



# LETTER OF TRANSMITTAL

**TO: City of Portsmouth**  
**1 Junkins Avenue**  
**Portsmouth, NH**  
**03801**

**FROM:**  
**AMBIT ENGINEERING, INC.**  
Civil Engineers and Land Surveyors  
200 Griffin Road, Unit 3  
Portsmouth, NH 03801  
Phone (603) 430-9282 Fax 436-2315

DATE: <b>12/19/2017</b>	JOB NO. <b>1808</b>
ATTENTION: <b>Planning Department</b>	
RE: <b>Amended Site Plan Approval</b>	
<b>46 - 64 Maplewood Avenue</b>	

**WE ARE SENDING YOU**

<input type="checkbox"/> SHOP DRAWING	<input type="checkbox"/> ATTACHED	<input type="checkbox"/> UNDER SEPARATE COVER VIA
<input checked="" type="checkbox"/> PLANS	<input type="checkbox"/> COPY OF LETTER	<input type="checkbox"/> PRINTS
<input type="checkbox"/> SAMPLES	<input type="checkbox"/> CHANGE ORDER	<input type="checkbox"/> SPECIFICATIONS
	<input type="checkbox"/> OTHER	

COPIES	DATE	REVISION	DESCRIPTION
<b>4</b>	<b>12/19/17</b>		<b>Full Size Site Plans</b>
<b>6</b>	<b>12/19/17</b>		<b>11X17 of Same</b>
<b>10</b>	<b>12/19/17</b>		<b>Drainage Analysis (3 Complete; 7 Summaries)</b>
<b>10</b>	<b>12/19/17</b>		<b>Inspection and Maintenance Plan</b>
<b>10</b>	<b>12/19/17</b>		<b>Supplemental Information</b>
<b>1</b>			<b>PDF of Site Plans and supporting material on a disc</b>

### THESE ARE TRANSMITTED AS CHECKED BELOW

FOR YOUR APPROVAL       FOR YOUR USE       AS REQUESTED  
 FOR BIDS DUE  
 FOR REVIEW AND COMMENT       RETURNED AFTER LOAN TO US

### REMARKS

**COPY TO    \*\*e-mail\*\* Steve Kelm / Paul McEachern / Alan Yeaton / Jennifer Ramsey**

**If enclosures are not as noted, kindly notify us at once.**

# PROPOSED SITE DEVELOPMENT

## 46-64 MAPLEWOOD AVENUE

PORTSMOUTH, NEW HAMPSHIRE

### PERMIT SITE PLANS

**OWNER:**  
**30 MAPLEWOOD, LLC**  
 30 MAPLEWOOD AVENUE  
 PORTSMOUTH, N.H. 03801  
 Tel (603) 766-3760  
 Fax (603) 766-3761

**LAND SURVEYOR & ENGINEER:**  
**AMBIT ENGINEERING, INC.**  
 200 GRIFFIN ROAD, UNIT 3  
 PORTSMOUTH, N.H. 03801-7114  
 Tel (603) 430-9282  
 Fax (603) 436-2315

**BUILDING DESIGN:**  
**SOMMA STUDIOS**  
 30 MAPLEWOOD AVENUE  
 PORTSMOUTH, N.H. 03801  
 Tel (617) 766-3760  
 Fax (617) 766-3761

**LIGHTING CONSULTING:**  
**VISIBLE LIGHT INC.**  
 24 STICKNEY TERRACE, SUITE 6  
 HAMPTON, N.H. 03842  
 Tel (603) 926-6049  
 Fax (603) 926-6708

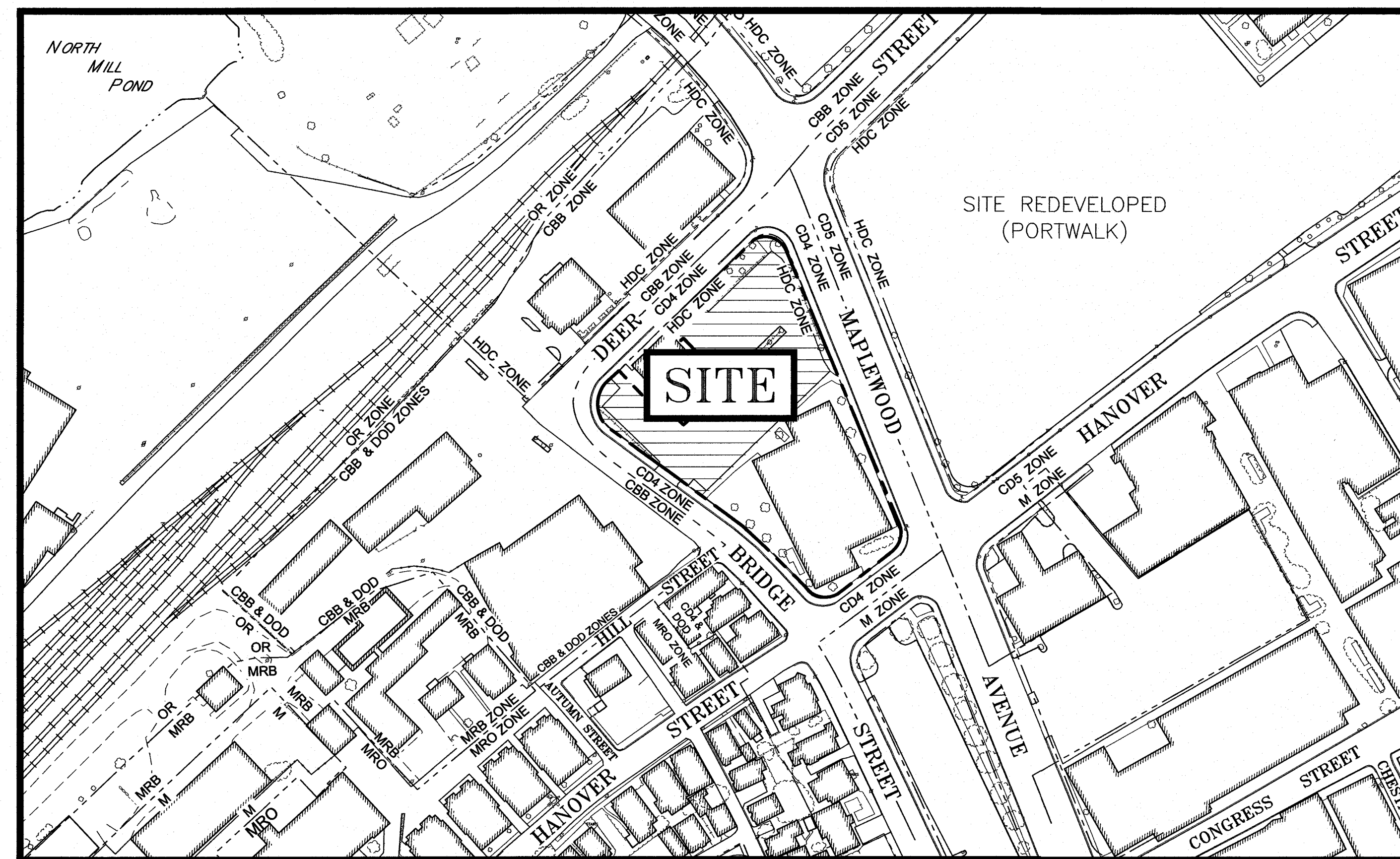
**LANDSCAPE ARCHITECT:**  
**WOODBURN & COMPANY LANDSCAPE ARCHITECTURE, LLC**  
 103 KENT PLACE  
 NEWMARKET, N.H. 03857  
 Tel (603) 659-5949  
 Fax (603) 659-5939



**PORTSMOUTH APPROVAL CONDITIONS NOTE:**  
 ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



**LOCUS MAP**

SCALE: 1" = 100'

#### INDEX OF SHEETS

- EASEMENT PLAN
- C1 - EXISTING CONDITIONS PLAN
- C2 - DEMOLITION PLAN
- LANDSCAPE PLANS L-1 TO L-3
- C3 - SITE PLAN, 1st FLOOR LEVEL
- C4 - SITE PLAN, BASEMENT LEVEL
- C5 - UTILITY PLAN
- C6 - GRADING AND DRAINAGE PLAN
- L1 - LIGHTING PLAN
- D1-D5 - DETAILS
- ARCHITECTURAL ELEVATIONS

#### UTILITY CONTACTS

**ELECTRIC:**  
 EVERSOURCE  
 1700 LAFAYETTE ROAD  
 PORTSMOUTH, N.H. 03801  
 Tel. (603) 436-7708, Ext. 555.5678  
 ATTN: MICHAEL BUSBY, P.E. (MANAGER)  
 MICHAEL.BUSBY@NU.COM

**NATURAL GAS:**  
 UNITIL  
 325 WEST ROAD  
 PORTSMOUTH, N.H. 03801  
 Tel. (603) 294-5192  
 ATTN: MARK DUPUIS

**CABLE:**  
 MEDIA ONE  
 155 COMMERCE WAY  
 PORTSMOUTH, N.H. 03801  
 Tel. (603) 433-2166  
 ATTN: GEORGE KIRKWOOD

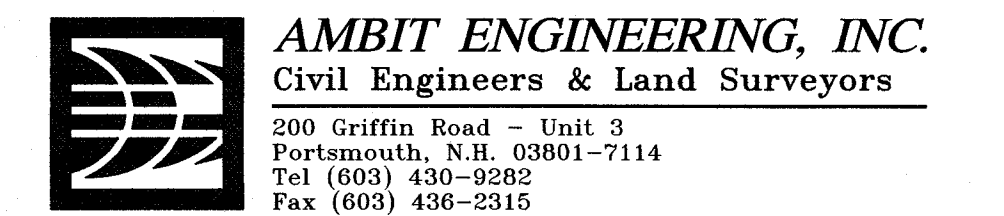
**SEWER & WATER:**  
 PORTSMOUTH DEPARTMENT OF PUBLIC WORKS  
 680 PEVERLY HILL ROAD  
 PORTSMOUTH, N.H. 03801  
 Tel. (603) 427-1550  
 ATTN: JOHN ADAMS (SEWER)  
 ATTN: TERRY DESMARIS (WATER)

**COMMUNICATIONS:**  
 FAIRPOINT COMMUNICATIONS  
 JOE CONSIDINE  
 1575 GREENLAND ROAD  
 GREENLAND, N.H. 03840  
 Tel. (603) 421-1398

#### LEGEND:

EXISTING	PROPOSED	
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
UU	UU	UNDERGROUND UTILITY (TYPE UNKNOWN)
OHW	OHW	OVERHEAD ELECTRIC/WIRES
UD	UD	FOUNDATION DRAIN
EP	EP	EDGE OF PAVEMENT (EP)
CONTOUR	CONTOUR	CONTOUR
SPOT ELEVATION	SPOT ELEVATION	SPOT ELEVATION
UTILITY POLE	UTILITY POLE	UTILITY POLE
WALL MOUNTED EXTERIOR LIGHTS	WALL MOUNTED EXTERIOR LIGHTS	WALL MOUNTED EXTERIOR LIGHTS
TRANSFORMER ON CONCRETE PAD	TRANSFORMER ON CONCRETE PAD	TRANSFORMER ON CONCRETE PAD
SHUT OFFS (WATER/GAS)	SHUT OFFS (WATER/GAS)	SHUT OFFS (WATER/GAS)
GATE VALVE	GATE VALVE	GATE VALVE
HYDRANT	HYDRANT	HYDRANT
CATCH BASIN	CATCH BASIN	CATCH BASIN
SEWER MANHOLE	SEWER MANHOLE	SEWER MANHOLE
DRAIN MANHOLE	DRAIN MANHOLE	DRAIN MANHOLE
TELEPHONE MANHOLE	TELEPHONE MANHOLE	TELEPHONE MANHOLE
PARKING SPACE COUNT	PARKING SPACE COUNT	PARKING SPACE COUNT
PARKING METER	PARKING METER	PARKING METER
LANDSCAPED AREA	LANDSCAPED AREA	LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	AC	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL	EL	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

**PROPOSED SITE DEVELOPMENT**  
 46-64 MAPLEWOOD AVENUE  
 PORTSMOUTH, N.H.



PLAN SET ISSUED: 19 DECEMBER 2017



**LENGTH TABLE**

LINE	BEARING	DISTANCE
L1	S46°31'15"W	4.30'

**CURVE TABLE**

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	22.00'	43.23'	36.60'	S78°04'35"E	112°35'04"

**PLAN REFERENCES:**

- 1) VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 7. DATED OCT. 1973 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-4119.
- 2) VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION PLAN PARCEL 10. DATED OCT. 1973 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-4125.
- 3) VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R-10, PORTSMOUTH, NEW HAMPSHIRE, DISPOSITION MAP. DATED NOV. 1969 BY ANDERSON-NIHOLS & CO., INC. RCRD #D-2408.
- 4) SUBDIVISION PLAN, 30 MAPLEWOOD LLC, 1"=20', OCTOBER 2015 RCRD #D-40246

**LEGEND:**

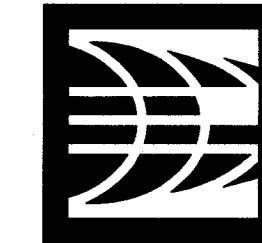
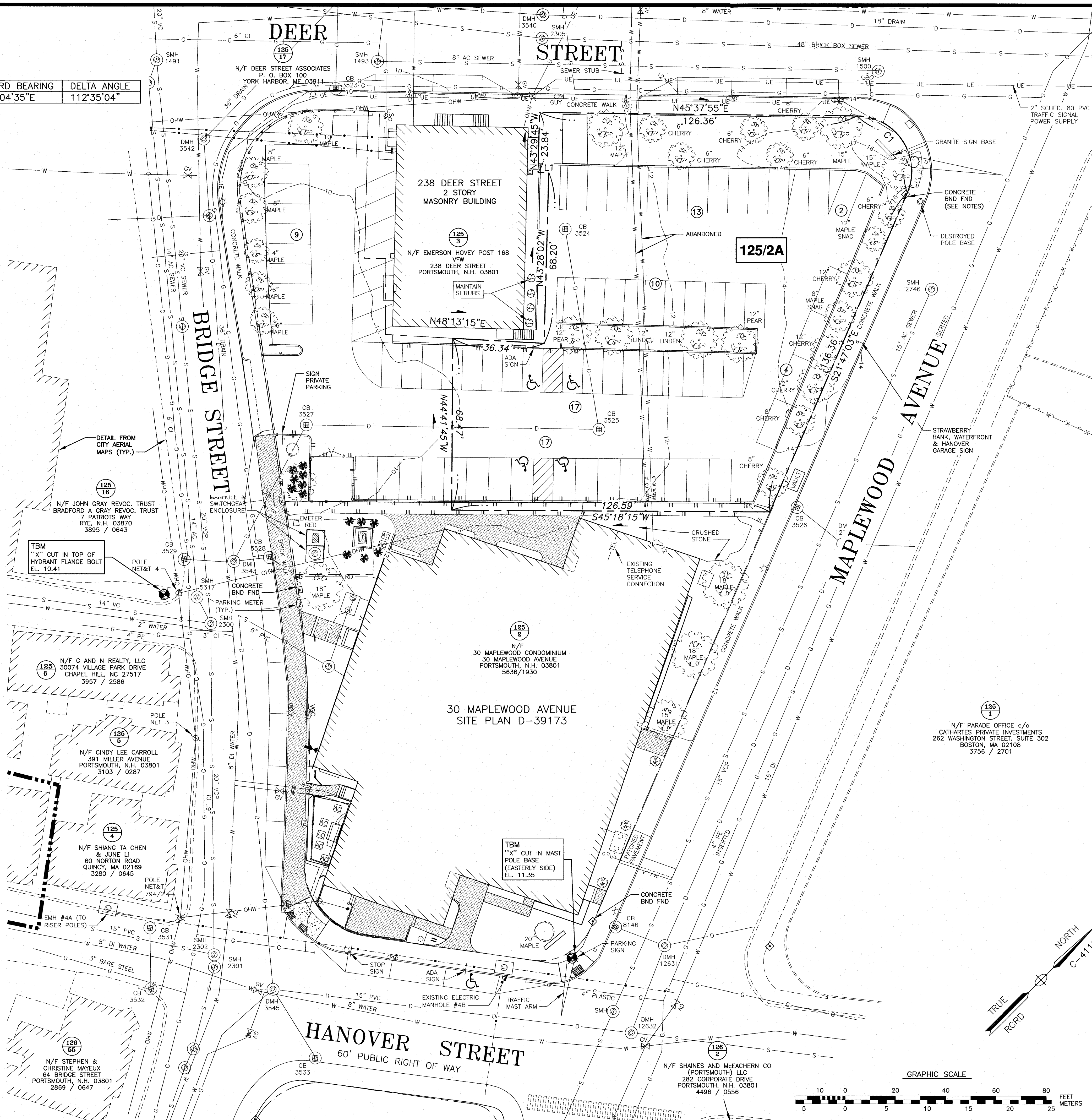
- N/F NOW OR FORMERLY
- RP RECORD OF PROBATE
- RCRD ROCKINGHAM COUNTY REGISTRY OF DEEDS
- RR SPK RAILROAD SPIKE
- MAP 11/LOT 21
- IR FND IRON ROD FOUND
- IP FND IRON PIPE FOUND
- IR SET IRON ROD SET
- CB CONCRETE BOUND FOUND

**DRAIN STRUCTURE TABLE**

STRUCTURE	RIM ELEV.	INV. ELEV. IN / INV. ELEV. OUT	PIPE SIZE & TYPE
CB 3522	10.09	7.48±	12" RCP (NE)
CB 3523	9.49	6.29	12" (NW)
DMH 3540	10.78	NA	18" RCP (NE) 36" (SW)
DMH 3541	10.23	7.48±	12" RCP (SW)
		2.07	12" RCP (SE) 36" (S)
DMH 3542	9.41	1.93	36"
		2.58	36"
		2.18	36"

**SEWER STRUCTURE TABLE**

STRUCTURE	RIM ELEV.	INV. ELEV. IN / INV. ELEV. OUT	PIPE SIZE & TYPE
1491	10.10	0.60	21" VC (SE)
		0.50	14" VC (S)
1492	11.17	0.51	21" VC (NE)
		3.52	6" PVC
1493	10.04	2.49	21" VC
		-1.33	48" BOX SEWER
1499	15.77	2.49	6" VC (NE)
		-1.89	6" VC (NW)
1500	14.14	-1.89	48" BOX SEWER
		-1.89	48" BOX SEWER
2305	10.87	7.31	6" VC (SW)
		-1.20	48" VC
5317	8.24	1.29	14" AC (ESE)
		1.18	14" AC (NW)
5318	9.85	0.60	21" VC (SE)
		0.40	21" VC (NW)



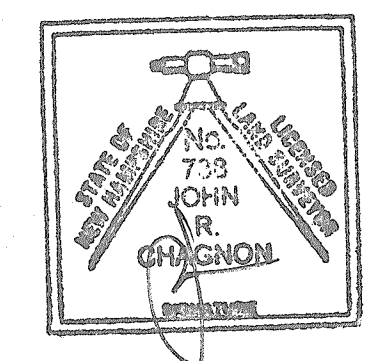
**AMBIT ENGINEERING, INC.**  
Civil Engineers & Land Surveyors  
200 Griffin Road, Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9292  
Fax (603) 436-2315

**NOTES:**

1. PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 125 AS LOT 2A.
2. OWNER OF RECORD:  
30 MAPLEWOOD, LLC  
30 MAPLEWOOD AVENUE  
PORTSMOUTH, N.H. 03801  
5099 / 2424  
PLAN C-4119
3. PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259E. MAY 17, 2005.
- EXISTING LOT AREA:  
21,798 S.F.  
0.5004 ACRES
4. PARCEL IS LOCATED IN CHARACTER DISTRICT 4-L (CD-4L), HISTORIC DISTRICT A, AND DOWNTOWN OVERLAY DISTRICT.
5. DIMENSIONAL REQUIREMENTS: (VESTED TO OLD ZONING - CBB)  
MIN. LOT AREA: 2,000 S.F.  
FRONTAGE: NOT APPLICABLE  
SETBACKS:  
FRONT: 0 FEET  
SIDE: 0 FEET  
REAR: 0 FEET  
MAXIMUM STRUCTURE HEIGHT: 60 FEET  
MAXIMUM BUILDING COVERAGE: 95%  
MINIMUM OPEN SPACE: 0%
6. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS AT THE SITE.
7. WORK ON PHASE I IS ONGOING. PLAN MAY SHOW SOME APPROVED, BUT NOT YET CONSTRUCTED ELEMENTS.
8. DATUM: NGVD 1988 (MAD)  
MEAN SEA LEVEL  
BENCHMARK: "X" CUT IN EASTERLY SIDE OF SIGNAL MAST BASE AT NORTHWEST CORNER OF MAPLEWOOD AVENUE AND HANOVER STREET. ELEV. 11.56
9. SEE PLAN REFERENCE 2 FOR INFORMATION REGARDING RELATION OF CONCRETE BOUNDS TO PROPERTY CORNERS.

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

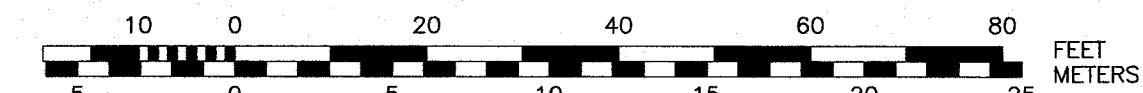
NO.	DESCRIPTION	DATE
1	REVISED UTILITIES AND PAVEMENT TYPES	10/17/17
0	ISSUED FOR COMMENT	6/19/17



SCALE: 1" = 20' JUNE 2017

EXISTING CONDITIONS PLAN

C1



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**DEMOLITION NOTES**

a) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

b) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

c) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

d) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

e) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.

f) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

g) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

h) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE. ANY EXISTING MONITORING WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER TO COORDINATE MONITORING WELL REMOVAL AND/OR RELOCATION WITH NHDES AND OTHER AUTHORITY WITH JURISDICTION PRIOR TO CONSTRUCTION.

i) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

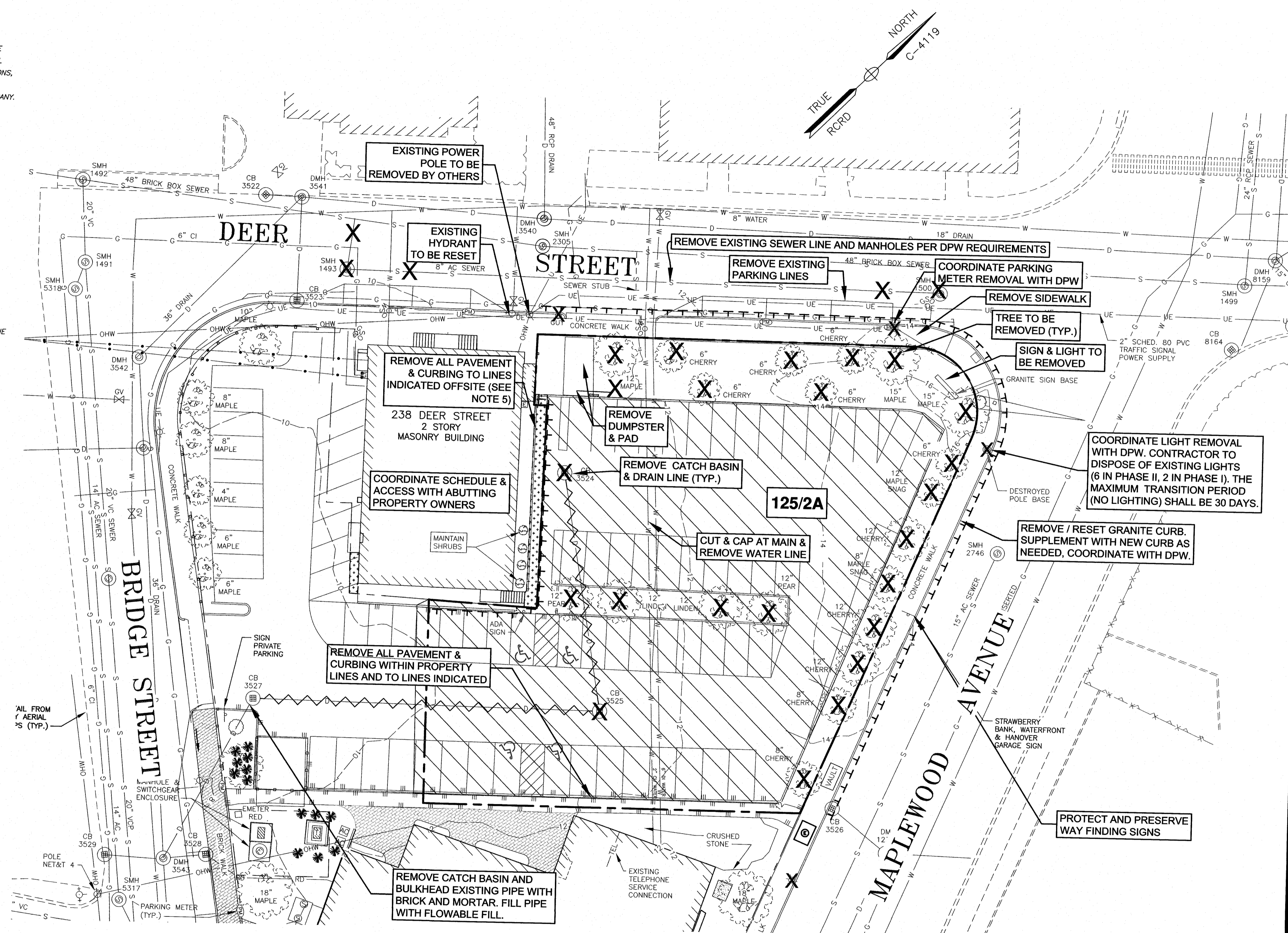
j) REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL SLUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

k) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A NH LICENSED LAND SURVEYOR TO REPLACE THEM.

l) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

m) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

n) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS.

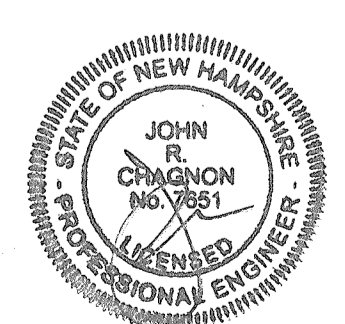


**AMBIT ENGINEERING, INC.**  
Civil Engineers & Land Surveyors  
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Portsmouth, N.H. 03801-7114  
Tel (603) 430-9282  
Fax (603) 436-2315

- NOTES:**
- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
  - 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
  - 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
  - 4) MAINTAIN ACCESS TO VFW EXIT DOORS DURING CONSTRUCTION.
  - 5) OFFSITE PAVEMENT REMOVAL REQUIRES APPROVAL OF ADJACENT PROPERTY OWNER. IF APPROVAL IS NOT OBTAINED THEN LEAVE IN PLACE. COORDINATE WITH OWNER.
  - 6) CHANGES IN THE LOCATION OF STREET LIGHT POLES SHALL BE COORDINATED WITH THE CITY'S WAYFINDING PROGRAM SO THAT THE WAYFINDING SIGNS ARE MAINTAINED.

**TAX MAP 125 LOT 2A  
46-64 MAPLEWOOD AVENUE  
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	SEWER LINE REMOVAL, DEMOLITION NOTES	12/19/17
1	ISSUED FOR APPROVAL	10/17/17
0	ISSUED FOR COMMENT	6/19/17

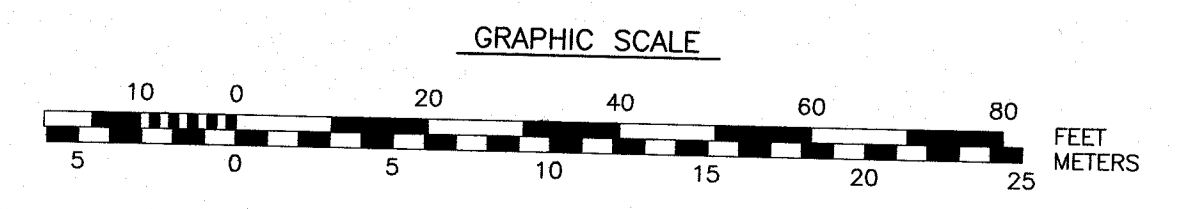


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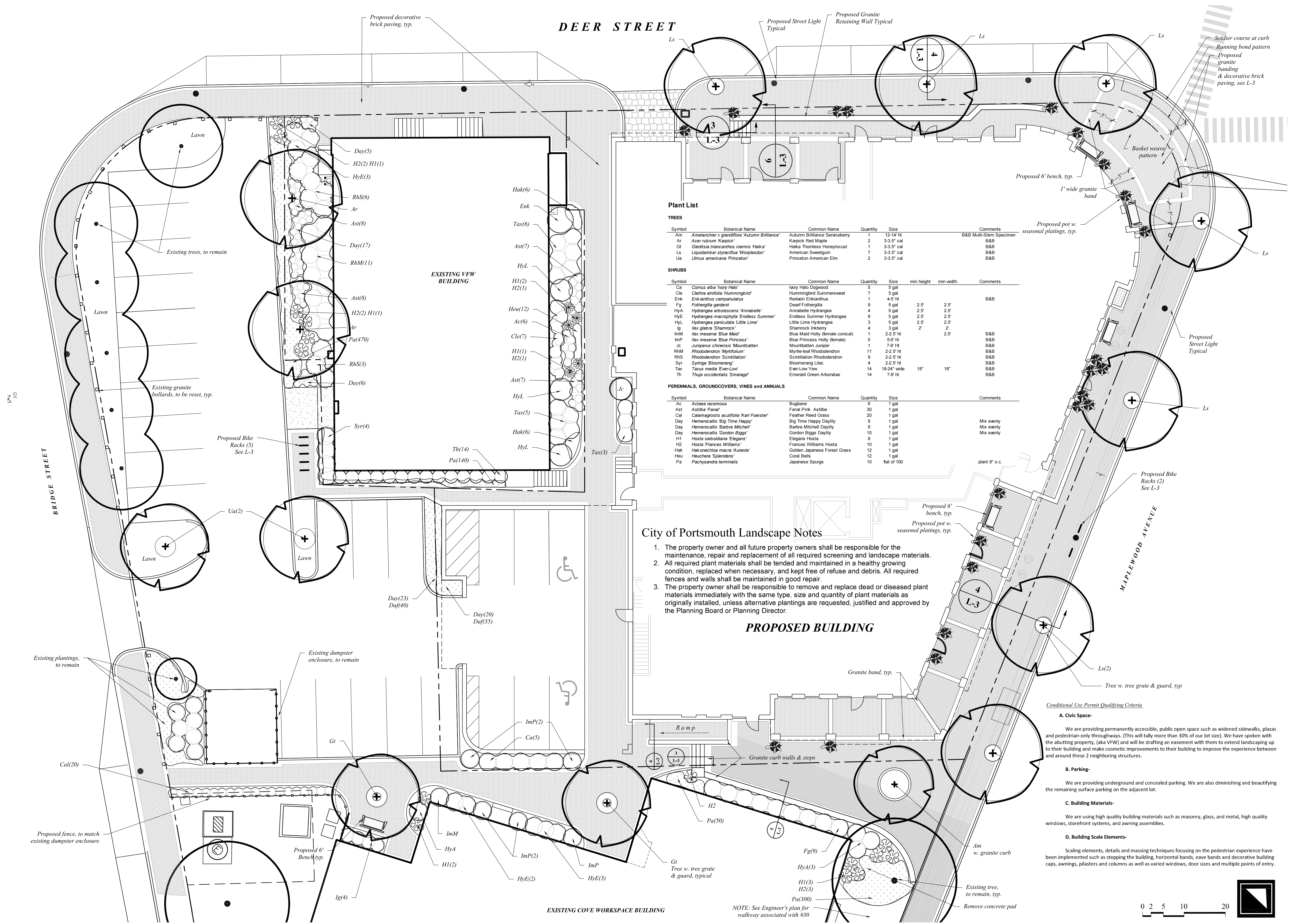
**DEMOLITION PLAN** C2

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



J:\JOBST\UN1800s\UN1800s\NH1808\2017 Site Plan 46 Maplewood\Plans & Specs\Site\1808R04.dwg, C2\_DEMOLITION



**Plant List**

**TREES**

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Am	<i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	Autumn Brilliance Serviceberry	1	12-14' Ht	B&B Multi-Stem Specimen
Ar	<i>Acer rubrum</i> 'Karpis'	Karpis Red Maple	2	3-3.5' cal	B&B
Gt	<i>Gleditsia triacanthos inermis</i> 'Halka'	Halka Thornless Honeylocust	1	3-3.5' cal	B&B
Ls	<i>Liquidambar styraciflua</i> 'Worplesdon'	American Sweetgum	7	3-3.5' cal	B&B
Ua	<i>Ulmus americana</i> 'Princeton'	Princeton American Elm	2	3-3.5' cal	B&B

**SHRUBS**

Symbol	Botanical Name	Common Name	Quantity	Size	min height	min width	Comments
Ga	<i>Cornus alba</i> 'Ivory Halo'	Ivory Halo Dogwood	5	5 gal			
Cle	<i>Clethra alnifolia</i> 'Hummingbird'	Hummingbird Summersweet	7	5 gal			
Enk	<i>Enkianthus campanulatus</i>	Redwin Enkianthus	1	4-5' Ht			B&B
Fg	<i>Fatsyria gardenii</i>	Dwarf Fatsyria	9	5 gal	2.5'	2.5'	
HyA	<i>Hydrangea arborescens</i> 'Annabelle'	Annabelle Hydrangea	4	5 gal	2.5'	2.5'	
HyE	<i>Hydrangea macrophylla</i> 'Endless Summer'	Endless Summer Hydrangea	8	5 gal	2.5'	2.5'	
HyL	<i>Hydrangea paniculata</i> 'Little Lime'	Little Lime Hydrangea	3	5 gal	2.5'	2.5'	
Ig	<i>Ilex glabra</i> 'Shamrock'	Shamrock Highberry	4	3 gal	2'	2'	
ImM	<i>Ilex meservei</i> 'Blue Maid'	Blue Maid Holly (female conical)	1	22.5" Ht			B&B
ImP	<i>Ilex meservei</i> 'Blue Princess'	Blue Princess Holly (female)	5	5-6' Ht			B&B
Jc	<i>Juniperus chinensis</i> 'Mountbatten'	Mountbatten Juniper	1	7-8' Ht			B&B
RhM	<i>Rhododendron Myrtifolium</i>	Myrtle-leaf Rhododendron	11	2.5' Ht			B&B
RhS	<i>Rhododendron Scintillatior</i>	Scintillation Rhododendron	9	22.5" Ht			B&B
Syr	<i>Syringa Bloomerang</i>	Bloomerang Lilac	4	2.2-5' Ht			B&B
Tax	<i>Taxus media</i> 'Ever-Low'	Ever-Low Yew	14	18-24" wide	18"	18"	B&B
Th	<i>Thuja occidentalis</i> 'Smaragd'	Emerald Green Arborvitae	14	7-8' Ht			B&B

**PERENNIALS, GROUNDCOVERS, VINES and ANNUALS**

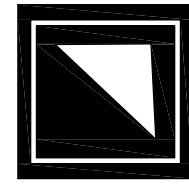
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ac	<i>Actaea racemosa</i>	Bugbane	6	1 gal	
Ast	<i>Astilbe 'Fanal'</i>	Fanal Pink Astilbe	30	1 gal	
Cal	<i>Calamagrostis acutifolia</i> 'Karl Foerster'	Feather Reed Grass	20	1 gal	
Day	<i>Hemerocallis 'Big Time Happy'</i>	Big Time Happy Daylily	9	1 gal	Mix evenly
Day	<i>Hemerocallis 'Barbra Mitchell'</i>	Barbra Mitchell Daylily	9	1 gal	Mix evenly
Day	<i>Hemerocallis 'Gordon Biggs'</i>	Gordon Biggs Daylily	10	1 gal	Mix evenly
H1	<i>Hosta sieboldiana</i> 'Elegans'	Elegans Hosta	8	1 gal	
H2	<i>Hosta 'Frances Williams'</i>	Frances Williams Hosta	10	1 gal	
Hak	<i>Hakonechloa macra 'Aureola'</i>	Golden Japanese Forest Grass	12	1 gal	
Heu	<i>Heuchera 'Splendens'</i>	Coral Bells	12	1 gal	
Pa	<i>Pachysandra terminalis</i>	Japanese Spurge	10	flat of 100	

**City of Portsmouth Landscape Notes**

- The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
- All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
- The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.

**PROPOSED BUILDING**

- Conditional Use Permit Qualifying Criteria**
- A. Civic Space-**  
 We are providing permanently accessible, public open space such as widened sidewalks, plazas and pedestrian-only thoroughways. (This will tally more than 30% of our lot size). We have spoken with the abutting property, (aka VFW) and will be drafting an easement with them to extend landscaping up to their building and make cosmetic improvements to their building to improve the experience between and around these 2 neighboring structures.
- B. Parking-**  
 We are providing underground and concealed parking. We are also diminishing and beautifying the remaining surface parking on the adjacent lot.
- C. Building Materials-**  
 We are using high quality building materials such as masonry, glass, and metal, high quality windows, storefront systems, and awning assemblies.
- D. Building Scale Elements-**  
 Scaling elements, details and massing techniques focusing on the pedestrian experience have been implemented such as stepping the building, horizontal bands, eave bands and decorative building caps, awnings, pilasters and columns as well as varied windows, door sizes and multiple points of entry.



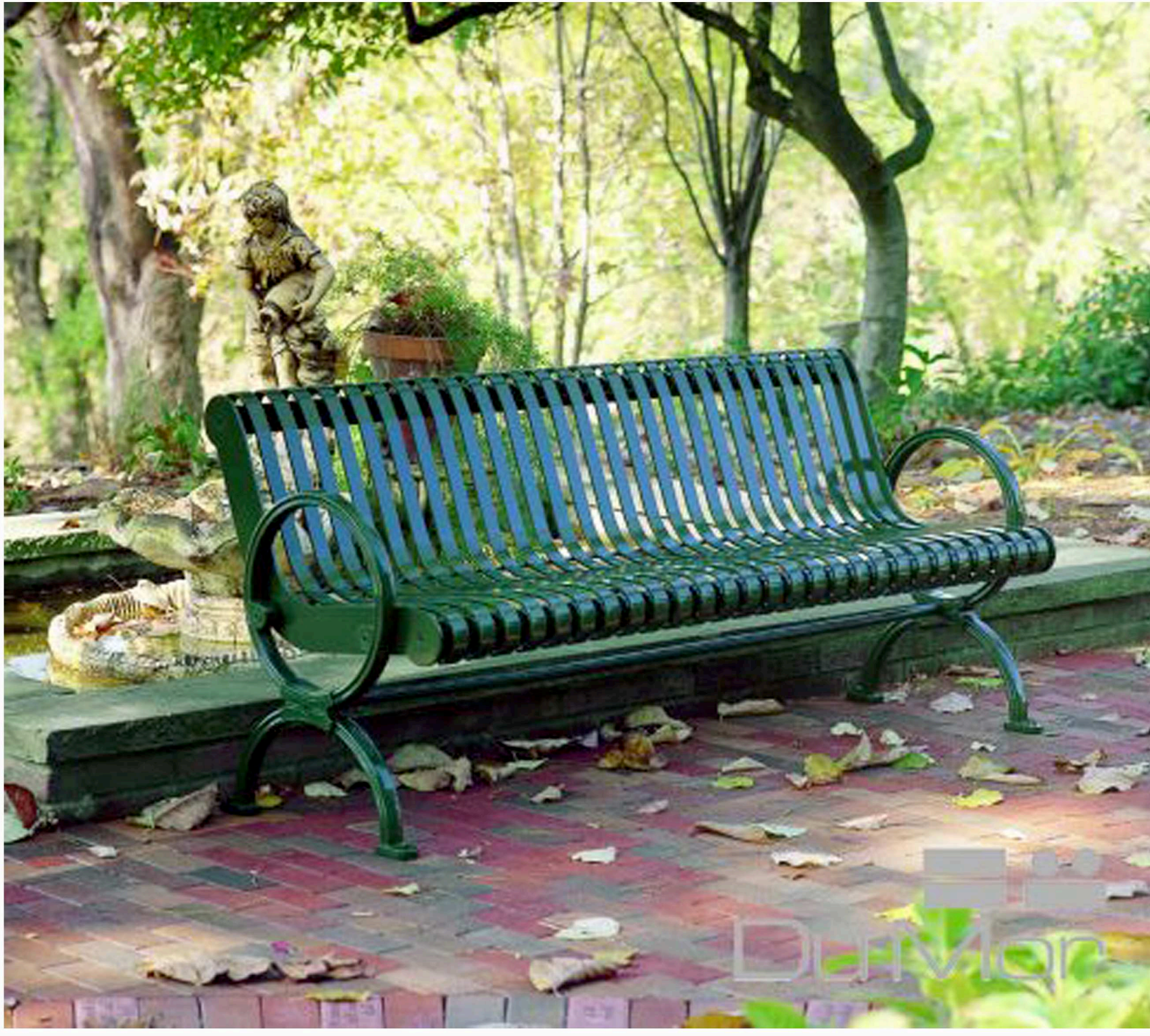
NOTE: See Engineer's plan for walkway associated with #30



*Existing Board Fence to be repeated*



*Portsmouth Street Light*



*Bench (9) - DuMor 119, black*



*Trash Receptacle - DuMor 157*  
32 gal. with shield



*Ironsmith Olympian 60" Tree Grate*



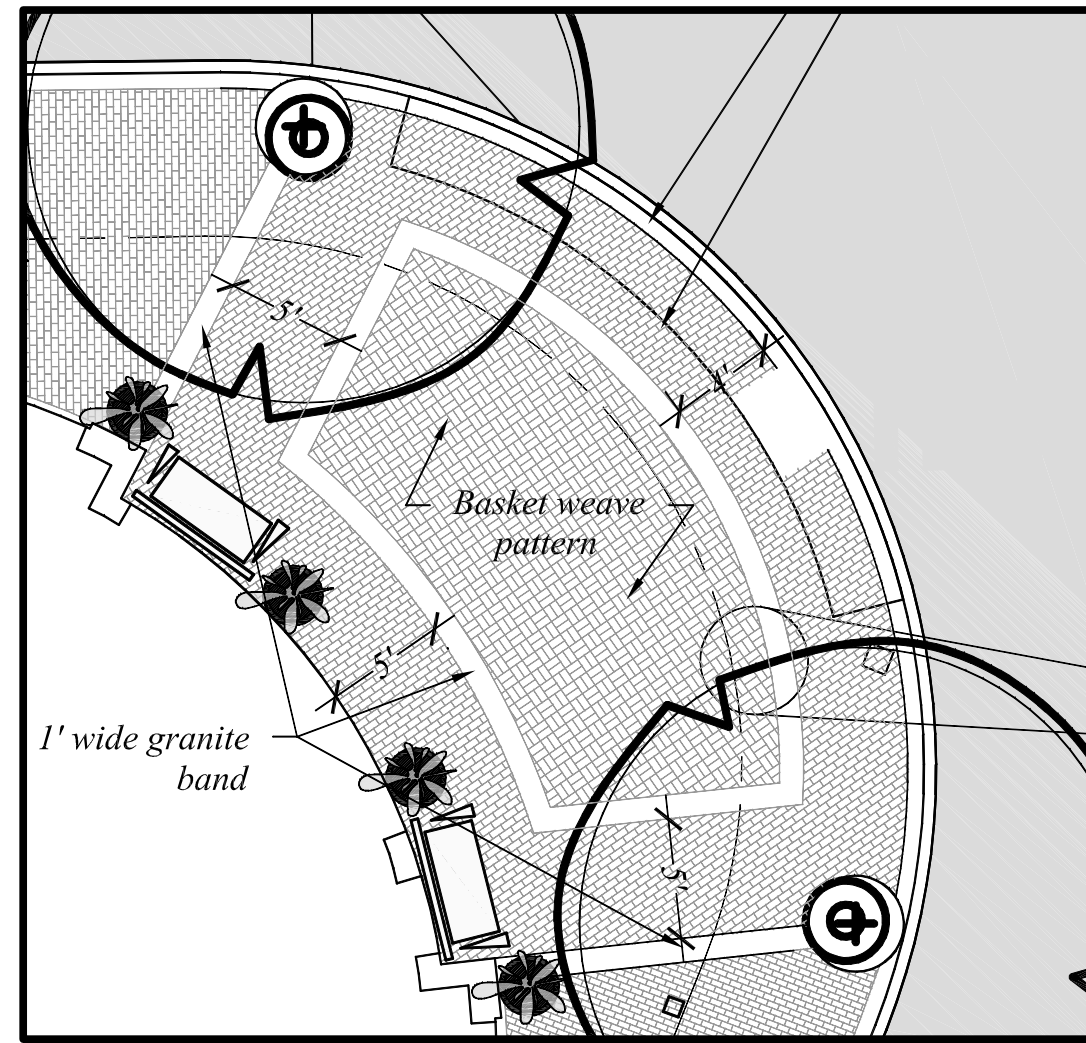
*Ironmith M-13 Tree Guard*



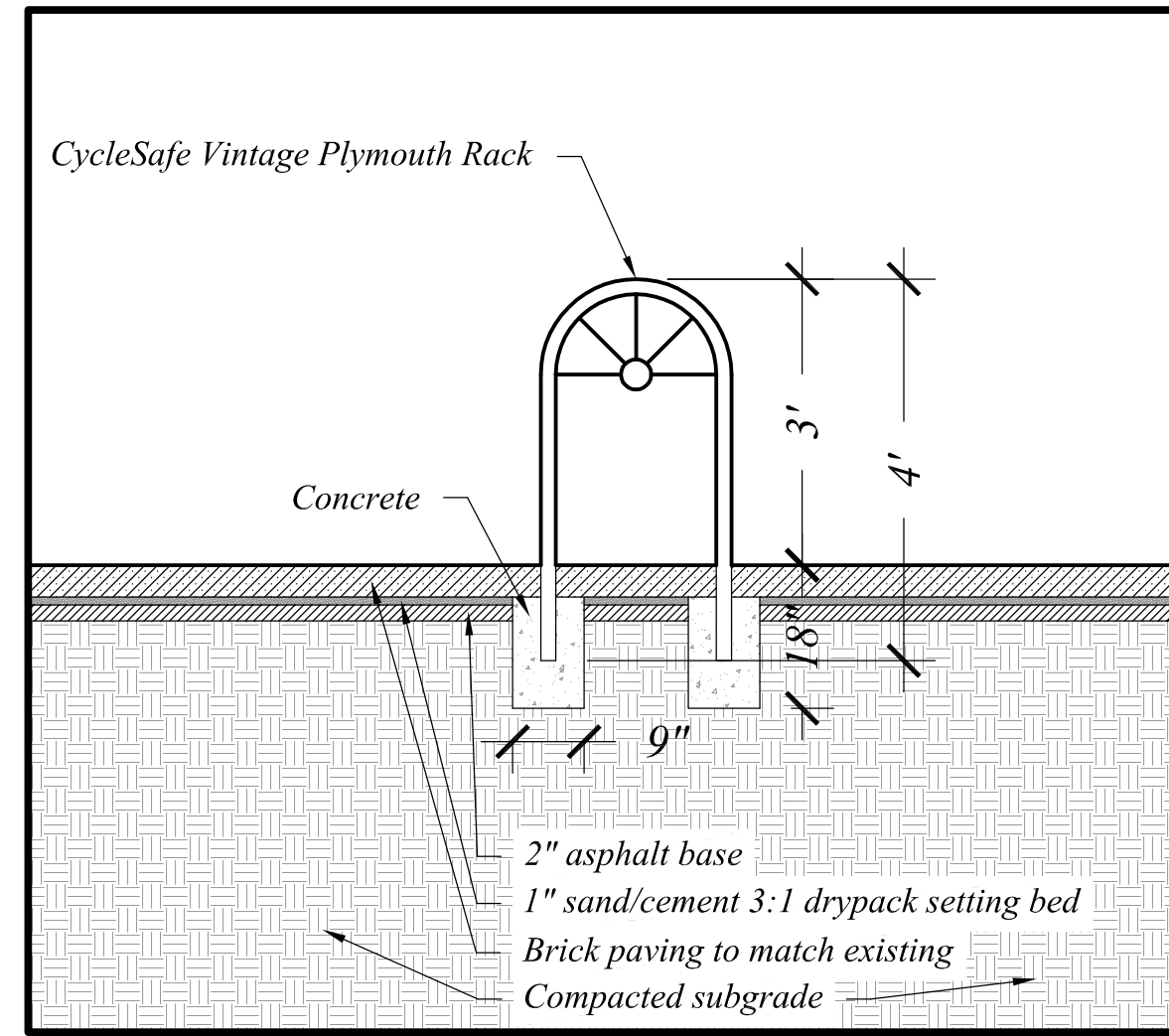
*Campania Sandhurst - 26"*



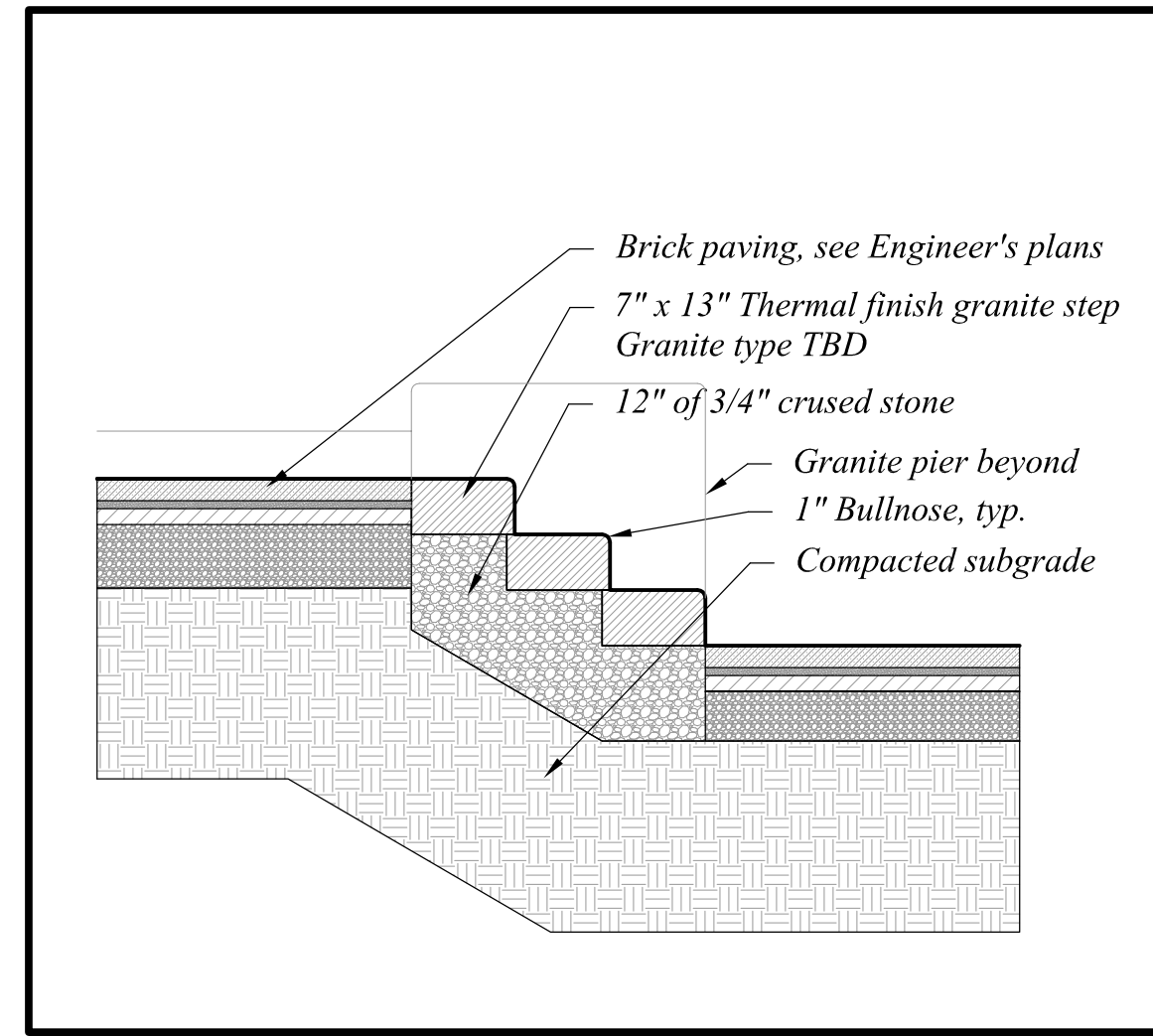
*Campania Vallarella*



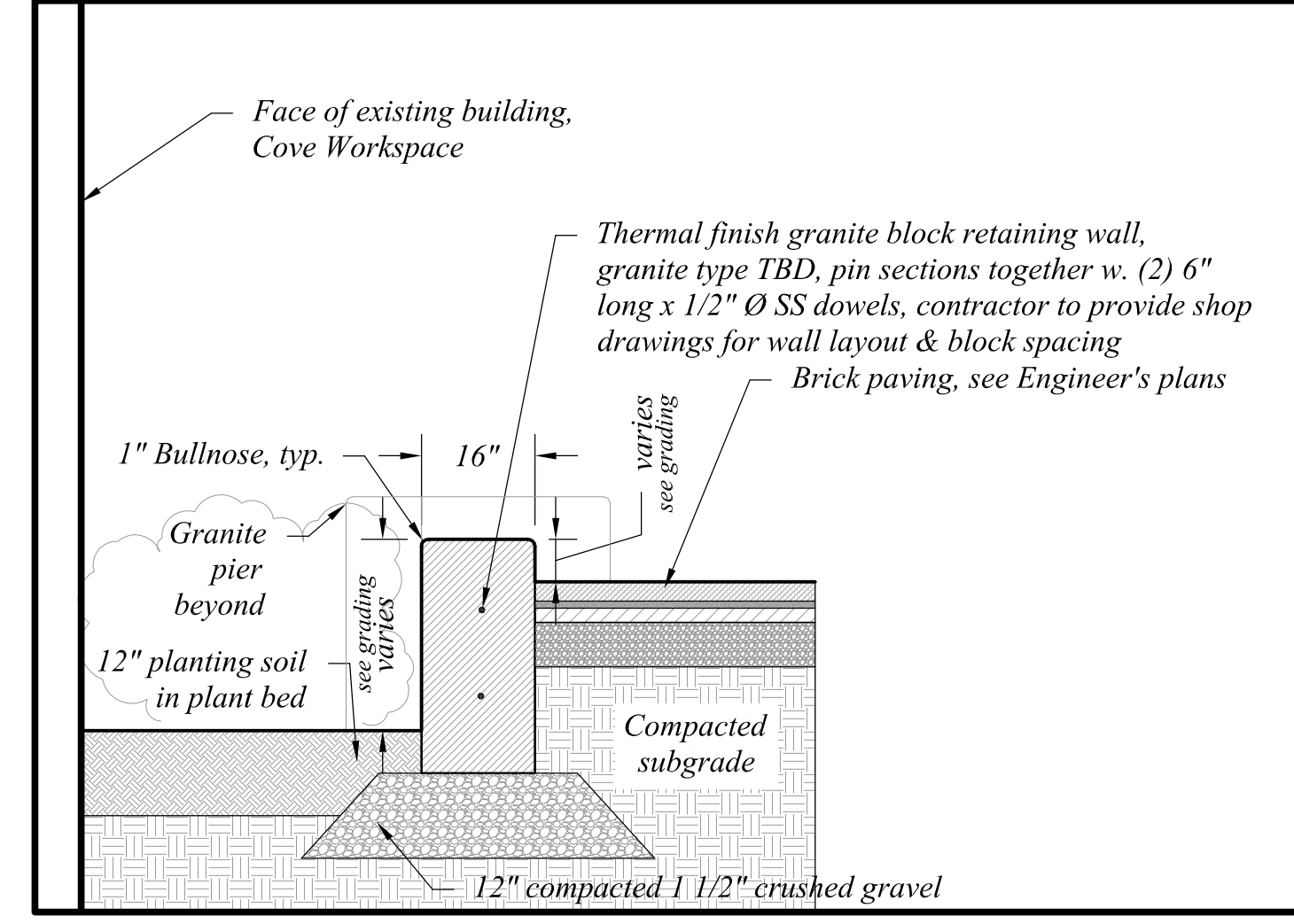
**1 ENTRY PAVING ENLARGEMENT**  
Scale: 1/8"=1'-0"



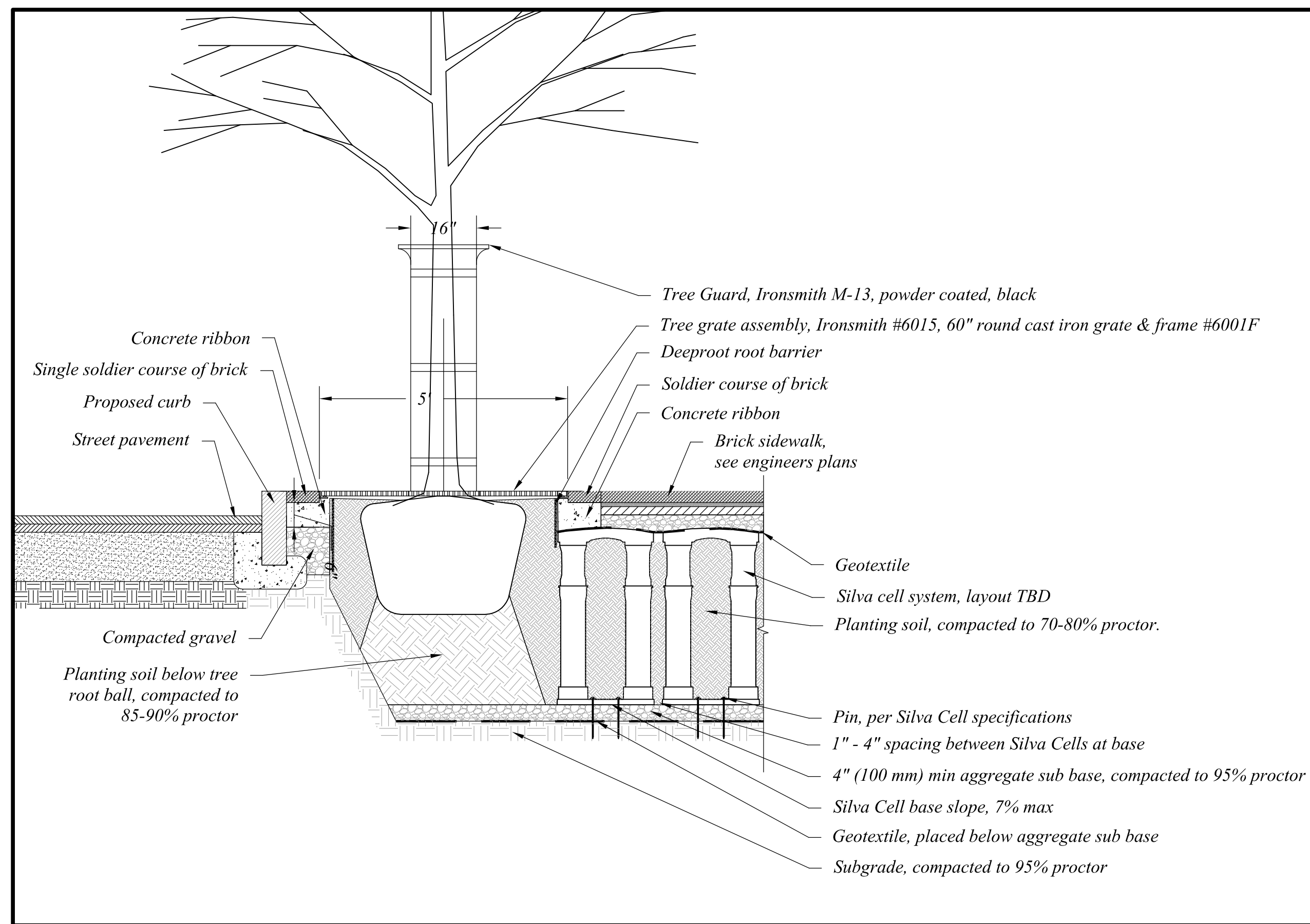
**2 BIKE RACK**  
Scale: 1/2"=1'-0"



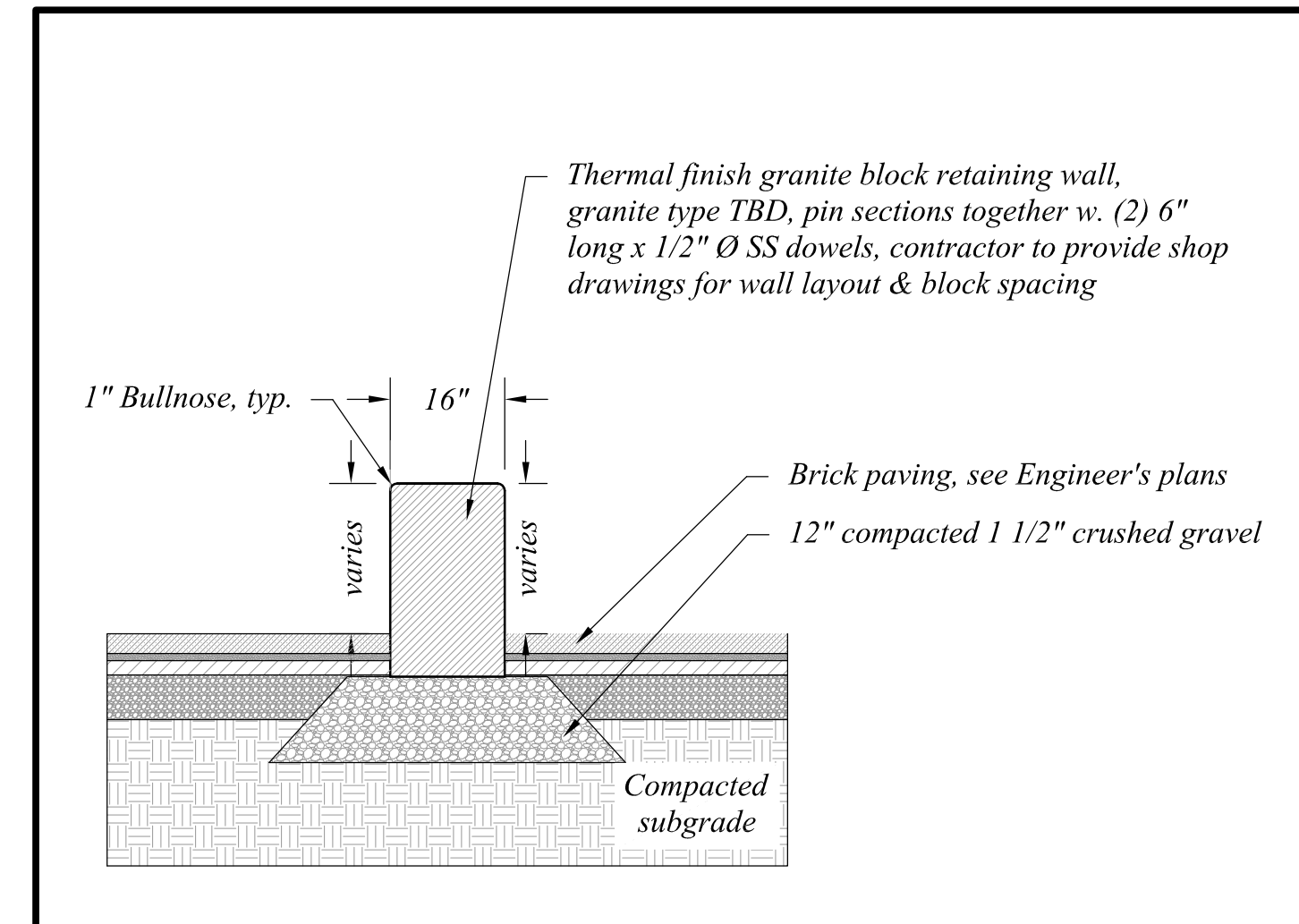
**3 GRANITE STEPS**  
Scale: 1/2"=1'-0"



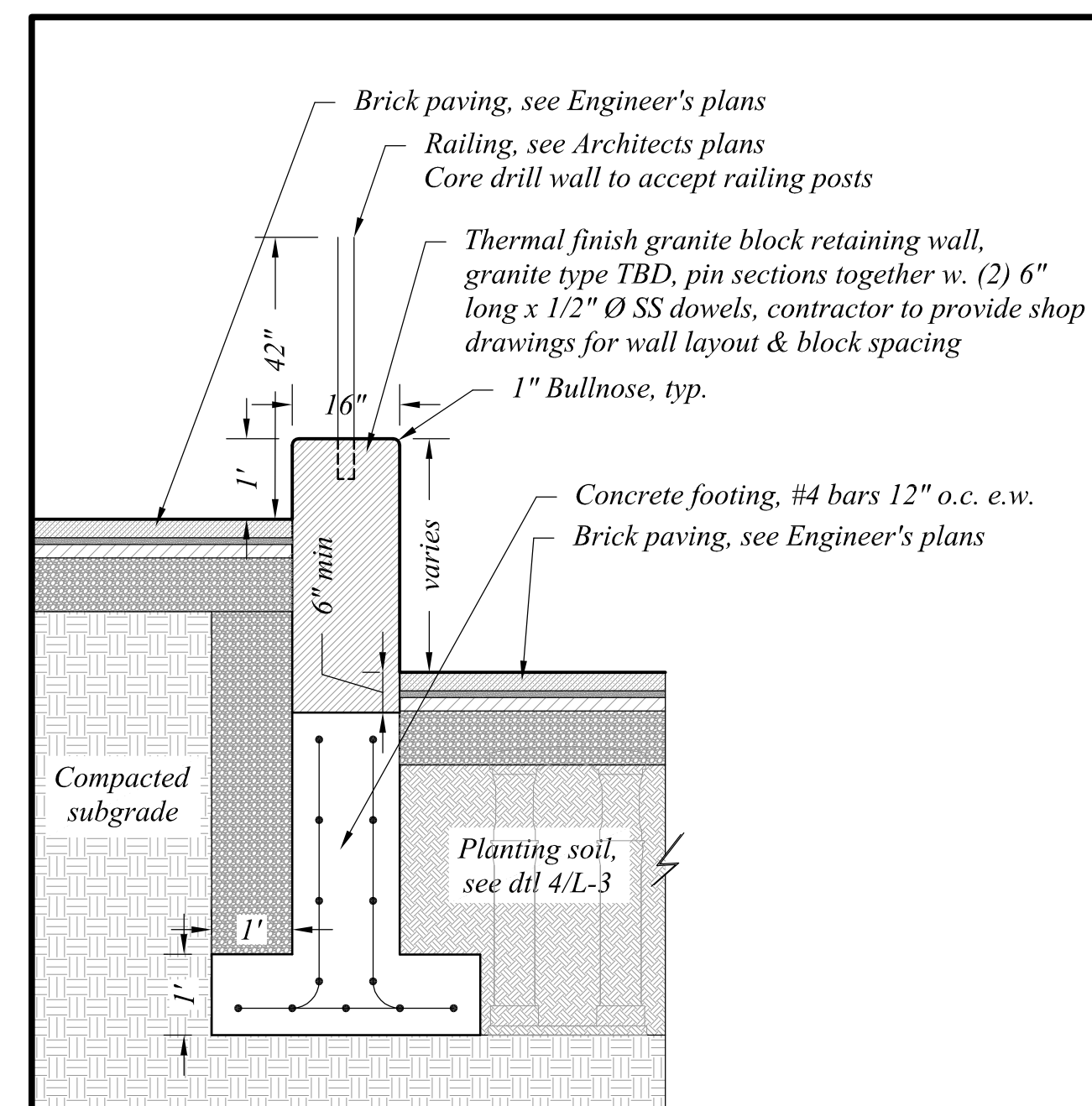
**5 RETAINING WALL AT COVE**  
Scale: 1/2"=1'-0"



**4 PROPOSED TREE WITH TREE GRATE & GUARD & SILVA CELLS BELOW**  
Scale: 1/2"=1'-0"



**6 RETAINING WALL AT RAMP**  
Scale: 1/2"=1'-0"



**7 RETAINING WALL AT DEER STREET**  
Scale: 1/2"=1'-0"





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Civil Engineers & Land Surveyors

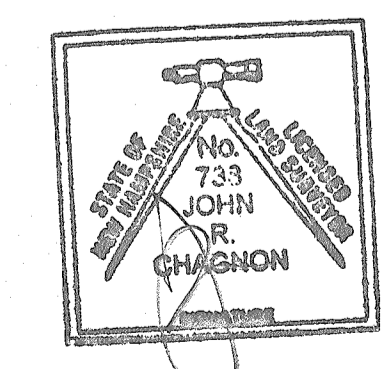
200 Griffin Road, Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9282  
Fax (603) 436-2315

**NOTES:**

- PROPOSED BUILDING USES:  
 BASEMENT:  
 PARKING, RESTAURANT, STORAGE, UTILITIES, CIRCULATION  
 1st FLOOR:  
 PARKING, RETAIL, OFFICE, RESTAURANT  
 2nd to PENTHOUSE FLOOR: RESIDENTIAL & OFFICE  
 21 RESIDENTIAL UNITS AND 1 OFFICE SPACE  
 PARKING CALCULATIONS  
 REQUIRED PARKING:  
 21 RESIDENTIAL UNITS x 1.5 SPACE/UNIT = 32 SPACES  
 32 - 4 (ORDINANCE REDUCTION) = 28 SPACES REQUIRED  
 SPACES PROVIDED: 36 SPACES (SEE ALSO SHEET C4)
- EXISTING LOT AREA: 21,798 S.F.  
 PROPOSED BUILDING: 17,525 S.F.  
 TOTAL BUILDING COVERAGE: 17,525/21,798 x 100% = 79%  
 OPEN SPACE:  
 (21,798 - 17,525 S.F.)/21,798 S.F. x 100 = 20%
- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- IF BLASTING IS REQUIRED, A BLASTING PLAN WILL BE SUBMITTED TO THE CITY OF PORTSMOUTH FOR REVIEW AND APPROVAL (PRIOR TO ANY BLASTING).
- EXTERIOR LIGHTING SHALL CONFORM TO THE STANDARDS IN SEC. 10.1140 OF THE CITY OF PORTSMOUTH ZONING ORDINANCE AND ARTICLE 10 OF THE SITE PLAN REVIEW REGULATIONS, INCLUDING PREVENTION OF LIGHT TRESPASS AND GLARE.
- A CONSTRUCTION MANAGEMENT MITIGATION PLAN (CMMP) SHALL BE PREPARED FOR REVIEW AND APPROVAL BY THE CITY ATTORNEY AND PLANNING DEPARTMENT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. THE PLAN SHALL INCLUDE AN ACTION PLAN FOR THE DISPOSAL OF ANY CONTAMINATED MATERIALS ENCOUNTERED DURING CONSTRUCTION.
- USES SHOWN ARE CONCEPTUAL USES.
- 46-64 MAPLEWOOD TRASH DISPOSAL IS AT 30 MAPLEWOOD DUMPSTER, WITH PERMISSION.
- SITE IS VESTED TO DECEMBER 2013 ZONING.

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

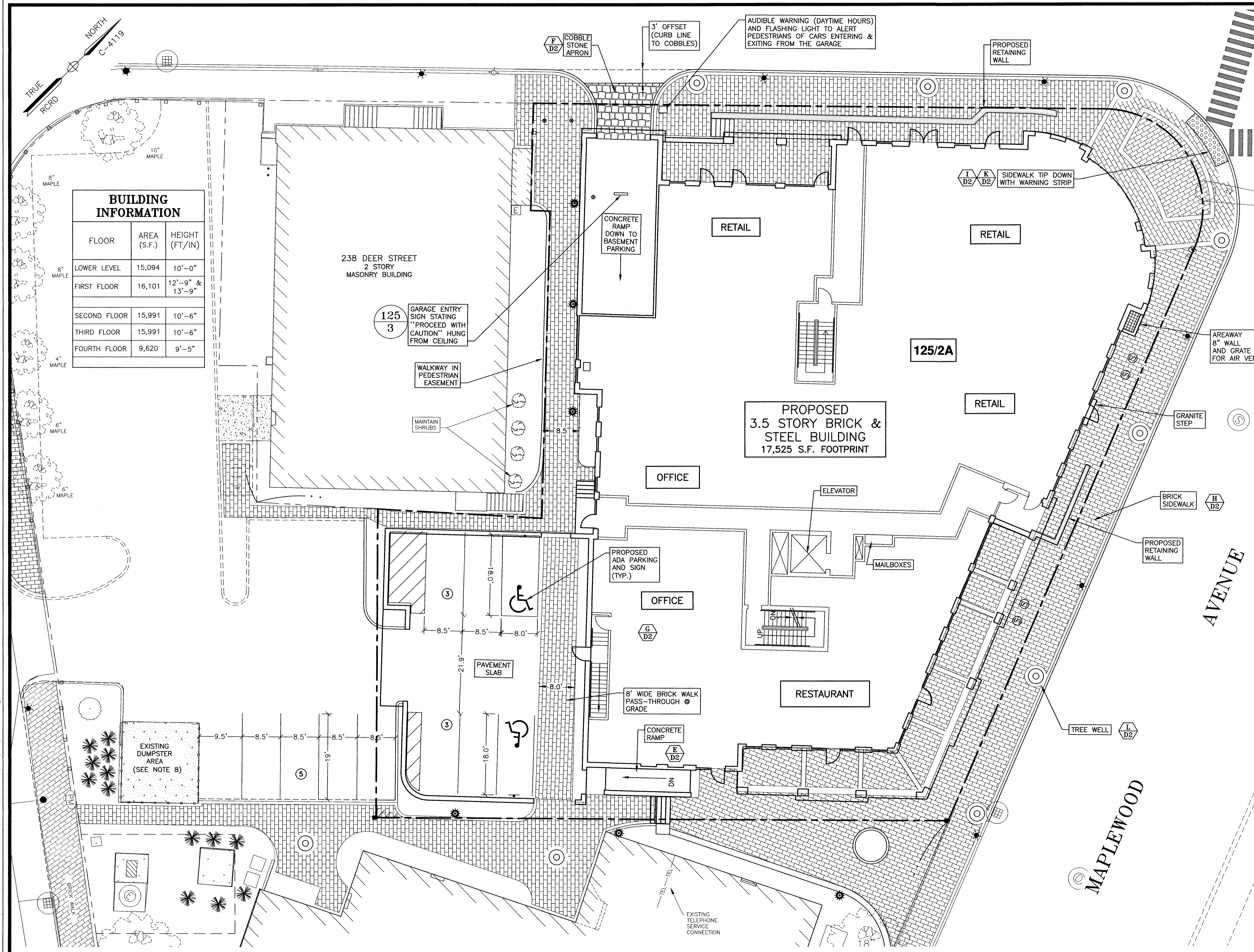
NO.	DESCRIPTION	DATE
2	INTERIOR LAYOUT, TABLE	12/19/17
1	REVISED INTERIOR	10/17/17
0	ISSUED FOR COMMENT	6/19/17



SCALE: 1" = 10' JUNE 2017

**SITE PLAN**  
**FIRST FLOOR LEVEL**

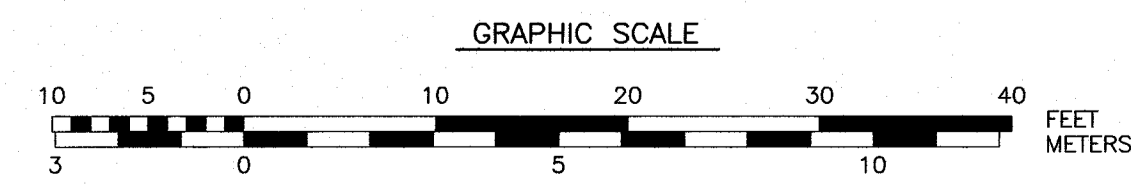
**C3**



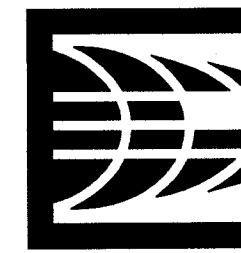
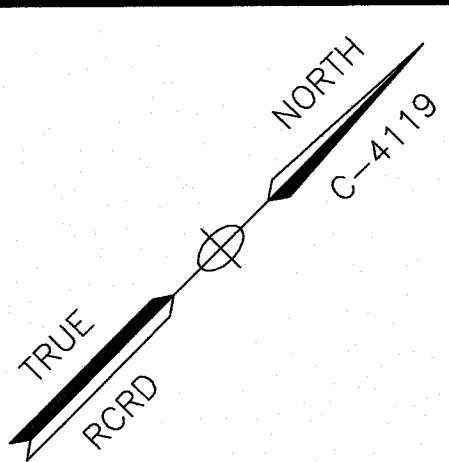
**BUILDING INFORMATION**

FLOOR	AREA (S.F.)	HEIGHT (FT/IN)
LOWER LEVEL	15,094	10'-0"
FIRST FLOOR	16,101	12'-9" & 13'-9"
SECOND FLOOR	15,991	10'-6"
THIRD FLOOR	15,991	10'-6"
FOURTH FLOOR	9,620	9'-5"

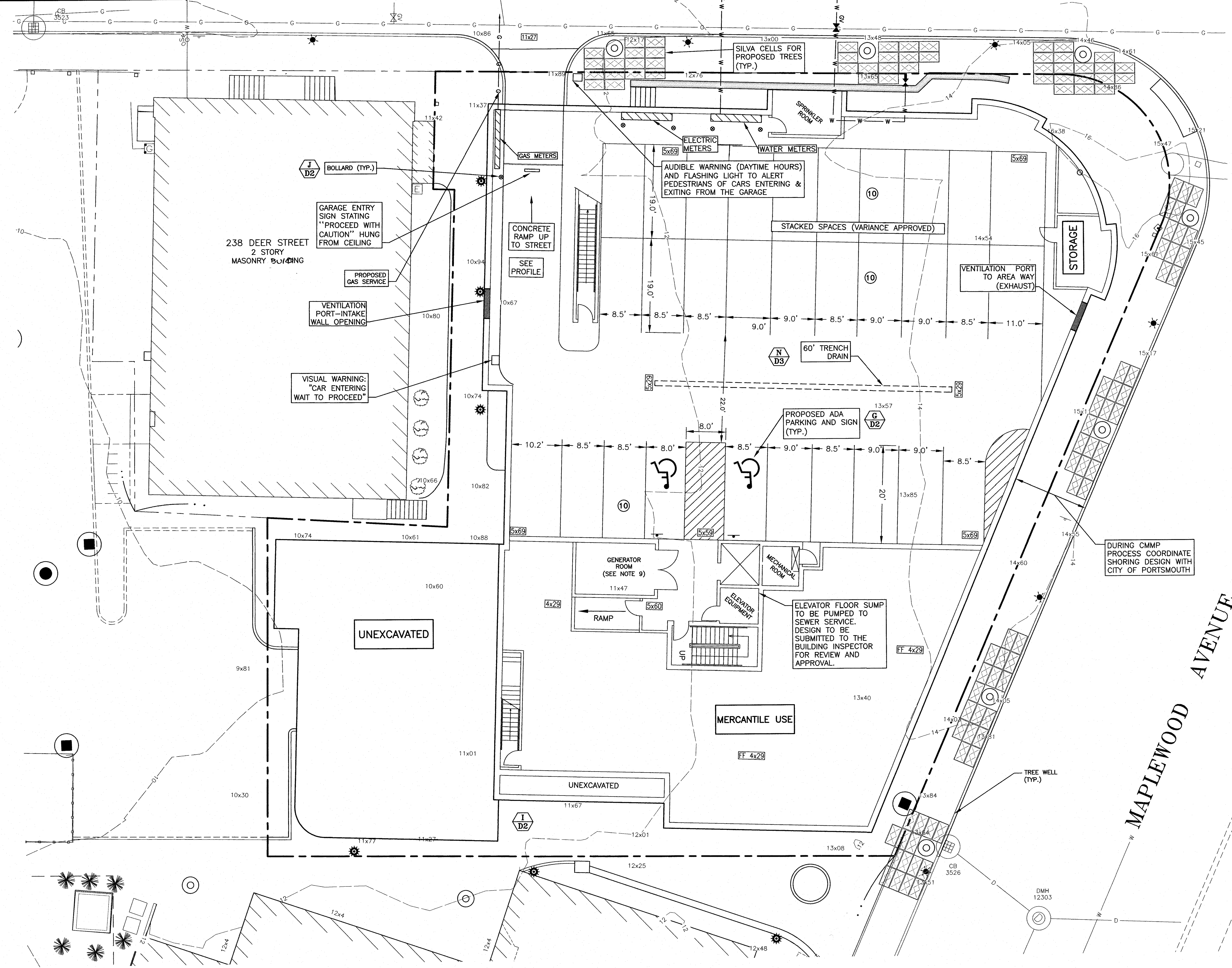
APPROVED BY THE PORTSMOUTH PLANNING BOARD  
 CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



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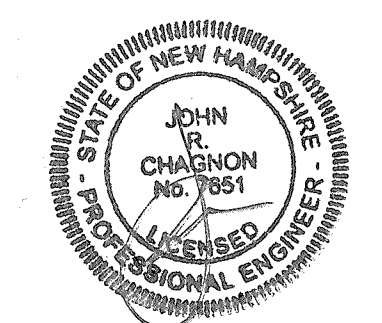


**NOTES:**

- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
- 4) PRIOR TO CONSTRUCTION A SITE DEWATERING PLAN WILL BE SUBMITTED TO THE CITY PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
- 5) GARAGE EGRESS TO BE COMPLIANT WITH CURRENT IBC. FINAL DESIGN APPROVAL BY THE PORTSMOUTH BUILDING INSPECTOR IS REQUIRED.
- 6) VENTILATION DESIGN TO BE COMPLIANT WITH CURRENT IBC; SEE PRELIMINARY VENT LOCATIONS. APPROVAL BY THE PORTSMOUTH BUILDING INSPECTOR IS REQUIRED.
- 7) CHAPTER 7 PROTECTED OPENINGS EXHIBIT SUBMITTED FOR REVIEW - SEE EASEMENT PLAN.
- 8) STREET FEATURES SHOWN FOR REFERENCE ONLY - SEE SHEET C3.
- 9) GENERATOR INTAKE AIR AND EXHAUST TO BE DESIGNED BY QUALIFIED HVAC ENGINEERING PRIOR TO BUILDING PERMIT.

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	REVISED INTERIOR, ADDED VENTILATION	12/19/17
1	REVISED INTERIOR	10/17/17
0	ISSUED FOR COMMENT	6/19/17

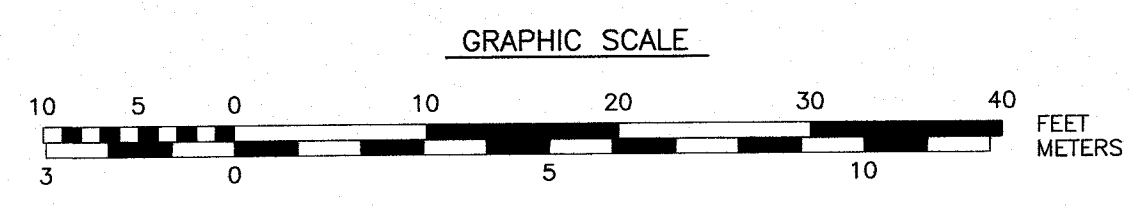


SCALE: 1" = 10' JUNE 2017

**SITE PLAN**  
**BASEMENT LEVEL** **C4**

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_



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Civil Engineers & Land Surveyors

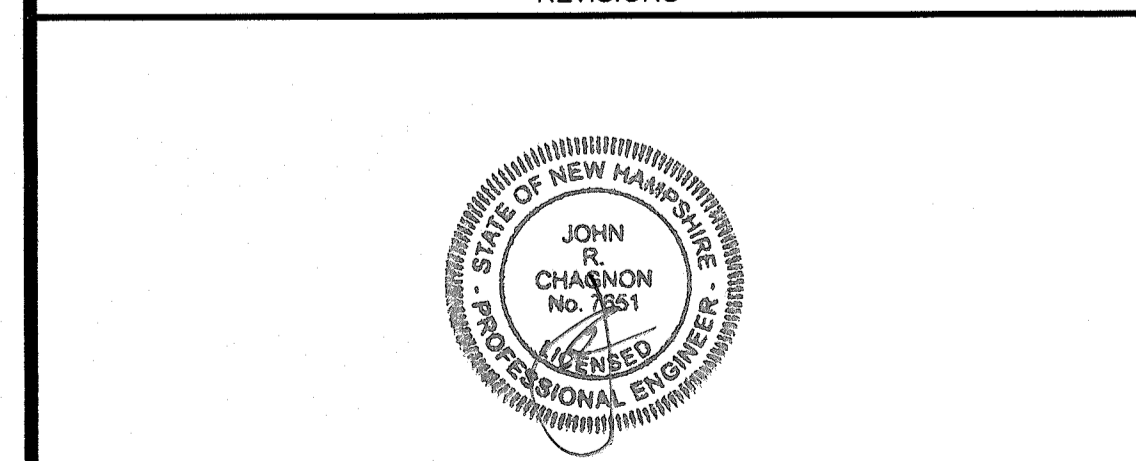
200 Griffin Road, Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9282  
Fax (603) 436-2315

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3. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
4. SEWER LOADINGS:  
21 RESIDENTIAL UNITS: 3,150 GPD (150 GPD/UNIT)  
OFFICE RETAIL: 2,612 GPD (15 GPD/100 S.F.)  
TOTAL FLOW: 5,762 GPD
5. FIRE SPRINKLER SYSTEM:  
PRIOR TO OBTAINING BUILDING PERMIT A SPRINKLER DESIGN PLAN WILL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL. PROVIDE A SPRINKLER CONNECTION (PER FIRE DEPARTMENT SPECIFICATIONS) ON DEER STREET SIDE OF BUILDING. PROVIDE KNOX BOX AT ACCESSIBLE EXTERIOR LOCATION. COORDINATE INSTALLATION WITH PORTSMOUTH FIRE DEPARTMENT.
6. ADDITIONAL RESTAURANTS PROPOSED IN THIS STRUCTURE SHALL INSTALL EXTERNAL GREASE TRAPS.
7. BUILDING WILL HAVE ONE WATER METER - USES WILL BE SUB-METERED BY OWNER.
8. STREET LIGHTS TO BE REPLACED WITH CURRENT CITY STANDARD (DUCTILE IRON). DEVELOPER SHALL COORDINATE WITH DPW ON THE FINAL ROUTING OF THE ELECTRICAL CONDUIT TO THE STREET LIGHTS.
9. THE DEVELOPER SHALL PAY THE CAPACITY USE SURCHARGE FOR WATER AND SEWER APPLICABLE TO THE PROPOSED USES.
10. OVERHEAD GARAGE DOORS SHALL BE SET TO AUTOMATICALLY OPEN IN THE EVENT THAT THE FIRE ALARM IS ACTIVATED. THE APPLICANT SHALL HAVE A COMMUNICATIONS SITE SURVEY CONDUCTED BY A MOTOROLA COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE PORTSMOUTH POLICE AND FIRE RADIO SYSTEMS CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER WILL BE REQUIRED TO MAINTAIN ANY INSTALLED EQUIPMENT. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES THAT EQUIPMENT IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY. THE SURVEY SHALL BE COMPLETED AND ANY REQUIRED EQUIPMENT INSTALLED, TESTED, AND ACCEPTED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. EXISTING 6" FIRE SERVICE TO BE RE-USED FOR RELOCATED HYDRANT (ADD A GATE VALVE).
12. EVERSOURCE WORK ORDER: 3040225

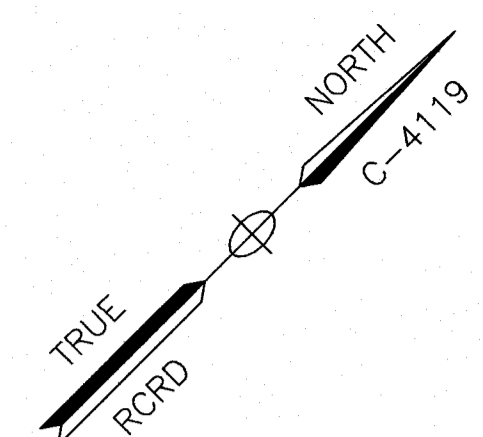
**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	UTILITIES	12/19/17
1	UTILITIES	10/17/17
0	ISSUED FOR COMMENT	6/19/17



SCALE: 1" = 20' JUNE 2017

**UTILITY PLAN** **C5**

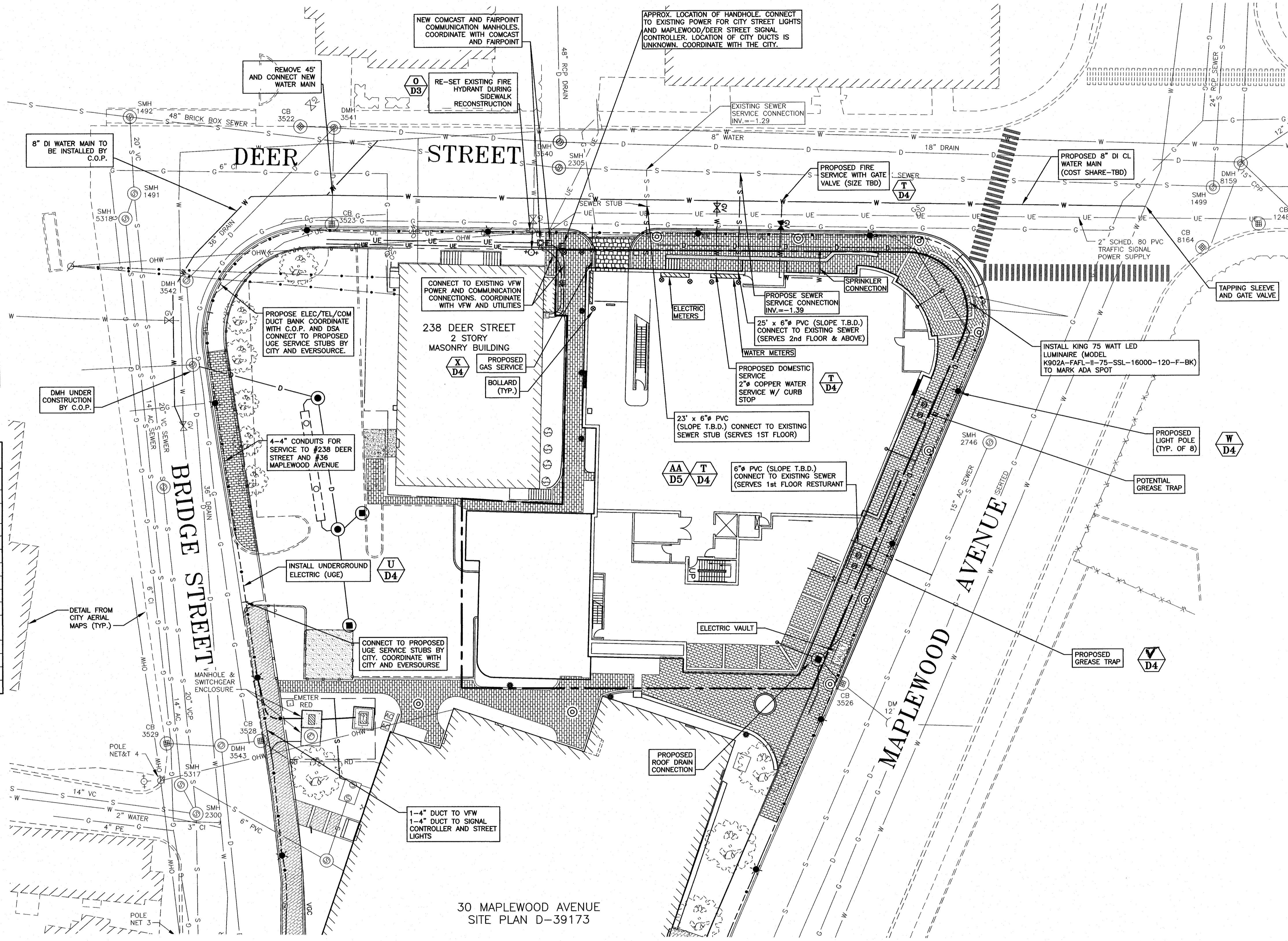


**DRAIN STRUCTURE TABLE**

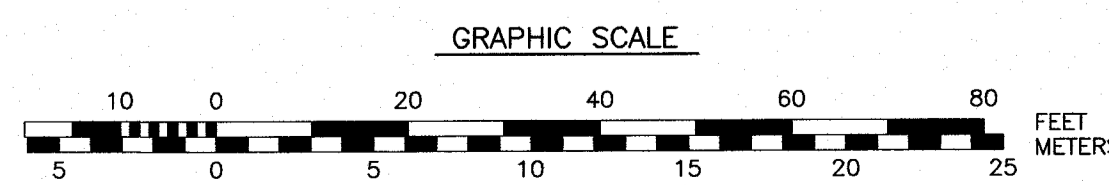
STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE
CB 3522	10.09	7.48±	12" RCP (NE)
CB 3523	9.49	6.29	12" (NW)
DMH 3540	10.78	NA	18" RCP (NE) 36" (SW)
DMH 3541	10.23	1.53	48" RCP (NW)
		7.48± 7.48± 2.07	12" RCP (SW) 12" RCP (SE) 36" (S)
DMH 3542	9.41	1.93	36"
		2.58	36"
		2.18	36"

**SEWER STRUCTURE TABLE**

STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE
1491	10.10	0.60	21" VC (SE)
		0.50	14" VC (S)
1492	11.17	0.51	21" VC (NE)
		3.52	6" PVC 21" VC
1493	10.04	-1.33	48" BOX SEWER
		2.49	6" VC (NE)
1499	15.77	2.39	6" VC (NW)
		-1.89	48" BOX SEWER
1500	14.14	-1.89	48" BOX SEWER
		-	-
2305	10.87	7.31	6" VC (SW)
		-1.20	48" VC
5317	8.24	1.29	14" AC (ESE)
		1.18	14" AC (NW)
5318	9.85	0.60	21" VC (SE)
		0.40	21" VC (NW)



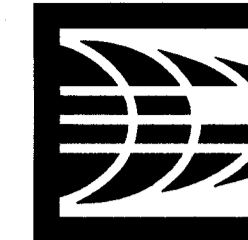
30 MAPLEWOOD AVENUE  
SITE PLAN D-39173



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

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Civil Engineers & Land Surveyors

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4. BUILDING ROOF WILL BE DRAINED INTERNALLY WITH CONNECTIONS AS SHOWN

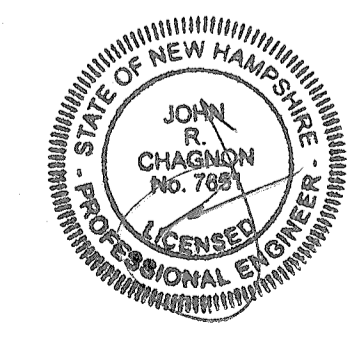
**PROPOSED DRAIN STRUCTURE TABLE**

STRUCTURE	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	SUMP INV. ELEV.	DOWN STREAM STRUCTURE
PIPE	PIPE LENGTH, PIPE SLOPE				
CATCH BASIN CB 2	9.49	5.40	2.40		DMH 2
12" HDPE	L = 30 L.F., SLOPE = 0.004 ft./ft.				
CATCH BASIN CB 1	9.29	5.33	2.33		DMH 2
12" HDPE	L = 6 L.F., SLOPE = 0.007 ft./ft.				
ROOF DRAIN	-	-	-	-	DMH 2
6" PVC	L = VARIES, SLOPE = 0.01 ft./ft.				
OUTLET CONTROL STRUCTURE (OCS #1) SEE DETAIL R1/D3	9.78±	6.17 (6") 5.33 (12") 5.23 (12") 4.29 (10")		WEIR ELEV. 5.60	DMH 1
12" HDPE	L = 44 L.F., SLOPE = 0.005 ft./ft.				
DRAIN MANHOLE DMH 1	9.78±	5.01 (12") 5.18 (10") 4.91 (12")			DMH 1A
12" HDPE	L = 41 L.F., SLOPE = 0.006 ft./ft.				
DRAIN MANHOLE DMH 1A (FUTURE/EXIST.)	TBD	4.67 (12") 2.67 (36") 2.67 (36")			DMH 3542
OUTLET CONTROL STRUCTURE (OCS #2) SEE DETAIL R2/D3	9.78±	10.0 (12") 10.0 (12") 10.0 (6" RD)		WEIR ELEV. 12.00	CB 3526
12" HDPE	L = 9.90 (12")				

NOTE:  
PROVIDE OUTLET CHECK VALVE IN DRAIN MANHOLE #1 TO PREVENT FLOW BACK INTO SYSTEM.

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

2	GRADING	12/19/17
1	PLAN DATUM	10/17/17
0	ISSUED FOR COMMENT	6/19/17
NO.	DESCRIPTION	DATE
REVISIONS		

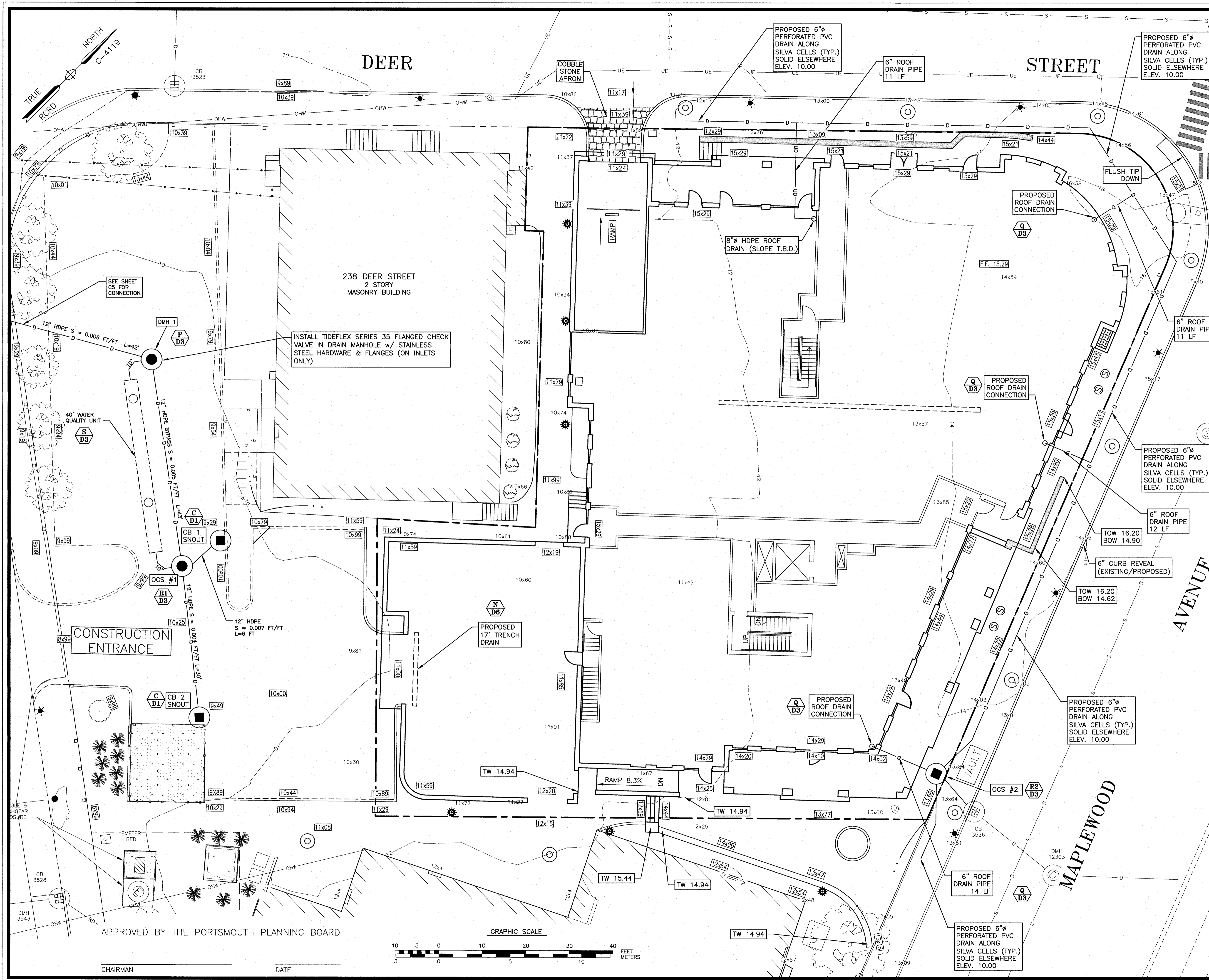


SCALE: 1" = 10'

JUNE 2017

**GRADING AND DRAINAGE PLAN**

**C6**



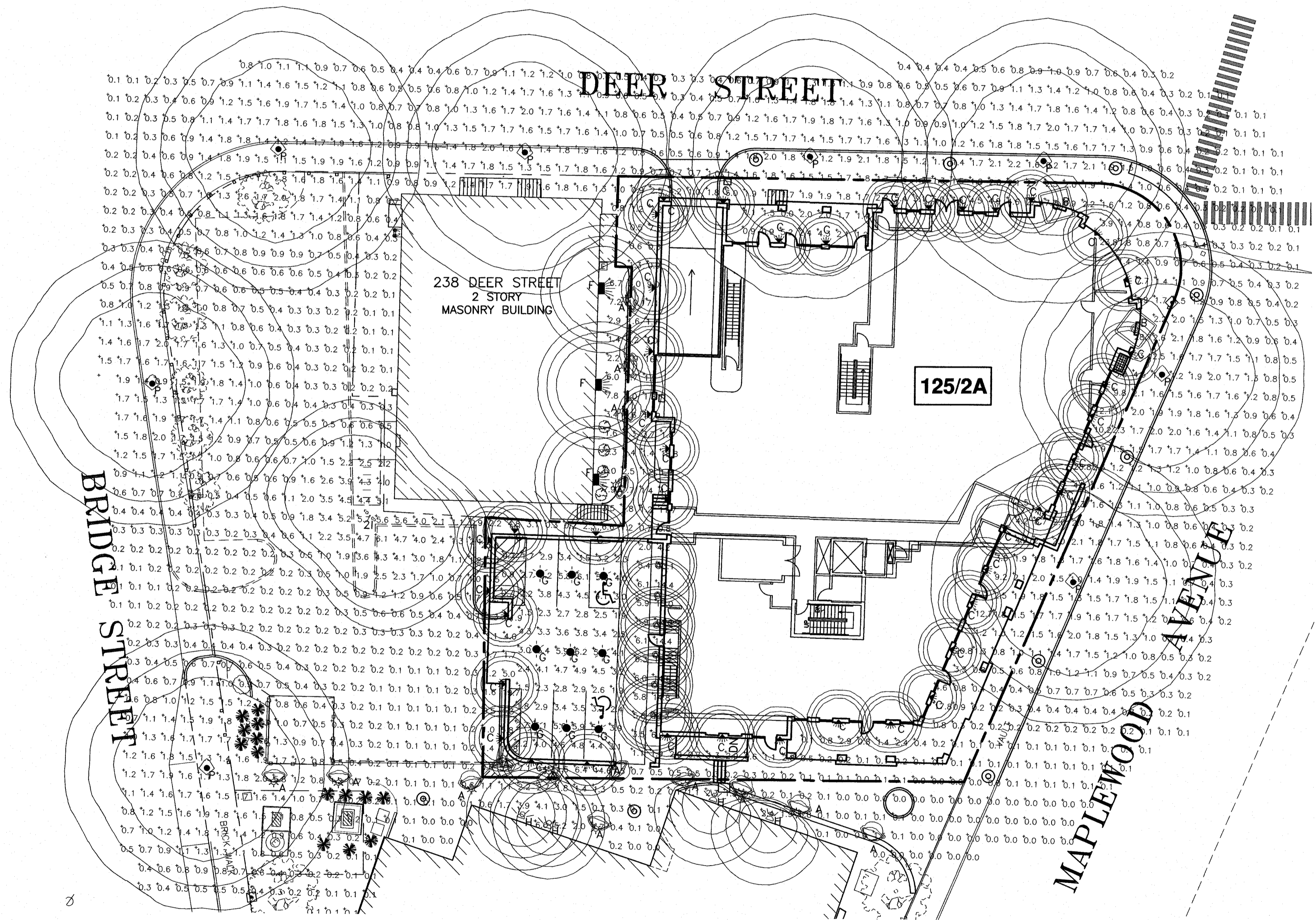
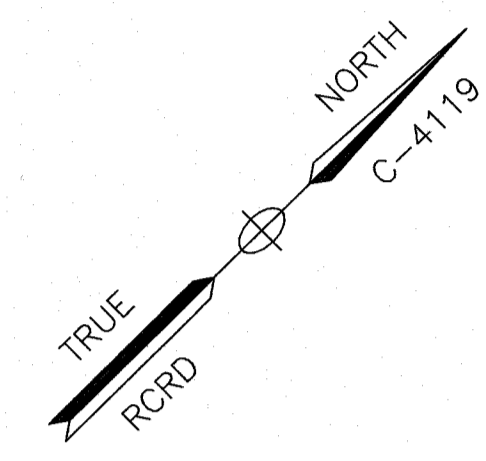
J:\JOBSET\UNTB005\UNTB005\1808\2017 Site Plan.dwg Maplewood\Plans & Specs\Site\1808\DWG\1808\CG\_GRADE AND DRAIN



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LUMINAIRE SCHEDULE									
SYMBOL	LABEL	QTY.	CATALOG NUMBER	DESCRIPTION	LAMP	NUMBER LAMPS	LUMENS PER LAMP	LIGHT LOSS FACTOR	WATTAGE
☀	A	15	U538008	KLEIN BOLLARD; MOUNTED AT 3FT	LED	1	74	0.9	6
☉	B	2	F0801SH030805 K X A	RISE SPOT; MOUNTED AT 30FT	LED	1	746	0.9	11.5
☽	C	42	7000WKON8301722775	KONIAL 17 METAL EXTERIOR WALL SCONCE WITH DRIVER TO REDUCE OUTPUT; MOUNTED AT 8FT	LED	1	2315.354	0.68	22.2
☾	D	6	C3LS-DW-13834060-XX	EXTERIOR CYLINDER WALL SCONCE; MOUNTED AT 10FT	LED	1	1300	0.9	18
☼	F	3	OLWX1 LED 20W 40K DBB	20W 4000K LED WALL PACK; MOUNTED AT 8 FT	LED	1	1840	0.9	21.77
☀	G	9	7000WCQ81840H	CIRQUE LARGE SURFACE MOUNT; MOUNTED AT 9.5 FT	LED	1	1042	0.9	22
☽	H	4	XXXXXX	UNKNOWN YARD LIGHT FIXTURE; MOUNTED AT 8 FT	LED	1	1819.715	0.45	10
●	P	8	1843LED-4ARC45T5-MDL03-GTA	1843 LED CARSON CITY, 4-SIDED LANTERN, CLEAR TEXTURED ACRYLIC LENS, TYPE 5; MOUNTED AT 12FT	LED	1	5642	0.9	62.6
⊙	2I	1	S3976N UNV 14	SLOT POLE 18 WHITE NEUTRAL 4000K; MOUNTED AT 12FT	LED	1	2789	0.9	74

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Covered Parking Area	+	3.5 fc	6.2 fc	0.7 fc	8.9:1	5.0:1
Ground	+	1.4 fc	31.9 fc	0.0 fc	N/A	N/A



- NOTES:**
- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
  - 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
  - 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
  - 4) POLE MOUNTED LIGHTS SHALL HAVE A MAXIMUM FIXTURE OF HEIGHT OF 16 FEET.
  - 5) ALL LIGHTING SHALL BE SHIELDED TO MINIMIZE LIGHT TRESPASS AND DIRECT GLARE BEYOND THE PROPERTY.
  - 6) LIGHTING PLAN PREPARED USING AGI32 SOFTWARE. LIGHTING DESIGN BASED ON JES FILES THAT WERE LAB-TESTED OR COMPUTER GENERATED. ACTUAL RESULTS MAY VARY DEPENDING ON FIELD CONDITIONS, AREA GEOMETRY OR CHANGES IN ELECTRICAL SUPPLY VOLTAGE.
  - 7) LIGHTS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
  - 8) HOURS OF OPERATION ARE ANTICIPATED TO BE 6:00 AM TO 7:00 PM. OUTDOOR LIGHTS SHALL BE EQUIPPED WITH TIMERS TO TURN OFF LIGHTS DURING NON-OPERATIONAL HOURS.
  - 9) LIGHTING DESIGN BY VISIBLE LIGHT, INC.  
24 STICKNEY TERRACE  
SUITE 6  
HAMPTON, NH 03842

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

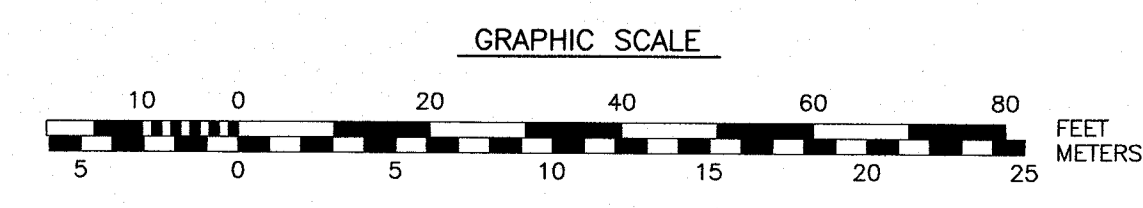
**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	11/22/17
REVISIONS		

SCALE: 1" = 20' NOVEMBER 2017

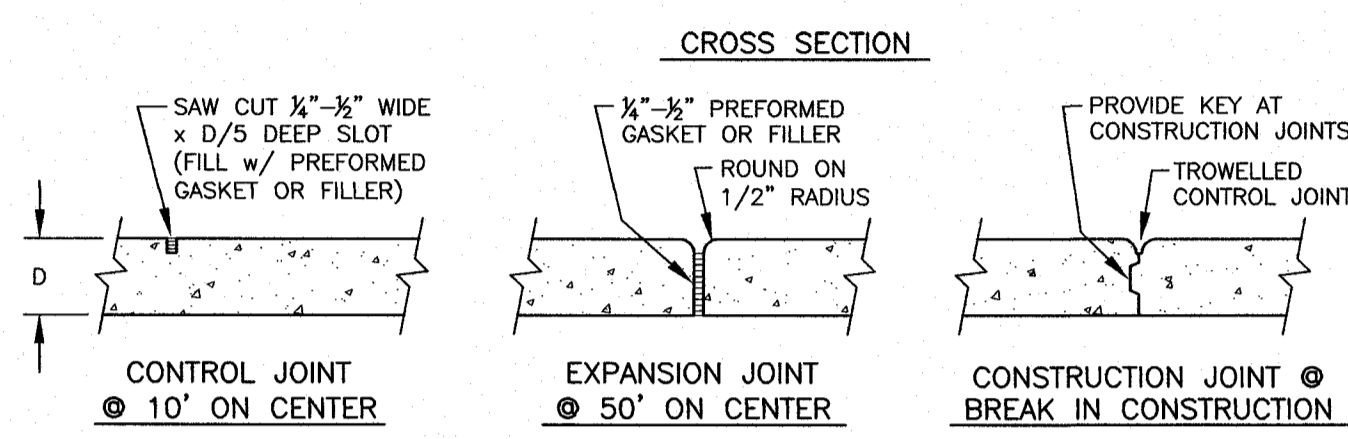
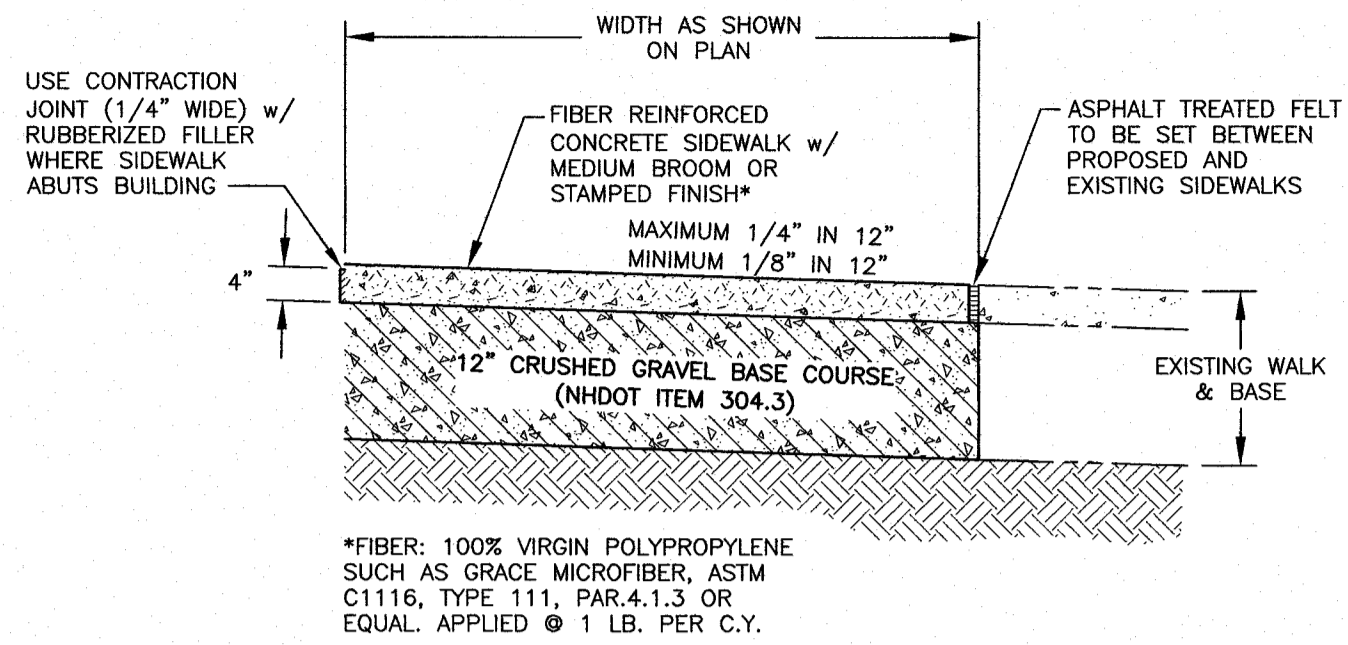
**VISIBLE LIGHT INC.**  
**LIGHTING PLAN**

**L1**

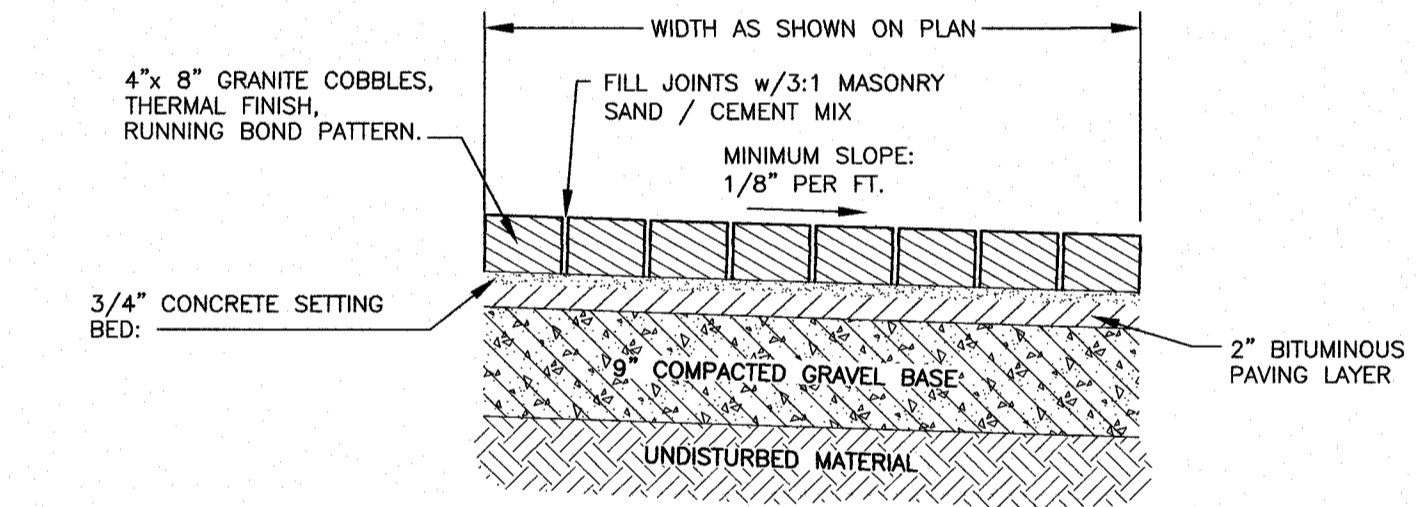


J:\JOB01\NH800a\NH800a\NH800a\1808\2017\_Site\_Plan\_46\_Maplewood\Plans & Specs\Site\1808\2017\_Site\_Plan\_46\_Maplewood.dwg, L1\_LIGHTING

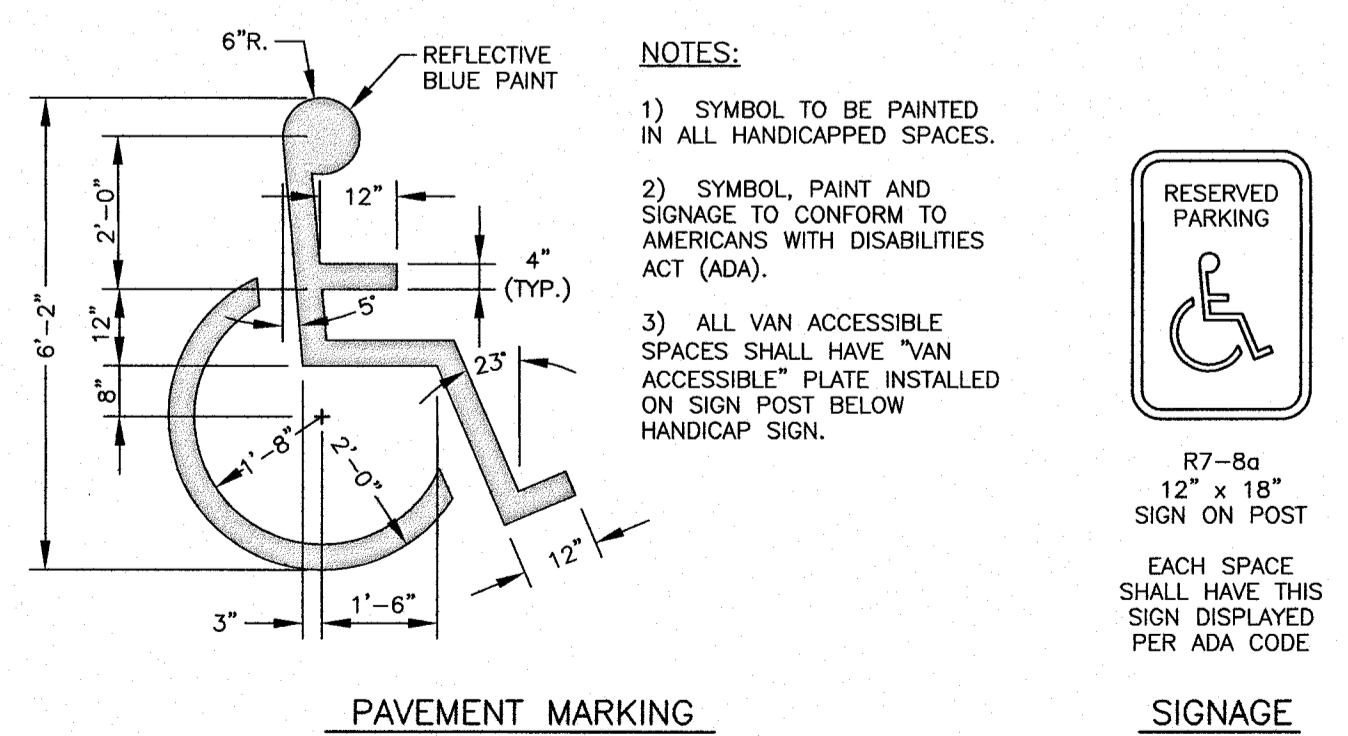




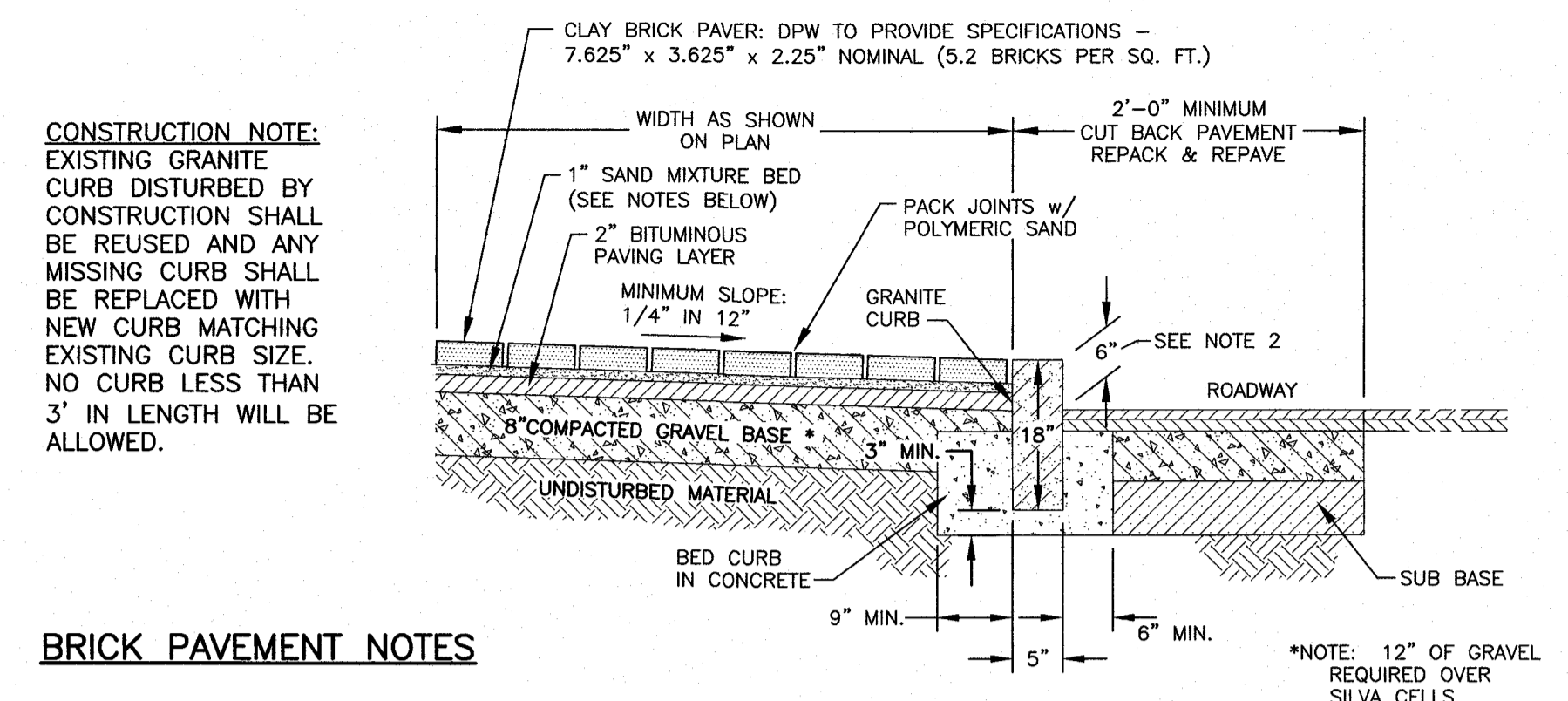
**E PORTLAND CEMENT CONCRETE SIDEWALK**  
C3 NTS



**F COBBLE BAND (APRON)**  
C3 NTS



**G ADA SIGN & PAVEMENT MARKING**  
C4 NTS

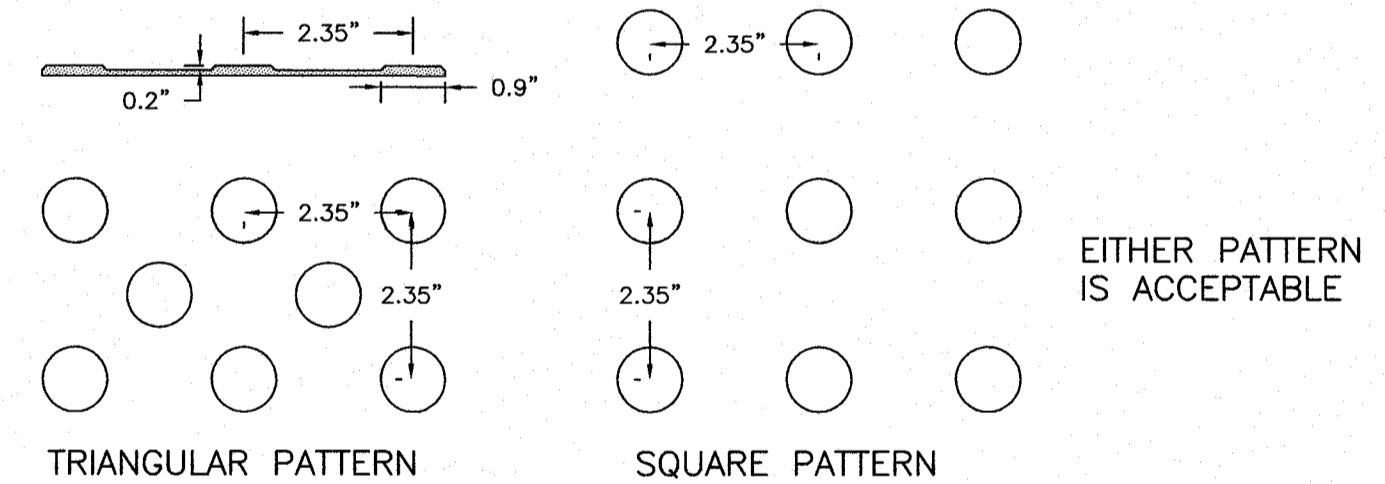


**CONSTRUCTION NOTE:** EXISTING GRANITE CURB DISTURBED BY CONSTRUCTION SHALL BE REUSED AND ANY MISSING CURB SHALL BE REPLACED WITH NEW CURB MATCHING EXISTING CURB SIZE. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.

**BRICK PAVEMENT NOTES**

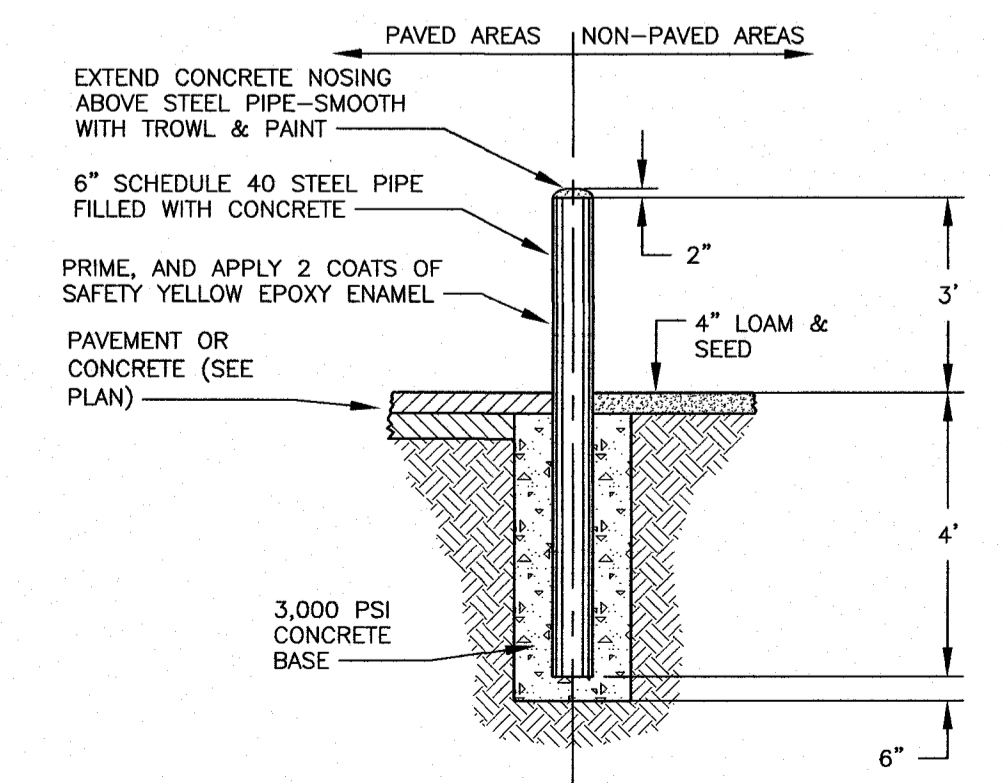
- SCOPE OF WORK:**
- 1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB-BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER.
  - 2) REVEAL SHALL BE 6" OR EXISTING REVEAL. (COORDINATE WITH PORTSMOUTH DPW).
- METHODS OF CONSTRUCTION:**
- A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.
  - B) ALL BRICKS SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR BUILDING BRICKS: CLASS SX, TYPE 1, APPLICATION PX. THE BRICKS SHALL BE NO. 1, WIRE CUT TYPE FOR PAVING, WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 POUNDS PER SQUARE INCH. THE BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE OF A STANDARD SIZE (2.25" x 3.625" x 7.625").
  - C) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S OWN EXPENSE.
  - D) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.
  - E) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.
  - F) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 5.2 BRICKS SHALL COVER ONE SQUARE FOOT.
  - G) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.
  - H) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
  - I) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

**H BRICK SIDEWALK w/ VERTICAL GRANITE CURB**  
C3 (STONE DUST BEDDING OVER BITUMINOUS PAVING) NTS

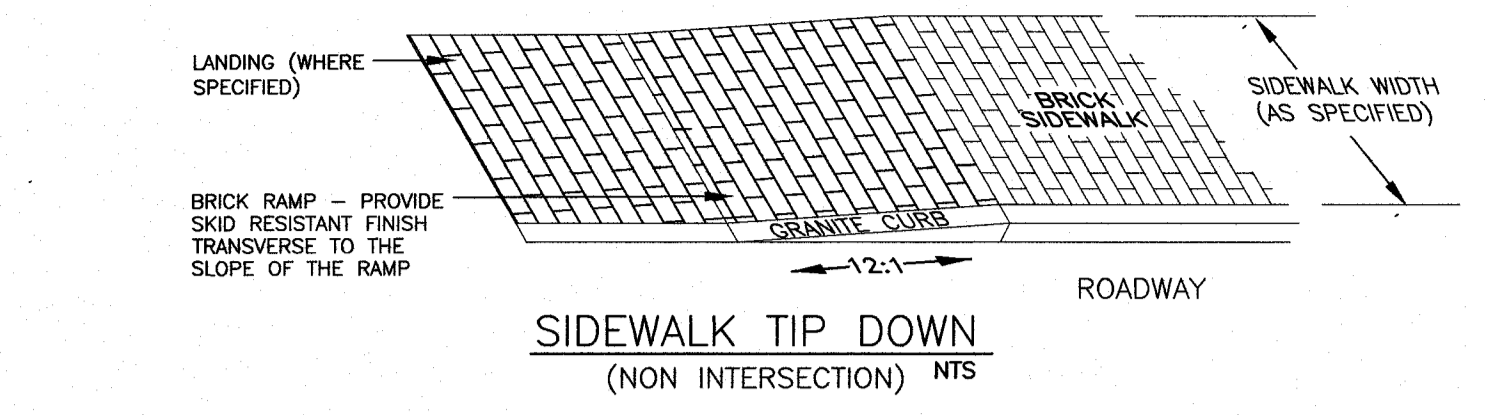


**NOTE:**  
1. CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH OF THE RAMP, A HEIGHT OF NOMINAL 0.2". THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED SPACING OF NOMINAL 2.35". THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (LIGHT-ON-DARK OR DARK-ON-LIGHT).  
2. DETECTABLE WARNING SURFACE SHALL BE IRON PANEL TO FILL THE SPACE SHOWN ON THE SITE PLAN.

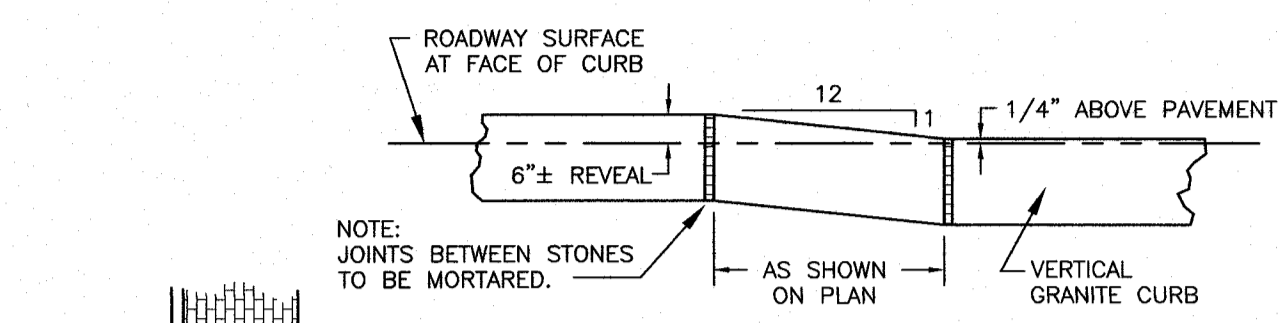
**I DETECTABLE WARNING SURFACE**  
C3 NTS



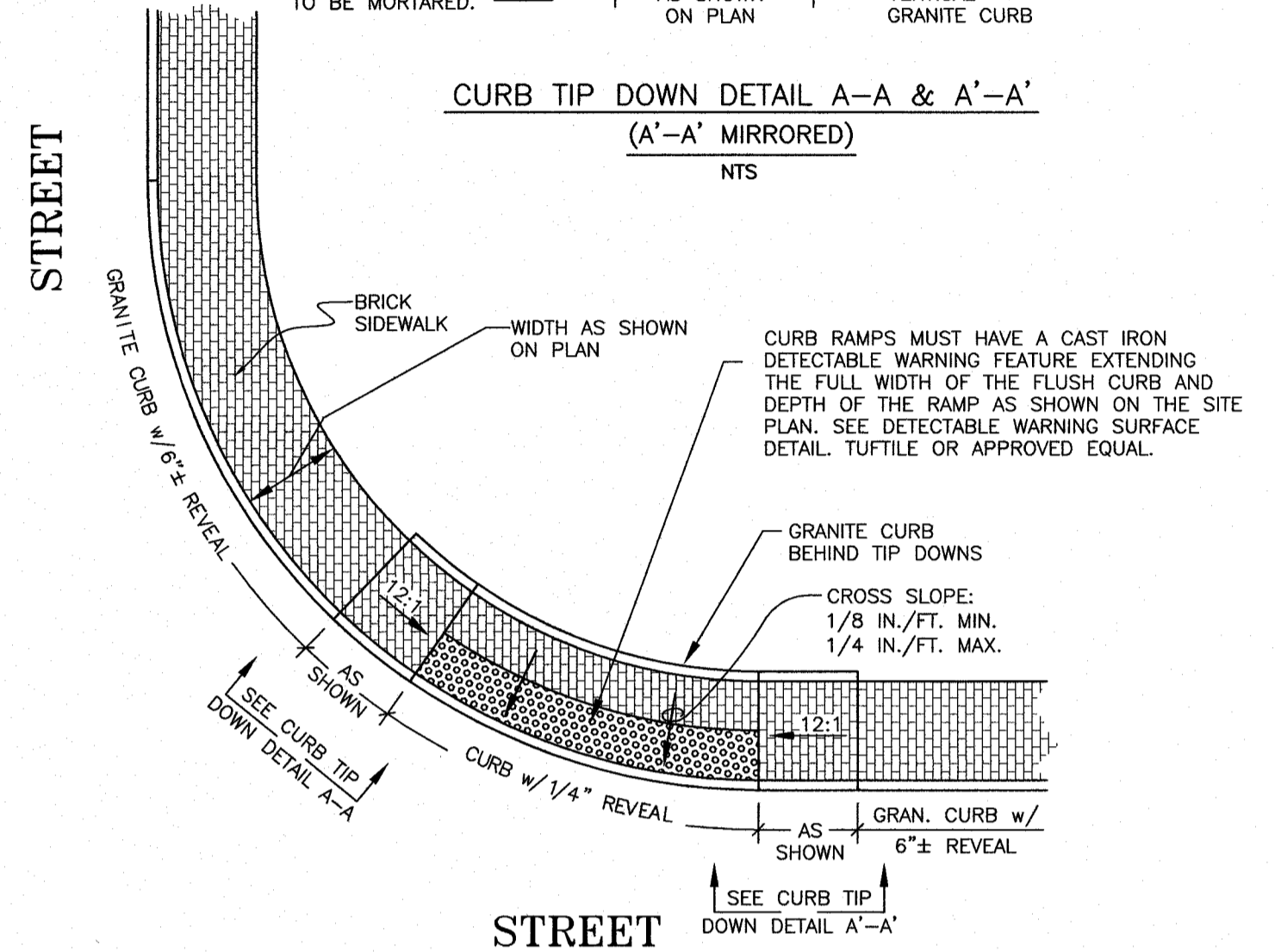
**J PIPE BOLLARD DETAIL**  
C4 NTS



**SIDEWALK TIP DOWN**  
(NON INTERSECTION) NTS

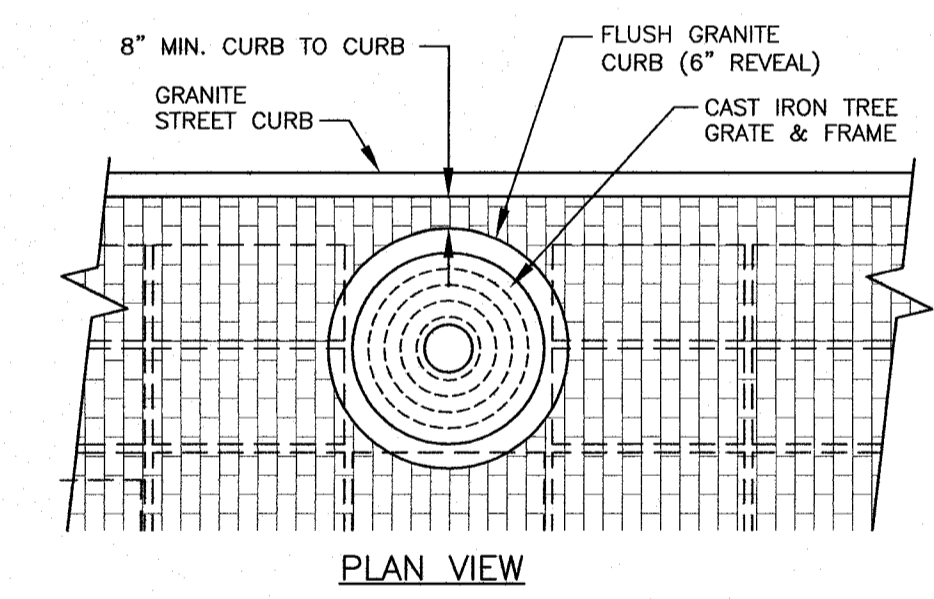


**CURB TIP DOWN DETAIL A-A & A'-A'**  
(A'-A' MIRRORED) NTS

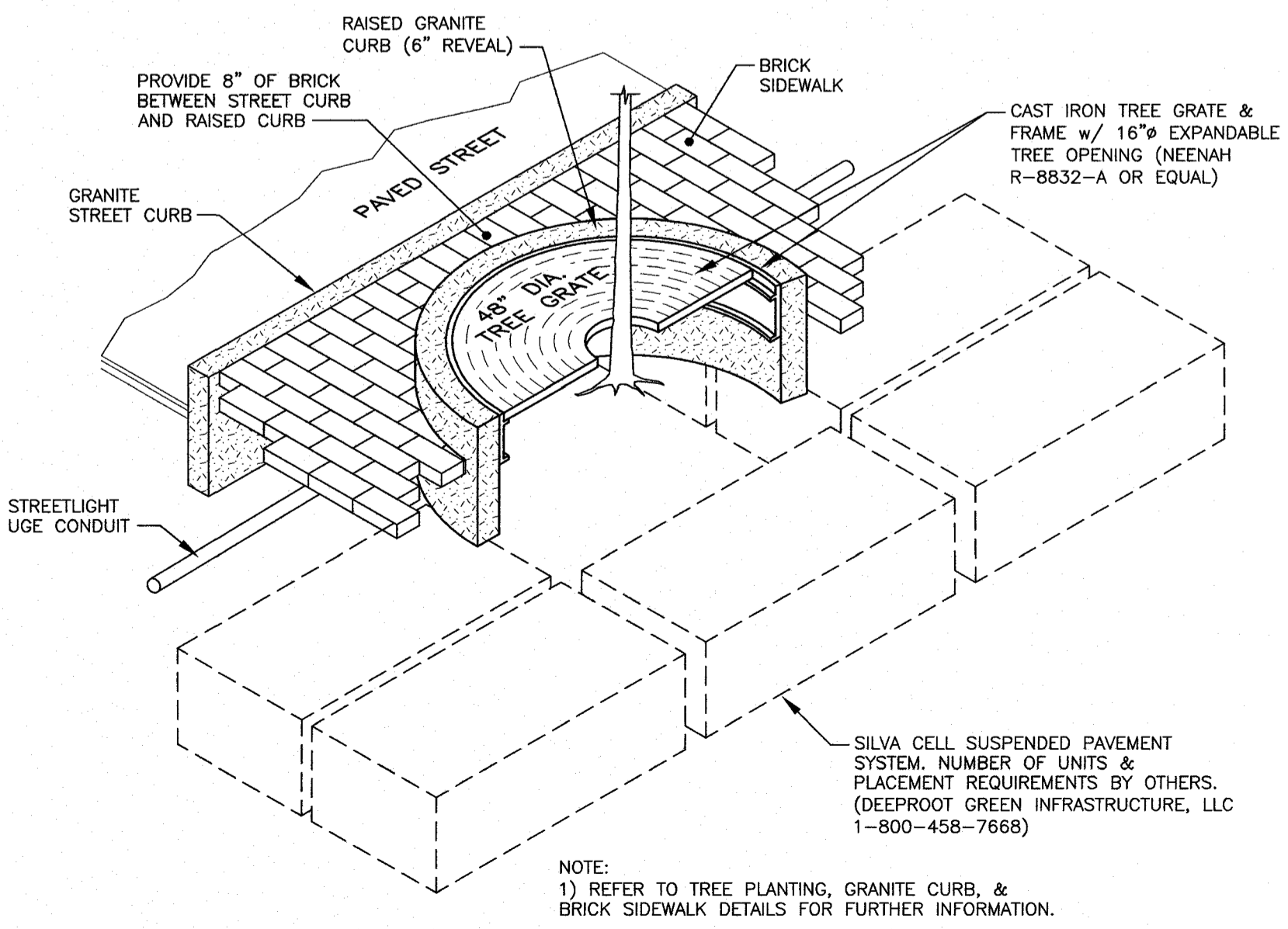


**SIDEWALK TIP DOWN AT INTERSECTION**  
NTS

**K TYPICAL SIDEWALK TIP DOWNS**  
C3



**PLAN VIEW**



**NOTE:**  
1) REFER TO TREE PLANTING, GRANITE CURB, & BRICK SIDEWALK DETAILS FOR FURTHER INFORMATION.

**L TREE WELL w/ GRANITE CURB**  
C3 5" DIA. OUTSIDE CURB DIMENSION NTS

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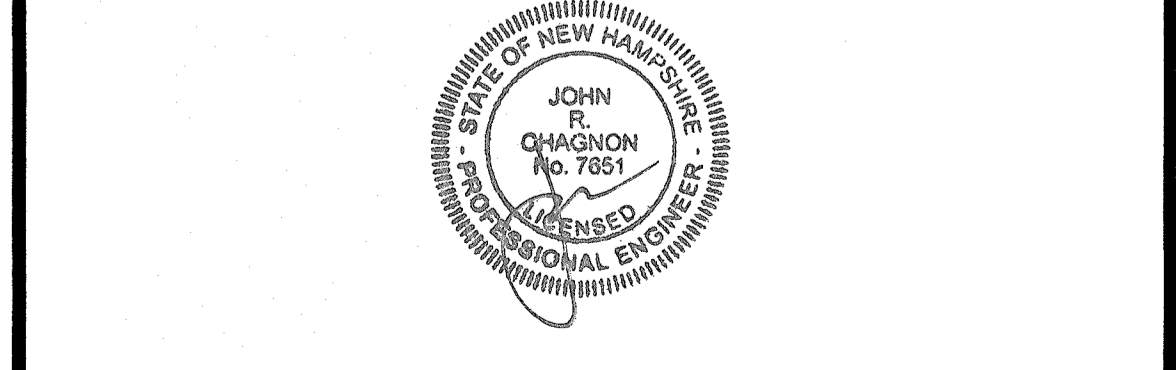
APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	DETAILS E, H, I, J AND K	12/19/17
1	DETAILS F/C3, C/C4, I/C3, K/C3 & L/C3	10/17/17
0	ISSUED FOR COMMENT	6/19/17

REVISIONS



SCALE: AS NOTED JUNE 2017

**DETAILS** **D2**

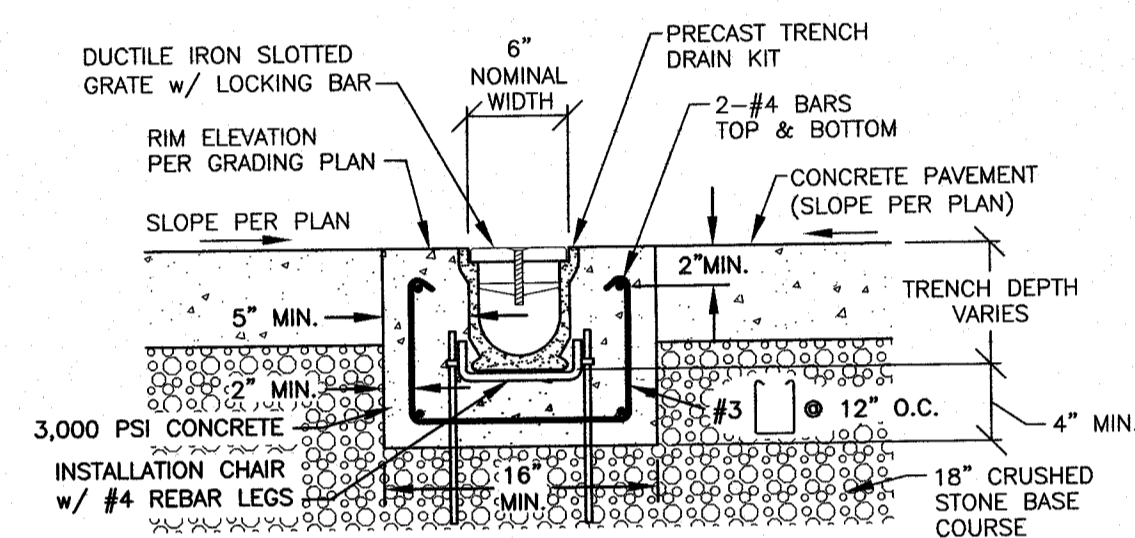


**AMBIT ENGINEERING, INC.**  
Civil Engineers & Land Surveyors  
200 Griffin Road, Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9282  
Fax (603) 436-2315

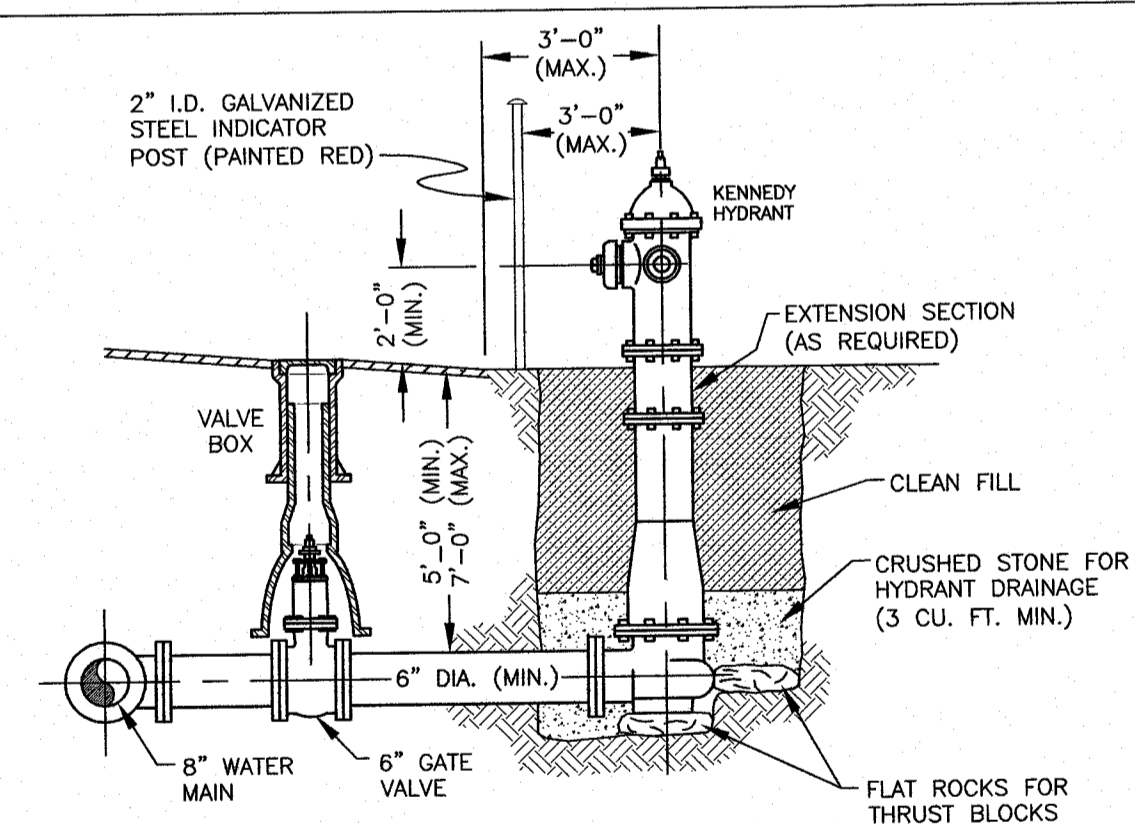
**NOTES:**

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**M**  
RESERVED

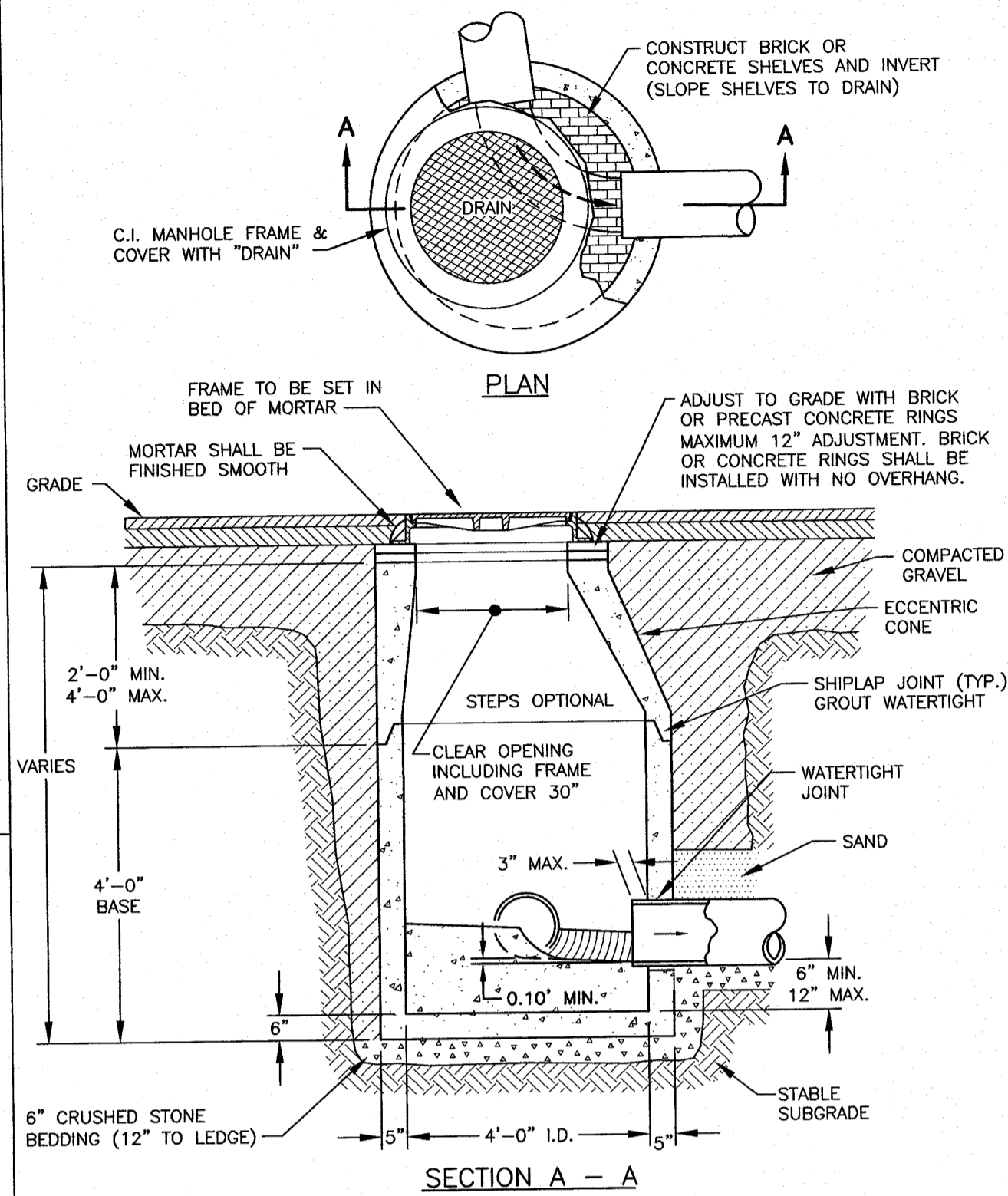


**N4** **N6** GARAGE EVAPORATIVE TRENCH DRAIN NTS



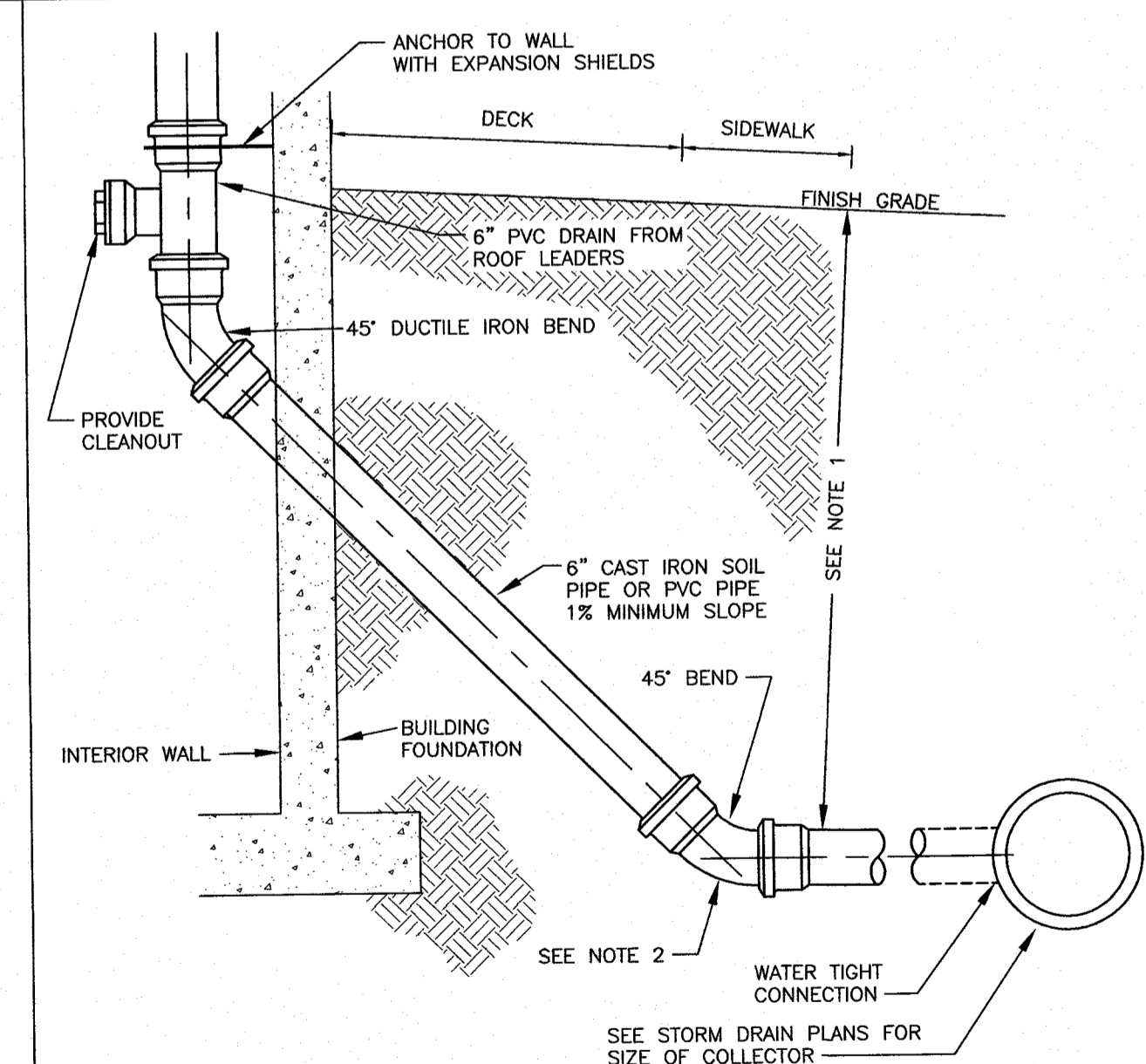
- NOTES:**
1. HYDRANTS SHALL BE INSTALLED A MAXIMUM DISTANCE OF 3 FEET CURB LINE TO OPERATING NUT.
  2. THE PUMPER OUTLET NOZZLE SHALL FACE THE STREET.
  3. CENTERLINE OF NOZZLES SHALL BE A MINIMUM OF 2 FEET ABOVE FINISHED GRADE OF STREET.
  4. AREA AROUND HYDRANT SHALL BE GRADED TO ALLOW ANY SURFACE WATER TO DRAIN AWAY FROM HYDRANT.
  5. HYDRANT SHALL BE FIRMLY SUPPORTED ALL AROUND THE STANDPIPE.
  6. EARTH FILL SHALL BE TAMPED TO GIVE FIRM SUPPORT TO THE HYDRANT BARREL.
  7. A GATE VALVE SHALL BE INSTALLED BETWEEN THE HYDRANT AND THE MAIN ON THE LATERAL.
  8. HYDRANT LATERALS SHALL BE 6\"/>

**O** FIRE HYDRANT INSTALLATION DETAIL PORTSMOUTH NTS



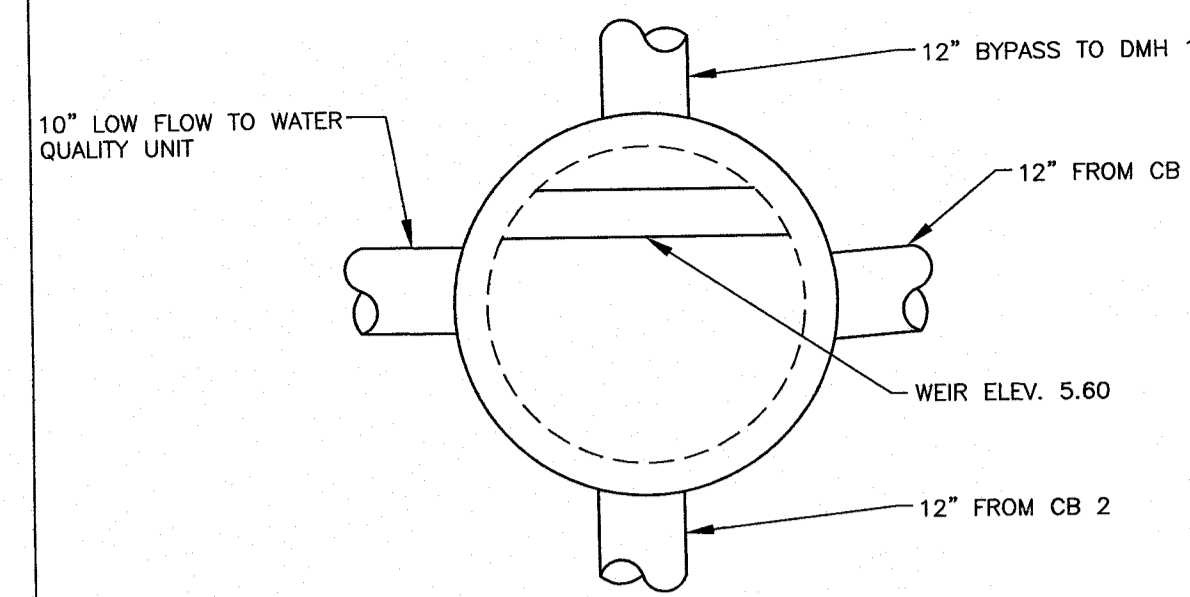
- NOTES:**
1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
  2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
  3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
  4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

**P** DRAIN MANHOLE DETAIL NTS

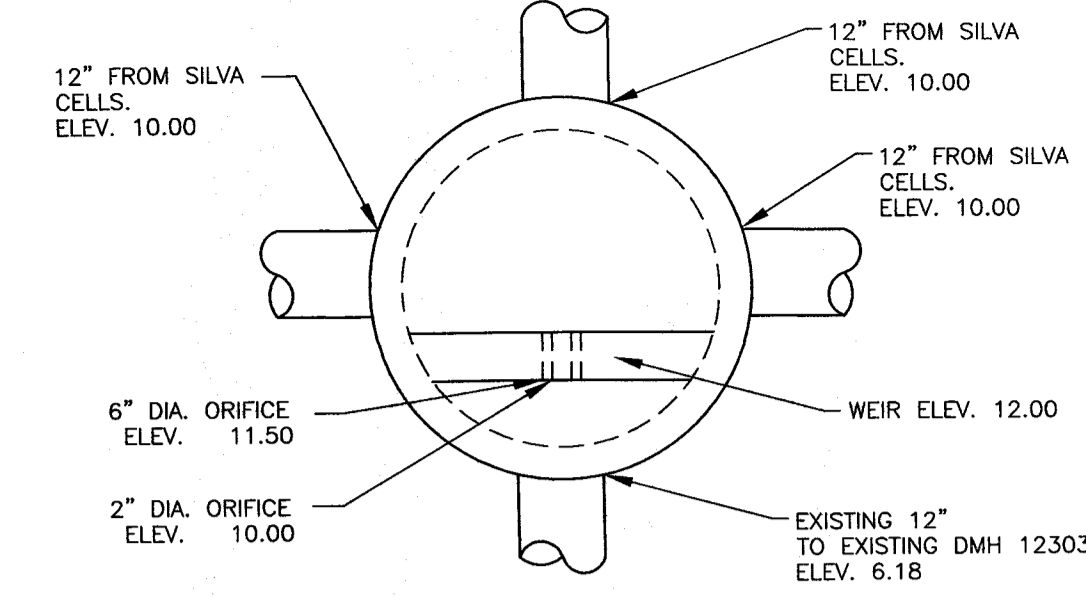


- NOTES:**
- 1) FOR ALL DEPTHS OF COVER LESS THAN 2 FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN 2 FEET, FLEXIBLE PIPE MAY BE USED.
  - 2) A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
  - 3) THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE FOUNDATION PENETRATION. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INTERIOR CONNECTION.

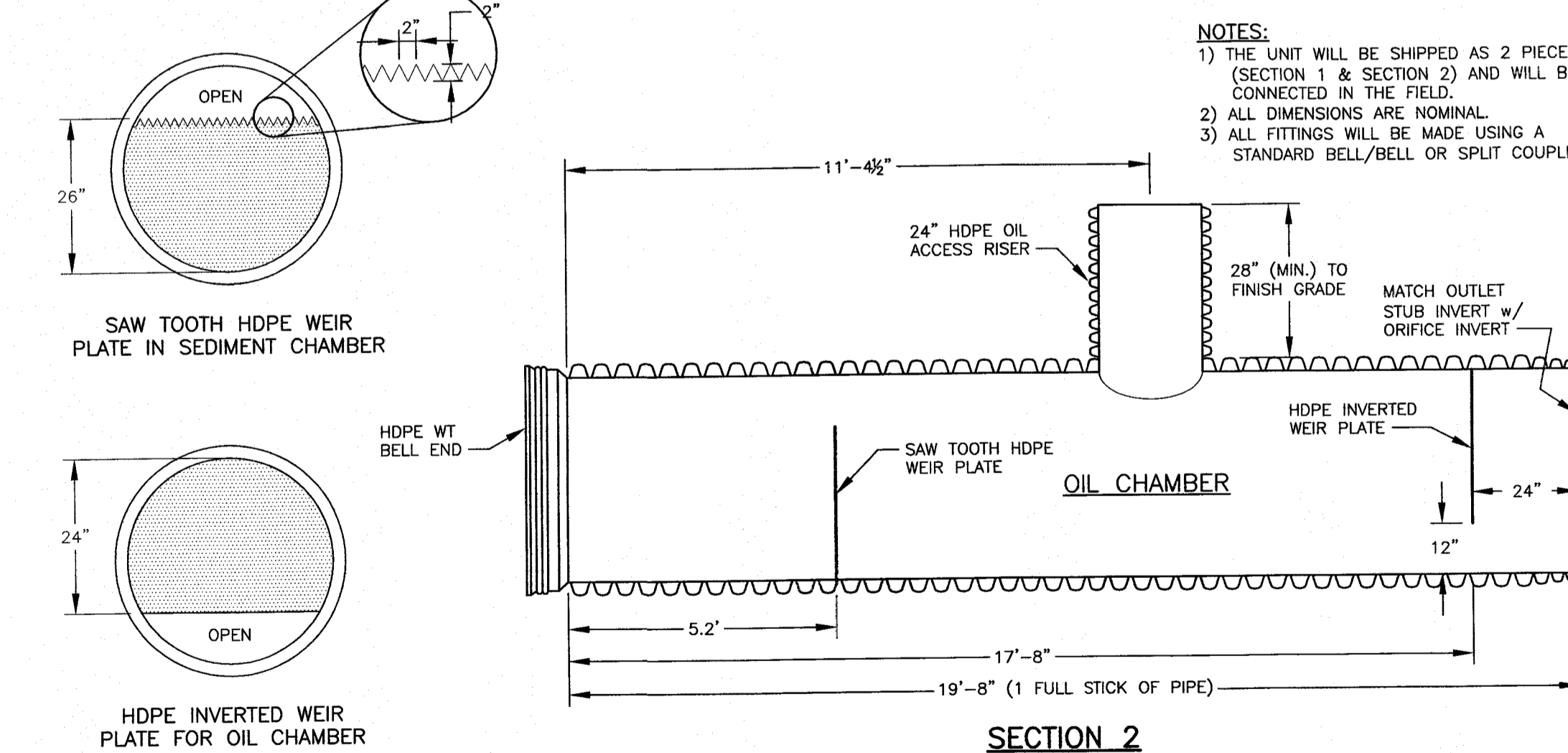
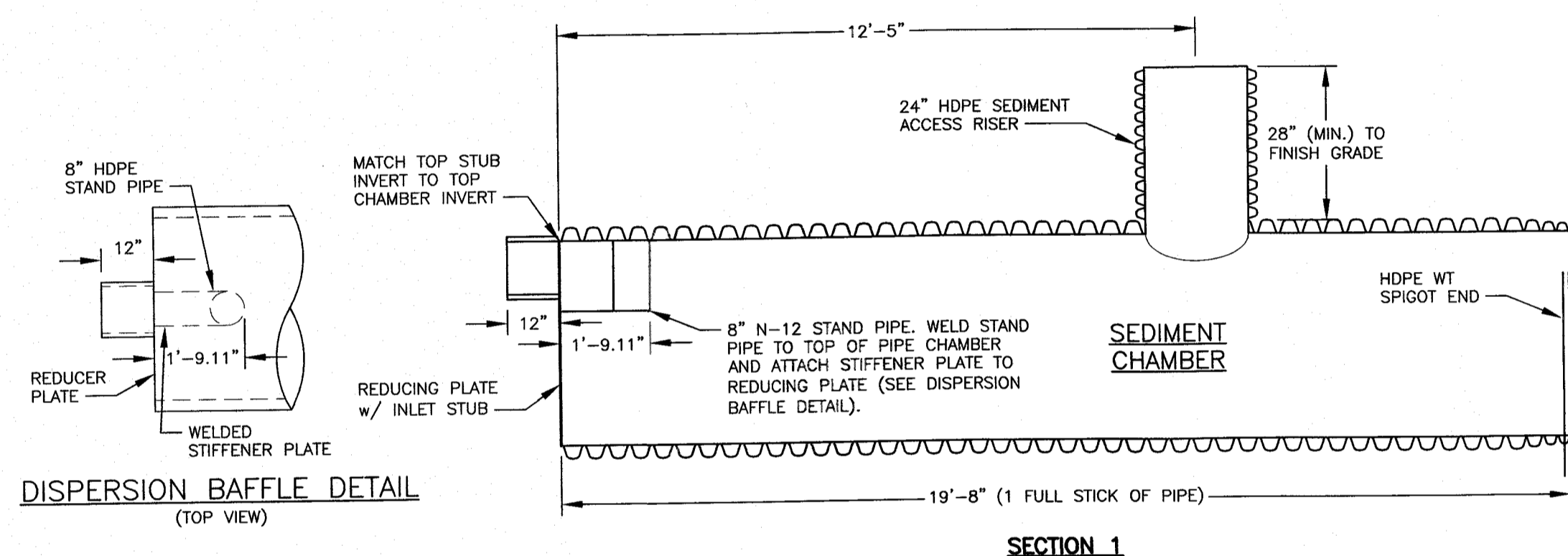
**Q** ROOF DRAIN DETAIL NTS



**R1** **C6** OCS #1 WEIR DETAIL CONCRETE WEIR INSIDE CONCRETE STRUCTURE NTS



**R2** **C6** OCS #2 WEIR DETAIL CONCRETE WEIR INSIDE CONCRETE STRUCTURE NTS



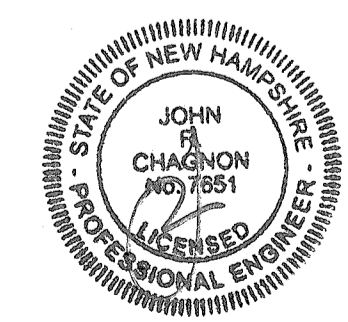
**S** **C6** HANCOR 3640WQA12 STORMWATER WATER QUALITY UNIT FOLLOW MANUFACTURER'S RECOMMENDED INSPECTION/MAINTENANCE GUIDELINES NTS

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	DETAILS M, N, O, P, R1 & R2	12/19/17
1	DETAIL M/C6, P/C5 & Q/C6	10/17/17
0	ISSUED FOR COMMENT	6/19/17

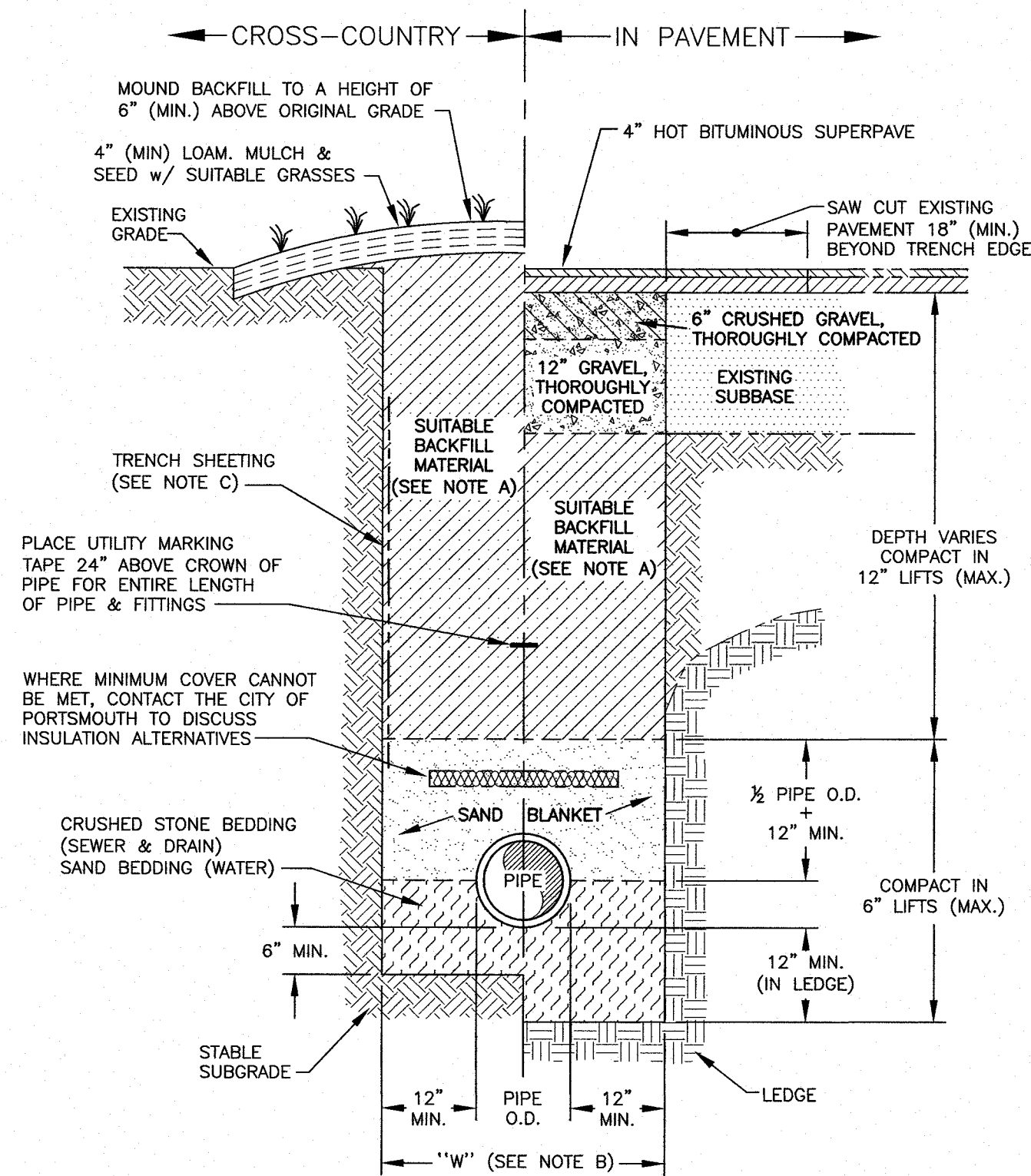


SCALE: AS NOTED JUNE 2017

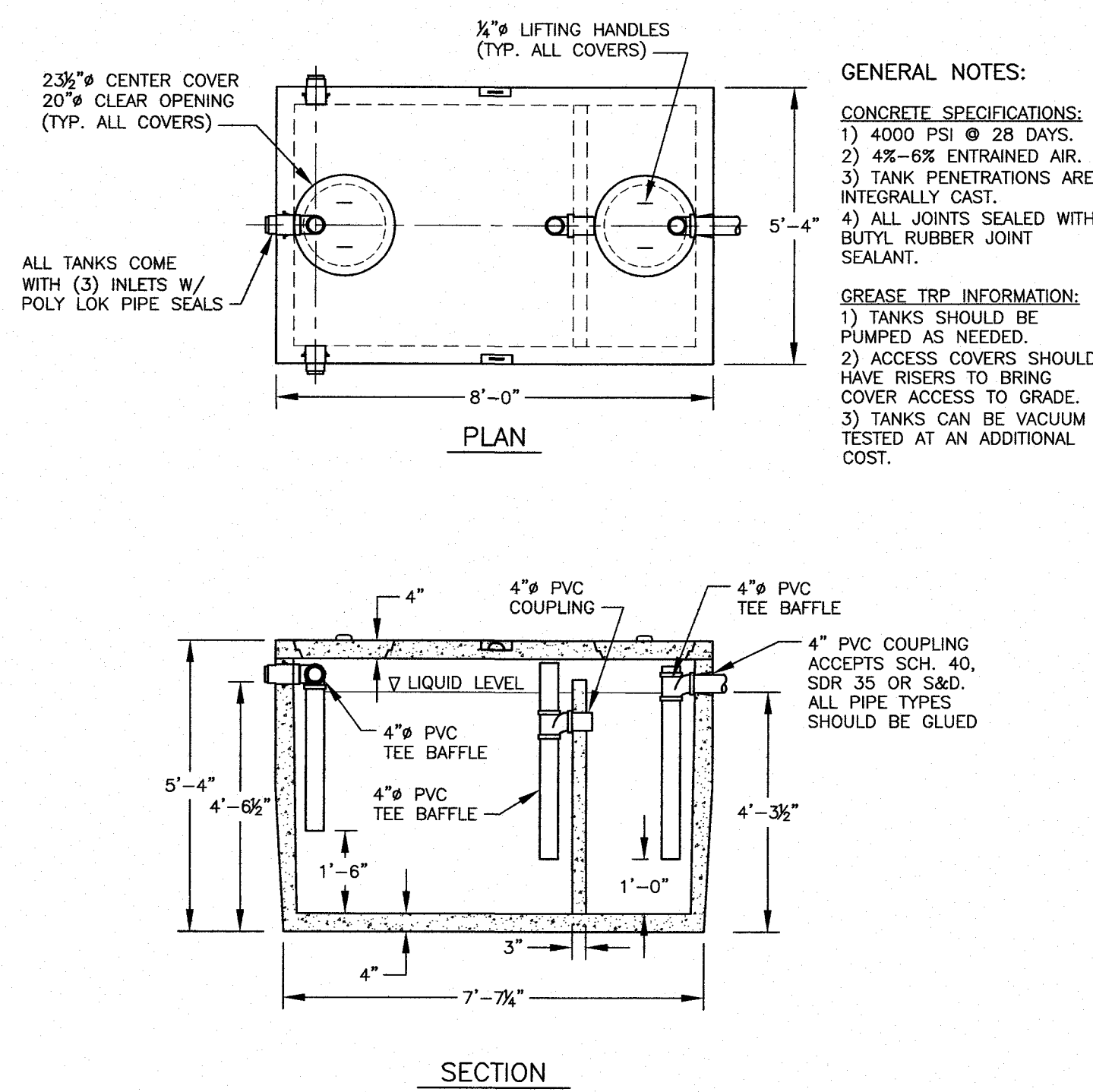
DETAILS **D3**



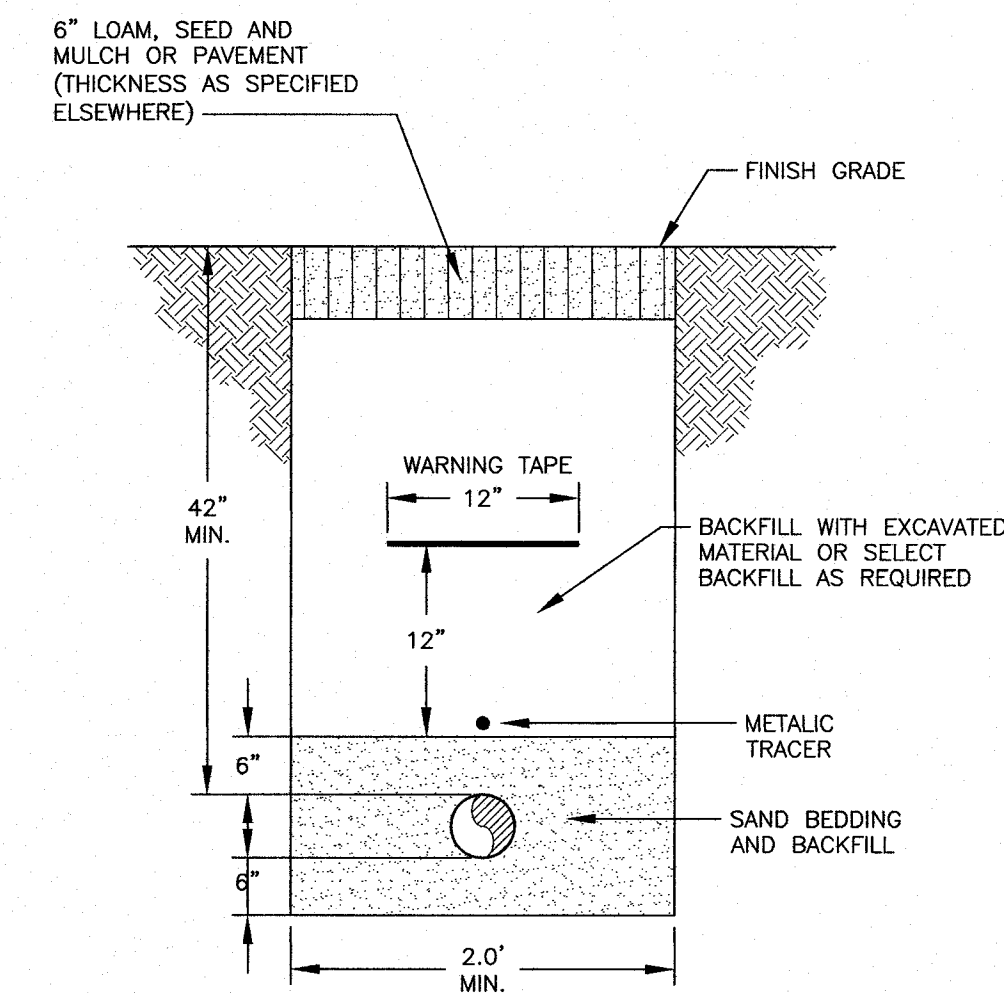
- TRENCH NOTES:**
- A) TRENCH BACKFILL:  
 - IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.  
 - IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.
- B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..
- C) TRENCH SHEETING:  
 IF REQUIRED, WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW SPRING LINE, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):  
 6" MINIMUM FOR SEWER (IN PAVEMENT)  
 4" MINIMUM FOR SEWER (CROSS COUNTRY)  
 3" MINIMUM FOR STORMWATER DRAINS  
 5" MINIMUM FOR WATER MAINS
- E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.



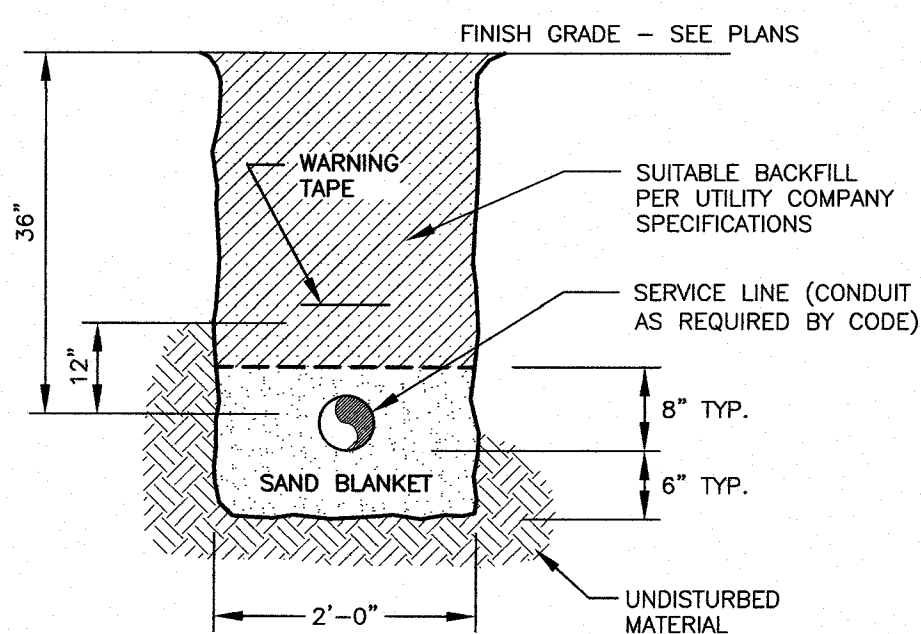
**T**  
C5  
TYPICAL PIPE TRENCH  
NTS



**V**  
C5  
1000 GALLON 2 COMPARTMENT GREASE TRAP  
AMERICAN CONCRETE INDUSTRIES  
9,200 Lbs TEM # 8827  
NTS

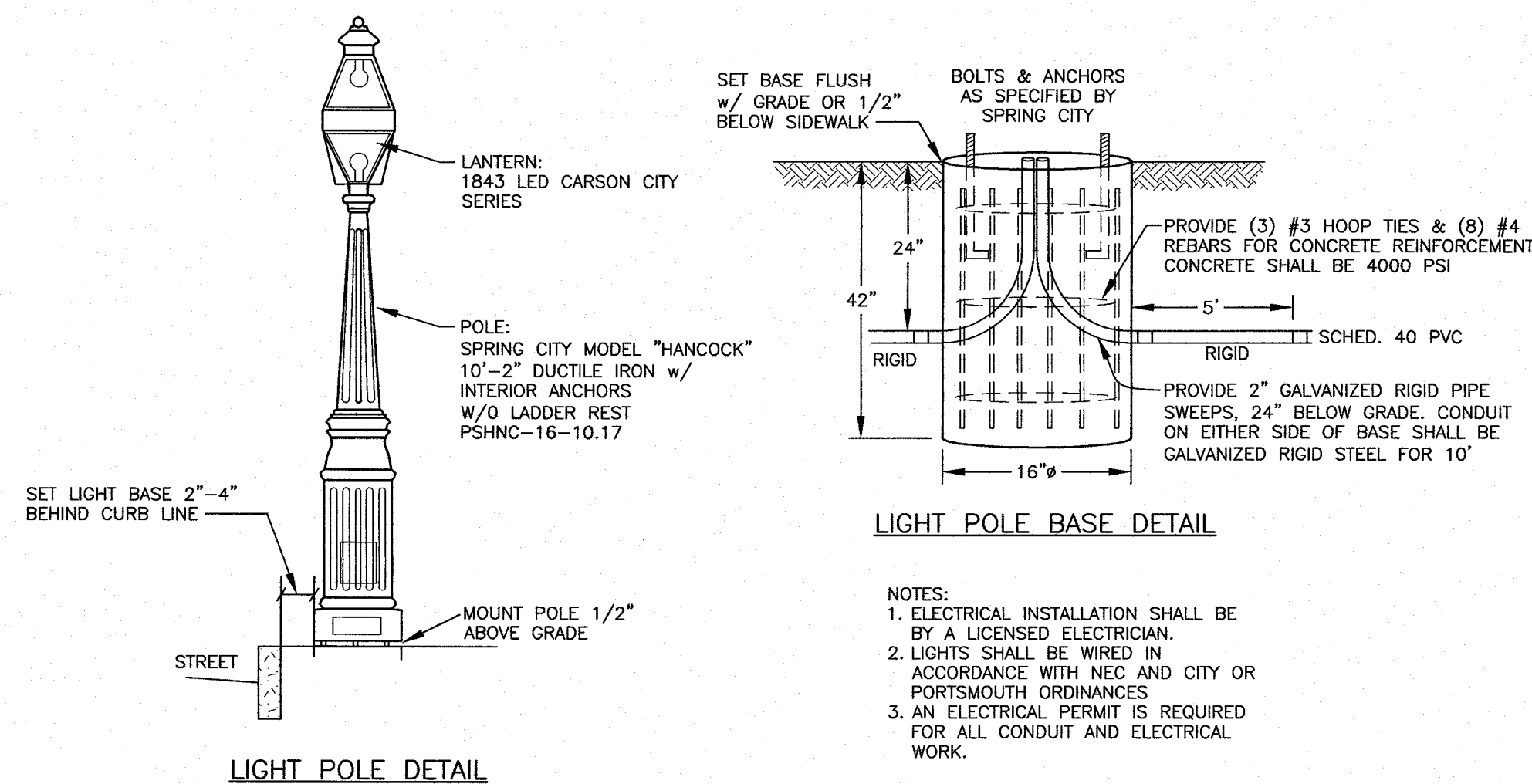


**X**  
C5  
GAS SERVICE TRENCH  
NTS



- NOTES:**
1. ALL CONDUIT TO BE U.L. LISTED, SCHED. 80 UNDER ALL TRAVEL WAYS AND ON PUBLIC PROPERTY & SCHED. 40 FOR THE REMAINDER.
  2. NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY. CONFIRM CONDUIT SIZE & TYPE WITH UTILITY COMPANY PRIOR TO INSTALLATION.
  3. ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
  4. INSTALL A 200# PULL ROPE FOR EACH CONDUIT

**U**  
C6  
ELECTRIC SERVICE TRENCH  
NTS



**W**  
C5  
LIGHT POLE & BASE DETAILS  
CITY STANDARD  
NTS

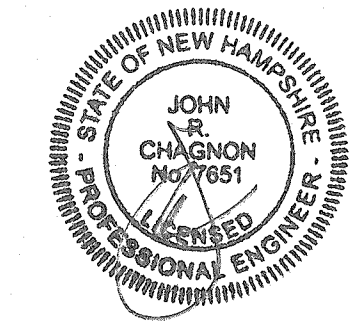
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APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**TAX MAP 125 LOT 2A  
 46-64 MAPLEWOOD AVENUE  
 PORTSMOUTH, N.H.**

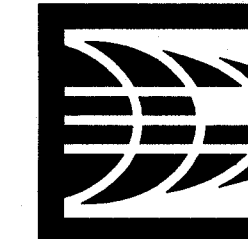
NO.	DESCRIPTION	DATE
2	DETAIL Y REMOVED, DETAIL W	12/19/17
1	DETAIL X/C5, ADDED DETAIL Y/C4	10/17/17
0	ISSUED FOR COMMENT	6/19/17



SCALE: AS NOTED JUNE 2017

DETAILS

D4



**AMBIT ENGINEERING, INC.**  
Civil Engineers & Land Surveyors

200 Griffin Road, Unit 3  
Portsmouth, N.H. 03801-7114  
Tel (603) 430-9202  
Fax (603) 436-2315

**NOTES:**

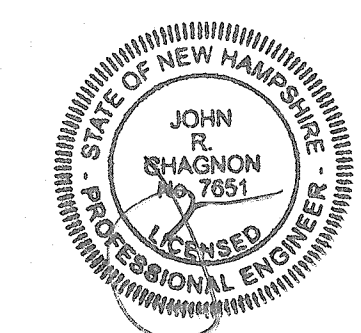
- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

**TAX MAP 125 LOT 2A**  
**46-64 MAPLEWOOD AVENUE**  
**PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
1	DETAIL Y	12/19/17
0	ISSUED FOR COMMENT	6/19/17
REVISIONS		



SCALE: AS NOTED JUNE 2017

DETAILS

**D5**

**GENERAL NOTES**

- 1) MINIMUM PIPE SIZE FOR COMMERCIAL SERVICE SHALL BE SIX INCHES.
- 2) PIPE AND JOINT MATERIALS:
  - A. PLASTIC SEWER PIPE
    1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
 

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 To T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
AWWA C900	PVC (SOLID WALL)	8" THROUGH 18"

\*PVC: POLYVINYL CHLORIDE
    2. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON BELL AND SPIGOT TYPE.
  - B. DUCTILE IRON PIPE, FITTINGS AND JOINTS.
    1. DUCTILE IRON PIPE AND FITTINGS FOR SEWERS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARD INSTITUTE:
      - A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
      - A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOULDS OR SAND LINED MOULDS FOR SEWER APPLICATIONS.
    2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
      - A21.11 RUBBER GASKET JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

- 3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
- 4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
- 5) TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE DEPENDING ON THE PIPE ENCOUNTERED, FOR PVC PIPE, USE PVC SADDLES OR INSERT-A-TEE, OR CUT IN A SANITARY TEE. FOR CLAY PIPE, USE INSERT-A-TEE OR CUT IN A SANITARY TEE. ALL WORK TO BE APPROVED BY GOVERNING BODY.
- 6) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4" LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4" INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

- 7) TESTING: WHEN REQUIRED BY THE GOVERNING AUTHORITY, TESTING SHALL CONFORM TO ENV-WQ 704.07.
- 8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM DWELLING TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.
- 9) WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE, UNLESS IT IS ON A SHELF 12" HIGHER, AND 18" APART.
- 10) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.
 

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%-55% PASSING	3/8 INCH SCREEN
0%-10% PASSING	#4 SIEVE
0%-5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2" INCH TO 1-1/2" INCH SHALL BE USED.

- 11) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.
- 12) CAST-IN-PLACE CONCRETE: SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:
 

CEMENT:	6.0 BAGS PER CUBIC YARD
WATER:	5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGREGATE SIZE:	3/4 INCH

- 13) CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.
- 14) BACKFILL UP TO SUBBASE GRAVEL SHALL BE WITH EXCAVATED SOIL FROM TRENCHING OPERATIONS. COMPACT IN 8" LIFTS WITH VIBRATORY PLATE COMPACTORS TO 90% OF MODIFIED PROCTOR DENSITY. IF FINE-GRAINED, COMPACT WITH POGO STICKS OR SHEEPSFOOT ROLLERS. PLACE NO LARGE ROCKS WITHIN 24" OF PIPE. TRENCHES THAT ARE NOT ADEQUATELY COMPACTED SHALL BE RE-EXCAVATED AND BACKFILLED UNDER THE SUPERVISION OF THE DESIGN ENGINEER OR GOVERNING BODY. UNSUITABLE BACKFILL MATERIAL INCLUDES CHUNKS OF PAVEMENT, TOPSOIL, ROCKS OVER 6" IN SIZE, MUCK, PEAT OR PIECES OF PAVEMENT.

- 15) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB-SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.

**GENERAL NOTES, cont'd**

- 16) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.
- 17) SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90% - 100% PASSES A 1/2" INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.

- 18) BASE COURSE GRAVEL, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:
 

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.

- 19) FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

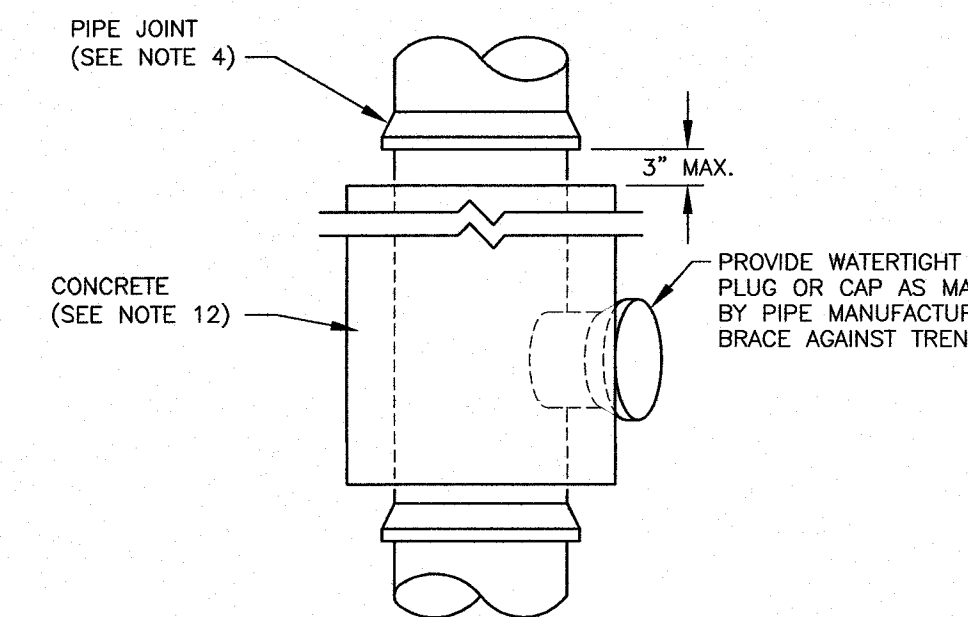
- 20) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

- 21) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

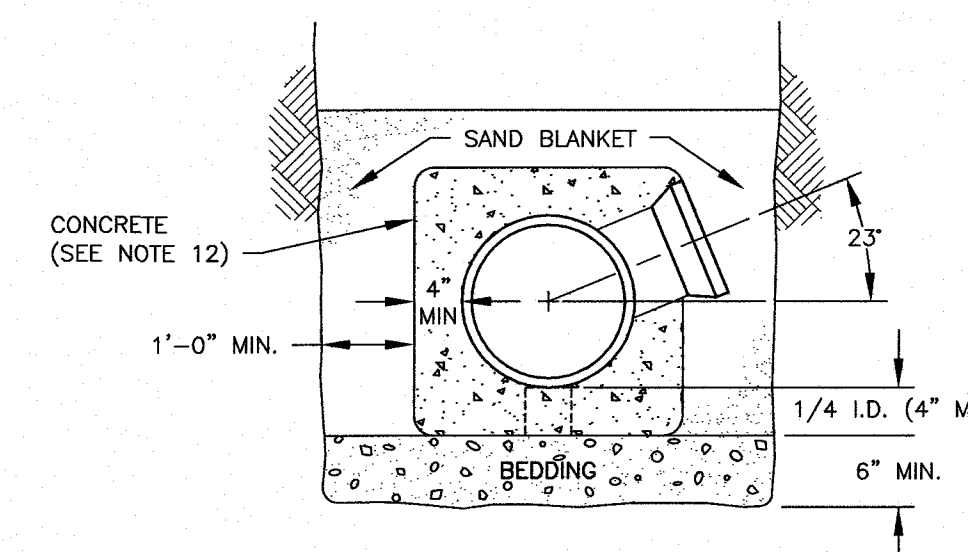
- 22) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.

- 23) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

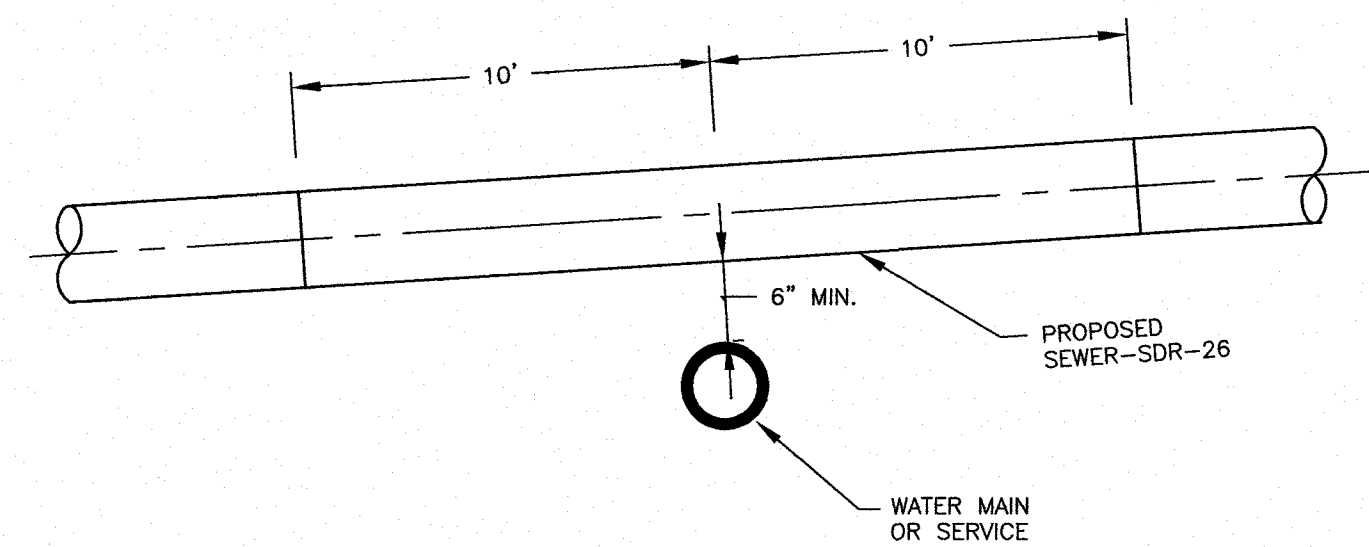
- 24) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERS.



PLAN

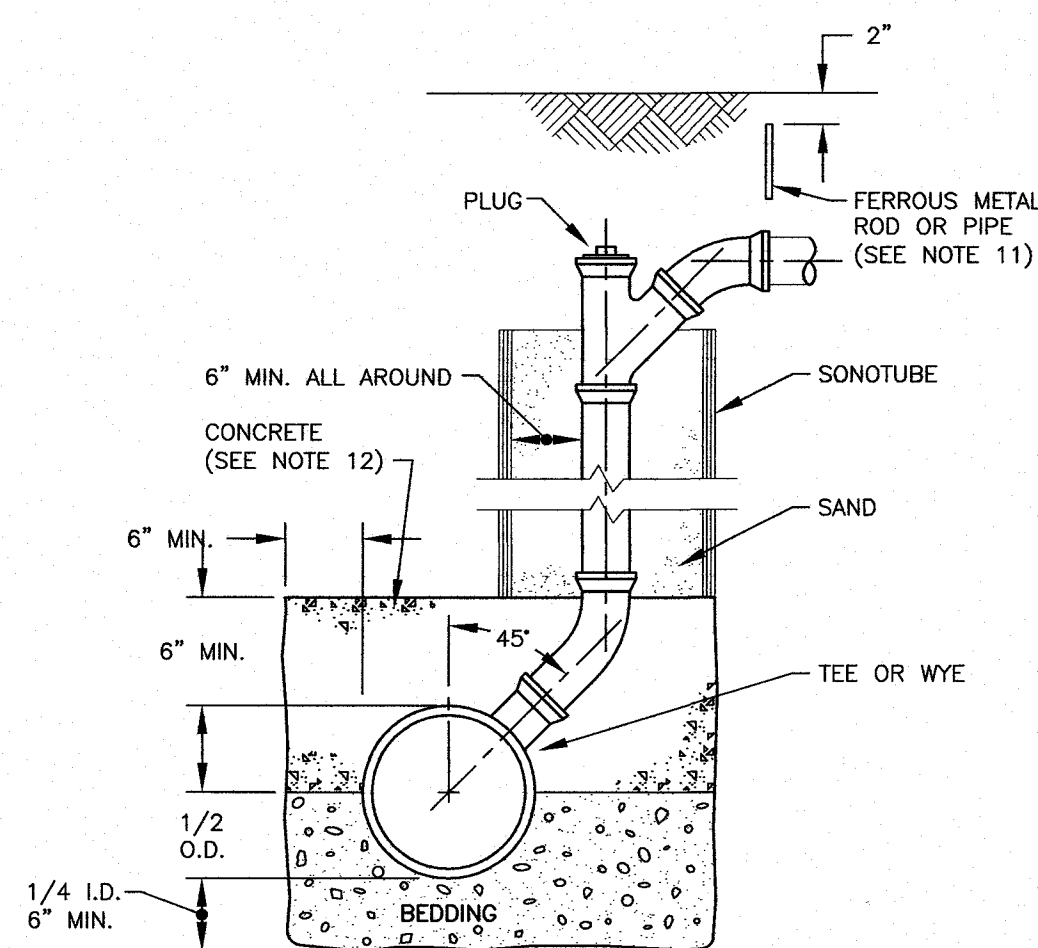


SECTION



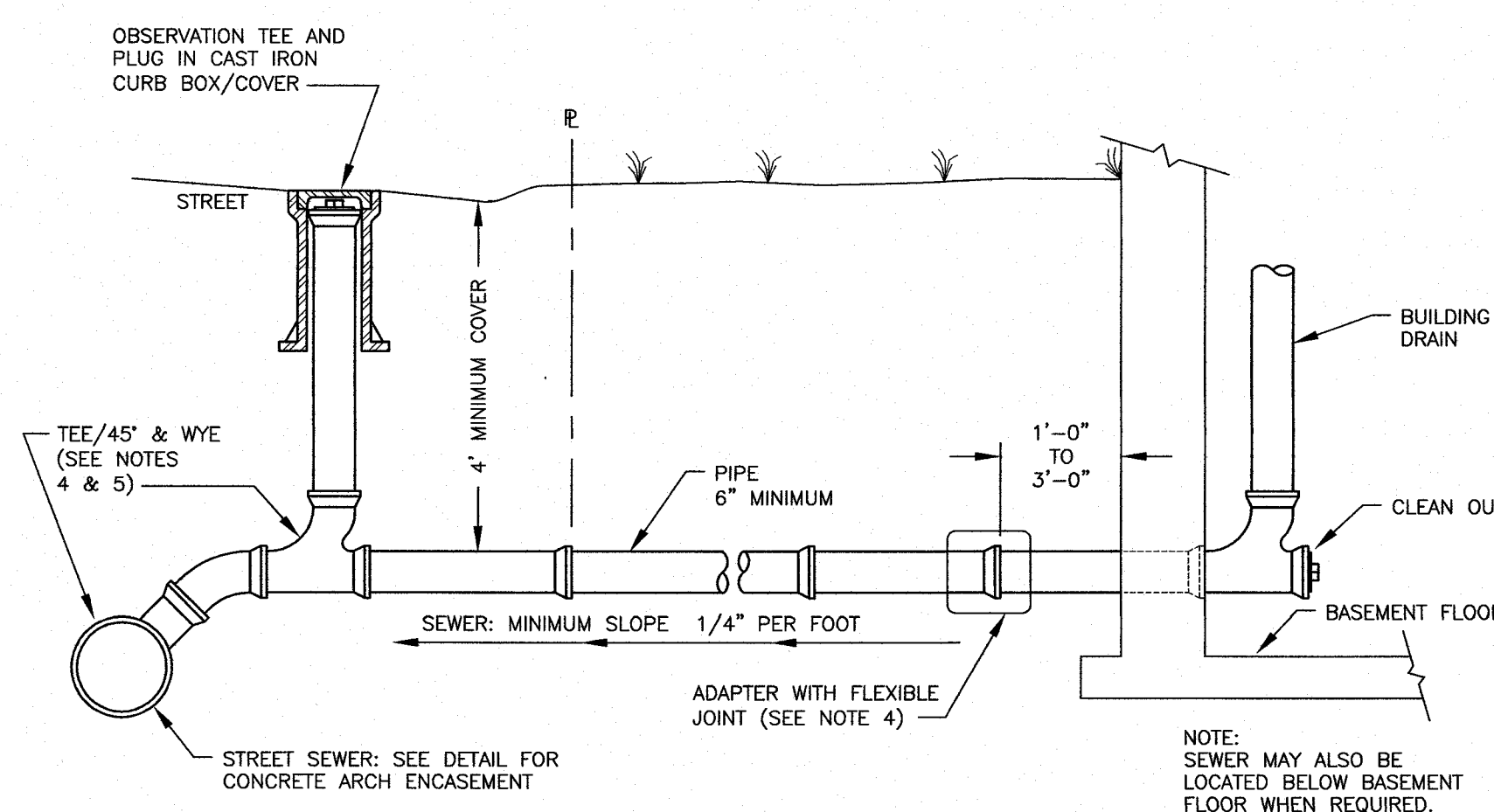
**Y WATER CROSSING**  
IF NEEDED

NTS

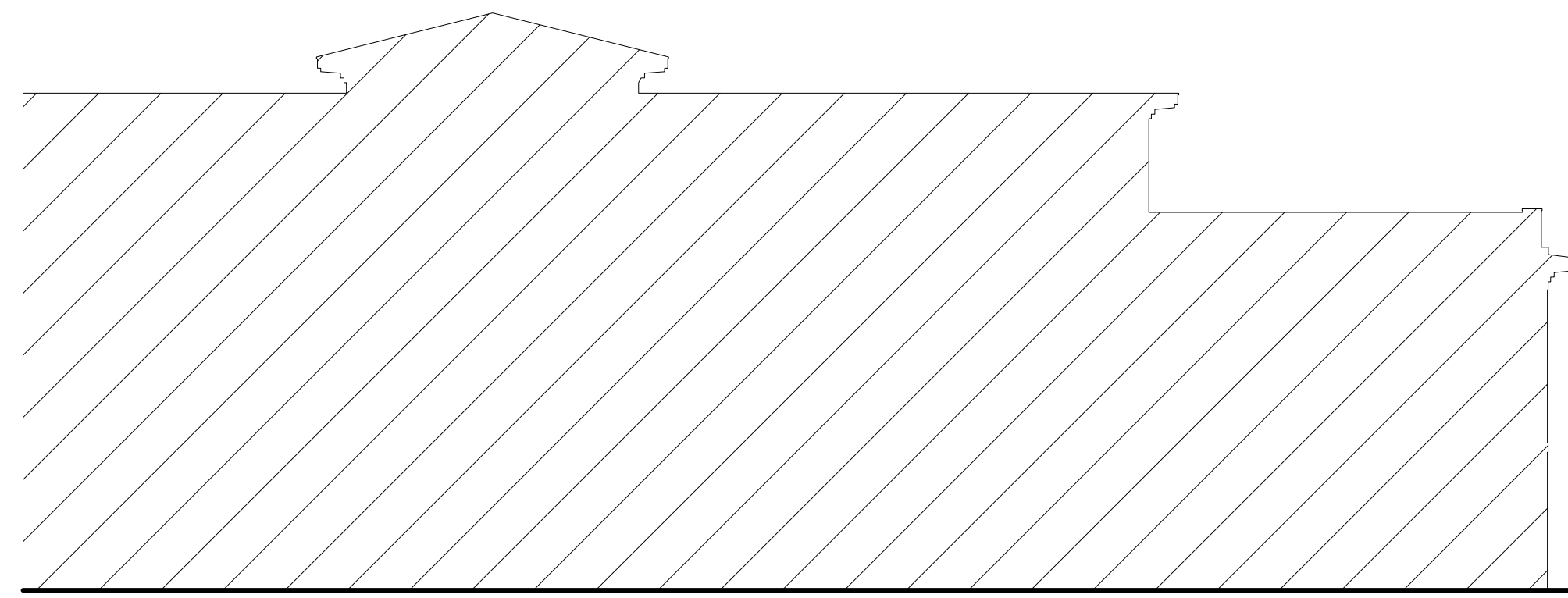


NO BACKFILLING BEFORE CONCRETE HAS TAKEN INITIAL SET (7 HRS. MIN.). BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

**Z CHIMNEY (SEE NOTE 13)**  
NOT TO SCALE IF NEEDED



**AA SEWER SERVICE**  
C5 NOT TO SCALE



Maplewood Avenue  
3/32" = 1'-0"



Maplewood Intersection  
3/32" = 1'-0"



Deer Street  
3/32" = 1'-0"



Pedestrian Way Between Phase 1 and 2  
3/32" = 1'-0"



Pedestrian Way Between Phase 2 and VFW (BRIDGE ST.)  
3/32" = 1'-0"

REVISIONS:



SOMMA

36 Maplewood Avenue  
Portsmouth, NH 03801  
PH: 603.766.3760

46-64 MAPLEWOOD AVE  
36 MAPLEWOOD AVENUE  
Portsmouth, NH 03801

TITLE:  
ELEVATIONS

SCALE: AS NOTED  
DRAWN BY: SOMMA  
CHECKED BY:  
PROJECT NO.: -  
DATE: DECEMBER 19, 2017

ARCH

**AMBIT ENGINEERING, INC.** CIVIL ENGINEERS AND LAND SURVEYORS

200 Griffin Road, Unit 3, Portsmouth, NH 03801  
Phone (603) 430-9282 Fax 436-2315

19 December, 2017

Juliet Walker, Chair  
City of Portsmouth Technical Advisory Committee  
1 Junkins Avenue  
Portsmouth, NH 03801

**RE: Application for Site Plan Review for 46 – 64 Maplewood Avenue, Portsmouth**

Dear Ms. Walker:

On behalf of 30 Maplewood, LLC, we hereby submit revised plans for the 46 - 64 Maplewood Avenue project for TAC approval. The plan set has been revised to address the comments from the October 31 Technical Advisory Committee meeting. The plans have been revised to reflect the following comments, with response in **bold** text:

- It is not clear what changes have been made to this plan since this last came before TAC for a work session in July, if any. A summary letter highlighting the changes would be useful. If no changes have been made since you came before us in July, why are you back in front of us? **The original request was for Amended Approval, as the project had been approved by TAC previously; subject to final coordination with changes as a result of final HDC approval. When the application was submitted the following changes were noted:**
  - The Lot has been subdivided and is now known as Lot 2A.
  - The Project Landscape Consultant has changed and plans added to the set to reflect.
  - Parallel parking spaces along Deer Street have been removed to reflect the new lane widths associated with the Parking garage.
  - The building footprint has been revised to the current HDC layout.
  - The parking layouts (Garage Level and Bridge Street side) have been revised.
  - The proposed grease trap has been relocated.

**This letter will outline the changes made since the October review.**

- This lot currently drains to the 36” RCP in Bridge Street. If the applicant is proposing to change the drainage flow paths then you need to analyze the capacity of these other pipe runs. It would be best to show graphically what the hydraulic grade elevations are in the system during the design storms both in the low and high tide conditions. **The plans conform to the revised drainage analysis which details that there is no increase in storm water run-off under the current design. The**

- plan set has been revised to eliminate any subsurface dewatering connection to the city drainage system. The final building design will rely on foundation barrier techniques to insure a dry basement.**
- The invert of the 18” pipe you are planning on tying into on Deer Street is shown as unknown on the plan set. This invert needs to be shown so that it can be determined if it is viable without conflicting with other utilities. **The connection in the comment has been eliminated.**
  - TAC will be recommending that the applicant contribute to the cost of the replacement of the water main on Deer Street and shall show the new services tying into this new line. **This has been shown on the Utility plan.**
  - The applicant should show the proposed utilities in Deer and Bridge that are currently being constructed by Sargent. You should also show the proposed location of the water main in Deer Street and the elimination of the existing transit sewer on Deer Street with your services going instead into the brick box sewer collector. **This has been shown on the Demolition and Utility Plans.**
  - The cobblestone apron shown at the entrance to the garage is not ADA compliant nor does it meet City of Portsmouth standards. This should be asphalt as instructed previously by TAC. **The detail indicates a thermal granite paver, intending a smooth edge which meets ADA; we would like to keep this site feature.**
  - There are underdrains shown both around the exterior perimeter of the site as well as under the floor slab. From the drawing, it is hard to tell if these are to be tied into the floor drain. The floor drains must be tied into the sewer if they are not the dry type. **The proposed drains are evaporation trenches (dry).** The underdrains that are shown are largely below the high tide level (even today’s tides) and a failure of the check valve to function could produce forces on the underground concrete floor and wall systems. This situation can also be a major source of ground water infiltration into a limited capacity drainage system as well. For these reasons, TAC will recommend that this gets more study, including a study of the groundwater and that the entire drainage plan be reviewed by a third party. We will also recommend that if we do allow this as proposed we get some sort of waiver that protects us from liability of a failure. This groundwater and stormwater flow will need to be calculated and must be limited to the preexisting flowrate condition. **The underdrains have been eliminated from the plans.**
  - Is there a kitchen planned below ground or is that table space below? **There is no plan for kitchen facilities or tables in the basement; the basement space are labels have been revised.**
  - Confirm there is extra room left in DMH 3542 to allow the additional pipe. There would need to be at least 3’ of structure wall available or the structure will likely need to be replaced. **The drainage connection is to a new, larger manhole.**
  - The existing pipe to DMH 3543 is shown to be removed under the street. Instead, show it to be left in place and bulk-headed off. **This has been revised; See Sheet C2.**

- Provide new hydrant in front of VFW. There can be no drain holes in the new hydrant. This is no longer allowed by AWWA. **The Hydrant Detail has been revised.**
- The pipe shown leaving DMH 1 and heading to DMH 3542 should be as high as possible in order to lift the treatment device above the tide line. Show a check valve as needed to protect the device from filling up during storm surges. There is a duct back planned (for Foundry place, VFW power) to go under that sidewalk so top of pipe will be able to be no higher than 3' below the asphalt in the road. **This comment has been addressed in the current design.**
- Sidewalk details should show a maximum cross slope of ¼" per foot. **Comment addressed; See Sheet D2.**
- Detectable warning detail should be as shown and is not necessarily 2'x3'. **Comment addressed; See Sheet D2.**
- Use a tree grate that we are already using in the City if it is in the ROW. **This tree grate was approved on Vaughan Street (AC Hotel).**
- The radius handicapped panel for Deer and Maplewood will be the radius type as sold by Tuftile. **Comment addressed; See Sheet D2.**
- Any new curbing proposed shall 'match existing' or provide 6" width, with final approval required by DPW. **Comment addressed; See Sheet C6.**
- The foundation cross section shown has the footing sitting on crushed stone, this will cause additional ground dewatering as described above. **Stone will be used in the hole to provide a stable surface for the foundation work; but groundwater intrusion will be eliminated by sealing the inside space.**
- Footing drains, if allowed should be at least 6" for a commercial building. **None are currently proposed.**
- Do not concrete encase sewer lines, use thicker pipe instead when crossing over water mains. **Comment addressed; See Sheet D5.**
- The detail for the stabilized construction entrance on D1 shows recycled concrete equivalent – remove recycled concrete as an option, use 1 to 2" stone. **Comment addressed; See Sheet D1.**
- Please verify that there is 7' of clear space between the trees and the wall of the building. **This was verified.**
- The handicapped access aisle in the basement should be 8 feet wide if it is to serve a van space. **Comment addressed; See Sheet C4.**
- The driveway grade of 15% is very steep. Combined with the -1.5% grade at the bottom of the ramp and the vertical crest of the cobblestone apron, vehicles may bottom out or get hung up on the grade changes. Need to prove that this geometry will work. **The profile has been run using appropriate software and the surface has been further defined.**
- Sightlines coming out of the garage, will drivers see pedestrians? **Yes, there is adequate sight distance given the urban setting and street speeds.**
- The previous TAC comments requested that the generator for the garage be shown on the site plan. **The generator has been added to Sheet C4.**

- Please respond to previous TAC comments regarding relocating the street trees so as not to interfere with mast arm of traffic signal. **The tree locations meet the separation criteria.**
- Please respond to previous TAC comments regarding cross ventilation requirements for the garage and 2nd egress requirements. **Comment addressed; See Sheet C4, we added an areaway exit and intake locations.**
- Please respond to previous TAC comments regarding sprinklering for any portions of the building that have at least a 7' ceiling height, confirm sprinkler connection location. **Comment addressed; See Sheet C5.**
- Bike racks shall be provided on-site or along the street. **Comment addressed; See Sheet L1.**
- Previous TAC comments requested that the landscaping plan show only the landscaping proposed for this project (not on the abutting lot). **The current plan shows work associated with the completion of the sidewalk improvements around the block, with associated landscaping, under this plan set. We believe that makes sense as the 30 Maplewood project is currently complete; or will be bonded for final completion at a later date. The 30 Maplewood project did not include the entirety of the sidewalk / street improvements around the block. Separate paperwork will be filed for the bonding process.**
- TAC had previously requested that a trip generation report be provided. Please provide one. **Trip generation attached.**
- The maximum # of parking spaces allowed on your site is 34, as you are providing 36, you need to reduce that by 2 spaces. **The site is in the Downtown Overlay district with no maximum parking requirement.**
- We did not find the statement listing and describing “green” building components in the file. Please provide this. **Attached to this submission.**
- On sheet C3, please provide building dimensions (gross floor area, height), and floor area by floor. **This has been added to Sheet C3.**
- Add required notes to Landscaping Plan per Section 2.13.4 of the Site Plan Review regulations. If this plan has been prepared by a licensed landscape architect, it should be stamped as such. **Comment addressed; See Sheet L1.**
- Please provide a photometric plan. **Sheet L1 has been added to the plan set.**
- Please provide a detail of the wall-mounted exterior lights that you are proposing and indicate where dark sky friendly lighting measures have been incorporated. **See the supplemental information.**
- Provide LED bulbs for Portsmouth Light standards. **Comment addressed; See Sheet D4.**
- Are all easements and deed restrictions shown? **Easement plan added to plan set.**
- Please provide confirmation of the agreement/easement to allow for trash disposal on 45 Maplewood Ave that is referenced in Note 8, sheet C3. **Deed provided in Supplemental material.**

We respectfully request that you place us on the agenda for the January 2, 2017 Technical Advisory Committee meeting. The design team is available to meet with you or City Staff should you have any questions or concerns. We look forward to your input as the design works through the approval process.

Please feel free to call if you have any questions or comments.

Sincerely,

John Chagnon, PE

CC (via email): Steve Kelm, Paul McEachern





# City of Portsmouth, New Hampshire

## Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

**Applicant Responsibilities (Section 2.5.2):** Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Owner/Applicant: 30 MAPLEWOOD, LLC Date Submitted: 12/19/17  
 Phone Number: 40 AMBIT 430-9202 E-mail: jrc@ambitengineering.com  
 Site Address: 30 MAPLEWOOD AVENUE, PORTSMOUTH Map: 125 Lot: 2A  
 Project: 64 MAPLEWOOD Zoning District: CD-44 Lot area: 21,798 sq. ft.

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Fully executed and signed Application form. (2.5.2.3)	ON FILE	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (2.5.2.8)	ATTACHED	N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1A)	Supplemental	
<input checked="" type="checkbox"/>	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1B)	C3	
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1C)	C1	
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1D)	COVER	

**Site Plan Review Application Required Information**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. <b>(2.5.3.1E)</b>	C1	
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. <b>(2.5.3.1F)</b>	COVER	
<input checked="" type="checkbox"/>	List of reference plans. <b>(2.5.3.1G)</b>	EASEMENT	
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. <b>(2.5.3.1H)</b>	COVER	

**Site Plan Specifications**

<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. <b>(2.5.4.1A)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. <b>(2.5.4.1B)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. <b>(2.5.4.1C)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be drawn to scale. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be prepared and stamped by a NH licensed civil engineer. <b>(2.5.4.1D)</b>	Required on all plan sheets	N/A
<input type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist. <b>(2.5.4.1E)</b>	N/A	N/A
<input type="checkbox"/>	Wetland delineations shall be stamped by a NH certified wetlands scientist. <b>(2.5.4.1E)</b>	N/A	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. <b>(2.5.4.2A)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. <b>(2.5.4.2B)</b>	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed.	Required on all plan sheets	N/A

Site Plan Specifications			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
	(2.5.4.2C)		
<input checked="" type="checkbox"/>	Source and date of data displayed on the plan. (2.5.4.2D)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." (2.5.4.2E)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director."	COVER	N/A
<input checked="" type="checkbox"/>	Plan sheets showing landscaping and screening shall also include the following additional notes: a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." (2.13.4)	L1	N/A

**Site Plan Specifications – Required Exhibits and Data**


<input checked="" type="checkbox"/>	<b>1. Existing Conditions: (2.5.4.3A)</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	a. Surveyed plan of site showing existing natural and built features;	C1	
<input checked="" type="checkbox"/>	b. Zoning boundaries;	COVER	
<input checked="" type="checkbox"/>	c. Dimensional Regulations;	C1	
<input checked="" type="checkbox"/>	d. Wetland delineation, wetland function and value assessment;	N/A	
<input checked="" type="checkbox"/>	e. SFHA, 100-year flood elevation line and BFE data.	C1	
	<b>2. Buildings and Structures: (2.5.4.3B)</b>		
<input checked="" type="checkbox"/>	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	ARCH	
<input checked="" type="checkbox"/>	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	ARCH	
<input checked="" type="checkbox"/>	c. Total Floor Area;	C3	
<input checked="" type="checkbox"/>	d. Number of Usable Floors;	C3	
<input checked="" type="checkbox"/>	e. Gross floor area by floor and use.	C3	
	<b>3. Access and Circulation: (2.5.4.3C)</b>		
<input checked="" type="checkbox"/>	a. Location/width of access ways within site;	C3	
<input checked="" type="checkbox"/>	b. Location of curbing, right of ways, edge of pavement and sidewalks;	C3	
<input checked="" type="checkbox"/>	c. Location, type, size and design of traffic signing (pavement markings);	C3	
<input checked="" type="checkbox"/>	d. Names/layout of existing abutting streets;	C3	
<input checked="" type="checkbox"/>	e. Driveway curb cuts for abutting prop. and public roads;	C3	
<input checked="" type="checkbox"/>	f. If subdivision; Names of all roads, right of way lines and easements noted;	EASEMENT	
<input type="checkbox"/>	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	N/A	
	<b>4. Parking and Loading: (2.5.4.3D)</b>		
<input checked="" type="checkbox"/>	a. Location of off street parking/loading areas, landscaped areas/buffers;	C3/C4	
<input checked="" type="checkbox"/>	b. Parking Calculations (# required and the # provided).	C3	
	<b>5. Water Infrastructure: (2.5.4.3E)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	C5	
<input type="checkbox"/>	b. Location of wells and monitoring wells (include protective radii).	N/A	
	<b>6. Sewer Infrastructure: (2.5.4.3F)</b>		
<input checked="" type="checkbox"/>	a. Size, type and location of sanitary sewage facilities & Engineering data.	C5	
	<b>7. Utilities: (2.5.4.3G)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of all above & below ground utilities;	C5	
<input checked="" type="checkbox"/>	b. Size type and location of generator pads, transformers and other fixtures.	C5	
	<b>8. Solid Waste Facilities: (2.5.4.3H)</b>		
<input checked="" type="checkbox"/>	a. The size, type and location of solid waste facilities.	C3	
	<b>9. Storm water Management: (2.5.4.3I)</b>		
		<b>Item Location</b>	<b>Waiver Requested</b>

<input checked="" type="checkbox"/>	a. The location, elevation and layout of all storm-water drainage.	CG	
<b>10. Outdoor Lighting: (2.5.4.3J)</b>			
<input checked="" type="checkbox"/>	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	L1	
<input checked="" type="checkbox"/>	<b>11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)</b>	L1	
<b>12. Landscaping: (2.5.4.3K)</b>			
<input checked="" type="checkbox"/>	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	L1	
<input checked="" type="checkbox"/>	b. Location of any irrigation system and water source.	N/A/CG	
<b>13. Contours and Elevation: (2.5.4.3L)</b>			
<input checked="" type="checkbox"/>	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	CG	
<b>14. Open Space: (2.5.4.3M)</b>			
<input checked="" type="checkbox"/>	a. Type, extent and location of all existing/proposed open space.	HDC PLANS	
<input checked="" type="checkbox"/>	<b>15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)</b>	EASEMENT	
<input checked="" type="checkbox"/>	<b>16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)</b>	N/A	
<input type="checkbox"/>	<b>17. Character/Civic District (All following information shall be included): (2.5.4.3Q)</b>	N/A (CUP)	
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
	b. Applicable Special Requirements (10.5A21.30);		
	c. Proposed building form/type (10.5A43);		
	d. Proposed community space (10.5A46).		

<b>Other Required Information</b>			
<input checked="" type="checkbox"/>	<b>Required Items for Submittal</b>	<b>Item Location (e.g. Page/line or Plan Sheet/Note #)</b>	<b>Waiver Requested</b>
<input checked="" type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. <i>(Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application) (3.2.1-2)</i>	TRIP GEN	
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. (7.1)	CG	
<input checked="" type="checkbox"/>	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. (7.3.1)	N/A	
<input checked="" type="checkbox"/>	Indicate where measures to minimize impervious surfaces have been implemented. (7.4.3)	N/A	
<input checked="" type="checkbox"/>	Calculation of the maximum effective impervious surface as a percentage of the site. (7.4.3.2)	N/A	
<input checked="" type="checkbox"/>	Stormwater Management and Erosion Control Plan. <i>(Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application) (7.4.4.1)</i>	Attached	

**Final Site Plan Approval Required Information**

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> <li>a. Waivers;</li> <li>b. Driveway permits;</li> <li>c. Special exceptions;</li> <li>d. Variances granted;</li> <li>e. Easements;</li> <li>f. Licenses.</li> </ul> (2.5.3.2A)	TBD	
<input checked="" type="checkbox"/>	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: <ul style="list-style-type: none"> <li>a. Calculations relating to stormwater runoff;</li> <li>b. Information on composition and quantity of water demand and wastewater generated;</li> <li>c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls;</li> <li>d. Estimates of traffic generation and counts pre- and post-construction;</li> <li>e. Estimates of noise generation;</li> <li>f. A Stormwater Management and Erosion Control Plan;</li> <li>g. Endangered species and archaeological / historical studies;</li> <li>h. Wetland and water body (coastal and inland) delineations;</li> <li>i. Environmental impact studies.</li> </ul> (2.5.3.2B)	Supplemental	
<input type="checkbox"/>	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. (2.5.3.2D)	TBD	
<input type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. (2.5.3.2E)	TBD	

Applicant's Signature:  Date: 12/19/17  
 Reviewed by: \_\_\_\_\_ Date Reviewed: \_\_\_\_\_



19 December, 2017

**Trip Generation Calculation  
Site Redevelopment  
46 Maplewood Avenue  
Portsmouth, NH**

The purpose of this calculation is to identify the net change in vehicle trips expected to be generated by the site development at the 46 Maplewood Avenue. Currently the site is comprised of a parking lot with 40 parking spaces that will be replaced with the building.

The plan is to construct a 21 unit residential building with a 3,200 square foot restaurant, and 12,900 square feet of specialized retail space.

In developing the expected trips Ambit Engineering considered the standard trip generation rates and equations published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9<sup>th</sup> Edition (2012). The land use category that best correlates with the existing use is Park and Ride (ITE Land Use Code 090). The land use category that best correlates with the proposed use is "Apartment" (ITE Land Use Code 220) and "Quality Restaurant" (ITE Land Use Code 931) and "Specialty Retail Center" (ITE Land Use Code (826). The trip rates, based upon the number of parking spaces, the number of apartments, and the area of the restaurant and retail are summarized below for the **Weekday AM and PM Peak Hour**:

Trip Generation Summary

Existing – AM Peak Hour

Parking (0.71 trips per space)  $0.71 \times 40 \text{ units} =$  28 trips

Proposed – AM Peak Hour

Apartments (0.51 trips per dwelling unit)  $0.51 \times 21 \text{ units} =$  11 trips

Retail (6.84 trips per thousand sq. ft.)  $6.84 \times 12.9 \text{ k sq. ft.} =$  88 trips

Restaurant (0.81 trips per thousand sq. ft.)  $0.81 \times 3.2 \text{ k sq. ft.} =$  3 trips

Total 101 trips

Existing – AM Peak Hour

Parking (0.62 trips per space)

0.62 x 40 units =

25 trips

Proposed – AM Peak Hour

Apartments (0.62 trips per dwelling unit)

0.62 x 21 units = 13 trips

Retail (2.71 trips per thousand sq. ft.)

2.71 x 12.9 k sq. ft. = 35 trips

Restaurant (7.49 trips per thousand sq. ft.)

7.49 x 3.2 k sq. ft. = 24 trips

Total

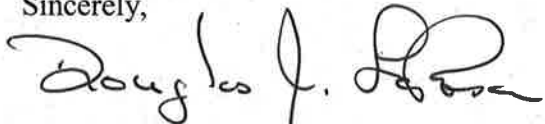
72 trips

Trip Generation Impact

The increase anticipated with this project is 47 additional trip in the PM peak hour and 73 additional trips in the AM peak hour. Although there is an increase in anticipated traffic, it is does not detrimentally alter the traffic conditions. Deer Street is designed for uses such as this proposed project.

Please feel free to call if you have any questions or comments.

Sincerely,



Douglas J. LaRosa, Project Engineer

Submission: City Site Plan Review Application Package



**FIFTH AMENDMENT TO DECLARATION OF CONDOMINIUM FOR  
30 MAPLEWOOD CONDOMINIUM  
30 MAPLEWOOD AVENUE, PORTSMOUTH, NH 03801**

**RECORD OF WITHDRAWAL OF LAND FROM CONDOMINIUM**

**NOW COMES 30 MAPLEWOOD LLC** a New Hampshire limited liability company with a mailing address of 36 Maplewood Avenue, Portsmouth, New Hampshire, Declarant of 30 Maplewood Condominium, WHO BY THESE PRESENTS, **AMENDS** the Declaration of Condominium dated July 15, 2015, and recorded in the Rockingham County Registry of Deeds on July 16, 2015, in Book 5636, Page 1930, as amended by the First Amendment recorded in said Registry on August 21, 2015 in Book 5647, Page 1038, and as further amended by the Second Amendment recorded in said Registry on January 29, 2016 in Book 5688, Page 2226, and as further amended by the Third Amendment recorded December 19, 2016 in said Registry in Book 5783, Page 2443, and as further amended by the Fourth Amendment recorded March 31, 2017 in said Registry in Book 5807, Page 2635 and being on land submitted to condominium unit ownership and shown as Exhibit A in said Declaration of Condominium and is depicted on Site and Floor Plan filed with the Declaration and recorded in said Registry as Plan #D-38936, the Amended Site Plan recorded in said Registry as Plan #39005, the Amended First Floor Plan recorded in said Registry as Plan #D-39300 and the Amended Floor Plans recorded in said Registry as Plan #D-40050.

**THE DECLARANT HEREBY WITHDRAWS FROM CONDOMINIUM OWNERSHIP THE LAND AS DESCRIBED IN THE FIRST AMENDMENT TO THE DECLARATION IN “EXHIBIT A-2, WITHDRAWABLE LAND”, ATTACHED HERETO AS EXHIBIT A.**

**The Withdrawn land is benefited by the following easements upon the Submitted land:**

1. An access easement in favor of the Withdrawn land from Bridge Street to the Withdrawn land over a 24 foot wide travel way from the curb cut serving both the Submitted land and the Withdrawn land as described in easements upon the Submitted land. The condition of this easement is that the owner of the Withdrawn parcel pay its prorated share of the upkeep of the common area parking;
2. An underground drainage easement from the Withdrawn land to a point in the above access easement as shown on the subdivision plan to be recorded herewith;

3. An easement in favor of the Withdrawn land for the use of the proposed dumpster on the Submitted land on the condition that the Withdrawn land pay its prorate share of the cost of use;
4. An underground electrical service access easement over the remaining Submitted land to an Eversource transformer as shown on the subdivision plan to be recorded herewith;
5. A construction easement to allow staging along the common border of the Withdrawn land and the remaining Submitted land to allow construction of a building on the Withdrawn land.

**The Withdrawn land is subject to the following easements:**


- A. A pedestrian easement from Deer Street running along the southeasterly bound of the VFW property shown on the subdivision plan to be recorded and the southwest façade of the building to be constructed on the Withdrawn land and extending to the remaining Submitted land.
- B. An underground utility access easement as shown on said subdivision plan being 5 feet in width, the center line of said easement running from Maplewood Avenue along the dividing line between the Withdrawn land and the remaining Submitted land extending to the transformer as shown on said subdivision plan;
- C. A pedestrian easement 5 feet+/- in width, the centerline of which runs from Maplewood Avenue between the Withdrawn land and the remaining Submitted land as shown on said subdivision plan.
- D. A potential no build area as shown on said plan and more fully described in Note 9 of said plan.

Both the Withdrawn land and the remaining Submitted land are burdened with mutual maintenance easements to allow for the maintenance and repair of the building facades which, upon construction of a building on the Withdrawn land, will lie adjacent to each other.

This Amendment is consistent with RSA 356-B:36 and the First Amendment to the Declaration.

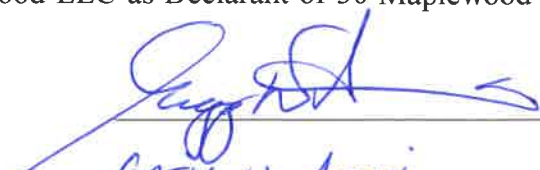
IN WITNESS HEREOF, the Declarant, 30 Maplewood LLC has executed this Fifth Amendment to Declaration on this 15<sup>TH</sup> day of JUNE 2017.

**30 MAPLEWOOD LLC**

  
\_\_\_\_\_  
Stephen Kelm, Its Manager

STATE OF NEW HAMPSHIRE  
COUNTY OF ROCKINGHAM

The foregoing instrument was acknowledged before me this 15<sup>TH</sup> day of JUNE 2017 by Stephen Kelm, Manager of 30 Maplewood LLC as Declarant of 30 Maplewood Condominium, for the purposes herein contained.

  
\_\_\_\_\_  
GREGG W. ANNIS, Notary Public

My commission expires: SEPTEMBER 4, 2018



**EXHIBIT A**  
**WITHDRAWN LAND**

A certain tract of land with buildings and improvements thereon located in Portsmouth, Rockingham County, New Hampshire bounded and described as follows:

Beginning at a concrete bound on the southwesterly sideline of Maplewood Avenue, said point being southeasterly of the intersection of Deer Street and Maplewood Avenue;

Thence running along Maplewood Avenue S 21° 47' 03" E a distance of 138.36 feet to a point;

Thence turning and running S 45° 18' 15" W a distance of 126.59 feet to a point;

Thence turning and running N 44° 41' 45" W a distance of 68.47 feet to land now or formerly of the Emerson Hovey Post 168;

Thence turning and running along land of said Post N 48° 13' 15" E a distance of 36.34 feet to a point;

Thence turning and running along land of said Post N 43° 28' 02" W a distance of 68.20 feet to a point;

Thence turning and running along land of said Post S 46° 31' 15" W a distance of 4.30 feet to a point;

Thence turning and running along said Post N 43° 29' 45" W a distance of 23.84 feet to the southeasterly sideline of Deer Street;

Thence turning and running along Deer Street N 45° 37' 55" E a distance of 126.36 feet to a point;

Thence turning and running along the intersection of Deer Street and Maplewood Avenue on a curve to the right, with a radius of 22.00 feet, a delta angle of 112° 35' 04", and an arc length of 43.23 feet to a point at a concrete bound which is the point of beginning.

Having an area of 21,798 square feet, more or less.

Being a portion of the premises described in the deed from Martin Stein, Trustee of the 30 Maplewood Avenue Trust to 30 Maplewood, LLC dated March 29, 2010 and recorded in said Registry in Book 5099, Page 2424.

### **46 Maplewood Avenue :: Green Building Components**

Below are some of the unique products we have specified to be included in this development. In addition to these feature products, the building will benefit from energy efficient appliances, LED lighting, heating, and cooling systems.

### **Silva Cells by DeepRoot Green Infrastructures**

'DeepRoot Green Infrastructure develops solutions to enhance urban forests and surrounding watersheds in city streets, parking lots, campuses, and other heavily-paved areas. 'Silva Cell, our flagship product, is an underground framework for containing lightly compacted soil that supports large trees and absorbs runoff from rain, increasing air and water quality, reducing energy loads, mitigating heat island effect and nurturing trees for a long life in their communities'

### **TruGRAIN Wall and Decking Systems**

'TruGrain® made with Resysta® offers the warmth and feel of wood, but it also embodies the sustainability and wear-ability that natural hardwoods lack. TruGrain also stands apart from wood composites because it is a bio-based wood substitute.

TruGrain takes agricultural waste and transforms it into a durable building product with many applications. Approximately 25% (by weight) of the proprietary formula is rice husks, a rapidly renewable resource in great supply. Calcium carbonate and synthetic plastic polymer combined with the ARF at extremely high temperatures yield a product that can be formed to almost any shape or size. TruGrain qualifies for third party sustainability certifications based on its sustainable resource content and being 100% recyclable in the manufacturing process . TruGrain does not contain any wood and therefore does not contribute to deforestation.

### **Genest Architectural Masonry Products**

'Genest's superbly crafted finished concrete products deliver on what matters most: beautiful results that reflect a unique style and vision. From outdoor living spaces, downtown sidewalks, high profile commercial projects, sustainable and energy efficient wall systems, paving and retaining walls, Genest makes it all possible.'

Based in Sanford Maine, Genest products are locally sourced maintaining a low carbon footprint and therefore an environmentally conscious choice.

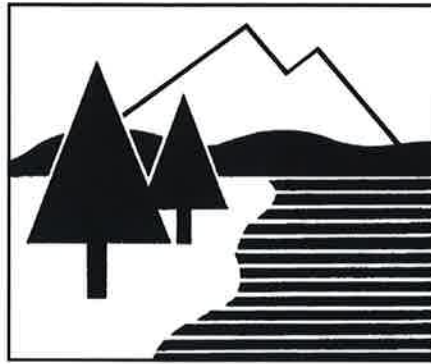
### **Marvin Integrity Windows and Doors**

'Integrity windows and doors are made with Ultrex®, a pultruded fiberglass we've patented that outperforms and outlasts vinyl, roll-form aluminum and other fiberglass composites. We use Ultrex and our proprietary pultrusion process to manufacture high-demand windows and doors that endure all elements without showing age or wear.'

Integrity products meet or exceed federal ENERGY STAR guidelines, reducing environmental impact and providing savings on heating and cooling bills over time.

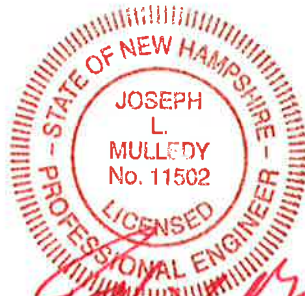
DRAINAGE ANALYSIS  
SITE DEVELOPMENT

MAP 125, LOT 2A  
46 Maplewood Avenue  
For  
30 Maplewood Avenue, LLC



October, 2017

Revised: December, 2017



Ambit Engineering, Inc.

Civil Engineers and Land Surveyors  
200 Griffin Road, Unit 3  
Portsmouth, NH 03801  
Phone: 603.430.9282; Fax: 436.2315  
E-mail: [jlm@ambitengineering.com](mailto:jlm@ambitengineering.com)

## EXECUTIVE SUMMARY

This analysis is meant to be used by City officials, the developer, builders, earthwork contractors and other interested parties to better understand the assumptions and intent of the stormwater management system. This drainage analysis examines and compares the existing and proposed conditions stormwater drainage patterns for a Site Development at 46 Maplewood Avenue in the City of Portsmouth, at Assessor's Map 125, Lot 2A. The total lot size is 21,798 s.f. The point of analysis is a downstream manhole located on Deer Street (DMH 3540). The existing site is primarily impervious surface of pavement and buildings. The small areas of porous surfaces are either gravel or mulch.

The "existing" conditions site plan show the condition immediately before development (i.e., as it exists today). Runoff amounts from this existing state are a function of the land cover, vegetation and soils; together those factors produce what is known as the Curve Number. The "existing" or pre-developed curve number for the entire site (excluding offsite subcatchments) is 97. Typically, highly developed areas with lots of impervious area will have curve numbers approaching 90, whereas undisturbed or undeveloped areas can have curve numbers as low as 30 if the soils are well-drained and covered with forest. The proposed development's curve number increases slightly to 98 due to the increase in impervious surface (pavement and rooftop). However, because the increase in impervious surface is very small, post development peak runoff is unchanged. A Hancor "Water Quality Treatment Unit" is being provided within the parking lot along the Bridge Street entrance to the site. This unit is designed to divert low flows from up to the 2-Year Storm Event to provide treatment of surface runoff from the parking lot.

There is one design point on this parcel which is used to compare pre and post-developed runoff amounts. This is the drain manhole in Deer Street (DMH 3540). This design point is labeled DP1. However, the system downstream from this manhole has been modeled for analysis as well.

The 2, 10, 25 and 50 year, 24 hour storm events are used to compare the peak runoff amounts at the design point (DP 1).

## **METHODOLOGY**

This report uses the US Soil Conservation Service Method for prediction of storm water runoff. The SCS method is published in The National Engineering Handbook, Section 4 "Hydrology", in Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release-55 (TR-55) "Urban Hydrology for Small Watersheds". This report uses the HydroCAD program, written by Applied Microcomputer Systems, Chocorua, N.H., to apply these methods. Rainfall data are taken from the Extreme Precipitation Tables published by the Northeast Climate Center.

## **SITE SPECIFIC INFORMATION**

Located on Maplewood Avenue in Portsmouth, this site is currently developed and occupied by paved parking.

The existing site topography can be described as fairly flat that gently slopes from northwest to southeast away from Deer Street.

The majority of Soils on this site are of the "Urban land-Canton" complex. These soils can be described as being well-drained.

## **DRAINAGE ANALYSIS**

This drainage analysis consists of two sections, an analysis of the stormwater runoff from the site in the existing condition, and an analysis of the stormwater runoff from the same area with the proposed development. Areas and drainage information were taken from an existing conditions plan and site topographic map prepared by this office. Soils information was taken from the NRCS soils maps. Vegetative cover information was determined by on-site inspection.

### **Existing or Pre-Developed Site Runoff**

In order to study the site in greater detail and estimate peak stormwater runoff, it is necessary to divide the site into watershed subcatchments. There are 8 subcatchments that define the existing analysis. Their delineation is based on where their runoff discharges across property boundaries.



Subcatchment ES8: This subcatchment defines the runoff area from the sidewalk and roadway on the east side of the site along Maplewood Ave.

The following table summarizes the existing subcatchments. The total rainfall amounts for the 2, 10, 25 and 50 year storm are 3.00", 4.30", 5.20" and 5.70".

Table 1: Existing Watershed Subcatchment Runoff Results.

Subcatchment	Area Sf	Tc min.	CN	2 Year Peak cfs	10 Year Peak cfs	25 Year Peak cfs	50 Year Peak cfs
ES1	16,738	5	98	1.12	1.62	1.97	2.16
ES2	22,558	5	97	1.49	2.17	2.64	2.89
ES3	10,622	5	97	0.70	1.02	1.24	1.36
ES4	4,188	5	98	0.28	0.41	0.49	0.54
ES5	20,107	5	97	1.33	1.93	2.35	2.58
ES6	11,261	5	97	0.74	1.08	1.32	1.44
ES7	5,094	5	97	0.34	0.49	0.60	0.65
ES8	7,456	5	97	0.49	0.72	0.87	0.96
Totals	98,024	----	97	----	----	----	----

See "Plan of Proposed Subcatchments" – W1.

Proposed or Post-Developed Site Runoff

There are eleven subcatchments in the proposed analysis. The same Design Point (DP 1) is utilized for the developed condition. All eleven subcatchments flow to the same Design Point (DP 1).

The following is a description of the various subcatchments:

Subcatchment PS6: This subcatchment defines the runoff area from the sidewalk and roadway in the northeast corner of the site near Deer Street and Maplewood Ave.

Subcatchment PS7: This subcatchment defines the runoff area from the sidewalk and roadway on the east side of the site along Maplewood Ave.

Subcatchment PS8: This subcatchment defines the runoff area from the sidewalk and roadway on the east side of the site along Maplewood Ave.

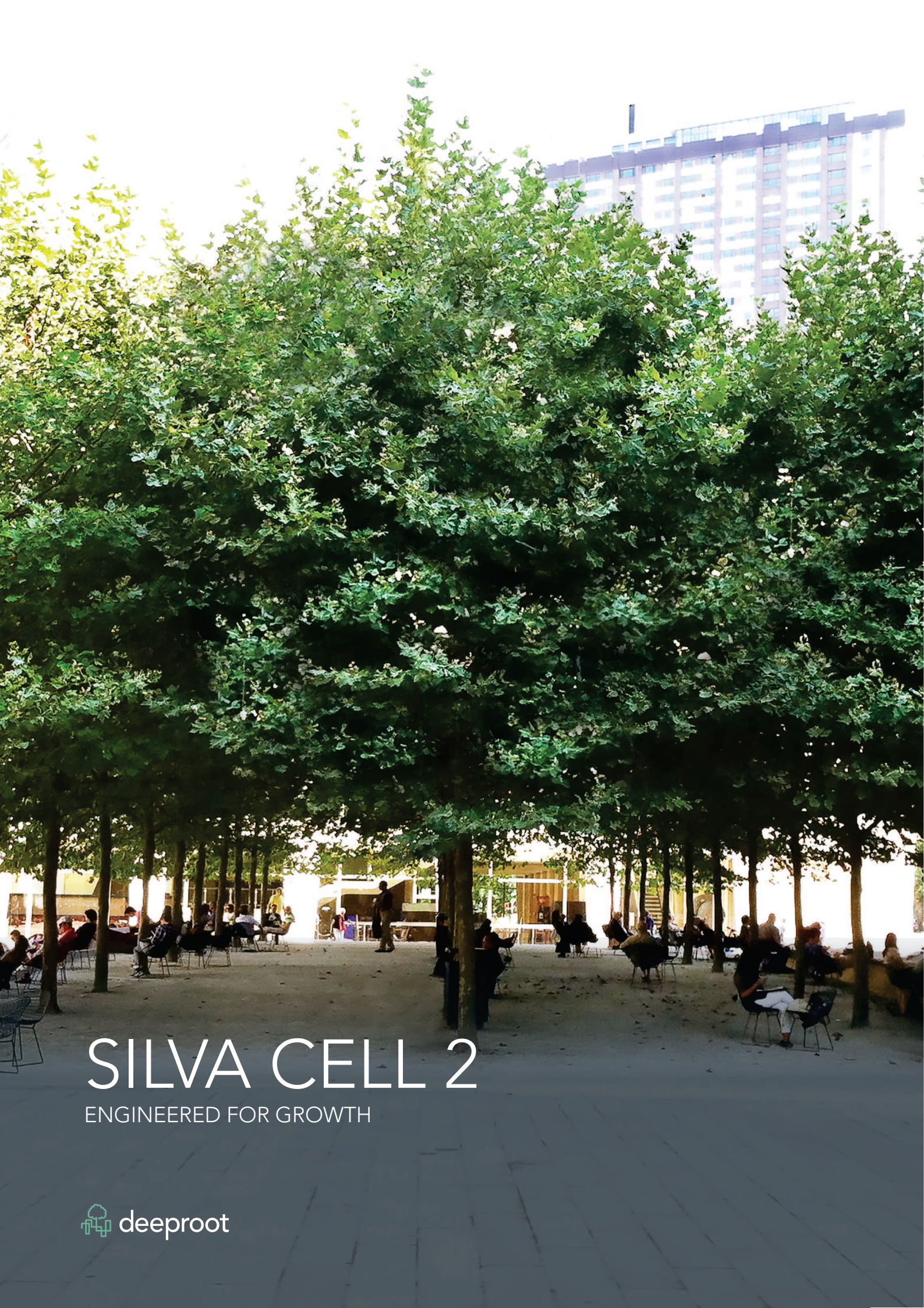
Table 2: Proposed or Developed Conditions

Subcatchment	Area Sf	Tc min *	Weighted CN	2 Year Peak cfs	10 Year Peak cfs	25 Year Peak cfs	50 Year Peak cfs
PS1	16,738	5	98	1.12	1.62	1.97	2.16
PS2	7,730	5	97	0.51	0.74	0.90	0.99
PS2a	2,509	5	98	0.17	0.24	0.30	0.32
PS2b	5,028	5	98	0.34	0.49	0.59	0.65
PS3	8,542	5	98	0.57	0.83	1.00	1.10
PS3a	4,848	5	98	0.33	0.47	0.57	0.63
PS4	4,188	5	98	0.28	0.41	0.49	0.54
PS5	20,107	5	97	1.33	1.93	2.35	2.58
PS6	12,323	5	98	0.83	1.20	1.45	1.59
PS7	8,519	5	98	0.57	0.83	1.00	1.10
PS8	7,456	5	97	0.49	0.72	0.87	0.96
Totals	97,988*						

See "Plan of Proposed Subcatchments" – W2.

## **Conclusion**

The new development can be built without increasing the risk of flooding or erosion onto neighboring properties. Given the results of the preceding analysis and compliance with known city requirements, it is our opinion that this project will not have downstream impact to the existing storm drain system.



# SILVA CELL 2

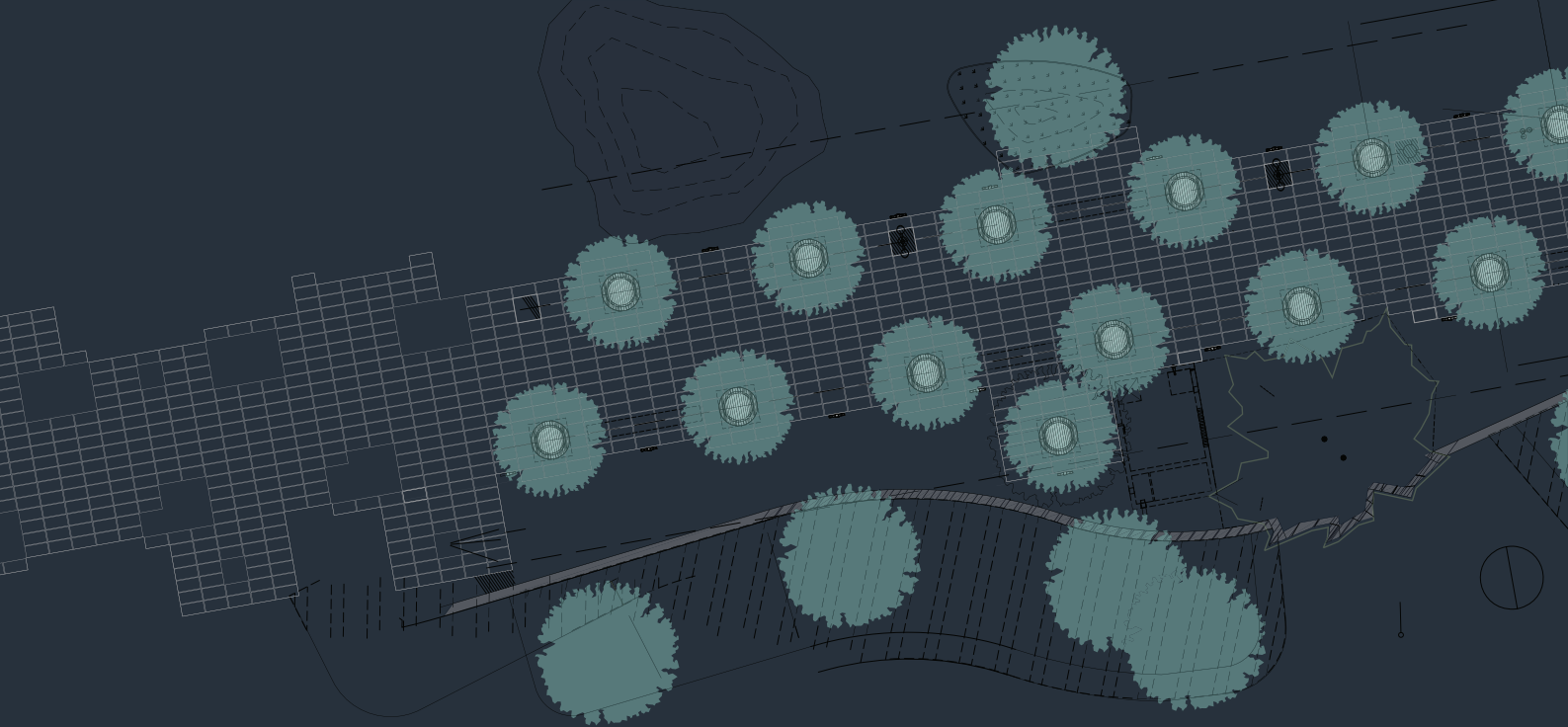
ENGINEERED FOR GROWTH

## ABOUT DEEPROOT

PLANT A BIG IDEA.  
WATCH IT CHANGE  
A CITY.

It's simple: DeepRoot's mission is to create a healthier, more vibrant, and sustainable built environment by bringing green infrastructure like trees, soil, and on-site stormwater management to streets, plazas, parking lots, and other paved areas.

We live in an upside down world where healthy soil hasn't had a place – until now. The Silva Cell is a modular suspended pavement system that uses soil to nurture mature tree growth and provide powerful on-site stormwater management, bringing the function of the forest to the city.



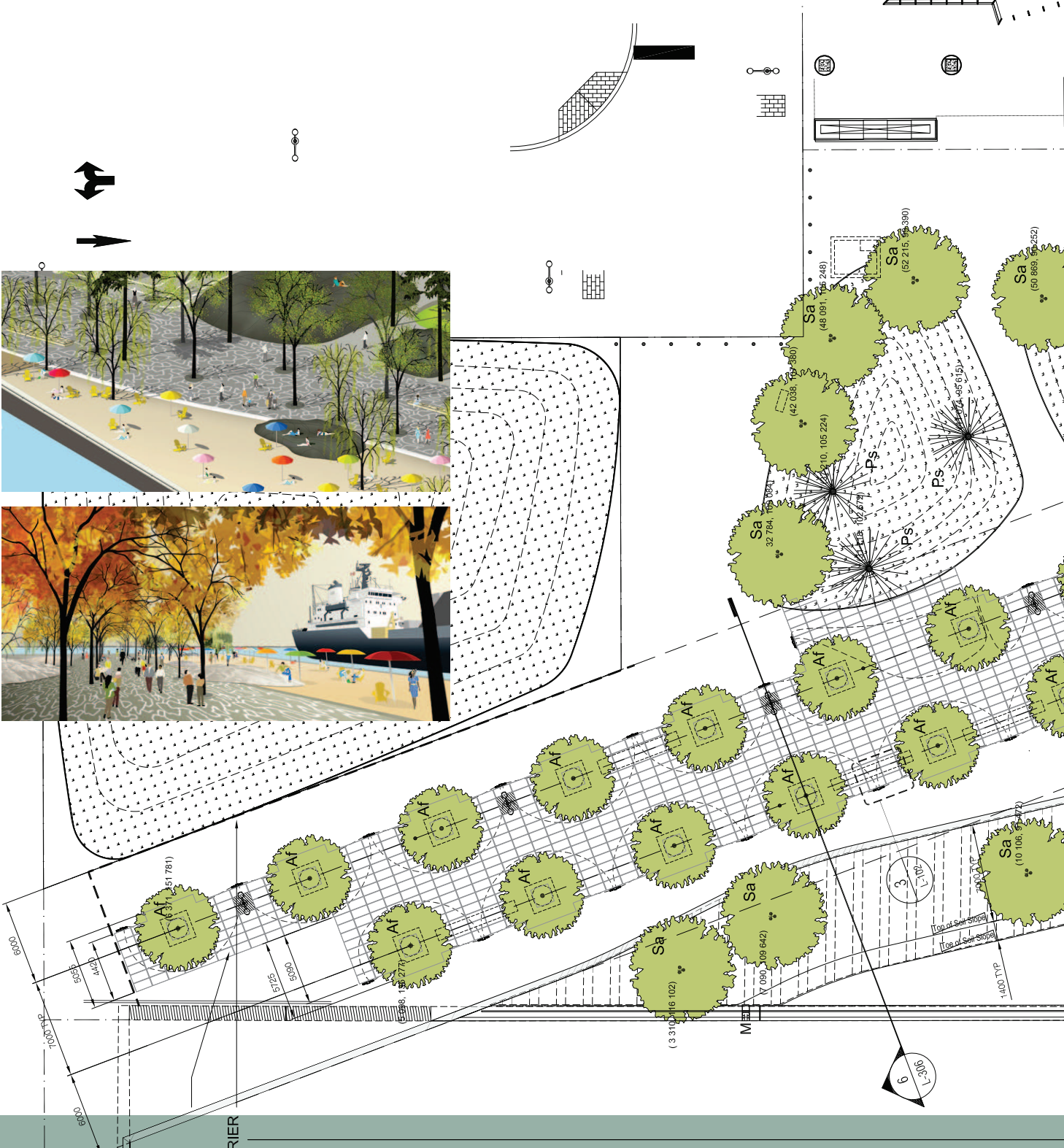
## INTRODUCTION SUGAR BEACH

The revitalization of Toronto's waterfront is one of the largest urban renewal projects ever undertaken. Waterfront Toronto, the organization that managed the effort, is a joint venture by the Federal, Provincial, and the City of Toronto governments.

Design firms Claude Cormier and The Planning Partnership specified the Silva Cells at Sugar Beach, one of the waterfront redevelopment sites, in order to achieve the City of Toronto's soil volume standards for street trees. There are 33 Maples at Sugar Beach, with a mix of Marmo, Jeffer's Red, and Autumn Blaze, each with access to over 1,236 cubic feet (35 cubic meters) of soil in the Silva Cells.

"I recently visited the trees at Sugar Beach – they look like they are on steroids – phenomenal growth that I have never seen before for an urban tree!"  
-Marc Hallé, Claude Cormier + Associés

As these trees mature, they will create a lush canopy over the plaza for those who wish to escape from the heat of the beach and relax in the cool shade. They will also serve as an enduring reminder of the City of Toronto's commitment to their urban forest.



SILVA CELL LAYOUT

ROOT BARRIER

Case Study: Sugar Beach, Toronto, ON, Canada

Installation Summary

Total soil per tree: 1,236 ft<sup>3</sup> (35 m<sup>3</sup>)

Installation date: Winter 2010

Project designers: Claude Cormier + Associés and The Planning Partnership

Owner: Waterfront Toronto

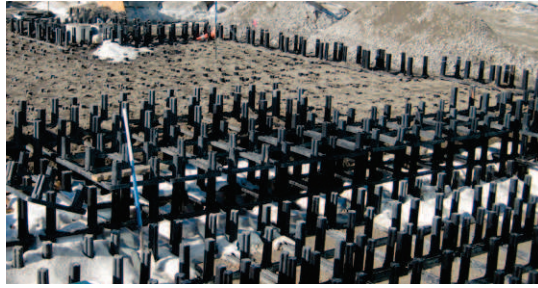
Contractor: Eastern Construction



FOR DIMENSION  
COORDINATES (X,Y)  
(see window on L-101 at  
lower right)

From initial concept through planning stage  
DeepRoot supports you every step of the way





Silva Cell installation



2010

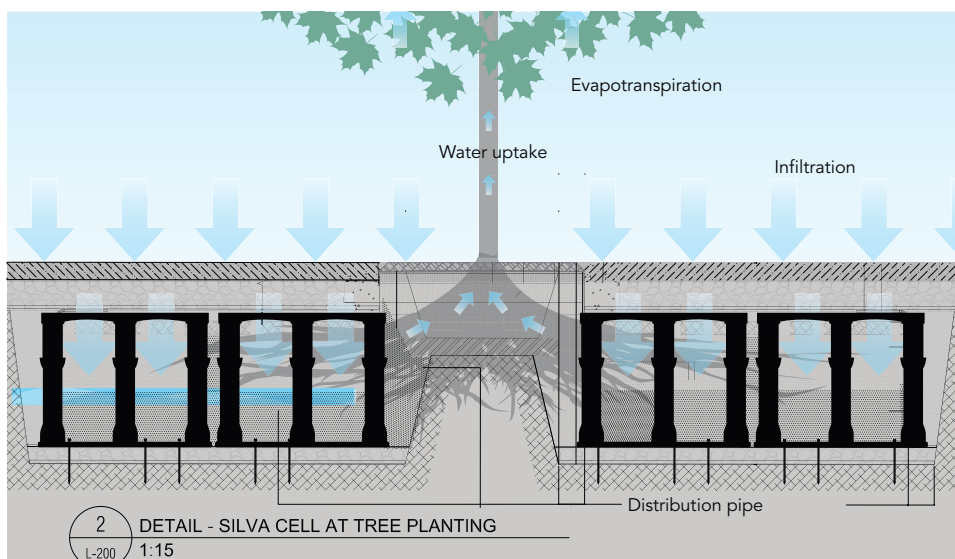


2015

es and implementation,  
ay.

# CREATING HIGH-PERFORMANCE URBAN LANDSCAPES

The integration of green utilities like soil, trees, and water into urban areas can help alleviate some of our most pressing ecological challenges - including air and water quality, rising temperatures, flooding, and erosion from daily rainfall events.



The Silva Cell is a patented modular suspended pavement system that holds unlimited amounts of lightly compacted soil while supporting traffic loads beneath paving. That soil serves two important functions: growing large trees and treating stormwater onsite.

## Interception and Evapotranspiration

Large trees intercept and evapotranspire significantly more rain than small trees. For example, a healthy 40 year old Hackberry tree is estimated to provide 14 times as much interception as a 10 year old Hackberry (McPherson et al 2006).

## Long-Term Infiltration

As roots grow and then decay, they leave open channels in the soil that restore and/or enhance porosity and infiltration rates. Several studies have found a significant increase in saturated hydraulic conductivity in bioretention with plants as compared to those without (e.g. Lucas and Greenway 2011).

## Water Quality Benefits

Vegetation is crucial to many water quality benefits, including removal or sequestration of dissolved nutrients, hydrocarbons, and Total Suspended Solids (TSS).

Plants also slow water flow, allowing more time for sedimentation to occur (Hunt et al 2012).

Silva Cells can be used on almost any type of site, including:

- Streets
- Plazas
- Parking areas
- Green roofs/on-structure
- "Break-out" zones

Trees and soils play a significant role in bioretention.

# UNDERGROUND BIORETENTION WITH THE SILVA CELL

Bioretention is an incredible tool for low-impact development, keeping water where it falls so that it can be cleaned, cooled, and recharged. Open bioretention presents challenges in dense urban areas, where land values and maintenance requirements are high. This is where underground bioretention systems like the Silva Cell are best suited.

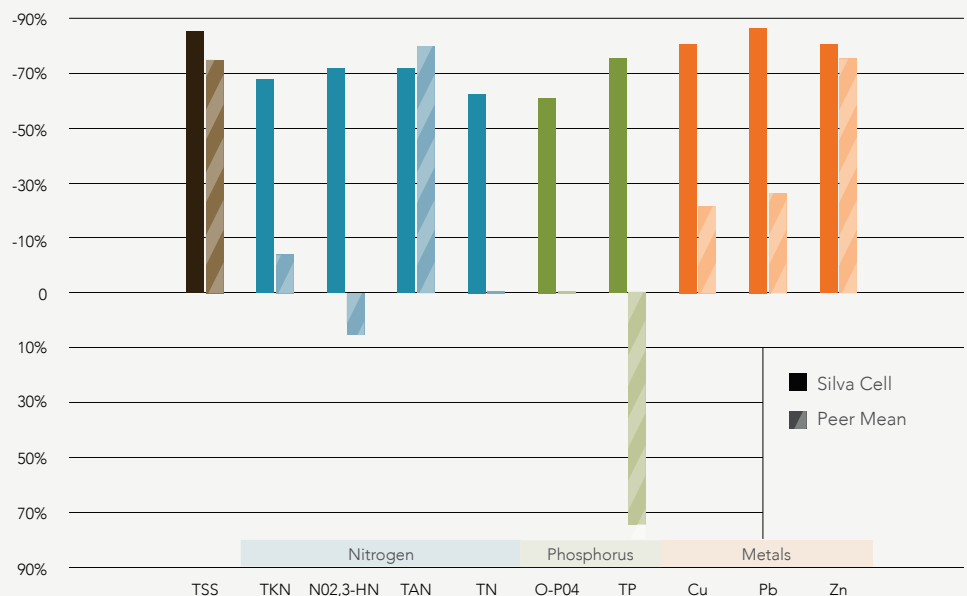
How do the stormwater benefits of the Silva Cell system compare to those of traditional bioretention systems? The mechanisms by which the tree and soil provide stormwater benefits are the same, and the benefits are too.

Final results from a performance monitoring study in Wilmington, North Carolina (USA) show that Silva Cells can provide stormwater benefits equal to, or better than, traditional bioretention. Similar data has been found at Queensway (CAN) and at Howard Street (UK). Read more about these projects on our website.

Water quality benefits: For all of the pollutants monitored, the Silva Cell systems performed better or about the same as the mean for bioretention systems in peer reviewed literature (Page et al 2015).

## POLLUTANT REMOVAL LEVELS

Silva Cell compared to typical bioretention systems



Unlike some bioretention systems, which leach nutrients and negatively impact receiving water bodies, Silva Cell systems also provide nutrient removal. Additional low-impact development benefits of the system include:

- Water quality
- Peak overflow reduction
- Low/no maintenance
- May use any type of soil
- Efficient use of space

# PRODUCT DETAILS

The Silva Cell 2 is composed of a base, posts, and a deck. Each unit is 48" (1200 mm) long x 24" (600 mm) wide. The assembled cells transfer paving loads vertically downward to a compacted sub-base through the posts.



**UTILITIES:** 14"/355 mm apertures easily accommodate new or existing utilities.

**STORMWATER IN/OUT:** Totally open interior allows for easy movement of water into and out of the system.

**FLEXIBILITY:** Independent units allow maximum flexibility around existing or planned site considerations.

**SPACING:** Up to 6" (152.4 mm) spacing delivers soil as efficiently as possible.

	SOIL CAPACITY	HEIGHT
1x	13.23 ft <sup>3</sup> (0.37 m <sup>3</sup> )	16.7 in (424 mm)
2x	24.76 ft <sup>3</sup> (0.70 m <sup>3</sup> )	30.9 in (784 mm)
3x	34.50 ft <sup>3</sup> (0.97 m <sup>3</sup> )	43 in (1092 mm)

## MATERIAL SPECIFICATIONS

Deck: fiberglass reinforced, chemically-coupled, impact modified polypropylene  
 Base and post: homopolymer polypropylene

The Silva Cell is covered by one or more of the following patents:

US PATENTS	CANADIAN PATENTS	EUROPEAN PATENTS
USA 7,080,480	Canada 2,552,348	EP 2059114
USA 8,065,831	Canada 2,662,129	
USA 9,085,886		
USA 9,085,887		

Other patents pending.

# ENGINEERING

The Silva Cell has been meticulously engineered to handle multiple competing needs, including paving and related vehicle loads, providing maximum space for unimpeded soil volume, and ease of construction – including placement within areas of high utility use.

From initial concept, the Silva Cell was developed using a dual program of Finite Element Analysis (FEA) computer modeling and physical load testing. Using this approach, the FEA was used to predict the overall strength and response to loading, and the physical load testing was used to prove the strength and response. We have years of in-ground projects in multiple applications providing examples of daily use in high demand environments.

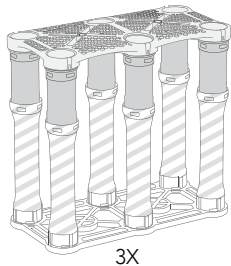
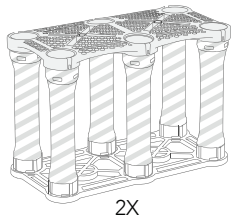
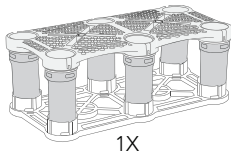


Maximum axle load of 6'-0"  
32,000 lbs/14,500 kg 1.8 m

For more details, please contact us to discuss applications for your project.

## LOADING

Supports vehicle loading equal to 32,000 lbs/14,500 kg per axle, which allows use in areas that accommodate 3 - 4 axle vehicles such as those used for emergency, delivery, and maintenance. Meets AASHTO HS-20 (USA) CSA-S6, 87.5 and OBC 54KN (Canada), and BS EN 1991-1-1:2002 BS EN 1991-1- 2:2003 (UK) loading standards when used with standard paving profiles. Increased loading capacity can be achieved by adjusting the standard profiles.



## STANDARD PAVING PROFILES

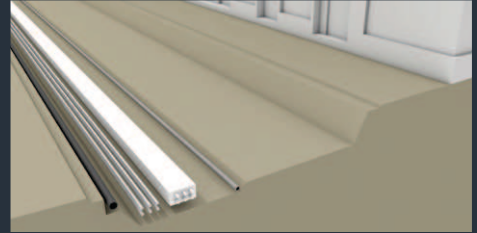
PAVERS	ASPHALT	CONCRETE	PAVERS WITH CONCRETE
3.15" pavers 1" sand base 12" of aggregate	4" of asphalt 12" of aggregate	4" of asphalt 4" of aggregate	2.36" pavers 5" concrete
8 cm pavers 2.5 cm sand base 30 cm of aggregate	10 cm of asphalt 30 cm of aggregate	10 cm of asphalt 10 cm of aggregate	6 cm pavers 12.7 cm concrete

# INSTALLATION

Left: Excavate the area for installation.



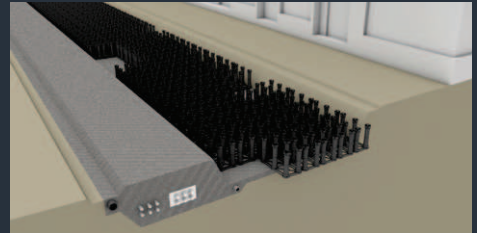
Right: Install utilities/services.



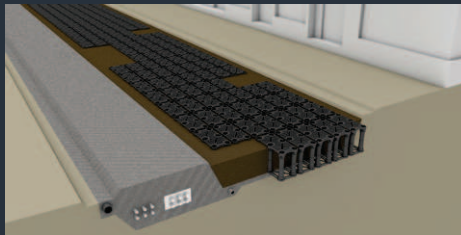
Left: Install aggregate base course.



Right: Install Silva Cells.



Left: Install soil (native, specified, or bioretention) and walk-through compaction in conjunction with placement of Silva Cells.



Right: Complete remainder of construction process.



Graphics and streetscape design by planningAlliance.

DeepRoot is committed to making sure that every project is successful. As part of that commitment, we provide technical reviews, pre-installation training, and on-site visits at no cost.

We also supply a comprehensive Operations & Maintenance Manual that includes guidelines on maintenance, repairs (planned and emergency), programmatic and administrative information, and more.

Plazas, Streetscapes, Parking lots, On-structure.



UNC Bell Tower  
Chapel Hill, NC



Princes Street & Queen Street  
Ipswich, Suffolk



KU Clinical Research Center  
Fairway, KS



Lincoln Center Bosque  
New York, NY

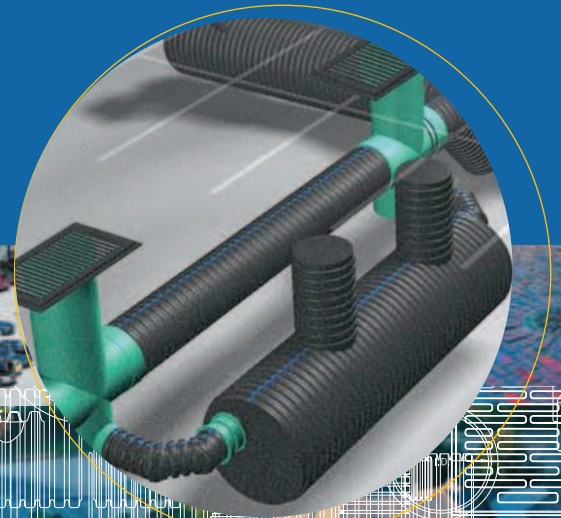
DeepRoot Green Infrastructure, LLC  
101 Montgomery Street, Suite 2850  
San Francisco, CA 94104  
[info@deeproot.com](mailto:info@deeproot.com)

DeepRoot Canada Corp.  
Suite 341 – 550 West Broadway  
Vancouver, BC V5Z 0E9  
[mjames@deeproot.com](mailto:mjames@deeproot.com)

DeepRoot Urban Solutions, Ltd.  
6 Dorset Street  
London W1U 6QL  
[steve@deeproot.com](mailto:steve@deeproot.com)



# STORM WATER QUALITY UNIT





# STORM WATER QUALITY UNITS

Standards for storm water quality will necessarily vary by location and land use.

The most targeted sources of runoff pollution are paved areas in urban and industrial sites. These are generally small (< 1 acre) with high traffic loads, such as parking lots and gas stations, that generate significant concentrations of contaminant particles and hydrocarbons.

Because of land constraints, Hancor underground Storm Water Quality Units\* have become an increasingly efficient solution for treating storm water. These durable, lightweight structures have been specifically designed for fast installation and easy maintenance.

## BENEFITS

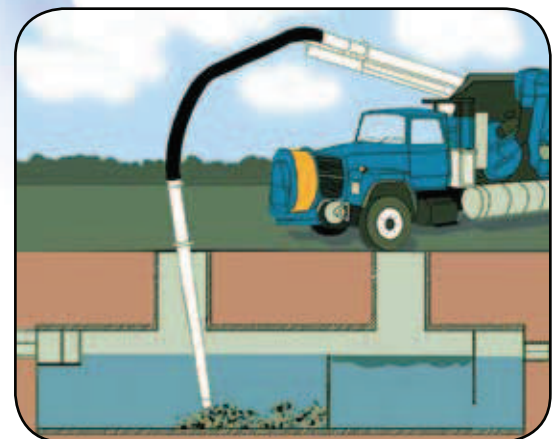
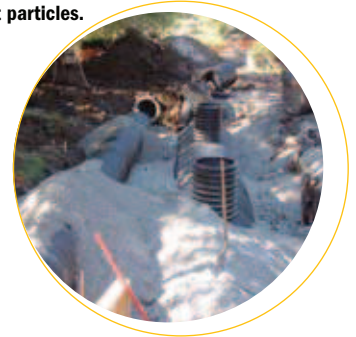
- Laboratory tests have shown an 80% TSS removal rate.
- Removes floatable debris, oils and greases.
- Available in 36" (900mm) through 60" (1500mm) diameters.
- Lightweight High Density Polyethylene (HDPE) unit installs easily with a minimum amount of manpower. Heavy cranes are not necessary to install the unit.
- Each unit is fitted with access risers for easy inspection and maintenance of the sediment and oil chambers.
- The unit is inexpensive because the design is simple and there are no moving parts.
- The bypass system prevents re-suspension of captured solids by diverting water flows greater than the first flush.
- HDPE resists abrasion and chemicals found in storm water and in the surrounding soil.

\*Patented



**The Patented Hancor Storm Water Quality Unit is lightweight and easy to install, requiring little in the way of manpower or heavy equipment.**

**A bypass system (below) is installed to prevent water flows greater than the first flush from re-suspending captured pollutant particles.**



**The Hancor Storm Water Quality Unit is fitted with access risers for easy inspection and maintenance.**



# STANDARD MODELS

Product Number	Diameter (in) (mm)	Length (ft) (m)	Inlet Size (in) (mm)	Outlet Size (in) (mm)	Treated Flow Rate (cfs) (L/s)	Sed. Vol. (ft <sup>3</sup> ) (m <sup>3</sup> )	Oil Vol. (ft <sup>3</sup> ) (m <sup>3</sup> )	Sieve Size
3620WQA	36 (900)	20 (6)	10 (250)	10 (250)	1.5 (42)	65 (1.8)	30 (0.8)	140
3640WQA	36 (900)	40 (12)	10 (250)	10 (250)	2.38 (67)	137 (3.9)	63 (1.8)	140
3620WQB	36 (900)	20 (6)	10 (250)	10 (250)	0.7 (20)	65 (1.8)	30 (0.8)	200
3640WQB	36 (900)	40 (12)	10 (250)	10 (250)	1.6 (45)	137 (3.9)	63 (1.8)	200
4220WQA	42 (1050)	20 (6)	12 (300)	12 (300)	1.75 (49)	83 (2.3)	38 (1.1)	140
4240WQA	42 (1050)	40 (12)	12 (300)	12 (300)	3.66 (104)	175 (5.)	81 (2.3)	140
4220WQB	42 (1050)	20 (6)	12 (300)	12 (300)	0.86 (24)	83 (2.3)	38 (1.1)	200
4240WQB	42 (1050)	40 (12)	12 (300)	12 (300)	1.83 (52)	175 (5.)	81 (2.3)	200
4820WQA	48 (1200)	20 (6)	12 (300)	12 (300)	2.26 (64)	116 (3.3)	55 (1.6)	140
4840WQA	48 (1200)	40 (12)	12 (300)	12 (300)	3.94 (112)	245 (6.9)	115 (3.3)	140
4820WQB	48 (1200)	20 (6)	12 (300)	12 (300)	1.13 (32)	116 (3.3)	55 (1.6)	200
4840WQB	48 (1200)	40 (12)	12 (300)	12 (300)	2.39 (68)	245 (6.9)	115 (3.3)	200
6020WQA	60 (1500)	20 (6)	15 (375)	15 (375)	2.95 (84)	183 (5.2)	87 (2.5)	140
6040WQA	60 (1500)	40 (12)	15 (375)	15 (375)	6.23 (176)	385 (10.9)	184 (5.2)	140
6020WQB	60 (1500)	20 (6)	15 (375)	15 (375)	1.47 (42)	183 (5.2)	87 (2.5)	200
6040WQB	60 (1500)	40 (12)	15 (375)	15 (375)	3.12 (88)	385 (10.9)	184 (5.2)	200

140 sieve is equal to a particle size of 0.0042" (0.106mm) 200 sieve is equal to a particle size of 0.0030" (0.075mm)

## DESIGN VARIATIONS

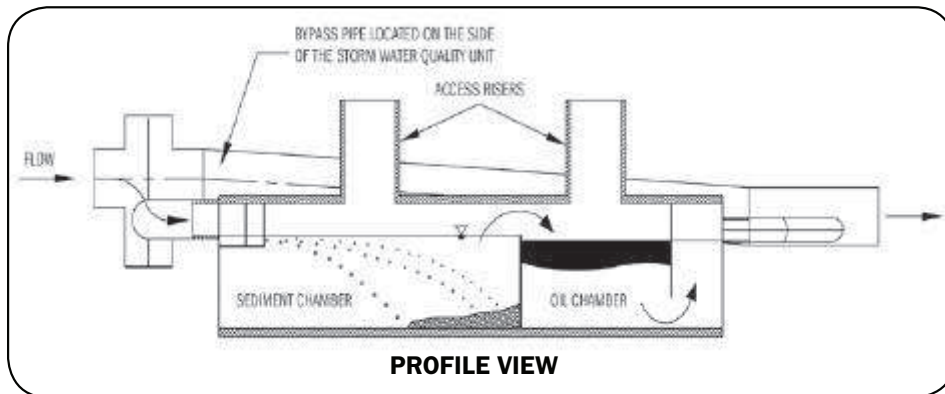
The standard models listed above will provide efficient removal of pollutant particles and hydrocarbons for the majority of site conditions. For unusual conditions, Hancor can recommend a system combining a variety of sizes and configurations.

### PEAK FLOW RATE

The bypass pipe of the Hancor Storm Water Quality Unit is designed to convey the peak storm water flow of the storm line.

For example, @ a 1% slope, peak flow rates for the bypass line are as follows:

	CFS	L/S
12"	3.8419	103.9
15"	6.971	188.0
18"	11.343	307.0
24"	24.451	661.0
30"	44.37	1,240.0
36"	72.19	1,950.0
42"	108.95	2,950.0
48"	155.61	4,210.0
60"	282.36	7,630.0



# DESIGN AND INSTALLATION

## DESIGN PRINCIPLES

Available in 36" (900mm) through 60" (1500mm) diameters, Hancor Storm Water Quality Units are modified sections of HDPE pipe with weir plates at certain locations and heights to remove high percentages of sediment and oils from the first flush of a storm event. They can be installed at any point in the subsurface drainage system, and are ideally suited to treat "hot spots" in existing storm water lines.

The unit is designed using the fundamental principles of Stoke's Law and standard orifice outlet control equations. The settling velocity of a particle is calculated based on the smallest particle to be removed. Standard units offer a choice of 140 or 200 sieve size removal.

The outlet orifice is sized to release a typical first flush discharge and to redirect any excess flow to a bypass piping system installed with the unit.

140 Sieve Size	200 Sieve Size
<b>0.0042"</b> Particle Dia. <b>0.106 mm</b>	<b>0.0030"</b> Particle Dia. <b>0.075 mm</b>

## SIZING AND INSTALLATION

Installation of Storm Water Quality Units follows the same accepted practices as the installation of large diameter flexible pipe.

Specific installation instructions, along with details on specifying the proper size of a Storm Water Quality Unit, are available on the Hancor web site at [www.hancor.com](http://www.hancor.com).





## THE HEART OF THE TREATMENT TRAIN

For many drainage sites, the Storm Water Quality Unit by itself can provide the required degree of pollutant removal. However, certain sites with higher concentrations of hydrocarbons or sediment runoff will need further treatment upstream and/or downstream of the Unit. This multi-tiered approach to storm water quality is known as the treatment train.

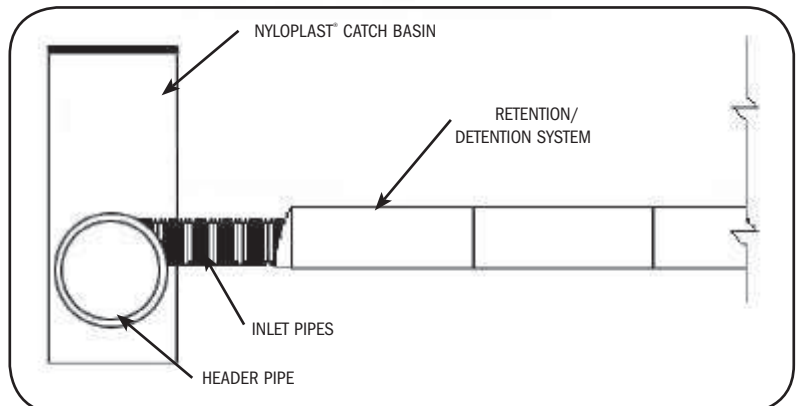
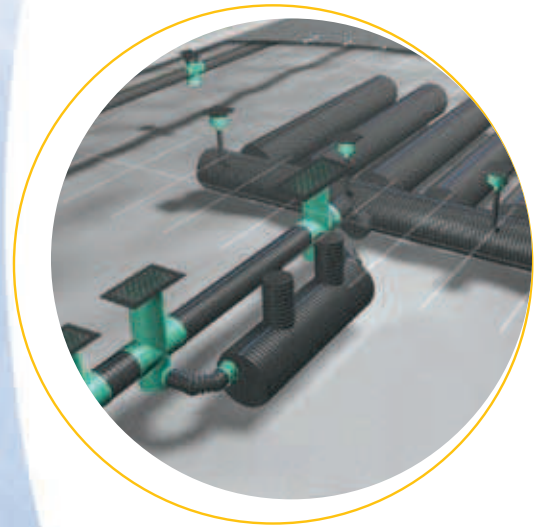
Upstream measures include sediment prevention (vegetated swales, etc.) and inlet protection devices such as screens, filters and silt fences. These techniques are designed to prevent a large percentage of pollutants from ever entering the storm drain system. For impervious surfaces such as paved parking areas, catch basin insert filters are most commonly used for early stage treatment.

### RETENTION/DETENTION

Treatment downstream from the Storm Water Quality Unit generally involves some form of retention or detention system. Retention allows accumulated storm water to gradually percolate into the surrounding soil, while detention meters the water through an outlet to a ditch, stream or other receiving area.

Inlet designs to such underground storage vessels can also enhance pollutant removal. The “eccentric header system” consists of a large diameter manifold pipe with an invert positioned lower than those of the smaller inlet pipes to the storage vessels. The large header pipe thus acts as a sump into which suspended particles may settle. Manholes and/or risers may be installed to facilitate inspection and cleaning.

Designers can choose between two methods of constructing the retention or detention system. The first is the use of Hancor large diameter corrugated high density polyethylene pipe, known for its economy and ease of installation. The second option is LandSaver™ – specially engineered to meet the demands of subsurface storm water management applications. Hancor supplies a complete line of pipe, fittings and fabricated manifolds, along with detailed sizing, design and installation instructions on [www.hancor.com](http://www.hancor.com).



The “eccentric header” is installed with its invert lower than the inlet pipes, thus acting as a sump to collect suspended sediment.



# HANCOR STORM WATER QUALITY UNIT PRODUCT SPECIFICATION

## SCOPE

This specification describes 36- through 60-inch (900 to 1500mm) Storm Water Quality Units for use in on-site point source storm water treatment applications.

## REQUIREMENTS

Storm Water Quality Units shall have a smooth interior and annular exterior corrugations. The unit shall have a least three containment zones, each zone separated from the next by use of a weir or baffle plate.

Weir and baffle plates shall be welded at all interfaces between the plate and water quality unit.

First weir plate shall incorporate a saw tooth design and shall be reinforced with stiffeners positioned horizontally on the downstream side of the plate to be retained.

Storm Water Quality Units shall provide adequate clean-out and inspection access.

## JOINT PERFORMANCE

Connections for the bypass line and the unit shall utilize the same joint quality as specified for the main storm sewer pipe. Couplers for the bypass line may be either split couplers, in-line bell couplers, snap couplers, bell-bell couplers, or welded bell couplers.

## MATERIAL PROPERTIES

Virgin material for pipe & fittings used to produce Storm Water Quality Units shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250mm) diameters, and 435400C for 12- through 60-inch (300 to 1500mm) diameters as defined and described in the latest version of ASTM D3350. The virgin pipe material shall be evaluated using the notched constant ligament-stress (NCLS) test as specified in Section 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively. All smooth baffle and weir plates shall be high density polyethylene.

## INSTALLATION

Installation shall be in accordance with the Hancor published installation guidelines, utilizing a Class I (ASTM D2321) structural backfill material or flowable fill (CLSM—Controlled Low Strength Material). Contact your local Hancor representative or visit [www.hancor.com](http://www.hancor.com) for the latest installation instructions.

## PERFORMANCE

Storm Water Quality Units shall remove a minimum of 80% of the first flush total suspended solids (TSS) based on flow rates and corresponding sieve shown in Table 1. Storm Water Quality Units shall be installed “offline” to prevent re-suspension of solids in high flow situations. Offline installation shall be constructed utilizing a Hancor By-Pass structure. Flow through the unit shall be controlled by an orifice fabricated on the outlet end of the structure.

All sales of Hancor product are subject to a limited warranty and purchasers are solely responsible for installation and use of Hancor products and determining whether a product is suited for any specific needs. Please consult a full copy of Hancor's Terms and Conditions for Sale for further details.

## DIRECT CONTACT Customer Service

888-FOR PIPE (367-7473)  
Fax 888-FAX PIPE (329-7473) 24 hours a day

## ELECTRONIC MEDIA Web Site

Find market- and application-specific information and the latest industry news at our On-Line Pipeline – [www.hancor.com](http://www.hancor.com)

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LandSaver™ is a registered trademark of StormTech, LLC.  
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#1172/0907

### Series 35—Flanged Check Valve

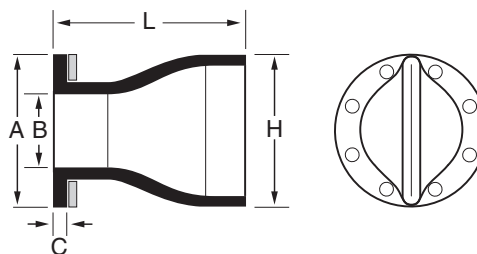
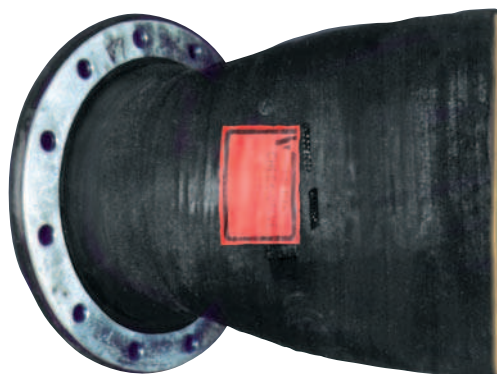
#### Materials of Construction

- Pure Gum Rubber, Neoprene, Chlorobutyl, Buna-N, Polyurethane  
Hypalon, Viton, EPDM, Food Grade
- Galvanized Steel, Stainless Steel

The Tideflex® Technologies Series 35 Check Valve is manufactured identically to the Tideflex® Check Valve, with the addition of an integral elastomer flange as part of the valve. The standard flange size drilling conforms to ANSI B16.5 and ANSI B16.47, Class 150 standards. All other domestic and international standards, as well as customer specified flange dimensions, are available. The Series 35 Check Valve is furnished complete with 3/8" thick steel back-up rings for installation.

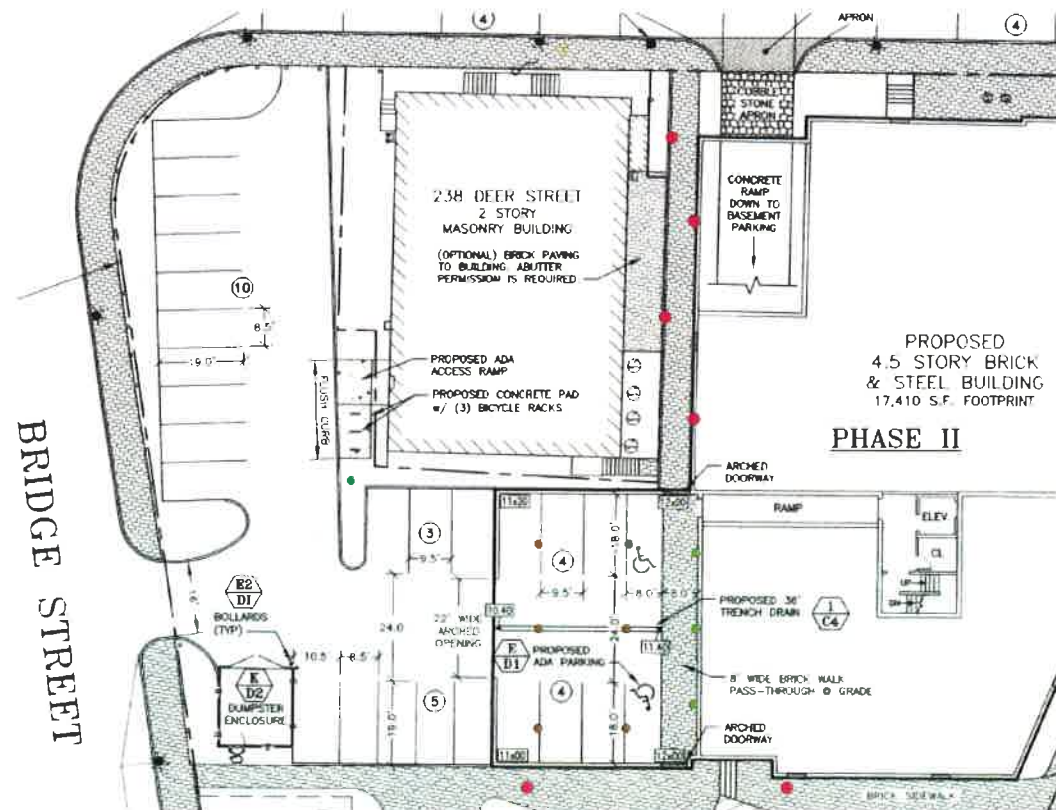
In some applications and installations, a slip-over pipe Check Valve is not feasible because of an existing flange in the piping system or an existing flange cemented in the outfall piping system vault. In these cases, the Series 35 Check Valve is the solution.

The Tideflex® Technologies Series 35 Check Valve is simple in design, with only one part - the all-rubber duck bill check sleeve. There are no seats or interference fits to corrode or freeze valve operation, making the Series 35 virtually maintenance free. The Series 35 seals completely around solids, making it ideal for fly ash, raw sewage, sludge, lime, mining slurries, and many other abrasive and corrosive slurries.



#### DIMENSIONS SERIES 35

ANSI FLANGE SIZE	FLANGE O.D. A	INSIDE DIAMETER B	FLANGE THICKNESS C	MAXIMUM LENGTH L	MAXIMUM HEIGHT H
1/2"	3-1/2"	1/2"	1/2"	2-1/2"	1-1/4"
3/4"	3-7/8"	3/4"	1/2"	3"	1-1/2"
1"	4-1/4"	1"	1/2"	3"	1-1/2"
1-1/4"	4-5/8"	1-1/4"	1/2"	5-3/4"	2-3/4"
1-1/2"	5"	1-1/2"	1/2"	5-3/4"	3-5/8"
2"	6"	2"	1/2"	5-3/4"	3-5/8"
2-1/2"	7"	2-1/2"	1/2"	7-1/2"	4-5/8"
3"	7-1/2"	3"	3/4"	9"	5-3/8"
4"	9"	4"	3/4"	12"	7"
5"	10"	5"	3/4"	15-1/4"	8-7/8"
6"	11"	6"	1"	15-5/8"	10-3/8"
8"	13-1/2"	8"	1"	16-1/2"	13"
10"	16"	10"	1"	21-1/2"	16-7/8"
12"	19"	12"	1"	26-1/2"	20-1/8"
14"	21"	14"	1"	25-3/8"	21-1/2"
16"	23-1/2"	15-1/4"	1"	27-1/2"	22-1/4"
18"	25"	17-1/2"	1-1/2"	30"	26-3/4"
20"	27-1/2"	19-1/4"	1-1/2"	32-3/8"	32-1/2"
22"	29-1/2"	21-1/4"	1-1/2"	35-1/2"	32-1/2"
24"	32"	24"	1-1/2"	40-1/2"	37"
30"	38-3/4"	29-1/2"	1-1/2"	43"	49-1/2"
32"	41-3/4"	32"	1-1/2"	51-3/8"	46"
36"	46"	35-1/4"	1-1/2"	54"	58"
42"	53"	42"	2"	60-1/4"	72-1/2"
48"	59-1/2"	48"	2"	59"	77-1/2"
60"	73"	60"	2"	72"	96-3/4"
72"	86-1/2"	72"	2"	95"	102"
84"	99-3/4"	84"	2"	92"	110-1/2"



● DESIGN PLAN "KLEIN 900" BOLLARD  
HEIGHT: 35.5"  
78 LUMENS



● TECH LIGHTING "IGNIAL 17 METAL" SCONCE  
HEIGHT: 17"  
1800 LUMENS



● TECH LIGHTING "BOWMAN 6" SCONCE  
HEIGHT: 6"  
1163 LUMENS  
(for homeowner deck at door)



● LUMIHOUSE "BACKGROUND" BI-GRADE  
1" x 2" x 0.4" SECTIONS  
ASYMMETRIC WALLWASH OPTIC  
3404 LUMENS  
for illuminating frosted balcony panels



● ECOSENSE "RISE 1000" FLOODLIGHT (L)  
SPOT & FLOOD BEAM ANGLES  
745 LUMENS  
for grazing columns (down)

● ECOSENSE "TROY 150" LINEAR EXTERIOR (R)  
12" x 48" SECTIONS  
3019 LUMENS  
for uplighting columns (mount to ledge)



● TECH LIGHTING "CIGQUE LARGE OUTDOOR CEILING"  
DIAMETER: 11"  
1142 LUMENS



● V2 LIGHTING "CORE 900 LV" SCONCE  
HEIGHT: 12.2"  
UP TO 3600 LUMENS



● BEEMALK "FLUOROUND" POLE  
HEIGHT: 11.4"  
2788 LUMENS PER LAMP

REVISIONS:



SOMMA

36 Maplewood Avenue  
Portsmouth, NH 03801  
Ph: 603.766.3760

46-64 MAPLEWOOD AVE.  
36 MAPLEWOOD AVENUE  
PORTSMOUTH, NH 03801

TITLE:  
BUILDING OPENING CALCULATIONS

SCALE: AS NOTED  
DRAWN BY: SOMMA  
CHECKED BY:  
PROJECT NO.: -  
DATE: DECEMBER 19, 2017



BRIDGE STREET ELEVATION

N.T.S.



REVISIONS:



DEER STREET ELEVATION  
N.T.S.



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REVISIONS:



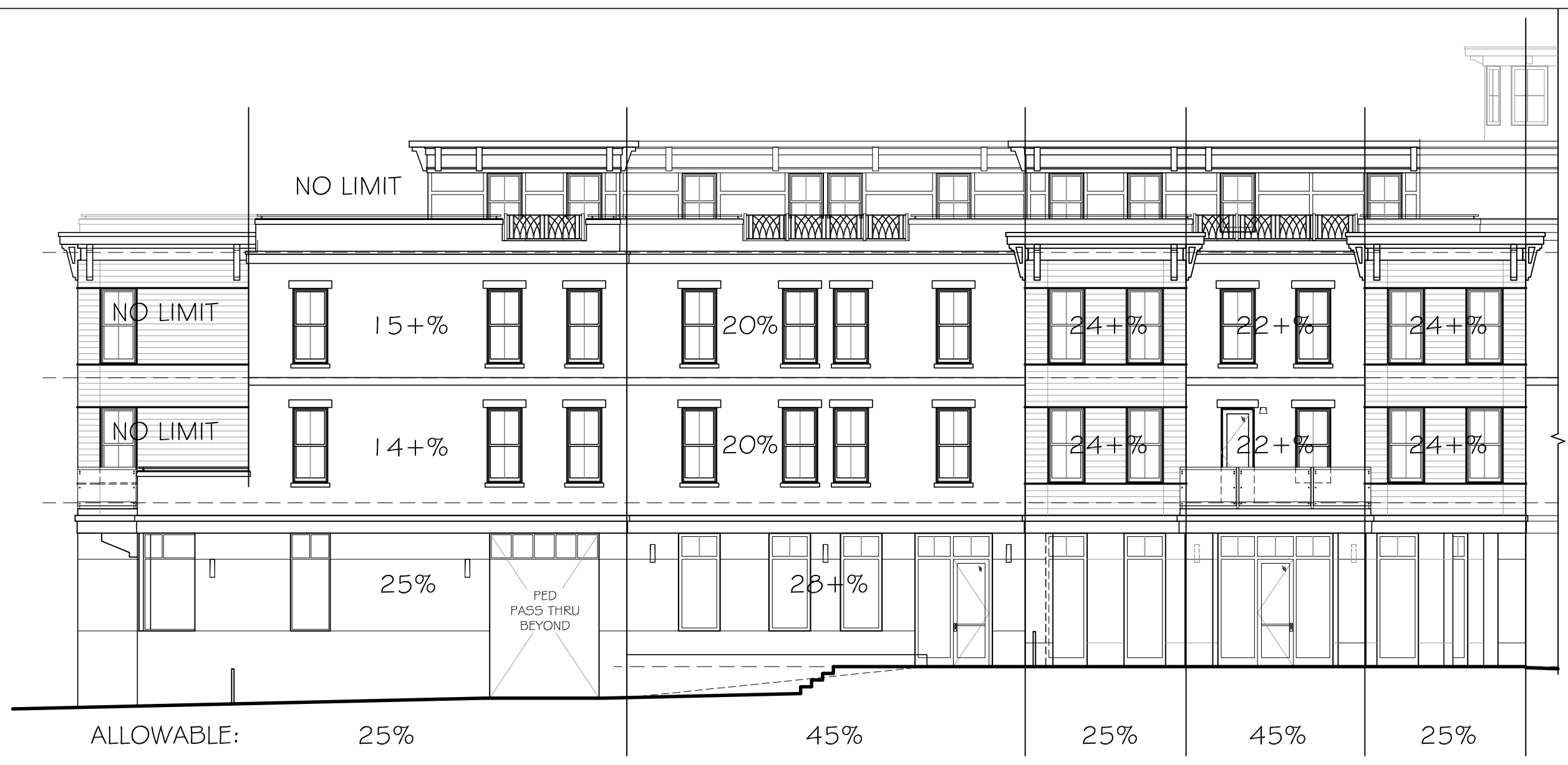
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PEDESTRIAN WAY ELEVATION

N.T.S.