                                |                     |

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P.O. Box 100 South Berwick, Maine 03908 207-384-2550



SCALE: 1"=1500' +/-

## DRAINAGE LEGEND

POND  POND NUMBER

*SUBCATCHMENT*



11 ← SUBCATCHMENT NUMBER  
0.56 ← SUBCATCHMENT ACREAGE

REACH 50 ← REACH NUMBER

T<sub>C</sub> COMPONENTS

 ROUTING DIRECTION

### SOILS LEGEND

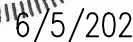
|                                                                                     |                                       |          |
|-------------------------------------------------------------------------------------|---------------------------------------|----------|
|  | A Soils:<br>SCS Soils:<br>HISS Soils: |          |
|  | B Soils:<br>SCS Soils:<br>HISS Soils: |          |
|  | C Soils:<br>SCS Soils:<br>HISS Soils: | SUFFIELD |
|  | D Soils:<br>SCS Soils:<br>HISS Soils: |          |

 Subcatchment Boundaries  
Pre-Development  
 Subcatchment Boundaries  
Post-Development  
 SCS Soil Line

 Tc Flow Path & Direction Pre-Development  
 Tc Flow Path & Direction Post-Development



TAX MAP 6, LOT 20



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 **CIVIL CONSULTANTS**

*Engineers  
Planners  
Surveyors*

*P.O. Box 100  
South Berwick  
Maine  
03908*

*207-384-2550  
[www.civcon.com](http://www.civcon.com)*

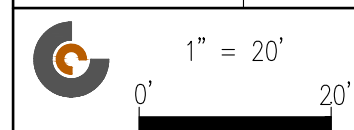
|   |                                       |     |         |
|---|---------------------------------------|-----|---------|
| 3 | POST REVISED TO INCLUDE PVIOUS PATIO  | NJR | 6/5/23  |
| 2 | REVISED PER TRC/STAFF REVIEW COMMENTS | NJR | 5/27/21 |
| 1 | ISSUED FOR DOVER TRC SUBMISSION       | NJR | 4/13/21 |

RECORD OWNER:  
ONE FIRST STREET, LLC

ADDRESS: 3 PENSTOCK WAY  
NEWMARKET, NH 03857

PROPOSED SITE MODIFICATIONS  
LAND OF ONE FIRST STREET, LLC  
10 SECOND STREET - TAX MAP 6, LOT 20  
DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE

PREPARED FOR:  
ONE FIRST STREET, LLC.



DATE: 4/13/2021  
DRAWN BY: NJR  
CHECKED BY:  
APPROVED BY:

# PRE-DEVELOPMENT STORMWATER MANAGEMENT PLAN

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-3

# D1

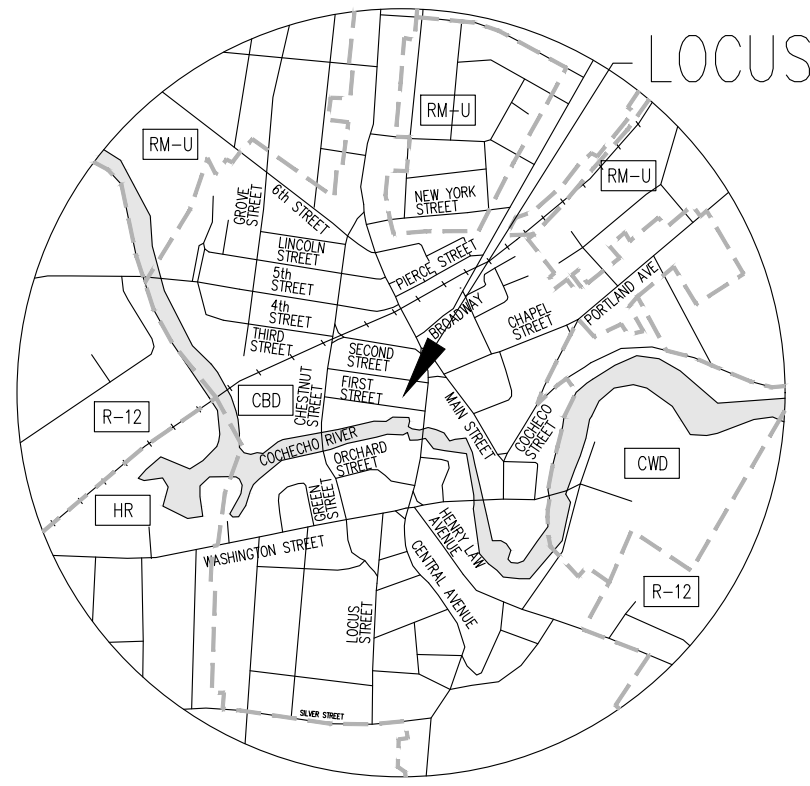
SHEET: 1 OF 2

**SCALE IS  $\frac{1}{2}$  NOTED WHEN PLOTTED AT 11X17**

COORDINATE FILE: J:\AAA\2016\1611600\CARLSON\SURVEY\POINTS\1611600.CRD

CADD FILE: J:\AAA\2020\2027900\CARLSON\2027900-ST.DWG





LOCATION PLAN  
SCALE: 1"=1500' +/-

### DRAINAGE LEGEND

POND 4 POND NUMBER

SUBCATCHMENT 11 SUBCATCHMENT NUMBER  
0.56 SUBCATCHMENT ACREAGE

REACH 50 REACH NUMBER

Tc COMPONENTS  
S = Steel  
C = Channel

ROUTING DIRECTION  
SOILS LEGEND

HATCHING NOT SHOWN FOR CLARITY, SEE SHEET D1

- A Soils: SCS Soils: HISS Soils:
- B Soils: SCS Soils: HISS Soils:
- C Soils: SCS Soils: SUFFIELD HISS Soils:
- D Soils: SCS Soils: HISS Soils:

- Subcatchment Boundaries Pre-Development
- Subcatchment Boundaries Post-Development
- SCS Soil Line

- Tc Flow Path & Direction Pre-Development
- Tc Flow Path & Direction Post-Development

2-1/2 STORY WOOD FRAME BUILDING #9

2-1/2 STORY WOOD FRAME BUILDING #7

2 STORY WOOD FRAME BUILDING #13/15

4" FOUNDATION DRAIN TO DRAIN #9

10" PITCH DRAIN TO DRAIN #9

10" PITCH DRAIN TO DRAIN #9

10" PITCH DRAIN TO DRAIN #9

10" PITCH DRAIN TO DRAIN #9

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10" PITCH DRAIN TO DRAIN #9

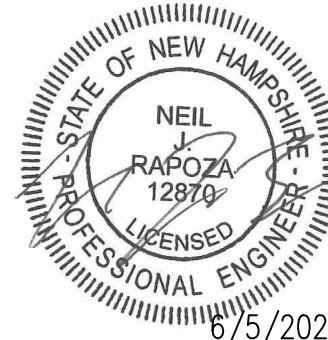
OUT 1

OUT 2

CENTRAL AVENUE

SECOND STREET (PAVED)

FIRST STREET (PAVED)



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Engineers  
Planners  
Surveyors  
P.O. Box 100  
South Berwick  
Maine  
03908  
207-384-2550  
www.civcon.com

| NO. | REVISIONS                                  | INT. | DATE    |
|-----|--------------------------------------------|------|---------|
| 3   | POST REVISION TO INCLUDE PERVIOUS PATO NUR |      | 6/5/23  |
| 2   | REVISED PER TRC/STAFF REVIEW COMMENTS NUR  |      | 5/27/21 |
| 1   | ISSUED FOR COVER TRC SUBMISSION            |      | 4/13/21 |

RECORD OWNER:  
ONE FIRST STREET, LLC  
ADDRESS:  
3 PENSTOCK WAY  
NEW MARKET, NH 03857

**PROPOSED SITE MODIFICATIONS**  
**LAND OF ONE FIRST STREET, LLC**  
**10 SECOND STREET - TAX MAP 6, LOT 20**  
**DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE**  
PREPARED FOR:  
ONE FIRST STREET, LLC.  
CLIENT ADDRESS:  
3 PENSTOCK WAY, NEW MARKET, NH 03857

1" = 20'  
0' 20'

DATE: 4/13/2021  
DRAWN BY: NUR  
CHECKED BY:  
APPROVED BY:

**POST-DEVELOPMENT**  
**STORMWATER**  
**MANAGEMENT PLAN**

PROJECT NO: 20-279.00  
DOVER PLANNING FILE: P21-30

**D2**

SHEET: 2 OF 2

SCALE IS 1/2 NOTED WHEN PLOTTED AT 11X17

COORDINATE FILE: J:\AAA\2016\1611600\CARLSON\SURVEY\POINTS\1611600.CRD

CADD FILE: J:\AAA\2020\2027900\CARLSON\2027900-ST.DWG

TAX MAP 6, LOT 20