

RESIDENTIAL SITE PLAN SET AFFORDABLE HOUSING DEVELOPMENT

"The Birches"

CARLISLE, MASSACHUSETTS

DATE OF PLAN: NOVEMBER 14, 2014

CONSTRUCTION PLAN SET

TAX MAP 1 - PARCEL 72-33K

100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

DATE OF PLAN: NOVEMBER 14, 2014



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LIFETIME GREEN HOMES, LLC

142 LITTLETON ROAD
WESTFORD, MASSACHUSETTS 01886

DATE OF PLAN: NOVEMBER 14, 2014	REVISION 1: FEBRUARY 6, 2015		
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APPROVAL: CARLISLE BOARD OF APPEALS

DATE



MEISNER BREM CORPORATION

142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 • (978) 692-1313
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DATE OF PLAN : NOVEMBER 14, 2014 REVISION 1 : FEBRUARY 6, 2015

A. ZONING NOTES

- 1) THE PURPOSE OF THIS PLAN IS TO PROVIDE ENGINEER DRAWINGS AND CONSTRUCTION PLANS FOR A 20-UNIT RESIDENTIAL SINGLE-FAMILY CONDOMINIUM DEVELOPMENT UNDER CHAPTER 40B OF THE MASSACHUSETTS GENERAL LAWS.
- 2) PRESENT ZONING: RESIDENCE DISTRICT B
- 3) TOTAL PARCEL AREA: 9.84 Ac.
- 5) APPLICANT: LIFETIME GREEN HOMES, INC.
142 LITTLETON ROAD
WESTFORD, MASSACHUSETTS 01886
- 6) OWNER: JEFFREY AND LISA BREM
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS 01741
ASSESSOR'S MAP 1, PARCEL 72-33K
- 6) DEED REFERENCE: BK 18814, PG 278

B. GENERAL CONSTRUCTION NOTES

- 1) BASE MAP INFORMATION, TOPOGRAPHY AND BOUNDARY, FROM AN ON THE GROUND SURVEY BY MEISNER BREM CORPORATION
- 2) WETLAND DELINEATION BY LEAH BASBANES PERFORMED IN OCTOBER 2014 AND REVIEWED BY JOHN ROCKWOOD, AWWES; CARLISLE CONSERVATION COMMISSION.
- 3) ELEVATIONS REFER TO U.S.G.S. DATUM OF 1929.
- 4) ALL SEPTIC SYSTEM CONSTRUCTION SHALL COMPLY WITH TITLE 5, 310 CMR 15.00
- 5) ALL PAVEMENT CONSTRUCTION SHALL COMPLY WITH THE DETAILS HEREIN.
- 6) CONTRACTOR IS RESPONSIBLE FOR AND SHALL CONTACT THE LOCAL DIGSAFE OFFICE 72 HOURS PRIOR TO THE START OF CONSTRUCTION (DIAL 811).
- 7) THE OWNER IS HEREBY NOTIFIED THAT THIS PLAN MAY CONTAIN CONDITIONS OF APPROVAL FROM THE ZONING BOARD OF APPEALS & CONSERVATION COMMISSION WHICH MAY NOT APPEAR ON THESE PLANS BUT ARE ON FILE WITH THE ZONING BOARD OF APPEALS AND CONSERVATION COMMISSION.
- 8) THE OWNER IS HEREBY NOTIFIED THAT ANY CONSTRUCTION (INCLUDING EQUIPMENT CROSSING OR TREE CLEARING) ON OR WITHIN 100 FEET OF A REGULATED WETLAND AREA (RESOURCE AREA) REQUIRES AN ORDER OF CONDITIONS FROM THE LOCAL CONSERVATION COMMISSION OR DEP PER 310 CMR 10.00, ET SEQ.
- 9) THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND SHALL VERIFY THAT ALL THE INFORMATION SHOWN HEREON IS CONSISTENT, COMPLETE, ACCURATE, AND CAN BE CONSTRUCTED PRIOR TO AND/OR DURING CONSTRUCTION. MEISNER BREM CORPORATION AS DESIGN ENGINEER, SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES, ERRORS, OMISSIONS, OR EXISTING UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION SO THAT REMEDIAL ACTION MAY BE TAKEN BEFORE PROCEEDING WITH THE WORK.
- 10) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCURATE AS-BUILT INFORMATION OF ALL WORK, ESPECIALLY UNDERGROUND CONSTRUCTION OF UTILITY LINES, SERVICES, CONNECTIONS, ETC. AND APPROPRIATE TIES TO ABOVE GROUND PERMANENT STRUCTURES, FIELD SURVEY COORDINATES, OR SOME OTHER METHOD OF ESTABLISHING THE AS-BUILT CONDITION OF ALL CONSTRUCTION. MEISNER BREM CORPORATION SHALL BE GIVEN A 72 HOUR NOTICE FOR THE COLLECTION OF ALL AS-BUILT DATA. IF PERTINENT DESIGN COMPONENTS ARE BACKFILLED OR COVERED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXPOSE AS REQUIRED.
- 11) ALL UTILITIES, ELECTRIC, TELEPHONE, CABLE TV, OR GAS SERVICES SHALL BE INSTALLED UNDERGROUND.

PLAN REFERENCES:

REFERENCE PLAN #1
APPROVAL NOT REQUIRED PLAN IN CARLISLE, MASSACHUSETTS PREPARED FOR JEFFREY AND LISA BREM, PREPARED BY MEISNER BREM CORPORATION., DATED APRIL 1, 2008, ENDORSED BY THE CARLISLE PLANNING BOARD AND RECORDED AT THE MIDDLESEX NORTH REGISTRY OF DEEDS BOOK 00237 PAGE 76.

REFERENCE PLAN #2
APPROVAL NOT REQUIRED PLAN IN CARLISLE, MASSACHUSETTS PREPARED FOR JEFFREY AND LISA BREM, PREPARED BY MEISNER BREM CORPORATION., DATED APRIL 1, 2008, ENDORSED BY THE CARLISLE PLANNING BOARD AND RECORDED AT THE MIDDLESEX NORTH REGISTRY OF DEEDS BOOK 00228 PAGE 70.

REFERENCE PLAN #3
"PLAN OF LAND IN CARLISLE, MASSACHUSETTS (MIDDLESEX COUNTY)" PREPARED BY STAMSKI AND MCNARY, INC., DATED 10/05/98, ENDORSED BY THE CARLISLE PLANNING BOARD ON OCTOBER 5, 1998 AND RECORDED AT THE MIDDLESEX NORTH REGISTRY OF DEEDS ON OCTOBER 28, 1998. BOOK 198 PAGE 111.

REFERENCE PLAN #4
"PLAN OF LAND IN CARLISLE, MASSACHUSETTS (MIDDLESEX COUNTY)" PREPARED BY STAMSKI AND MCNARY, INC., DATED 8/26/04, ENDORSED BY THE CARLISLE PLANNING BOARD ON SEPTEMBER 27, 2004.

REFERENCE PLAN #5
"PLAN OF LAND IN CARLISLE, MASS. OWNED BY J. & E. COMPANY, INC." PREPARED BY R.D. NELSON, ENGINEER 144 SUDBURY RD, CONCORD, MASS. DATED MAY 23, 1973. ENDORSED BY THE CARLISLE PLANNING BOARD ON JUNE 11, 1973 AND RECORDED AT THE MIDDLESEX NORTH REGISTRY OF DEEDS ON OCTOBER 31, 1973.

C. CONSTRUCTION SEQUENCE

- 1) THE LIMIT OF TREE CLEARING SHALL BE MARKED BY THE OWNER/SURVEYOR/ENGINEER BEFORE ANY TREE REMOVAL IS TO TAKE PLACE. ALL CLEARING OPERATIONS SHALL BE PERFORMED AT ONE TIME PER EACH PHASE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED FOR THE TREE REMOVAL PROCESS PRIOR TO STARTING WORK.
- 2) CONSTRUCT A STABILIZATION CONSTRUCTION ENTRANCE AT THE PROPOSED DRIVEWAY LOCATION. IT SHALL BE OF 2-3" DIA. STONE ACROSS THE FULL WIDTH OF THE VEHICLE INGRESS/EGRESS AREA. THE STONE PAD SHOULD BE AT LEAST 50 FT LONG, 20 FT WIDE AND AT LEAST 6 IN THICK. ADDITIONAL STONE MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE EROSION CONTROL PAD. THE INTENT OF THIS CONSTRUCTION SITE ENTRANCE ENTRANCE EROSION CONTROL TREATMENT IS TO MINIMIZE THE AMOUNT OF SOIL CARRIED OFF SITE AND/OR ONTO LOCAL ROADS BY VARIOUS CONSTRUCTION EQUIPMENT AND TRUCKS. CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING ALL VEHICLES ACCESSING THE SITE AND IF REQUIRED TO, IMPLEMENT THE WASHDOWN OF VEHICLES TO REDUCE THE TRANSPORT OF SOILS FROM THE SITE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE, IF REQUIRED, TO REMOVE DEBRIS FROM THE ROADWAY BY SWEEPING AND CLEANING. WASHDOWN OF MATERIALS INTO THE STORMWATER SYSTEM OR ONTO PRIVATE PROPERTY SHALL NOT BE ALLOWED.
- 3) ALL EROSION CONTROLS SUCH AS STRAW HAYBALES AND SILT FENCE OR WATTLE SHALL BE INSTALLED AS SHOWN ON THE PLANS PRIOR TO ANY GRADING OPERATIONS. EROSION CONTROL SHALL BE INSPECTED, MAINTAINED AND REPAIRED WHEN NECESSARY THROUGHOUT THE COURSE OF CONSTRUCTION.
- 4) PORTIONS OF THE DRAINAGE SYSTEM SHALL BE INSTALLED TO AVOID PONDS AND PUDDLES AND TO CONVEY RUNOFF TO LOWER ELEVATIONS. FLOW TO INFILTRATION COMPONENTS SHALL NOT OCCUR UNTIL THE SITE IS PROPERLY STABILIZED.
- 5) TOPSOIL SHALL BE STRIPPED, STOCKPILED AND STABILIZED WITH TEMPORARY SEEDING. ROUGH GRADING OF THE SITES SHALL THEN BEGIN.
- 6) BEGIN ALL TEMPORARY AND/OR PERMANENT SEEDING WHEREVER POSSIBLE, AND ON ALL CUT AND FILL SLOPES AS THEY ARE CONSTRUCTED. INSTALL ALL UTILITIES, BEGIN CONSTRUCTING FOUNDATIONS, FRAMING, ETC.
- 7) AS SECTIONS OF THE PROJECT ARE COMPLETED (BUILDINGS, FINISH PAVING, ETC.), COMPLETE FINAL GRADING, PERMANENT SEEDING AND LANDSCAPING. EROSION CONTROL MEASURES ARE TO BE REMOVED ONLY AFTER PERMANENT VEGETATION IS ESTABLISHED.

D. GRADING NOTES

- 1) FINISH GRADING, EXCAVATION AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH THE APPROVED DESIGN PLANS, SPECIFICATIONS AND DETAILS.
- 2) PRIOR TO ANY GRADING ACTIVITIES, ALL GRASSED AREAS ARE TO BE MOWED, AND VEGETATION REMOVED. STUMPS, ROOTS AND SOD ARE TO BE GRUBBED AND REMOVED FROM THE SITE GRADING AREAS.
- 3) FINISH GRADING AND RESTORATION OF FINAL SURFACE SHALL BE DONE SUCH AS TO PROMOTE DRAINAGE AWAY FROM ACCESS MANHOLES, CLEANOUTS AND FOUNDATIONS. IT WILL BE FINISHED IN A CONTINUOUS GRADE SUCH THAT RUNOFF WILL NOT COLLECT, POND OR CREATE EROSIONAL GULLIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CORRECT ANY SUCH CONDITIONS. FINAL RESTORATION SHALL CONSIST OF THE STABILIZATION OF FINISH SURFACE WITH TOPSOIL AND SEEDING IN LANDSCAPED AREAS, INCLUDING BUT NOT LIMITED TO THE PLANTING OF SCREENING TREES AND BUSHES AND THE PLACEMENT OF COMPACTED GRAVEL WITH ASPHALT OR CONCRETE SURFACE WHERE REQUIRED PER PLAN.
- 4) BACKFILL AND FILLS SHALL BE SELECT NATIVE, SELECT GRANULAR OR PROCESSED MATERIALS. TYPE OF MATERIAL SHALL CONFORM WITH THE DETAILS AND SPECIFICATIONS SUPPLIED IN THIS PLAN SET OR WITH MANUFACTURE'S RECOMMENDED SPECIFICATIONS.
- 5) BACKFILL AND FILLS SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO WITHIN 95% DENSITY PER ASTM STANDARDS. IT SHALL BE PLACED ON UNDISTURBED NATIVE SOILS FREE OF TOPSOILS, ORGANICS AND DELETARIOUS MATERIALS, OR ON A 95% COMPACTED DENSITY SUBGRADE. IN AREAS EXCEEDING 2 FT CUTS OR ON SLOPES GREATER THAN 20%, BENCHING OUT SHALL BE REQUIRED TO KEY IN FILL MATERIALS. COMPACTION SHALL MEET THE REQUIREMENTS OF THE ASTM D-1557 (PROCTOR) TEST.
- 7) WATER COMPACTION OF TRENCHES AND/OR JETTING IS NOT ALLOWED WITHOUT WRITTEN CONSENT OF DESIGN ENGINEER.
- 8) ALL EXCAVATIONS SHALL BE DEWATERED PRIOR TO PLACEMENT OF BACKFILL OR FILLS. THE ENGINEER SHALL BE CONTACTED IF GROUNDWATER IS OBSERVED IN THE EXCAVATION AREAS.
- 9) ALL EXCESS MATERIALS GENERATED FROM THE SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE OWNER FOR DISPOSAL. ALL ORGANIC TOPSOILS ARE TO BE STOCKPILED FOR RESTORATION USAGE AT THE COMPLETION OF THE JOB. ALL SELECT GRANULAR MATERIALS SHALL BE STOCKPILED FOR USAGE IN STRUCTURAL FILLS SUCH AS DRIVEWAY SUBGRADES. ANY CONTAMINATED SOILS SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL HEALTH DEPARTMENT REGULATIONS. ALL CONCRETE, ASPHALT, CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AT THE COMPLETION OF THE PROJECT UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE PROPERTY OWNER.

E. SANITARY SEWER

- 1) ALL UNITS ARE TO BE SERVICED BY AN ONSITE SUBSURFACE SEWAGE DISPOSAL SYSTEM
- 2) SEWER IS BY THREE SEPARATE SEPTIC SYSTEMS WITH POSSIBLE ALTERNATIVE TECHNOLOGY.
- 3) SEPTIC SYSTEM CONSTRUCTION DETAILS PROVIDED ON SEPARATE PLAN AND ARE SUBJECT TO THE APPROVAL AND CONDITIONS OF THE LOCAL BOARD OF HEALTH. SEPTIC SYSTEM INSTALLATION MUST CONFORM TO TITLE 5 REQUIREMENTS (310 CMR 15.00).
- 4) SEWER MANHOLES SHALL HAVE THE WORD "SEWER" CAST ON THE COVER.
- 5) EACH SEPTIC LEACHING FIELD SHOWS CONVENTIONAL DESIGN AND DRIP DISPERSAL ALTERNATIVE TECHNOLOGY DESIGN.
- 6) ALL PIPING SHALL BE ASTM 3034 PVC PIPE WITH GASKETED FITTINGS OR AS SHOWN ON THE PLAN SET. GRAVITY SEWER SHALL BE SDR 35, FORCE MAINS SHALL BE SDR 21.
- 7) ALL CASTINGS AND FITTINGS SHALL BE NORTH AMERICAN MANUFACTURED.
- 8) ALL MANHOLE SECTIONS SHALL BE 4' INSIDE DIAMETER ASPHALT COATED CONCRETE, H-20 LOADING WITH 24" DIAMETER CAST IRON FRAMES AND LIDS BROUGHT FLUSH TO GRADE. ALL JOINTS TO BE SEALED WITH RUBBER MASTIC STRIPS.
- 9) ALL MANHOLES OUTSIDE OF A PAVED ROADWAY SHALL HAVE LOCKING WATERTIGHT
- 10) ALL PIPING SHALL HAVE A BURY COVER OF NOT LESS THAN 4'.

F. WATER

- 1) ALL UNITS ARE TO BE SERVICED BY ONSITE WATER SUPPLY WELLS.
- 2) ALL WATER SERVICE MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THE UNIFORM PLUMBING CODE.
- 3) WATER SUPPLY WELLS CONNECT TO UNITS VIA 2" POLYETHYLENE PIPE

G. STORM DRAINAGE

- 1) STORM DRAIN MATERIALS AND CONSTRUCTION SHALL COMPLY TO ALL PERTINENT FEDERAL, STATE AND TOWN RULES AND REGULATIONS.
- 2) ROOF DRAIN SUBSURFACE INFILTRATION SYSTEMS ARE SPECIFIED FOR EACH RESIDENTIAL STRUCTURE. SIZING AND LOCATION IS SHOWN ON PLAN.
- 3) STORM WATER PIPING SHALL CONSIST OF:
 - A) ALL DRAIN PIPES SHALL BE A MINIMUM 12" IN DIAMETER
 - B) ALL DRAIN PIPING SHALL BE HDPE SMOOTH INSIDE FOR ≥12" AND PVC SDR35 FOR <12" IN DIAMETER.
- 4) ALL CATCH BASINS AND MANHOLES SHALL BE AT LEAST 4 FEET DEEP AND 4 FEET IN DIAMETER.
- 5) ALL CATCH BASINS SHALL HAVE A 48-INCH SUMP BELOW INVERT.
- 6) ALL STRUCTURES SHALL BE H-20 LOADING
- 7) ALL 24 IN. DIAMETER ACCESS WAYS SHALL BE MANUFACTURED BY NEENAH MODEL #R-1915-H OR APPROVED EQUAL. ALL ACCESS WAY STRUCTURES SHALL BE OF WATERTIGHT CONSTRUCTION.
- 8) ALL STRUCTURES SHALL BE PLACED ON A MINIMUM OF 6 IN. THICK 1½ INCH DIAMETER CRUSHED STONE, MINIMUM OF 1 FOOT BEYOND THE STRUCTURE FOOTPRINT. STONE BASE SHALL BE PLACED ON UNDISTURBED NATIVE GROUND OR ON 95% COMPACTED SUBGRADE, PER ASTM D-1557 (PROCTOR).
- 9) ALL STRUCTURES REQUIRING ACCESS MANHOLES OR HATCHWAYS SHALL BE BROUGHT TO GRADE BY PRECAST CONCRETE RISERS OR CONCRETE BLOCK (OR BRICK). MORTAR JOINTS FLUSH TO FINISH GRADE WITH STRUCTURE. FINISH GRADE SHALL BE SUCH AS TO PROMOTE DRAINAGE AWAY FROM STRUCTURES.

H. EROSION CONTROL NOTES

- 1) EROSION AND SEDIMENT CONTROL PRACTICES INCLUDE THE USE OF THE FOLLOWING: STRAW HAYBALE BARRIERS, SILT FENCE BARRIERS, WATTLES, TEMPORARY SEDIMENT BASINS, PARTICLE SEPARATORS AND GRASS AND/OR ROCK LINED SWALES. EROSION CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING WITH STANDARD PRACTICES OF THE U.S.D.A., SOIL CONSERVATION SERVICE.
- 2) CONSTRUCT A STABILIZATION CONSTRUCTION ENTRANCE (SEE NOTE C.2 HEREON).
- 3) STRAW HAYBALE BARRIERS/SILT SCREEN FENCES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION. THEY ARE INTENDED PRIMARILY TO INTERCEPT AND FILTER SMALL VOLUMES OF "SHEET FLOWING" RUNOFF, OR AS SEDIMENT TRAPS IN SMALL SWALES. HAYBALES HAVE A USEFUL LIFE OF 3 MONTHS WHEN WET AND THEREFORE MUST BE INSPECTED AND REPAIRED OR REPLACED PERIODICALLY. SILT SCREEN FENCES WILL FUNCTION 6 MONTHS OR LONGER IF KEPT FREE OF SEDIMENT ACCUMULATIONS.
- 4) THE PURPOSE OF TEMPORARY EROSION CONTROL MEASURES IS TO LIMIT THE AMOUNT OF SOIL TRANSPORTED FROM ON-SITE AREAS TO OFF SITE AREAS, AND ANY WETLANDS.
- 5) THE FOLLOWING VEGETATIVE MEASURES SHALL BE USED TO PROVIDE BOTH TEMPORARY AND PERMANENT SOIL EROSION CONTROL:
 - A) TOPSOIL STOCKPILING: TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ON CRITICAL AREAS AND ALL OTHER AREAS TO BE SEEDED. THE STOCKPILE SHALL NOT BE COMPACTED AND SHALL BE STABILIZED AGAINST EROSION WITH TEMPORARY SEEDING.
 - B) TEMPORARY SEEDING:
 - B-1) BEDDING – REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 3 IN. TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
 - B-2) FERTILIZER – FERTILIZER SHOULD BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. SEE SUBDIVISION COVENANT FOR TYPE AND APPLICATION RATE.
 - B-3) SEED MIXTURES – USE ANY OF THE FOLLOWING:

SPECIES	PER ACRE	PER 1000 S.F.	DATES	DEPTH
WINTER RYE	112 LBS.	2.5 LBS.	8/15 – 9/5	1"
OATS	30 LBS.	2.0 LBS.	SPRING – 5/15	1"
ANNUAL RYEGRASS	40 LBS.	1.0 LBS.	4/15 – 9/15	0.25"

- B-4) MULCHING – WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHOULD BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF HAY OR STRAW SHOULD BE APPLIED AT A RATE OF 70 TO 90 LBS PER 1000 S.F.
- C) PERMANENT SEEDING:
 - C-1) BEDDING – STONES LARGER THAN 4 IN. DIA., TRASH, ROOTS, AND OTHER DEBRIS THAT WILL INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4 IN. TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION.
 - C-2) FERTILIZER – LIME AND FERTILIZER SHOULD BE APPLIED EVENLY OVER THE AREA PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED.
 - AGRICULTURAL LIMESTONE @ 50 LBS PER 1000 S.F.
 - 10-10-10 FERTILIZER @ 12 LBS PER 1000 S.F.

H. EROSION CONTROL NOTES (CONTINUED)

C-3) SEED MIXTURES – (RECOMMENDED)

TYPE	RATE LBS. PER ACRE	RATE LBS. PER 1000 S.F.	USE
TALL FESQUE	20	0.45	STEEP CUTS & FILLS DETENTION BASINS
CREEPING RED FESQUE	20	0.45	
RED TOP	2	0.50	AND SWALES
TOTAL	42	1.40	
CREEPING RED FESQUE	50	1.15	ALL OTHER
KENTUCKY BLUEGRASS	50	1.15	AREAS
TOTAL	100	2.30	

C-4) MULCHING – MULCH SHOULD BE USED ON HIGHLY ERODIBLE SOILS, ON CRITICALLY ERODING AREAS, AND ON AREAS WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT. PER THE FOLLOWING CHART:

TYPE	RATE PER 1000 S.F.	USE & COMMENTS
HAY OR STRAW	70 TO 90 LBS.	MUST BE DRY & FREE FROM MOLD. MAY BE USED WITH PLANTINGS.
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED MOSTLY WITH TREES AND SHRUBS PLANTING.
JUTE & FIBROUS MATTING	AS PER MANUFACTURER SPECIFICATIONS	USED IN SLOPE AREAS. WATER COURSES AND AREAS.
CRUSHED STONE 1/4 TO 1/2" #	PLACE AT MIN. 2X THE THICKNESS OF LARGEST MATERIALS	EFFECTIVE IN CONTROLLING WIND & WATER EROSION

C-5) SODDING – SODDING IS DONE WHERE IT IS DESIRABLE TO RAPIDLY ESTABLISH COVER ON A DISTURBED AREA. SODDING AN AREA MAY BE SUBSTITUTED FOR PERMANENT SEEDING PROCEDURES ANYWHERE ON THE SITE. BED PREPARATION FERTILIZER AND PLACEMENT OF SOD SHALL BE PERFORMED ACCORDING TO THE S.C.S. HANDBOOK.

C-6) DURING THE PERIOD OF THE CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:

- C-6-A) SEEDED AREAS WILL BE FERTILIZED AND BE SEEDED AS NECESSARY TO INSURE ESTABLISHMENT.
- C-6-B) ADDITIONAL STONE MAY HAVE TO BE ADDED TO THE CONSTRUCTION ENTRANCE, ROCK LINED SWALES, PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE EROSION CONTROL STRUCTURE.
- C-6-C) ALL DIVERSIONS AND SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
- C-6-D) ALL HAY BALE BARRIERS AND SILT SCREEN FENCES WILL BE CHECKED REGULARLY. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER.
- C-6-E) ALL DRAINAGE STRUCTURES AND DETENTION BASINS SHALL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES IN EACH DRAINAGE AREA TO PREVENT SOIL EROSION TO OFF-SITE AREAS.
- C-6-F) ALL DRAINAGE STRUCTURES AND DETENTION BASINS SHALL BE CLEANED AFTER ALL CONSTRUCTION IS COMPLETE AND VEGETATION IS ESTABLISHED.

6) THE CONTRACTOR SHALL EXCAVATE AND REMOVE ALL SEDIMENT FROM RAIN GARDENS PRIOR TO FINAL CONSTRUCTION OF THE SUBSURFACE LAYERS.

ABBREVIATION LIST		LEGEND	
		EXISTING	PROPOSED
B.F.	BASEMENT FLOOR	---	---
BIT.	BITUMINOUS CONCRETE	---	---
CONC.	CATCH BASIN	---	---
CB	REINFORCED CONCRETE PIPE	---	---
RCP	DRAIN MANHOLE	---	---
DMH	ELEVATION	---	---
EL.	FLARED END SECTION	---	---
F.E.S.	FIRST FLOOR	---	---
F.F.	FINISH GRADE	---	---
F.C.B.	DISTRIBUTION BOX	---	---
D.B.	SEPTIC TANK	---	---
S.T.	SLAB	---	---
SL.	HIGH POINT	---	---
H.P.	INVERT	---	---
INV.	IRON ROD	---	---
I.R.	IRON ROD	---	---
I.R.	DRILL HOLE	---	---
D.H.	STONE BOUND	---	---
S.B.	LOW POINT	---	---
LP N/F	NOW OR FORMERLY	---	---
COB PROP.	CAPE COD BERM PROPOSED	---	---
T.C.	TOP CONCRETE	---	---
TYP.	TYPICAL	---	---
UP	UTILITY POLE	---	---
FND.	FOUND	---	---
BOOK	BOOK	---	---
PG.	PAGE	---	---
I.P.	IRON PIPE	---	---
BND	BOUND	---	---
BP EX.	EDGE OF PAVEMENT EXISTING	---	---
EXIST.	EXISTING INVERT	---	---
I.E.	ELEVATION	---	---
SGC	SLOPED GRANITE CURB	---	---
TOF	TOP OF FOUNDATION	---	---
U.U.	UNDERGROUND UTILITIES (CABLE, TELE, ELEC)	---	---
	WELL	---	---
	SIGN STOP	---	---
	STREET LIGHT	---	---
---	BUILDING SETBACK	---	---
UP #72	UTILITY POLE	---	---
	EROSION CONTROL (AS SPECIFIED)	---	---
	TREE	---	---
	PROPANE TANK	---	---
	CUL-TECH ROOF DRAIN	---	---

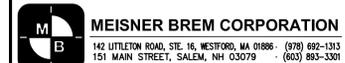
APPROVAL: CARLISLE BOARD OF APPEALS

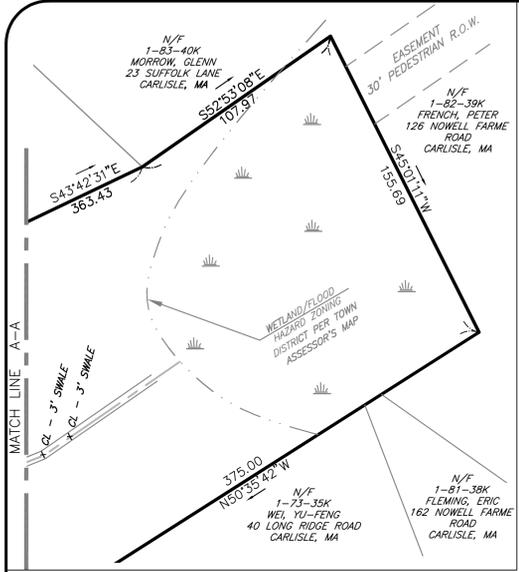
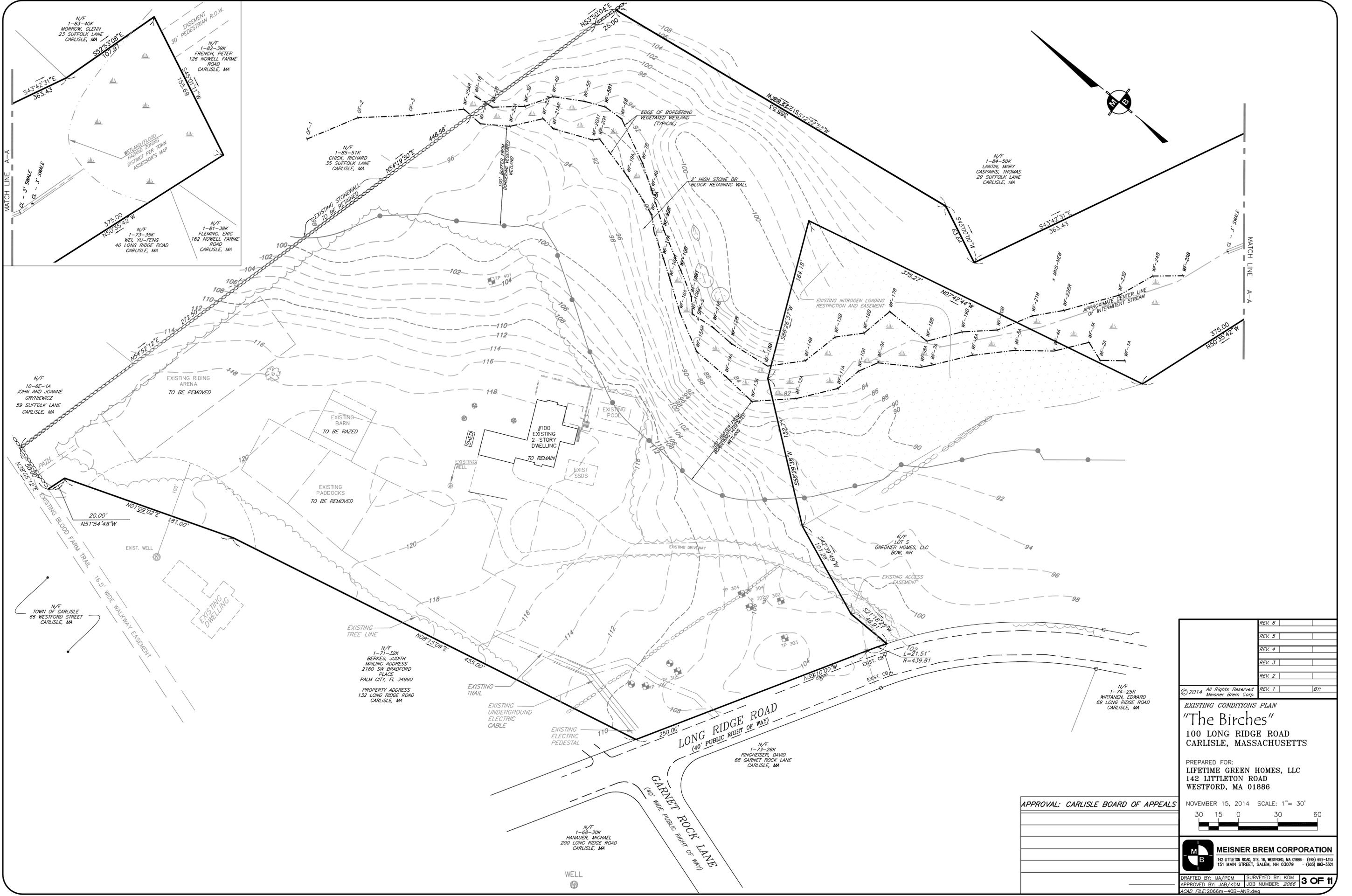
REV. 6		
REV. 5		
REV. 4		
REV. 3		
REV. 2		
REV. 1	2/8/2015	BP: UA/B PER NITSCH COMMENTS

NOTE SHEET
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 14, 2014 AS SHOWN





REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	
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Meisner Brem Corp.

EXISTING CONDITIONS PLAN
"The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS

PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886

NOVEMBER 15, 2014 SCALE: 1" = 30'

MEISNER BREM CORPORATION
 142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 • (978) 692-1313
 151 MAIN STREET, SALEM, NH 03079 • (603) 893-3301

DRAFTED BY: UA/PDM SURVEYED BY: KDM
 APPROVED BY: JAB/KDM JOB NUMBER: 2066
 ACAD FILE: 2066m-406-ANR.dwg

3 OF 11

APPROVAL: CARLISLE BOARD OF APPEALS

N/F 1-83-40K MORROW, GLENN 23 SUFFOLK LANE CARLISLE, MA

N/F 1-83-39K FRENCH, PETER 126 NOWELL FARM ROAD CARLISLE, MA

N/F 1-81-38K FLEMING, ERIC 162 NOWELL FARM ROAD CARLISLE, MA

N/F 1-13-35K WEI, YU-FENG 40 LONG RIDGE ROAD CARLISLE, MA

N/F 10-BE-1A JOHN AND JOANNE GRYNIEWICZ 59 SUFFOLK LANE CARLISLE, MA

N/F TOWN OF CARLISLE 66 WESTFORD STREET CARLISLE, MA

N/F 1-71-32K BERKES, JUDITH MAILING ADDRESS 2160 SW BRADFORD PLACE PALM CITY, FL 34990 PROPERTY ADDRESS 132 LONG RIDGE ROAD CARLISLE, MA

N/F 1-88-30K HANAUER, MICHAEL 200 LONG RIDGE ROAD CARLISLE, MA

N/F 1-24-50K LANTIN, MARY CASPARIS, THOMAS 29 SUFFOLK LANE CARLISLE, MA

N/F LOT 5 GARDNER HOMES, LLC BOX, NH

N/F 1-74-25K WIRTHEN, EDWARD 69 LONG RIDGE ROAD CARLISLE, MA

N/F 1-33-28K RINGHEISER, DAVID 68 GARNET ROCK LANE CARLISLE, MA

30' PEDESTRIAN R.O.W.

EDGE OF BORDERING VEGETATED WETLAND (TYPICAL)

2' HIGH STONE OR BLOCK RETAINING WALL

EXISTING RIDING ARENA TO BE REMOVED

EXISTING BARN TO BE RAZED

EXISTING PADDOCKS TO BE REMOVED

#100 EXISTING 2-STORY DWELLING TO REMAIN

EXISTING TREE LINE

EXISTING TRAIL

EXISTING UNDERGROUND ELECTRIC CABLE

EXISTING ELECTRIC PEDESTAL

EXISTING DRIVEWAY

EXISTING ACCESS EASEMENT

EXISTING WELL

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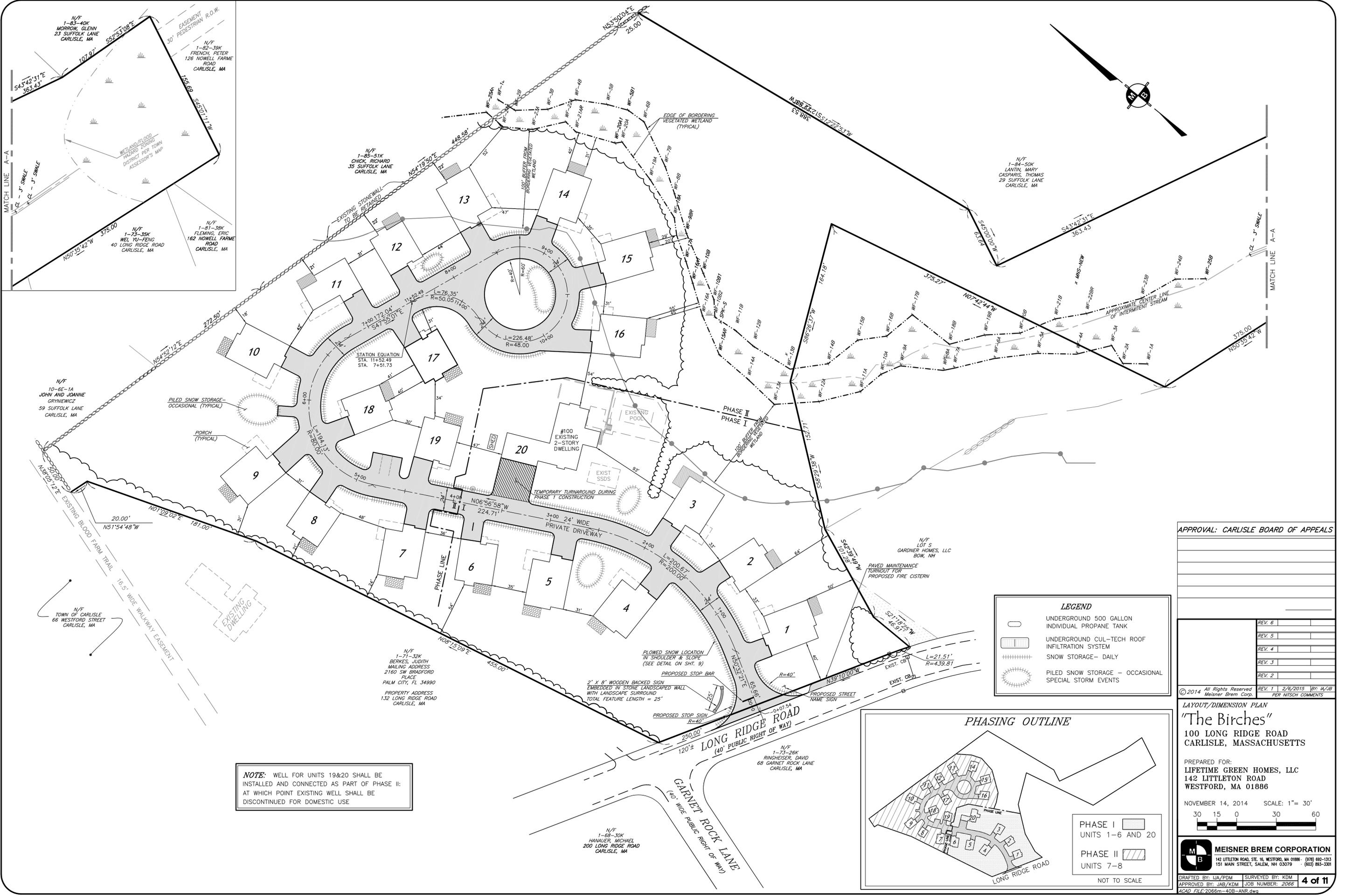
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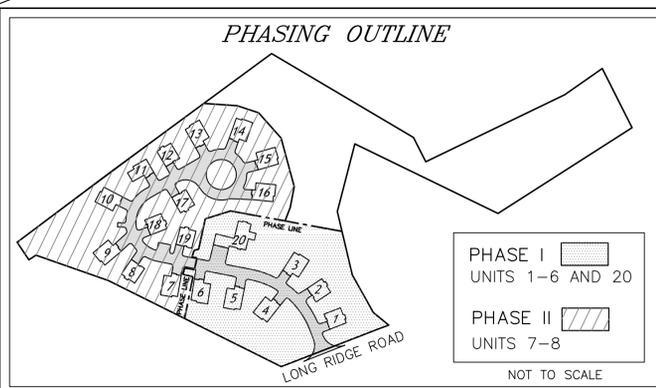
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NOTE: WELL FOR UNITS 19&20 SHALL BE INSTALLED AND CONNECTED AS PART OF PHASE II: AT WHICH POINT EXISTING WELL SHALL BE DISCONTINUED FOR DOMESTIC USE

LEGEND

- UNDERGROUND 500 GALLON INDIVIDUAL PROPANE TANK
- UNDERGROUND CUL-TECH ROOF INFILTRATION SYSTEM
- SNOW STORAGE - DAILY
- PILED SNOW STORAGE - OCCASIONAL SPECIAL STORM EVENTS



APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	
REV. 1	2/6/2015 BY: MJB PER NITSC COMMENTS

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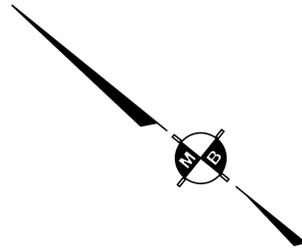
LAYOUT/DIMENSION PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 14, 2014 SCALE: 1" = 30'
30 15 0 30 60

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 · (978) 692-1313
151 MAIN STREET, SALEM, NH 03079 · (603) 893-3301

DRAFTED BY: MJA/PDM SURVEYED BY: RDM
APPROVED BY: JAB/RDM JOB NUMBER: 2066
ACAD FILE: 2066m-40B-ANR.dwg **4 of 11**



N/F
1-85-51K
CHICK, RICHARD
35 SUFFOLK LANE
CARLISLE, MA

BIO-RETENTION
STORMWATER FACILITY
(SEE DETAIL ON SHEET 10)

SEPTIC SYSTEM #2
(UNITS 7-10, 18 & 19)

SEPTIC SYSTEM #3
(UNITS 11-17)

N/F
10-6E-1A
JOHN AND JOANNE
GRYNIEWICZ
59 SUFFOLK LANE
CARLISLE, MA

N/F
TOWN OF CARLISLE
66 WESTFORD STREET
CARLISLE, MA

N/F
1-71-32K
BERKES, JUDITH
MAILING ADDRESS
2160 SW BRADFORD
PLACE
PALM CITY, FL 34990

PROPERTY ADDRESS
132 LONG RIDGE ROAD
CARLISLE, MA

LEGEND	
	UNDERGROUND 500 GALLON INDIVIDUAL PROPANE TANK
	UNDERGROUND CUL-TECH ROOF INFILTRATION SYSTEM
	PATIO - 10x18'
	DECK - 10x18'
	WELL / WATER SUPPLY
	DRIVEWAY CULVERT
	RAIN GARDEN

2' X 8' WOODEN BACKED SIGN
EMBEDDED IN STONE
LANDSCAPED WALL WITH
LANDSCAPE SURROUND
TOTAL FEATURE LENGTH = 25'

LONG RIDGE ROAD
(40' PUBLIC RIGHT OF WAY)

N/F
1-73-26K
RINGHEISER, DAVID
68 GARNET ROCK LANE
CARLISLE, MA

PROPOSED
30,000 GALLON FIBERGLASS
FIRE CISTERN WITH
PAVED MAINTENANCE ACCESS
TURNOUT

NOTES

- CATCH BASIN 20, 22, 54, AND 56 TO CONTAIN STORMWATER BUFFER ZONE BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9
- SEE SHTS. 6&7 FOR UNDERDRAIN LOCATION

APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	

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REVISIONS
REV. 1 2/6/2015 BY: WJ/B PER WITSCOMMENTS

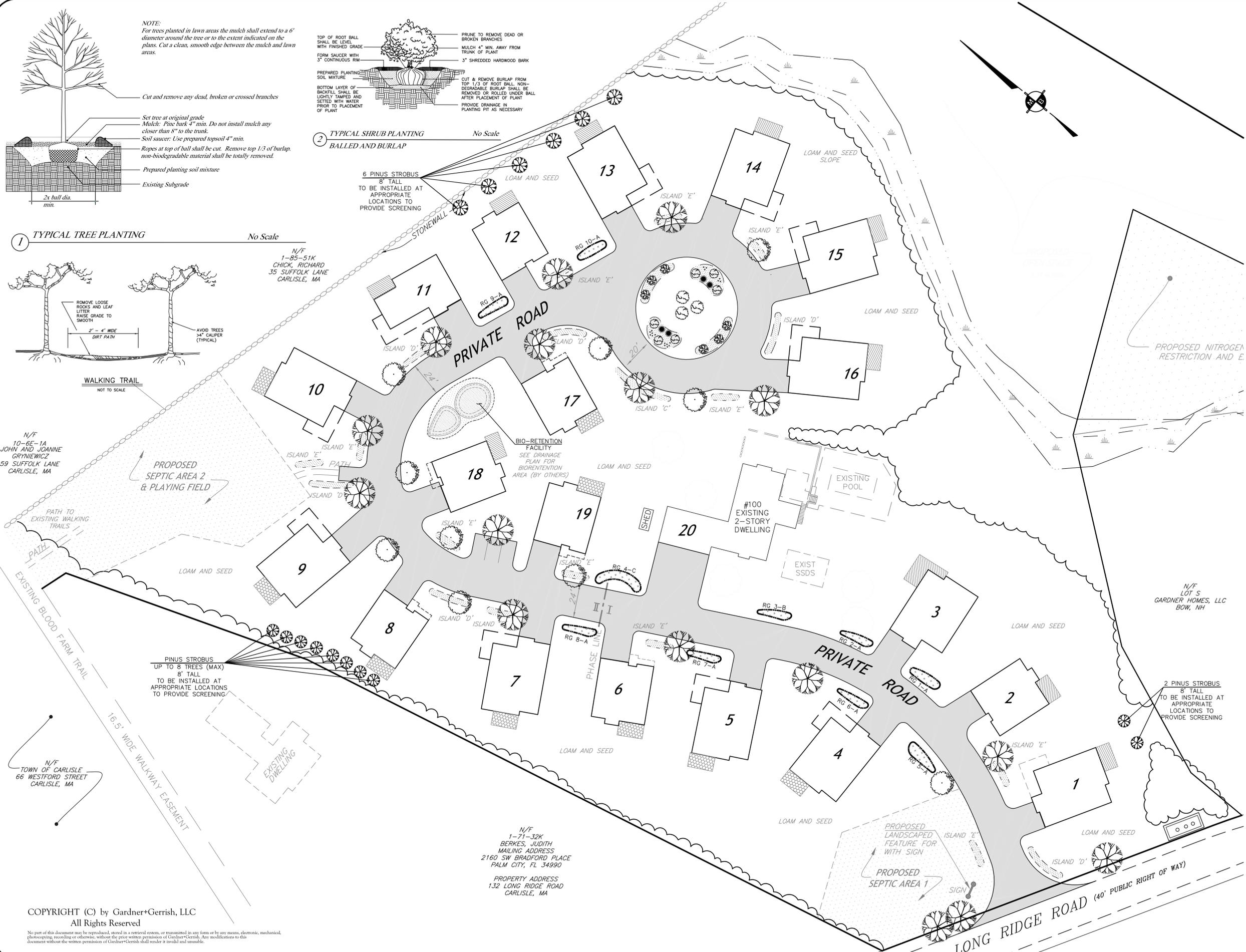
DETAILED GRADING & UTILITY PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

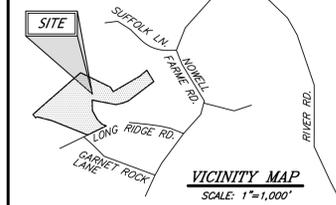
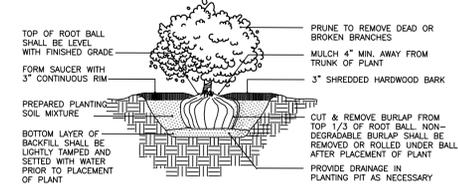
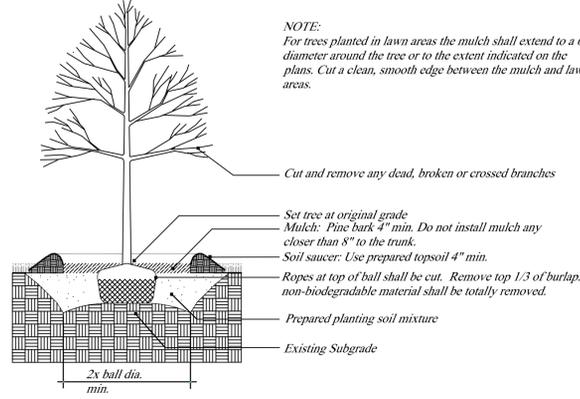
NOVEMBER 14, 2014 SCALE: 1" = 30'

M B MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 692-1313
151 MAIN STREET, SALEM, NH 03079 (603) 883-3301

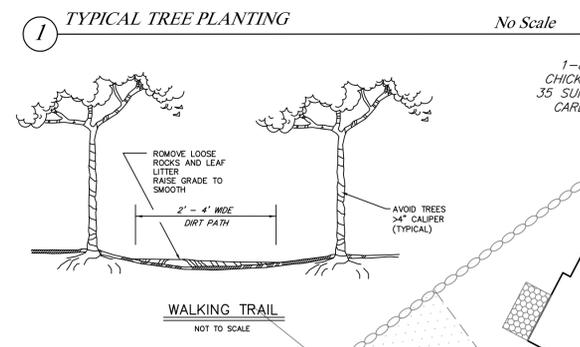
DRAFTED BY: UA/PDM SURVEYED BY: RDM
APPROVED BY: JAB/RDM JOB NUMBER: 2066
ACAD FILE: 2066m-40B-ANR.dwg



NOTE:
For trees planted in lawn areas the mulch shall extend to a 6' diameter around the tree or to the extent indicated on the plans. Cut a clean, smooth edge between the mulch and lawn areas.



NOTES:
SEE LANDSCAPE PLAN SHEET 2 FOR PLANTING ISLAND DETAILS, CUL-DE-SAC DETAIL, ENTRY WAY DETAIL, TYPICAL HOUSE PLANTINGS, AND PLANT SCHEDULE.



N/F 10-6E-1A JOHN AND JOANNE GRYNIEWICZ 59 SUFFOLK LANE CARLISLE, MA

PROPOSED SEPTIC AREA 2 & PLAYING FIELD

EXISTING BLOOD FARM TRAIL

N/F TOWN OF CARLISLE 66 WESTFORD STREET CARLISLE, MA

16.5' WIDE WALKWAY EASEMENT

N/F 1-71-32K BERKES, JUDITH MAILING ADDRESS 2160 SW BRADFORD PLACE PALM CITY, FL 34990
PROPERTY ADDRESS 132 LONG RIDGE ROAD CARLISLE, MA

N/F LOT 5 GARDNER HOMES, LLC BOW, NH



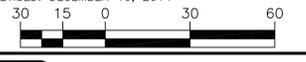
GARDNER+GERRISH, LLC
LANDSCAPE ARCHITECT
34 HARDING AVE.
PROVIDENCE, RI 02905 USA
T: (401) 263-7106
email: info@gardner-gerrish.com



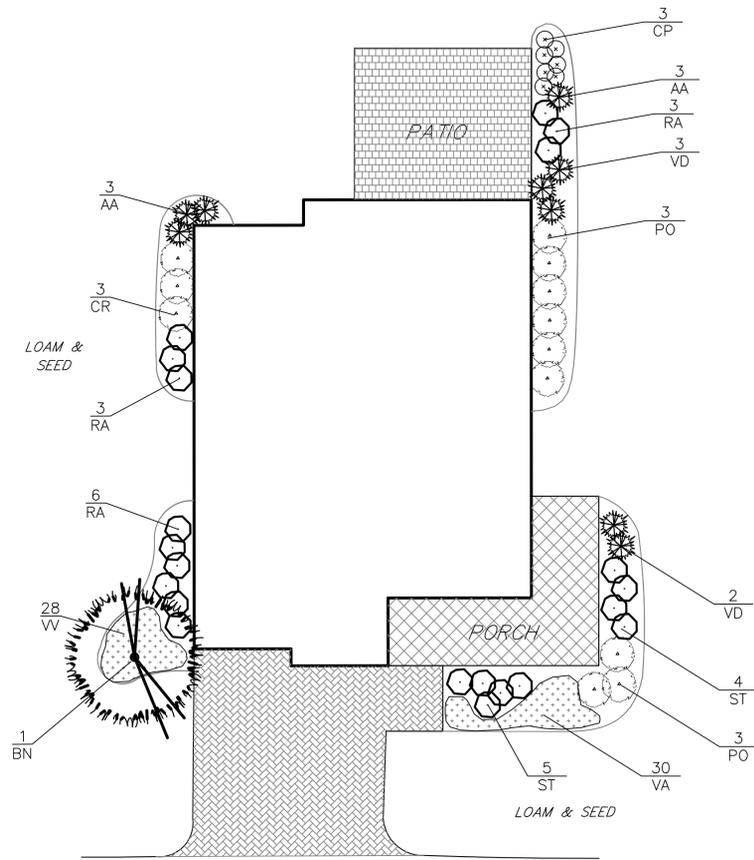
RESIDENTIAL SITE PLAN
LANDSCAPE PLAN
BREM PROPERTY
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

OCTOBER 30, 2014 SCALE: 1"= 30'
REVISED: DECEMBER 10, 2014

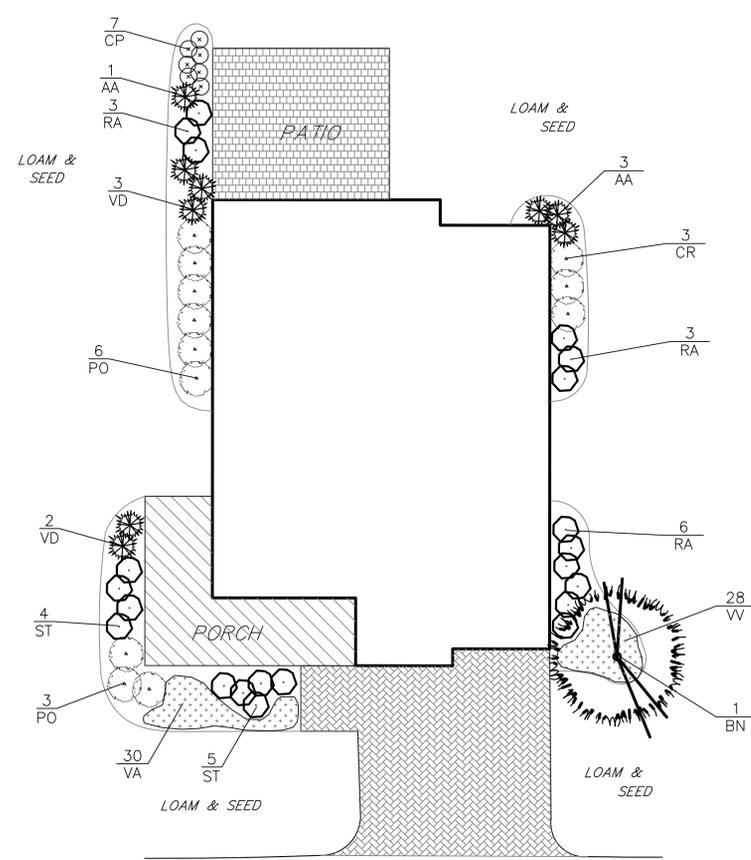


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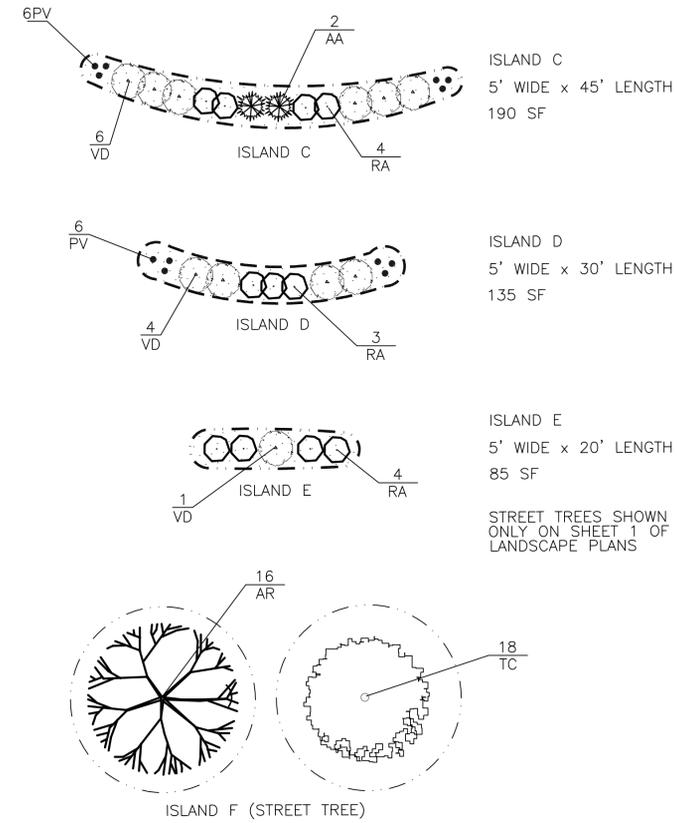
FOUNDATION PLANTINGS A

SCALE 1"=10'±



FOUNDATION PLANTINGS B

SCALE 1"=10'±



ROADWAY ISLAND PLANTINGS

SCALE 1"=10'±

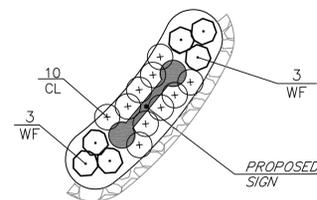
GENERAL PLANTING NOTES

- ALL NEW PLANT MATERIALS SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
- ALL NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
- THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
- THE CONTRACTOR SHALL SEND A REPRESENTATIVE SAMPLE OF THE TOPSOIL TO A TESTING LABORATORY FOR STANDARD SOIL ANALYSIS AS DESCRIBED IN THE SPECIFICATIONS. TEST RESULTS WITH RECOMMENDED SOIL TREATMENTS TO PROMOTE PLANT AND TURF GROWTH SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT. DEFICIENCIES IN LOAM AND STOCKPILED TOPSOIL SHALL BE CORRECTED BY THE CONTRACTOR AS DIRECTED BY THE TESTING AGENCY.
- CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
- STAKE LOCATIONS OF ALL PROPOSED PLANTING FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING. INDIVIDUAL STAKES SHALL BE PLACED FOR TREES AND SHRUBS. EDGE OF PLANTING BEDS SHALL BE PAINTED. NOTIFY LANDSCAPE ARCHITECT 24 HOURS PRIOR TO DESIRED APPROVAL.
- ALL NEW PLANTS SHALL BE SUPPLIED AND INSTALLED DURING THE PERIODS OF APRIL 1 - JUNE 15 AND/OR SEPTEMBER 1 - NOVEMBER 15.
- PREPARE ALL INDIVIDUAL TREE PITS AND SHRUB PLANTING BEDS TO A MINIMUM DEPTH OF EIGHTEEN INCHES (18") WITH SPECIFIED PLANTING MIX: 50% SCREENED TOPSOIL, 40% EXISTING SOIL AND 10% COMPOST. BLEND COMPOST INTO TOP 4" OF SOIL. PLANTING MIX SHALL BE FREE OF LUMPS, STONES, PLANTS, ROOTS, AND OTHER FOREIGN MATTER.
- ALL SHRUB BEDS AND INDIVIDUAL TREE PITS SHALL RECEIVE THREE INCHES (3") OF BARK MULCH PER SPECIFICATIONS. PERENNIAL AND GROUNDCOVER BEDS SHALL RECEIVE TWO INCHES (2"). PROVIDE LANDSCAPE ARCHITECT WITH SAMPLE FOR APPROVAL.
- ALL BURLAP, TWINE AND WIRE SHALL BE COMPLETELY REMOVED OR CUT AWAY AT TIME OF INSTALLATION.
- PLANT WARRANTY SHALL BE FOR 1 FULL GROWING SEASON FROM THE TIME OF INSTALL.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED, STOLEN, DEAD, DECLINING OR LOST MATERIAL UNTIL COMPLETION OF MAINTENANCE PERIODS OR WARRANTY PERIODS.
- ALL AREAS TO BE SEEDED OR SODDED SHALL RECEIVE SIX INCHES (6") OF LOAM, MEASURED AFTER INSTALLATION, PRIOR TO SEEDING.
- PRUNE TREES IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL EXISTING LAWN AREAS DESIGNED TO REMAIN SHALL BE AERATED, FERTILIZED AND OVERSEED, AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- IN ADDITION TO LOCATIONS DEFINED FOR SEED ON THE PLANTING PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING ANY DISTURBED AREAS.
- ALL VEGETATION AND DEBRIS SHALL BE REMOVED FROM PROPOSED PLANTING AREAS PRIOR TO PLANTING AND BACKFILLING. CONTRACTOR SHALL REMOVE ALL WEEDS AND DEBRIS FROM SITE AS WORK PROGRESSES AND UNTIL COMPLETION OF PLANT MAINTENANCE PERIODS OR WARRANTY PERIODS.
- A DETAILED PLANT MAINTENANCE MANUAL SHALL BE ESTABLISHED BY THE LANDSCAPE CONTRACTOR FOR ALL PLANT MATERIAL BASED UPON PLANT SPECIES REQUIREMENTS AND PROVIDED IN WRITING TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL. INFORMATION THEREIN SHALL INCLUDE REQUIRED PRUNING SCHEDULE, FERTILIZING AND PROPOSED INTEGRATED PEST MANAGEMENT (IPM) AS NECESSARY. THE APPROVED MAINTENANCE SHOULD BE FOLLOWED UNTIL COMPLETION OF PLANT MAINTENANCE PERIODS OR WARRANTY PERIODS.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CLOSE COORDINATION WITH OWNER, GENERAL CONTRACTOR, RELATED SUBCONTRACTORS, LANDSCAPE ARCHITECT, AND ALL SITE WORK RELATED ITEMS.

FOUNDATION PLANTINGS A
SCALE 1"=10'±

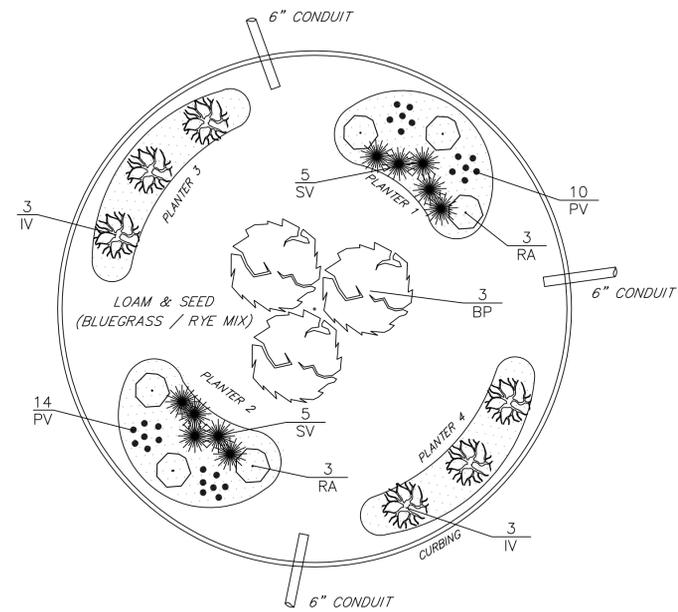
FOUNDATION PLANTINGS B
SCALE 1"=10'±

ROADWAY ISLAND PLANTINGS
SCALE 1"=10'±



LANDSCAPED FEATURE FOR SIGN

SCALE 1"=10'±



LANDSCAPED CUL-DE-SAC ISLAND

NOT TO SCALE

Plant Schedule							
QTY.	SYM.	BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	SPREAD	
DECIDUOUS TREES							
16	AR	Acer rubrum	Sunset Red Maple	2 1/2" - 3"			
3	BN	Betula Nigra	Heritage River Birch	2" - 2 1/2"			
10	TC	Tilia cordata	Little Leaf Linden	2 1/2" - 3"			
EVERGREEN SHRUBS							
IV		Ilex verticillata 'Red Sprite'	Winterberry				#3 pot
DECIDUOUS SHRUBS							
AA		Aronia arbutifolia 'Brilliantissima'	Brilliantissima Red Chokeberry				#3 pot
CP		Comptonia peregrina	Sweat Fern				#4 pot
CR		Cornus racemosa	Gray Dogwood				#3 pot
PO		Physocarpus opulifolius	Ninebark				#3 pot
RA		Rhus aromatica 'Gro-Low'	Gro-Low Fragrant sumac				#3 pot
ST		Spiraea tomentosa	Steeplebush				#2 pot
SV		Syringa vulgaris	Common Purple Lilac		4' - 5' B&B		
VA		Vaccinium angustifolium	Low Bush Blueberry				#3 pot
VV		Vaccinium vitis-idaea	Mountain Cranberry				#2 pot
VD		Viburnum dentatum 'Pathfinder'	Pathfinder Arrowwood Viburnum				#5 pot
WF		Weigela florida 'Midnight Wine'	Midnight Wine Weigela				#3 pot
GRASSES/PERENNIALS							
CL		Chasmanthium latifolium	Indian Woodoats				#1 pot
PV		Panicum virgatum 'Northwind'	Northwind Switch Grass				#2 pot

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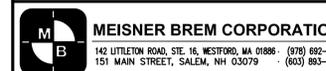


RESIDENTIAL SITE PLAN
LANDSCAPE PLAN

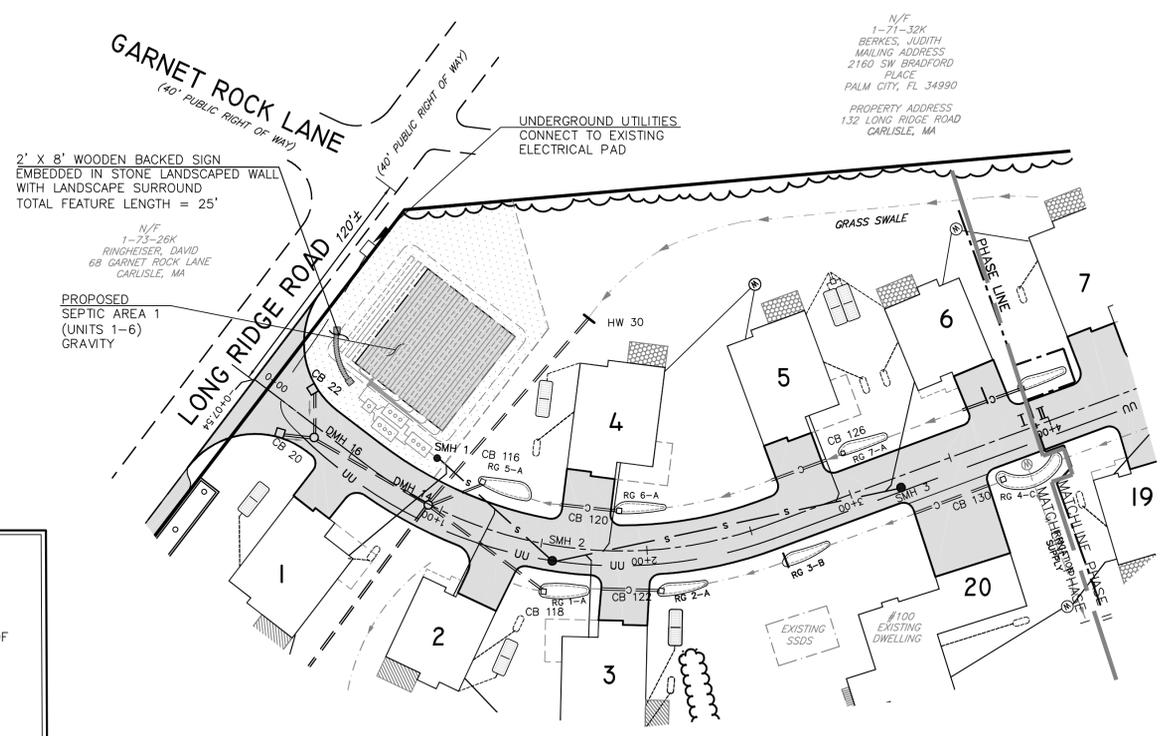
BREM PROPERTY
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

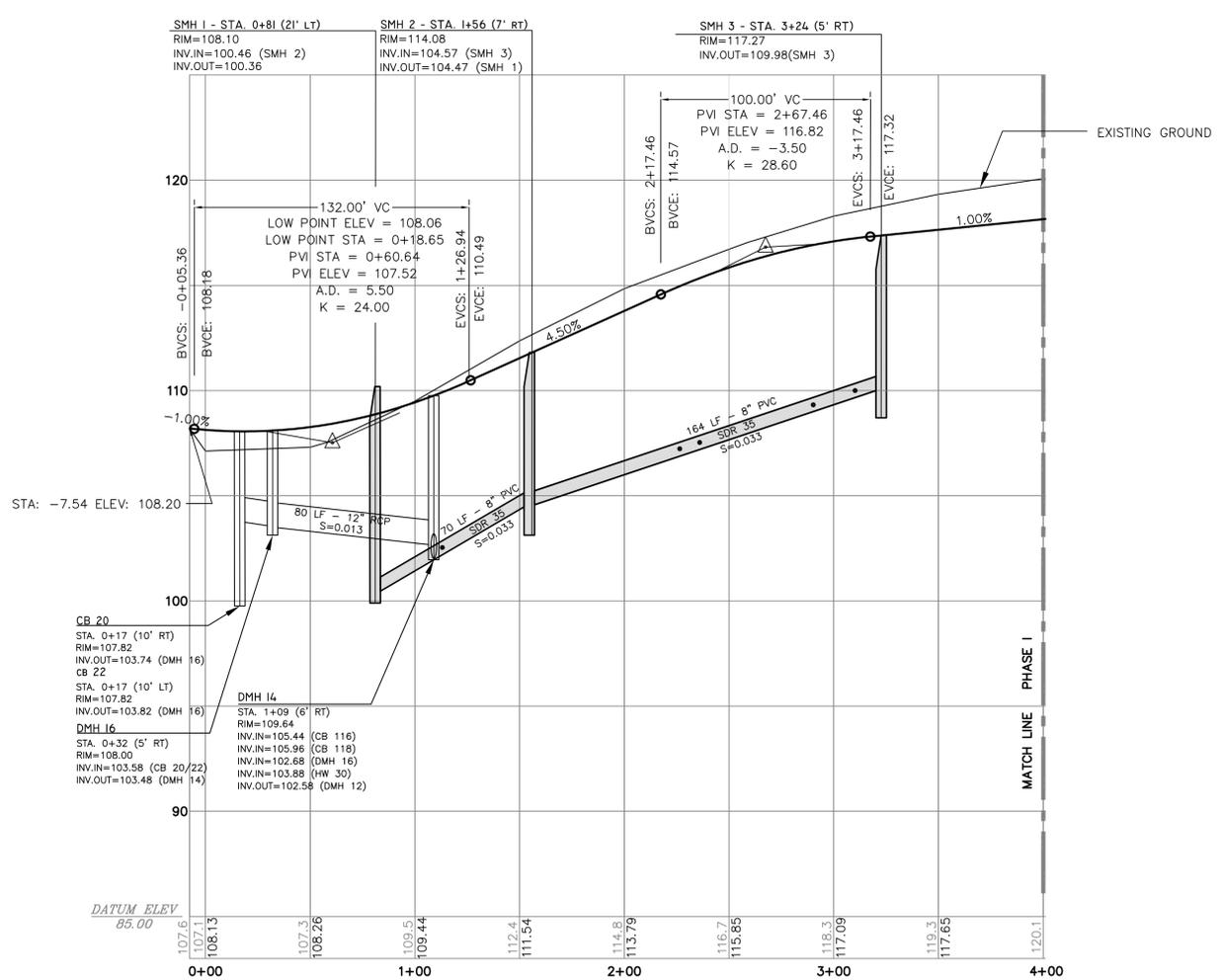
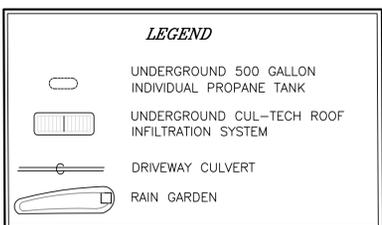
OCTOBER 30, 2014 SCALE: 1"= 20'
DECEMBER 10, 2014
20 10 0 20 40



JOB NUMBER: 2066
2 of 2



PLAN SCALE: HORIZ. = 1" = 40'



PROFILE SCALE: HORIZ. = 1" = 40'
VERT. = 1" = 4'

STRUCTURE ELEVATION TABLE				
STRUCTURE	RIM	INV. IN	INV. IN	INV. OUT
CB 126	116.45			115.57 (LOT 3 DRIVEWAY)
CB 120	112.18			111.30 (LOT 2 DRIVEWAY)
CB 116	108.00			107.12 (DMH 14)
CB 20	107.82			103.74 (DMH 16)
CB 22	107.82			103.80 (DMH 16)
DMH 16	108.00	103.58 (CB 20)	103.58 (CB 22)	103.48 (DMH 14)
DMH 14	109.64	105.44 (CB 116)	102.68 (CB 16)	102.58 (DMH 12)
DMH 12	102.00	101.16 (DMH 14)		101.06 (HW 10)
CB 130	116.85			115.97 (LOT 20 DRIVEWAY)
CB 122	113.17			112.30 (LOT 6 DRIVEWAY)
CB 118	110.74			109.86 (DMH 14)
CB 60	116.61			111.02 (DMH 64)
CB 62	116.25			111.14 (DMH 64)
DMH 64	116.10	110.90 (CB 60)	110.90 (CB 62)	110.80 (HW 48)
CB 66	112.00	106.35 (BIORET)		106.00 (CB 65)
CB 65	112.00	101.32 (CB 66)		101.22 (DMH 50)
DMH 50	104.90	100.62 (CB 65)	101.62 (DMH 52)	101.52 (CISTERN)
CB 54	105.37			102.80 (DMH 52)
CB 56	105.37			102.72 (DMH 52)
CB 216	106.85			103.69 (DMH 52)
CB 214	108.85			105.97 (LOT 12 DRIVEWAY)
DMH 52	105.64	102.58 (CB 54)	102.58 (CB 56)	101.48 (DMH 50)
CB 23	106.00	103.22 (CB 54)		103.22 (HW 40)

DRAINAGE PIPE SCHEDULE (ALL PIPES HDPE)						
FROM	TO	INV. IN	INV. OUT	LENGTH (FT)	SLOPE (FT/FT)	DIAM (IN)
CB 116	DMH 14	107.12	105.44	28	0.0600	8
HW 30	DMH 14	113.00	103.88	114	0.0800	12
DMH 16	DMH 14	103.48	102.68	60	0.0133	12
CB 20	DMH 16	103.74	103.58	16	0.0100	12
CB 22	DMH 16	103.80	103.58	22	0.0100	12
DMH 14	DMH 12	102.58	101.16	95	0.0150	18
DMH 12	HW 10	101.06	100.23	55	0.0150	18
CB 118	DMH 14	109.86	105.96	65	0.0600	8
CB 60	DMH 64	111.02	110.90	12	0.0100	12
CB 62	DMH 64	111.14	110.90	24	0.0100	12
DMH 64	HW 48	110.80	110.62	12	0.0150	12
BIORET.	CB 66	107.25	106.35	15	0.0600	8
CB 66	CB 65	106.00	102.36	52	0.0700	2X2
CB 65	DMH 50	102.22	101.62	30	0.0200	12
CB 216	DMH 52	103.69	102.93	38	0.0200	8
CB 54	DMH 52	102.80	102.58	22	0.0100	12
CB 56	DMH 52	102.72	102.58	14	0.0100	12
DMH 52	DMH 50	102.48	101.62	32	0.0270	12
DMH 50	CISTERN	101.52	101.42	5	0.0200	15
CISTERN	SMF	101.32	101.22	5	0.0200	12
CB 23	HW 40	103.22	102.10	75	0.0150	15

CULVERT SCHEDULE					
LOCATION	INV. IN	INV. OUT	LENGTH (FT)	SLOPE (FT/FT)	DIAM (IN)
LOT 6 DRIVEWAY	117.05	116.75	30	0.0100	8
LOT 5 DRIVEWAY	115.57	115.27	30	0.0100	8
LOT 4 DRIVEWAY	111.30	111.00	30	0.0100	8
LOT 20 DRIVEWAY	115.97	115.49	48	0.0100	8
LOT 3 DRIVEWAY	112.30	111.23	30	0.0357	8
LOT 12 DRIVEWAY	105.97	105.49	48	0.0100	8

- NOTES**
- FOR DRAIN PIPE & STRUCTURE INFORMATION USE TABLES HEREON
 - FOR CONSTRUCTION DETAILS, TYPICAL PRIVATE DRIVEWAY CONSTRUCTION, AND ALL OTHER DETAILS USE SHEETS 2,9,10,&11
 - FOR TEMPORARY EROSION CONTROLS USE SHEET 2
 - FOR LEGEND & ABBREVIATIONS SEE SHEET 2
 - CATCH BASIN 20, 22, 54, AND 56 TO UTILIZE INSERT BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9

APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	

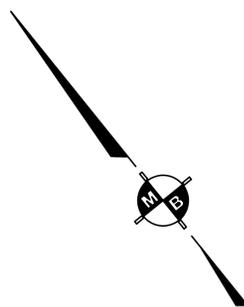
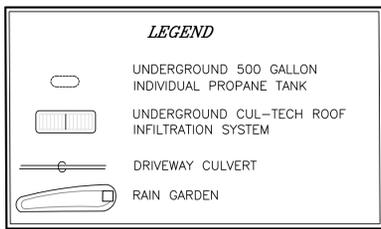
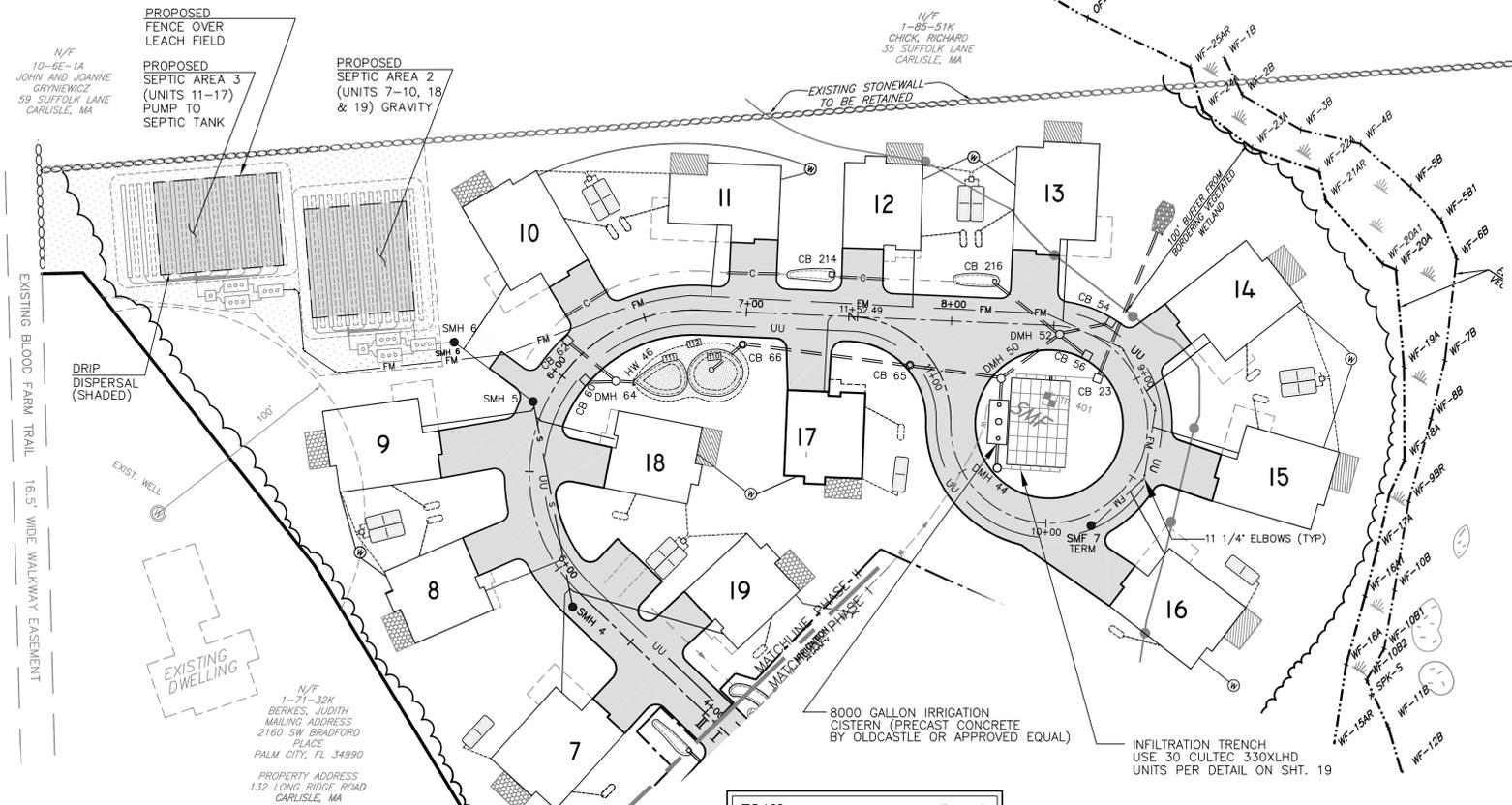
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Meisner Brem Corp. REV. 1 2/6/2015 BY: WJ/B PER NITSCH COMMENTS

PLAN & PROFILE AND UTILITY PLAN
"The Birches" PHASE I
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

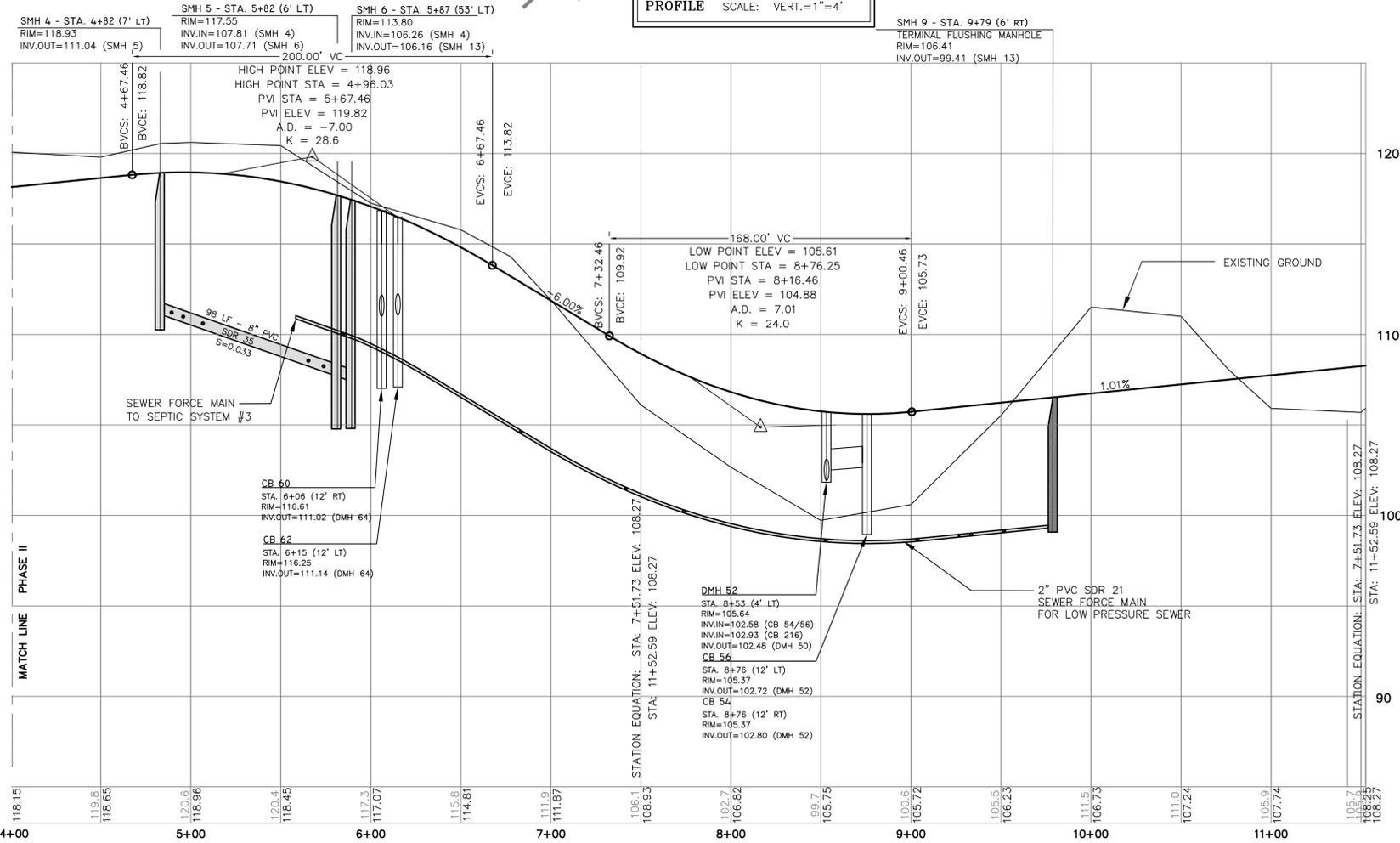
NOVEMBER 4, 2014 SCALE: 1" = 40'
40 20 0 40 80

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 892-1313
151 MAIN STREET, SALEM, NH 03079 (603) 883-3301



PLAN SCALE: HORIZ.=1"= 40'
PROFILE SCALE: VERT.=1"=4'

- NOTES**
- FOR DRAIN PIPE & STRUCTURE INFORMATION USE TABLES ON SHEET 6
 - FOR CONSTRUCTION DETAILS, TYPICAL PRIVATE DRIVEWAY CONSTRUCTION, AND ALL OTHER DETAILS USE SHEETS 2,9,10,&11
 - FOR TEMPORARY EROSION CONTROLS USE SHEETS 2 & 12
 - FOR LEGEND & ABBREVIATIONS SEE SHEET 2
 - CATCH BASIN 20, 22, 54, AND 56 TO UTILIZE INSERT BY STORMWATER BUFFER ZONE. SEE DETAIL ON SHT. 9



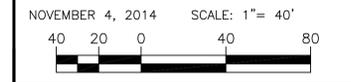
APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	

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 REV. 1 | 2/6/2015 | BY: JAB/KDM
 PER NITSCH COMMENTS

PLAN & PROFILE AND UTILITY PLAN
 "The Birches" PHASE II
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS

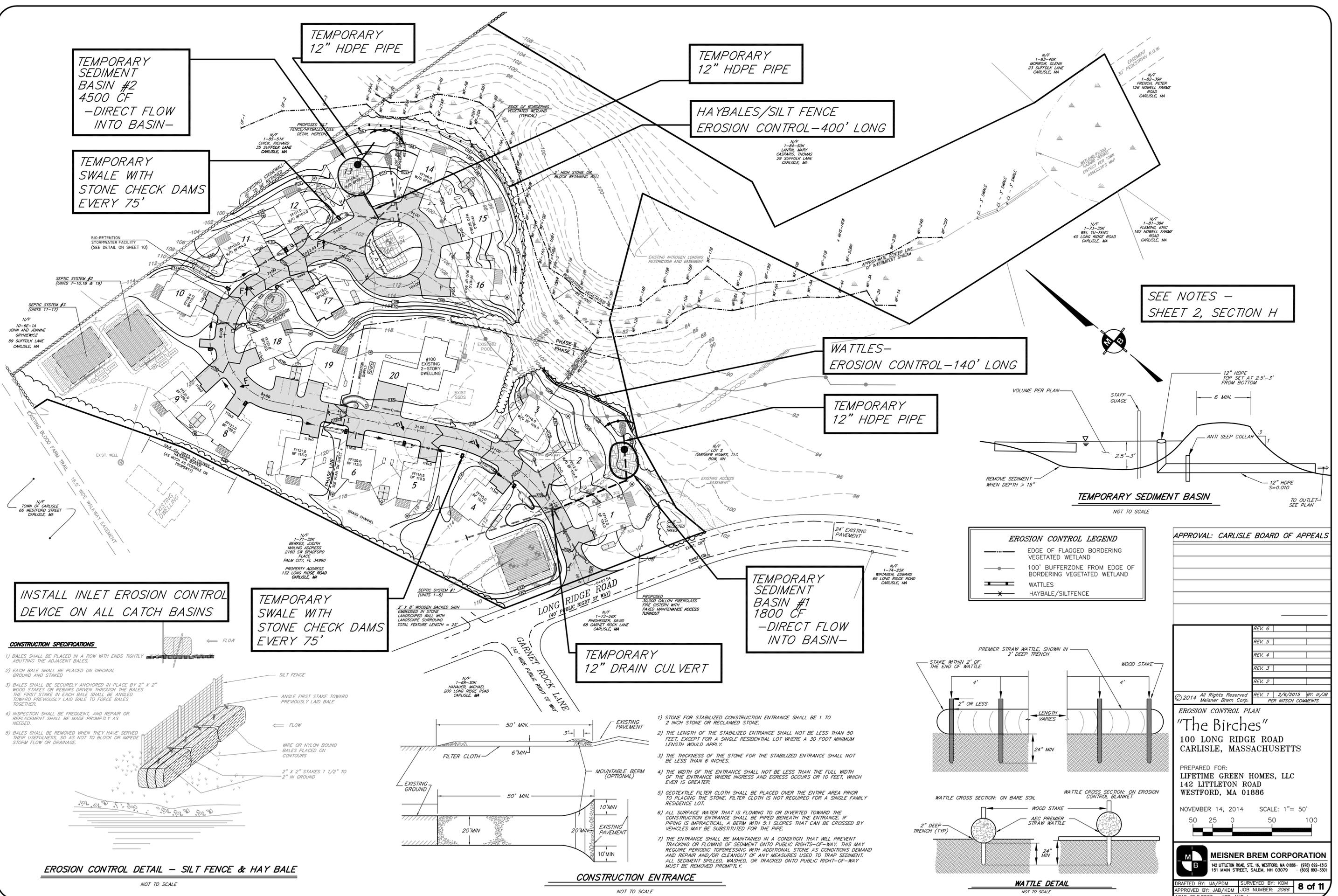
PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886



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DRAFTED BY: JRR/PDM SURVEYED BY: KDM
 APPROVED BY: JAB/KDM JOB NUMBER: 2266
 ACAD FILE: 2066m-40B-ANR.dwg

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TEMPORARY SEDIMENT BASIN #2
4500 CF
-DIRECT FLOW INTO BASIN-

TEMPORARY 12" HDPE PIPE

TEMPORARY 12" HDPE PIPE

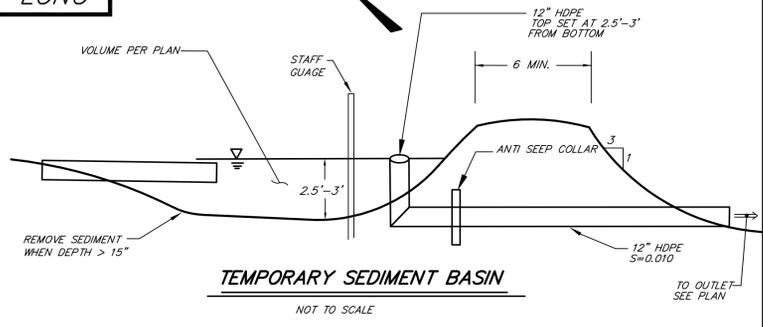
HAYBALES/SILT FENCE
EROSION CONTROL-400' LONG

TEMPORARY SWALE WITH STONE CHECK DAMS EVERY 75'

SEE NOTES - SHEET 2, SECTION H

WATTLES- EROSION CONTROL-140' LONG

TEMPORARY 12" HDPE PIPE



TEMPORARY SEDIMENT BASIN
NOT TO SCALE

EROSION CONTROL LEGEND

- EDGE OF FLAGGED BORDERING VEGETATED WETLAND
- 100' BUFFERZONE FROM EDGE OF BORDERING VEGETATED WETLAND
- WATTLES
- HAYBALE/SILT FENCE

APPROVAL: CARLISLE BOARD OF APPEALS

REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	
REV. 1	2/6/2015 BY: M/AB PER NITSCHE COMMENTS

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Meisner Brem Corp.
EROSION CONTROL PLAN
"The Birches"
100 LONG RIDGE ROAD
CARLISLE, MASSACHUSETTS

PREPARED FOR:
LIFETIME GREEN HOMES, LLC
142 LITTLETON ROAD
WESTFORD, MA 01886

NOVEMBER 14, 2014 SCALE: 1" = 50'
50 25 0 25 50 100

MEISNER BREM CORPORATION
142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 692-1313
151 MAIN STREET, SALEM, NH 03079 (603) 893-3301

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ACAD FILE: 2066m-40B-ANR.dwg

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INSTALL INLET EROSION CONTROL DEVICE ON ALL CATCH BASINS

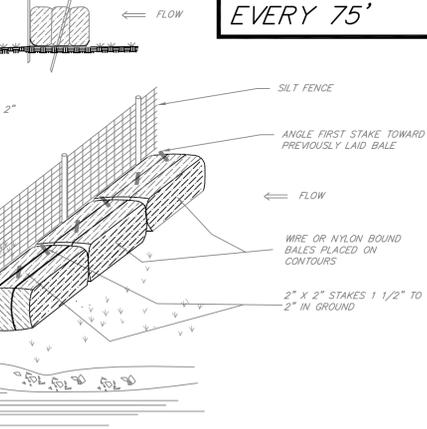
TEMPORARY SWALE WITH STONE CHECK DAMS EVERY 75'

TEMPORARY SEDIMENT BASIN #1
1800 CF
-DIRECT FLOW INTO BASIN-

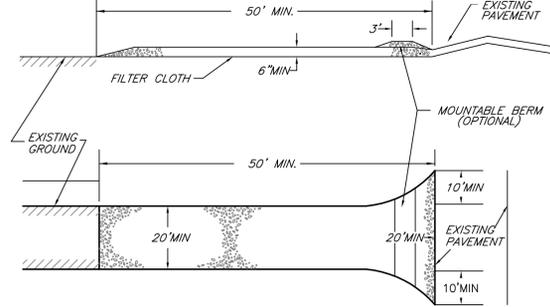
TEMPORARY 12" DRAIN CULVERT

CONSTRUCTION SPECIFICATIONS

- BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE PLACED ON ORIGINAL GROUND AND STAKED.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" X 2" WOOD STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- INSPECTION SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.

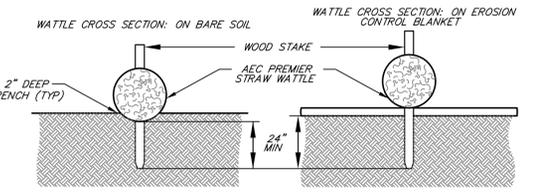
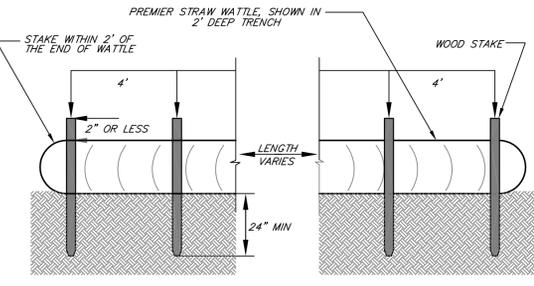


EROSION CONTROL DETAIL - SILT FENCE & HAY BALE
NOT TO SCALE

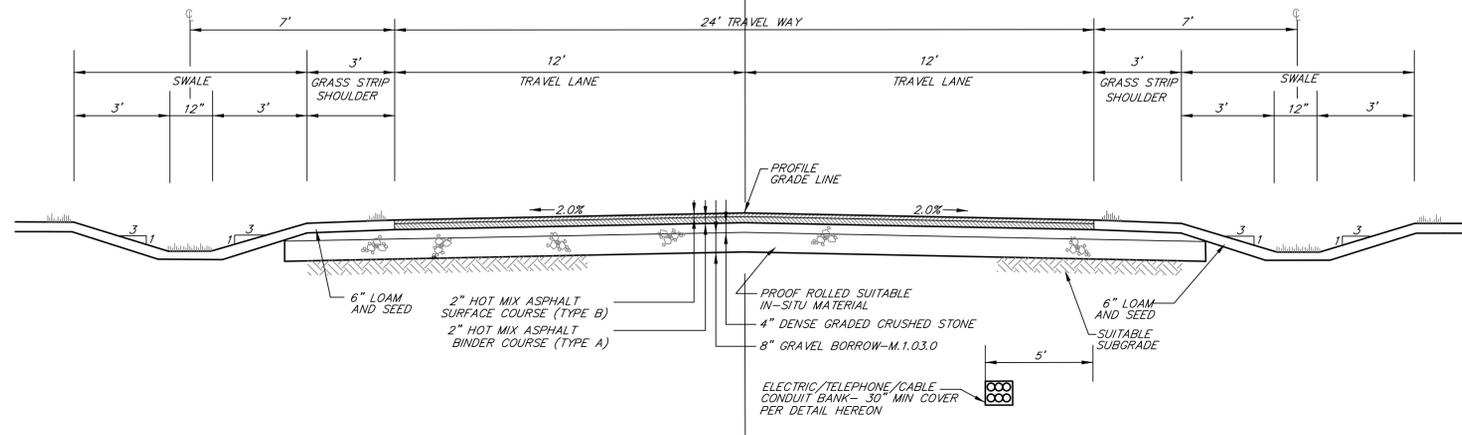


CONSTRUCTION ENTRANCE
NOT TO SCALE

- STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE OR RECLAIMED STONE.
- THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
- THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS AND EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- 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.
- 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 TOPDRESSING 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.

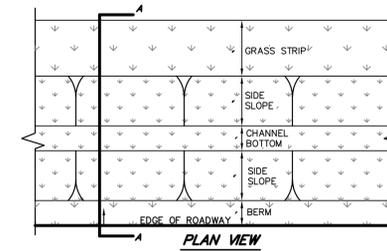


WATTLE DETAIL
NOT TO SCALE



TYPICAL PRIVATE DRIVEWAY CROSS SECTION

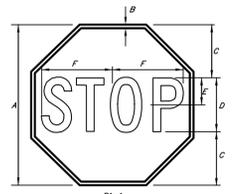
NOT TO SCALE
 NOTE: ALL MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AS AMENDED.



VEGETATED SWALE DETAIL

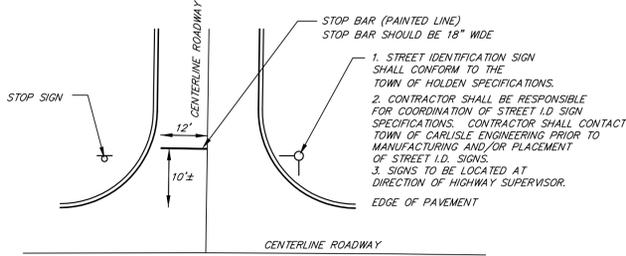
NOT TO SCALE
 1. VEGETATED SWALE TO BE CONSTRUCTED ON BOTH SIDES OF PROPOSED ROADWAY
 2. MIN DEPTH = 8"
 MAX DEPTH = 15"

- NOTES:**
- GRASSED DRAINAGE SWALE TO BE SEEDED WITH A WETLAND SEED MIX. SPECIES SHALL INCLUDE THE FOLLOWING:
 Red-top Panic Grass *Panicum rigidulum* (30% OF TOTAL APPLICATION)
 Fowl Meadow Grass *Cyperus stolon* (10% OF TOTAL APPLICATION)
 Big Bluestem *Andropogon distachyoides* (25% OF TOTAL APPLICATION)
 Soft Rush *Juncus effusus* (10% OF TOTAL APPLICATION)
 Blue Verain *Verbena hastata* (25% OF TOTAL APPLICATION)
 THE APPLICATION RATE IS: 1lb./2500sq.ft.
 - SWALE SUBSOIL SHALL BE AUGMENTED (IF NECESSARY) TO ENSURE SANDY LOAM MATERIAL WITH 10-20% ORGANICS & NO MORE THAN 1% CLAY.
 - SWALE SHALL BE MAINTAINED/MOWED AT LEAST ONCE PER YEAR, NO SHORTER THAN 4 INCHES.



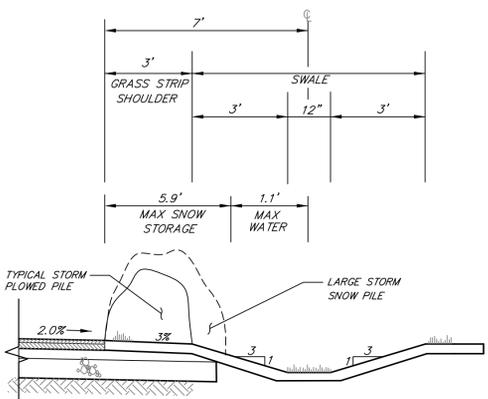
STOP SIGN DETAIL

A	B	C	D	E	F
24	37.5	6	6	3	17.5
30	47.5	10	10	5	22.5
36	57.5	12	12	6	27.5
48	77.5	16	16	8	37.5



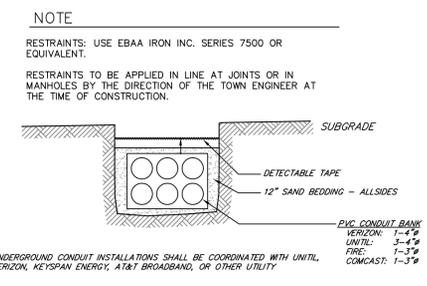
STOP BAR/STREET SIGN DETAIL

- NOT TO SCALE
- STOP SIGN SHALL BE PLACED NOT LESS THAN 6 FEET FROM EDGE OF TRAVELED WAY.
 - STOP SIGN SHALL BE PLACED NOT LESS THAN 7 FEET IN HEIGHT FROM FINISHED GRADE.
 - STOP SIGN SHALL UTILIZE A GREEN ENAMEL U-CHANNEL.



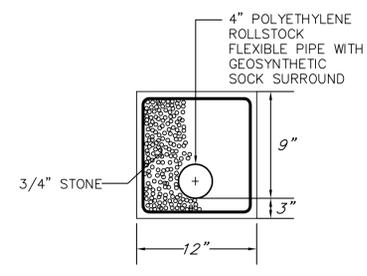
TYPICAL DRIVEWAY SNOW PLOWING CROSS SECTION

NOT TO SCALE



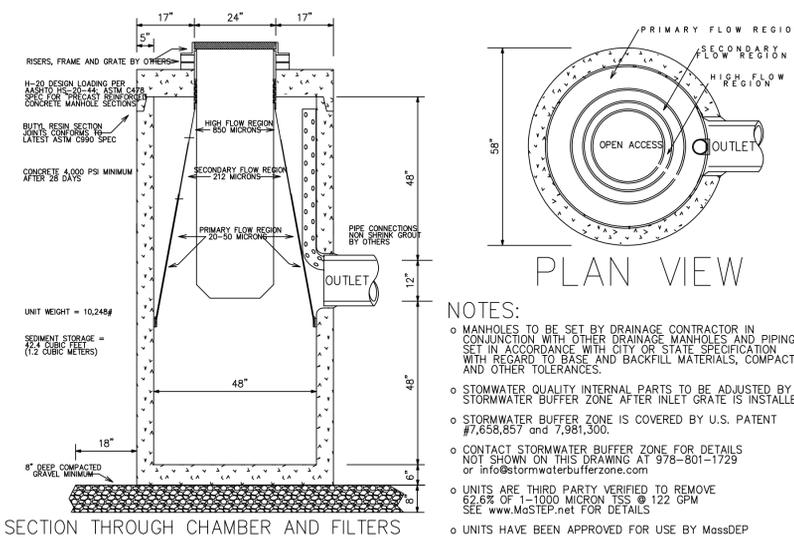
UNDERGROUND POWER CONDUIT DETAIL

NOT TO SCALE
 SEE SHEETS 6&7 FOR LOCATION



UNDERDRAIN DETAIL

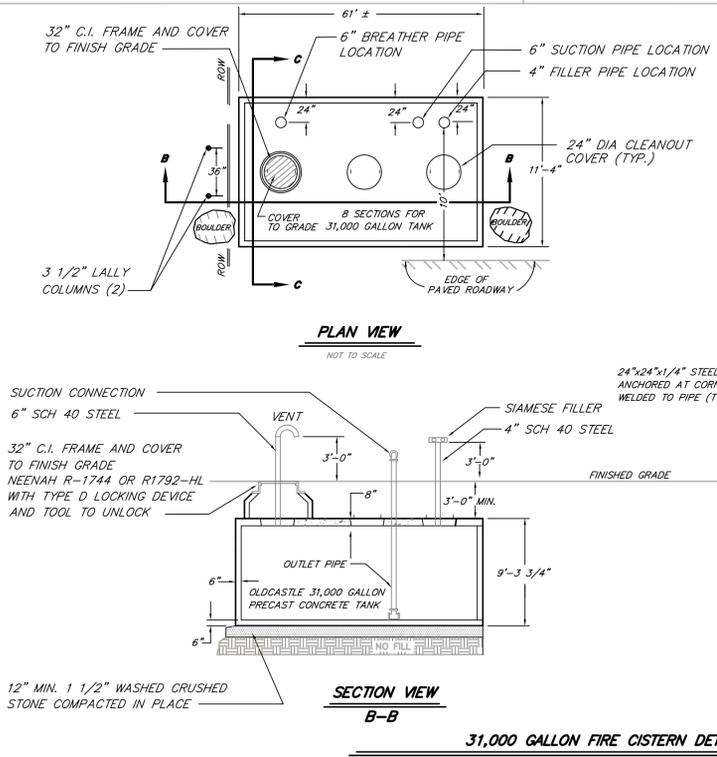
NOT TO SCALE



SECTION THROUGH CHAMBER AND FILTERS

- NOTES:**
- MANHOLES TO BE SET BY DRAINAGE CONTRACTOR IN CONJUNCTION WITH OTHER DRAINAGE MANHOLES AND PIPING, SET IN ACCORDANCE WITH CITY OR STATE SPECIFICATION WITH REGARD TO BASE AND BACKFILL MATERIALS, COMPACTION AND OTHER TOLERANCES.
 - STORMWATER QUALITY INTERNAL PARTS TO BE ADJUSTED BY STORMWATER BUFFER ZONE AFTER INLET GRATE IS INSTALLED.
 - STORMWATER BUFFER ZONE IS COVERED BY U.S. PATENT #7,658,857 and 7,981,300.
 - CONTACT STORMWATER BUFFER ZONE FOR DETAILS NOT SHOWN ON THIS DRAWING AT 978-801-1729 or info@stormwaterbufferzone.com
 - UNITS ARE THIRD PARTY VERIFIED TO REMOVE 62.6% OF 1-1000 MICRON TSS @ 122 GPM SEE: www.MoSTEP.net FOR DETAILS
 - UNITS HAVE BEEN APPROVED FOR USE BY MossDEP

SBZ 160D STORMWATER TREATMENT SYSTEM
 FOR CB 54, 56, 20, AND 22
 BY STORMWATER BUFFER ZONE



31,000 GALLON FIRE CISTERN DETAIL

NOT TO SCALE

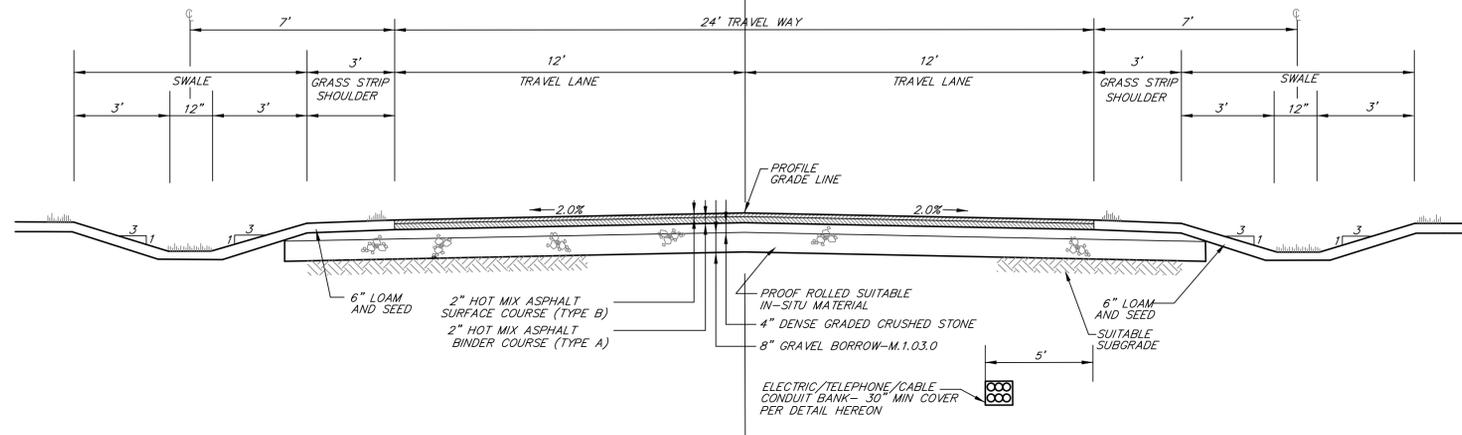
- NOTES:**
- ONE CUBIC YARD BOULDERS SHALL BE PROVIDED AT 8' O.C. AND 5' OFF TANK AFTER FINAL GRADING.
 - BACKFILL SHALL BE CLEAN EARTHEN FILL WITH NO STONES LARGER THAN 3" AND COMPACTION IN PLACE.
 - CONTRACTOR IS RESPONSIBLE FOR ARRANGING THE REQUIRED INSPECTIONS WITH THE CARLISLE FIRE DEPARTMENT.
 - ALL STEEL SHALL BE PAINTED.

APPROVAL: CARLISLE BOARD OF APPEALS

REV.	DATE	BY	APP.
REV. 6			
REV. 5			
REV. 4			
REV. 3			
REV. 2			
REV. 1	2/6/2015	BY: WJ/B	PER NITSCH COMMENTS

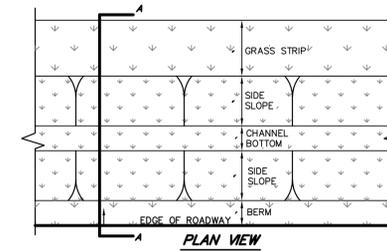
DETAIL SHEET
"The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS
 PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886
 NOVEMBER 4, 2014 AS SHOWN

MEISNER BREM CORPORATION
 142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 892-1333
 151 MAIN STREET, SALEM, NH 03079 (603) 893-3300



TYPICAL PRIVATE DRIVEWAY CROSS SECTION

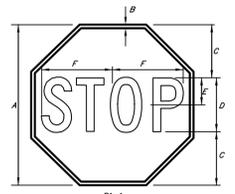
NOT TO SCALE
 NOTE: ALL MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AS AMENDED.



VEGETATED SWALE DETAIL

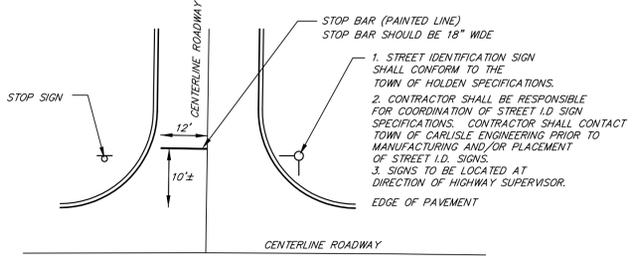
NOT TO SCALE
 1. VEGETATED SWALE TO BE CONSTRUCTED ON BOTH SIDES OF PROPOSED ROADWAY
 2. MIN DEPTH = 8"
 MAX DEPTH = 15"

- NOTES:**
- GRASSSED DRAINAGE SWALE TO BE SEEDED WITH A WETLAND SEED MIX. SPECIES SHALL INCLUDE THE FOLLOWING:
 Red-top Panic Grass *Panicum rigidulum* (30% OF TOTAL APPLICATION)
 Fowl Meadow Grass *Cyperus stolon* (10% OF TOTAL APPLICATION)
 Big Bluestem *Andropogon gerardii* (25% OF TOTAL APPLICATION)
 Soft Rush *Juncus effusus* (10% OF TOTAL APPLICATION)
 Blue Verain *Verbena hastata* (25% OF TOTAL APPLICATION)
 THE APPLICATION RATE IS: 1lb./2500sq.ft.
 - SWALE SUBSOIL SHALL BE AUGMENTED (IF NECESSARY) TO ENSURE SANDY LOAM MATERIAL WITH 10-20% ORGANICS & NO MORE THAN 1% CLAY.
 - SWALE SHALL BE MAINTAINED/MOWED AT LEAST ONCE PER YEAR, NO SHORTER THAN 4 INCHES.



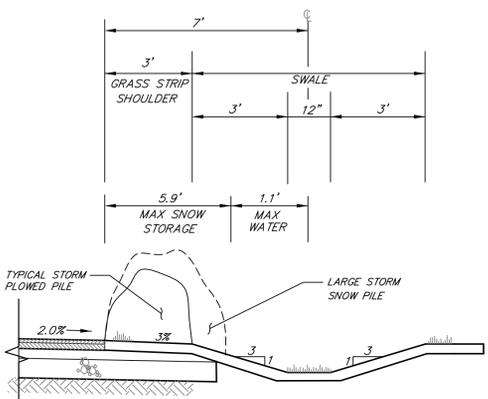
A	B	C	D	E	F
1	3.75	6	6	3	17.75
24	29.25	8	8	4	10
30	35	10	10	5	12.5
36	41.25	12	12	6	15
48	55.25	16	16	8	20

STOP SIGN DETAIL
 NOT TO SCALE



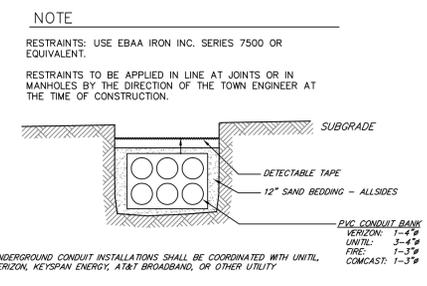
STOP BAR/STREET SIGN DETAIL

- STOP SIGN SHALL BE PLACED NOT LESS THAN 6 FEET FROM EDGE OF TRAVELED WAY.
- STOP SIGN SHALL BE PLACED NOT LESS THAN 7 FEET IN HEIGHT FROM FINISHED GRADE.
- STOP SIGN SHALL UTILIZE A GREEN ENAMEL U-CHANNEL.



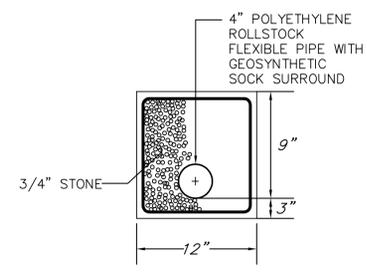
TYPICAL DRIVEWAY SNOW PLOWING CROSS SECTION

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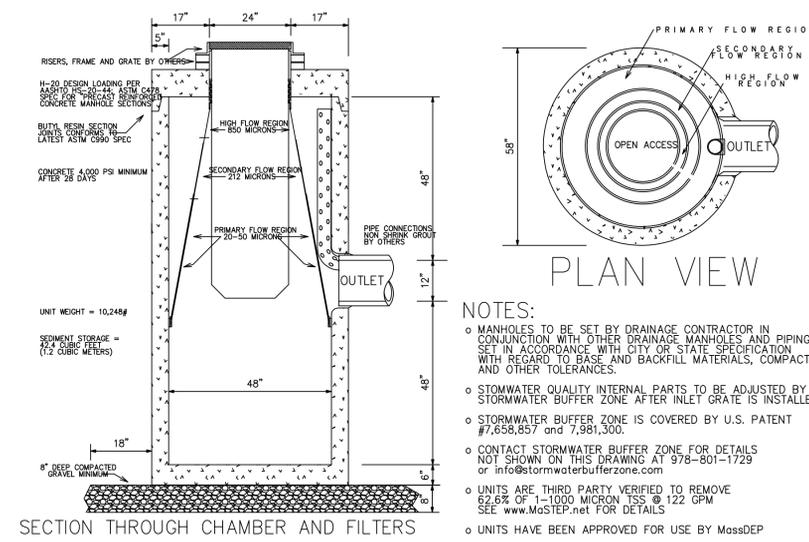
UNDERGROUND POWER CONDUIT DETAIL

NOT TO SCALE
 SEE SHEETS 6&7 FOR LOCATION



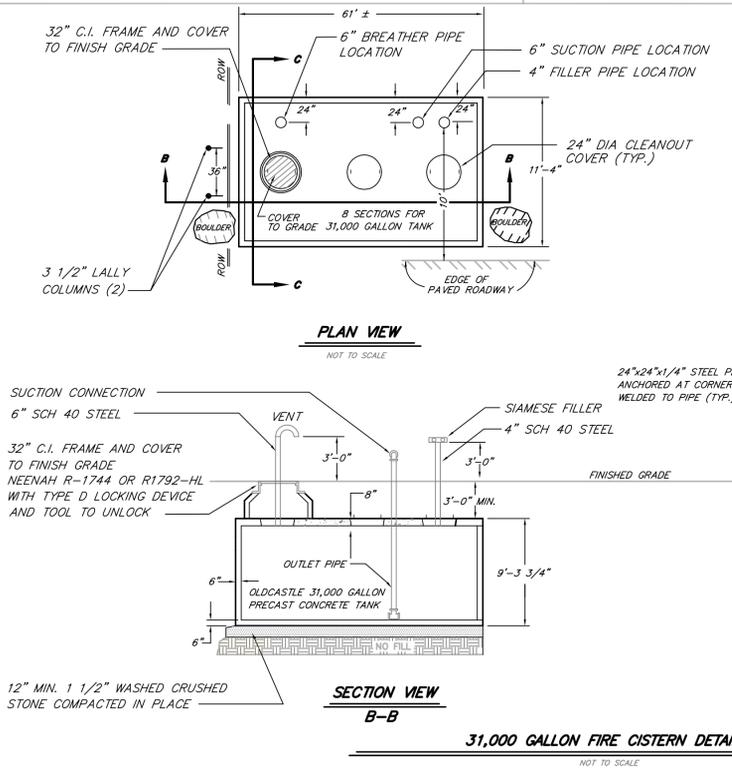
UNDERDRAIN DETAIL

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DETAIL SHEET

"The Birches"

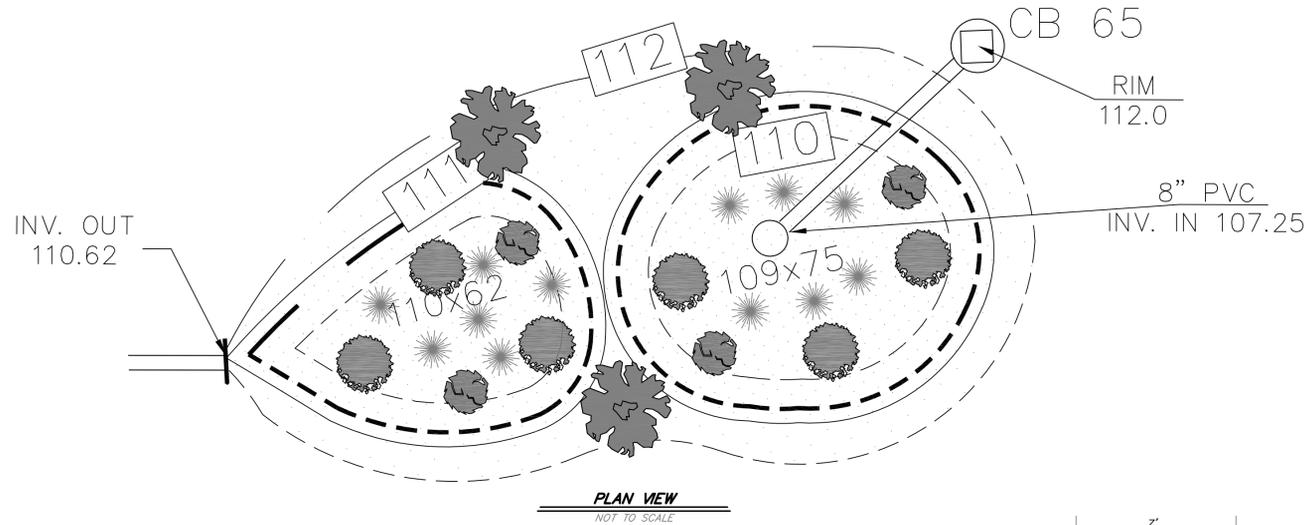
100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS

PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886

NOVEMBER 4, 2014 AS SHOWN

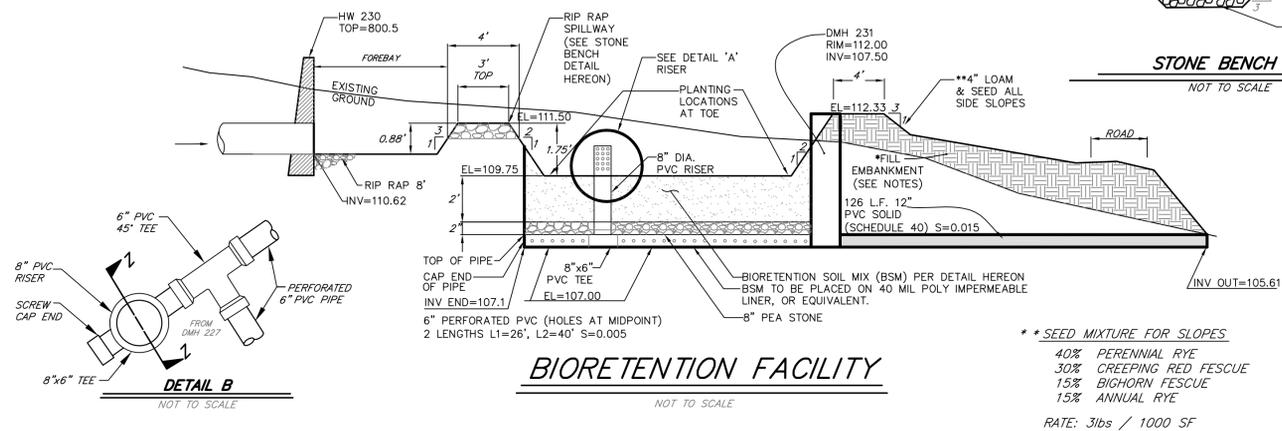
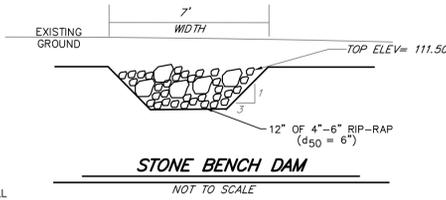
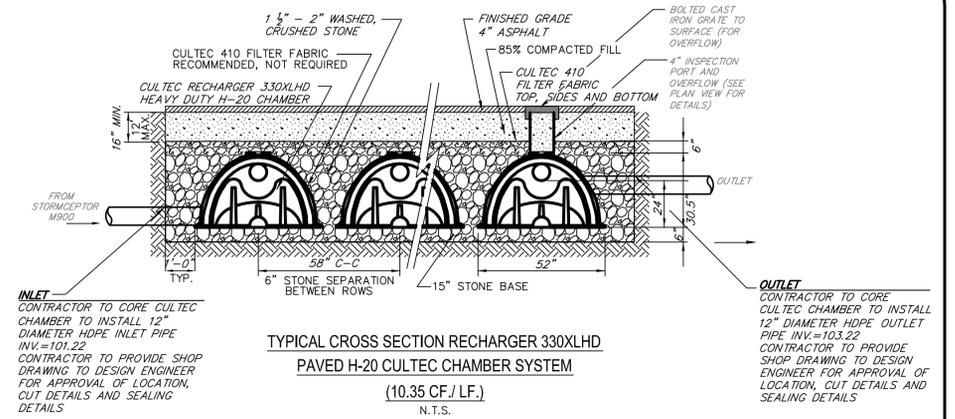
MEISNER BREM CORPORATION
 142 LITTLETON ROAD, STE. 16, WESTFORD, MA 01886 (978) 892-1333
 151 MAIN STREET, SALEM, NH 03079 (603) 893-3300

DRAFTED BY: IJA/PDM SURVEYED BY: KDM
 APPROVED BY: JAB/KDM JOB NUMBER: 2066
 ACAD FILE: 2066m-40B-ANR.dwg



GENERAL NOTES
 Recharger 330 by CULTEC, INC. of Brookfield, CT.
 All Recharger 330 Chambers must be installed in accordance with all applicable local, state and federal regulations.
 Refer to manufacturer, CULTEC, INC.'s recommended installation guidelines.
 All Recharger 330HD H2O Heavy Duty units are marked with a 4" stripe along the length of the chamber.

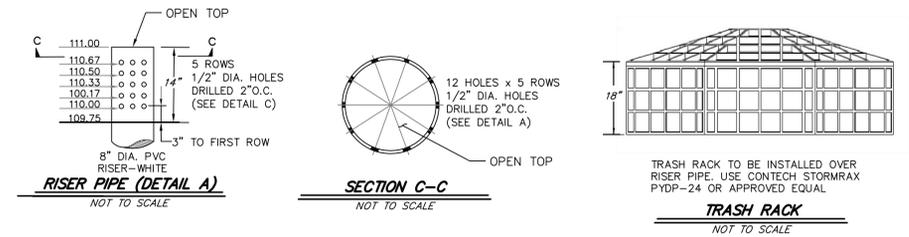
CALCULATIONS BASED ON 40% STONE VOID



SOIL	SPECIFICATION	
40% SAND	SIZE	% PASSING
	8	100
	15	70-100
	50	15-35
	100	2-15
	200	0
20-30% TOPSOIL		
30-40% STABLE COMPOST		

BIORETENTION SOIL MIX & RAIN GARDEN SOIL MIX

**** SEED MIXTURE FOR SLOPES**
 40% PERENNIAL RYE
 30% CREEPING RED FESCUE
 15% BIGHORN FESCUE
 15% ANNUAL RYE
 RATE: 3lbs / 1000 SF



BIORETENTION PLANTING SCHEDULE				
SYMBOL	COMMON NAME	SCIENTIFIC NAME	DELIVERED AS	NUMBER OF PLANTS
●	RIVER BIRCH	BETULA NEGRA	2" CALIPER	3
●	NORTHERN ARROWWOOD VIBURNUM	VIBURNUM RECOGNITUM	18" CONTAINER	6
●	NINEBARK	PHYSCOPRUS OPULIFOLUS	12" CONTAINER	4
●	BIRDSFOOT-TREFOIL	LOTUS-CORNICALATAS	12" CONTAINER	12
●	FINE-SHREDDED HARDWOOD MULCH		6 CUBIC YARDS	2-3" DEEP

RAIN GARDEN #	TYPE	VOLUME (± C.F.)	AREA (± S.F.)	TOP OF BERM	SPILLWAY	BOTTOM	DROP INLET RIM
1	A	98	126	111.74	111.64	110.25	110.74
2	A	98	126	113.67	113.57	112.68	113.17
3	B	98	126	114.75	114.65	114.25	-
4	C	279	360	117.35	117.25	116.35	116.85
5	A	98	126	109.00	108.90	107.50	108.00
6	A	98	126	113.18	113.08	111.68	112.18
7	A	98	126	116.95	116.85	115.95	116.45
9	A	279	360	109.35	109.25	108.35	108.85
10	A	279	360	107.35	107.25	106.35	106.85

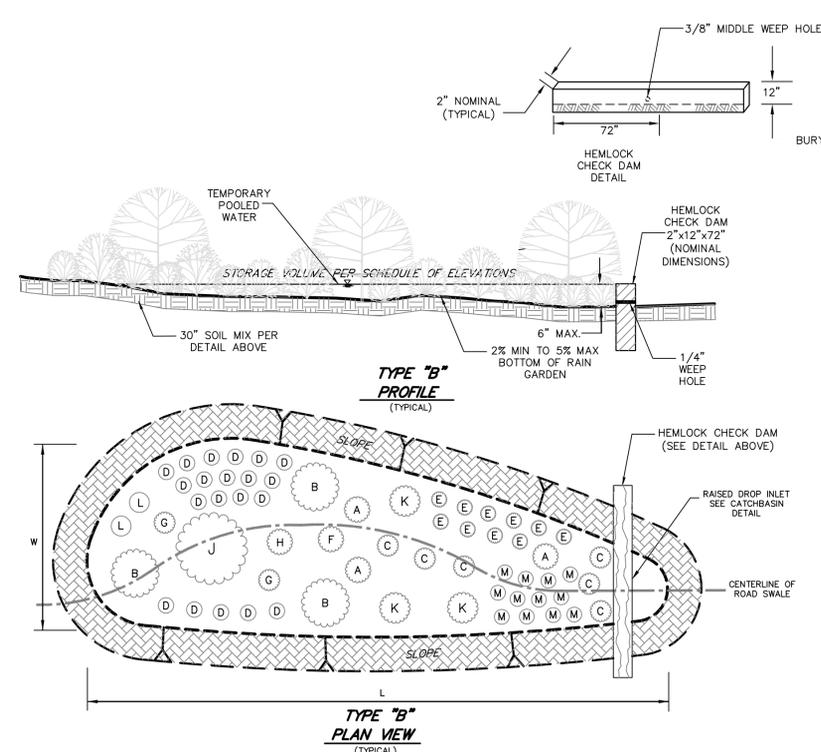
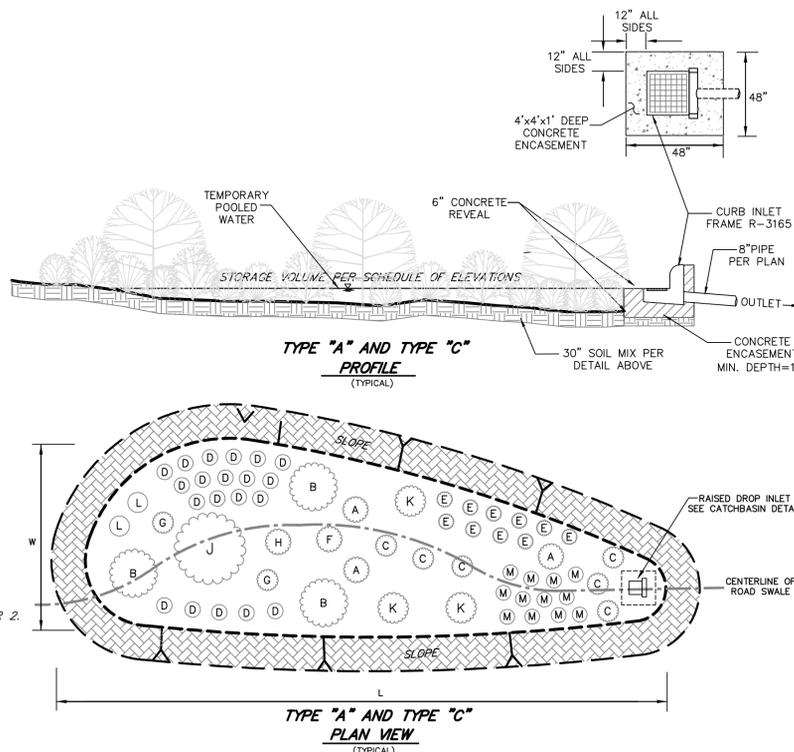
RAIN GARDEN SCHEDULE OF ELEVATIONS

SYMBOL	SPECIES *	COMMON NAME	QUANTITY			HEIGHT	SPACING MINIMUM
			TYPE "A"	TYPE "B"	TYPE "C"		
A	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	6	6	10	1'-2"	1'
B	HYPENICUM DENSIFFLORUM	COMMON ST. JOHNSWORT	3	3	5	1'-2"	2'
C	IRIS VERSICOLOR	BLUE FLAG IRIS	7	7	14	1'-2"	1'
D	JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	12	12	24	0'-3"	1'
E	HEDERA HELIX	ENGLISH IVY	36	36	64	1'-2"	6"
F	PHYSCOPRUS OPULIFOLIOUS	NINEBARK	4	4	8	2'-4"	1'
G	LINDERA BENZOIN	SPICEBUSH	10	10	20	2'-4"	1'
H	ILEX VERTICILLATA	WINTERBERRY	2	2	6	2'-5"	1'
J	FRAXINUS PENNSYLVANICA	GREEN ASH	1	1	2	8'-12"	8'
K	VIBURNUM DENTATUM	ARROW-WOOD	9	9	20	2'-4"	4'
L	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	8	8	16	3'-6"	1'
M	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	15	15	30	1'-2"	4'

RAIN GARDEN DETAIL

RAIN GARDEN PLANT LIST TAKEN FROM MASSACHUSETTS STORMWATER MANAGEMENT GUIDELINES, VOLUME 2, CHAPTER 2.

NOTE:
 1. RAIN GARDEN SUBSOIL SHALL BE EXCAVATED THREE FEET BELOW PROPOSED FINISH ELEVATION. BACKFILL MATERIAL SHALL BE 50% NATIVE SOIL AND 50% COMPOST WITH NO MORE THAN 1% CLAY.
 2. COMPOSTED BLACK BARK MULCH TO BE USED IN RAIN GARDEN PLANTING AREAS.

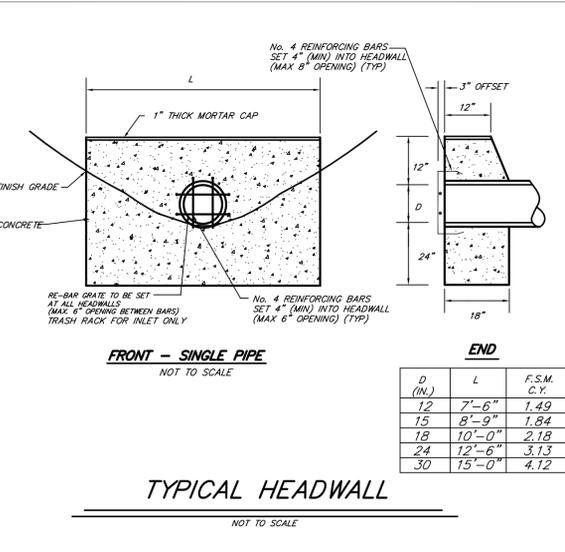
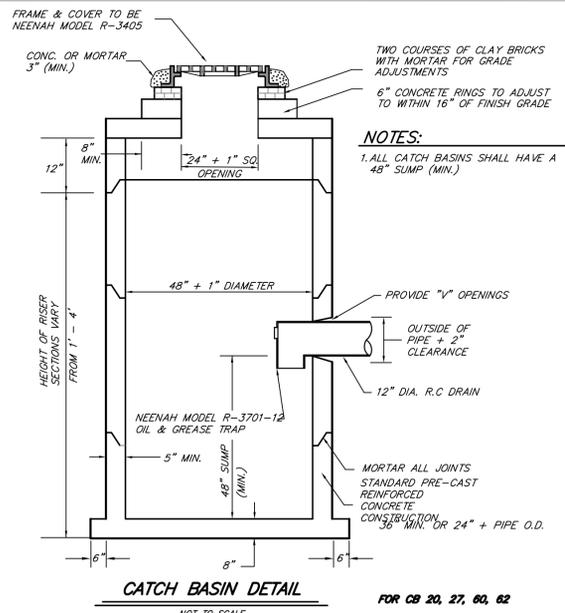
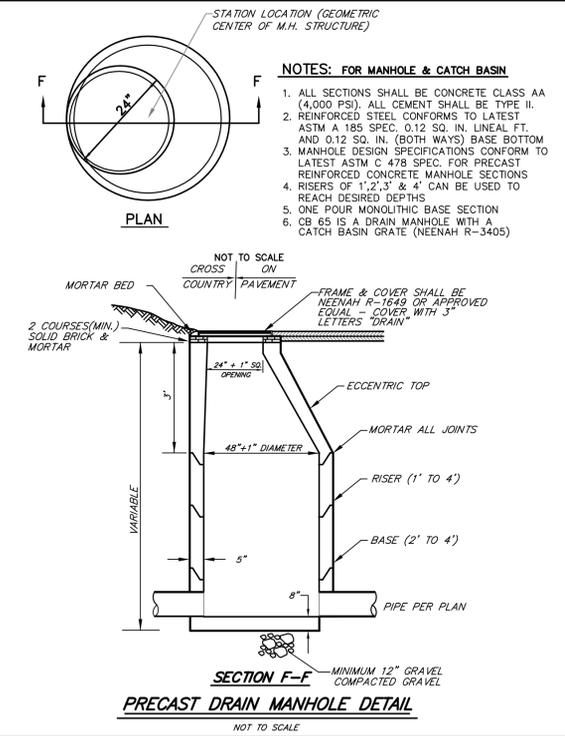
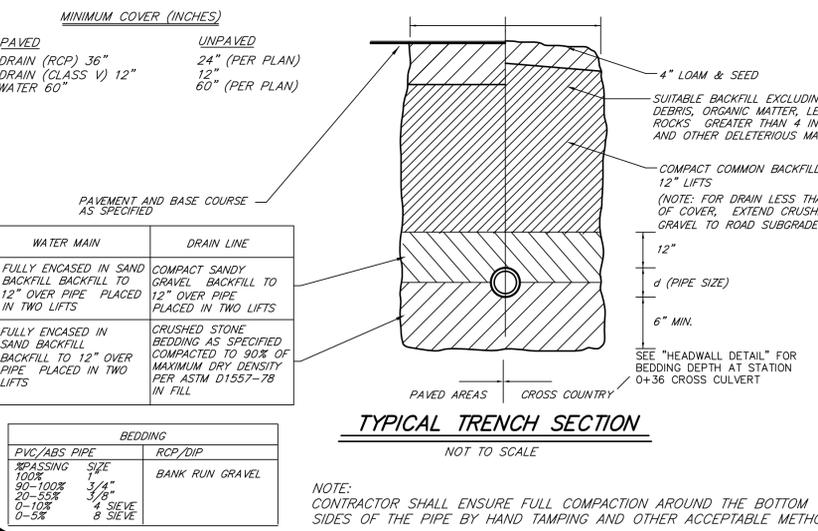
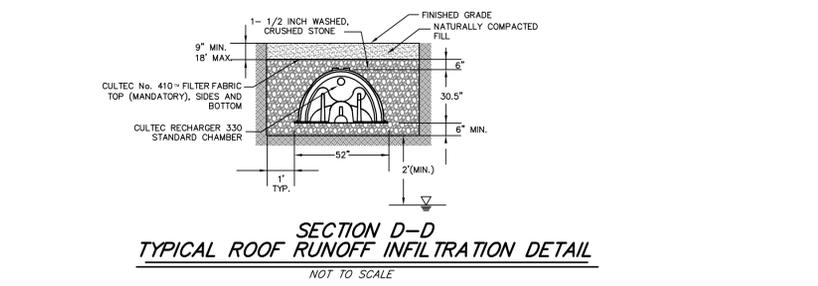
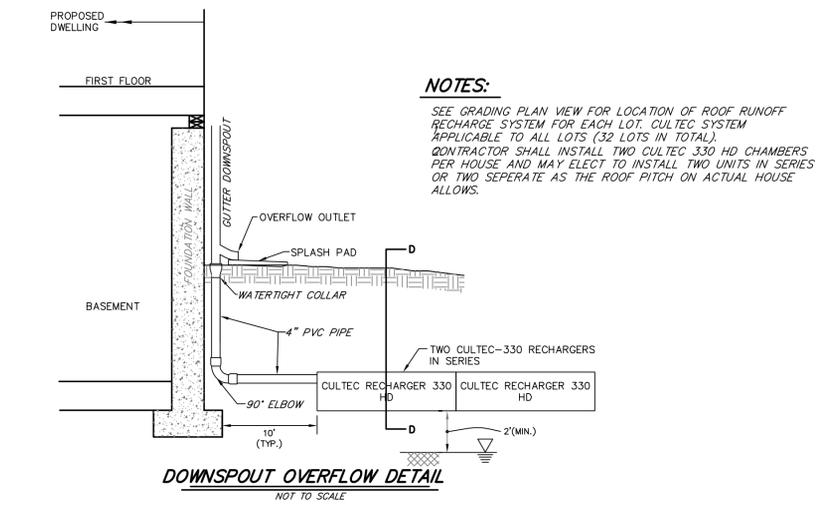
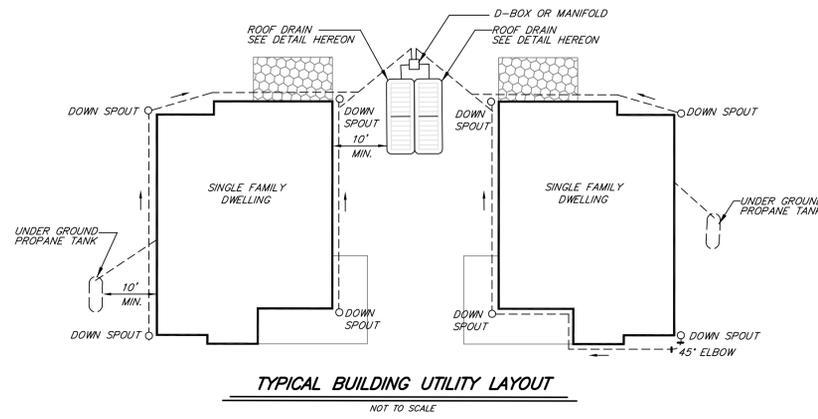


APPROVAL: CARLISLE BOARD OF APPEALS

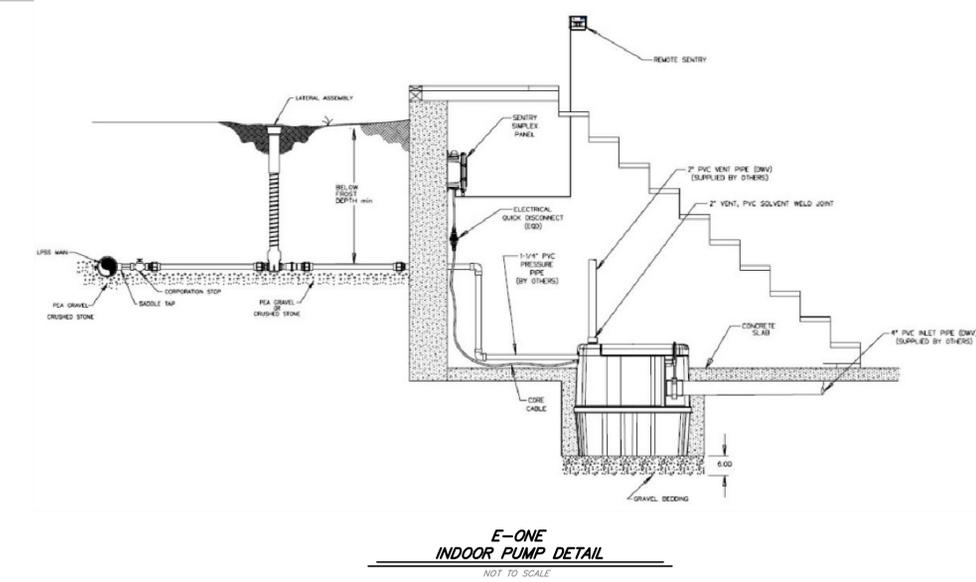
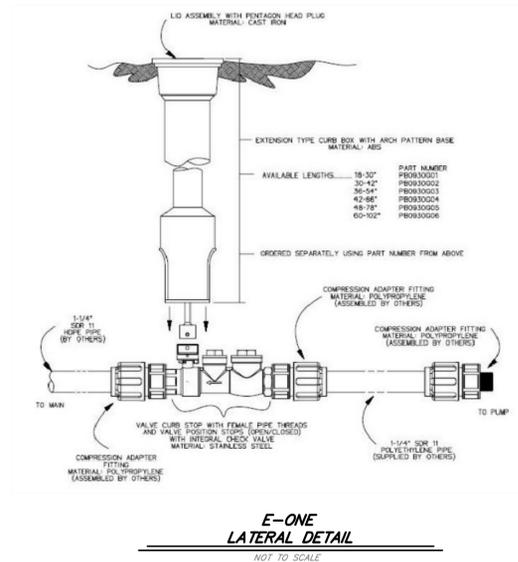
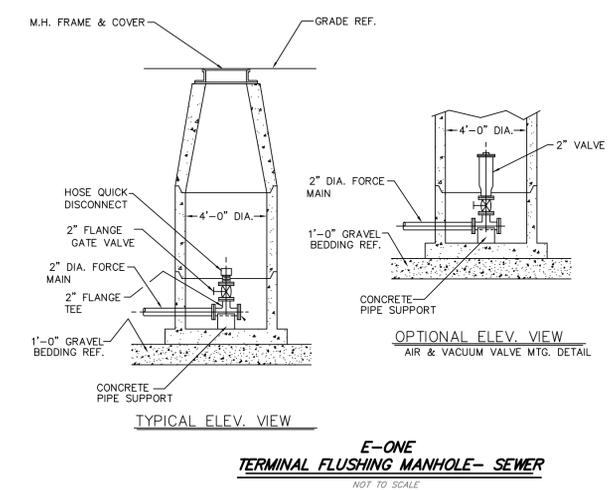
REV. 6	
REV. 5	
REV. 4	
REV. 3	
REV. 2	

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 REV. 1 | 2/6/2015 BY: WJ/B
 PER NITSC COMMENTS

DETAIL SHEET—LOW IMPACT DEVELOPMENT
 "The Birches"
 100 LONG RIDGE ROAD
 CARLISLE, MASSACHUSETTS
 PREPARED FOR:
 LIFETIME GREEN HOMES, LLC
 142 LITTLETON ROAD
 WESTFORD, MA 01886
 NOVEMBER 4, 2014 AS SHOWN



E-ONE LOW PRESSURE SEWER DETAILS



NOTES:

- PUMP FITTING ENCLOSURE, PIPING, ETC. MANUFACTURED AND PROVIDED BY ENVIRONMENTAL ONE CORPORATION (E-ONE)

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DRAFTED BY: UJA/PDM SURVEYED BY: KDM
APPROVED BY: JAB/KDM JOB NUMBER: 2268
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