

# PROPOSED SITE DEVELOPMENT PLAN

## AT

### 357 ELECTRIC AVENUE

### LUNENBURG, MASSACHUSETTS

NOVEMBER 20, 2015

RECEIVED

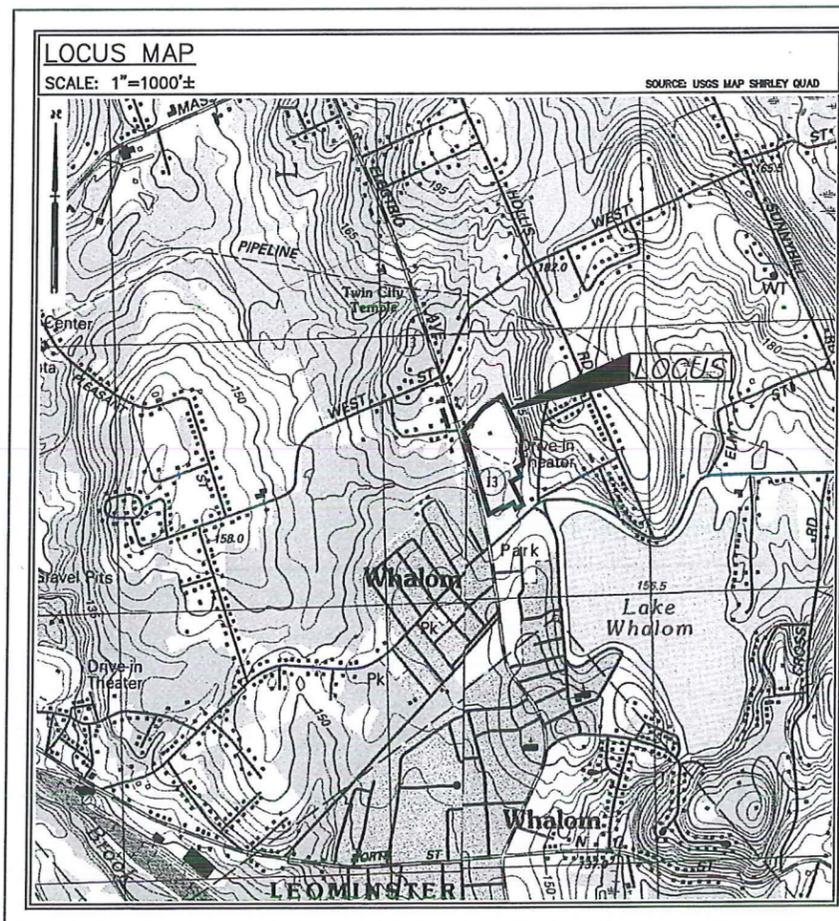
JAN 1 | 2016

Planning Department

**APPLICANT**  
 UNITIL  
 FITCHBURG GAS AND ELECTRIC LIGHT COMPANY  
 6 LIBERTY LANE WEST  
 HAMPTON, NH 03842  
 TEL. (603) 772-0775

**ENGINEER & SURVEYOR**  
 WHITMAN & BINGHAM ASSOCIATES, LLC.  
 510 MECHANIC STREET  
 LEOMINSTER, MA 01453  
 TEL. (978) 537-5296

**CONSTRUCTION MANAGER**  
 NADEAU CORPORATION  
 CONSTRUCTION DEVELOPMENT & ENGINEERING  
 727 WASHINGTON STREET  
 SOUTH ATTLEBORO, MA 02703  
 TEL. (508) 399-6776



**ARCHITECT**  
 KITE ARCHITECTS, INC.  
 3 CENTRAL STREET  
 PROVIDENCE, RI 02907  
 TEL. (401) 272-0240

**CONSULTING ENGINEERS**  
 CREATIVE ENVIRONMENT CORPORATION  
 195 FRANCES AVENUE, BUILDING 2  
 CRANSTON, RI 02910  
 TEL. (401) 438-7733

**SECURITY CONSULTANT**  
 GOOD HARBOR TECHMARK, LLC  
 17 ACCORD PARK DRIVE, SUITE 201  
 NORWELL, MA 02061  
 TEL. (781) 871-6555

**INTERIOR DESIGNER**  
 STIBLER ASSOCIATES, LLC.  
 306 HIGHLANDER WAY  
 MANCHESTER, NH 03103  
 TEL. (603) 623-8952

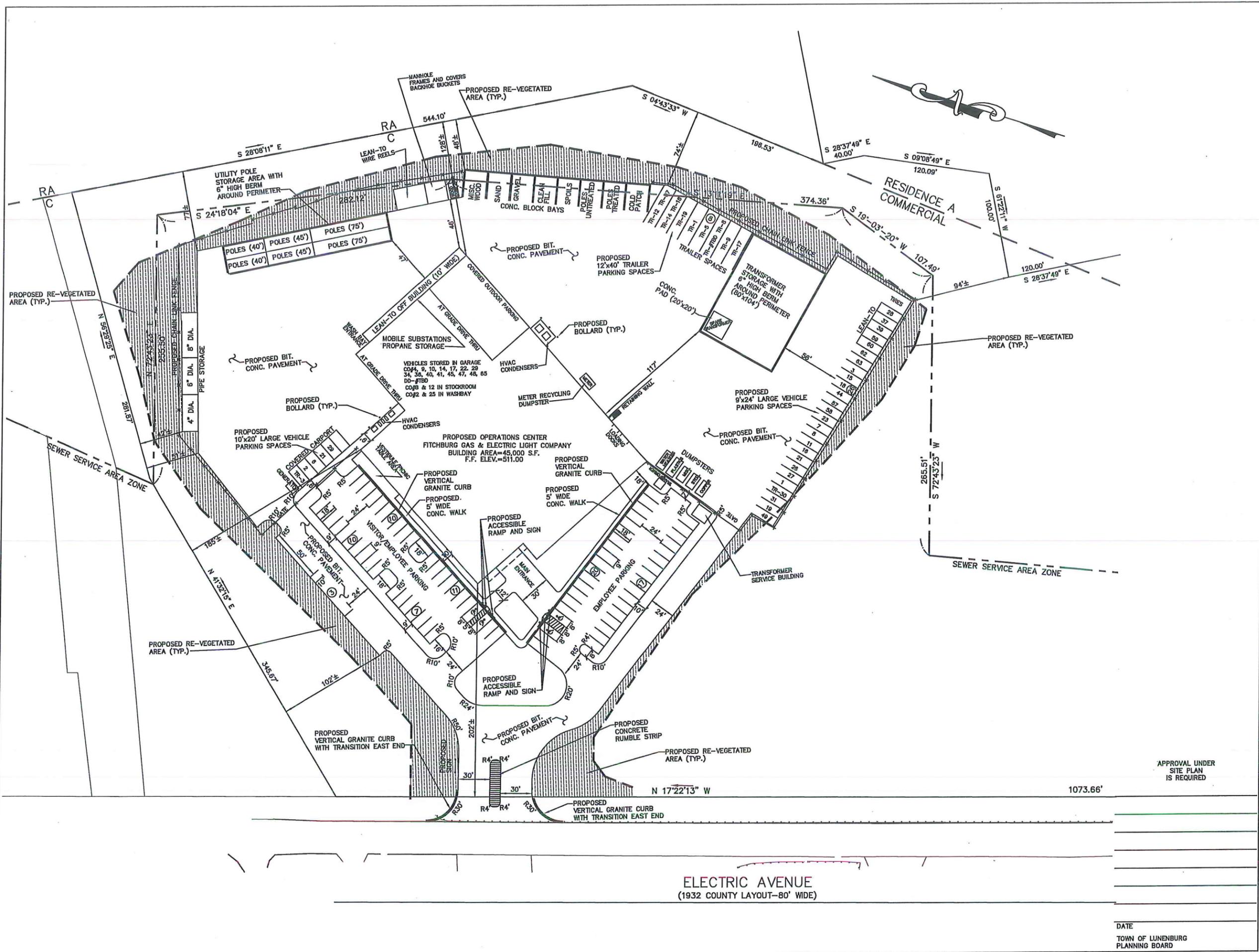
ASSESSOR'S MAP # 93    PARCEL # 56

PLAN INDEX	
EXISTING CONDITIONS PLAN	1
GRADING AND UTILITIES PLAN	2
LAYOUT AND MATERIALS PLAN	3
LANDSCAPE PLAN	4
EROSION CONTROL PLAN	5
CONSTRUCTION NOTES	6
CONSTRUCTION DETAILS	7 - 9
LIGHTING PLAN	L1
ARCHITECTURAL RENDERING	A1

NO.	DATE	DESCRIPTION
3	1/11/16	SHEETS 2 & 3
2	1/6/16	SHEETS 2, 3, 4, 5, 7 & 9
1	12/14/15	SHEETS 1, 2, 3, 4, 5, 6, 8 & 9







**ELECTRIC AVENUE**  
(1932 COUNTY LAYOUT-80' WIDE)

DATE  
TOWN OF LUNENBURG  
PLANNING BOARD

CHECKED BY:	BFM
SCALE:	1"=40'
JOB NUMBER:	13480
PLAN NUMBER:	31-D-31
FIELD BOOK REF(S):	
DRAWN BY:	MFP
DATE:	11/20/15
SHEET NUMBER:	3 OF 9
COMPS:	9779
PLAN REF(S):	BY OTHERS

NO.	DESCRIPTION	DATE	BY
3	ADDED POLE STORAGE BERM	1/11/16	MFP
2	PER PLANNING BOARD COMMENTS	1/5/16	MFP
1	PER ENGINEERING COMMENTS	12/14/15	MFP

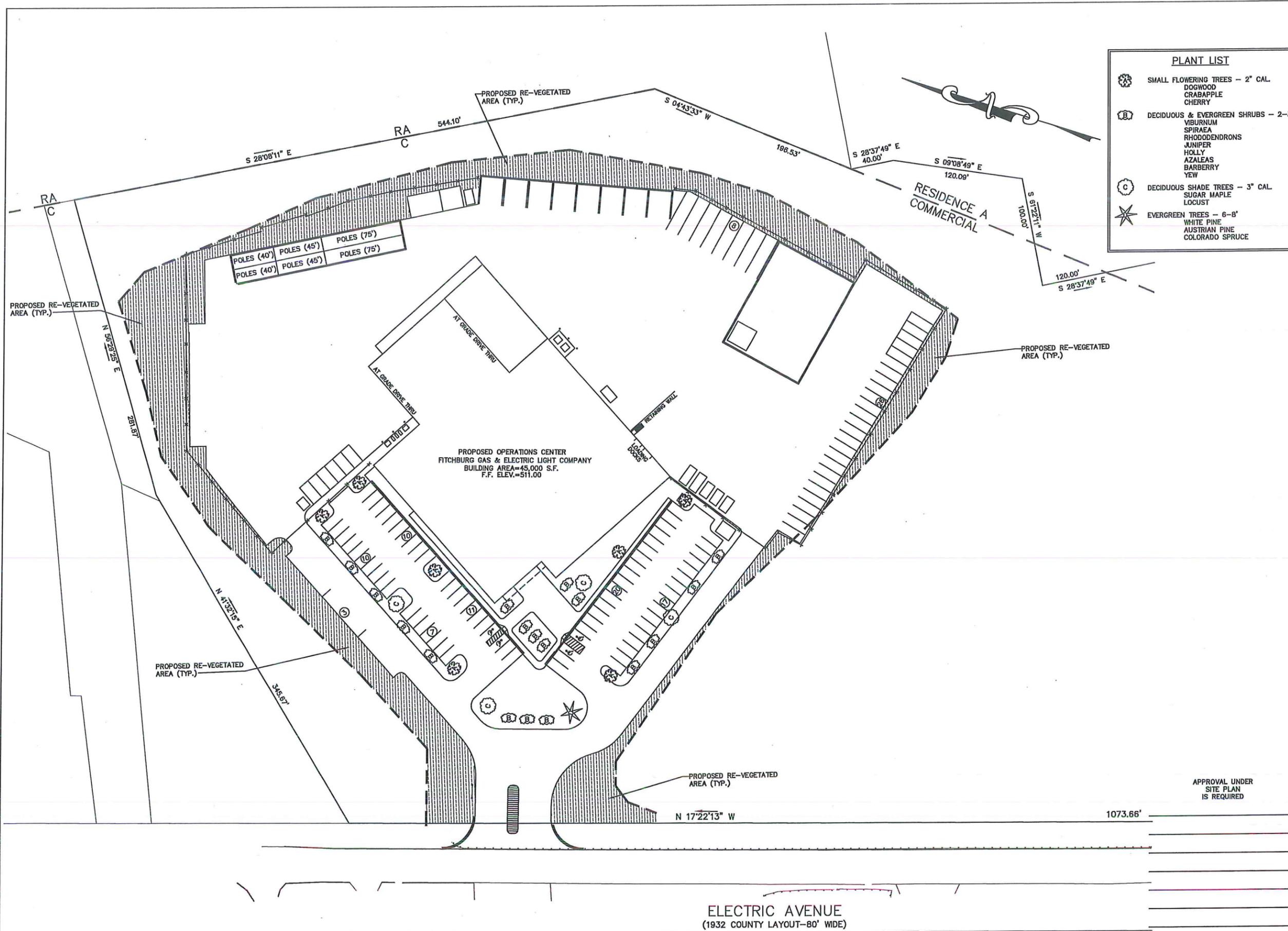
**LAYOUT AND MATERIALS PLAN**  
AT  
**357 ELECTRIC AVENUE**  
IN  
**LUNENBURG, MA**

PREPARED FOR:  
UNITIL  
**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY**  
6 LIBERTY LANE WEST  
HAMPTON, NH 03842



**WHITMAN & BINGHAM**  
A S S O C I A T E S  
REGISTERED ENGINEERS & LAND SURVEYORS  
510 HICKMAN STREET  
LEOMINSTER, MASSACHUSETTS 01453  
TEL: (978) 537-5296  
FAX: (978) 537-1425

APPROVAL UNDER  
SITE PLAN  
IS REQUIRED



**PLANT LIST**

- (A) SMALL FLOWERING TREES - 2" CAL.  
DOGWOOD  
CRABAPPLE  
CHERRY
- (B) DECIDUOUS & EVERGREEN SHRUBS - 2-3'  
VIBURNUM  
SPIRAEA  
RHODODENDRONS  
JUNIPER  
HOLLY  
AZALEAS  
BARBERRY  
YEW
- (C) DECIDUOUS SHADE TREES - 3" CAL.  
SUGAR MAPLE  
LOCUST
- (S) EVERGREEN TREES - 6-8"  
WHITE PINE  
AUSTRIAN PINE  
COLORADO SPRUCE

CHECKED BY: BFM	SCALE: 1"=40'	JOB NUMBER: 13460	PLAN NUMBER: 31-D-31	FIELD BOOK REF(S):
DRAWN BY: MFP	DATE: 11/20/15	SHEET NUMBER: 4 OF 9	COMPS: 9779	PLAN REF(S): BY OTHERS

NO.	DESCRIPTION	DATE	BY
2	PER PLANNING BOARD COMMENTS	1/6/16	MFP
1	PER ENGINEERING COMMENTS	12/14/15	MFP

**LANDSCAPE PLAN**  
AT  
**357 ELECTRIC AVENUE**  
IN  
**LUNENBURG, MA**

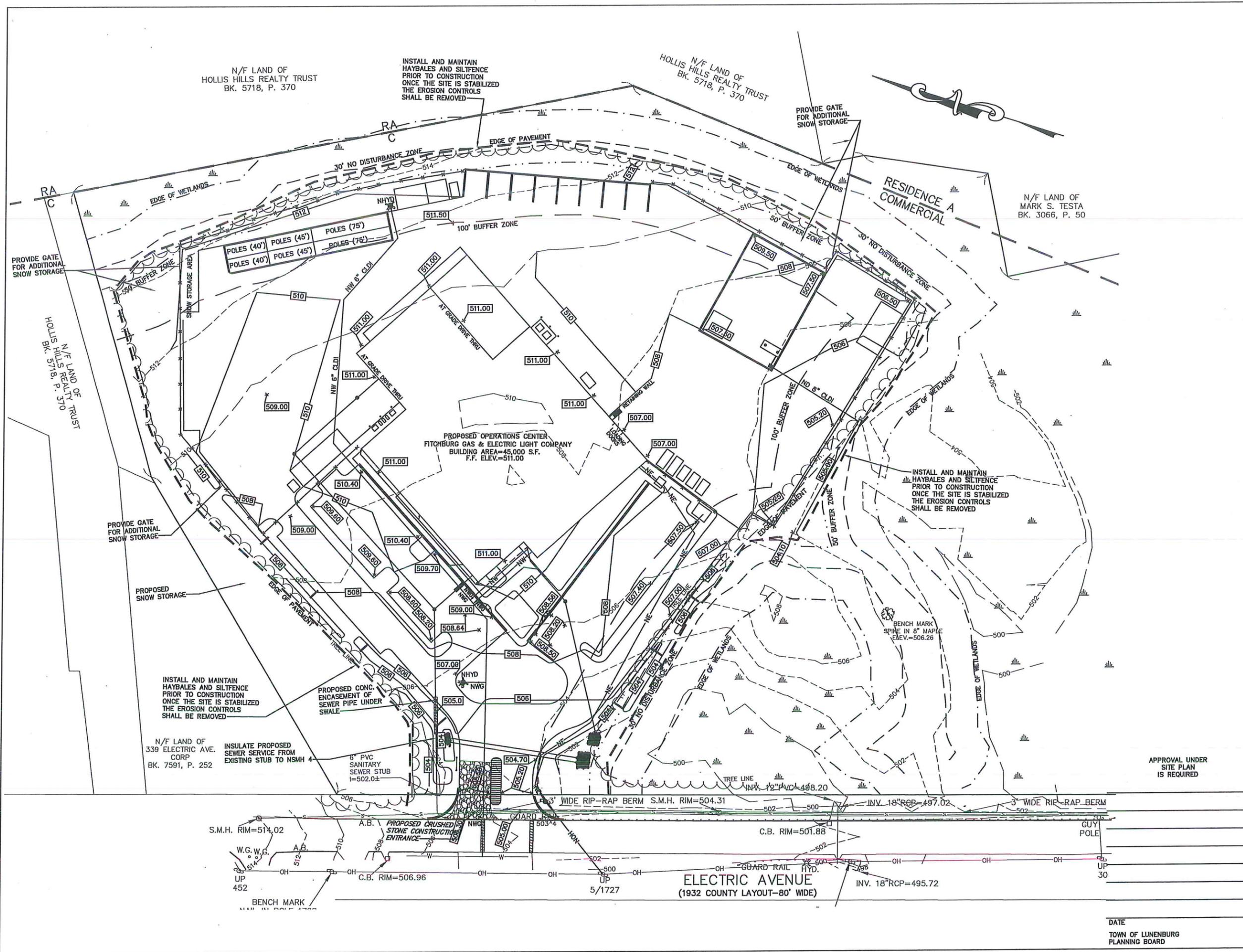
PREPARED FOR:  
UNITLE  
**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY**  
6 LIBERTY LANE WEST  
HAMPTON, NH 03842



**WHITMAN & BINGHAM**  
A S O C C I A T E S  
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SID MECHANIC STREET  
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APPROVAL UNDER  
SITE PLAN  
IS REQUIRED

DATE  
TOWN OF LUNENBURG  
PLANNING BOARD



CHECKED BY:	BFM
SCALE:	1"=40'
JOB NUMBER:	13480
PLAN NUMBER:	31-D-31
FIELD BOOK REF(S):	
DRAWN BY:	MFP
DATE:	11/20/15
SHEET NUMBER:	5 OF 9
COMPS:	9779
PLAN REF(S):	BY OTHERS

REVISIONS	NO.	DESCRIPTION	DATE	BY
	2	PER DEP COMMENTS	1/5/16	MFP
	1	PER ENGINEERING COMMENTS	12/14/15	MFP
	NO.			

**EROSION CONTROL PLAN**  
 AT  
**357 ELECTRIC AVENUE**  
 IN  
**LUNENBURG, MA**

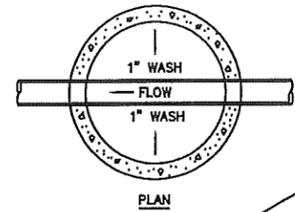
PREPARED FOR:  
 UNITIL  
 FITCHBURG GAS AND ELECTRIC LIGHT COMPANY  
 6 LIBERTY LANE WEST  
 HAMPTON, NH 03842



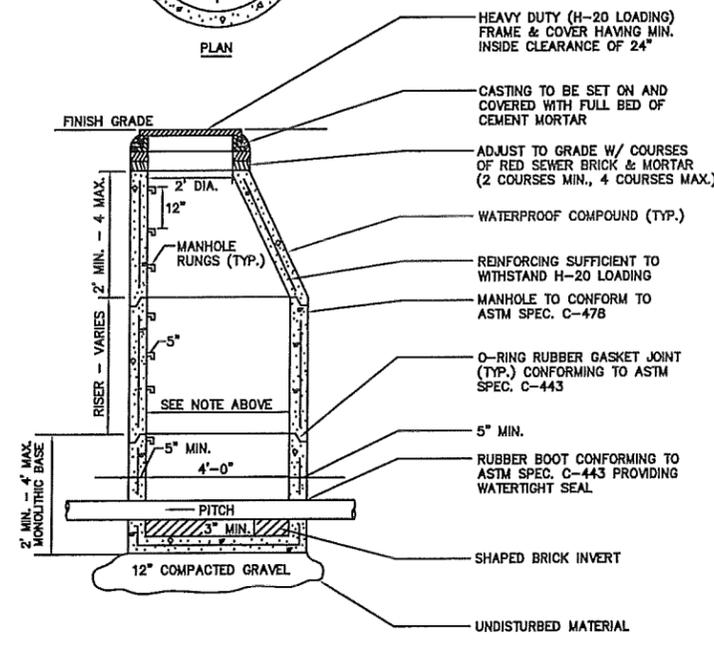
**WHITMAN & BINGHAM**  
 ASSOCIATES  
 REGISTERED ENGINEERS & LAND SURVEYORS  
 510 NECHAMING STREET  
 LEONMINSTER, MASSACHUSETTS 01469  
 TEL: (978) 533-5296  
 FAX: (978) 533-5425

DATE  
 TOWN OF LUNENBURG  
 PLANNING BOARD





NOTE:  
USE 4'-0" DIA. FOR PIPES  
24" OR LESS; 5'-0" DIA. FOR  
PIPES GREATER THAN 24"

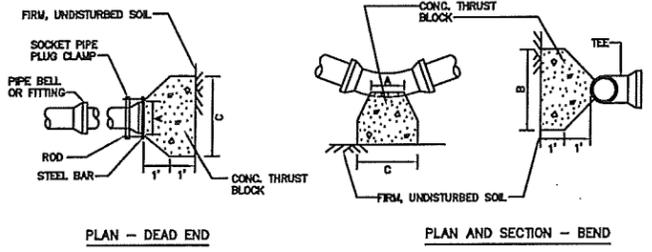


**PRECAST SEWER MANHOLE**  
NOT TO SCALE

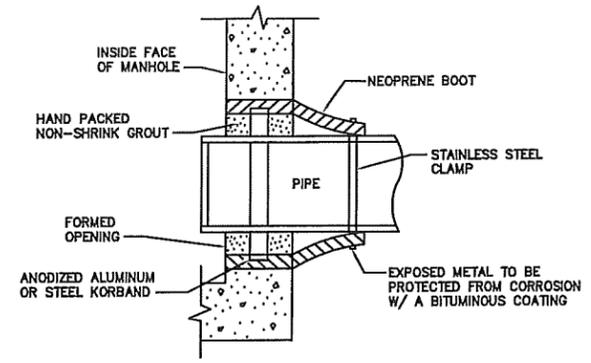
**NOTES:**

1. PROVIDE CONCRETE THRUST BLOCKS AT ALL BENDS, DEAD ENDS & TEES UNLESS OTHERWISE DIRECTED. CONCRETE FOR ALL THRUST BLOCKS SHALL BE PLACED AGAINST FIRM, UNDISTURBED SOIL. PROVIDE APPROVED ANCHOR HARNESS RODS & SOCKET CLAMPS AS SPECIFIED & IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATIONS WHERE SOIL HAS BEEN DISTURBED OR THRUST BLOCKS CANNOT BE USED, AS DIRECTED BY THE ARCHITECT.
2. ALL SOCKET CLAMP METAL SHALL BE COATED WITH BLACK ASPHALTUM OR OTHER WATER DEPARTMENT APPROVED COATINGS.
3. CONCRETE THRUST BLOCKS POURED BEHIND 3-WAY TEE & HYDRANT SHOE TO BE USED WITH SOCKET CLAMPS.
4. NO CONCRETE SHALL COVER PIPE JOINTS, FITTING JOINTS, BOLTS OR HYDRANT DRAINS.

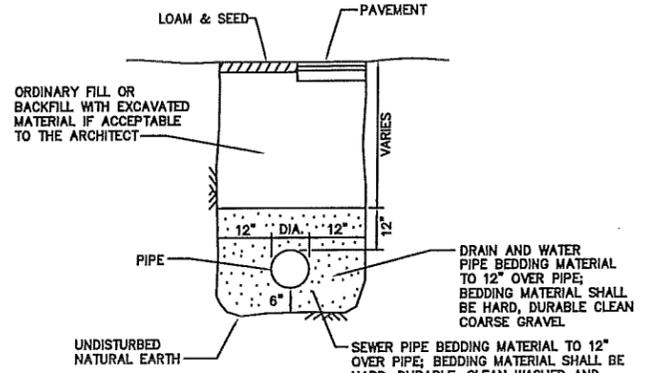
FITTING	THRUST BLOCK SCHEDULE											
	SIZE OF PIPE PRODUCING THRUST											
	12"			10"			8"			6"		
	A	B	C	A	B	C	A	B	C	A	B	C
22-1/2" BEND	1'-0"	2'-0"	2'-0"	1'-0"	2'-0"	2'-0"	1'-0"	2'-0"	2'-0"	1'-0"	2'-0"	2'-0"
45° BEND	1'-0"	3'-0"	3'-0"	1'-0"	2'-0"	2'-0"	1'-0"	2'-0"	2'-0"	1'-0"	2'-0"	2'-0"
90° BEND	1'-0"	4'-0"	4'-0"	1'-0"	4'-0"	4'-0"	1'-0"	3'-0"	3'-0"	1'-0"	3'-0"	3'-0"
12"x12"x4", 10"x10"x4", 8"x8"x4", 6"x6"x4", 4"x4"x4" TEES	1'-0"	4'-0"	4'-0"	1'-0"	3'-0"	3'-0"	1'-0"	3'-0"	3'-0"	1'-0"	2'-0"	2'-0"
12"x12"x8", 10"x10"x8", 8"x8"x8", 6"x6"x8" TEES	1'-8"	4'-0"	4'-0"	1'-8"	3'-0"	3'-0"	1'-8"	3'-0"	3'-0"	1'-8"	2'-0"	2'-0"
12"x12"x8", 10"x10"x8", 8"x8"x8" TEES	1'-8"	4'-0"	4'-0"	1'-8"	3'-0"	3'-0"	1'-8"	3'-0"	3'-0"	1'-8"	2'-0"	2'-0"
12"x12"x10", 10"x10"x10" TEES	2'-0"	4'-0"	4'-0"	2'-0"	3'-0"	3'-0"	2'-0"	3'-0"	3'-0"	2'-0"	2'-0"	2'-0"
12"x12"x12" TEES	2'-0"	4'-0"	4'-0"	2'-0"	3'-0"	3'-0"	2'-0"	3'-0"	3'-0"	2'-0"	2'-0"	2'-0"
PLUGS	2'-0"	4'-0"	4'-0"	2'-0"	3'-0"	3'-0"	2'-0"	3'-0"	3'-0"	2'-0"	2'-0"	2'-0"
HYDRANTS	2'-0"	4'-0"	4'-0"	2'-0"	4'-0"	4'-0"	1'-8"	3'-0"	3'-0"	1'-8"	3'-0"	3'-0"



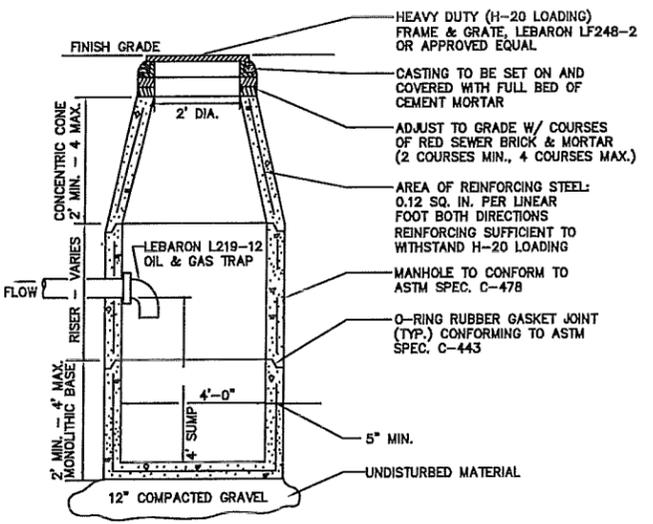
**TYPICAL CONCRETE THRUST BLOCK DETAILS**  
NOT TO SCALE



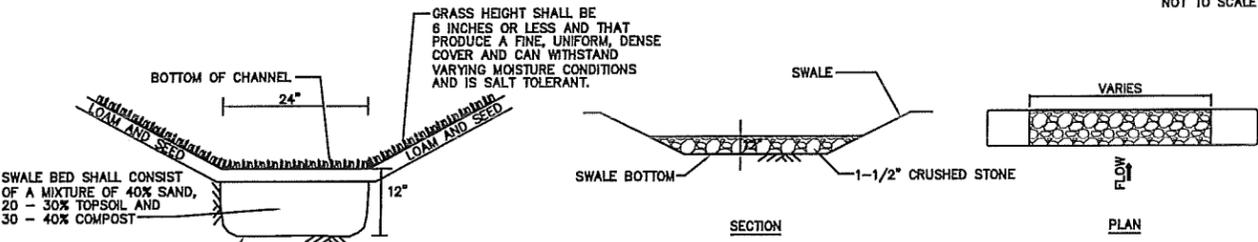
**PIPE CONNECTION DETAIL**  
(FOR PVC PIPE)  
NOT TO SCALE



**TYPICAL TRENCH SECTION**  
NOT TO SCALE

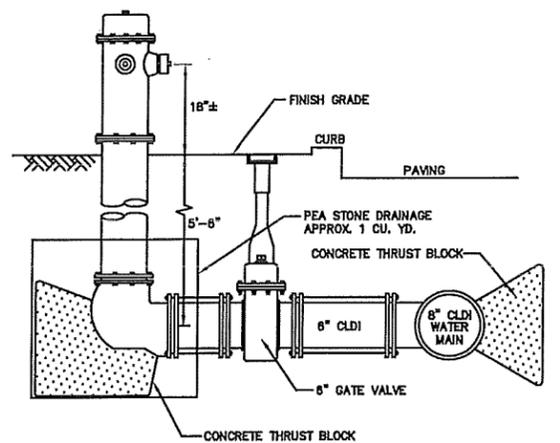


**PRECAST CATCH BASIN**  
NOT TO SCALE

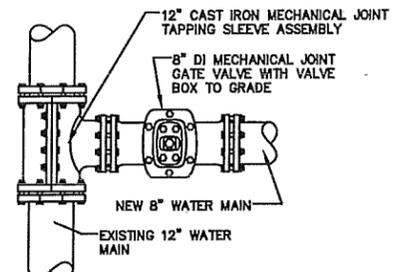


**GRASS CHANNEL**  
NOT TO SCALE

**STONE CHECK DAM DETAIL**  
NOT TO SCALE



**FIRE HYDRANT DETAIL**  
NOT TO SCALE



**WET TAP DETAIL**  
NOT TO SCALE

- NOTES:**
1. INSTALL TAPPING SLEEVE, VALVE AND VALVE BOX PER MANUFACTURERS RECOMMENDATIONS.
  2. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE MARLBOROUGH DEPARTMENT OF PUBLIC WORKS REQUIREMENTS.

APPROVAL UNDER SITE PLAN IS REQUIRED

DATE \_\_\_\_\_

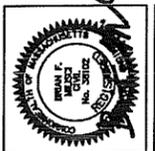
TOWN OF LUNENBURG PLANNING BOARD

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DRAWN BY: MFP	DATE: 11/20/15	SHEET NUMBER: 7 OF 9	COMPS: 9779	PLAN REF(S): BY OTHERS
				DATE
				NO.

REVISIONS	DESCRIPTION	DATE
1	PER DEP COMMENTS	1/5/16

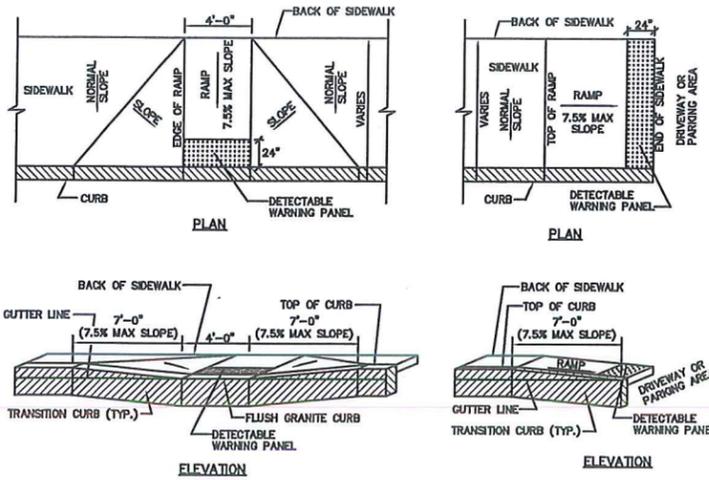
**CONSTRUCTION DETAILS #1**  
AT  
**357 ELECTRIC AVENUE**  
IN  
**LUNENBURG, MA**

PREPARED FOR:  
UNITIL  
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6 LIBERTY LANE WEST  
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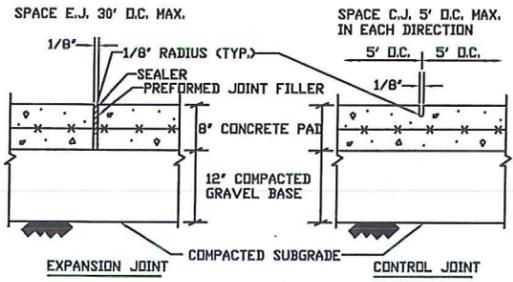
**WHITMAN & BINGHAM**  
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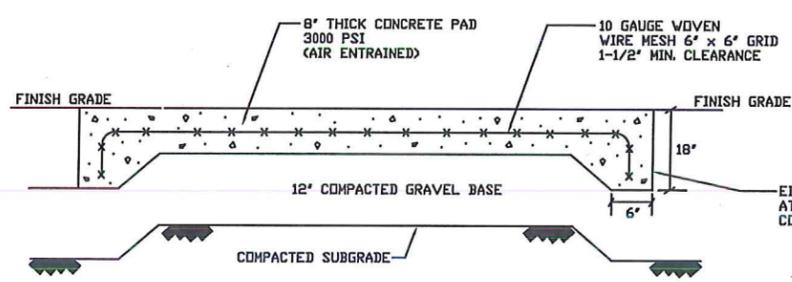


- DETECTABLE WARNING PANEL SPECIFICATIONS:**
- PANELS SHALL HAVE DOME GEOMETRY IN ACCORDANCE WITH ADA REGULATIONS FOR DETECTABLE WARNING ON CURB RAMPS. THEY SHALL BE RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 INCHES, A NOMINAL HEIGHT OF 0.2 INCHES, AND A CENTER-TO-CENTER SPACING OF 1.6 INCHES TO 2.4 INCHES. PANELS SHALL BE 24 INCHES DEEP IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE RAMP.
  - THE PANEL SHALL BE A HOMOGENEOUS GLASS AND CARBON REINFORCED COMPOSITE WHICH IS COLORFAST, AND UV STABLE. THE PANELS SHALL BE COLORED THROUGHOUT AND NOT A PAINTED COATING. THE COLOR IS TO BE CONTRASTING TO THE BACKGROUND SIDEWALK COLOR. PANELS FOR CEMENT CONCRETE RAMPS SHALL BE DARK GREY IN COLOR.
  - THE PANELS SHALL HAVE A COMPRESSIVE STRENGTH IN EXCESS OF 10,000 PSI, FLEXURAL STRENGTH IN EXCESS OF 3,000 PSI, AND A SLIP RESISTANCE IN EXCESS OF 0.80 WET OR DRY.
  - CONCRETE SHALL BE PLACED AND FINISHED LEVEL, TRUE AND SMOOTH TO THE REQUIRED DIMENSIONS PRIOR TO PLACEMENT OF THE WARNING PANEL. THE WARNING PANEL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS PROCEDURES. THE TOLERANCE FOR ELEVATION DIFFERENCES BETWEEN THE PANEL AND THE ADJACENT SURFACE SHALL NOT EXCEED 1/16 INCH. PANELS SHALL BE PERMANENTLY APPLIED TO THE RAMP.
  - DETECTABLE WARNING PANELS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, INC. OF NORTH BILLERICA, MA OR APPROVED EQUAL.

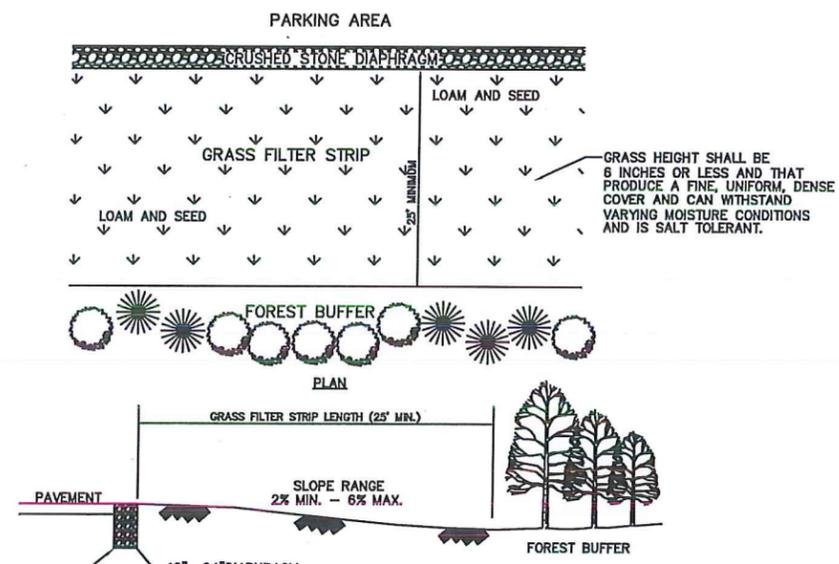
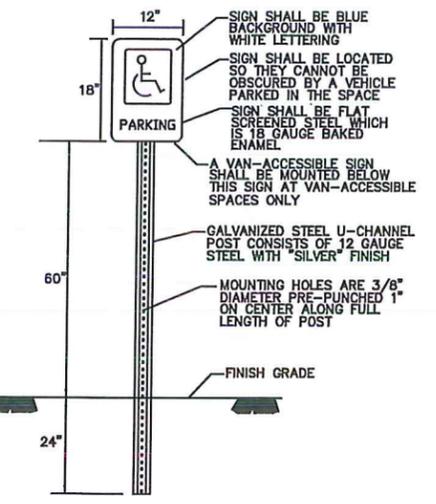
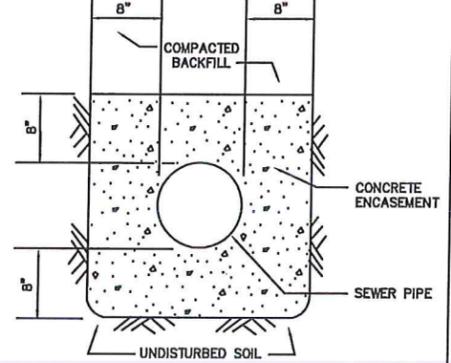
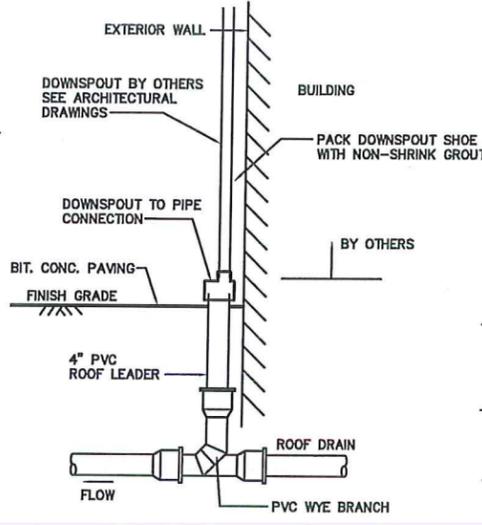
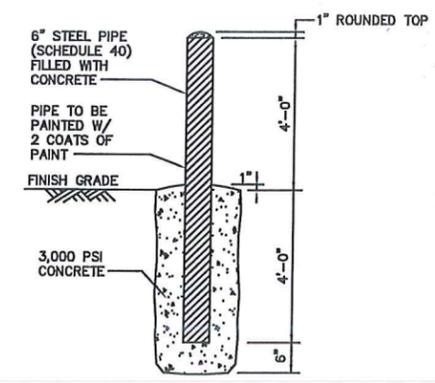
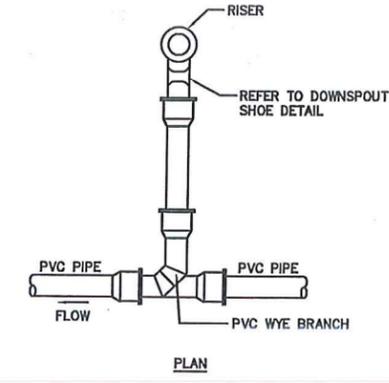
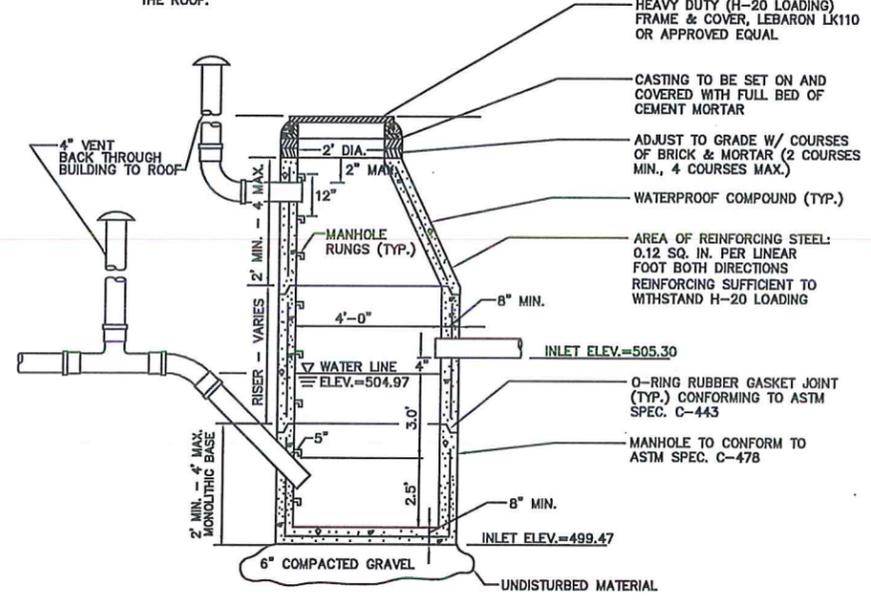
**ACCESSIBLE RAMP DETAIL**  
NOT TO SCALE



**CONCRETE PAD DETAIL**  
NOT TO SCALE



- NOTES:**
- THE TRAP SHALL BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR CLEANING.
  - GAS/OIL TRAP SHALL BE CLEANED AND INSPECTED TWICE A YEAR TO ENSURE THAT IT IS FUNCTIONING PROPERLY. THIS WILL INCLUDE SKIMMING OIL AND GAS FROM THE WATER SURFACE IN THE TRAP, THEN FULLY PUMPING OUT THE BOTTOM OF THE TRAP. OIL AND GAS FROM SKIMMING SHALL NOT BE DISCHARGED TO THE SEWER.
  - BOTH VENTS SHALL EXTEND INDEPENDENTLY 18" ABOVE THE ROOF.

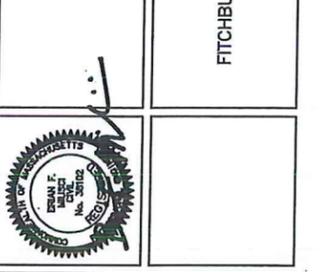


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AT  
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IN  
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