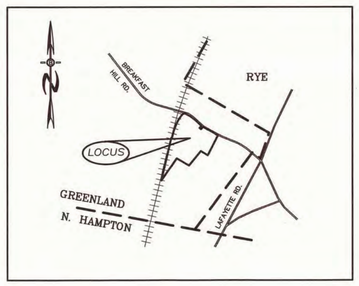
TAX MAP R-1 LOT 10
SEWALL MEADOW RESIDENTIAL DEVELOPMENT

OWNER OF RECORD:

BREAKFAST HILL TRUST I, II & III
STEPHAN & DOUGLAS SEWALL TRUSTEES
410 BREAKFAST HILL ROAD
GREENLAND, NH 03840
R.C.R.D. BOOK 3380, PAGE 1080

DEVELOPER/APPLICANT:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857



LOCATION MAP
1"=2000'

APPROVED WAIVERS:

1. ADDENDUM A, TABLE 1) TO ALLOW A 22' PAVEMENT WIDTH.
2. ADDENDUM A, SECTION II.M TO ALLOW ADS N-12 PLASTIC PIPE.
3. SECTION 3.3.2 DRAWING SCALE.
4. SECTION 3.3.1.B) & C) TO ALLOW PARTIAL TOPOGRAPHIC SURVEY

STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9400
LICENSED PROFESSIONAL ENGINEER

REQUIRED PERMITS

NHDOT DRIVEWAY PERMIT: 06187295
NHDES SUBD. APPROVAL NUMBER: SA 2013010233

INDEX

SUBSET

WETLAND/SOIL CONSULTANT:

GOVE ENVIRONMENTAL SERVICES INC.
8 CONTINENTAL DRIVE,
BLDG 2 UNIT H
EXETER, NH 03833
1-603-778-0644

CIVIL ENGINEERS:

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE,
STRATHAM, NEW HAMPSHIRE
PHN. 603-583-4860, FAX. 603-583-4863

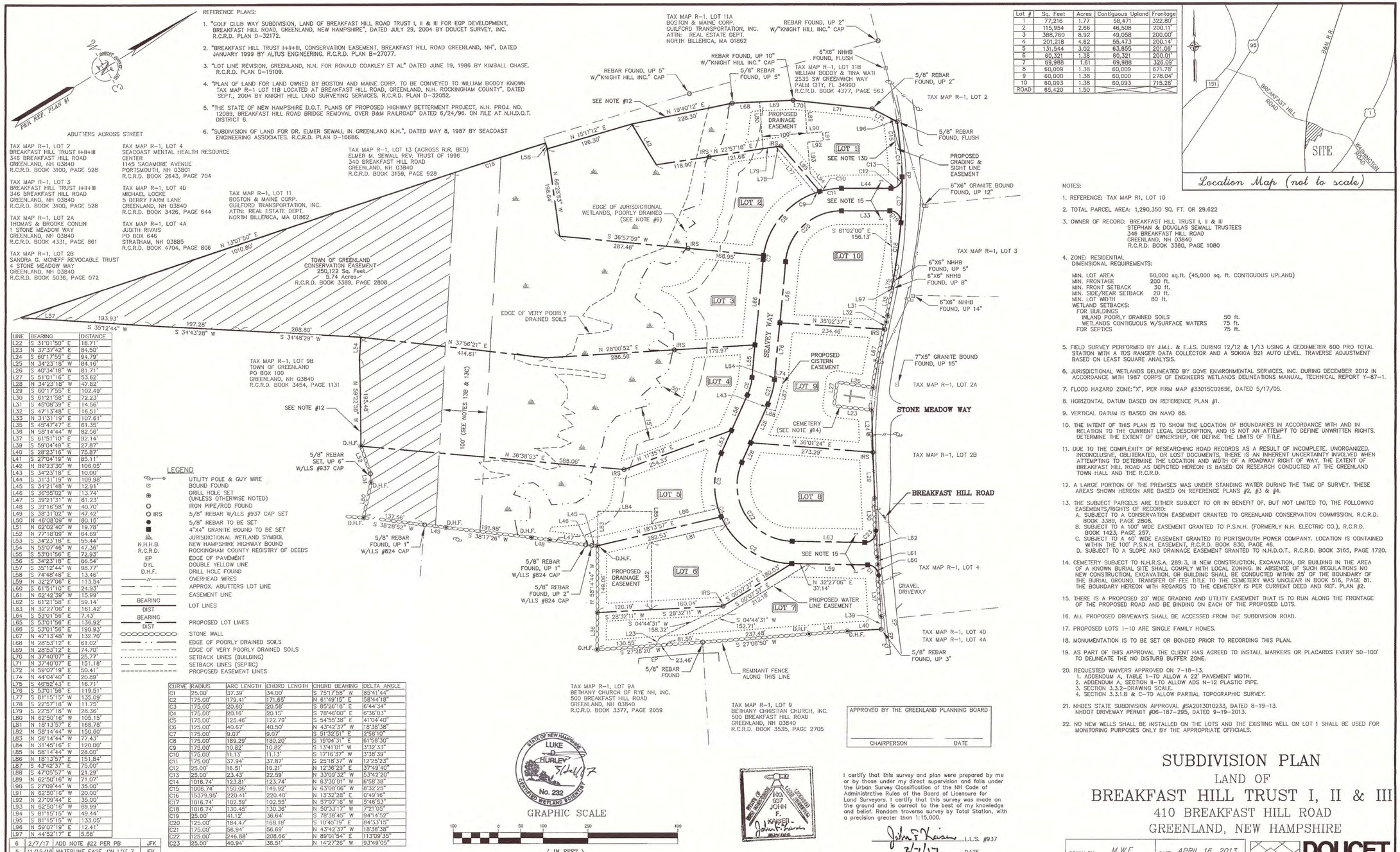
LAND SURVEYORS:

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857-0163
Voice (603) 659-6560, Data (603) 659-4118

PLAN SET LEGEND

UTILITY POLE		FENCING	x
EXISTING LIGHT POLE		DRAINAGE LINE	D
EXISTING CATCH BASIN		STONE WALL	
EXISTING HYDRANT		TREE LINE	
SINGLE POST SIGN		ABUT. PROPERTY LINES	
PINES, ETC.		EXIST. PROPERTY LINES	
MAPLES, ETC.		BUILDING SETBACK LINES	
EXIST. SPOT GRADE	96x69	EXIST. CONTOUR	100
PROP. SPOT GRADE	96x69	PROP. CONTOUR	100
TEST PIT	TP#1A	SOIL LINES	

NH-705 BREAKFAST HILL RD. GREENLAND NH. APR. 2013 REV 1 /19/17



LINE	BEARING	DISTANCE
L22	S 31°01'50" E	18.71'
L23	N 37°37'42" E	84.50'
L24	S 60°17'55" E	94.79'
L25	N 34°23'18" W	84.16'
L26	S 40°34'18" W	81.71'
L27	S 51°01'16" E	53.62'
L28	N 34°23'18" W	47.82'
L29	S 60°17'55" E	102.49'
L30	S 61°21'58" E	72.23'
L31	S 45°08'39" E	14.56'
L32	S 47°13'48" E	16.51'
L33	N 31°31'19" E	107.61'
L35	S 45°47'47" E	61.35'
L36	N 58°14'44" W	82.56'
L37	S 61°51'10" E	92.14'
L39	S 59°04'49" E	27.87'
L40	S 28°23'18" W	75.87'
L41	S 27°04'19" W	85.11'
L42	N 89°23'30" W	106.05'
L43	S 34°23'18" E	10.00'
L44	S 31°31'19" W	109.38'
L45	S 34°21'48" W	12.91'
L46	S 36°55'02" W	13.74'
L47	S 39°21'31" W	81.23'
L48	S 39°16'58" W	40.70'
L49	S 38°31'02" W	47.42'
L50	N 46°08'09" W	80.15'
L51	N 62°02'40" W	19.78'
L52	N 77°18'09" W	64.69'
L53	S 34°23'18" E	55.44'
L54	N 55°07'46" W	47.36'
L55	S 53°01'56" E	72.93'
L56	S 34°23'18" E	86.54'
L57	S 35°12'44" W	98.77'
L58	S 74°48'48" E	13.46'
L59	N 32°27'06" E	113.54'
L60	S 61°51'10" E	24.93'
L61	N 62°42'39" W	15.99'
L62	S 61°21'58" E	59.14'
L63	N 32°27'06" E	161.42'
L64	S 53°01'56" E	7.43'
L65	S 53°01'56" E	136.92'
L66	S 53°01'56" E	190.93'
L67	N 47°13'48" W	132.70'
L68	N 28°53'12" E	61.02'
L69	N 28°53'12" E	74.70'
L70	N 37°40'07" E	25.77'
L71	N 37°40'07" E	151.18'
L72	N 59°07'19" E	50.41'
L74	N 44°04'40" E	20.89'
L75	S 46°52'43" E	16.71'
L76	S 53°01'56" E	119.51'
L77	S 81°15'15" W	135.09'
L78	S 22°57'18" W	11.75'
L79	S 22°57'18" W	28.36'
L80	N 62°50'16" W	105.15'
L81	N 18°13'57" E	168.78'
L82	N 58°14'44" W	150.60'
L83	N 58°14'44" W	77.43'
L84	N 31°45'16" E	120.09'
L85	N 58°14'44" W	28.00'
L86	N 18°13'57" E	151.84'
L87	S 43°42'37" E	75.00'
L88	S 47°05'57" W	21.29'
L89	N 62°50'16" W	71.07'
L90	S 27°09'44" W	35.00'
L91	N 62°50'16" W	20.00'
L92	N 27°09'44" E	35.00'
L93	N 62°50'16" W	69.99'
L94	S 81°15'15" W	49.44'
L95	S 81°15'15" W	133.05'
L96	N 59°07'19" E	12.41'
L97	N 44°52'17" E	5.58'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	25.00'	37.39'	34.00'	S 75°17'58" W	85°41'44"
C2	175.00'	179.41'	171.65'	N 61°49'15" E	58°44'18"
C3	175.00'	20.60'	20.58'	S 85°26'18" E	6°44'34"
C4	175.00'	20.16'	20.15'	S 78°48'00" E	6°36'03"
C5	175.00'	125.46'	122.79'	S 54°55'38" E	41°04'40"
C6	125.00'	40.67'	40.50'	N 43°42'37" W	18°38'38"
C7	175.00'	9.07'	9.07'	S 51°32'51" E	2°58'10"
C8	175.00'	189.29'	180.20'	S 19°04'31" E	61°58'30"
C9	175.00'	10.82'	10.82'	S 13°41'01" W	3°32'33"
C10	175.00'	11.13'	11.13'	S 17°16'37" W	3°38'39"
C11	175.00'	37.94'	37.87'	S 25°18'37" W	12°25'23"
C12	25.00'	16.51'	16.21'	N 12°36'29" E	37°49'40"
C13	25.00'	23.43'	22.59'	N 33°09'32" W	53°42'20"
C14	1016.74'	123.81'	123.74'	N 63°30'01" W	6°58'38"
C15	1006.74'	150.06'	149.92'	N 63°08'06" W	8°32'25"
C16	15379.95'	220.41'	220.40'	N 13°32'28" E	0°49'16"
C17	1016.74'	102.59'	102.55'	N 57°07'16" W	5°46'53"
C18	1016.74'	130.45'	130.36'	N 50°33'17" W	7°21'05"
C19	25.00'	41.12'	36.64'	S 78°38'45" W	94°14'52"
C20	125.00'	184.47'	168.18'	S 10°45'19" E	84°33'15"
C21	175.00'	56.94'	56.69'	N 43°42'37" W	18°38'38"
C22	125.00'	246.88'	208.66'	N 89°01'54" E	113°09'35"
C23	25.00'	40.94'	36.51'	N 14°27'26" W	93°49'05"

NO.	DATE	DESCRIPTION	BY
6	2/7/17	ADD NOTE #22 PER PB	JFK
5	11/15/16	WATERLINE EASE. ON LOT 7	JFK
4	9/16/13	ADD SET REBAR	JFK
3	8/20/13	REV. PER ALTUS COMMENTS	MWF
2	8/1/13	REV. LOC. OF CISTERN EASE.	MWF
1	6/5/13	REV. PER TOWN PLANNER	MWF

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

Lot #	Sq. Feet	Acres	Contiguous Upland	Frontage
1	77,216	1.77	58,471	322.80'
2	115,954	2.66	46,508	200.11'
3	388,760	8.92	49,058	200.00'
4	201,218	4.62	55,473	200.14'
5	131,544	3.02	63,855	201.06'
6	60,321	1.38	60,321	200.01'
7	69,988	1.61	69,988	326.09'
8	60,009	1.38	60,009	671.78'
9	60,000	1.38	60,000	278.04'
10	60,093	1.38	60,093	715.28'
ROAD	65,420	1.50		

Location Map (not to scale)

NOTES:
1. REFERENCE: TAX MAP R1, LOT 10
2. TOTAL PARCEL AREA: 1,290,350 SQ. FT. OR 29.622
3. OWNER OF RECORD: BREAKFAST HILL TRUST I, II & III
STEPHAN & DOUGLAS SEWALL TRUSTEES
346 BREAKFAST HILL ROAD
GREENLAND, NH 03840
R.C.R.D. BOOK 3380, PAGE 1080
4. ZONE: RESIDENTIAL
DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	60,000 sq.ft. (45,000 sq. ft. CONTIGUOUS UPLAND)
MIN. FRONTAGE	200 ft.
MIN. FRONT SETBACK	30 ft.
MIN. SIDE/REAR SETBACK	20 ft.
MIN. LOT WIDTH	80 ft.
WETLAND SETBACKS:	
FOR BUILDINGS	
INLAND POORLY DRAINED SOILS	50 ft.
WETLANDS CONTIGUOUS W/SURFACE WATERS	75 ft.
FOR SEPTICS	75 ft.

5. FIELD SURVEY PERFORMED BY J.M.L. & E.J.S. DURING 12/12 & 1/13 USING A GEODIMETER 600 PRO TOTAL STATION WITH A TDS RANGER DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
6. JURISDICTIONAL WETLANDS DELINEATED BY COVE ENVIRONMENTAL SERVICES, INC. DURING DECEMBER 2012 IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLANDS DELINEATIONS MANUAL, TECHNICAL REPORT Y-87-1.
7. FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0265E, DATED 5/17/05.
8. HORIZONTAL DATUM BASED ON REFERENCE PLAN #1.
9. VERTICAL DATUM IS BASED ON NAVD 88.
10. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS OF TITLE.
11. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF BREAKFAST HILL ROAD AS DEPICTED HEREON IS BASED ON RESEARCH CONDUCTED AT THE GREENLAND TOWN HALL AND THE R.C.R.D.
12. A LARGE PORTION OF THE PREMISES WAS UNDER STANDING WATER DURING THE TIME OF SURVEY. THESE AREAS SHOWN HEREON ARE BASED ON REFERENCE PLANS #2, #3 & #4.
13. THE SUBJECT PARCELS ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
A. SUBJECT TO A CONSERVATION EASEMENT GRANTED TO GREENLAND CONSERVATION COMMISSION, R.C.R.D. BOOK 3389, PAGE 2808.
B. SUBJECT TO A 100' WIDE EASEMENT GRANTED TO P.S.N.H. (FORMERLY N.H. ELECTRIC CO.), R.C.R.D. BOOK 1423, PAGE 257.
C. SUBJECT TO A 40' WIDE EASEMENT GRANTED TO PORTSMOUTH POWER COMPANY. LOCATION IS CONTAINED WITHIN THE 100' P.S.N.H. EASEMENT, R.C.R.D. BOOK 630, PAGE 46.
D. SUBJECT TO A SLOPE AND DRAINAGE EASEMENT GRANTED TO N.H.D.O.T., R.C.R.D. BOOK 3165, PAGE 1720.
14. CEMETERY SUBJECT TO N.H.R.S.A. 289:3, III NEW CONSTRUCTION, EXCAVATION, OR BUILDING IN THE AREA OF A KNOWN BURIAL SITE SHALL COMPLY WITH LOCAL ZONING. IN ABSENCE OF SUCH REGULATIONS NO NEW CONSTRUCTION, EXCAVATION, OR BUILDING SHALL BE CONDUCTED WITHIN 25' OF THE BOUNDARY OF THE BURIAL GROUND. TRANSFER OF FEE TITLE TO THE CEMETERY WAS UNCLEAR IN BOOK 516, PAGE 81. THE BOUNDARY HEREON WITH REGARDS TO THE CEMETERY IS PER CURRENT DEED AND REF. PLAN #2.
15. THERE IS A PROPOSED 20' WIDE GRADING AND UTILITY EASEMENT THAT IS TO RUN ALONG THE FRONTAGE OF THE PROPOSED ROAD AND BE BINDING ON EACH OF THE PROPOSED LOTS.
16. ALL PROPOSED DRIVEWAYS SHALL BE ACCESSED FROM THE SUBDIVISION ROAD.
17. PROPOSED LOTS 1–10 ARE SINGLE FAMILY HOMES.
18. MONUMENTATION IS TO BE SET OR BONDED PRIOR TO RECORDING THIS PLAN.
19. AS PART OF THIS APPROVAL THE CLIENT HAS AGREED TO INSTALL MARKERS OR PLACARDS EVERY 50–100' TO DELINEATE THE NO DISTURB BUFFER ZONE.
20. REQUESTED WAIVERS APPROVED ON 7–18–13.
1. ADDENDUM A, TABLE 1–TO ALLOW A 22' PAVEMENT WIDTH.
2. ADDENDUM A, SECTION II–TO ALLOW ADS N–12 PLASTIC PIPE.
3. SECTION 3.3.2–DRAWING SCALE.
4. SECTION 3.3.1.B & C–TO ALLOW PARTIAL TOPOGRAPHIC SURVEY.
21. NHDES STATE SUBDIVISION APPROVAL #SA2013010233, DATED 8–19–13.
NHDOT DRIVEWAY PERMIT #06–187–295, DATED 9–19–2013.
22. NO NEW WELLS SHALL BE INSTALLED ON THE LOTS AND THE EXISTING WELL ON LOT 1 SHALL BE USED FOR MONITORING PURPOSES ONLY BY THE APPROPRIATE OFFICIALS.

APPROVED BY THE GREENLAND PLANNING BOARD

CHAIRPERSON _____ DATE _____

STATE OF NEW HAMPSHIRE LUKE D. HURLEY 5/24/17 No. 232 CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE JOHN F. KNIGHT No. 937 LICENSED LAND SURVEYOR

I certify that this survey and plan were prepared by me or by those under my direct supervision and falls under the Urban Survey Classification of the NH Code of Administrative Rules of the Board of Licensure for Land Surveyors. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by Total Station, with a precision greater than 1:15,000.

John F. Knight L.L.S. #937
2/7/17 DATE

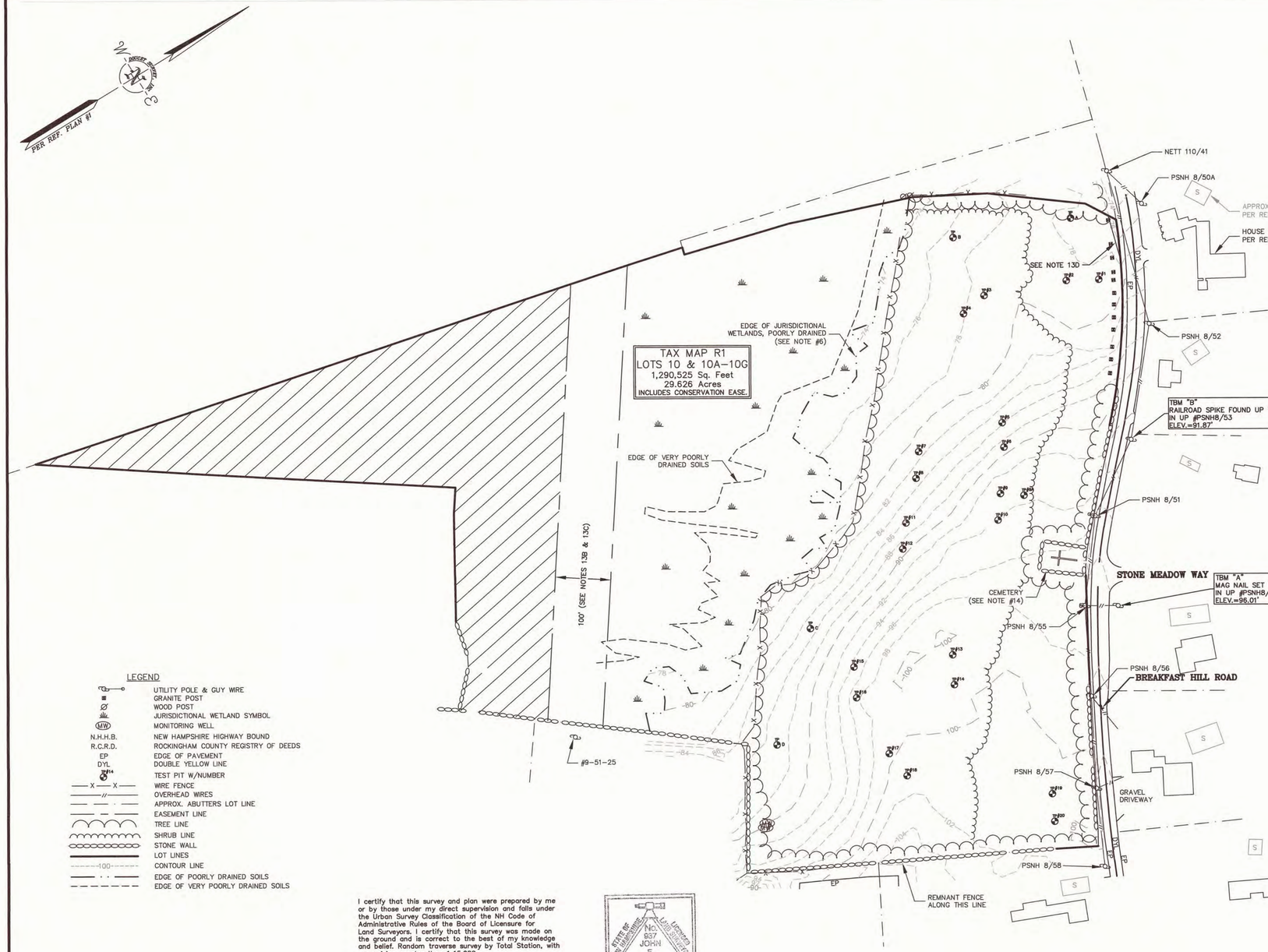
The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

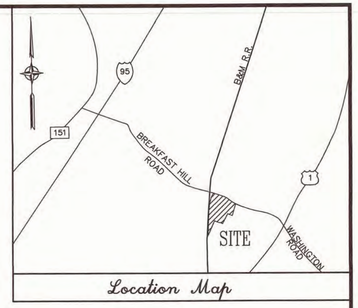
SUBDIVISION PLAN
LAND OF
BREAKFAST HILL TRUST I, II & III
410 BREAKFAST HILL ROAD
GREENLAND, NEW HAMPSHIRE

DRAWN BY:	M.W.F.	DATE:	APRIL 16, 2013
CHECKED BY:	J.F.K.	DRAWING NO.:	3482B
JOB NO.:	3482	SHEET	1 OF 12

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857
(603) 659-6560 http://www.doucetsurvey.com

FILE NAME: Y:\PROJECTS\3482 CARLSON\DWG\3482B [SUB].dwg LAYOUT NAME: 3482 SUB PLAN PLOTTED: Wednesday, March 22, 2017 – 1:35pm





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   346 BREAKFAST HILL ROAD
   GREENLAND, NH 03840
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4. ZONE: RESIDENTIAL
   DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA	60,000 sq.ft. (45,000 sq. ft. CONTIGUOUS UPLAND)
MIN. FRONTAGE	200 ft.
MIN. FRONT SETBACK	30 ft.
MIN. SIDE/REAR SETBACK	20 ft.
MIN. LOT WIDTH	80 ft.
WETLAND SETBACKS:	
FOR BUILDINGS	
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    B. SUBJECT TO A 100' WIDE EASEMENT GRANTED TO P.S.N.H. (FORMERLY N.H. ELECTRIC CO.), R.C.R.D. BOOK 1423, PAGE 257.
    C. SUBJECT TO A 40' WIDE EASEMENT GRANTED TO PORTSMOUTH POWER COMPANY. LOCATION IS CONTAINED WITHIN THE 100' P.S.N.H. EASEMENT, R.C.R.D. BOOK 830, PAGE 46.
    D. SUBJECT TO A SLOPE AND DRAINAGE EASEMENT GRANTED TO N.H.D.O.T., R.C.R.D. BOOK 3165, PAGE 1720.
14. CEMETERY SUBJECT TO N.H.R.S.A. 289:3, III NEW CONSTRUCTION, EXCAVATION, OR BUILDING IN THE AREA OF A KNOWN BURIAL SITE SHALL COMPLY WITH LOCAL ZONING. IN ABSENCE OF SUCH REGULATIONS NO NEW CONSTRUCTION, EXCAVATION, OR BUILDING SHALL BE CONDUCTED WITHIN 25' OF THE BOUNDARY OF THE BURIAL GROUND. TRANSFER OF FEE TITLE TO THE CEMETERY WAS UNCLEAR IN BOOK 516, PAGE 81. THE BOUNDARY HEREON WITH REGARDS TO THE CEMETERY IS PER CURRENT DEED AND REF. PLAN #2.
15. THERE IS A PROPOSED 20' WIDE GRADING AND UTILITY EASEMENT THAT IS TO RUN ALONG THE FRONTAGE OF THE PROPOSED ROAD AND BE BINDING ON EACH OF THE PROPOSED LOTS.
16. ALL PROPOSED DRIVEWAYS SHALL BE ACCESSED FROM THE SUBDIVISION ROAD.
17. PROPOSED LOTS 1–10 ARE SINGLE FAMILY HOMES.
18. MONUMENTATION IS TO BE SET OR BONDED PRIOR TO RECORDING THIS PLAN.
19. AS PART OF THIS APPROVAL THE CLIENT HAS AGREED TO INSTALL MARKERS OR PLACARDS EVERY 50–100' TO DELINEATE THE NO DISTURB BUFFER ZONE.
20. REQUESTED WAIVERS APPROVED ON 7–18–13.
    1. ADDENDUM A, TABLE 1–TO ALLOW A 22' PAVEMENT WIDTH.
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    3. SECTION 3.3.2–DRAWING SCALE
    4. SECTION 3.3.1.B & C–TO ALLOW PARTIAL TOPOGRAPHIC SURVEY.

STATE OF NEW HAMPSHIRE
LINDSAY O. BYBOTH
9/9/13
No. 266
CERTIFIED WETLAND SCIENTIST

LEGEND

	UTILITY POLE & GUY WIRE
	GRANITE POST
	WOOD POST
	JURISDICTIONAL WETLAND SYMBOL
MW	MONITORING WELL
N.H.H.B.	NEW HAMPSHIRE HIGHWAY BOUND
R.C.R.D.	ROCKINGHAM COUNTY REGISTRY OF DEEDS
EP	EDGE OF PAVEMENT
DYL	DOUBLE YELLOW LINE
#14	TEST PIT W/NUMBER
X—X	WIRE FENCE
	OVERHEAD WIRES
	APPROX. ABUTTERS LOT LINE
	EASEMENT LINE
	TREE LINE
	SHRUB LINE
	STONE WALL
	LOT LINES
100	CONTOUR LINE
	EDGE OF POORLY DRAINED SOILS
	EDGE OF VERY POORLY DRAINED SOILS

I certify that this survey and plan were prepared by me or by those under my direct supervision and falls under the Urban Survey Classification of the NH Code of Administrative Rules of the Board of Licensure for Land Surveyors. I certify that this survey was made on the ground and is correct to the best of my knowledge and belief. Random traverse survey by Total Station, with a precision greater than 1:15,000.

L.L.S. #937

9/9/13 DATE

The certifications shown hereon are intended to meet registry of deed requirements and are not a certification to title or ownership of property shown. Owners of adjoining properties are according to current town assessors records.

STATE OF NEW HAMPSHIRE — No. 837 — JOHN F. KAISER — SURVEYOR

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NO.	DATE	DESCRIPTION	BY
3	8/20/13	REV. PER ALTUS COMMENTS	MWF
2	8/1/13	REVISE LOCATION OF CISTERN	MWF
		EASEMENT	
1	6/5/13	REV. PER TOWN PLANNER	MWF

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

SHEETS 2 THROUGH 12 NOT FOR RECORDING

TOPOGRAPHIC PLAN
LAND OF
BREAKFAST HILL TRUST I, II & III
410 BREAKFAST HILL ROAD
GREENLAND, NEW HAMPSHIRE

DRAWN BY:	M.W.F.	DATE:	APRIL 16, 2013
CHECKED BY:	J.F.K.	DRAWING NO.:	3482B
JOB NO.:	3482	SHEET	2 OF 12

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FILE NAME: Y:\PROJECTS\3482 CARLSON\DWG\3482B (SUB).dwg LAYOUT NAME: 3482 TOPO PLAN PLOTTED: Monday, September 09, 2013 – 9:47am

WETLAND NOTES

WETLANDS WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES (G.E.S.). IN ACCORDANCE WITH:

1. US ARMY CORPS OF ENGINEERS INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, TECHNICAL REPORT ERDC/EL TR-09-19 (OCT 2009).
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 7.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2010).
3. NORTH AMERICAN DIGITAL FLORA: NATIONAL WETLAND PLANT LIST, VERSION 2.2.1 (2009).
4. CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1979)

KEY TO SOIL TYPES

HIGH INTENSITY SOIL SURVEYS UTILIZE A FIVE-PART CLASSIFICATION TO IDENTIFY SOIL TYPES. SYMBOLS A-E READ FROM LEFT TO RIGHT IN THE CLASSIFICATION.

SYMBOL A : DRAINAGE CLASS
- 1- EXCESSIVELY DRAINED
- 2- WELL DRAINED
- 3- MODERATELY WELL DRAINED
- 4- SOMEWHAT POORLY DRAINED
- 5- POORLY DRAINED
- 6- VERY POORLY DRAINED

SYMBOL B: PARENT MATERIAL
- 1- GLACIOFLUVIAL DEPOSITS (OUTWASH/TERRACES)
- 2- GLACIAL TILL
- 3- VERY FINE SAND AND SILT DEPOSITS
- 4- LOAMY/SANDY OVER SILT/CLAY DEPOSITS
- 5- SILT AND CLAY DEPOSITS
- 6- EXCAVATED, REGRADED, OR FILLED
- 7- ALLUVIAL DEPOSITS
- 8- ORGANIC MATERIALS - FRESHWATER
- 9- ORGANIC MATERIALS - TIDAL MARSH

SYMBOL C: RESTRICTIVE FEATURES
- 1- NONE
- 2- BOULDERY
- 3- MINERAL RESTRICTIVE LAYER WITHIN 40 INCHES OF SOIL SURFACE
- 4- BEDROCK PRESENT WITHIN 20 INCHES OF SOIL SURFACE
- 5- SUBJECT TO FLOODING (FLOODPLAIN)
- 6- DOES NOT MEET FILL STANDARDS (SEE PUBLICATION)
- 7- BEDROCK PRESENT 20-40 INCHES BELOW SOIL SURFACE
- 8- BEDROCK DEPTH VARIABLE (GENERALLY WITHIN 40 INCHES OF SOIL SURFACE)

SYMBOL D: SLOPE CLASS
- B- 0% TO 8%
- C- 8% TO 15%
- D- 15% TO 25%
- E- 15% TO 25%
- F- 35%+

SYMBOL E: HIGH INTENSITY SOIL MAP IDENTIFIER
- H- MAP MEETS HIGH INTENSITY SOIL MAPPING STANDARDS
- P- MAP IS FOR PRELIMINARY PLANNING ONLY AND DOES NOT MEET STANDARDS

ZONING REQUIREMENTS

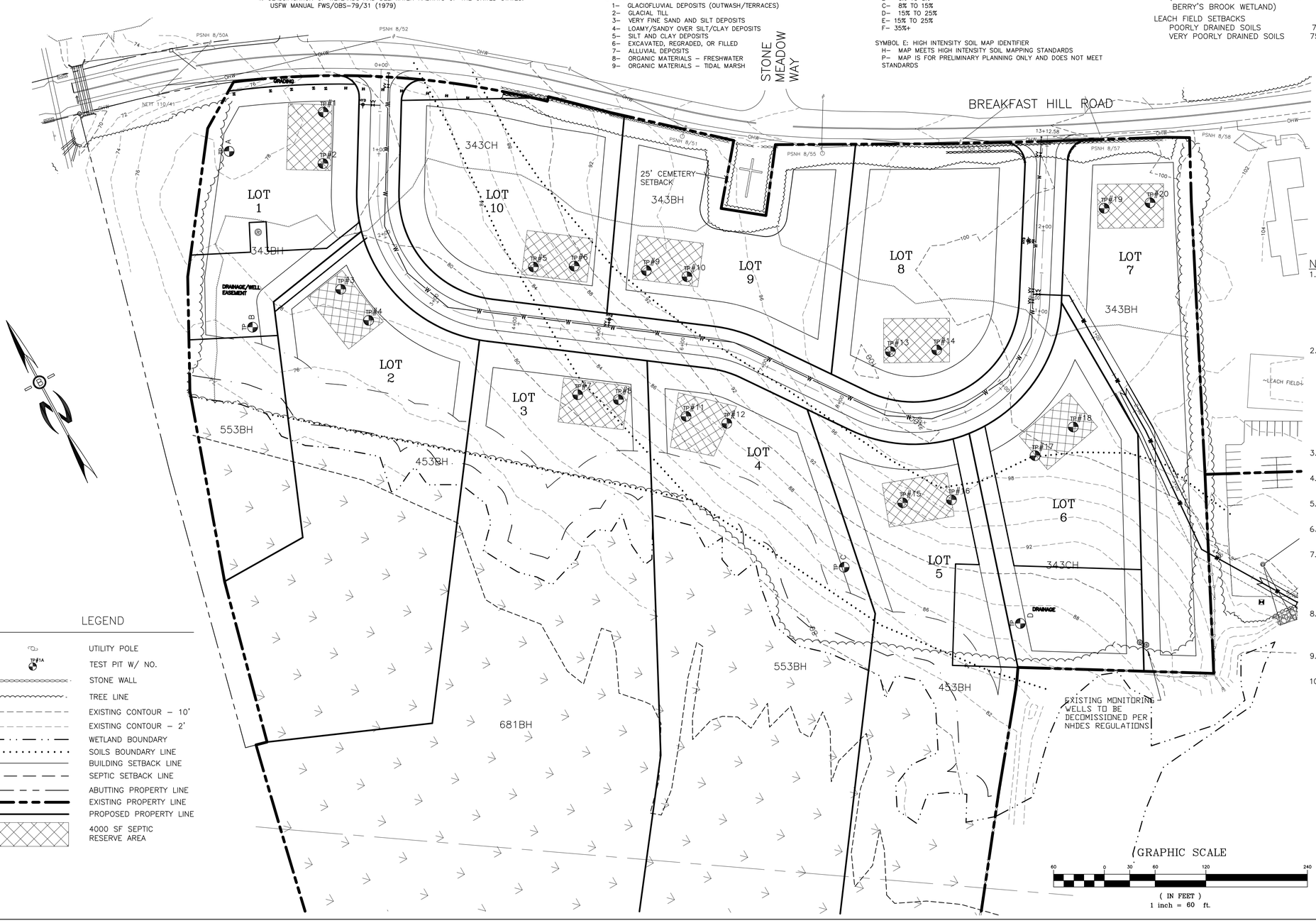
ZONE: RESIDENTIAL
MIN. LOT SIZE = 60,000 SQ FT
MIN. FRONTAGE = 200'
MAX. STRUCTURE HEIGHT = 35'
MIN. OPEN SPACE = 80%
MAX. IMPERVIOUS COVER = 20%

BUILDING SETBACKS:

FRONT	30'
SIDE, & REAR	20'
WETLANDS (WETLAND SYSTEM CONNECTED TO BERRY'S BROOK WETLAND)	75'

LEACH FIELD SETBACKS

POORLY DRAINED SOILS	75'
VERY POORLY DRAINED SOILS	75'



LEGEND

- UTILITY POLE
- TP#1A TEST PIT W/ NO.
- STONE WALL
- TREE LINE
- EXISTING CONTOUR - 10'
- EXISTING CONTOUR - 2'
- WETLAND BOUNDARY
- SOILS BOUNDARY LINE
- BUILDING SETBACK LINE
- SEPTIC SETBACK LINE
- ABUTTING PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- 4000 SF SEPTIC RESERVE AREA

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

PREPARED FOR:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

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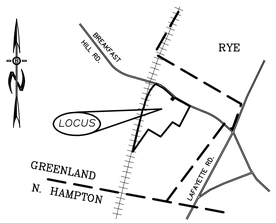
PHONE: 603-583-4860, FAX. 603-583-4863



LOCATION MAP
1"=2000'

NOTES

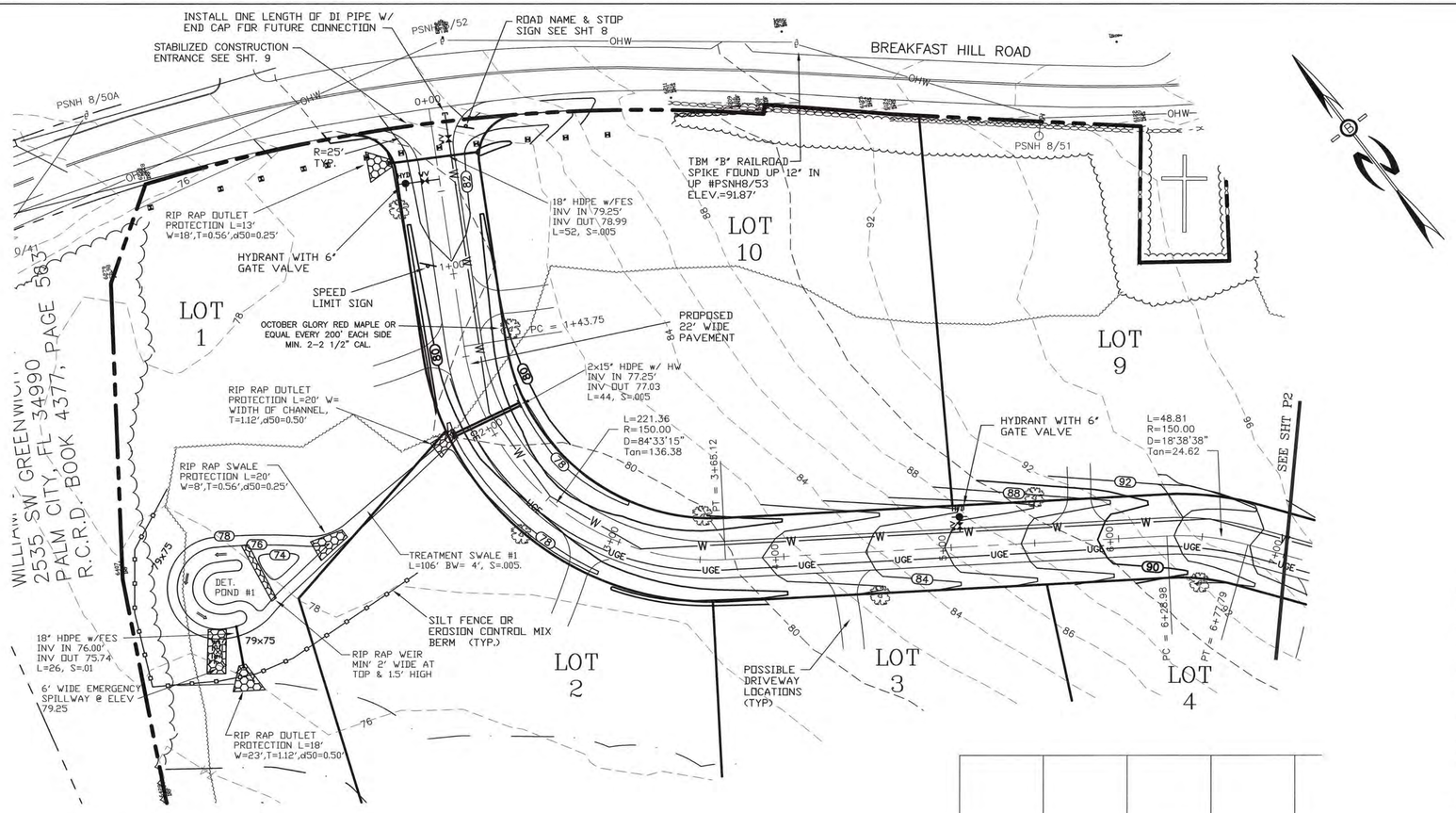
1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. BEALS ASSOCIATES OR ANY OF THEIR EMPLOYEES TAKE NO RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN, THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES OR STRUCTURES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1-888-DIG-SAFE
2. THIS PLAN HAS BEEN PREPARED FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
3. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
4. ALL ROAD AND DRAINAGE WORK TO CONFORM TO TOWN OF GREENLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION.
5. ALL PROPOSED SIGNS SHALL CONFORM TO THE TOWN OF GREENLAND ZONING REGULATIONS.
6. SUBJECT PARCEL LIES WITHIN ZONE "X" ON FEMA PANEL 33015C0265E, DATED MAY 17, 2005.
7. PROPOSED DISTURBANCE OF 96,000 SF IS UNDER 100,000 SQ. FT. MIN. ALTERATION TERRAIN RSA 485: A-17 NOT REQUIRED. IN THE EVENT WORK AREA EXCEEDS 100,000 SF AN AoT PERMIT SHALL BE FILED. **ALL ROADWAY AND DRAINAGE FEATURES TO BE CONSTRUCTED AND COMPLETELY STABILIZED PRIOR TO ANY EARTH DISTURBING ACTIVITIES ASSOCIATED WITH INDIVIDUAL HOUSE LOT DEVELOPMENT.**
8. THE LANDOWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
9. SEE DETAIL SHEET FOR STANDARD CONSTRUCTION NOTES AND DETAILS.
10. THERE ARE NO STREET LIGHTS PROPOSED IN THIS PROJECT.

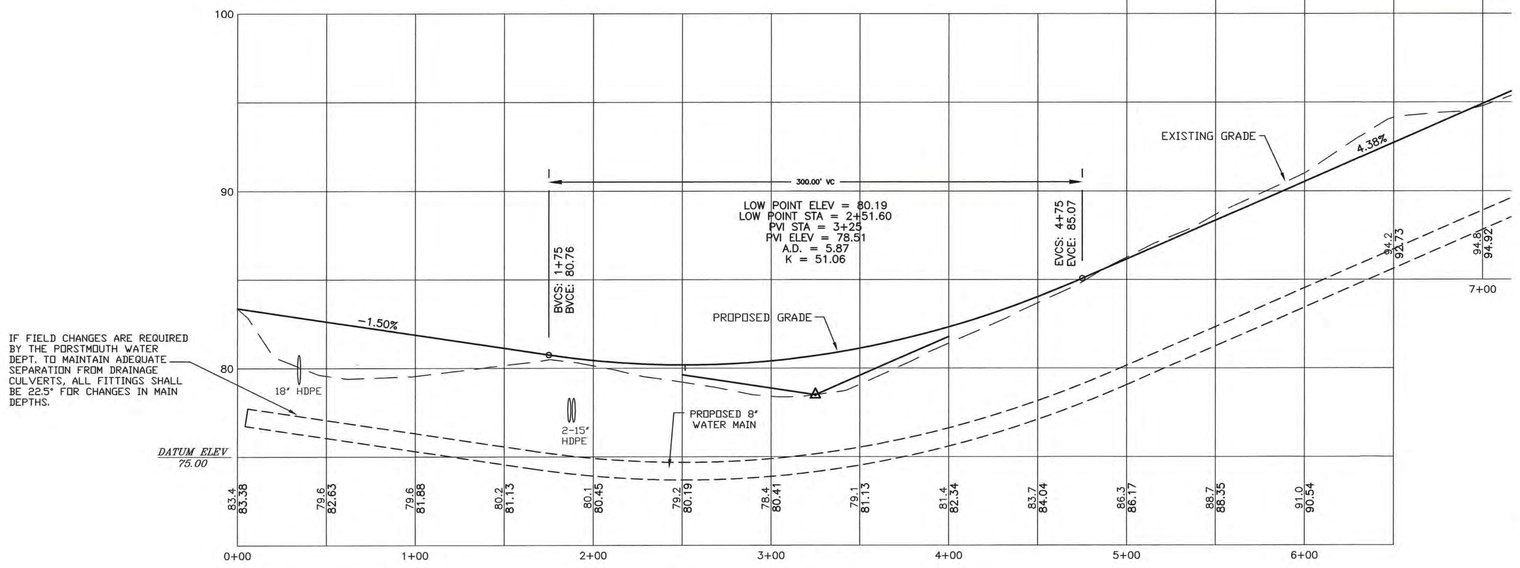
REVISIONS:	DATE:
ADD WELL EASEMENT (LOT 1)	1-11-17
ADDED WATER MAIN DESIGN	10-19-16
REVISED CISTERN LOCATION	7-29-13
PER ENGINEERING REVIEW	7-2-13
PER ENGINEERING REVIEW	5-20-13

SUBDIVISION SITE PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
410 BREAKFAST HILL ROAD
GREENLAND, NH

DATE: FEB. 2013	SCALE: 1"=60'
PROJ. N0: NH-710	SHEET NO. 3 OF 12

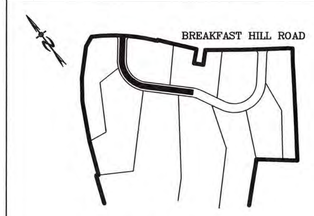




PREPARED FOR:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



LOCATION LEGEND 1"=400'

PROFILE SCALES:
HORIZONTAL: 1"=40' VERTICAL: 1"=4'

CONSTRUCTION NOTES

1. SILTATION/ EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN UNTIL SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION. SEE DETAIL SHEET FOR ADDITIONAL NOTES ON EROSION CONTROL.

2. ALL DISTURBED AREAS NOT TO FINAL GRADE BY MID-NOVEMBER SHALL BE SEEDED WITH WINTER RYE OR ACCEPTABLE SUBSTITUTE AND MULCHED TO PROVIDE VEGETATION COVER.

3. FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE GREENLAND SUBDIVISION REGULATIONS.

4. ALL ROAD AND DRAINAGE WORK TO BE DONE IN CONFORMANCE WITH GREENLAND REGULATIONS AND NHDOT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

5. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.

6. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH REGULATIONS AND SPECIFICATIONS AS APPROVED BY THE APPROPRIATE UTILITY COMPANY. LOW PROFILE STRUCTURES SHALL BE USED TO THE GREATEST EXTENT POSSIBLE.

7. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY.

8. ALL PROPOSED DRIVEWAYS WILL REQUIRE A 12" ADS DRIVEWAY CULVERT WITH 1' OF MIN. COVER

REVISIONS:	DATE:
PER CITY OF PORTSMOUTH	4/24/17
PER ALTUS & GREENLAND FIRE	11/10/16
PER CITY OF PORTSMOUTH	11/7/16
ADDED WATERMAIN	7-20-15
REVISED CISTERN	7-29-13
PER ENGINEERING REVIEW	7-2-13
PER ENGINEERING REVIEW	5-20-13

STATE OF NEW HAMPSHIRE — CHRISTIAN O. SMITH No. 9801 — LICENSED PROFESSIONAL ENGINEER

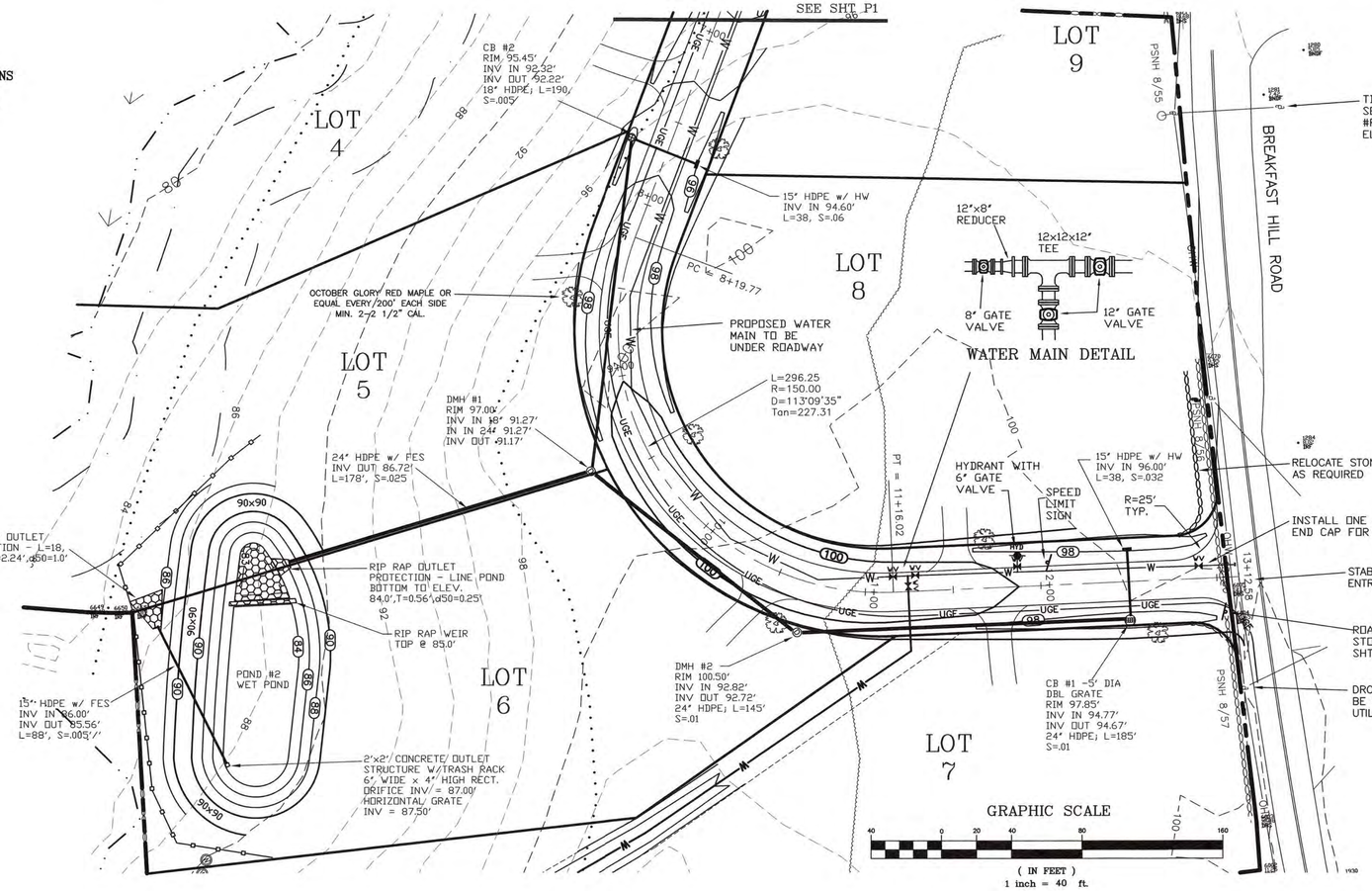
PLAN AND PROFILE

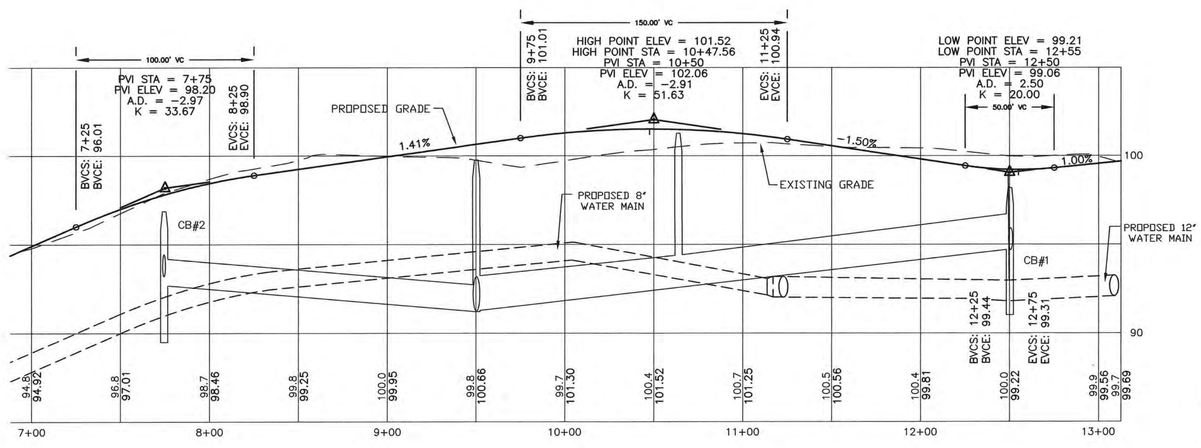
PLAN FOR:
RESIDENTIAL DEVELOPMENT
410 BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: 1" = 40'
PROJ. N0: NH-705	SHEET NO. 4 OF 12

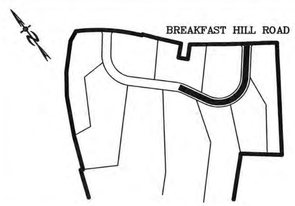
TEMPORARY STONE CHECK DAM LOCATIONS

STATION 6+00 TO 12+00–R & L–EVERY 60'





LOCATION LEGEND 1"=400'



PROFILE SCALES:

HORIZONTAL: 1"=40' VERTICAL: 1"=4'

WATERMAIN CONSTRUCTION NOTES

1. WATERLINE TO BE CONSTRUCTED PER CITY OF PORTSMOUTH SPECIFICATIONS.
2. SHOP DRAWINGS FOR ALL MATERIALS AND PRODUCTS MUST BE SUBMITTED TO THE CITY OF PORTSMOUTH FOR REVIEW / APPROVAL.
3. PROVIDE A MIN. OF 5' AND MAX. OF 7' OF COVER OVER THE WATER MAIN. GREATER THEN 7' MAY BE ALLOWED FOR SHORT DISTANCES WITH CITY OF PORTSMOUTH APPROVAL.
4. WATER MAIN MUST BE HYDROSTATICLY PRESSURE TESTED AND DISINFECTED IN ACCORDANCE WITH AWWA STANDARDS FOR ACCEPTANCE.
5. D.I. WATER PIPE AND FITTINGS SHALL BE BAGGED AND SEALED WITH LOW DENSITY POLYETHYLENE ENCASEMENT. THREE BRASS WEDGES SHALL BE INSTALLED AT ALL NON–CONDUCIVE PIPE JOINTS.
6. THE DEVELOPER, PRIOR TO THE CITY'S ACCEPTANCE OF THE NEW WATER MAIN, SHALL SUBMIT RECORD DRAWINGS (AS–BUILT) OF THE WATER LINE IN DIGITAL FORMAT ACCEPTABLE TO THE CITY FOR APPROVAL.
7. DEVELOPER IS RESPONSIBLE TO OBTAIN ALL PERMITS AND APPROVALS REQUIRED FOR THE CONSTRUCTION ACTIVITY.

PER CITY OF PORTSMOUTH	4/24/17
PER CITY OF PORTSMOUTH	12/7/16
PER ALTUS & GREENLAND FIRE	11/10/16
PER CITY OF PORTSMOUTH	11/7/16
ADDED WATERMAIN	7–20–15
REVISED CISTERN	7–29–13
PER ENGINEERING REVIEW	7–2–13
PER ENGINEERING REVIEW	5–20–13
REVISIONS:	DATE:

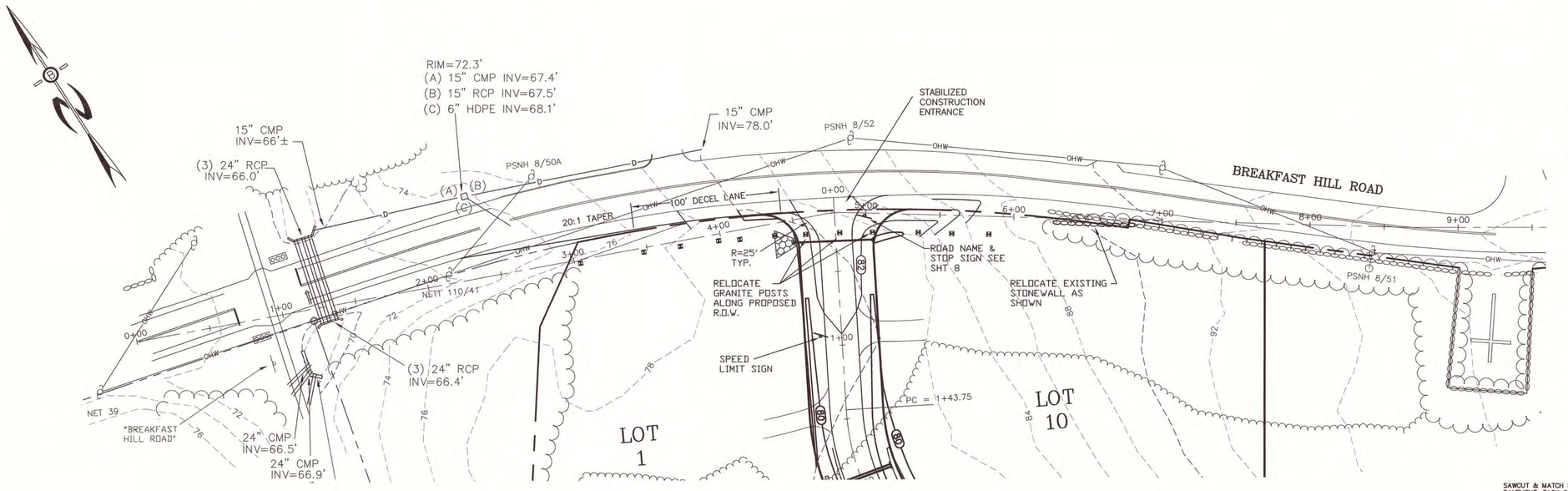
PLAN AND PROFILE

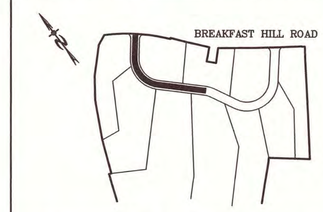
PLAN FOR:
RESIDENTIAL DEVELOPMENT
410 BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: 1" = 40'
PROJ. N0: NH-705	SHEET NO. 5 OF 12

PREPARED FOR:
CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

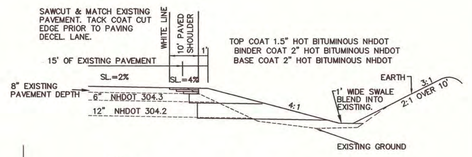
BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863





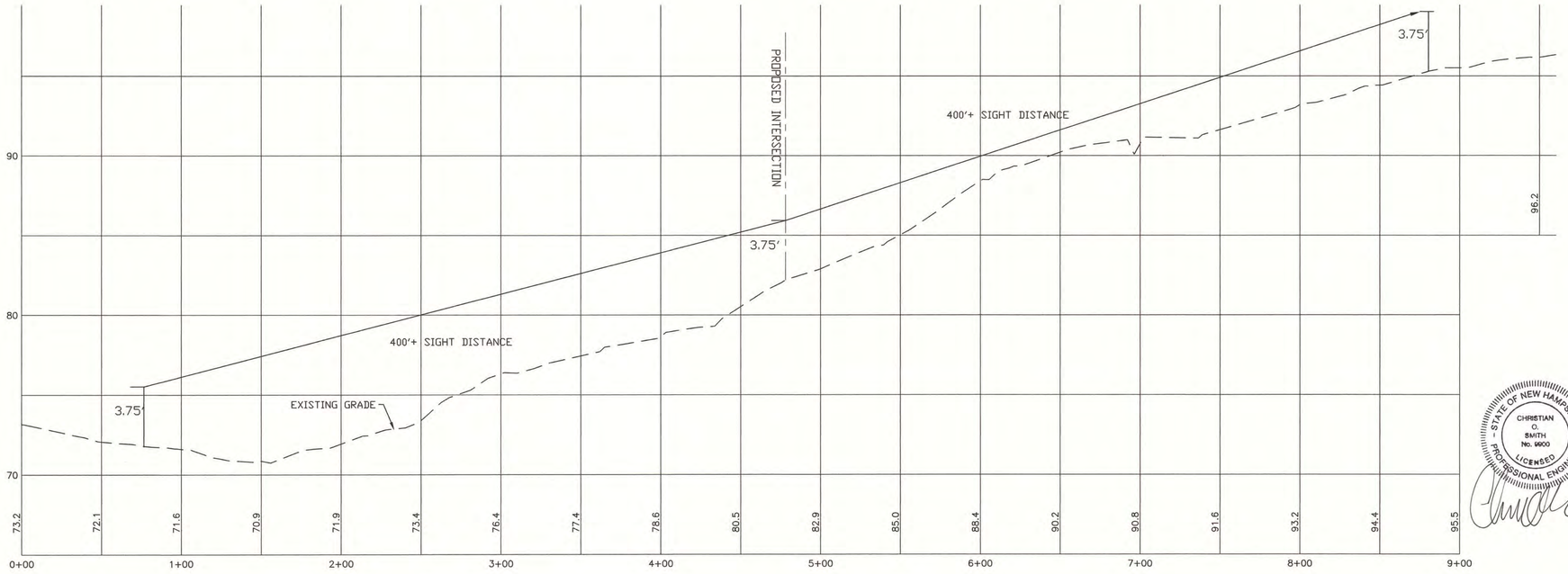
LOCATION LEGEND 1"=400'

PROFILE SCALES:
HORIZONTAL: 1"=50' VERTICAL: 1"=5'



NOTES:
GRAVEL DEPTHS MAY NEED TO BE INCREASED IN AREAS OF POOR SOILS.
ALL DITCHES TO BE 24" IN DEPTH. (BELOW EDGE OF SHOULDER ELEVATION)
GRAVEL MAY BE PLACED AT 12" LIFTS, DENSITY TESTING IS REQUIRED

DECEL. LANE CROSS SECTION
NOT TO SCALE



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STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
LICENSED PROFESSIONAL ENGINEER

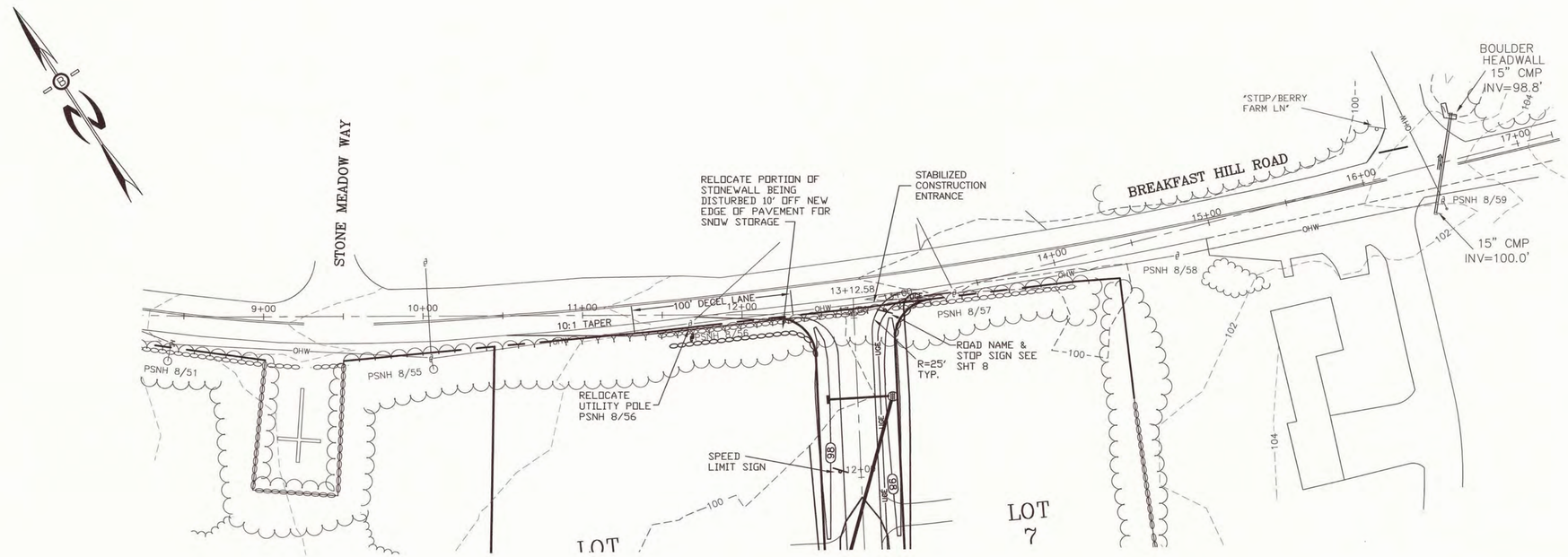
STATE OF NEW HAMPSHIRE
CHRISTIAN O. SMITH
No. 9900
LICENSED PROFESSIONAL ENGINEER

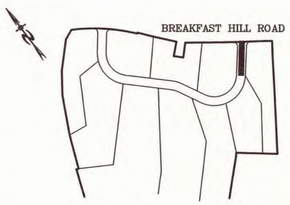
PER ENGINEERING REVIEW	5-20-13
REVISIONS:	DATE:

HIGHWAY ACCESS PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
410 BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: 1" = 40'
PROJ. N0: NH-705	SHEET NO. 6 OF 12





LOCATION LEGEND 1"=400'

PREPARED FOR:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

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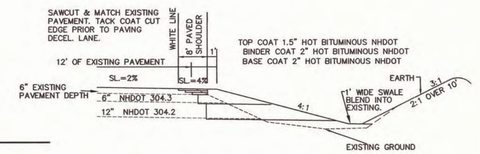
PROFILE SCALES:
HORIZONTAL: 1"=50' VERTICAL: 1"=5'



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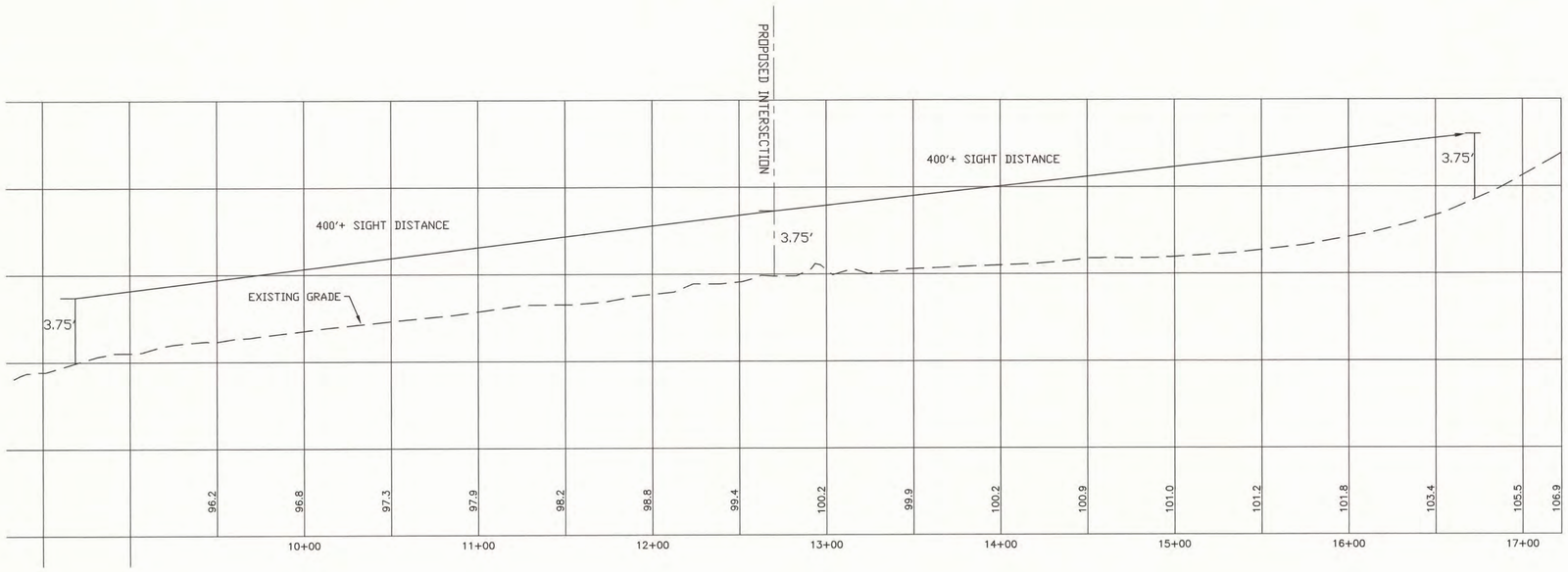
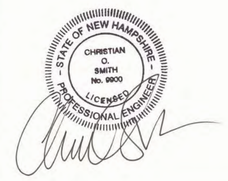
ALL DITCHES TO BE 24" IN DEPTH. (BELOW EDGE OF SHOULDER ELEVATION)
GRAVEL MAY BE PLACED AT 12" LIFTS, DENSITY TESTING IS REQUIRED

DECEL. LANE CROSS SECTION
NOT TO SCALE



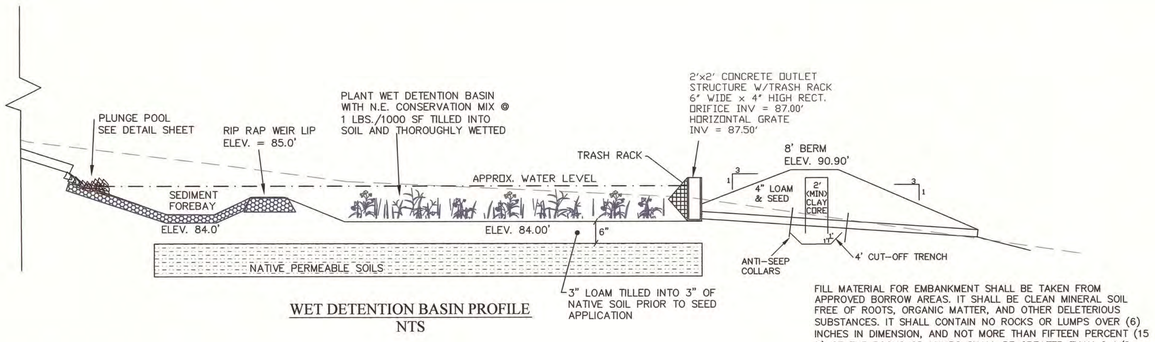


PER NHDOT REVIEW	8-23-13
PER ENGINEERING REVIEW	5-20-13
REVISIONS:	DATE:

HIGHWAY ACCESS PLAN

PLAN FOR:
RESIDENTIAL DEVELOPMENT
410 BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: 1" = 40'
PROJ. N0: NH-705	SHEET NO. 7 OF 12



WET DETENTION BASIN PROFILE
NTS

FILL MATERIAL FOR EMBANKMENT SHALL BE TAKEN FROM APPROVED BORROW AREAS. IT SHALL BE CLEAN MINERAL SOIL FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES. IT SHALL CONTAIN NO ROCKS OR LUMPS OVER (6) INCHES IN DIMENSION, AND NOT MORE THAN FIFTEEN PERCENT (15 %) OF THE ROCKS OR LUMPS SHALL BE GREATER THAN 2 1/2 INCHES OR LESS AND BE COMPACTED TO AT LEAST 90% OF ASTM D-1557. FILL MATERIAL SHALL MEET NHDOT ITEM 304.2: 6" PASSING 100%, #4 SIEVE 70-100%, #200 SIEVE 0-12%.

GENERAL NOTES:

1. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES (IN ACCORDANCE WITH Env-Wq 1500) PRIOR TO THE START OF ANY CONSTRUCTION OPERATION THAT MAY CAUSE ANY SEDIMENTATION OR SILTATION AT THE SITE.
2. INSTALL STORM DRAIN INLET PROTECTION TO PREVENT CLOGGING OF THE STORM SEWER AND SEDIMENT LOADS TO DOWNSTREAM STORM WATER FACILITIES OR WATERBODIES.
3. IF THE STORMWATER BMP IS BEING DESIGNED TO SERVE AS A TEMPORARY SEDIMENT BASIN, GRADE THE BMP TO WITHIN THREE (3) FEET OF FINAL GRADE TO PROTECT THE UNDERLYING MATERIAL FROM CLOGGING. ONCE CONSTRUCTION IN THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETED AND THE SITE IS STABILIZED, EXCAVATE THE INFILTRATION BASIN TO FINAL GRADE AND COMPLETE CONSTRUCTION OF THE BMP.
4. GRADING OF THE INFILTRATION BASIN SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED.
5. EXCAVATE THE INFILTRATION BASIN TO THE SPECIFIED DEPTH (ELEVATION). IT IS RECOMMENDED THAT ALL SUB MATERIAL BELOW THE SPECIFIED ELEVATION SHALL BE LEFT UNDISTURBED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
6. GRADE TO THE DEPTH (ELEVATION) SPECIFIED IN THE CONSTRUCTION DOCUMENTS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
7. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL WILL NEED TO BE REMOVED FROM THE BASIN PRIOR TO INITIATING THE NEXT STEP IN THE CONSTRUCTION PROCESS. SEDIMENT THAT HAS BEEN WASHED INTO THE BASIN DURING THE EXCAVATION PROCESS CAN SEAL THE PERMEABLE MATERIAL, SIGNIFICANTLY REDUCING THE INFILTRATION CAPACITY OF THE SOILS.
8. SEEDING AND INSTALLATION OF EROSION CONTROL BLANKET IF REQUIRED SHALL BE COMPLETED WITHIN 48 HOURS OF FINAL GRADING.
9. INFILTRATION AREA SHALL BE STAKED OFF DURING CONSTRUCTION TO RESTRICT HEAVY EQUIPEMENT TRAFFIC FROM COMPACTING NATIVE SOILS.

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3 PENSTOCK WAY
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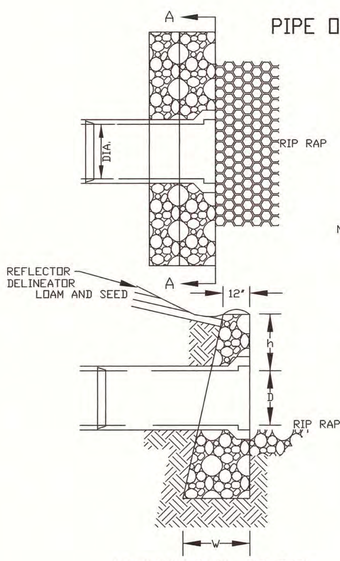
PHONE: 603-583-4860, FAX. 603-583-4863

PIPE OUTLET PROTECTION



LONGITUDINAL SECTION

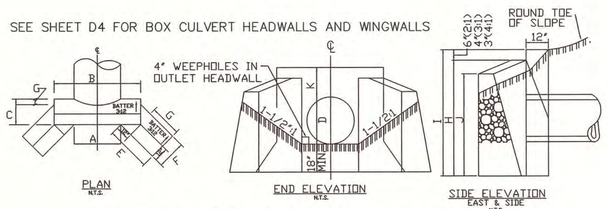
SECTION A-A

DIA.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	PIPE COVER	HEADWALL BOTTOM WIDTH
D	L	H	FH	h	W
15"	6-0	4-3	1-7	1-6	2-1
18"	7-0	4-6	1-10	1-6	2-2
24"	9-0	5-0	2-4	1-6	2-3
30"	11-0	5-6	2-10	1-6	2-5
36"	13-0	6-0	3-4	1-6	2-6
42"	15-9	6-9	4-1	1-9	2-9
48"	17-9	7-3	4-7	1-9	2-10

NOTE:
1. ALL DIMENSIONS GIVEN IN FEET AND INCHES EXCEPT PIPE DIAMETER.
2. PROVIDE BELL END AT INLET HEADWALL, AND SPIGOT END AT OUTLET END HEADWALL.
3. RIP-RAP SHALL BE SIZED TO RESIST THE TRACTIVE VELOCITY FORCES.

MORTAR RUBBLE, MASONRY HEADWALL DETAIL
NOT TO SCALE

SEE SHEET D4 FOR BOX CULVERT HEADWALLS AND WINGWALLS

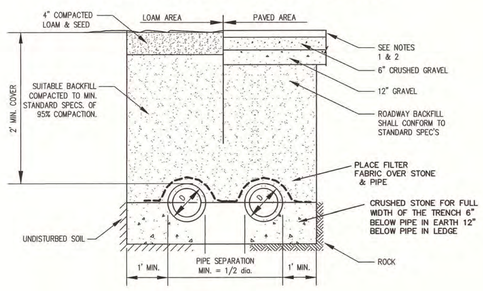


DIMENSIONS SHOWN ARE TO PAVEMENT LINES. MORTAR RUBBLE MASONRY TO BE STEPPED OUTSIDE PAVEMENT LINES ON SLOPING FACES.

D	A	B	C	E	F	G	H	I	J	K
24"	2-6	5-4	2-3	2-11	1-11	0-6	5-0	4-6	3-10	1-6
30"	3-1	5-11	2-5	3-6	2-0	0-5	5-6	5-0	4-1	1-6
36"	3-8	6-6	2-6	4-1	2-1	0-4	6-0	5-6	4-4	1-6
42"	4-3	7-1	2-8	5-0	2-2	0-3	6-9	6-3	4-10	1-9
48"	4-10	7-8	2-10	5-8	2-3	0-2	7-3	6-9	5-1	1-9

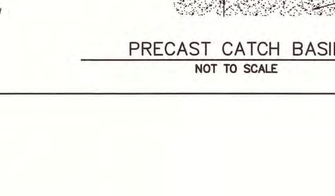
MORTAR RUBBLE, MASONRY HEADWALL W/ 45° WINGWALLS
NOT TO SCALE

TYPICAL DRAINAGE TRENCH DETAIL

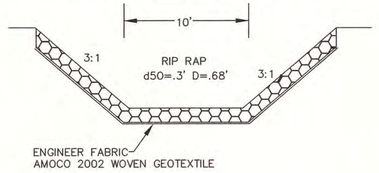


1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPEC'S.

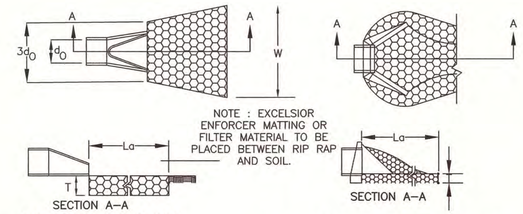
TYPICAL DRAINAGE TRENCH DETAIL N.T.S.



EMERGENCY SPILLWAY PROFILE



EMERGENCY SPILLWAY DETAIL



PIPE OUTLET TO FLAT AREA
WITH NO DEFINED CHANNEL

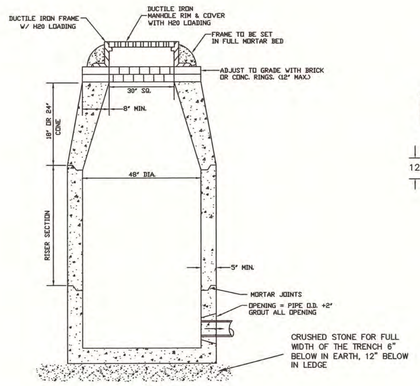
PIPE OUTLET TO WELL-DEFINED CHANNEL

CONSTRUCTION SPECIFICATIONS

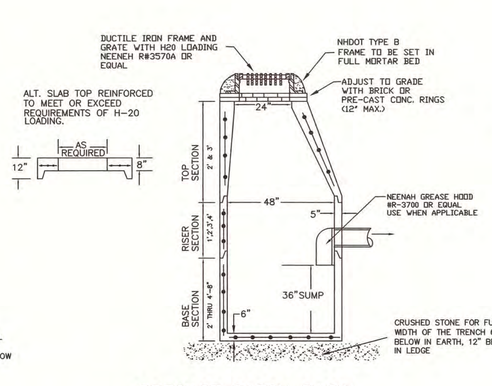
1. THE SUB GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION. 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED
TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. STONE FOR RIRAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT.
6. FLAT ROCKS SHALL NOT USED FOR RIP RAP. VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.

MAINTENANCE

1. THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.



PRECAST DRAIN MANHOLE
NOT TO SCALE



PRECAST CATCH BASIN
NOT TO SCALE

PER ENGINEERING REVIEW	7-29-13
PER ENGINEERING REVIEW	7-2-13
REVISIONS:	DATE:

DRAINAGE DETAILS

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: AS NOTED
PROJ. NO: NH-705	SHEET NO. 8 OF 12

STONE BERM LEVEL SPREADER

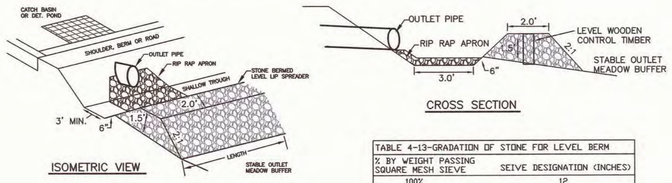
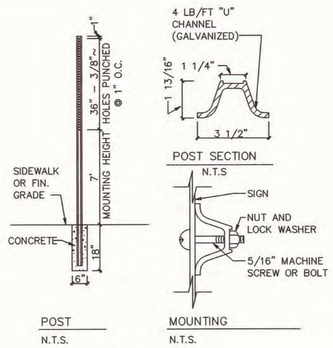


TABLE 4-13-GRADATION OF STONE FOR LEVEL BERM	
% BY WEIGHT PASSING SQUARE MESH SIEVE	SEIVE DESIGNATION (INCHES)
100%	12
84%-100%	6
68%-83%	3
42%-55%	1
8%-12%	No. 4

LEVEL SPREADER

1. CONSTRUCT THE LEVEL SPREADER LIP ON A 0% GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
2. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
3. THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING EXCELSIOR ENFORCER MATTING BENEATH THE STONE. EACH STRIP SHALL OVERLAP BY AT LEAST SIX INCHES.
4. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
5. MAINTENANCE: THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF STONE REMOVAL HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED.



STREET SIGN DETAIL

STOP SIGN (R1-1) 30" x 30"
SPEED LIMIT SIGN (R2-1) 24" x 30"

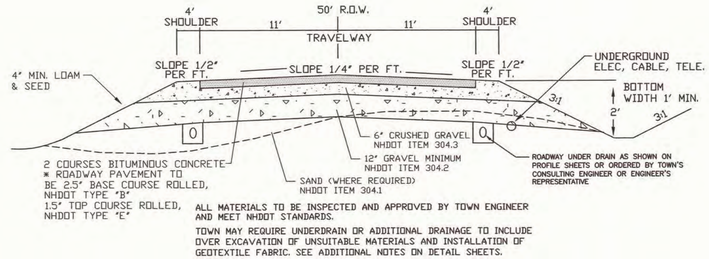
TRAFFIC CONTROL SCHEDULE

SIGN NUMBER	SIGN	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	DESCRIPTION	MOUNT TYPE	MOUNT HEIGHT
R1-1	STOP	30"	30"	WHITE ON RED	CHANNEL	7'-0"
R2-1	SPEED LIMIT 25	18"	24"	BLACK ON WHITE	CHANNEL	7'-0"

PREPARED FOR:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863



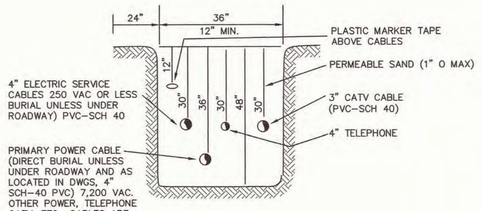
ALL MATERIALS TO BE INSPECTED AND APPROVED BY TOWN ENGINEER AND MEET NHDOT STANDARDS.

TOWN MAY REQUIRE UNDERDRAIN OR ADDITIONAL DRAINAGE TO INCLUDE OVER EXCAVATION OF UNSUITABLE MATERIALS AND INSTALLATION OF GEOTEXTILE FABRIC. SEE ADDITIONAL NOTES ON DETAIL SHEETS.

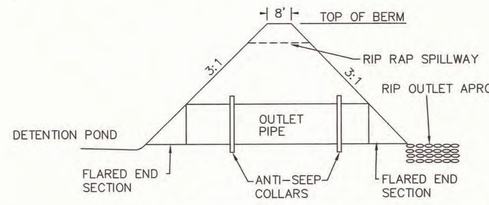
TYPICAL CROSS SECTION

NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

SERVICE BOX CONNECTIONS SHALL BE "FLUSH MOUNT" TO GREATEST EXTENT POSSIBLE AND LOCATED AT PROPERTY LINE CORNERS.



UTILITY TRENCH DETAIL



DETENTION POND BERM & OUTLET DETAIL

FILL MATERIAL FOR EMBANKMENT SHALL BE TAKEN FROM APPROVED BORROW AREAS. IT SHALL BE CLEAN MINERAL SOIL FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES. IT SHALL CONTAIN NO ROCKS OR LUMPS OVER (6) INCHES IN DIMENSION, AND NOT MORE THAN FIFTEEN PERCENT (15%) OF THE ROCKS OR LUMPS SHALL BE GREATER THAN 2 1/2 INCHES OR LESS AND BE COMPACTED TO AT LEAST 90% OF ASTM D-1557. FILL MATERIAL SHALL MEET NHDOT ITEM 304.2: 6" PASSING 100%, #4 SIEVE 70-100%, #200 SIEVE 0-12%.

SAFETY

STEEP SLOPES SHALL BE AVOIDED. RECOMMENDED THAT SIDE SLOPES OF 4:1 (HORIZONTAL TO VERTICAL) OR FLATTER BE USED WHERE TOPOGRAPHY PERMITS. IF TOPOGRAPHY WILL NOT ALLOW SUCH SLOPES THEN THE PERIMETER OF THE BASIN SHOULD BE FENCED. WARNING SIGNS AND LIFESAVING EQUIPMENT SHOULD BE AVAILABLE AT EACH STRUCTURE.

MAINTENANCE

EMBANKMENT- SHOULD BE INSEPCTED ANUALLY TO DETERMINE IF RODENT BURROWS, WET AREAS, OR EROSION OF THE FILL IS TAKING PLACE.

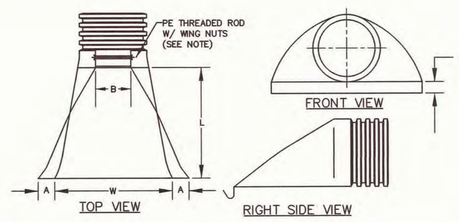
VEGETATION- TO BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS NECESSARY AS DETERMINED BY SOIL TESTS. TREES AND SHRUBS SHOULD BE KEPT OFF THE EMBANKMENT AND EMERGENCY SPILLWAYS.

INLETS- INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. ACCUMULATED DEBRIS AND SEDIMENT SHOULD BE REMOVED. COATED PIPES SHOOULD INSPECTED AND REPAIRED AS NECESSARY.

OUTLET- INSPECTED ANNUALLY AND AFTER EVERY MAJOR STORM. CONDITION OF PIPES SHOULD BE NOTED AND REPAIRED AS NEEDED. IF EROSION IS TAKING PLACE THEN MEASURES SHOULD BE TAKEN TO STABILIZE AND PROTECT THE AFFECTED AREA OF THE OUTLET.

SEDIMENT- SHOULD BE CHECKED CONTINUALLY. WHEN SEDIMENT ACCUMULATIONS REACH THE PREDETERMINED DESIGN ELEVATION, THE SEDIMENT SHOULD BE REMOVED AND PROPERLY DISPOSED OF.

SAFETY INSPECTION- ALL PERMANENT IMPOUNDMENTS SHOULD BE INSPECTED BY A QUALIFIED PROFESSIONAL ENGINEER ON A PERIODIC BASIS. IF THERE IS POTENTIAL FOR SIGNIFICANT DAMAGE OR LOSS OF LIFE DOWNSTREAM, THEN THE INSPECTION SHOULD BE CARRIED OUT ANNUALLY. INSPECTION SHOULD ALSO BE MADE AFTER EVERY MAJOR STORM.



PART No.	PIPE SIZE	A	B(MAX)	H	L	W
1510-NP	15" 375 mm	6.5" 165 mm	10" 254 mm	6.5" 165 mm	25" 635 mm	29" 735 mm
1810-NP	18" 450 mm	7.5" 190 mm	15" 380 mm	6.5" 165 mm	32" 812 mm	35" 890 mm
2410-NP	24" 600 mm	7.5" 190 mm	18" 450 mm	6.5" 165 mm	36" 900 mm	45" 1140 mm
3010-NP	30" 750 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm
3610-NP	36" 900 mm	10.5" 266 mm	N/A	7.0" 178 mm	53" 1345 mm	68" 1725 mm

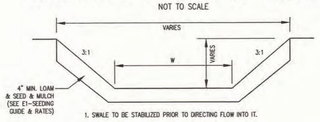
NOTE: PE THREADED ROD W/ WING NUTS PROVIDED FOR END SECTIONS 15"-24". 30" & 36" END SECTIONS TO BE WELDED PER MANUFACTURER'S RECOMMENDATIONS.

ADS N-12 FLARED END SECTIONS

NOT TO SCALE (ALL DIMENSIONS ARE NOMINAL)

VEGETATED TREATMENT SWALE

NOT TO SCALE



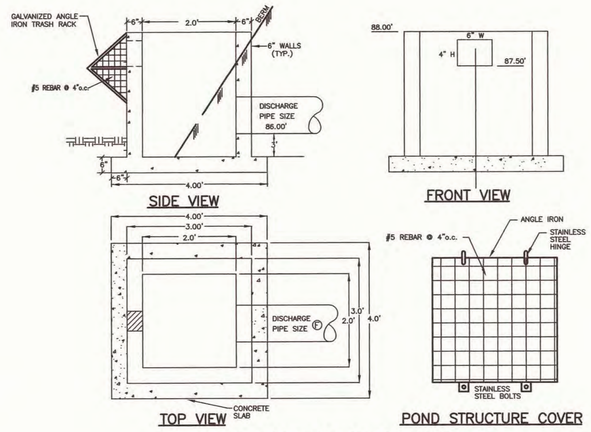
1. SWALE TO BE STABILIZED PRIOR TO DIRECTING FLOW INTO IT.

MAINTENANCE

VEGETATED CHANNELS
DURING THE INITIAL ESTABLISHMENT PERIOD, FLOW SHOULD BE DIVERTED OUT OF THE CHANNEL IF AT ALL POSSIBLE TO ALLOW FOR A GOOD STAND OF GRASS. IF THIS IS NOT POSSIBLE USE MATTING. IN ANY CASE DURING THE ESTABLISHMENT PERIOD, THE CHANNEL SHOULD BE CHECKED PERIODICALLY TO DETERMINE IF THE GRASS IS STILL IN GOOD CONDITION AND IN PLACE. THE VEGETATION SHOULD BE FERTILIZED ON AN "AS-NEEDED" BASIS. THE CHANNEL SHOULD BE MOWED FREQUENTLY ENOUGH TO KEEP THE VEGETATION VIGOROUS AND TO CONTROL THE ENCROACHMENT OF WEEDS AND WOODY VEGETATION. AFTER THE VEGETATION HAS BECOME ESTABLISHED, THE CHANNEL SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO SEE IF DAMAGE HAS OCCURRED. ANY DAMAGED AREAS SHOULD BE REPAIRED AND RE-VEGETATED IMMEDIATELY.

NOTES
1. REINFORCING STEEL SHALL CONSIST OF A SINGLE LAYER OF HORIZ. AND VERT. PLACED #4 REBAR @ 12" O.C.
2. CONCRETE BOX TO BE CONSTRUCTED OR PRE CAST OF EQUAL DIMENSIONS & REINFORCING
3. CONCRETE SLAB TO BE CONSTRUCTED ALONG W/ BASE. FOR PRE CAST BOX, A SLOTTED CONCRETE SLAB TO BE USED.
4. SECTION JOINTS AND PIPE OPENING SHALL BE SEALED WITH MORTAR BY CONTRACTOR.
5. TO BE SUPPLIED BY CAPITAL CONCRETE PRODUCTS OF HENNIKER, N.H., (1-603 -428-3218) OR EQUAL.

LIST OF MATERIALS
1. 3 C.Y. - 5000 PSI CONCRETE
2. 15 ANGLE IRONS @ 4' LENGTH
3. REQUIRED S.S. BOLTS & FASTENERS
4. 1/4" STEEL PLATE W/ DRILLED ORIFICES
5. 1 C.Y. - CRUSHED STONE FOR BASE
6. 48 #5 REBARS @1'2" & 3' LENGTHS
7. 32 #4 REBARS @ 4.5' LENGTH



STAGE DISCHARGE OUTLET STRUCTURE

NOT TO SCALE

CONSTRUCTION CRITERIA

SUBGRADE PREPARATION: AREA SHALL BE CLEARED OF TREES, LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD AND RUBBISH. SUBGRADE SURFACE TO BE ROLLED BEFORE PLACEMENT OF FILL MATERIAL. THE SURFACE SHALL HAVE MOISTURE ADDED OR IT SHALL BE COMPACTED IF NECESSARY SO THAT THE FIRST LAYER OF FILL MATERIAL CAN BE COMPACTED AND BONDED TO THE SUBBASE MATERIAL.

FILL PLACEMENT: FILL SHALL BE FREE OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIA., AND OTHER OBJECTIONABLE MATERIAL.
-FILL TO PLACED EQUALLY AROUND SUBSURFACE STRUCTURES & PIPES TO PREVENT DAMAGE FROM UNEQUAL LOADING.
-PLACING AND SPREADING OF FILL MATERIAL SHALL BE STARTED AT SUBGRADXE ELEVATION AND BROUGHT UP IN HORIZONTAL LAYERS OF THICKNESS' ALLOWING ADEQUATE COMPACTION.
-DISTRIBUTION AND GRADATION OF MATERIALS SHALL BE SUCH THAT NO LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFER SUBSTANTIALLY IN TEXTURE OF GRADATION FROM SURROUNDING MATERIAL.
-MAXIMUM THICKNESS OF GRAVEL LIFTS TO 1 FOOT (12 INCHES).

MOISTURE CONTROL: MOISTURE CONTENT OF THE FILL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. IF THE MATERIAL IS TOO WET IT SHALL BE DRIED TO MEET THIS REQUIREMENT, IF THE MATERIAL IS TOO DRY IT SHALL HAVE WATER ADDED AND MIXED UNTIL REQUIREMENT IS MET.

COMPACTION: CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREAS OR EACH LAYER OF FILL TO INSURE THAT THE REQUIRED COMPACTION IS OBTAINED.
-EACH LAYER SHALL BE COMPACTED TO OBTAIN 95% OF THE PROTOR VALUE (ASTM 1557 OR AASHTO T180).
-FILL ADJACENT TO STRUCTURES, PIPES, ETC SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY THE MEANS OF HAND TAMPERING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS.

EROSION PROTECTION: A PROTECTIVE COVER OF VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SURFACES OF THE EMBANKMENT (CUT/FILL)SLOPE, SPILLWAY, AND BORROW AREA IF SOIL AND CLIMATIC CONDITIONS PERMIT. IF CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NON-VEGETATION MEANS, SUCH AS EROSION BLANKETS OR RIPRAP SLOPE PROTECTION, MAY BE USED.
-SEEDING, FERTILIZING, AND MULCHING SHALL COMPLY WITH THE APPROPRIATE VEGETATIVE BMP'S.

PER ENGINEERING REVIEW	7-2-13
PER ENGINEERING REVIEW	5-20-13
REVISIONS:	DATE:

CONSTRUCTION DETAILS

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: AS NOTED
PROJ. N0: NH-705	SHEET NO. 9 OF 12

CONCRETE THRUST BLOCK DIMENSIONS								
PIPE DIA. (IN.)	TEE		90° BEND OR STUB		45° BEND		22.5° BEND	
	H	L	H	L	H	L	H	L
4"/6"	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"
8"	2'-0"	2'-0"	2'-0"	3'-0"	1'-6"	2'-0"	1'-6"	1'-6"
10"	2'-0"	3'-0"	2'-6"	3'-6"	2'-0"	2'-6"	1'-6"	2'-0"
12"	2'-6"	3'-6"	3'-0"	4'-0"	2'-0"	3'-6"	1'-6"	2'-6"
15"	3'-0"	4'-6"	3'-6"	5'-6"	3'-0"	3'-6"	2'-0"	2'-6"
18"	4'-0"	5'-0"	4'-6"	6'-0"	3'-6"	4'-0"	2'-6"	3'-0"
24"	5'-0"	7'-0"	6'-0"	8'-0"	4'-0"	6'-0"	3'-0"	4'-6"

PIPING W/ MECHANICAL JOINT FITTINGS SHALL HAVE RETAINING GLANDS

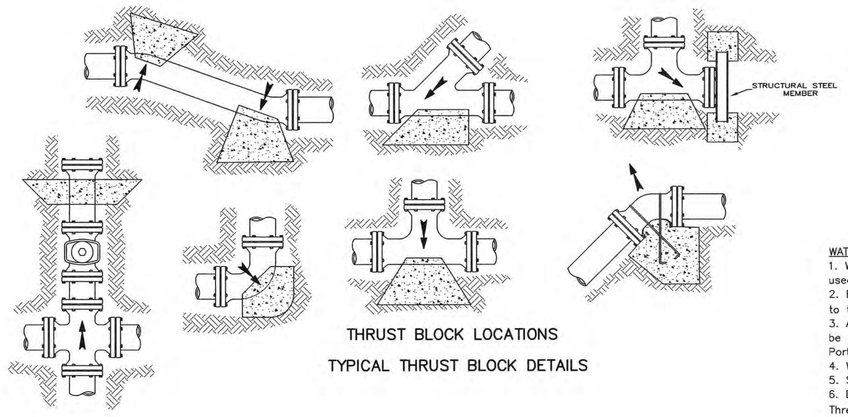
THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING BLOCKS:

1. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
2. PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
3. CONCRETE SHOULD BE CURED AT LEAST 5 DAYS AND SHALL HAVE A COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
4. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

RESTRAINED PUSH-ON AND MECHANICAL JOINTS ARE AVAILABLE FOR ALL PIPE SIZES AND PRESENT NO INSTALLATION PROBLEMS. THEY ARE USED FOR RESISTING THRUST FORCES WHERE THERE IS NO SPACE OR WHERE SOIL BEHIND THE FITTING WILL NOT PROVIDE ADEQUATE SUPPORT. THIS RESTRAINING METHOD INVOLVES THE PLACEMENT OF THESE SPECIAL JOINTS AT APPROPRIATE FITTINGS AND FOR A PREDETERMINED NUMBER OF PIPE LENGTHS ON EACH SIDE.

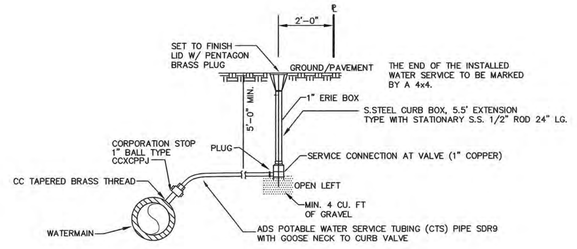
TIE RODS MAY BE USED BY THEMSELVES OR IN COMBINATION WITH OTHER RESTRAINT DEVICES. WHEN TIE RODS ARE USED WITH STEEL BANDS AROUND THE PIPE BARREL, ONLY ONE(1) ROD SHALL BE ATTACHED TO EACH BAND AND THE BAND SHALL BE COCKED TO PREVENT SLIPPAGE ALONG THE PIPE BARREL. A BAND PLACED BEHIND A BELL MAY BE USED WITH TWO(2) RODS. FOR MECHANICAL JOINT PIPE, TIE RODS MAY BE THREADED THROUGH THE BOLT HOLES IN A FLANGE AND SECURED BY NUTS. ALL RODS SHALL BE MADE OF OR COATED WITH CORROSION RESISTANT MATERIALS TO PREVENT RUST AND DETERIORATION.

RESTRAINT MAY BE NECESSARY FOR MORE THAN ONE (1) PIPE LENGTH ON EACH SIDE OF ANY CHANGE IN DIRECTION, DEADEND OR TEE.

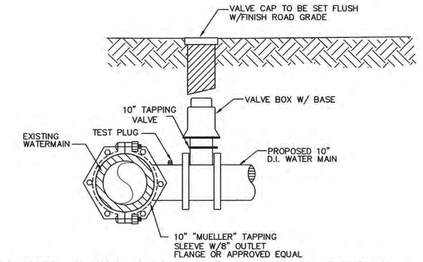


THRUST BLOCK LOCATIONS

TYPICAL THRUST BLOCK DETAILS



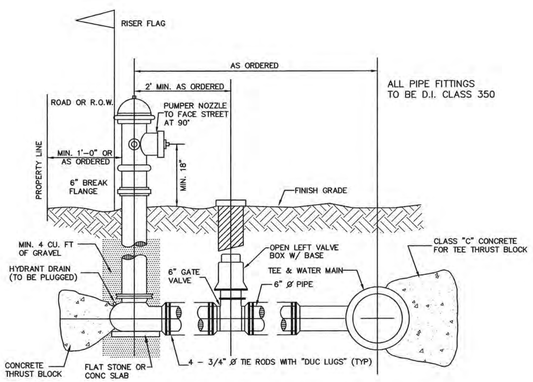
TYPICAL WATER SERVICE CONNECTION



WATER MAIN TAPPING SLEEVE DETAIL

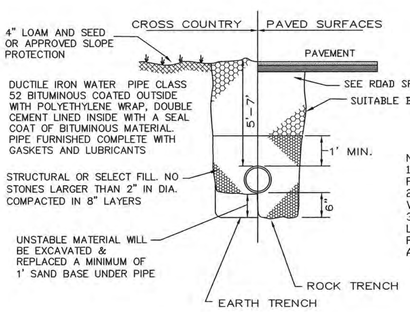
WATER LINE UTILITY NOTES:

1. Water services to be copper from main to water shut-off. Plastic with tracer wire may be used from water shut-off to building.
2. Record drawings of the water line shall be prepared in in digital format acceptable to the City and submitted to the City of Portsmouth DPW for approval. Plans need to be stamped by a registered land surveyor/engineer.
3. An easement for the as-built water line and appurtenances including services up to the water shut-offs shall be provided to the City of Portsmouth. Easement Plans and descriptions shall be approved by the City of Portsmouth Legal Department.
4. Water line shall be constructed per City of Portsmouth requirements.
5. Shop drawings shall be submitted to City of Portsmouth for review and approval.
6. D.I. water pipe and fittings shall be bagged and sealed with low density polyethylene encasement. Three (3) brass wedges shall be installed at all non-conductive pipe joints.
7. Developer is responsible to obtain all permits and approvals required for the construction activity.
8. Thrust blocks to be provided at all bends, tees, mechanical joints and fire hydrants.
9. Water mains shall be hydrostatically pressure tested for leakage at 1.5 times the working pressure or 150 psi whichever is greater in accordance with AWWA Standard C 600. Water mains shall be disinfected after acceptance of pressure test in accordance with AWWA Standard C 651.
10. Water mains and service pipes shall have a minimum 12" vertical and 24" horizontal separation to manholes, or contractor shall install 4" of rigid insulation in 2" lifts for freezing protection.
11. The water line shall be gradually deepened at drainage crossings without the use of fittings where possible. Contractor to request City of Portsmouth approval for use of fittings on a case by case basis.
12. The Developer will be required to enter into a Water Service agreement with the City of Portsmouth prior to construction which will include requirements for construction, transfer of assets, maintenance bond.



HYDRANT TO MEET THE SPECS. OF THE PORTSMOUTH WATER DEPARTMENT STANDARDS

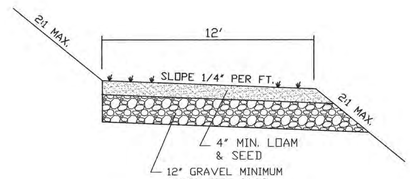
HYDRANT INSTALLATION DETAIL



ALL NON-CONDUCTIVE JOINTS TO HAVE 3 BRASS WEDGES

TYPICAL D.I. WATER PIPE TRENCH SECTION

NOTES:
1. ALL NON-CONDUCTIVE JOINTS TO HAVE 3-BRASS WEDGES PLACED AT THE FITTING.
2. ALL MAINS SHALL BE POLYWRAPPED PER THE PORTSMOUTH WATER DEPT.
3. ALL WATER MAIN/DRAINAGE CULVERT CROSSING THAT HAS LESS THAN 1.5' OF VERTICAL SEPARATION SHALL HAVE 4" OF PULYSTYRENE INSULATION (2X2' THICK SHEETS) THAT EXTEND A MIN. OF 3' EITHER SIDE OF THE WATER MAIN PIPE.



ACCESS ROAD CROSS SECTION

PREPARED FOR:

CHINBURG BUILDERS INC
3 PENSTOCK WAY
NEWMARKET, NH 03857

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

PER CITY OF PORTSMOUTH	11/7/16
REVISIONS:	DATE:

UTILITY DETAILS

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BREAKFAST HILL ROAD
GREENLAND, NH

DATE: JULY 2015	SCALE: NTS
PROJ. N0: NH-705	SHEET NO. 9A OF 12

PIPE OUTLET PROTECTION

TABLE 7-24-RECOMMENDED RIP RAP GRADATION RANGES				
d50 SIZE=	0.25	FEET	3	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE(INCHES) FROM		TO	
100%	5		6	
85%	4		5	
50%	3		5	
15%	1		2	

TABLE 7-24--RECOMMENDED RIP RAP GRADATION RANGES				
d50 SIZE=	0.50	FEET	6	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM		TO	
100%	9		12	
85%	8		11	
50%	6		9	
15%	2		3	

TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT NO MORE THAN 5 ACRES OF LAND SHALL BE EXPOSED BEFORE DISTURBED AREAS ARE STABILIZED*.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED OR DIRECTED BY THE ENGINEER ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS.
3. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN 1.10 POUNDS OF SEED PER 1000 SQUARE FEET OF AREA. (48 POUNDS PER ACRE) SEE SEED SPECIFICATIONS THIS SHEET.
4. SILT FENCES AND OTHER EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAIN EVENT GREATER THAN 0.5" DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED WITHIN 3 DAYS OF FINAL GRADING, PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL.

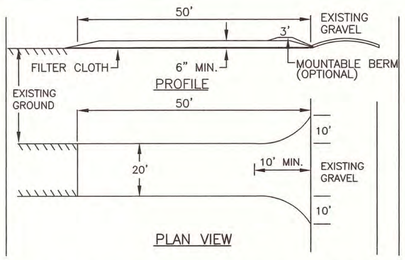
* AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS RIPRAP HAS BEEN INSTALLED.
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

CONSTRUCTION SPECIFICATIONS

1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
3. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18" INTO THE SOIL.
4. STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES IN TO THE SOIL.
5. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATED VEGETATIVE BMP.
6. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.
7. THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL TAKE PRECAUTIONS AND INSTRUCTIONS FROM THE PLANNING DEPARTMENT IN ORDER TO PREVENT, ABATE AND CONTROL THE EMISSION OF FUGITIVE DUST INCLUDING BUT NOT LIMITED TO WETTING, COVERING, SHIELDING, OR VACUUMING.
8. THE NH COMMISSIONER OF AGRICULTURE PROHIBITS THE COLLECTION, POSSESSION, IMPORTATION, TRANSPORTATION, SALE, PROPAGATION, TRANSPLANTATION, OR CULTIVATION OF PLANTS BANNED BY NH LAW RSA 430:53 AND NH CODE ADMINISTRATIVE RULES AGR 3800. THE PROJECT SHALL MEET ALL REQUIREMENTS AND THE INTENT OF . RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES
9. THE CONSTRUCTION SITE OPERATOR AND OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO USEPA, WASHINGTON, DC, STORMWATER NOTICE PROCESSING CENTER AT LEAST FORTEEN DAYS PRIOR TO COMMENCEMENT OF WORK ON SITE. EPA WILL POST THE NOI AT http://cfpubl.epa.gov/npdes/stormwater/noi/noisearch.cfm. AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN IN "ACTIVE STATUS".

CONSTRUCTION SEQUENCE

1. CUT AND REMOVE TREES IN CONSTRUCTION AREAS AS REQUIRED OR DIRECTED.
2. CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS REQUIRED. EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY EARTH MOVING OPERATION AND PRIOR TO DIRECTING RUNOFF TO THEM.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. STUMPS AND DEBRIS ARE TO BE REMOVED FROM SITE AND DISPOSED OF PER STATE AND LOCAL REGULATIONS.
4. EXCAVATE AND STOCKPILE TOPSOIL /LOAM. ALL AREAS SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
5. CONSTRUCT TEMPORARY CULVERTS AS REQUIRED OR DIRECTED.
6. CONSTRUCT THE ROADWAY/DRIVEWAYS AND ITS ASSOCIATED DRAINAGE STRUCTURES. ALL ROADWAYS, PARKING AREAS, AND CUT/FILL SLOPES SHALL BE STABILIZED AND/OR LOAMED AND SEEDED WITHIN 72-HOURS OF ACHIEVING FINISH GRADE AS APPLICABLE.
7. INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.
8. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED.
9. DAILY OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE CHECK DAMS, DITCHES, SEDIMENT TRAPS, ETC. TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS OR PROPERTY.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING
12. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND REVEGETATE ALL DISTURBED AREAS.
13. ALL SWALES AND DRAINAGE STRUCTURES WILL BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUNOFF DIRECTED TO THEM.
14. FINISH PAVING ALL ROADWAYS/DRIVEWAYS.
15. LOT DISTURBANCE OTHER THAN THAT SHOWN ON THE APPROVED PLANS SHALL NOT COMMENCE UNTIL THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.



1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER. 5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE

WINTER MAINTENANCE

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH, SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

3. PRIOR TO NOV. 15TH ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER NOVEMBER 15TH, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 15TH, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   - A. SLOPES SHALL NOT BE STEEPER THAN 2:1;3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

     AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS PER 1,000 SQ. FT..

     NITROGEN(N), 50 LBS PER ACRE OR 1. 1 LBS PER 1,000 SQ.FT.

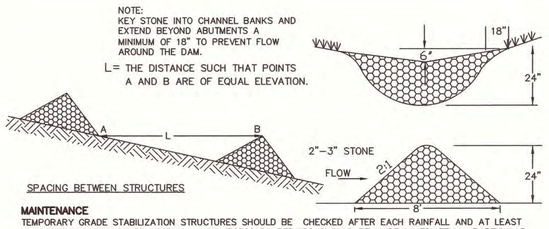
     PHOSPHATE(P2O5), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

     POTASH(K2O), 100 LBS PER ACRE OR 2. 2 LBS PER 1,000 SQ.FT.

     (NOTE: THIS IS THE EQUIVALENT OF 500 LBS PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS PER ACRE OF 5-10-10.)
   - B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   - C. REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWN VETCH, BIRDS FOOT TREFOIL, AND FLAT PEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
   - D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.
4. MULCH
   - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 SQ. FT.
5. MAINTENANCE TO ESTABLISH A STAND
   - A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
   - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND BEYOND ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND THE DAM.

L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.

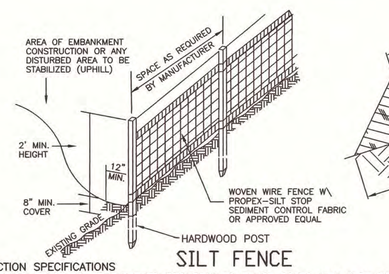


SPACING BETWEEN STRUCTURES

MAINTENANCE
TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED STORMS. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

REMOVAL
AFTER VEGETATION HAS STABILIZED, THESE TEMPORARY STRUCTURES SHALL BE REMOVED WITH SPECIAL CARE AS TO AVOID DISTURBING ANY UNDERLYING EROSION CONTROL FABRIC AND/OR EXISTING VEGETATION

TEMPORARY STONE CHECK DAM



SILT FENCE

CONSTRUCTION SPECIFICATIONS
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES AND FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP MID AND BOTTOM SECTIONS AND BE EMBEDDED INTO GROUND A MINIMUM OF 8". 2. THE FENCE POSTS SHALL BE A MINIMUM 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY SIX INCHES, FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE-VEGETATED

MAINTENANCE
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

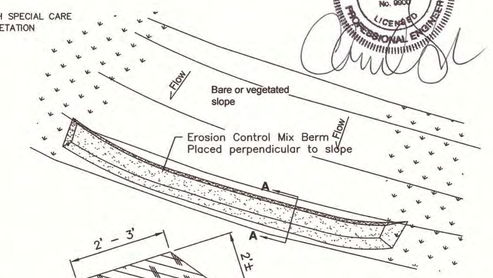
SEEDING GUIDE

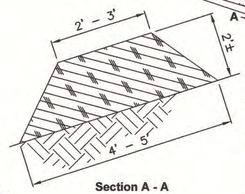
USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	FAIR	GOOD	EXCELLENT
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCT. 15, IF PERMANENT SEEDING NOT YET COMPLETE.





Section A - A

Mix material should consist of 30-50% large (1-3") particles. The organic matter content should be 25%-65%, dry weight basis. The organic matter may originate from a variety of vegetative sources, but needs to be fibrous and elongated. The mix shall be free of silt, clay, fine sand, refuse and contaminants or any material toxic to plant growth. Erosion Control Mix berms are effective filters for overland flow conditions and should not be used to filter concentrated flow such as that found in drainage ditchs, streams, etc.

Erosion Control Mix Berm

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

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3 PENSTOCK WAY
NEWMARKET, NH 03857

BEALS · ASSOCIATES PLLC
70 PORTSMOUTH AVE, STRATHAM, N.H. 03885
PHONE: 603-583-4860, FAX. 603-583-4863

STATE OF NEW HAMPSHIRE — CHRISTIAN O. SMITH No. 9007 LICENSED PROFESSIONAL ENGINEER

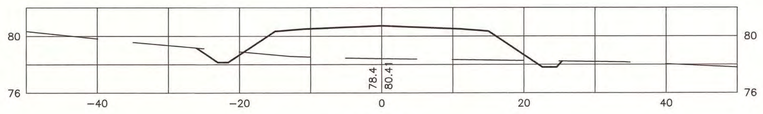
PER ENGINEERING REVIEW	7-2-13
PER ENGINEERING REVIEW	5-20-13
REVISIONS:	DATE:

EROSION & SEDIMENTATION

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: AS NOTED
PROJ. NO: NH-705	SHEET NO. 10 OF 12

3+00



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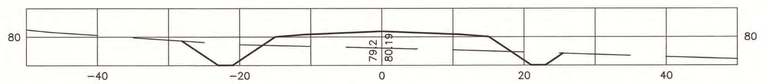

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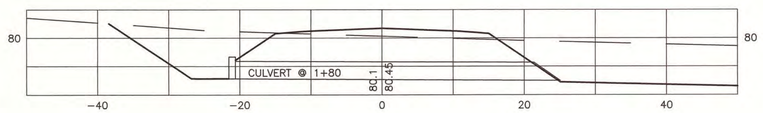

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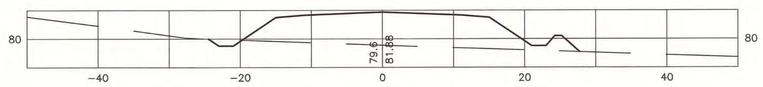

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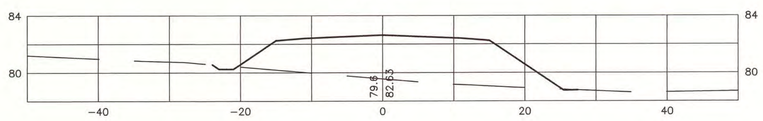

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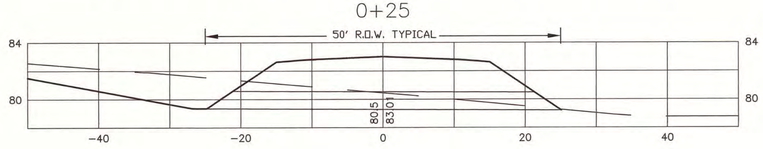

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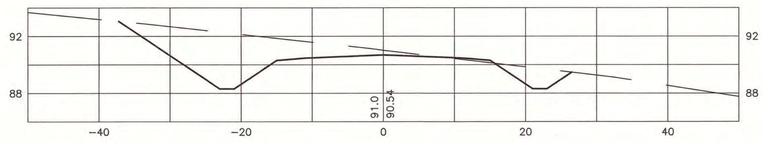

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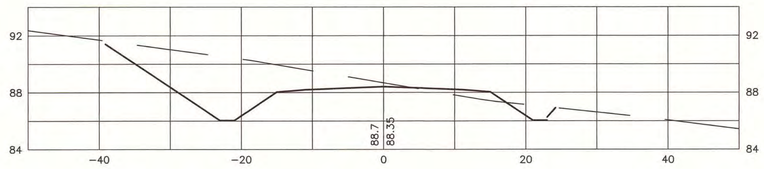

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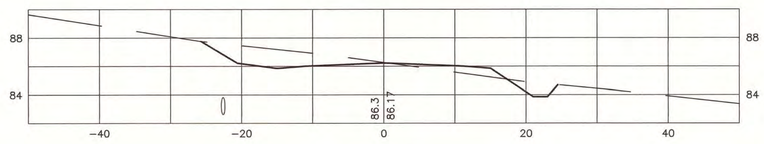

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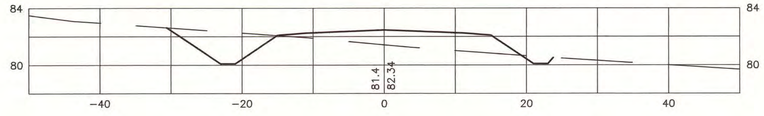

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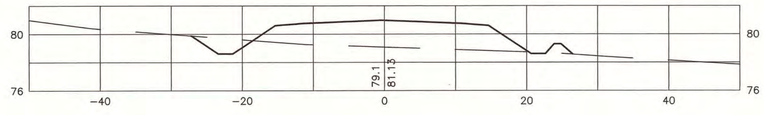

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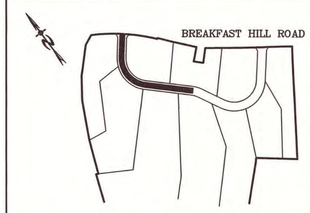
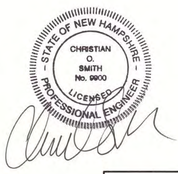


LOCATION LEGEND 1"=400'

SCALES:
HORIZONTAL: 1"=10' VERTICAL: 1"=5'



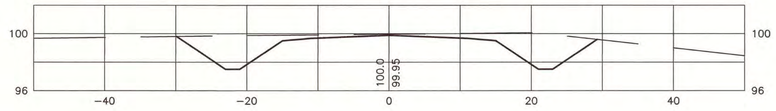
PER ENGINEERING REVIEW	8-22-13
PER ENGINEERING REVIEW	5-20-13
REVISIONS:	DATE:

ROAD X-SECTIONS

PLAN FOR:
RESIDENTIAL DEVELOPMENT
BREAKFAST HILL ROAD
GREENLAND, NH

DATE: APR. 2013	SCALE: 1" = 10'
PROJ. N0: NH-705	SHEET NO. 11 OF 12

9+00



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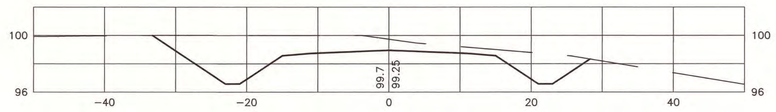

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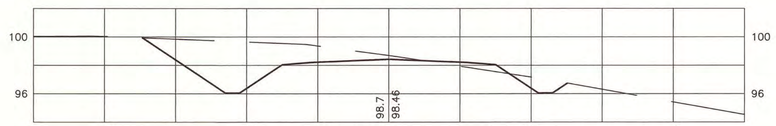

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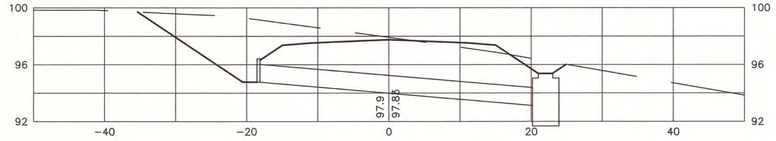

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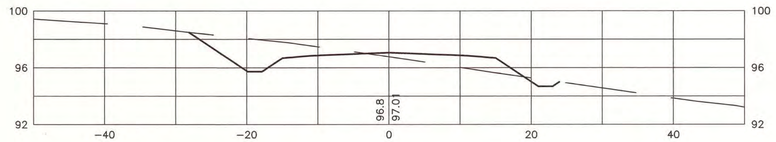

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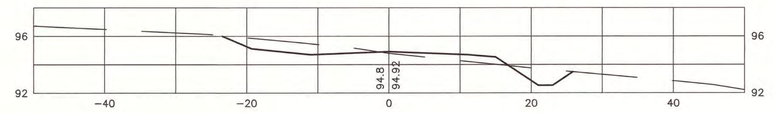

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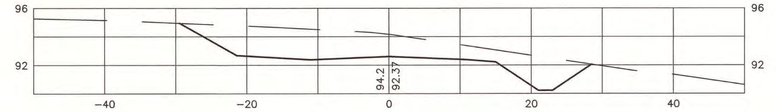

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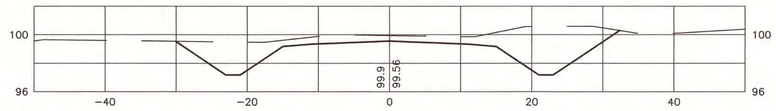

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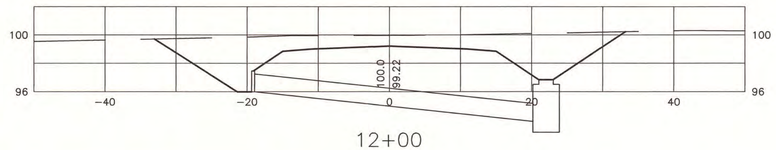

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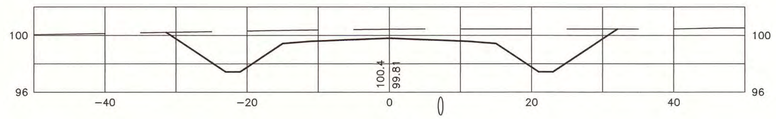

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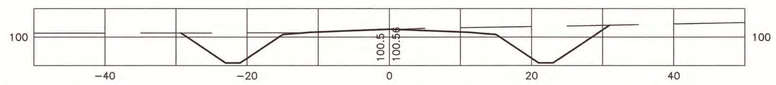

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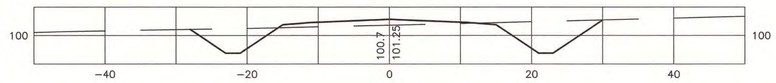

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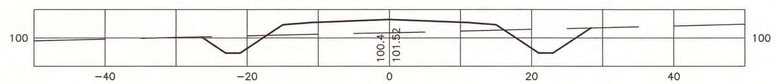

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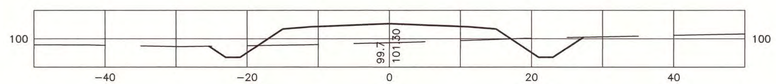

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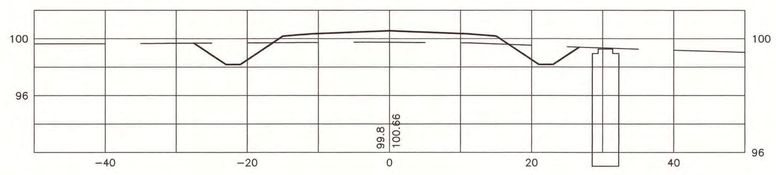

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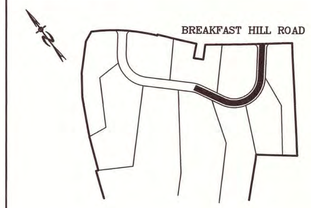

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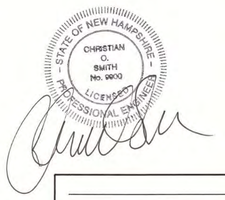

REVISIONS:	DATE:
PER ENGINEERING REVIEW	5-20-13
PER ENGINEERING REVIEW	8-22-13

ROAD X-SECTIONS

PLAN FOR:
RESIDENTIAL DEVELOPMENT
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DATE: APR. 2013	SCALE: 1" = 10'
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