

# "LAKELAND FARMS"

## TOWNHOUSE COMMUNITY SITE PLAN

NORFOLK, MASSACHUSETTS

APRIL 19, 2016

**PREPARED FOR:**

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

**PREPARED BY:**

ANDREWS SURVEY & ENGINEERING, INC.  
104 MENDON STREET  
P.O. BOX 312  
UXBRIDGE, MA 01569  
P: 508.278.3897  
F: 508.278.2289

**ENVIRONMENTAL:**

B&C ASSOCIATES, INC.  
2 RICE STREET  
HUDSON, MA 01749  
P: 978.568.0135



LOCUS MAP  
1" = 1500'

**OWNER OF RECORD:**  
EDWARD B. & SANDRA A. O'HARTE  
84 CLEVELAND STREET  
NORFOLK, MA 02056

**DEED REFERENCE:**  
DEED BK. 20999, PG. 419

**NORFOLK ASSESSORS INFORMATION:**  
MAP 15, BLOCK 54, PARCEL 43  
TOTAL AREA: 8.81± ACRES

**NORFOLK ZONING INFORMATION:**  
ZONE: RESIDENCE R-3  
MINIMUM FRONTAGE: 200'  
MINIMUM LOT AREA: 55,000 S.F.  
BUILDING SETBACKS: FRONT 50', SIDE 25', REAR 25'

**PLAN REFERENCES:**  
NO. 26-1972 BK. 4800, PG. 71  
NO. 534-1974 PL. BK. 244

**ASE**  
Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning  
P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289  
500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

**PROJECT:**  
LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

**APPLICANT:**  
LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

DRAWING DATE	LAST REVISION	SHEET NO.	SHEET TITLE
4/19/16	11/16/16	C-0.0	COVER SHEET
4/19/16	11/16/16	C-1.1	LEGEND, ABBREVIATIONS, & GENERAL NOTES
4/19/16	11/16/16	C-2.0	EXISTING CONDITIONS PLAN
4/19/16	11/16/16	C-3.0	LAYOUT & MATERIALS PLAN
4/19/16	11/16/16	C-4.0	UTILITY PLAN
4/19/16	11/16/16	C-5.0	GRADING & DRAINAGE PLAN
4/19/16	11/16/16	C-6.1 - C-6.2	TOPOGRAPHIC PLAN & PROFILE
4/19/16	11/16/16	C-7.1 - C-7.6	CONSTRUCTION DETAILS
11/16/16		C-8.0	LIGHTING PLAN
4/19/16	11/16/16	L-1.0	LANDSCAPE PLAN
4/19/16	11/16/16	L-2.0	LANDSCAPE SCHEDULE & DETAILS
4/19/16	11/16/16	L-3.0	LANDSCAPE NOTES

GOVERNMENT / UTILITY CONTACTS		
NORFOLK POLICE DEPT. P.O. BOX 3 117 MAIN STREET P: 508-528-3206 F: 508-541-3340	NORFOLK BUILDING DEPARTMENT ONE LIBERTY LANE P: 508-528-5088 F: 508-541-3300	NORFOLK CONSERVATION COMMISSION ONE LIBERTY LANE P: 508-541-8455 F: 508-541-3377
NORFOLK FIRE DEPT. 117 MAIN STREET P: 508-528-3207	NORFOLK DEPARTMENT OF PUBLIC WORKS 33 MEDWAY BRANCH P: 508-528-4990 F: 508-528-2773	NORFOLK PLANNING BOARD 79 SOUTH STREET P: 508-528-2961 F: 508-541-3377

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg  
DRAWN BY: SJO, TRB  
CHECKED BY: PBH, BJA  
DATE: APRIL 19, 2016  
PROJECT NO.: 2014-111

Professional Engineer Seal for Paul B. Huttmak, No. 45872, State of Massachusetts, dated 11/16/16.

Professional Land Surveyor Seal for Byron J. Andrews, No. 47888, State of Massachusetts, dated 11/16/16.

SHEET TITLE  
**COVER SHEET**

DRAWING NO.  
**C-0.0**

PLAN NO. L-4819

**GENERAL NOTES**

**PART 1 – TOPOGRAPHIC AND PROPERTY LINE INFORMATION**

A. NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

B. PROPERTY LINE AND TOPOGRAPHY:  
 • EXISTING PROPERTY LINE, UTILITY INFORMATION AND TOPOGRAPHIC INFORMATION PERFORMED BY ANDREWS SURVEY & ENGINEERING, INC.

C. WETLAND DELINEATION BY B&C ASSOCIATES, INC.

D. DATUM: ASSUMED

E. BENCHMARKS: ASSUMED (SEE EXISTING CONDITIONS PLAN)

F. COORDINATE SYSTEM: ASSUMED

G. CONSTRUCTION STAKING CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY TO PERFORM THE WORK.

H. FLOODPLAIN: THE PROPERTY DOES NOT LIE IN A FLOOD HAZARD AREA OR 100-YEAR FLOODPLAIN ACCORDING TO THE MOST RECENT FLOOD INSURANCE RATE MAPS FOR NORFOLK, MAP NUMBER 25021C0164E, EFFECTIVE DATE 7/17/12.

**PART 2 – EXECUTION**

**2.1 DEMOLITION, SEDIMENTATION, AND EROSION CONTROL**

A. THE FIRST STAGE INVOLVES ACTIVITIES NEEDED TO ADDRESS STORMWATER MANAGEMENT, EXCAVATING MATERIAL DESIGNATED FOR OFF-SITE REMOVAL OR ON-SITE RELOCATION AND FENCING SELECTED AREAS. STAGE ONE WILL PREPARE SITE FOR CONVENTIONAL CONSTRUCTION.

B. THE SECOND STAGE WILL CONSIST OF ROUTINE CONSTRUCTION INVOLVING BUILDING, PAVING, LANDSCAPING, AND UTILITIES.

C. THERE ARE GENERAL PHASES OF CONSTRUCTION. IN EACH PHASE OF CONSTRUCTION, IMPLEMENT STANDARD EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO INITIATING EARTH DISTURBING ACTIVITIES, AND MAINTAIN THESE PRACTICES THROUGHOUT THE COURSE OF CONSTRUCTION.

D. DURING DEMOLITION, EXCAVATIONS AS MUCH AS 20 FEET MAY BE REQUIRED FOR THE INSTALLATION OF FOUNDATIONS, RETAINING WALLS, AND UTILITIES. EXCAVATIONS SHALL BE CUT TO A STABLE SLOPE OR BE TEMPORARILY BRACED, DEPENDING ON THE EXCAVATION DEPTHS AND THE ENCOUNTERED SUBSURFACE CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO SUBMIT EXCAVATION AND SLOPE STABILIZATION METHODS PRIOR TO THE START OF CONSTRUCTION TO THE ENGINEER FOR REVIEW.

E. BASED ON THE COMPOSITION OF SOILS ENCOUNTERED DURING THE EXPLORATION PROGRAM, SITE SOILS ARE GENERALLY CLASSIFIED AS TYPES B AND C SOILS AS DEFINED BY (USGS) NATIONAL RESOURCES CONSERVATION SERVICE (NRCS), FORMERLY SOIL CONSERVATION SERVICE (SCS). TEMPORARY CONSTRUCTION SLOPES SHOULD BE DESIGNED IN STRICT COMPLIANCE WITH THE MOST RECENT GOVERNING REGULATIONS. STOCKPILES SHOULD BE PLACED WELL AWAY FROM THE EDGE OF THE EXCAVATION AND THEIR HEIGHT SHOULD BE CONTROLLED TO PREVENT SURCHARGE TO THE SIDES OF THE EXCAVATION. SURFACE DRAINAGE SHOULD BE CONTROLLED TO AVOID FLOW OF SURFACE WATER INTO THE EXCAVATIONS.

F. CONSTRUCTION SLOPES SHOULD BE REVIEWED FOR MASS MOVEMENT. IF POTENTIAL STABILITY PROBLEMS ARE OBSERVED, WORK SHOULD CEASE AND A GEOTECHNICAL ENGINEER SHOULD BE CONTACTED IMMEDIATELY. THE RESPONSIBILITY FOR EXCAVATION SAFETY AND STABILITY OF TEMPORARY CONSTRUCTION SLOPES SHOULD LIE SOLELY WITH THE CONTRACTOR.

**2.2 – TYPICAL PRACTICES TO BE APPLIED TO THE SITE INCLUDE THE FOLLOWING:**

A. PRIOR TO EARTH DISTURBANCE IN ANY WORK AREA, INSTALL EROSION CONTROL BARRIERS BETWEEN THE WORK AREA AND THE SURFACE WATER RESOURCE TO WHICH IT DRAINS.

B. DISCHARGE WATER FROM DEWATERING OPERATIONS TO A TEMPORARY SILTATION TRAP OR SEDIMENTATION BASIN.

C. PROVIDE TEMPORARY BERMS AND SWALES TO DIVERT SURFACE WATER AWAY FROM THE AREAS THAT WILL BE EXPOSED BY CONSTRUCTION ACTIVITY TO MINIMIZE THE AMOUNT OF SURFACE WATER COMING INTO CONTACT WITH EXPOSED SOILS. PROVIDE STABLE OUTLETS FOR THESE DEVICES, AND LINE OR VEGETATE THESE DIVERSIONS TO PROVIDE FOR THEIR STABILITY DURING CONSTRUCTION.

D. LIMIT THE EXTENT OF EXPOSED SOILS TO AREAS THAT CAN BE WORKED AND RESTABILIZED WITHIN THE CONSTRUCTION SEASON AND DURING THE SPECIFIC CONSTRUCTION PHASE.

E. WHEN EARTHWORK CONSTRUCTION ACTIVITY IN AN AREA IS COMPLETE, STABILIZE THE AREA WITH A SUITABLE SURFACE AS DESCRIBED BELOW.

F. IN ADDITION TO THESE PRACTICES, FOLLOW THE SPECIAL PRACTICES DESCRIBED BELOW, COMPLY WITH THE DIRECTIONS OF THE APPLICANT'S REPRESENTATIVE TO ADDRESS EROSION AND SEDIMENTATION CONDITIONS THAT MAY ARISE ON A CASE BY CASE BASIS DURING CONSTRUCTION.

G. THE FOLLOWING IS A DESCRIPTION OF MINIMUM CONSTRUCTION REQUIREMENTS AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES WITH REGARD TO DETERMINING THE ADEQUACY OF MEANS AND METHODS OF CONSTRUCTION.

**2.3 – CONSTRUCTION SEQUENCING**

A. SEQUENCING SHALL BE AS SHOWN ON THE PLAN AND AS DICTATED BY THE REQUIREMENTS OF CONSTRUCTION.

**2.4 – MAINTENANCE**

A. DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:

B. SEEDED AREAS WILL BE FERTILIZED AND RESEDED AS NECESSARY TO INSURE VEGETATION ESTABLISHMENT.

C. TEMPORARY SEDIMENTATION BASINS WILL BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN STORAGE CAPACITY.

D. TEMPORARY DRAINAGE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY.

E. THE EROSION CONTROL BARRIERS AND OTHER EROSION AND SEDIMENT CONTROL MEASURES/DEVICES SHALL BE INSPECTED, CLEANED, REPLACED AND/OR REPAIRED AS NECESSARY, PERIODICALLY AND AFTER EACH SIGNIFICANT RAINFALL.

F. SWEEP ON-SITE PAVED AREAS AND OFF-SITE STREETS AS NECESSARY TO PREVENT SILT AND DEBRIS ORIGINATING ON-SITE FROM ENTERING CLOSED DRAINAGE SYSTEMS AND/OR ENVIRONMENTALLY SENSITIVE AREAS. WHEN NECESSARY UTILIZE WATER SPRAYING, SURFACE ROUGHENING AND/OR APPLY POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS FOR DUST CONTROL.

**2.5 – GENERAL**

A. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH (USDA) NATURAL RESOURCES CONSERVATION SERVICE (NRCS, FORMERLY SCS) GUIDELINES AND ALL LOCAL, COUNTY AND MUNICIPAL REGULATIONS.

B. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.

C. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMITS AND APPROVALS ISSUED AND THE CONSTRUCTION SPECIFICATIONS. BLASTING IS PROHIBITED ON THE PROJECT SITE.

D. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED STRAW WATTLES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

**PART 2 – CONTINUED**

E. TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.

F. ALL DISTURBED OR EXPOSED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA. EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14) DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

G. THE LOCATION OF TEMPORARY DRAINAGE SWALES AND SEDIMENTATION TRAPS ARE APPROXIMATE ONLY AND SHALL BE RELOCATED AS REQUIRED AS CONSTRUCTION PROGRESSES.

H. HAYBALE DIKES SHALL BE CONSTRUCTED AT ALL EXISTING & PROPOSED CATCH BASINS LOCATED IN FILL AREAS & SUBJECT TO STORMWATER RUN-OFF FROM PROPOSED FILL AREAS DURING CONSTRUCTION, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. NO SEDIMENTS SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.

I. CULVERT/PIPE INLETS AND OUTFALLS SHALL BE PROTECTED BY STRAW WATTLE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED.

J. EROSION CONTROLS SHALL BE PERIODICALLY INSPECTED AND REPLACED AS REQUIRED.

K. ALL PROPOSED NON-RIPRAP SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH EXCELSIOR BLANKETS AND PROTECTED FROM EROSION.

L. THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES ADDITIONAL STRAW WATTLES AND EXTRA SILTATION FENCING FOR INSTALLATION AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE OR LOCAL OFFICIALS TO MITIGATE ANY EMERGENCY CONDITION.

M. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS.

N. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES DESIGNATED AS SUCH ON THESE DRAWINGS.

O. THE LIMIT OF WORK LINE FOR THE AREA TO BE CLEARED AND GRUBBED SHALL BE THE SAME AS THE LIMIT OF WORK LINE NECESSARY FOR GRADING PURPOSES, (I.E., THE GRADING LIMITS AROUND THE PERIMETER OF THE PROJECT AREA).

P. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

Q. FOLLOWING THE ADDITION OF A BINDER COURSE, THE CONTRACTOR SHALL SWEEP ALL ON-SITE PAVEMENT, IF NECESSARY, UNTIL ALL SITE CONSTRUCTION IS COMPLETED.

R. THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF "TOWN OF NORFOLK CONSTRUCTION STANDARDS AND SPECIFICATIONS", WHEN NO CITY SPECIFICATION IS PROVIDED THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF "THE COMMONWEALTH OF MASSACHUSETTS, DEPARTMENT OF PUBLIC WORKS, STANDARDS & SPECIFICATIONS FOR HIGHWAYS & BRIDGES," LATEST EDITION.

**PART 3 – STORM DRAINS**

A. STORM DRAIN PIPING (INDICATED BY LETTER "D") SHALL BE CORRUGATED POLYETHYLENE PIPE (HDPE) AS INDICATED, PER AASHTO M294 AND M252 MANUFACTURED WITH HIGH DENSITY POLYETHYLENE PLASTIC. HDPE SHALL BE ADS N-12 PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. OR HANCOR HI Q PIPE AS MANUFACTURED BY HANCOR, INC. OR APPROVED EQUAL.

B. STORM DRAIN MANHOLES (INDICATED BY LETTERS "DMH") SHALL BE PRECAST 4', 5' OR 6' DIAMETER CONCRETE PER ASTM C478 (AS CALLED FOR ON DRAWINGS OR FIELD CONDITIONS REQUIRE) WITH RUBBER GASKET JOINTS CONFORMING TO ASTM C443. PIPE TO MANHOLE CONNECTIONS SHALL BE MORTARED PIPE OPENINGS.

C. CATCH BASINS (INDICATED BY LETTERS "CB") SHALL BE PRECAST 5' DIAMETER CONCRETE PER ASTM C478, (ALTERNATE TOP SLAB WHERE NECESSARY) AND RUBBER GASKET JOINTS CONFORMING TO ASTM C443, WITH 4 FOOT SUMPS AND GAS TRAP OUTLET ELBOW. PIPE TO STRUCTURE CONNECTIONS SHALL BE MORTARED PIPE OPENINGS.

D. COORDINATES OF MANHOLES REFER TO CENTERS OF STRUCTURES AND CATCH BASINS REFER TO THE CENTER BACK OF THE FRAME AND GRATE.

E. FLARED END SECTIONS (FES) SHALL BE CORRUGATED POLYETHYLENE PIPE (HDPE) AS INDICATED, PER AASHTO M170 MANUFACTURED TO MEET ASTM C76.

F. FLARED END SECTIONS (FES) SHALL BE CORRUGATED POLYETHYLENE PIPE AS INDICATED, MANUFACTURED WITH HIGH DENSITY POLYETHYLENE PLASTIC. ADS N-12 OR APPROVED EQUAL.

**PART 4 – UTILITIES**

**4.1 – WATER DISTRIBUTION AND FIRE PROTECTION**

A. WATER MAINS 3" DIA. AND LARGER SHALL HAVE 5'-0" MINIMUM COVER AND SHALL BE CEMENT LINED DUCTILE IRON (CLDI), CLASS 52 MINIMUM, CONFORMING TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A21.50, A21.4, A21.10 AND A21.51. JOINTS AT FITTINGS, VALVES AND HYDRANT LATERALS SHALL BE MECHANICAL JOINT PER ANSI A21.11, WITH GASKETS. JOINTS AT OTHER LOCATIONS SHALL BE PUSH-ON TYPE WITH GASKETS PER ANSI A21.11. ALL FITTINGS, VALVES, HYDRANTS AND CAPS SHALL BE CLASS 350 PROVIDED WITH THRUST RESTRAINTS (THRUST BLOCKS AND RETAINING RODS) IN CONFORMANCE WITH THE DETAILS.

B. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR IS ADVISED THAT NOT ALL FITTINGS AND SUPPLY LINES ARE NOTED, SHOWN, OR INDICATED.

C. ALL HYDRANTS SHALL BE INSTALLED WITH A 6" CLDI LATERAL AND SHALL BE INSTALLED WITH A 6" GATE VALVE, BOX AND TEE FITTING. ALL HYDRANTS SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS.

D. ALL WATER MAIN APPURTENANCES, MATERIALS, AND METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.

E. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTIONS WITH UTILITY TESTS, FLUSHING, AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.

F. EXISTING SERVICES SHALL BE CUT AND A WATERTIGHT PLUG SHALL BE INSTALLED. EXISTING GATE VALVES TO BE ABANDONED SHALL BE PERMANENTLY CLOSED AND CAPPED, AND WATER SERVICES SHOULD BE SHUT OFF AT THE MAIN CORPORATION.

**4.2 – UTILITY SEPARATION**

A. A MINIMUM 10 FEET CLEAR HORIZONTAL DISTANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.

B. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER MAINS CROSS STORM DRAIN LINES.

C. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST TWO FEET BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL DO THE FOLLOWING:

THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF TEN FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION, THE WATER MAIN SHALL BE ENCASED IN CONCRETE.

D. PRIMARY ELECTRICAL ENCASED CONDUIT MUST BE SEPARATED FROM GAS BY 3' MIN. AND FROM OTHER UTILITIES BY 2' MINIMUM.

E. TELEPHONE AND FIRE ALARM WHICH SHARE THE SAME TRENCH MUST HAVE A 1' VERTICAL SEPARATION.

F. GAS MAINS MUST BE SEPARATED FROM OTHER UTILITIES BY 2' MINIMUM.

**PART 4 – CONTINUED**

**4.3 – ELECTRIC AND COMMUNICATIONS**

A. INSTALLATION OF COMMUNICATIONS (TELEPHONE, CABLE AND FIRE ALARM) SYSTEMS SHALL BE COORDINATED AND SCHEDULED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANY SERVICING THE PROJECT SITE.

B. COORDINATES REFER TO THE CENTER OF STRUCTURES UNLESS OTHERWISE NOTED OR DETAILED. CONTRACTOR SHALL COORDINATE LIGHT BASE LOCATIONS WITH PROPOSED CURBING AND PARKING LOT STRIPING.

C. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ELECTRICAL SERVICE PRIOR TO ORDERING ANY EQUIPMENT.

**PART 5 – PAVEMENT AND CURBING**

A. JOINTS BETWEEN NEW BITUMINOUS CONCRETE PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDS.

B. CURBING SHALL BE INSTALLED AS FOLLOWS:

BITUMINOUS MODIFIED CAPE COD CURB ALONG ROADWAY.

C. DIMENSIONS REFER TO FACE OF CURB UNLESS NOTED OTHERWISE.

D. ALL LIMITS OF PAVING SHALL BE CURBED UNLESS NOTED OR DETAILED OTHERWISE.

**PART 6 – TRAFFIC CONTROL**

A. INCLUDING, BUT NOT LIMITED TO, ALL CROSSWALKS, STOP LINES AND LEGENDS.

LEGENDS SHALL BE PERFORMED PERMANENT PLASTIC. PAVEMENT MARKINGS SHALL BE THERMO PLASTIC (ALKYD). THE MARKINGS, LEGENDS SHALL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT PORTIONS OF MASSACHUSETTS HIGHWAY DEPARTMENT (MHD) STANDARD SPECIFICATIONS. THE CONTRACTOR'S ATTENTION ALSO IS DIRECTED TO THE STANDARD SPECIFICATIONS, FOR REQUIREMENTS REGARDING THE AMBIENT AIR TEMPERATURE AT THE TIME OF APPLICATION.

**PART 7 – QUALITY ASSURANCE**

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS FROM ACCEPTABLE MANUFACTURERS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CONFORM TO CONDITIONS OF APPROVAL ISSUED BY REGULATORY AGENCIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, LOCAL PLANNING BOARD, CONSERVATION COMMISSION, CITY COUNCIL, BOARD OF HEALTH, PUBLIC WORKS / HIGHWAY DEPARTMENT, STATE ENVIRONMENTAL PROTECTION DEPARTMENT, AND U.S. GOVERNMENT, ENVIRONMENTAL PROTECTION AGENCY. WHERE CONDITIONS OF REGULATORY APPROVAL DIFFER FROM REQUIREMENTS CONTAINED HEREIN OR ON THE DRAWINGS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.

**PART 8 – INSPECTION AND MAINTENANCE**

**BITUMINOUS CONCRETE**

A. INSPECT ALL CATCH BASINS (CB) AND MANHOLES AT LOCATIONS SHOWN ON SITE PLANS. LOOK FOR SETTLING OF PAVEMENT, REPAIR AS REQUIRED. LOOK AT LEVEL OF SAND, SILT IN SUMPS. HAVE SUMPS CLEANED IF OUTLET PIPE IS BLOCKED. VERIFY THAT ELBOW (OIL TRAP) ON PIPE OUTLET IS SECURELY IN PLACE. CLEAN ALL LEAVES, TRASH, AND PINE NEEDLES FROM CB GRATE.

B. LOOK FOR SIGNS OF CRACKING & POTHoles, REPAIR AS REQUIRED.

C. LOOK FOR SIGNS OF EROSION AT EDGES OF ROADWAY. INSPECT FOR BROKEN CURB. SEVERE EROSION MAY BE CAUSED BY PIPE BLOCKAGE AND RESULTING OVERFLOWS OUT OF CATCH BASINS. REMOVE DRAIN MANHOLE COVERS AND CB GRATES IN AREA AND LOOK FOR BLOCKAGES WHERE SURFACE EROSION IS EVIDENT.

**LAWNS**

B. INSPECT AFTER EACH SIGNIFICANT RAINFALL (1/2" OR MORE) FOR FIRST 6 MONTHS AFTER CONSTRUCTION TO ENSURE SURFACE VEGETATION IS HEALTHY. DISCHARGE DEVICES ARE NOT BLOCKED AND BANKS ARE NOT ERODING. CHECK ALL COMPONENTS AFTER EACH MAJOR STORM (MORE THAN 2" RAINFALL IN 24 HOURS). CLEAN/REPAIR AS REQUIRED.

**LANDSCAPING**

A. INSPECT FOR DISEASED/DYING TREES, SHRUBS, GROUND COVER, & GRASS; REPLACE AS REQUIRED.

B. INSPECT MULCH BEDS. SUPPLEMENT AS REQUIRED TO PROVIDE THE SPECIFIED MINIMUM DEPTH (LOOSE MEASURE).

**RIP RAP (STONE) SLOPE PROTECTION**

A. INSPECT STONE SLOPE PROTECTION, CUT EMERGING YOUNG TREES GROWING IN STONES. INSPECT STONE AT PIPE OUTLETS. REMOVE DEBRIS. REPAIR AS REQUIRED.

**9.0 MONITORING WELL**

A. MONITORING WELL TO BE MINIMUM 2IN DIAMETER PERFORATED SCH-40 PVC PIPE.

B. PIPE SHALL BE WRAPPED IN FILTER FABRIC IF INSTALLED IN OPEN HOLE.

C. END OF PIPE TO BE HAVE SCREW CAP AND BE RAISED 1 FOOT ABOVE THE SURROUNDING GROUND.

**10.0 SNOW STORAGE/REMOVAL**

A. SNOW REMOVAL SHALL BE AT THE EXPENSE OF THE HOME OWNER'S ASSOCIATION, SIMILAR TO LANDSCAPING AND OVERALL MAINTENANCE OF THE DEVELOPMENT.

B. SNOW STORAGE AREAS SHALL BE UTILIZED AS DEPICTED ON THIS PLAN OR IN OTHER AREAS NOT WITHIN RESOURCE AREAS ON THE SITE.

C. SIGNS SHALL BE AFFIXED TO THE CHAIN LINK FENCES INTEGRATED WITH THE RETAINING WALLS ADJACENT TO THE RESOURCE AREAS. SIGNS SHALL INDICATED RESOURCE AREA, NO SNOW DUMPING.

D. IF EXCESSIVE SNOW AMOUNTS OCCUR, SNOW SHALL BE TAKEN OFF SITE TO AN APPROPRIATE LOCATION.

LEGEND	
STONE BOUND W/D.H.	□ S.B.
CATCH BASIN	⊙ CB
DOUBLE CATCH BASIN	⊙⊙
DRAIN MANHOLE	□ OS
OUTLET STRUCTURE	● SMH
SEWER MANHOLE	⊙ UP
UTILITY POLE	◆ WF
WETLAND FLAG	⊙ WF
PROPOSED WATER GATE VALVE	⊙ WF
EXISTING HYDRANT	⊙ WF
PROPOSED HYDRANT	⊙ WF
EXISTING WELL	⊙ WF
CURB	⊙ WF
DRAIN LINE	— D —
UTILITY LINE	— UGU —
SEWER LINE	— S —
WATER LINE	— W —
STONEWALL	⊖
TREE LINE	⊖

ABBREVIATIONS	
APPROXIMATE	APPROX.
BOOK	BK.
CAPE COD BERM	CCB
CEMENT LINED DUCTILE IRON	CLDI
IRON PIPE	I.P.
DRILL HOLE	D.H.
FOUND	FND
ELEVATION	ELEV.
EXISTING	EXIST.
FLARED END SECTION	FES
HIGH DENSITY POLYETHYLENE PIPE	HDPE
INVERT	INV.
NOW OR FORMERLY	N/F
OUTLET STRUCTURE	OS
PLAN BOOK	P.B.
PAGE	P.G.
PLAN	PL.
RETAINING	RET.
TIMBER GUARDRAIL	TGR
TYPICAL	TYP.
TEMPORARY BENCHMARK	TBM
NOT TO SCALE	N.T.S.
UTILITY POLE	UP
WETLAND FLAG	WF

**ASE**  
 Andrews Survey & Engineering, Inc.  
 Land Surveying - Civil Engineering - Site Planning  
 P.O. Box 312, 104 Mendon Street  
 Uxbridge, Massachusetts 01569  
 P: 508-278-3897 F: 508-278-2289  
 500 East Washington Street  
 North Attleboro, Massachusetts 02760  
 P: 508-316-0452 F: 508-316-0963

PROJECT: **LAKELAND FARMS  
 TOWNHOUSE COMMUNITY  
 84 CLEVELAND STREET  
 NORFOLK, MA 02056**

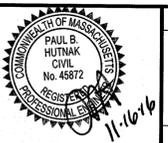
APPLICANT: **LAKELAND FARMS, LLC  
 84 CLEVELAND STREET  
 NORFOLK, MA 02056**

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg  
 DRAWN BY: SJO, TRB  
 CHECKED BY: PBH, BJA  
 DATE: APRIL 19, 2016  
 PROJECT NO.: 2014-111

SHEET TITLE  
**LEGEND, ABBREVIATIONS  
 & GENERAL NOTES**

DRAWING NO.  
**C-1.0**  
 PLAN NO. L-4819





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

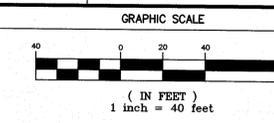
500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

PROJECT:  
LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

APPLICANT:  
LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

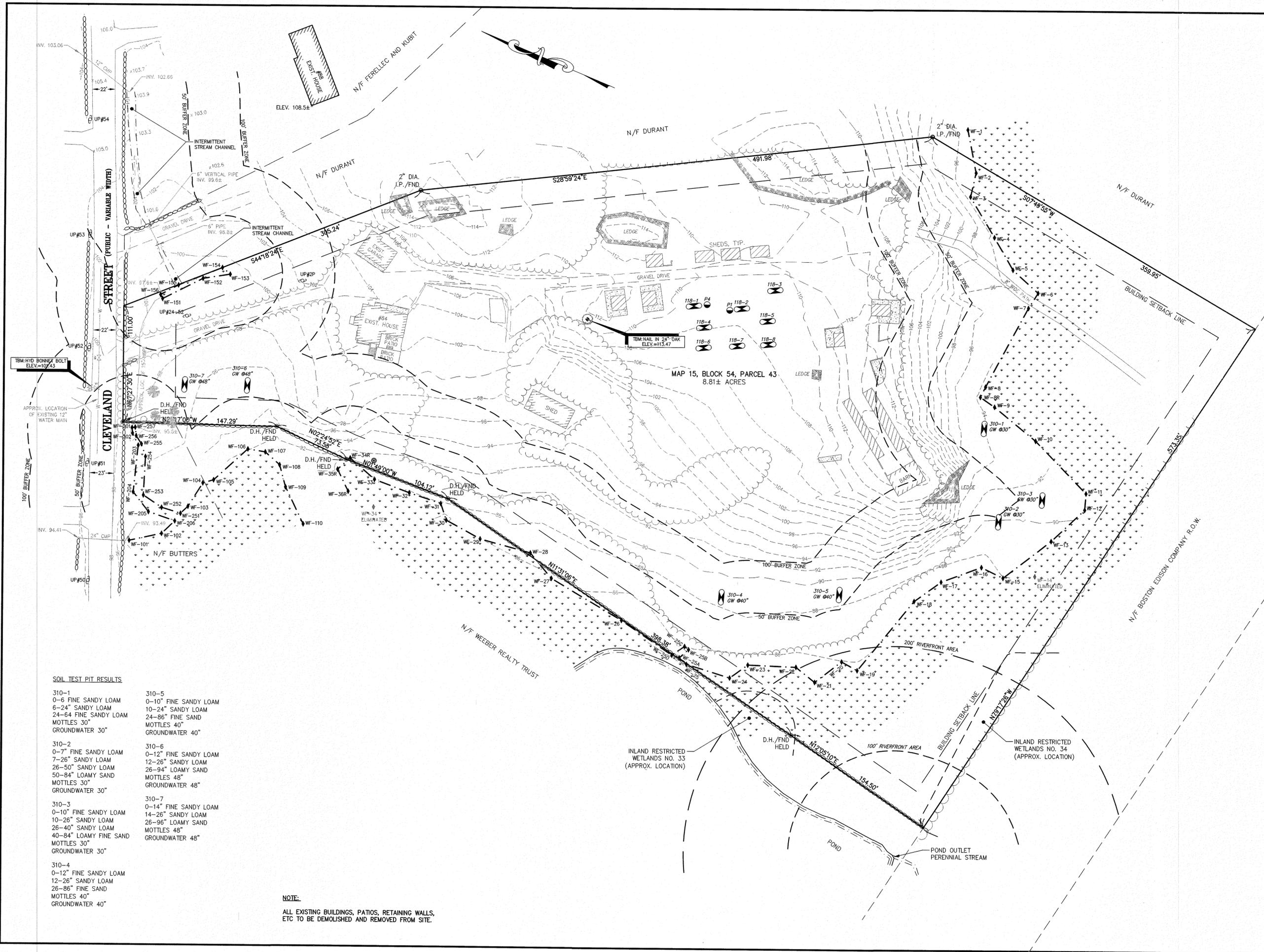
REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE	\\dwg\2014-111_SP-R2_32 units.dwg
DRAWN BY	SJO, TRB
CHECKED BY	PBH, BJA
DATE	APRIL 19, 2016
PROJECT NO.	2014-111



SHEET TITLE  
**EXISTING CONDITIONS PLAN**

	DRAWING NO.
	<b>C-2.0</b>
PLAN NO. L-4819	



SOIL TEST PIT RESULTS

310-1 0-6" FINE SANDY LOAM 6-24" SANDY LOAM 24-54" FINE SANDY LOAM MOTTLES 30" GROUNDWATER 30"	310-5 0-10" FINE SANDY LOAM 10-24" SANDY LOAM 24-86" FINE SAND MOTTLES 40" GROUNDWATER 40"
310-2 0-7" FINE SANDY LOAM 7-26" SANDY LOAM 26-50" SANDY LOAM 50-84" LOAMY SAND MOTTLES 30" GROUNDWATER 30"	310-6 0-12" FINE SANDY LOAM 12-26" SANDY LOAM 26-94" LOAMY SAND MOTTLES 48" GROUNDWATER 48"
310-3 0-10" FINE SANDY LOAM 10-26" SANDY LOAM 26-40" SANDY LOAM 40-84" LOAMY FINE SAND MOTTLES 30" GROUNDWATER 30"	310-7 0-14" FINE SANDY LOAM 14-26" SANDY LOAM 26-96" LOAMY SAND MOTTLES 48" GROUNDWATER 48"
310-4 0-12" FINE SANDY LOAM 12-26" SANDY LOAM 26-86" FINE SAND MOTTLES 40" GROUNDWATER 40"	

NOTE:  
ALL EXISTING BUILDINGS, PATIOS, RETAINING WALLS, ETC TO BE DEMOLISHED AND REMOVED FROM SITE.



Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

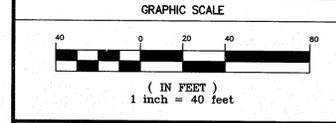
500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

PROJECT: LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

APPLICANT: LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE	\\dwg\2014-111-SP-R2_32 units.dwg
DRAWN BY	SJO, TRB
CHECKED BY	PBH, BJA
DATE	APRIL 19, 2016
PROJECT NO.	2014-111

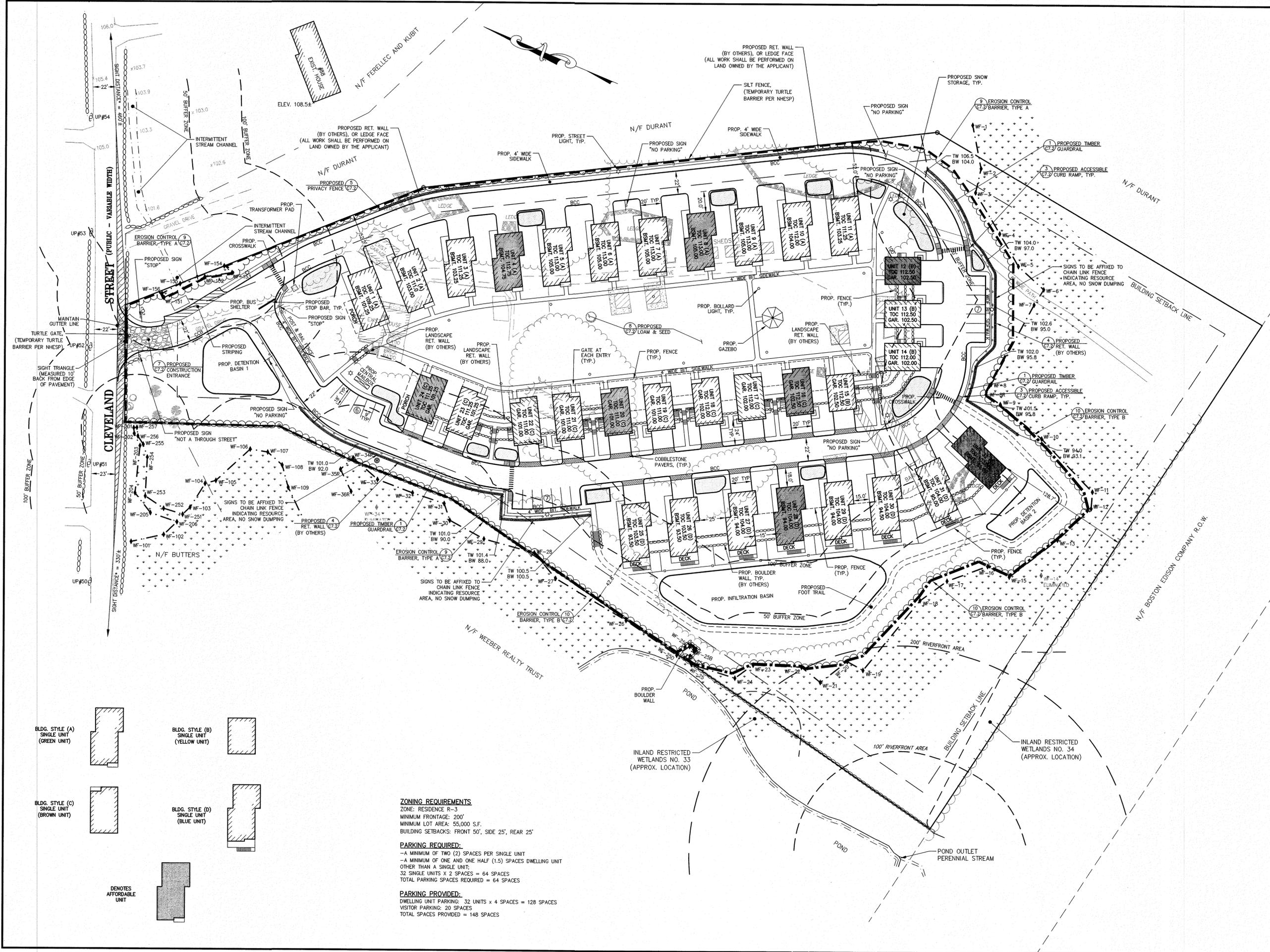


SHEET TITLE

LAYOUT & MATERIALS PLAN



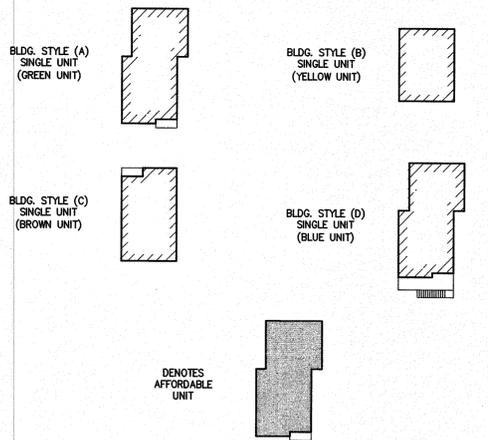
DRAWING NO.  
**C-3.0**  
PLAN NO. L-4819



**ZONING REQUIREMENTS**  
ZONE: RESIDENCE R-3  
MINIMUM FRONTAGE: 200'  
MINIMUM LOT AREA: 55,000 S.F.  
BUILDING SETBACKS: FRONT 50', SIDE 25', REAR 25'

**PARKING REQUIRED:**  
-A MINIMUM OF TWO (2) SPACES PER SINGLE UNIT  
-A MINIMUM OF ONE AND ONE HALF (1.5) SPACES DWELLING UNIT OTHER THAN A SINGLE UNIT;  
32 SINGLE UNITS X 2 SPACES = 64 SPACES  
TOTAL PARKING SPACES REQUIRED = 64 SPACES

**PARKING PROVIDED:**  
DWELLING UNIT PARKING: 32 UNITS X 4 SPACES = 128 SPACES  
VISITOR PARKING: 20 SPACES  
TOTAL SPACES PROVIDED = 148 SPACES





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

PROJECT: LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

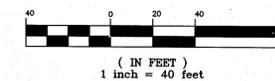
APPLICANT: LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

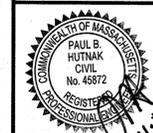
CAD FILE	.\dwg\2014-111_SP-R2_32_units.dwg
DRAWN BY	SJO, TRB
CHECKED BY	PBH, BJA
DATE	APRIL 19, 2016
PROJECT NO.	2014-111

GRAPHIC SCALE



SHEET TITLE

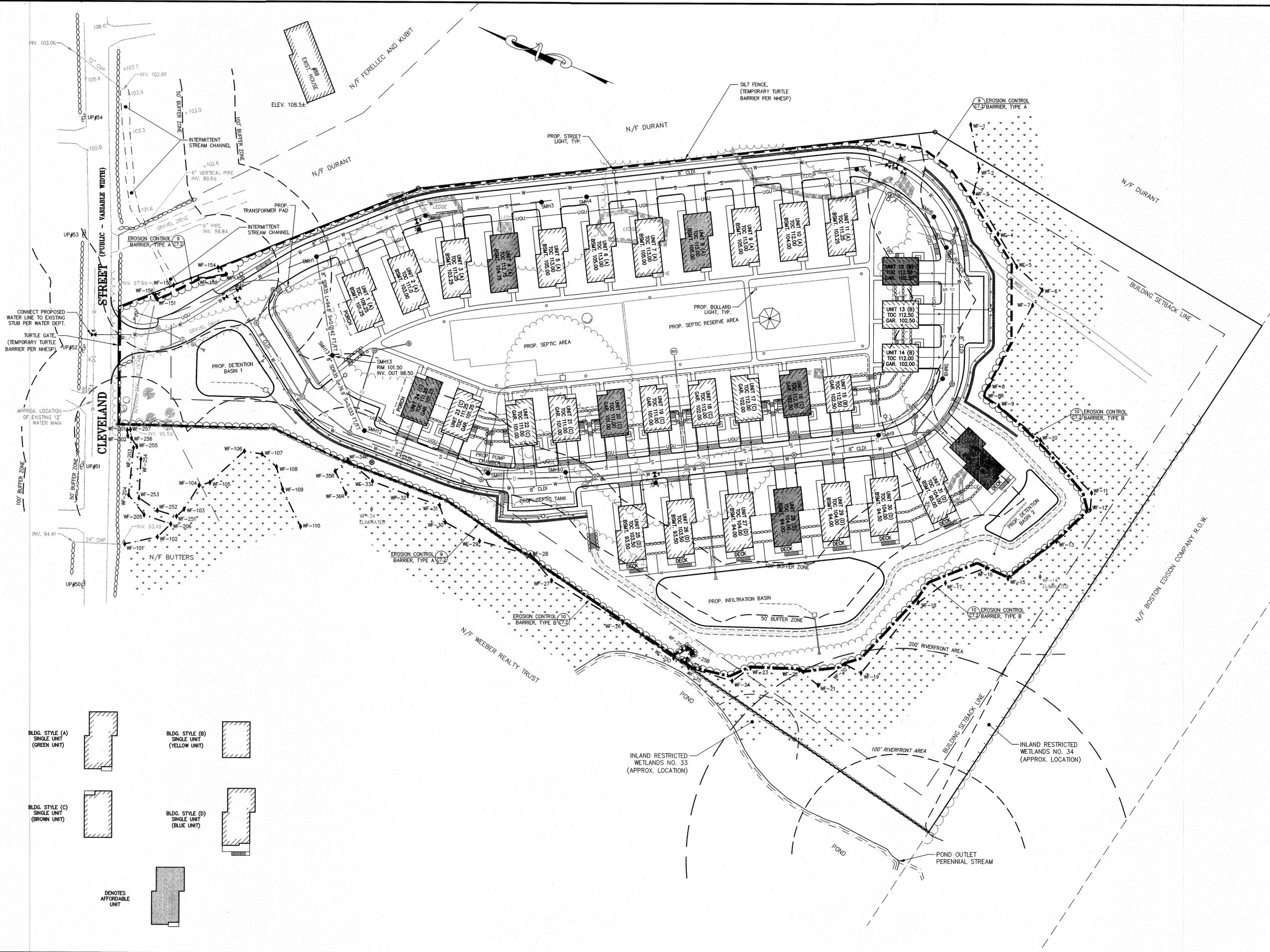
UTILITY PLAN



DRAWING NO.

C-4.0

PLAN NO. L-4819





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: \dwg\2014-111\_SP-R2\_32 units.dwg

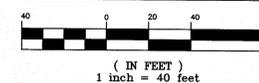
DRAWN BY: SJO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111

GRAPHIC SCALE



SHEET TITLE

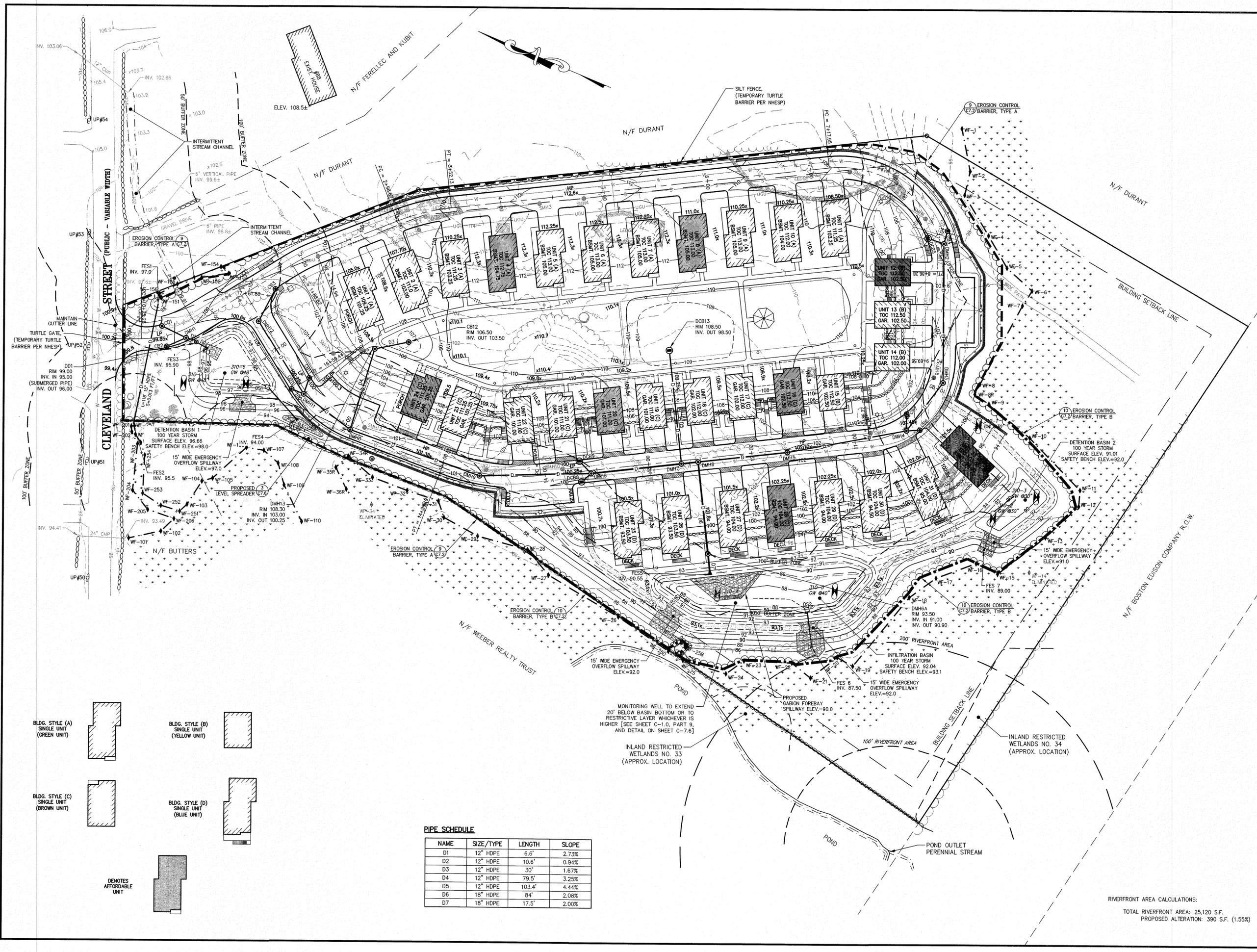
GRADING & DRAINAGE PLAN

DRAWING NO.

C-5.0

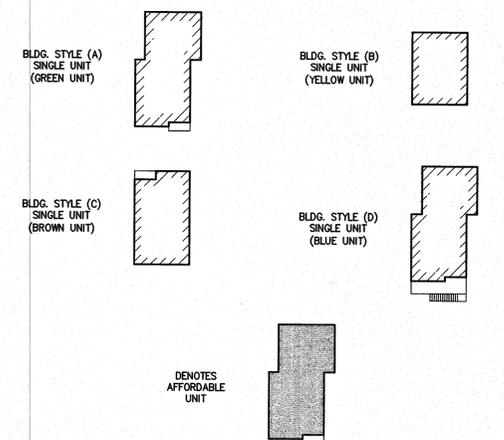
PLAN NO. L-4819

RIVERFRONT AREA CALCULATIONS:  
TOTAL RIVERFRONT AREA: 25,120 S.F.  
PROPOSED ALTERATION: 390 S.F. (1.55%)



**PIPE SCHEDULE**

NAME	SIZE/TYPE	LENGTH	SLOPE
D1	12" HDPE	6.6'	2.73%
D2	12" HDPE	10.6'	0.94%
D3	12" HDPE	30'	1.67%
D4	12" HDPE	79.5'	3.25%
D5	12" HDPE	103.4'	4.44%
D6	18" HDPE	84'	2.08%
D7	18" HDPE	17.5'	2.00%





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg

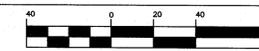
DRAWN BY: SJO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111

GRAPHIC SCALE



( IN FEET )  
HORIZONTAL: 1 inch = 40 feet  
VERTICAL: 1 inch = 4 feet

SHEET TITLE

TOPOGRAPHIC PLAN  
AND PROFILE

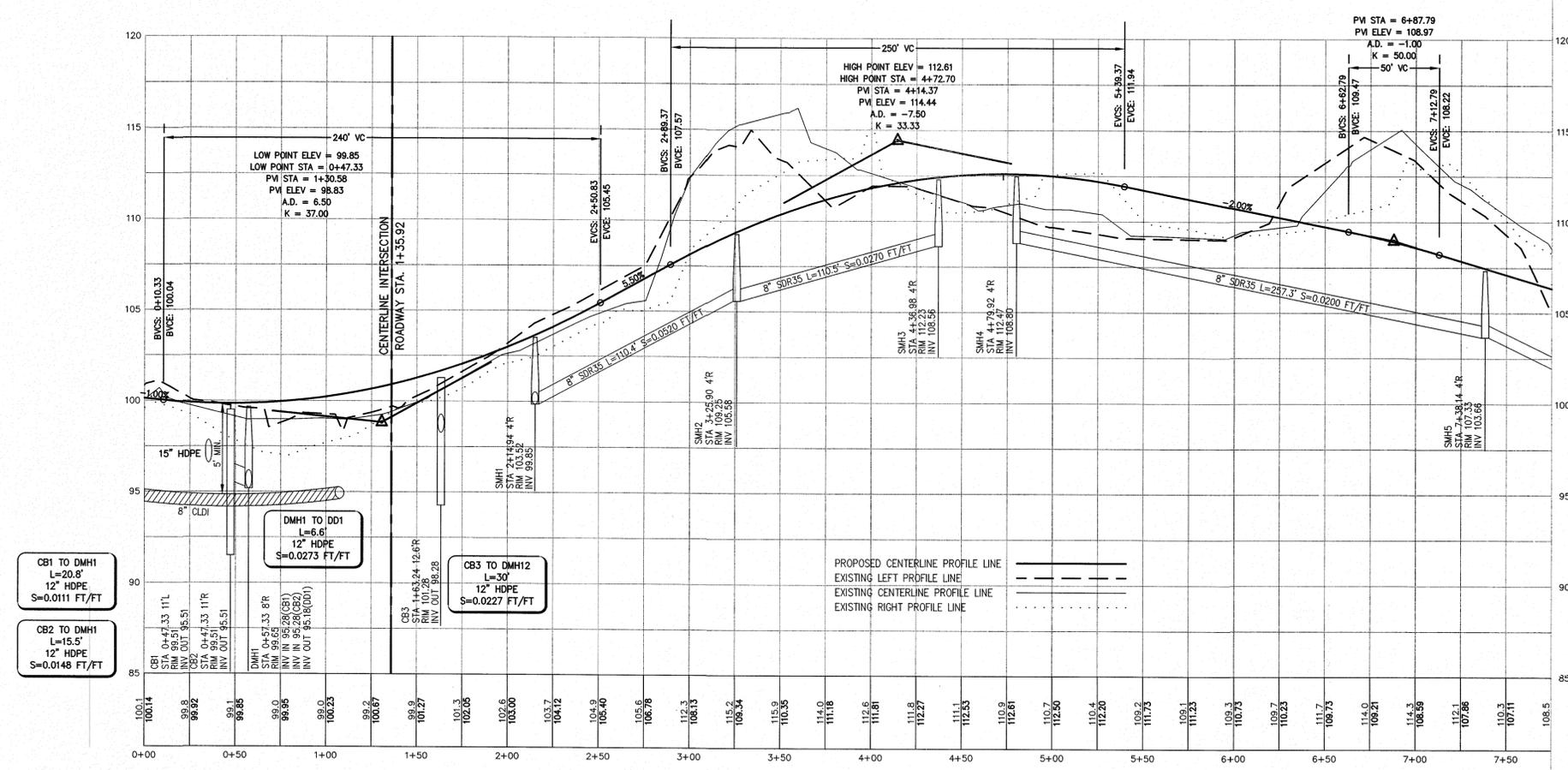
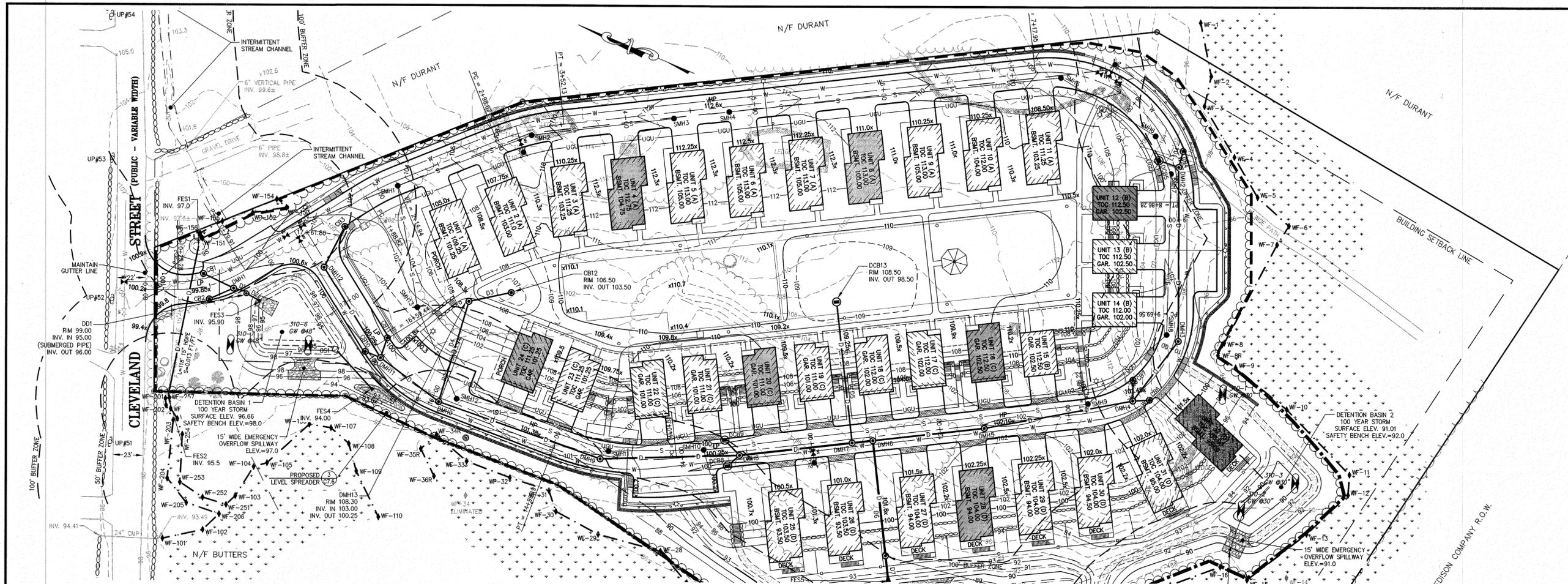
SHEET 1 OF 2



DRAWING NO.

C-6.1

PLAN NO. L-4819





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: \dwg\2014-111\_SP-R2\_32 units.dwg

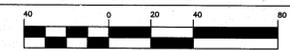
DRAWN BY: SJO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111

GRAPHIC SCALE



(IN FEET)  
HORIZONTAL: 1 inch = 40 feet  
VERTICAL: 1 inch = 4 feet

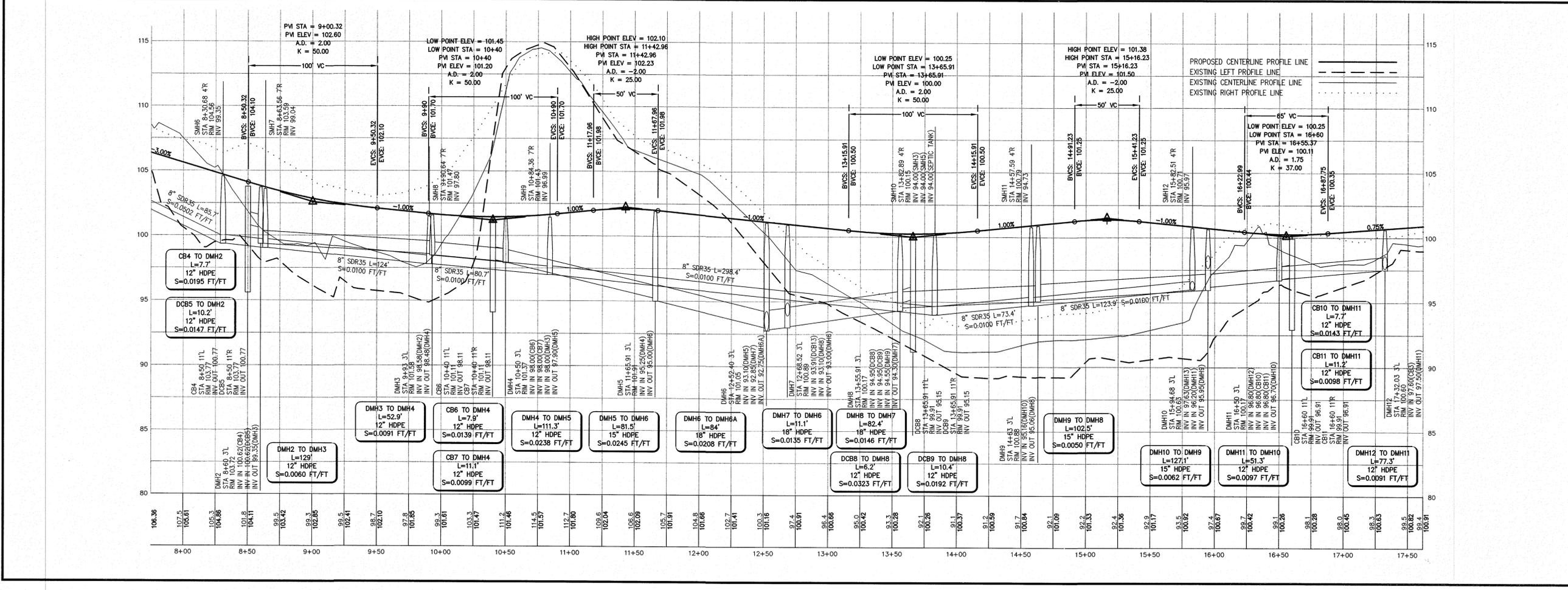
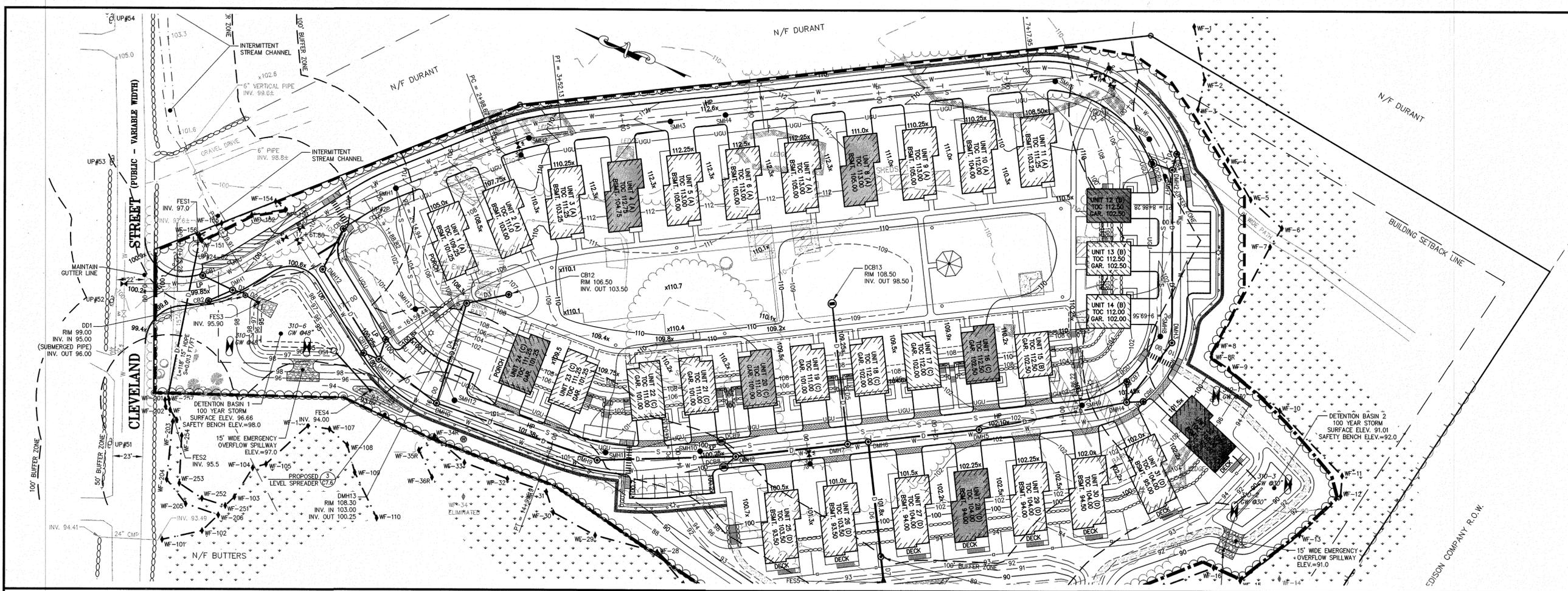
SHEET TITLE

TOPOGRAPHIC PLAN AND PROFILE

SHEET 2 OF 2

DRAWING NO. C-6.2

PLAN NO. L-4819





Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg

DRAWN BY: SJO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111

SHEET TITLE  
CONSTRUCTION  
DETAILS

SHEET 1 OF 6

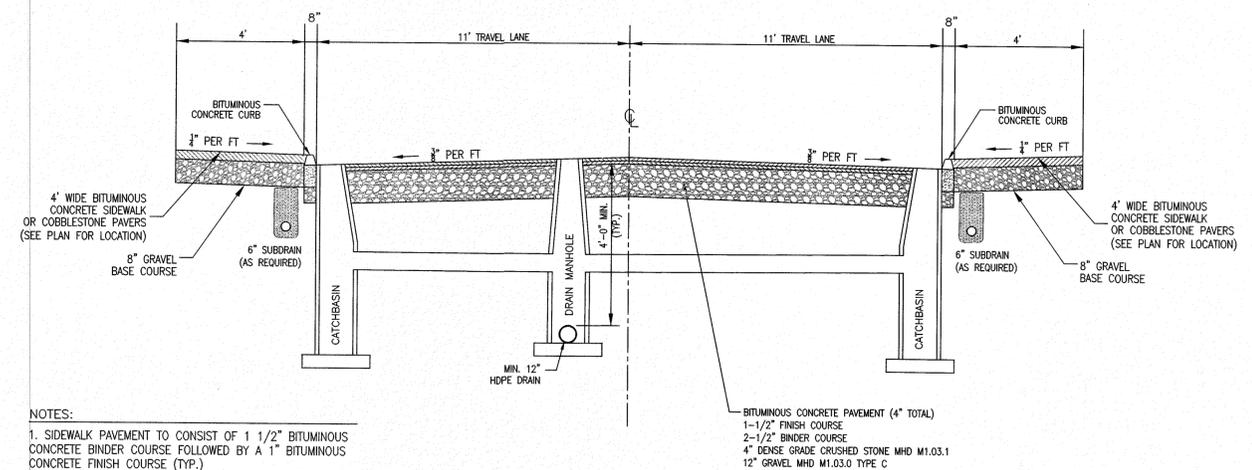
DRAWING NO.

C-7.1

PLAN NO. L-4819

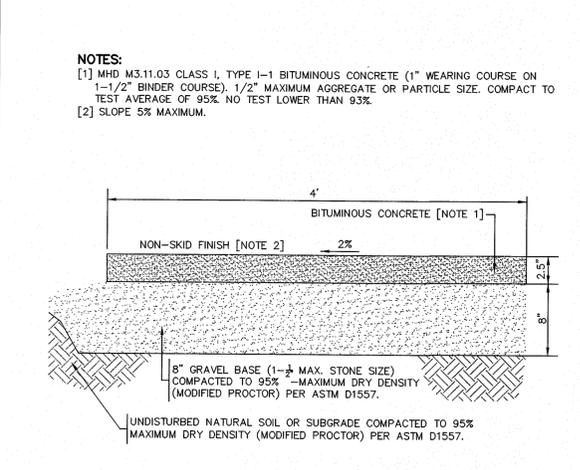


11/16/16

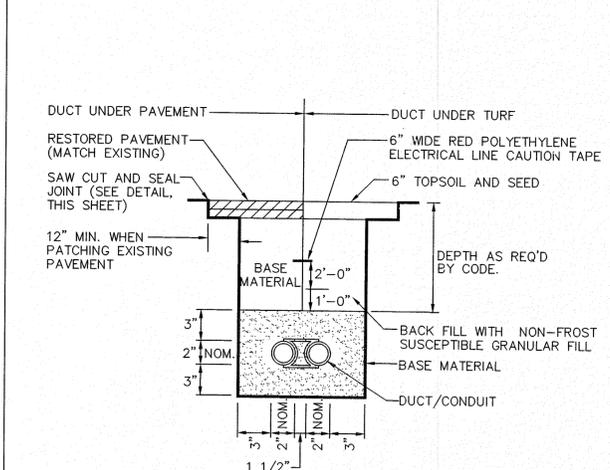


NOTES:  
1. SIDEWALK PAVEMENT TO CONSIST OF 1 1/2" BITUMINOUS CONCRETE BINDER COURSE FOLLOWED BY A 1" BITUMINOUS CONCRETE FINISH COURSE (TYP.)

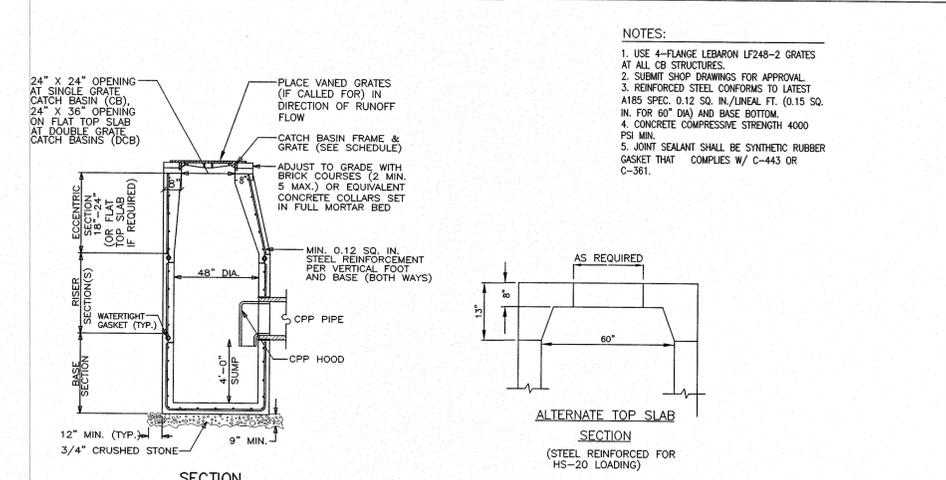
1 ROADWAY CROSS SECTION  
SCALE: N.T.S.



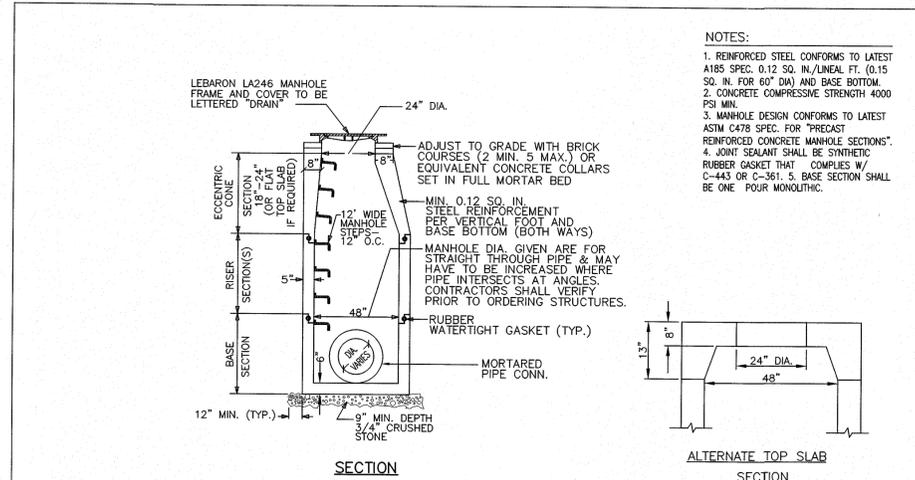
2 BITUMINOUS CONCRETE SIDEWALK  
SCALE: N.T.S.



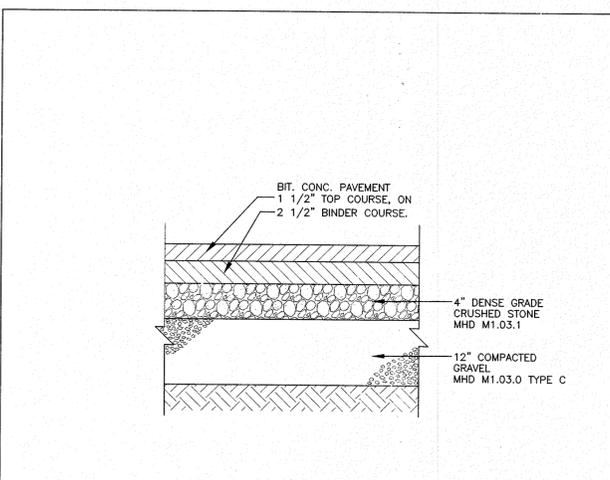
3 UNENCASED DUCT/CONDUIT DETAIL  
SCALE: N.T.S.



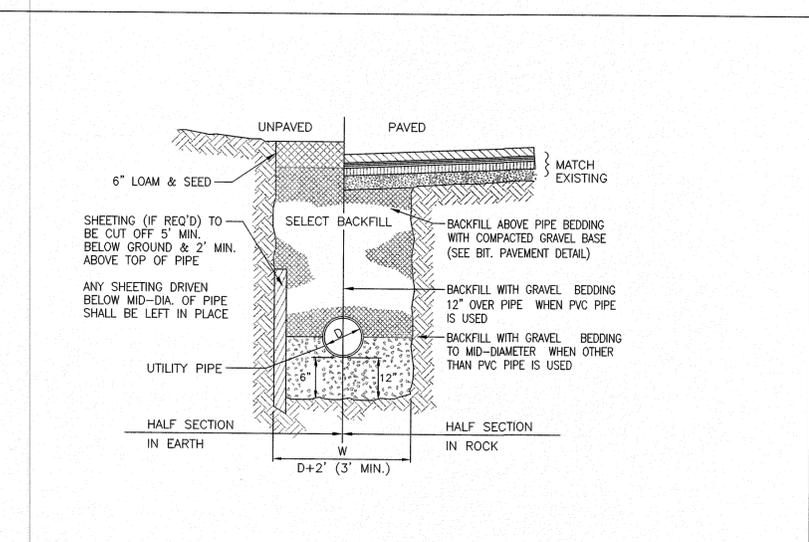
4 PRECAST CONCRETE SINGLE GRATE (CB) CATCH BASIN & DOUBLE GRATE (DCB) DEEP SUMP CATCH BASIN  
SCALE: N.T.S.



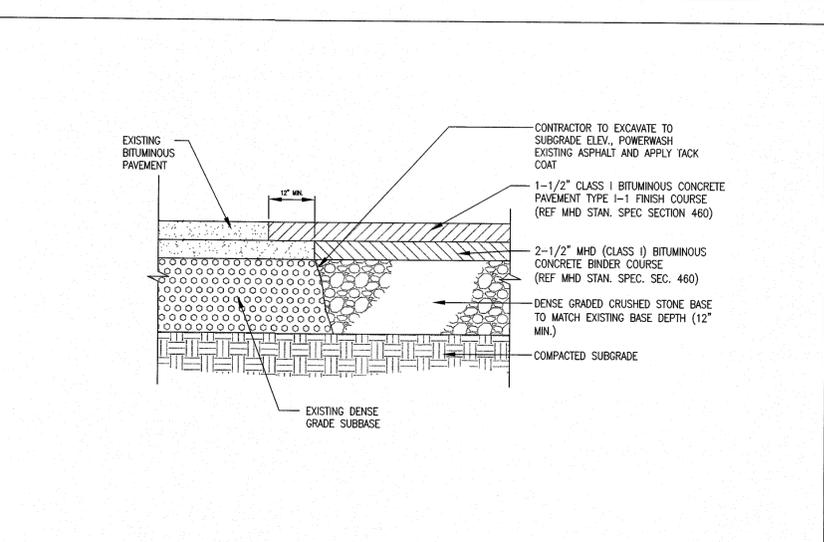
5 TYPICAL PRECAST CONCRETE 48" DIAMETER DRAIN MANHOLE (DMH) FOR PIPE DIAMETERS 24" OR LESS  
SCALE: N.T.S.



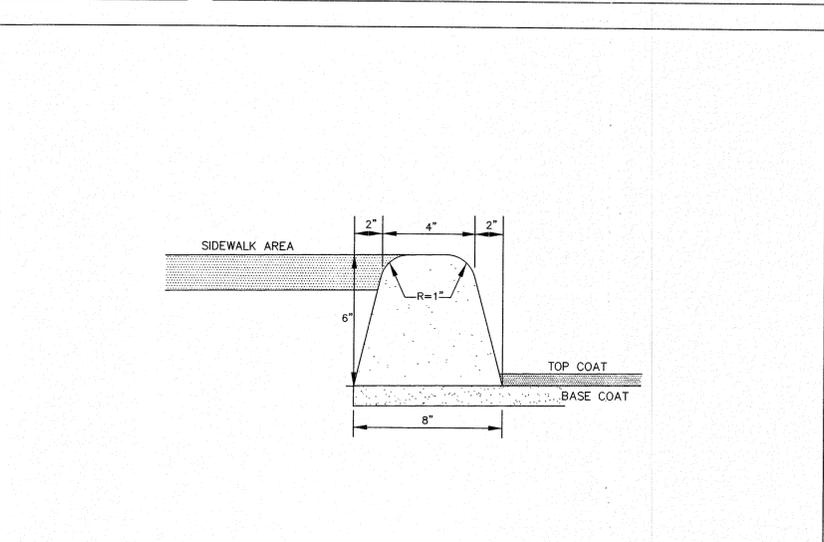
6 BITUMINOUS CONCRETE PAVEMENT DETAIL  
SCALE: N.T.S.



7 TYPICAL UTILITY TRENCH DETAIL  
SCALE: N.T.S.



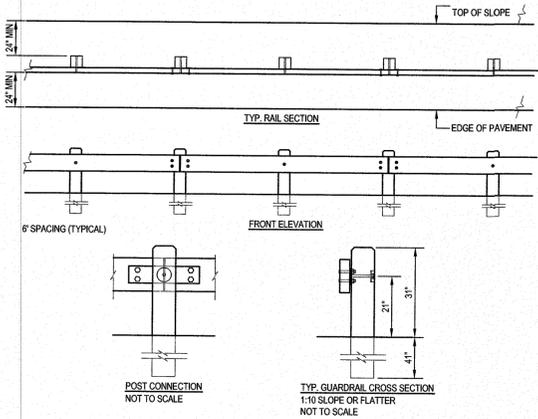
8 PAVEMENT JOINTING  
SCALE: N.T.S.



9 BITUMINOUS CONCRETE CURB (BCC)  
SCALE: N.T.S.

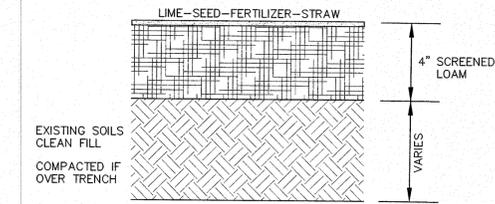
F:\ACAD\2014\PROJECTS\2014-111\DWG\2014-111\_SP-R2\_32 UNITS.DWG, 11-16-16, 10:38:21 AM - LAYOUT C-7.1

2016 © COPYRIGHT ANDREWS SURVEY & ENGINEERING, INC.

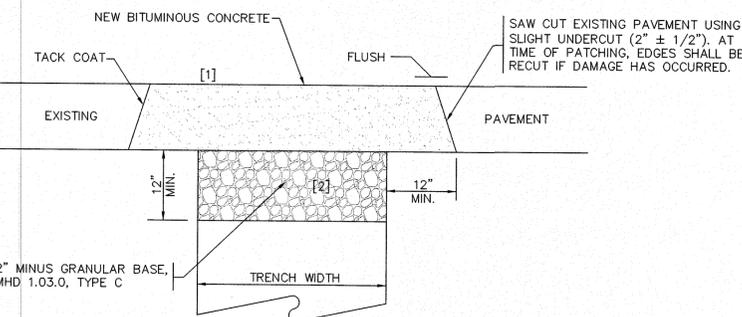


- NOTES:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  2. DO NOT SCALE DRAWINGS.
  3. IF TOP OF SLOPE IS CLOSER THAN 24" INCREASE POST LENGTH TO 7'.
  4. DRIVE POSTS OR AUGER, BACKFILL WITH NATIVE SOIL AND COMPACT EVERY 12".
  5. ALL TIMBER #1 S4S SOUTHERN PINE, PRESSURE TREATED: AWPA-C14, WOOD FOR USE IN HWY. CONSTR.
  6. TYP. POST: 8" X 8" X 6' - TYP. RAIL: 4" X 12" X 11'11" 10'.
  7. FASTENERS: ASTM A307, A242, F436 TYPE 3, A563 D43.
  8. TIMBARRIER™ SPLICE PLATE & PLATE WASHER ASTM A568.
  9. UNDER EACH BOLT HEAD ON FACE OF RAIL, INSTALL ONE 7/8" WASHER.
  10. REFER TO DRAWINGS 651-003B OR 651-003C FOR TERMINAL DETAILS.
  11. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT [www.CADdetails.com/info](http://www.CADdetails.com/info) REFERENCE NUMBER 651-003.

**1 "TIMBARRIER" GUARDRAIL**  
SCALE: N.T.S.

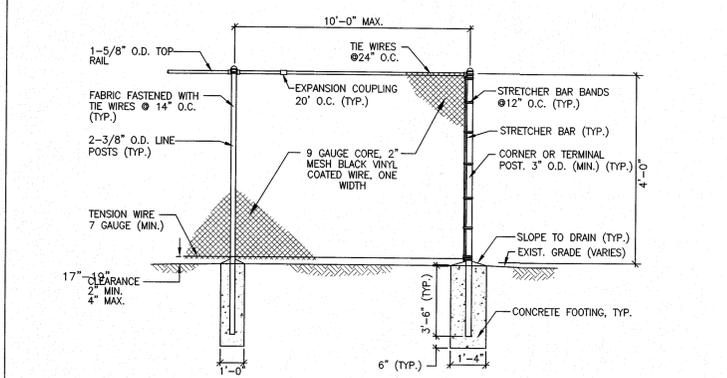


**2 LOAM & SEED DETAIL**  
SCALE: N.T.S.

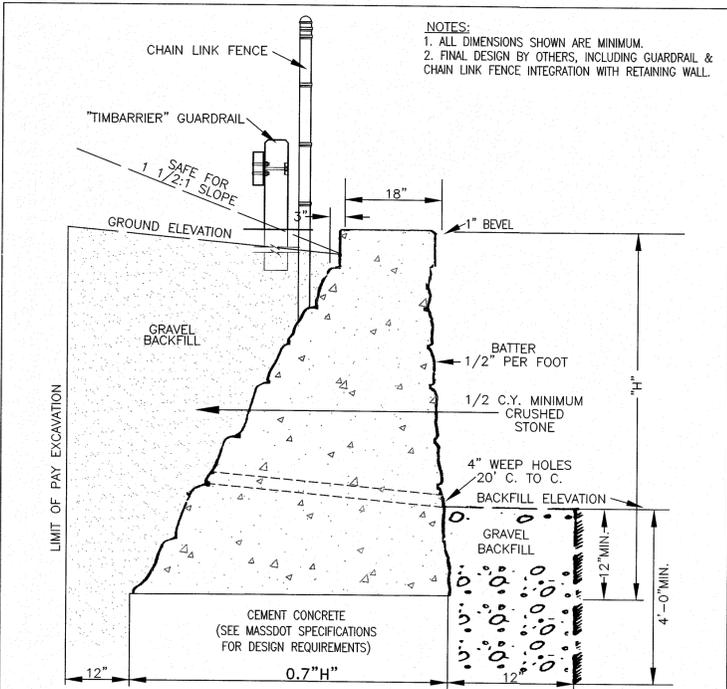


- NOTES:**
- [1] GRANULAR BASE COMPACTION: 95% PER ASTM D-1557 MODIFIED PROCTOR METHOD
  - [2] BIT. CONCRETE COMPACTION: 95%

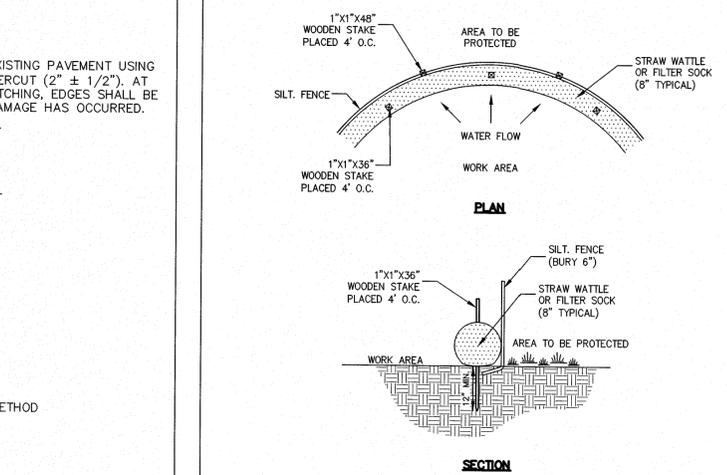
**8 TRENCH PATCH**  
SCALE: N.T.S.



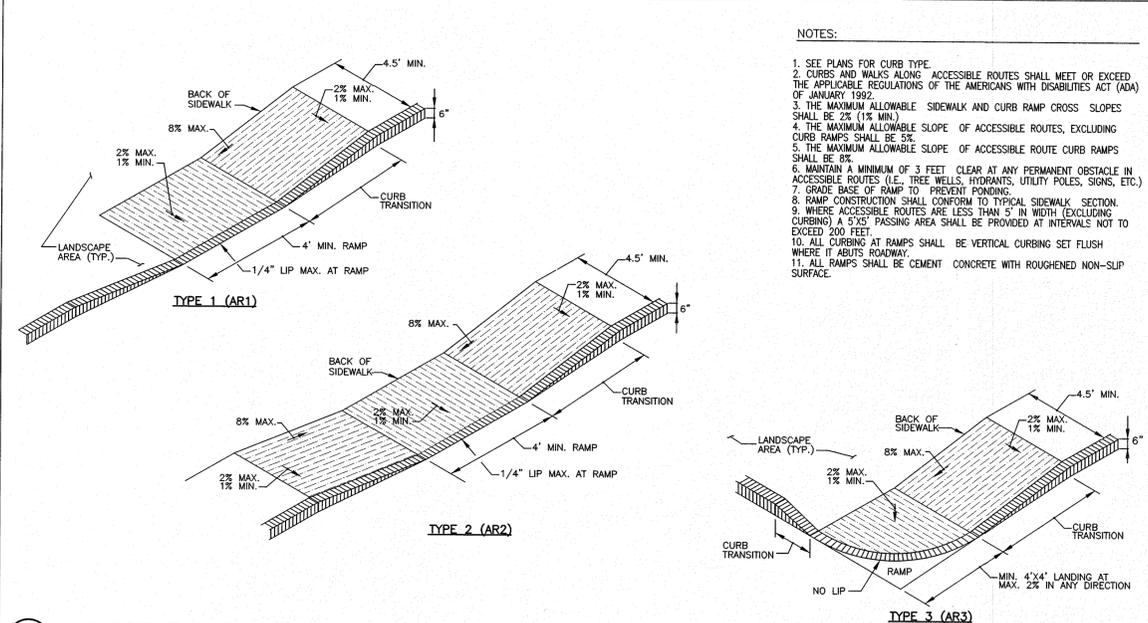
**3 CHAIN FENCE (CLF)**  
SCALE: N.T.S.



**4 CONCRETE RETAINING WALL**  
SCALE: N.T.S.

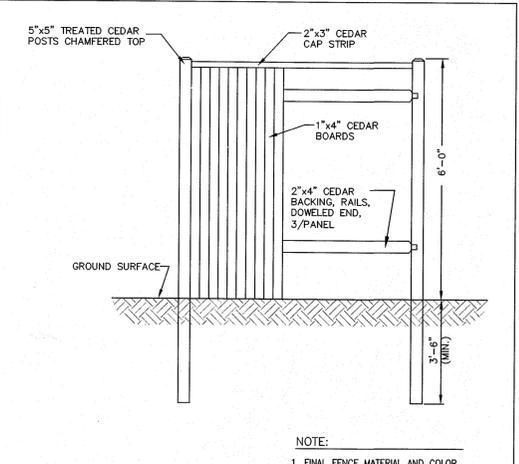


**9 EROSION CONTROL BARRIER (ECB) TYPE A**  
SCALE: N.T.S.

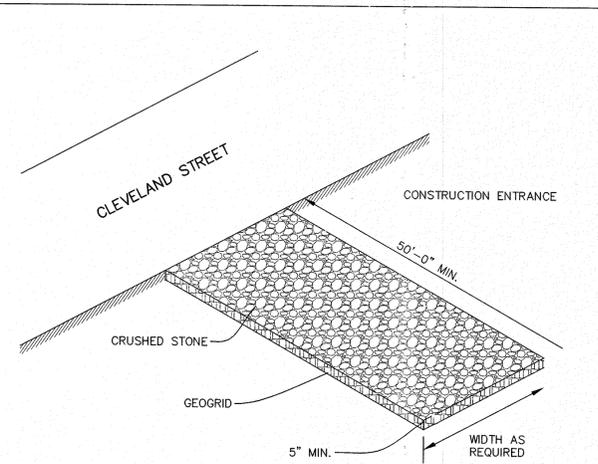


- NOTES:**
1. SEE PLANS FOR CURB TYPE.
  2. CURBS AND WALKS ALONG ACCESSIBLE ROUTES SHALL MEET OR EXCEED THE APPLICABLE REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF JANUARY 1992.
  3. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 2% (1% MIN.).
  4. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTES, EXCLUDING CURB RAMP SHALL BE 5%.
  5. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMP SHALL BE 8%.
  6. MAINTAIN A MINIMUM OF 3 FEET CLEAR AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTES (I.E. TREE WELLS, HYDRANTS, UTILITY POLES, SIGNS, ETC.).
  7. GRADE BASE OF RAMP TO PREVENT PONDING.
  8. RAMP CONSTRUCTION SHALL CONFORM TO TYPICAL SIDEWALK SECTION.
  9. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' X 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
  10. ALL CURBING AT RAMP SHALL BE VERTICAL CURBING SET FLUSH WHERE IT ABUTS ROADWAY.
  11. ALL RAMP SHALL BE CEMENT CONCRETE WITH ROUGHENED NON-SLIP SURFACE.

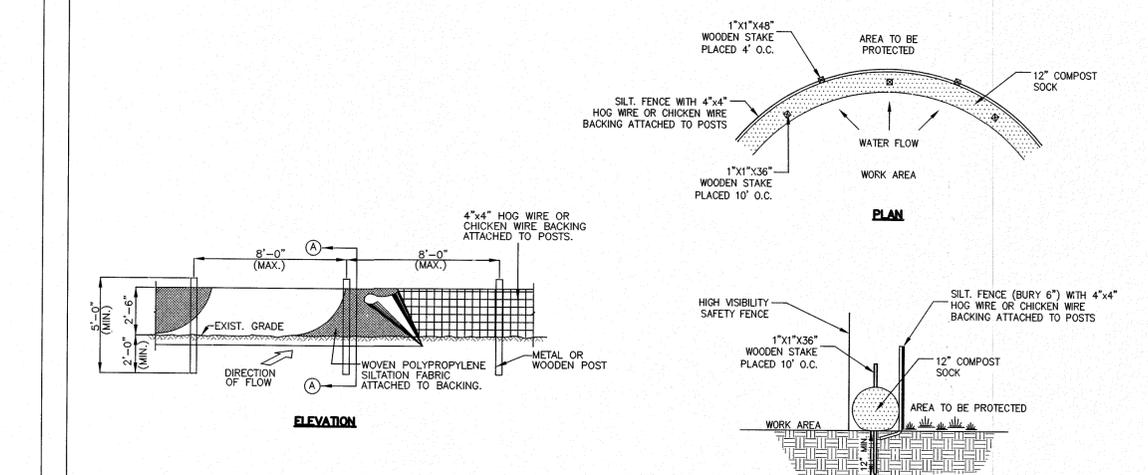
**5 ACCESSIBLE CURB RAMPS (AR)**  
SCALE: N.T.S.



**6 PRIVACY FENCE**  
SCALE: N.T.S.



**7 CONSTRUCTION ENTRANCE**  
SCALE: N.T.S.



**10 EROSION CONTROL BARRIER (ECB) TYPE B**  
SCALE: N.T.S.

**PROJECT:**  
LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

**APPLICANT:**  
LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

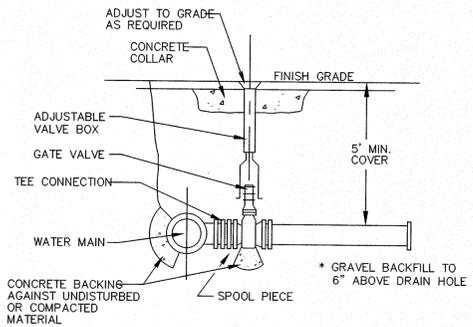
REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE	.\\dwg\2014-111_SP-R2_32 units.dwg	
DRAWN BY	SJO, TRB	
CHECKED BY	PBH, BJA	
DATE	APRIL 19, 2016	
PROJECT NO.	2014-111	

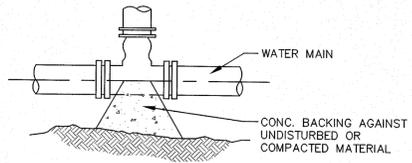
**SHEET TITLE**  
CONSTRUCTION  
DETAILS  
SHEET 2 OF 6

<b>DRAWING NO.</b> C-7.2	<b>DRAWING NO.</b> PLAN NO. L-4819
-----------------------------	---------------------------------------

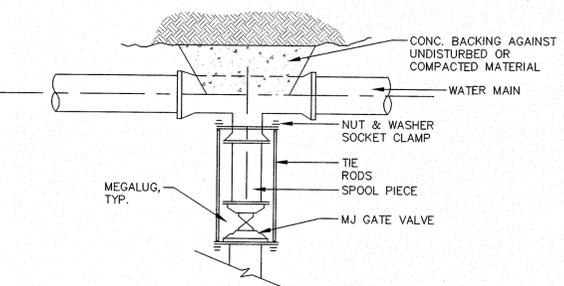




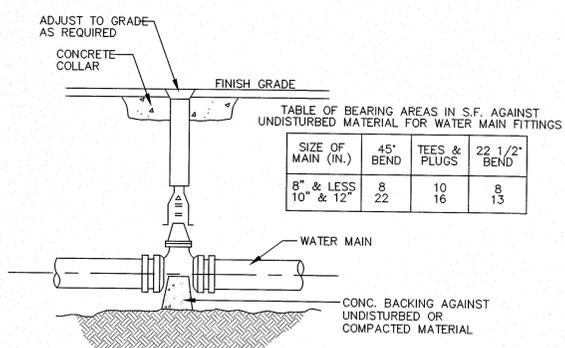
TYPICAL VALVE DETAIL



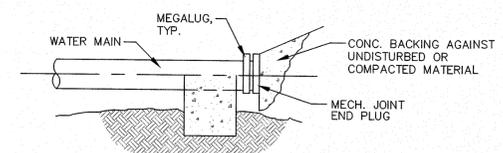
TYPICAL TEE



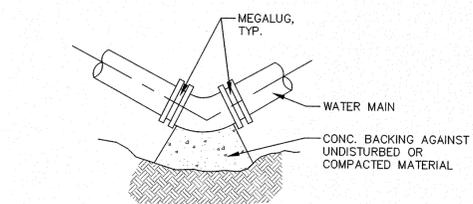
TYPICAL VALVE CONNECTION - RESTRAINED JOINT TEE



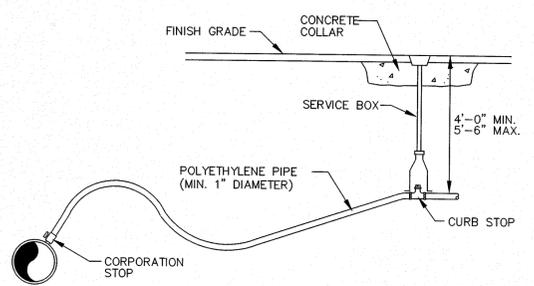
TYPICAL VALVE



TYPICAL PLUG DETAIL



TYPICAL BEND DETAIL

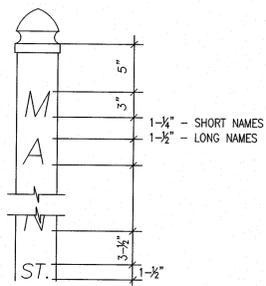


TYPICAL WATER SERVICE DETAIL

NOTE:  
WATER APPURTENES TO CONFORM WITH LOCAL WATER COMPANY SPECIFICATIONS.

1 TYPICAL WATER SUPPLY DETAILS  
SCALE: N.T.S.

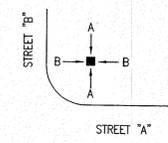
- MATERIAL - POST AND CAP:
1. NOMINAL 5" x 5" SQUARE SECTION POST
  2. MATCHING GOTHIC CAP
  3. WHITE 100% VIRGIN VINYL WITH TITANIUM DIOXIDE CONTENT FOR UV PROTECTION
  4. 0.200 IN. WALL THICKNESS
  5. AS MANUFACTURED BY KROY BUILDING PRODUCTS, INC. OR APPROVED EQUAL
  6. JOIN CAP TO POST WITH CLEAR PVC SOLVENT CEMENT MEETING ASTM D-2564



2 TYPICAL STREET SIGN  
SCALE: N.T.S.

- LETTERING:
1. HELVETICA MEDIUM STYLE
  2. VINYL - FOR EXTERIOR USE
  3. PRESSURE SENSITIVE ADHESIVE
  4. REFLECTIVE BLACK
  5. STREET NAME - 3" HIGH LETTERS
  6. DESIGNATION (ST, DR, ETC) 1-1/2" HIGH

- DESIGNATION ABBREVIATIONS:
- STREET \* ST
  - DRIVE \* DR
  - WAY \* WAY
  - LANE \* LA
  - ROAD \* RD
  - TERRACE \* TER
  - TRAIL \* TR
  - PATH \* PATH
  - AVENUE \* AVE
  - BOULEVARD \* BLVD
- SUBMIT OTHERS FOR APPROVAL  
\*NO PERIODS USED\*

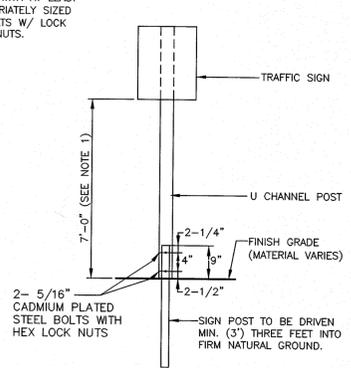


PULL UP DETERRANT:

1. STAINLESS STEEL EYEBOLTS AND NUTS
2. SNUG NUTS ONLY - DO NOT OVERTIGHTEN
3. DRIVEN 1/2" REBAR 2 FOOT MINIMUM LENGTH

- NOTES:
1. DIG HOLE WITH APPROPRIATELY SIZED POST HOLE DIGGER OR AUGER.
  2. POST MUST BE SET PLUMB.
  3. BACKFILL IN LIFTS OF NO MORE THAN 6". TAMP EARTH LIFT THOROUGHLY.

- NOTES:
1. SEE TRAFFIC CONTROL SCHEDULE FOR EXACT MOUNTING HEIGHT.
  2. CHANNEL POST SECTIONS TO BE CONNECTED WITH AT LEAST TWO(2) APPROPRIATELY SIZED GALVANIZED BOLTS W/ LOCK WASHERS AND NUTS.

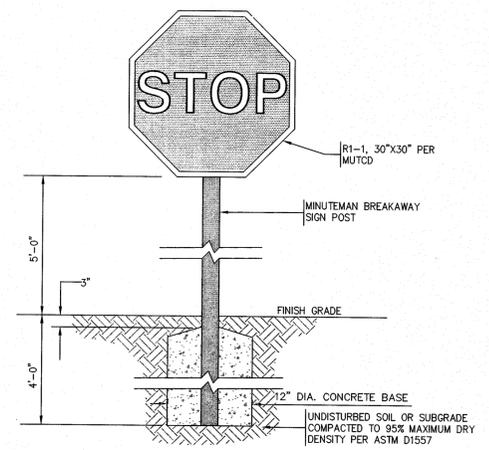


3 TYPICAL BREAKAWAY SIGN POST DETAIL  
SCALE: N.T.S.

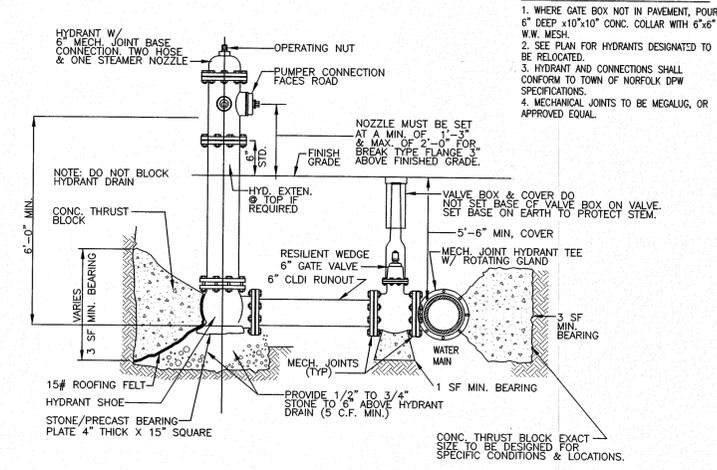
SIGN NO.	SIGN	SIZE AND COLOR
R1-1		30"x30"; WHITE ON RED
D-3		6" X VARIES"; WHITE ON GREEN 3" MIN LETTERS
R1-2		36"x36"x36"; RED ON WHITE
		18"x24"; BLACK ON WHITE

4 TRAFFIC CONTROL SIGNAGE  
SCALE: N.T.S.

- NOTES:
1. ALL SIGNS ARE REFLECTORIZED AND HAVE 7'-0" CHANNEL MOUNTING HEIGHT.
  2. ALL REGULATORY SIGNS SHALL MEET THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



5 STOP SIGN  
SCALE: N.T.S.



6 TYPICAL FIRE HYDRANT CONNECTION DETAIL  
SCALE: N.T.S.



Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT: LAKELAND FARMS TOWNHOUSE COMMUNITY  
APPLICANT: LAKELAND FARMS, LLC

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

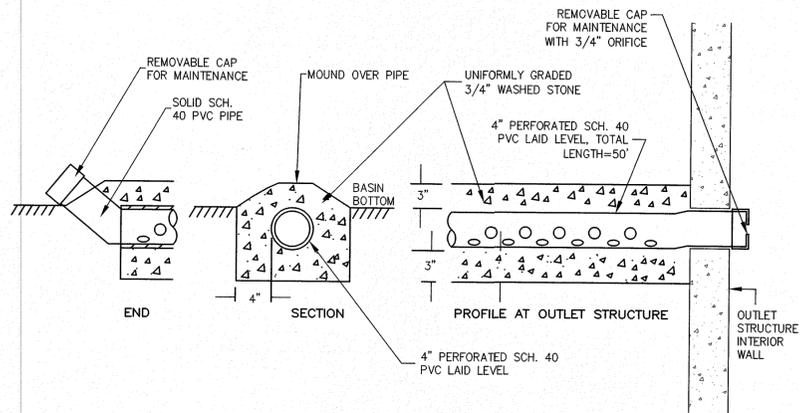
CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg  
DRAWN BY: SJO, TRB  
CHECKED BY: PBH, BJA  
DATE: APRIL 19, 2016  
PROJECT NO.: 2014-111

SHEET TITLE  
**CONSTRUCTION DETAILS**  
SHEET 3 OF 6

PAUL L. HUTNAK  
CIVIL  
No. 45872  
REGISTERED PROFESSIONAL ENGINEER

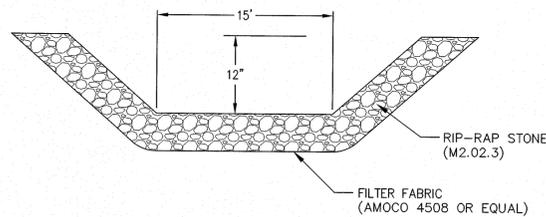
DRAWING NO.  
**C-7.3**

PLAN NO. L-4819



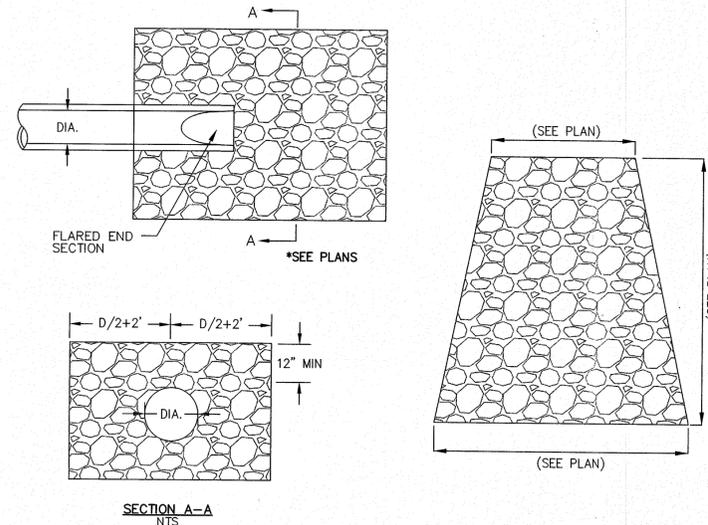
- NOTES:**
1. ALL PVC PIPE AND FITTINGS USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE SHALL BE GASKETED.
  2. GLUED PVC CONNECTIONS SHALL NOT BE USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE.

**1 WATER QUALITY / DRAWDOWN DEVICE (BASIN 1 & INF. BASIN)**  
SCALE: N.T.S.



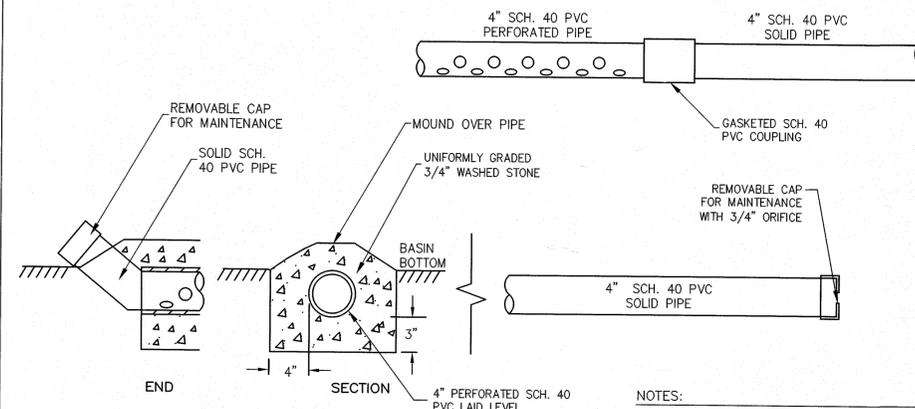
**2 STONE RIP-RAP EMERGENCY SPILLWAY**  
SCALE: N.T.S.

- NOTES:**
1. MINIMUM STONE DIAMETER: 6"
  2. MINIMUM WEIGHT OF STONE: 50 LBS.
  3. MAXIMUM WEIGHT OF STONE: 125 LBS.
  4. PLACE ALL RIP-RAP OVER FILTER FABRIC, AMOCO 4508 OR APPROVED EQUAL.



**3 STONE RIP-RAP FOR PIPE ENDS**  
SCALE: N.T.S.

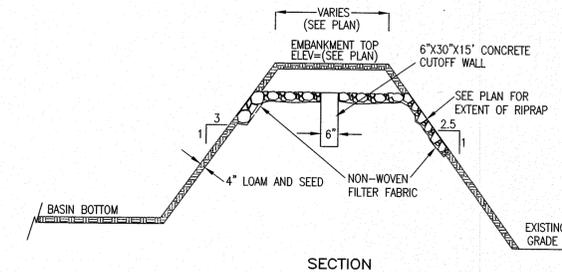
PIPE DIAMETER (INCHES)						
DIAMETER (INCHES)	12	15	18	24	30	36
A (INCHES)	6.5	6.5	7.5	7.5	7.5	7.5
B (MAX) (INCHES)	10.0	10.0	15.0	18.0	22.0	25.0
H (INCHES)	6.5	6.5	6.5	6.5	8.6	8.6
L (INCHES)	25.0	25.0	32.0	36.0	58.0	58.0
W (INCHES)	29.0	29.0	35.0	45.0	63.0	63.0



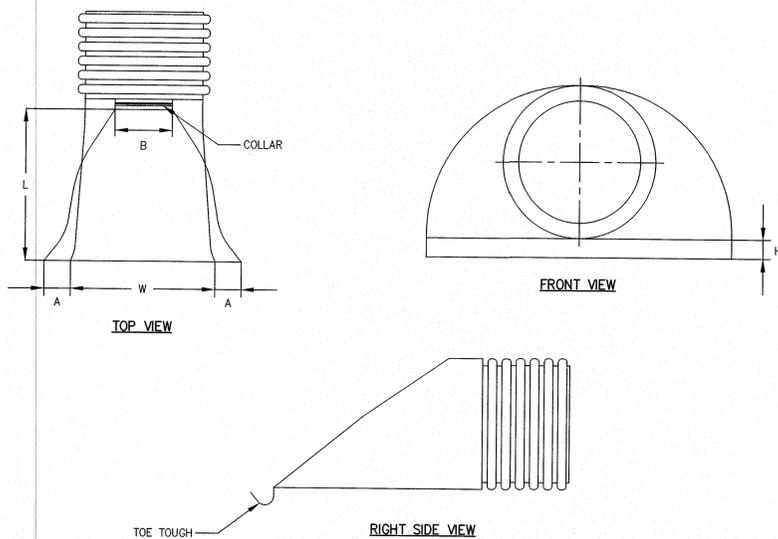
- NOTES:**
1. ALL PVC PIPE AND FITTINGS USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE SHALL BE GASKETED.
  2. GLUED PVC CONNECTIONS SHALL NOT BE USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE.

**5 LOW FLOW DRAIN (BASIN 2)**  
SCALE: N.T.S.

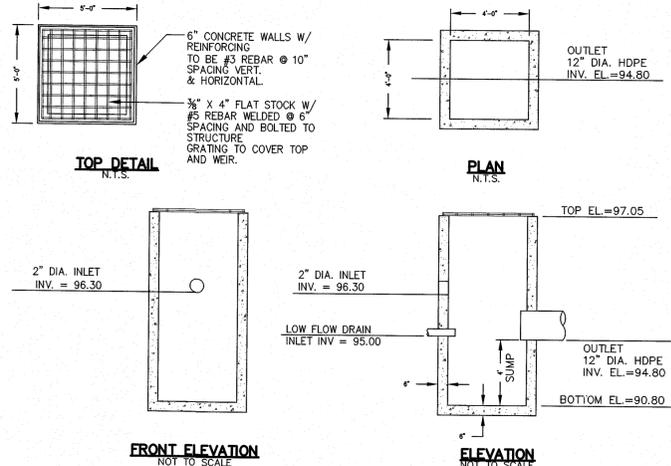
- NOTES:**
1. EMBANKMENT TO BE CONSTRUCTED OF CLEAN FILL FREE OF ORGANIC SOILS/MATERIALS WITH NO STONES OVER 12" MAX. DIMENSION. EMBANKMENT TO BE CONSTRUCTED IN COMPACTED LIFTS NOT TO EXCEED 8".
  2. BASIN BOTTOM AND SIDE SLOPES (INSIDE AND OUT) TO BE COVERED WITH 4" LOAM AND SEED.
  3. RIPRAP SPILLWAY STONE TO BE 4" MINIMUM, 6" MAXIMUM.



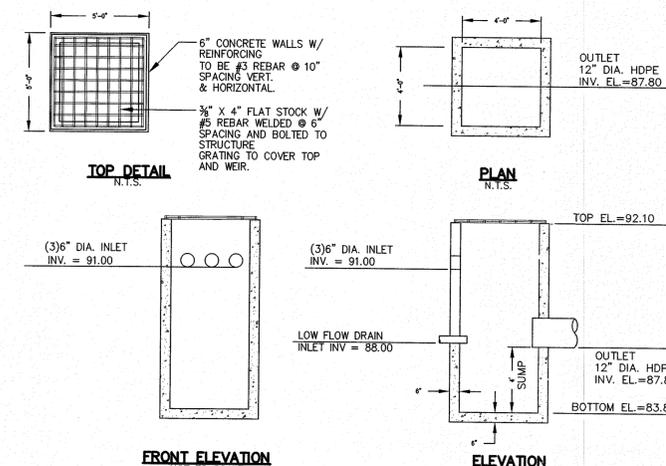
**6 TYPICAL EMBANKMENT/SPILLWAY**  
SCALE: N.T.S.



**4 CORRUGATED POLYETHYLENE FLARED-END SECTION (FES)**  
SCALE: N.T.S.



**7 OUTLET STRUCTURE (OS1) - ORIFICE/GRATE DETAIL**  
SCALE: N.T.S.



**8 OUTLET STRUCTURE (OS2) - ORIFICE/GRATE DETAIL**  
SCALE: N.T.S.



Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg

DRAWN BY: SUO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111

SHEET TITLE

CONSTRUCTION  
DETAILS

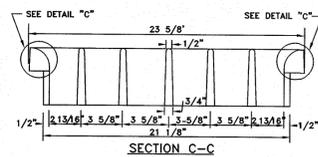
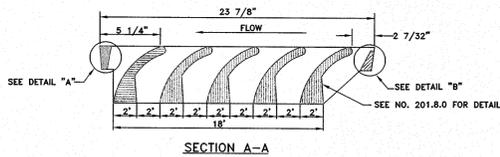
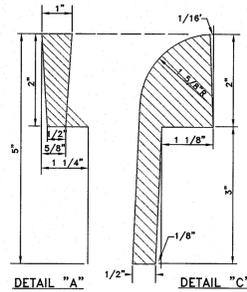
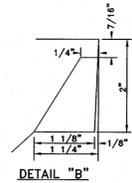
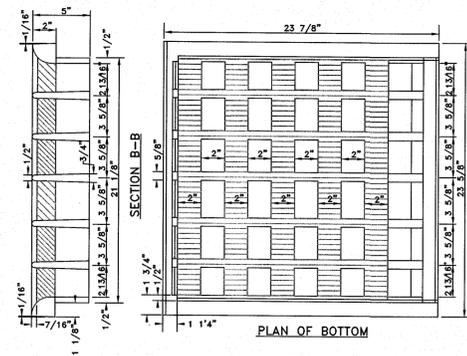
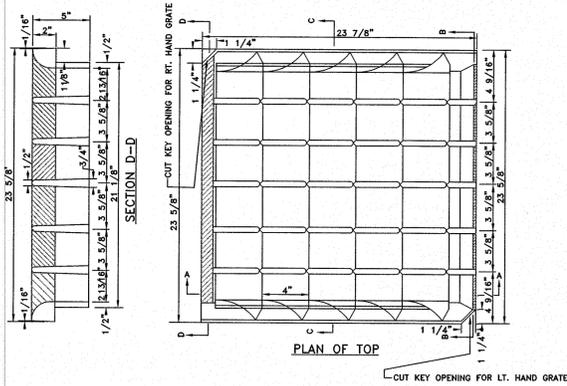
SHEET 4 OF 6



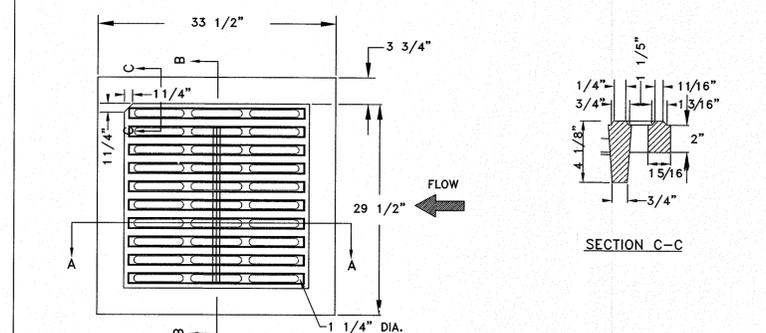
DRAWING NO.

C-7.4

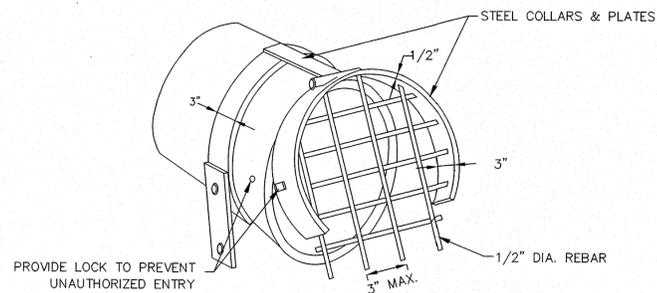
PLAN NO. L-4819



1 CASCADE CATCH BASIN GRATE (LEBARON LK120D)  
SCALE: N.T.S.



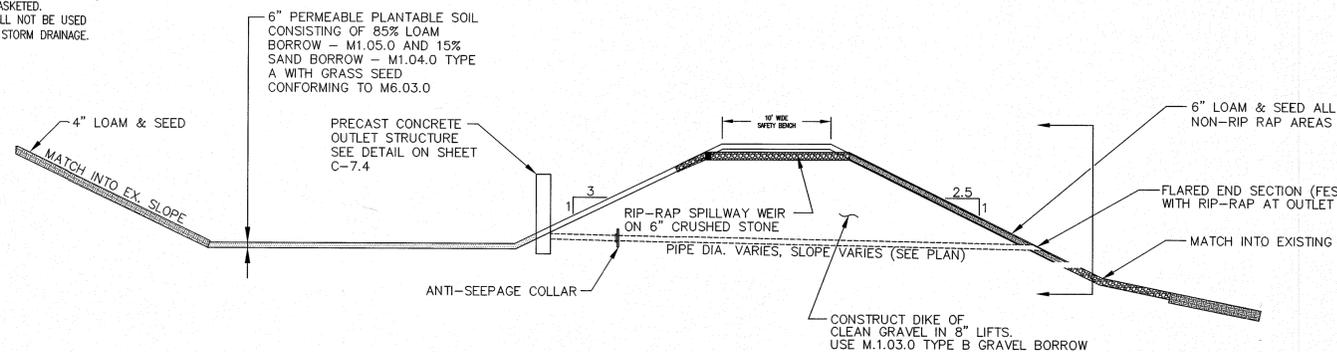
2 CATCH BASIN GRATE (LEBARON LF248-2)  
SCALE: N.T.S.



3 OUTLET PROTECTION DETAIL  
SCALE: N.T.S.

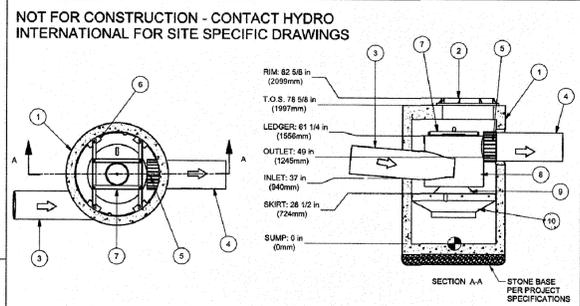
NOTES:

1. ALL PVC PIPE AND FITTINGS USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE SHALL BE GASKETED.
2. GLUED PVC CONNECTIONS SHALL NOT BE USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE.



4 STORMWATER BASIN CROSS SECTION (BASIN 1 & INF. BASIN)  
SCALE: N.T.S.

NOTE:  
STORMWATER BASIN SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION.



ITEM	DESCRIPTION	SIZE
1	PRECAST MANHOLE (BY HYDRO VIA PRECASTER)	48 in.
2	FRAME AND COVER	30 in.
3	INLET PIPE (BY OTHERS)	12 in.
4	OUTLET PIPE (BY OTHERS)	12 in.
5	PIPE COUPLING (BY OTHERS)	12 in.
6	LEADER ANGLE	
7	SUPPORT FRAME	
8	DIP PLATE	
9	CENTER SHAFT AND CONE	
10	BENCHING SKIRT	

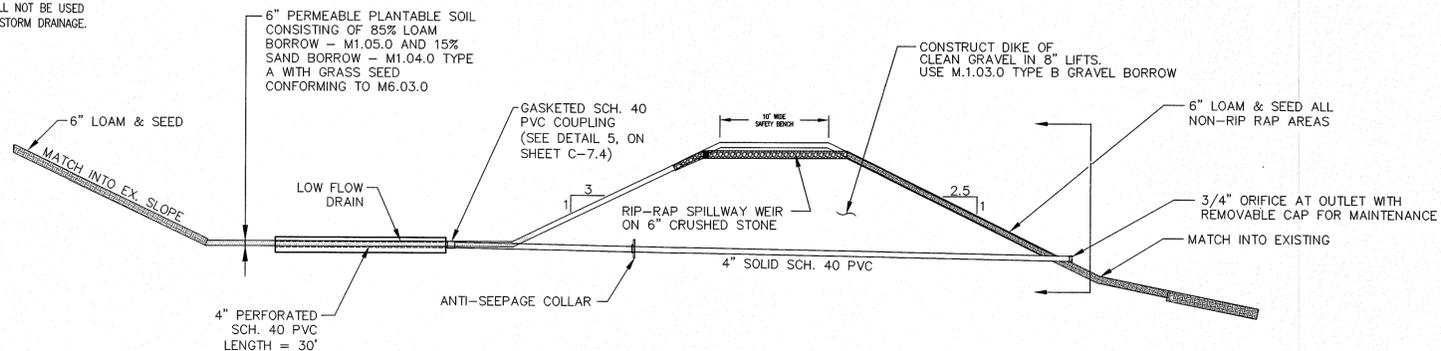
CAPACITIES:  
 1. Peak treatment flow: 3.0 cfs (85 l/s)  
 2. Sediment storage capacity: 0.70 cu. yd (0.54 cu. m.)  
 3. Oil storage capacity: 70 Gal. (263 liters)

ADDITIONAL DESIGN INFORMATION:  
 1. The outlet pipe stub (not shown) is a roto-molded product with an I.D. of 12 in. that cannot be modified. To avoid the use of a reducer or expander on the outlet at 12 in. outlet pipe should be used if possible. The orientation of the outlet pipe can be adjusted to suit site conditions.  
 2. Maximum pipe size is 12 in. The inlet pipe invert should be placed one inlet pipe diameter below the outlet pipe invert. The I.D. of the inlet pipe should be placed tangent to the I.D. of the manhole. The orientation of the inlet pipe can be adjusted to suit site conditions. Headloss at 3.0 cfs with a 12 in. inlet is 1.0 (2.03 m). Headloss will increase with smaller inlet pipes.  
 3. Sediment shall be stored in a zone that is isolated from the main flow path and protected from entrainment by the benching skirt.  
 4. Dimensions are general and intended for guidance only.

5 DOWNSTREAM DEFENDER DETAIL  
SCALE: N.T.S.

NOTES:

1. ALL PVC PIPE AND FITTINGS USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE SHALL BE GASKETED.
2. GLUED PVC CONNECTIONS SHALL NOT BE USED FOR EXTERIOR/UNDERGROUND STORM DRAINAGE.



6 STORMWATER BASIN CROSS SECTION (BASIN 2)  
SCALE: N.T.S.

NOTE:  
STORMWATER BASIN SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION.



Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning

P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289

500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056

LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

PROJECT:

APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

CAD FILE: \dwg\2014-111\_SP-R2\_32 units.dwg

DRAWN BY: SJO, TRB

CHECKED BY: PBH, BJA

DATE: APRIL 19, 2016

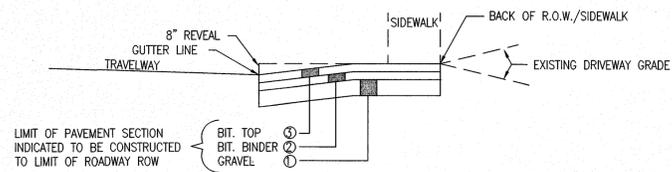
PROJECT NO.: 2014-111

SHEET TITLE

CONSTRUCTION  
DETAILS

SHEET 5 OF 6

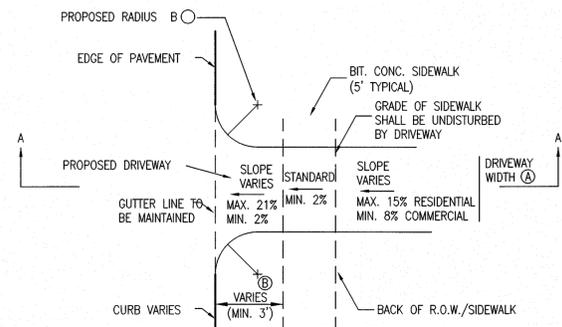
DRAWING NO.: C-7.5  
 PLAN NO.: L-4819



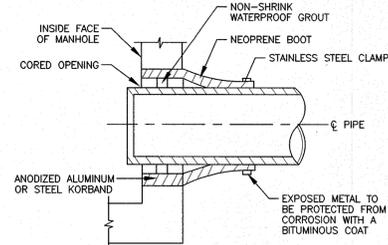
TYPE	MAX. (A)	MIN.	MAX. (B)	MIN.	①	②	③
RESIDENTIAL	12'	8'	10'	5'	12"	2"	1"
COMMERCIAL	24'	20'	30'	20'	12"	2.5"	1.5"
MAXIMUM ALLOWABLE GRADE CHANGE*					DESIRABLE	MAXIMUM	
LOW VOLUME DRIVEWAY ON LOCAL STREET					± 6%	± 6% (CREST CURVE)	± 9% (SAG CURVE)

1 TYPICAL DRIVEWAY OPENING  
SCALE: N.T.S.

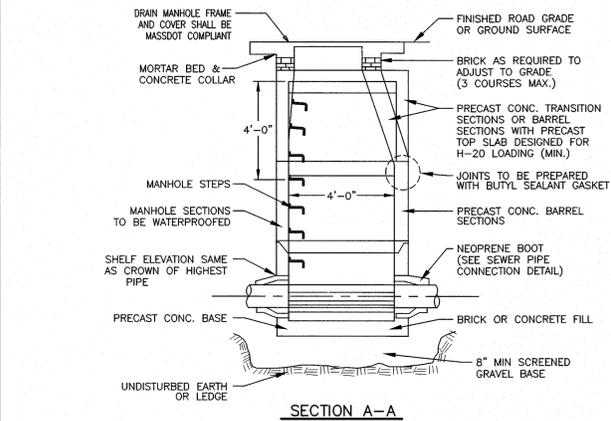
\*MORE ABRUPT CHANGES REQUIRE VERTICAL CURVES AT LEAST 10' LONG



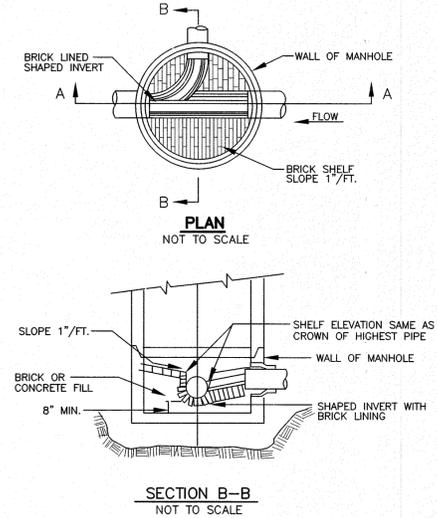
2 SEWER PIPE CONNECTION  
SCALE: N.T.S.



3 LEVEL SPREADER  
SCALE: N.T.S.

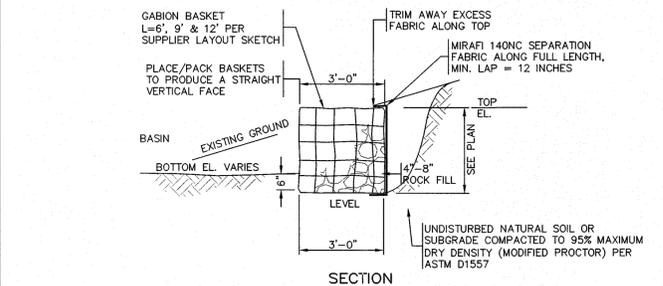


4 TYPICAL PRECAST CONCRETE 48\"/>



5 PIPE ENCASEMENT  
SCALE: N.T.S.

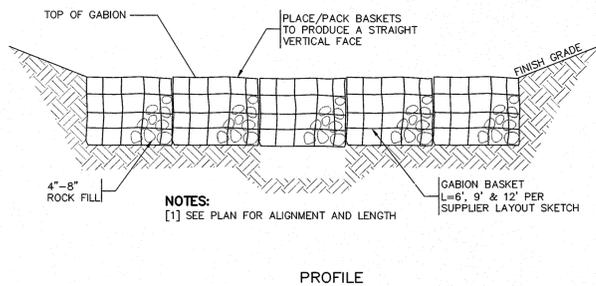
4 TYPICAL PRECAST CONCRETE 48\"/>



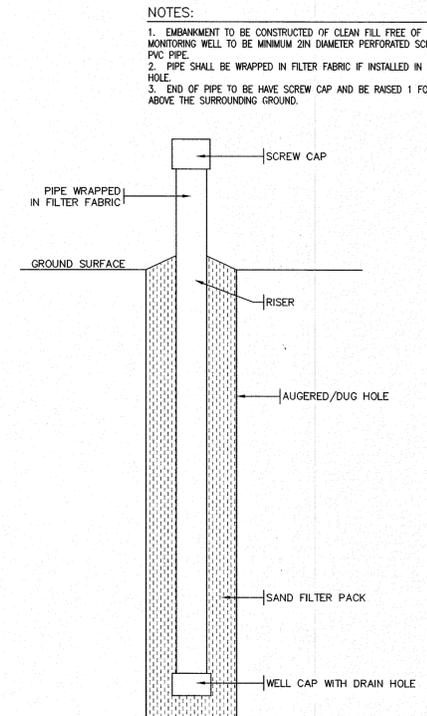
6 CUTOFF WALL DETAIL  
SCALE: N.T.S.

7 CUTOFF WALL CONFIGURATION DETAIL  
SCALE: N.T.S.

8 GABION FOREBAY DETAIL  
SCALE: N.T.S.



9 MONITORING WELL DETAIL  
SCALE: N.T.S.



NOTES:  
1. EMBANKMENT TO BE CONSTRUCTED OF CLEAN FILL FREE OF MONITORING WELL TO BE MINIMUM 2IN DIAMETER PERFORATED SCH-40 PVC PIPE.  
2. PIPE SHALL BE WRAPPED IN FILTER FABRIC IF INSTALLED IN OPEN HOLE.  
3. END OF PIPE TO BE HAVE SCREW CAP AND BE RAISED 1 FOOT ABOVE THE SURROUNDING GROUND.

**ASE**  
Andrews Survey & Engineering, Inc.  
Land Surveying - Civil Engineering - Site Planning  
P.O. Box 312, 104 Mendon Street  
Uxbridge, Massachusetts 01569  
P: 508-278-3897 F: 508-278-2289  
500 East Washington Street  
North Attleboro, Massachusetts 02760  
P: 508-316-0452 F: 508-316-0963

PROJECT:  
LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056  
APPLICANT:  
LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/10/16	PER CONSERVATION COMMISSION AND ZONING BOARD OF APPEALS REVIEW CONSULTANT COMMENTS
2	9/28/16	REDUCE UNITS TO 36, ADD WALKS
3	10/24/16	REDUCE UNITS TO 32, ADD WALKS
4	11/16/16	PER REVIEW CONSULTANT COMMENTS

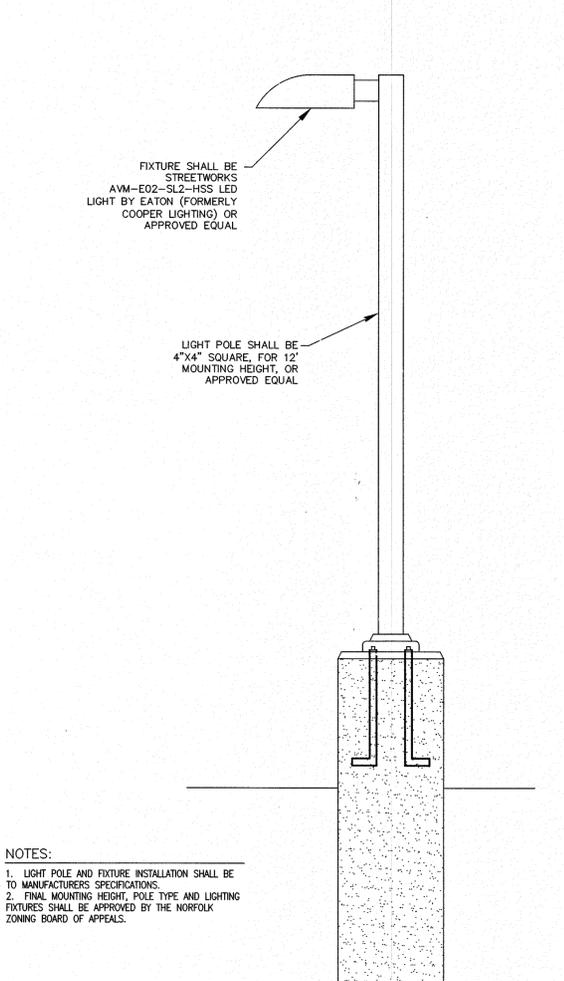
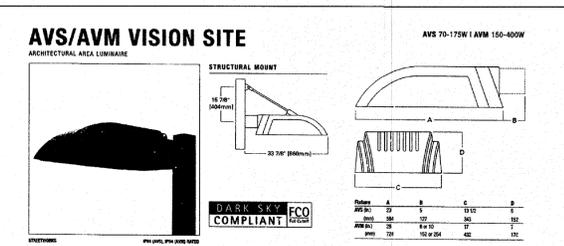
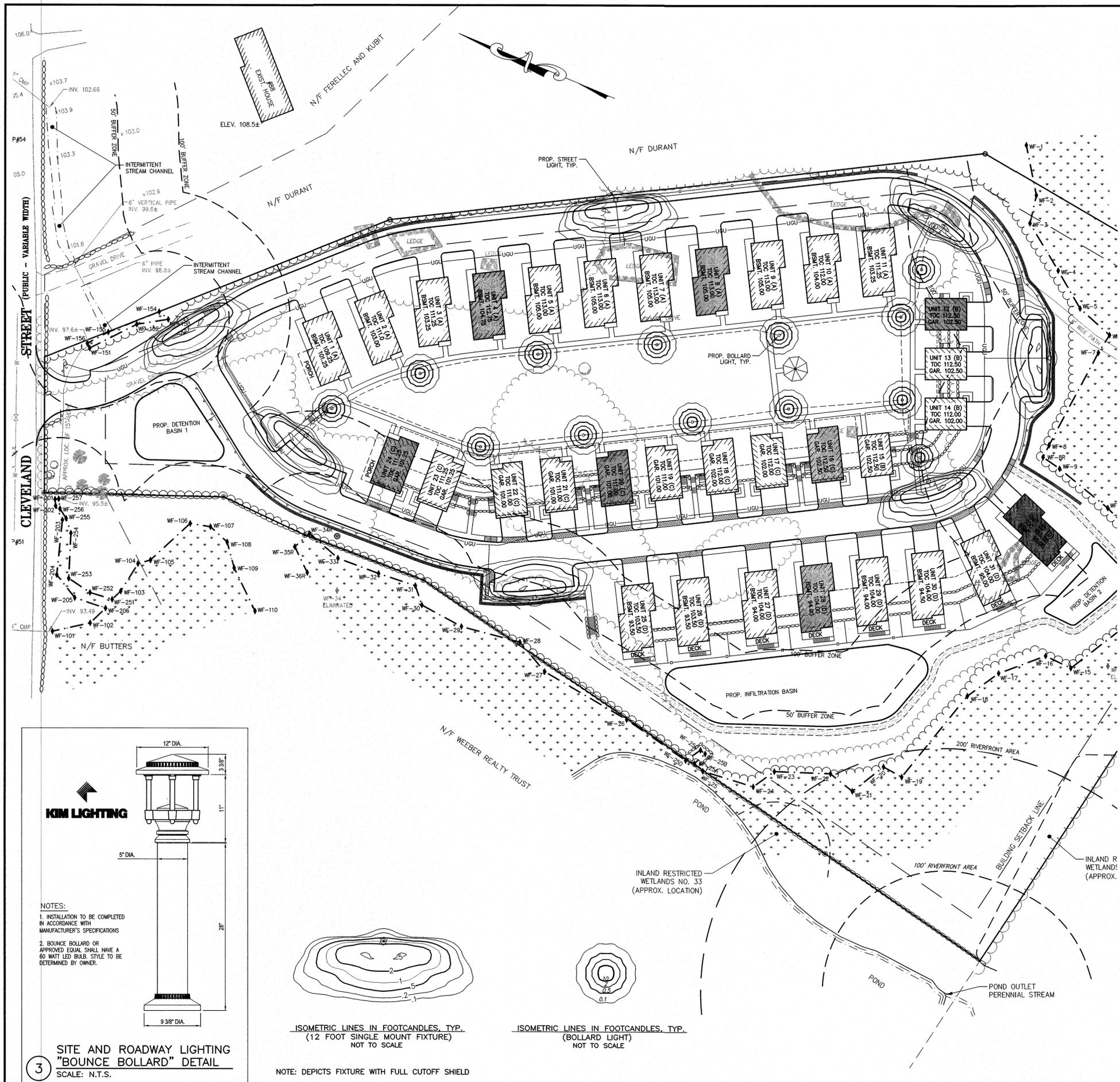
CAD FILE: .\dwg\2014-111\_SP-R2\_32 units.dwg  
DRAWN BY: SJO, TRB  
CHECKED BY: PBH, BJA  
DATE: APRIL 19, 2016  
PROJECT NO.: 2014-111

SHEET TITLE  
**CONSTRUCTION DETAILS**  
SHEET 6 OF 6

DRAWING NO.  
**C-7.6**  
PLAN NO. L-4819

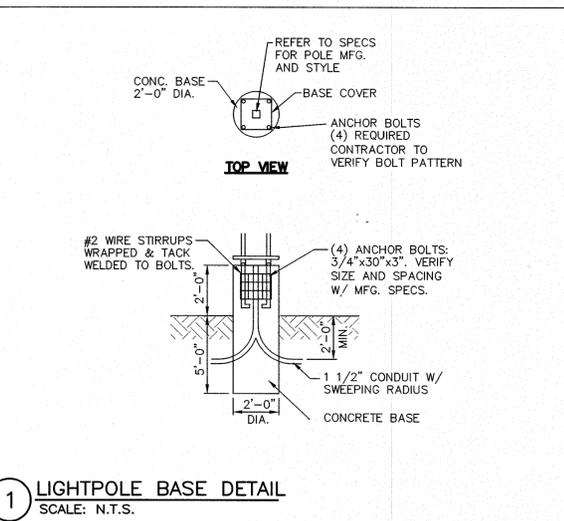


2016 © COPYRIGHT ANDREWS SURVEY & ENGINEERING, INC.

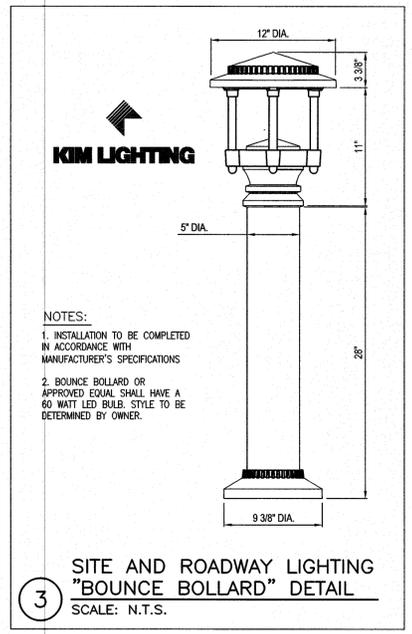


NOTES:  
 1. LIGHT POLE AND FIXTURE INSTALLATION SHALL BE TO MANUFACTURER'S SPECIFICATIONS.  
 2. FINAL MOUNTING HEIGHT, POLE TYPE AND LIGHTING FIXTURES SHALL BE APPROVED BY THE NORFOLK ZONING BOARD OF APPEALS.

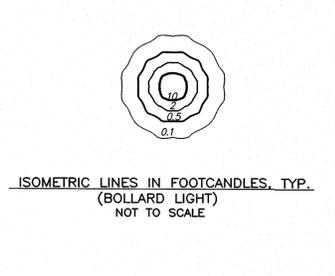
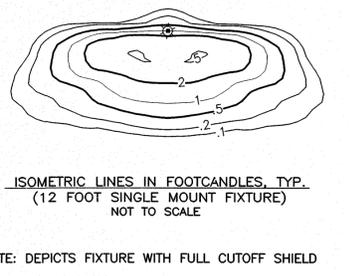
2 LIGHTPOLE DETAIL  
 SCALE: N.T.S.



1 LIGHTPOLE BASE DETAIL  
 SCALE: N.T.S.



3 SITE AND ROADWAY LIGHTING "BOUNCE BOLLARD" DETAIL  
 SCALE: N.T.S.



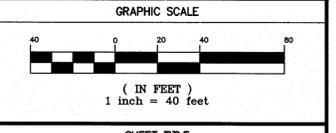
**Andrews Survey & Engineering, Inc.**  
 Land Surveying - Civil Engineering - Site Planning  
 P.O. Box 312, 104 Mendon Street  
 Uxbridge, Massachusetts 01569  
 P: 508-278-3897 F: 508-278-2289  
 500 East Washington Street  
 North Attleboro, Massachusetts 02760  
 P: 508-316-0452 F: 508-316-0963

PROJECT: **LAKELAND FARMS TOWNHOUSE COMMUNITY**  
 84 CLEVELAND STREET  
 NORFOLK, MA 02056

APPLICANT: **LAKELAND FARMS, LLC**  
 84 CLEVELAND STREET  
 NORFOLK, MA 02056

REVISIONS		
NO.	DATE	DESCRIPTION

CAD FILE: .\dwg\2014-111\_SP-R2-32 units.dwg  
 DRAWN BY: SJO, TRB  
 CHECKED BY: PBH, BJA  
 DATE: NOVEMBER 16, 2016  
 PROJECT NO.: 2014-111

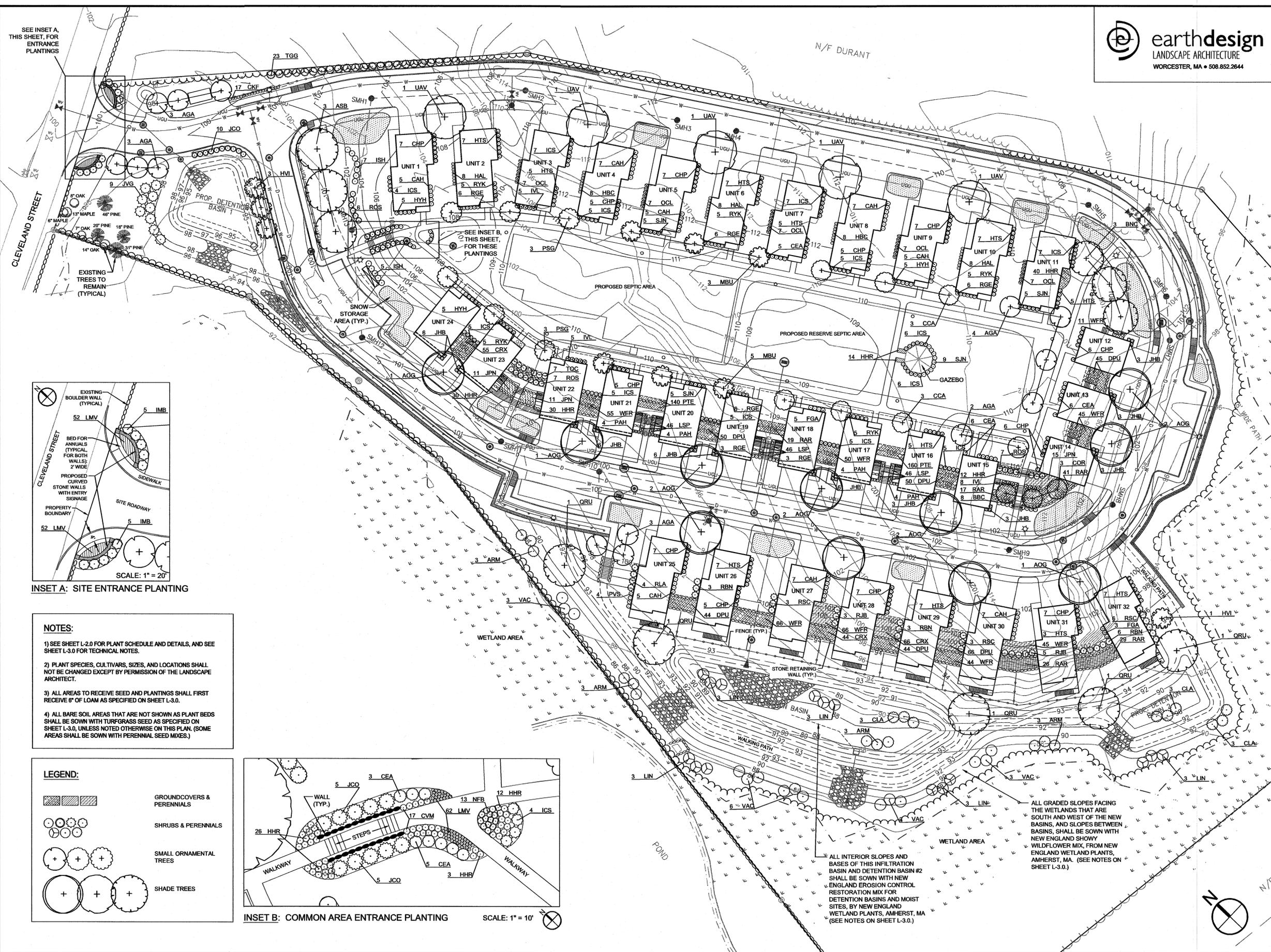


SHEET TITLE: **LIGHTING PLAN**

DRAWING NO.: **C-8.0**

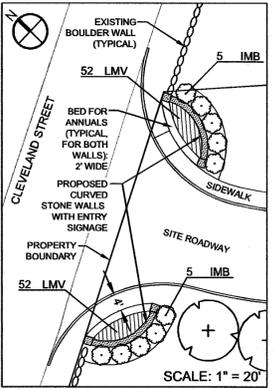
PLAN NO. L-4819





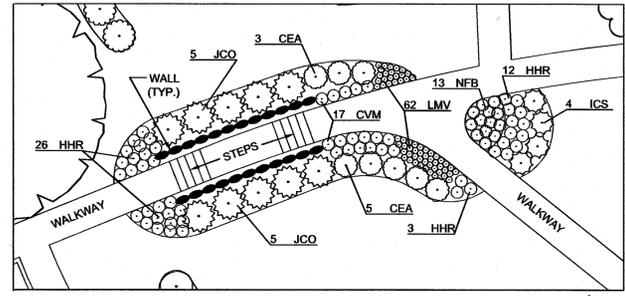
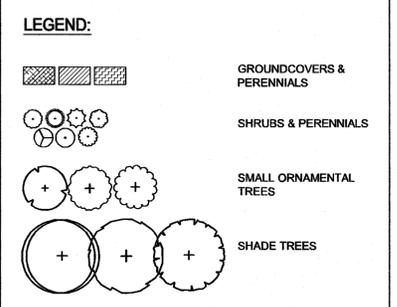
SEE INSET A, THIS SHEET, FOR ENTRANCE PLANTINGS

SEE INSET B, THIS SHEET, FOR THESE PLANTINGS



INSET A: SITE ENTRANCE PLANTING

- NOTES:**
- 1) SEE SHEET L-2.0 FOR PLANT SCHEDULE AND DETAILS, AND SEE SHEET L-3.0 FOR TECHNICAL NOTES.
  - 2) PLANT SPECIES, CULTIVARS, SIZES, AND LOCATIONS SHALL NOT BE CHANGED EXCEPT BY PERMISSION OF THE LANDSCAPE ARCHITECT.
  - 3) ALL AREAS TO RECEIVE SEED AND PLANTINGS SHALL FIRST RECEIVE 6" OF LOAM AS SPECIFIED ON SHEET L-3.0.
  - 4) ALL BARE SOIL AREAS THAT ARE NOT SHOWN AS PLANT BEDS SHALL BE SOWN WITH TURFCORPUS SEED AS SPECIFIED ON SHEET L-3.0, UNLESS NOTED OTHERWISE ON THIS PLAN. (SOME AREAS SHALL BE SOWN WITH PERENNIAL SEED MIXES.)



INSET B: COMMON AREA ENTRANCE PLANTING

SCALE: 1" = 10'

PROJECT: **LAKELAND FARMS  
TOWNHOUSE COMMUNITY  
84 CLEVELAND STREET  
NORFOLK, MA 02056**

APPLICANT: **LAKELAND FARMS, LLC  
84 CLEVELAND STREET  
NORFOLK, MA 02056**

REVISIONS

NO.	DATE	DESCRIPTION
1	11-16-16	LANDSCAPE PLAN REVISIONS

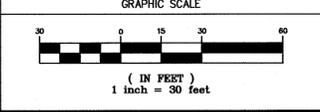
CAD FILE

DRAWN BY: AWW

CHECKED BY: AWW

DATE: APRIL 19, 2016

PROJECT NO.: 2014-111



SHEET TITLE

**LANDSCAPE PLAN**

DRAWING NO.  
**L-1.0**  
PLAN NO. L-





