Tighe&Bond
Engineers | Environmental Specialists

P-0595-008
February 4, 2020

Ms. Juliet Walker Planning Director
City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: Request for TAC Work Session
Proposed Hotel, 299 Vaughan Street & 53 Green Street, Portsmouth, NH

Dear Juliet:

On behalf of Stone Creek Realty, LLC & Vaughan Street Hotel, LLC owners, and XXS Hotels, LLC, applicant, we are pleased to submit the following information to support a request to meet with the Technical Advisory Committee (TAC) at their next scheduled Work Session for the above referenced project:

- One (1) full size & one (1) half size copy of the Site Plan Set last revised February 4, 2020;
- One (1) copy of the Shared Parking Analysis dated February 4, 2020;
- One (1) copy of the Trip Generation Analysis dated February 4, 2020;
- One (1) copy of the Drainage Analysis Memorandum dated February 4, 2020

The proposed project consists of a 5-story hotel along Green Street. The project will include a lot line revision between Map 124 Lot 10 and Map 119 Lot 2. The proposed hotel will be located on the revised Map 124 Lot 10 parcel. The project is proposing over 30% community space in order to meet the incentive requirements to construct an additional story on the building. A Conditional Use Permit for shared parking on a separate lot will be required for the project. The project will share parking between Map 124 Lot 10 and Map 119 Lot 2. The project meets the Downtown Overlay District (DOD) parking requirements as shown on the plans. In addition, the project meets the Shared Parking provisions of the ordinance as demonstrated in the enclosed Shared Parking Analysis.

The proposed project will require the following site related approvals from the Planning Board:

- Site Plan Review
- Subdivision/Lot Line Adjustment
- Conditional Use Permit for Shared Parking on Separate Lots

On January 16, 2020, the project team met with the Planning Board for a Preliminary Conceptual Consultation. In addition, the Planning Board voted to accept a request for Design Review at this meeting and the Design Review public hearing is scheduled for the February 20, 2020 Planning Board meeting.

The applicant would also like to solicit feedback from City staff on the project prior to submitting the formal applications for the above listed permits. Thus, the applicant respectfully requests to meet with TAC at their next scheduled Work Session on February 11, 2020.

If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at pmcrimmins@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Patrick M. Crimmins, PE
Senior Project Manager

Neil A. Hansen, PE
Project Engineer

Cc: Stone Creek Realty, LLC (via e-mail)
Vaughan Street Hotel, LLC (via e-mail)
XXS Hotels, LLC (via e-mail)

PROPOSED MOXY HOTEL

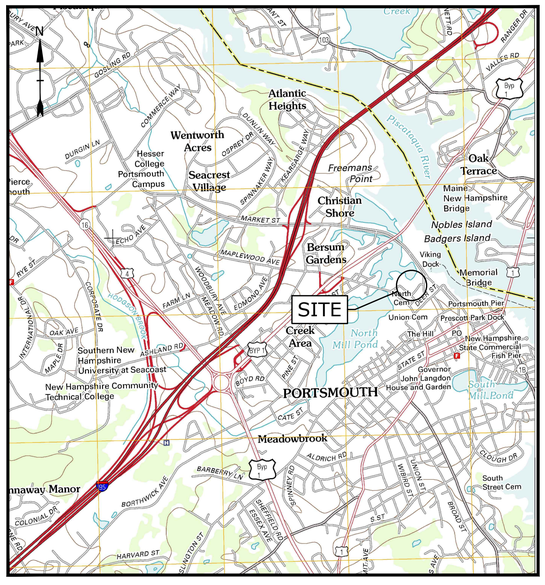
299 VAUGHAN STREET & 53 GREEN STREET
PORTSMOUTH, NEW HAMPSHIRE

JANUARY 2, 2020

LAST REVISED: FEBRUARY 4, 2020

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	2/4/2020
C-101	OVERALL EXISTING CONDITIONS PLAN	2/4/2020
C-101.1	DEMOLITION PLAN	2/4/2020
C-102	OVERALL SITE PLAN	2/4/2020
C-102.1	SITE PLAN	2/4/2020
C-103	GRADING, DRAINAGE AND EROSION CONTROL PLAN	2/4/2020
C-104	UTILITIES PLAN	2/4/2020
C-501	EROSION CONTROL NOTES AND DETAILS SHEET	2/4/2020
C-502	DETAILS SHEET	2/4/2020
C-503	DETAILS SHEET	2/4/2020
C-504	DETAILS SHEET	2/4/2020

LIST OF PERMITS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT		
LOT LINE REVISION PERMIT		
CONDITIONAL USE PERMIT - SHARED PARKING		
STATE		
NHDES - SHORELAND PERMIT		
NHDES - SEWER CONNECTION PERMIT		



LOCATION MAP
SCALE: 1" = 2,000'

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

APPLICANT:
XSS HOTELS LLC
PO BOX 4430
MANCHESTER, NEW HAMPSHIRE 03108

OWNERS:
TAX MAP 119, LOT 12
STONE CREEK REALTY, LLC
C/O DOUGLAS PINCIARO
PO BOX 121
NEW CASTLE, NEW HAMPSHIRE 03854

TAX MAP 124, LOT 10
VAUGHAN STREET HOTEL LLC
1359 HOOKSETT ROAD
HOOKSETT, NEW HAMPSHIRE 03106

TAC WORK SESSION SUBMISSION SET
COMPLETE SET 11 SHEETS

T & B PROJECT NO: P-0595-008

Last Saved: 2/4/2020
Plotted: Feb 04, 2020-10:39am By: NAHansen
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings, Figures\AutoCAD\P-0595-008_C-COVER.dwg

NOTES:

1. REFERENCE: TAX MAP 119, LOT 2
   53 GREEN STREET
   D.S.I. PROJECT NO. 4383
2. TOTAL PARCEL AREA: 72,200 SQ. FT.± OR 1.65 AC.±
   (AREA CALCULATED TO MEAN HIGH WATER)
   (SEE NOTE #12)
3. OWNER OF RECORD: STONE CREEK REALTY LLC
   C/O DOUGLAS PINCIARO
   PO BOX 121
   NEW CASTLE, NH 03854
   R.C.R.D. BOOK 3300, PAGE 329
4. ZONE: CD5 OVERLAY DISTRICTS
   –DOWNTOWN OVERLAY DISTRICT
   –HISTORIC DISTRCIT

   ZONING DISTRICTS BASED ON THE CITY OF PORTSMOUTH ZONING MAP DATED 11/12/15 AS AVAILABLE ON THE CITY WEBSITE ON 11/18/19. SEE CITY OF PORTSMOUTH ZONING ORDINANCE ARTICLE 5A, SECTION 10.5A40 FOR DIMENSIONAL REGULATIONS. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.

   THE SITE IS SUBJECT TO THE STATE OF NH SHORELAND WATER QUALITY PROTECTION ACT. SEE NHDES WEBSITE FOR SPECIFIC DIMENSIONAL REQUIREMENT.
5. FIELD SURVEY PERFORMED BY D.C.B. & K.J.L. DURING NOVEMBER 2019 USING A TRIMBLE S7 TOTAL STATION AND A TRIMBLE R8 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A TRIMBLE DINI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
6. JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND, DURING OCTOBER 2019 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y–87–1 AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION (OCTOBER, 2009).
7. VERTICAL DATUM IS BASED ON NGVD29 PER DISK B2 1923.
8. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
9. 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, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
10. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE.
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. WATER BOUNDARIES ARE DYNAMIC IN NATURE AND ARE SUBJECT TO CHANGE DUE TO NATURAL CAUSES SUCH AS EROSION OR ACCRETION.
13. MEAN HIGH WATER (EL. 3.0' NGVD1929) AND HIGHEST OBSERVABLE TIDE (EL. 4.3' NGVD1929) ELEVATIONS PER "MAPLEWOOD AVENUE CULVERT REPLACEMENT AND NORTH MILL POND RESTORATION, WATERFRONT/STRUCTURAL BASIS OF DESIGN, BY WATERFRONT ENGINEERS, LLC, DATED DECEMBER 30, 2009", PROVIDED BY TIGHE & BOND ON 11–30–15.
14. 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.
15. 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 GREEN STREET AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE CITY OF PORTSMOUTH CITY HALL, THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS & THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
16. THE GEOMETRY SHOWN ON REFERENCE PLANS 1, 12 & 13 INDICATE A POSSIBLE DISCREPANCY IN TITLE TO THE HATCHED AREA SHOWN. A TITLE EXAMINATION IS REQUIRED TO CLEAR UP ANY ISSUES IN THIS AREA.
17. TAX MAP 119 LOT 2 SHOWN HEREON IS SUBJECT TO AND/OR IN BENEFIT OF THE FOLLOWING EASEMENTS & COVENANTS.
   A) SIGNAL FACILITIES EXCEPTIONS AND RESERVATIONS, SEE R.C.R.D. BOOK 1339, PAGE 298, (LOCATION UNKNOWN).
   B) EASEMENT IN FAVOR OF WESTERN UNION TELEGRAPH COMPANY, SEE R.C.R.D. BOOK 1339, PAGE 298 (NO DIMENSIONS GIVEN).
   C) ELECTRIC EASEMENT IN FAVOR OF NEW HAMPSHIRE ELECTRIC COMPANY, SEE R.C.R.D. BOOK 1339, PAGE 298 (NO DIMENSIONS GIVEN).
   D) SEWER LINE EASEMENT IN FAVOR OF THE CITY OF PORTSMOUTH, SEE R.C.R.D. BOOK 1339, PAGE 298 (LOCATION UNKNOWN).
   E) ADDITIONAL FIRE RESTRICTION, SEE R.C.R.D. BOOK 1339, PAGE 298.
   F) POLE AND WIRE AGREEMENT, PER NOTE #8 ON REFERENCE PLAN #1, (RECORDED AGREEMENT NOT FOUND).
   G) ACCESS RIGHTS, SEE R.C.R.D. BOOK 589, PAGE 206 (LOCATION UNKNOWN).
   H) COMMON PASSAGEWAY, SEE R.C.R.D. PLAN 266.
18. 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.

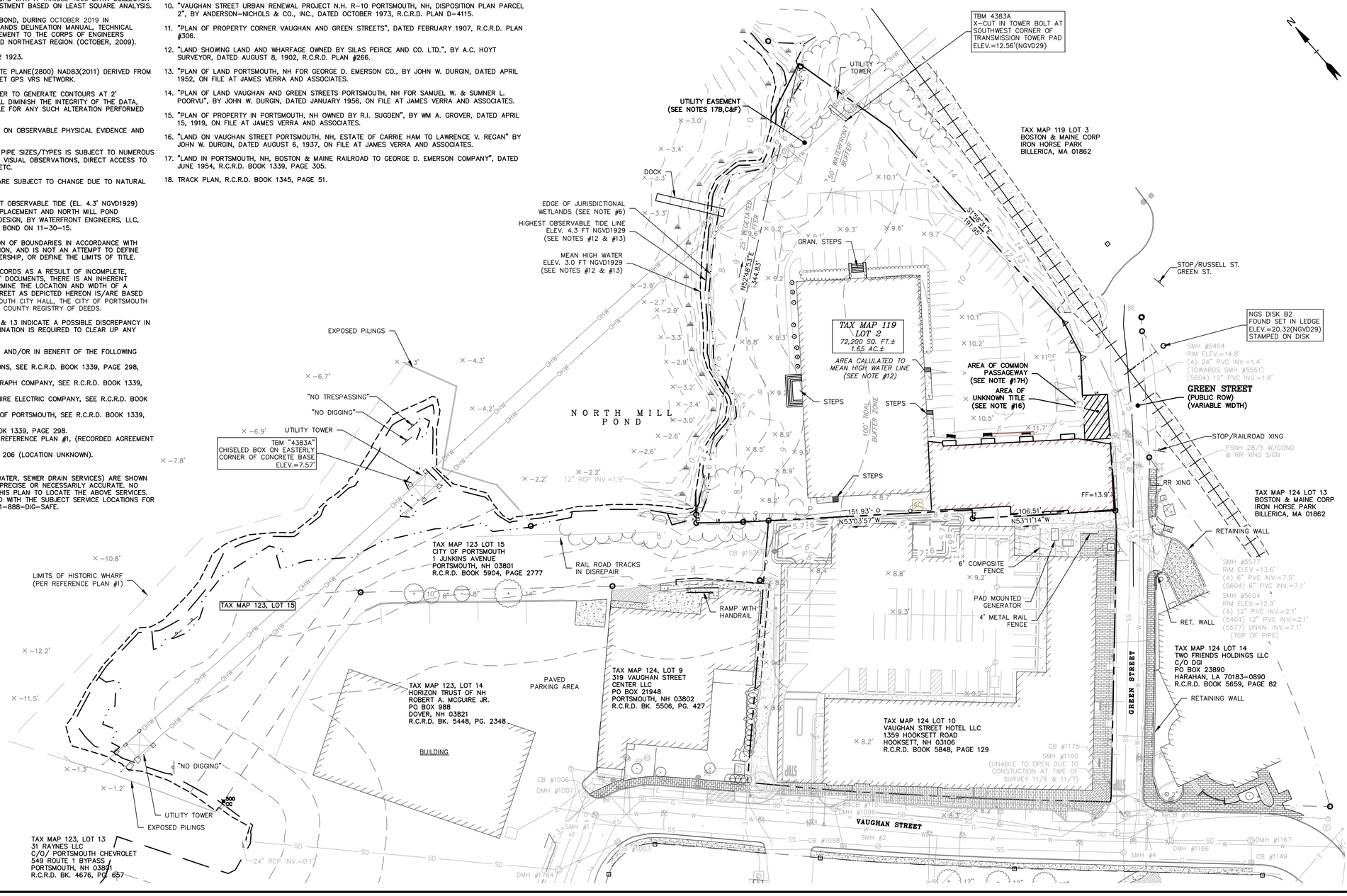
REFERENCE PLANS:

1. "STANDARD BOUNDARY SURVEY, TAX MAP 119 – LOT 2, LAND OF STONE CREEK REALTY", DATED MARCH 2016, BY AMBIT ENGINEERING, INC., NOT RECORDED.
2. "PLAN OF LAND, VAUGHAN AND GREEN STREETS, PORTSMOUTH, NH" DATED JULY 1955 BY JOHN W. DURGIN R.C.R.D. PLAN #02541.
3. "STANDARD BOUNDARY SURVEY, TAX MAP 123 – LOT 15 & TAX MAP 124 LOT 10" DATED JULY 2008, REVISED 4/25/13 BY AMBIT ENGINEERING, INC. R.C.R.D. PLAN #D–37722.
4. "EASEMENT PLAN, EGRESS EASEMENT TO 319 VAUGHAN STREET CENTER, LLC, TAX MAP 124, LOT 9 & TAX MAP 123, LOT 15, PROPERTY OF 299 VAUGHAN STREET, LLC C/O CATHARTES PRIVATE INVESTMENTS", BY AMBIT ENGINEERING, INC., DATED MARCH 2014, R.C.R.D. PLAN #D–38358.
5. "CONDOMINIUM SITE PLAN TAX MAP 124 LOT 14, 233 VAUGHAN STREET, A CONDOMINIUM FOR 233 VAUGHAN STREET, LLC", BY AMBIT ENGINEERING, INC., DATED NOVEMBER 2013, R.C.R.D. PLAN #D–39078.
6. "LOT LINE RELOCATION PLAN PROPERTY OF HARBORCORP, LLC & BOSTON & MAINE CORPORATION", BY AMES MSC, DATED MARCH 15, 2005, R.C.R.D. PLAN #D–32675.
7. "LAND AT 233 VAUGHAN STREET PORTSMOUTH, NH BOSTON & MAINE CORPORATION TO BLUE STAR PROPERTIES, LLC", BY JAMES VERRA & ASSOCIATES, INC., DATED 6/3/01, R.C.R.D. PLAN #D–29702.
8. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10 PORTSMOUTH, NH, DISPOSITION MAP", BY ANDERSON–NICHOLS & CO., INC., DATED NOVEMBER 1969, R.C.R.D. PLAN D–2408
9. "PLAN OF LAND FOR SOLIMON NEGM", BY TOWN PLANNING & ENGINEERING ASSOCIATES, INC., DATED 3/28/79, R.C.R.D. PLAN #C–8575.
10. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10 PORTSMOUTH, NH, DISPOSITION PLAN PARCEL 2", BY ANDERSON–NICHOLS & CO., INC., DATED OCTOBER 1973, R.C.R.D. PLAN D–4115.
11. "PLAN OF PROPERTY CORNER VAUGHAN AND GREEN STREETS", DATED FEBRUARY 1907, R.C.R.D. PLAN #306.
12. "LAND SHOWING LAND AND WHARFAGE OWNED BY SILAS PEIRCE AND CO. LTD.", BY A.C. HOYT SURVEYOR, DATED AUGUST 8, 1902, R.C.R.D. PLAN #266.
13. "PLAN OF LAND PORTSMOUTH, NH FOR GEORGE D. EMERSON CO., BY JOHN W. DURGIN, DATED APRIL 1952, ON FILE AT JAMES VERRA AND ASSOCIATES.
14. "PLAN OF LAND VAUGHAN AND GREEN STREETS PORTSMOUTH, NH FOR SAMUEL W. & SUMNER L. POORVU", BY JOHN W. DURGIN, DATED JANUARY 1956, ON FILE AT JAMES VERRA AND ASSOCIATES.
15. "PLAN OF PROPERTY IN PORTSMOUTH, NH OWNED BY R.I. SUGDEN", BY WM A. GROVER, DATED APRIL 15, 1919, ON FILE AT JAMES VERRA AND ASSOCIATES.
16. "LAND ON VAUGHAN STREET PORTSMOUTH, NH, ESTATE OF CARRIE HAM TO LAWRENCE V. REGAN" BY JOHN W. DURGIN, DATED AUGUST 6, 1937, ON FILE AT JAMES VERRA AND ASSOCIATES.
17. "LAND IN PORTSMOUTH, NH, BOSTON & MAINE RAILROAD TO GEORGE D. EMERSON COMPANY", DATED JUNE 1954, R.C.R.D. BOOK 1339, PAGE 305.
18. TRACK PLAN, R.C.R.D. BOOK 1345, PAGE 51.
19. "VAUGHAN STREET URBAN RENEWAL PROJECT N.H. R–10 PORTSMOUTH, NH, APPROVED AS SHOWING VAUGHAN STREET URBAN RENEWAL PROJECT BOUNDARIES AND AREA ONLY, CONDEMNATION MAP", BY ANDERSON–NICHOLS & CO., INC., DATED FEBRUARY 1971, R.C.R.D. PLAN 2425.
20. "SURVEY OF HARBORSIDE & HARBORPARK LAND IN PORTSMOUTH, NH", BY BRIGGS ASSOCIATES, INC., DATED AUGUST 13, 1985, REV. AUGUST 27, 1985, R.C.R.D. PLAN 14043.
21. "SUBDIVISION PLAN OF TAX MAP 123, LOT 15 FOR 299 VAUGHAN STREET, LLC", BY DOUCET SURVEY, INC., DATED MAY 19, 2017, R.C.R.D. PLAN D–40759.
22. "LICENSE, EASEMENT & LAND TRANSFER PLAN FOR VAUGHAN STREET, LLC AND VAUGHAN STREET HOTEL, LLC", BY DOUCET SURVEY, INC., DATED AUGUST 2017, R.C.R.D. PLAN D–40760.
23. "LOT MERGER PLAN FOR VAUGHAN STREET HOTEL, LLC", BY DOUCET SURVEY, INC., DATED SEPTEMBER 2017.
24. "STATION MAP – LANDS, BOSTON AND MAINE RAILROAD OPERATED BY THE BOSTON AND MAINE RAILROAD, STATION 2966+20 TO STATION 3019+0", DATED JUNE 30, 1914, ON FILE AT THE BOSTON AND MAINE CORPORATION.
25. "VAUGHAN STREET PROJECT, PROJECT NO. N.H. R–10, RIGHT OF WAY ADJUSTMENT", BY METCALF & EDDY, DATED MAY 5, 1966, R.C.R.D. PLAN D–2413.
26. "SKETCH OF RAILROAD CONVEYANCE, SEE R.C.R.D. BOOK 446, PAGE 164A.

LEGEND

- LOT LINE
- APPROXIMATE LOT LINE
- (ADDITIONAL WORK REQUIRED)
- APPROXIMATE ABUTTERS LOT LINE
- STOCKADE FENCE
- CHAIN LINK FENCE
- OHW OVERHEAD WIRE
- SS SEWER LINE
- SD DRAIN LINE
- G GAS LINE
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- MEAN HIGH WATER LINE
- HIGH TIDE LINE
- TREE LINE
- SHRUB LINE
- EDGE OF WETLAND
- WETLAND AREA
- CONCRETE
- CRUSHED STONE
- BRICK

- UTILITY POLE
- LIGHT POLE
- LIGHT POLE W/ARM
- SIGN
- BOUND FOUND
- IRON PIPE/ROD FOUND
- FIRE HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF VALVE
- GAS GATE VALVE
- PAD MOUNTED TRANSFORMER
- DRAIN MANHOLE
- ELECTRIC MANHOLE
- SEWER MANHOLE
- HAND HOLE
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- TYPICAL
- BOUND FOUND
- CONCRETE
- FF FINISHED FLOOR ELEVATION
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- SINGLE WHITE LINE



0 40' 80'
GRAPHIC SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DSGN.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

OVERALL EXISTING CONDITIONS PLAN

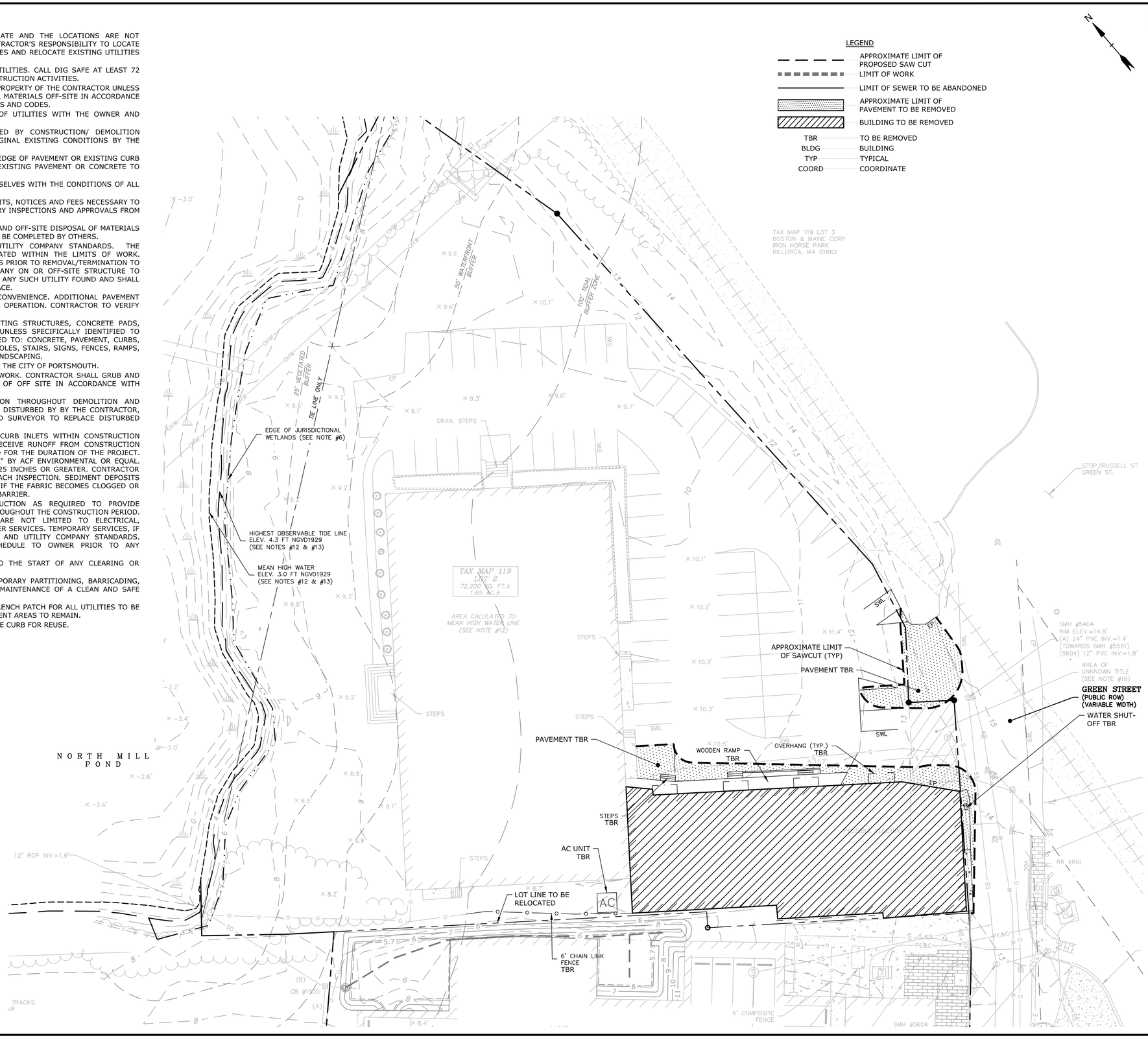
SCALE: AS SHOWN

C-101

Last Saved: 2/4/2020
Plotted: Feb 04, 2020 - 10:39am By: NAHansen
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings, Figures\AutoCAD\P-0595-008_C-DSGN.dwg

DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE 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.
2. 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.
3. 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.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. 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.
6. 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.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR 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.
9. 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.
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. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
11. 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.
12. 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, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
13. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
14. 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.
15. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
16. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
17. 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.
18. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
19. 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.
20. 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.
21. THE CONTRACTOR SHALL REMOVE AND SALVAGE EXISTING GRANITE CURB FOR REUSE.



Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DSGN.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

DEMOLITION PLAN

SCALE: AS SHOWN

C-101.1

Last Saved: 2/4/2020
Plotted: Feb 04, 2020 - 10:39am By: NAHansen
Tighe & Bond:J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings_Figures\AutoCAD\P-0595-008_C-DSGN.dwg

SITE DATA:

LOCATION: TAX MAP 119, LOT 2 — OWNER: STONE CREEK REALTY LLC
C/O DOUGLAS PINCIARO MGR
PO BOX 121
NEW CASTLE, NH 03854

TAX MAP 124, LOT 10 — OWNER: VAUGHAN STREET HOTEL LLC
1359 HOOKSETT ROAD
HOOKSETT, NH 03106

ZONING DISTRICT: CHARACTER DISTRICT 5 (CD5)
DOWNTOWN OVERLAY DISTRICT
NORTH END INCENTIVE OVERLAY DISTRICT
HISTORIC DISTRICT

PROPOSED USE: HOTEL/MIXED USED
PROPOSED LOT SIZE: ±1.52 ACRES (±66,103 SF)

DEVELOPMENT STANDARDS

BUILDING PLACEMENT (PRINCIPAL BUILDING):	REQUIRED	PROPOSED (TAX MAP 124 LOT 10)	EXISTING (TAX MAP 119 LOT 2)
MAXIMUM PRINCIPAL FRONT YARD:	5 FT	±8.2 FT(1)	±135.3 FT
MAXIMUM SECONDARY FRONT YARD:	5 FT	±14.0 FT(1)	N/A
SIDE YARD:	NR		
MINIMUM REAR YARD:	5 FT	±10.3 FT	±44.3 FT
MINIMUM FRONT LOT LINE BUILDOUT:	80%	±86.7%	±100%

BUILDING AND LOT OCCUPATION:	REQUIRED	PROPOSED (TAX MAP 124 LOT 10)	EXISTING (TAX MAP 119 LOT 2)
MAXIMUM BUILDING BLOCK LENGTH:	225 FT	201 FT	161.6 FT
MAXIMUM FACADE MODULATION LENGTH:	100 FT	<100 FT	N/A
MAXIMUM ENTRANCE SPACING:	50 FT	<50 FT	<50 FT
MAXIMUM BUILDING COVERAGE:	95%	±71.7%	±22.3%
MAXIMUM BUILDING FOOTPRINT:	40,000 SF	40,000 SF (AC HOTEL) 7,000 SF (MOXY HOTEL)	14,823 SF
MINIMUM LOT AREA:	NR		
MINIMUM LOT AREA PER DWELLING UNIT:	NR		
MINIMUM OPEN SPACE:	5%	14.3%	59.1%
MAXIMUM GROUND FLOOR GFA PER USE:	15,000 SF	14,500 SF	14,823 SF

(1) - INCREASE ABOVE THE MAXIMUM ALLOWED PER 10.5A42.12

BUILDING FORM (PRINCIPAL BUILDING):	REQUIRED	PROPOSED (TAX MAP 124 LOT 10)	EXISTING (TAX MAP 119 LOT 2)
BUILDING HEIGHT:	5 STORIES(1)	5 STORIES	
	60 FT	<60 FT	N/A (EXISTING)
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 IN	0 IN	N/A (EXISTING)
MINIMUM GROUND STORY HEIGHT:	12 FT	>12 FT	N/A (EXISTING)
MINIMUM SECOND STORY HEIGHT:	10 FT	>10 FT	N/A (EXISTING)
FACADE GLAZING:			
STOOP FACADE TYPE	20% - 50%	20% - 50%	N/A
(EXISTING)			
ALLOWED ROOF TYPES			
FLAT, GABLE, HIP, GAMBREL, MANSARD		FLAT	N/A (EXISTING)

(1) - ADDITIONAL 1 STORY UP TO 10FT ALLOWED FOR PROVIDING AT LEAST 20% OF THE SITE TO BE ASSIGNED AS COMMUNITY SPACE.

COMMUNITY SPACE:	REQUIRED	PROPOSED (TAX MAP 124 LOT 10)
	24,014 SF	20,038 SF (EXISTING AC HOTEL)
	30%	332 SF (PROPOSED WIDE SIDEWALK)
		4,578 SF (PROPOSED WATERFRONT GATEWAY)
		24,908 SF, 31.1%

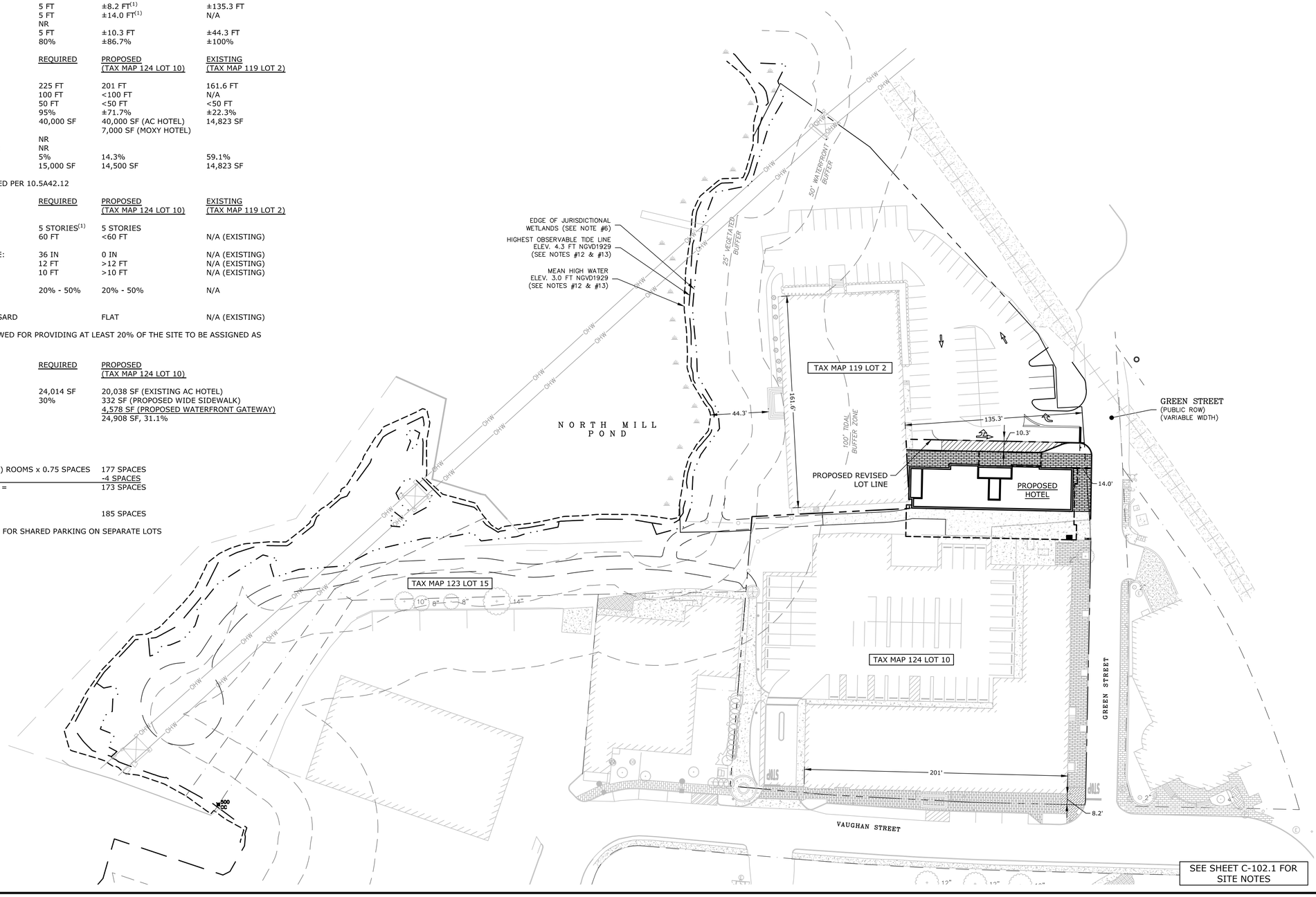
PARKING REQUIREMENTS

PARKING SPACES REQUIRED		
HOTEL	(156 + 80) ROOMS x 0.75 SPACES	177 SPACES
DOWNTOWN OVERLAY DISTRICT		-4 SPACES
TOTAL MINIMUM PARKING SPACES REQUIRED =		173 SPACES

TOTAL PARKING SPACES PROVIDED:	
TOTAL PARKING SPACES PROVIDED =	185 SPACES

*NOTE: CONDITIONAL USE PERMIT REQUIRED FOR SHARED PARKING ON SEPARATE LOTS

LEGEND
- PROPERTY LINE
- ABUTTER PROPERTY LINE
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB
- PROPOSED BUILDING
- PROPOSED BRICK SIDEWALK
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PATH
- PROPOSED PAVEMENT



SEE SHEET C-102.1 FOR SITE NOTES

Tighe&Bond
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0 40' 80'
GRAPHIC SCALE

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DSGN.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

OVERALL SITE PLAN

SCALE: AS SHOWN

C-102

Last Saved: 2/4/2020
Plotted: Feb 04, 2020-10:38am By: NAHansen
Tighe & Bond:J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings, Figures\AutoCAD\P-0595-008_C-DSGN.dwg

SITE NOTES:

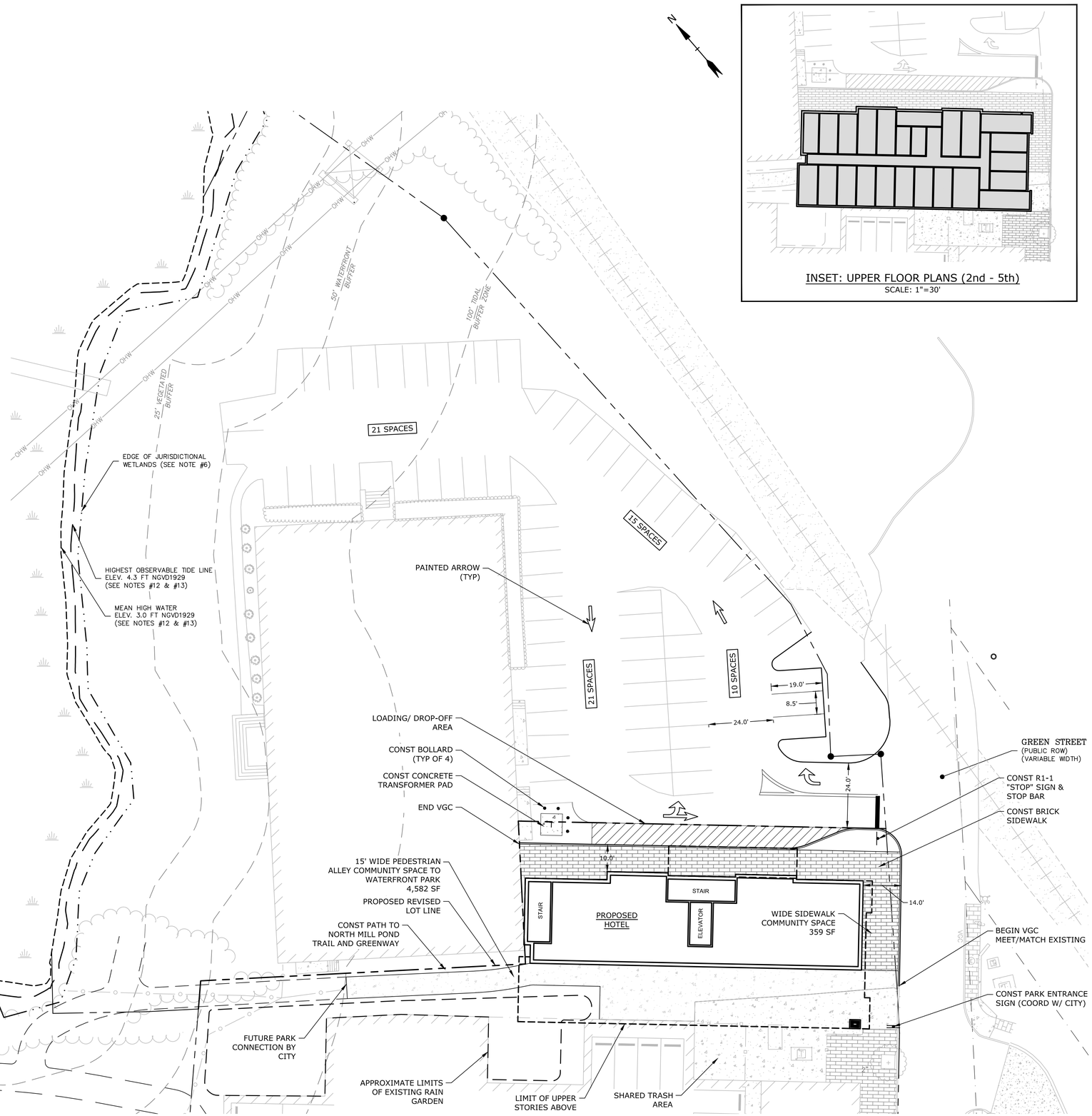
1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILE) 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.
11. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. THE STREET LIGHTING TYPE TO BE USED SHALL BE FINALIZED THROUGH CONSULTATION WITH THE PLANNING DEPARTMENT.

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. THIS IS NOT A BOUNDARY SURVEY AND SHALL NOT BE USED AS SHOWN.

LEGEND

	PROPERTY LINE
	ABUTTER PROPERTY LINE
	PROPOSED LOT LINE
	PROPOSED EASEMENT
	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED BRICK SIDEWALK
	PROPOSED CONCRETE SIDEWALK
	PROPOSED STONE DUST PATH
	PROPOSED PAVEMENT
E2EM1N	WETLAND CLASSIFICATION
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	PROPOSED VERTICAL GRANITE CURB
SGC	PROPOSED SLOPED GRANITE CURB



INSET: UPPER FLOOR PLANS (2nd - 5th)
SCALE: 1"=30'

0 20' 40'
GRAPHIC SCALE

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Portsmouth, NH

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SITE PLAN

SCALE: AS SHOWN

C-102.1

GRADING AND DRAINAGE NOTES:

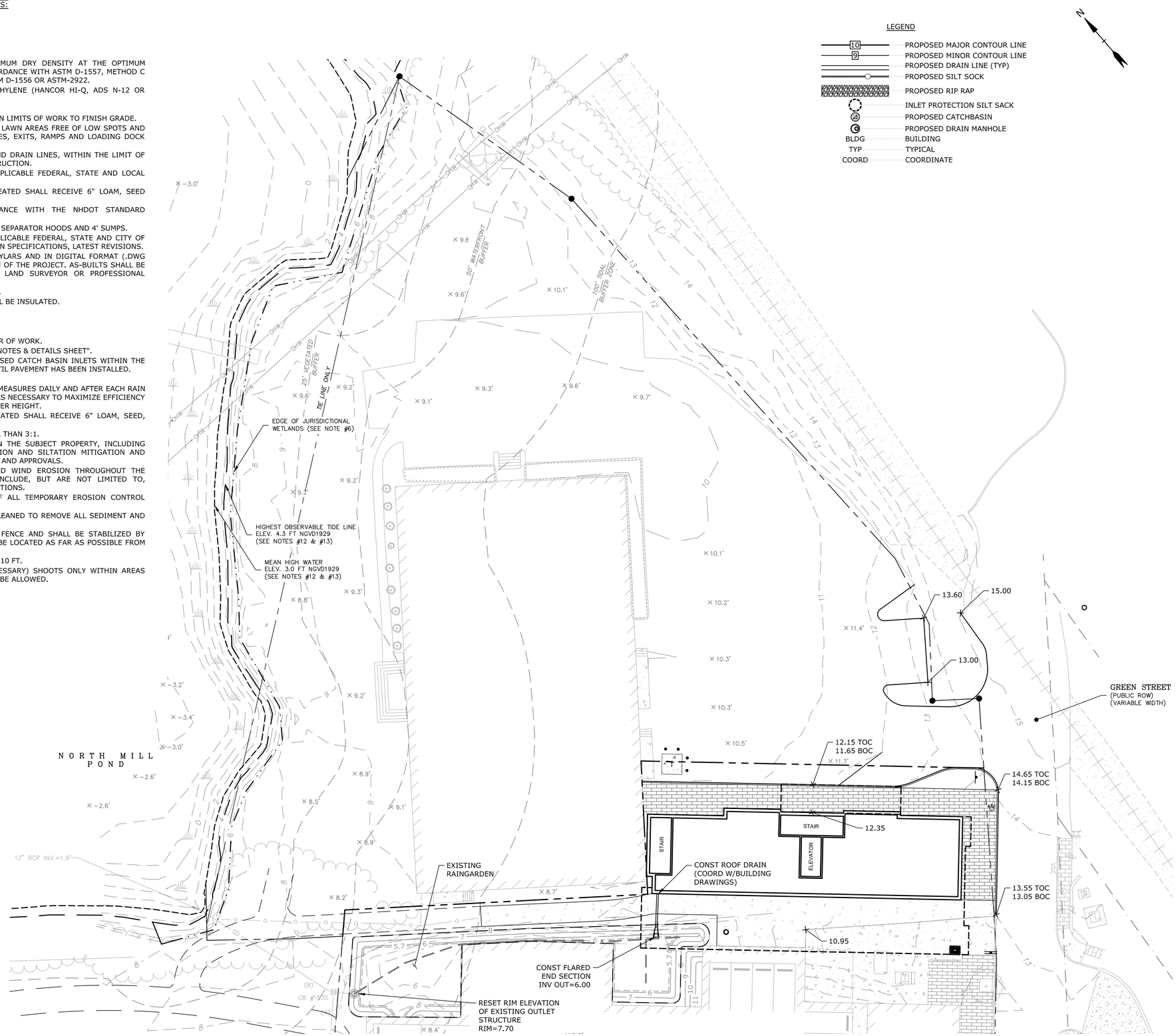
1. COMPACTION REQUIREMENTS:

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. 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. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILE) 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 OR PROFESSIONAL ENGINEER.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
14. ALL DRAIN LINES WITH LESS THAN FOUR (4) FEET OF COVER SHALL BE INSULATED.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY 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.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.



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Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

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GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

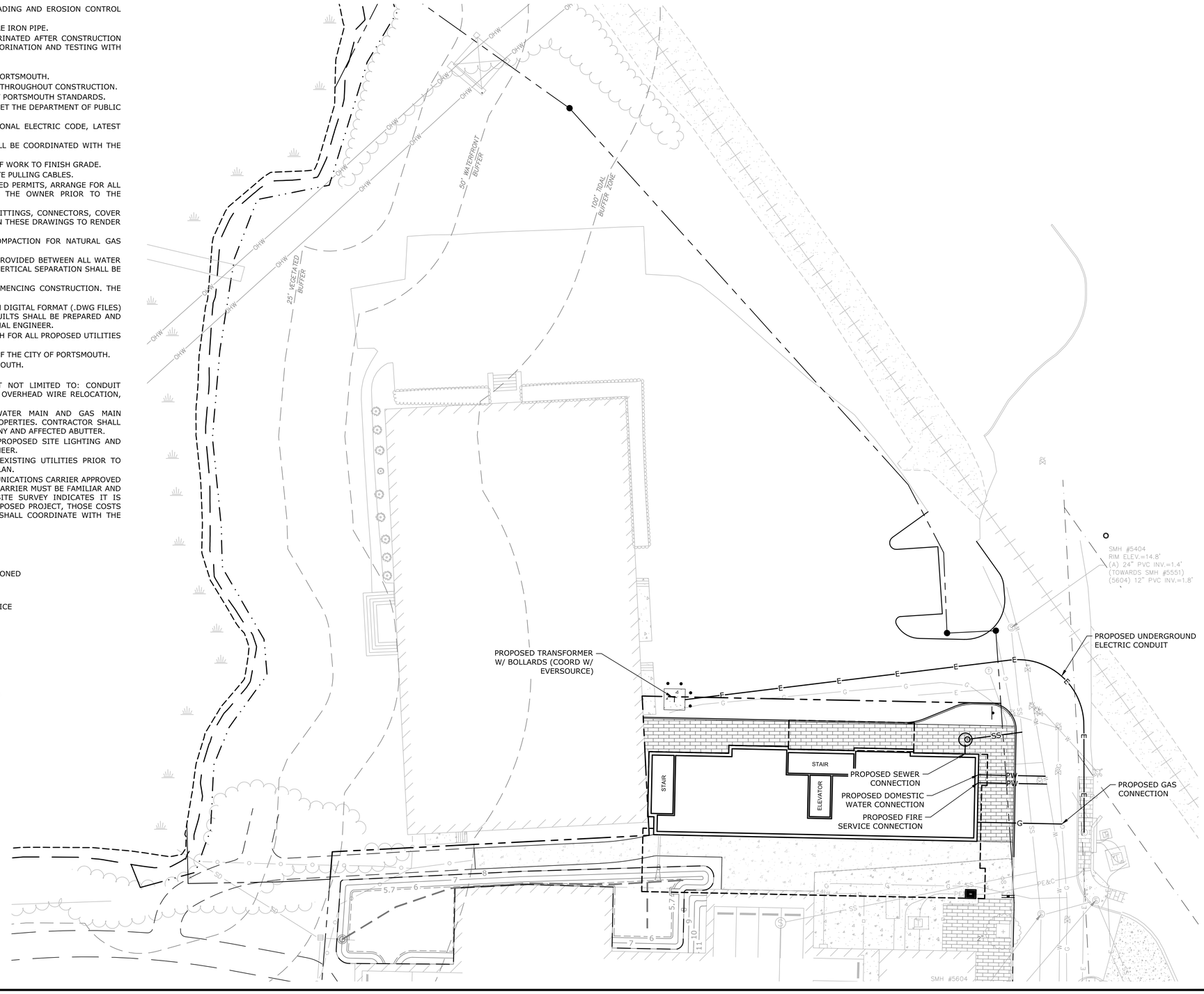
Last Saved: 2/4/2020
Printed: Feb 04, 2020 - 10:39am By: NAHansen
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings_Figures\AutoCAD\P-0595-008_C-DSGN.dwg

UTILITY NOTES:

1. 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.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER/SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - FAIRPOINT AND 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 PORTSMOUTH WATER DEPARTMENT.
7. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
8. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
9. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
10. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
11. 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.
12. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
13. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
14. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
15. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
16. 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.
17. 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.
18. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
19. 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.
20. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
21. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
22. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
23. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
24. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
25. ALL SEWER PIPE WITH LESS THAN 5' OF COVER SHALL BE INSULATED.
26. 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.
27. 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.
28. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
29. CONTRACTOR SHALL PERFORM TEST PITS TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER IF LOCATIONS DIFFER FROM PLAN.
30. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.

LEGEND

SD	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
SS	EXISTING SANITARY SEWER TO BE ABANDONED
W	EXISTING WATER SERVICE
G	EXISTING GAS SERVICE
E	EXISTING UNDERGROUND ELECTRIC SERVICE
OHW	EXISTING OVERHEAD UTILITY SERVICE
SS	PREVIOUSLY APPROVED SEWER
	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER
PW	PROPOSED WATER SERVICE
G	PROPOSED GAS SERVICE
E	PROPOSED STREET LIGHTING CONDUIT
PE&C	PROPOSED UNDERGROUND ELECTRIC AND COMMUNICATION SERVICE
D	EXISTING DRAIN MANHOLE
S	EXISTING SEWER MANHOLE
S	PREVIOUSLY APPROVED SEWER MANHOLE
	EXISTING HYDRANT
	EXISTING WATER VALVE
	EXISTING WATER SHUTOFF
E	EXISTING ELECTRIC MANHOLE
	EXISTING PAD MOUNTED TRANSFORMER
	EXISTING GAS VALVE
	EXISTING HANDHOLE
T	EXISTING COMMUNICATION MANHOLE
D	PROPOSED CATCHBASIN
D	PROPOSED DRAIN MANHOLE
S	PROPOSED SEWER MANHOLE
	PROPOSED WATER VALVE
	PROPOSED GAS VALVE
	PROPOSED LIGHT POLE BASE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD



0 20' 40'
GRAPHIC SCALE

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UTILITIES PLAN

SCALE: AS SHOWN

C-104

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PROJECT NAME AND LOCATION
PROPOSED MOXY HOTEL
53 GREEN STREET 43°-04'-48"N
PORTSMOUTH, NH 03801 70°-45'-43"W

PROJECT DESCRIPTION
THE PROJECT CONSISTS OF THE CONSTRUCTION OF A FIVE-STORY HOTEL WITH ASSOCIATED SITE IMPROVEMENTS.

DISTURBED AREA
THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.35 ACRES.

SOIL CHARACTERISTICS
BASED ON THE NRCS WEB SOIL SURVEY FOR ROCKINGHAM COUNTY - NEW HAMPSHIRE, THE SOILS ON SITE CONSIST OF URBAN LAND.

NAME OF RECEIVING WATERS
THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA AN EXISTING OUTLET PIPE TO NORTH MILL POND AND WILL ULTIMATELY FLOW TO THE PISCATAQUA RIVER.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:
1. CUT AND CLEAR TREES.
2. 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
   - DEVELOPMENT OF BORROW PIT AREAS
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
   - FLOOD PLAIN EXCAVATION WORK
   - CONTROL OF DUST
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - 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.DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
8. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
9. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
10. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
11. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

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 BALE, 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. 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.
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 NOVEMBER 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. 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.
5. 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 NOVEMBER 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.

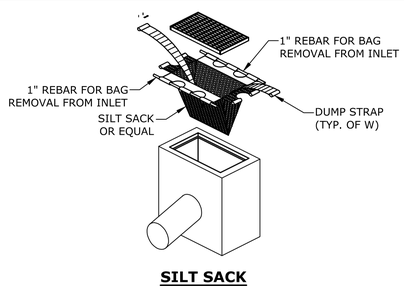
CONCRETE WASHOUT AREA:
1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
   A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
   B. IF IT IS NECESSARY, SITE 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. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

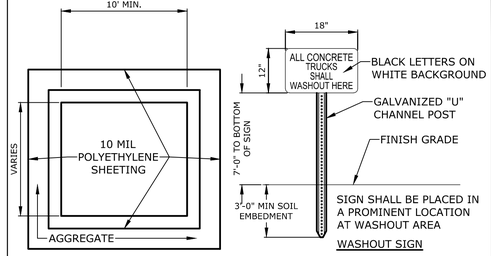
WASTE DISPOSAL:
1. WASTE MATERIAL:
   A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   C. ALL PERSONNEL SHALL BE INSTRUCTED 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.

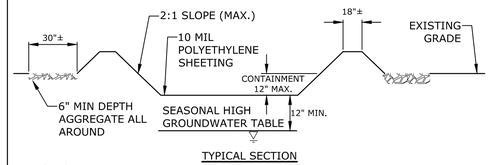
SPILL PREVENTION:
1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED 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 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;
      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.
   B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
      h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
      i. 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:
         a.1. ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
         a.2. 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.
      b. FERTILIZERS:
         b.1. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
         b.2. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
         b.3. 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:
         c.1. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
         c.2. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
         c.3. 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 EQUIPTMENT/VEHICAL 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
THIS PROJECT DOES NOT EXCEED ONE (1) ACRE OF DISTURBANCE AND THUS DOES NOT REQUIRE A SWPPP.



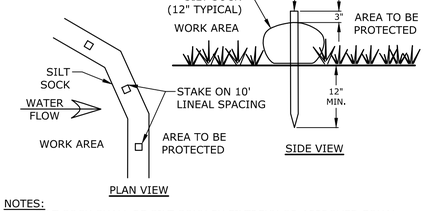
SILT SACK
NO SCALE





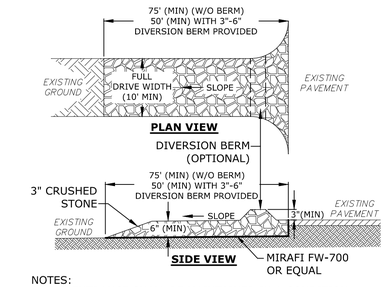
NOTES:
1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% 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



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

SILT SOCK
NO SCALE



NOTES:
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

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DTLS.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

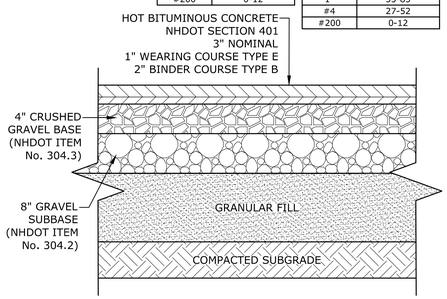
EROSION CONTROL NOTES AND DETAILS SHEET

SCALE: AS SHOWN

C-501

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

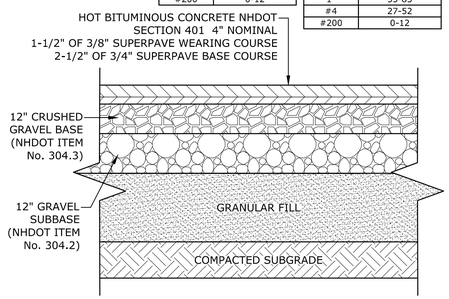


NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

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.
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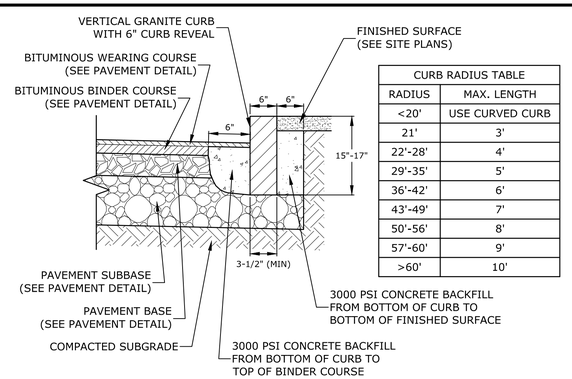
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.
4. REFER TO CITY SPECIFICATIONS FOR ASPHALT MIX DESIGN.

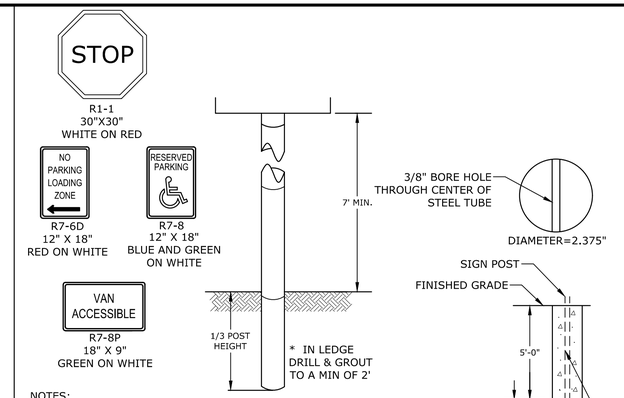
CITY RIGHT-OF-WAY PAVEMENT SECTION
NO SCALE



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'

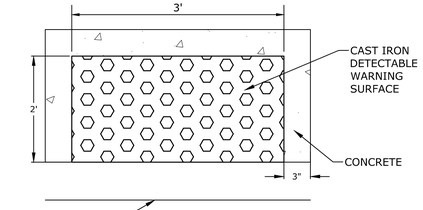
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE 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



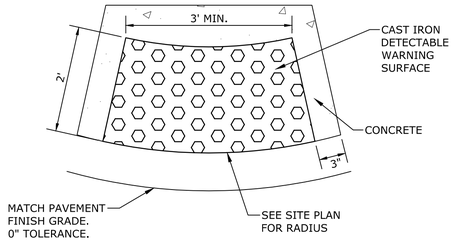
NOTES:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
POST: SCHEDULE 40 GALVANIZED STEEL PIPE (OUTSIDE DIA. = 2.375").
FINISH: POST TO BE POWDER COATED GLOSS BLACK
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER (AS REQUIRED)
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080)

SIGN LEGEND & SIGN POST
NO SCALE



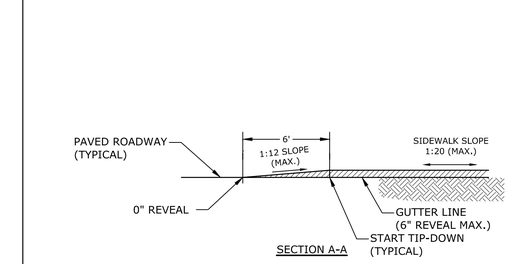
NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE

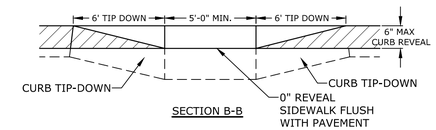


NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

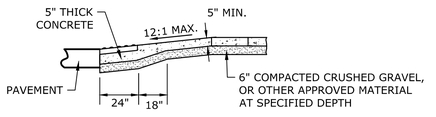
RADIUS TYPE CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



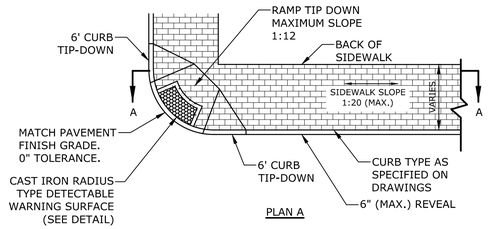
SECTION A-A



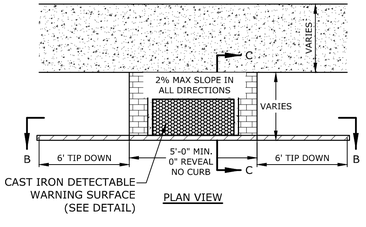
SECTION B-B



SECTION C-C



PLAN A

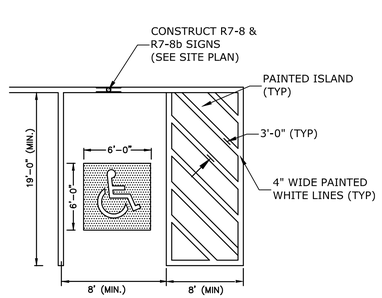


PLAN VIEW

NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 6" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON SET IN CONCRETE (SEE DETAIL.)
4. PROVIDE DETECTABLE WARNING SURFACES ANYTIME THAT A CURB RAMP, BLENDED TRANSITION, OR LANDING CONNECTS TO A STREET.
5. LOCATE THE DETECTABLE WARNING SURFACES AT THE BACK OF THE CURB ALONG THE EDGE OF THE LANDING.
6. 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.
7. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. 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.
8. THE BOTTOM OF THE SIDEWALK CURB RAMP OR LANDING, EXCLUSIVE OF THE FLARED SIDES, SHALL BE WHOLLY CONTAINED WITHIN THE CROSSWALK MARKINGS.
9. 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.
10. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

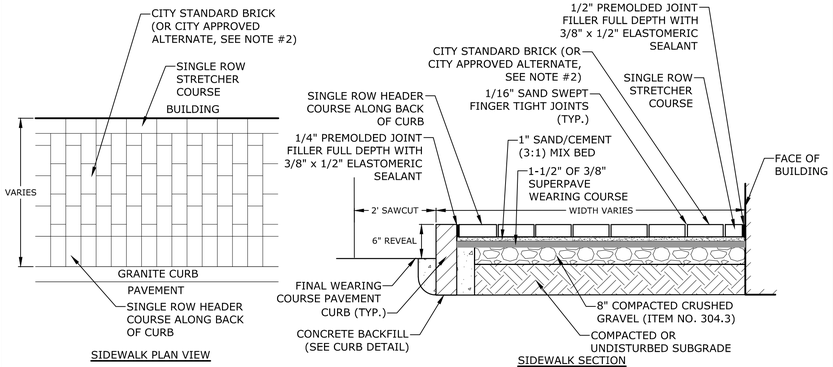
NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

CONCRETE WHEELCHAIR ACCESSIBLE RAMP
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 AMERICAN W/DISABILITIES ACT.

ACCESSIBLE PARKING STALL
NO SCALE



SIDEWALK PLAN VIEW

SIDEWALK SECTION

NOTES:
1. BRICK SIDEWALK SHALL BE INSTALLED AS DETAILED AND PER CITY OF PORTSMOUTH REQUIREMENTS/SPECIFICATIONS AND SHALL INCLUDE A CONTINUOUS APPROVED PAVER EDGE RESTRAINT SYSTEM AT ALL LOCATIONS NOT ADJACENT TO CURB OR BUILDINGS.
2. BRICK MATERIAL SAMPLES SHALL BE PROVIDED TO DPW PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL.
3. BEDDING MATERIAL SHALL BE A SAND/CEMENT MIX THAT IS 3 PARTS SAND AND 1 PART CEMENT. SAND SHALL CONFORM WITH ASTM C33 AND CEMENT SHALL BE PORTLAND CEMENT TYPE I/TYPE II.

BRICK SIDEWALK
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
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PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DTLS.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

DETAILS SHEET

SCALE: AS SHOWN

C-502

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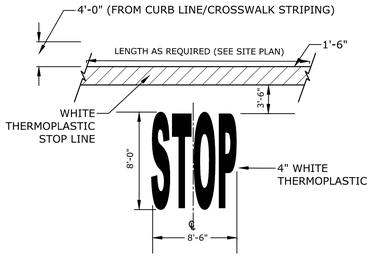
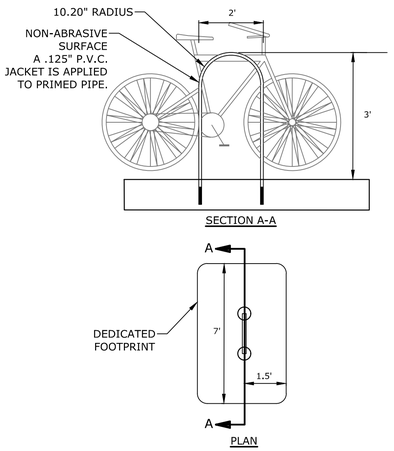
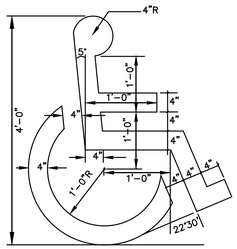


NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR AND LEGEND
NO SCALE

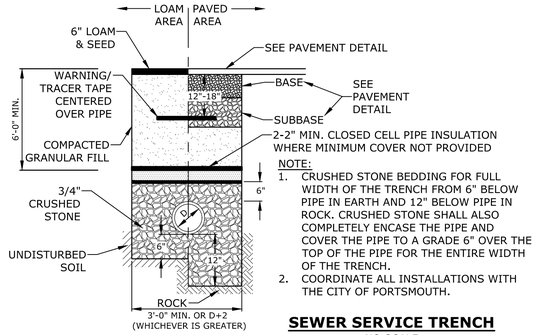


BIKE RACK
NO SCALE



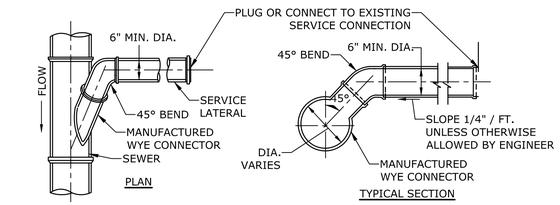
NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING WHITE THERMOPLASTIC, REFLECTORIZED PAVEMENT PARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL
NO SCALE

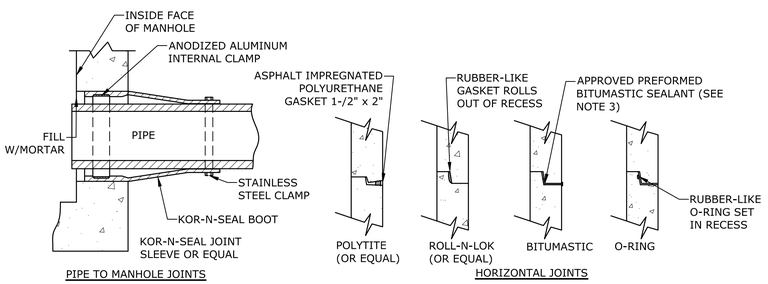


NOTE:
1. CRUSHED STONE BEDDING FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK. CRUSHED STONE SHALL ALSO COMPLETELY ENCASE THE PIPE AND COVER THE PIPE TO A GRADE 6" OVER THE TOP OF THE PIPE FOR THE ENTIRE WIDTH OF THE TRENCH.
2. COORDINATE ALL INSTALLATIONS WITH THE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

SEWER SERVICE TRENCH
NO SCALE

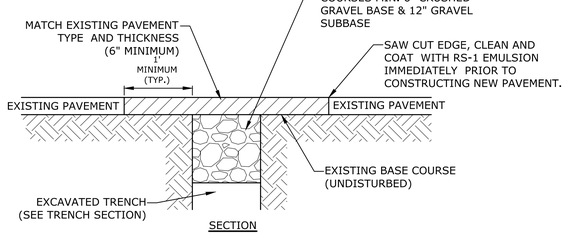


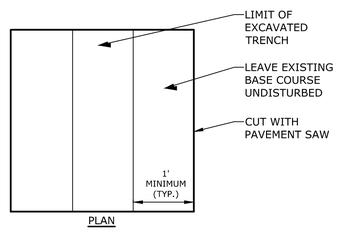
STANDARD SERVICE LATERAL CONNECTION
NO SCALE



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.

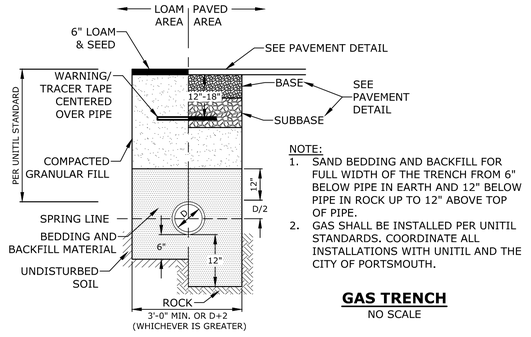
MANHOLE JOINTS
NO SCALE





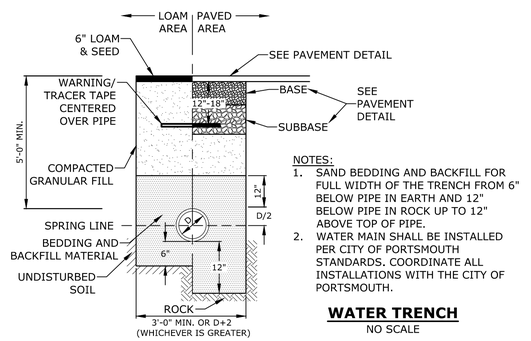
NOTE:
COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF PORTSMOUTH DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
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

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Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

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PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DTLS.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

DETAILS SHEET

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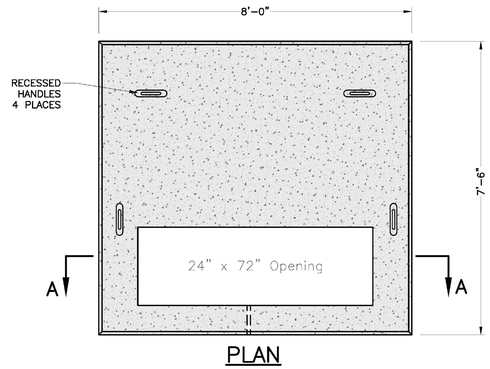
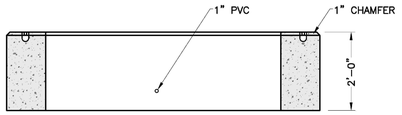


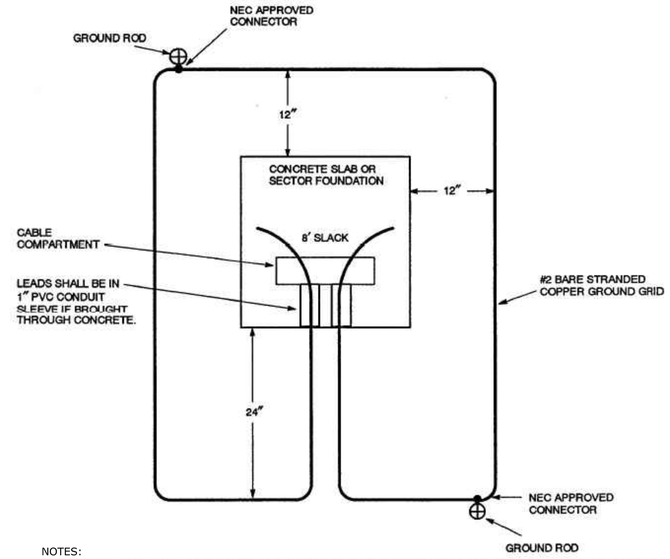
PLAN



SECTION A–A

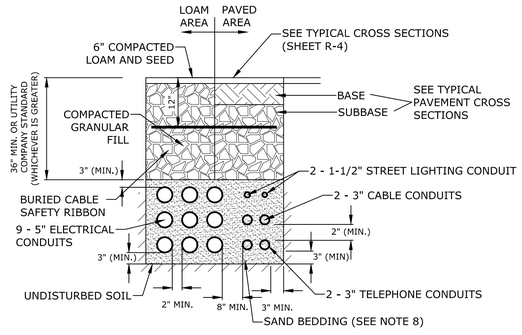
NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE



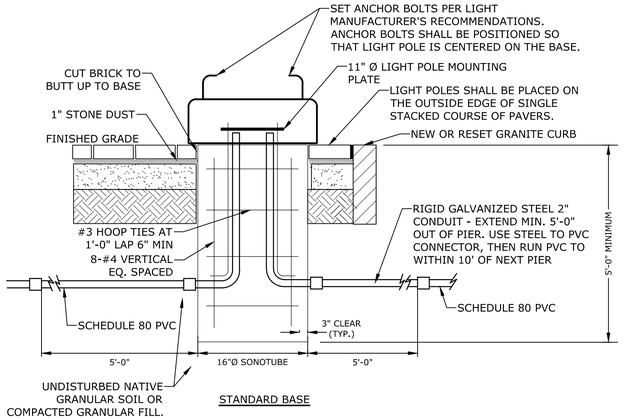
NOTES:
THE GROUND GRID SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AND IS TO BE BURIED AT LEAST 12 INCHES BELOW GRADE. EIGHT FEET OF EXTRA WIRE FOR EACH GROUND GRID LEG SHALL BE LEFT EXPOSED IN THE CABLE COMPARTMENT TO ALLOW FOR THE CONNECTION TO THE TRANSFORMER. THE TWO 8-FOOT GROUND RODS MAY BE EITHER GALVANIZED STEEL OR COPPERWELD AND THEY SHALL BE CONNECTED TO THE GRID WITH NEC APPROVED CONNECTORS.

PAD-MOUNTED EQUIPMENT GROUNDING GRID DETAIL
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



STANDARD BASE

NOTES:
1. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.
2. CONCRETE: 4000 PSI, AIR ENTRAINED STEEL: 60 KSI
3. LIGHT POLE FOUNDATIONS SHALL BE PLACED PRIOR TO INSTALLATION OF BRICK PAVERS.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL, TO INCLUDE PERFORMANCE SPECIFICATIONS, CALCULATIONS AND NH LICENSED STRUCTURAL ENGINEER'S STAMP FOR LIGHT POLE FOUNDATION.
5. STANDARD BASE SHALL BE CONSTRUCTED UNLESS THERE IS CONFLICT WITH THE EXISTING DUCT BANK. SPREAD FOOTING BASE SHALL BE USED IN LIEU OF STANDARD BASE IN LOCATIONS WHERE TOP OF DUCT BANK ELEVATION WILL CONFLICT WITH STANDARD POLE BASE DEPTH. CONTRACTOR SHALL VERIFY LOCATIONS WHERE SPREAD FOOTINGS ARE REQUIRED PRIOR TO CONSTRUCTION. SEE NOTE#4 FOR SUBMITTAL REQUIREMENTS.

LIGHT FIXTURE BASE
NO SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

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

DETAILS SHEET

SCALE: AS SHOWN

C-504

Moxy Hotel – Shared Parking Analysis

TO: City of Portsmouth Technical Advisory Committee (TAC)
City of Portsmouth Planning Board

FROM: Patrick M. Crimmins, PE
Neil A. Hansen, PE

COPY: Stone Creek Realty, LLC & Vaughan Street Hotel, LLC, Owners
XXS Hotels, LLC, Applicant

DATE: February 4, 2020

Tighe & Bond, Inc. (Tighe & Bond) has prepared this Shared Parking Analysis to summarize the Shared Parking Calculation related to the proposed Moxy Hotel (the "Project"), located at 299 Vaughan Street and 53 Green Street in Portsmouth, New Hampshire.

Project Background

The proposed project is a 5-story hotel located along Green Street on what is the existing Map 119 Lot 2 parcel. The proposed project will include a lot line revision between Map 124 Lot 10 and Map 119 Lot 2 placing the proposed hotel on the revised Map 124 Lot 10.

Located on the existing Map 124 Lot 10 is the 156-room AC Hotel. The AC Hotel has a two-story parking deck containing 117 parking spaces. There are two existing one story buildings on Map 119 Lot 2, a brick office building which will remain, and the second building which will be removed as part of this project containing a spa and a physical therapy office. 67 parking spaces are proposed to be provided on Map 119 Lot 2. Between the two lots a total of 185 spaces are provided.

The project meets the Downtown Overlay District (DOD) parking requirements, in addition, the project meets the Shared Parking provisions of the ordinance as demonstrated in the enclosed shared parking calculation.

Parking Requirements

Parking required for the project was calculated using Section 10.1115, Off-Street Parking Provisions in the Downtown Overlay District. The existing AC Hotel has 156 rooms and the Moxy Hotel is proposed to have 80 rooms, for a total of 236 rooms. This requires a total of 177 parking spaces at 0.75 spaces per room. There is no requirement for other nonresidential uses within the Downtown Overlay District. Section 10.1115.23 applies a 4-space reduction to the total number of spaces in the Downtown Overlay District for a required total of 174 spaces. There are 185 spaces proposed to be provided between Map 124 Lot 10 and Map 119 Lot 2. A Conditional Use Permit for shared parking on separate lots will be required for the project.

Shared Parking Calculations

A shared parking calculation was performed in accordance with Section 10.1112.60 of the City of Portsmouth Zoning Ordinance. The number of parking spaces were determined for each use using Section 10.1115.21, Number of Required Off-Street Parking Spaces in the Downtown Overlay District. As there is no required parking for office use within the Downtown Overlay District, the Shared Parking Calculation uses the parking space requirements for Office Use per Section 10.1112.321, Use No. 5.10-5.30 of the Zoning Ordinance.

The minimum required parking for each land use was multiplied by each parking occupancy rate in each of the five time periods in the Parking Occupancy Rate table from Section

10.1112.61 and shown in the attached Shared Parking Calculation. The minimum required shared parking for each time period was determined and the highest resulting time period is weekday evening from 6:00PM to Midnight resulting in 185 total parking spaces required. There are 185 spaces proposed to be provided between Map 124 Lot 10 and Map 119 Lot 2. A Conditional Use Permit for shared parking on separate lots will be required for the project.

Conclusions

Based on the Shared Parking Calculations that were performed utilizing the methodology outlined in Section 10.1112.61 of the City of Portsmouth Zoning Ordinance, the peak parking demand of the five time periods is 185 spaces which was generated during the Weekday Evening time period. Between Map 124 lot 10 and Map 119 Lot 2 there are 185 proposed as part of this project. In addition, the project meets the Downtown Overlay District (DOD) parking requirements as defined in Section 10.1115.21 of the City of Portsmouth Zoning Ordinance.

Attachments

Shared Parking Calculation
Related Sections of the City of Portsmouth Zoning Ordinance

Tighe&Bond
Engineers | Environmental Specialists

February 4, 2020

Shared Parking Calculation

Moxy Hotel, Portsmouth, NH

Shared Parking Requirements

	Weekday		Weekend		
	Daytime (8:00 AM– 5:00 PM)	Evening (6:00 PM– Midnight)	**Daytime (8:00 AM– 5:00 PM)**	**Evening (6:00 PM– Midnight)**	**Nighttime (Midnight– 6:00 AM)**
Office Use Parking Requirements[(1)]	1 Space / 350 SF 14,600 SF **42 Spaces**				
Office Use Shared Parking Rate	100%	20%	10%	5%	5%
Office Use Shared Parking Required	**42**	**8**	**4**	**2**	**2**
AC Hotel Parking Requirements	0.75 Spaces / Room 156 Rooms **117 Spaces**				
Use Hotel Shared Parking Rate	70%	100%	75%	100%	100%
AC Hotel Shared Parking Required	**82**	**117**	**88**	**117**	**117**
Proposed Moxy Hotel Parking Requirements	0.75 Spaces / Room 80 Rooms **60 Spaces**				
Use Hotel Shared Parking Rate	70%	100%	75%	100%	100%
Proposed Hotel Shared Parking Required	**42**	**60**	**45**	**60**	**60**
Total Spaces Required	**166**	**185**	**137**	**179**	**179**

(1) - Assumes typical parking space requirements for Office Use within the City of Portsmouth as there are no Office Use parking requirements within the Downtown Overlay District

Provided Parking Spaces	
Tax Map 119, Lot 2, 53 Green Street	67
Tax Map 124, Lot 10, 299 Vaughan Street	118
Total Spaces Provided	**185**

Use No.	Use	Requirement
3.80	Municipally operated park and related activities	No requirement
4. Recreational Uses		
4.10	Religious, sectarian or private non-profit recreational use	Parking demand analysis
4.20	Cinema or similar indoor amusement use with no live performance	0.4 per seat, or Parking demand analysis
4.30	Indoor recreation use, such as bowling alley or arcade	1 per 4 persons maximum occupancy
4.40	Health club, yoga studio, martial arts school, or similar use	1 per 250 sf GFA
4.50	Outdoor recreation use	Parking demand analysis
4.60	Amusement park, water park or theme park	NA – Prohibited Use
5. Office Uses, Non-Medical		
5.10-5.30	Professional, business and financial services	1 per 350 sf GFA
5.40	Social service campus	Apply standards for component uses
5.50	Media studio	1 per 1,000 sf GFA
5.60	Publishing facility or similar electronic production operation	1 per 1,000 sf GFA
5.70	Call Center	1 per 250 sf GFA
6. Medical Services and Health Care		
6.10	Hospital	Parking demand analysis
6.20	Medical offices and clinics (outpatient only)	1 per 250 sf GFA
6.30	Clinics with inpatient care	Greater of: - 2 per bed - 1 per 250 sf GFA
6.40	Ambulatory surgical center	1 per 250 sf GFA
6.50	Substance abuse treatment facility	Parking demand analysis
6.60	Psychiatric hospital for the criminally insane	NA – Prohibited Use
7. Services, Other Than Health Care		
7.11	Family day care facility	4 spaces (including 2 for the single-family dwelling)

10.1112.60 Shared Parking

10.1112.61 Methodology

Developments that contain a mix of uses on the same parcel shall reduce the number of off-street parking spaces in accordance with the following methodology:

(1) Determine the minimum number of off-street parking spaces for each land use within the development in accordance with Sections 10.1112.10 through 10.1112.50.

(2) Multiply the minimum parking requirement for each land use by the corresponding parking occupancy rates for each of the five time periods set forth in Columns (B) through (F) of the Parking Occupancy Rates table below.

Parking Occupancy Rates

(A) Land Use	Weekday		Weekend		(F) Nighttime (Midnight–6:00 AM)
	(B) Daytime (8:00 AM–5:00 PM)	(C) Evening (6:00 PM–Midnight)	(D) Daytime (8:00 AM–5:00 PM)	(E) Evening (6:00 PM–Midnight)	
Residential	60%	100%	80%	100%	100%
Office/ Industrial	100%	20%	10%	5%	5%
Retail/Service	60%	90%	100%	70%	5%
Hotel/Motel	70%	100%	75%	100%	100%
Restaurant	70%	100%	80%	100%	10%
Entertainment	40%	100%	80%	100%	10%
Conference/ Convention	100%	100%	100%	100%	5%
Place of Worship*	10%	5%	100%	50%	5%
Other Institutional	100%	20%	10%	10%	5%

* For a religious use that holds its principal services on a weekday, the weekday and weekend ratios shall be reversed.

(3) Add the resulting shared parking requirements for each time period to determine the minimum parking requirement for that period.

The required minimum number of parking spaces for the development shall be the highest of the five time-period totals.

10.1112.62 Shared Parking on Separate Lots

The Planning Board may grant a conditional use permit to allow a reduction in the number of required off-street parking spaces for uses on separate lots, whether in common or separate ownership, subject to the following:

(1) The shared parking requirement may be determined using the methodology in Section 10.1112.61, or by another method approved or required by the Planning Board.

(2) The shared parking arrangement shall be secured by a covenant acceptable to the City and recorded at the Rockingham County Registry of Deeds.

10.1113 Location of Vehicular Use Facilities

10.1113.10 Proximity to Principal Use

10.1113.11 All required off-street parking spaces shall be located on the same lot as the principal use they are required to serve except as follows:

10.1113.111 Required parking spaces may be located on a separate lot from the principal use which they serve where a municipally owned or operated covered parking facility is constructed as part of the overall development.

10.1113.112 The Board of Adjustment may authorize a special exception for the provision of required parking on another lot in the same ownership as the lot in question and within 300 feet of the property line of the lot in question.

10.1113.12 In no case shall parking be permitted within any Residential or Mixed Residential District other than that which is accessory to a principal use allowed within the district.

.

10.1113.20 Location of Parking Facilities on a Lot

Required off-street parking spaces shall not be located in any required front yard, or between a principal building and a street (including on a corner lot). This restriction shall not apply to required off-street parking for a single-family dwelling or two-family dwelling.

10.1113.30 Minimum Distance from Residential and Mixed Residential Zoning Districts

10.1113.31 Off-street parking areas, accessways, maneuvering areas and traffic aisles serving uses in a Business or Industrial

10.1114.42 Pedestrian areas shall be clearly distinguished from vehicular and bicycle traffic areas through the use of paving materials, landscaping buffers, or other means.

10.1114.43 Continuous off-street vehicle routes shall be no more than 200 feet in length before interruption by pedestrian crosswalks over speed tables, T-intersections or other design elements to calm vehicle movement on site.

10.1115 Off-Street Parking Provisions in the Downtown Overlay District

10.1115.10 Purpose

10.1115.11 This Section 10.1115 establishes modified off-street parking standards for lots in the Downtown Overlay District in recognition of the availability of municipal on-street and off-street parking facilities, private shared parking facilities, and public transit, and the pedestrian-oriented pattern of lots and uses.

10.1115.12 Except as specifically modified by this Section 10.1115, lots in the Downtown Overlay District shall comply with all other provisions of Section 10.1110.

10.1115.20 Number of Required Off-Street Parking Spaces

10.1115.21 The following requirements shall apply in the Downtown Overlay District in lieu of the requirements in Section 10.1112.30:

Use	Required Parking Spaces
Residential use (dwelling)	Same as Section 10.1112.30
Hotel or motel	0.75 space per guest room, plus 1 space per 25 sf of conference or banquet facilities
Other nonresidential use	No requirement

10.1115.22 The requirements in Section 10.1115.21 shall be applied to all uses on a lot, and not to individual uses.

10.1115.23 For any lot, the number of off-street parking spaces that would be required by applying the ratios in Section 10.1115.21 shall be reduced by 4 spaces. (Therefore, any lot that would be required to provide 4 or fewer off-street parking spaces shall not be required to provide any spaces.)

10.1115.24 The provisions of Section 10.1112.50, Maximum Number of Parking Facilities, shall not apply to buildings and uses within the Downtown Overlay District.

P0595-008
February 4, 2020

Tighe&Bond
Engineers | Environmental Specialists

Mr. Eric Eby, City Traffic Engineer
City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth New Hampshire

Re: **Trip Generation Analysis**
Proposed Hotel – 53 Green St., Portsmouth, NH

Dear Eric:

Tighe & Bond has performed a trip generation analysis for traffic related to the proposed 80 room hotel development on a parcel of land located at 53 Green Street that is identified as Map 119 Lot 002 on the City of Portsmouth Tax Maps.

This analysis was performed utilizing Institute of Transportation Engineers (ITE) Trip Generation Manual, latest edition. For purposes of analysis, we have compared the existing and proposed changed uses for the parcel. The parcel's existing use consists of 14,600 SF of office, 3,000 SF of medical office and 4,070 SF of spa. The proposed uses for the parcel are 14,600 SF of office and an 80-room hotel. The 14,600 SF of office use on site is not proposed to change as part of this project and was not included in this Trip Generation Analysis. The supporting trip generation calculations are enclosed with this letter.

	Existing		Proposed	
	Spa	**Medical Office**	**Hotel**	**Net Trips**
Weekday AM Peak Hour				
Trips Entering	5	6	22	+11
Trips Exiting	0	2	16	+14
Total Vehicle Trips	**5**	**8**	**38**	**+25**
Weekday PM Peak Hour				
Trips Entering	1	3	24	+20
Trips Exiting	5	7	24	+12
Total Vehicle Trips	**6**	**10**	**48**	**+32**
Saturday Peak Hour				
Trips Entering	8	5	32	+19
Trips Exiting	13	4	26	+9
Total Vehicle Trips	**21**	**9**	**58**	**+28**

As depicted above, the proposed 80-room hotel development in place of 3,000 SF of medical office use and 4,070 SF of spa use will result in approximately 1 additional vehicle trip every 2-1/2 minutes during the Weekday AM Peak Hour and approximately 1 additional vehicle every 2 minutes during the Weekday PM Peak Hour and Saturday Peak Hour. It is anticipated these additional trips will have minimal impact to the surrounding roadway network during these times.

Please feel free to contact me at 603.433.8818 or pmcrimmins@tighebond.com if you have any questions.

Sincerely,
TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Engineer

Patrick M. Crimmins, PE
Senior Project Manager

Enclosures: ITE Trip Generation Data (Land Use Codes 310, 720 & 918)

J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Report_Evaluation\Reports\Trip Generation\Trip Gen Letter.docx

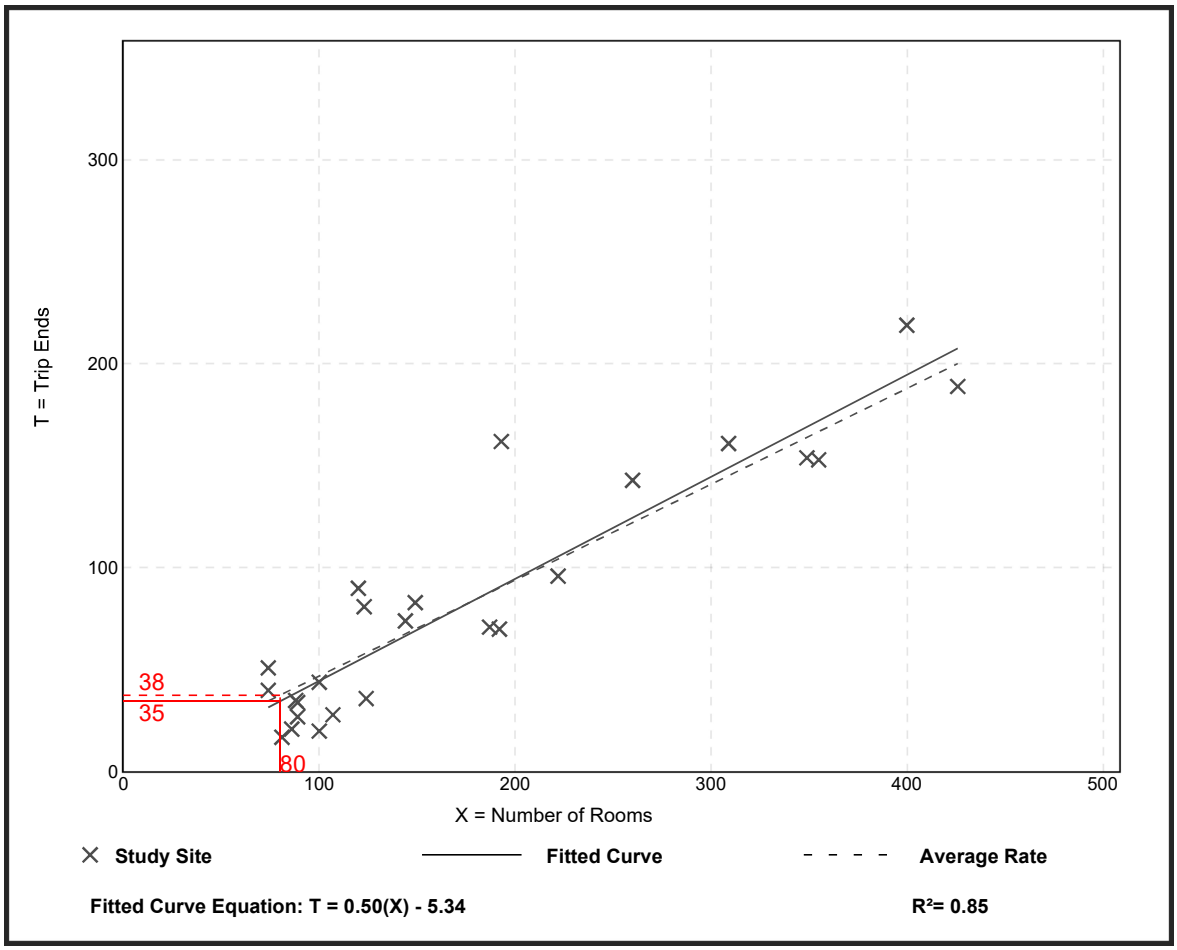
Hotel
(310)

Vehicle Trip Ends vs:	**Rooms**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	25
Avg. Num. of Rooms:	178
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.47	0.20 - 0.84	0.14

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

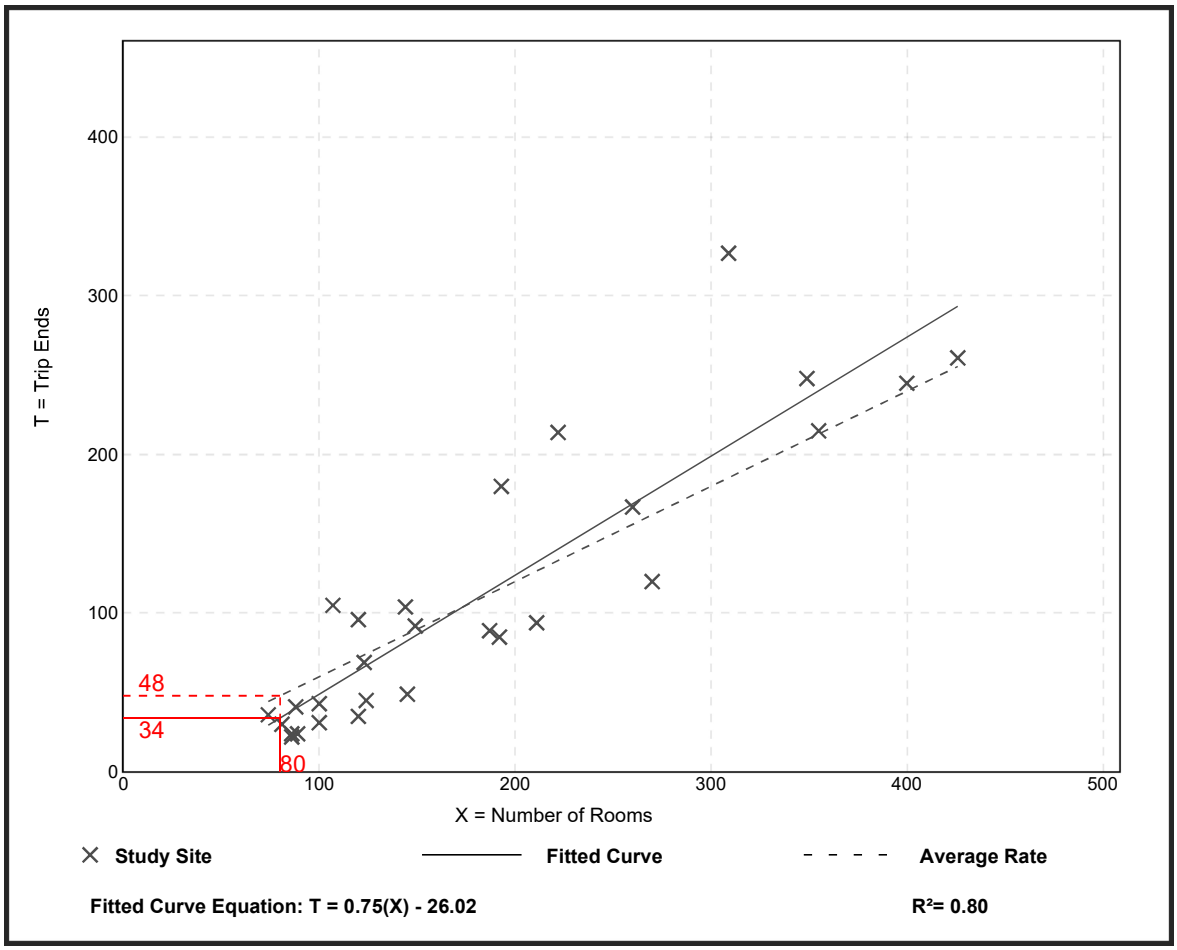
Hotel
(310)

Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. Num. of Rooms: 183
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.60	0.26 - 1.06	0.22

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Hotel
(310)

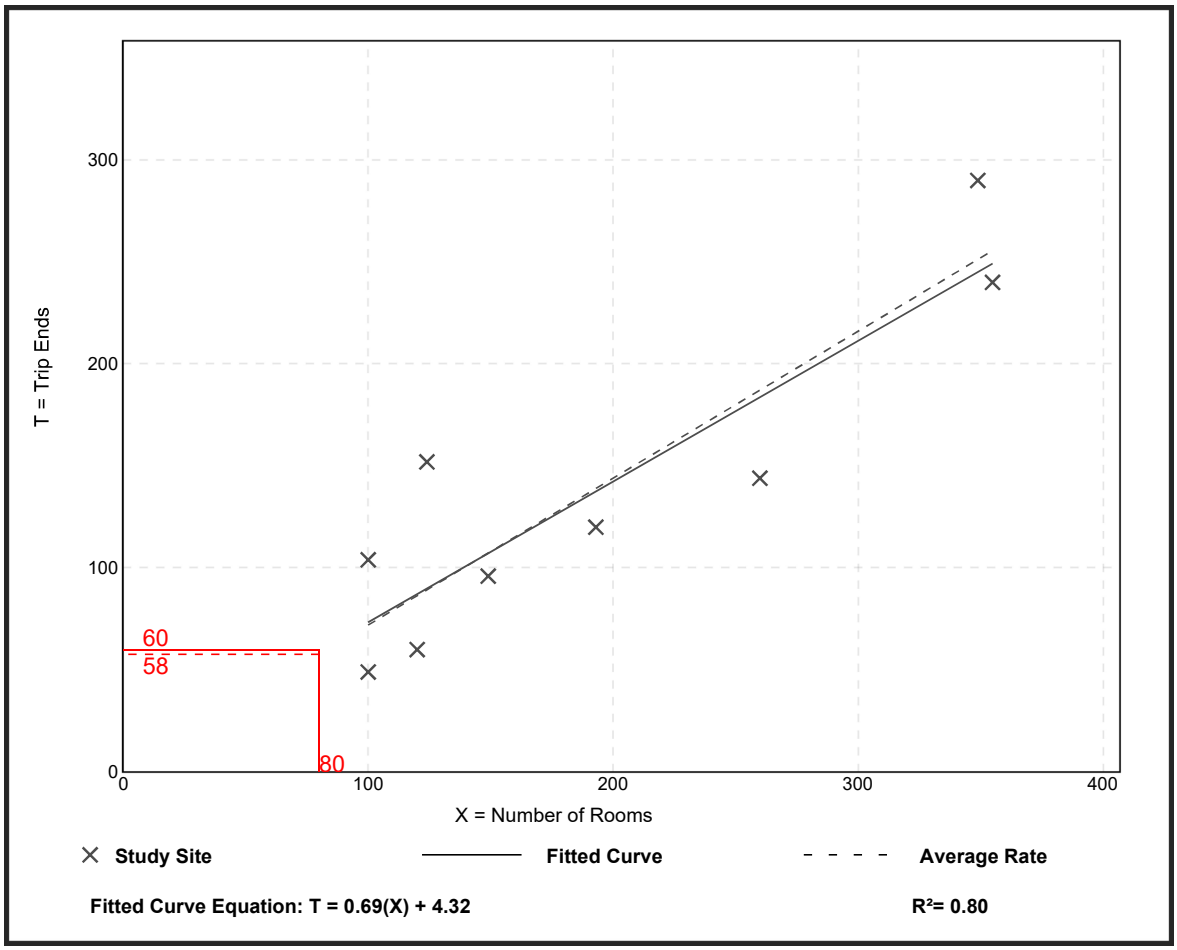
Vehicle Trip Ends vs: **Rooms**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Rooms: 194
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.72	0.49 - 1.23	0.21

Data Plot and Equation



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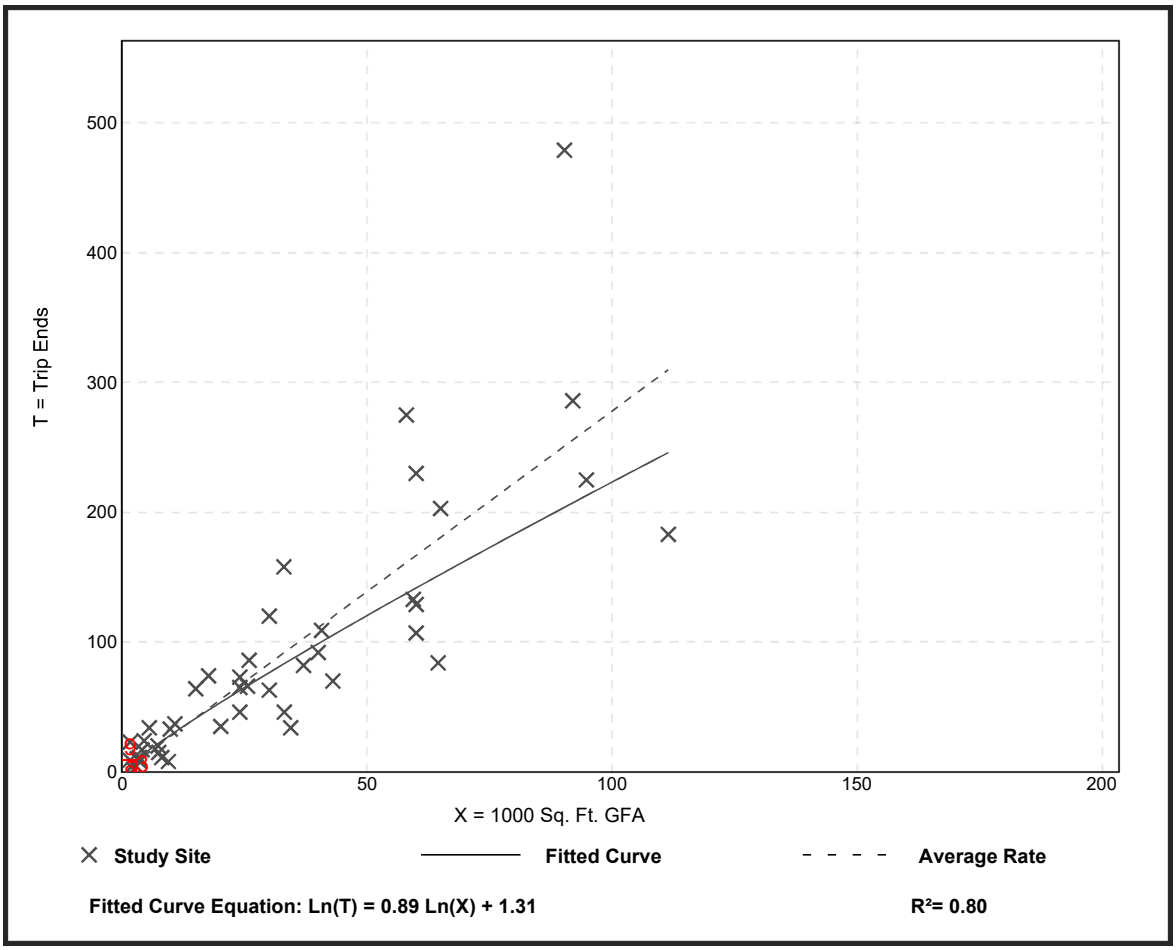
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 44
Avg. 1000 Sq. Ft. GFA: 32
Directional Distribution: 78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.85 - 14.30	1.28

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

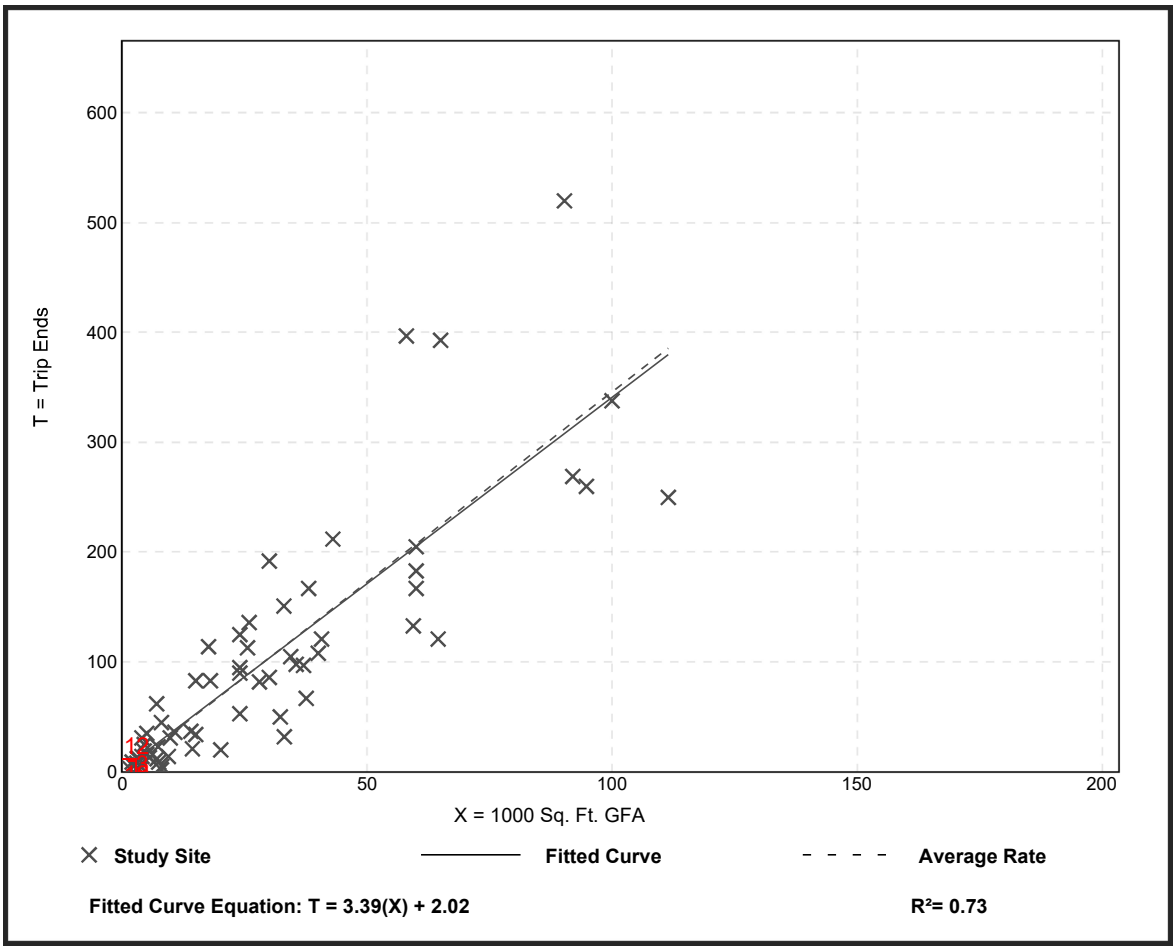
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 65
Avg. 1000 Sq. Ft. GFA: 28
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

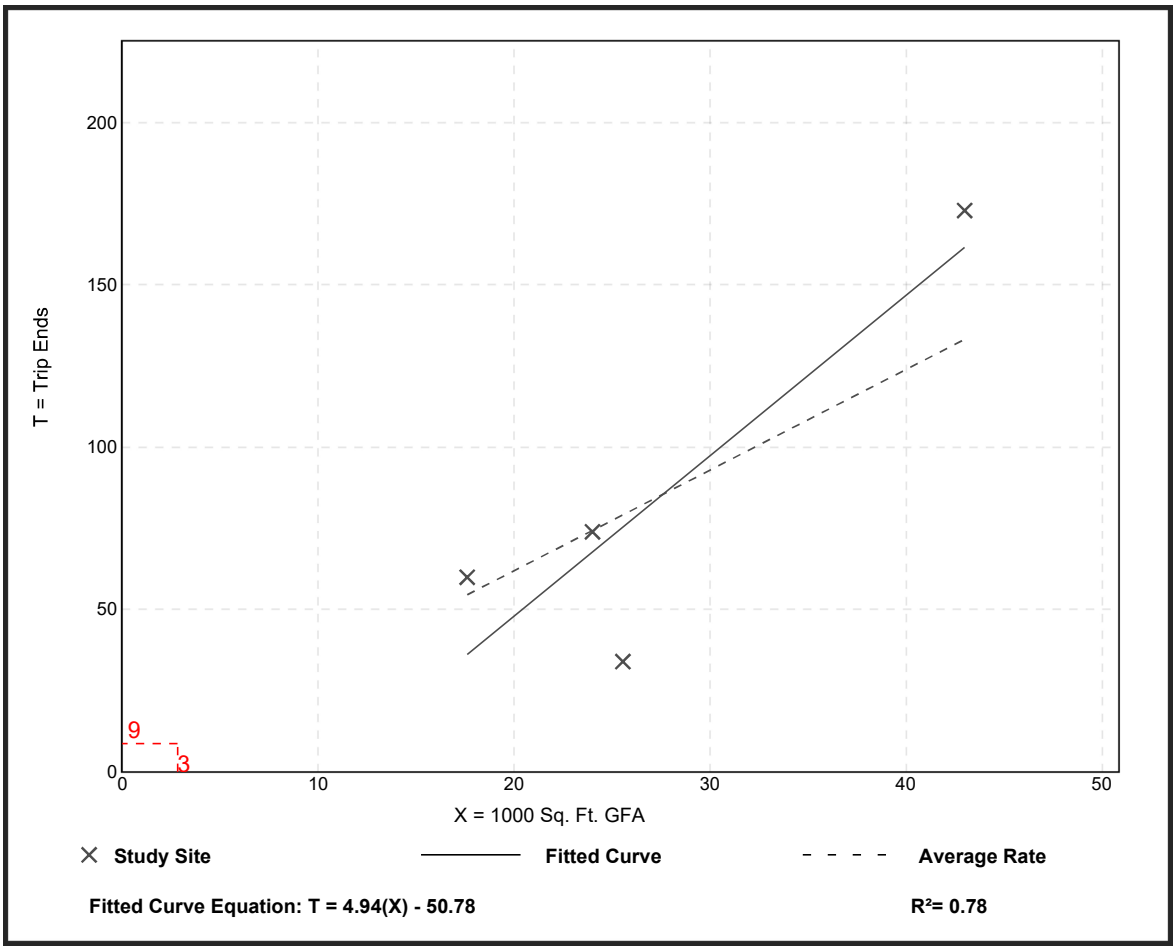
Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 28
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	1.33 - 4.02	1.20

Data Plot and Equation

Caution – Small Sample Size



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Institute of Transportation Engineers (ITE)
Land Use Code (LUC) 918 - Hair Salon

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Floor Area
Independent Variable (X): 4.070

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC
T = 1.21 * (X)
T = 1.21 * 4.070
T = 4.92
T = 5 vehicle trips
with 100% (5 vph) entering and 0% (0 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC
T = 1.45 * (X)
T = 1.45 * 4.070
T = 5.90
T = 6 vehicle trips
with 17% (1 vph) entering and 83% (5 vph) exiting.

SATURDAY PEAK HOUR OF GENERATOR
T = 26.31 * (X)
T = 26.31 * 4.070
T = 20.68
T = 21 vehicle trips
with 36% (8 vph) entering and 64% (13 vph) exiting.

Drainage Analysis

TO: City of Portsmouth Technical Advisory Committee (TAC)
City of Portsmouth Planning Board

FROM: Patrick M. Crimmins, PE
Neil A. Hansen, PE

COPY: Stone Creek Realty, LLC & Vaughan Street Hotel, LLC, Owners
XXS Hotels, LLC, Applicant

DATE: February 4, 2020

1.0 Project Description

The proposed project is located on two lots located at 299 Vaughan Street and 53 Green Street in Portsmouth, New Hampshire. The proposed project is a 5-story hotel located along Green Street on what is the existing Map 119 Lot 2 parcel. The proposed project will include a lot line revision between Map 124 Lot 10 and Map 119 Lot 2 placing the proposed hotel on the revised Map 124 Lot 10.

Located on the existing Map 124 Lot 10 is the 156-room AC Hotel. There are two existing one story buildings on Map 119 Lot 2, a brick office building in the center of the lot which will remain, and the second one story building located in the south corner of the lot which will be removed as part of this project.

The project site is bound to the north by North Mill Pond, to the east by the railroad tracks, to the south by Green Street and to the west by Vaughan Street and 3S Artspace. The topography of the site has a high point along Green Street and slopes gradually towards North Mill Pond.

Runoff generated by the site ultimately flows to one discharge point. The point of analysis is located in North Mill Pond. The portion of the site that flows towards Vaughan Street enters the municipal drainage system which flows to the pond. Runoff from the roof and second story parking deck of the AC Hotel discharges to and is treated by a raingarden located in the northern corner of Map 124 Lot 10. Runoff from Map 119 Lot 2 travels via roof drain and overland flow to North Mill Pond. This discharge point was used as the one (1) point of analysis for this Memorandum.

The proposed project consists of the construction of a 5-story hotel, and associated site improvements. The hotel is proposed to connect to the existing stormwater management system that consists of a rain garden along the northern property line of Map 124 Lot 10. The rim of the outlet structure has been raised to provide additional treatment volume for the additional on-site impervious area discharging to the rain garden.

The New Hampshire Department of Environmental Services (NHDES) was contacted to determine whether the proposed project would need to amend the Alteration of Terrain (AoT) Permit for the AC Hotel. It was determined by NHDES that the scope of work proposed does not require any further AoT permitting.

2.0 Drainage Analysis

2.1 Calculation Methods

The parcels on-site watersheds were analyzed under this section. The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm as per NHDES AoT Regulations (Env-Wq 1500). The stormwater modeling system, HydroCAD 10.0

was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model.

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.

2.2 Pre-Development Calculations

The pre-development condition is characterized by three (3) watershed areas modeled at two (2) points of analysis as depicted on Pre-Development Watershed Plan, C-801.

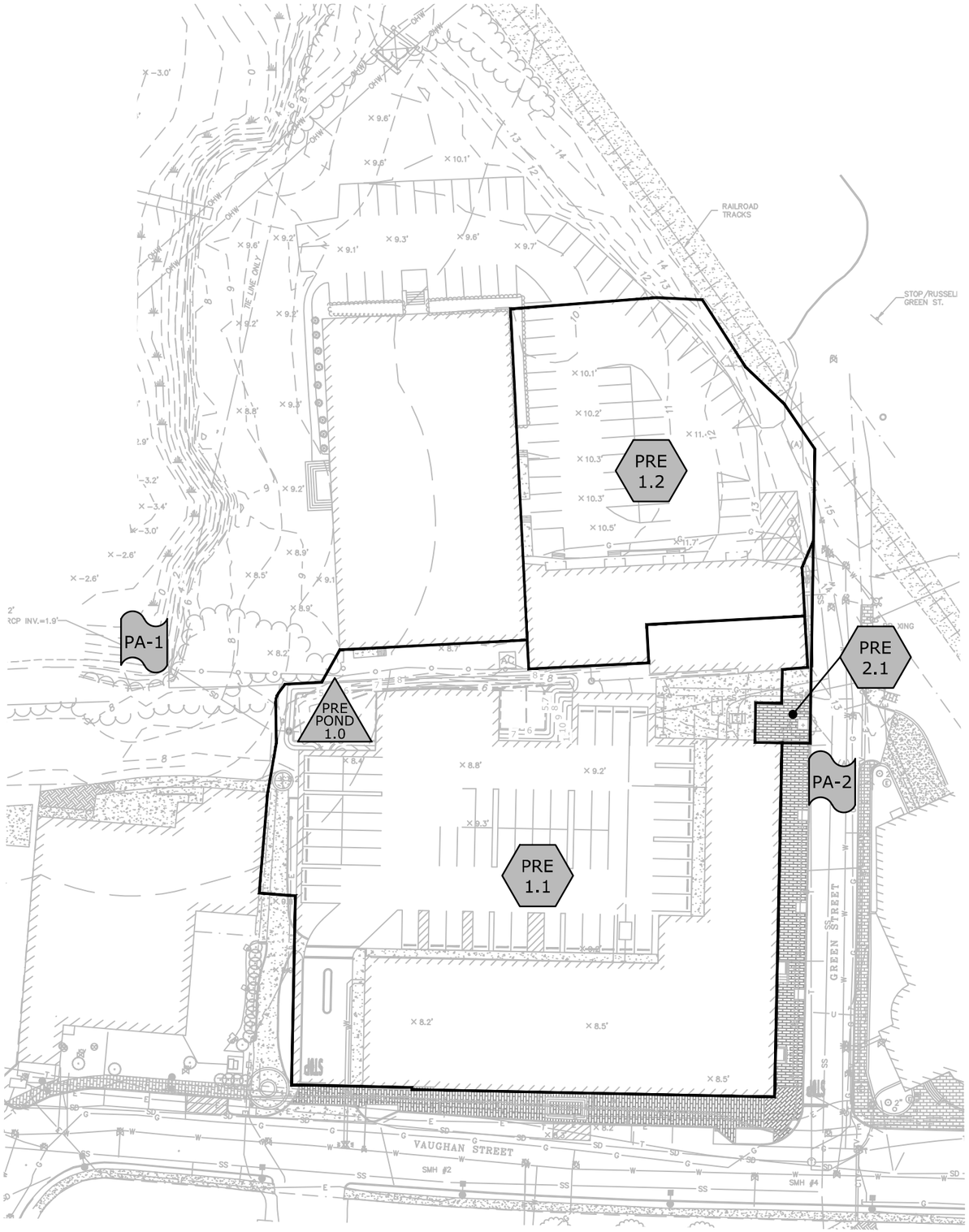
Point of Analysis One (PA1)

Pre-Development Watershed 1.1 (PRE 1.1) is comprised primarily of roof area surrounded by paved and grass areas. Runoff from this watershed area travel via roof drains and overland flow to an existing rain garden. The rain garden discharges to the North Mill Pond (PA1).

Pre-Development Watershed 1.2 (PRE 1.2) is comprised primarily of paved parking areas and roof runoff. Runoff from this watershed area travel via roof drains and overland flow to the North Mill Pond (PA1).

Point of Analysis Two (PA2)

Pre-Development Watershed 2.1 (PRE 2.1) is comprised primarily of sidewalks and existing roadway areas. Runoff from this watershed travels via overland flow to the existing municipal drainage system located in Vaughan Street and ultimately discharge to the North Mill Pond (PA1).



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PRE POND 1 — PRE-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS

N

0 30' 60'
GRAPHIC SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

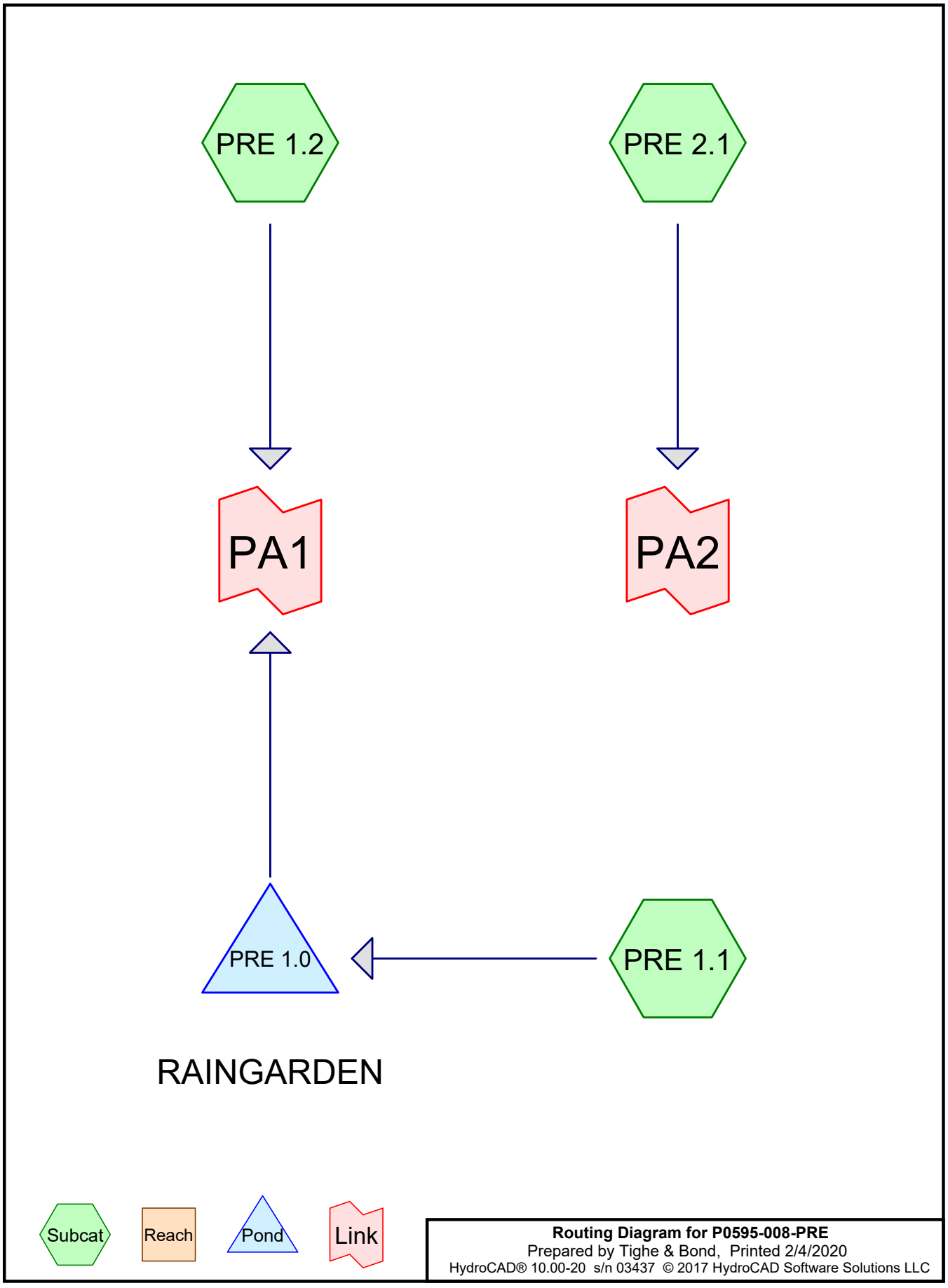
MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DSGN.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801



Routing Diagram for P0595-008-PRE
Prepared by Tighe & Bond, Printed 2/4/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.138	80	>75% Grass cover, Good, HSG D (PRE 1.1, PRE 1.2)
1.120	98	Paved parking & roofs, HSG D (PRE 1.1, PRE 2.1)
0.352	98	Paved parking, HSG D (PRE 1.2)
0.115	98	Roofs, HSG D (PRE 1.2)
1.725	**97**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.725	HSG D	PRE 1.1, PRE 1.2, PRE 2.1
0.000	Other	
1.725		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.1: Runoff Area=52,624 sf 90.88% Impervious Runoff Depth=2.75"
Flow Length=255' Tc=5.0 min CN=96 Runoff=3.65 cfs 0.277 af

SubcatchmentPRE 1.2: Runoff Area=21,543 sf 94.37% Impervious Runoff Depth=2.86"
Tc=5.0 min CN=97 Runoff=1.52 cfs 0.118 af

SubcatchmentPRE 2.1: Runoff Area=974 sf 100.00% Impervious Runoff Depth=2.97"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.07 cfs 0.006 af

Pond PRE 1.0: RAINGARDEN Peak Elev=7.53' Storage=4,641 cf Inflow=3.65 cfs 0.277 af
Outflow=3.02 cfs 0.241 af

Link PA1: Inflow=4.40 cfs 0.359 af
Primary=4.40 cfs 0.359 af

Link PA2: Inflow=0.07 cfs 0.006 af
Primary=0.07 cfs 0.006 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.400 af Average Runoff Depth = 2.78"
8.00% Pervious = 0.138 ac 92.00% Impervious = 1.587 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.1: Runoff Area=52,624 sf 90.88% Impervious Runoff Depth=4.39"
Flow Length=255' Tc=5.0 min CN=96 Runoff=5.68 cfs 0.442 af

SubcatchmentPRE 1.2: Runoff Area=21,543 sf 94.37% Impervious Runoff Depth=4.51"
Tc=5.0 min CN=97 Runoff=2.35 cfs 0.186 af

SubcatchmentPRE 2.1: Runoff Area=974 sf 100.00% Impervious Runoff Depth=4.62"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.11 cfs 0.009 af

Pond PRE 1.0: RAINGARDEN Peak Elev=7.68' Storage=5,031 cf Inflow=5.68 cfs 0.442 af
Outflow=4.87 cfs 0.406 af

Link PA1: Inflow=7.03 cfs 0.592 af
Primary=7.03 cfs 0.592 af

Link PA2: Inflow=0.11 cfs 0.009 af
Primary=0.11 cfs 0.009 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.637 af Average Runoff Depth = 4.43"
8.00% Pervious = 0.138 ac 92.00% Impervious = 1.587 ac

Summary for Subcatchment PRE 1.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.68 cfs @ 12.07 hrs, Volume= 0.442 af, Depth= 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

	Area (sf)	CN	Description
	4,799	80	>75% Grass cover, Good, HSG D
*	47,825	98	Paved parking & roofs, HSG D
	52,624	96	Weighted Average
	4,799		9.12% Pervious Area
	47,825		90.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
2.1	155	0.0070	1.25		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
3.3	255	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment PRE 1.2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.35 cfs @ 12.07 hrs, Volume= 0.186 af, Depth= 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

Area (sf)	CN	Description
4,993	98	Roofs, HSG D
1,213	80	>75% Grass cover, Good, HSG D
15,337	98	Paved parking, HSG D
21,543	97	Weighted Average
1,213		5.63% Pervious Area
20,330		94.37% Impervious Area

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

Summary for Subcatchment PRE 2.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.11 cfs @ 12.07 hrs, Volume= 0.009 af, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

	Area (sf)	CN	Description
*	974	98	Paved parking & roofs, HSG D
	974		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0150	1.23		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.4	53	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	171	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond PRE 1.0: RAINGARDEN

Inflow Area = 1.208 ac, 90.88% Impervious, Inflow Depth = 4.39" for 10 Year Storm event
Inflow = 5.68 cfs @ 12.07 hrs, Volume= 0.442 af
Outflow = 4.87 cfs @ 12.12 hrs, Volume= 0.406 af, Atten= 14%, Lag= 3.1 min
Primary = 4.87 cfs @ 12.12 hrs, Volume= 0.406 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 7.68' @ 12.12 hrs Surf.Area= 2,519 sf Storage= 5,031 cf
Flood Elev= 8.00' Surf.Area= 2,688 sf Storage= 5,854 cf

Plug-Flow detention time= 215.2 min calculated for 0.406 af (92% of inflow)
Center-of-Mass det. time= 173.0 min (935.2 - 762.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2.70'	5,854 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.70	1,431	0.0	0	0
4.20	1,431	40.0	859	859
5.70	1,431	10.0	215	1,073
6.00	1,643	100.0	461	1,534
7.00	2,154	100.0	1,899	3,433
8.00	2,688	100.0	2,421	5,854

Device	Routing	Invert	Outlet Devices
#1	Primary	3.00'	**12.0" Round Culvert** L= 62.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.00' / 1.06' S= 0.0313 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	3.15'	**12.0" Round Culvert** L= 5.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.15' / 3.10' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#3	Device 2	3.15'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 3	6.00'	**7.000 in/hr Exfiltration over Surface area above 6.00'** Excluded Surface area = 1,643 sf
#5	Device 2	7.20'	**14.2" x 14.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	7.75'	**18.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.78 cfs @ 12.12 hrs HW=7.67' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 4.78 cfs of 7.73 cfs potential flow)
  - **2=Culvert** (Passes 4.78 cfs of 7.59 cfs potential flow)
    - **3=Orifice/Grate** (Passes 0.14 cfs of 1.95 cfs potential flow)
      - **4=Exfiltration** (Exfiltration Controls 0.14 cfs)
    - **5=Orifice/Grate** (Orifice Controls 4.64 cfs @ 3.32 fps)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link PA1:

Inflow Area = 1.703 ac, 91.89% Impervious, Inflow Depth > 4.17" for 10 Year Storm event
Inflow = 7.03 cfs @ 12.10 hrs, Volume= 0.592 af
Primary = 7.03 cfs @ 12.10 hrs, Volume= 0.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link PA2:

Inflow Area = 0.022 ac,100.00% Impervious, Inflow Depth = 4.62" for 10 Year Storm event
Inflow = 0.11 cfs @ 12.07 hrs, Volume= 0.009 af
Primary = 0.11 cfs @ 12.07 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.1: Runoff Area=52,624 sf 90.88% Impervious Runoff Depth=5.69"
Flow Length=255' Tc=5.0 min CN=96 Runoff=7.26 cfs 0.573 af

SubcatchmentPRE 1.2: Runoff Area=21,543 sf 94.37% Impervious Runoff Depth=5.80"
Tc=5.0 min CN=97 Runoff=2.99 cfs 0.239 af

SubcatchmentPRE 2.1: Runoff Area=974 sf 100.00% Impervious Runoff Depth=5.92"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Pond PRE 1.0: RAINGARDEN Peak Elev=7.82' Storage=5,375 cf Inflow=7.26 cfs 0.573 af
Outflow=6.22 cfs 0.537 af

Link PA1: Inflow=8.96 cfs 0.776 af
Primary=8.96 cfs 0.776 af

Link PA2: Inflow=0.14 cfs 0.011 af
Primary=0.14 cfs 0.011 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.823 af Average Runoff Depth = 5.72"
8.00% Pervious = 0.138 ac 92.00% Impervious = 1.587 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.1: Runoff Area=52,624 sf 90.88% Impervious Runoff Depth=6.89"
Flow Length=255' Tc=5.0 min CN=96 Runoff=8.72 cfs 0.694 af

SubcatchmentPRE 1.2: Runoff Area=21,543 sf 94.37% Impervious Runoff Depth=7.01"
Tc=5.0 min CN=97 Runoff=3.59 cfs 0.289 af

SubcatchmentPRE 2.1: Runoff Area=974 sf 100.00% Impervious Runoff Depth=7.13"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Pond PRE 1.0: RAINGARDEN Peak Elev=7.89' Storage=5,559 cf Inflow=8.72 cfs 0.694 af
Outflow=8.33 cfs 0.658 af

Link PA1: Inflow=11.67 cfs 0.947 af
Primary=11.67 cfs 0.947 af

Link PA2: Inflow=0.16 cfs 0.013 af
Primary=0.16 cfs 0.013 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.996 af Average Runoff Depth = 6.93"
8.00% Pervious = 0.138 ac 92.00% Impervious = 1.587 ac

2.3 Post-Development Calculations

The proposed drainage condition has been evaluated at the same two (2) points of analysis as in the pre-development condition as depicted on Post-Development Watershed Plan, C-802.

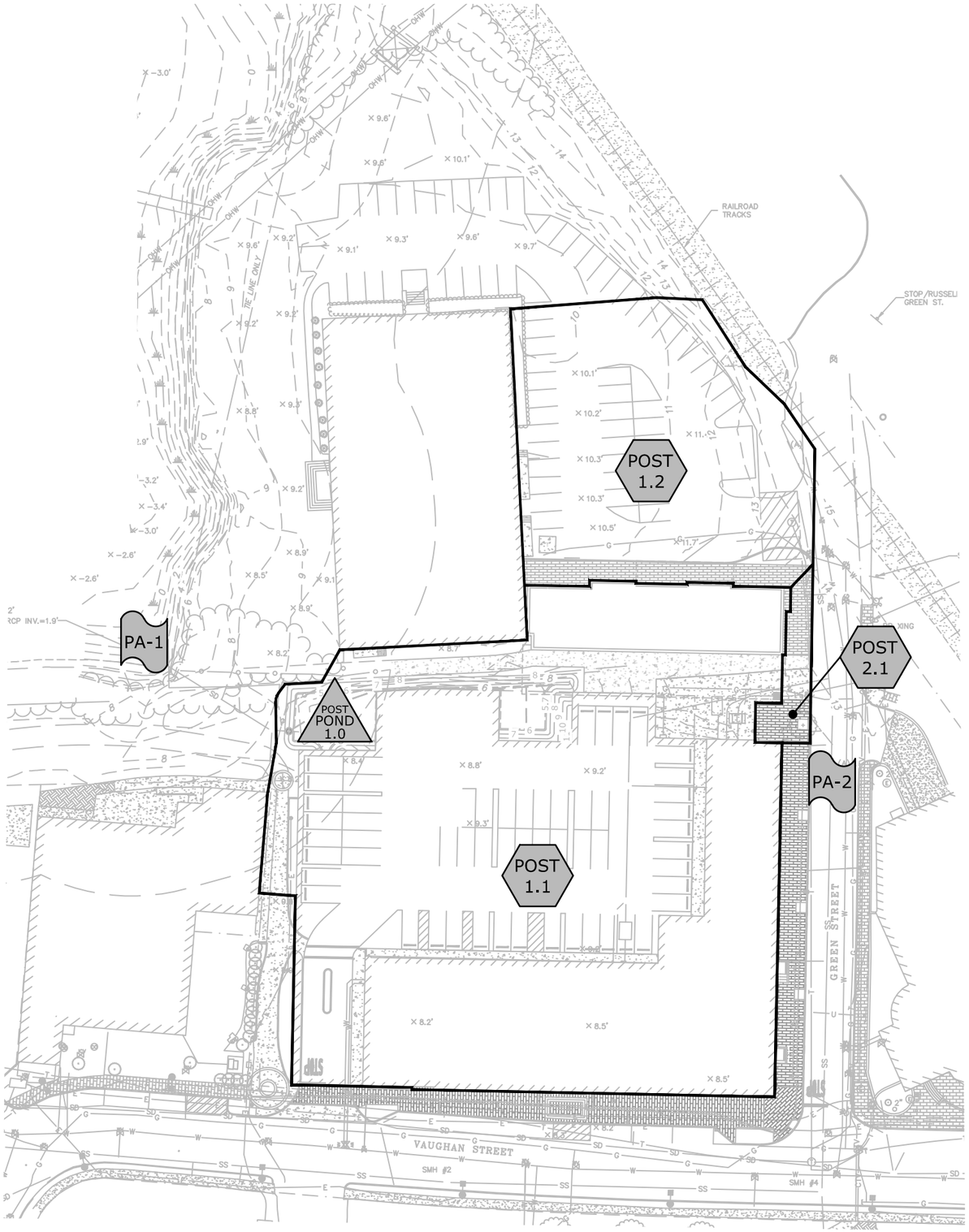
Point of Analysis One (PA1)

Post-Development Watershed 1.1 (POST 1.1) is comprised primarily of roof area surrounded by paved and grass areas. Runoff from this watershed area travel via roof drains and overland flow to an existing rain garden with a modified overflow rim elevation. The rain garden has been sized to treat the impervious area prior to releasing it to the North Mill Pond (PA1).

Post-Development Watershed 1.2 (POST 1.2) is comprised primarily of paved parking areas runoff. Runoff from this watershed area travel via overland flow to the North Mill Pond (PA1).

Point of Analysis Two (PA2)

Post-Development Watershed 2.1 (POST 2.1) is comprised primarily of sidewalks and existing roadway areas. Runoff from this watershed travels via overland flow to the existing municipal drainage system located in Vaughan Street and ultimately discharge to the North Mill Pond (PA1).



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- POST POND 1 — POST-DEVELOPMENT POND DESIGNATION
- PA-1 — POINT OF ANALYSIS

N

0 30' 60'
GRAPHIC SCALE

Tighe&Bond
Engineers | Environmental Specialists

Proposed Moxy Hotel

XSS Hotels LLC

Portsmouth, NH

MARK	DATE	DESCRIPTION
B	2/4/2020	TAC Work Session
A	1/2/2020	Design Review Submission

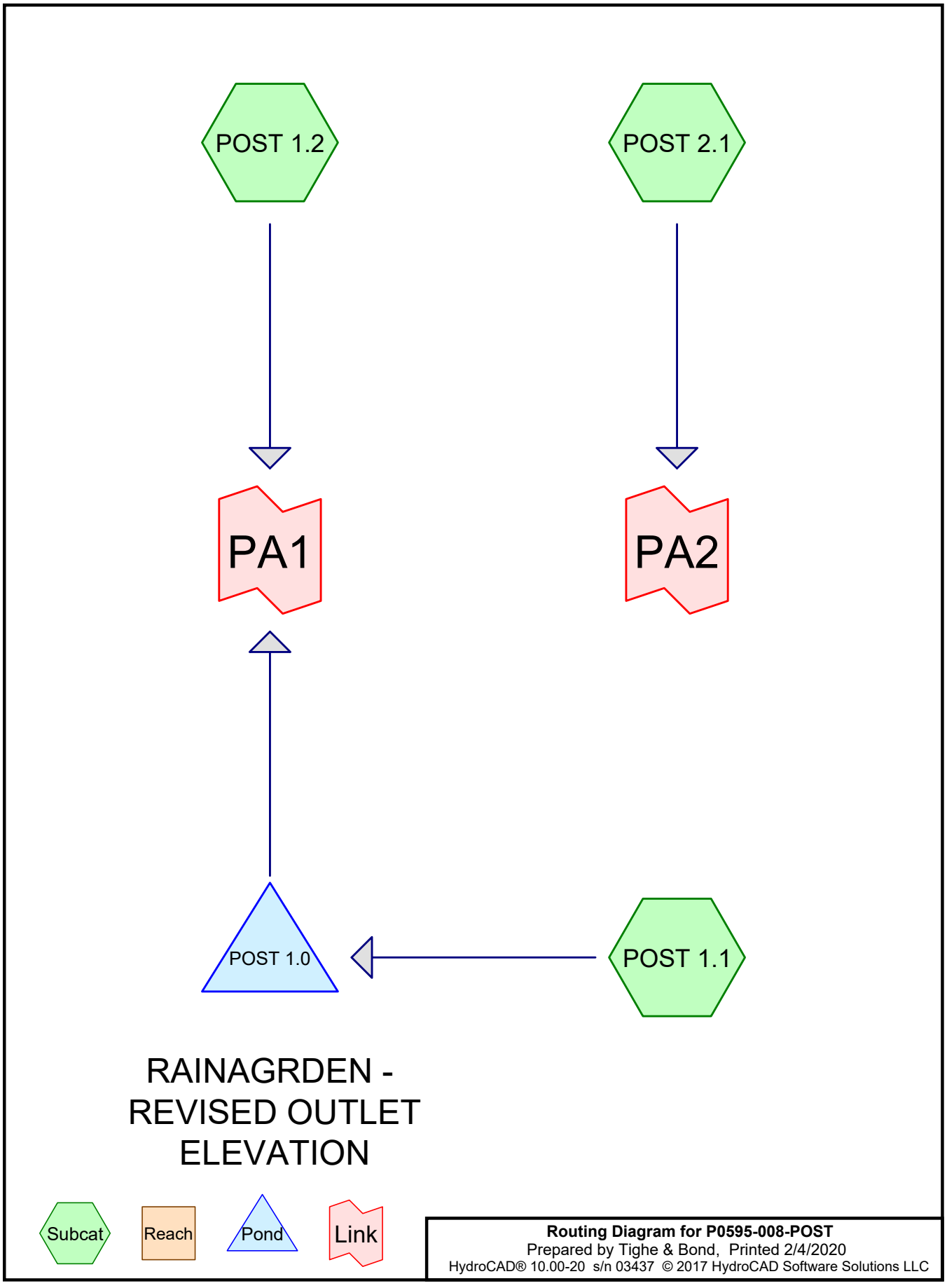
PROJECT NO:	P-0595-008
DATE:	January 2, 2020
FILE:	P-0595-008_C-DSGN.DWG
DRAWN BY:	BKC
CHECKED:	NAH/PMC
APPROVED:	BLM

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Saved: 2/4/2020
Plotted: 2/4/2020 10:05am By: NAHansen
Tighe & Bond: J:\P\P0595 Pro Con General Proposals\P0595-008 Moxy Hotel\Drawings_Figures\AutoCAD\P-0595-008_C-DSGN.dwg



Routing Diagram for P0595-008-POST
Prepared by Tighe & Bond, Printed 2/4/2020

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.136	80	>75% Grass cover, Good, HSG D (POST 1.1, POST 1.2)
1.589	98	Paved parking & roofs, HSG D (POST 1.1, POST 1.2, POST 2.1)
1.725	**97**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.725	HSG D	POST 1.1, POST 1.2, POST 2.1
0.000	Other	
1.725		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST 1.1: Runoff Area=55,949 sf 93.84% Impervious Runoff Depth=2.86"
Flow Length=120' Tc=5.0 min CN=97 Runoff=3.95 cfs 0.306 af

SubcatchmentPOST 1.2: Runoff Area=17,882 sf 86.17% Impervious Runoff Depth=2.75"
Tc=5.0 min CN=96 Runoff=1.24 cfs 0.094 af

SubcatchmentPOST 2.1: Runoff Area=1,310 sf 100.00% Impervious Runoff Depth=2.97"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.09 cfs 0.007 af

Pond POST 1.0: RAINAGRDEN- REVISED Peak Elev=7.85' Storage=5,468 cf Inflow=3.95 cfs 0.306 af
Outflow=4.08 cfs 0.270 af

Link PA1: Inflow=5.20 cfs 0.364 af
Primary=5.20 cfs 0.364 af

Link PA2: Inflow=0.09 cfs 0.007 af
Primary=0.09 cfs 0.007 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.407 af Average Runoff Depth = 2.83"
7.88% Pervious = 0.136 ac 92.12% Impervious = 1.589 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST 1.1: Runoff Area=55,949 sf 93.84% Impervious Runoff Depth=4.51"
Flow Length=120' Tc=5.0 min CN=97 Runoff=6.10 cfs 0.482 af

SubcatchmentPOST 1.2: Runoff Area=17,882 sf 86.17% Impervious Runoff Depth=4.39"
Tc=5.0 min CN=96 Runoff=1.93 cfs 0.150 af

SubcatchmentPOST 2.1: Runoff Area=1,310 sf 100.00% Impervious Runoff Depth=4.62"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.14 cfs 0.012 af

Pond POST 1.0: RAINAGRDEN- REVISED Peak Elev=7.90' Storage=5,584 cf Inflow=6.10 cfs 0.482 af
Outflow=5.98 cfs 0.446 af

Link PA1: Inflow=7.86 cfs 0.597 af
Primary=7.86 cfs 0.597 af

Link PA2: Inflow=0.14 cfs 0.012 af
Primary=0.14 cfs 0.012 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.644 af Average Runoff Depth = 4.48"
7.88% Pervious = 0.136 ac 92.12% Impervious = 1.589 ac

Summary for Subcatchment POST 1.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.95 cfs @ 12.07 hrs, Volume= 0.306 af, Depth= 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.20"

	Area (sf)	CN	Description
	3,448	80	>75% Grass cover, Good, HSG D
*	52,501	98	Paved parking & roofs, HSG D
	55,949	97	Weighted Average
	3,448		6.16% Pervious Area
	52,501		93.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	20	0.0070	1.25		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.5	120	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 1.2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.24 cfs @ 12.07 hrs, Volume= 0.094 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.20"

	Area (sf)	CN	Description
	2,473	80	>75% Grass cover, Good, HSG D
*	15,409	98	Paved parking & roofs, HSG D
	17,882	96	Weighted Average
	2,473		13.83% Pervious Area
	15,409		86.17% Impervious Area

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

Summary for Subcatchment POST 2.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.20"

	Area (sf)	CN	Description
*	1,310	98	Paved parking & roofs, HSG D
	1,310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0150	1.23		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.4	53	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	171	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond POST 1.0: RAINAGRDEN - REVISED OUTLET ELEVATION

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 1.284 ac, 93.84% Impervious, Inflow Depth = 2.86" for 2 Year Storm event
Inflow = 3.95 cfs @ 12.07 hrs, Volume= 0.306 af
Outflow = 4.08 cfs @ 12.11 hrs, Volume= 0.270 af, Atten= 0%, Lag= 2.6 min
Primary = 4.08 cfs @ 12.11 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 7.85' @ 12.12 hrs Surf.Area= 2,610 sf Storage= 5,468 cf
Flood Elev= 8.00' Surf.Area= 2,688 sf Storage= 5,854 cf

Plug-Flow detention time= 339.8 min calculated for 0.270 af (88% of inflow)
Center-of-Mass det. time= 285.2 min (1,050.3 - 765.1)

Volume	Invert	Avail.Storage	Storage Description
#1	2.70'	5,854 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.70	1,431	0.0	0	0
4.20	1,431	40.0	859	859
5.70	1,431	10.0	215	1,073
6.00	1,643	100.0	461	1,534
7.00	2,154	100.0	1,899	3,433
8.00	2,688	100.0	2,421	5,854

Device	Routing	Invert	Outlet Devices
#1	Primary	3.00'	**12.0" Round Culvert** L= 62.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.00' / 1.06' S= 0.0313 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	3.15'	**12.0" Round Culvert** L= 5.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.15' / 3.10' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#3	Device 2	3.15'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 3	6.00'	**7.000 in/hr Exfiltration over Surface area above 6.00'** Excluded Surface area = 1,643 sf
#5	Device 2	7.70'	**14.2" x 14.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	7.70'	**18.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=3.69 cfs @ 12.11 hrs HW=7.84' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.99 cfs of 7.88 cfs potential flow)
  - **2=Culvert** (Passes 0.99 cfs of 7.74 cfs potential flow)
    - **3=Orifice/Grate** (Passes 0.16 cfs of 1.99 cfs potential flow)
      - **4=Exfiltration** (Exfiltration Controls 0.16 cfs)
    - **5=Orifice/Grate** (Weir Controls 0.83 cfs @ 1.23 fps)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 2.71 cfs @ 1.06 fps)

Summary for Link PA1:

Inflow Area = 1.695 ac, 91.98% Impervious, Inflow Depth > 2.58" for 2 Year Storm event
Inflow = 5.20 cfs @ 12.11 hrs, Volume= 0.364 af
Primary = 5.20 cfs @ 12.11 hrs, Volume= 0.364 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link PA2:

Inflow Area = 0.030 ac,100.00% Impervious, Inflow Depth = 2.97" for 2 Year Storm event
Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af
Primary = 0.09 cfs @ 12.07 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 6.10 cfs @ 12.07 hrs, Volume= 0.482 af, Depth= 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

	Area (sf)	CN	Description
	3,448	80	>75% Grass cover, Good, HSG D
*	52,501	98	Paved parking & roofs, HSG D
	55,949	97	Weighted Average
	3,448		6.16% Pervious Area
	52,501		93.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	20	0.0070	1.25		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.5	120	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment POST 1.2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.93 cfs @ 12.07 hrs, Volume= 0.150 af, Depth= 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

	Area (sf)	CN	Description
	2,473	80	>75% Grass cover, Good, HSG D
*	15,409	98	Paved parking & roofs, HSG D
	17,882	96	Weighted Average
	2,473		13.83% Pervious Area
	15,409		86.17% Impervious Area

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

Summary for Subcatchment POST 2.1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.012 af, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=4.86"

	Area (sf)	CN	Description
*	1,310	98	Paved parking & roofs, HSG D
	1,310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0150	1.23		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.4	53	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	171	Total, Increased to minimum Tc = 5.0 min			

Summary for Pond POST 1.0: RAINAGRDEN - REVISED OUTLET ELEVATION

Inflow Area = 1.284 ac, 93.84% Impervious, Inflow Depth = 4.51" for 10 Year Storm event
Inflow = 6.10 cfs @ 12.07 hrs, Volume= 0.482 af
Outflow = 5.98 cfs @ 12.09 hrs, Volume= 0.446 af, Atten= 2%, Lag= 1.3 min
Primary = 5.98 cfs @ 12.09 hrs, Volume= 0.446 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 7.90' @ 12.09 hrs Surf.Area= 2,634 sf Storage= 5,584 cf
Flood Elev= 8.00' Surf.Area= 2,688 sf Storage= 5,854 cf

Plug-Flow detention time= 248.5 min calculated for 0.446 af (92% of inflow)
Center-of-Mass det. time= 210.1 min (965.5 - 755.4)

Volume	Invert	Avail.Storage	Storage Description
#1	2.70'	5,854 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
2.70	1,431	0.0	0	0
4.20	1,431	40.0	859	859
5.70	1,431	10.0	215	1,073
6.00	1,643	100.0	461	1,534
7.00	2,154	100.0	1,899	3,433
8.00	2,688	100.0	2,421	5,854

Device	Routing	Invert	Outlet Devices
#1	Primary	3.00'	**12.0" Round Culvert** L= 62.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.00' / 1.06' S= 0.0313 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	3.15'	**12.0" Round Culvert** L= 5.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 3.15' / 3.10' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#3	Device 2	3.15'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 3	6.00'	**7.000 in/hr Exfiltration over Surface area above 6.00'** Excluded Surface area = 1,643 sf
#5	Device 2	7.70'	**14.2" x 14.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	7.70'	**18.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=5.87 cfs @ 12.09 hrs HW=7.90' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 1.50 cfs of 7.93 cfs potential flow)
  - **2=Culvert** (Passes 1.50 cfs of 7.79 cfs potential flow)
    - **3=Orifice/Grate** (Passes 0.16 cfs of 2.00 cfs potential flow)
      - **4=Exfiltration** (Exfiltration Controls 0.16 cfs)
    - **5=Orifice/Grate** (Weir Controls 1.34 cfs @ 1.45 fps)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 4.37 cfs @ 1.24 fps)

Summary for Link PA1:

Inflow Area = 1.695 ac, 91.98% Impervious, Inflow Depth > 4.22" for 10 Year Storm event
Inflow = 7.86 cfs @ 12.09 hrs, Volume= 0.597 af
Primary = 7.86 cfs @ 12.09 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Summary for Link PA2:

Inflow Area = 0.030 ac,100.00% Impervious, Inflow Depth = 4.62" for 10 Year Storm event
Inflow = 0.14 cfs @ 12.07 hrs, Volume= 0.012 af
Primary = 0.14 cfs @ 12.07 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST 1.1: Runoff Area=55,949 sf 93.84% Impervious Runoff Depth=5.80"
Flow Length=120' Tc=5.0 min CN=97 Runoff=7.77 cfs 0.621 af

SubcatchmentPOST 1.2: Runoff Area=17,882 sf 86.17% Impervious Runoff Depth=5.69"
Tc=5.0 min CN=96 Runoff=2.47 cfs 0.195 af

SubcatchmentPOST 2.1: Runoff Area=1,310 sf 100.00% Impervious Runoff Depth=5.92"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.18 cfs 0.015 af

Pond POST 1.0: RAINAGRDEN- REVISED Peak Elev=7.93' Storage=5,677 cf Inflow=7.77 cfs 0.621 af
Outflow=7.65 cfs 0.585 af

Link PA1: Inflow=10.05 cfs 0.779 af
Primary=10.05 cfs 0.779 af

Link PA2: Inflow=0.18 cfs 0.015 af
Primary=0.18 cfs 0.015 af

Total Runoff Area = 1.725 ac Runoff Volume = 0.831 af Average Runoff Depth = 5.78"
7.88% Pervious = 0.136 ac 92.12% Impervious = 1.589 ac

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPOST 1.1: Runoff Area=55,949 sf 93.84% Impervious Runoff Depth=7.01"
Flow Length=120' Tc=5.0 min CN=97 Runoff=9.32 cfs 0.750 af

SubcatchmentPOST 1.2: Runoff Area=17,882 sf 86.17% Impervious Runoff Depth=6.89"
Tc=5.0 min CN=96 Runoff=2.96 cfs 0.236 af

SubcatchmentPOST 2.1: Runoff Area=1,310 sf 100.00% Impervious Runoff Depth=7.13"
Flow Length=171' Tc=5.0 min CN=98 Runoff=0.22 cfs 0.018 af

Pond POST 1.0: RAINAGRDEN- REVISED Peak Elev=7.96' Storage=5,757 cf Inflow=9.32 cfs 0.750 af
Outflow=9.18 cfs 0.714 af

Link PA1: Inflow=12.07 cfs 0.950 af
Primary=12.07 cfs 0.950 af

Link PA2: Inflow=0.22 cfs 0.018 af
Primary=0.22 cfs 0.018 af

Total Runoff Area = 1.725 ac Runoff Volume = 1.004 af Average Runoff Depth = 6.99"
7.88% Pervious = 0.136 ac 92.12% Impervious = 1.589 ac

2.4 Peak Rate Comparisons

Table 2.4.1 summarizes and compares the pre- and post-development peak runoff rates for the 2-year, 10-year, 25-year and 50-year storm events.

Table 2.4.1 - Comparison of Pre- and Post-Development Flows (cfs)

Point of Analysis	Pre/**Post** 2-Year Storm (cfs)	Pre/**Post** 10-Year Storm (cfs)	Pre/**Post** 25-Year Storm (cfs)	Pre/**Post** 50-Year Storm (cfs)
PA1	4.40/**5.20**	7.03/**7.86**	8.96/**10.05**	11.67/**12.07**
PA2	0.07/**0.09**	0.11/**0.14**	0.14/**0.18**	0.16/**0.22**

As depicted in Table 2.4.1, post-development peak runoff rates are greater than the pre-development condition for PA1. However, runoff from the project directly discharges to tidal waters and is exempt from Peak Runoff Control Requirements per NHDES Alteration of Terrain regulation Env-Wq 1507.06(d). There is a negligible increase in runoff that flows to the municipal drainage system in Vaughan Street prior to discharging to North Mill Pond (PA2).

2.5 Stormwater Treatment

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and NHDES AoT Regulations (Env-Wq 1500).

Runoff generated from impervious area will be treated by the existing rain garden located along the northern property line near North Mill Pond. Treatment is provided by filtering runoff through vegetation, bioretention filter media and gravel bed. The proposed rain garden has been designed in accordance with the New Hampshire Stormwater Manual. The roof runoff does not require pretreatment and will be discharged directly into the rain garden for treatment.

The rain garden was sized to meet the Water Quality Volume requirements for the NHDES AoT Regulations as shown in Table 2.5.1.

Table 2.5.1 - Treatment Area Existing Rain Garden
Water Quality Volume Calculations

VARIABLE	DESCRIPTION	VALUE
P	1 Inch of Rainfall	1 inch
A	Total Area Draining to Design Structure	1.28 AC
Ai	Impervious Area Draining to Design Structure	1.21 AC
I	% Impervious Area Draining to Design Structures	94%
Rv	Runoff Coefficient, Rv = 0.05 + (0.9*I)	0.89
WQV	**Water Quality Volume, WQV = P*A*Rv**	**4,170 CF**
Vs	**Total Available Storage**	**4,212 CF**

The Storage Volume provided is greater than the Water Quality Volume required.

3.0 Conclusion

The proposed project will result in an increase in post-development peak runoff rates from the pre-development condition. However, runoff from the project directly discharges to tidal waters and is exempt from Peak Runoff Control Requirements per NHDES Alteration of Terrain regulation Env-Wq 1507.06(d). There is no increase in runoff that flows to the municipal drainage system in Vaughan Street prior to discharging to North Mill Pond The impervious area resulting from the proposed project will be treated by the existing rain garden prior to discharging to North Mill Pond.