K0076-065
July 30, 2025

Mr. Peter Britz, Director of Planning & Sustainability
City of Portsmouth Planning & Sustainability Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Request for Conservation Commission Work Session**
Map 213 Lot 12 – Proposed Multi-Family Development

Dear Peter:

On behalf of Brora, LLC (Owner) and The Kane Company (Applicant) we are pleased to submit one (1) set of hard copies and one electronic file (.pdf) of the following information to support a request to meet with the Conservation Commission (CC) at their next scheduled meeting for a Work Session for the above referenced project:

- Site Plan Set, dated July 30, 2025;
- Historical Site Overlay Exhibit, dated July 30, 2025;
- Wetland Buffer Exhibit, dated July 30, 2025;
- Architectural Exhibits, dated July 2025
    - Aerial Building Height Diagram
    - Site Section Diagram
    - Site Shadow Diagram
- Signed Authorization, dated April 21, 2025;

The proposed project is located on a parcel of land along Portsmouth Boulevard that is identified as Map 213 Lot 12 on the City of Portsmouth Tax Maps. The property is bound to the north by Portsmouth Boulevard, to the west by the Hilton Homewood Suites, to the south by residences on Osprey Drive and to the east by residences on Dunlin Way. The site is currently undeveloped. This property is an 8.4-acre parcel of land located in the Office Research District and the Gateway Neighborhood Overly District (GNOD). The northern portion of the parcel along Portsmouth Boulevard gently slopes up from north to south and then approximately one-third of the way into the parcel the topography changes to a steep slope that plateaus in the south corner of the site after grade change of approximately 50-feet in elevation.

The proposed project will be permitted under the recently adopted GNOD Overlay District regulations. As currently designed, the project will include three (3), six (6) story multifamily residential buildings consisting of approximately 274 dwelling units. With approval from the City Council, the Applicant will be proposing a Land Transfer to the City on separate property in order to achieve the Density Bonus offered by the Land Transfer Incentive Option (Section 10.686.30) and allow for six (6) story construction with up to 120 dwelling units per building.

The three (3) proposed buildings will be located along the frontage of Portsmouth Boulevard with associated parking located at the rear of buildings. Tenant amenity areas are anticipated to be provided on the first floor of the buildings with the primary amenities being centrally located in the middle building. The buildings will be connected by attractively landscaped and

hardscaped outdoor amenity areas. The south portion of the site, where there is a significant change in grade, will remain undeveloped to provide a buffer between the proposed development and the existing residences along Osprey Drive. This south portion of the site is anticipated to be improved with walking paths and landscape features for outdoor recreation. The section of Portsmouth Boulevard along the frontage of the subject property is proposed to be reconstructed with a new sidewalk and parking spaces to promote connection between the development and the surrounding neighborhood.

At this time, we anticipate that the proposed project will require the following site related approvals from the Planning Board:

- Site Plan Review Permit
- Wetland Conditional Use Permit

The applicant respectfully requests to meet with the Conservation Commission at their next scheduled meeting for a Work Session on August 13th, 2025. If you have any questions or need any additional information, please contact me by phone at (603) 769-9471 or by email at NAHansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Vice President

Neil A. Hansen, PE
Project Manager

Enclosures
Copy: Brora, LLC (via email)

\\tighebond.com\data\Data\Projects\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Reports\Applications\City of Portsmouth\K0076-065 TAC WS Letter.docx

Letter of Authorization
Dunlin Way & Portsmouth Boulevard, Portsmouth
Map 213 Lot 12

The undersigned owner and applicant of the above-referenced property hereby authorize representatives of Tighe & Bond, Inc. to represent their interests, and to submit any and all materials related thereto on their behalf for any local and state permitting applications solely in connection with the multifamily development thereof.

Brora, LLC

Date: 4/21/2025

By: _____

Name: Jennifer Stebbins Thomas

Title: Manager

The Kane Company

Date: 4/21/2025

By: _____

Name: Kimery Poldrack

Title: SVP Development & Construction

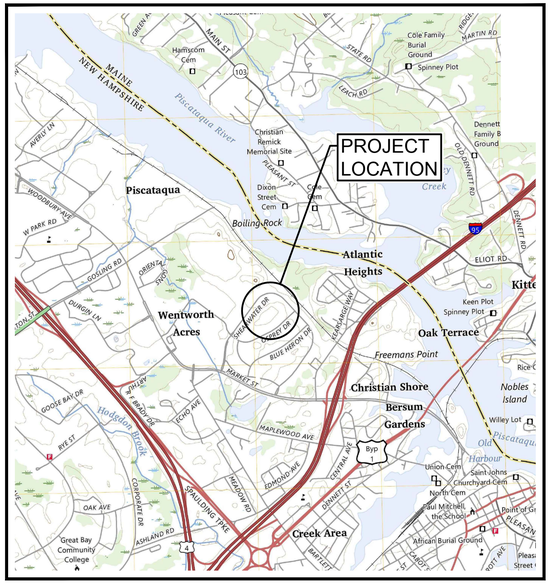
PROPOSED MULTI-FAMILY DEVELOPMENT

DUNLIN WAY & PORTSMOUTH BOULEVARD

PORTSMOUTH, NEW HAMPSHIRE

JULY 30, 2025

SHEET NO.	SHEET TITLE	LAST REVISED
-	COVER SHEET	2025-07-30
1 OF 2	EXISTING CONDITIONS PLAN FOR DUNLIN WAY & PORTSMOUTH BOULEVARD	MARCH 2025
2 OF 2	EXISTING CONDITIONS PLAN FOR DUNLIN WAY & PORTSMOUTH BOULEVARD	MARCH 2025
C-101	GENERAL NOTES AND LEGEND	2025-07-30
C-201	DEMOLITION PLAN	2025-07-30
C-301	SITE PLAN	2025-07-30
C-401	GRADING. DRAINAGE, AND EROSION CONTROL PLAN	2025-07-30
C-501	UTILITIES PLAN	2025-07-30
L-101	LANDSCAPE PLANTING PLAN	2025-07-30
C-601	EROSION CONTROL NOTES AND DETAILS SHEET	2025-07-30
C-602	DETAILS SHEET	2025-07-30
C-603	DETAILS SHEET	2025-07-30
C-604	DETAILS SHEET	2025-07-30
C-605	DETAILS SHEET	2025-07-30
C-606	DETAILS SHEET	2025-07-30
C-607	DETAILS SHEET	2025-07-30



LOCATION MAP
SCALE: 1" = 2000'

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.

3. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:
Tighe&Bond
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
603-433-8818

OWNER/APPLICANT:
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801

SURVEYOR:
DOUCET SURVEY, LLC.
102 KENT PLACE
NEWMARKET, NH 03857

WORK SESSION SET
COMPLETE SET (16) SHEETS

Last Saved: 7/28/2025
Printed: Jul 28, 2025 - 4:39pm By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-COVER.dwg

TAX MAP 213, LOT 12
364,581 Sq. Ft.
8.37 Acres

TAX MAP 216, LOT 1-8A

TAX MAP 213, LOT 11

TAX MAP 213, LOT 2

TAX MAP 213, LOT 2-15

TAX MAP 213, LOT 3

TAX MAP 213, LOT 4

PORTSMOUTH BLVD. / DUNLIN WAY
(SEE NOTES 14&16)

OFFICE RESEARCH
GENERAL RESIDENCE B

TBM 9009B
MAG NAIL SET UP 8"
IN POLE EVERSOURECE237/33
ELEV.=48.81'

TBM 9009A
'X' CUT IN BONNET
BOLT OF HYDRANT
ELEV.=54.83'

TBM 9009C
MAG NAIL SET UP 6"
IN POLE PSNH/237/35S
ELEV.=45.71'

SMH 1993
RIM ELEV.=52.9'
SHELF ELEV.=46.1'
(1967) 8" VCP INV.=45.7'
(2090) 8" VCP INV.=45.7'

SMH 1967
RIM ELEV.=48.6'
SHELF ELEV.=41.5'
(A) 4" UNK INV.=43.7'
(1013) 10" VCP INV.=41.0'
(1993) 8" VCP INV.=41.0'

SMH 2090
RIM ELEV.=62.0'
SHELF ELEV.=56.3'
(A) 6" VCP INV.=56.4'
(B) 8" PVC INV.=56.3'
(1993) 8" VCP INV.=56.0'

CB 2118
RIM ELEV.=46.1'
WATER ELEV.=43.5'
SUMP ELEV.=42.3'
(2120) 8" ACP INV.=43.4'
(A) 15" ACP INV.=43.4'

DCB 2120
RIM ELEV.=44.7'
WATER ELEV.=42.9'
DEBRIS ELEV.=42.4'
(A) 8" VCP INV.=43.0'
(2118) 12" VCP INV.=42.6'
*COLLAPSED
*NO OTHER PIPES VISIBLE

CBR 2119
RIM ELEV.=46.5'
WATER ELEV.=45.0'
DEBRIS ELEV.=43.3'
*NO PIPES VISIBLE
*FILLED WITH DEBRIS

SMH 1013
RIM ELEV.=45.8'
SHELF ELEV.=38.6'
(A) 6" VCP INV.=38.3'
(1267) 10" VCP INV.=38.2'
(1967) 10" VCP INV.=38.2'

CBR 1304
RIM ELEV.=44.0'
WATER ELEV.=39.9'
SUMP ELEV.=39.4'
(1303) 8" VCP INV.=39.8'
(A) 8" VCP INV.=39.8'
*OFL NOT FOUND

CBR 1303
RIM ELEV.=43.9'
WATER ELEV.=40.1'
SUMP ELEV.=39.3'
(1304) 8" VCP INV.=39.1'

SMH 1267
RIM ELEV.=43.9'
SHELF ELEV.=38.5'
(1273) 8" PVC INV.=37.7'
(1013) 10" VCP INV.=37.7'

SMH 1273
RIM ELEV.=42.8'
SHELF ELEV.=36.8'
(A) 12" PVC INV.=37.4'
(1267) 8" PVC INV.=35.9'
(2115) 8" PVC INV.=35.9'

CB 1290
RIM ELEV.=42.7'
DEBRIS ELEV.=39.9'
(1291) 10" PVC INV.=40.4'
(A) 8" HDPE INV.=40.0'

DCB 1291
RIM ELEV.=42.6'
(1290) 12" CMP INV.=38.9'
(A) 12" UNK INV.=37.5'
(B) 12" CMP INV.=36.5'
(C) 12" UNK INV.=35.7'
(OFL) 12" UNK INV.=35.6'

SMH 2115
RIM ELEV.=43.6'
SHELF ELEV.=36.4'
(1273) 8" PVC INV.=35.6'
(1398) 8" PVC INV.=35.5'

CB 2122
RIM ELEV.=44.8'
WATER ELEV.=40.0'
(A) 12" CMP INV.=41.0'
(B) 12" CMP INV.=40.1'
(C) 12" HDPE INV.=40.0'

SMH 1398
RIM ELEV.=45.5'
SHELF ELEV.=35.4'
(A) 4" PVC INV.=42.4'
(B) 4" PVC INV.=41.0'
(C) 4" PVC INV.=41.0'
(D) 4" PVC INV.=39.0'
(2115) 8" PVC INV.=34.7'
(E) 8" PVC INV.=34.5'

2" METAL HYDRANT WITNESS
OUT OF SERVICE

2" METAL HYDRANT WITNESS
PSNH27/37/10T

NO SERVICE

VGC IN DISREPAIR

CONC. BARRIERS

FILL PILE (TYP.)

PAVEMENT BURIED UNDER GRAVEL

PAVEMENT BURIED

VGC GOES UNDERGROUND

~FILL PILE~

PSNH237-34

PSNH237/32

PSNH246/2/15E

100E/PSNH/246/1

12711/20

CONC. BLOCK BARRIERS (TYP.)

PAVEMENT BURIED

VGC BURIED

APPROX. COVERED IN FILL DIRT/HAY

CURB BURIED

CURB BROKEN

12" CLAY INV.=34.7'

EP BURIED

38" DEAD

BROKEN SECTION OF CURB

ASPHALT SIDEWALK BROKEN/CRACKED

6' WOODEN STOCKADE FENCE

TRAIL

TP-X

L=762.51'
R=434.28'
Δ=100°35'00"
CB=S85°53'15"W
CL=668.27'

48" MAPLE
38" MAPLE
36" MAPLE
30" MAPLE
20" MAPLE

5/8" REBAR FND. FLUSH W/CAP LLS 844

5/8" REBAR FND. FLUSH W/CAP LLS 989

5/8" REBAR FND. UP 1" W/CAP LLS 989

5/8" REBAR FND. UP 4" W/CAP LLS 844 (SEE NOTE 15)

5/8" REBAR FND. UP 5" W/CAP LLS 844 (SEE NOTE 15)

5/8" REBAR FND. UP 6" W/CAP LLS 989

5/8" REBAR FND. UP 18" NO CAP

5/8" REBAR FND. UP 8" W/CAP LLS 844 (SEE NOTE 15)

5/8" REBAR FND. UP 6" W/CAP LLS 844

5/8" REBAR FND. UP 3" NO CAP

1-1/2" I.P.F. FLUSH (S59°31'24"E, 1.86 TO CORNER)

1-1/4" I.P.F. UP 15"

N35°35'16"E 134.16'

N55°26'41"W 198.97'

N09°59'19"W 404.20'

S61°52'28"W 156.37'

S50°45'51"W 287.68'

S45°52'15"W 241.31'

S46°11'15"W 156.89'

S43°48'45"E 51.60'

S44°15'17"E 141.39'

LEGEND

- EXISTING LOT LINE
- BUILDING SETBACK LINE
- 100 MAJOR CONTOUR LINE
- 98 MINOR CONTOUR LINE
- STONE WALL
- STOCKADE FENCE
- OHW OVERHEAD WIRE
- SD DRAIN LINE
- SS SEWER LINE
- G GAS LINE
- TREE LINE
- SHRUB LINE
- EDGE OF DELINEATED WETLAND
- WETLAND AREA
- CONCRETE
- CRUSHED STONE
- PILE
- LEDGE OUTCROP
- × 100.0 SPOT GRADE
- UTILITY POLE
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- UTILITY POLE STUMP
- CATCH BASIN
- DOUBLE CATCH BASIN
- SEWER MANHOLE
- FIRE HYDRANT
- PIPE/ROD FOUND
- SIGN
- POST
- DECIDUOUS TREE 10" DIA. OR GREATER
- TEST PIT LOCATION
- A-1 WETLAND FLAG
- ACP ASBESTOS CONCRETE PIPE
- CONC. CONCRETE
- CMP CORRUGATED METAL PIPE
- EP EDGE OF PAVEMENT
- HDPE HIGH DENSITY POLYETHYLENE PIPE
- I.P.F. IRON PIPE FOUND
- PVC POLYVINYL CHLORIDE PIPE
- SGC SLOPED GRANITE CURB
- TYP. TYPICAL
- UNK UNKNOWN
- VCP VITREOUS CLAY PIPE
- VGC VERTICAL GRANITE CURB
- (X) INVERT I.D. CONNECTION UNKNOWN

NTS/PC (NAD83 / 2011)

SCALE: 1 INCH = 40 FT.

EXISTING CONDITIONS PLAN

FOR

THE KANE COMPANY

LAND OF

BRORA LLC

(TAX MAP 213, LOT 12)

DUNLIN WAY & PORTSMOUTH BOULEVARD

PORSTMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY:	G.A.N.	DATE:	MARCH 2025
CHECKED BY:	M.W.F.	DRAWING NO.	9009A
JOB NO.	9009	SHEET	1 OF 2

DOUCET SURVEY | A SAM Company
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
Locations Nationwide | http://www.sam.biz

FILE NAME: \\PROJECTS\2009 CIVIL\ALTA SURVEY\2025-03-31\9009A (1&8) SHIPPED 2025-03-31.dwg LAYOUT NAME: 22X34 TOPO PLAN (1) PLOTTED: Monday, March 31, 2025 - 10:15am

NOTES:

1. REFERENCE: TAX MAP 213, LOT 12
DUNLIN WAY & PORTSMOUTH BOULEVARD
PORTSMOUTH, NEW HAMPSHIRE 03801
D.S. PROJECT NO. 9009

2. TOTAL PARCEL AREA: 364,581 SQ. FT. OR 8.37 AC.

3. OWNER OF RECORD: BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3465, PAGE 462

4. ZONE: OR – DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	3 AC.
MIN. FRONTAGE	300 ft.
MIN. FRONT SETBACK	50 ft.
MIN. SIDE SETBACK	75 ft.
MIN. REAR SETBACK	50 ft.
MIN. BUILDING HEIGHT	60 ft.

ZONING INFORMATION LISTED HEREON IS BASED ON THE CITY OF PORTSMOUTH ZONING ORDINANCE AMENDED NOVEMBER 18, 2024 AS AVAILABLE ON THE CITY'S WEBSITE ON MARCH 25, 2025. ADDITIONAL REGULATIONS MAY APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR VERIFYING AND COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS.

5. FIELD SURVEY PERFORMED BY J.P.E. & D.W.D. DURING FEBRUARY AND MARCH 2025 USING A TRIMBLE S6 TOTAL STATION AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC5 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.

6. HORIZONTAL DATUM BASED ON NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATE ZONE (2800) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

7. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID18) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

8. *WETLANDS AND AREAS UNDER THE JURISDICTION OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, PURSUANT TO NH ADMINISTRATIVE RULES CHAPTER ENV–WT 100–900, WERE DELINEATED BY TIGHE & BOND ON MARCH 21, 2025 USING THE FOLLOWING METHODOLOGY AND STANDARDS:*
   a. *REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.*
   b. *NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.*
   c. *U.S. ARMY CORPS OF ENGINEERS. (2023). 2022 NATIONAL WETLAND PLANT LIST, VERSION 3.6. U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, VICKSBURG, MS. HTTP://WETLAND-PLANTS.USACE.ARMY.MIL/*
   d. *NEW HAMPSHIRE ADMINISTRATIVE RULE CHAPTER ENV–WT 602.23, DEFINITIONS: HIGHEST OBSERVABLE TIDE LINE (HOTL) AND ENV–WT 406, DELINEATION AND CLASSIFICATION OF JURISDICTIONAL AREAS, EFFECTIVE DECEMBER 15, 2019.*

9. FLOOD HAZARD ZONE:"X", PER FIRM MAP #33015C0259F, DATED 1/29/21.

10. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

11. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.

12. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.

13. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG–SAFE AT 1–888–DIG–SAFE.

14. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF DUNLIN WAY AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE CITY OF PORTSMOUTH AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. PORTSMOUTH BOULEVARD IS A 50 FOOT WIDE RIGHT OF WAY PER REFERENCE PLAN 7.

15. MONUMENT OF BOUNDARY LINE ABANDONED BY R.C.R.D. PLAN D–38784 (REF. PLANS 1).

16. **AT TIME OF SURVEY PORTIONS OF PORTSMOUTH BOULEVARD ALONG THE SUBJECT PARCEL WAS OVERGROWN AND COVERED IN DEBRIS. THE LIMITS OF PAVEMENT AND SIDEWALK AS SHOWN IS BASED ON THE BEST AVAILABLE SURVEY LOCATIONS UNDER THE CURRENT STATE OF THE ROADWAY.**

REFERENCE PLANS:

1. "BOUNDARY LINE ADJUSTMENT PLAN, LAND OF DOAKS, LLC (TAX MAP 213, LOT 2) AND BRORA, LLC (TAX MAP 213, LOT 12), PORTSMOUTH, NEW HAMPSHIRE" BY DOUCET SURVEY, INC., DATED DECEMBER 31, 2014, R.C.R.D. PLAN D–38784.
2. "PRELIMINARY CONCEPT PLAN AT SCHILLER STATION, PORTSMOUTH, NEW HAMPSHIRE", BY PUBLIC SERVICE OF NEW HAMPSHIRE GENERAL ENGINEERING DIVISION, DATED 2/3/97.
3. "SUBDIVISION PLAN FOR BRORA, LLC", BY MILLETTE, SPRAGUE & COLWELL, INC., DATED AUGUST 27, 2003, R.C.R.D. PLAN #D–31583.
4. "SUBDIVISION/CONSOLIDATION PLAN MAP R–16/LOTS 1, 1–5 & 1–8B, MAP R–17/LOTS 2–1838 THRU 2–1844, MAP R–17/LOT 2–0300", BY CLD CONSULTING ENGINEERS, INC., DATED DEC. 1999 R.C.R.D. PLAN #D–28385.
5. "RESUBDIVISION PLAN OSPREY LANDING", BY CLD CONSULTING ENGINEERS, INC., DATED FEB. 1999, R.C.R.D. PLAN #D–27099.
6. "LOT LINE RELOCATION PLAN OSPREY LANDING", BY CLD CONSULTING ENGINEERS, INC., DATED FEB. 1999, R.C.R.D. PLAN #D–27029.
7. "SUBDIVISION PLAN OF MARINERS VILLAGE & SPINNAKER POINT CONDOMINIUM", BY ASSOCIATED ENGINEERING SERVICES, DATED OCTOBER 23, 1993, R.C.R.D. PLAN #D–23202.

ABUTTERS INFORMATION:

TAX MAP 213, LOT 2
NEP PORTSMOUTH OWNER LLC
& COLONY CAPITAL
545 E JOHN CARPENTER FREEWAY SUITE 1400
IRVING, TX 75062
R.C.R.D. BOOK 5627, PAGE 702

TAX MAP 213, LOT 2–15
INISHMAAN ASSOC. LTD. PARTNERSHIP
& JCM MANAGEMENT CO.
540 NORTH COMMERCIAL STREET
MANCHESTER, NH 03101
R.C.R.D. BOOK 3078, PAGE 1947

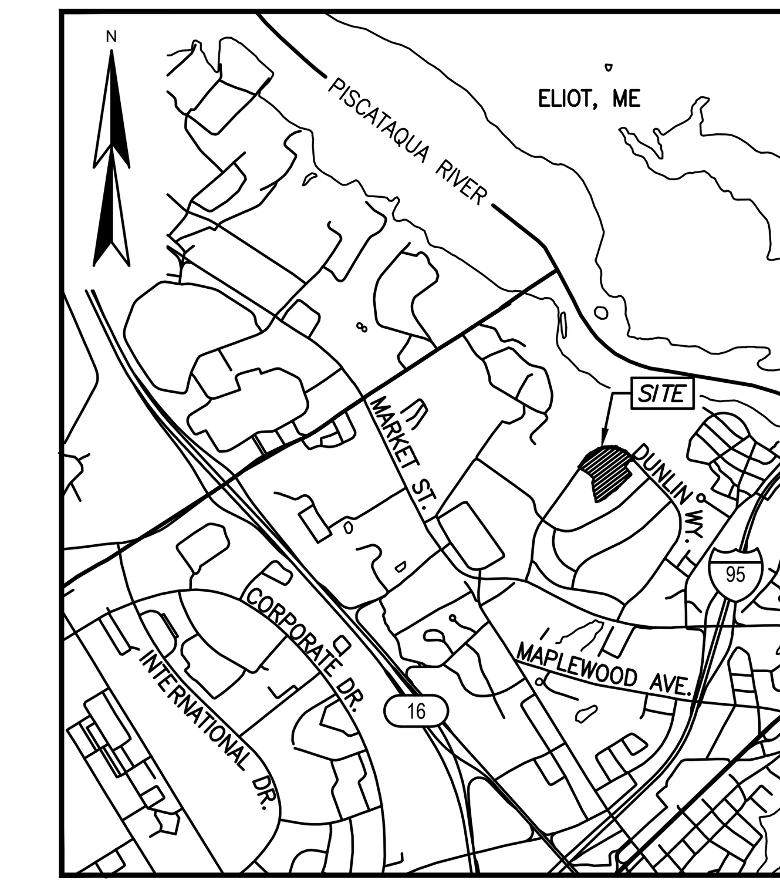
TAX MAP 213, LOT 3
THOM GRAEME
1518 SUMMER AVE
JUPITER, FL 33469
R.C.R.D. BOOK 3453, PAGE 2213

TAX MAP 213, LOT 4
DAVID S. ROGERS DECLARATION OF TRUST
15 DUNLIN WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5539, PAGE 146

TAX MAP 213, LOT 10
MUKHLIS & ALABDULLA FAMILY TRUST
20 DUNLIN WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 6579, PAGE 466

TAX MAP 213, LOT 11
GSP SCHILLER, LLC
431 RIVER RD.
BOW, NH 03304
R.C.R.D. BOOK 5887, PAGE 823

TAX MAP 216, LOT 1–8A
BEACON HARBOR TRUST, LLC
210 COMMERCE WAY SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5877, PAGE 2905



LOCATION MAP (n.t.s.)

EXISTING CONDITIONS PLAN
FOR
THE KANE COMPANY
LAND OF
BRORA LLC
(TAX MAP 213, LOT 12)
DUNLIN WAY & PORTSMOUTH BOULEVARD
PORSTMOUTH, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY

DRAWN BY: G.A.N.	DATE: MARCH 2025
CHECKED BY: M.W.F.	DRAWING NO. 9009A
JOB NO. 9009	SHEET 2 OF 2

DOUCET SURVEY LLC ®

Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
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FILE NAME: Y:\PROJECTS\9009 C3D\EMAILED DATA\OUT\2025-03-31\9009A (T&B) SHIPPED 2025-03-31.dwg LAYOUT NAME: 22X34 TOPO PLAN (2) PLOTTED: Monday, March 31, 2025 – 10:15am

EXISTING CONDITIONS PLAN NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY, LLC., DATED MARCH 2025.
2. WETLAND DELINEATION ON MAP 213, LOT 11 AND MAP 216, LOT 1-8A
   WETLANDS AND AREAS UNDER THE JURISDICTION OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, PURSUANT TO NH ADMINISTRATIVE RULES CHAPTER ENV-WT 100-900, WERE DELINEATED BY TIGHE & BOND ON MAP 213 LOT 11 AND MAP 216 LOT 1-8A ON MARCH 21, 2025 USING THE FOLLOWING METHODOLOGY AND STANDARDS:
   a. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 20212, U.S. ARMY CORPS OF ENGINEERS.
   b. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE. 2019 VERSION 4, FIELD INDICATORS FOR IDENTIFYING HYDRIC OILS IN NEW ENGLAND. NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
   c. U.S. ARMY CORPS OF ENGINEERS. (2023). 2022 NATIONAL WETLAND PLANT LIST, VERSION 3.6. U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER, VICKSBURG, MS. HTTP://WETLAND-PLANTS.USACE.ARMY.MIL/
   d. NEW HAMPSHIRE ADMINISTRATIVE RULE CHAPTER ENV-WT 602.23, DEFINITIONS: HIGHEST OBSERVABLE TIDE LINE (HOTL) AND ENV-WT 406, DELINEATION AND CLASSIFICATION OF JURISDICTIONAL AREAS, EFFECTIVE DECEMBER 15, 2019.
3. WETLAND DELINEATION ON MAP 213, LOT 12
   WETLANDS DELINEATED BY GOVE ENVIRONMENTAL SERVICES, INC.: JAMES P. GOVE, CWS 051, CSS 004, SENIOR SOIL SCIENTIST ON 06-06-2025. NO WETLANDS WERE OBSERVED. WETLANDS WERE DELINEATED USING THE FOLLOWING STANDARDS:
   a. US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JAN 1987).
   b. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012
   c. FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.

GENERAL NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
4. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION (E.G., EXISTING UTILITIES) SHOWN ON THESE DRAWINGS IS NOT GUARANTEED AND SOME SUBSURFACE INFORMATION MAY NOT BE SHOWN. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL SUBSURFACE FEATURES WHICH MAY AFFECT CONSTRUCTION OPERATIONS BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND OTHER SUBSURFACE FEATURES, AND/OR INTERRUPTIONS IN UTILITY SERVICE. PROVIDE DATA COLLECTED THROUGH THESE INVESTIGATIONS TO THE ENGINEER PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL
6. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AND COMPLY WITH ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. THE CONTRACTOR SHALL COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
10. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
11. THE CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
12. BEFORE ANY DEWATERING IS PERFORMED A TEMPORARY DISCHARGE PERMIT FROM THE NHDES IS REQUIRED.
13. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
14. WHEN WORKING IN THE RIGHT OF WAY, THE CONTRACTOR SHALL PROVIDE THE OWNER AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES A DETAILED PLAN OF APPROACH INDICATING METHODS OF PROPOSED TRAFFIC ROUTING ON A DAILY BASIS, AND COORDINATION TO ENSURE COMMUNICATION AND COORDINATION BETWEEN THE OWNER, THE CONTRACTOR AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES THROUGHOUT THE CONSTRUCTION PERIOD.
15. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
16. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
17. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
3. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY ARE ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
5. 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.
6. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, TREES AND LANDSCAPING.
7. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
9. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
14. THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.
15. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
16. THE CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
18. BOLD LINETYPES SHOWN WITHIN THE LIMITS OF WORK INDICATE SITE FEATURES TO BE REMOVED, UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.

SITE NOTES:

1. PAVEMENT MARKINGS, INCLUDING BUT NOT LIMITED TO; PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS, AND CENTERLINES, SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS AND DETAILS, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ALL ON-SITE PAVEMENT MARKINGS EXCEPT CENTERLINES, MEDIAN ISLANDS, FOG/SHOULDER LINES, AND LANE LINES SHALL BE CONSTRUCTED USING WHITE TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE "F".
   - ALL ON-SITE CENTERLINES AND MEDIAN ISLANDS SHALL BE CONSTRUCTED USING YELLOW THERMOPLASTIC STRIPING MATERIAL, MEETING THE REQUIREMENTS OF AASHTO M249.
   - ALL ON-SITE FOG/SHOULDER LINES AND LANE LINES SHALL BE CONSTRUCTED USING WHITE THERMOPLASTIC STRIPING MATERIAL, MEETING THE REQUIREMENTS OF AASHTO M249.
   - ALL PAVEMENT MARKINGS WITHIN PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, AND APPLICABLE DEPARTMENT OF TRANSPORTATION (DOT), STANDARD SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" CURRENT EDITION, AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), THE ARCHITECTURAL BARRIERS ACT (ABA), AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB), AS APPLICABLE.
3. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
4. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
5. THE CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED.
6. COORDINATE ALL WORK ADJACENT TO BUILDINGS WITH BUILDING DRAWINGS/CONTRACTOR.
7. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
8. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
9. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RETAINING WALL DESIGN FROM STRUCTURAL ENGINEER AND/OR WALL MANUFACTURER. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT WALL IN ACCORDANCE WITH DESIGN APPROVED BY THE ENGINEER. RETAINING WALL SHALL BE SEGMENTAL BLOCK WALL SYSTEM AS OUTLINED IN THE DETAILS.
11. PROPERTY MANAGER WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PUBLIC WALKS, DRIVES, AND PARKING AREAS ON-SITE. SNOW SHALL BE HAULED OFF-SITE AND LEGALLY DISPOSED OF, WHEN NECESSARY, WHEN SNOW STORAGE AREAS HAVE REACHED CAPACITY.

GRADING AND DRAINAGE NOTES:

1. GENERAL COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS: 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL: 95%
   - BELOW LOAM AND SEED AREAS: 90%
     * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. PROVIDE SITE GRADING AT ACCESSIBLE SIDEWALK RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:
   - ACCESSIBLE PARKING STALLS AND PASSENGER LOADING ZONES (IN ANY DIRECTION) SHALL BE < 2.0%
   - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 5.0%
   - CROSS SLOPE ALONG ACCESSIBLE ROUTES SHALL BE < 2.0%
7. THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
9. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING DRAIN LINES AND STRUCTURES AT PROPOSED DRAINAGE CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.

GENERAL EROSION CONTROL NOTES:

1. REFER TO SHEET C-601 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

1. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER - CITY OF PORTSMOUTH
   - SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMM/FAIRPOINT/COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
6. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
7. ALL BELOW GRADE WATER VALVES AND FITTINGS SHALL HAVE MECHANICAL JOINT (MJ) ENDS. RESTRAIN ALL WATER VALVES AND FITTINGS JOINTS WITH RETAINER GLANDS, OR AS REQUIRED BY THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
8. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO THE CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.
9. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH FIRE AND/OR WATER DEPARTMENT.
10. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
11. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
12. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
13. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, CURRENT EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
14. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
15. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
16. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
17. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
18. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
19. THE CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
20. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH SEWER DEPARTMENT.
23. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
24. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
25. THE CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
26. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
27. THE CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
28. FINAL LOCATION OF ALL WATER METER AND VALVE SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT PRIOR TO CONSTRUCTION.
29. THE CONTRACTOR SHALL VERIFY INVERTS OF EXISTING SEWER LINES AND STRUCTURES AT PROPOSED SEWER CONNECTION LOCATIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.

ABBREVIATIONS

ABDN('D)	ABANDON(ED)
AC	ASBESTOS CEMENT PIPE
APPROX	APPROXIMATE
BC	BITUMINOUS CURB
BFP	BACK FLOW PREVENTOR
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BND	BOUND
BOC	BOTTOM OF CURB
BOT	BOTTOM
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
CATV	CABLE TELEVISION
CB	CATCH BASIN
CCW	CEMENT CONCRETE WALK
CEM	CEMENT
CI	CAST IRON PIPE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
CPP	CORRUGATED POLYETHYLENE PIPE
CY	CUBIC YARD
DH	DRILL HOLE
DI	DUCTILE IRON PIPE
DIA	DIAMETER
DMH	DRAIN MANHOLE
E	EAST
EF	EACH FACE
EG	EXISTING GRADE
EL/ELEV	ELEVATION
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FES	FLARED END SECTION
FF	FINISH FLOOR
FM	FORCE MAIN
G	GAS
GG	GAS GATE
GRAN	GRANITE
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
IN	INCHES
INV	INVERT
IP	IRON PIN
L	LENGTH OF CURB
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MJ	MECHANICAL JOINT
N	NORTH
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N/F	NOW OR FORMERLY
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
OH	OVERHEAD
PB	PLANT BED
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCPP	PERFORATED CORRUGATED POLYETHYLENE PIPE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PROT	PROTECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYLCHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REV	REVISION
ROW	RIGHT OF WAY
RT	RIGHT
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
S	SOUTH
SAN	SANITARY
SCH	SCHEDULE
SF	SQUARE FOOT
SMH	SEWER MANHOLE
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
STRM	STORM
T	TANGENT LENGTH
TC	TOP OF CURB
TEL	TEL-DATA
TP	TEST PIT
TS	TOP OF STEP
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
W	WATER
WG	WATER GATE
WV	WATER VALVE
XFMR	TRANSFORMER

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		ADJACENT PROPERTY LINE
		RIGHT OF WAY (ROW) LINE
		EASEMENT LINE
		ZONING DISTRICT BOUNDARY LINE (APPROX)
		BUILDING SETBACK LINE
8	8	INTERMEDIATE CONTOURS
10	10	INDEX CONTOURS
44.45	44.45	SPOT / APPROX SPOT GRADE
	2%	MAGNITUDE & DIRECTION OF SLOPE
		LIMIT OF WETLANDS WATER COURSE
		LIMIT OF LOCAL WETLAND BUFFER
B–XX	B-XX	LOCATION OF BORING (APPROX)
TP–XX	TP-XX	LOCATION OF TEST PIT (APPROX)
		LIMIT OF WORK (APPROX)
		LIMIT OF SAWCUT (APPROX)
		LIMIT OF EROSION CONTROL (APPROX)
		INLET PROTECTION
		PAVEMENT / CONCRETE SECTION TO BE REMOVED (APPROX)
		LIMIT OF CLEARING & GRUBBING (APPROX)
		LIMIT OF BUILDING(S) / STRUCTURE(S) TO BE REMOVED (APPROX)
		LIMIT OF UTILITY / SITE FEATURE TO BE REMOVED (APPROX)
		EDGE OF PAVEMENT
VGC	VGC	VERTICAL GRANITE CURB
SGC	SGC	SLOPED GRANITE CURB
	15'R	CURB RADIUS
		PAVEMENT SECTION
		CONCRETE SIDEWALK & TIP DOWN RAMP
		FENCE
		GUARDRAIL
		LIGHT POLE / BASE
		SIGN
		BOLLARD
		SNOW STORAGE (APPROX)
	STOP	PAVEMENT STRIPING
		TREE LINE (APPROX)
		STONE WALL
		RETAINING WALL
SD SD	PD PD	STORM DRAIN
XD XD		STORM DRAIN (APPROX)
D	D	STORM DRAIN MANHOLE
		STORM DRAIN INLETS
		FLARED END SECTION & RIP RAP APRON
SS SS	PS	GRAVITY SANITARY SEWER
	SS SS	SLIP-LINED SEWER
S CO S S	S S S S S S S S	SANITARY SEWER STRUCTURES
W W	PW	WATER SERVICE
XW XW		WATER SERVICE (APPROX)
WV HYD WSO	HYD WSO THRUST BLOCK	WATER SERVICE STRUCTURES
E E	PE	UNDERGROUND ELECTRIC
XE XE		UNDERGROUND ELECTRIC (APPROX)
OHW	POHW	OVERHEAD UTILITY (UNSPECIFIED)
COM	PC&T	UNDERGROUND COMMUNICATIONS SERVICE
	PE&C	UNDERGROUND ELECTRIC & COMMUNICATION SERVICES
E T		UNDERGROUND ELECTRIC / COMMUNICATIONS SERVICE STRUCTURES
		ELECTRIC / COMMUNICATION SERVICE STRUCTURES
G G	G	GAS SERVICE
GV	GV	GAS SERVICE STRUCTURES

Tighe&Bond
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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-DSGN.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

GENERAL NOTES
AND LEGENDS

SCALE: AS SHOWN

C-101

Last Saved: 7/25/2025
Plotted On:Jul 28, 2025-4:45pm By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg

WATER LINE TO REMAIN (DETERMINE EXACT LIMITS IN FIELD)

EXISTING VGC TO BE REMOVED (TYP.)

EXISTING CONC. BARRIERS TO BE REMOVED (TYP.)

BEGIN SLIP-LINING OF EXISTING SEWER

PROPOSED SAWCUT LINE (TYP.)

EXISTING FILL PILES TO BE REMOVED (TYP.)

EXISTING PAVEMENT TO BE REMOVED (TYP.)

50' WETLAND BUFFER

25' WETLAND BUFFER

100' WETLAND BUFFER

PROPOSED SILT SOCK

END SLIP-LINING OF EXISTING SEWER

EXISTING CONC. BARRIERS TO BE REMOVED (TYP.)

EXISTING SHRUBS TO BE REMOVED (TYP.)

APPROXIMATE LIMITS OF CLEARING (TYP.)

EXISTING TREES TO BE REMOVED (TYP.)

PROPOSED SAWCUT LINE (TYP.)

PROPOSED INLET PROTECTION BARRIER

PROPOSED SILT SOCK

SEE SHEET C-101 FOR PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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APPROVED:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-201

Last Saved: 7/25/2025
Printed On: 7/28/2025 4:48pm By: BCurcio
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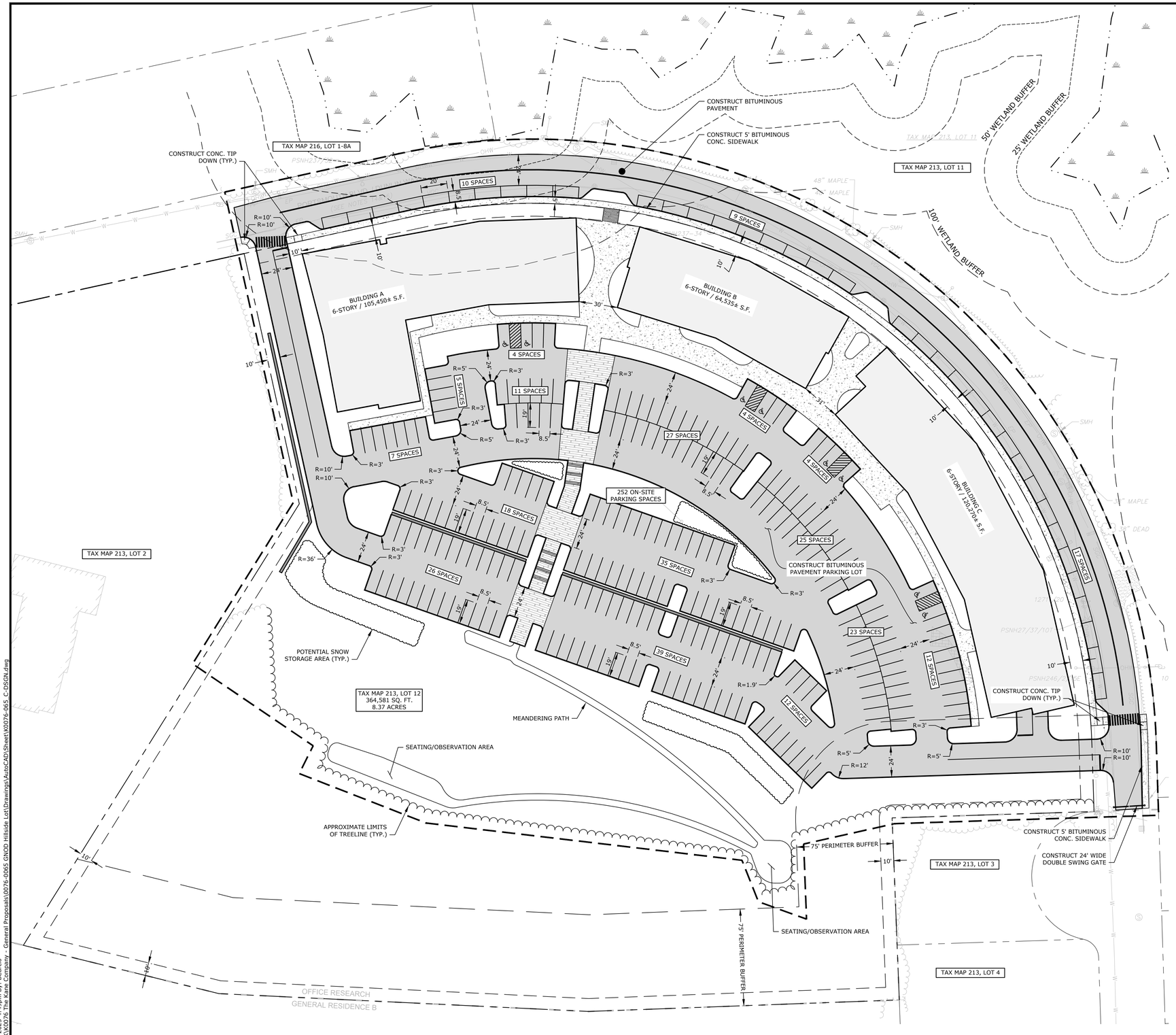

SITE DATA:

LOCATION: TAX MAP 118 LOT 28

OWNER: BRORA LLC
210 COMMERCE WAY
SUITE 300
PORTSMOUTH, NH 03801

ZONING DISTRICT: OFFICE RESEARCH (OR)
GATEWAY NEIGHBORHOOD OVERLAY DISTRICT (GNOD)

PROPOSED USE: MULTI-FAMILY RESIDENTIAL

EXISTING LOT SIZE: 364,581 SQ. FT. (8.37 ACRES)

DEVELOPMENT STANDARDS

BUILDING PLACEMENT:	REQUIRED	PROPOSED
MINIMUM FRONT YARD:	10 FT	10 FT
MINIMUM SIDE YARD:	10 FT	10 FT
MINIMUM REAR YARD:	10 FT	450 FT±
MINIMUM PERIMETER BUFFER:	75 FT	75 FT±

BUILDING AND LOT OCCUPATION:	REQUIRED	PROPOSED
MAXIMUM BUILDING COVERAGE:	75%	80%
MAXIMUM BUILDING FOOTPRINT:	NR	120,270 SQ FT
MAXIMUM BUILDING LENGTH:	400'	321 FT
MINIMUM SITE FRONTAGE:	300 FT	948 FT
MINIMUM SITE DEPTH:	100 FT	855 FT
MINIMUM OPEN SPACE:	10%	>10%

BUILDING FORM (PRINCIPAL BUILDING):	REQUIRED	PROPOSED
MAXIMUM DWELLINGS PER UNIT:	120 UNITS[1]	115[1]
MAXIMUM BUILDING HEIGHT:	6 STORIES[2]	6 STORIES[2]
	80 FT	<80 FT[2]

OFF-STREET PARKING REQUIREMENTS

PARKING SPACES REQUIRED:

DWELLING UNITS:		
RESIDENTIAL UNITS (LESS THAN 500 SQ FT)	45 UNITS X 0.5 SPACES	22.5 SPACES
RESIDENTIAL UNITS (500 - 750 SQ FT)	124 UNITS X 1 SPACE	124 SPACES
RESIDENTIAL UNITS (>750 SQ FT)	105 X UNITS X 1.3 SPACES	136.5 SPACES
VISITOR PARKING, 1.0 SPACE PER 5 UNITS	274 UNITS	54.8 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		337.8 SPACES
AFTER PUBLIC TRANSIT PROXIMITY REDUCTION (20%)		271 SPACES

PARKING SPACES	REQUIRED	PROPOSED
	271 SPACES	301 SPACES*

*INCLUDES 49 UNDERGROUND PARKING SPACES UNDER BUILDING C. DOES NOT INCLUDE 36 OFF-SITE SPACES.

ADA PARKING SPACES	REQUIRED	PROPOSED
	8 SPACES	8 SPACES
	(2 VAN SPACE)	(8 VAN SPACES)

PARKING SPACE DIMENSIONAL REQUIREMENTS:		
STANDARD 90° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	19 FT MIN	19 FT
STANDARD 0° STALL:		
WIDTH	8.5 FT MIN	8.5 FT
LENGTH	20 FT MIN	20 FT
DRIVE AISLE WIDTH:		
90° (2-WAY TRAFFIC)	24 FT	24 FT
0° (2-WAY TRAFFIC)	24 FT	24 FT

BICYCLE SPACES	REQUIRED	PROPOSED
1 BICYCLE SPACE / 5 DWELLING UNITS:	30 SPACES (MAX)	TBD

NOTES:
(1) - UP TO 120 DWELLING UNITS PER BUILDING SHALL BE ALLOWED WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.
(2) - MAXIMUM BUILDING HEIGHT FOR ANY APARTMENT BUILDING OR MIXED USE BUILDING SHALL BE 6-STORIES OR 80 FT WITH CITY COUNCIL APPROVAL PER SECTION 10.686.30.

SITE RECORDING NOTES:
1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
2. 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.
3. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SUCH.

SEE SHEET C-101 FOR PLAN NOTES & LEGEND

0 40' 80'
GRAPHIC SCALE

Tighe&Bond
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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
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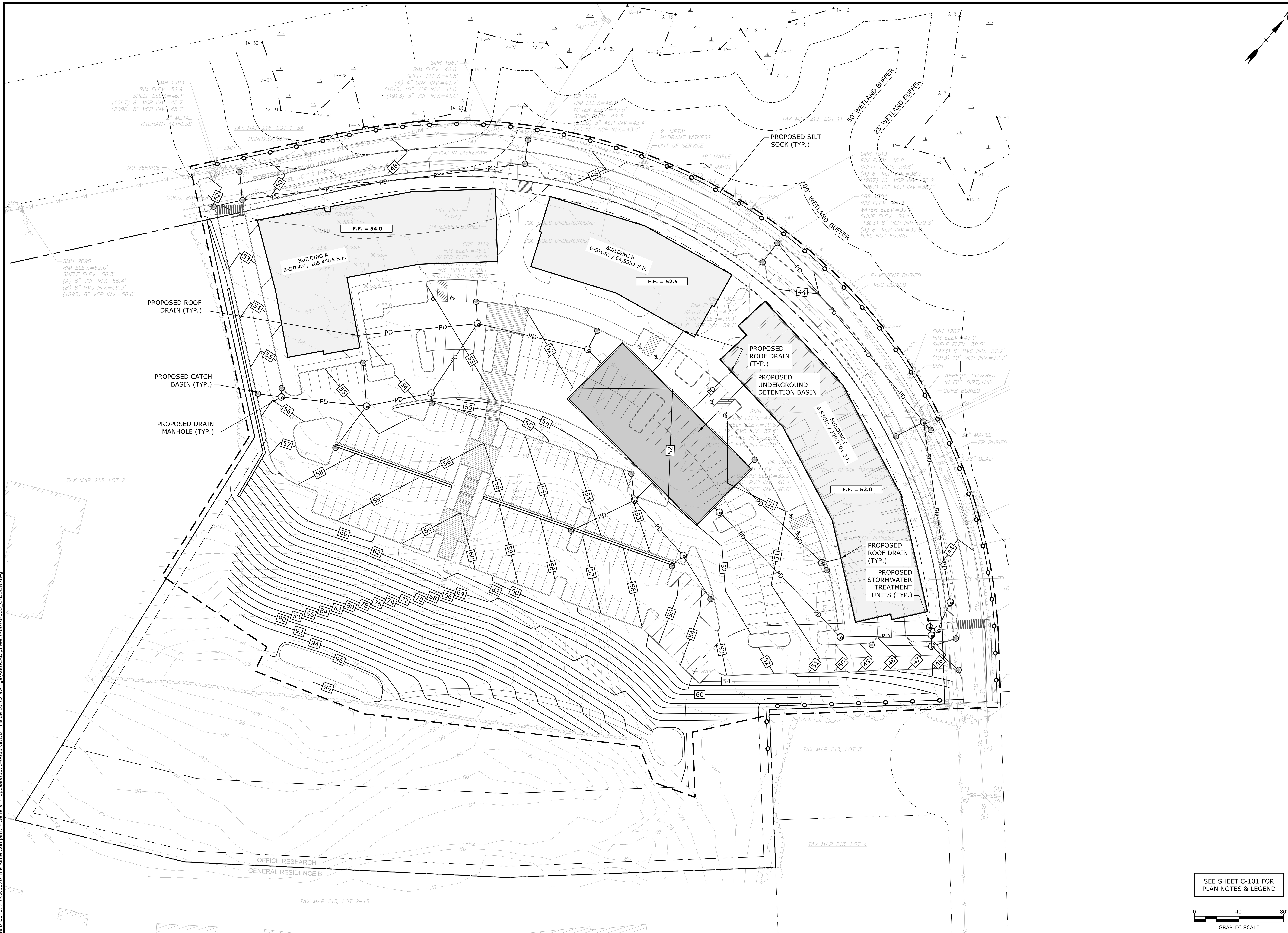
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-301

Last Saved: 7/25/2025
Plotted: Jul 28, 2025 - 4:49pm By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg



SEE SHEET C-101 FOR PLAN NOTES & LEGEND

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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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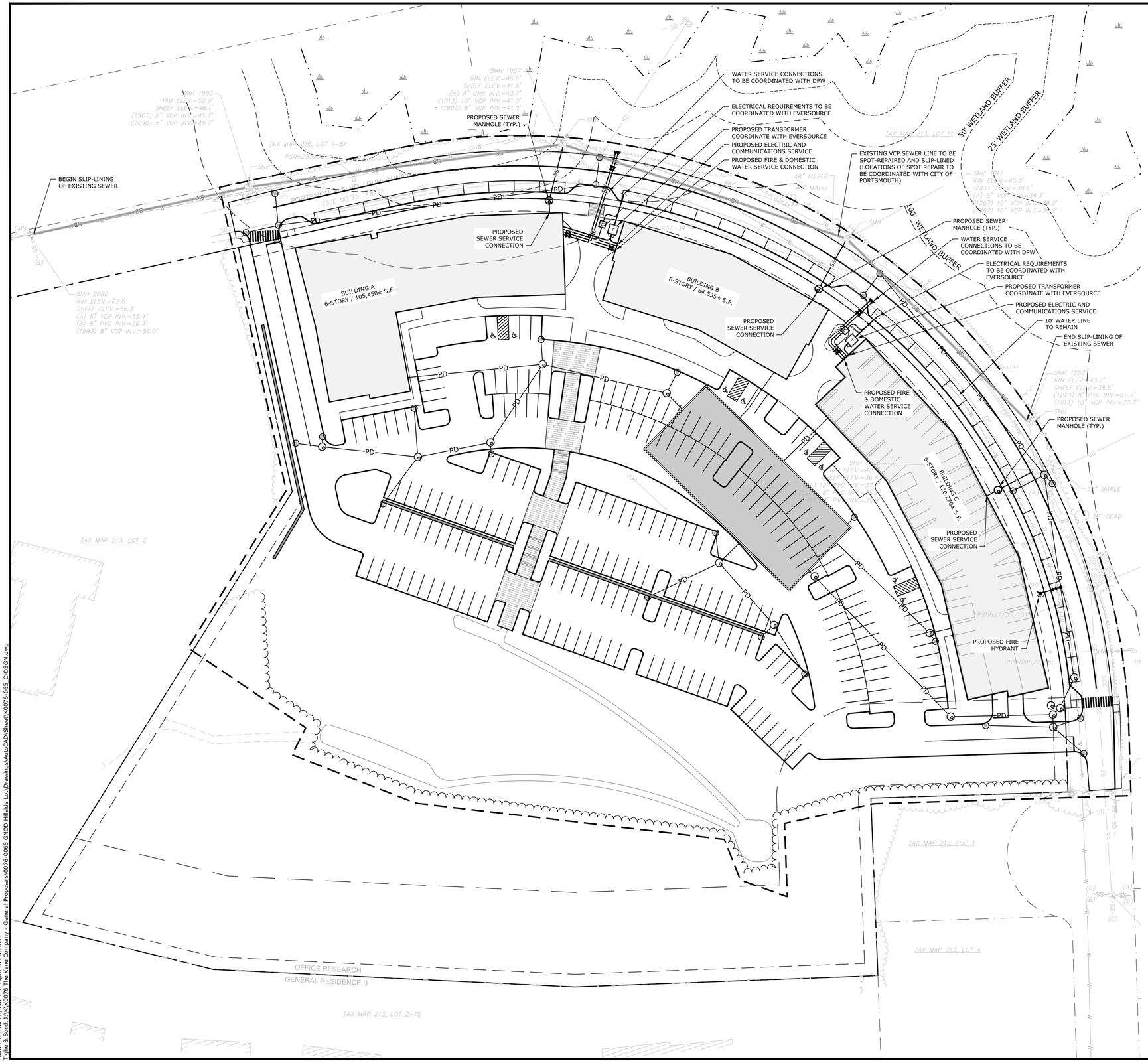
GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-401

Last Saved: 7/25/2025
Plotted On: Jul 28, 2025-4:52pm By: BCurcio
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg



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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

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DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

UTILITIES PLAN

SCALE: AS SHOWN

C-501

Last Saved: 7/25/2025
Plotted: Jul 28, 2025 - 5:45pm By: BCurcio
Tighe & Bond: J:\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DSGN.dwg

BUILDING A

BUILDING B

BUILDING C

EXISTING STONE WALL TO REMAIN

EXISTING PEAK TO REMAIN

APPROX. LIMIT OF EXISTING CANOPY TO REMAIN, REFER TO CIVIL DRAWINGS FOR LIMIT OF GRADING

PROPERTY LINE (TYP)

EXISTING WOODS TO REMAIN

EXISTING WOODS TO REMAIN

0 40' 80'

GRAPHIC SCALE

PLANTING LEGEND

TAG	DESCRIPTION	SYMBOL(S)
TREES, SHRUBS & PERENNIALS		
P1	DECIDUOUS SHADE TREE	
P2	ORNAMENTAL TREE	
P3	EVERGREEN TREE	
P4	SHRUBS / PERENNIALS	
SEED MIXES		
S1	LAWN SEED MIX[1]	
S2	RESTORATION SEED MIX[2]	

[1] 100% 5311 CONSERVATION MIX (ERNMX-114) BY ERNST CONSERVATION SEEDS

[2] 50% NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DRY SITES BY NEW ENGLAND WETLAND PLANTS, INC.
50% NEW ENGLAND CONSERVATION/ WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS, INC.

REPRESENTATIVE TREE SPECIES

ABIES SPP.	FIR
ACER SPP.	MAPLE
AMELANCHIER SPP.	SERVICEBERRY
BETULA SPP.	BIRCH
CARPINUS SPP.	HORNBEAM
CERCIS SPP.	REDBUD
GLEDITSIA SPP.	HONEYLOCUST
JUNIPERUS SPP.	CEDAR
NYSSA SPP.	TUPELO
PICEA SPP.	SPRUCE
PINUS SPP.	PINE
QUERCUS SPP.	OAK
THUJA SPP.	ARBORVITAE

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PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_L-DSGN.DWG
DRAWN BY:	JDG
CHECKED:	RU/NAH
APPROVED:	PMC

PLANTING PLAN

SCALE: AS SHOWN

L-101

Last Saved: 7/29/2025
Plotted: 7/30/2025 12:34pm By: JGonya
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_L-DSGN.dwg

GENERAL PROJECT INFORMATION

PROJECT APPLICANT: BRORA LLC

PROJECT NAME: PROPOSED MULTI-FAMILY DEVELOPMENT

PROJECT ADDRESS: DUNLIN WAY & PORTSMOUTH BOULEVARD
PORTSMOUTH, NH 03801

PROJECT LATITUDE: 43°-05'-29" N
PROJECT LONGITUDE: 70°-46'-48" W

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES THREE 6-STORY MULTI-FAMILY BUILDINGS. THE PROJECT WILL ALSO CONSIST OF ASSOCIATED SITE IMPROVEMENTS SUCH AS PAVING, STORMWATER MANAGEMENT, UTILITIES AND LIGHTING.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 6.8 ACRES.

SOIL CHARACTERISTICS

BASED ON THE SITE SPECIFIC SOIL SURVEY, THE SOILS ON SITE PRIMARILY CONSIST OF CHATFIELD AND UDORTHENTS SOILS WITH A HYDROLOGIC SOIL GROUP RATINGS OF B AND C, RESPECTIVELY.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA A CLOSED DRAINAGE SYSTEM TO AN UNNAMED ON SITE WETLANDS WHICH ULTIMATELY FLOWS TO THE PISCATAQUA RIVER.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - CONTROL OF DUST
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE. THE AREA OF DISTURBANCE SHALL NOT EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED UNLESS FURTHER APPROVAL IS RECEIVED FROM THE NEW HAMPSHIRE LAND RESOURCES MANAGEMENT BUREAU.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. TEMPORARY WATER DIVERSION AND PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
   E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
   A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
   C. AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   A. TEMPORARY SEEDING;
   B. MULCHING.
4. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
5. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
6. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
   A. SEEDBED PREPARATION:
      a. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
   B. SEEDING:
      a. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
      b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
      c. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
   C. MAINTENANCE:
      a. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
2. VEGETATIVE PRACTICE:
   A. FOR PERMANENT MEASURES AND PLANTINGS:
      a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
      b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
      c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
      d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
      e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
      f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
      g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
      h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
REDTOP	2 LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
   A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   1.1. FIRE-FIGHTING ACTIVITIES;
   1.2. FIRE HYDRANT FLUSHING;
   1.3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
   1.4. WATER USED TO CONTROL DUST;
   1.5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
   1.6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
   1.7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
   1.8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
   1.9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
   1.10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
   1.11. UNCONTAMINATED EXCAVATION DEWATERING;
   1.12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

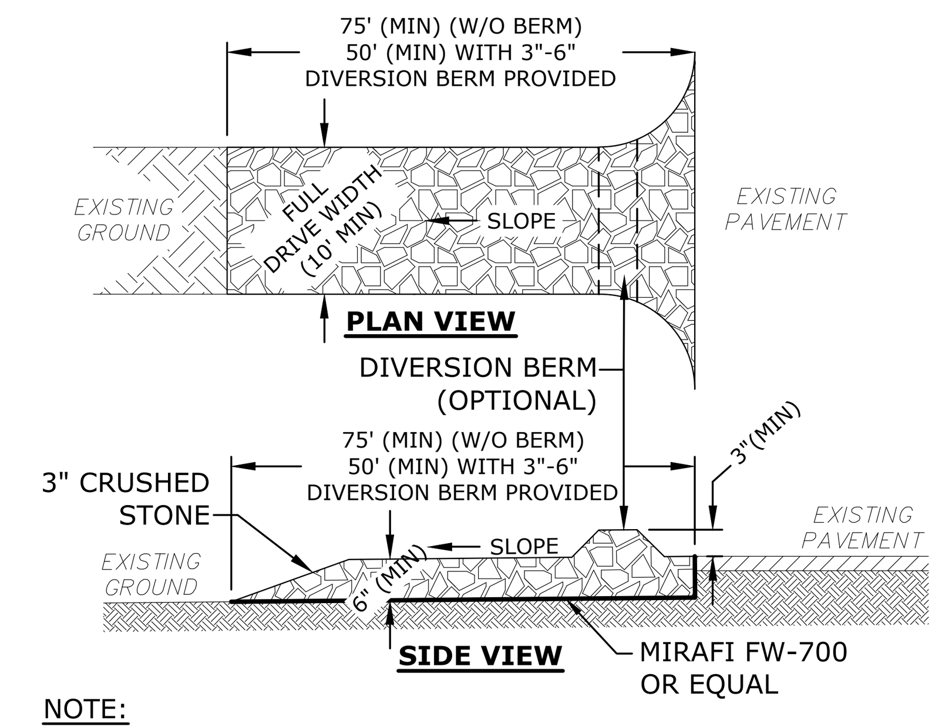
4. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
   A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
   A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
      a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
      b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
      c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
      d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
      e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
      f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
      g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
      a. PETROLEUM PRODUCTS:
      i. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
      ii. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      iii. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
      iv. INSPECT FUEL STORAGE AREAS WEEKLY;
      v. WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
      vi. COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
      vii. SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
      viii. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
         (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
         (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
         (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
         (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
         (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
      ix. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
      HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF
      b. FERTILIZERS:
      i. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
      ii. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
      iii. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      c. PAINTS:
      i. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
      ii. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
      iii. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
      b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
      c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
      d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
      e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
      f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
      b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
      c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
      d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
      e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
      f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

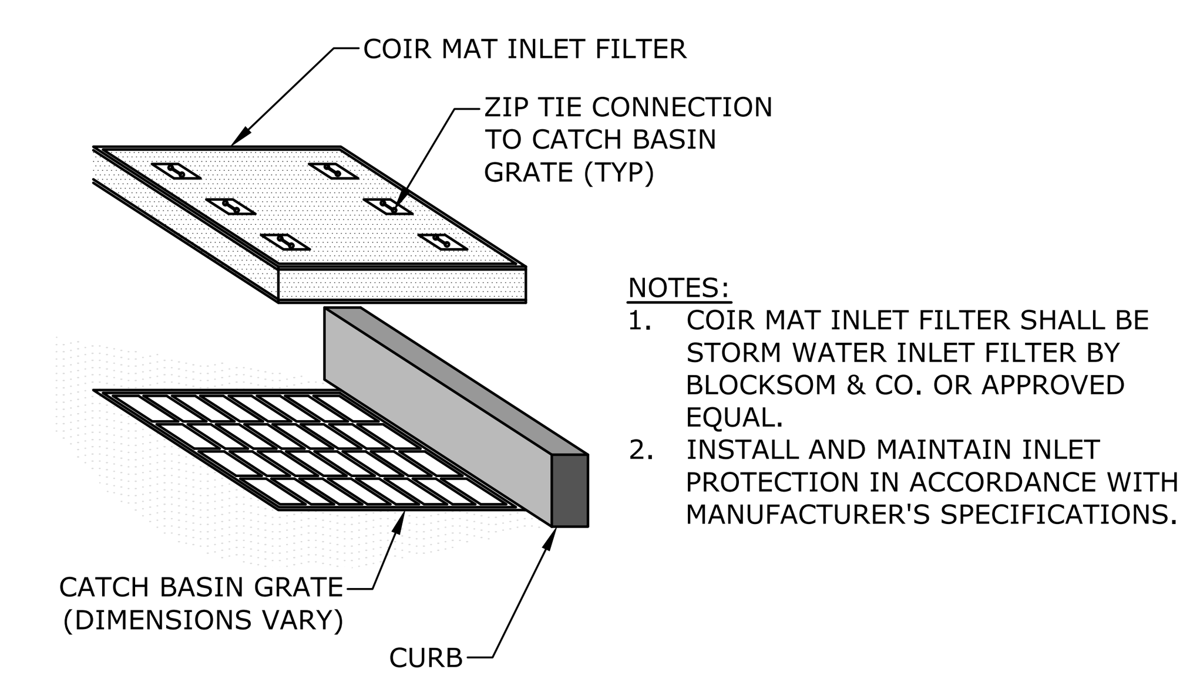
EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

A. THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP.



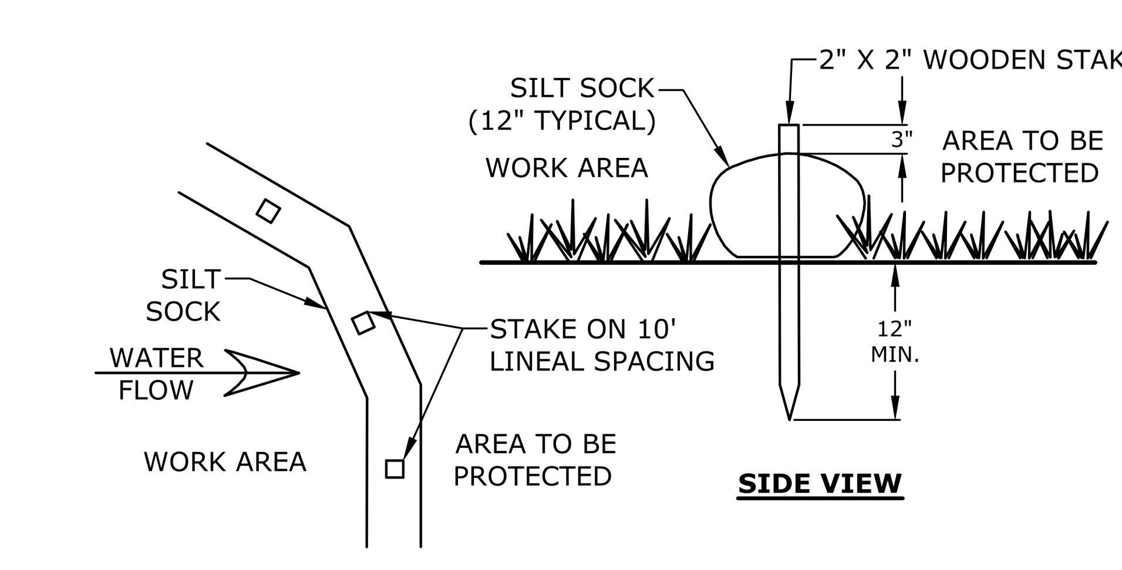
NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT
NO SCALE



NOTES:
1. COIR MAT INLET FILTER SHALL BE STORM WATER INLET FILTER BY BLOCKSOM & CO. OR APPROVED EQUAL.
2. INSTALL AND MAINTAIN INLET PROTECTION IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

INLET PROTECTION BARRIER
NO SCALE



NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

SILT SOCK
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

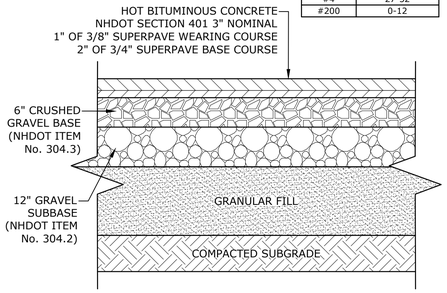
EROSION CONTROL NOTES AND DETAILS

SCALE: AS SHOWN

C-601

NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

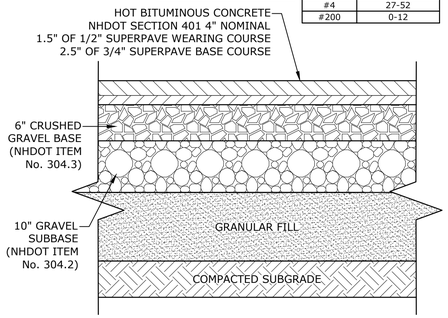


NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. FINAL PAVEMENT DESIGN TO BE DETERMINED BY GEOTECHNICAL ENGINEER.

ON-SITE PAVEMENT SECTION
NO SCALE

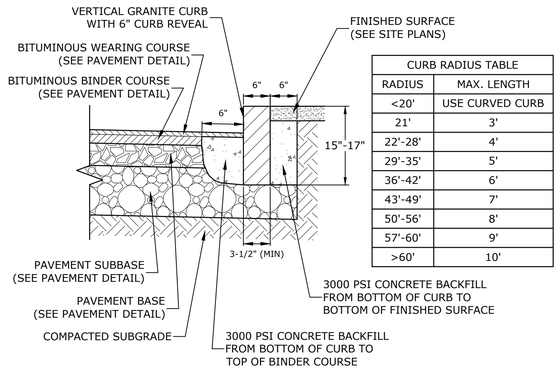
NHDOT ITEM No. 304.2 (GRAVEL)	
SIEVE SIZE	% PASSING
6"	100
#4	25-70
#200	0-12

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

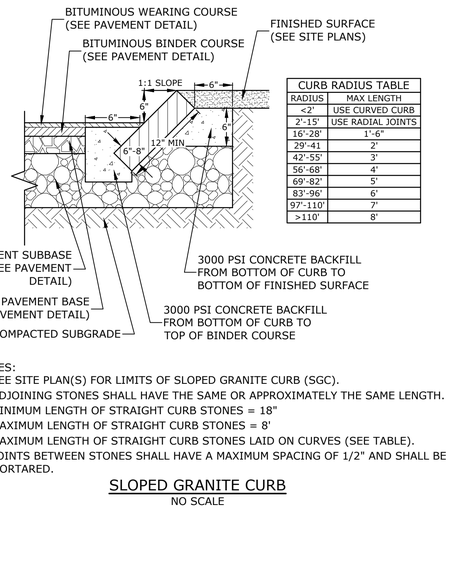
CITY RIGHT-OF-WAY PAVEMENT SECTION
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

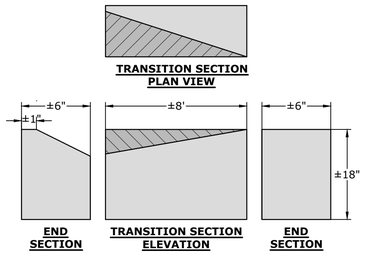
VERTICAL GRANITE CURB
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

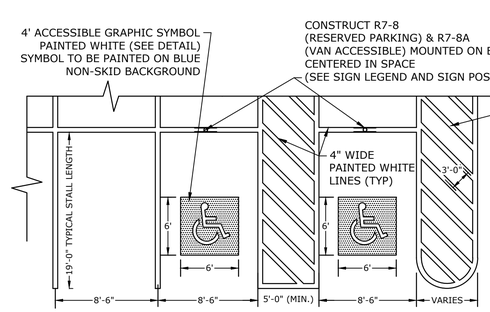
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF SLOPED GRANITE CURB (SGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE



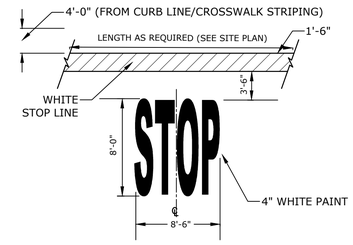
NOTES
1. THE INTENT OF THIS DETAIL IS TO PROVIDE A SMOOTH TRANSITION BETWEEN VERTICAL GRANITE CURB (VGC) AND SLOPE GRANITE CURB (SGC) WITHOUT REQUIRING FIELD CHIPPING DURING INSTALLATION.
2. THE SGC MAY REQUIRE ADJUSTMENTS TO MEET THE TRANSITION PIECE HEIGHT. TRANSITION SGC TO STANDARD REVEAL VGC AS QUICKLY AS POSSIBLE TO PROVIDE FOR THIS SMOOTH TRANSITION.

GRANITE CURB TRANSITION
NO SCALE



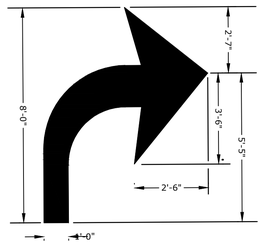
NOTES:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING STALL/PAINTED ISLAND STRIPING
NO SCALE



NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.

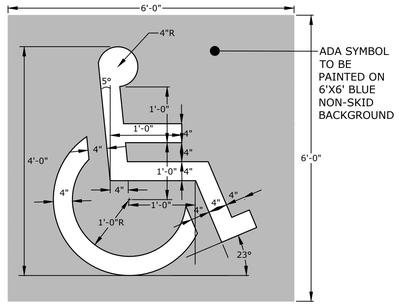
STOP BAR AND LEGEND
NO SCALE



TURN ARROW
(LEFT TURN OPPOSITE IN KIND)

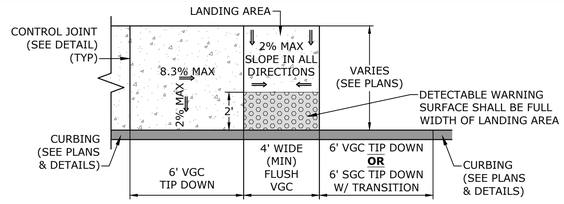
NOTES:
1. SYMBOLS SHALL BE PAINTED USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. PREFORMED WORDS AND SYMBOLS SHALL BE PRE-CUT BY THE MANUFACTURER.

TURN ARROW
NO SCALE

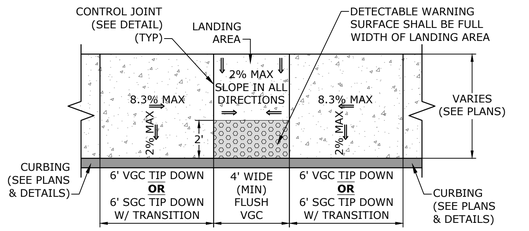


NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

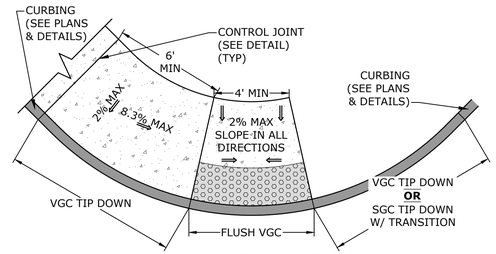
ACCESSIBLE SYMBOL
NO SCALE



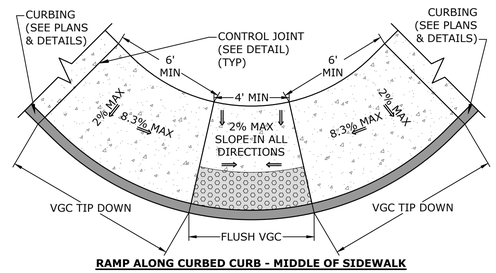
RAMP ALONG CURB - END OF SIDEWALK



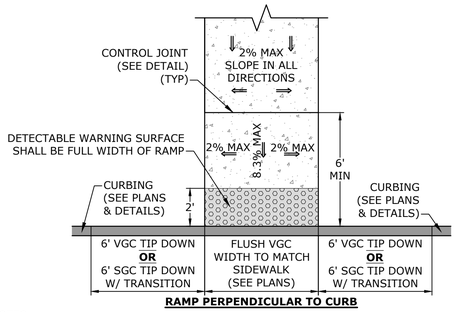
RAMP ALONG CURB - MIDDLE OF SIDEWALK



RAMP ALONG CURVED CURB - END OF SIDEWALK



RAMP ALONG CURBED CURB - MIDDLE OF SIDEWALK



RAMP PERPENDICULAR TO CURB

NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB RAMP IS 12:1, THE MAXIMUM CROSS SLOPE IS 2%. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
4. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. THERE SHALL BE A 0" REVEAL BETWEEN PAVEMENT, CURB, AND CONCRETE TIP-DOWN SURFACES.
5. ROADWAY SHOULDER SLOPES ADJOINING SIDEWALK CURB RAMPS SHALL BE A MAXIMUM OF 5% (FULL WIDTH) FOR A DISTANCE OF 2 FT. FROM THE ROADWAY CURBLINE.
6. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
3. DETECTABLE WARNING PANELS SHALL ONLY BE INSTALLED AT SPECIFIC LOCATIONS AS IDENTIFIED ON THE SITE PLANS. SEE DETAIL FOR WARNING PANEL REQUIREMENTS.

CONCRETE TIP DOWN RAMP WITH DETECTABLE WARNING SURFACE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-602

Last Saved: 7/17/2025
Plotted: Oct 23, 2025 - 2:13pm By: MCurley
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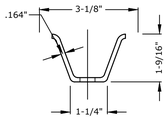
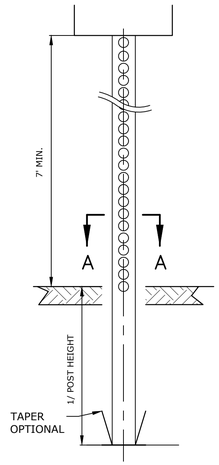




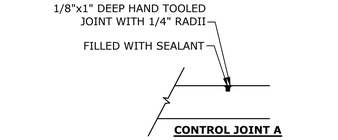
* IN LEDGE DRILL & GROUT TO A MIN OF 2'

LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASSTM A-576 (GRADE 1070 - 1080)

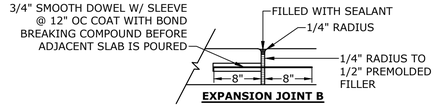
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED BLACK BAKED ON OR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

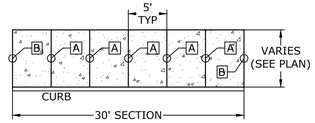
SIGN LEGEND AND SIGN POST
NO SCALE



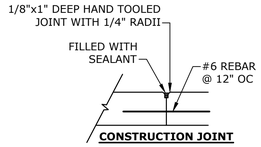
CONTROL JOINT A



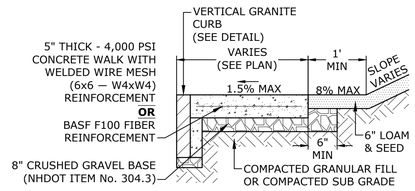
EXPANSION JOINT B



PLAN VIEW



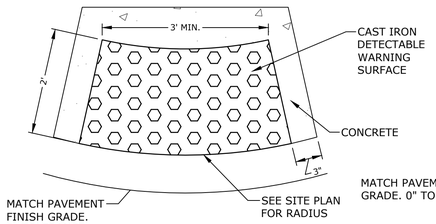
CONSTRUCTION JOINT

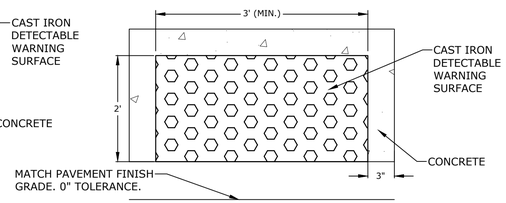


SECTION VIEW

NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. SIDEWALK SURFACE SHALL GIVEN A BROOM FINISH.
4. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.
5. CONTRACTOR SHALL SUBMIT THE PROPOSED CONCRETE MIX DESIGN FOR APPROVAL PRIOR TO CONSTRUCTION.
6. ALL WORK SHALL CONFORM TO THE CITY/TOWN OF _____ DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.

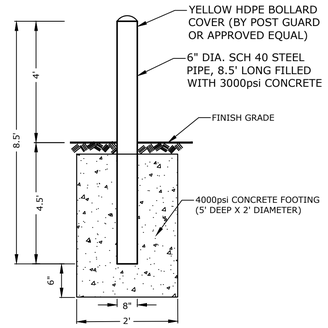
CONCRETE SIDEWALK
NO SCALE





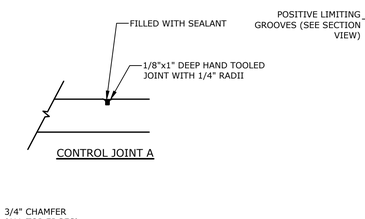
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
6. DETECTABLE WARNING PANELS SHALL BE A MINIMUM OF 2 FEET IN DEPTH. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP, BLENDED TRANSITION, OR LANDING AND THE STREET.
7. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

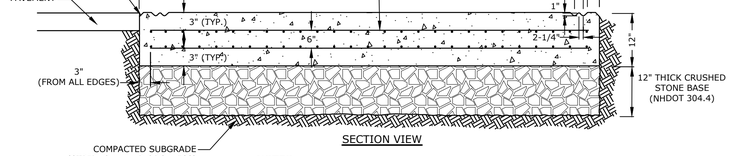
CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



NOTE:
1. COORDINATE WITH EVERSOURCE TO VERIFY THAT BOLLARD, FOOTING, AND BOLLARD COVER MEET EVERSOURCE REQUIREMENTS.

BOLLARD DETAIL
NO SCALE

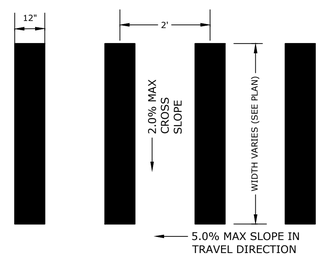




SECTION VIEW

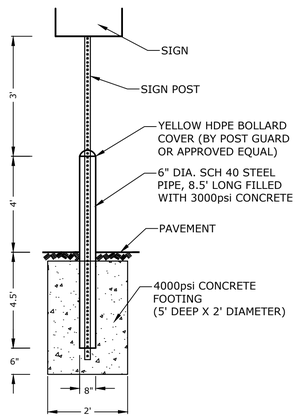
NOTES:
1. CONCRETE TO BE 4500 PSI, 7% AIR ENTRAINED
2. STANDARD BROOM FINISH.

DUMPSTER PAD
NO SCALE



NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE



BOLLARD MOUNTED SIGN DETAIL
NO SCALE

NOTE:
STRIPING SHALL BE CONSTRUCTED USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.

CROSSWALK STRIPING
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-603

Last Saved: 7/17/2025
Printed: 7/30/2025 2:14pm By: MCurley
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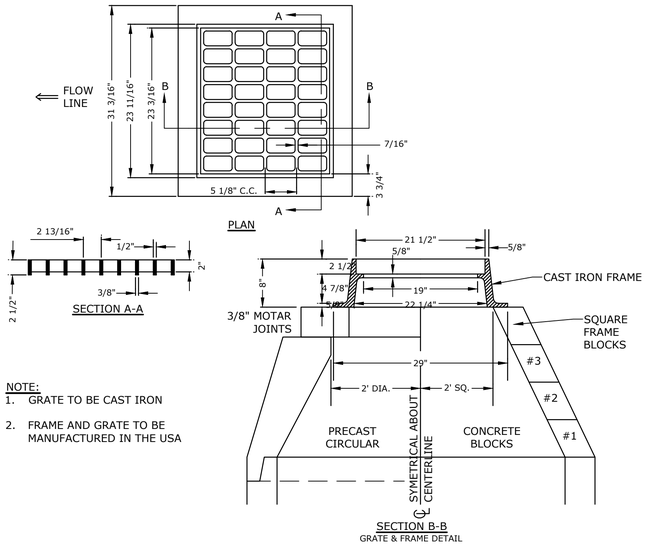
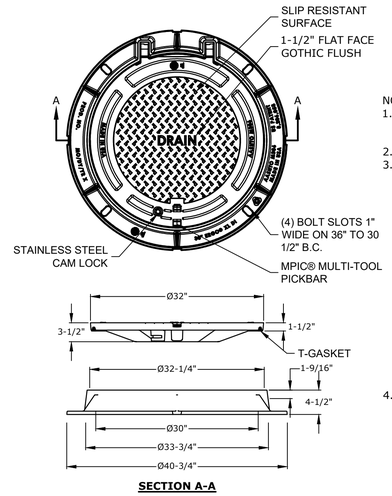


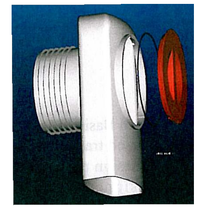
NOTE:
1. GRATE TO BE CAST IRON
2. FRAME AND GRATE TO BE MANUFACTURED IN THE USA

CATCH BASIN FRAME & GRATE
NO SCALE



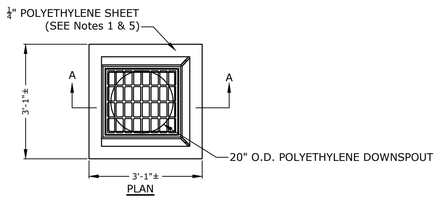
NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

DRAIN MANHOLE FRAME & COVER
NO SCALE



NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

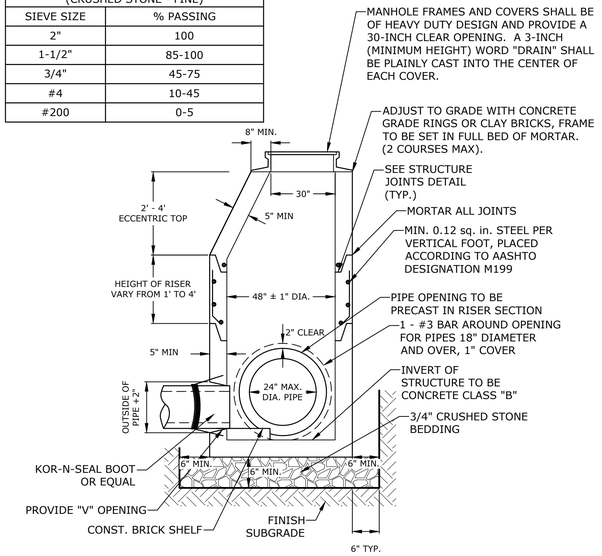
"ELIMINATOR" OIL FLOATING DEBRIS TRAP



NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

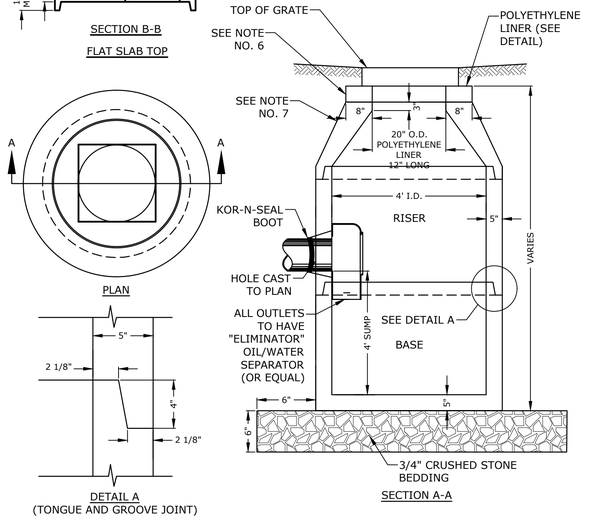
POLYETHYLENE LINER
NO SCALE

NHDOT ITEM No. 304.4 (CRUSHED STONE - FINE)	
SIEVE SIZE	% PASSING
2"	100
1-1/2"	85-100
3/4"	45-75
#4	10-45
#200	0-5



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

4' DIAMETER DRAIN MANHOLE
NO SCALE



NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
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 AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
6. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCHBASIN
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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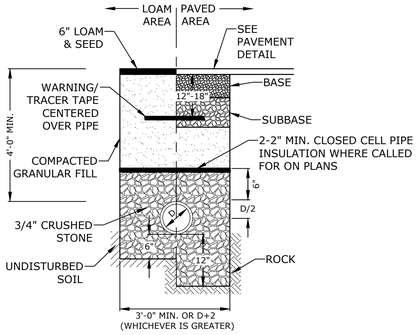
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

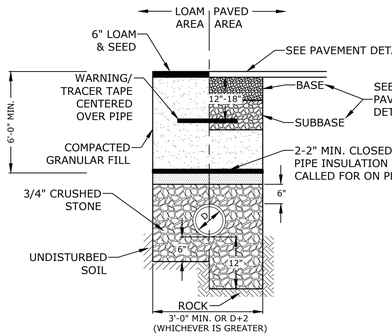
SCALE: AS SHOWN

C-604



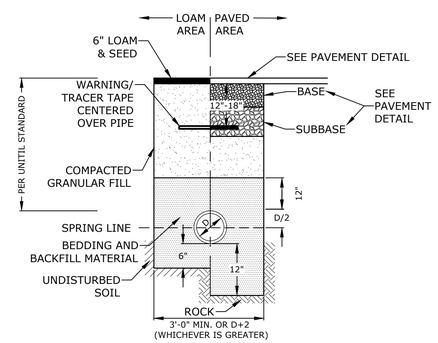
NOTES:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE



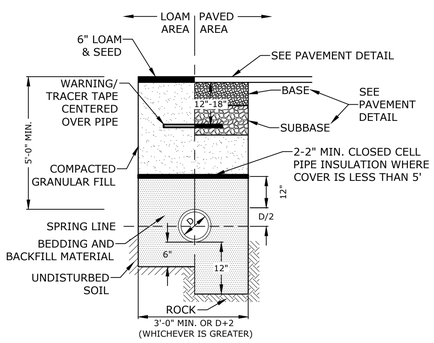
NOTES:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

SEWER SERVICE TRENCH
NO SCALE



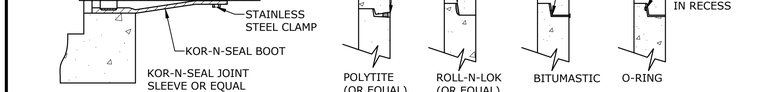
NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

GAS TRENCH
NO SCALE



NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

WATER TRENCH
NO SCALE

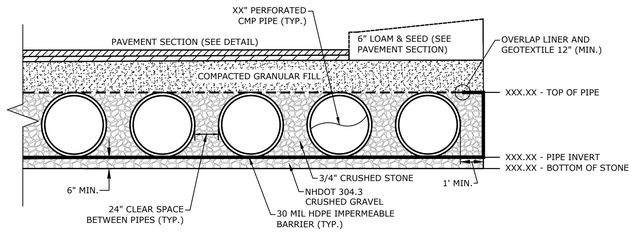


PIPE TO MANHOLE JOINTS

HORIZONTAL JOINTS

NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

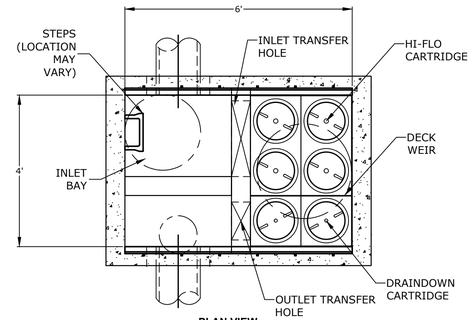
MANHOLE JOINTS
NO SCALE



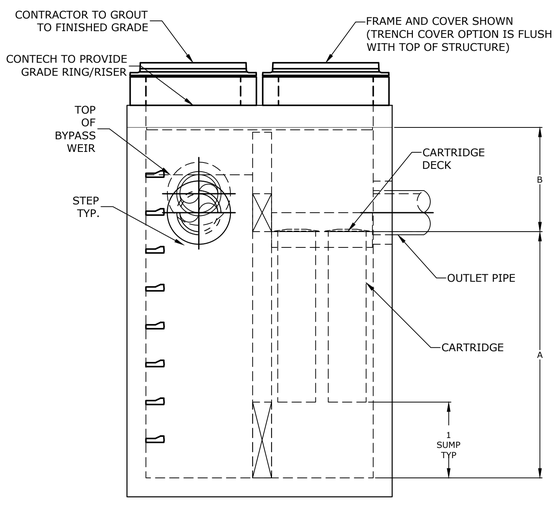
SECTION VIEW

NOTE:
1. THE UNDERGROUND DETENTION BASIN (UDB) SYSTEM SHALL BE ALUMINIZED 16 GAGE STEEL PIPE DESIGNED FOR H-20 LOADING. CONTRACTOR TO SUBMIT PIPE SPECIFICATIONS AND FINAL MANUFACTURES DESIGN TO ENGINEER FOR REVIEW AND APPROVAL.
2. THE CONTRACTOR SHALL SUBMIT PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.
3. THE DESIGN ENGINEER SHALL PROVIDE SUFFICIENT INSPECTION TO CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED PER THE PROPOSED DESIGN PLAN.
4. THE DESIGN SHALL REQUIRE INSPECTION PORTS/COVERS SUCH THAT SYSTEM CAN BE CLEANED BY VACUUM TRUCK WITH A MINIMUM OF ONE IN EACH CORNER.
5. APPROXIMATE LENGTH OF XX" PERFORATED CMP = XXX LF
6. APPROXIMATE LENGHT OF XX" PERFORATED CMP HEADER = XX LF

UNDERGROUND DETENTION BASIN (UDB)
NO SCALE



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW
JELLYFISH JFPD0406

FIELD ELEVATIONS					
	RIM ELEVATION	INLET ELEVATION	INLET PIPE	OUTLET ELEVATION	OULET PIPE
TBD	TBD	TBD	TBD	TBD	TBD

JELLYFISH JFPD0806 - DESIGN NOTES				
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD				
CARTRIDGE SELECTION				
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	JF-1
MODEL SIZE	JFPD0406
WATER QUALITY FLOW RATE (cfs)	0.58
PEAK FLOW RATE (cfs)	4.59
RETURN PERIOD OF PEAK FLOW (yrs)	25
# OF CARTRIDGES REQUIRED (HF / DD)	3/1
CARTRIDGE SIZE	54"

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

Jellyfish Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENT NO. 8,287,728, 8,221,618 & US 8,123,930. OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH JELLYFISH STORMWATER FILTER
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

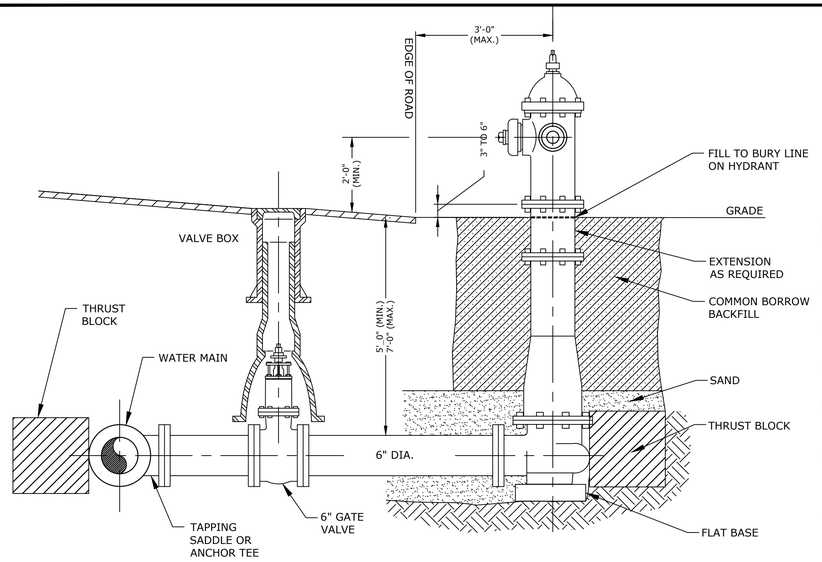
MARK	DATE	DESCRIPTION

PROJECT NO:	K0076-065
DATE:	7/30/2025
FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

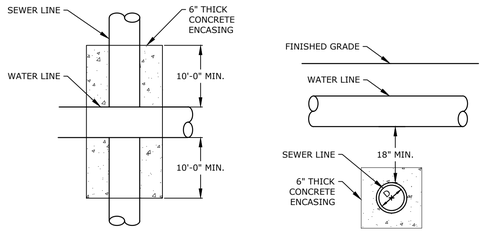
SCALE: AS SHOWN

C-605



FIRE HYDRANT
NO SCALE

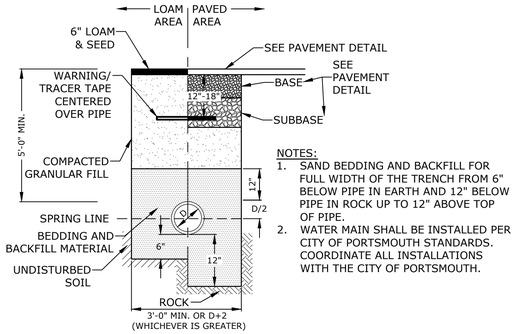
NOTES:
1. HYDRANT TO BE KENNEDY TYPE K-81A (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER AND FIRE DEPARTMENT.
2. HYDRANT SHALL OPEN RIGHT (CITY OF PORTSMOUTH) AND OPEN LEFT (PEASE TRADEPORT).
3. HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH CITY OF PORTSMOUTH STANDARDS.
4. AREA AROUND HYDRANT SHALL BE GRADED TO ALLOW SURFACE WATER TO DRAIN AWAY.
5. CONTRACTOR SHALL INSTALL AN INDICATOR ATTACHED TO THE HYDRANT IN ACCORDANCE TO CITY OF PORTSMOUTH STANDARDS.
6. HYDRANT ASSEMBLY SHALL BE POLY WRAPPED FROM MAIN TO HYDRANT AT GROUND LEVEL, 6" (MIN.) OF SAND FOR BEDDING AND COVER, WARNING TAPE 18" ABOVE PIPE.
7. DRAIN HOLES ARE NOT PERMITTED.



PLAN VIEW **PROFILE VIEW**

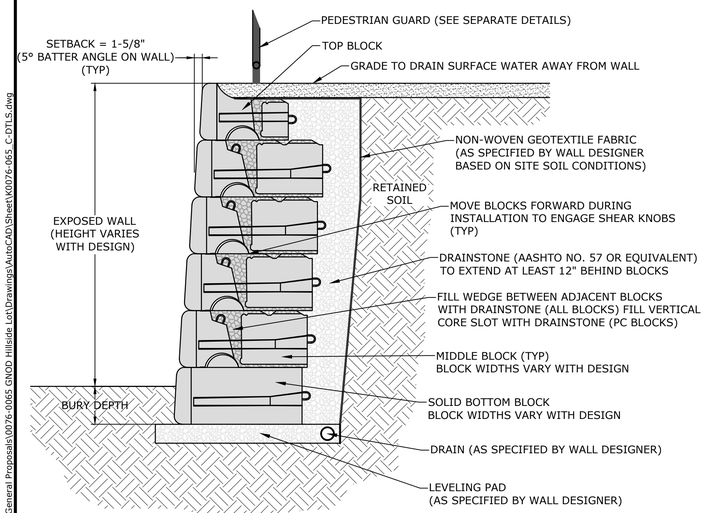
NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
4. WHERE AN 18" VERTICAL SEPARATION CANNOT BE PROVIDED, SEWER PIPE SHALL BE CONSTRUCTED USING A SDR 26 PVC PIPE OR ENCASED CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE LINE BEING CROSSED, AS SHOWN ABOVE.
5. CROSSINGS SHALL CONFORM TO THE CITY OF PORTSMOUTH STANDARDS AND SPECIFICATIONS.

WATER & SEWER CROSSING
NO SCALE



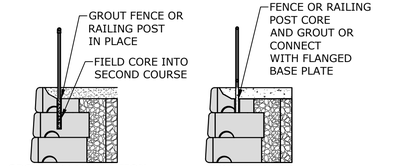
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

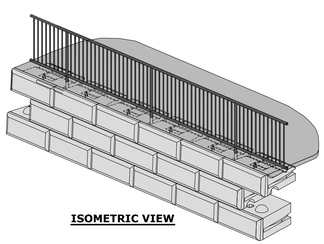
WATER TRENCH
NO SCALE



TYPICAL BLOCK RETAINING WALL SECTION
NO SCALE

NOTES
1. RETAINING WALL SHALL BE REDI ROCK (BASIS OF DESIGN), VERSA-LOK, RECON WALL SYSTEMS, OR EQUAL.
2. THE CONTRACTOR SHALL SUBMIT DESIGN AND CALCULATIONS FOR THE RETAINING WALL THAT SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. CALCULATIONS SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
3. MINIMUM DESIGN PARAMETERS:
   - GLOBAL STABILITY FACTOR OF SAFETY = 1.3
   - OVERTURNING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - SLIDING FACTOR OF SAFETY UNDER STATIC LOADS = 1.5
   - GEOGRID PULLOUT FACTOR OF SAFETY = 1.5
   - SEISMIC FACTOR OF SAFETY = 1.1
   - EQUIVALENT FLUID PRESSURE = 40 POUNDS PER CUBIC FOOT (PCF) FOR GRAVITY AND CANTILEVERED WALLS ABOVE GROUNDWATER AND WALLS WITH APPROPRIATE DRAINAGE BEHIND THE WALL.
   - HYDROSTATIC WATER PRESSURE ALONG THE HEIGHT OF THE WALL BELOW GROUNDWATER SHOULD BE INCLUDED IF DRAINAGE IS NOT PROVIDED.
   - WHERE THE CALCULATED EARTH PRESSURE BEHIND THE WALL IS LESS THAN 250 POUNDS PER SQUARE FOOT (PSF), IT SHOULD BE INCREASED TO 250 PSF TO ACCOUNT FOR STRESSES CREATED BY COMPACTION WITHIN 5 FEET OF THE WALL.
   - WALLS SHOULD BE DESIGNED FOR APPROPRIATE SLOPING BACKFILL.
   - WALLS SHOULD BE DESIGNED TO RESIST AN EARTHQUAKE FORCE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC), CURRENT EDITION.
4. WALL DESIGNS SHALL CONSIDER EFFECTS OF SLOPE, TRAFFIC LOADS, BUILDING LOADS, STRUCTURES, UTILITIES, GUARDRAIL AND/OR FENCING AS REQUIRED.
5. WALL DESIGN ENGINEER SHALL CONSIDER HEIGHT AND SPECIFY SAFETY RAIL WHERE REQUIRED.
6. ALL INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION MANUAL AND THE WALL DESIGN ENGINEER'S DESIGN PLANS AND SPECIFICATIONS.
7. THE WALL DESIGN ENGINEER SHALL COMPLETE SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY WORK IS COMPLETED IN ACCORDANCE WITH DESIGN.
8. CONTRACTOR SHALL DIRECT SURFACE RUNOFF AWAY FROM THE WALL DURING CONSTRUCTION.
9. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT OR OTHER SURFACE TREATMENT SHALL BE INSTALLED IN THE AREA OF THE WALL IMMEDIATELY AFTER THE WALL IS COMPLETE OR OTHER MEASURES SHALL BE TAKEN TO PROTECT THE WALL FROM RUNOFF.
10. CONTRACTOR SHALL SUPPLY PRODUCT INFORMATION FOR BLOCK TYPE / TEXTURE AND COLOR CHOICE TO THE OWNER FOR APPROVAL PRIOR TO ORDERING MATERIALS.
11. RETAINING WALL DESIGN PLANS AND CALCULATIONS SHALL BE FROM THE WALL MANUFACTURER AND SHALL INCLUDE A GLOBAL STABILITY ANALYSIS.
12. FINAL STRUCTURAL DESIGN TO BE SUBMITTED TO THE ENGINEER WITH ALL REQUIRED CALCULATIONS AND PLANS.
13. STRUCTURAL DESIGN TO BE COMPLETED AND STAMPED BY A NEW HAMPSHIRE LICENSED STRUCTURAL ENGINEER. DESIGN ENGINEER SHALL INSPECT WALL DURING CONSTRUCTION AND CERTIFY THAT IT HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUBMITTED AS PART OF THE BUILDING PERMIT.
14. AN AS-BUILT PLAN SHOWING WALL LOCATION AND DIMENSIONS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER UPON COMPLETION.
15. ANY UNSUITABLE SOIL SUCH AS FROZEN OR ORGANIC SOILS SHOULD BE REMOVED FROM BEHIND THE PROPOSED RETAINING WALLS AND REPLACED WITH FREE DRAINING BACKFILL SUCH AS GRAVEL BORROW.
16. EXISTING FILL SHOULD NOT BE USED WITHIN FIVE (5) FEET OF CANTILEVERED OR GRAVITY WALLS.
17. THESE DETAILS ARE FOR REFERENCE ONLY. DETERMINATION OF THE SUITABILITY AND/OR MANNER OF USE OF ANY DETAILS CONTAINED IN THIS DOCUMENT IS THE SOLE RESPONSIBILITY OF THE WALL DESIGN ENGINEER OF RECORD. FINAL PROJECT DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE.

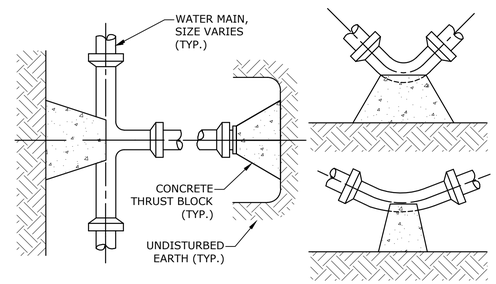




ISOMETRIC VIEW

NOTE
1. THESE GENERIC PEDESTRIAN GUARD AND FENCE DETAILS SHOW POTENTIAL OPTIONS FOR INSTALLATION ON THE TOP OF RETAINING WALL. IT IS THE WALL DESIGN ENGINEER'S RESPONSIBILITY TO FULLY DESIGN AND DETAIL THE CONNECTION OF THE GUARD POSTS TO THE RETAINING WALL BLOCKS AND ASSURE ACCEPTABLE RESISTANCE TO THE APPLIED FORCES.

TYPICAL FENCE OR PEDESTRIAN GUARD CONNECTION OPTIONS
NO SCALE



TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING DETAIL
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION

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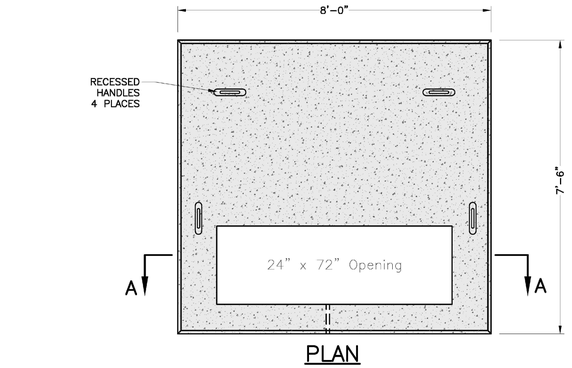
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

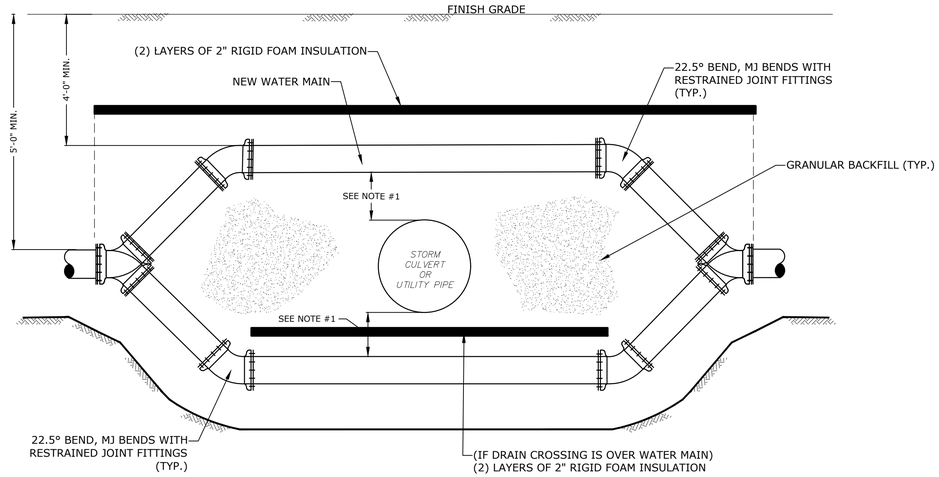
C-606

Last Saved: 7/17/2025
Printed: Jul 21, 2025 - 2:16pm By: MCurley
Tighe & Bond: J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg



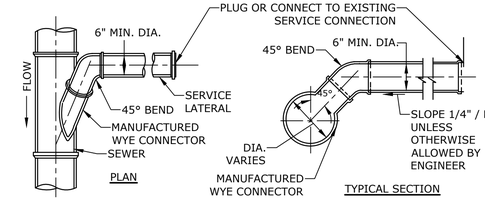
NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE

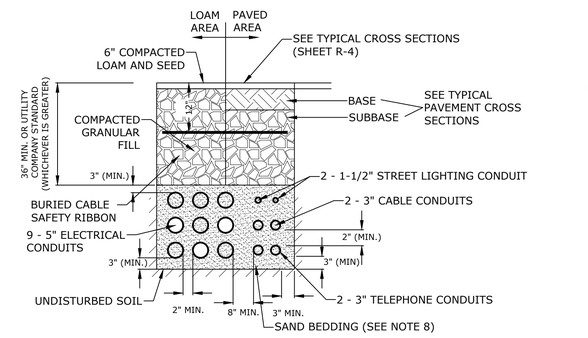


NOTES:
1. INSTALL WATER MAIN 12" VERTICALLY FROM DRAINAGE OR OTHER UTILITIES, AND 18" VERTICALLY FROM SEWER. WATER MUST BE INSTALLED ABOVE SEWER.
2. SUPPORT THE UTILITY PIPE WHILE INSTALLING WATER MAIN.
2. ALL BENDS SHALL BE 22.5° M.J. BENDS WITH RESTRAINED JOINT FITTINGS.
3. PIPE SHALL BE FULLY RESTRAINED MINIMUM 18" EACH SIDE OF ELBOWS.
4. REFER TO "WATER TRENCH" DETAIL FOR ADDITIONAL WATER MAIN INSTALLATION REQUIREMENTS.

WATER MAIN VERTICAL UTILITY CROSSING
NO SCALE

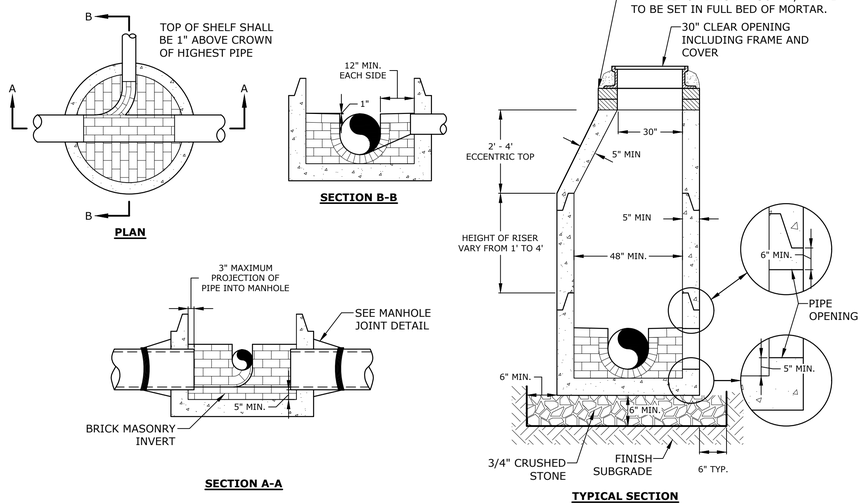


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



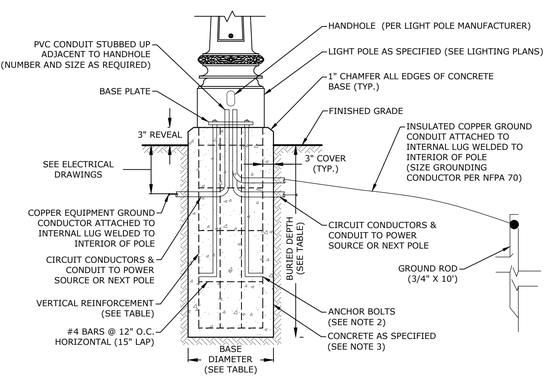
NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE



NOTES:
1. ALL SEWER MANHOLES SHALL BE CONSTRUCTED TO CITY AND STATE STANDARDS.
2. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
3. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
4. INVERT BRICKS SHALL BE LAID ON EDGE.
5. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
8. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE



POLE HEIGHT	DEPTH (BURIED)	BASE DIAMETER	VERTICAL REINFORCEMENT
<16'	72" (MIN.)	18"	6 - #6
>16'	72" (MIN.)	24"	6 - #8

NOTES:
1. ALL LIGHT POLES, LUMINARIES AND WIRE TO BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED.
2. CONTRACTOR SHALL VERIFY BOLT TEMPLATE AND ANCHOR BOLT SIZE WITH POLE MANUFACTURER PRIOR TO CONSTRUCTION.
3. CONCRETE SHALL BE 4,000 PSI CLASS A, PRE-CAST CONCRETE.
4. REINFORCEMENT SHALL BE ASTM A615, GRADE 60.
5. FOR LIGHT POLES GREATER THAN 20' IN HEIGHT, THE LIGHT POLE BASE SHALL BE DESIGNED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE.

TYPICAL LIGHT POLE BASE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

PROPOSED MULTI-FAMILY DEVELOPMENT

Brora LLC

Portsmouth, NH

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FILE:	K0076-065_C-DTLS.DWG
DRAWN BY:	MDC/BKC
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-607

Last Saved: 7/17/2025
Last Plotted: Jul 17, 2025 - 2:16pm By: MCurley
Tighe & Bond J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-DTLS.dwg

NOTES:
1. IMAGE UNDERLAY DERIVED FROM GOOGLE EARTH IMAGERY DATED APRIL 1992.

0 50' 100'
GRAPHIC SCALE

N

PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

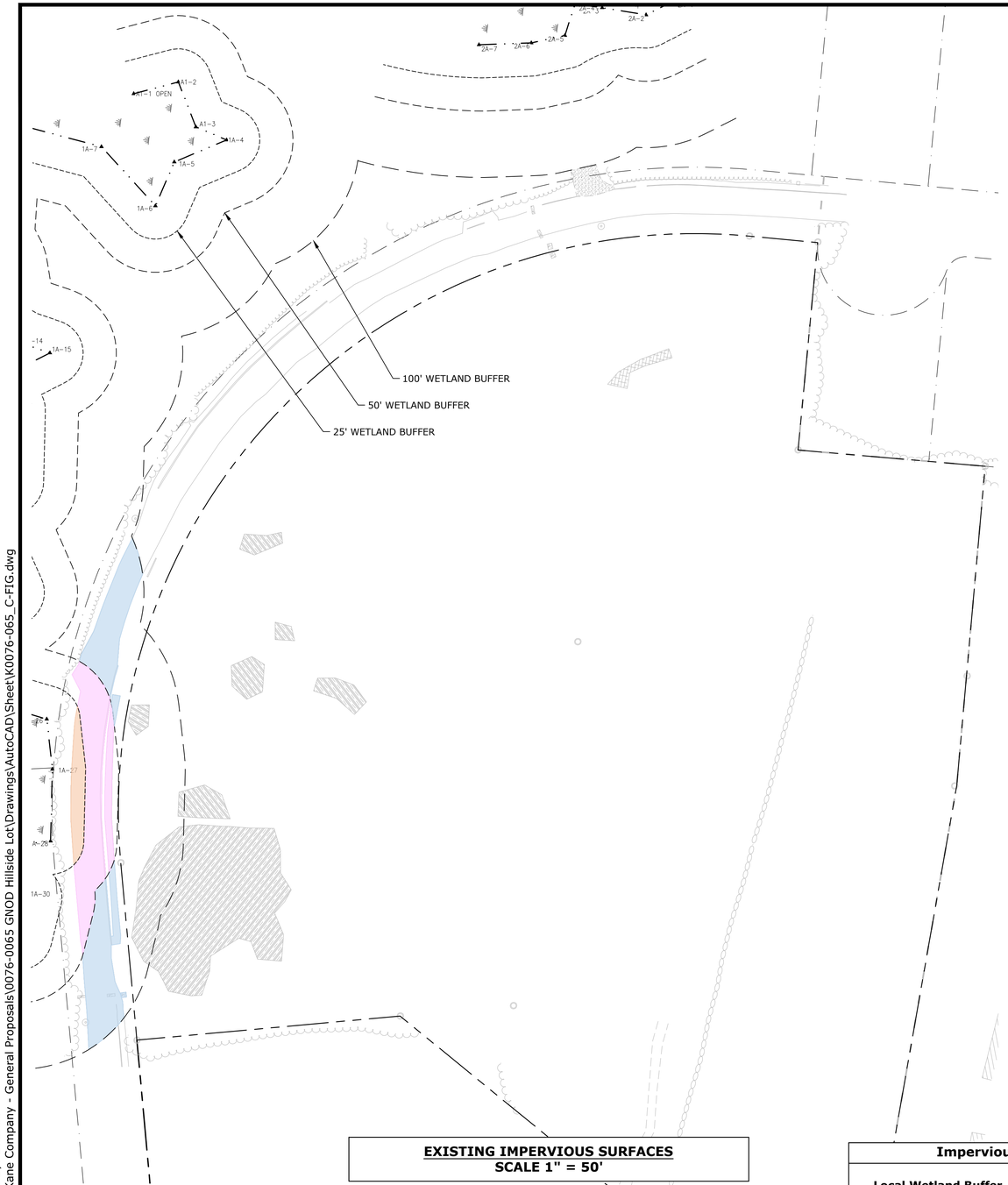
HISTORICAL SITE OVERLAY EXHIBIT

DATE: 07/30/25
SCALE: AS SHOWN
FIGURE: 1 OF 1

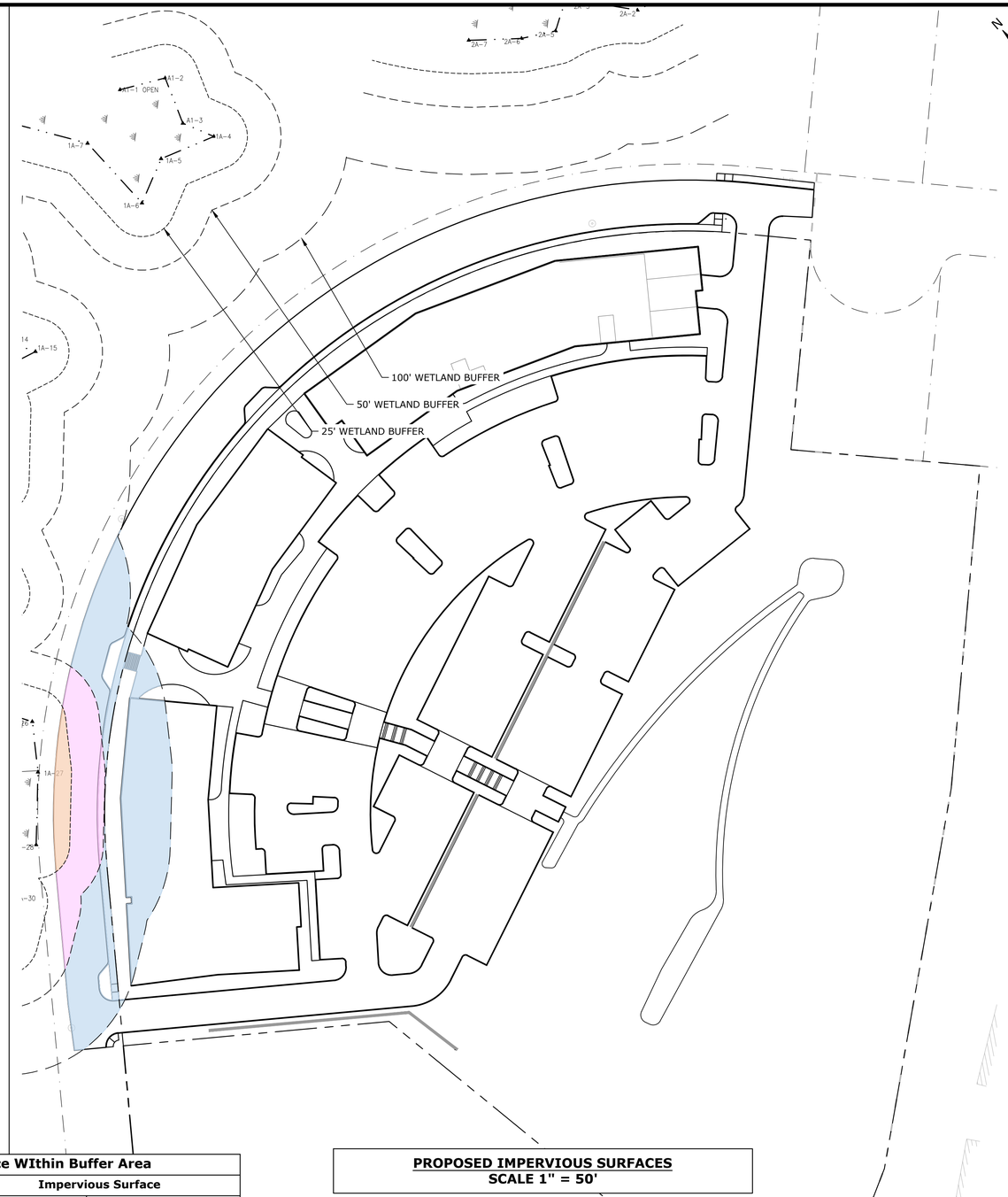
Tighe&Bond
Engineers | Environmental Specialists

1992 SITE IMAGERY

Plotted On:Jul 15, 2025-4:50pm By: BCurcio
Tighe & Bond:J:\K\K0076 The Kane Company - General Proposals\0076-0065 GNOD Hillside Lot\Drawings\AutoCAD\Sheet\K0076-065_C-FIG.dwg



EXISTING IMPERVIOUS SURFACES
SCALE 1" = 50'



PROPOSED IMPERVIOUS SURFACES
SCALE 1" = 50'

Impervious Surface WIthin Buffer Area		
Local Wetland Buffer Setback	**Impervious Surface**	
	Existing Condition (SF)	**Proposed Development (SF)**
0 - 25 FT	948	1,175
25 - 50 FT	3,808	4,572
50 - 100 FT	4,769	13,085
Total Impervious Surface	9,525	18,832
Net Impervious Surface	+9,307	

0 50' 100'
GRAPHIC SCALE

PROPOSED MULTI-FAMILY DEVELOPMENT
PORTSMOUTH, NH

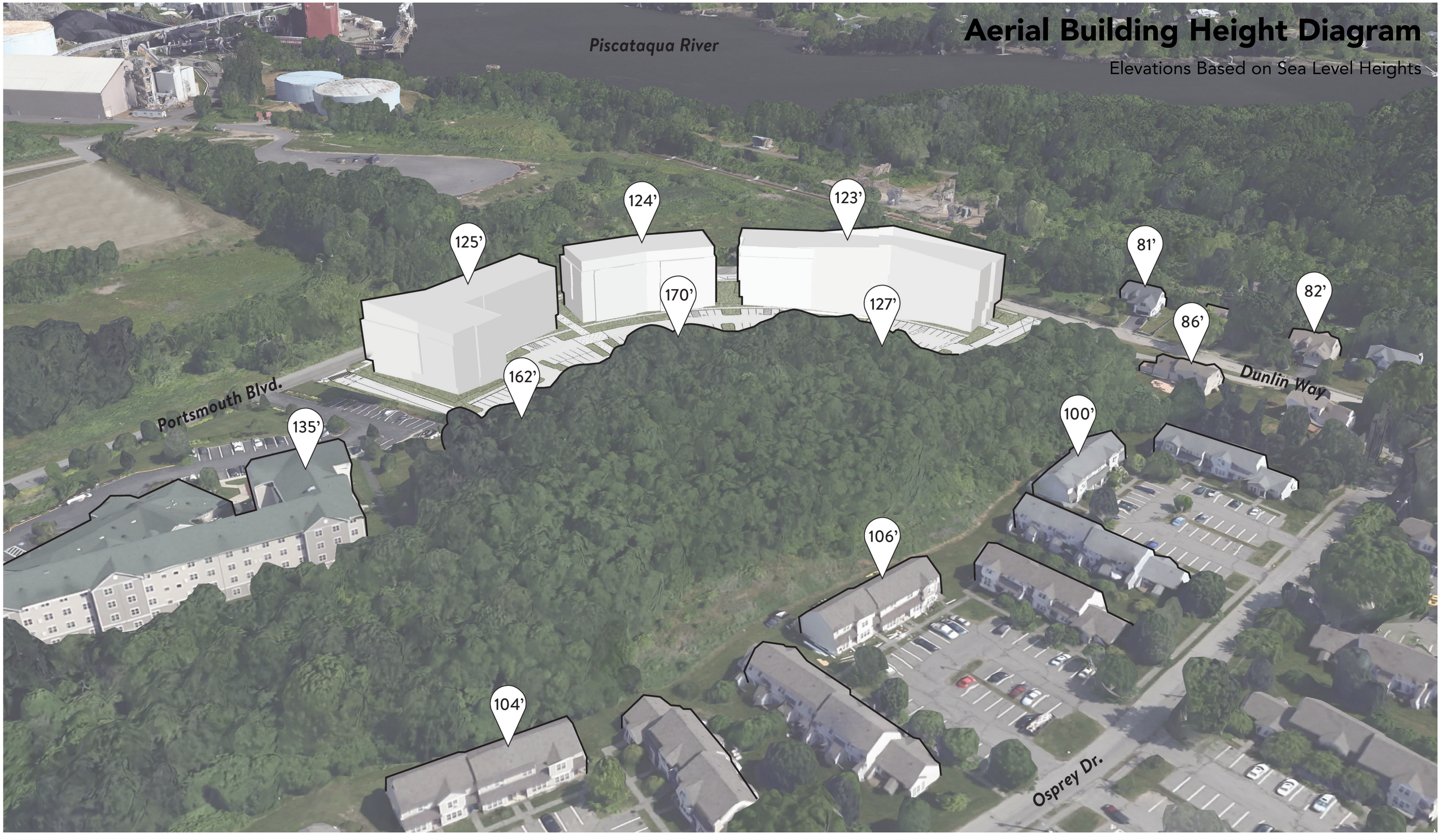
WETLAND BUFFER
IMPERVIOUS SURFACE EXHIBIT

DATE: 07/30/25
SCALE: AS SHOWN
FIGURE: 2

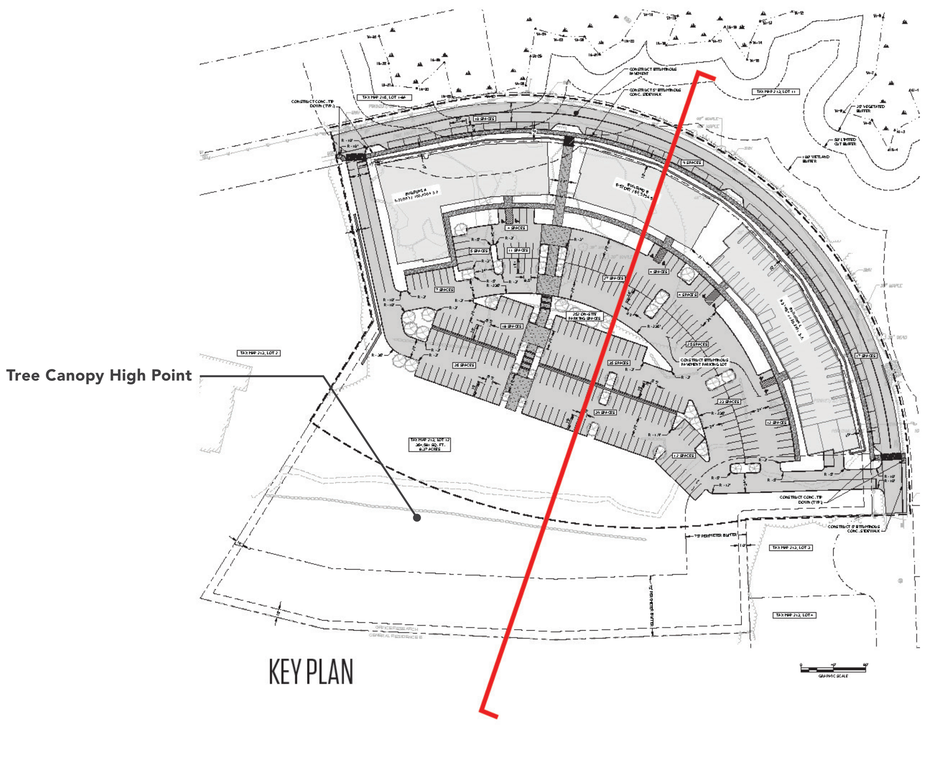
Tighe&Bond

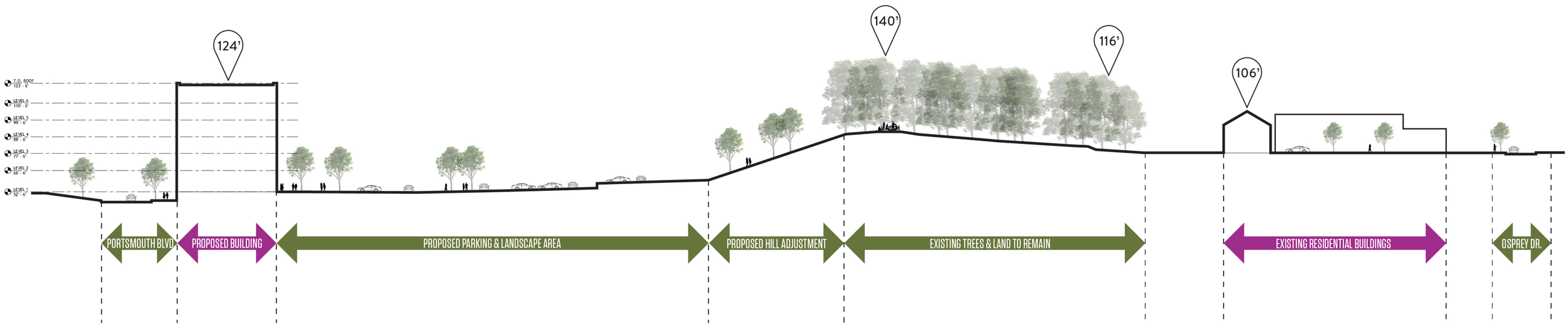
Aerial Building Height Diagram

Elevations Based on Sea Level Heights



Site Section Diagram





Site Shadow Diagram - *No Shadow Impact on Existing Buildings*

Indicates New Shadow