SUBDIVISION PLAN

HARBOR LANDING ESTATES

TAX MAP 140 LOT 16 &
TAX MAP 170 LOT 12
33 BEAN ROAD
MOULTONBOROUGH, NEW HAMPSHIRE

LEGEND

EXISTING STONEWALL

EXISTING 2' CONTOUR — 336

EXISTING 10' CONTOUR — 340

SUBJECT PROPERTY LINES

ABUTTERS PROPERTY LINES

EDGE OF PAVEMENT

EXISTING BUILDING SETBACK

100 YR FLOOD LINE

WETLANDS BOUNDARY
(WETLANDS OVERLAY DISTRICT)

EXISTING TREELINE

HIGH INTENSITY SOIL SURVEY

EXISTING FENCE — X — X —

EXISTING WATER LINE — W — W —

EXISTING GAS LINE — G — G —

EXISTING SEWER LINE — S — S —

EXISTING DRAIN LINE — D — D —

PROPOSED EASEMENT

EXISTING GUARDRAIL

EXISTING OVERHEAD UTILITIES — OHE —

REBAR TO BE SET

IRON PIPE OR PIPE FOUND

GRANITE OR CONCRETE BOUND FOUND

GRANITE BOUND TO BE SET

EXISTING UTILITY POLE

PROPOSED WELL

PROPOSED 2' CONTOUR — F458 —

PROPOSED 10' CONTOUR — F460 —

PROPOSED EDGE OF PAVEMENT

EXISTING BUILDING SETBACK

PROPOSED TREE LINE

PROPOSED DRAINAGE PIPE — D —

PROPOSED WATER LINE — W —

PROPOSED WATER SERVICE — WS —

PROPOSED SEWER PIPE — S —

PROPOSED SEWER SERVICE — SS —

TAX MAP & LOT NUMBER — TAX MAP 227 LOT 11

PROPOSED SWALE

PROPOSED CATCHBASIN

PROPOSED DRAIN MANHOLE

PROPOSED SEWER MANHOLE

PROPOSED WATER GATE

DIG SAFE
ME NH VT
CALL T-888-DIG-SAFE FULL PIECE
UTILITIES UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

CONTACT DIG SAFE 72 HOURS
PRIOR TO CONSTRUCTION

THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. BROWN ENGINEERING, LLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233).

NOTE:

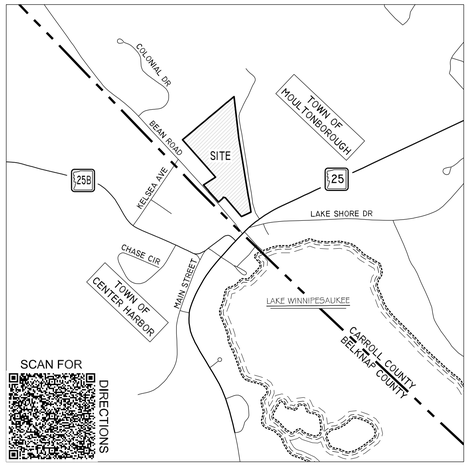
ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE TOWN OF MOULTONBOROUGH REGULATIONS AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

GENERAL NOTES

1. THE PURPOSE OF THIS PLAN IS TO SHOW A 14 LOT SUBDIVISION
2. THE PROPERTY IS DESIGNATED TAX MAP 140 LOT 16 & TAX MAP 170 LOT 12
3. AREA OF LOT 16: 502,674 SQ.FT (11.54 AC)
   AREA OF LOT 12: 262,768 SQ.FT (6.03 AC)
   THE TOTAL COMBINED AREA OF THE EXISTING PROPERTY IS 765,352 sf, 17.57 ACRES.
4. THE OWNER OF RECORD IS:
   KOSS MARK & JACKIE
   172 CARLI BOULEVARD
   COLCHESTER, CT 06415
5. THE PROPERTY PARTIALLY LOCATED IN RESIDENTIAL/AGRICULTURAL ZONE AND COMMERCIAL ZONE A - THE ZONING DELINEATION LINE CAN BE FOUND ON SHEET EC-1
6. THE ENTIRE SITE IS LOCATED WITHIN THE WEST VILLAGE OVERLAY DISTRICT
7. A PORTION OF THE SITE IS LOCATED WITHIN A WELLHEAD PROTECTION AREA (SEE HTTP://DES.NH.GOV)
8. SEWER TO TIE INTO PUBLIC SYSTEM ON BEAN ROAD GOVERNED BY BAY DISTRICT SEWER COMMISION
9. WATER TO BE PROVIDED BY INDIVIDUAL ON SITE WELLS
10. THE SITE IS NOT IN THE ESTABLISHED FLOOD PLAIN. FEMA FIRM MAP NUMBER 33003C0580D
11. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON APRIL 15, 2021. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND NAVD 88.
12. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN.
13. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF MOULTONBOROUGH SITE PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
14. IN ORDER TO PROVIDE VISUAL CLARITY WITHIN THIS PLAN SET, NOT ALL ITEMS ARE SHOWN ON EVERY PLAN SHEET, THE CONTRACTOR SHALL USE THE ENTIRE PLAN SET AND NOT RELY ON INDIVIDUAL SHEETS ALONE DURING CONSTRUCTION

DIMENSIONAL STANDARDS
WEST VILLAGE OVERLAY DISTRICT

15. MINIMUM FRONTAGE: 25'
16. SIDE LOT LINE SETBACK SHALL BE A MIN. OF 15 FT
17. REAR LOT LINE SET BACK SHALL BE A MIN. OF 15 FT
18. MINIMUM LOT SIZE WITH OFF SITE SEWAGE: 10,000 PER DWELLING UNIT



LOCATION MAP
1" = 1,000'

LIST OF DRAWINGS

DWG	SHT NO.	DESCRIPTION
CS-1	1 OF 22	COVER SHEET
EC-1	2 OF 22	EXISTING CONDITIONS & BOUNDARY PLAN
TPD-1	3 OF 22	TEST PIT DATA LOG SHEET
LM-1	4 OF 22	LOT MERGER PLAN
SUB-1	5 OF 22	SUBDIVISION PLAN
OV-1	6 OF 22	OVERVIEW PLAN
PP-1	7 OF 22	PLAN AND PROFILE ROAD 1
PP-2	8 OF 22	PLAN AND PROFILE ROAD 2
PP-3	9 OF 22	PLAN AND PROFILE ROAD 3 & 4
SWMB-1	10 OF 22	STORM WATER MANAGEMENT BASIN #1
SWMB-2	11 OF 22	STORM WATER MANAGEMENT BASIN #2
SWMB-3	12 OF 22	STORM WATER MANAGEMENT BASIN #3
CC-1	13 OF 22	CULVERT CROSSING
DET-1	14 OF 22	EROSION CONTROL DETAILS
DET-2	15 OF 22	EROSION CONTROL DETAILS
DET-3	16 OF 22	DRAINAGE DETAILS
DET-4	17 OF 22	DRAINAGE DETAILS
DET-5	18 OF 22	SEWER DETAILS
DET-6	19 OF 22	MISCELLANEOUS DETAILS
CIS-1	20 OF 22	CISTERN 1
CIS-2	21 OF 22	CISTERN 2
CIS-3	22 OF 22	CISTERN 2

PROFESSIONAL CONSULTANTS LIST

ENGINEER: BROWN ENGINEERING, LLC
63 WEST STREET - PO BOX 703
ASHLAND, NH 03217 PH:(603)744-1044

SURVEYOR: FRENCH LAND SERVICES, INC.
581 SCHOOL STREET
RUMNEY, NH. 03266

SOIL SCIENTIST: BAG LAND CONSULTANTS
43 ROCKINGHAM STREET
CONCORD, NH 03301

WETLAND SCIENTIST: ILEX WETLANDS CONSULTANTS
P.O. BOX 2185
WOLFEBOROUGH NH, 03894

WILDLIFE BIOLOGIST: ALLEN-BENTLEY CONSULTING
22 WEST COUCHTOWN ROAD, PO BOX 269
SALISBURY, NH 03268-0269

HARBOR LANDING
BY LAKE WINNIPESAUKEE

INITIAL PLAN SET SUBMISSION DATE

FEBURARY 29, 2024

LATEST REVISION DATE:

_____

NO.	DATE	DESCRIPTION	BY

NEW HAMPSHIRE FISH AND GAME AOT PERMIT CONDITIONS RELATED TO THREATENED AND ENDANGERED SPECIES

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB21-1116, HARBOR LANDING, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS SHALL BE PROVIDED FOR VERIFICATION AS FEASIBLE; AND
- THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.
- ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH.

AGENCY APPROVALS

NHDES ALTERATION OF TERRAIN: AOT-2037

NHDES DREDGE AND FILL PERMIT: 2021-03677

NH DOT DRIVEWAY PERMIT # 03-313-0602A3

NHDES SEWER CONNECTION PERMIT # PENDING

WRBP WASTEWATER DISCHARGE PERMIT # PENDING

APPROVED BY THE MOULTONBOROUGH NH PLANNING BOARD

DATE APPROVED: _____ DATE SIGNED: _____

CERTIFIED BY: _____

_____

_____

_____

OWNER SIGNATURE: _____

APPLICANT:

Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

PREPARED BY:

FRENCH LAND SERVICES INC.

581 SCHOOL STREET
RUMNEY, N.H. 03266
TEL: (603) 786-9790
FRENCHLS@WORLDPATH.NET

FRENCH LAND SERVICES INC.

BROWN ENGINEERING

63 WEST STREET - P.O. BOX 703, ASHLAND, NEW HAMPSHIRE 03217
TEL: (603) 744-1044, WWW.BROWNENGINEERINGLLC.COM

JOB NO: 5328-01

SYMBOLS LEGEND

- UTILITY POLE (PP)
- IRON PIPE FOUND (IPF)
- STONE BOUND FOUND
- PROPERTY LINE
- SOIL TYPE DELINEATION
- 538 EXISTING 2' CONTOURS
- 538 EXISTING 10' CONTOURS
- TREELINE
- STONE RETAINING WALL
- SETBACK LINE
- EDGE OF WETLAND
- SB A-2 WETLAND FLAG
- WETLAND SOIL DELINEATION LINE
- BENCHMARK SET
- TEST PIT LOCATION

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS FOR THE PROPOSED SITE LOCATION
2. THE PROPERTY IS DESIGNATED TAX MAP 140 LOT 16 & TAX MAP 170 LOT 12
3. AREA OF LOT 16: 502,674 SQ.FT (11.54 AC)
   AREA OF LOT 12: 262,768 SQ.FT (6.03 AC)
   THE TOTAL COMBINED AREA OF THE EXISTING PROPERTY IS 765,352 sf, 17.57 ACRES.
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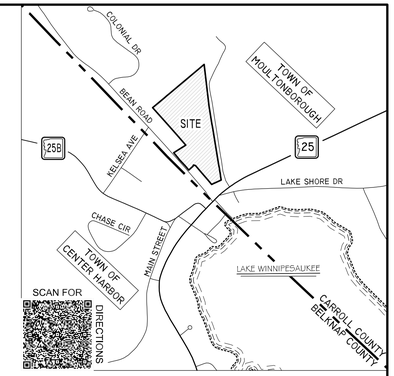


LOCATION MAP
1" = 1,000'

STATE OF NEW HAMPSHIRE
BRUCE A. GILDAY
No. 012
CERTIFIED SOIL SCIENTIST

SOIL CERTIFICATION STATEMENT

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR SUPPORTING A NHDES ALTERATION OF TERRAIN PERMIT APPLICATION. IT WAS PRODUCED BY BRUCE A. GILDAY, CSS # 12 [BAG LAND CONSULTANTS; CONCORD, NH] AND IS NOT A PRODUCT OF USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A TECHNICAL REPORT THAT ACCOMPANIES THIS MAP.

STATE OF NEW HAMPSHIRE
DANIEL E. COONS JR.
No. 264
CERTIFIED WETLAND SCIENTIST

WETLAND CERTIFICATION

DAN COONS, CERTIFIED WETLAND SCIENTIST #264 OF ILEX WETLANDS CONSULTANTS, OF WOLFEBORUGH, NH PERFORMED THE WETLAND MAPPING IN AUGUST OF 2020 ACCORDING TO THE TECHNICAL CRITERIA OF THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT-87-1, JANUARY 1987 AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS. HYDROPHYTIC VEGETATION WAS IDENTIFIED USING THE NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NEW HAMPSHIRE, PUBLISHED BY THE UNITED STATES FISH AND WILDLIFE SERVICE, MAY 1998.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	SOIL UNIT NAME	DRAINAGE CLASS	HSG
46	HENNIKER	WELL DRAINED	C
448	SCITUATE	MODERATELY WELL DRAINED	C
656/P	RIDGEBURY	POORLY DRAINED	C
926	RIDGEBURY	SOMEWHAT POORLY DRAINED	C

SLOPE DESIGNATION	PERCENT SLOPE
B	0 TO 8%
C	8 TO 15%
D	15 TO 25%
E	>25%

STATE OF NEW HAMPSHIRE
No. 664
KEVIN L. FRENCH
LICENSED LAND SURVEYOR
SIGNATURE

I CERTIFY THAT THIS PLAT IS THE RESULT OF A SURVEY DONE WITH A SPECTRA PRECISION 35 TOTAL STATION HAVING AN UNADJUSTED ERROR OF CLOSURE BETTER THAN 1:20,000.

PLANS OF REFERENCE

1) "BOUNDARY PLAN BOUNDARY SURVEY MARK AND JACKIE KOSS MAP 17, LOT 12 MAP 14, LOT 16 MOULTONBOROUGH, CARROLL COUNTY, NEW HAMPSHIRE 03/10/2021" BY HOLDEN ENGINEERING & SURVEYING INC. DATED 3/10/21 RECORDED 4/21/21 AT CCRD AS PLAN BK 245 PG 2
2) "PLAN SHOWING LANDS OWNED BY LEWIS AND MARY M. WOODMAN, TAX MAP 170 LOT 12 & TAX MAP 140 LOT 16, MOULTONBOROUGH, CARROL CO., NH, OCTOBER 2007" BY HAMBROOK LAND SURVEYING, CCRD PLAN NO. 219-82
3) "TAX MAP 9, LOT 72, AS-BUILT SITE PLAN FOR UNITS 1,2,4,5,6,7,8,9,10,11,12, &13, SENTER'S MARKET, A CONDOMINIUM, ROUTE 25B & BEAN ROAD, BELKNAP CO., CENTER HARBOR, NH, CARROLL CO., MOULTONBOROUGH, NH" DATED MARCH 12, 2002 BY PAUL HM. DARBYSHIRE ASSOCIATES, BCRD PLAN NO. 85 DRAWER L40
4) "PLAN SHOWING A PORTION OF THE MOULTONBOROUGH-CENTER HARBOR, NH TOWN LINE BETWEEN LAKE WINNIPESAUKEE & CENTER HARBOR NECK ROAD AS RUN & MONUMENTED IN JUNE, 1993" BY FRANCIS C. HAMBROOK, LLS, BCRD PLAN NO. 40 DRAWER L20

EXISTING CONDITIONS

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

PREPARED BY:
BROWN ENGINEERING LLC.
63 WEST STREET-P.O. BOX 703
ASHLAND, NH 03217
Tel: (603) 744-1044
www.brownengineeringllc.com

BROWN ENGINEERING
CIVIL ENGINEERS

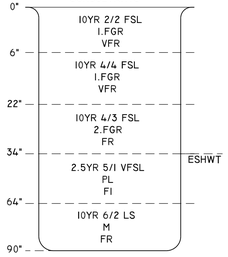
DATE:
FEBURARY 29, 2024
JOB NO: 5328-01

Graphic Scale
60 30 0 60
SCALE: 1" = 60'

EC-1
2 OF 22

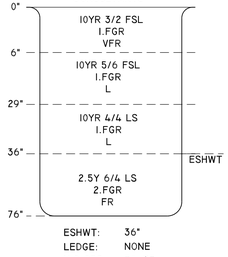
G:\CLIENTS\5328-01 2 Koss-35 Bean Road-Moultonborough\Dwgs\5328-01_02 Koss Site Plan.dwg Feb 29, 2024-8:19am

TEST PIT #1
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



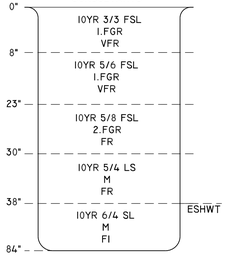
ESHWT: 34"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #2
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



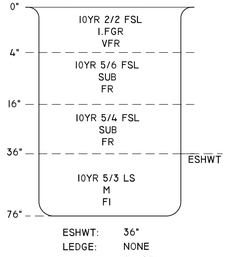
ESHWT: 36"
LEDGE: NONE
H_2O OBS. FALSE
5% COBBLES

TEST PIT #3
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



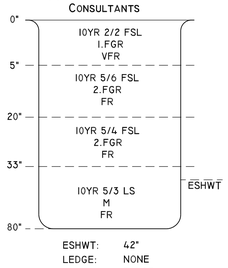
ESHWT: 38"
LEDGE: NONE
H_2O OBS. @ 84"

TEST PIT #4
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



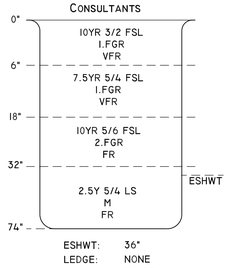
ESHWT: 36"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #5
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



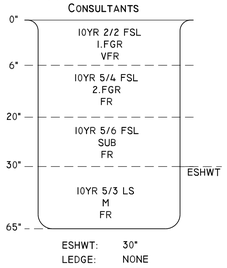
ESHWT: 42"
LEDGE: NONE
H_2O OBS. FALSE
10% STONES

TEST PIT #6
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



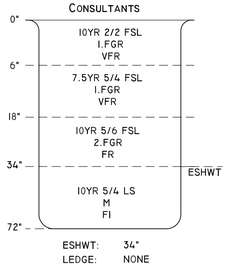
ESHWT: 36"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #7
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



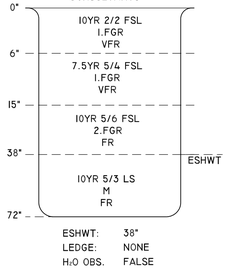
ESHWT: 30"
LEDGE: NONE
H_2O OBS. @65"

TEST PIT #8
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



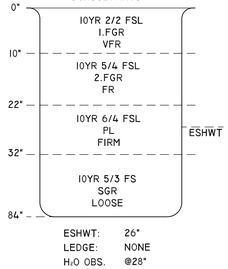
ESHWT: 34"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #9
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



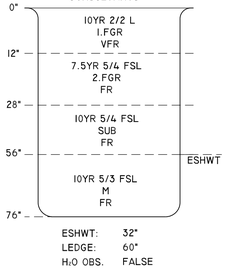
ESHWT: 38"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #10
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



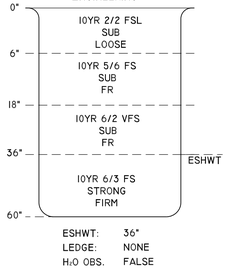
ESHWT: 26"
LEDGE: NONE
H_2O OBS. @28"

TEST PIT #11
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



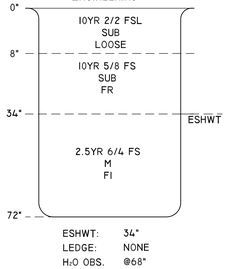
ESHWT: 32"
LEDGE: 60"
H_2O OBS. FALSE

TEST PIT #12
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



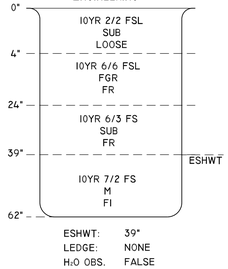
ESHWT: 36"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #13
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



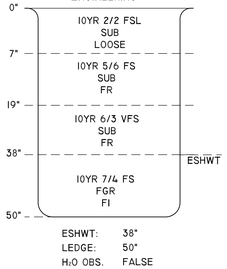
ESHWT: 34"
LEDGE: NONE
H_2O OBS. @68"

TEST PIT #14
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



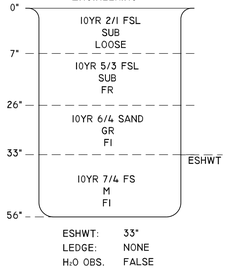
ESHWT: 39"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #15
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



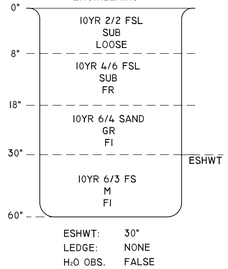
ESHWT: 38"
LEDGE: 50"
H_2O OBS. FALSE

TEST PIT #16
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING

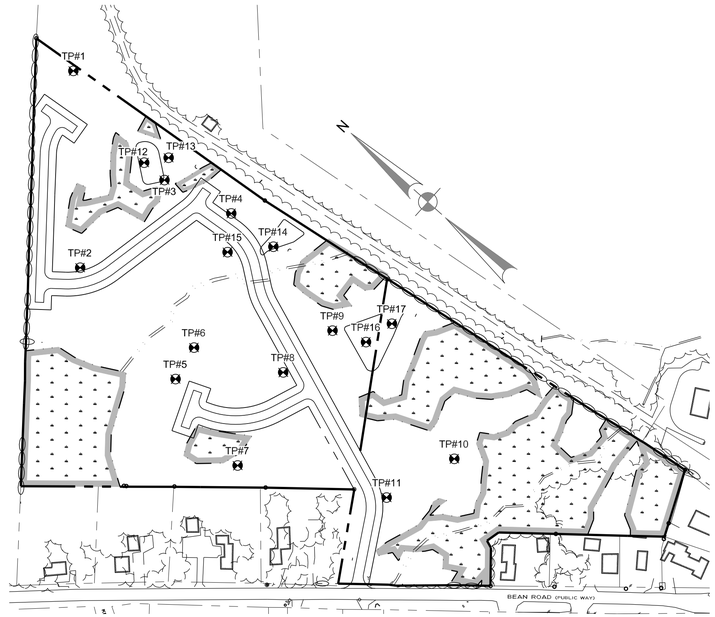


ESHWT: 33"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #17
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 30"
LEDGE: NONE
H_2O OBS. FALSE



TEST PIT VICINITY MAP
SCALE: 1"=150'

SYMBOLS LEGEND

- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- PROPOSED TREELINE
- TP#7 — TEST PIT NUMBER & LOCATION
- EDGE OF WETLAND

TEST PIT DATA

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

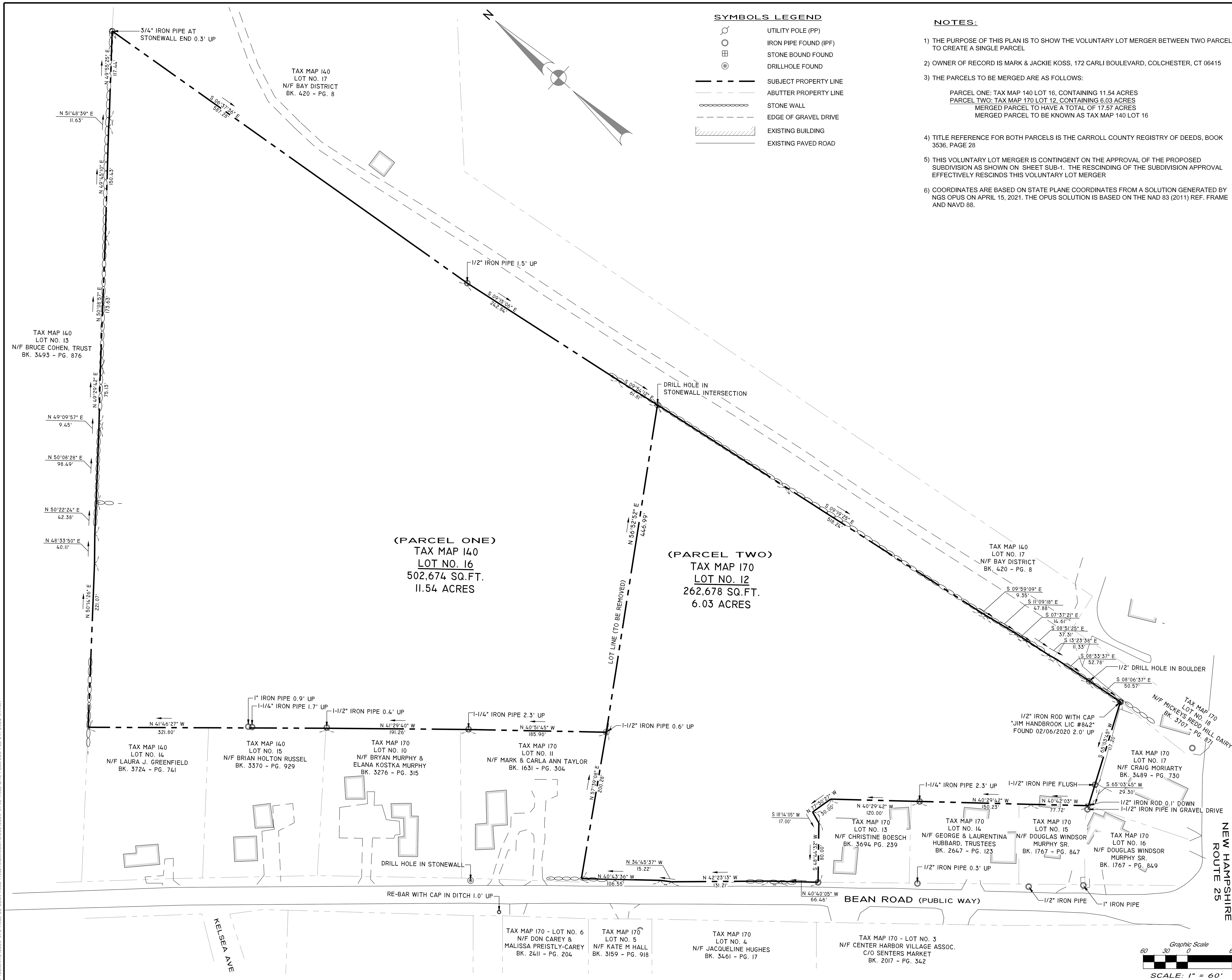
PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

PREPARED BY:
BROWN ENGINEERING LLC.
63 WEST STREET-P.O. BOX 703
ASHLAND, NH 03217
Tel: (603) 744-1044
www.brownengineeringllc.com

BROWN ENGINEERING
CIVIL ENGINEERS

DATE:
FEBURARY 29, 2024

JOB NO: 5328-01



NOTES:

1) THE PURPOSE OF THIS PLAN IS TO SHOW THE VOLUNTARY LOT MERGER BETWEEN TWO PARCELS TO CREATE A SINGLE PARCEL

2) OWNER OF RECORD IS MARK & JACKIE KOSS, 172 CARLI BOULEVARD, COLCHESTER, CT 06415

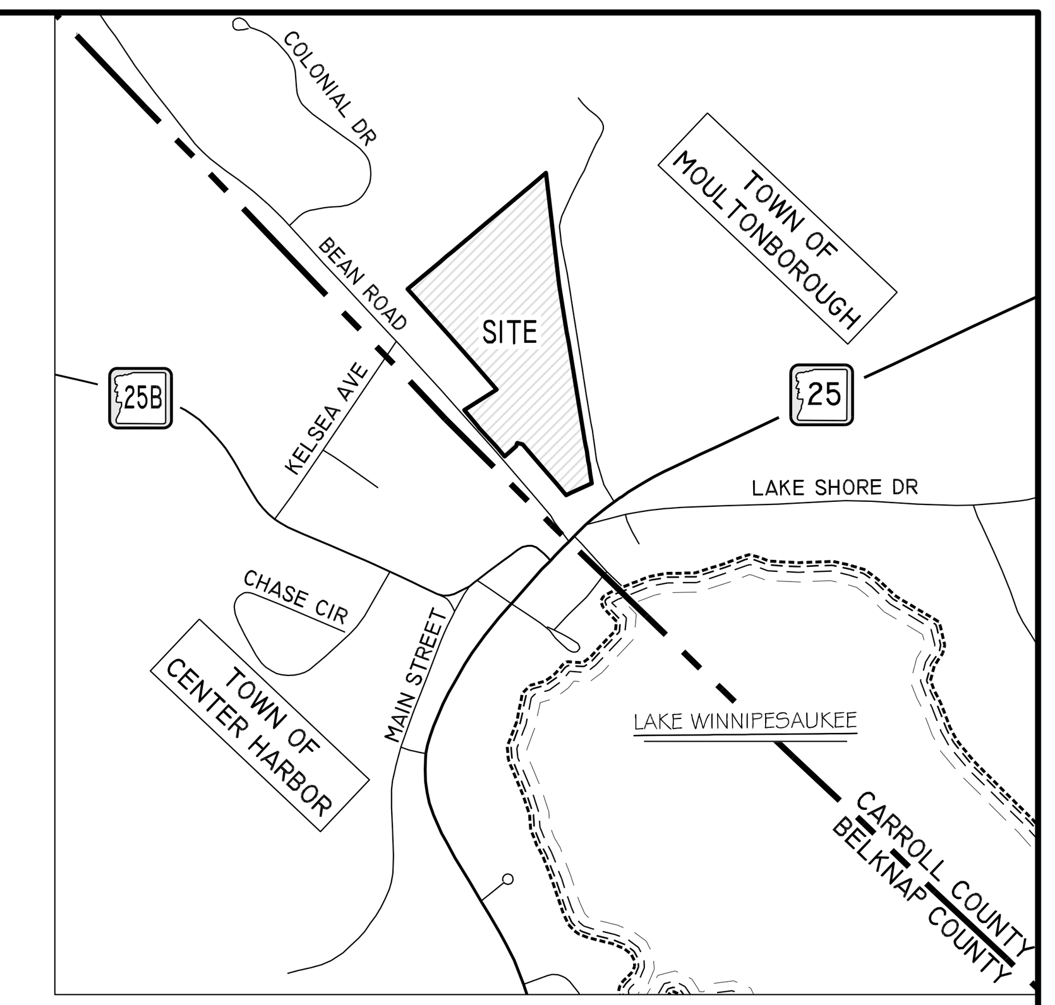
3) THE PARCELS TO BE MERGED ARE AS FOLLOWS:

PARCEL ONE: TAX MAP 140 LOT 16, CONTAINING 11.54 ACRES
PARCEL TWO: TAX MAP 170 LOT 12, CONTAINING 6.03 ACRES
MERGED PARCEL TO HAVE A TOTAL OF 17.57 ACRES
MERGED PARCEL TO BE KNOWN AS TAX MAP 140 LOT 16

4) TITLE REFERENCE FOR BOTH PARCELS IS THE CARROLL COUNTY REGISTRY OF DEEDS, BOOK 3536, PAGE 28

5) THIS VOLUNTARY LOT MERGER IS CONTINGENT ON THE APPROVAL OF THE PROPOSED SUBDIVISION AS SHOWN ON SHEET SUB-1. THE RESCINDING OF THE SUBDIVISION APPROVAL EFFECTIVELY RESCINDS THIS VOLUNTARY LOT MERGER

6) COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON APRIL 15, 2021. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND NAVD 88.



LOCATION MAP
1" = 1,000'

STATE OF NEW HAMPSHIRE
LICENSED LAND SURVEYOR
No. 664
KEVIN L. FRENCH
SIGNATURE

I CERTIFY THAT THIS PLAT IS THE RESULT OF A SURVEY DONE WITH A SPECTRA PRECISION 35 TOTAL STATION HAVING AN UNADJUSTED ERROR OF CLOSURE BETTER THAN 1:20,000.

PLANS OF REFERENCE

1) "BOUNDARY PLAN BOUNDARY SURVEY MARK AND JACKIE KOSS MAP 17, LOT 12 MAP 14, LOT 16 MOULTONBOROUGH, CARROLL COUNTY, NEW HAMPSHIRE 03/10/2021" BY HOLDEN ENGINEERING & SURVEYING INC. DATED 3/10/21 RECORDED 4/21/21 AT CCRD AS PLAN BK 245 PG 2

2) "PLAN SHOWING LANDS OWNED BY LEWIS AND MARY M. WOODMAN, TAX MAP 170 LOT 12 & TAX MAP 140 LOT 16. MOULTONBOROUGH, CARROL CO., NH, OCTOBER 2007" BY HAMBROOK LAND SURVEYING, CCRD PLAN NO. 219-82

3) "TAX MAP 9, LOT 72, AS-BUILT SITE PLAN FOR UNITS 1,2,4,5,6,7,8,9,10,11,12, &13, SENTER'S MARKET, A CONDOMINIUM, ROUTE 25B & BEAN ROAD, BELKNAP CO., CENTER HARBOR, NH, CARROLL CO., MOULTONBOROUGH, NH" DATED MARCH 12, 2002 BY PAUL HM. DARBYSHIRE ASSOCIATES, BCRD PLAN NO. 85 DRAWER L40

4) "PLAN SHOWING A PORTION OF THE MOULTONBOROUGH-CENTER HARBOR, NH TOWN LINE BETWEEN LAKE WINNIPESAUKEE & CENTER HARBOR NECK ROAD AS RUN & MONUMENTED IN JUNE, 1993" BY FRANCIS C. HAMBROOK, LLS, BCRD PLAN NO. 40 DRAWER L20

LOT MERGER

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

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BROWN ENGINEERING
CIVIL ENGINEERS

DATE:
FEBURARY 29, 2024

JOB NO: 5328-01

LM-1

LOT SIZING CALCULATIONS

LOT NUMBER	GROSS AREA	AREA OF WETLANDS	ADJUSTED LOT SIZE	ALLOWABLE UNITS
1	246,985 SF	122,842 SF	124,143 SF	12
2	42,070 SF	8,150 SF	33,920 SF	3
3	37,445 SF	5,305 SF	32,140 SF	3
4	21,801 SF	0 SF	21,801 SF	2
5	52,980 SF	32,188 SF	20,792 SF	2
6	38,803 SF	15,095 SF	23,708 SF	2
7	21,670 SF	0 SF	21,670 SF	2
8	32,388 SF	8,222 SF	24,166 SF	2
9	21,055 SF	885 SF	20,170 SF	2
10	20,843 SF	669 SF	20,174 SF	2
11	28,824 SF	8,739 SF	20,085 SF	2
12	34,529 SF	11,029 SF	23,500 SF	2
13	34,490 SF	7,176 SF	27,314 SF	2
14	21,666 SF	585 SF	21,081 SF	2

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	125.00'	87.44'	85.67'	N 39°10'42" E	40°04'43"
C2	100.00'	29.28'	29.18'	N 27°31'39" E	16°46'38"
C3	150.00'	43.21'	43.06'	N 27°39'51" E	16°30'13"
C4	150.00'	68.17'	67.59'	N 06°23'34" E	26°02'21"
C5	100.00'	30.68'	30.56'	N 87°50'15" W	17°34'43"
C6	125.00'	85.06'	83.43'	N 59°33'12" W	38°59'22"
C7	75.00'	41.21'	40.70'	N 65°58'19" E	31°29'09"
C8	200.00'	163.75'	159.21'	N 46°15'55" W	46°54'36"
C9	150.00'	122.81'	119.41'	S 46°15'55" E	46°54'36"
C10	150.00'	43.92'	43.77'	N 27°31'39" E	16°46'38"
C11	100.00'	74.25'	72.56'	N 14°38'41" E	42°32'34"
C12	175.00'	53.54'	53.33'	N 70°17'01" W	17°31'44"
C13	175.00'	65.55'	65.17'	N 50°47'20" W	21°27'38"

LINE TABLE

LINE	BEARING	DISTANCE
L1	S 09°59'09" E	9.35'
L2	S 11°09'18" E	47.88'
L3	S 07°37'21" E	14.61'
L4	S 08°51'25" E	37.31'
L5	S 13°23'38" E	11.33'
L6	S 08°33'37" E	52.78'
L7	S 08°06'37" E	50.57'
L8	S 65°03'45" W	29.30'
L9	N 77°30'27" W	30.00'
L10	S 18°14'05" W	17.00'
L11	N 34°45'37" W	15.22'
L12	N 40°43'56" W	42.53'
L13	N 83°22'24" E	38.51'
L14	N 35°54'58" E	46.12'
L15	N 83°22'24" E	28.00'
L16	N 06°37'36" W	50.00'
L17	S 83°22'24" W	34.36'
L18	N 79°02'53" W	53.35'
L19	N 79°02'53" W	37.81'
L20	N 40°03'31" W	28.40'
L21	N 49°51'36" E	50.25'
L22	S 06°46'14" E	29.97'
L23	N 83°13'46" E	23.44'
L24	N 83°13'46" E	24.56'
L25	N 06°46'14" W	13.65'
L26	S 83°13'46" W	38.84'
L27	N 22°48'37" W	13.47'
L28	S 67°11'23" W	30.00'
L29	N 22°48'37" W	48.00'
L30	S 22°48'37" E	48.00'
L31	S 67°11'23" W	30.00'
L32	S 22°48'37" E	13.47'
L33	N 19°08'20" E	30.55'
L34	N 35°54'58" E	46.12'
L35	N 40°03'31" W	28.33'
L36	S 49°51'36" W	29.99'
L37	N 40°08'24" W	50.13'
L38	N 41°29'40" W	54.52'
L39	S 82°26'52" W	49.33'
L40	N 48°33'50" E	40.11'
L41	N 50°22'24" E	42.38'
L42	N 50°08'28" E	30.29'
L43	N 49°09'57" E	9.45'
L44	N 49°45'10" E	9.06'
L45	N 49°45'10" E	19.87'
L46	N 51°48'39" E	11.63'
L47	S 82°26'52" W	81.28'
L48	S 64°16'16" E	19.54'
L49	N 89°23'23" W	35.41'
L50	S 62°43'53" E	62.49'
L51	S 09°15'06" E	26.96'
L52	S 69°53'23" E	22.41'
L53	S 69°53'23" E	11.07'
L54	S 22°32'49" E	56.88'
L55	S 22°32'49" E	38.33'
L56	S 81°38'47" W	19.70'
L57	S 46°22'16" W	29.13'
L58	S 46°22'16" W	46.30'
L59	S 45°31'56" W	52.07'

NOTES:

1) THE PURPOSE OF THIS PLAN IS TO SHOW A 14 LOT SUBDIVISION OF LOT 16 TAX MAP 140

2) PARCEL TAX MAP 140 LOT 16 IS A RESULT OF A VOLUNTARY LOT MERGER OF PARCELS 140-16 AND 170-12. CONTAINING A TOTAL OF 17.57 ACRES. SEE CARROLL COUNTY REGISTRY OF DEEDS, BOOK 3536, PAGE 28

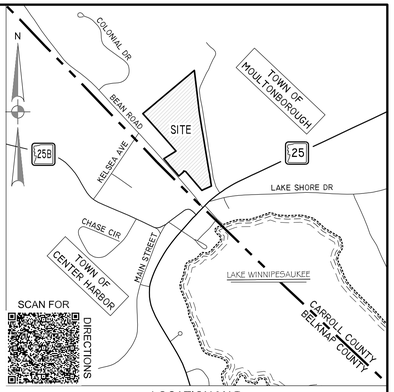
3) OWNER OF RECORD IS MARK & JACKIE KOSS, 172 CARLI BOULEVARD, COLCHESTER, CT 06415

4) THE UNDERLYING ZONES OF THE SITE ARE RESIDENTIAL/AGRICULTURAL ZONE AND COMMERCIAL ZONE A

5) THE PARCEL IS WITHIN THE WEST VILLAGE OVERLAY DISTRICT AND THE DIMENSIONAL STANDARDS ARE AS FOLLOWS:
   MINIMUM FRONTAGE: 25'
   SIDE LOT LINE SETBACK: 15 FT
   REAR LOT LINE SET BACK: 15 FT
   MINIMUM LOT SIZE WITH OFF SITE SEWAGE: 10,000 PER DWELLING UNIT

6) COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON APRIL 15, 2021. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND NAVD 88.

6) LOTS WILL BE SERVICED BY MUNICIPAL SEWER AND ON SITE INDIVIDUAL WELLS



LOCATION MAP
1" = 1000'

SYMBOLS LEGEND

- EXISTING SUBJECT PROPERTY LINE
- EXISTING ABUTTING PROPERTY LINE
- EXISTING ZONING LINE
- EXISTING GRAVEL ROAD
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING STONE WALL
- EXISITNG UTILITY POLE (PP)
- EXISTING RON PIPE FOUND (IPF)
- EXISTING STONE BOUND FOUND
- PROPOSED RIGHT OF WAY
- PROPOSED PROPERTY LINE
- PROPOSED BUILDING SETBACKS
- PROPOSED EASEMENT LINE
- PROPOSED PAVED ROAD
- LOT X — PROPOSED LOT NUMBER
- PROPOESED 1/2"+ DIA. IRON PIPE

I CERTIFY THAT THIS PLAT IS THE RESULT OF A SURVEY DONE WITH A SPECTRA PRECISION 35 TOTAL STATION HAVING AN UNADJUSTED ERROR OF CLOSURE BETTER THAN 1:20,000.

PLANS OF REFERENCE

1) "BOUNDARY PLAN BOUNDARY SURVEY MARK AND JACKIE KOSS MAP 17, LOT 12 MAP 14, LOT 16 MOULTONBOROUGH, CARROLL COUNTY, NEW HAMPSHIRE 03/10/2021" BY HOLDEN ENGINEERING & SURVEYING INC. DATED 3/10/21 RECORDED 4/21/21 AT CCRD AS PLAN BK 245 PG 2

2) "PLAN SHOWING LANDS OWNED BY LEWIS AND MARY M. WOODMAN, TAX MAP 170 LOT 12 & TAX MAP 140 LOT 16. MOULTONBOROUGH, CARROL CO., NH, OCTOBER 2007" BY HAMBROOK LAND SURVEYING, CCRD PLAN NO. 219-82

3) "TAX MAP 9, LOT 72, AS-BUILT SITE PLAN FOR UNITS 1,2,4,5,6,7,8,9,10,11,12, &13, SENTER'S MARKET, A CONDOMINIUM, ROUTE 25B & BEAN ROAD, BELKNAP CO., CENTER HARBOR, NH, CARROLL CO., MOULTONBOROUGH, NH" DATED MARCH 12, 2002 BY PAUL HM. DARBYSHIRE ASSOCIATES, BCRD PLAN NO. 85 DRAWER L40

4) "PLAN SHOWING A PORTION OF THE MOULTONBOROUGH-CENTER HARBOR, NH TOWN LINE BETWEEN LAKE WINNIPESAUKEE & CENTER HARBOR NECK ROAD AS RUN & MONUMENTED IN JUNE, 1993" BY FRANCIS C. HAMBROOK, LLS, BCRD PLAN NO. 40 DRAWER L20

SUBDIVISION PLAN

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

PREPARED BY:
BROWN ENGINEERING LLC.
63 WEST STREET-P.O. BOX 703
ASHLAND, NH 03217
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BROWN ENGINEERING
CIVIL ENGINEERS

REV.	DATE	DESCRIPTION	BY

Graphic Scale 60 30 0 60
SCALE: 1" = 60'

DATE:
FEBURARY 29, 2024
JOB NO: 5328-01

SUB-1
5 OF 22

G:\CLIENTS\5328-01.2 Koss-33 Bean Road-Moultonborough\Dwgs\5328-01.02 Koss Site Plan.dwg Feb 29, 2024-8:19am

EROSION CONTROL NOTES

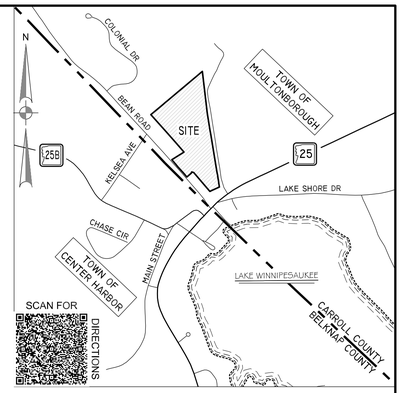
1. ALL SILT FENCE IS TO BE PLACED IN TWO ROWS WITH A MIN. DIST OF 3' AND MAX OF 4'
2. FOR EROSION CONTROL DETAILS SEE SHEETS DET-1 & DET-2
3. DO NOT PLACE BEST MANAGEMENT STORMWATER SYSTEMS (GRAVEL WETLANDS AND BIO-RETENTION BASIN) INTO SERVICE UNTIL THE BASIN HAS BEEN FULLY STABILIZED.
4. ALL CATCH BASINS TO BE EQUIPPED WITH SIL-SAK SEDIMENT CONTROL MEASURES UNTIL CONTRIBUTING AREAS HAVE BEEN STABILIZED (SEE SHEET DET- 1 FOR DETAILS)
5. NO MORE THAN 5 ACRES SHALL BE DISTURBED (NOT STABILIZED) AT ANYTIME PER ENV-WQ 1504.16
6. IN AREAS TO BE PAVED "STABLE" MEANS THE BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION HAVE BEEN INSTALLED
7. INVASIVE SPECIES THAT OCCUR ON SITE SHALL BE REMOVED IN A METHOD SUITABLE FOR THE CONTAINMENT OF SPECIES NOT NATIVE TO THE ECOSYSTEM THAT WOULD BE CAPABLE OF PROPAGATING THAT SPECIES. FOR RECOMMENDED METHODS OF DISPOSING OF INVASIVE PLANT SPECIES REFER TO THE UNIVERSITY OF NEW HAMPSHIRE COOPERTIVE EXTENSION LITERATURE ENTITLED "METHODS FOR DISPOSING NON-NATIVE INVASIVE PLANTS".

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE OVERVIEW FOR THE PROPOSED SUBDIVISION
2. THE PROPERTY IS DESIGNATED TAX MAP 140 LOT 16 & TAX MAP 170 LOT 12
3. AREA OF LOT 16: 502,674 SQ.FT (11.54 AC)
   AREA OF LOT 12: 262,768 SQ.FT (6.03 AC)
   THE TOTAL COMBINED AREA OF THE EXISTING PROPERTY IS 765,352 SF, 17.57 ACRES.
4. THE OWNER OF RECORD IS:
   KOSS MARK & JACKIE
   172 CARLI BOULEVARD
   COLCHESTER, CT 06415
5. THE PROPERTY PARTIALLY LOCATED IN RESIDENTIAL/AGRICULTURAL ZONE AND COMMERCIAL ZONE A - THE ZONING DELINEATION LINE CAN BE FOUND ON SHEET EC-1
6. THE ENTIRE SITE IS LOCATED WITHIN THE WEST VILLAGE OVERLAY DISTRICT
7. A PORTION OF THE SITE IS LOCATED WITHIN A WELLHEAD PROTECTION AREA (SEE HTTP://DES.NH.GOV)
8. SEWER TO TIE INTO PUBLIC SYSTEM ON BEAN ROAD GOVERNED BY BAY DISTRICT SEWER COMMISION
9. WATER TO BE PROVIDED BY INDIVIDUAL ON SITE WELLS
10. THE SITE IS NOT IN THE ESTABLISHED FLOOD PLAIN. FEMA FIRM MAP NUMBER 33003C0580D
11. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON APRIL 15, 2021. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND NAVD 88.
12. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE TOWN.
13. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO TOWN OF MOULTONBOROUGH SITE PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
14. IN ORDER TO PROVIDE VISUAL CLARITY WITHIN THIS PLAN SET, NOT ALL ITEMS ARE SHOWN ON EVERY PLAN SHEET. THE CONTRACTOR SHALL USE THE ENTIRE PLAN SET AND NOT RELY ON INDIVIDUAL SHEETS ALONE DURING CONSTRUCTION

DIMENSIONAL STANDARDS
WEST VILLAGE OVERLAY DISTRICT

15. MINIMUM FRONTAGE: 25'
16. SIDE LOT LINE SETBACK SHALL BE A MIN. OF 15 FT
17. REAR LOT LINE SET BACK SHALL BE A MIN. OF 15 FT
18. MINIMUM LOT SIZE WITH OFF SITE SEWAGE: 10,000 PER DWELLING UNIT



LOCATION MAP
1" = 1000'

SYMBOLS LEGEND

- PROPERTY LINE
- EXISTING STONE WALL
- EXISTING 25' WETLAND SETBACK
- EXISTING 50' WETLAND SETBACK
- EXISTING EDGE OF WETLAND
- 9 — PROPOSED BUILDING NUMBER
- SWMB — STORM WATER MANAGEMENT BASIN
- P550 — PROPOSED 10' CONTOUR
- P542 — PROPOSED 2' CONTOUR
- P541 — PROPOSED 1' CONTOUR
- PROPOSED TREELINE
- D — D PROPOSED DRAIN PIPE
- S — S PROPOSED SEWER MAIN
- W — W PROPOSED WATER MAIN
- PROPOSED TREELINE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- S PROPOSED SEWER MANHOLE
- RIP-RAP OUTLET PROECTION
- PROPOSED SILT FENCE
- SLOPE PROTECTION BLANKET
- STABILIZED CONSTRUCTION ENTRANCE
- CATCH BASIN WITH SILT-SAK (TYP)

KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER — STATE OF NEW HAMPSHIRE

PROPOSED OVERVIEW PLAN

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
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REV.	DATE	DESCRIPTION	BY

Graphic Scale
60 30 0 60
SCALE: 1" = 60'

DATE:
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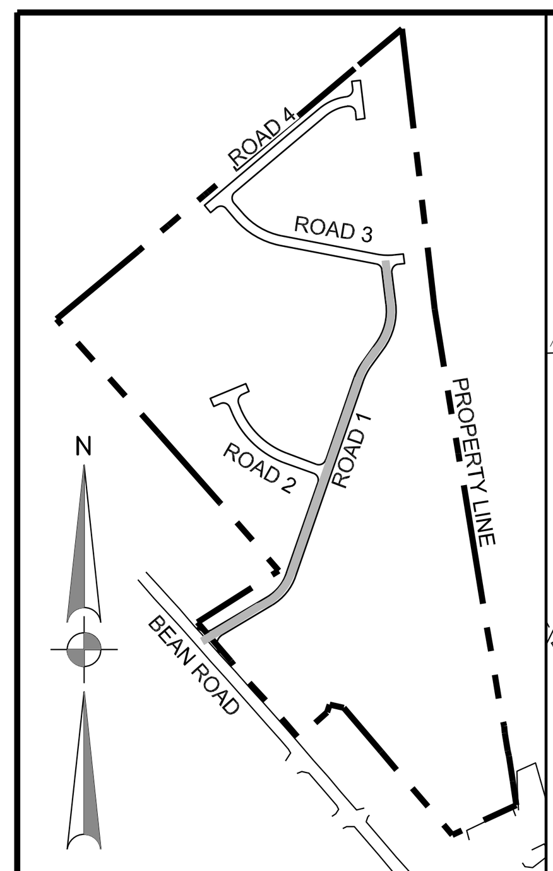
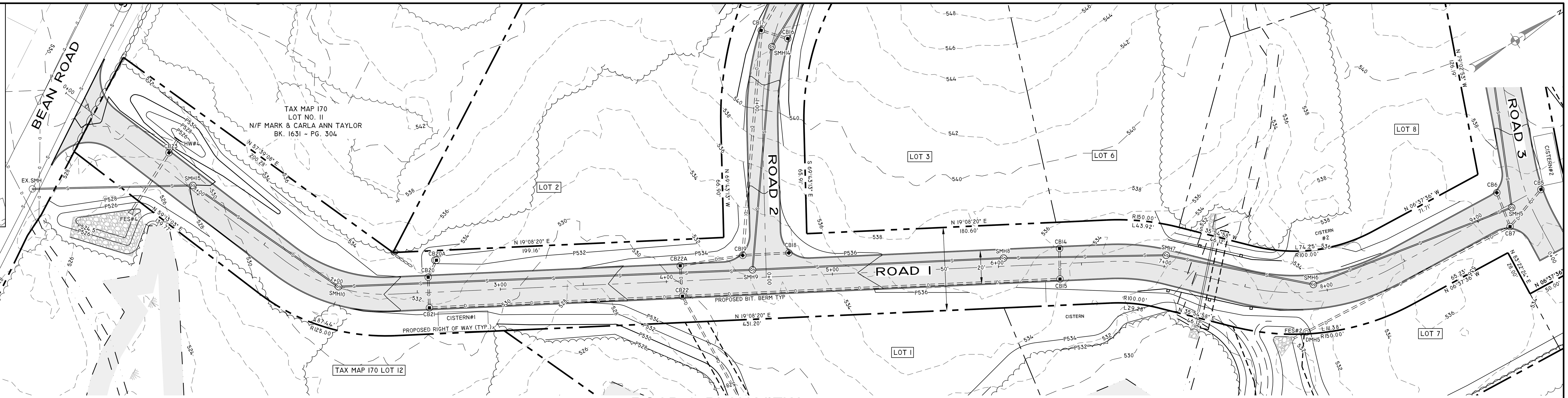
JOB NO: 5328-01

OV-1
6 OF 22

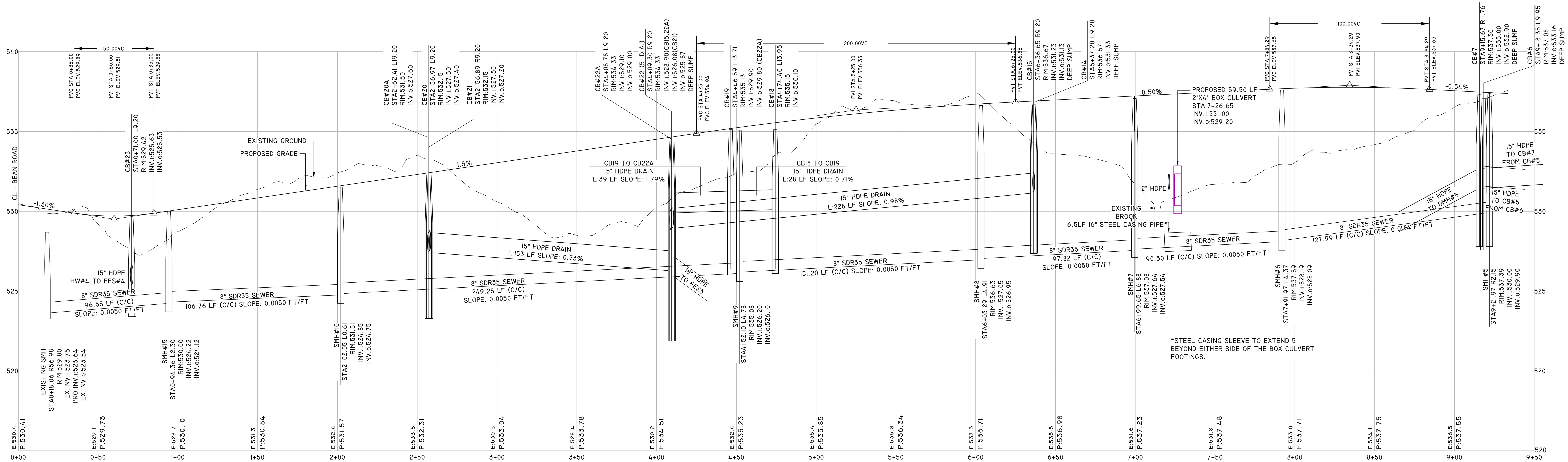
G:\CLIENTS\5328-01.2 KOSS-33 BEAN ROAD-MOULTONBOROUGH\Dwgs\5328-01.02 KOSS SITE PLAN.DWG Feb 29, 2024-8:19AM



VICINITY MAP
1" = 400'



ROAD 1: PLAN VIEW
HOR. SCALE: 1" = 30'



ROAD 1: PROFILE VIEW
HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'

CENTERLINE STATION EQUATIONS

ROAD 1 STA. 4+60.18 = ROAD 2 STA. 0+00
ROAD 1 STA. 9+33.44 = ROAD 3 STA. 0+38.07

REV.	DATE	DESCRIPTION	BY

Graphic Scale
30 15 0 30
SCALE: 1" = 30'

ROADWAY PLAN AND PROFILE

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

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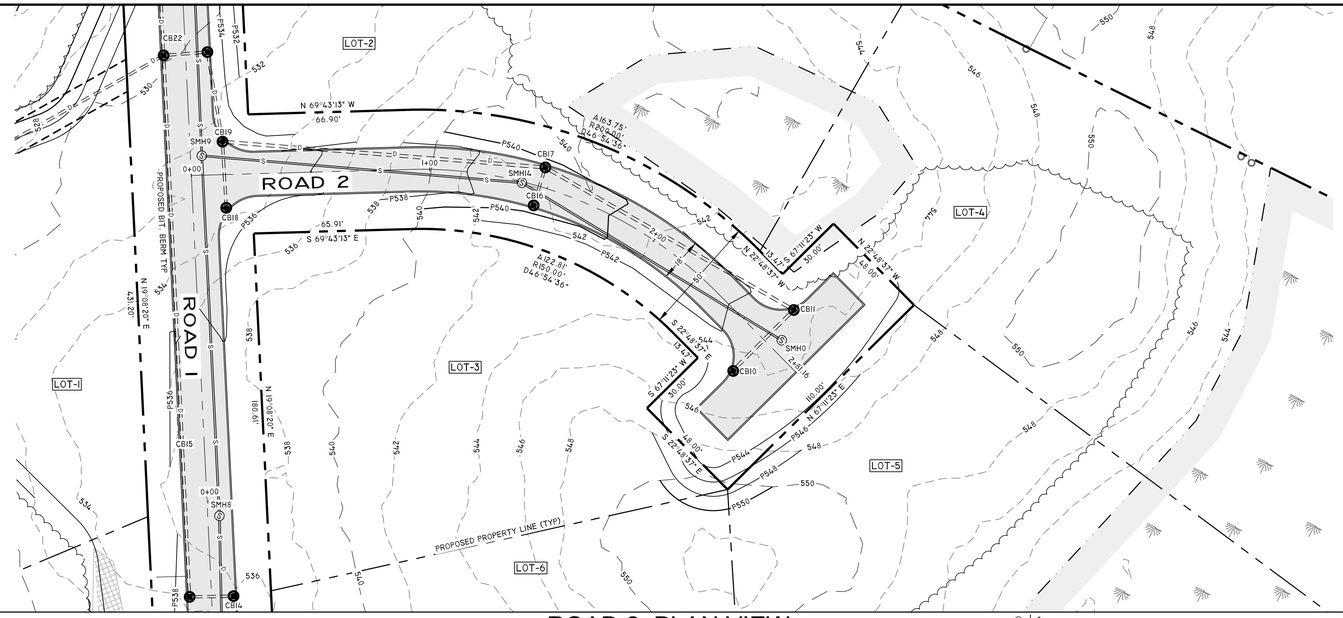
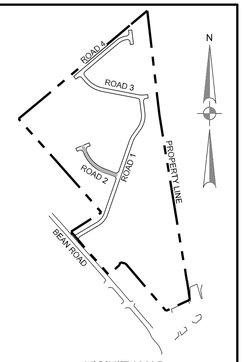
PP-1

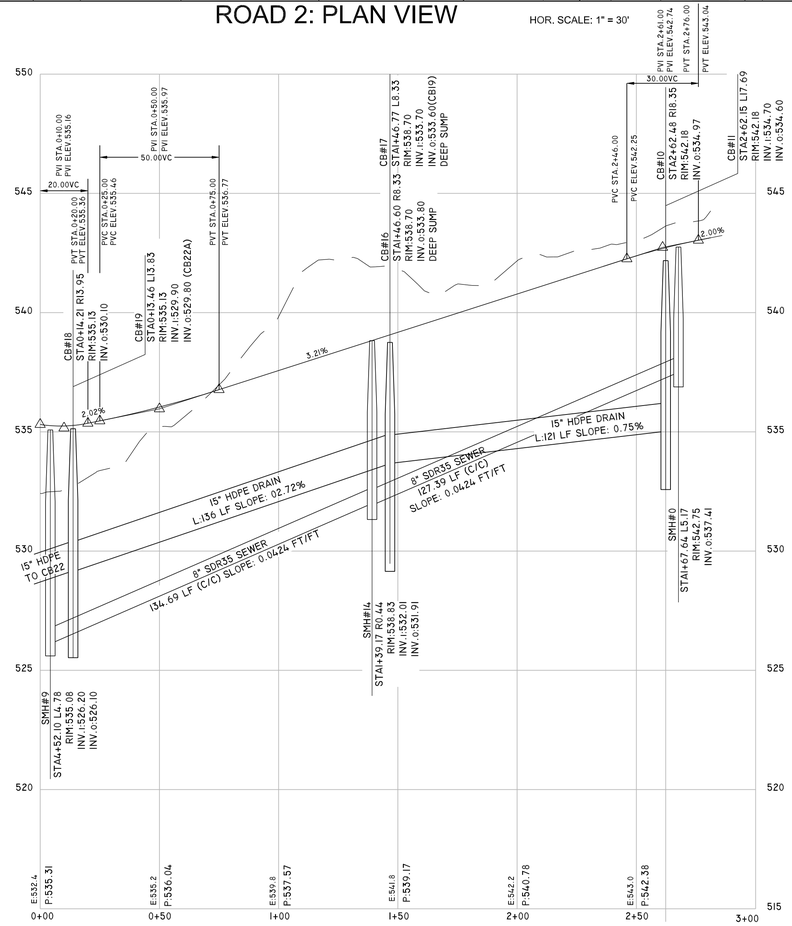




VICINITY MAP
1" = 400'

ROAD 2: PLAN VIEW

HOR. SCALE: 1" = 30'



ROAD 2: PROFILE VIEW

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'

CENTERLINE STATION EQUATIONS

ROAD 2 STA. 0+00 = ROAD 1 STA. 4+60.18

ROADWAY PLAN AND PROFILE

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

PREPARED BY:
BROWN ENGINEERING LLC.
63 WEST STREET-P.O. BOX 703
ASHLAND, NH 03217
Tel: (603) 744-1044
www.brownengineeringllc.com
BROWN ENGINEERING
CIVIL ENGINEERS

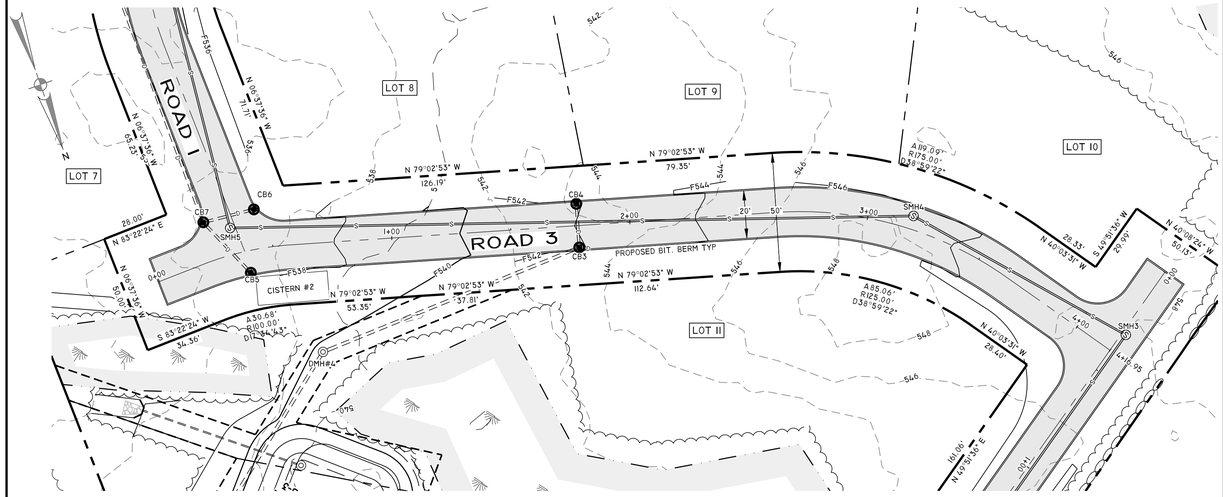
REV.	DATE	DESCRIPTION	BY

DATE:
FEBURARY 29, 2024

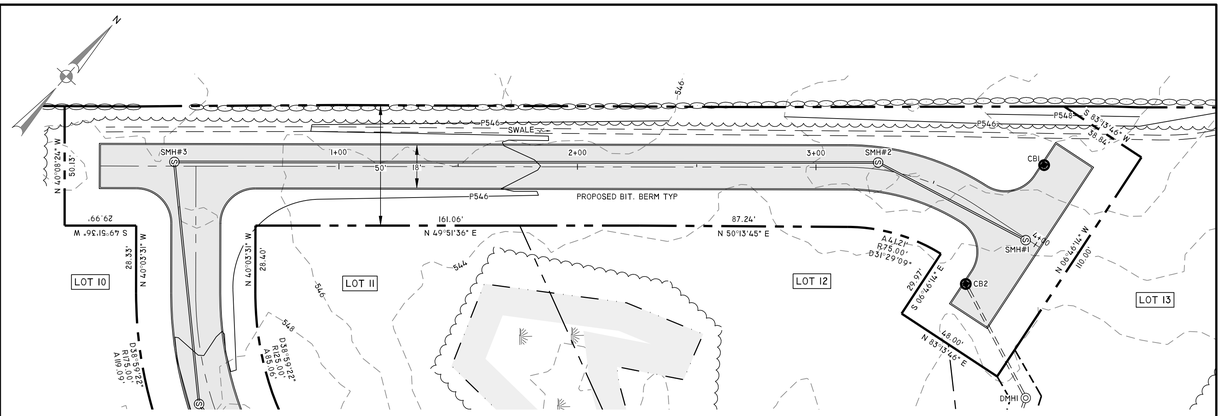
JOB NO: 5328-01

PP-2
8 OF 22

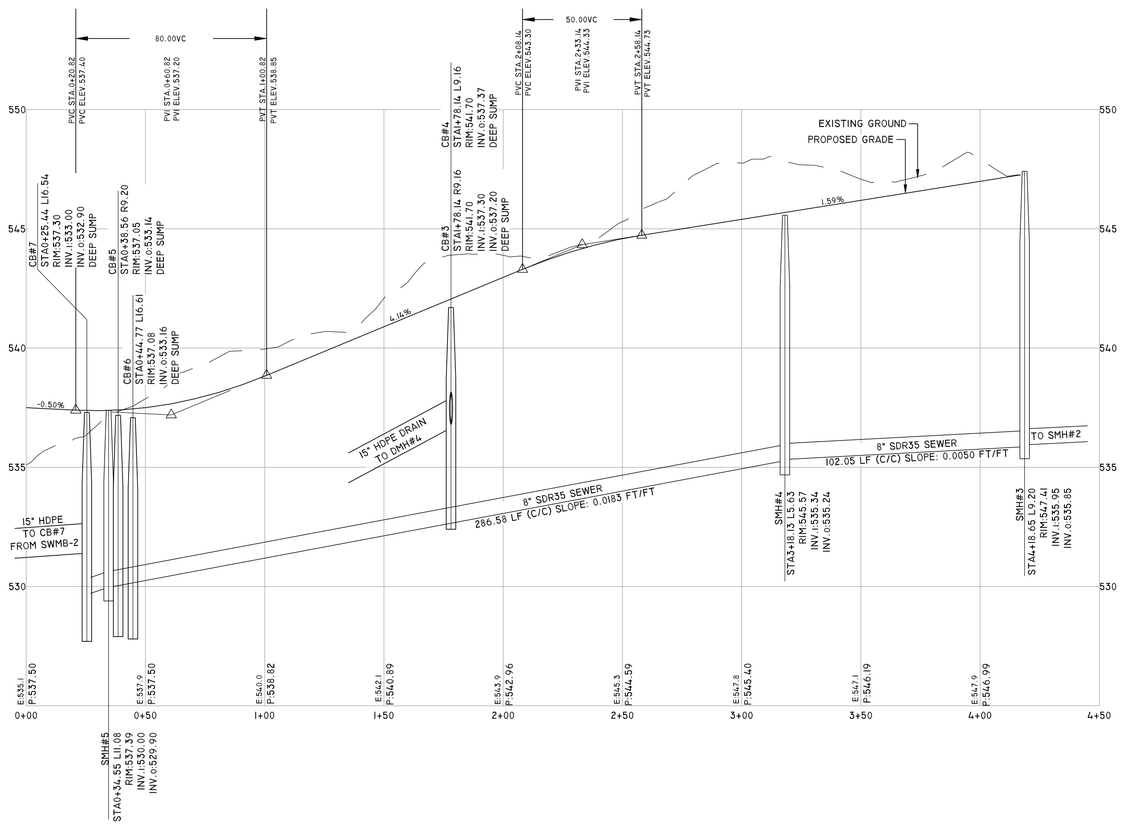
G:\CLIENTS\5328-01.2 Kloss-35 Bean Road-Moultonborough\Dwgs\5328-01.02 Kloss Site Plan.dwg Feb 29, 2024-8:19am



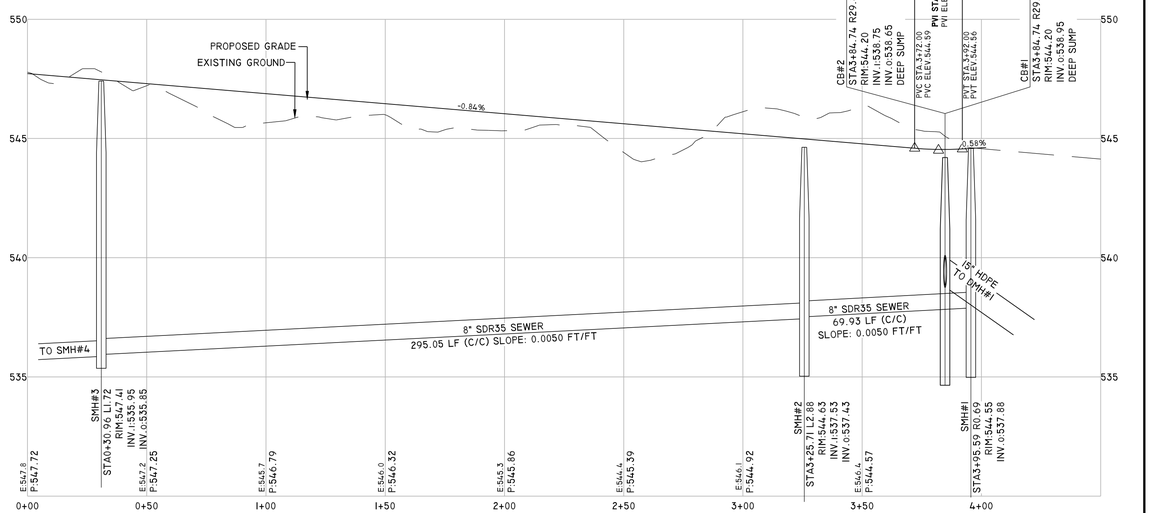
ROAD 3: PLAN VIEW HOR. SCALE: 1" = 30'



ROAD 4: PLAN VIEW HOR. SCALE: 1" = 30'



ROAD 3: PROFILE VIEW HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'

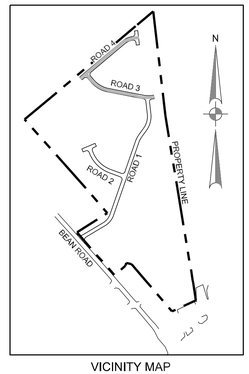


ROAD 4: PROFILE VIEW HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 3'

CENTERLINE STATION EQUATIONS

ROAD 3 STA. 0+38.07 = ROAD 1 STA. 9+33.44
ROAD 3 STA. 4+16.95 = ROAD 4 STA. 0+40.03

REV.	DATE	DESCRIPTION	BY



VICINITY MAP
1" = 400'

ROADWAY PLAN AND PROFILE

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

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DATE:
FEBURARY 29, 2024
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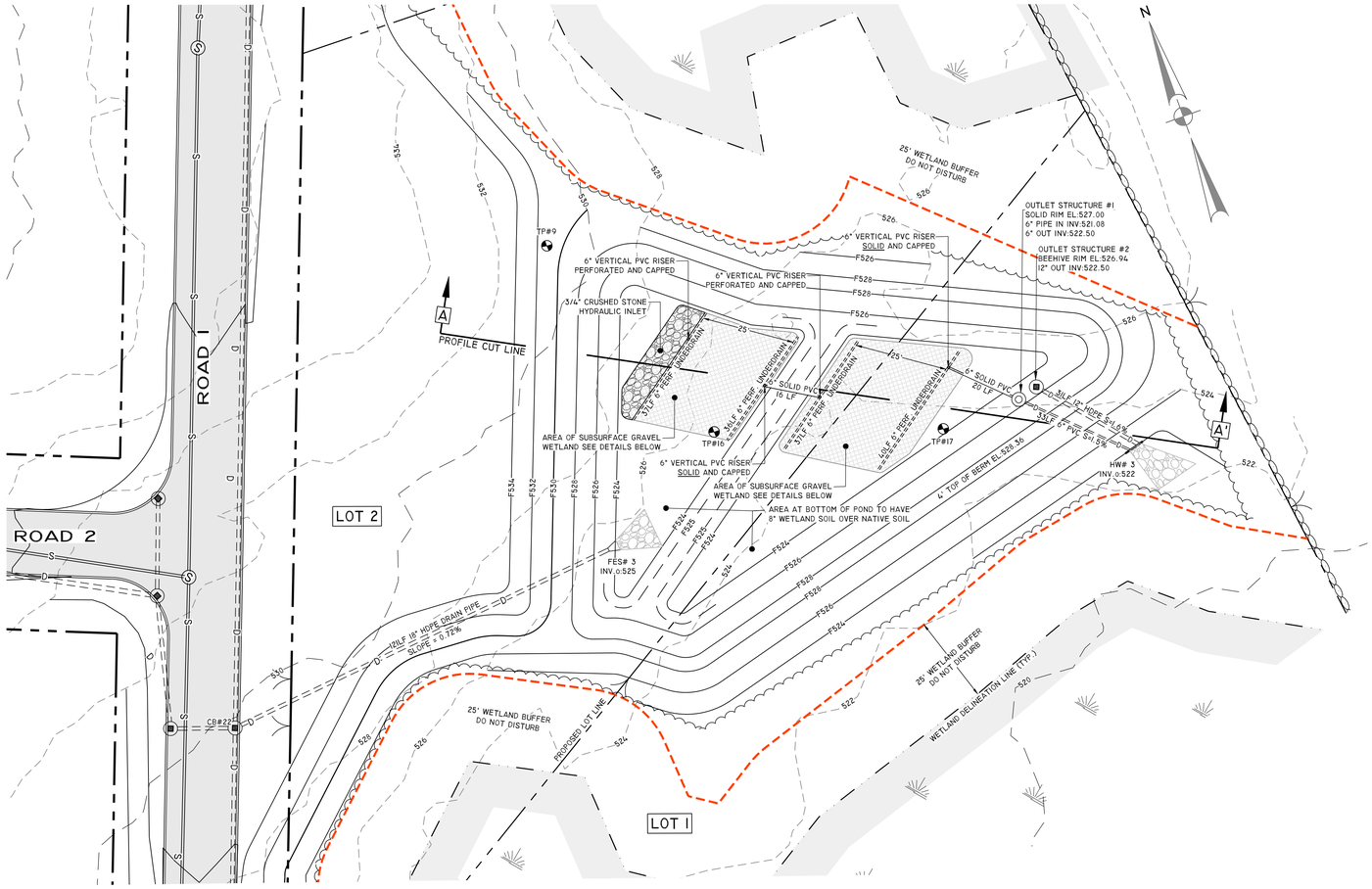
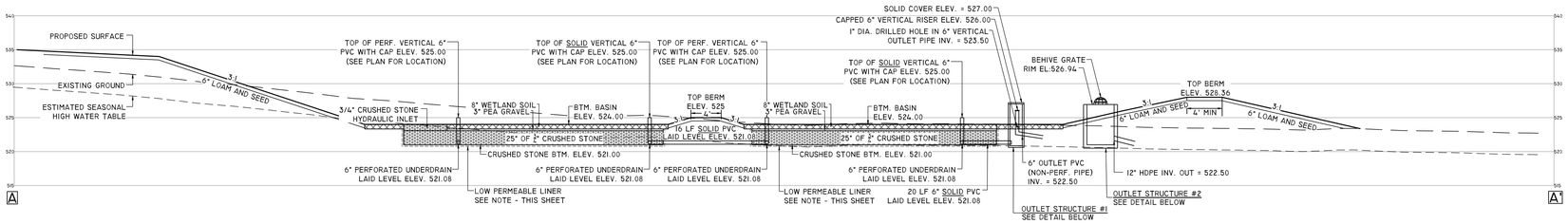
PP-3
9 OF 22

G:\CLIENTS\5328-01.2 Kobs-33 Bean Road-Moultonborough\Dwgs\5328-01.02 Kobs Site Plan.dwg Feb 29, 2024-8:19am



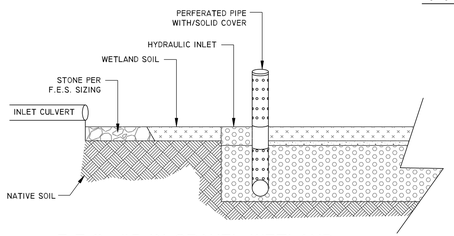
GRAVEL WETLAND SWMB#1 PLAN VIEW

1"=20' HORZ



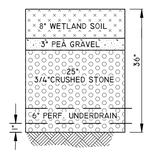
PROFILE A-A' GRAVEL WETLAND SWMB#1

1"=10' HORZ
1"=10' VERT



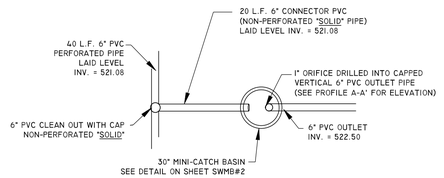
F.E.S. #3 IN GRAVEL WETLAND

NOT TO SCALE



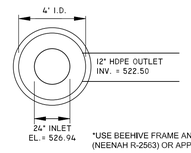
TYPICAL GRAVEL WETLAND SECTION

NOT TO SCALE



OUTLET STRUCTURE #1

NOT TO SCALE



*USE BEEHIVE FRAME AND GRATE (NEENAH R-2563) OR APPROVED EQUAL

OUTLET STRUCTURE #2

NOT TO SCALE

SWMB BOTTOM PERMEABILITY AND LINER

SWMB#1 PROPOSED SUBSURFACE GRAVEL WETLAND SYSTEM SHALL USE A LOW PERMIEABILITY LINER OR SOIL TO MINIMIZE INFILTRATION AND PRESERVE HORIZONTAL FLOW IN THE STONE. THIS LINER EXTENDS FROM THE BASE OF THE EXCAVATION TO THE BASE OF THE WETLAND SOIL MEDIA LAYER. THE TYPE OF LOW PERMEABLE LINER OR SOIL TO BE USED SHALL BE ONE OF THE FOLLOWING:

A. 6-12 IN. CLAY SOIL
   (MAXIMUM 15% PASSING THE #200 SIEVE AND A MAXIMUM PERMEABILITY OF 1X10-5 CM/S)
B. A 60 MIL PVC LINER WITH SAND BEDDING AND NON-WOVEN GEOTEXTILE *
C. A BENTONITE LAYER WITH A MINIMUM THICKNESS OF 4 IN.

* ON BOTTOM, TO PREVENT PUNCTURE. PVC "SANDWICHED BETWEEN SAND AND NON-WOVEN GEOTEXTILE. PVC LINER THICKNESS OF 40 TO 60 MIL, PREFERABLY SEAMLESS. IF SEAMS ARE UNAVOIDABLE, THE PVC LINER SEAMS MUST BE WELDED, TAPED (WATERPROOF ROOFING TAPE) OR OVERLAPPED A MINIMUM OF ONE FOOT

SUBSURFACE GRAVEL WETLAND MATERIALS

THE SURFACE INFILTRATION RATES OF THE GRAVEL WETLAND SOIL SHOULD BE SIMILAR TO A LOW HYDRAULIC CONDUCTIVITY WETLAND SOIL (0.1-0.01 FT/DAY) THIS SOIL MAY BE MANUFACTURED USING A COMBINATION OF LOAM, SAND, AND SOME FINE SOILS BLENDED AT A HIGH % ORGANIC MATTER CONTENT SOIL (LESS THAN OR EQUAL TO 15% ORGANIC MATTER). AVOID A FINAL WETLAND SOIL MIX WITH CLAY CONTENT IN EXCESS OF 15% THAT MAY RESULT IN DRYING AND CRACKING AND POTENTIAL MIGRATION OF FINES INTO THE SUBSURFACE GRAVEL LAYER. DO NOT USE GEOTEXTILES BETWEEN THE HORIZONTAL LAYERS OF THIS SYSTEM AS THEY WILL CLOG DUE TO FINES AND MAY RESTRICT ROOT GROWTH.

AN INTERMEDIATE LAYER OF GRADED AGGREGATE FILTER (I.E. 3/8 IN PEA GRAVEL) IS NEEDED TO PREVENT THE FINER WETLAND SOILS FROM MIGRATING DOWN INTO THE COURSE GRAVEL SUB-LAYER. MATERIAL COMPATIBILITY SHOULD BE EVALUATED USING THE FOLLOWING FHWA CRITERIA:

CRITERIA 1: $D15_{\text{COARSE SUBLAYER}} \leq 5 \times D85_{\text{SETTING BED}}$
CRITERIA 2: $D50_{\text{COARSE SUBLAYER}} \leq 25 \times D50_{\text{SETTING BED}}$

PARTICLE SIZE DISTRIBUTION AND TESTING TOLERANCES FOR WETLAND SOIL FOR THE SUBSURFACE GRAVEL WETLAND SYSTEM.

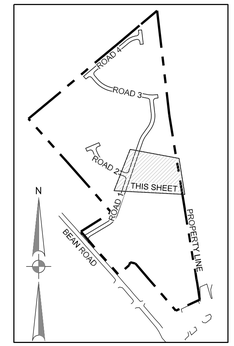
US STANDARED SIEVE SIZE (IN)	PERCENT PASSING	PERCENT PASSING TESTING TOLERANCES
5	100	±10.0
#10	90-75	±5.0
#100	40-50	±5.0
#200	25-50	±5.0

GENERAL NOTES

1. DO NOT PLACE GRAVEL WETLAND SYSTEM INTO SERVICE UNTIL THE BASIN HAS BEEN FULLY STABILIZED.
2. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'D ARE STABILIZED
3. ALL CEMENT CONCRETE TO BE 4,000 P.S.I (MIN.)
4. GALVANIZED STEEL GRATE SHALL BE BOLTED TO THE TOP OF THE STRUCTURE WITH ¼" STAINLESS STEEL BOLTS AND THREADED INSERTS.
5. AREAS OUTSIDE OF POND AREA TO BE LOAM AND SEEDED PER SEEDING SPECS AS SHOWN ON DET-2
6. MINIMUM EMBANKMENT WIDTH TO BE 4' WIDE
7. FOR FLARED END SECTION (FES) DETAIL SEE SHEET DET-3
8. FOR HEADWALL (HW) DETAILS SEE SHEET DET-4

SAFETY

1. PONDS THAT ARE EASILY ACCESSIBLE IN POPULATED AREAS SHOULD INCORPORATE ALL POSSIBLE SAFETY PRECAUTIONS. DUE TO ONLY TEMPORARY WATER LEVELS IN THESE BASINS, FENCING IS NOT NECESSARY.

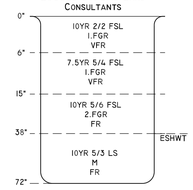


VICINITY MAP
1" = 400'

SYMBOLS LEGEND

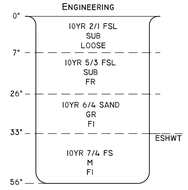
- PROPERTY LINE
- 542 — EXISTING 2' CONTOURS
- 550 — EXISTING 10' CONTOURS
- EXISTING STONE WALL
- EXISTING 25' WETLAND SETBACK
- EXISTING EDGE OF WETLAND
- P550 — PROPOSED 10' CONTOUR
- P542 — PROPOSED 2' CONTOUR
- P541 — PROPOSED 1' CONTOUR
- PROPOSED TREELINE
- PROPOSED DRAIN PIPE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- TP#17 — TESTPIT LOCATION AND NUMBER
- RIP-RAP OUTLET PROECTION

TEST PIT #9
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS



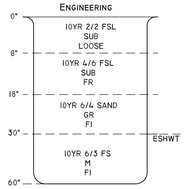
ESHWT: 38"
LEDGE: NONE
H2O OBS. FALSE

TEST PIT #16
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 33"
LEDGE: NONE
H2O OBS. FALSE

TEST PIT #17
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 30"
LEDGE: NONE
H2O OBS. FALSE

ENGR STAMP

STATE OF NEW HAMPSHIRE
KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

SWMB#1 - GRAVEL WETLAND
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

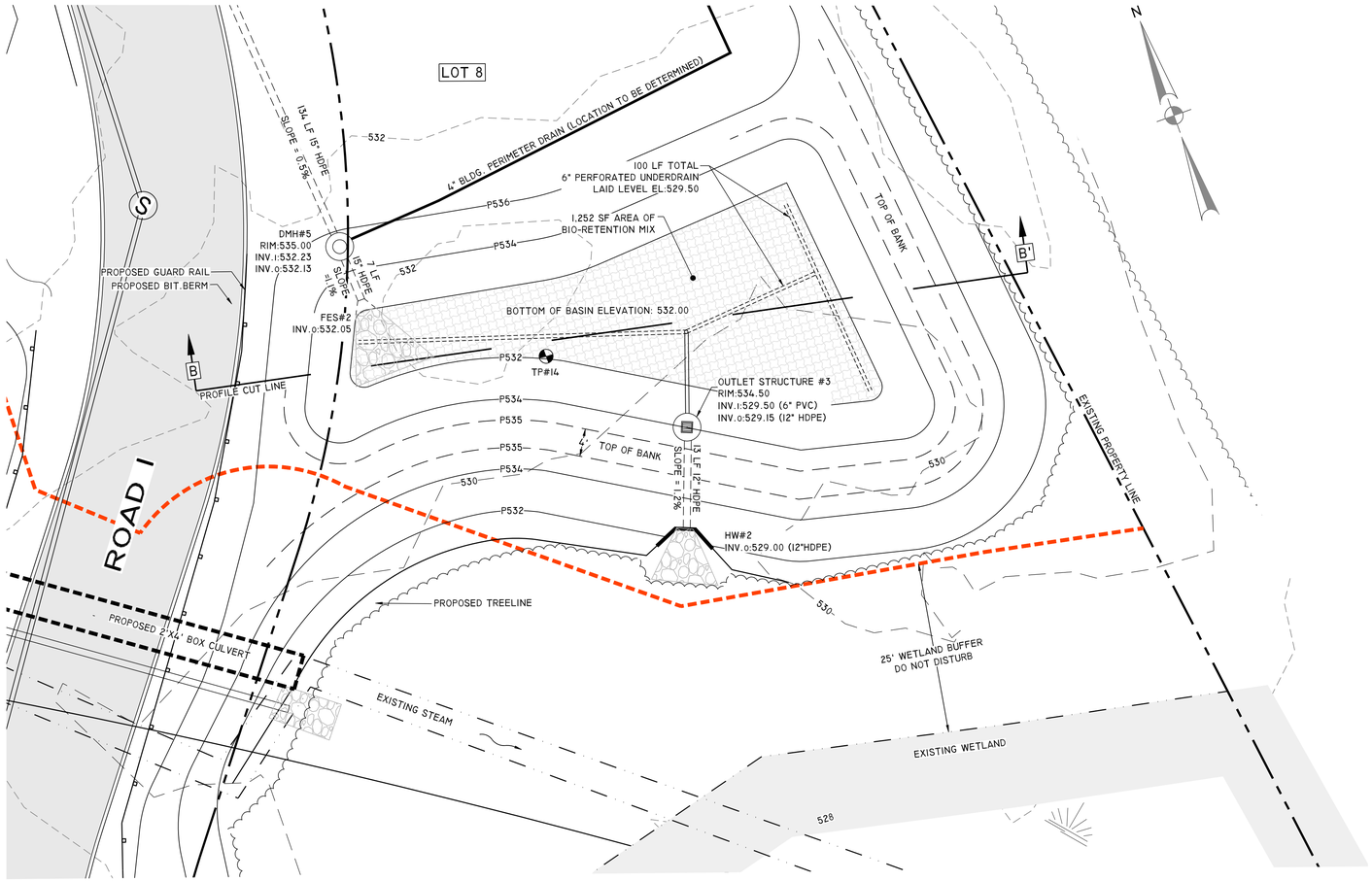
FEBURARY 29, 2024

SCALE
10 5 0 20 (H)
H 1"=20'

BROWN ENGINEERING
63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

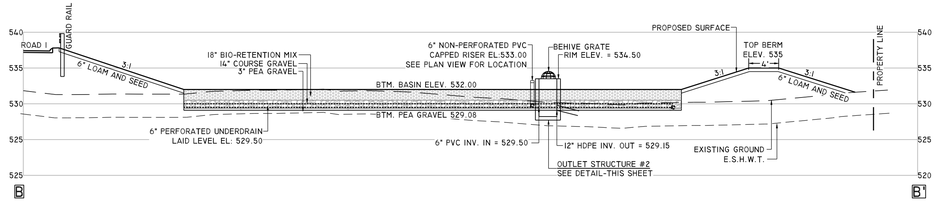
JN: 5328-01
SWMB#1
10 of 22

G:\CLIENTS\5328-01.2 Kobs-33 Bean Road-Moultonborough\Dwgs\5328-01.02 Kobs Site Plan.dwg Feb 29, 2024-8:20am



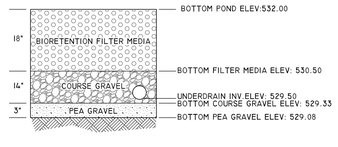
BIO-RETENTION SYSTEM SWMB#2 PLAN VIEW

1"=10' HORZ



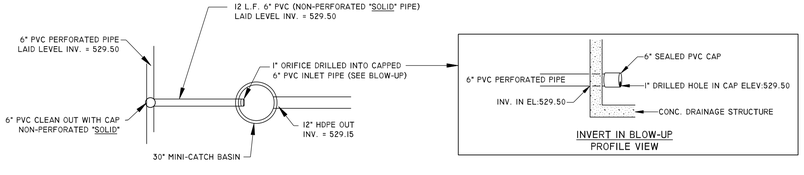
PROFILE B-B' BIO-RETENTION SYSTEM SWMB#2

1"=10' HORZ
1"=10' VERT



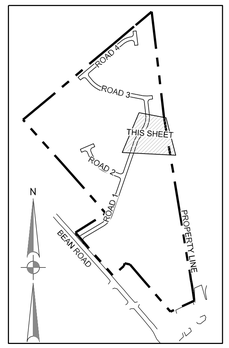
BIO-RETENTION CROSS SECTION

NOT TO SCALE



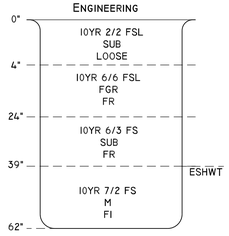
OUTLET STRUCTURE #3 SCHEMATIC

NOT TO SCALE



VICINITY MAP
1" = 400'

TEST PIT #14
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 39"
LEDGE: NONE
H_2O OBS. FALSE

GENERAL NOTES

1. DO NOT PLACE BIO-RETENTION SYSTEM INTO SERVICE UNTIL THE BASIN AND IT'S CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

2. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'D ARE STABILIZED

3. FILTER MEDIA SHALL BE A MINIMUM OF 18" DEEP.

4. FILTER MEDIA SHALL CONSIST OF ONE OF THE FOLLOWING MIXTURES VOLUME:

   A) 50% TO 55% BY VOLUME SAND THAT IS CERTIFIED BY ITS PRODUCER AS MEETING THE REQUIREMENTS FOR ASTM C-33 CONCRETE SAND, 20% TO 30% BY VOLUME OF LOAMY SAND TOPSOIL WITH 15% TO 25% FINES PASSING THE NUMBER 200 SIEVE, AND 20% TO 30% BY VOLUME MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE NUMBER 200 SIEVE.

   B) 20% TO 30% BY VOLUME OF MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH THAT HAS NO MORE THAN 5% FINES PASSING THE NUMBER 200 SIEVE, WITH 80% TO 80% BY VOLUME LOAMY COARSE SAND USED IN THE MIXTURE MEETING THE FOLLOWING SIEVE ANALYSIS SPECIFICATION:

   1. FROM 85 TO 100 PERCENT BY WEIGHT SHALL PASS THE NUMBER 10 SIEVE;
   2. FROM 70 TO 100 PERCENT BY WEIGHT SHALL PASS THE NUMBER 20 SIEVE;
   3. FROM 15 TO 40 PERCENT BY WEIGHT SHALL PASS THE NUMBER 60 SIEVE; AND
   4. FROM 8 TO 15 PERCENT BY WEIGHT SHALL PASS THE NUMBER 200 SIEVE;

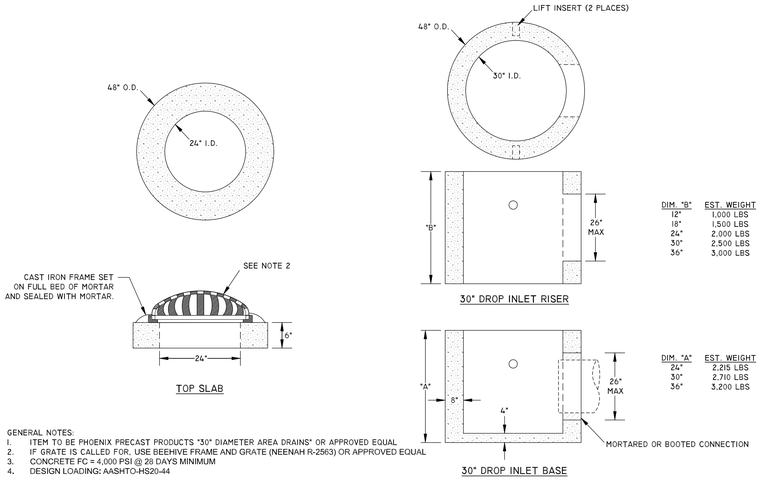
5. FILTER MATERIAL AND SIDE SLOPES SHALL BE SEEDED WITH A RYE GRASS MIXTURE CONTAINING PERENNIAL AND WINTER RYES, AT A RATE SPECIFIED BY THE MANUFACTURER. STABILIZE THE SLOPES WITH STRAW TO A DEPTH OF 1".

6. INSPECTION PORT CAP IS NOT TO BE SEALED TO VERTICAL PIPE.

7. PERFORATIONS ON VERTICAL INSPECTION PORT ARE NOT TO BE ABOVE THE ELEVATION OF THE BOTTOM OF THE POND.

SYMBOLS LEGEND

- PROPERTY LINE
- 542 — EXISTING 2' CONTOURS
- 550 — EXISTING 10' CONTOURS
- EXISTING STONE WALL
- EXISTING 25' WETLAND SETBACK
- EXISTING EDGE OF WETLAND
- P550 — PROPOSED 10' CONTOUR
- P542 — PROPOSED 2' CONTOUR
- P541 — PROPOSED 1' CONTOUR
- PROPOSED TREELINE
- PROPOSED DRAIN PIPE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- TP#17 — TESTPIT LOCATION AND NUMBER
- RIP-RAP OUTLET PROECTION



DIM "B"	EST. WEIGHT
12"	1,000 LBS
18"	1,500 LBS
24"	2,000 LBS
30"	2,500 LBS
36"	3,000 LBS

DIM "A"	EST. WEIGHT
24"	2,215 LBS
30"	2,710 LBS
36"	3,200 LBS

GENERAL NOTES:
1. ITEM TO BE PHOENIX PRECAST PRODUCTS "30" DIAMETER AREA DRAINS" OR APPROVED EQUAL
2. IF GRATE IS CALLED FOR, USE BEEHIVE FRAME AND GRATE (NEENAH R-2563) OR APPROVED EQUAL
3. CONCRETE FC = 4,000 PSI @ 28 DAYS MINIMUM
4. DESIGN LOADING: AASHTO-HS20-44

MINI-CATCH BASIN DETIAL

FOR DRAIN LINES

NOT TO SCALE

ENGR STAMP

STATE OF NEW HAMPSHIRE
KENT L. BROWN
No. 7456
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

SWMB#2 - BIO-RETENTION SYSTEM
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

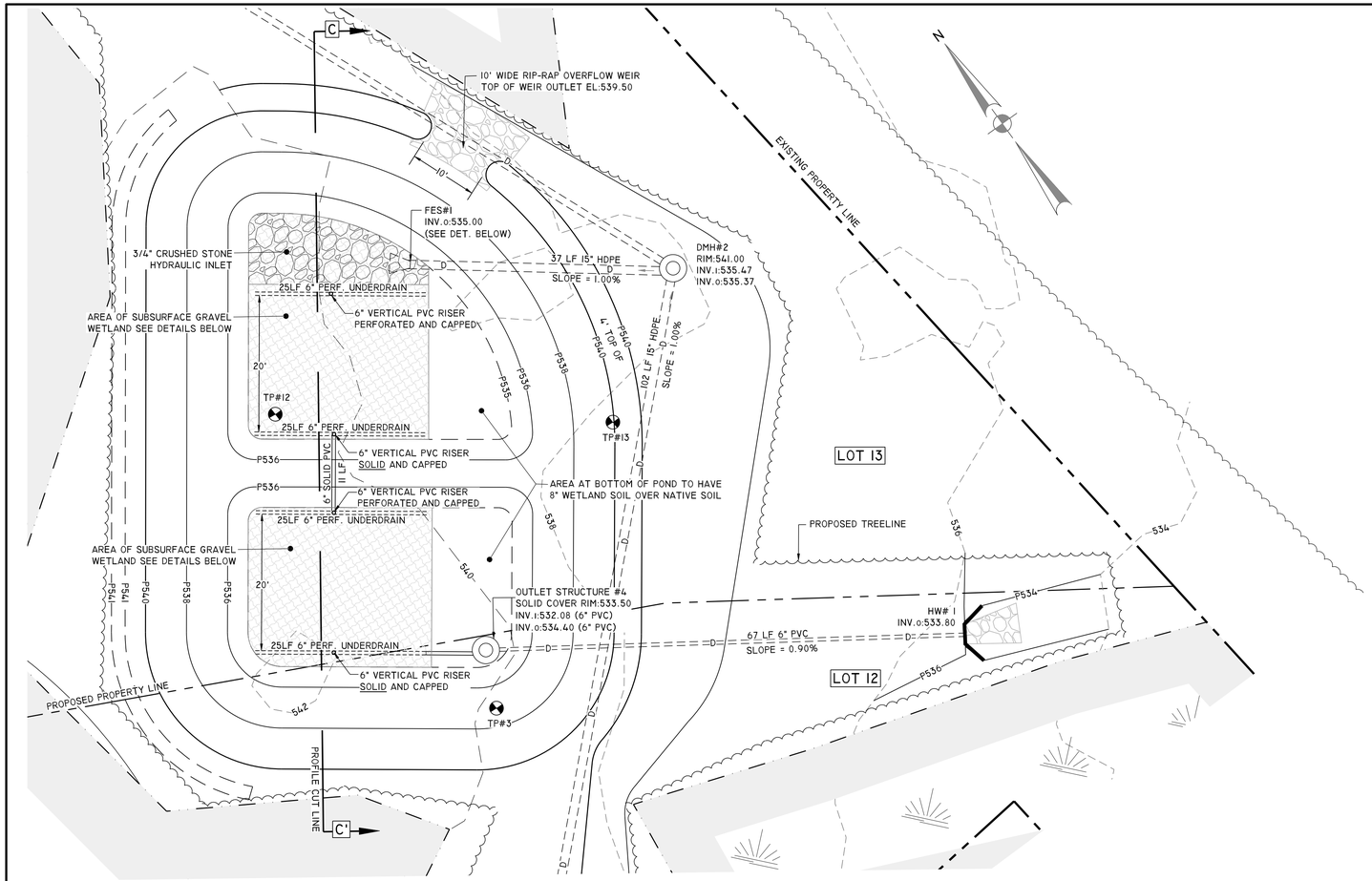
FEBURARY 29, 2024

SCALE
10 5 0 20 (H)
H 1"=20'

BROWN ENGINEERING
63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

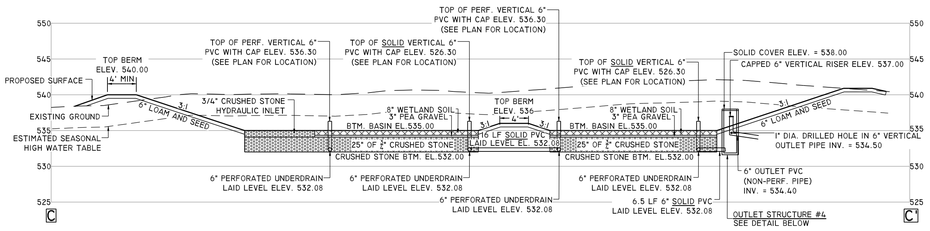
JN: 5328-01
SWMB#2

G:\CLIENTS\5328-01.2 Koss-33 Bean Road-Moultonborough\Dwgs\5328-01.02 Koss Site Plan.dwg Feb 29, 2024-8:20am



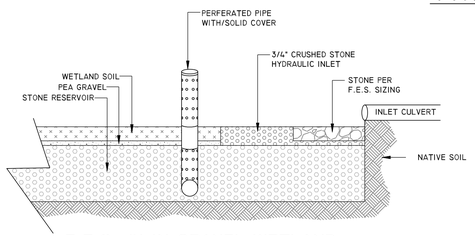
GRAVEL WETLAND SWMB#3 PLAN VIEW

1"=10' HORZ



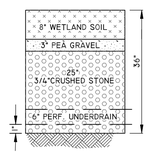
PROFILE C-C' GRAVEL WETLAND SWMB#3

1"=10' HORZ
1"=10' VERT



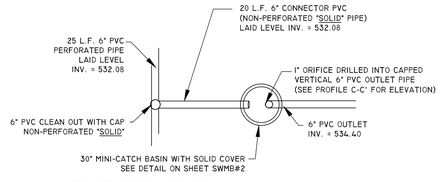
F.E.S. #1 IN GRAVEL WETLAND

NOT TO SCALE



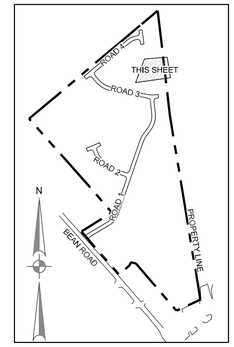
TYPICAL GRAVEL WETLAND SECTION

NOT TO SCALE



OUTLET STRUCTURE #4

NOT TO SCALE



VICINITY MAP
1" = 400'

SUBSURFACE GRAVEL WETLAND MATERIALS

THE SURFACE INFILTRATION RATES OF THE GRAVEL WETLAND SOIL SHOULD BE SIMILAR TO A LOW HYDRAULIC CONDUCTIVITY WETLAND SOIL (0.1-0.01 FT/DAY) THIS SOIL MAY BE MANUFACTURED USING A COMBINATION OF LOAM, SAND, AND SOME FINE SOILS BLENDED AT A HIGH % ORGANIC MATTER CONTENT SOIL (LESS THAN OR EQUAL TO 15% ORGANIC MATTER). AVOID A FINAL WETLAND SOIL MIX WITH CLAY CONTENT IN EXCESS OF 15% THAT MAY RESULT IN DRYING AND CRACKING AND POTENTIAL MIGRATION OF FINES INTO THE SUBSURFACE GRAVEL LAYER. DO NOT USE GEOTEXTILES BETWEEN THE HORIZONTAL LAYERS OF THIS SYSTEM AS THEY WILL CLOG DUE TO FINES AND MAY RESTRICT ROOT GROWTH.

AN INTERMEDIATE LAYER OF GRADED AGGREGATE FILTER (I.E. 3/8 IN PEA GRAVEL) IS NEEDED TO PREVENT THE FINER WETLAND SOILS FROM MIGRATING DOWN INTO THE COURSE GRAVEL SUB-LAYER. MATERIAL COMPATIBILITY SHOULD BE EVALUATED USING THE FOLLOWING FHWA CRITERIA:

CRITERIA 1: $D15_{\text{COARSE SUBLAYER}} \leq 5 \times D15_{\text{SETTING BED}}$
CRITERIA 2: $D50_{\text{COARSE SUBLAYER}} \leq 25 \times D50_{\text{SETTING BED}}$

PARTICLE SIZE DISTRIBUTION AND TESTING TOLERANCES FOR WETLAND SOIL FOR THE SUBSURFACE GRAVEL WETLAND SYSTEM.

US STANDARED SIEVE SIZE (IN)	PERCENT PASSING	PERCENT PASSING TESTING TOLERANCES
.5	100	±10.0
#10	90-75	±5.0
#100	40-50	±5.0
#200	25-50	±5.0

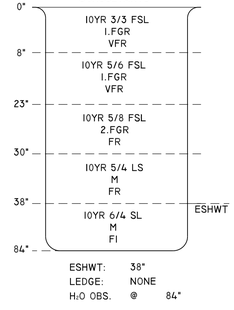
GENERAL NOTES

1. DO NOT PLACE GRAVEL WETLAND SYSTEM INTO SERVICE UNTIL THE BASIN AND IT'S CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL STORMWATER BMP'D ARE STABILIZED
3. ALL CEMENT CONCRETE TO BE 4,000 P.S.I (MIN.)
4. GALVANIZED STEEL GRATE SHALL BE BOLTED TO THE TOP OF THE STRUCTURE WITH ¼" STAINLESS STEEL BOLTS AND THREADED INSERTS.
5. AREAS OUTSIDE OF POND AREA TO BE LOAM AND SEEDED PER SEEDING SPECS AS SHOWN ON DET-2
6. MINIMUM EMBANKMENT WIDTH TO BE 4' WIDE
7. FOR FLARED END SECTION (FES) DETAIL SEE SHEET DET-3
8. FOR HEADWALL (HW) DETAILS SEE SHEET DET-4
9. FOR OVERFLOW OUTLET WEIR RIP-RAP SIZING SEE DET-3

SAFETY

1. PONDS THAT ARE EASILY ACCESSIBLE IN POPULATED AREAS SHOULD INCORPORATE ALL POSSIBLE SAFETY PRECAUTIONS. DUE TO ONLY TEMPORARY WATER LEVELS IN THESE BASINS, FENCING IS NOT NECESSARY.

TEST PIT #3
MAR. 2, 2020
LOGGED BY: BAG LAND CONSULTANTS

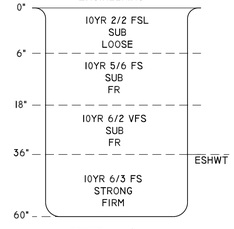


ESHWT: 38"
LEDGE: NONE
H_2O OBS. @ 84"

SYMBOLS LEGEND

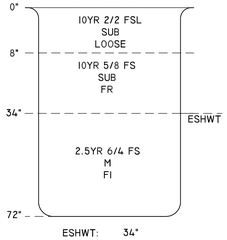
- PROPERTY LINE
- 542 EXISTING 2' CONTOURS
- 550 EXISTING 10' CONTOURS
- EXISTING STONE WALL
- EXISTING 25' WETLAND SETBACK
- EXISTING EDGE OF WETLAND
- P550 PROPOSED 10' CONTOUR
- P542 PROPOSED 2' CONTOUR
- P541 PROPOSED 1' CONTOUR
- PROPOSED TREELINE
- PROPOSED DRAIN PIPE
- PROPOSED DRAIN MANHOLE
- PROPOSED CATCH BASIN
- TESTPIT LOCATION AND NUMBER
- TP#17 RIP-RAP OUTLET PROECTION

TEST PIT #12
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 36"
LEDGE: NONE
H_2O OBS. FALSE

TEST PIT #13
JUNE 24, 2021
LOGGED BY: BROWN ENGINEERING



ESHWT: 34"
LEDGE: NONE
H_2O OBS. @68"

ENGR STAMP
STATE OF NEW HAMPSHIRE
KENT L. BROWN
No. 7456
LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

SWMB#3 - GRAVEL WETLAND
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

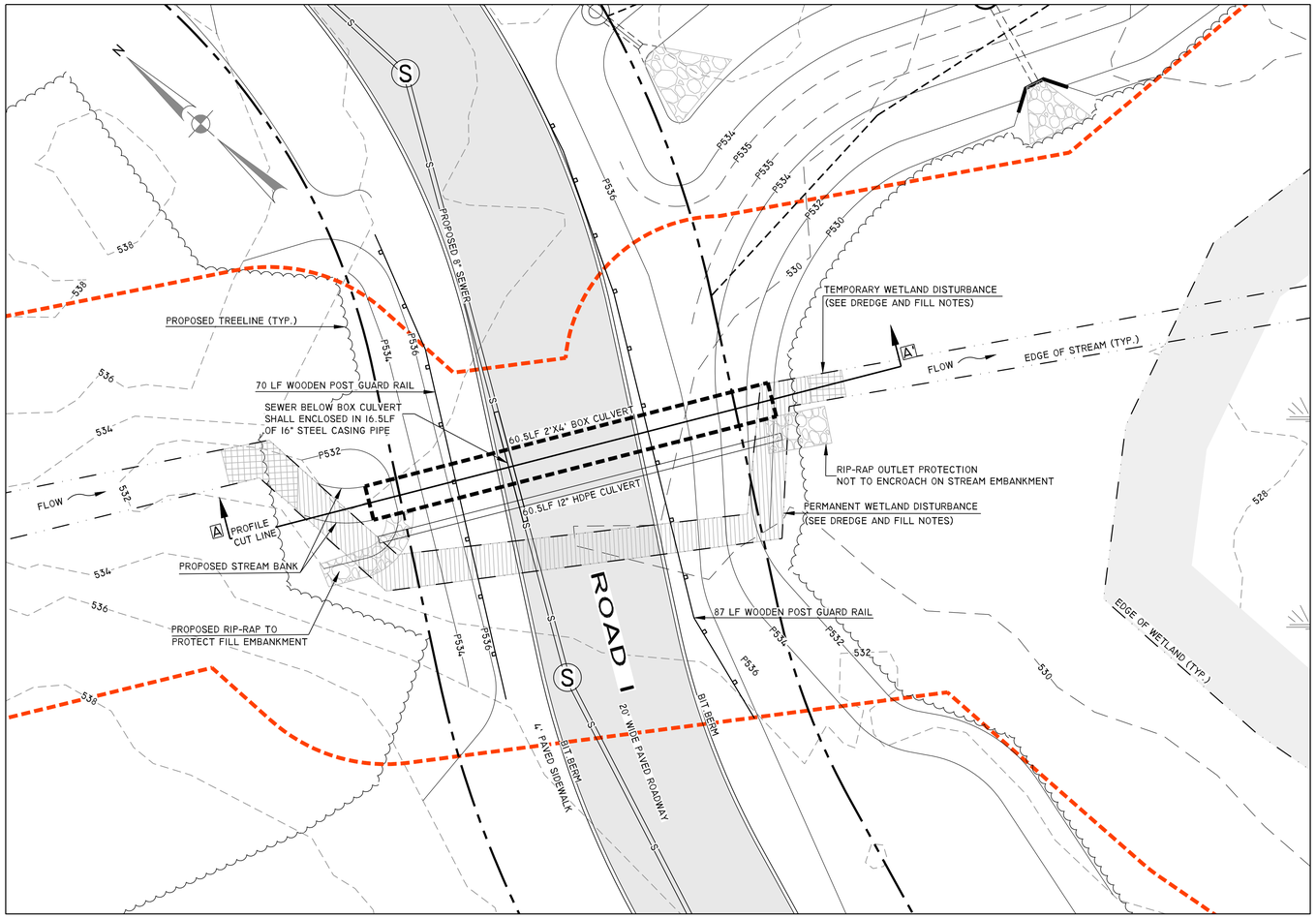
FEBURARY 29, 2024

SCALE
10 5 0 20 (H)
H 1"=20'

BROWN ENGINEERING
63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

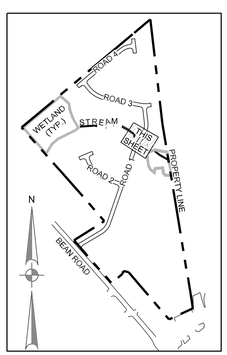
JN: 5328-01
SWMB#3

G:\CLIENTS\5328-01.2 KOBS-33 BEAN ROAD-MOULTONBOROUGH\DWGS\5328-01.02 KOBS SITE PLAN.DWG FEB 29, 2024-8:20AM

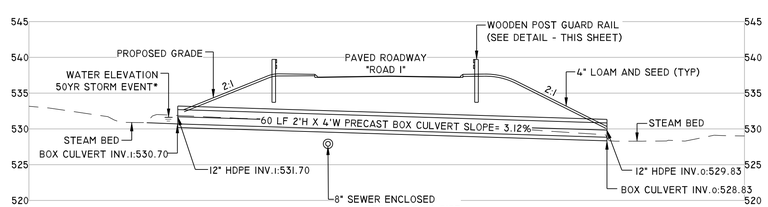


CULVERT CROSSING: PLAN VIEW

HOR. SCALE: 1" = 10'



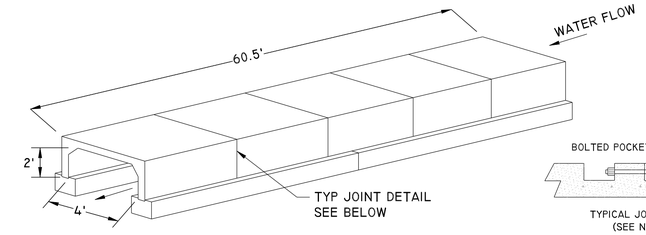
VICINITY MAP
1" = 400'



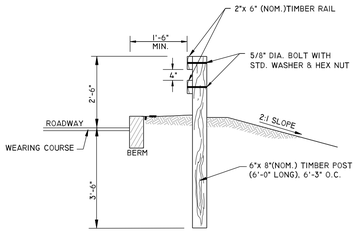
*NOTE: AVERAGE FLOW DEPTH DURING A 50YR - 24HR STORM EVENT AT PEAK FLOW IS 0.89'

CULVERT CROSSING: PROFILE VIEW

HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 10'

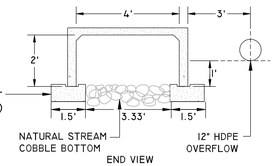


TYPICAL JOINT DETAIL
(SEE NOTE 5)



GUARD RAIL DETAIL

NOT TO SCALE



NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN PER ASTM C1504 SPECIFICATION FOR 3-SIDED CULVERT.
3. ALL REINFORCEMENT PER ASTM A615.
4. DESIGNED AASHTO HS-20 LOADING OR AS REQUIRED.
5. TONGUE AND GROOVE JOINT SEALED WITH BUTYL WRAP.
6. FOOTINGS SHALL BE PRECAST CONCRETE

*FINAL CULVERT DESIGN BY SHEA CONCRETE ITEM: RIGID FRAME 3-SIDED CULVERT OR APPROVED EQUAL BY ENGINEER

2' X 4' (3-SIDED) BOX CULVERT DETAIL

NOT TO SCALE

DREDGE AND FILL NOTES

1. THE EXISTING STREAM HAS A CONTRIBUTION WATERSHED OF 65 ACRES AND IS DESIGNATED AS A TIER ONE STREAM CROSSING (ENV-WT 904.02)
2. TOTAL AREA OF PERMANENT WETLAND IMPACT: 448 SF
3. TOTAL AREA OF TEMPORARY WETLAND IMPACT AREA: 805F
4. CONSTRUCTION ACTIVITIES SHALL BE DONE DURING HISTORICALLY SEASONALLY DRY CONDITIONS. TYPICALLY DURING THE FALL MONTHS FROM AUGUST THROUGH NOVEMBER
5. EFFORTS SHALL BE TAKEN TO MAINTAIN AN UNINTERRUPTED NATURAL CHANNEL FLOW FOR AS LONG AS POSSIBLE

REV.	DATE	DESCRIPTION	BY

STATE OF NEW HAMPSHIRE
KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER

CULVERT CROSSING DETAIL

TAX MAP 140 LOT 16

BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR:
Harbor Landing Development LLC
P.O. Box 1746
Meredith, NH 03253
BOOK 3536 PAGE 0028

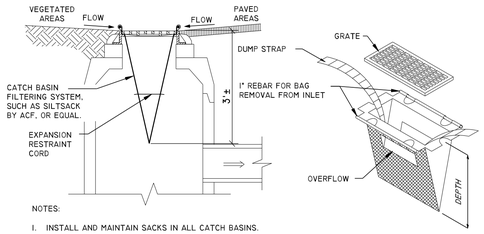
PREPARED BY:
BROWN ENGINEERING LLC.
63 WEST STREET-P.O. BOX 703
ASHLAND, NH 03217
Tel: (603) 744-1044
www.brownengineeringllc.com
BROWN ENGINEERING
CIVIL ENGINEERS

DATE:
FEBURARY 29, 2024

JOB NO: 5328-01

CC-1
13 OF 22

G:\CLIENTS\5328-01.2 Kiss-33 Bean Road-Moultonborough\dwgs\5328-01.02 Kiss Site Plan.dwg Feb 29, 2024-8:20am



NOTES:

1. INSTALL AND MAINTAIN SACKS IN ALL CATCH BASINS.

2. TO INSTALL SACK, REMOVE CATCH BASIN GRATE AND PLACE SACK IN OPENING. HOLD OUT APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME FOR THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.

3. THE SACK SHALL BE INSPECTED AFTER EVERY STORM, OR ONCE EVERY TWO WEEKS, WHICH EVER OCCURS FIRST.

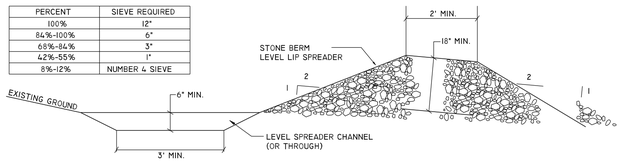
4. THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SACK SHOULD BE EMPTIED. EMPTY THE SACK AWAY FROM THE CATCH BASIN TO PREVENT SEDIMENT FROM RE-ENTERING THE CATCH BASIN. EMPTY THE SACK PER THE MANUFACTURES RECOMMENDATIONS.

5. REPLACE THE SACK IN THE CATCH BASIN AFTER THE SACK HAS BEEN EMPTIED. ONCE CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED BY PAVING OR A HEALTHY VEGETATIVE COVER, REMOVE THE SACK FROM THE CATCH BASINS.

"SILT-SAK" SEDIMENT CONTROL

NOT TO SCALE

PERCENT	SIEVE REQUIRED
100%	12"
84%-100%	6"
68%-84%	3"
42%-55%	1"
8%-12%	NUMBER 4 SIEVE



CROSS SECTION

NOTE

1) CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO PERCENT GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.

2) LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL, NOT ON FILL.

3) THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT BE ALLOWED TO RE-CONCENTRATE BELOW THE SPREADER.

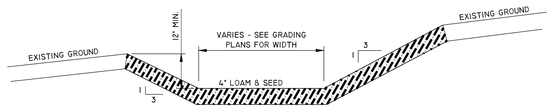
4) PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.

MAINTENANCE

THE LEVEL SPREADER SHALL BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE MAJOR DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHALL BE REMOVED. IF RILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE-VEGETATED. THE VEGETATION SHALL BE MOWED ON OCCASION TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AREA AND AWAY FROM THE OUTLET AREA. FERTILIZATION SHALL BE DONE AS NECESSARY TO KEEP THE VEGETATION HEALTHY AND DENSE.

LEVEL SPREADER

NOT TO SCALE



CONSTRUCTION NOTES

1) THE FOUNDATION AREA OF THE WATERWAY SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS AND OTHER OBJECTIONABLE MATERIAL. MATERIALS REMOVED SHALL BE DISPOSED OF SO THEY DO NOT INTERFERE WITH THE CONSTRUCTION OR PROPER FUNCTION OF THE WATERWAY.

2) THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA. THE WATERWAY SHALL BE FREE OF IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.

3) EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED WATERWAY. EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.

4) CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE EROSION AND AIR AND WATER POLLUTION. ALL APPROPRIATE STATE AND LOCAL LAWS AND REGULATIONS SHALL BE COMPLIED WITH FOR DESIGN AND INSTALLATION.

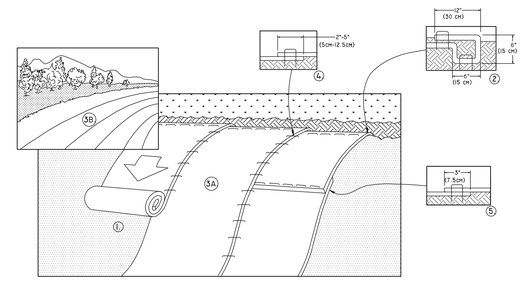
5) THE WATERWAY SHALL BE STABILIZED USING THE APPROPRIATE "BEST MANAGEMENT PRACTICES" FOR VEGETATIVE MEASURES.

MAINTENANCE

MAINTENANCE OF THE VEGETATION IN THE GRASSED WATERWAY IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION AND FAILURE OF THE WATERWAY. MOWING SHALL BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHALL NOT BE MOWED TO CLOSELY AS TO REDUCE EROSION RESISTANCE IN THE WATERWAY. THE WATERWAY SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHALL BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION. FERTILIZE ON AN "AS-NEEDED" BASIS TO KEEP THE GRASS HEALTHY.

GRASS LINED SWALE

NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725
USA 1-800-772-2040 CANADA 1-800-448-2040
WWW.NAGREEN.COM

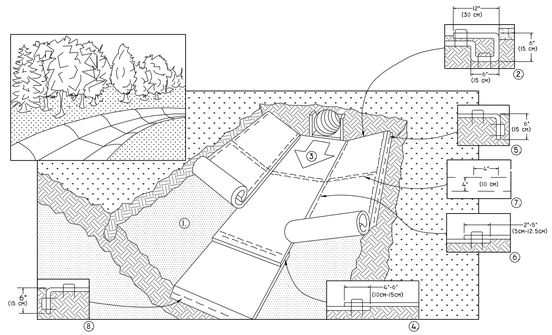
NOTE:
FOR 2:1 SLOPES OVER 20' HIGH USE TEMPORARY BLANKET SC150 BN
FOR 2:1 SLOPES LESS THAN 20' HIGH USE TEMPORARY BLANKET SC75 BN

NORTH AMERICAN GREEN

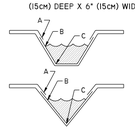
SLOPE INSTALLATION

FOR EROSION CONTROL NOT TO SCALE

ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" (10cm-15cm) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5cm-12.5cm) (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9M-12M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10CM) APART AND 4" (10CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30CM) APART IN A 6" (15CM) DEEP X 6" (15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

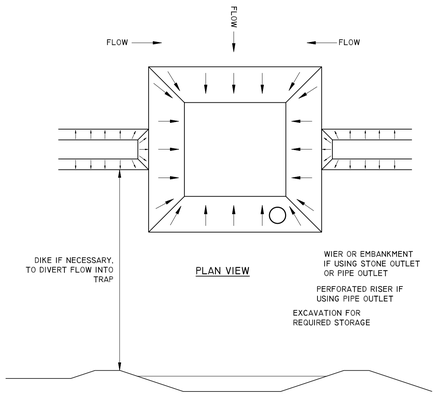
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725
USA 1-800-772-2040 CANADA 1-800-448-2040
WWW.NAGREEN.COM

CHANNEL INSTALLATION

FOR EROSION CONTROL NOT TO SCALE

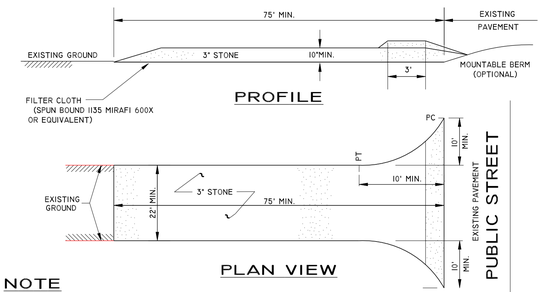
ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH.



NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STIBILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

SEDIMENT TRAP DETAIL

NOT TO SCALE



NOTE

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.

2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL BE NOT 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 RESIDENTIAL 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 CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

ENGR STAMP

KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -

REVISIONS

NO.	DESCRIPTION	DATE

DET-1 EROSION CONTROL DETAILS

TAX MAP 140 LOT 16 & MAP 170 LOT 12

HARBOR LANDING ESTATES

33 BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR

HARBOR LANDING DEVELOPMENT LLC

P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

SCALE

AS-NOTED

BROWN ENGINEERING

63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

JN: 5328-01

DET-1

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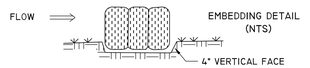
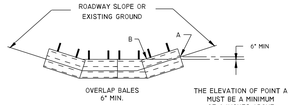
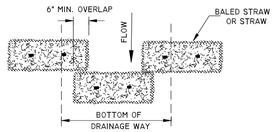


PLAN VIEW





NOTE

1) STRUCTURES SHALL BE INSTALLED AT THE APPROPRIATE SPACING AS NEEDED OR DETERMINED BY THE ENGINEER.
2) CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION WILL BE MINIMIZED.
3) WHEN STRAW BALES ARE USED, THEY ARE TO BE EMBEDDED INTO THE SOIL 4 INCHES. WHEN TIMBERS ARE TO BE USED, THE TIMBER SHALL EXTEND AT LEAST 18 INCHES INTO THE SOIL.
4) STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2"x2" STAKES DRIVEN THROUGHOUT THE BALES AT LEAST 18 INCHES INTO THE SOIL.
5) SEEDING, FERTILIZING AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATE BMP.
6) STRUCTURES ARE TEMPORARY AND ARE TO BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS EXPIRED, WHEN A SOLID STAND OF GRASS HAS GROWN OR THE AFTER ANY STONE HAS STABILIZED

MAINTENANCE

TEMPORARY GRADE STABILIZATION STRUCTURES SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED STORMS. ANY NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN STRUCTURES ARE TO BE REMOVED, THE DISTURBED PORTION SHALL 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 STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

STRAW BALE CHECK DAM

(EMBEDDED IN SWALE) NOT TO SCALE

SEEDING RATES

MIXTURE	POUNDS/ACRE	POUNDS/1,000 SF
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

SEEDING SPECIFICATIONS

SEEDING RECOMMENDATIONS

1. 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 FOUR INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTEFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT FOUR INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
2. 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 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 0.09 LBS. PER SQ. FT.
     NITROGEN (N): 50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
     PHOSPHATE (P 2 0) 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
     POTASH (K 0): 100 LBS. PER ACRE OR 2.2 LBS. PER 1000 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 0.25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   - C. REFER TO TABLE 7-35 OF "STORMWATER MANAGEMENT AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE", FOR APPROPRIATE SEED MIXTURES AND TABLE 7-36 FOR RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT TREFOIL, AND FLATPEA), MUST BE INOCULATED WITH THEIR SPECIFIC INNOCULANT.
   - 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.
3. MULCH
   - A. STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   - B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES FROM THE "BEST MANAGEMENT PRACTICE FOR MULCHING", AS SHOWN IN, "STORMWATER MANAGEMENT AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE".
4. MAINTENANCE TO ESTABLISH A STAND
   - A. PLANTED AREAS 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 PERENNIALS TAKE 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.

TEMPORARY SEEDING RATES:

- FOR FALL SEEDING (SEED FROM AUGUST 15 - SEPTEMBER 5 FOR BEST COVER): WINTER RYE: 2.5 LBS PER 1,000 SF SEED TO A DEPTH OF 1 INCH
- FOR SPRING SEEDING (SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION)
  OATS: 2 LBS PER 1,000 SF
  SEED TO A DEPTH OF 1 INCH
- ALTERNATIVE:
  PERENNIAL REYGRASS: 0.7 LBS PER 1,000 SF
  SEED BETWEEN APRIL 1 AND JUNE 1 AND/OR BETWEEN
  AUGUST 15 AND SEPTEMBER 15)
  MULCHING WILL ALLOW SEEDING THROUHGOUT THE GROWING SEASON.
  SEED TO A DEPTH OF 0.5 INCHES
- 10-10-10 FERTILIZER SHOULD BE UNIFORMERLY SPREAD OVER AREA PRIOR TO BE INCORPORATED INTO THE SOIL AT A MINIMUM OF 7 LBS PER 1,000 SF
- TOP SOIL: 4" MINIMUM APPROVED TOPSOIL
  STRAW MULCH - 2 BALES PER 1,000 SF
  APPLY BINDER OF NETTING AS NEEDED

EROSION CONTROL NOTES

ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS (EPA, NHDES AND TOWN REGULATIONS). THE GENERAL NOTES AND DETAILS CONTAINED IN THIS PLAN SERVE AS A GUIDE ONLY.

1. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. INSTALLATION OF STRAWBALE BARRIERS AND SILTATION FENCES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY SPECIFIC AREA. PREFABRICATED SILTATION FENCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. STRAWBALE BARRIERS AND SILTATION FENCES SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A HEALTHY STAND OF VEGETATIVE COVER. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES
3. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.
4. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION; BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL ROADWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE. CUT AND FILL SLOPES SHALL BE LOAMED & SEEDED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE TEMPORARY AND/OR PERMANENT STABILIZATION SHALL BE INSTALLED WITHIN 45 DAYS OF INITIAL CONSTRUCTION. 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 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED
   - D. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

TIME LIMIT: ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

3. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF LOAM INSTALLED WITH NOT LESS THAN 1.1 POUNDS OF SEED MIX PER 1,000 SQ. FT. SEE SEEDING SPECIFICATIONS ON THIS SHEET
4. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.
5. STRAW MULCH OR JUTE MATTING SHALL BE USED IF/WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
6. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. 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 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.
7. STRAW MULCH OR JUTE MATTING SHALL BE USED IF/WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
8. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS AREA NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.

LOT DEVELOPMENT CRITERIA

1) PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS, OR TO A STABLE WATERCOURSE TO INSURE THAT THE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
2) CUT AND FILL SLOPES SHALL NOT BE STEEPER THAN 2:1 IF THE SLOPES ARE TO BE MOWED THEN THE SLOPES SHALL BE 3:1 OR FLATTER.
3) SUBSURFACE DRAINAGE IS TO BE PROVIDED IN AREAS HAVING HIGH WATER TABLES TO INTERCEPT DRAINAGE WHICH WOULD AFFECT SLOPE STABILITY, BUILDING FOUNDATIONS, ESTABLISHMENT OF ADEQUATE VEGETATION, OR CREATE UNDESIRABLE WETNESS.

CONSTRUCTION SEQUENCE

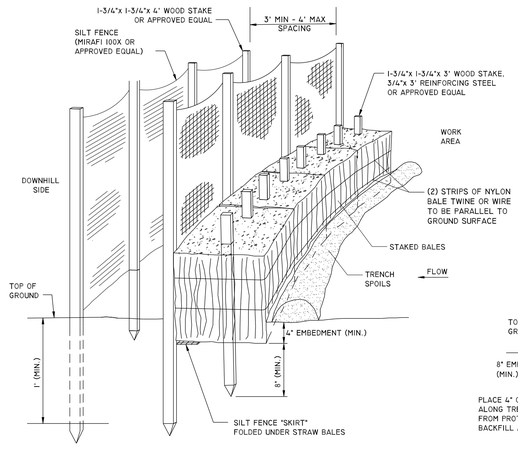
1. CUT AND CLEAR TREES WITHIN LIMIT OF WORK (PROPOSED TREELINE), UNLESS OTHERWISE NOTED. ALL STUMPS, BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AS SHOWN AND DETAILED IN THIS PLAN SET.
3. CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES (DETENTION BASINS, TREATMENT SWALES, GRASS SWALES AND STONE LINED RIP-RAP SWALES) PRIOR TO ANY EARTH MOVING OPERATION.
4. ALL SWALES AND DITCH LINES SHALL BE PROTECTED FROM EROSION. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
5. ALL STORM DRAINAGE SYSTEMS SUCH AS DETENTION/RETENTION BASINS, TREATMENT SWALES AND LEVEL SPREADERS SHALL BE PROTECTED FROM EROSION. ALL STORM DRAINAGE SYSTEMS SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM.
6. NO CATCH BASIN FRAME AND GRATE SHALL BE INSTALLED PRIOR TO PAVING (IF APPLICABLE). ALL DRAINAGE STRUCTURES ARE TO BE "PLATED" AND CUT OUT FOLLOWING PAVING OPERATIONS, ONLY IF ALL DOWNSTREAM DRAINAGE ELEMENTS ARE STABLE, INCLUDING, BUT NOT LIMITED TO OUTLET PROTECTION, ALL SLOPE GRADING, VEGETATED OR RIPRAP SWALES, DETENTION BASIN AND TREATMENT SWALES.
7. IF FRAME AND GRATES ARE INSTALLED, SPECIFIC SOIL EROSION MEASURES MUST BE INSTALLED SUCH AS GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER OR BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER.
8. CONSTRUCT TEMPORARY CULVERTS, DIVERSION DITCHES/SWALES OR BERMS AS REQUIRED TO MINIMIZE THE EROSIVE AFFECTS OF STORMWATER RUNOFF DURING ALL CONSTRUCTION ACTIVITIES.
9. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND DEBRIS SHALL BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.
10. ALL MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SEEDED WITH WINTER RYE AND IF NECESSARY, SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO PREVENT OR CONTAIN SOIL EROSION.
11. ALL MATERIAL SUITABLE FOR FILL OR SELECT MATERIAL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO CONTAIN SOIL EROSION.
12. REMOVE ALL IMPROPER ROADWAY/SITE FOUNDATION MATERIAL WITHIN 18" OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL ACCEPTABLE TO THE STATE/TOWN SPECIFICATIONS. ALL SUITABLE FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF THE DRY WEIGHT AS DETERMINED BY MODIFIED PROCTOR TESTING (ASTM D-1556) REQUIREMENTS.
13. CONSTRUCT ALL UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO DRAIN, DATA, CABLE AND POWER.
14. ROUGH GRADE ACCESS ROADWAY/SITE WITHIN LIMIT OF WORK AND COMMENCE CONSTRUCTION OF BUILDING, ROADWAY AND PARKING.
15. COMPLETE SLOPE GRADING/EMBANKMENT CONSTRUCTION. ALL SLOPES SHALL BE STABILIZED AND SEEDED IMMEDIATELY AFTER GRADING. THE CONTRACTOR SHALL STABILIZE SLOPES WITH APPROPRIATE SEEDING PROGRAM OR JUTE MAT, WHEREVER SPECIFIED.
16. APPLY TOPSOIL TO SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED AS TO BE FREE FROM ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED, AND MULCHED. THE CONTRACTOR SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
17. PERFORM FINAL PAVING OPERATIONS (IF APPLICABLE), INSTALL GUARDRAIL (IF APPLICABLE) AS SHOWN ON THE APPROVED PLANS.
18. MAINTAIN, REPAIR, AND REPLACE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY FOR A MINIMUM PERIOD OF 12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION.
19. AFTER STABILIZATION (12 MONTHLY FOLLOWING SUBSTANTIAL COMPLETION), REMOVE AND PROPERLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES, PREFERABLY OFF-SITE.
20. FOLLOWING SUBSTANTIAL COMPLETION OF ALL ROADWAY ACTIVITIES AND ONCE STABLE CONDITIONS ARE ACHIEVED, CAREFULLY AND REGULARLY MONITOR CONSTRUCTION ACTIVITIES ON ALL INDIVIDUAL LOTS TO INSURE CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUCH A WAY AS NOT TO ENDANGER THE INTEGRITY OF ROADWAY EMBANKMENTS, STORMWATER SYSTEMS AND UTILITIES.
21. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENT AND INTENT OF RSA 430:53 AND CHAPTER Agr 3800 RELATIVE TO INVASIVE SPECIES.

WINTER CONSTRUCTION NOTES

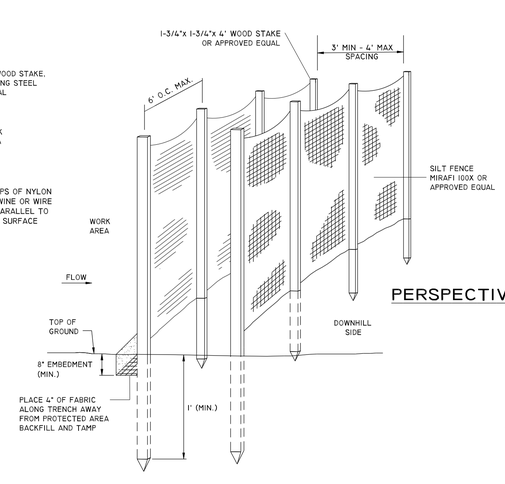
A. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE. SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

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

C. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.



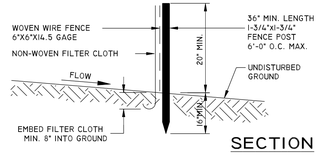
WITH STRAW BALE BARRIER



PERSPECTIVE VIEW

MAINTENANCE

1) SILT FENCES ARE TO BE INSPECTED IMMEDIATELY AFTER EVERY 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 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.

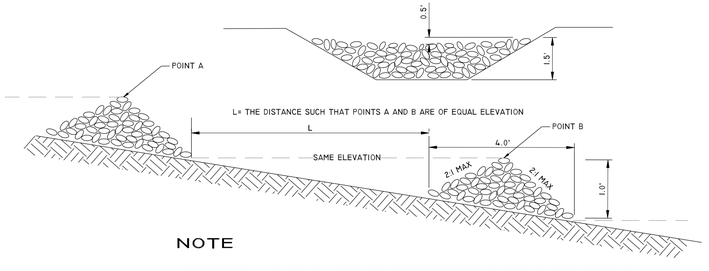


SECTION

WITHOUT STRAW BALE BARRIER

"DOUBLED UP" SILT FENCE DETAILS

NOT TO SCALE



NOTE

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 WILL BE MINIMIZED.
3) SEEDING, FERTILIZING AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATE BMP.
4) STRUCTURES ARE TEMPORARY AND ARE TO BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS EXPIRED, WHEN A SOLID STAND OF GRASS HAS GROWN AND STABILIZED.

TEMPORARY STONE CHECK DAM

NOT TO SCALE

ENGR STAMP

KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -

REVISIONS

NO.	DESCRIPTION	DATE

DET-2 EROSION CONTROL DETAILS
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

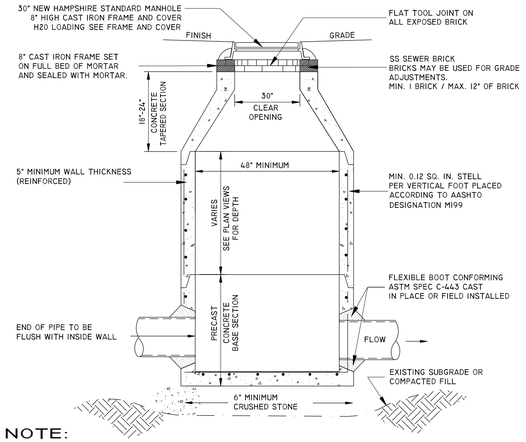
SCALE
AS-NOTED

BROWN ENGINEERING

63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

JN: 5328-01
DET-2
15 of 22

G:\CLIENTS\5328-01.2 Kiss&-35 Bean Road-Moultonborough\Dwgs\5328-01.02 Kiss Site Plan.dwg Feb 29, 2024-8:20am

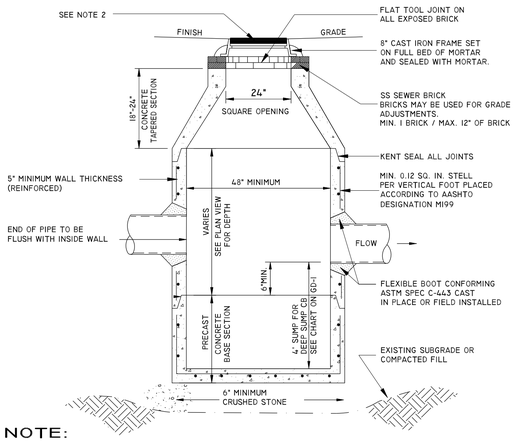


NOTE:

1. ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478. STRUCTURE SHALL BE CAPABLE OF AASHTO H-20 LOADING WITHOUT FAILURE.

DRAIN MANHOLE

CONCENTRIC CONE — NOT TO SCALE



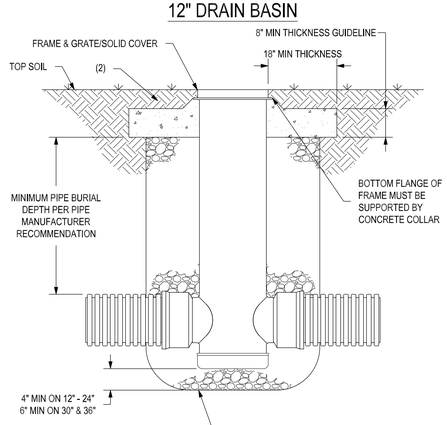
NOTE:

1. ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478. CATCH BASIN STRUCTURE SHALL BE CAPABLE OF AASHTO H-20 LOADING WITHOUT FAILURE.
2. USE TYPE B FRAME AND GRATE (NEENAH R-3570) UNLESS OTHERWISE NOTED ON PLANS
3. DEEP SUMP CATCH BASINS (WHEN CALLED FOR ON PLAN) SHALL HAVE A 4' MIN. SUMP

CATCH BASIN

CONCENTRIC CONE — NOT TO SCALE

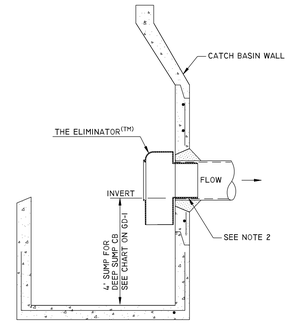
12" DRAIN BASIN



NOTES:
1. GRATES/SOLID COVERS SHALL MEET H-20 LOAD RATING FOR 30" PEDESTRIAN & 12" - 30" STANDARD & SOLID
2. DESIGN SHOULD ACCOUNT FOR ROOT DEPTH TO ALLOW TURF TO GROW AND PREVENT EROSION AROUND GRATE SO THAT HAZARDS DO NOT FORM.
3. 36" DRAIN BASIN REQUIRES 36"X30" REDUCING CONE. REDUCING CONE REQUIRES 2.25FT MINIMUM FROM GRADE TO TOP OF PIPE.

AREA DRAIN

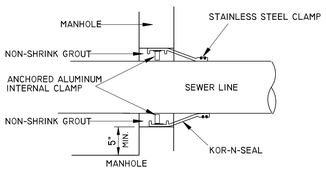
NOT TO SCALE



NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM (OR APPROVED EQUAL)

WATER QUALITY HOOD

NOT TO SCALE



MANHOLE JOINT DETAIL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

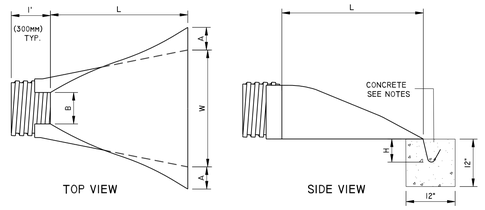
PREPARE BEDDING:
BACKFILL MATERIAL AROUND THE END SECTION MAY BE THE SAME AS THE MATERIAL AROUND THE PIPE.PLACE A FEW INCHES OF BACKFILL MATERIAL IN THE TRENCH OR DITCH WHERE THE END SECTION WILL BE PLACED. COMPACT AND CONTOUR THIS BEDDING MATERIAL TO GENERALLY MATCH THE END SECTION.EXCAVATE AN AREA IN THE BEDDING WHERE TOE TROUGH WILL SEAT SO THAT THE END SECTION WILL BE LEVEL WITH THE BOTTOM OF THE TRENCH OR DITCH IN THE FINISHED INSTALLATION.

PLACE END SECTION OF PIPE:
OPEN THE END SECTION COLLAR AND SEAT IT OVER THE TWO PIPE CONNECTIONS. ONCE THE END SECTION IS POSITIONED, CHECK TO MAKE SURE THAT THE INVERT OF THE END SECTION MATCHES THE INVERT OF THE PIPE AND THAT THE END SECTION IS LEVEL WITH THE TRENCH OR DITCH BOTTOM.

SECURE THE END SECTION:
SLIP THE STAINLESS STEEL ROD THROUGH THE PRE-DRILLED HOLES AT THE TOP OF THE COLLAR.THE ROD SHALL BE BETWEEN THE CROWNS OF THE TWO PIPE CONNECTIONS. PLACE A WASHER ON EITHER END OF THE ROD. PLACE A NUT ON EITHER END OF THE ROD AND TIGHTEN WITH A WRENCH.

SECURE THE TOE TROUGH:
TO PREVENT WASHOUTS FROM HIGH VELOCITY FLOW, IT IS RECOMMENDED THAT THE TROUGH BE SECURED WITH CONCRETE. POUR CONCRETE IN THE TROUGH UP TO THE LEVEL OF THE TRENCH OR DITCH BOTTOM AND ALONG THE ENTIRE LENGTH OF THE TROUGH.

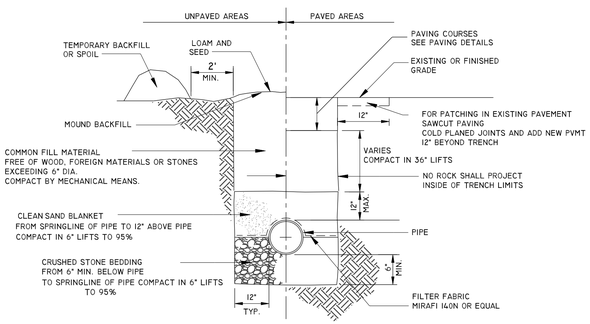
FINISH BACKFILL:
SHOVEL BACKFILL AROUND THE END SECTION IN 6 TO 9 INCH LAYERS EQUALLY ON BOTH SIDES, KNIFING IT TO ELIMINATE VOIDS. TAMP WITH A SMALL-FACED COMPACTOR OR OTHER EQUIPMENT SUITABLE FOR SMALL AREAS. CONTINUE PLACING, KNIFING, AND COMPACTING BACKFILL LAYERS TO THE TOP OF THE END SECTION TO SEAT IT WELL INTO THE BACKFILL.



PIPE DIAMETER	DIMENSIONS, INCHES (MM)					
	PART NO.	A, ±1 (25)	B MAX	H, ±1 (25)	L, ±1/2 (13)	W, ±2 (50)
12", 15" (300,375)	1210 NP	6.5 (165)	10 (254)	6.5 (165)	25 (635)	29 (736)
18" (450)	1810 NP	7.5 (190)	15 (380)	6.5 (168)	32 (812)	35 (890)
24" (600)	2410 NP	7.5 (190)	18 (450)	6.5 (165)	36 (900)	45 (1140)
30" (750)	3010 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)
36" (900)	3610 NP	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)

FLARED END SECTION

HIGH DENSITY POLYETHYLENE (HDPE) — NOT TO SCALE



NOTE:

COMPACTION EXPRESSED AS A PERCENTAGE OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR).

DRAINAGE TRENCH DETAIL

FOR DRAIN LINES — NOT TO SCALE

NOTE

THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP-RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.

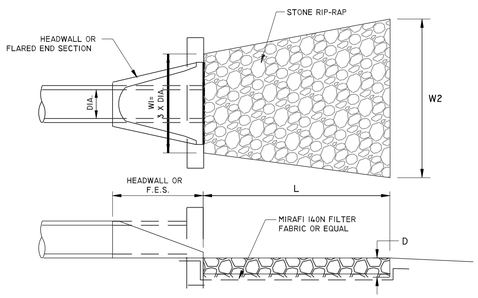
THE ROCK USED FOR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.

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.

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.

MAINTENANCE

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



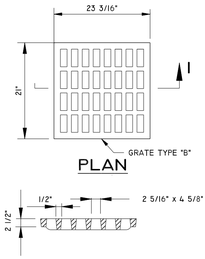
RIP-RAP OUTLET PROTECTION APRON

NOT TO SCALE

RIP-RAP OUTLET PROTECTION							
LOCATION	PIPE SIZE	OUTLET ELEV	L	W1	W2	D	STONE SIZE D_{50}
FES #1	15" HDPE	535.00'	14'	4'	8.5'	6"	3"
FES #2	15" HDPE	532.05'	11'	4'	11'	6"	3"
FES #3	18" HDPE	525.00'	20'	4.5'	17.5'	6"	3"
FES #4	15" HDPE	525.19'	13'	4'	17.5'	6"	3"
HW #1	6" PVC	533.80'	4'	2'	17.5'	6"	3"
HW #2	12" HDPE	529.00'	7'	3'	17.5'	6"	3"
HW #3	12" HDPE	522.00'	8'	4.5'	17.5'	6"	3"
SWMB#3 WEIR	-	539.50'	9'	10'	20'	6"	3"
LEVEL SPREADER	-	526.50'	13'	60'	60'	6"	3"

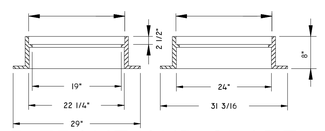
*STONE SIZE SHOWN ON THE PLANS AS CLASS A, B, OR C STONE FILL SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 585 OF THE NHDOT STANDARD SPECIFICATIONS.

FIFTY PERCENT BY WEIGHT OF THE RIPRAP MIXTURE SHALL BE SMALLER THAN THE MEDIAN SIZED STONE DESIGNATED AS d50. THE LARGEST STONE IN THE MIXTURE SHALL BE 1.5 TIMES THE d50 SIZE.



PLAN

GRATE SECTION I



TYPE B FRAME AND GRATE

NEENAH R-3570 GRATE WITH FRAME OR EQUAL — NOT TO SCALE

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

ENGR STAMP
KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -

REVISIONS

NO.	DESCRIPTION	DATE

DET-3 DRAINAGE DETAILS
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

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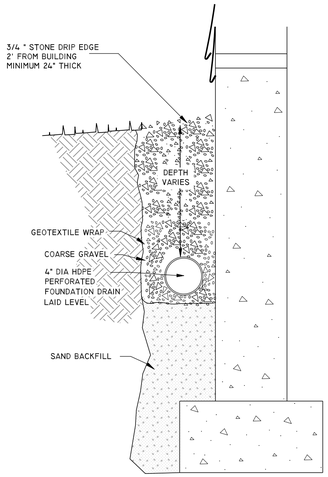
BROWN ENGINEERING
63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

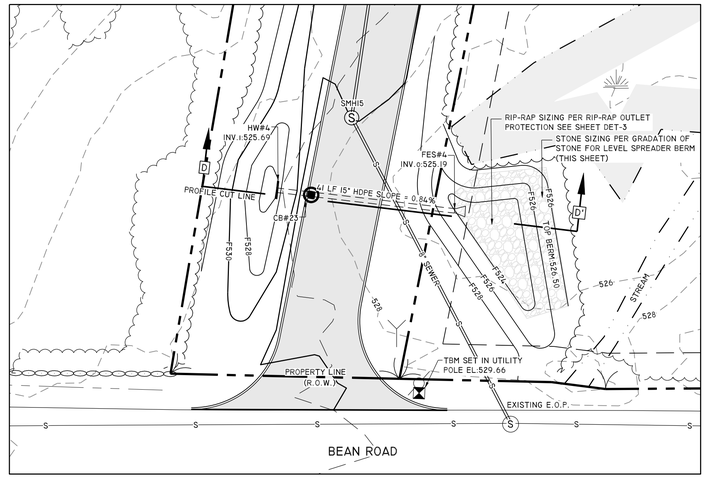
JN: 5328-01
DET-3
16 of 22

G:\CLIENTS\5328-01.2 KOSS-33 BEAN ROAD-MOULTONBOROUGH\DWGS\5328-01.02 KOSS SITE PLAN.DWG Feb 29, 2024-8:20AM



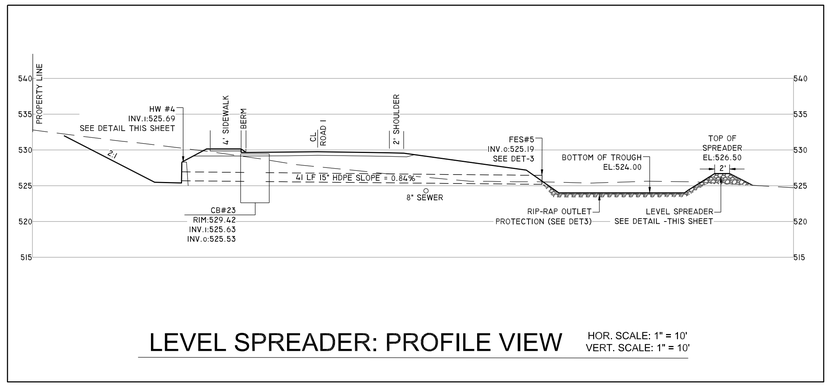
BUILDING TRENCH DRAIN

NOT TO SCALE



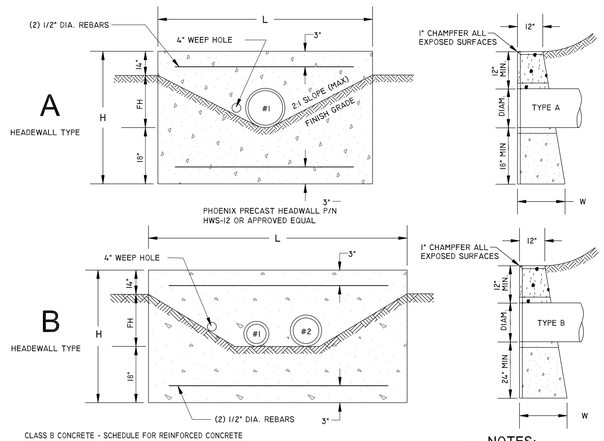
LEVEL SPREADER DETAIL PLAN

HOR. SCALE: 1" = 20'



LEVEL SPREADER: PROFILE VIEW

HOR. SCALE: 1" = 10'
VERT. SCALE: 1" = 10'



CLASS B CONCRETE - SCHEDULE FOR REINFORCED CONCRETE

PIPE DIAMETER	12"	15"	18"	24"	30"	36"	42"	48"	54"	60"
NUMBER	4	4	4	4	4	4	4	4	4	4
LENGTH OF BARS	3'-0"	3'-0"	3'-0"	3'-0"	4'-0"	4'-0"	5'-0"	5'-0"	6'-0"	6'-0"

CLASS B CONCRETE - SCHEDULE FOR REINFORCED CONCRETE

PIPE DIAMETER	12"	15"	18"	24"	30"	36"	42"	48"	54"	60"
CONCRETE QUANTITY (YDS)	1.0	1.3	1.8	2.7	3.5	4.9	6.4	8.0	10.0	12.3

NOTES:

1. FOR DESCRIPTIONS, MATERIALS, AND CONSTRUCTION METHODS, SEE LATEST NHDOT SPECIFICATIONS.
2. ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM.

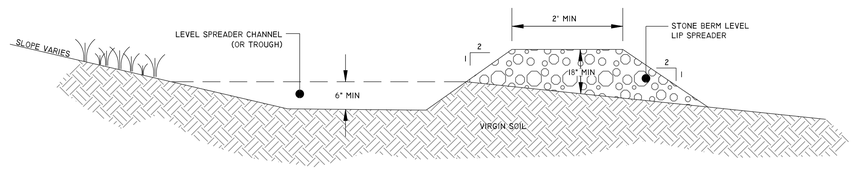
	HW#1	HW#2	HW#3	HW#4
HEADEWALL TYPE	A	A	B	A
DRAIN PIPE #1 DIAMETER	6"	12"	12"	15"
DRAIN PIPE #2 DIAMETER			6"	-
INV.IN ELEV. (BOTH PIPES)	533.80	529.00	522.00	525.69
LENGTH (L)	6'	6'	8'	6'
HEIGHT (H)	5'	5'	5'	5'
BOTTOM WIDTH (W)	1'-6"	1'-6"	1'-6"	1'-6"

ALL STEEL SHALL BE #4 BARS, MEETING NHDOT REQUIREMENTS

CONCRETE HEADWALL

SINGLE & DOUBLE PIPESYSTEM

NOT TO SCALE



NOTE

1) BOTTOM OF SPREADER CHANNEL (TROUGH) AND TOP OF BERM TO BE A 0% GRADE
2) CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION WILL BE MINIMIZED.
3) SEEDING, FERTILIZING AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS UNDER THE SEEDING SPEC.
4) STONE GRADATION SHALL ADHERE TO TABLE PROVIDED ON THIS SHEET

GRADATION OF STONE FOR LEVEL SPREADER BERM

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
12-INCH	100%
6-INCH	84% - 100%
3-INCH	68% - 83%
1-INCH	42% - 55%
NO.4	8% - 12%

STONE BERM LEVEL SPREADER

NOT TO SCALE

ENGR STAMP

KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -

REVISIONS

NO.	DESCRIPTION	DATE

DET-4 DRAINAGE DETAILS

TAX MAP 140 LOT 16 & MAP 170 LOT 12

HARBOR LANDING ESTATES

33 BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR

HARBOR LANDING DEVELOPMENT LLC

P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

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63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
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JN: 5328-01

DET-4

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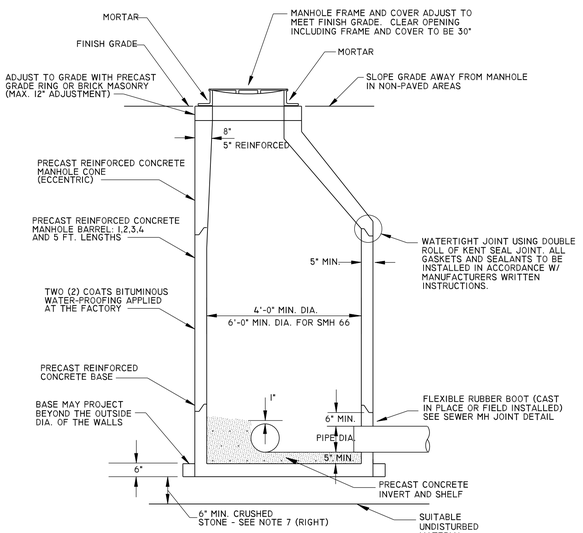


1. MANHOLE STRUCTURE TO BE MADE OF REINFORCED CONCRETE PER WQ 704.12(c)3(a). CAPABLE OF SUPPORTING AASHTO H-20 LOADING.
2. MANHOLE CASTINGS SHALL CONFORM WITH ASTM A48 PER ENV-WQ 704.13 (a)(3).
3. BRICK MASONARY SHALL CONFORM WITH ASTM C32 PER ENV-WQ 704.13 (a)(9).
4. MANHOLE MORTAR SHALL MEET THE REQUIREMENTS OF 704.13 (c).
5. MANHOLES SHALL BE INSTALLED WITHOUT STEPS

STANDARD SEWER MANHOLE DETAIL

NOT TO SCALE

1. JOINTS SHALL BE DEPENDENT ON A NEOPRENE OR ELASTOMETRIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED.WHERE DIFFERENT MATERIALS ARE TO BE CONNECTED AT THE STREET SEWER OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

2. TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND, WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER TO SIMULATE, AS CLOSELY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTION FOR LEAKS SHALL BE MADE THROUGHOUT THE CLEAN OUT WITH A FLASHLIGHT.

C. DRY FLUORESCENCE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER OR, IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN TRENCH OVER THE PIPE. OBSERVATIONS FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE.

D. LEAKAGE OBSERVED IN ANY OF THE ABOVE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG UP, IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

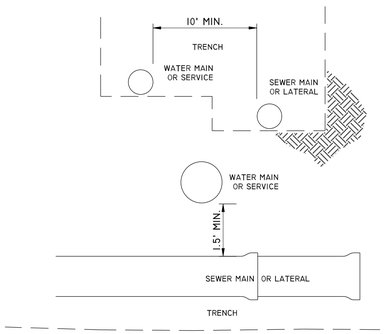
3. ILLEGAL CONNECTION: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY, ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS, OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE, OR GROUND WATER SHALL NOT BE PERMITTED.

4. HOUSE WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS SEWER SERVICE BUT, WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE HOUSE SEWER AS SHOWN.

5. LOCATION: THE LOCATION OF THE WYE SHALL BE RECORDED AND FILED WITH THE SEWER DEPARTMENT. IN ADDITION, A METALLIC TAPE SHALL BE PLACED OVER THE PIPE TO THE WYE TO AID IN LOCATING THE BURIED PIPE.

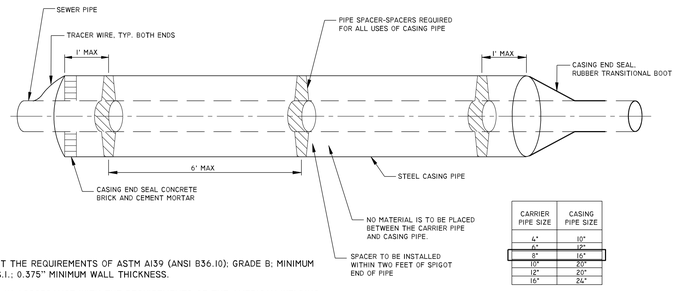
6. CHIMNEYS: NOT PERMITTED.

7. SEWER SERVICE AND CLEAN OUT TO BE CONSTRUCTED AT TIME OF SEWER MAIN CONSTRUCTION TO EACH PROPOSED AND EXISTING LOT SERVICE TO BE BROUGHT TO RIGHT OF WAY LINE.



WATER / SEWER MAIN SEPARATION

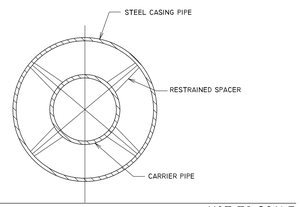
NOT TO SCALE



CARRIER PIPE SIZE	CASING PIPE SIZE
4"	10"
6"	12"
8"	16"
10"	20"
12"	20"
16"	24"

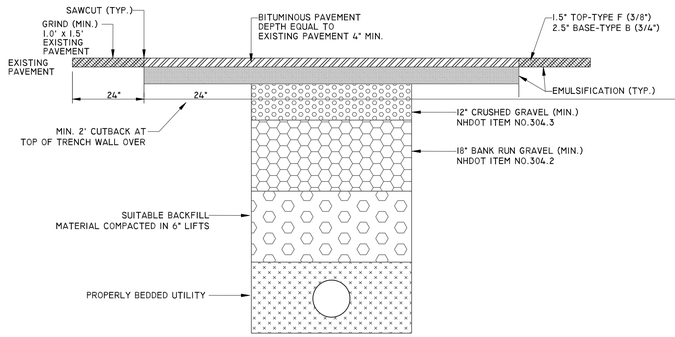
CASING PIPE NOTES

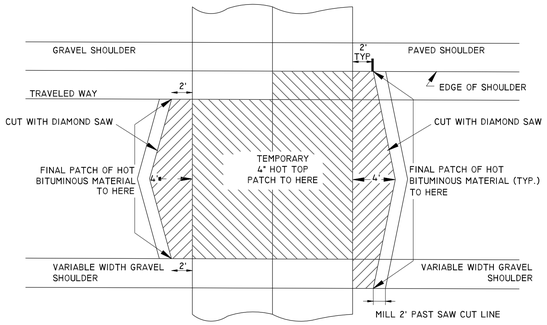
1. STEEL CASING PIPE SHALL MEET THE REQUIREMENTS OF ASTM A139 (ANSI B36.10); GRADE B; MINIMUM YIELD STRENGTH OF 35,000 P.S.I.; 0.375" MINIMUM WALL THICKNESS.
2. CASING PIPE SHALL BE WELDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY (AWS) STANDARD D1.1. JOINTS IN STEEL CASING PIPES SHALL BE FULL CIRCUMFERENCE BUTT WELDED WATERTIGHT TO THE PREVIOUSLY INSTALLED LENGTH OF CASING PIPE.
3. CASING END SEALS SHALL BE RUBBER TRANSITIONAL BOOT WITH TWO STAINLESS STEEL BANDS OR CONCRETE BRICK AND CEMENT MORTAR.
4. TRACER WIRE SHALL BE BONDED TO THE CASING BY CALDWELL//THERMALLY BONDED AT BOTH ENDS OF THE CASING. A MINIMUM OF 4 FEET OF ADDITIONAL TRACER WIRE SHALL BE PROVIDED AT EACH END OF CASING.
5. CASING PIPE SHALL MAINTAIN SLOPE OF CARRIER PIPE AS SPECIFIED. (REFER TO PLAN PP-1, SHEET 15)
6. CASING SPACERS SHALL BE RESTRAINED STAINLESS STEEL OR APPROVED EQUAL.
7. ADJUSTABLE CASING SPACERS ARE ALLOWED FOR ADJUSTMENT OF CARRIER PIPE SLOPE.



CASING PIPE DETAIL

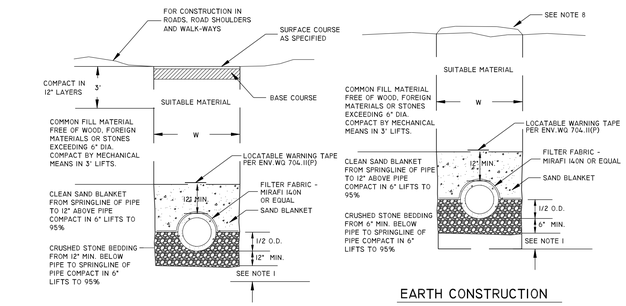
NOT TO SCALE





TYPICAL PAVEMENT REPAIR DETAIL

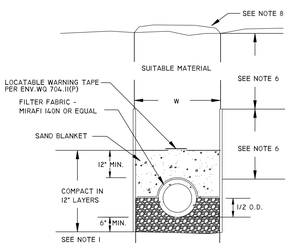
NOT TO SCALE



LEDGE CONSTRUCTION

EARTH CONSTRUCTION

COMPACTION EXPRESSED AS A PERCENTAGE OF MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR).



EARTH CONSTRUCTION WITH SHEETING

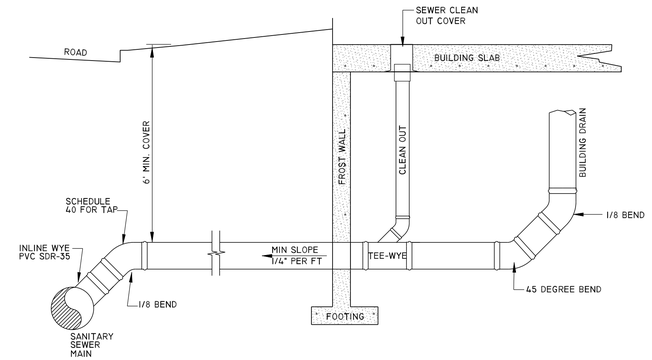
NOTES:
1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE, REFILL WITH BEDDING MATERIAL. SEE ALSO NOTE 7. BEDDING: SCREENED GRAVEL AND OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, AND MEETING ASTM C33-67.

100 % PASSING	1 INCH SCREEN
90-100 % PASSING	3/4 INCH SCREEN
20-55 % PASSING	3/8 SCREEN
0-10 % PASSING	#4 SIEVE
0-5 % PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE ½ INCH TO 1-1/2 INCH SHALL BE USED.
2. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATER, SO GRADED THAT 90-100% PASSES A ½ SIEVE AND NOT MORE THAN 15 % WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PROVIDED, HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
3. FILTER FABRIC SHALL BE INSTALLED ABOVE PIPE - MIRAFI 140N OR EQUAL.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS, AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER 6" IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF HE IS SATISFIED THAT THE CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED.
5. BASE COURSE, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS.
6. WOOD SHEETING: IF REQUIRED, WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE AT AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW THE FINISHED GRADE, BUT NOT LESS THEN 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W. = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHED ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL 24 INCHES PLUS PIPE O.D W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE 10 FT SEPARATION. HOWEVER, SHOULD CONSTRUCTION OR OPERATIONS REVEAL OR EXPOSE A WATERLINE (MAIN OR SERVICE) RUNNING APPROXIMATELY PARALLEL AND LESS THAN 10 FEET HORIZONTALLY FROM THE PROPOSED SEWER INSTALLATION AND WHERE IT IS NOT PRACTICAL TO RELOCATE THE SEWER, THE FOLLOWING METHODS OF PROTECTION MUST BE EMPLOYED.
A. SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC), SOLID WALL (SDR21) AND SHALL CONFORM WITH ASTM D2241 STANDARD
B. JOINTS SHALL BE PRESSURE TESTED WITH ZERO LEAKAGE AT 25 POUNDS PER SQUARE INCH FOR GRAVITY SEWERS, AND TIMES WORKING PRESSURE FOR FORCE MAINS.
10. WHERE WATER LINES AND SEWER LINES CROSS, THEY SHALL CROSS AS PERPENDICULAR AS POSSIBLE AND THE WATER MAIN SHALL CROSS AT LEAST 18 INCHES ABOVE THE SEWER. FURTHER, THE SEWER JOINTS SHALL BE LOCATED AT LEAST 9 FEET HORIZONTALLY FROM THE WATER MAIN. SEWER JOINTS SHALL BE PRESSURE TESTED WITH ZERO LEAKAGE AT 25 POUNDS PER SQUARE INCH FOR GRAVITY SEWERS, AND 1-1/2 TIMES WORKING PRESSURE FOR FORCE MAINS.

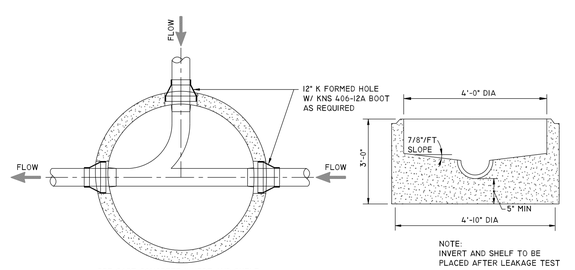
STANDARD TRENCH SECTIONS

NOT TO SCALE



SEWER SERVICE DETAIL

NOT TO SCALE



PRE-CAST CONCRETE INVERT AND SHELF

1. MANHOLES, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE, STRENGTH, AND LEAKPROOF QUALITIES NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND H-20 LOADING WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE, A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT SHELF SHALL CONSIST OF BRICK MASONRY.

SEWER MANHOLE INVERT & SHELF DETAILS

NOT TO SCALE

ENGR STAMP

STATE OF NEW HAMPSHIRE - KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

DET-6 SEWER DETAILS

TAX MAP 140 LOT 16 & MAP 170 LOT 12

HARBOR LANDING ESTATES

33 BEAN ROAD, MOULTONBOROUGH, NH 03254

PREPARED FOR

HARBOR LANDING DEVELOPMENT LLC

P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

SCALE

AS-NOTED

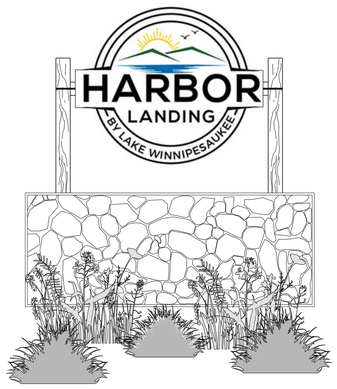
BROWN ENGINEERING

63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

JN: 5328-01

DET-5

18 of 22

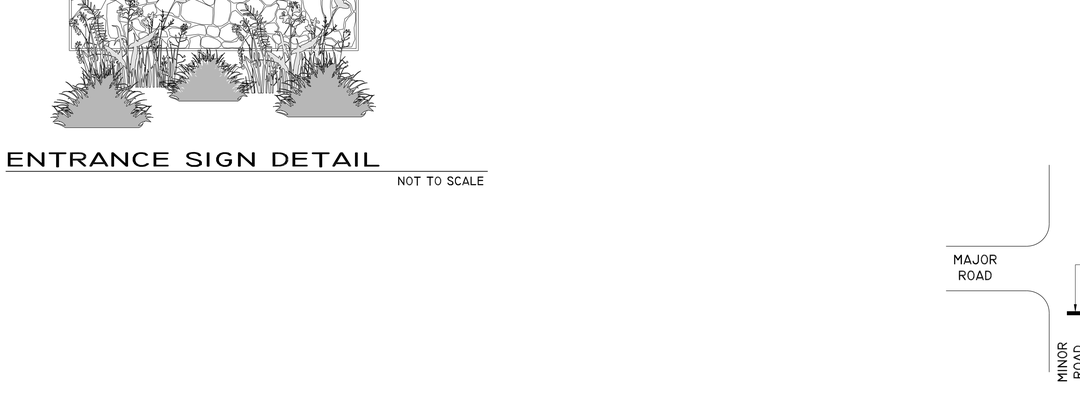


ENTRANCE SIGN DETAIL

NOT TO SCALE

ROADWAY GENERAL NOTES:

1. ALL ROADWAY MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACORDANCE WITH THE CURRENT N.H.D.O.T. SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND MOULTONBOROUGH SUBDIVISION REGULATIONS.
2. PROVIDE 4" (MIN) COMPACTED LOAM AND SEED ON ALL SIDE SLOPES AND DRAINAGE SWALES UNLESS OTHERWISE NOTED.
3. ALL LEDGE AND STONES GREATER THAN ONE (1) FOOT IN DIAMETER SHALL BE REMOVED TO 18" BELOW SUBGRADE.
4. ROADWAY UNDERDRAIN SHALL BE PROVIDED IN ALL CUT SECTIONS (AT SIDE WITH CUT) AND WHERE SEASONAL HIGH WATER IS WITHIN TWO (2) FEET OF SUBGRADE. UNDERDRAIN SHALL HAVE A MINIMUM OF FOUR(4) FEET OF COVER.
5. SUBMIT CERTIFICATES OF COMPLIANCE TO THE MOULTONBOROUGH LAND USE DEPARTMENT THAT THE PROPOSED MATERIALS (AGGREGATE BASE COURSES AND PAVEMENT) TO BE USED FOR THE WORK COMPLY WITH THE TOWN OF MOULTONBOROUGH SPECIFICATIONS. SUBMISSIONS SHALL BE MADE NO LATER THAN 14 CALENDAR DAYS IN ADVANCE OF PLACEMENT OF MATERIALS.
6. SOIL AND COMPACTION TESTING SHALL BE COMPLETED BY A QUALIFIED THIRD-PARTY GEOTECHNICAL TESTING FIRM. IN-PLACE DENSITY TESTS SHALL BE COMPLETED AS THE WORK PROGRESSES IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS (LATEST EDITION). OWNER SHALL SUBMIT ALL TEST RESULTS TO THE MOULTONBOROUGH LAND USE DEPARTMENT WITHIN 7 CALENDAR DAYS AFTER RECEIVING RESULTS.
7. SUBGRADE SHALL BE SHAPED TO LINE, GRADE AND CROSS SECTION AND SHALL BE THOROUGHLY COMPACTED. THIS OPERATION SHALL INCLUDE ANY REQUIRED RESHAPING AND WETTING TO OBTAIN PROPER COMPACTION. ALL SOFT OR OTHERWISE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL FROM EXCAVATION OR BORROW. THE RESULTING AREA, AND ALL LOW SECTIONS, HOLES, OR DEPRESSIONS SHALL BE BROUGHT TO THE REQUIRED GRADE WITH APPROVED MATERIAL AND THOROUGHLY COMPACTED. SUBGRADE FILL OR BACKFILL SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 12 INCHES IN DEPTH.
8. BASE COURSES SHALL BE CONSTRUCTED TO THE LINE, GRADE AND CROSS SECTION AND TO THE DEPTHS AND AREAS SHOWN ON THE DRAWINGS. BASE COURSES SHALL BE MAINTAINED IN A SMOOTH CONDITION FREE OF HOLES AND RUTS.
9. AGGREGATE BASE COURSE MATERIALS SHALL BE PLACED IN MAXIMUM 6-INCH LIFTS.



TYPICAL ROADWAY SECTION

NOT TO SCALE

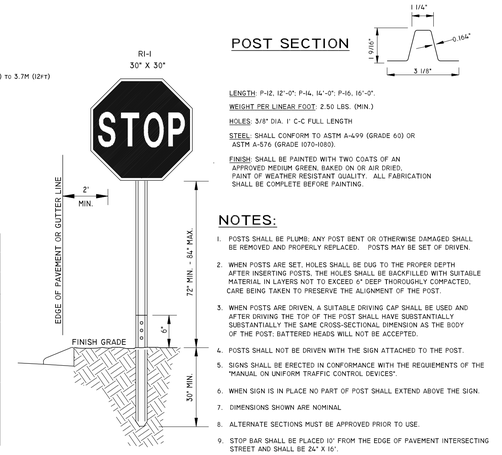
STOP SIGN DETAIL

SIGN SUMMARY		
M.U.T.C.D. NUMBER	DESCRIPTION	SIZE/REMARKS
R1-1	STOP R/W	30" x 30" NEW SIGN WITH POST
R2-1	SPEED LIMIT 15	24" x 30" NEW SIGN WITH POST
R2-5BP	ROAD NAME 1	6" x 24" NEW SIGN WITH POST OR ABOVE STOP SIGN ON SAME POST

ROAD INTERSECTION SIGNS
ALL ROAD INTERSECTION SIGNS SHALL BE HIGH INTENSITY RETRO-REFLECTIVE SHEETING, GREEN IN COLOR, ON A 9" ALUMINUM EXTRUDED PANEL (1/8" THICK, WITH 3/16" AT EXTRUDED EDGE). THE LETTERING SHALL BE 6" WHITE REFLECTIVE LETTERING. THE SIGN PANEL LENGTH TO BE DETERMINED BY NAME LENGTH. SIGN MOUNTING SHALL BE ON A U CHANNEL POST WITH TOP MOUNT 9' SIGN MOUNTING BRACKET. THE SIGNPOSTS MUST BE A TWO-POST SYSTEM, BREAK-A-WAY DESIGN WITH A 3' IN GROUND MOUNTING POST, COUPLED TO A 10' TOP POST, WHICH MUST BE A MINIMUM OF 7 ½ FEET OFF ROADWAY SURFACE. SIGNS SHOULD BE MOUNTED A MINIMUM OF 50 FROM THE ROADWAYS EDGE.

TRAFFIC SIGN POST IN GRADE

NOT TO SCALE



POST SECTION

LENGTH: P-12, 12'-0"; P-14, 14'-0"; P-16, 16'-0".

WEIGHT PER LINEAR FOOT: 2.50 LBS. (MIN.)

HOLES: 3/8" DIA. 1" C-C FULL LENGTH

STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080).

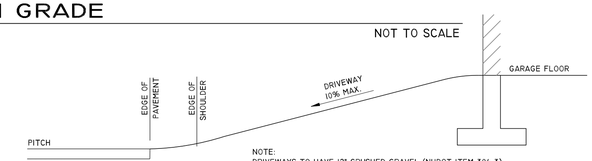
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN, BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

NOTES:

1. POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OF DRIVEN.
2. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN LAYERS NOT TO EXCEED 6" DEEP THOROUGHLY COMPACTED, CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST; BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIEMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
6. WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.
7. DIMENSIONS SHOWN ARE NOMINAL
8. ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.
9. STOP BAR SHALL BE PLACED 10' FROM THE EDGE OF PAVEMENT INTERSECTING STREET AND SHALL BE 24" X 16".

BIKE RACK DETAIL

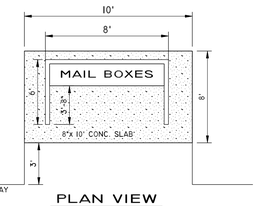
NOT TO SCALE



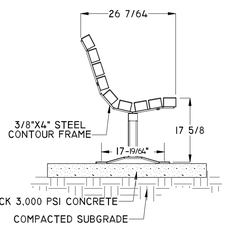
NOTE:
DRIVEWAYS TO HAVE 12" CRUSHED GRAVEL (NHDOT ITEM 304.3) AND 3" HOT BITUMINOUS ASPHALT FINISH

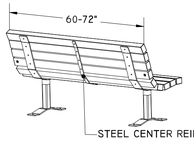
DRIVEWAY DETAIL

NOT TO SCALE



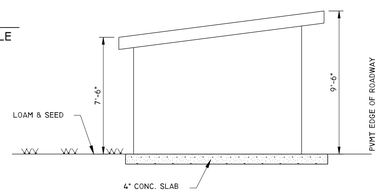
PLAN VIEW





PARK BENCH DETAIL

NOT TO SCALE



ELEVATION VIEW

MAIL BOX HUT

NOT TO SCALE

ENGR STAMP

STATE OF NEW HAMPSHIRE
KENT L. BROWN No. 7456 LICENSED
PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

DET-7 MISCELLANEOUS DETAILS
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

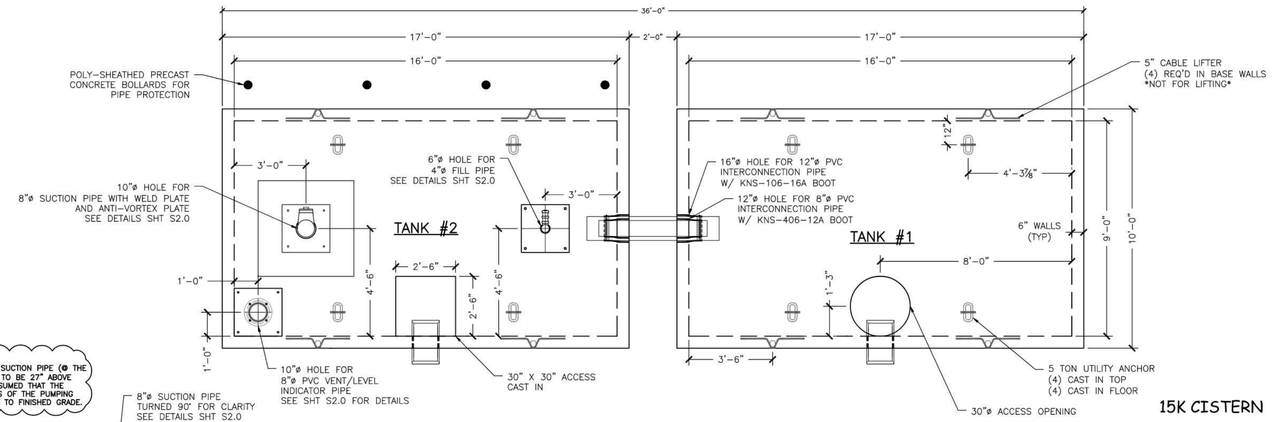
FEBURARY 29, 2024

SCALE
AS-NOTED

BROWN ENGINEERING
63 WEST ST - P.O. BOX 703
ASHLAND, NH 03217
TEL: (603) 744-1044
WWW.BROWNENGINEERINGLLC.COM

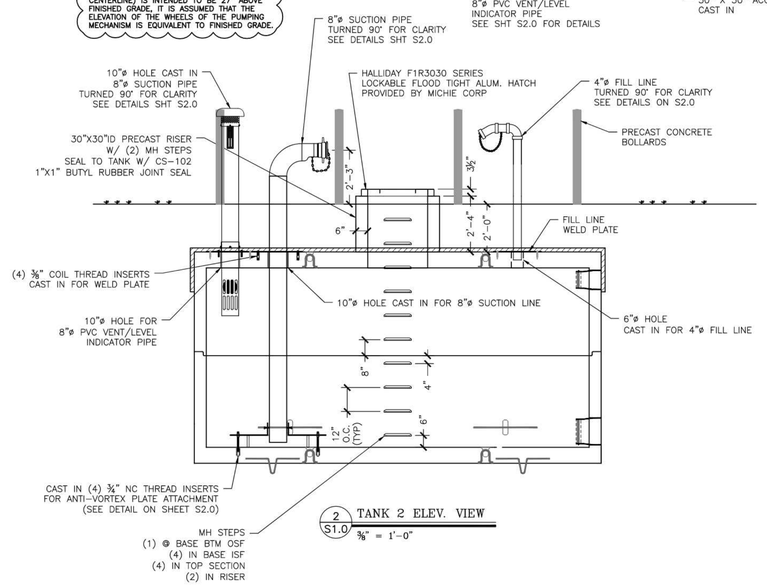
JN: 5328-01
DET-6
19 of 22

G:\CLIENTS\5328-01 2 Kloss-33 Bean Road-Moultonborough\Dwgs\5328-01_02 Kloss Site Plan.dwg Feb 29, 2024-9:20AM

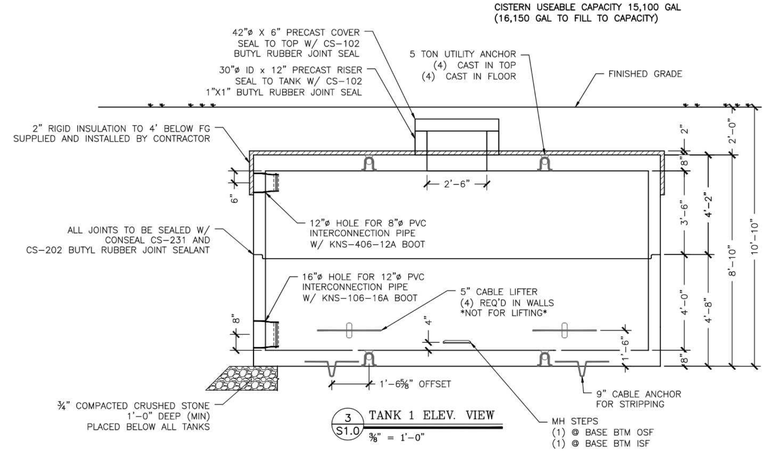


1 S1.0 PLAN VIEW
⅜" = 1'-0"

NOTE:
THE CONNECTION TO THE SUCTION PIPE (@ THE CENTERLINE) IS INTENDED TO BE 27" ABOVE FINISHED GRADE. IT IS ASSUMED THAT THE ELEVATION OF THE WHEELS OF THE PUMPING MECHANISM IS EQUIVALENT TO FINISHED GRADE.



2 S1.0 TANK 2 ELEV. VIEW
⅜" = 1'-0"



3 S1.0 TANK 1 ELEV. VIEW
⅜" = 1'-0"

15K CISTERN

ITEM No: 261500H
UNIT WEIGHT AND VOLUME:
TOP SECTION: 31,200# (7.43CY)
BOTTOM SECTION: 33,700# (8.04CY)

CISTERN USEABLE CAPACITY 15,100 GAL
(16,150 GAL TO FILL TO CAPACITY)

NOTES:

1. MAINTAIN MINIMUM 60 DEGREE SLING ANGLE WHEN HANDLING PRECAST COMPONENTS.
2. PRECAST COMPONENTS SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI PRIOR TO STRIPPING, AND THE MINIMUM DESIGN COMPRESSIVE STRENGTH PRIOR TO SHIPPING, UNLESS OTHERWISE APPROVED.
3. CONCRETE SHALL BE SELF-CONSOLIDATING CONFORMING TO ASTM C260 WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. AGGREGATE SHALL CONFORM TO ASTM C-33 WITH A MAXIMUM DIAMETER OF ¾". CEMENT SHALL CONFORM TO ASTM C150.
4. REINFORCING SHALL BE 60,000 PSI GRADE 60 DEFORMED BLACK BARS CONFORMING TO ASTM A-615. ALL BARS SHALL BE BENT COLD.
5. ALL JOINTS AND VOIDS SHALL BE FILLED WITH NON-SHRINK GROUT. VERTICAL SURFACE VOIDS MAY BE FILLED WITH FOAM SEALANT.
6. TANK DESIGNED USING THE FOLLOWING PROPERTIES:
   - DESIGN LOAD: ASHTO HS-20
   - EARTH COVER:
     0-2' FOR WATER TABLE 5' BELOW GRADE.
     0-2.5' FOR WATER TABLE 3.5'-5' BELOW GRADE.
   - LATERAL EARTH PRESSURES: DRY = 40PCF; SAT = 81PCF
   - ADEQUACY OF THE ABOVE INFORMATION SHALL BE REVIEWED FOR SITE SPECIFIC CONDITIONS BY QUALIFIED LICENSED PROFESSIONAL ENGINEER.
7. ALL EXCAVATED HOLES SHALL BE PREPARED PER OSHA STANDARDS; NOTHING IN THESE PLANS SHALL BE CONSTRUED TO PROVIDE EXCAVATION GUIDANCE. TANK EXCAVATION SHALL BE KEPT DEWATERED THROUGHOUT INSTALLATION AND BACKFILL OPERATIONS.
8. STRUCTURE SHALL BE PLACED AT ELEVATIONS SHOWN ON THE DRAWINGS ON A MINIMUM OF 12" OF COMPACTED CRUSHED STONE WITH AN AGGREGATE SIZE OF ⅜" TO 1½". ALL TOPSOIL, LOOSE FILL, AND DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE PLACING MATERIAL.
9. BACKFILL MATERIAL SHALL BE SCREENED GRAVEL OR SAND, FREE OF DELETERIOUS MATERIAL WITH A MAXIMUM AGGREGATE SIZE OF 1½". BACKFILL SHALL EXTEND FOR A MINIMUM DISTANCE OF 3'-0" BEYOND THE HORIZONTAL LIMITS OF THE STRUCTURE. MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12" AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DENSITY DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST). ALL COMPACTION SHALL BE DONE WITH HAND-OPERATED COMPACTION EQUIPMENT.NE WITH HAND-OPERATED COMPACTION EQUIPMENT.

NOTES CONTINUED:

10. SHOP DRAWINGS WERE DEVELOPED USING THE FOLLOWING RESOURCES FOR THE CONTRACT:
    - "Project Design Plan Set". DATED: Month, Year. PREPARED BY: Engineer, Location. PREPARED FOR: Client or contractor.
11. IF THERE IS ADDITIONAL INFORMATION PERTINENT TO THE FABRICATION AND INSTALLATION OF THESE UNITS THAT IS NOT CONTAINED WITHIN THE RESOURCES LISTED ABOVE IT SHALL BE BROUGHT TO THE ATTENTION OF MICHIE CORPORATION. FAILURE TO MAKE SUCH ADDITIONAL INFORMATION AVAILABLE SHALL RELIEVE MICHIE CORPORATION OF ALL LIABILITIES ARISING FROM ERRORS OR OMISSIONS RELATED TO THE OMITTED INFORMATION.

BILL OF MATERIALS

QTY	DESCRIPTION	IN STOCK	ORDERED FROM	DATE ORDERED	DATE DELIVERED
	ITEMS CAST-IN				
4	3/8" NC THREADED INSERTS (FOR WELD PLATE)				
4	3/4" NC THREADED INSERTS (FOR ANTI VORTEX ASS'Y)				
16	5 TON UTILITY ANCHOR				
8	5" CABLE LIFTER				
8	9" CABLE LIFTER				
	ITEMS FOR PRESHIPPING PREP				
1	ANTI VORTEX PLATE ASSEMBLY				
4	3/4" THREADED ROD 8" LONG W/ NUT AND WIASHER (VORTEX PL ATT.)				
110LF	CS-231 1"X1" CONTROLLED EXP. WATERSTOP SEALANT (14' ROLLS)				
110LF	CS-202 1 1/2" BUTYL W/ RED ADHESIVE (10' ROLLS)				
20 Gals.	ASPHALTIC COATING				
2	KNS 406-12A BOOT				
2	KNS 106-16A BOOT				
3 Gals.	TREMCO				
3	24"X24"X1/4" WELD PLATES				
13	POLYPROPYLENE COATED MANHOLE STEPS				
12	3/8" ANCHOR BOLT (FOR WELD PLATES)				
	ITEMS TO SHIP TO THE JOB				
1	8"ø PVC VENT/LEVEL INDICATOR ASSEMBLY				
1	4" GALV. PIPE CLAMP W/ THREADED ROD BOLTS/ NUTS				
1	SUCTION ASSEMBLY				
1	FILL ASSEMBLY				
1	8" PVC INTERCONNECTION PIPE (4'-8" LONG)				
2	EXTERNAL PIPE CLAMP FOR 8" PIPE				
2	INTERNAL EXPANSION BAND FOR 8" BOOT				
1	12" SDR 35 INTERCONNECTION PIPE (4'-6" LONG)				
2	EXTERNAL PIPE CLAMP FOR 12" PIPE				
2	INTERNAL EXPANSION BAND FOR 12" BOOT				
1	42" X 6" PRECAST COVERS				
1	30" DIA. ID X 12" PRECAST RISER				
1	30" X 30" X 2'-4" PRECAST RISER				
36LF	CS102 BUTYL RUBBER TO SEAL RISER AND COVER)				
1	HALLIDAY F1R3030 ALUMINUM HATCH				
4	POLY SHEATHED PRECAST BOLLARDS				

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FAX: 603-428-7426
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LIST OF SHEETS:

S1.0 - CISTERN PLAN AND ELEVATIONS

S2.0 - CISTERN MISC. DETAILS

S3.0 - CISTERN REINFORCING DETAILS

ENGR STAMP
STATE OF NEW HAMPSHIRE
KENT L. BROWN No. 7456 LICENSED PROFESSIONAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

S-I 15,000 GALLON CISTERN DETAIL
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

FEBURARY 29, 2024

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20 of 22

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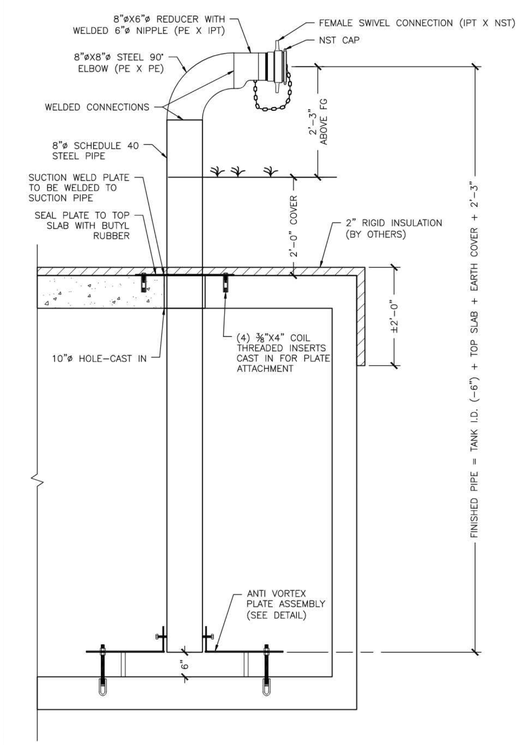
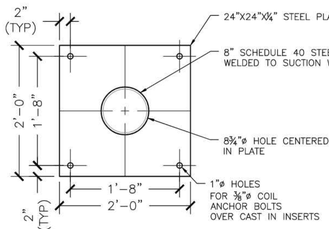
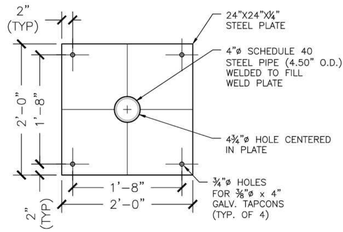


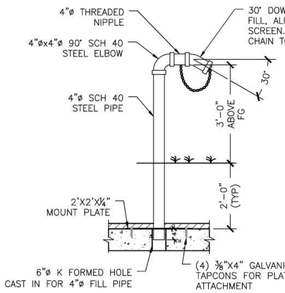
1 S2.0 SUCTION ASSEMBLY DETAIL
¾" = 1'-0"



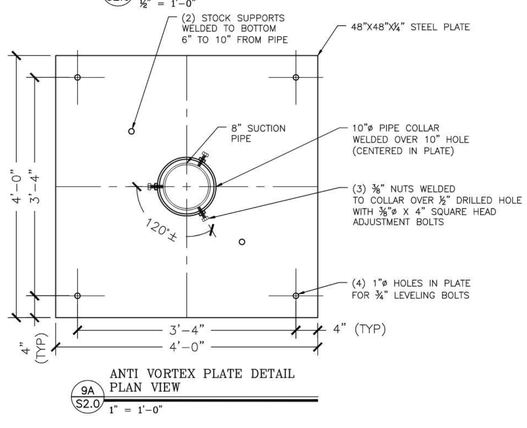
3 S2.0 SUCTION WELD PLATE DETAIL PLAN VIEW
1" = 1'-0"



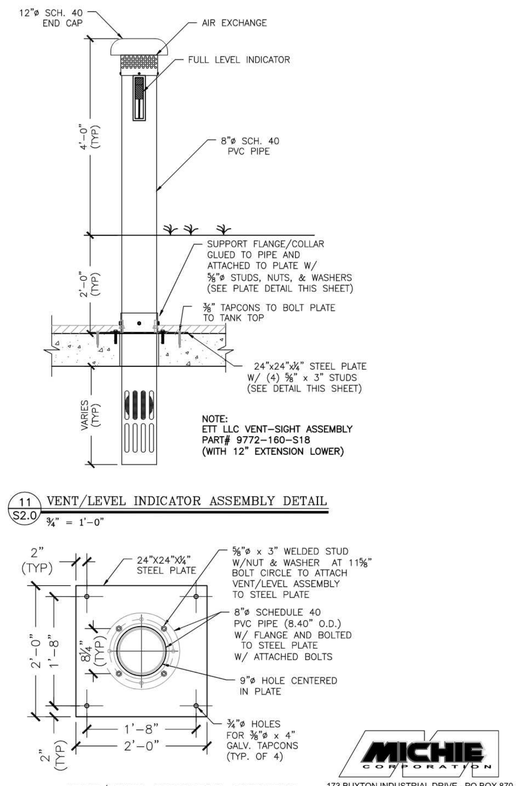
4 S2.0 FILL LINE WELD PLATE DETAIL PLAN VIEW
1" = 1'-0"



8 S2.0 FILL LINE ASSEMBLY DETAIL
½" = 1'-0"



9A S2.0 ANTI VORTEX PLATE DETAIL PLAN VIEW
1" = 1'-0"



11 S2.0 VENT/LEVEL INDICATOR ASSEMBLY DETAIL
¾" = 1'-0"

12 S2.0 VENT/LEVEL INDICATOR ASSEMBLY WELD PLATE DETAIL PLAN VIEW
1" = 1'-0"

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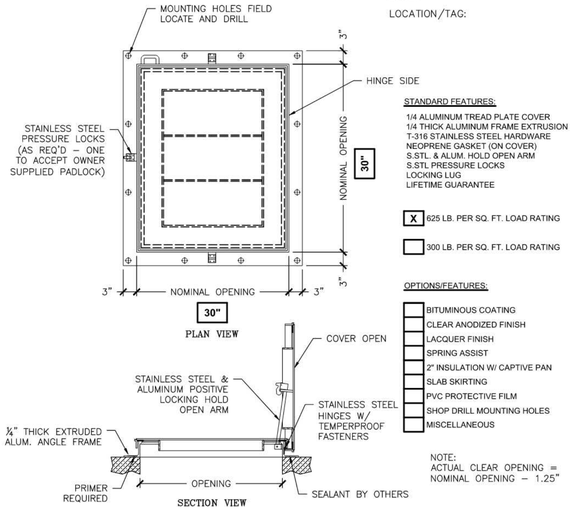
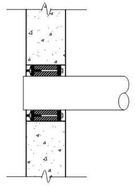


2 S2.0 ALUM. ACCESS HATCH DETAIL
NOT TO SCALE

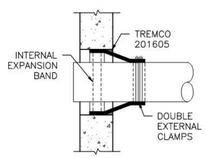


LINK SEALS SHALL BE MODULAR, MECHANICAL TYPE, CONSISTING OF INTER-LOCKING SYNTHETIC RUBBER LINKS SHAPED TO CONSINUOUSLY FILL THE ANNULAR SPACE BETWEEN THE PIPE AND THE WALL OPENING.

MATERIAL PROPERTIES OF LINK SEAL ELASTOMERS MEET OR EXCEED THE APPLICABLE REQUIREMENTS OF THE FOLLOWING ASTM SPECIFICATIONS: D-2240, D-412, S-395 AND D-297.

BOLT AND MATING NUT HAVE A TENSILE STRENGTH OF 74,000 PSI

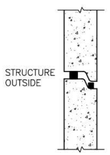
5 S2.0 TYPICAL LINK SEAL PIPE CONNECTION
¾" = 1'-0"



FLEXIBLE SLEEVE PIPE CONNECTION RUBBER ELEMENT SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM C-923 FOR "RESILIENT CONNECTORS BETWEEN CONCRETE MANHOLE STRUCTURES & PIPES", AND HAVE A MINIMUM TENSILE STRENGTH OF 2600 PSI.

INTERNAL EXPANSION BAND (S106-16AB W1A) AND EXTERNAL PIPE CLAMPS (80667) SHALL BE CONSTRUCTED OF SERIES 304 AND SERIES 305 NON-MAGNETIC STAINLESS STEEL (TORQUE TO 45 FT/LBS)

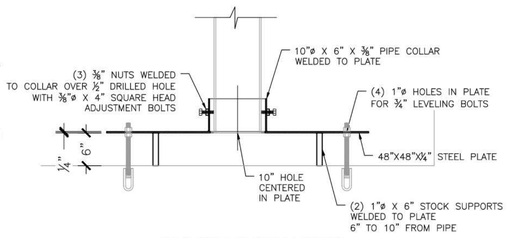
6 S2.0 TYPICAL FLEXIBLE SLEEVE PIPE CONNECTION DETAIL
1" = 1'-0"



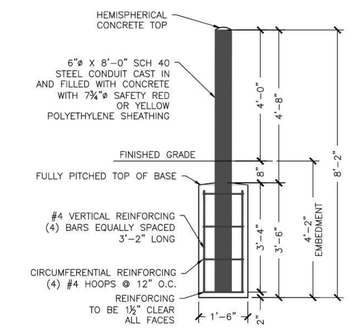
1½" CONSEAL 202 (OUTSIDE) BUTYL RUBBER JOINT SEALANT SHALL FILL 75% OF JOINT CAVITY. BUTYL RUBBER JOINT SEALANT SHALL MEET OR EXCEED THE REQUIREMENTS OF FEDERAL SPECIFICATION SS-S-210, ASTM C-990 AND AASHTO M-198B

1" CONSEAL 231 (INSIDE) CONSEAL CS-231 CONTROLLED EXPANSION WATERSTOP SEALANT SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM SPECIFICATION NUMBERS D-71, D-4, D-6 AND D-217.

7 S2.0 CONSEAL JOINT SEALANT DETAIL
1" = 1'-0"

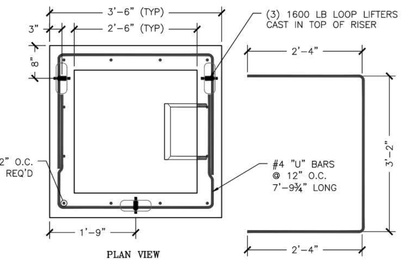


9B S2.0 ANTI VORTEX PLATE DETAIL ELEVATION VIEW
1" = 1'-0"



NOTES:
1. CONCRETE: 4,000 PSI @ 28 DAYS.
2. REINFORCING PER ASTM A-615, GRADE 60 DEFORMED BLACK BARS.
3. EACH UNIT TO WEIGH 1300# (0.25 CY CONCRETE + 170# STEEL).

10 S2.0 POLY SHEATHED PRECAST BOLLARD
½" = 1'-0"



13 S2.0 PLAN VIEW
¾" = 1'-0"

30"x30" RISER TURRET

ITEM NUMBER: 279999
UNIT WEIGHT AND VOLUME:
.22CY/FT (920#/FT)

NOTES:
1. CONCRETE: 4,000 PSI @ 28 DAYS.
2. REINFORCING PER ASTM A-615, GRADE 60 DEFORMED BLACK BARS.

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PREPARED FOR
HARBOR LANDING DEVELOPMENT LLC
P.O. BOX 1746, MEREDITH, NH 03253

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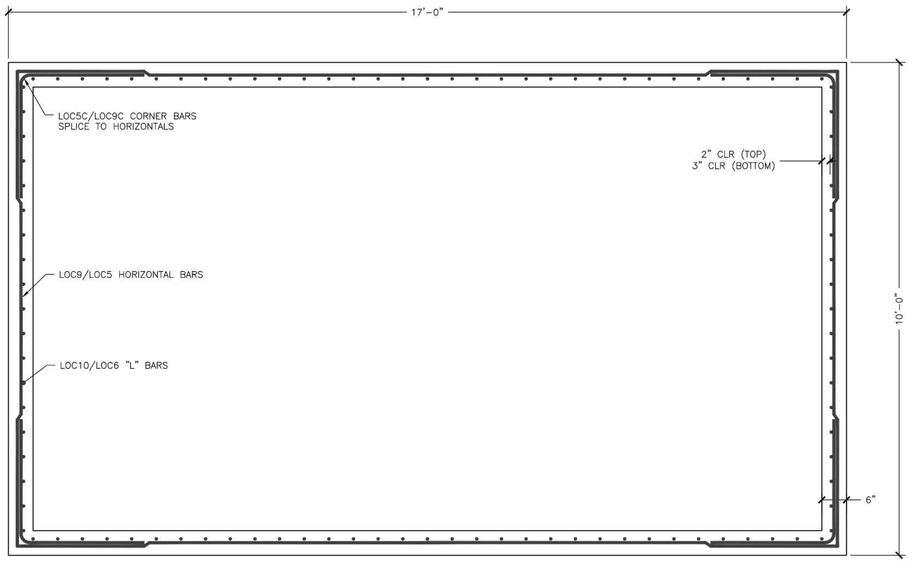
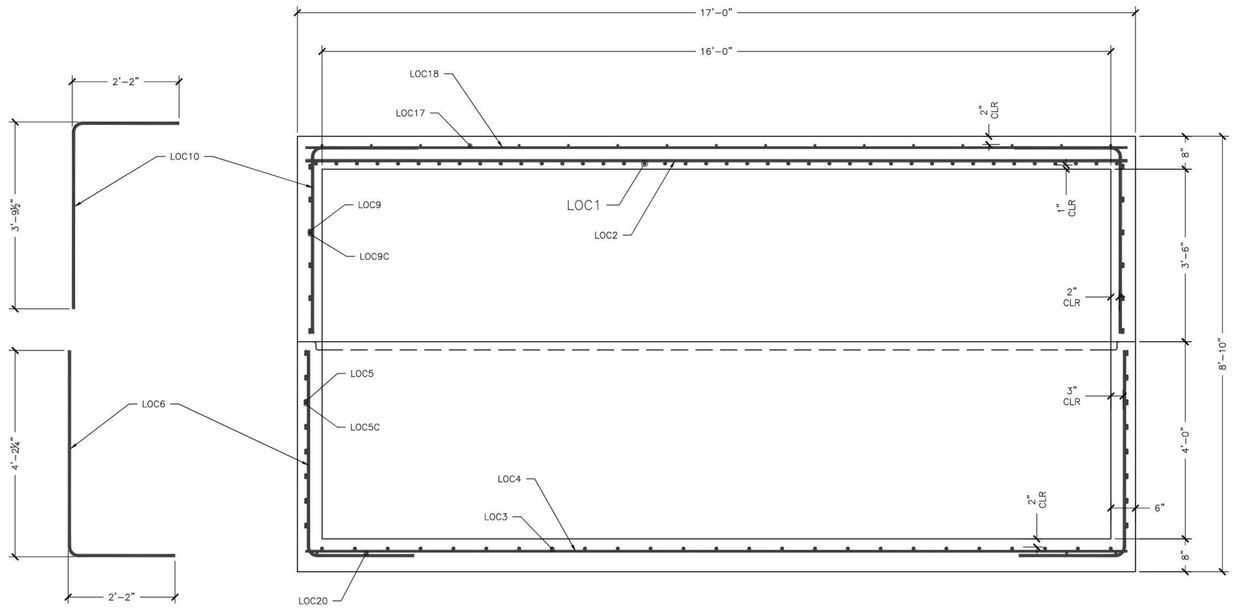


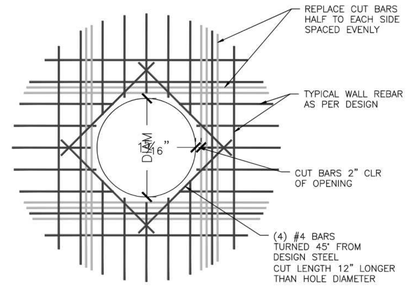
1 S3.0 REINFORCING SECTION (PLAN)
3/4" = 1'-0"



2 S3.0 REINFORCING SECTION (ELEVATION)
3/4" = 1'-0"

FOUNDATION & BACKFILL NOTES:

1. FOUNDATION MATERIAL SHALL BE 3/4" CRUSHED STONE, MINIMUM 12" THICK.
2. 1 1/2" BANK RUN GRAVEL SHALL BE USED FOR BACKFILL OPERATIONS SURROUNDING TANK. BACKFILL SHALL BE PLACED IN MAXIMUM 12" LOOSE LIFTS. IT SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY BY MODIFIED PROCTOR METHOD (ASTM 1557). ALL COMPACTION SHALL BE DONE WITH HAND-OPERATED COMPACTION EQUIPMENT.
3. TANK EXCAVATION SHALL BE KEPT DEWATERED THROUGHOUT INSTALLATION AND BACKFILL OPERATIONS.
4. ALL AREAS BETWEEN TANKS SHALL BE FILLED TO A MINIMUM OF 12" ABOVE CROWN OF INTERCONNECTION PIPE WITH 3/4" CRUSHED STONE. 1 1/2" BANK RUN GRAVEL MAY BE USED ABOVE THIS ELEVATION, PROVIDED THAT PROPER COMPACTION AS STATED IN NOTE 2 ABOVE CAN BE ACHIEVED.
5. ALL BACKFILL MATERIAL BETWEEN TANKS SHALL BE PLACED IN 12" LIFTS AT THE SAME TIME AS THE MATERIAL SURROUND THE TANKS.



NOTE:
ADDITIONAL REINFORCING
APPLIES TO ALL MATS.

3 S3.0 TYPICAL REINFORCING AT HOLE
3/4" = 1'-0"

REINFORCEMENT SCHEDULE							
	MARK	SIZE	BEND	SPACING	LENGTH	QTY	NOTES
TOP SECTION	LOC10	#5	L	6"	5'-10"	108	
	LOC9	#5	STR	8"	9'-8" SHORT WALL 16'-8" LONG WALL	6/WALL	
	LOC9C	#5	CORNER	8"	26" X 26"	6/CORNER	5'-5 1/4" UNBENT
	LOC18	#4	STR	12"	16'-8"	10	EXCLUDES REPLACEMENTS
	LOC17	#4	STR	12"	9'-8"	17	EXCLUDES REPLACEMENTS
	LOC2	#5	STR	10"	16'-8"	12	EXCLUDES REPLACEMENTS
	LOC1	#6	STR	5"	9'-8"	40	EXCLUDES REPLACEMENTS
BTM SECTION	LOC6	#5	L	6"	6'-2 5/8"	108	
	LOC5	#5	STR	6"	9'-8" SHORT WALL 16'-8" LONG WALL	8/WALL	
	LOC5C	#5	CORNER	6"	26" X 26"	8/CORNER	
	LOC4	#4	STR	6"	16'-8"	20	
	LOC3	#6	STR	8"	9'-8"	25	
	LOC20	#4	STR	12"	9'-8"	4	SHORT WALLS ONLY

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S-3 15,000 GALLON CISTERN DETAIL
TAX MAP 140 LOT 16 & MAP 170 LOT 12
HARBOR LANDING ESTATES
33 BEAN ROAD, MOULTONBOROUGH, NH 03254
OWNED BY
KOSS CONSTRUCTION LLC
172 CARLI BOULEVARD, COLCHESTER, CT 06415

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