PLAN REFERENCES:

1) PLAN OF A TRACT OF LAND IN THE TOWN OF PORTSMOUTH BELONGING TO MR. JOHN MILLER. DATED 1812. R.C.R.D. BOOK 206 PAGE 131.

2) LOT LINE REVISION, BURKITT STREET, PORTSMOUTH, NEW HAMPSHIRE, FOR E. HUNTER KING & CHERYL KING. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED OCTOBER 10, 1996. R.C.R.D. PLAN D-25006.

3) STREET PLAT OF SPARHAWK, BURKITT, STARK, CLINTON, AND PINE STREETS IN PORTSMOUTH, NEW HAMPSHIRE. PREPARED BY JOHN W. DURGIN ASSOCIATES, INC. DATED JULY 1980. NOT RECORDED.

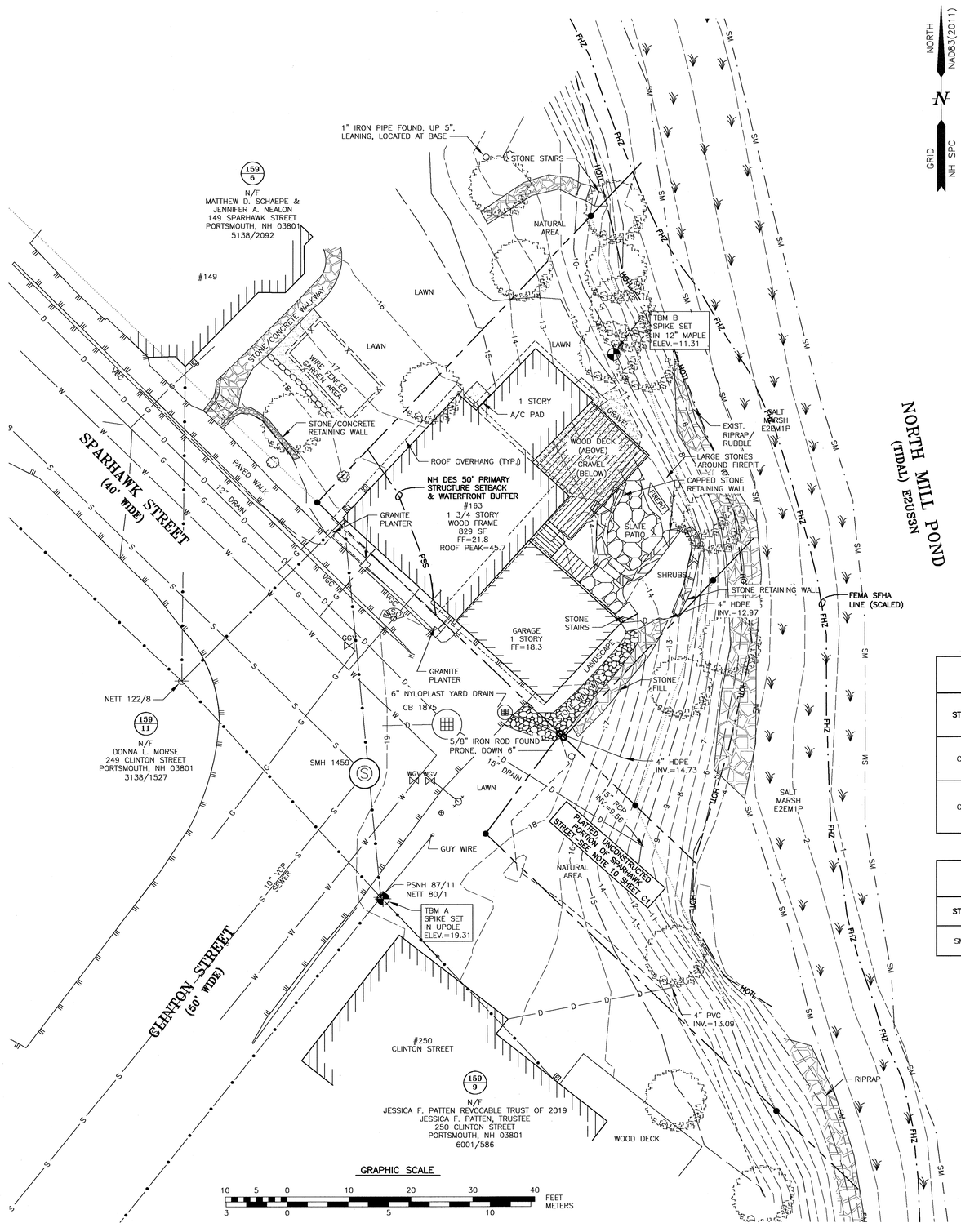
4) SUBDIVISION OF LAND FOR LINDA GRIEBSCH & FINTAN J. HERRICK-CONNELL IN PORTSMOUTH, NEW HAMPSHIRE. PREPARED BY LECLERC STWELL ASSOCIATES. DATED APRIL 16, 1984. R.C.R.D. PLAN C-12736.

5) PLAT OF LAND FOR RICHARD H. BRADY, JR. & MARY BETH WILSON, #122-124 BURKITT STREET, PORTSMOUTH, NH. PREPARED BY STOCKTON SERVICES. DATED DECEMBER 14, 2011, R.C.R.D. PLAN C-37087.

6) MAP OF THE CITY OF PORTSMOUTH NEW HAMPSHIRE FROM ACTUAL SURVEYS BY AND UNDER THE DIRECTION OF F.W. BEERS, PUBLISHED BY F.W. BEERS & CO. DATED 1876. NOT RECORDED.

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY
MHW	MEAN HIGH WATER LINE
PSS	NH DES 50' PRIMARY STRUCTURE SETBACK
	RAILROAD SPIKE FOUND
	IRON ROD/PIPE FOUND
	DRILL HOLE FOUND
	STONE/CONCRETE BOUND FOUND
	RAILROAD SPIKE SET
	IRON ROD SET
	DRILL HOLE SET
	GRANITE BOUND SET
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
	OVERHEAD ELECTRIC/WIRES
100	CONTOUR
97x3	SPOT ELEVATION
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
WSO	WATER SHUT OFF/CURB STOP
GV	GATE VALVE
HYD	HYDRANT
GWE	METER (GAS, WATER, ELECTRIC)
	CATCH BASIN
	SEWER MANHOLE
	DRAIN MANHOLE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
CMP	CORRUGATED METAL PIPE
PVC	POLYVINYL CHLORIDE PIPE
EL.	ELEVATION
EP	EDGE OF PAVEMENT
F.F.	FINISHED FLOOR
INV.	INVERT
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VCC/SGC	VERTICAL/SLOPED GRANITE CURB
LSA	LANDSCAPED AREA



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET

3 0 5 10 METERS

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

PAUL A DOBBERSTEIN, LLS — DATE 11/21/2020

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 10/22/2019 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.

B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.2, USDA-NRCS, 2018 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEIWPCC WETLANDS WORK GROUP (2019).

C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).

D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).

E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

DRAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN / INV. ELEV. OUT / SUMP	PIPE SIZE, TYPE, FROM/TO
CB 1873	19.04	16.64	12" RCP-FROM CB 1872
		14.89	15" RCP-TO CB 1875
		12.99	BOTTOM OF STRUCTURE
CB 1875	18.46	14.11	15" RCP-FROM CB 1873
		14.66	12" RCP-FROM WNW
		13.96	15" RCP-TO INVERT OUT
		12.31	BOTTOM OF STRUCTURE

SEWER STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN / INV. ELEV. OUT	PIPE SIZE, TYPE, FROM/TO
SMH 1459	19.16	10.96	12" VCP-FROM SMH 1429
		10.96	12" VCP-TO SMH 1460

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

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 159 AS LOTS 7 & 8.

2) OWNER OF RECORD:
MICHAEL J. O'CONNOR
163 SPARHAWK STREET
PORTSMOUTH, NH 03801
4738/2268 (TRACTS I & II)

3) PORTIONS OF THE PARCELS ARE IN A SPECIAL FLOOD HAZARD AREA, ZONE AE (EL. 9), AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREAS:
MAP 159 LOT 7
3,198± S.F. (TO MHW)
0.0734± ACRES (TO MHW)

MAP 159 LOT 8
794± S.F. (TO MHW)
0.0182± ACRES (TO MHW)

NORTHEASTERLY HALF OF UNCONSTRUCTED SPARHAWK STREET (SEE NOTE 10)
1,126± S.F. (TO MHW)
0.0258± ACRES (TO MHW)

5) PARCEL IS LOCATED IN THE GENERAL RESIDENCE A (GRA) ZONING DISTRICT.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:		7,500 S.F.
FRONTAGE:		100 FEET
DEPTH:		70 FEET
SETBACKS:	FRONT	15 FEET
	SIDE	10 FEET
	REAR	20 FEET
MAXIMUM STRUCTURE HEIGHT:		35 FEET
MAXIMUM BUILDING COVERAGE:		25%
MINIMUM OPEN SPACE:		30%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF ASSESSOR'S MAP 159 LOTS 7 & 8 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').

9) MEAN HIGH WATER LINE (MHW) AS SHOWN IS AT ELEVATION 3.81 PER NOAA STATION 8419870 SEAVEY ISLAND, PORTSMOUTH HARBOR.

O'CONNOR RESIDENCE GARAGE RECONSTRUCTION 163 SPARHAWK STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	ISSUED FOR COMMENT	10/31/20
1	ADD STRUCTURE DATA, MISC. REVISIONS	10/7/20
0	ISSUED FOR COMMENT	1/27/20

REVISIONS

STATE OF NEW HAMPSHIRE
STEVEN D. RIKER
11/24/20
NO. 219
CERTIFIED WETLAND SCIENTIST

SCALE 1"=10' JANUARY 2020

EXISTING CONDITIONS PLAN

C1

FB 201 PG 58

3120

DEMOLITION NOTES

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

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

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

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

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

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

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

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE.

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

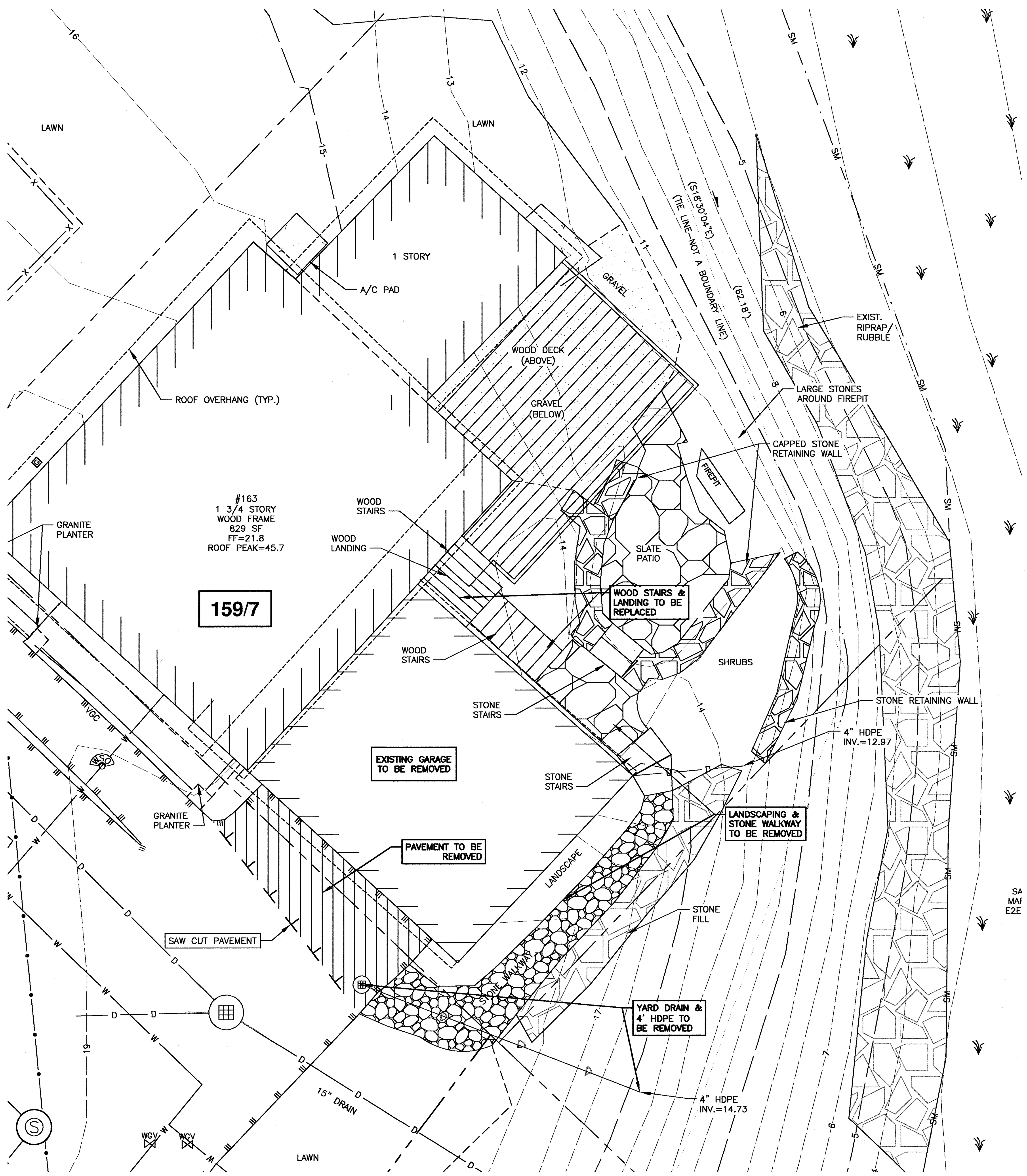
J) REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL SLUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

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

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

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

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



GRAPHIC SCALE

5 4 3 2 1 0 5 10 15 20 FEET
1.5 1 0.5 0 1 2 3 4 5 6 METERS

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 10/22/2019 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.

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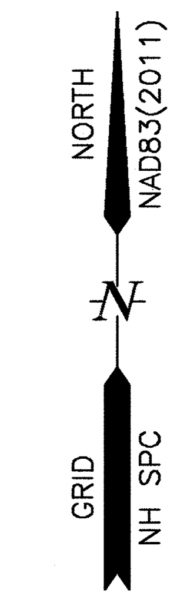

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NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

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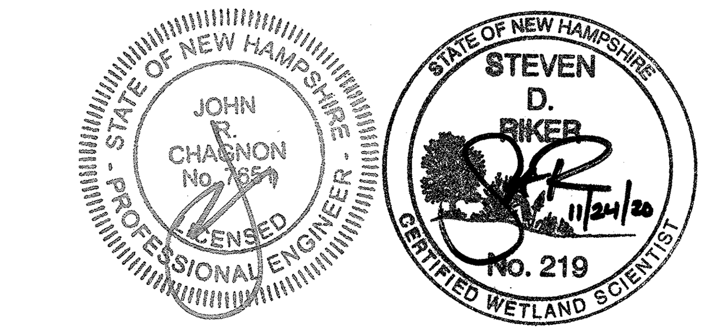
O'CONNOR RESIDENCE GARAGE RECONSTRUCTION 163 SPARHAWK STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	10/31/20

REVISIONS



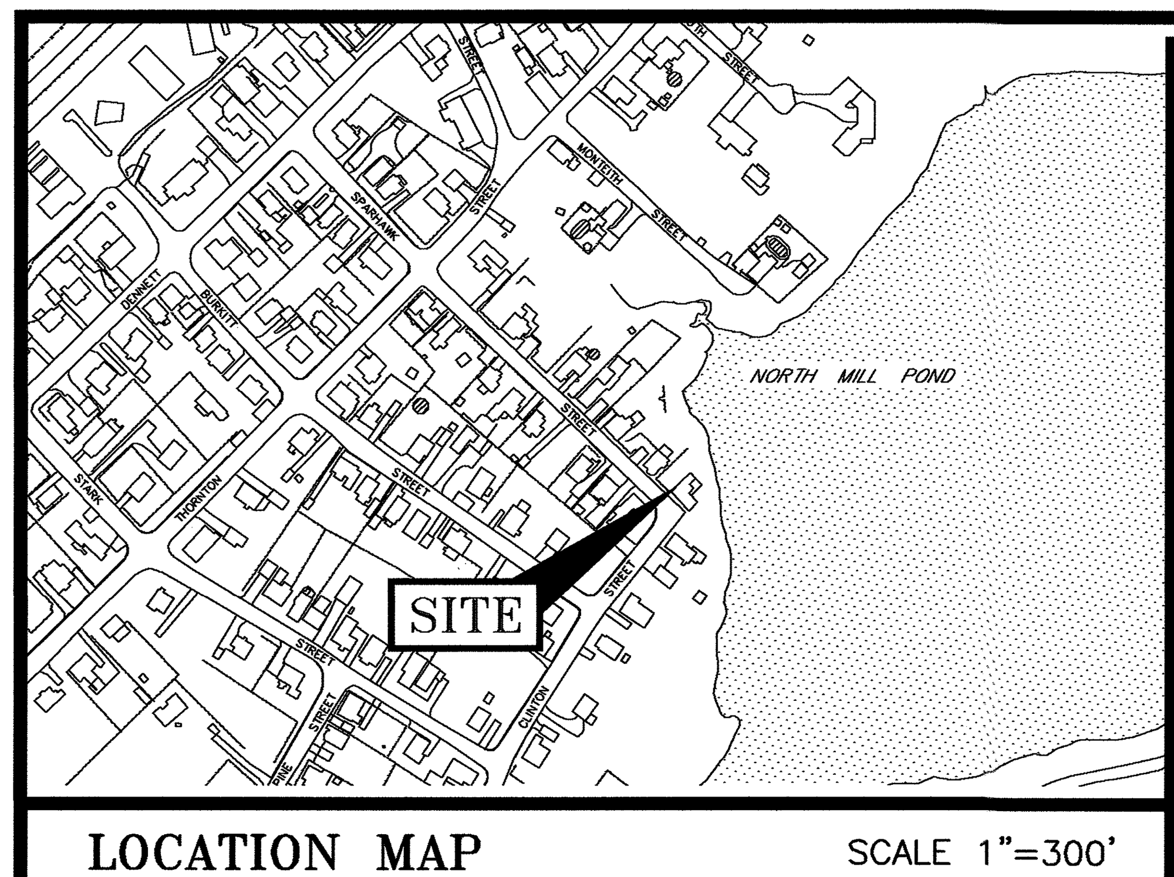
SCALE 1"=5' JANUARY 2020

DEMOLITION PLAN

C2

FB 201 PG 58

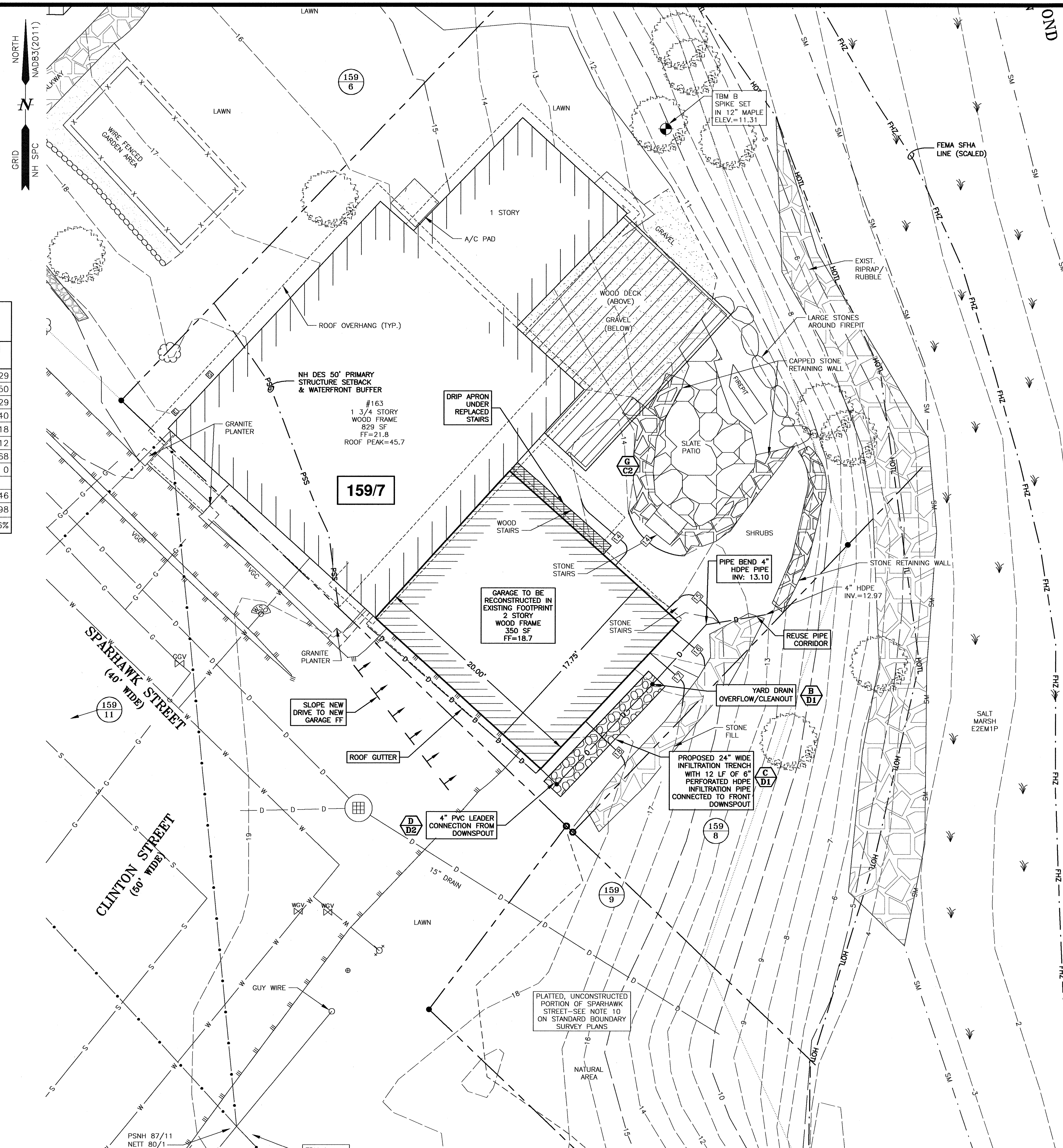
3120



LOCATION MAP SCALE 1"=300'

IMPERVIOUS SURFACE AREAS (TO PROPERTY LINE & WITHIN 100' TIDAL BUFFER ZONE)		
STRUCTURE	PRE-CONSTRUCTION IMPERVIOUS (S.F.)	POST-CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURE	829	829
GARAGE	350	350
PAVED DRIVE	29	29
WOOD DECK & STAIRS*	240	240
CONCRETE & A/C PAD	18	18
SLATE PATIOS & STAIRS	212	212
STONE RETAINING WALLS	68	68
STONE WALKWAY AND STAIRS	128	0
TOTAL	1,874	1,746
LOT SIZE	3,198	3,198
% LOT COVERAGE	58.6%	54.6%

*DOES NOT INCLUDE DECK AREA WITH UNCOMPACTED GRAVEL UNDERNEATH



GRAPHIC SCALE

5 4 3 2 1 0 5 10 15 20 FEET
1.5 1 0.5 0 1 2 3 4 5 6 METERS

AMBIT ENGINEERING, INC.
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NOTES:

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2) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

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

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5) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

6) PER CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10.1018.24 FERTILIZERS: THE USE OF ANY FERTILIZER IS PROHIBITED IN A WETLAND, VEGETATED BUFFER STRIP OR LIMITED CUT AREA; AND THE USE OF FERTILIZERS OTHER THAN LOW PHOSPHATE AND SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED IN ANY PART OF A WETLAND BUFFER.

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE REPLACEMENT OF AN EXISTING GARAGE "IN-KIND" ON MAP 159, LOT 7

8) STONE DRIP APRON & INFILTRATION TRENCH TO BE INSPECTED AND MAINTAINED PER STORMWATER INSPECTION AND MAINTENANCE PLAN" PREPARED BY AMBIT ENGINEERING DATED NOVEMBER 2020.

9) THE ENTIRE LOT IS LOCATED WITHIN THE PREVIOUSLY DEVELOPED 100' TIDAL BUFFER ZONE AND 100' CITY OF PORTSMOUTH WETLAND BUFFER.

O'CONNOR RESIDENCE GARAGE RECONSTRUCTION 163 SPARHAWK STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	REVISED PER COMMENTS	11/23/20
0	ISSUED FOR COMMENT	10/14/20

REVISIONS

STATE OF NEW HAMPSHIRE – JOHN R. CHAGNON No. 7851 – LICENSED – PROFESSIONAL ENGINEER

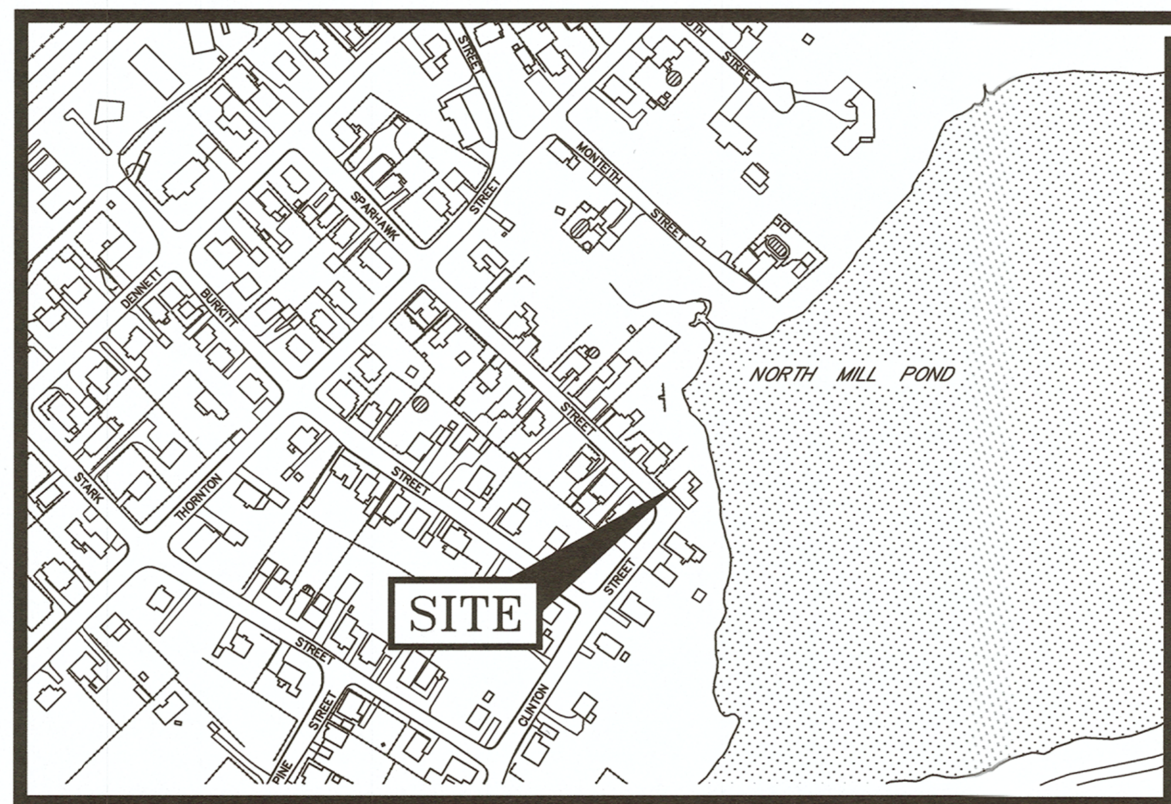
SCALE 1" = 5' AUGUST 2020

PROPOSED SITE PLAN

C3

FB 201 & PG 58

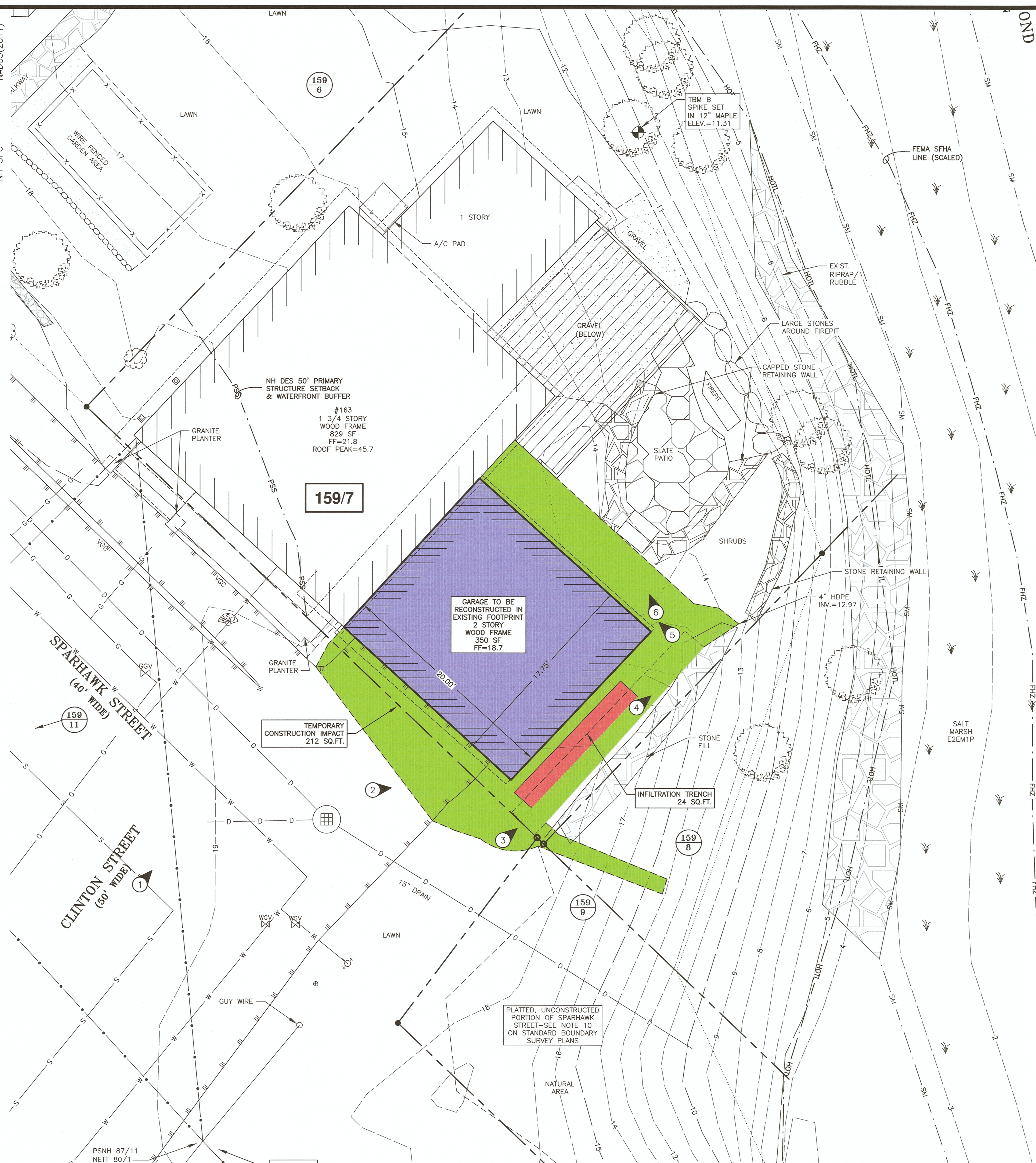
3120



LOCATION MAP SCALE 1"=300'

NHDES 50' BUFFER ZONE IMPACT TABLE

(purple)	PERMANENT STRUCTURE	350 SF
(red)	PERMANENT INFILTRATION DRAIN	24 SF
(green)	TEMPORARY CONSTRUCTION	321 SF



GRAPHIC SCALE

5	4	3	2	1	0	5	10	15	20 FEET
1.5	1	0.5	0	1	2	3	4	5	6 METERS

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7) THE PURPOSE OF THIS PLAN IS TO SHOW THE REPLACEMENT OF AN EXISTING GARAGE "IN-KIND" ON MAP 159, LOT 7

8) STONE DRIP APRON & INFILTRATION TRENCH TO BE INSPECTED AND MAINTAINED PER STORMWATER INSPECTION AND MAINTENANCE PLAN" PREPARED BY AMBIT ENGINEERING DATED NOVEMBER 2020.

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O'CONNOR RESIDENCE GARAGE RECONSTRUCTION 163 SPARHAWK STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	REVISED PER COMMENTS	11/23/20
0	ISSUED FOR COMMENT	10/14/20

REVISIONS

STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER

SCALE 1" = 5' AUGUST 2020

NHDES PERMIT PLAN

C4

FB 201 & PG 58

3120

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

INSTALL PERIMETER CONTROLS, i.e., SILTSOXX AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAYBALES IS NOT ALLOWED.

PERFORM DEMOLITION OF DRIVEWAY, BUILDING AND WALKWAYS. CUT BRUSH AS DEPICTED ON DEMOLITION PLAN.

INSTALL FOUNDATION AND BACKFILL.

ROUGH GRADE SITE, PROVIDE TEMPORARY EROSION PROTECTION TO DITCHES AND SWALES IN THE FORM OF MULCHING, JUTE MESH OR DITCH DAMS.

CONSTRUCT BUILDING.

PLANT LANDSCAPING IN AREAS OUT OF WAY OF BUILDING CONSTRUCTION. PREPARE AND STABILIZE FINAL SITE GRADING BY ADDING TOPSOIL, SEED, MULCH AND FERTILIZER. PER CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10.1018.24 FERTILIZERS: THE USE OF ANY FERTILIZER IS PROHIBITED IN A WETLAND, VEGETATED BUFFER STRIP OR LIMITED CUT AREA; AND THE USE OF FERTILIZERS OTHER THAN LOW PHOSPHATE AND SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED IN ANY PART OF A WETLAND BUFFER.

CONSTRUCT WALKWAYS AND FINISH ALL REMAINING LANDSCAPE WORK.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

DUST CONTROL: IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILT FENCES AND SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT FENCES AND SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

AVOID THE USE OF FUTURE OPEN SPACES (LOAM AND SEED AREAS) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ACCESS DRIVES AND PARKING AREAS.

ADDITIONAL TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS--CONSTRUCT SILT FENCE OR SILTSOXX AROUND TOPSOIL STOCKPILE.

AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. STUMPS SHALL BE DISPOSED OF IN AN APPROVED FACILITY.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

* BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
* A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
* A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
* EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.

EROSION CONTROL NOTES

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:
LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE.

FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER. PER CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10.1018.24 FERTILIZERS: THE USE OF ANY FERTILIZER IS PROHIBITED IN A WETLAND, VEGETATED BUFFER STRIP OR LIMITED CUT AREA; AND THE USE OF FERTILIZERS OTHER THAN LOW PHOSPHATE AND SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED IN ANY PART OF A WETLAND BUFFER.

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. 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. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

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 SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE:

GENERAL COVER	PROPORTION	SEEDING RATE
CREEPING RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	

SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)

CREEPING RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFOIL	16%	

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL SEED LAWS.

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:
PERENNIAL RYE: 0.7 LBS/1,000 S.F.
1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THEN TEN (10) DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2 1/2 TO 3 INCHES HIGH. ALL BARE AND DEAD SPOTS WHICH BECOME APPARENT SHALL BE PROPERLY PREPARED, LIMED AND FERTILIZED, AND RESEEDED BY THE CONTRACTOR AT HIS EXPENSE AS MANY TIMES AS NECESSARY TO SECURE GOOD GROWTH. THE ENTIRE AREA SHALL BE MAINTAINED, WATERED AND CUT UNTIL ACCEPTANCE OF THE LAWN BY THE OWNER'S REPRESENTATIVE. PER CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10.1018.24 FERTILIZERS: THE USE OF ANY FERTILIZER IS PROHIBITED IN A WETLAND, VEGETATED BUFFER STRIP OR LIMITED CUT AREA; AND THE USE OF FERTILIZERS OTHER THAN LOW PHOSPHATE AND SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED IN ANY PART OF A WETLAND BUFFER.

THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS DEVELOPING.

TO BE ACCEPTABLE, SEEDED AREAS SHALL CONSIST OF A UNIFORM STAND OF AT LEAST 90 PERCENT ESTABLISHED PERMANENT GRASS SPECIES, WITH UNIFORM COUNT OF AT LEAST 100 PLANTS PER SQUARE FOOT.

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT. PER CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10.1018.24 FERTILIZERS: THE USE OF ANY FERTILIZER IS PROHIBITED IN A WETLAND, VEGETATED BUFFER STRIP OR LIMITED CUT AREA; AND THE USE OF FERTILIZERS OTHER THAN LOW PHOSPHATE AND SLOW RELEASE NITROGEN FERTILIZERS IS PROHIBITED IN ANY PART OF A WETLAND BUFFER.

THE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

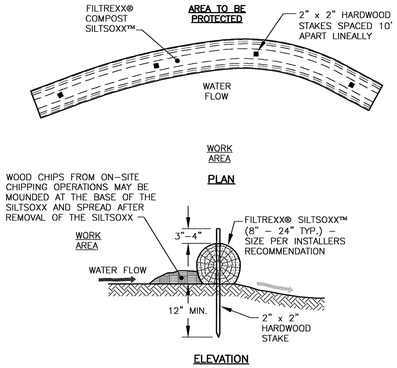
SILT FENCING AND SILTSOXX SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE AND SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, 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.

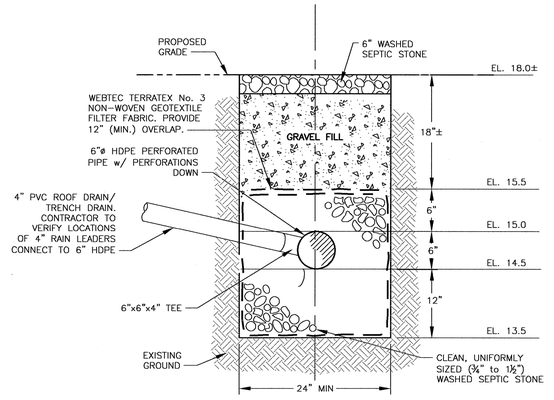
ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

AFTER NOVEMBER 15TH, 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.

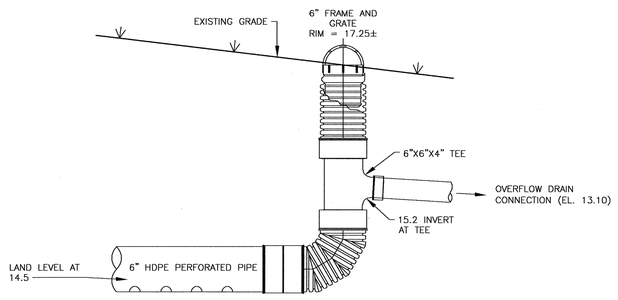


NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

A / C3 FILTREXX® SILTSOXX™ FILTRATION SYSTEM — NTS



C / C3 INFILTRATION PIPE DETAIL — NTS



B / C3 YARD DRAIN OVERFLOW/CLEANOUT (FOR FILTRATION PIPE) — NTS

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

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

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

4) PURSUANT TO RSA 483-B:9 11 (D), NO FERTILIZER SHALL BE APPLIED TO VEGETATION OR SOILS LOCATED WITHIN 25 FEET OF THE REFERENCE LINE OF ANY PUBLIC WATER. BEYOND 25 FEET, SLOW OR CONTROLLED RELEASE FERTILIZER MAY BE USED. SLOW RELEASE NITROGEN MUST CONTAIN NO MORE THAN 2% PHOSPHORUS, AND A NITROGEN COMPONENT WHICH IS AT LEAST 50% SLOW RELEASE NITROGEN COMPONENTS.

5) PURSUANT TO RSA 483-B:9, V (A) (2) (A), NO CHEMICALS INCLUDING PESTICIDES OR HERBICIDES OF ANY KIND, SHALL BE APPLIED TO GROUND, TURF, OR ESTABLISHED VEGETATION WITHIN THE WATERFRONT BUFFER, EXCEPT IF APPLIED BY HORTICULTURE PROFESSIONAL WHO HAVE AN APPLICATION LICENSE OR AS ALLOWED BY SPECIAL PERMIT ISSUED UNDER RSA 541-A. NO CALCIUM CHLORIDE SHALL BE APPLIED WITHIN THE WATERFRONT BUFFER.

O'CONNOR RESIDENCE
GARAGE RECONSTRUCTION
163 SPARHAWK STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAIL B & C	11/23/20
0	ISSUED FOR COMMENT	10/31/20

REVISIONS

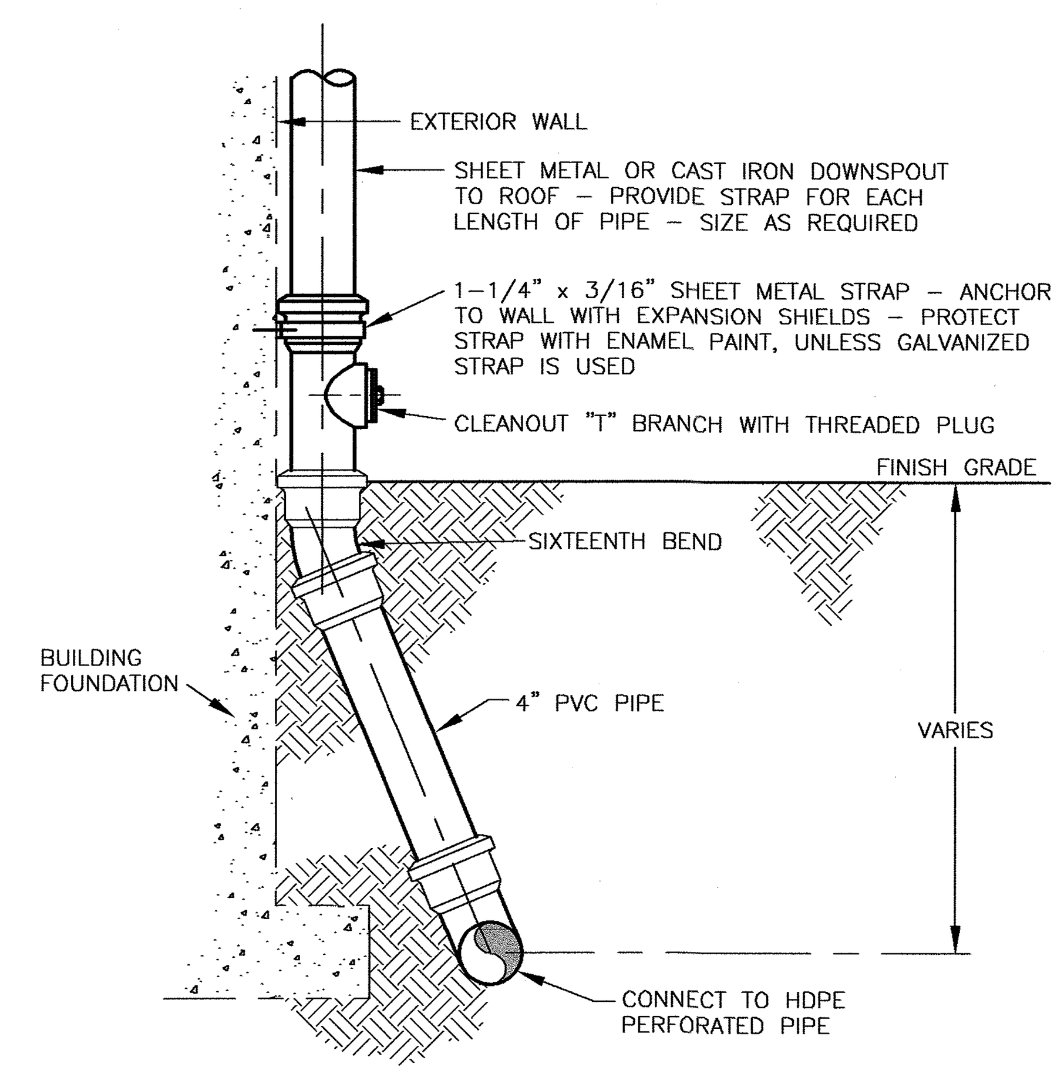
STATE OF NEW HAMPSHIRE - STEVEN D. RIKER - 11/24/20 - No. 219 - CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON - NO. 7351 - LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN — AUGUST 2020

EROSION NOTES AND DETAILS

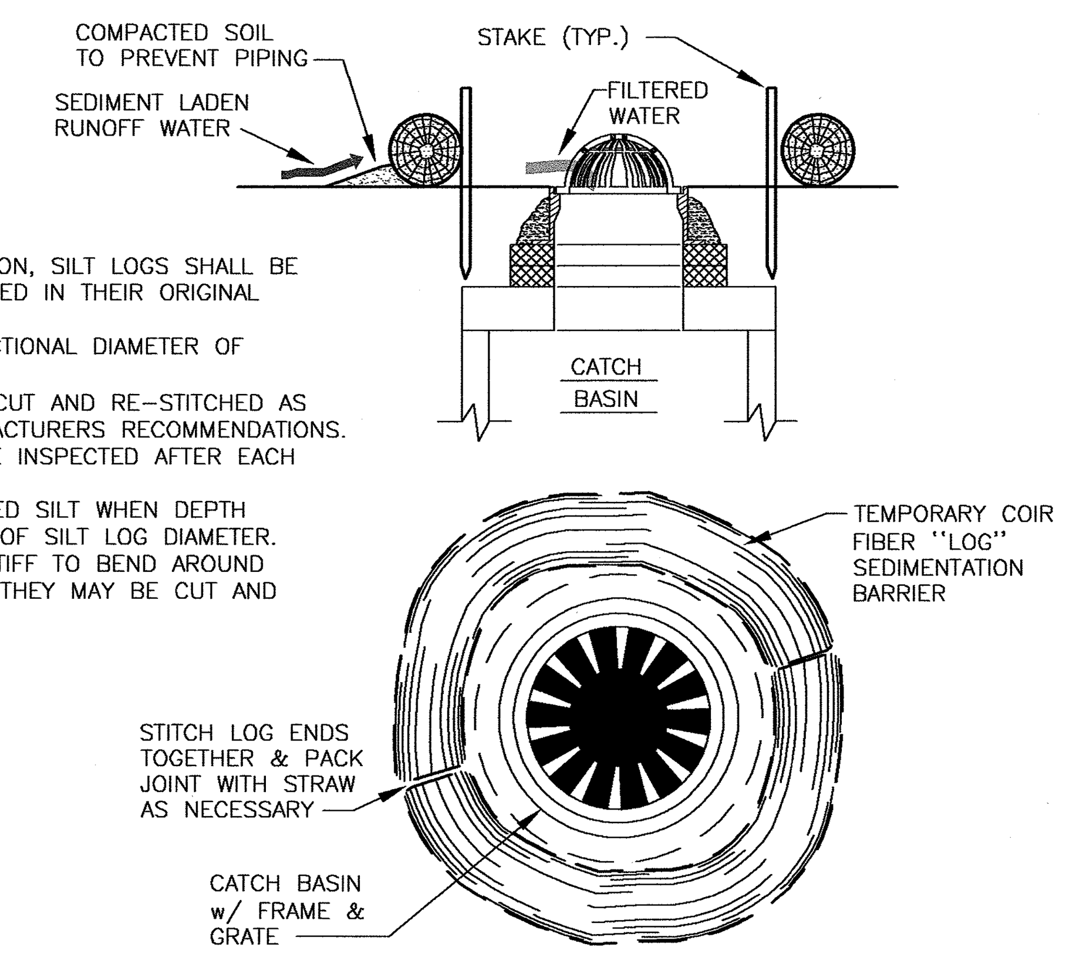
D1



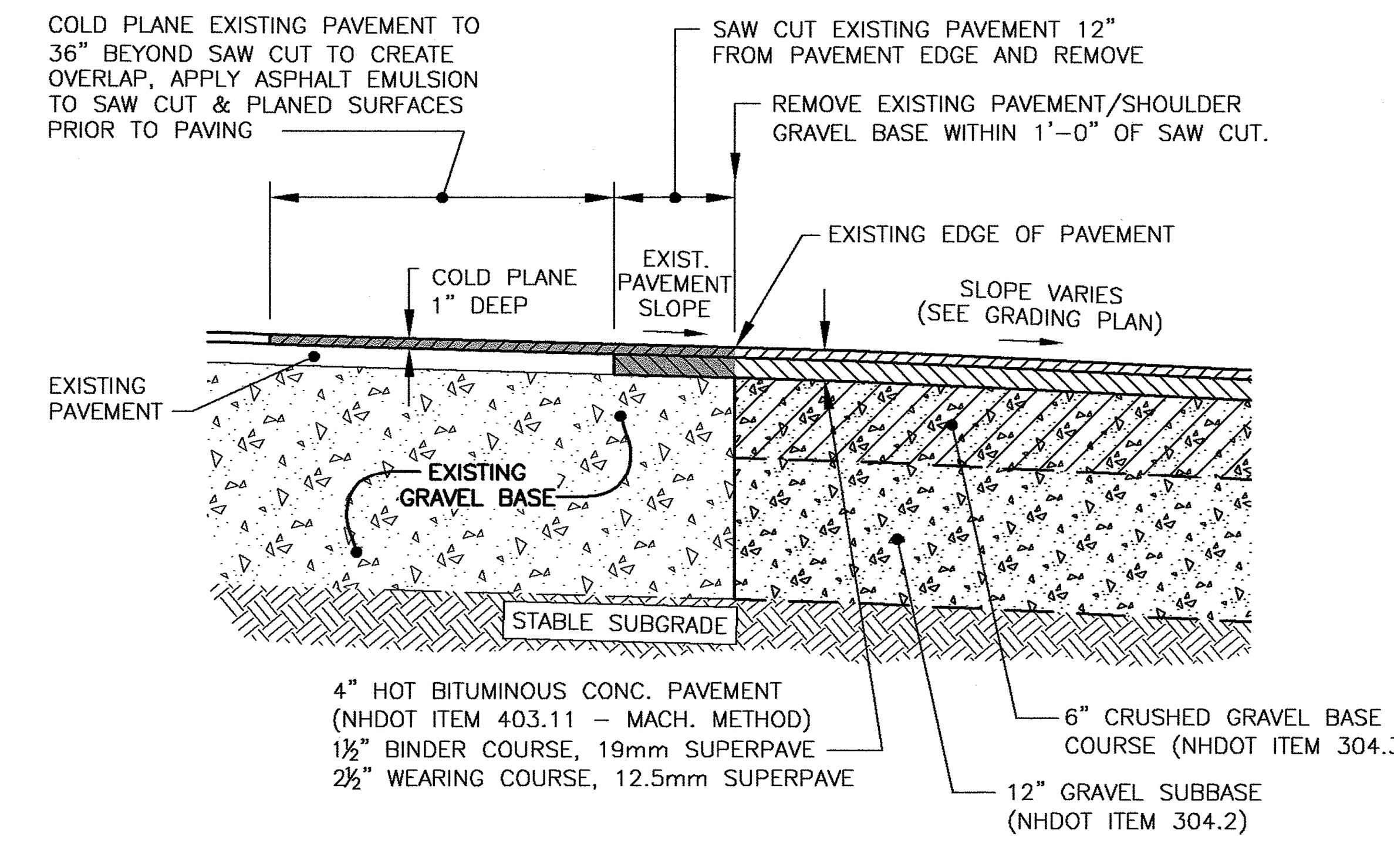
D / C2 DOWNSPOUT SHOE
(AT ROOF GUTTER) NTS

NOTES:

1. PRIOR TO INSTALLATION, SILT LOGS SHALL BE KEPT DRY AND STORED IN THEIR ORIGINAL WRAPPING.
2. MINIMUM CROSS SECTIONAL DIAMETER OF SILT LOGS: 12".
3. SILT LOGS MAY BE CUT AND RE-STITCHED AS NEEDED PER MANUFACTURERS RECOMMENDATIONS.
4. SILT LOGS SHALL BE INSPECTED AFTER EACH STORM EVENT.
5. REMOVE ACCUMULATED SILT WHEN DEPTH REACHES ONE HALF OF SILT LOG DIAMETER.
6. IF LOGS ARE TOO STIFF TO BEND AROUND CATCH BASIN INLET, THEY MAY BE CUT AND LAID SQUARE.

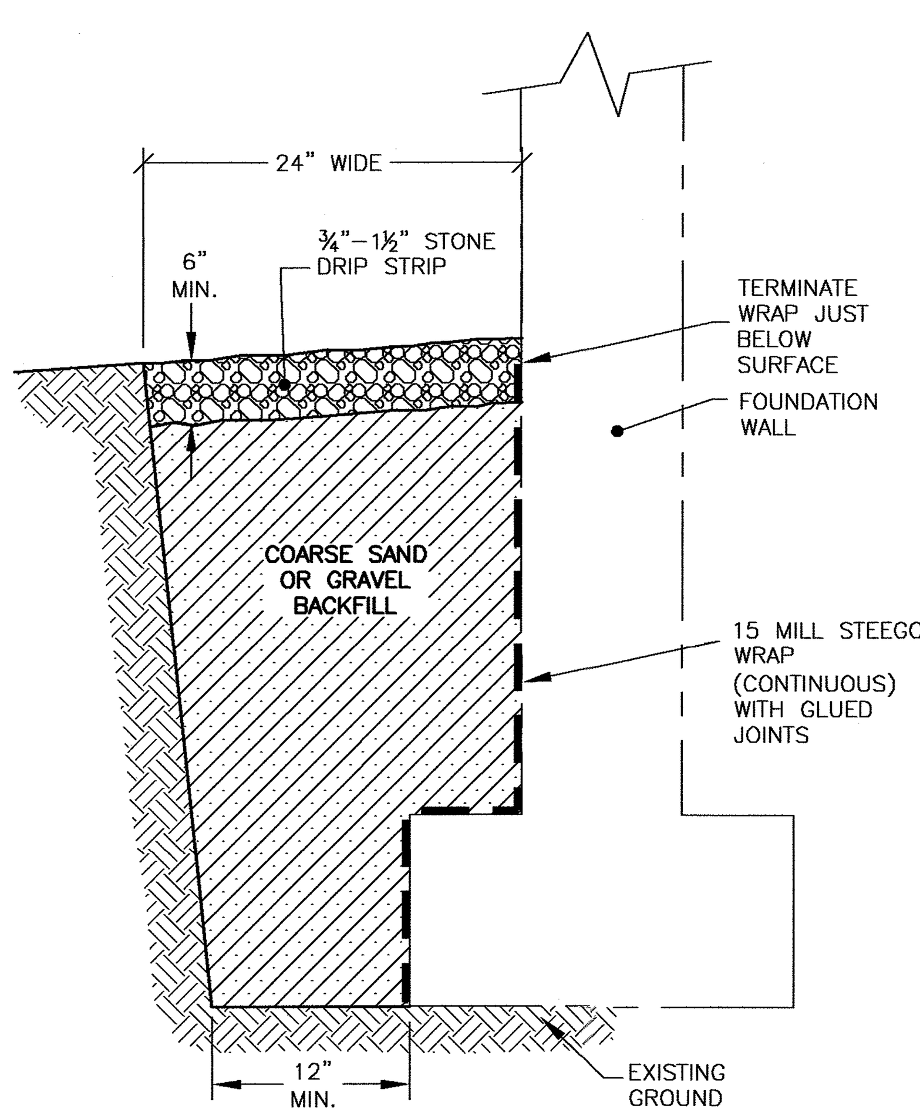


E / C2 "SILT LOG" BARRIER AT CATCH BASIN INLET
NTS



NOTES:
1) PAVEMENT SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS – SECTION 401.
2) CRUSHED GRAVEL AND GRAVEL SUBBASE SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS – SECTION 304, TABLE 1E, AND SHALL BE COMPACTED AS INDICATED IN SECTION 304, 3.6 COMPACTION, AND 3.7 DENSITY TESTING, AND CITY OF CONCORD CONSTRUCTION STANDARDS, SECTION VIII B AND C.

F / C2 PAVEMENT JOINT DETAIL
NTS



G / C2 STONE DRIP APRON
(UNDER BUILDING DRIP LINE) NTS

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

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

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

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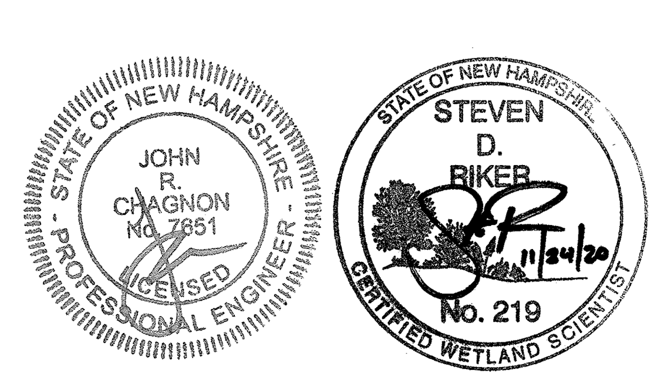
5) PURSUANT TO RSA 483-B:9, V (A) (2) (A), NO CHEMICALS INCLUDING PESTICIDES OR HERBICIDES OF ANY KIND, SHALL BE APPLIED TO GROUND, TURF, OR ESTABLISHED VEGETATION WITHIN THE WATERFRONT BUFFER, EXCEPT IF APPLIED BY HORTICULTURE PROFESSIONAL WHO HAVE AN APPLICATION LICENSE OR AS ALLOWED BY SPECIAL PERMIT ISSUED UNDER RSA 541-A. NO CALCIUM CHLORIDE SHALL BE APPLIED WITHIN THE WATERFRONT BUFFER.

O'CONNOR RESIDENCE GARAGE RECONSTRUCTION 163 SPARHAWK STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAILS D & F	11/23/20
0	ISSUED FOR COMMENT	10/31/20

REVISIONS



SCALE: AS SHOWN AUGUST 2020

DETAILS **D2**

FB 201 PG 58 3120

AMBIT ENGINEERING,INC. CIVIL ENGINEERS AND LAND SURVEYORS
200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

29 December 2020

Dexter Legg, Chair
City of Portsmouth Planning Board
1 Junkins Avenue
Portsmouth, NH 03801

Re: City of Portsmouth Wetland Conditional Use Permit Request
Tax Map 159, Lot 7 & 8
163 Sparhawk Street
Portsmouth, New Hampshire

Dear Mr. Legg:

This letter transmits a City of Portsmouth Wetland Conditional Use Permit Amendment request for 695 square feet of disturbance within the 100' City of Portsmouth Wetland Buffer for the re-construction of an existing garage, installation of an infiltration trench, installation of a stone drip apron, and associated landscaping.

The property currently contains a single family residential structure, a wooden deck, a covered porch, a patio, an attached garage, stairs for access/egress, and associated landscaping.

The proposed infiltration trench and stone drip apron will allow for collection and infiltration of the stormwater from the proposed garage replacement.

According to the City of Portsmouth Zoning Ordinance, *Article 10.1017.50 Criteria for Approval*, the proposal shall comply with the following criteria:

1. **The land is reasonably suited to the use, activity or alteration.**

The proposal is to re-construct an existing garage in the existing footprint. The entire garage and the entire lot is located within the 100' City of Portsmouth Wetland Buffer. Given that the proposed project includes the replacement of an existing structure, in the existing footprint, the land is reasonably suited to the use, activity, or alteration. In addition, the proposed replacement does not require the removal of any naturally vegetated buffer area surrounding the garage to achieve construction goals.

2. **There is no alternative location outside of the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.**

Due to the configuration of the lot, the location of nearby wetlands, there does not exist an area to propose the garage replacement while avoiding the 100' City of Portsmouth Wetland Buffer.

3. **There will be no adverse impact on the wetland functional values of the site or surrounding properties.**

The proposal will not impact the existing wetland resource located adjacent to the site and its current functions and values. The proposed infiltration trench and stone drip apron will improve stormwater quality, treatment, and infiltration within the 100' City of Portsmouth Wetland Buffer. It is our belief that the above project will improve water quality entering the nearby wetland resource, and therefore have no adverse impact on the wetland functional values and the surrounding properties.

4. **Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.**

The areas within the 100' City of Portsmouth Wetland Buffer that are proposed to be impacted would be characterized as existing pavement and/or stone walkway. There will be no alteration of the natural vegetated state to achieve construction goals.

5. **The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.**

The project represents the alternative with the least adverse impacts to areas and environments while allowing reasonable use of the property. The proposal replaces an existing garage in the existing footprint. and provides a stormwater treatment and infiltration component, a function that does not currently exist.

6. **Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.**

There are no areas within the vegetated buffer strip that will be impacted or altered by this project.

Please contact me if you have any questions or concerns regarding this application.

Respectfully submitted,

Steven D. Riker
NH Certified Wetland Scientist/Environmental Permitting Specialist
Ambit Engineering, Inc.

Cc: Michael J. O'Connor-Owners/Applicant

NH DES-Wetlands Bureau Application
Michael J. O'Connor

SITE PHOTOGRAPHS
Garage Reconstruction

Site Photograph #1 August 2020

Site Photograph #2 August 2020

Site Photograph #3 August 2020

Site Photograph #4 August 2020

Site Photograph #5 August 2020

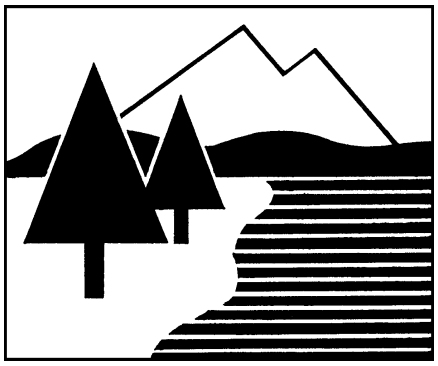
Site Photograph #6 August 2020

DRAINAGE ANALYSIS

O'CONNOR RESIDENCE

163 SPARHAWK STREET

PORTSMOUTH, NH



28 DECEMBER 2020

Ambit Engineering, Inc.

Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 436.2315
E-mail: jrc@ambitengineering.com

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EXECUTIVE SUMMARY

This drainage analysis examines the existing and proposed stormwater drainage patterns for the proposed improvements on the lot at 163 Sparhawk Street in Portsmouth, NH, as shown on the Town of Portsmouth Assessor's Map 159, Lot 7. The total area of the lot is 3,198 square-feet.

The proposed construction involves reconstruction of the existing garage to include a roof drain, a drip edge, and a stone infiltration trench.

While this development has minimal potential to increase stormwater runoff to adjacent properties as there is no increase in impervious surface, this analysis is provided to the City of Portsmouth in support of a Conditional Use Permit Application.

INTRODUCTION

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on City of Portsmouth, NH Assessor's Map 159 as Lot 7. The proposed project involves reconstruction of the existing garage, a roof drain, a drip edge, and a stone infiltration trench on the subject lot.

This report includes information about the existing site and the proposed site necessary to analyze stormwater runoff and design mitigation. The report includes maps of existing and proposed subcatchments and calculations of runoff. The report will provide a brief narrative description of the storm water runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management and treatment structures and methods will also be described. To fully understand the proposed site development the reader should review a complete site plan set in addition to this report.

METHODOLOGY

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

SITE SPECIFIC INFORMATION

Located on Sparhawk Street in Portsmouth, NH, the existing 3,198 square-foot lot site is made up of a single soil type; 799 – Well Drained, Urban land-Canton complex. The lot contains some trees with an existing house and associated paving and grassed surfaces. The existing site has a curve number of 67 including its impervious surface. Areas with higher curve numbers will produce more runoff as compared to lower curve number areas.

DRAINAGE ANALYSIS

This drainage analysis consists of two sections, an analysis of the stormwater runoff from the site in the existing (or pre-developed condition) and an analysis of the stormwater runoff from the same area along with the associated proposed development. Areas and drainage information were taken from an existing conditions plan and site topographic map prepared by Ambit Engineering. Soils information used in the HydroCAD model are from the Soil Conservation Service, Soil Survey of Rockingham County.

Existing or Pre-Developed Site Runoff

The existing conditions for this site are defined by one subcatchment (ES1). Subcatchments were delineated by topography and critical areas of concern such as at down gradient property lines. In the pre-developed or existing conditions, the site runoff from Existing Subcatchment ES1 generally flows in a north-easterly direction toward North Mill Pond. The Existing Subcatchment defined by ES1 is comprised by the existing home, paved surfaces and grass.

The flow paths used in the HydroCAD model for existing conditions on this site are primarily sheet due to the small size of the individual subcatchments and a lack of any well defined drainage channels. The flow paths chosen in both the pre and post developed analysis are meant to be the longest time of concentration flow paths (woods or porous

surfaces have longer times of concentration as compared to pavement or lawns), not the longest length of flow path.

Table 1: Existing Local Watershed Subcatchment Summary.

Subcat	Area Sf	Tc min.	CN	100 Year Peak cfs	Associated Design Point
ES1	3198	5	67	0.78	DP1

See "Plan of Existing Subcatchments" – W1

Proposed or Post-Developed Site Runoff

The lot has on it an existing structure to which various improvements will be made including a reconstructed garage. While such improvements have minimal potential to generate an increase in stormwater runoff, the city of Portsmouth has an interest in reducing and treating runoff from the site.

The proposed conditions for this site are defined by three subcatchments (PS1, PS1a and PS1b). These subcatchments are analyzed at Discharge Point DP1. Subcatchment PS1 is similar in area and land cover as in ES1 except that the runoff from part of the garage roof is taken out and redirected to a proposed stone infiltration trench. Subcatchment PS1a is comprised of the westerly garage roof area, to be directed toward the adjacent stone infiltration trench. PS1b is comprised of the easterly portion of the garage roof, which is directed to a drip apron and sheet flow. The stone infiltration trench will provide treatment to the runoff as well as offset the peak flows anticipated from the impervious surfaces. All three nodes are analyzed at DP1.

The following table summarizes the developed conditions:

Table 2: Proposed or Developed Conditions

Subcatchment	Area Sf	Tc min	Weighted CN	100 Year Peak cfs	Associated Design Point
PS1	5,323	5	63	0.65	DP1
PS1a	175	5	98	0.06	DP1
PS1b	175	5	98	0.06	DP1

See "Plan of Proposed Subcatchments" – W2

Tc values are calculated according to TR-55 methodology. See "Plan of Proposed Subcatchments" – W2.

Peak Flow Rates

One of the main goals of any stormwater runoff analysis is to maintain peak runoff amounts at or below pre-developed levels. For this development, this is accomplished utilizing the stone infiltration trench. The following table summarizes the comparison of Pre vs. Post Development flows for a range of storm events:

	Q2 (cfs)		Q10 (cfs)		Q25 (cfs)		Q50 (cfs)		Q100 (cfs)	
Discharge Point	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP 1	0.12	0.11	0.29	0.26	0.45	0.40	0.60	0.59	0.78	0.78

As the above table illustrates, Discharge Point 1 (DP1) shows decreases or no change for all storms considered in this analysis.

Conclusion

The existing lot can be redeveloped as shown on the submitted plans and will cause no negative impacts on abutting properties. This meets the requirements of the City of Portsmouth in terms of stormwater management.

STORMWATER MANAGEMENT
INSPECTION & MAINTENANCE PLAN

FOR

Michael J. O'Connor
PROPERTY LOCATED AT
163 Sparhawk Street Portsmouth, NH
December 28, 2020

Introduction

The intent of this plan is to provide Michael J. O'Connor, owner of property located at 163 Sparhawk Street, Portsmouth, NH, with a list of procedures that cover the inspection and maintenance requirements of the stormwater management structures for the proposed construction at the site.

The following inspection and maintenance program is necessary to keep the stormwater management structures functioning properly. These measures will also help minimize potential environmental impacts. By following the enclosed procedures, Michael J. O'Connor will be able to maintain the functional design of the stormwater management structures and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Stormwater Management System Components

The Stormwater Management System design components are a stone infiltration trench and stone drip apron.

The proposed construction includes the replacement of an existing garage that is attached to the existing residential structure. Since all of the proposed construction is within the City of Portsmouth's wetland buffer zone, the proposed stormwater structures will provide treatment for the proposed project.

The Stone Drip Apron underneath the proposed stairway access will capture runoff from a section of the roof of the garage and provide storage and percolation into the soil below. The stone infiltration trench will also provide storage and percolation of stormwater from the roof of the garage into the soil below.

The Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMP's

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to: temporary and permanent mulching, temporary and permanent grass cover, trees, shrubs and ground covers, miscellaneous landscape plantings, dust control, tree protection, topsoiling, sediment barriers, and a stabilized construction entrance.

Structural BMP's

Structural BMP's are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to: stone infiltration trench, roof drains, and drip apron.

Inspection & Maintenance Checklist/Log

The following pages contain maintenance specifications, a Stormwater Management System Inspection & Maintenance Checklist, and a blank copy of the Stormwater Management System Inspection & Maintenance Log. The forms are provided to Michael J. O'Connor and should be transferred to future homeowners and will serve as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

Stone Drip Apron Design

The intent of the stone drip apron is to provide for storage and percolation of runoff from the proposed deck. Stone Drip Aprons are meant to provide a porous medium (stone, 6" depth) that can withstand water velocity from the structure above, eliminating erosion at the point of contact. The base (24"-36" depth) of the drip edge is backfilled with coarse sand or gravel which allows the stormwater to quickly infiltrate into the ground where it is stored and slowly percolated into the surrounding subsoil. The Stone Drip Apron will extend from the foundation edge slightly further than the structure above to effectively capture runoff from the structure above, in this case a wooden deck.

Stone Drip Apron Maintenance

In order to keep the Stone Drip Aprons functioning properly, it is important to keep the filter surface porous and unplugged by debris. Remove any debris that may clog the stone surface. After leaf fall (i.e. in November), remove large accumulations of leaves. It is not necessary to remove every leaf but at the same time it is not desirable to have the stone surface completely covered with leaves to the point of plugging the stone surface.

Replace the stone surface with new stone as needed. If it is observed that water is ponding or percolating through the stone media very slowly, the stone surface and underlying course sand/gravel backfill base will need to be replaced as it is likely clogged from accumulating debris.

Stone Infiltration Trench Design

The intent of the infiltration trench is to provide for storage and percolation of runoff from a portion of the proposed garage roof. The trench provides 42 inches of depth of gravel and washed septic stone depth which allows the stormwater to quickly infiltrate into the trench area where it is stored and slowly percolated into the surrounding subsoil. A gutter with a downspout and leader to the trench effectively capture runoff from the roof of the garage, and conveys it via gravity to the trench.

Stone Infiltration Trench Maintenance

In order to keep the stone infiltration trench functioning properly, it is important to keep the collection gutter on the roof of the garage, the downspout and the leader to the trench clean and unplugged by debris. The infiltration trench is also equipped with a yard drain overflow/cleanout structure that will allow for the removal of any debris that is collected in the trench.

Remove any debris that may clog the gutter, downspout, leader to ensure that stormwater flows via gravity to the trench.

After leaf fall (i.e. in November), remove large accumulations of leaves from the gutter, downspout, and leader. If it is observed that stormwater is not entering the trench area, it is likely clogged from accumulating debris and needs to be cleaned.

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Grassed areas:** After each rain event of 0.5" or more during a 24-hour period, inspect grassed areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and make adjustments to the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection.
3. **Stone Infiltration Trench:** The filtration trench should be monitored for siltation and weed growth. Any silt or vegetation that occurs in the trench should be removed.
4. **Roof Gutter:** Monitor gutter inlets and outlets for excessive accumulation of sediment.

The use of sand shall be prohibited, and the use of salt shall be limited.

Stormwater Management System

163 Sparhawk Street
Michael J. O'Connor

Inspection & Maintenance Checklist

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Stone Drip Apron	Twice Yearly	Remove leaves / debris from surface	Clean and/or replace stone as needed
Stone Infiltration Trench	Twice Yearly	Inspect for damage, remove any debris from gutter, downspout and/or leader.	Clean entire drainage system and remove all sediments if discovered in piping

Stormwater Management System

163 Sparhawk Street
Michael J. O'Connor

Inspection & Maintenance Log

BMP/System Component	**Date Inspected**	**Inspector**	**Cleaning/Repair Needed** ***(List Items/Comments*****)**	**Date of Cleaning/Repair**	**Performed By**

AMBIT ENGINEERING,INC. CIVIL ENGINEERS AND LAND SURVEYORS
200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

29 December 2020

Wetland Inspector
New Hampshire Department of Environmental Services
Wetlands Bureau
29 Hazen Drive / P.O. Box 95
Concord, New Hampshire 03302

Re: NHDES Minor Impact Wetland Permit Application
Tax Map 159, Lot 7 & 8
163 Sparhawk Street
Portsmouth, New Hampshire

Dear Wetland Inspector:

This letter transmits a New Hampshire Department of Environmental Services (NHDES) Minor Impact Wetland Permit Application request to permit 374 sq. ft. of permanent impact, and 321 sq. ft. of temporary construction impact to the previously developed 100' TBZ for the re-construction of an existing garage in the existing footprint and installation of stormwater treatment devices on the subject residential lot.

Attached to this application you will find a "NH DES Permit Plan-C4" which depicts the existing lot, jurisdictional areas, abutting parcels, existing structures, proposed work, and permanent impact areas.

Per Env-Wt 306.05, Certified Wetland Scientist Steve Riker from Ambit Engineering, Inc. classified all jurisdictional areas and identified the predominant functions off all relevant resources. The Highest Observable Tide Line marks the reference line for the 100' TBZ, as well the beginning of Tidal Wetland on the attached plan set. Attached to this application is a Wetland Functions and Values Assessment and Coastal Vulnerability Assessment summarizing these functions; as this project is subject to the requirements of Env-Wt 603.04 and Env-Wt 603.05.

The proposed garage re-construction replaces "in-kind" the existing attached garage space associated with the residential structure.

The construction sequence for the proposed garage re-construction is as follows:

- Install erosion and sediment control devices.
- Disconnect any existing utilities.
- Demolish existing garage and existing foundation.
- Pour new concrete foundation.

- Construct new superstructure of proposed garage and stormwater structures.
- Re-connect any existing utilities and stormwater devices.
- Backfill, finish grade and landscape disturbed area surrounding foundation.
- Remove sediment and erosion controls once disturbed area is stabilized.

Access to re-construct the garage will be achieved from Sparhawk Street and Clinton Street.

The project represents the alternative with the least adverse impacts to areas and environments while allowing reasonable use of the property.

Per Env-Wt 603.02(b), attached to this application you will find a plan set which depicts the existing lot, jurisdictional areas, all natural resources in the area, abutting parcels, existing structures, proposed structures, and temporary impact areas. Also included in this application are maps created in accordance with Env-Wt 603.03 and Env-Wt 603.05.

In order to complete the application package for this project, the DES Wetlands Bureau rules in Chapter Env-Wt 306.05 (a)(2) has been evaluated and addressed below.

(2) a. Contains any documented occurrences of protected species or habitat for such species, using the NHB DataCheck tool;

Attached to this application are the results of the NHB review and it was determined that, although there was an NHB record present in the vicinity, it is not expected that it will be impacted by the proposed project.

(2) b. Is a bog;

Utilizing the NH DES WPPT, the subject property is not a bog, nor does it contain any portion of a bog.

(2) c. Is a floodplain wetland contiguous to a tier 3 or higher watercourse;

Utilizing the NH DES WPPT, the subject property is adjacent to a floodplain wetland contiguous to a tier 3 or higher watercourse.

(2) d. Does the property contain a designated prime wetlands or a duly established 100-foot buffer; or

The property does not contain a prime wetland or duly established 100 foot buffer.

(2) e. Does the property contain a sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone;

The property does not contain a sand dune or undeveloped tidal buffer zone. The property is directly adjacent to a tidal wetland and tidal waters.

The DES Wetlands Bureau rules in Chapter Env-Wt 306.05 (a)(4) and (a)(7) has been evaluated and addressed below.

(4) a. Is the subject property within LAC jurisdiction;

The property does not fall within an area of LAC jurisdiction.

(4) b. Does the subject property fall within or contain any areas that are subject to time of year restrictions under Env-Wt 307;

The property does not fall within or contain any areas that are subject to time of year restrictions.

(7) Does the project have potential to impact impaired waters, class A waters, or outstanding resource waters;

I do not believe the nature of the proposed project has the potential to impact an impaired water. The proposed project will serve to improve the water quality of the stormwater on site.

The DES Wetlands Bureau rules in Chapter Env-Wt 603.02 (e) & (f) have been evaluated and addressed below.

(e)(1) The project meets the standard conditions in Env-Wt 307;

The project meets the standard conditions in Env-Wt 307 as the proposed garage re-construction meets the standards of Env-Wq 1000, RSA 483-B and Env-Wq 1400. Sediment and erosion controls will also be used and maintained during the proposed construction ensuring protection of water quality on the site. Since the re-construction will be conducted in the previously developed uplands, it is not anticipated that there will be any impacts to fish or shellfish. Under Env-Wt 306.05 (a)(2)a. a NHB review has been performed to ensure there are no impacts to protected species or habitats of such species. The protection of Prime Wetlands or Duly-Established 100 foot buffers does not apply as none exist on or adjacent to the subject lot.

(e)(2) The project meets the approval criteria in Env-Wt 313.01;

The project meets the approval criteria in Env-Wt 313.01 as the project requires a functional assessment (attached), meets the avoidance and minimization requirements specified in Env-Wt 313.03, does not require compensatory mitigation, meets applicable conditions specified in Env-Wt 307 (above), meets project specific criteria listed in Env-Wt 600 (above), and the project is located entirely within the boundary of the applicants property.

(f)(1) The project design narrative as described in Env-Wt 603.06;

The project design narrative is provided above.

(f)(2) Design plans that meet the requirements of Env-Wt 603.07;

The design plans meet the above standard.

(f)(3) The water depth supporting information required by Env-Wt 603.08;

The design plans do not provide water depth information as it is non-applicable to the proposed project.

(f)(4) A statement regarding impact on navigation and passage required by Env-Wt 603.09.

Navigation and passage is not applicable to the proposed project.

Please contact me if you have any questions or concerns regarding this application.

Respectfully submitted,

Steven D. Riker, CWS
NH Certified Wetland Scientist/Permitting Specialist
Ambit Engineering, Inc

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME: Michael J. O'Connor **TOWN NAME:** Portsmouth

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver to the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III (b). For more information, please consult the request form.

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2)) Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: priority resource areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.	
Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☒ Yes ☐ No
• Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHF&G) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04).	☐ Yes ☒ No
• Protected species or habitat? ○ If yes, species or habitat name(s): Not specified ○ NHB Project ID #: 20-0251	☒ Yes ☐ No
• Bog?	☐ Yes ☒ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	☒ Yes ☐ No
• Designated prime wetland or duly-established 100-foot buffer?	☐ Yes ☒ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☒ Yes ☐ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): N/A • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☒ No

For dredging projects, is the subject property contaminated? • If yes, list contaminant: N/A	☐ Yes ☒ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☒ No
For stream crossing projects, provide watershed size (se Wetland Permit Planning Tool or Stream Stats): N/A	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a **brief** description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached"; please use the space provided below.

The project proposes 321 sq. ft. of temporary construction impact and 374 sq. ft. of permanent impact to the previously developed 100' Tidal Buffer Zone for the the replacement of an existing attached garage associated with the existing residential structure on the subject lot. The proposal replaces the existing garage "in-kind" with no change in footprint or expansion.

SECTION 3 - PROJECT LOCATION

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: 163 Sparhawk Street

TOWN/CITY: Portsmouth

TAX MAP/BLOCK/LOT/UNIT: Map 159, Lot 7 & 8

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: North Mill Pond
☐ N/A

(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places): 1,223,548.7377° North
210,965.6595° West

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME: Michael J. O'Conner		
MAILING ADDRESS: 163 Sparhawk Street		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: jessepratt@gmail.com		
FAX:	PHONE: 603-812-5149	

ELECTRONIC COMMUNICATION: By initialing here: _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))

☐ N/A

LAST NAME, FIRST NAME, M.I.: Riker, Steven. D.		
COMPANY NAME: Ambit Engineering, Inc.		
MAILING ADDRESS: 200 Griffin Road, Unit 3		
TOWN/CITY: Portsmouth	STATE: NH	ZIP CODE: 03801
EMAIL ADDRESS: sdr@ambitengineering.com		
FAX:	PHONE: 603-430-9282	

ELECTRONIC COMMUNICATION: By initialing here SR, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☒ Same as applicant

NAME:		
MAILING ADDRESS:		
TOWN/CITY:	STATE:	ZIP CODE:
EMAIL ADDRESS:		
FAX:	PHONE:	

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):
Please see attached narrative

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a))*. Any project with unavoidable jurisdictional impacts must then be minimized as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization and the Wetlands Permitting: Avoidance, Minimization and Mitigation Fact Sheet. For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10))*.

Please refer to the application checklist to ensure that you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). You can use the Avoidance and Minimization Checklist, the Avoidance and Minimization Narrative, or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation pre-application meeting must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☒ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☒ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/rivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ	374		☐	321		☐
	Docking - Tidal Water			☐			☐
TOTAL		374			**321**		

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

☐ **MINIMUM IMPACT FEE**: Flat fee of $400.

☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of $400 (refer to RSA 482-A:3, 1(c) for restrictions).

☒ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	695 SF	× $0.40 =	$	278
Seasonal docking structure:	SF	× $2.00 =	$	
Permanent docking structure:	SF	× $4.00 =	$	
Projects proposing shoreline structures (including docks) add $400 =			$	
Total =			$	278

The application fee for minor or major impact is the above calculated total or $400, whichever is greater = $ 400

SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☐ Minimum Impact Project	☒ Minor Project	☐ Major Project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)

Initial each box below to certify:

Initials: SR	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: SR	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: SR	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1. • The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641. • The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact forestry SPN projects and minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.
Initials: SR	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Steven D. Riker	DATE: 12/29/2020

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a),(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:
TOWN/CITY:	DATE:

24 January, 2020

To Whom It May Concern

RE: New Hampshire Department of Environmental Services Wetlands Bureau Application for site improvements for Michael J. O'Connor, 163 Sparhawk Street, Portsmouth, NH.

This letter is to inform the New Hampshire Department of Environmental Services and the City of Portsmouth, in accordance with State Law that Ambit Engineering is authorized to represent me as my agent in the approval process.

Please feel free to call me if there is any question regarding this authorization.

Sincerely,

Michael J. O'Connor
163 Sparhawk Street
Portsmouth, NH 03801

AVOIDANCE AND MINIMIZATION WRITTEN NARRATIVE

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: **O'Conner, Michael, J.** **TOWN NAME:** **Portsmouth**

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed Avoidance and Minimization Checklist (NHDES-W-06-050) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

No.

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

No.

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

The project proposes the replacement of an existing attached garage associated with the existing residential structure on the subject lot. The applicant does not have access to other properties that would serve as an alternative and achieve the same purpose.

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization?

Since the project proposes to replace an existing attached garage associated with an existing residential structure, there are no other alternatives available to the applicant that achieves the same purpose. The proposal replaces the existing garage "in-kind" with no change in footprint or expansion.

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A*.

The project proposes a total of 586 sq. ft. of impact to the previously developed 100' TBZ and qualifies as a minor impact project, therefore a Functional Assessment and Coastal Vulnerability Assessment are required and attached to this application. However, the project has been designed to allow the adjacent tidal resource to maintain its current functions and values

STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION ATTACHMENT A: MINOR AND MAJOR PROJECTS

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: **O'Conner, Michael, J.** **TOWN NAME:** Portsmouth

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the Avoidance and Minimization Narrative or Checklist that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the Wetlands Best Management Practice Techniques For Avoidance and Minimization.

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

SINCE THE PROJECT PROPOSES TO REPLACE AN EXISTING ATTACHED GARAGE ASSOCIATED WITH AN EXISTING RESIDENTIAL STRUCTURE, THERE ARE NO OTHER ALTERNIVES AVAILABLE TO THE APPLICANT THAT ACHIEVES THE SAME PURPOSE. THE PROPOSAL REPLACES THE EXISTING GARAGE "IN-KIND" WITH NO CHANGE IN FOOTPRINT OR EXPANSION.

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

The project does not propose any impacts to tidal marshes or non-tidal marshes.

SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

Since the proposed project proposes impacts to the previously developed 100' Tidal Buffer Zone and proposes no impacts to adjacent wetland and/or streams, this is not applicable.

SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

The project does not propose any impacts to wetlands (tidal or freshwater), exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of special concern. Since the project proposes to replace an existing attached garage associated with an existing residential structure, there are no other alternatives available to the applicant that achieves the same purpose. The proposal replaces the existing garage "in-kind" with no change in footprint or expansion

SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

The proposed project is located on private property and proposes no impacts or interference to public commerce, navigation or recreation

SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The proposed project is not located in a flood zone and therfore does not have the potential to impact any floodplains, or floodplain wetlands that provide flood storage. The project also includes stormwater devices that will provide infiltration and treatment for some of the stormwater associated with the subject parcel.

SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

The project does not propose impacts to riverine forested wetland systems and scrub shrub marsh complexes.

SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

The wetland resources associated with the project site are not hydrologically connected to a groundwater aquifer or drinking water supply.

SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

The project does not propose any impacts to stream channels.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

N/A

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

N/A

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

N/A

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

N/A

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

N/A

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

N/A

PART II: FUNCTIONAL ASSESSMENT
REQUIREMENTS Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).
FUNCTIONAL ASSESSMENT METHOD USED: Wetland functions and values were assessed using the Highway Methodology Workbook, Wetland Functions and Values: A Descriptive Approach. U.S. Army Corps of Engineers. 1999. The Highway Methodology Workbook Supplement, Wetland Functions and Values: A Descriptive Approach. U.S. Army Corps of Engineers. New England Division. 32pp. NAEEP-360-1-30a
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: STEVEN D. RIKER, CWS
DATE OF ASSESSMENT: OCTOBER 22, 2019.
Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT: ☒
For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable: ☒ Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.

COASTAL RESOURCE WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: O'Conner, Michael, J.

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

The project proposes 321 sq. ft. of temporary construction impact and 374 sq. ft. of permanent impact to the previously developed 100' Tidal Buffer Zone for the the replacement of an existing attached garage associated with the existing residential structure on the subject lot. The proposal replaces the existing garage "in-kind" with no change in footprint or expansion. The new garage will provide the occupants of the primary structure with off street parking and storage for equipment associated with residential use.

For standard permit projects, provide:

☒ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).

☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

The entire lot is located within the 50' Primary Structure Setback (and 50' Waterfront Bufer). The proposed project in located in the previously developed 100' Tidal Buffer Zone (TBZ). The proposal replaces the existing garage "in-kind" with no change in footprint or expansion. The project does not require the removal of any trees and or areas that are naturally vegetated. Lastly, the garage replacement provides a stormwater infiltration function protecting the adjacent wetland resource. See attached Coastal Vulnerability Assessment for project avoidance related to projected sea level rise.

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

The attached narrative and the project plan set, specifically the Details Sheets D1 & D2 includes all notes demonstrating compliance with Env-Wt 307 and Env-Wt 313.01.

Provide a project design narrative that includes the following:

☒ A discussion of how the proposed project:

- Uses best management practices and standard conditions in Env-Wt 307;
- Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- Meets approval criteria in Env-Wt 313.01;
- Meets evaluation criteria in Env-Wt 313.01(c);
- Meets CFA requirements in Env-Wt 603.04; and
- Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;

☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and

☒ A discussion of how the completed project will be maintained and managed.

The application includes a Stormwater Inspection & Maintenance Plan providing the property owners with the methods to maintain the proposed stormwater structures.

☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);

☐ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and

☐ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

N/A

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

☒ Existing salt marsh and salt marsh migration pathways;

☒ Eelgrass beds;

☒ Documented shellfish sites;

☒ Projected sea-level rise; and

☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

☒ National Oceanic and Atmospheric Administration (NOAA) Tides & Currents; and

☒ NOAA Essential Fish Habitat Mapper.

☒ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

☒ Not impair the navigation, recreation, or commerce of the general public; and

☒ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

☒ Adverse impacts to beach or tidal flat sediment replenishment;

☒ Adverse impacts to the movement of sediments along a shore;

☒ Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and

☒ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

☒ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:

- Performed by a qualified coastal professional; and
- Completed using one of the following methods:

  a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or

  b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

☐ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☐ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;

☐ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and

☐ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

☒ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;

☒ Minimize disturbances to groundwater and surface water flow;

☒ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and

☒ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

See attached CVA.

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

See attached CVA.

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

See attached CVA.

Identify areas of the proposed project site subject to flooding from SLR.

See attached CVA.

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

See attached CVA.

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

See attached CVA.

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☐ Pre-application meeting date held: **N/A**

SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

☒ The engineering scale used, which shall be no larger than one inch equals 50 feet;

☒ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.

☐ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;

☒ The location of all special aquatic sites at or within 100 feet of the subject property;

☒ Existing bank contours;

☒ The name and license number, if applicable, of each individual responsible for the plan, including:

a. The agent for tidal docking structures who determined elevations represented on plans; and

b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;

☒ The location and dimensions of all existing and proposed structures and landscape features on the property;

☒ Tidal datum(s) with associated elevations noted, based on NAVD 88; and

☒ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

☐ The nature and slope of the shoreline;

☐ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and

☐ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Dredging activities (Env-Wt 607).
- Tidal beach maintenance (Env-Wt 608).
- Tidal shoreline stabilization (Env-Wt 609).
- Protected tidal zone (Env-Wt 610).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

- ☐ Mean lower low water;
- ☐ Mean low water;
- ☒ Mean high water;
- ☐ Mean tide level;
- ☐ Mean higher high water;
- ☒ Highest observable tide line; and
- ☐ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

- ☐ The date, time of day, and weather conditions when water depths were recorded; and
- ☐ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

- ☐ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

- ☐ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

- ☐ The standard conditions in Env-Wt 307;
- ☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☐ The approval criteria in Env-Wt 313.01;
- ☐ The evaluation criteria in Env-Wt 313.05;
- ☐ The project specific criteria in Env-Wt 600;
- ☐ The CFA required by Env-Wt 603.04; and
- ☐ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

- ☐ To protect public safety; and
- ☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

- ☐ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and
- ☐ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

☒ The standard conditions in Env-Wt 307;

☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☒ The approval criteria in Env-Wt 313.01;

☒ The evaluation criteria in Env-Wt 313.05;

☒ The project specific criteria in Env-Wt 600;

☒ The CFA required by Env-Wt 603.04; and

☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

☒ Provide habitat values;

☒ Protect tidal environments from potential sources of pollution;

☒ Provide stability of the coastal shoreline; and

☒ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

☐ The standard conditions in Env-Wt 307;

☐ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;

☐ The approval criteria in Env-Wt 313.01;

☐ The evaluation criteria in Env-Wt 313.05;

☐ The project specific criteria in Env-Wt 600;

☐ The CFA required by Env-Wt 603.04; and

☐ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

☐ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;

☐ Be designed with a preference for living shorelines over hardened stabilization practices; and

☐ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

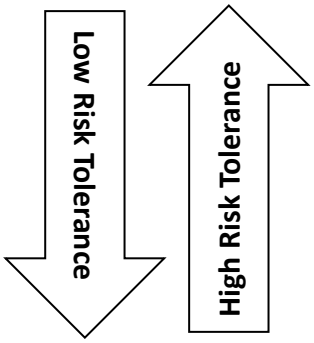
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

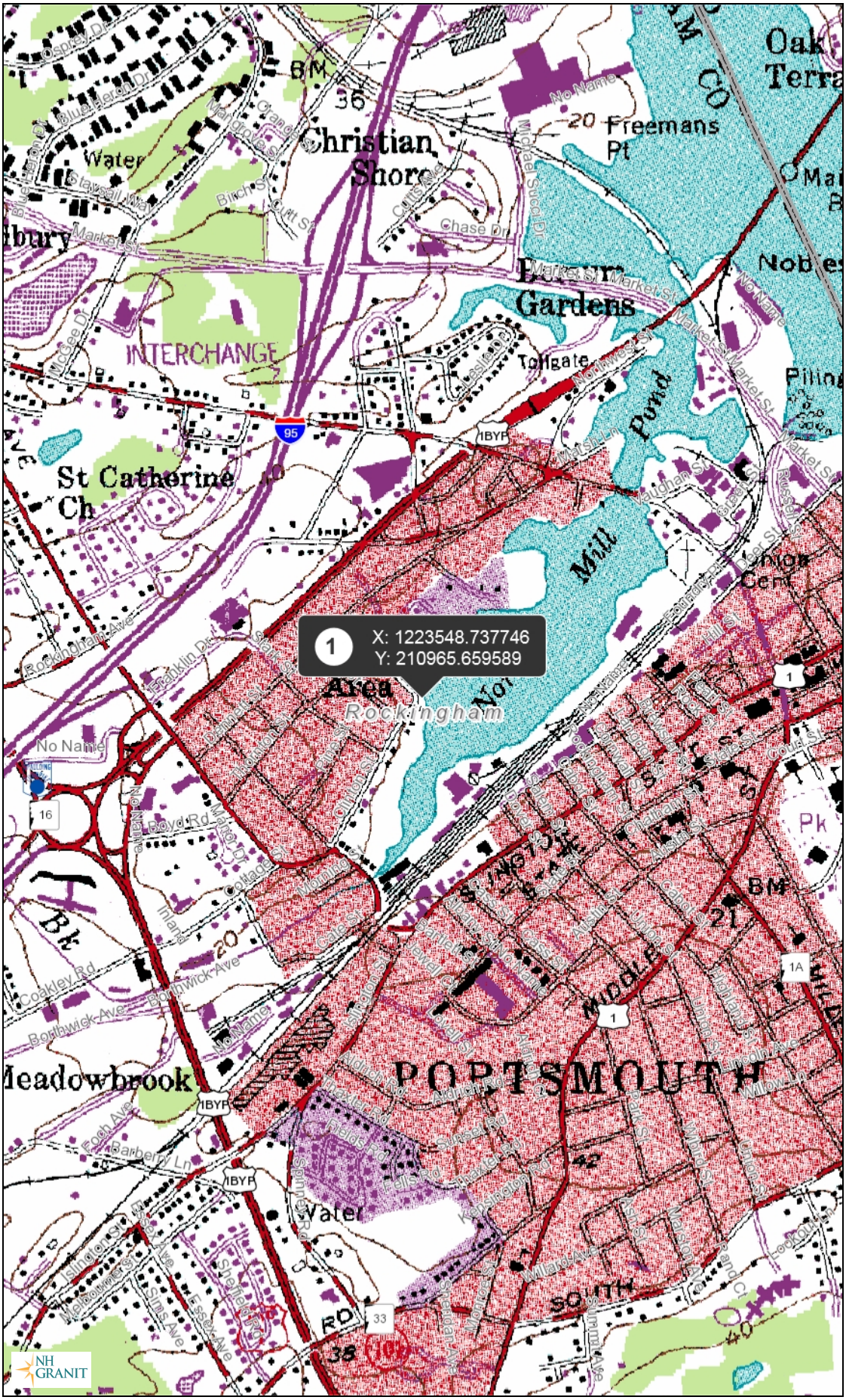
*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

Map by NH GRANIT



Legend

- State
- County
- City/Town

Map Scale

1: 12,988

Map Generated: 1/24/2020

Notes

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/1/2019
Data updated 7/17/2019

ABUTTER'S LIST

JN 3120

Client: Michael J. O'Connor

Project Address: 163 Sparhawk Street, Portsmouth, NH 03801

MAP	LOT	NAME(S)	PO BOX	STREET ADDRESS	CITY/STATE/ZIP
159	6	Matthew D. Schaepe & Jennifer A. Nealon		149 Sparhawk Street	Portsmouth, NH 03801
159	9	Jessica F. Patten Rev. Trust Jessica F. Patten Trustee		250 Clinton Street	Portsmouth, NH 03801

AMBIT ENGINEERING,INC. CIVIL ENGINEERS AND LAND SURVEYORS
200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

28 December 2020

Jessica F. Patten Revocable Trust of 2019
Jessica F. Patten Trustee
250 Clinton Street
Portsmouth, NH 03801

RE: New Hampshire Wetland Application for the replacement of an existing garage for Michael J. O'Connor, 163 Sparhawk Street, Portsmouth, NH.

Dear Property Owner,

Under NH RSA 482-A, this letter is to inform you in accordance with State Law that a Wetlands Permit will be filed with the New Hampshire Department of Environmental Services (DES) Wetlands Bureau for a permit to **impact the previously developed 100' Tidal Buffer Zone to replace an existing garage,** on behalf of your abutter, **Michael J. O'Connor.**

This letter is sent to inform you as an abutter to the above-referenced property (according to local Municipal records) that **Michael J. O'Connor** proposes a project that requires construction in the previously developed tidal buffer zone, a jurisdictional area.

Plans are on file at this office, and once the application is filed, plans that show the proposed project and wetland and other jurisdictional impacts will be available for viewing during normal business hours at the office of the **Portsmouth** clerk, **Portsmouth City offices**, or once received by DES, at the offices of the DES Wetlands Bureau, (8 a.m. to 4 p.m.) (603) 271-2147. It is suggested that you call ahead to the appropriate office to ensure the application is available for review.

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

Sincerely,

Steven D. Riker
NH Certified Wetland Scientist – Permitting Specialist

CERTIFIED MAIL/Return Receipt Requested

AMBIT ENGINEERING,INC. CIVIL ENGINEERS AND LAND SURVEYORS
200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

28 December 2020

Matthew D. Schaepe & Jennifer A. Nealon
149 Sparhawk Street
Portsmouth, NH 03801

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Steven D. Riker
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CERTIFIED MAIL/Return Receipt Requested

7015 0640 0004 2882 9729

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- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here
NEWINGTON NH
DEC 28 2020

Sent To
SHARPE & NEALON

Street and Apt. No., or PO Box No.
149 SPARHAWK STREET

City, State, ZIP+4®
PORTSMOUTH, NH 03801

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 0640 0004 2882 9712

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- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
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$

Postmark Here
NEWINGTON NH
DEC 28 2020

Sent To
PATTEN

Street and Apt. No., or PO Box No.
250 CLINTON ST.

City, State, ZIP+4®
PORTSMOUTH, NH 03801

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

NH DES-Wetlands Bureau Application
Michael J. O'Connor

SITE PHOTOGRAPHS
Garage Reconstruction

Site Photograph #1 August 2020

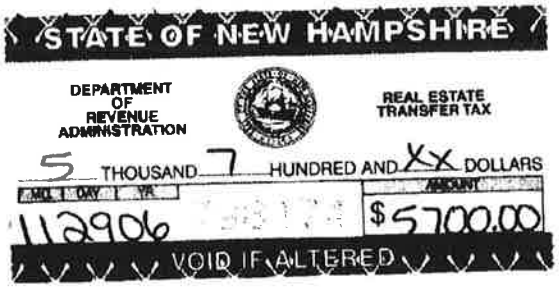
Site Photograph #2 August 2020

Site Photograph #3 August 2020

Site Photograph #4 August 2020

Site Photograph #5 August 2020

Site Photograph #6 August 2020



073750

2006 NOV 29 PM 3:28

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS that John J. Holzman. Jr., Married, of 85 Melbourne Street, Portsmouth, MH 03801 for consideration paid grants to, Michael J. O'Connor, Unmarried, of 106 Friend Street, Apt. 18A, Amesbury, MA 01913, Individually, the following described property WITH WARRANTY COVENANTS:

TRACT 1: A certain tract of land on Sparhawk Street, City of Portsmouth, County of Rockingham and State of New Hampshire, described as follows:

A certain lot or parcel of land situate on Sparhawk Street East and shown on Plans in the Assessors Office, City of Portsmouth, N.H., as Lot 31, on Plan 87.

Containing 900 square feet, more or less.

TRACT II: A certain lot of land in Portsmouth, County of Rockingham and State of New Hampshire, with the buildings thereon, bounded and described as follows:

Northerly by Sparhawk Street a distance of 55 feet, more or less; thence Southerly by the North Mill Pond a distance of 55 feet, more or less, thence Easterly by land now or formerly of Clarence E. Hodgdon a distance of 75 feet, more or less; thence Westerly by land now or formerly of Peter Shea a distance of 42 feet, more or less.

Being the same premises conveyed to Grantor by deed of John D. Mitchell and Mary Connelly-Mitchell dated June 30, 1995 and recorded at the Rockingham County Registry of Deeds at Book 3107, Page 2021.

We, John J. Holzman, Jr. and Michelle Holzman, release all Rights of Homestead in the above referenced property.

Dated this 29th day of November, 2006.

John J. Holzman, Jr.

Michelle Holzman

State of New Hampshire
Rockingham County

November 29, 2006

John J. Holzman, Jr. and Michelle Holzman personally appeared before me and acknowledged the foregoing instrument to be their free act and deed.

Notary Public:
My Commission Expires:

JUDITH F. CROPPER
NOTARY PUBLIC
STATE OF NEW HAMPSHIRE
MY COMMISSION EXPIRES JANUARY 26, 2010
COMMISSIONER OF DEEDS

To: John Chagnon, Ambit Engineering, Inc.
200 Griffin Road
Unit 3
Portsmouth, NH 03801

From: NH Natural Heritage Bureau

Date: 2/3/2020 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 1/23/2020

NHB File ID: NHB20-0251 **Applicant:** Jesse Pratt

Location: Portsmouth
Tax Maps: Tax Map 159, Lots 7 & 8

Project Description: The project proposes to replace the existing garage "in-kind" and associated landscaping.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

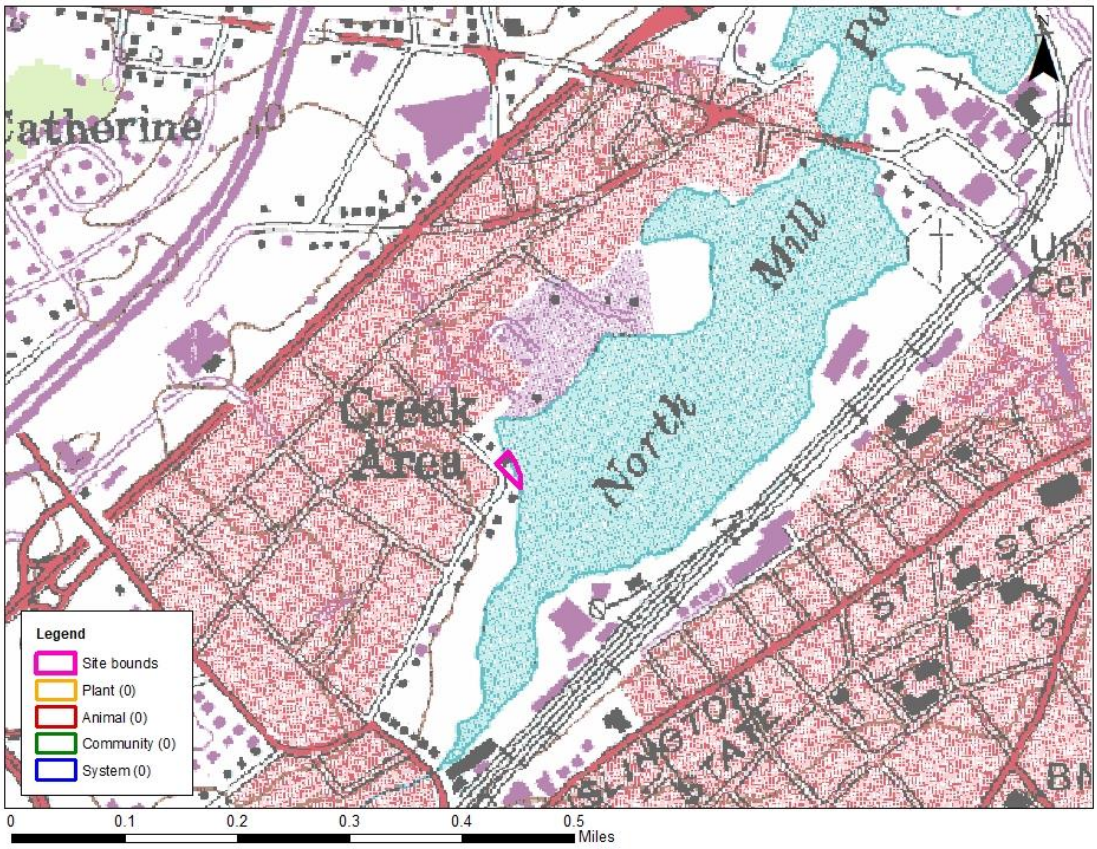
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 1/23/2020, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB20-0251**

NHB20-0251



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

Coastal Vulnerability Assessment

Prepared for:

Michael J. O'Connor
163 Sparhawk Street
Portsmouth, New Hampshire 03801

Prepared By:
Ambit Engineering, Inc
200 Griffin, Unit 3
Portsmouth, New Hampshire 03801

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Introduction
This Coastal Vulnerability Assessment (CVA) is being provided in support of a New Hampshire Department of Environmental Services (NHDES) Wetland Permit Application for proposed site improvements located at 163 Sparhawk Street in Portsmouth, NH (herein referred to as "project site"). The project site is a residential lot located on the north side of North Mill Pond with one occupied residential dwelling. The surrounding land use is residential with similar residential structures.

Methods
On October 22, 2019, Steven D. Riker, CWS from Ambit Engineering, Inc. conducted a site visit to evaluate coastal characteristics of the project site. This CVA was completed utilizing the NH Coastal Flood Risk Science and Technical Advisory Panel (2019). New Hamsphire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections. Report Published by the University of New Hampshire (herein refered to as Guidance Document).

Part 1.1 – Project Type
This project proposes site improvements on the lot including the re-construction of an existing garage in the existing footprint, and associated stormwater structures. For more details regarding the proposed site improvements, please refer to the NH DES Wetlands Bureau Application Letter to the Wetlands Inspector and attached NHDES Permit Plan – C4.

Part 1.2 – Project Location
The project location is 163 Sparhawk Street, Portsmouth, NH, Tax Map 159, Lots 7 & 8 and consists of combined 3,992 sq. ft. of residential upland and a combined +/- 112' of shoreline frontage along North Mill Pond. The project consists of replacement of an existing garage in the existing footprint. Access to the project site will be from New Castle Ave. for the staging of equipment and materials.

Part 1.3 – Timeline for Desired Useful Life
The desired useful life for this project is considered to be 2100 (50-100 years) due to the fact that the improvements involve an existing residential structure, which has a life expectancy of approximately 50-75 years.

2.1 – Project Risk Tolerance
The proposed project is considered to have a high risk tolerance considering the proposed improvements have a relatively low cost, are relatively easy to modify, propose little to no implications on public function and/or safety; and involve repair or replacement of existing structures. In addition, when referencing the American Society of Civil Engineers (ASCE), Flood Resistant Design and Construction, ASCE 24 document, this project would meet the standards of Flood Class 1.

2.2 – Risk Tolerance of Important Access and Service Areas
The risk tolerance of surrounding access and service areas is not applicable to this project, as the project occurs on a residential, private lot and is intended for private use; primary access of which would be from the residence.

3.1 – Relative Sea Level Rise Scenario (RSLS)

Based on Table 3 in the Guidance Document (see table below), the RSLS for this project (based on the previously determined high risk tolerance) is considered to be on the lower magnitude, and higher probability. The following table depicts the probable see level rise from 2000 through 2150.

Table 3 from the Guidance Document:

Risk Tolerance	High	Medium	Low	Extremely Low
Example Project	Walking Trail *Docking structure & Stone Revetment	Local Road Culvert	Wastewater Treatment Facility	Hospital
Timeframe	Manage to the following sea level rise (ft*) *Compared to the sea level in the year 2000*			
	Lower magnitude Higher probability ⟷ Higher magnitude Lower probability			
2030	**0.7**	**0.9**	**1.0**	**1.1**
2050	**1.3**	**1.6**	**2.0**	**2.3**
2100	**2.9**	**3.8**	**5.3**	**6.2**
2150	**4.6**	**6.4**	**9.9**	**11.7**

*Added by Ambit Engineering, Inc. based on the application of the Guidance Document towards our project.

3.2 – RSLR Impacts to the Project Evaluation

Please see the attached Figure 1 – Projected SLR's; which depicts the project site and relevant Highest Observable Tide Line (HOTL), MHHW, and the projected SLR's for the years 2030, 2050, 2100 and 2150. Considering the High Risk Tolerance and lower magnitude of this project; the project should be managed to 2.9 feet of predicted sea level rise in the year 2100. Given that the location of MHW is at elevation 3.81, and the proposed finished floor of the re-constructed garage will be 18.7 feet, it is not expected the projected RSLR for this project needs to be a strong consideration. Additionally, the proposed stormwater structures are also not at risk of projected sea level rise in year 2100.

3.3 – Other Factors

Other factors were evaluated in conjunction with RSLR including surface water levels, groundwater levels, and current velocities which will increase with sediment erosion and deposition, which will also change. The projects position in the landscape was also considered relative to other infrastructure. The closest surface water to the project site is the adjacent North Mill Pond, projections of RSLR of which have already been depicted and discussed. There are no current restrictions on the project site or associated with the proposed project.

4.1 – RSLR and Coastal Storms

Due to the project site location being immediately adjacent to North Mill Pond, it is anticipated that RSLR and storm surge on the proposed project site are not at risk given location of MHW is at elevation 3.81, and the proposed finished floor of the re-constructed garage will be 18.7 feet,

4.2 – Other Factors

Other factors such as surface water levels, groundwater levels, wind and current velocities have been considered. Considering the high risk tolerance of this project, it is not anticipated that this project has a significant level of vulnerability to RSLR and coastal storms.

Attached to this application you will find a "NH DES Permit Plan-C2" which depicts the existing lot, jurisdictional areas, abutting parcels, existing structures, proposed work, and permanent impact areas.

5.1 – Projected RSL-Induced Groundwater Rise
Groundwater rise mapping projections depicted on the NH Coastal Viewer were evaluated for the project site. The NH Coastal Viewer depicts a 1.2-2.2 feet groundwater level rise as the result of 2 feet of projected sea level rise. The NH Coastal Viewer projections have been subtracted from the estimated groundwater depths (Estimated Seasonal High Water Table-ESHWT) for the site of 40" resulting in ESHWT of 14-26"; however, these improvements are to existing structures already present, and there is no other place to completely re-locate the structures on the property and reduce the risk tolerance.

5.2 – Projected Groundwater Depth at the Project Location
Based on knowledge of the site and soil morphology of the site, groundwater depth (Estimated Seasonal High Water Table) is approximately 40" below the soil surface.

6.1 – Best Available Precipitation Estimates
Please see the attached Extreme Precipitation Tables from the Northeast Regional Climate Center.

7.1 – Cumulative Coastal Flood Risk to the Project
Based on the high risk tolerance of this project combined with all other factors including RSLR, coastal storms, RSLR-induced groundwater rise, extreme precipitation and/or freshwater flooding occurring together; this project is not considered to be at high risk from coastal flooding.

7.2 – Possible Actions to Mitigate Coastal Flood Risk
Given the high risk tolerance of the proposed project, it is not anticipated that it is necessary to mitigate for coastal flood risk beyond what has already been incorporated into the design plan for the garage re-construction.

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	
Location	
Longitude	70.745 degrees West
Latitude	43.071 degrees North
Elevation	0 feet
Date/Time	Tue, 21 Jan 2020 12:37:30 -0500

Precipitation estimates multiplied by 1.15 are listed below:

1-yr: 3.06
2-yr: 3.69
10-yr: 5.59
50-yr: 8.49

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	2.92	**1yr**	2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.49	3.21	3.57	**2yr**	2.84	3.43	3.94	4.68	5.33	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.07	4.58	**5yr**	3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.23	2.90	3.75	4.86	5.53	**10yr**	4.30	5.32	6.09	7.11	7.98	**10yr**
25yr	0.48	0.76	0.97	1.34	1.78	2.34	**25yr**	1.54	2.15	2.78	3.64	4.74	6.17	7.10	**25yr**	5.46	6.83	7.81	9.02	10.05	**25yr**
50yr	0.54	0.86	1.10	1.54	2.08	2.77	**50yr**	1.79	2.53	3.30	4.33	5.67	7.38	8.58	**50yr**	6.54	8.25	9.43	10.81	11.97	**50yr**
100yr	0.60	0.97	1.25	1.78	2.43	3.27	**100yr**	2.09	2.99	3.92	5.17	6.77	8.85	10.37	**100yr**	7.83	9.98	11.39	12.96	14.26	**100yr**
200yr	0.68	1.11	1.43	2.05	2.84	3.85	**200yr**	2.45	3.53	4.63	6.14	8.09	10.60	12.54	**200yr**	9.38	12.06	13.76	15.54	17.00	**200yr**
500yr	0.80	1.32	1.72	2.50	3.50	4.79	**500yr**	3.02	4.40	5.79	7.72	10.23	13.47	16.13	**500yr**	11.92	15.51	17.68	19.77	21.47	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.88	**1yr**	0.62	0.86	0.93	1.33	1.69	2.25	2.48	**1yr**	1.99	2.38	2.87	3.20	3.91	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.33	3.06	3.45	**2yr**	2.71	3.32	3.82	4.55	5.09	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.11	2.73	3.78	4.18	**5yr**	3.35	4.02	4.72	5.53	6.23	**5yr**
10yr	0.39	0.59	0.73	1.03	1.33	1.60	**10yr**	1.14	1.56	1.80	2.38	3.05	4.36	4.85	**10yr**	3.86	4.66	5.43	6.40	7.18	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.52	4.74	5.87	**25yr**	4.20	5.64	6.62	7.77	8.66	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.34	3.06	3.91	5.36	6.76	**50yr**	4.75	6.50	7.69	9.01	9.99	**50yr**
100yr	0.53	0.81	1.01	1.46	2.01	2.46	**100yr**	1.73	2.41	2.62	3.40	4.32	6.03	7.80	**100yr**	5.34	7.50	8.92	10.47	11.53	**100yr**
200yr	0.59	0.89	1.13	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.76	4.76	6.77	8.99	**200yr**	5.99	8.64	10.34	12.17	13.33	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.28	5.40	7.89	10.84	**500yr**	6.99	10.43	12.56	14.89	16.15	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.72	0.89	1.09	**1yr**	0.77	1.06	1.26	1.74	2.20	2.97	3.17	**1yr**	2.63	3.05	3.58	4.37	5.04	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.71	**2yr**	3.03	3.57	4.10	4.84	5.62	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.15	1.59	1.89	2.54	3.26	4.34	4.97	**5yr**	3.84	4.78	5.38	6.39	7.17	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.94	2.29	3.11	3.97	5.34	6.22	**10yr**	4.72	5.98	6.84	7.86	8.77	**10yr**
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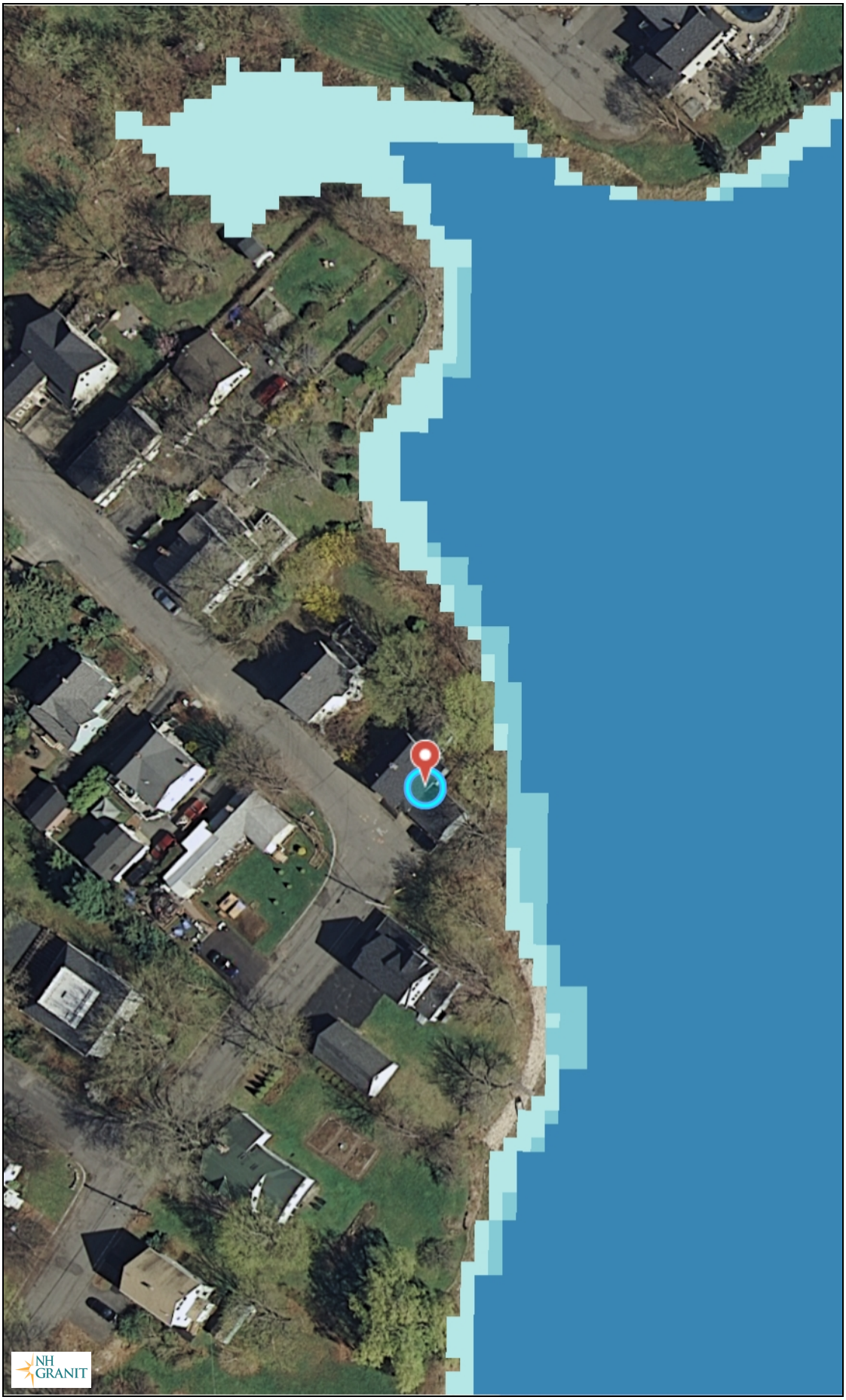
50yr	0.67	1.03	1.28	1.84	2.47	3.14	**50yr**	2.13	3.07	3.61	5.02	6.35	9.69	10.50	**50yr**	8.57	10.10	11.51	12.76	13.99	**50yr**
100yr	0.79	1.20	1.50	2.17	2.98	3.83	**100yr**	2.57	3.74	4.39	6.18	7.81	12.11	13.17	**100yr**	10.72	12.66	14.41	15.74	17.13	**100yr**
200yr	0.93	1.40	1.77	2.57	3.58	4.68	**200yr**	3.09	4.57	5.36	7.61	9.61	15.19	16.53	**200yr**	13.44	15.89	18.08	19.41	20.97	**200yr**
500yr	1.16	1.72	2.21	3.21	4.57	6.07	**500yr**	3.94	5.94	6.96	10.07	12.67	20.50	22.33	**500yr**	18.14	21.48	24.39	25.60	27.40	**500yr**

Powered by ACIS
Northeast Regional Climate Center

Map by NH GRANIT



Legend

MHHW + 1-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10

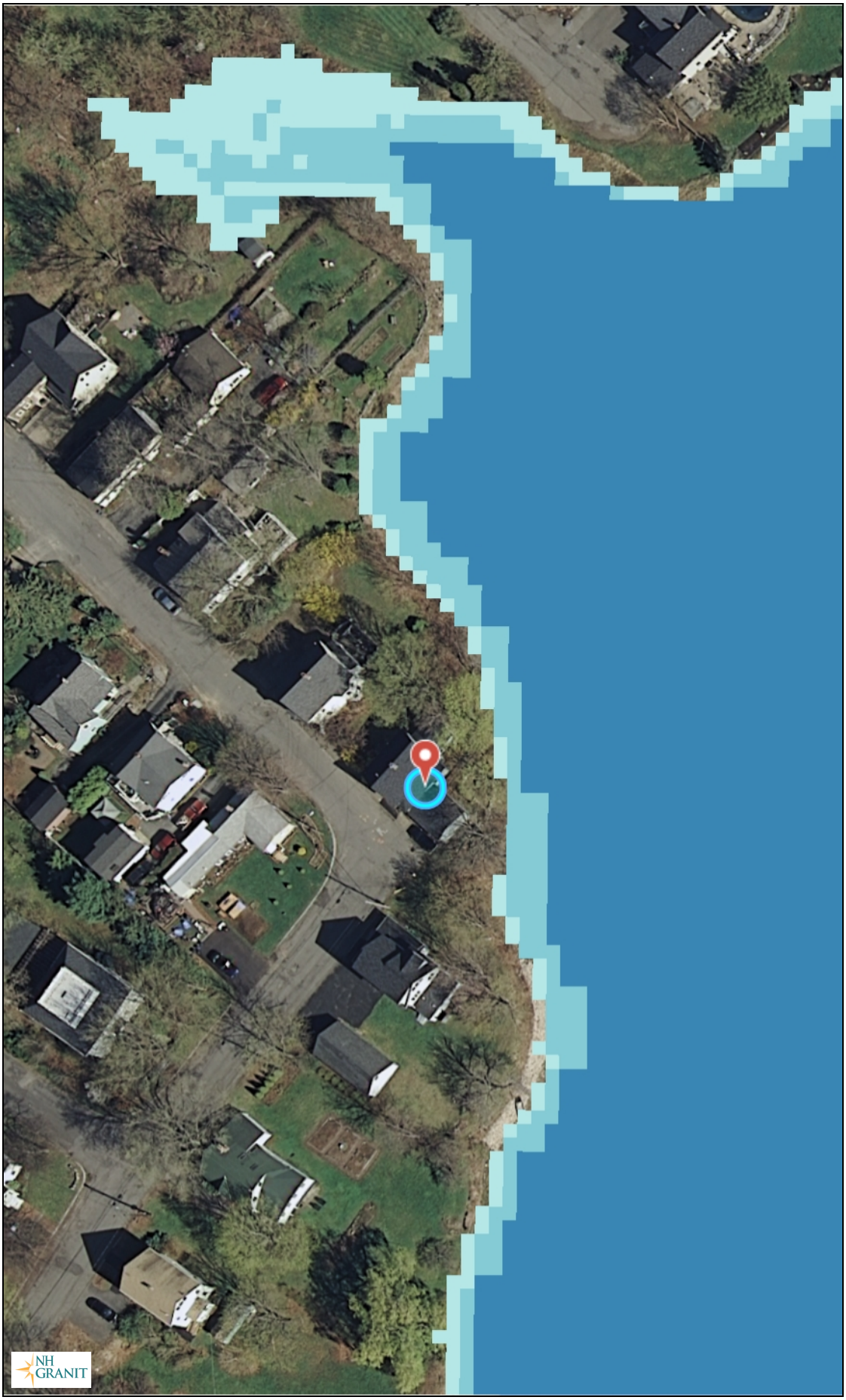
Map Scale

1: 812

Map Generated: 12/29/2020

Notes

Map by NH GRANIT



Legend

MHHW + 2-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

Map Scale

1: 812

Map Generated: 12/29/2020

Notes

Map by NH GRANIT

Legend

MHHW + 4-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

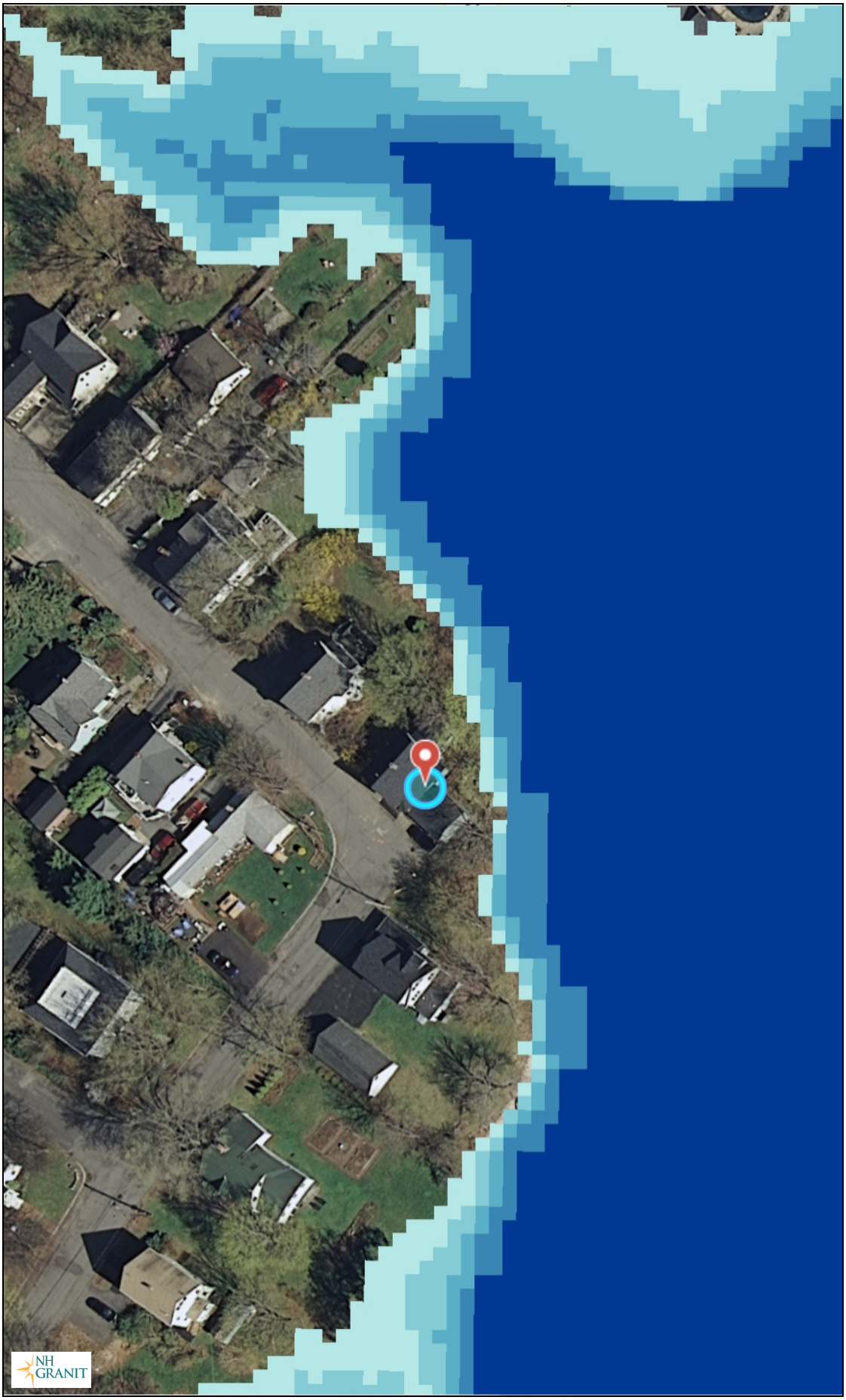
Map Scale

1: 812

Map Generated: 12/29/2020

Notes

Map by NH GRANIT



Legend

MHHW + 6-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

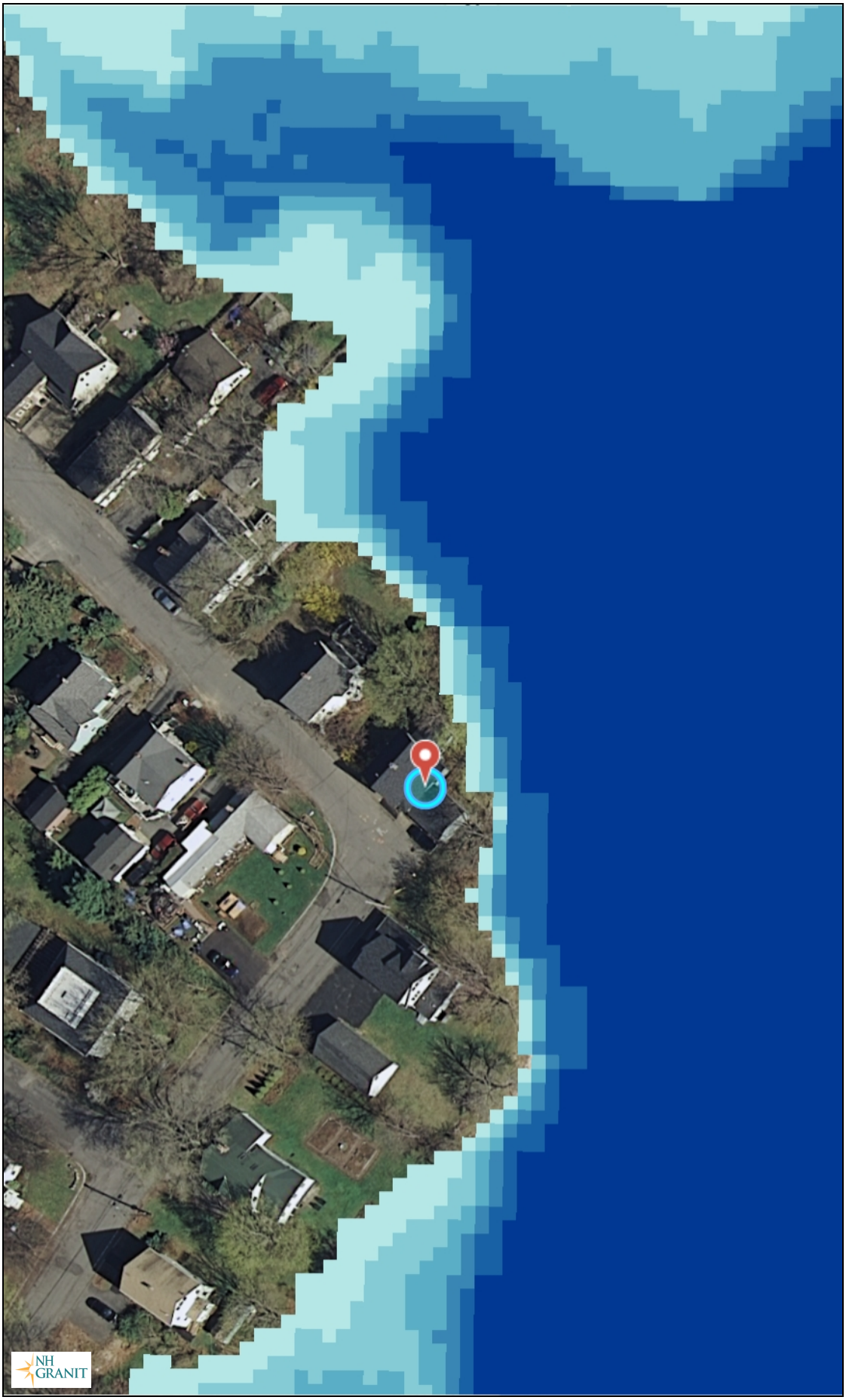
Map Scale

1: 812

Map Generated: 12/29/2020

Notes

Map by NH GRANIT



Legend

MHHW + 8-ft SLR

- 0 - 2
- 2 - 4
- 4 - 6
- 6 - 8
- 8 - 10
- 10 +

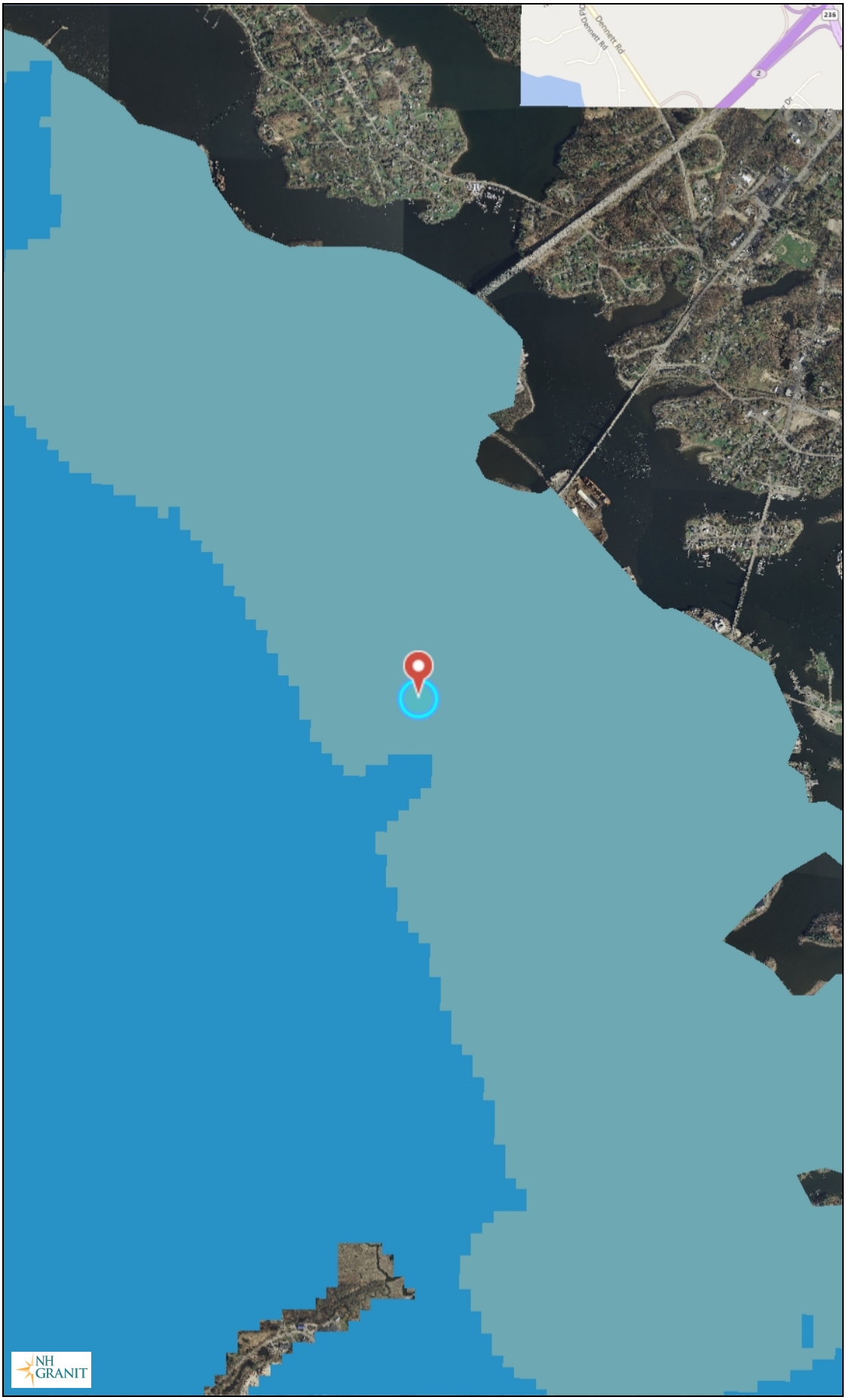
Map Scale

1: 812

Map Generated: 12/29/2020

Notes

Map by NH GRANIT



Legend

Groundwater Rise Caused b
SLR

- 0.2 - 0.7
- 0.7 - 1.2

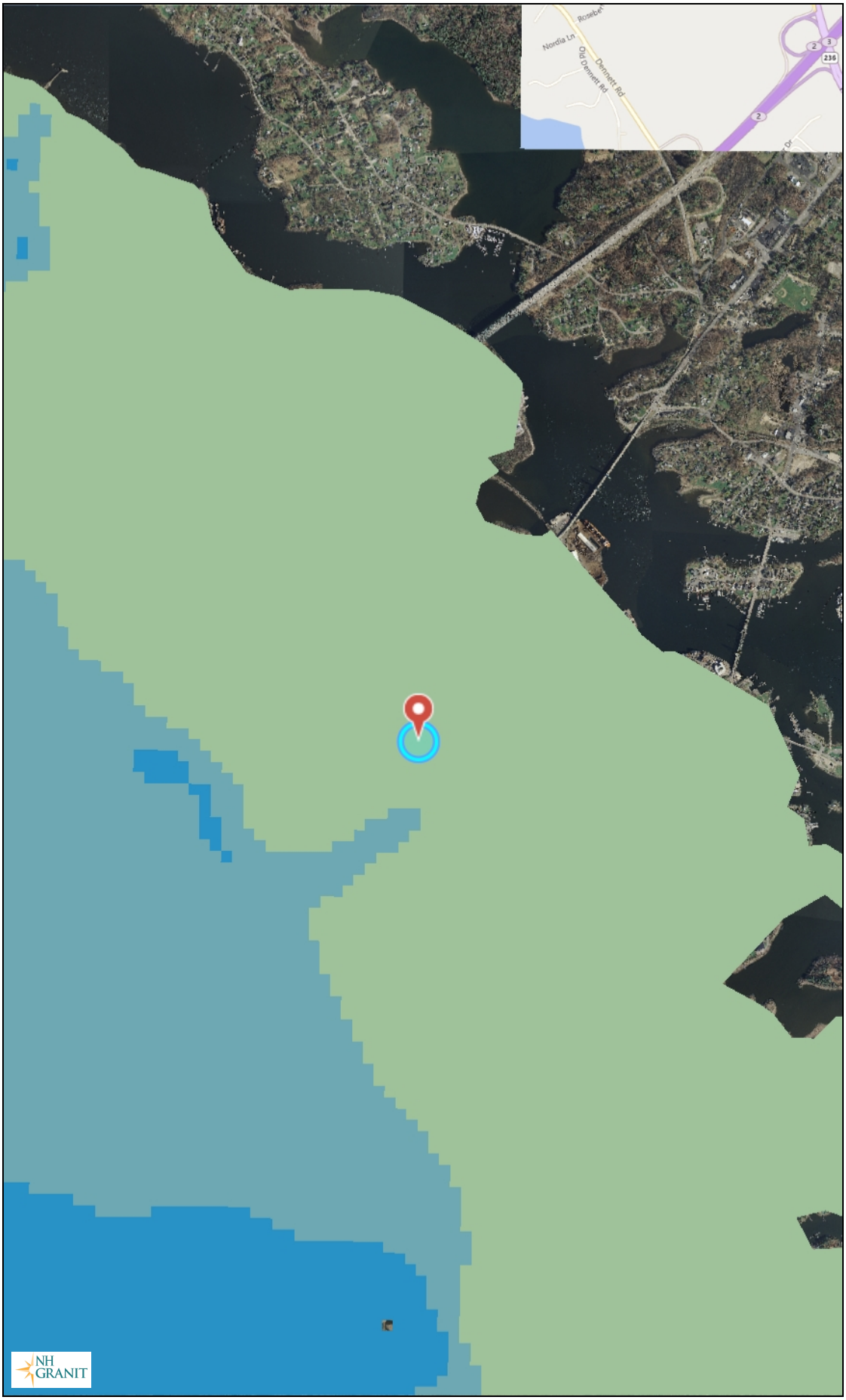
Map Scale

1: 25,977

Map Generated: 12/29/2020

Notes

Map by NH GRANIT



Legend

Groundwater Rise Caused b
SLR

- 0.2 - 0.7
- 0.7 - 1.2
- 1.2 - 2.2
- 2.2 - 3.2

Map Scale

1: 25,977

Map Generated: 12/29/2020

Notes

Wetland Functions and Values Assessment

Prepared for:

Michael J. O'Connor
163 Sparhawk Street
Portsmouth, New Hampshire 03801

Prepared By:
Ambit Engineering, Inc
200 Griffin, Unit 3
Portsmouth, New Hampshire 03801

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Date: October 22, 2019

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INTRODUCTION

The applicant is proposing the re-construction of an existing garage at 163 Sparhawk Street, Portsmouth, New Hampshire. The project site is identified on Portsmouth Tax Map 159 as Lot 7 & 8, and combined are approximately 3,992 sq. ft. in size. As currently designed, the proposed project would require impacts to the 100' previously developed Tidal Buffer Zone (TBZ).

The purpose of this report is to present the existing functions and values of the tidal wetlands and to assess any impacts the proposed project may have on their ability to continue to perform these functions and values. The tidal wetlands being impacted were assessed with consideration to their association with North Mill Pond, the Piscataqua River and the larger marine ecosystem, and was not limited to the tidal wetlands immediately on-site.

METHODS

DATA COLLECTION

The tidal wetlands associated with this project area were identified and characterized through field surveys and review of existing information. Ambit Engineering, Inc. (Ambit) conducted site visits in October 2019 to characterize the tidal wetlands and collect the necessary information to complete a functions and values assessment. In addition, Ambit contacted the New Hampshire Natural Heritage Bureau (NHB) regarding existing information of documented rare species or natural communities within the vicinity of the project site.

WETLAND FUNCTIONS AND VALUES ASSESSMENT

Ambit assessed the ability of the tidal wetlands to provide certain functions and values and analyzed the potential affects the proposed project may have on their ability to continue to provide those functions and values. Wetland functions and values were assessed using the *Highway Methodology Workbook, Wetland Functions and Values: A Descriptive Approach*.[1] This method bases function and value determinations on the presence or absence of specific criteria for each of the 13 wetland functions and values (see definitions below). These criteria are assessed through direct field observations and a review of existing resource maps and databases. As part of the evaluation, the most important functions and values associated with the on-site wetlands are identified. In addition, the ecological integrity of the wetlands is evaluated based on the existing levels of disturbance and the overall significance of the wetlands within the local watershed.

° **Groundwater Interchange (Recharge/Discharge)**
This function considers the potential for the project area wetlands to serve as groundwater recharge and/or discharge areas. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

° **Floodwater Alteration (Storage and Desynchronization)**
This function considers the effectiveness of the wetlands in reducing flood damage by attenuating floodwaters for prolonged periods following precipitation and snow melt events.

° **Fish and Shellfish Habitat**
This function considers the effectiveness of seasonally or permanently flooded areas within the subject wetlands for their ability to provide fish and shellfish habitat.

° **Sediment/Toxicant Retention**
This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland to function as a trap for sediments, toxicants, or pathogens, and is generally related to factors such as the type of soils, the density of vegetation, and the position in the landscape.

° **Nutrient Removal/Retention/Transformation**
This wetland function relates to the effectiveness of the wetland to prevent or reduce the adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

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[1] U.S. Army Corps of Engineers. 1999. *The Highway Methodology Workbook Supplement, Wetland Functions and Values: A Descriptive Approach.* U.S. Army Corps of Engineers. New England Division. 32pp. NAEEP-360-1-30a.

° **Production Export (Nutrient)**
This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

° **Sediment/Shoreline Stabilization**
This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion, primarily through the presence of persistent, well-rooted vegetation.

° **Wildlife Habitat**
This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered.

° **Recreation (Consumptive and Non-Consumptive)**
This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities.

° **Educational/Scientific Value**
This value considers the effectiveness of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

° **Uniqueness/Heritage**
This value relates to the effectiveness of the wetland or its associated water bodies to provide certain special values such as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geologic features.

° **Visual Quality/Aesthetics**
This value relates to the visual and aesthetic qualities of the wetland.

° **Endangered Species Habitat**
This value considers the suitability of the wetland to support threatened or endangered species.

FUNCTIONS AND VALUES ASSESSMENT

Results of the wetland functions and values assessment are presented below. This assessment includes a discussion of potential changes to existing wetland functions and values that may occur as a result of the proposed project:

Groundwater Interchange (Recharge/Discharge)
Because there is no identified sand and gravel aquifer underlying the project area, and the wetlands are not underlain by sands or gravel, it is unlikely that significant groundwater recharge is occurring within the tidal wetlands.

Floodflow Alteration (Storage and Desynchronization)
The tidal wetlands and North Mill Pond receive floodwaters from the surrounding watershed and connected waterways; therefore, is considered a principal function considering the large size of the combined waterways.

Fish and Shellfish Habitat
The tidal wetland does provide fish and shellfish habitat, is associated with North Mill Pond and the Piscataqua River and the Atlantic Ocean; therefore, is considered a principal function.

Sediment/Toxicant Retention
The tidal wetland (on site) contains dense vegetation and a significant source of sediments or toxicants, therefore this is considered a principal function.

Nutrient Removal/Retention/Transformation
The tidal wetland (on site) contains dense vegetation and a significant source of nutrients, therefore this is considered a principal function.

Production Export (Nutrient)
Production export is a wetland function that typically occurs in the form of nutrient or biomass transport via watercourses, foraging by wildlife species, and removal of timber and other natural products. Because the tidal wetland provides fish and wildlife habitat, commercial and recreational fisheries opportunities, and nutrients are transferred over several trophic levels in the marine ecosystem, this is considered a principal function.

Sediment/Shoreline Stabilization
Due to the tidal nature and wave action of this wetland; sediment/shoreline stabilization is considered a principal function.

Wildlife Habitat
The greater tidal wetland and North Mill Pond provide a variety of coastal and marine habitat, therefore would be considered a principal function.

Recreation (Consumptive and Non-Consumptive)
The greater tidal wetland and North Mill Pond provide a variety of consumptive and non-consumptive recreational opportunities including hunting, fishing and bird watching; therefore, would be considered a principal function.

Education/Scientific Value
The tidal wetland and North Mill Pond are part of a larger marine ecosystem with multiple areas of public access making this a principal value.

Uniqueness/Heritage
The tidal wetland and North Mill Pond are unique to the seacoast area. Additionally, there are pre and post-colonial historical components associated with the North Mill Pond and the surrounding areas making this a principal value.

Visual Quality/Aesthetics
The North Mill Pond provides aesthetically pleasing coastal views that are viewable from surrounding uplands as well as from the water, making this a principal function.

Endangered Species Habitat
No threatened or endangered species, species of special concern, or their associated habitats were observed on the project site. However, an online inquiry with the NHB resulted in an unspecified occurrence of a sensitive species or natural community near the project area. NHB determined that it is not expected that the project will have any negative impacts on the species or communities of record (see Appendix C). Because there is no specific endangered species habitat in the immediate project area, this is not considered a principal function.

PROPOSED IMPACTS

This report is accompanying a New Hampshire Department of Environmental Services (NHDES) Minor Impact Wetland Permit Application request to permit 695 sq. ft. of impacts to previously developed 100' TBZ for the re-construction of an existing garage.

SUMMARY AND CONCLUSIONS

The jurisdictional tidal wetland is part of a large marine system and provides eleven principal functions and values when evaluated as a whole. These functions and values include: floodflow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, recreation, education/scientific value, uniqueness/heritage, and visual quality aesthetics. While the entire marine system provides these principal functions and values, the proposed impacts associated with the dock replacement will not have any affect on its ability to continue to provide them. Additionally, the proposed stormwater structures will serve to improve water quality that leaves the site, a function that does not currently exist.

The proposed impacts have been minimized to the greatest extent practicable, while allowing reasonable use of the property. The proposed garage will be re-constructed in the existing footprint. The garage will not contribute to additional storm water or pollution. It is anticipated that there will be no effect on any fish or wildlife species that currently use the site for food, cover, and/or habitat. The garage will not impede tidal flow or alter hydrology, it will not deter use by wildlife species that currently use the wetland area, and it will not impede any migrational fish movement.

Based on our assessment of the current functions and values and the proposed garage re-construction, it is our belief that the proposed project will have no significant impact on the tidal wetlands or greater marine systems ability to continue to provide their functions and values.

APPENDIX A

WETLAND FUNCTION - VALUE EVALUATION FORM

Wetland Function – Value Evaluation Form

Wetland Description: Wetland A is a tidal wetland associated with North Mill Pond and the Piscataqua River.	**File number**: 3120	
	Wetland identifier: Wetland A	
	Latitude:X:1,233,548.73	Longitude:Y:210,965
	Preparer(s): Ambit Engineering, Inc.	
	200 Griffin Road	
	Date: October 22, 2019	

Function/Value	Capability Y	Capability N	Summary	Principal Yes/No
Groundwater Recharge/Discharge		X	This wetland does not possess the characteristics needed to provide this function as there are no identified underlying sand or gravel aquifers.	—
Floodwater Alteration	X		The tidal wetland and North Mill Pond do receive floodwater from the surrounding watershed and connected waterways; therefore, this would be considered a principal function.	Y
Fish and Shellfish Habitat	X		The tidal wetland and North Mill Pond are part of a larger coastal marine system and provide both fish and shellfish habitat. This is considered a Principal Function.	Y
Sediment/Toxicant Retention	X		The immediate tidal wetlands contain dense vegetation therefore this is considered a Principal Function.	Y
Nutrient Removal	X		The immediate tidal wetlands contain dense vegetation therefore this is considered a Principal Function.	Y
Production Export	X		Because the tidal wetland provides fish and wildlife habitat, commercial and recreational fishing opportunities, and nutrients are transferred over several trophic levels in the marine ecosystem, this is considered a principal function.	Y
Sediment/Shoreline Stabilization	X		Due to the tidal nature and wave action of this wetland; sediment/shoreline stabilization is considered a principal function. Part of this project is to replace an existing revetment to stabilize the shoreline with a more structurally stable design.	Y
Wildlife Habitat	X		The greater tidal wetland and North Mill Pond provides a variety of coastal and marine habitat, therefore would be considered a principal function.	Y
Recreation	X		The adjacent tidal wetland provides a variety of consumptive and non-consumptive recreational opportunities including hunting, fishing and bird watching; therefore, would be considered a principal function.	Y
Education/Scientific Value	X		The tidal wetland and North Mill Pond are part of a larger marine ecosystem with multiple areas of public access making this a principal value.	Y
Uniqueness/Heritage	X		The tidal wetland and North Mill Pond are unique to the seacoast area. Additionally, there are pre and post-colonial historical components associated with North Mill Pond and the surrounding areas making this a principal value.	Y
Visual Quality/Aesthetics	X		The North Mill Pond provides aesthetically pleasing coastal views that are seeable from surrounding uplands as well as from the water, making this a principal function.	Y
ES Endangered Species Habitat		X	No threatened or endangered species, species of special concern, or their associated habitats were observed on the property. An online inquiry with the NH Natural Heritage Bureau resulted in an unspecified occurrence of a sensitive species near the project area; however, they determined that it is not expected that the project will have negative impacts on them. (Appendix D).	—
Other				

Notes:

* Attach list of considerations.

APPENDIX B

PHOTO LOG

NH DES-Wetlands Bureau Application
Michael J. O'Connor

SITE PHOTOGRAPHS
Garage Reconstruction

Site Photograph #1 August 2020

Site Photograph #2 August 2020

Site Photograph #3 August 2020

Site Photograph #4 August 2020

Site Photograph #5 August 2020

Site Photograph #6 August 2020

APPENDIX C

NEW HAMPSHIRE NATURAL HERITAGE BUREAU CORRESPONDENCE

To: John Chagnon, Ambit Engineering, Inc.
200 Griffin Road
Unit 3
Portsmouth, NH 03801

From: NH Natural Heritage Bureau

Date: 2/3/2020 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 1/23/2020

NHB File ID: NHB20-0251 **Applicant:** Jesse Pratt

Location: Portsmouth
Tax Maps: Tax Map 159, Lots 7 & 8

Project Description: The project proposes to replace the existing garage "in-kind" and associated landscaping.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

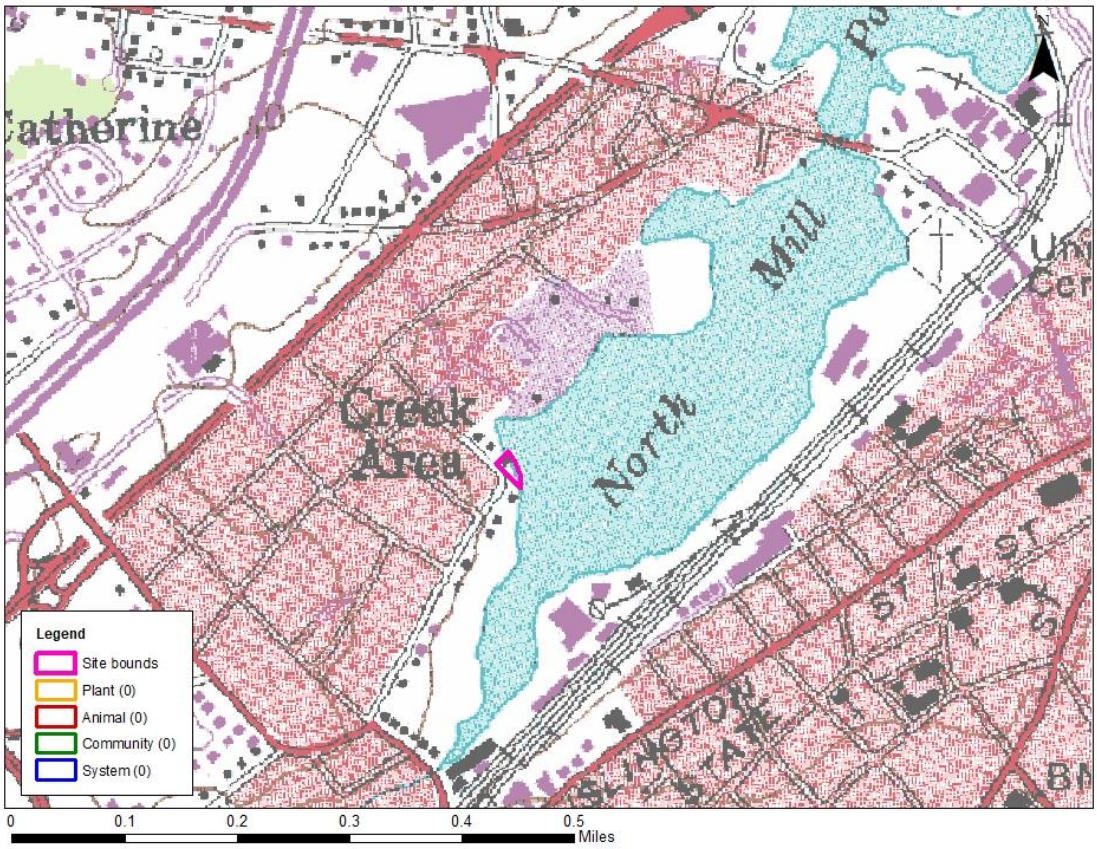
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 1/23/2020, and cannot be used for any other project.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB20-0251**

NHB20-0251



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