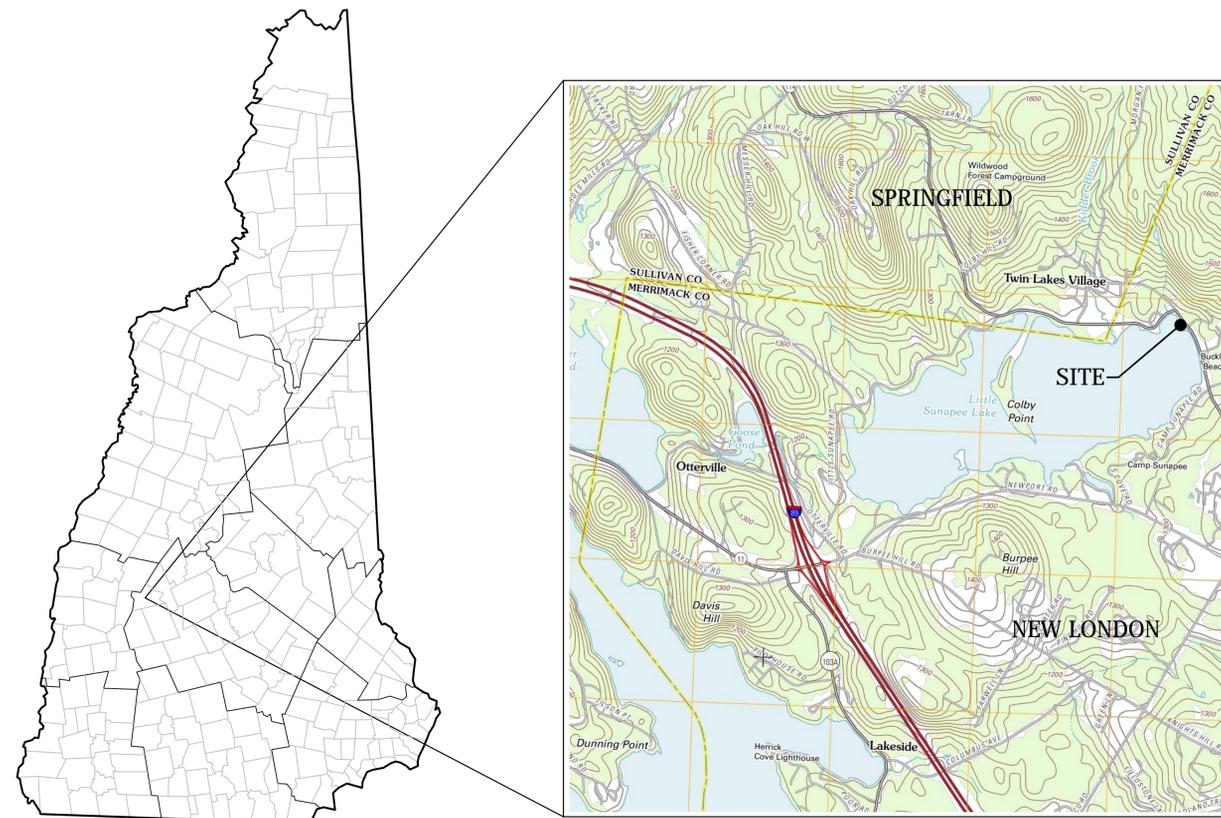


MIKE MORGAN & LAURIE SCHIVE

721 LITTLE SUNAPEE ROAD

NEW LONDON, NEW HAMPSHIRE

FEBRUARY 2015



NEW HAMPSHIRE

LOCATION PLAN

SCALE: 1" = 2000'

OWNER:

MIKE MORGAN & LAURIE SCHIVE
1763 PROFFIT ROAD
VIENNA, VA 22182

ENGINEER:

horizons
Engineering Inc.

176 NEWPORT ROAD, PO BOX 1825
NEW LONDON, NH 03257
(603) 877-0116

SURVEYOR:

ECKMAN ENGINEERING, LLC
1950 LAFAYETTE ROAD, SUITE 301
PORTSMOUTH, NH 03802
(603) 443-1354

ARCHITECT:

BONIN ARCHITECTS & ASSOCIATES, PLLC
210 MAIN STREET
NEW LONDON, NH 03257
(603) 526-6200

SHEET INDEX

SHEET 1	EXISTING CONDITIONS PLAN
SHEET 2	GRADING, DRAINAGE, & EROSION CONTROL PLAN
SHEET 3	WATERFRONT BUFFER IMPERVIOUS COVER EXHIBIT
SHEET 4	DETAILS
SHEET 5	DETAILS

ALL WORK SHALL COMPLY WITH LOCAL, STATE, AND FEDERAL LAWS.

NHDES TREE COUNT SUMMARY*

GRID SEGMENT	1" to 3" 1 pt each	>3" to 6" 5 pts each	>6" to 12" 10 pts each	>12" 15 pts each	POINT TOTALS	POINTS REQUIRED
1 (NORTH)			4	8	160	50
2			9	2	120	50
3			4	5	115	50
4			8	4	140	50
5			2	5	95	50
6			8	5	155	50
7			13	4	190	50
8			6	5	135	50
9			3	3	75	25

*TREE COUNT NOTE: TREE COUNT WAS COMPLETED THROUGH ON SITE INVESTIGATION. TREE LOCATIONS WERE NOT SURVEYED. 1" TO 6" TREES WERE COUNTED AND ARE SHOWN ON THE DRAWING. SINCE THERE IS AN ABUNDANCE OF TREES IN THE WATERFRONT BUFFER, ONLY TREES GREATER THAN 6" HAVE BEEN USED FOR POINT TOTALS IN EACH CELL.

NEW LONDON TREE COUNT SUMMARY*

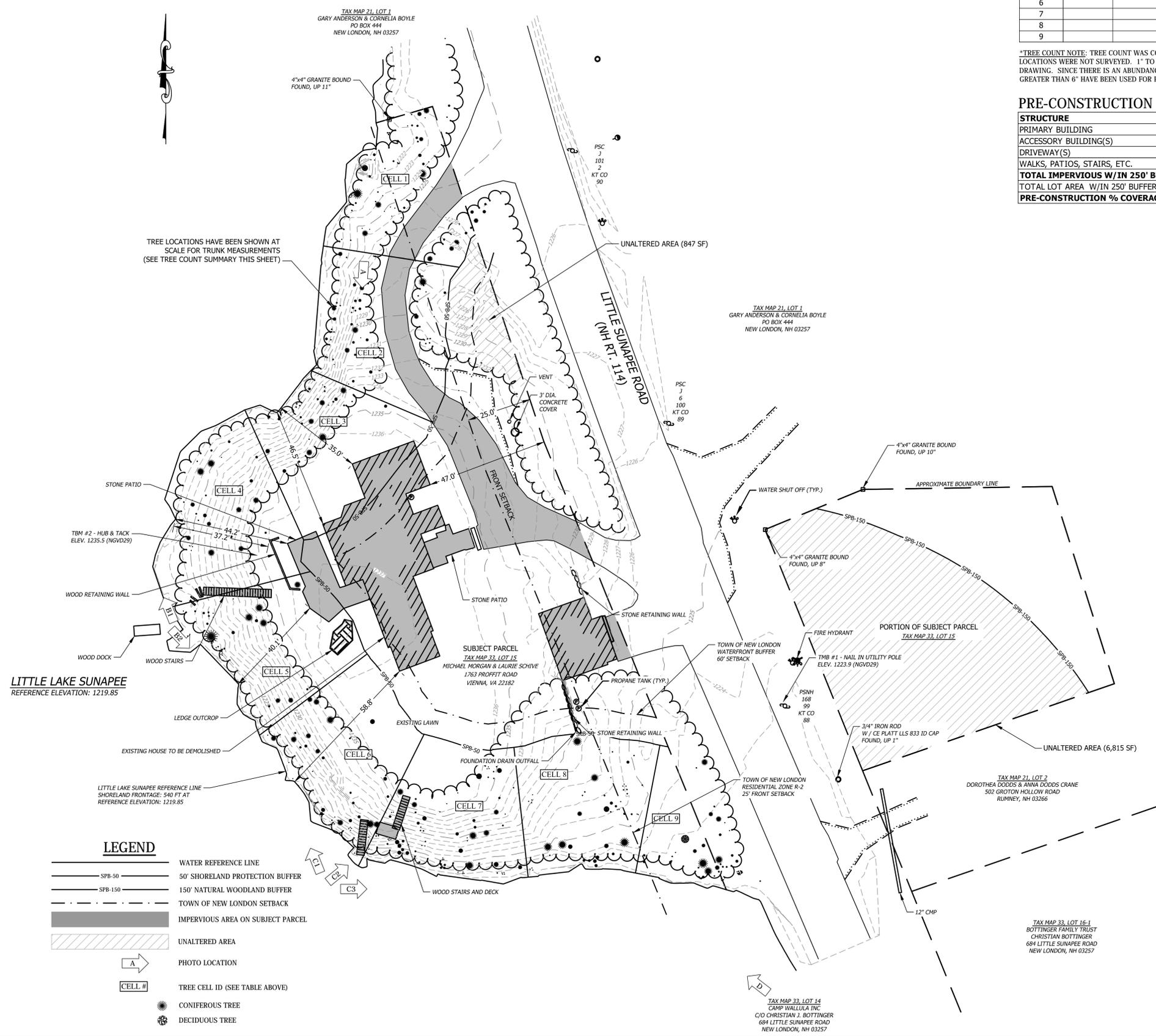
GRID SEGMENT	1" to 6" 1 pt each	>6" to 12" 5 pts each	>12" 10 pts each	POINT TOTALS	POINTS REQUIRED
1 (NORTH)		4	8	100	50
2		9	2	65	50
3		4	5	70	50
4		8	4	80	50
5		2	5	60	50
6		8	5	90	50
7		13	4	105	50
8		6	5	80	50
9		3	3	45	25

PRE-CONSTRUCTION IMPERVIOUS AREA

STRUCTURE	AREA (SF)
PRIMARY BUILDING	2,167
ACCESSORY BUILDING(S)	583
DRIVEWAY(S)	2,374
WALKS, PATIOS, STAIRS, ETC.	855
TOTAL IMPERVIOUS W/IN 250' BUFFER	5,979
TOTAL LOT AREA W/IN 250' BUFFER	44,369
PRE-CONSTRUCTION % COVERAGE	13.5%

UNALTERED STATE CALCULATIONS

CALCULATION	AREA (SF)
TOTAL UNALTERED AREA 50' TO 150' BUFFER	7,665
TOTAL LOT AREA 50' TO 150' BUFFER	8,034
25% OF TOTAL LOT AREA 50' TO 150' BUFFER	2,009
MINIMUM AREA TO REMAIN UNALTERED	2,009



GENERAL NOTES

- NO EXISTING MONUMENTS, BOUNDS, OR BENCHMARKS SHALL BE DISTURBED WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- ALL WORK SHALL BE PERFORMED WITHIN THE PROPERTY OF, AND EASEMENTS SECURED BY, THE OWNER.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTROLLING EROSION IN ALL AREAS DISTURBED BY HIS ACTIONS. COSTS FOR REQUIRED EROSION CONTROL, REGARDLESS OF WHETHER OR NOT SUCH MEASURES ARE SHOWN ON THE ENGINEERING DRAWINGS, SHALL BE BORNE BY HIM.
- UTILITY LOCATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION OF EXISTING UTILITIES AND SHALL REPAIR ANY DAMAGE AS QUICKLY AS POSSIBLE AT HIS OWN EXPENSE. ALL UTILITIES ENCOUNTERED SHALL BE LOCATED BY DEPTH AND TIES AND SHOWN BY THE CONTRACTOR ON HIS "AS BUILT" DRAWINGS. HAND EXCAVATION SHALL BE DONE WHEREVER UNDERGROUND UTILITIES ARE SHOWN OR ANTICIPATED. THE CONTRACTOR SHALL CONTACT DIG SAFE AND THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION IN ORDER TO VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS.
- BASE MAP INFORMATION INCLUDING BOUNDARY AND TOPOGRAPHY FOR THESE PLANS IS FROM PLANS PREPARED BY ECKMAN ENGINEERING, LLC, TITLED "STANDARD TOPOGRAPHIC SURVEY LAND OF MICHAEL P. MORGAN & LAURIE A. SCHIVE", AND DATED APRIL 23, 2012. THIS IS NOT A BOUNDARY PLAN AND SHOULD NOT BE USED OR REPRESENTED AS ONE. BOUNDARY AND RIGHT-OF-WAY LINES SHOWN SHOULD BE CONSIDERED APPROXIMATE.
- PORTIONS OF THE SUBJECT PARCEL ARE WITHIN ZONE A (AREAS OF 1% ANNUAL CHANCE FLOOD) AS SHOWN ON THE FLOOD INSURANCE RATE MAP 33013C0085E, EFFECTIVE DATE APRIL 19, 2010. MULTIPLE LOAM DETERMINATIONS FOR PROPERTIES ON LITTLE LAKE SUNAPEE (THE FLOODING SOURCE) HAVE ESTABLISHED THE BASE FLOOD ELEVATION (1% ANNUAL CHANCE FLOOD ELEVATION) AS 1220.3 (NAVD88). THE FLOOD LINE DEPICTED ON THIS PLAN IS ALONG THE ELEVATION 1220.64 (NGVD29) WHICH IS EQUIVALENT TO 1220.3 (NAVD88) BASED ON DATUM CONVERSION. (ECKMAN ENGINEERING, LLC NOTE)
- SHORELINE AS SHOWN IS THE NHDES REFERENCE LINE ESTABLISHED FOR LITTLE LAKE SUNAPEE. SAID REFERENCE LINE IS AT ELEVATION 1218.89' (NGVD29). - ECKMAN ENGINEERING, LLC NOTE
- HORIZONTAL DATUM IS LOCAL AND ASSUMED. VERTICAL DATUM IS NVGD29. BASIS OF VERTICAL DATUM RESULTING FROM PRIMARY VERTICAL CONTROL OBSERVATIONS MADE WITH TOPCON DUAL FREQUENCY GLOBAL POSITIONAL SYSTEM RECEIVER. DATA WAS PROCESSED AT THE NATIONAL GEODETIC SURVEY'S OPUS SITE. BASIS OF BEARING IS MAGNETIC OBSERVATION TAKEN AUGUST 2011.
- THE SUBJECT PARCEL IS TOWN OF NEW LONDON TAX MAP 33, LOT 15. THE DEED REFERENCE IS MERRIMACK COUNTY REGISTRY OF DEEDS BOOK 3306, PAGE 1403. THE PARCEL IS IN ZONING DISTRICT R2 (RESIDENTIAL) AND THE SHORELAND OVERLAY DISTRICT. FRONT YARD SETBACK IS 25'.
- THE LEACHFIELD FOR THE SUBJECT PARCEL IS A SHARED SEPTIC SYSTEM AND IS LOCATED ON TAX MAP 21, LOT 1. - ECKMAN ENGINEERING, LLC NOTE

horizons Engineering
176 Newport Road
New London, NH 03257
Phone 603.877.0116 - Fax 603.526.4285

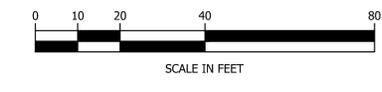
MIKE MORGAN & LAURIE SCHIVE
721 LITTLE SUNAPEE ROAD
PERMITTING
NEW LONDON, NEW HAMPSHIRE

EXISTING CONDITIONS PLAN

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: MAY 2016	PROJECT #: 14810
ENG'D BY: SHJ	DRAWN BY: CJH
CHECK'D BY: SHJ	ARCHIVE #: H-5199

SHEET 1 OF 5



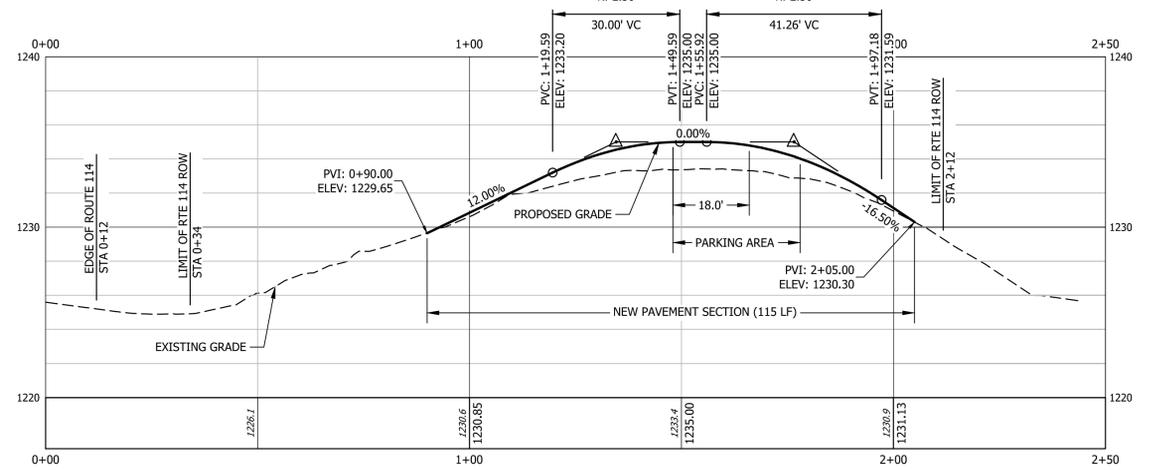
© 2016 horizons Engineering
All rights reserved

UNALTERED STATE CALCULATIONS

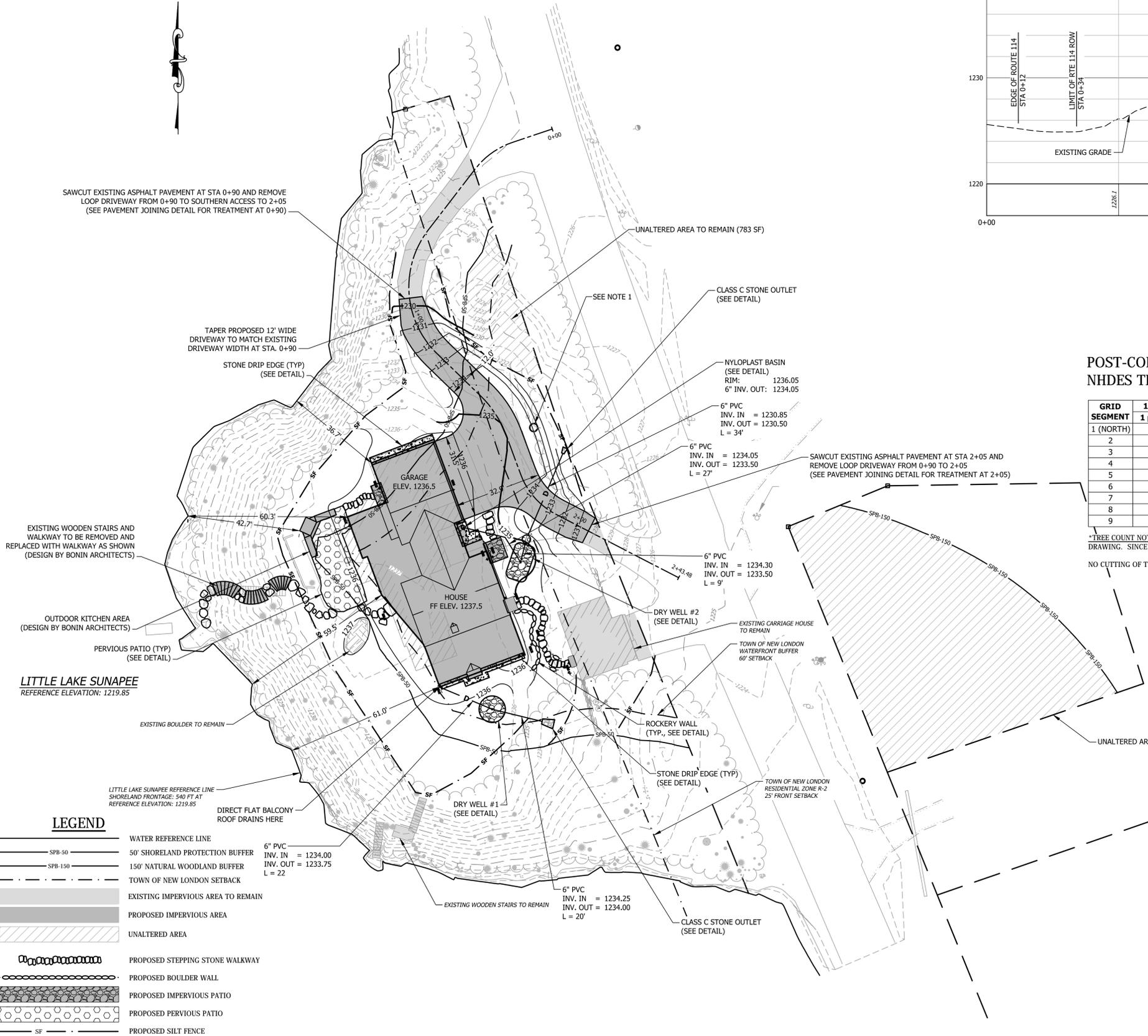
CALCULATION	AREA (SF)
TOTAL UNALTERED AREA 50' TO 150' BUFFER	7,665
TOTAL LOT AREA 50' TO 150' BUFFER	8,034
25% OF TOTAL LOT AREA 50' TO 150' BUFFER	2,009
MINIMUM AREA TO REMAIN UNALTERED	2,009
UNALTERED AREA TO REMAIN	7,598

HIGH PT STA: 1+49.59
HIGH PT ELEV: 1235.00
PVI STA: 1+34.59
PVI ELEV: 1235.00
A.D.: -12.00%
K: 2.50

HIGH PT STA: 1+55.92
HIGH PT ELEV: 1235.00
PVI STA: 1+76.55
PVI ELEV: 1235.00
A.D.: -16.50%
K: 2.50



DRIVEWAY
STA: 0+00 to STA: 2+50



POST-CONSTRUCTION NHDES TREE COUNT SUMMARY*

GRID SEGMENT	1" to 3" 1 pt each	>3" to 6" 5 pts each	>6" to 12" 10 pts each	>12" 15 pts each	POINT TOTALS	POINTS REQUIRED
1 (NORTH)			4	8	160	50
2			9	2	120	50
3			4	5	115	50
4			8	4	140	50
5			2	5	95	50
6			8	5	155	50
7			13	4	190	50
8			6	5	135	50
9			3	3	75	25

POST-CONSTRUCTION NEW LONDON TREE COUNT SUMMARY*

GRID SEGMENT	1" to 6" 1 pt each	>6" to 12" 5 pts each	>12" 10 pts each	POINT TOTALS	POINTS REQUIRED
1 (NORTH)		4	8	100	50
2		9	2	65	50
3		4	5	70	50
4		8	4	80	50
5		2	5	60	50
6		8	5	90	50
7		13	4	105	50
8		6	5	80	50
9		3	3	45	25

*TREE COUNT NOTE: TREE COUNT WAS COMPLETED THROUGH ON SITE INVESTIGATION. TREE LOCATIONS WERE NOT SURVEYED. 1" TO 6" TREES WERE COUNTED AND ARE SHOWN ON THE DRAWING. SINCE THERE IS AN ABUNDANCE OF TREES IN THE WATERFRONT BUFFER, ONLY TREES GREATER THAN 6" HAVE BEEN USED FOR POINT TOTALS IN EACH CELL.
NO CUTTING OF TREES GREATER THAN 6" IS ANTICIPATED FOR COMPLETION OF THIS PROJECT.

PLAN NOTES

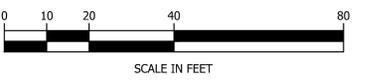
- ADJUST SEPTIC CHAMBER COVER TO MATCH PROPOSED GRADE.
- THE 16.5% PROFILE GRADE ON THE PROPOSED DRIVEWAY HAS BEEN SPECIFIED AT THE REQUEST OF THE OWNER. HORIZONS ENGINEERING, INC. ASSUMES NO LIABILITY FOR PROPOSED DRIVEWAYS WITH GREATER THAN 15% PROFILE GRADE.

PRE-CONSTRUCTION IMPERVIOUS AREA

STRUCTURE	AREA (SF)
PRIMARY BUILDING	2,167
ACCESSORY BUILDING(S)	583
DRIVEWAY(S)	2,374
WALKS, PATIOS, STAIRS, ETC.	855
TOTAL IMPERVIOUS W/IN 250' BUFFER	5,979
TOTAL LOT AREA W/IN 250' BUFFER	44,379
PRE-CONSTRUCTION % COVERAGE	13.5%

POST-CONSTRUCTION IMPERVIOUS AREA

STRUCTURE	AREA (SF)
PRIMARY BUILDING	3,179
ACCESSORY BUILDING(S)	583
DRIVEWAY(S)	2,670
WALKS, PATIOS, STAIRS, ETC.	457
TOTAL IMPERVIOUS W/IN 250' BUFFER	6,889
TOTAL LOT AREA W/IN 250' BUFFER	44,379
POST-CONSTRUCTION % COVERAGE	15.5%



© 2016
Horizons Engineering
All rights reserved

176 Newport Road
New London, NH 03257
Phone 603.877.0116 - Fax 603.526.4285

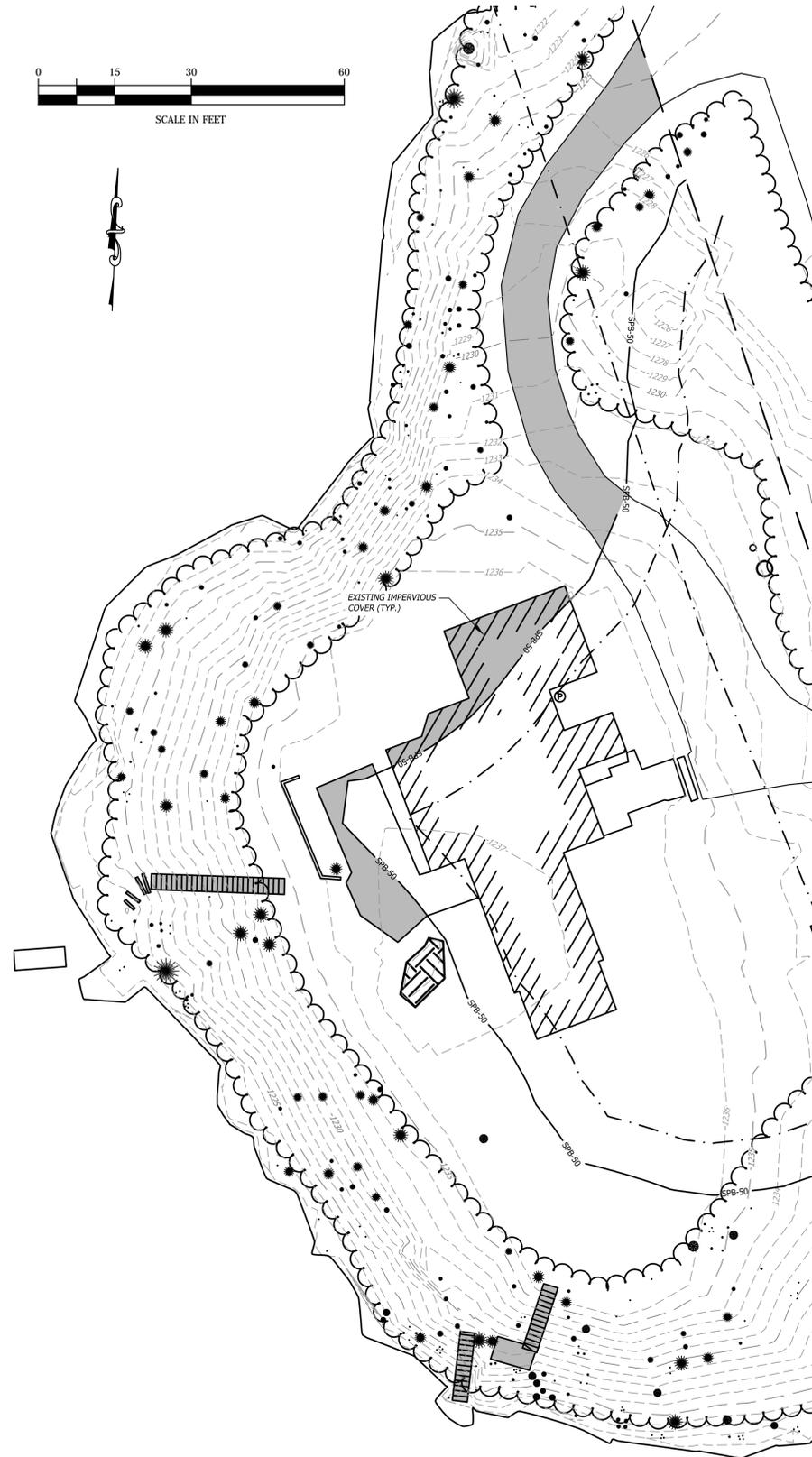
MIKE MORGAN & LAURIE SCHIVE
721 LITTLE SUNAPEE ROAD
PERMITTING
NEW LONDON, NEW HAMPSHIRE

GRADING, DRAINAGE, & EROSION CONTROL PLAN

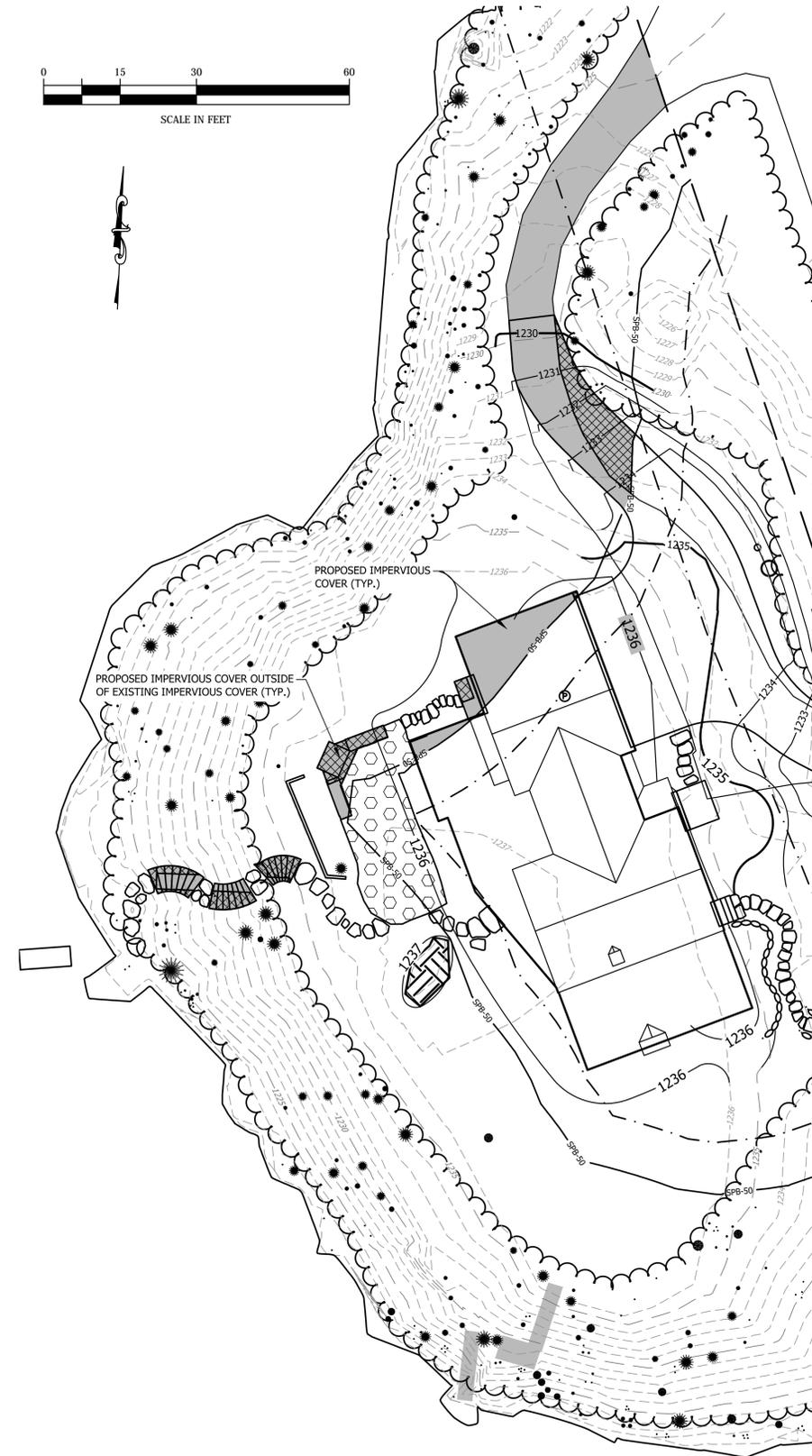
NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE:	PROJECT #:
MAY 2016	14810
ENG'D BY:	DRAWN BY:
WTD	WTD
CHECK'D BY:	ARCHIVE #:
SHJ	H-5199

SHEET 2 OF 5



EXISTING IMPERVIOUS COVER - WATERFRONT BUFFER
 1700 SQUARE FEET OF EXISTING IMPERVIOUS COVER WITHIN 50' WATERFRONT BUFFER



PROPOSED IMPERVIOUS COVER - WATERFRONT BUFFER
 1523 SQUARE FEET OF PROPOSED IMPERVIOUS COVER WITHIN 50' WATERFRONT BUFFER
 310 SQUARE FEET OF PROPOSED IMPERVIOUS COVER OUTSIDE OF EXISTING IMPERVIOUS COVER

WATERFRONT BUFFER IMPERVIOUS AREA SUMMARY

THIS TABLE REPRESENTS ONLY IMPERVIOUS AREAS WITHIN THE 50' WATERFRONT BUFFER FROM THE LITTLE LAKE SUNAPEE REFERENCE LINE.

EXISTING IMPERVIOUS COVER	1700 SF
PROPOSED IMPERVIOUS COVER	1523 SF
NET	-177 SF
PROPOSED OUTSIDE EXISTING FOOTPRINT	310 SF

horizons
 Engineering Inc.
 176 Newport Road
 New London, NH 03257
 Phone 603.877.0116 - Fax 603.526.4285

**MIKE MORGAN &
 LAURIE SCHIVE**
 721 LITTLE SUNAPEE ROAD
 PERMITTING
 NEW LONDON, NEW HAMPSHIRE

**WATERFRONT BUFFER
 IMPERVIOUS COVER EXHIBIT**

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE:	MAY 2016	PROJECT #:	14810
ENGIN'D BY:	WTD	DRAWN BY:	WTD
CHECK'D BY:	SHJ	ARCHIVE #:	H-5199
SHEET 3 OF 5			

EROSION CONTROL GENERAL NOTES

- A. KEEP SITE MODIFICATION TO A MINIMUM
 1. CONSIDER FITTING THE BUILDINGS AND STREETS TO THE NATURAL TOPOGRAPHY. THIS REDUCES THE NEED FOR CUTS AND FILLS. AVOID EXTENSIVE GRADING THAT WOULD ALTER DRAINAGE PATTERNS OR CREATE VERY STEEP SLOPES.
 2. EXPOSE AREAS OF BARE SOIL TO EROSION ELEMENTS FOR THE SHORTEST TIME POSSIBLE.
 3. SAVE AND PROTECT DESIRABLE EXISTING VEGETATION WHERE POSSIBLE. ERECT BARRIERS TO PREVENT DAMAGE FROM CONSTRUCTION EQUIPMENT.
 4. LIMIT THE GRADES OF SLOPES SO VEGETATION CAN BE EASILY ESTABLISHED AND MAINTAINED.
 5. AVOID SUBSTANTIAL INCREASE IN RUNOFF LEAVING THE SITE.
- B. MINIMIZE POLLUTION OF WATER DURING CONSTRUCTION ACTIVITIES
 1. STOCKPILE TOPSOIL REMOVED FROM CONSTRUCTION AREA AND SPREAD OVER ANY DISTURBED AREAS PRIOR TO REVEGETATION. TOPSOIL STOCKPILES MUST BE PROTECTED FROM EROSION.
 2. PROTECT BARE SOIL AREAS EXPOSED BY GRADING ACTIVITIES WITH TEMPORARY VEGETATION OR MULCHES.
 3. USE SEDIMENT BASINS TO TRAP DEBRIS AND SEDIMENT WHICH WILL PREVENT THESE MATERIALS FROM MOVING OFF SITE.
 4. USE DIVERSIONS TO DIRECT WATER AROUND THE CONSTRUCTION AREA AND AWAY FROM EROSION PRONE AREAS TO POINTS OF SAFE DISPOSAL.
 5. USE TEMPORARY CULVERTS OR BRIDGES WHEN CROSSING STREAMS WITH EQUIPMENT.
 6. PLACE CONSTRUCTION FACILITIES, MATERIALS, AND EQUIPMENT STORAGE AND MAINTENANCE AREAS AWAY FROM DRAINAGE WAYS.
- C. PROTECT AREA AFTER CONSTRUCTION.
 1. ESTABLISH GRASS OR OTHER SUITABLE VEGETATION ON ALL DISTURBED AREAS. SELECT SPECIES ADAPTED TO THE SITE CONDITIONS AND THE FUTURE USE OF THE AREA. FINAL GRADES SHALL BE SEEDDED WITHIN 72 HOURS. STABILIZATION SHALL BE DEFINED AS 85% VEGETATIVE COVER.
 2. MAINTAIN VEGETATED AREAS USING PROPER VEGETATIVE 'BEST MANAGEMENT PRACTICES' DURING THE CONSTRUCTION PERIOD.
 3. MAINTAIN NEEDED STRUCTURAL 'BEST MANAGEMENT PRACTICES' AND REMOVE SEDIMENT FROM DETENTION PONDS AND SEDIMENT BASINS AS NEEDED.
 4. DETERMINE RESPONSIBILITY FOR LONG TERM MAINTENANCE OF PERMANENT 'BEST MANAGEMENT PRACTICES'.
 5. IF CONSTRUCTION IS ANTICIPATED DURING WINTER MONTHS, GRADED AREAS ARE TO BE STABILIZED WITH NORTH AMERICAN GREEN DS150 MATTING OR EQUAL.

COLD WEATHER SITE STABILIZATION REQUIREMENTS

TO ADEQUATELY PROTECT WATER QUALITY DURING COLD WEATHER AND DURING SPRING RUNOFF, THE FOLLOWING ADDITIONAL STABILIZATION TECHNIQUES SHALL BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 1:

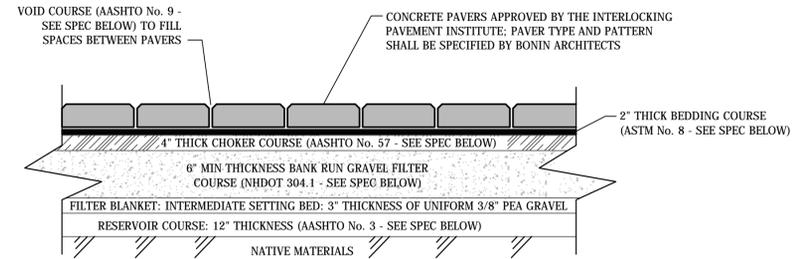
1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHALL BE LIMITED TO ONE ACRE AND SHALL BE PROTECTED AGAINST EROSION BY THE METHODS DESCRIBED IN THIS SECTION PRIOR TO ANY THAW OR SPRING MELT EVENT. THE ALLOWABLE AREA OF EXPOSED SOIL MAY BE INCREASED IF A WINTER CONSTRUCTION PLAN, DEVELOPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, IS REVIEWED AND APPROVED BY NHDES.
2. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING OR TACKIFIER, OR 2 INCHES OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
3. ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE SEEDDED AND COVERED WITH A PROPERLY INSTALLED AND ANCHORED EROSION CONTROL BLANKET OR WITH A MINIMUM 4 INCH THICKNESS OF EROSION CONTROL MIX MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H).
4. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX, MEETING THE CRITERIA OF ENV-WQ 1506.05(D) THROUGH (H), SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH.
5. INSTALLATION OF EROSION CONTROL BLANKETS SHALL NOT OCCUR OVER SNOW OF GREATER THAN ONE INCH IN DEPTH OR ON FROZEN GROUND.
6. ALL PROPOSED STABILIZATION IN ACCORDANCE WITH NOTES 2 OR 3 ABOVE, SHALL BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.
7. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS, AS DETERMINED BY THE OWNER'S ENGINEERING CONSULTANT.
8. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION OF THE ROAD OR PARKING AREA HAS STOPPED FOR THE WINTER SEASON SHALL BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF BASE COURSE GRAVELS MEETING THE GRADATION REQUIREMENTS OF NHDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2006, ITEM NO. 304.1 OR 304.2.

CONSTRUCTION SEQUENCE

1. PREPARE AN EROSION CONTROL PLAN IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
2. CUT AND CLEAR TREES WITHIN THE CLEARING LIMITS.
3. INSTALL SILT FENCES, ROCK CHECK DAMS, AND OTHER APPROPRIATE EROSION CONTROL MEASURES AT LOCATIONS SHOWN ON THE PLANS AND AS NEEDED.
4. GRUB SITE WITHIN GRADING LIMITS.
5. STRIP AND STOCKPILE TOPSOIL AND INSTALL EROSION CONTROL MEASURES.
6. INSTALL ADDITIONAL SILT FENCE, CHECK DAMS, AND HAYBALES, AS REQUIRED.
7. CONSTRUCT PERMANENT STORMWATER CONTROLS AS SOON AS PRACTICAL. DO NOT DIRECT STORMWATER TOWARD TREATMENT SWALES, DITCHES AND LEVEL SPREADERS UNTIL THEY HAVE BEEN STABILIZED.
8. PROCEED WITH WORK, LIMITING THE DURATION OF DISTURBANCE. THE MAXIMUM LENGTH OF TIME THAT A WORK UNIT MAY BE LEFT UNSTABILIZED IS 7 DAYS.
9. BEGIN SEEDING AND MULCHING IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH APPROVED METHODS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

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

 - A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
10. INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND AFTER EVERY 0.5 INCHES OF PRECIPITATION. MAINTAIN SILT FENCE, SEDIMENT TRAPS, HAY BALES, ETC., AS NECESSARY.
11. PLACE TOPSOIL, SEED AND MULCH. SEE PLANS BY BONIN ARCHITECTS FOR LOAM AND SEED SPECIFICATION.
12. COMPLETE ALL REMAINING PERMANENT EROSION CONTROL STRUCTURES.
13. MONITOR THE SITE AND MAINTAIN STRUCTURES AS NEEDED UNTIL FULL VEGETATION IS ESTABLISHED.



U.S. STANDARD SIEVE SIZE	PERCENT PASSING (%)				
	VOID COURSE (ASTM No. 9)	BEDDING COURSE (ASTM No. 8)	CHOKER COURSE (AASHTO No. 57)	FILTER COURSE (NHDOT 304.1)	RESERVOIR COURSE (AASHTO No. 3)
6" (150mm)	-	-	-	100	-
2 1/2" (63mm)	-	-	-	100	-
2" (50mm)	-	-	-	95-100	100
1 1/2" (37.5mm)	-	-	100	95-100	100
1" (25mm)	-	-	95-100	0-15	90-100
3/4" (19mm)	-	-	100	0-5	20-55
1/2" (12.5mm)	-	100	25-60	-	0-10
3/8" (9.5mm)	100	85 TO 100	0-10	75-100	0-5
#4 (4.75mm)	85 TO 100	10 TO 30	0-5	0-12	-
#8 (2.36mm)	10 TO 40	0 TO 10	-	-	-
#16 (1.18mm)	0 TO 10	-	-	-	-
#30 (0.60mm)	0 TO 5	-	-	-	-

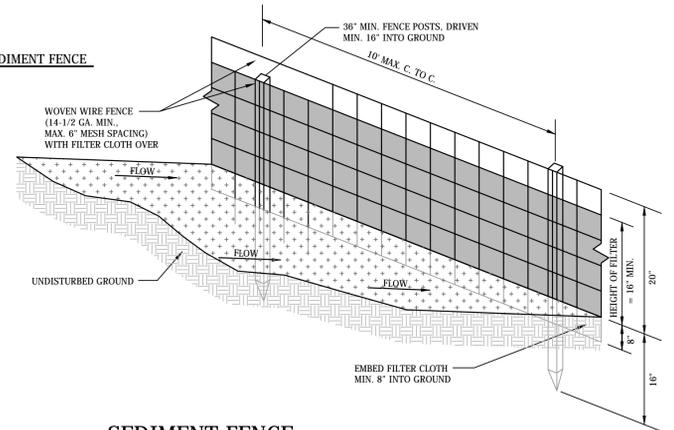
*ALTERNATE GRADATION (e.g. AASHTO No. 5) FOR RESERVOIR COURSE MAY BE ACCEPTED WITH ENGINEER'S APPROVAL.

NOTE:

THE CONTRACTOR AND OWNER ARE ADVISED TO REFERENCE THE 'UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS' FOR CONSTRUCTION AND MAINTENANCE OF THE PAVEMENT SECTION.

TYPICAL PATIO SECTION - PERVIOUS PAVERS

NOT TO SCALE

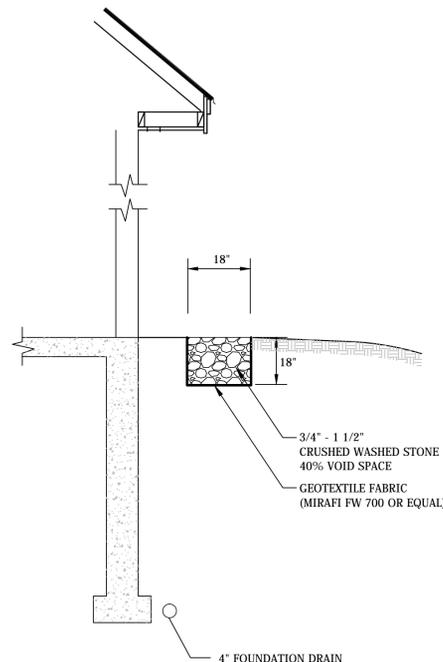


CONSTRUCTION NOTES FOR SEDIMENT FENCE

1. WOVEN WIRE FENCE, IF REQUIRED, TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION, AND BOTTOM.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR 50% OF ITS STORAGE IS USED.

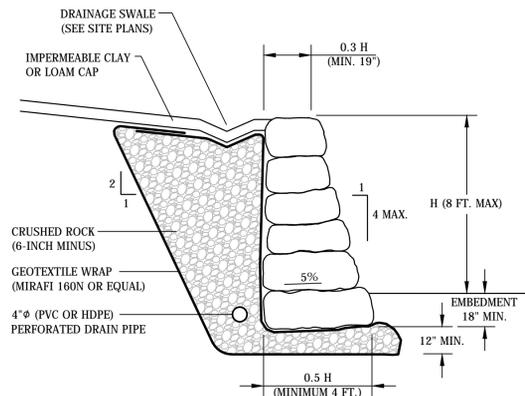
SEDIMENT FENCE

NO SCALE



STONE DRIP EDGE DETAIL

NOT TO SCALE



ROCKERY WALL DETAIL

NOT TO SCALE

GENERAL NOTES - ROCKERY WALL

1. THE WALL DETAILS/ DEPICTED ON THESE PLANS ARE CONCEPTUAL. SITE SPECIFIC DESIGN SHOULD BE COMPLETED BY A GEOTECHNICAL ENGINEER BASED ON SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS AT THE WALL LOCATIONS.
2. WALL CONSTRUCTION AND INSPECTION SHOULD BE COMPLETED IN ACCORDANCE WITH ROCKERY DESIGN AND CONSTRUCTION GUIDELINES, FHWA-CFL/TD-06-006, NOVEMBER 2006.
3. EXCAVATIONS SHALL BE EXTENDED TO AT LEAST 2.5 FEET BELOW FINISH GRADE TO ALLOW FOR WALL EMBEDMENT AND LEVELING COURSE. THE BASE OF THE EXCAVATION SHALL BE INCLINED BACK AWAY FROM THE FACE OF THE ROCKERY, AT 5 PERCENT.
4. ROCKS SHOULD BE PLACED IN ROWS SUCH THAT BASE ROCKS CONSIST OF LARGEST DIAMETER AND WEIGHT ROCKS AND EACH SUCCEEDING ROW CONSISTS OF SMALLER DIAMETER ROCKS. BASE ROCKS SHALL BE EQUAL TO ABOUT 1/2 THE WALL HEIGHT AND NOT LESS THAN 4 FEET IN DIAMETER. CAP ROCKS SHALL BE EQUAL TO ABOUT 1/3 THE WALL HEIGHT AND NOT LESS THAN 19 INCHES IN DIAMETER.
5. ROCKS SHALL BE HARD, ANGULAR AND DURABLE. THEY MUST BE ABLE TO RESIST PHYSICAL, CLIMATIC, AND CHEMICAL DECOMPOSITION. ROCKS SHOULD BE ROUGHLY RECTANGULAR, TABULAR OR CUBIC IN SHAPE. ROUNDED COBBLES OR BOULDERS MUST NOT BE USED.
6. ROCKS SHOULD BE PLACED WITH LONGEST DIMENSION PERPENDICULAR TO ROCKERY FACE. THE ROCKS SHOULD BE PLACED SUCH THAT THEY SLOPE DOWNWARD AT LEAST 5 PERCENT TOWARDS THE BACK OF THE ROCKERY.
7. THE ROCKERY FACE BATTER SHOULD BE 4V:1H OR FLATTER.
 - o EACH ROCK SHOULD BEAR ON AT LEAST TWO OTHER ROCKS.
 - o EACH ROCK SHOULD HAVE AT LEAST THREE BEARING POINTS - TWO IN FRONT AND ONE IN BACK.
 - o THE FRONT-MOST BEARING POINTS FOR EACH ROCK SHOULD BE WITHIN 150MM (6IN) OF THE AVERAGE FACE OF THE ROCKERY.
 - o THE REAR OF THE ROCKS SHOULD BE ALIGNED ALONG AN IMAGINARY VERTICAL PLANE. IF ROCKS LARGER THAN THE MINIMUM SPECIFIED BASE WIDTH (B) ARE USED, THEY CAN EXTEND BEYOND THIS IMAGINARY PLANE PROVIDED THEY DO NOT INTERFERE WITH ROCKERY DRAINAGE OR REINFORCED ZONE.
8. THERE SHOULD BE NO VERTICAL COLUMNS OF ROCK OR CONTINUOUS VERTICAL JOINTS BETWEEN MULTIPLE ROWS OF ROCKS.
9. ROCK WIDTH SHALL BE LARGE ENOUGH TO EXTEND FROM THE FRONT FACE TO THE BACK OF THE ROCKERY AT EACH LEVEL.
10. PLACE BASE, FACING AND CAP ROCKS SO THAT THEIR HEIGHT DIMENSION IS NOT GREATER THAN THEIR WIDTH. THE LONGEST DIMENSION OF THE BASE, FACING, AND CAP ROCKS IS PERPENDICULAR TO FACE OF ROCKERY.
11. VOIDS BETWEEN ROCKS SHOULD BE AVOIDED AS MUCH AS POSSIBLE. HOWEVER, IN AREAS WHERE VOIDS EXIST, THE VOIDS SHALL BE CHINKED. CHINK ROCKS SHOULD CONSIST OF SPALLS FROM THE PARENT FACING ROCK. CHINK ROCKS SHOULD NOT BE MOVABLE BY HAND AND SHOULD BE GROUTED IN PLACE WHERE APPROPRIATE. CHINKING ROCKS SHOULD NOT BE USED AS A MEANS OF SUPPORT FOR OVERLYING FACING ROCKS.
12. CAP ROCKS ARE THE TOP ROW OF FACING ROCKS FOR ROCKERIES. CAP ROCKS ARE TYPICALLY SMALLER AND FLATTER THAN THE OTHER FACING ROCKS USED IN THE ROCKERY. CAP ROCKS SHALL HAVE A WEIGHT OF AT LEAST 200 POUNDS. CAP ROCKS SHOULD NOT BE MOVABLE BY HAND, REGARDLESS OF SIZE. CAP ROCKS SHALL BE GROUTED IN PLACE TO REDUCE THE POTENTIAL FOR DISLODGING.
13. CRUSHED ROCK SHOULD CONSIST OF CRUSHED, WASHED, HARD, DURABLE ROCK MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	CRUSHED ROCK PERCENT FINER BY WEIGHT
150MM (6IN)	100
100MM (4 IN)	0.0 - 25
19.0MM (3/4 IN)	0.0 - 15
4.75MM (NO. 4)	0.0 - 5.0
75MM (NO. 200)	0.0 - 2.0

14. WHERE LOOSE, SOFT, OR OTHERWISE UNSUITABLE FOUNDATION SOIL CONDITIONS ARE ENCOUNTERED, CONTACT THE ENGINEER FOR SUPPLEMENTAL RECOMMENDATIONS.
15. DISCHARGE OUTLET PIPES TO A PROTECTED OUTLET OR OTHER PERMANENT DRAINAGE STRUCTURE AT LOW POINTS IN THE ROCKERY. DRAIN OUTLETS SHOULD NOT EMPTY INTO STORM DRAINS THAT ARE DESIGNED TO BACK UP DURING HEAVY FLOWS.
16. STABILITY OF TEMPORARY CUT SLOPES IS THE RESPONSIBILITY OF THE CONTRACTOR.
17. DO NOT CONSTRUCT ROCKERIES OR SLOPES EXCEEDING THE HEIGHTS SHOWN ON THE PLAN.



176 Newport Road
New London, NH 03257
Phone 603.877.0116 - Fax 603.526.4285

MIKE MORGAN & LAURIE SCHIVE
721 LITTLE SUNAPEE ROAD
PERMITTING
NEW LONDON, NEW HAMPSHIRE

DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE:	PROJECT #:
MAY 2016	14810
ENG'D BY:	DRAWN BY:
WTD	WTD
CHECK'D BY:	ARCHIVE #:
SHJ	H-5199

SHEET 4 OF 5

STONE SPECIFICATIONS

2.1 MATERIALS - STONE FILL

A. MATERIALS SHALL MEET THE REQUIREMENTS OF SECTION 585, STONE FILL, NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (NHS) FOR THE APPROPRIATE ITEM AS INDICATED ON THE DRAWINGS.

B. STONE FOR STONE FILL SHALL BE APPROVED QUARRY STONE, OR BROKEN ROCK OF A HARD, SOUND, AND DURABLE QUALITY. THE STONES AND SPALLS SHALL BE SO GRADED AS TO PRODUCE A DENSE FILL WITH A MINIMUM OF VOIDS.

1. CLASS A STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 12 CUBIC FEET, APPROXIMATELY 30% OF THE MASS RANGING BETWEEN 3 AND 12 CUBIC FEET, APPROXIMATELY 10% OF THE MASS RANGING BETWEEN 1 AND 3 CUBIC FEET, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

2. CLASS B STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM VOLUME OF 3 CUBIC FEET, APPROXIMATELY 40% OF THE MASS RANGING BETWEEN 1 AND 3 CUBIC FEET, AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

3. CLASS C STONE SHALL CONSIST OF CLEAN, DURABLE FRAGMENTS OF LEDGE ROCK, OF UNIFORM QUALITY, REASONABLY FREE FROM THIN OR ELONGATED PIECES. THE STONE SHALL BE MADE FROM ROCK WHICH IS FREE FROM TOPSOIL AND OTHER ORGANIC MATERIAL. THE STONE SHALL BE GRADED AS FOLLOWS:

SIEVE SIZE	PERCENTAGE PASSING BY WEIGHT
12 INCH	100
4 INCH	50-90
1-1/2 INCH	0-30
3/4 INCH	0-10

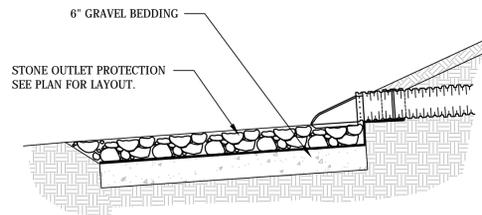
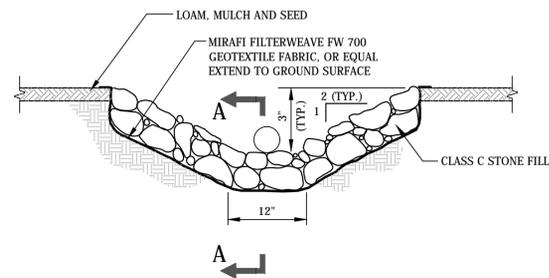
4. CLASS D STONE SHALL CONSIST OF CRUSHED STONE, GRAVEL, OR OTHER APPROVED INERT MATERIALS WITH SIMILAR CHARACTERISTICS OR COMBINATIONS THEREOF, HAVING HARD, STRONG, DURABLE PARTICLES, FREE FROM SURFACE COATING AND INJURIOUS AMOUNTS OF SOFT, FRIABLE, OR LAMINATED PIECES, AND FREE OF ALKALINE, ORGANIC, OR OTHER HARMFUL MATTER. THE STONE SHALL BE STANDARD STONE SIZE 467 (NO. 4 TO 1-1/2").

5. EROSION STONE SHALL BE IRREGULAR IN SHAPE WITH APPROXIMATELY 50% OF THE MASS HAVING A MINIMUM DIMENSION BETWEEN 6-INCHES AND 8-INCHES, APPROXIMATELY 40% OF THE MASS HAVING A MINIMUM DIMENSION BETWEEN 2-INCHES AND 6-INCHES AND THE REMAINDER OF THE MASS COMPOSED OF SPALLS.

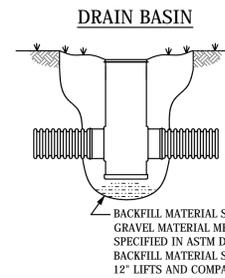
6. SPALLS FOR FILLING VOIDS SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 95 TO 100% PASSING THE 3-INCH SIEVE AND 25 TO 70% PASSING THE NO. 4 SIEVE.

C. MINIMUM DEPTH OF STONE LAYER SHALL CONFORM TO THE FOLLOWING

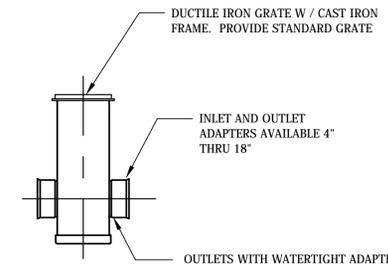
STONE SIZE CLASS	MIN. DEPTH
EROSION STONE	12"
CLASS C	12"
CLASS B	18"
CLASS A	30"



SECTION A-A
STONE LINED OUTLET DETAIL
NOT TO SCALE

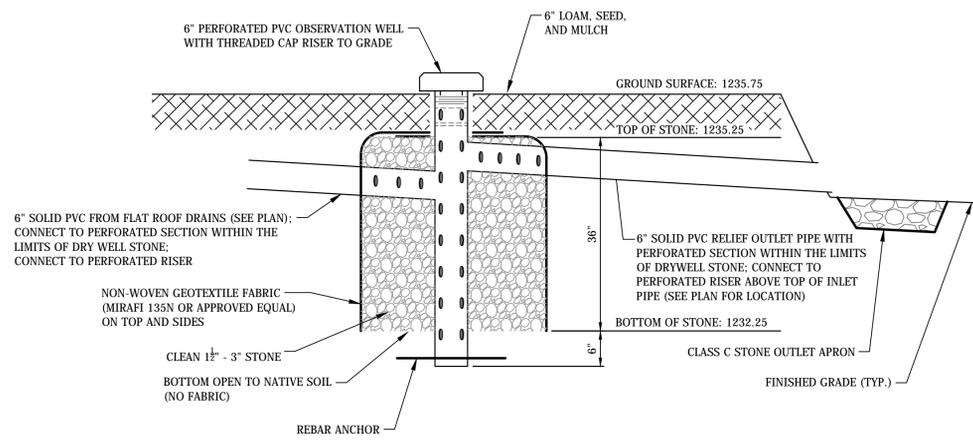


NYLOPLAST TRENCH DETAILS



NYLOPLAST 18" DRAIN BASIN

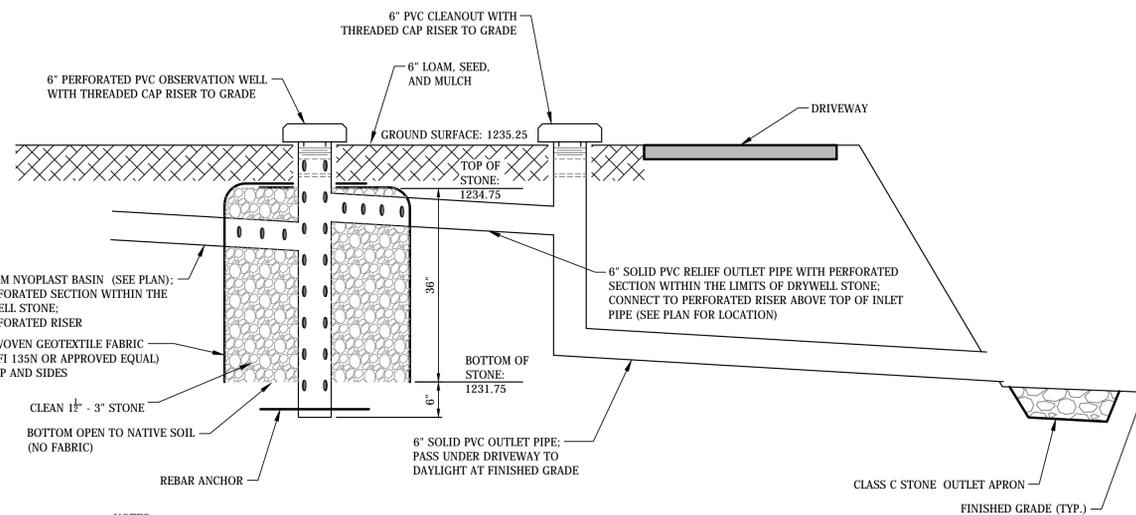
GRATE DETAILS:
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
MATERIAL: DUCTILE IRON FRAME & GRATE
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST



NOTES:

1. DRY WELL #1 IS A 10' DIAMETER CIRCLE. SEE PLAN FOR SIZE AND LOCATION OF DRYWELL.
2. PLACE ONE OBSERVATION WELL IN THE CENTER OF THE DRYWELL.

DRY WELL #1 DETAIL
NOT TO SCALE



NOTES:

1. DRY WELL #2 IS A 8'x12' RECTANGLE. SEE PLAN FOR LOCATION OF DRYWELL.
2. PLACE ONE OBSERVATION WELL IN THE DRYWELL.

DRY WELL #2 DETAIL
NOT TO SCALE



176 Newport Road
New London, NH 03257
Phone 603.877.0116 - Fax 603.526.4285

MIKE MORGAN & LAURIE SCHIVE
721 LITTLE SUNAPEE ROAD
PERMITTING
NEW LONDON, NEW HAMPSHIRE

DETAILS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: MAY 2016	PROJECT #: 14810
ENG'D BY: WTD	DRAWN BY: WTD
CHECK'D BY: SHJ	ARCHIVE #: H-5199

SHEET 5 OF 5