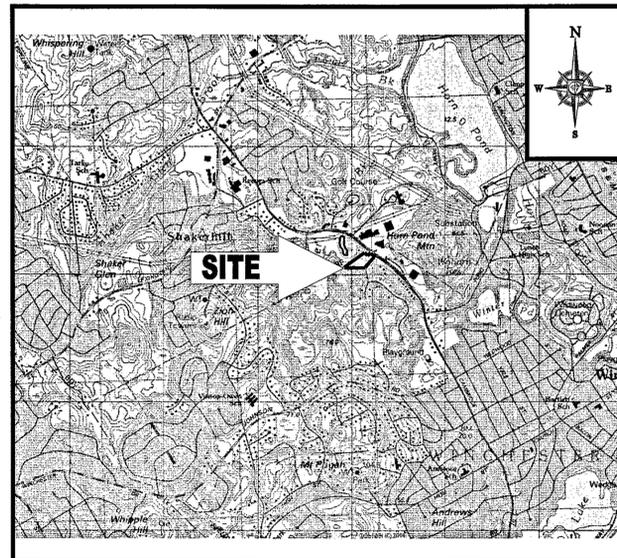


# SITE DEVELOPMENT PLANS

FOR:  
PROPOSED

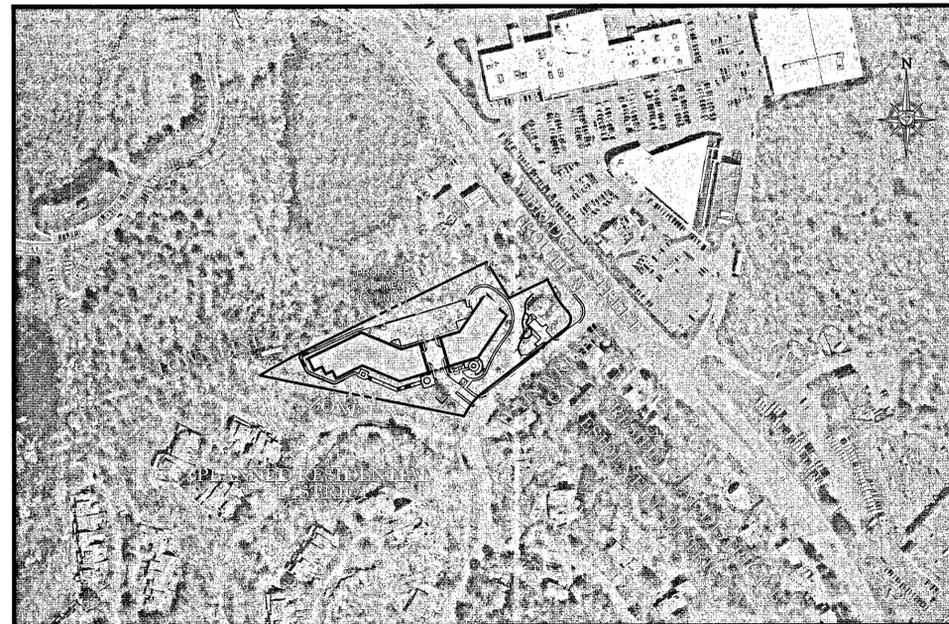
## WINCHESTER NORTH

LOCATION OF SITE:  
416 CAMBRIDGE STREET  
TOWN OF WINCHESTER &  
CITY OF WOBURN  
MIDDLESEX COUNTY  
MASSACHUSETTS  
MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOBURN)



**LOCATION MAP**

SCALE: 1"=2000'  
PLAN REFERENCE: BOSTON NORTH USGS QUADRANGLE



**AREA PLAN**

SCALE: 1"=200'

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ALTA / ACSM SURVEY (BY OTHERS)	1 OF 1

**SHEET INDEX**

PREPARED BY



OWNER/APPLICANT:

FX WINCHESTER, LLC  
C/O FX INVESTMENTS, LLC  
263 HUNTINGTON AVE, #174  
BOSTON, MA 02115



REVISIONS			
REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
2	01/13/16	TOWN REVIEW COMMENTS	CFD
3			
4			
5			
6			
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15			

PRELIMINARY  
NOT FOR CONSTRUCTION

PROJECT No.: W141161  
DRAWN BY: NEM/AMP  
CHECKED BY: JAK  
DATE: 07/08/15  
SCALE: AS NOTED  
CAD ID.: W141161SS2

PROJECT:  
**SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**  
ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOBURN)  
416 CAMBRIDGE STREET  
TOWN OF WINCHESTER & CITY OF WOBURN  
MIDDLESEX COUNTY MASSACHUSETTS

**BOHLER ENGINEERING**  
352 TURNPIKE ROAD  
SOUTHBOROUGH, MA 01772  
Phone: (508) 480-9900  
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[www.BohlerEngineering.com](http://www.BohlerEngineering.com)



SHEET TITLE:  
**COVER SHEET**

SHEET NUMBER:  
**1**  
OF 14

REV 2 - 01/13/2016

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## GENERAL NOTES

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

- THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:
  - SURVEY, "BOUNDARY & TOPOGRAPHIC SURVEY, SEB, LLC, 416 CAMBRIDGE STREET, BY CONTROL POINT ASSOCIATES, INC. REVISED 6-22-15.
  - ARCHITECTURAL PLAN BY GRAZADO VELLECO ARCHITECTS, LATEST EDITION.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT THESE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTOR'S RESPONSIBILITY.

- ALL ACCESSIBLE (AKA ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AGENCIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

- ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.

THE GEOLOGICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MOST STRINGENT REQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOLOGICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOLOGICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH IS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADINGS SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

CONTRACTOR MUST REFER TO THE ARCHITECTURAL BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.

ALL DEBRIS MUST BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.

THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RECONSTRUCTION AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL, INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEAN, METHODS, TECHNIQUES OR PROCEDURES OF THE WORK OR FOR THE WORK OR FOR ANY CONCEPTS OR REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.

ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKERS' COMPENSATION INSURANCE, EMPLOYERS' LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTORIAL LIABILITY COVERAGE SUFFICIENT TO COVER THE OBLIGATIONS AND LIABILITIES ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEY'S FEES AND COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.

BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES AND PROFESSIONS, AND THE CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, WHICH ARE THE RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION. IN WRITING, BY THE CONTRACTOR. CONTRACTOR WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMANCE AND COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE MAINTAINED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.

IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEY'S FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.

CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE.

ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTORS FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.

OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLANS) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.

ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.

CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURERS STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.

AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS "CERTIFY" OR "CERTIFICATION" CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

## GENERAL GRADING & UTILITY PLAN NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.

4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.

5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS WITH JURISDICTION AND/OR CONTROL OF THE SITE, AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY RE-ASSEMBLY PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE WHERE A CONFLICT EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL/PLANNING UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.

8. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.

9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.

10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOLOGICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOLOGICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOLOGICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOLOGICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBGRADE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIAL. SHOULD UNSUITABLE MATERIAL BE DISCOVERED BY OWNER/DEVELOPER'S REPRESENTATIVE, SUBGRADE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOLOGICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOLOGICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.

11. ALL FILL, FILL/PAVEMENT, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOLOGICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOLOGICAL RECOMMENDATIONS, FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTATION AND BACKFILL. FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR EARTHWORK BALANCE.

12. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED TO OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STONKING OF DEBRIS WILL NOT BE PERMITTED.

14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REGULATIONS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED STRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE DRAINAGE OR UTILITY PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.

16. WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A 2X4, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAN COPY OF THE DRAINAGE OR UTILITY PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF THE WORK.

17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS OR EXISTING TORNSHAFT LIMIT GRADINGS) TO PREVENT POONDING. CONTRACTOR MUST IMMEDIATELY NOTIFY, IN WRITING, TO THE ENGINEER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, MUST BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM SAME.

18. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MINIMUM OF .075% GUTTER GRADE ALONG CURB FACE. IT IS CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING OUT SHEETS PRIOR TO INSTALLATION OF SAME.

19. REFER TO THIS SHEET FOR ADDITIONAL NOTES.

20. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTROL. CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS.

21. CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING WORK ANY WORK.

22. WHERE RETAINING WALLS (WHETHER OR NOT THEY MEET THE JURISDICTIONAL DEFINITION) ARE IDENTIFIED ON PLANS, ELEVATIONS IDENTIFIED ARE FOR THE EXPOSED PORTION OF THE WALL. WALL FOOTING/SUBGRADE ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE FIELD DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS.

23. STORM DRAINAGE PIPE UNLESS INDICATED OTHERWISE, ALL STORM SEWER PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT TIGHT JOINTS. WHEN HIGH DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO ASTM 1248 AND TYPE 5 (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SILT TIGHT JOINT. PVC PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 OR SCHEDULE 40 UNLESS INDICATED OTHERWISE.

24. SANITARY SEWER PIPE MUST BE POLYVINYL CHLORIDE (PVC) SDR 35 AND ALL MANHOLES SHALL BE PRECAST. THE SEWER SYSTEM SHALL COMPLY WITH ALL ASCE MANUAL ON ENGINEERING PRACTICE - NO. 89, DEP, AND TOWN OF WINCHESTER REQUIREMENTS.

25. STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL AND MEASURED CENTER OF INLET AND/OR MANHOLES STRUCTURE TO CENTER OF STRUCTURE.

26. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON PRELIMINARY ARCHITECTURAL PLANS. CONTRACTOR IS RESPONSIBLE TO AND FOR VERIFYING LOCATIONS OF SAME BASED ON FINAL ARCHITECTURAL PLANS.

27. SEWERS CROSSING STREAMS AND/OR LOCATION WITHIN 10 FEET OF THE STREAM EMBANKMENT, OR WHERE SITE CONDITIONS SO INDICATE, MUST BE CONSTRUCTED OF STEEL, REINFORCED CONCRETE, DUCTILE IRON OR OTHER SUITABLE MATERIAL.

SEWERS CONVEYING SANITARY FLOW, COMBINED SANITARY AND STORMWATER FLOW OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE GOVERNMENT AGENCY WITH JURISDICTION OVER SAME.

WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER MUST BE PROVIDED.

28. WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER PURVEYOR. IN THE ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING MUST BE CEMENT-LINED DUCTILE IRON (DIP) MINIMUM CLASS 52 THICKNESS. ALL PIPE AND APPURTENANCES MUST COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.

29. CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SEWER, WATER AND STORM SYSTEMS, MUST BE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.

30. WHERE BASEMENTS ARE TO BE PROVIDED FOR PROPOSED DWELLING UNITS, THE DEVELOPER SHALL, BY BORING OR BY TEST PIT, DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED DWELLINGS. WHERE GROUNDWATER IS ENCOUNTERED IN THE BASEMENT AREA, BASEMENTS WILL NOT BE INSTALLED UNLESS SPECIAL CONSTRUCTION METHODS ARE UTILIZED. TO BE REVIEWED AND APPROVED BY THE LOCAL BUILDING CODE OFFICIAL. IF AND WHERE SUMP PUMPS ARE INSTALLED, ALL DISCHARGES MUST BE CONNECTED TO THE STORM SEWER. A CLEANOUT MUST BE PROVIDED PRIOR TO THE CONNECTION TO THE STORM DRAIN IN ORDER THAT BLOCKAGES CAN BE ADDRESSED.

31. LOCATION OF PROPOSED UTILITY POLE RELOCATION IS AT THE SOLE DISCRETION OF UTILITY COMPANY.

32. CONSULTANT IS NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, SHALL HAVE NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.

## GENERAL DEMOLITION NOTES

1. THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY:

BOUNDARY & TOPOGRAPHIC SURVEY, SEB, LLC, 416 CAMBRIDGE STREET, TOWN OF WINCHESTER AND CITY OF WOLBURN, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS. PREPARED BY CONTROL POINT ASSOCIATES, INC. SOUTHBOROUGH, MA. REVISED 6-22-15

2. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 861 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.

3. BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.

4. THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION ONLY. REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED, THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.

5. CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.

6. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR TO:

A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.

B. NOTIFYING, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION DISTRICT, 72 HOURS PRIOR TO THE START OF WORK.

C. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.

D. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARKOUT, IN ADVANCE OF ANY EXCAVATION.

E. LOCATING AND PROTECTING ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.

F. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.

G. ARRANGING FOR AND COORDINATING WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER AND OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.

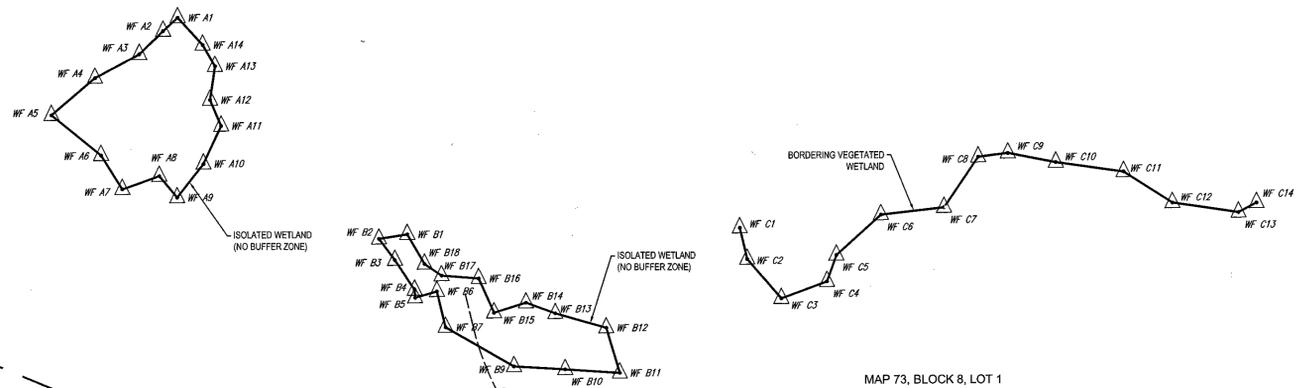
H. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES. WORK REQUIRED TO BE DONE "OFF-PEAK" IS TO BE DONE AT NO ADDITIONAL COST TO THE OWNER.

I. IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK AND IMMEDIATELY NOTIFY THE OWNER AND ENGINEER OF THE DISCOVERY OF SUCH MATERIALS.

7. THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

8. THE CONTRACTOR MUST PROVIDE ALL "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE





**LAND USE / ZONING INFORMATION & NOTES**

- APPLICANT:  
FX WINCHESTER, LLC  
C/O PX INVESTMENTS, LLC  
293 HUNTINGTON AVE, #114  
BOSTON, MA 02115
- OWNER:  
N/F 416 CAMBRIDGE STREET REALTY TRUST
- PARCEL:  
MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOUBURN)  
416 CAMBRIDGE STREET  
TOWN OF WINCHESTER & CITY OF WOUBURN  
MIDDLESEX COUNTY, MASSACHUSETTS

**PARKING SUMMARY**

40 SURFACE PARKING SPACES  
78 PARKING SPACES PROVIDED IN WEST GARAGE  
28 PARKING SPACES PROVIDED IN EAST GARAGE  
146 TOTAL PARKING SPACES PROVIDED

**TABULATION OF PROPOSED DEVELOPMENT**

LOT AREA	2.99 Ac.
TOTAL # OF UNITS	96
APARTMENT BUILDING GROUND COVERAGE	35,490 SF (0.81 Ac.)
EXISTING HOUSE GROUND COVERAGE	1,299 SF (0.03 Ac.)
% LOT BUILDING COVERAGE	28%
% LOT TO BE PARKING AREAS & BUILDING (1)	45%
% LOT TO BE OPEN AREA (2)	72%
% LOT TO BE OPEN SPACE (3)	55%

(1) INCLUDES PROPOSED BUILDING, PROPOSED DRIVEWAY & PARKING, AND EXISTING HOUSE AND PROPOSED DRIVEWAY AT EXISTING HOUSE  
(2) OPEN AREA IS THE AREA NOT OCCUPIED BY STRUCTURES PER TOWN DEFINITION (PAVED AREAS ARE CONSIDERED OPEN AREA)  
(3) OPEN SPACE IS THE AREA NOT OCCUPIED BY STRUCTURES OR PAVED PARKING OR VEHICLE ACCESS AREAS.

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RICHMOND, VA  
SOUTH CAROLINA  
SOUTH FLORIDA  
WASHINGTON, DC

**REVISIONS**

REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
2	01/13/16	TOWN REVIEW COMMENTS	CFD
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**PRELIMINARY NOT FOR CONSTRUCTION**

PROJECT No.: W141161  
DRAWN BY: NEM/AWP  
CHECKED BY: JAK  
DATE: 07/08/15  
SCALE: AS NOTED  
CAD I.D.: W141161S2

**SITE DEVELOPMENT PLANS FOR**  
**FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOUBURN)  
416 CAMBRIDGE STREET  
TOWN OF WINCHESTER & CITY OF WOUBURN  
MIDDLESEX COUNTY MASSACHUSETTS

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Fax: (508) 480-9980  
www.BohlerEngineering.com

**J.A. WELCH**  
Civil Engineer  
Professional Seal

**SITE PLAN**

SHEET NUMBER: **4**  
OF 14

REV 2 - 01/13/2016

MAP 26, LOTS 359-470  
N/F LANDS OF CRESENT PARK CONDOMINIUM  
L.C. DOC. #795677

MAP 73, BLOCK 8, LOT 1  
N/F LANDS OF CRESENT PARK CONDOMINIUM  
L.C. DOC. #795677

MAP 74, BLOCK 2, LOT 3  
N/F LANDS OF CAMBRIDGE ROAD REALTY TRUST  
CERT. #230018

MAP 74, BLOCK 2, LOT 2  
N/F LANDS OF EATON REALTY TRUST  
CERT. #226822

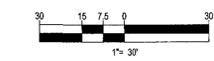
MAP 74, BLOCK 2, LOT 1  
N/F LANDS OF ALCO REALTY TRUST  
CERT. #199064  
BK. 1125, PG. 114

MAP 26, LOT 139  
N/F LANDS OF SEGRET REALTY TRUST  
CERT. #246890  
BK. 1387, PG. 73

MAP 26, LOTS 359-470  
N/F LANDS OF CRESENT PARK CONDOMINIUM  
L.C. DOC. #795677

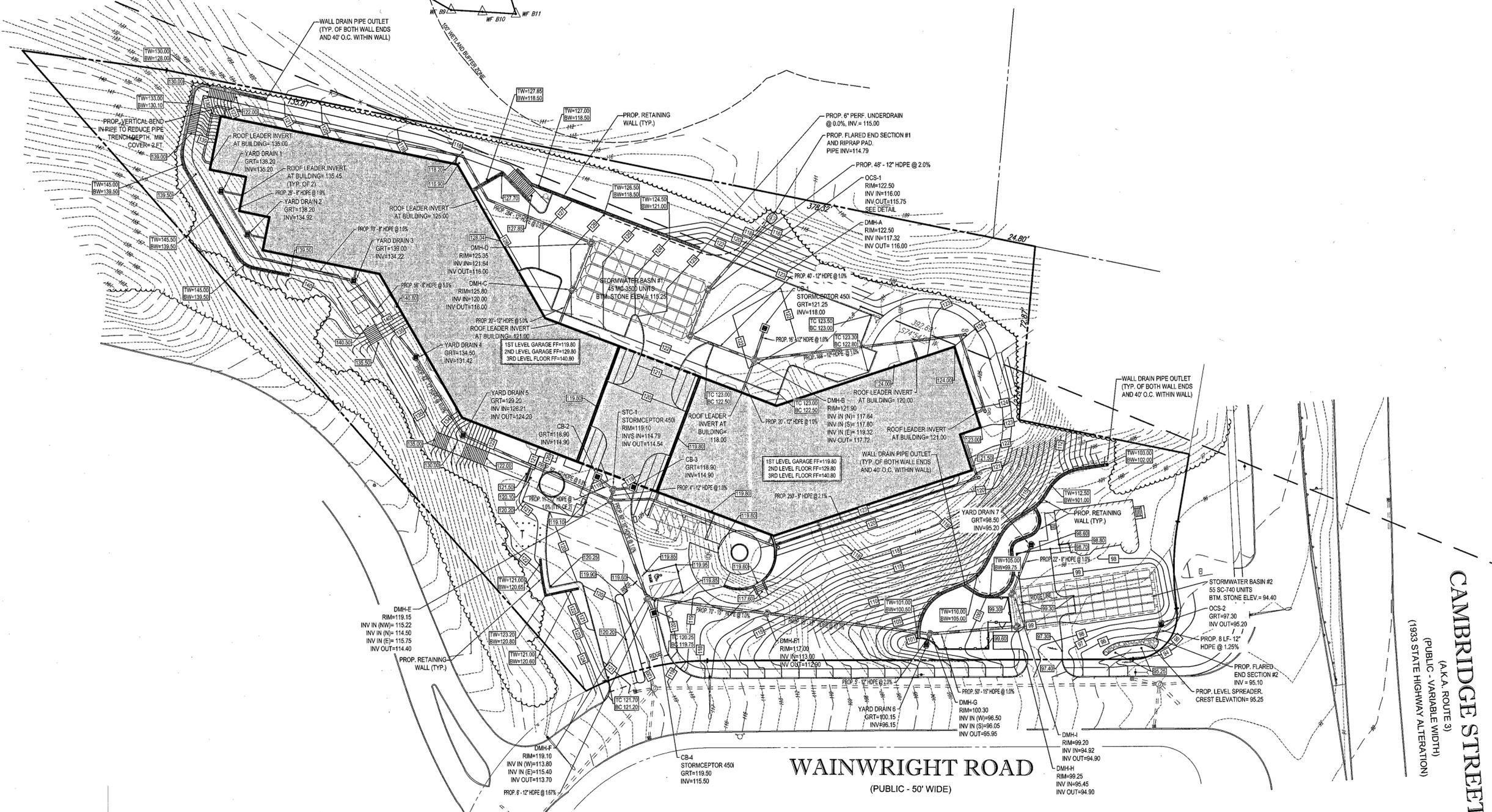
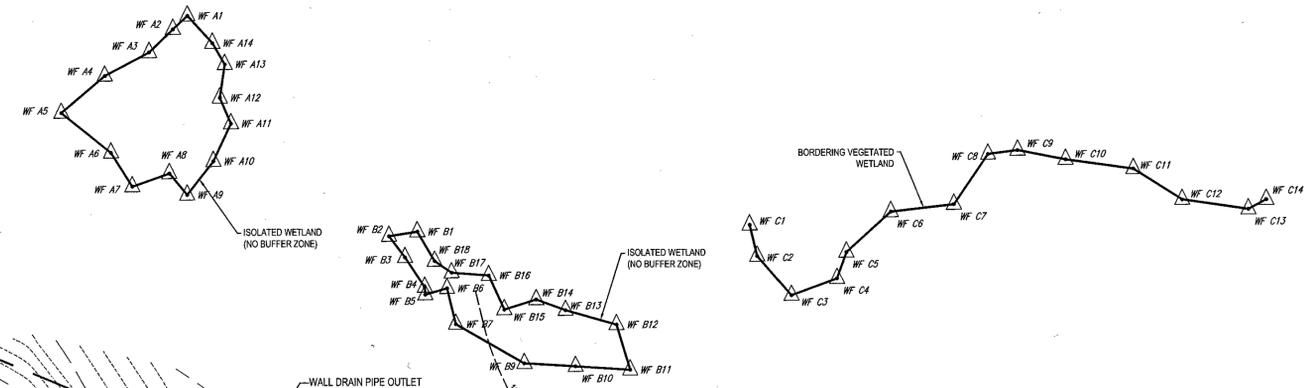
**WAINWRIGHT ROAD**  
(PUBLIC - 50' WIDE)

**CAMBRIDGE STREET**  
(A.K.A. ROUTE 3)  
(PUBLIC - VARIABLE WIDTH)  
(1933 STATE HIGHWAY ALTERATION)



**811**  
Know what's below.  
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CAMBRIDGE STREET  
(A.K.A. ROUTE 9)  
(PUBLIC - VARIABLE WIDTH)  
(1933 STATE HIGHWAY ALTERATION)

WAINWRIGHT ROAD  
(PUBLIC - 50' WIDE)

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IDAHO  
MONTANA  
NEBRASKA  
NEVADA  
UTAH  
WYOMING

REVISIONS

REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
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PRELIMINARY  
NOT FOR CONSTRUCTION

PROJECT No.: W141181  
DRAWN BY: NEMIAWP  
CHECKED BY: JAK  
DATE: 07/06/15  
SCALE: AS NOTED  
CAD I.D.: W141181SS2

PROJECT: **SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOBURN)  
416 CAMBRIDGE STREET  
TOWN OF WINCHESTER & CITY OF WOBURN  
MIDDLESEX COUNTY MASSACHUSETTS

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**J. A. MURICH**

JOHN A. MURICH  
REGISTERED PROFESSIONAL ENGINEER  
MASSACHUSETTS  
LICENSE NO. 11777  
EXPIRES 12/31/2016

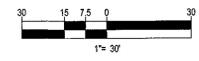
SHEET TITLE: **GRADING & DRAINAGE PLAN**

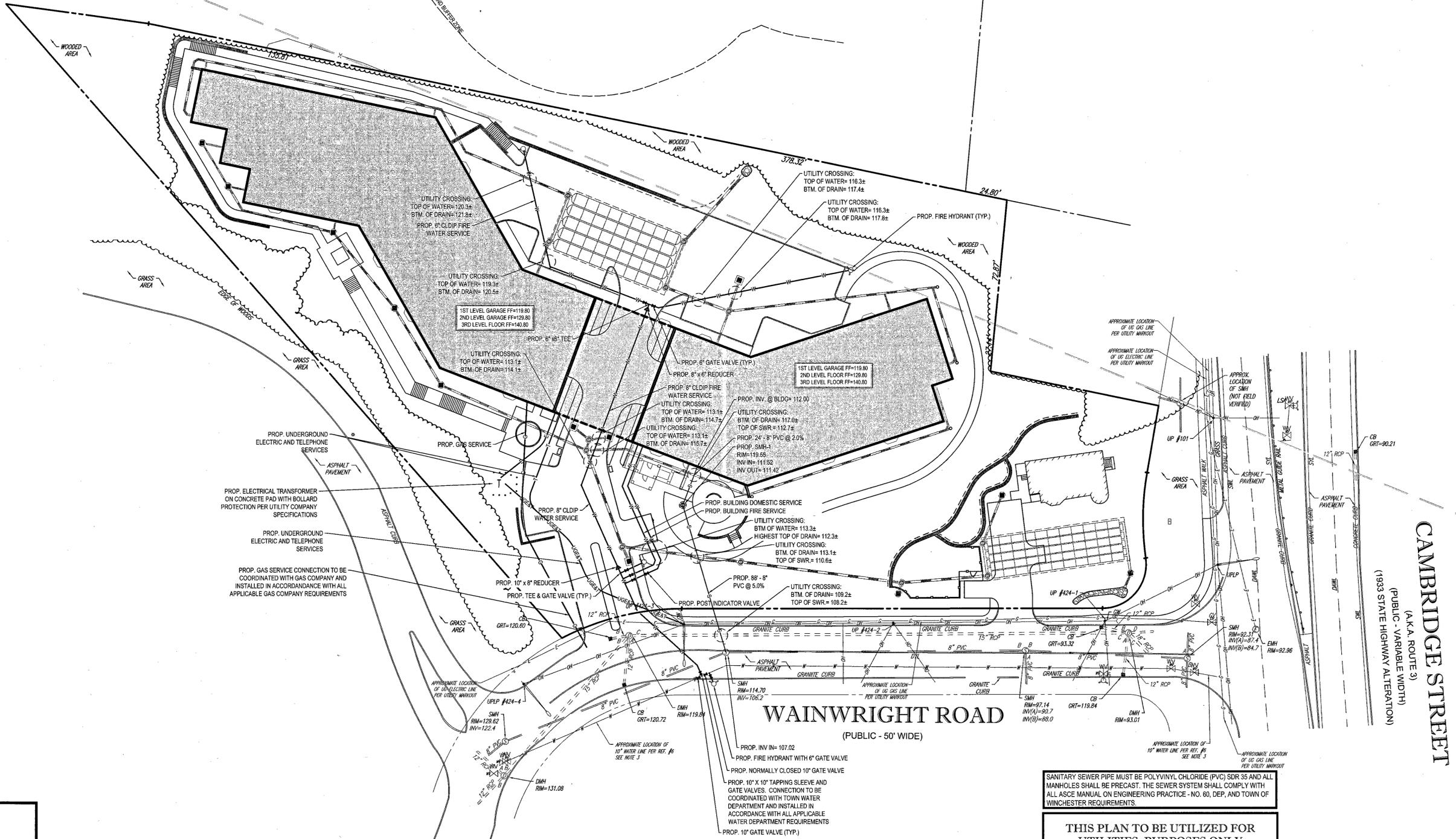
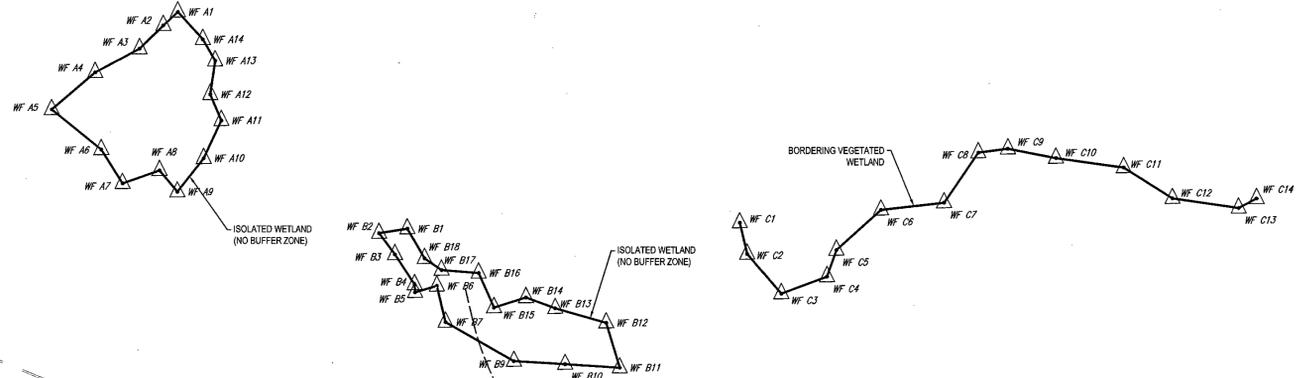
SHEET NUMBER: **5**  
OF 14

REV 2 - 01/13/2016

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 RALEIGH, NC  
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2	01/13/16	TOWN REVIEW COMMENTS	CFD
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**PRELIMINARY  
NOT FOR CONSTRUCTION**

PROJECT No.: W141161  
 DRAWN BY: NEMAWP  
 CHECKED BY: JAK  
 DATE: 07/26/15  
 SCALE: AS NOTED  
 CAD I.D.: W141161S22

**PROJECT: SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2 (WOBURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER & CITY OF WOBURN  
 MIDDLESEX COUNTY MASSACHUSETTS

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SHEET TITLE: **UTILITY PLAN**

SHEET NUMBER: **6**  
 OF 14

REV 2 - 01/13/2016

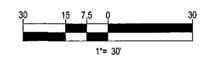
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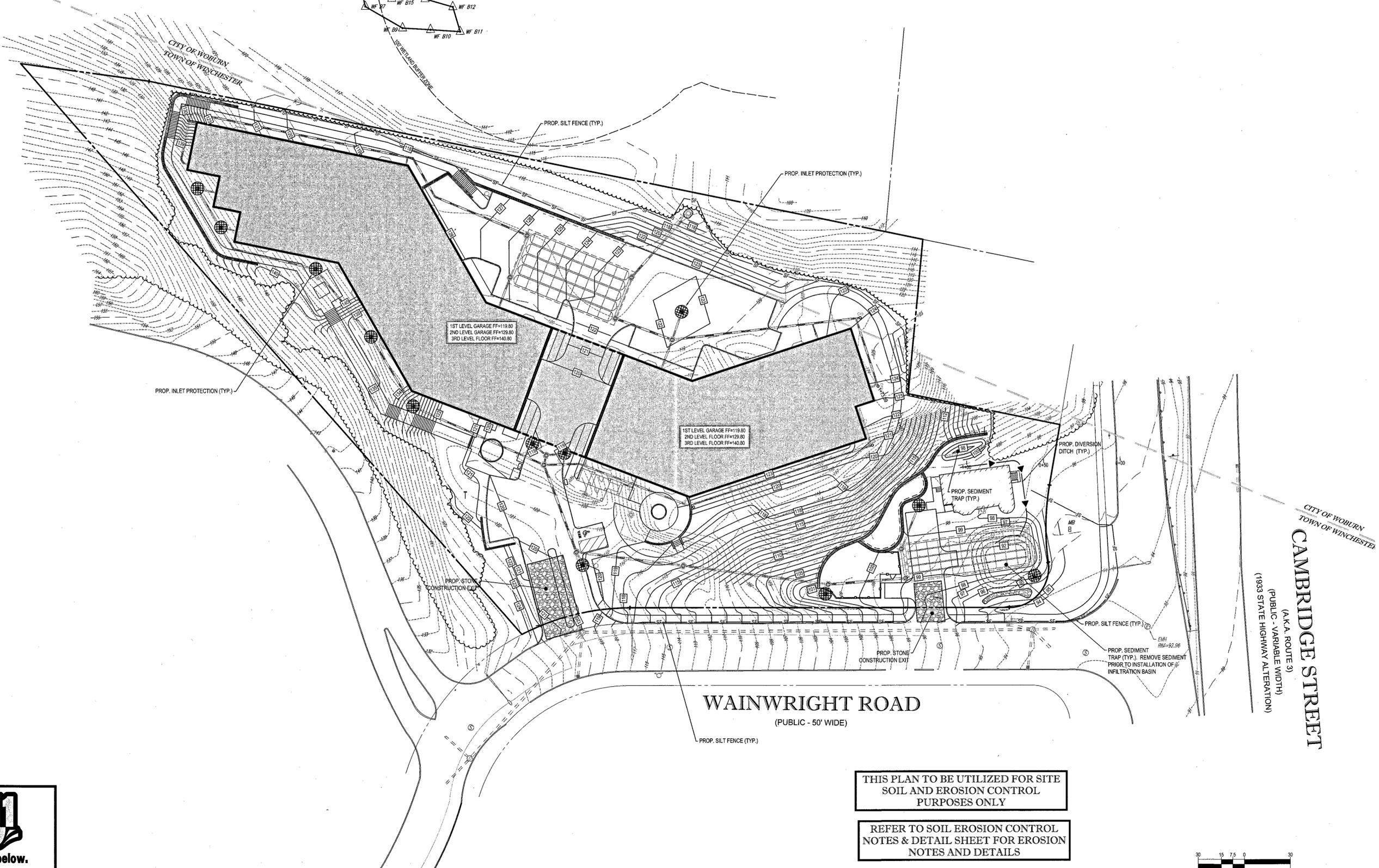
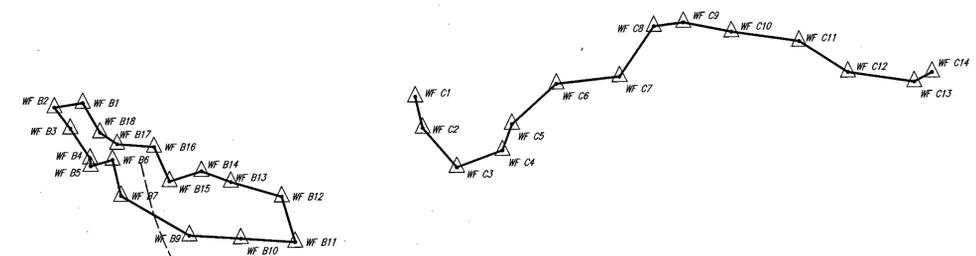
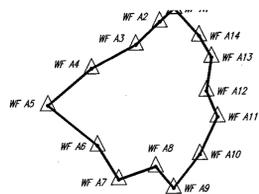


SANITARY SEWER PIPE MUST BE POLYVINYL CHLORIDE (PVC) SDR 35 AND ALL MANHOLES SHALL BE PRECAST. THE SEWER SYSTEM SHALL COMPLY WITH ALL ASCE MANUAL ON ENGINEERING PRACTICE - NO. 80, DEP, AND TOWN OF WINCHESTER REQUIREMENTS.

**THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY**

**REFER TO GENERAL NOTES SHEET FOR GRADING & UTILITY NOTES**





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REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
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**PRELIMINARY  
NOT FOR CONSTRUCTION**

PROJECT No.: W141161  
 DRAWN BY: NEMIAWP  
 CHECKED BY: JAK  
 DATE: 07/06/15  
 SCALE: AS NOTED  
 CAD I.D.: W141161SS2

**SITE DEVELOPMENT PLANS**  
FOR  
**FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140  
 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2  
 (WOBJURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER &  
 CITY OF WOBURN  
 MIDDLESEX COUNTY  
 MASSACHUSETTS

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SHEET TITLE:  
**SOIL EROSION & SEDIMENT CONTROL PLAN**

SHEET NUMBER:  
**7**  
OF 14

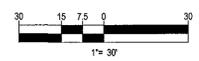
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THIS PLAN TO BE UTILIZED FOR SITE SOIL AND EROSION CONTROL PURPOSES ONLY

REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS



## EROSION & SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNGRADED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE.
- SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- INSTALL SILT FENCE AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #6.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UP-SLOPE ARE STABILIZED BY TURF.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
- IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
- REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
  - SIX INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
  - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SF).
  - FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDING TO A MIXTURE OF 4% CREEPING RED FESCUE, 5% REDTOP, AND 49% TALL FESCUE. THE LAWN AREAS WILL BE SEEDING TO A MIXTURE OF 4% KENTUCKY BLUEGRASS, 4% CREEPING RED FESCUE, AND 92% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1,000 SF OF LAWN. QUALITY SOIL MAY BE SUBSTITUTED FOR SEED.
  - STRAW MULCH AT THE RATE OF 70-80 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON STRAW MULCH FOR WIND CONTROL.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
- WETLANDS WILL BE PROTECTED WITH STRAWBALES AND/OR SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
- ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
- ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED.

### MULCH

LOCATION PROTECT AREA	MULCH STRAW OR STRAW	RATE (1000 SF)
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS STRAW OR STRAW (ANCHORED*)	185-275 POUNDS 100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSDOR MAT	AS REQUIRED

\*A HYDRO-APPLICATION OF WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.

**MULCH ANCHORING**  
ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK). MULCH NETTING (AS PER MANUFACTURER), WOOD CELLULOSE FIBER (750 LBS/ACRE), OR CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS). USE OF A SEPARATED STRAIGHT DISK AND WETTING FOR SMALL AREAS AND ROUND DITCHES MAY BE PERMITTED.

## EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

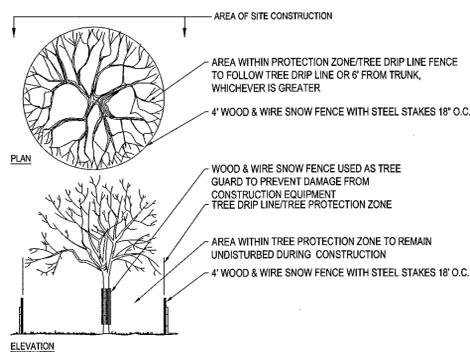
- WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
- WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
- CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
- AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDING, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
- BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDING AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN COMBINED, FINAL GRADED AND IS SMOOTH THEN THE AREA MAY BE DORMANT SEEDING AT A RATE OF 200 - 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF STRAW OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- MULCHING REQUIREMENTS:
  - BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 8% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
  - MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST. THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
  - AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
  - DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
  - STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
  - EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.

## CONSTRUCTION SEQUENCE

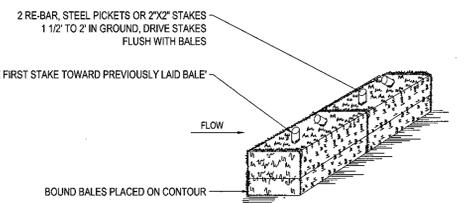
THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

- INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE/EXIT (AS SHOWN)
- INSTALLATION OF EROSION CONTROL BARRIER (SILT FENCE, AS SHOWN)
- INSTALLATION OF INLET PROTECTION (AS SHOWN)
- DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)
- DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)
- CLEARING AND GRUBBING
- INSTALLATION OF TEMPORARY SWALES AND SEDIMENT TRAPS
- EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
- CONSTRUCTION OF UTILITIES
- CONSTRUCTION OF BUILDING
- STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING
- INSTALLATION OF INLET PROTECTION ON DRAINAGE STRUCTURES AS THEY ARE INSTALLED (AS SHOWN)
- CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS
- SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH
- FINAL GRADING OF ALL SLOPED AREAS
- PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH.
- REMOVE THE TEMPORARY SEDIMENT TRAP
- PAVE PARKING LOT
- LANDSCAPING PER LANDSCAPING PLAN
- REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER AFTER RECEIVING CONCURRENCE FROM THE CIVIL ENGINEER AND TOWN CONSERVATION COMMISSION AGENT
- FILE NOT
- RETAIN RECORDS FOR 3 YEARS AFTER FILING NOT.

## TREE PROTECTION DURING CONSTRUCTION



N.T.S.

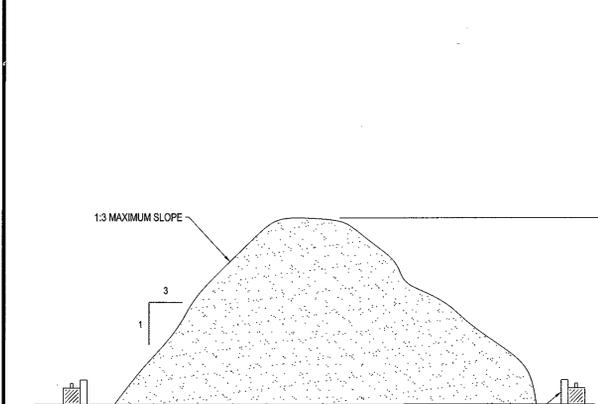


DRAINAGE AREA NO MORE THAN 1/4 AC. PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%

- NOTES:
- BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
  - EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
  - BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
  - INSPECTION SHALL BE FREQUENT AND REPAIR/REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
  - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

## STRAW BALE DETAIL

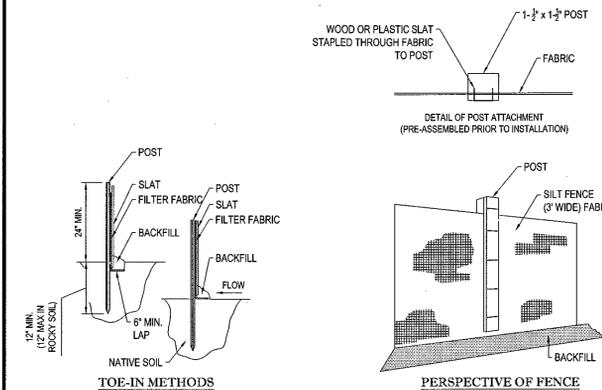
N.T.S.



N.T.S.

## TEMPORARY STOCKPILE DETAIL

- INSTALLATION:
- EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
  - UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
  - DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
  - LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.



N.T.S.

## TYP. SILTATION FENCE DETAIL

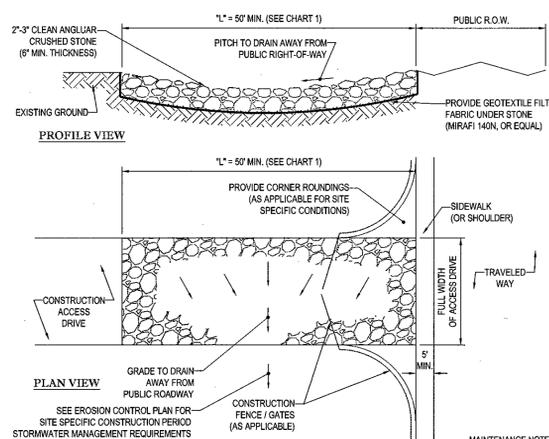


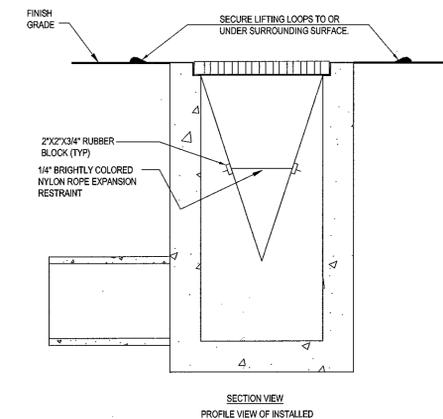
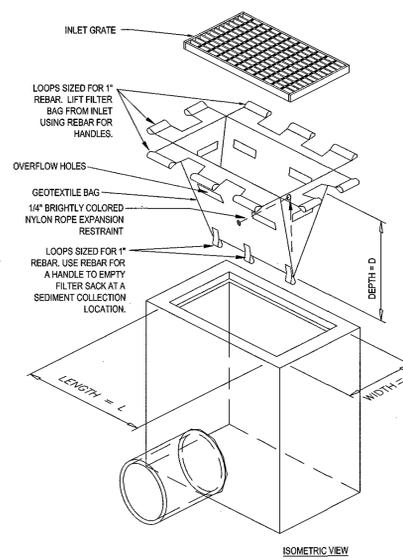
CHART 1

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200 FT
>5%	ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

N.T.S.

## STABILIZED CONSTRUCTION EXIT



## FILTER SACKS (GRADED INLETS)

N.T.S.

DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.  
TO BE USED IN EXISTING RIGHT OF WAY

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### REVISIONS

REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
2	01/13/16	TOWN REVIEW COMMENTS	CFD
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### PRELIMINARY NOT FOR CONSTRUCTION

PROJECT NO.: W141161  
DRAWN BY: NEMAWP  
CHECKED BY: JAK  
DATE: 07/08/16  
SCALE: AS NOTED  
CAD I.D.: W141161S2

PROJECT: **SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOUBURN)  
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**J.A. WELCH**

JOHN A. WELCH  
REGISTERED PROFESSIONAL ENGINEER  
MASSACHUSETTS REG. NO. 10178

### SHEET TITLE: SOIL EROSION CONTROL NOTES & DETAILS SHEET

SHEET NUMBER: 8 OF 14

REV 2 - 01/13/2016

**811**

Know what's below.  
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LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
<b>SHADE TREE(S)</b>					
AROG	12	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2-3" CAL.	B+B
ASA	3	ACER SACCHARINUM	SILVER MAPLE	2 1/2-3" CAL.	B+B
CBF	5	CARPINUS BETULUS 'FASTIGIATA'	PYRAMIDAL EUROPEAN HORNBEAM	2'-2 1/2' CAL.	B+B
QA	7	QUERCUS ALBA	WHITE OAK	2 1/2-3" CAL.	B+B
SUBTOTAL: 27					
<b>ORNAMENTAL TREE(S)</b>					
AC	2	AMELANCHIER CANADENSIS	MULTI STEM SHADLOW SERVICEBERRY	8-10'	B+B
BRIS	3	SYRINGA RETICULATA 'IVORY SILK'	IVORY SILK JAPANESE TREE LILAC	7-8'	B+B
SUBTOTAL: 5					
<b>DECIDUOUS SHRUB(S)</b>					
CAR	22	CLETHRA ALNIFOLIA 'ROSEA'	PINK SUMMERSWEET CLETHRA	24-30"	#3 CAN
CCBM	43	CARYOPTERIS X CLANDONENSIS 'BLUE MIST'	BLUE MIST SPIREA	18-24"	#3 CAN
DGN	44	DEUTZIA GRACILIS 'NIKKO'	COMPACT DEUTZIA	18-24"	#2 CAN
HQ	13	HYDRANGEA QUERCIFOLIA	OAKLEAF HYDRANGEA	24-30"	#5 CAN
MP	9	MYRICA PENNSYLVANICA	NORTHERN BAYBERRY	30-36"	B+B
PC	13	PRUNUS CISTENA	PURPLELEAF SANDCHERRY	3-4'	B+B
SJLP	36	SPIRAEA JAPONICA 'LITTLE PRINCESS'	LITTLE PRINCESS SPIREA	15-18"	#3 CAN
SUBTOTAL: 180					
<b>EVERGREEN SHRUB(S)</b>					
BMWG	42	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD	30-36"	B+B
ICG	30	ILEX X MESERVEAE 'CHINA GIRL'	CHINA GIRL HOLLY	30-36"	B+B
IGS	97	ILEX GLABRA 'SHAMROCK'	SHAMROCK HOLLY	24-30"	#5 CAN
JCS	2	JUNIPERUS CHINENSIS 'SPARTAN'	SPARTAN JUNIPER	3-4'	B+B
KL	7	KALMA LATIFOLIA	MOUNTAIN LAUREL	30-36"	B+B
RKDVW	52	RHODODENDRON X KURUME 'DELAWARE VALLEY WHITE'	DELAWARE VALLEY WHITE AZALEA	18-24"	#3 CAN
RPJM	7	RHODODENDRON CAROLINANA X PJM	PJM RHODODENDRON	24-30"	B+B
TMD	10	TAXUS X MEDIA 'DENSIFORMIS'	DENSIFORMIS YEW	24-30"	B+B
SUBTOTAL: 247					
<b>PERENNIAL(S)</b>					
LAHB	38	LAVANULA ANGUSTIFOLIA 'HIDCOOTE BLUE'	HIDCOOTE BLUE LAVENDER	2 GAL.	CONTAINER
PEA	35	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	2 GAL.	CONTAINER
SHHS	20	STACHYS HYZANTINA 'HELENE VON STEIN'	HELENE VON STEIN LAMB'S EAR	2 GAL.	CONTAINER
SUBTOTAL: 93					
<b>ORNAMENTAL GRASS(S)</b>					
MSML	8	MISCHANTHUS SINENSIS 'MORNING LIGHT'	SILVER VARIEGATED MAIDEN GRASS	2 GAL.	CONTAINER
SUBTOTAL: 8					
<b>VINE(S)</b>					
PPA	662	PACHYSANDRA PROCUMBENS	ALLEGHANY PACHYSANDRA	2 1/4" PEAT POT	2 YR PLANTS
SUBTOTAL: 662					

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REVISIONS

REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
2	01/13/16	TOWN REVIEW COMMENTS	CFD
3			
4			
5			
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15			

PRELIMINARY  
NOT FOR CONSTRUCTION

PROJECT No.: W141161  
 DRAWN BY: NEM/AMP  
 CHECKED BY: JAK  
 DATE: 07/08/15  
 SCALE: AS NOTED  
 CAD I.D.: W141161SS2

SITE DEVELOPMENT PLANS FOR  
**FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2 (WOBURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER &  
 CITY OF WOBURN  
 MIDDLESEX COUNTY  
 MASSACHUSETTS

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**M.J. MRVA**

REGISTERED LANDSCAPE ARCHITECT  
 No. 217  
 NEW HAMPSHIRE No. 109

SHEET TITLE: **LANDSCAPE PLAN**

SHEET NUMBER: **9**

OF 14

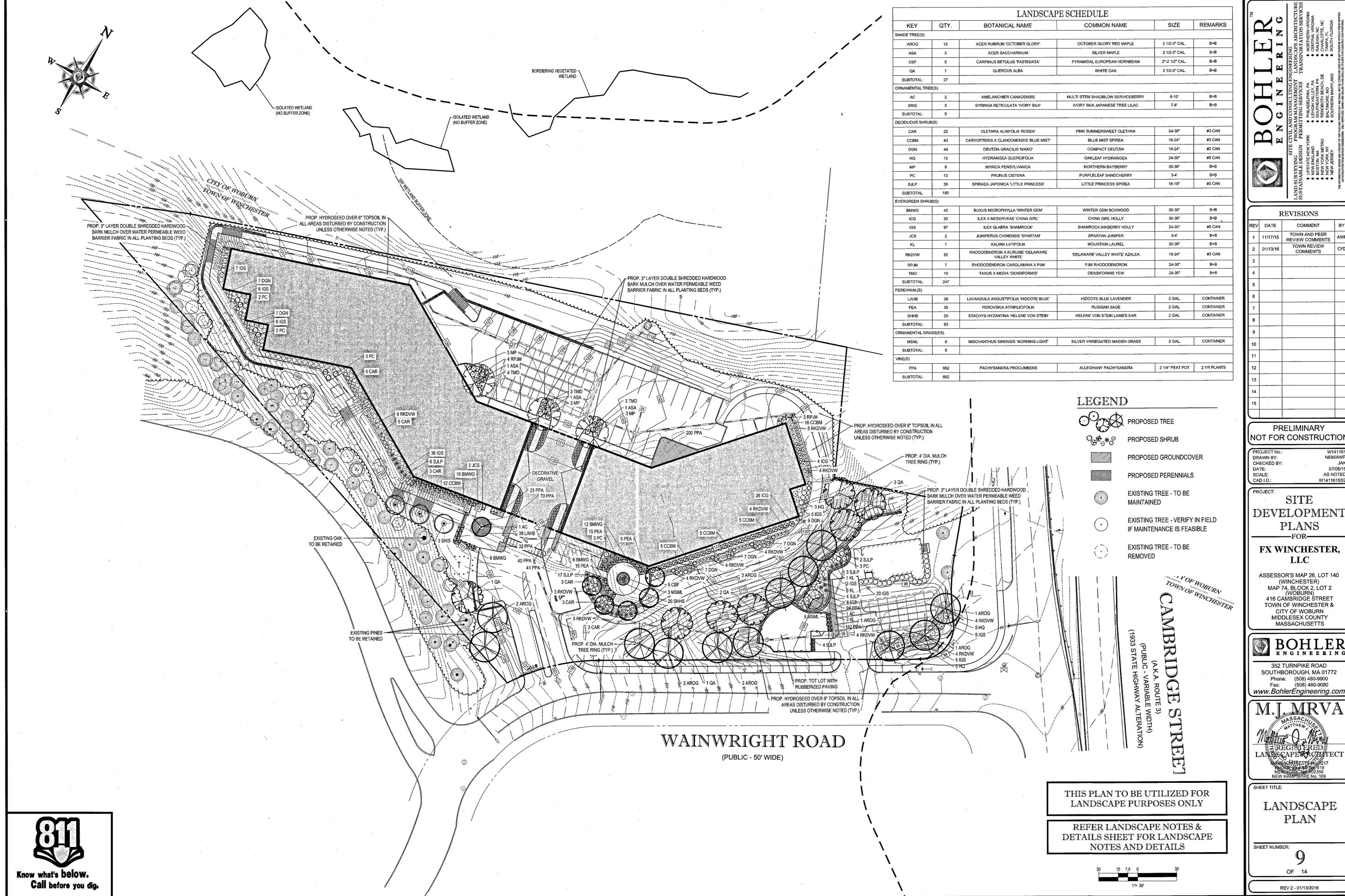
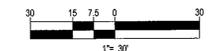
REV 2 - 01/13/2016

LEGEND

- PROPOSED TREE
- PROPOSED SHRUB
- PROPOSED GROUNDCOVER
- PROPOSED PERENNIALS
- EXISTING TREE - TO BE MAINTAINED
- EXISTING TREE - VERIFY IN FIELD IF MAINTENANCE IS FEASIBLE
- EXISTING TREE - TO BE REMOVED

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS



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Know what's below.  
Call before you dig.

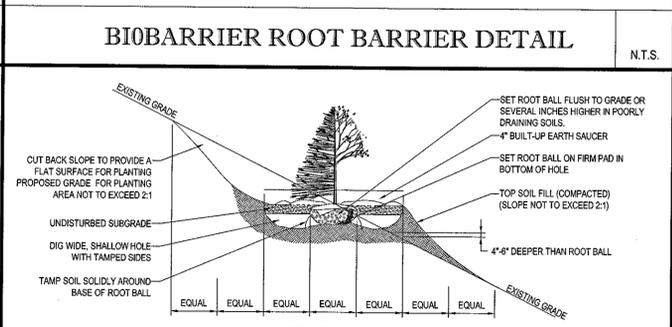
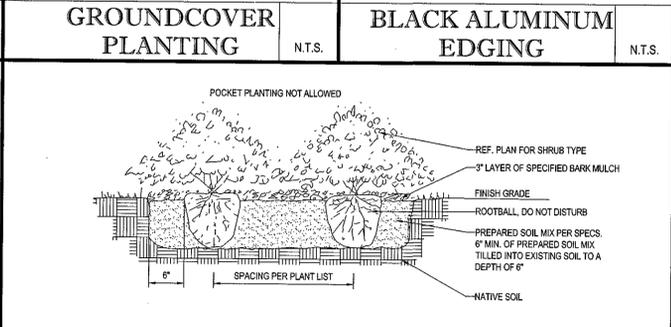
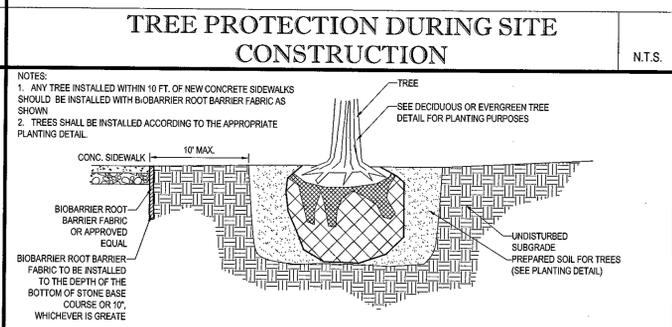
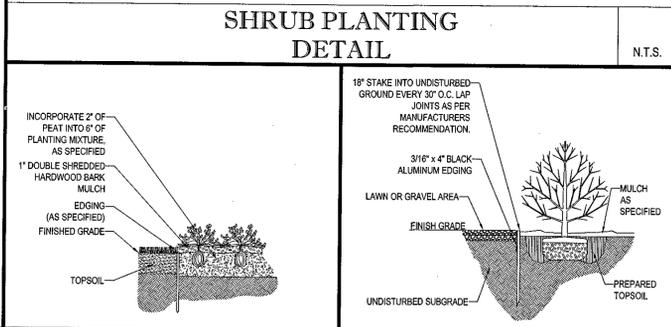
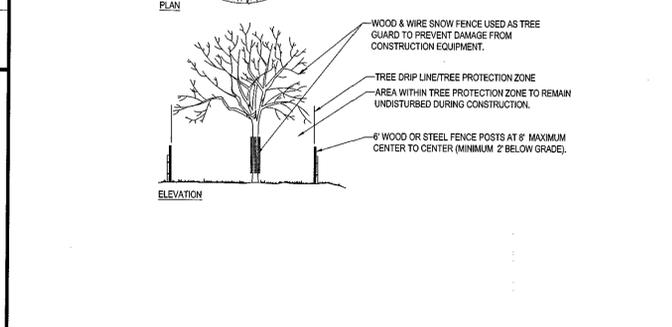
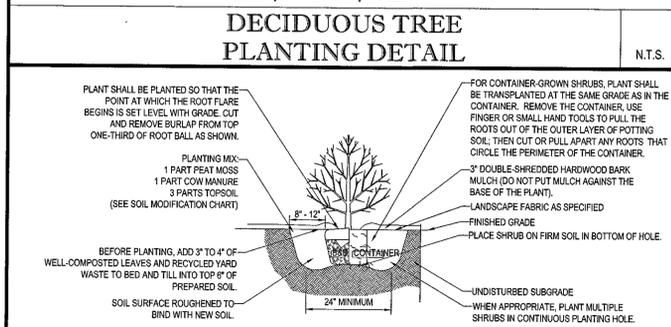
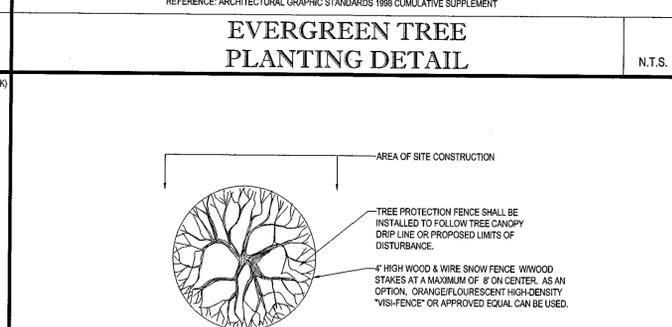
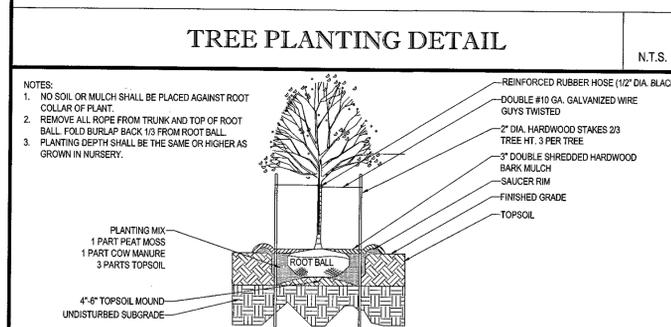
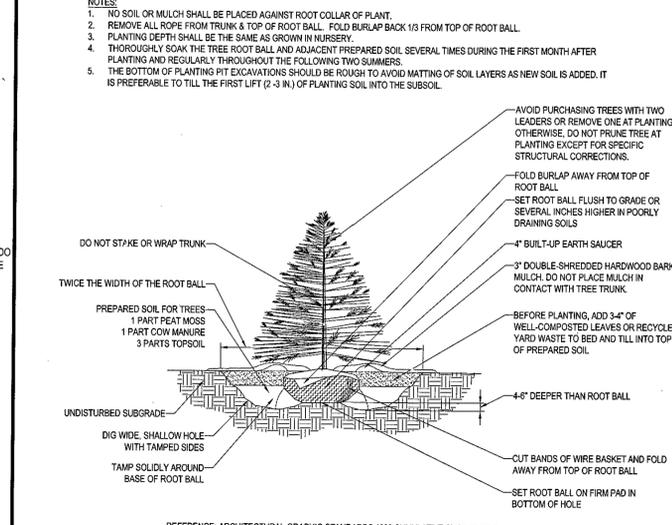
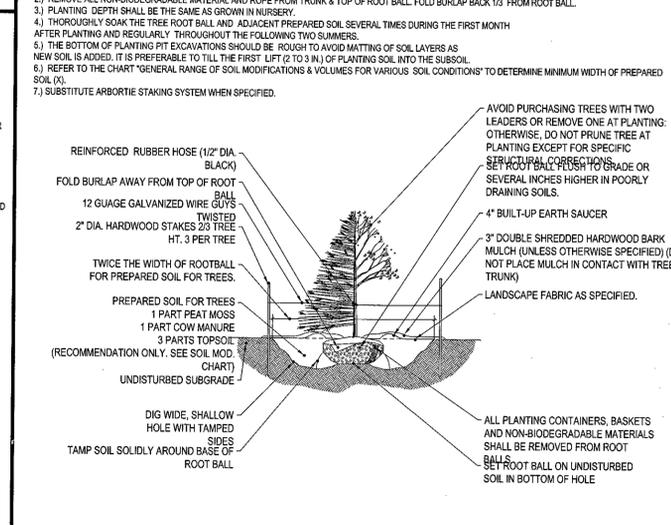
# LANDSCAPE SPECIFICATIONS

**1. SCOPE OF WORK:**  
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SOODING PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

**2. MATERIALS**  
A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.  
B. TOPSOIL - NATURAL, FRABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.  
C. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 2" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEED OR SOODING IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN.  
1. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.  
2. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE-FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.  
D. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 2" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES, DETAILS.  
E. FERTILIZER  
1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER.  
2. FERTILIZER SHALL BE STORED IN A WEATHER-PROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.  
3. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.  
F. PLANT MATERIAL  
I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1, LATEST EDITION), AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).  
II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.  
III. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.  
IV. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1/2" WHICH HAVE NOT BEEN COMPLETELY CALLEDUS, SHALL BE REJECTED.  
V. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.  
VI. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH, WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.  
VII. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.  
VIII. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.  
IX. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

**3. GENERAL WORK PROCEDURES**  
A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.  
B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.  
C. SITE PREPARATIONS  
1. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.  
2. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.  
3. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.  
D. TREE PROTECTION  
1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.  
2. A BORTY-EIGHT (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY "VIS-FENCE" OR APPROVED EQUIVALENT MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.  
3. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.  
4. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.  
E. SOIL MODIFICATIONS  
1. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.  
2. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.  
3. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.  
I. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.  
II. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 80% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.  
III. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.  
F. FINISHED GRADING  
1. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GROWING WITHIN THE DISTURBANCE AREA OF THE SITE.  
2. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1").  
C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.  
D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.  
G. TOPSOILING  
A. CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.  
B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.  
C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

D. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BIO-PURPOSES ONLY (SEE SPECIFICATION 6.A-3)).  
1. 20 POUNDS "GRO-POWER" OR APPROVED SOIL CONDITIONER/FERTILIZER.  
2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER.  
E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.  
9. PLANTING  
A. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.  
B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.  
C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.  
D. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.  
E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.  
F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS: THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:  
I. PLANTS: MARCH 15 TO DECEMBER 15  
II. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1  
PLANTING REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.  
G. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:  
ACER RUBRUM PLATANUS X ACERIFOLIA  
BETULA VARIETIES POPULUS VARIETIES  
CARPINUS VARIETIES PRUNUS VARIETIES  
CRATAEGUS VARIETIES PYRUS VARIETIES  
KOELERUTERIA QUERCUS VARIETIES  
LIQUIDAMBAR STYRACIFLUA TILIA TOMENTOSA  
LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES  
H. PLANTING PITS SHALL BE DUG WITH LEVEL, BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:  
I. 1 PART PEAT MOSS  
II. 1 PART COMPOSTED COW MANURE BY VOLUME  
III. 3 PARTS TOPSOIL BY VOLUME  
IV. 2 GRAMS AGRIFORM PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:  
A) 2 TABLETS PER 1 GALLON PLANT  
B) 3 TABLETS PER 5 GALLON PLANT  
C) 4 TABLETS PER 15 GALLON PLANT  
D) LARGER PLANTS: 2 TABLETS PER 1/2" CALIPER OF TRUNK  
I. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.  
J. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.  
K. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.  
L. GROUND COVER AREAS SHALL RECEIVE A 1/2" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.  
M. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR TREES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.  
N. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.  
O. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.  
10. TRANSPLANTING (WHEN REQUIRED)  
A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.  
B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.  
C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.  
D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.  
E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.  
F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REFINISHED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.  
11. WATERING  
A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.  
B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.  
C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.  
12. GUARANTEE  
A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.  
B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.  
C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.  
D. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.  
13. CLEANUP  
A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.  
B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.  
14. MAINTENANCE (ALTERNATIVE BID)  
A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MAINTAINED TO THE APPROVAL OF THE OWNER/OPERATOR.



**HYDROSEED SPECIFICATIONS**

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.  
2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.  
3. SEEDING RATES:  
• PERENNIAL RYEGRASS 1/2 LB/1000 SQ FT  
• KENTUCKY BLUEGRASS 1 LB/1000 SQ FT  
• RED FESCUE 1/2 LB/1000 SQ FT  
• SPREADING FESCUE 1/2 LB/1000 SQ FT  
• FERTILIZER (16.32.16) 2 LB/1000 SQ FT  
• LIQUID LIME 1 GAL/800 GAL  
• TANK TACKLER 35 LB/1000 GAL  
• TANK FIBER MULCH 30 LB/1000 SQ FT  
4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDING AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.

**SHRUB/GROUNDCOVER DETAIL**

NOTES:  
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.  
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

TREE  
SEE DECIDUOUS OR EVERGREEN TREE DETAIL FOR PLANTING PURPOSES  
CONC. SIDEWALK  
10" MAX.  
BIOBARRIER ROOT BARRIER FABRIC OR APPROVED EQUAL  
UNDISTURBED SUBGRADE  
PREPARED SOIL FOR TREES (SEE PLANTING DETAIL)

**SHRUB/GROUNDCOVER DETAIL**

NOTES:  
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.  
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

TREE  
SEE DECIDUOUS OR EVERGREEN TREE DETAIL FOR PLANTING PURPOSES  
CONC. SIDEWALK  
10" MAX.  
BIOBARRIER ROOT BARRIER FABRIC OR APPROVED EQUAL  
UNDISTURBED SUBGRADE  
PREPARED SOIL FOR TREES (SEE PLANTING DETAIL)

**TREE PLANTING DETAIL - ON SLOPE**

NOTES:  
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.  
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

TREE  
SEE DECIDUOUS OR EVERGREEN TREE DETAIL FOR PLANTING PURPOSES  
CONC. SIDEWALK  
10" MAX.  
BIOBARRIER ROOT BARRIER FABRIC OR APPROVED EQUAL  
UNDISTURBED SUBGRADE  
PREPARED SOIL FOR TREES (SEE PLANTING DETAIL)

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REVISIONS				
REV	DATE	COMMENT	BY	
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP	
2	01/13/16	TOWN REVIEW COMMENTS	CFD	
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**PRELIMINARY NOT FOR CONSTRUCTION**

PROJECT No.: W141181  
DRAWN BY: NEMIAW/P  
CHECKED BY: JAK  
DATE: 07/08/15  
SCALE: AS NOTED  
CAD ID: W141181SS2

**SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
MAP 74, BLOCK 2, LOT 2 (WOBURN)  
416 CAMBRIDGE STREET  
CITY OF WOBURN  
MIDDLESEX COUNTY MASSACHUSETTS

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www.BohlerEngineering.com

**M.J. MRVA**

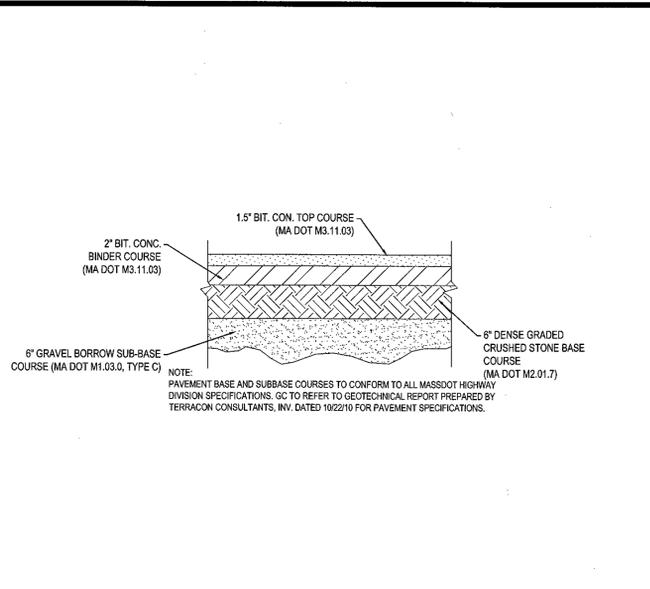
REGISTERED LANDSCAPE ARCHITECT  
MASSACHUSETTS REG. NO. 117  
RHODE ISLAND REG. NO. 419  
NEW YORK REG. NO. 402358  
NEW HAMPSHIRE NO. 109

**LANDSCAPE NOTES & DETAILS SHEET**

SHEET NUMBER: 10 OF 14

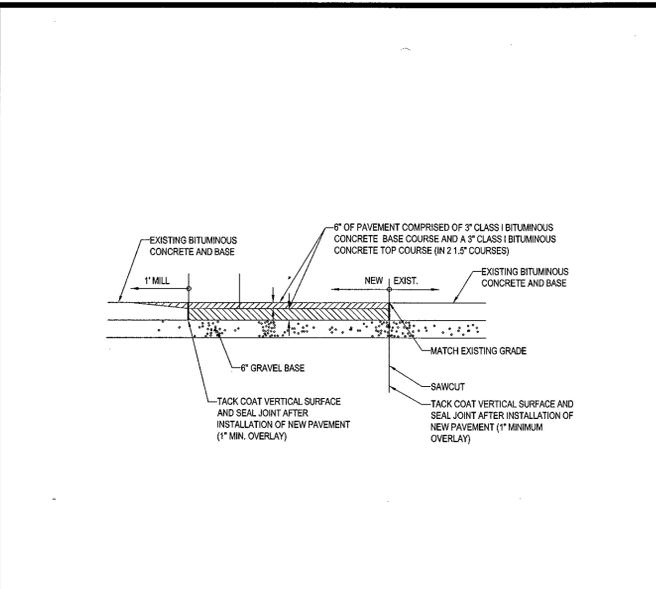
REV 2 - 01/13/2016

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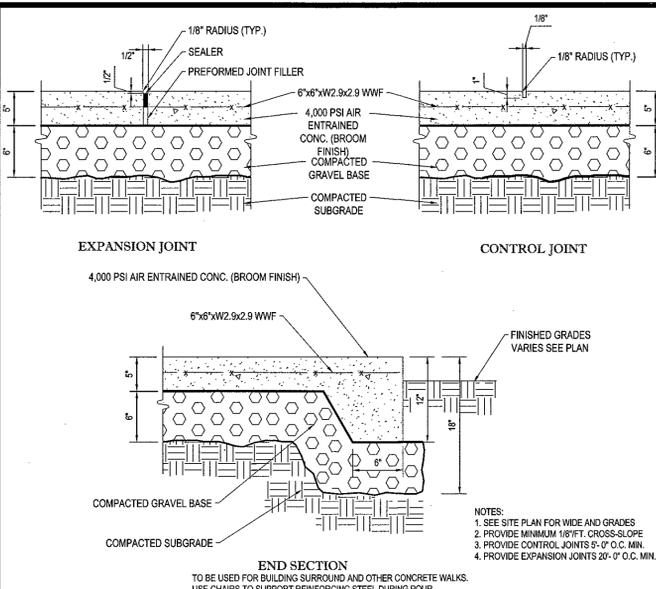
TYPICAL PAVEMENT SECTION

N.T.S.



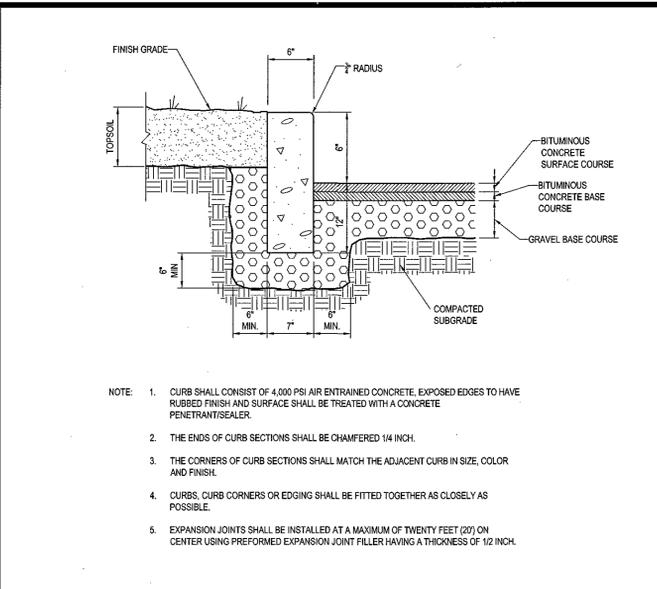
ROADWAY PATCHING DETAIL

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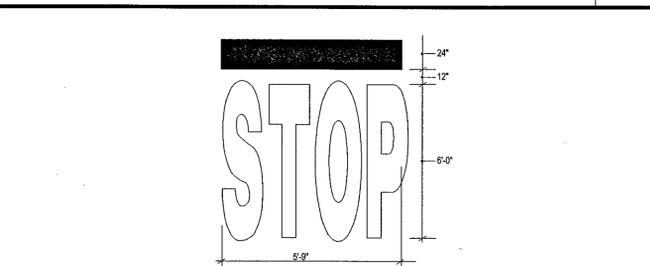
MONOLITHIC CONC. SIDEWALK DETAILS

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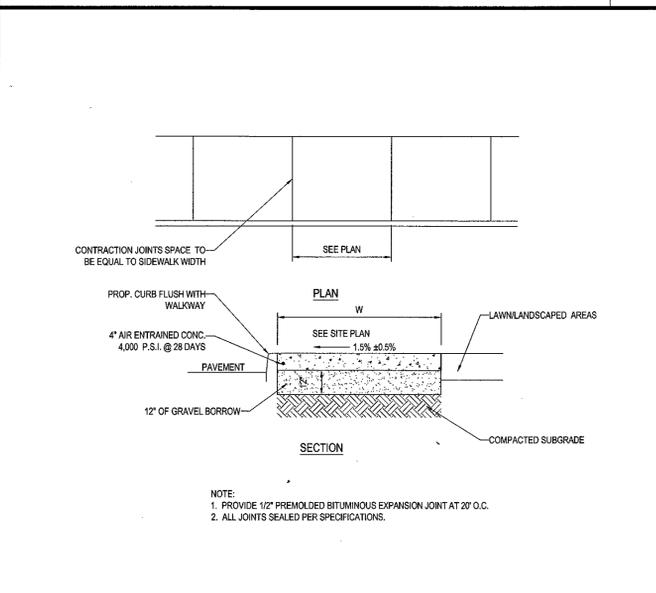
PRECAST CONCRETE CURB DETAIL

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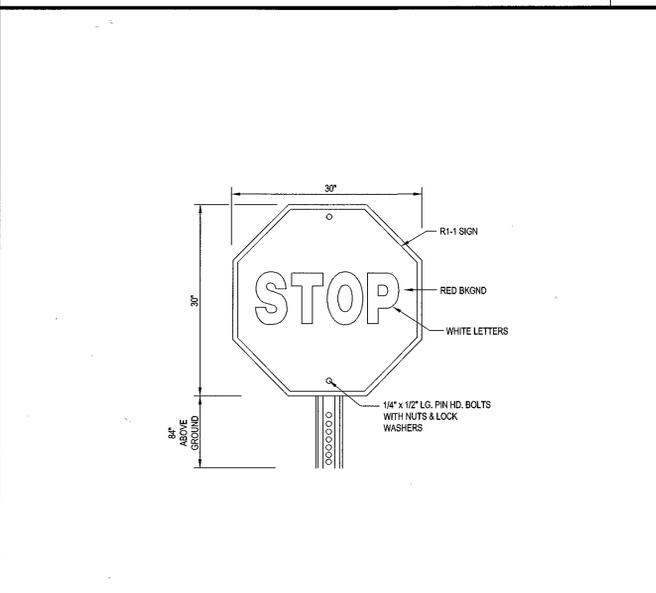
'STOP' BAR DETAIL

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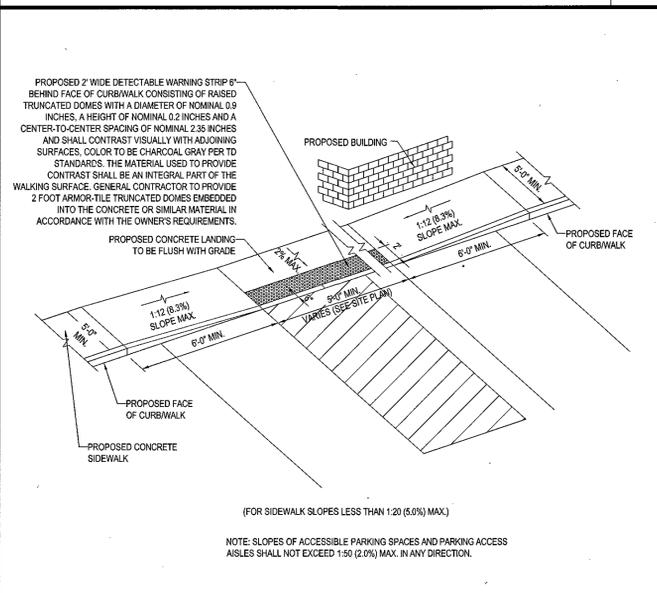
SIDEWALK DETAIL

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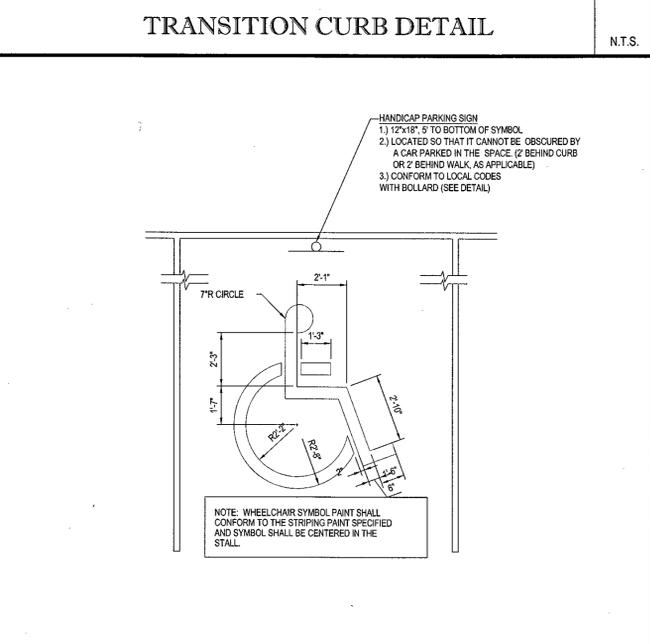
'STOP' SIGN

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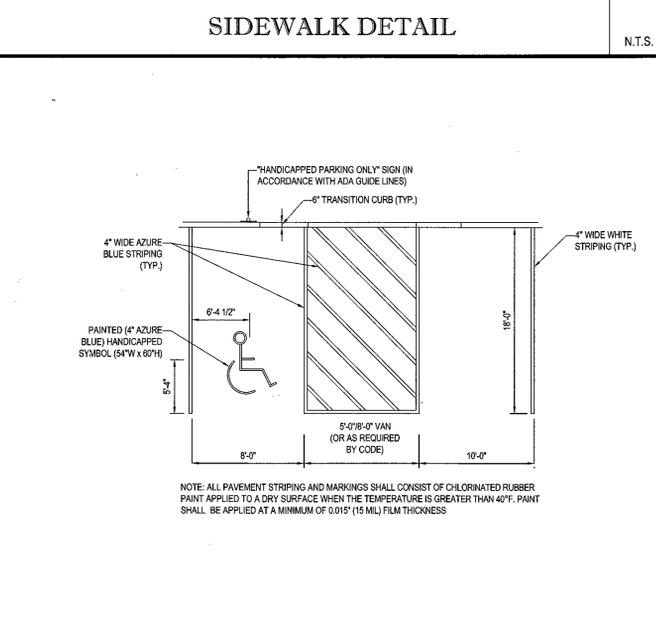
SLOPED WALK DETAIL

N.T.S.



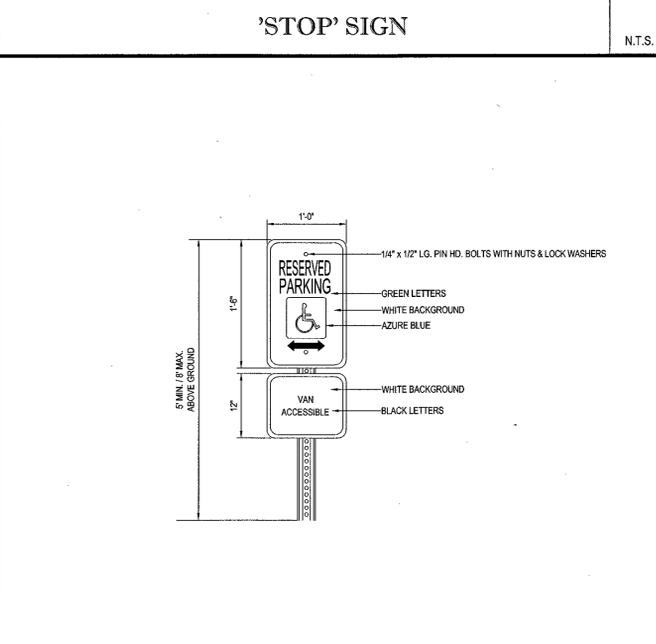
HANDICAP PARKING STALL PAINTING DETAIL

N.T.S.



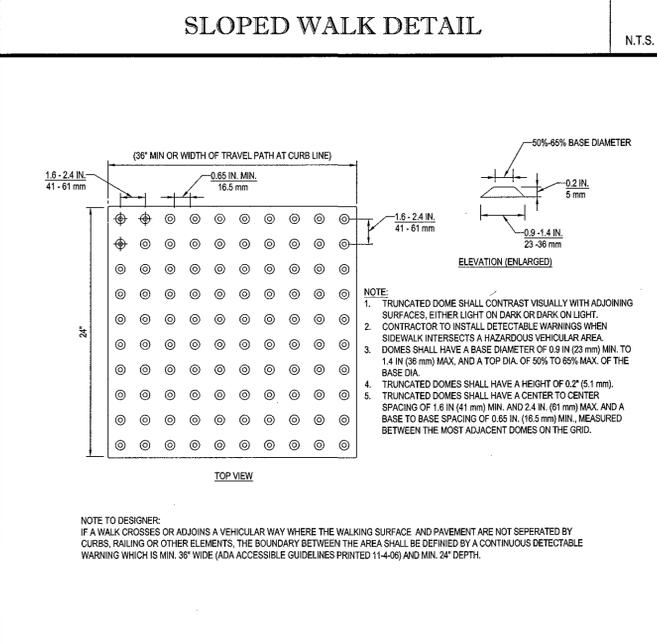
HANDICAPPED STALL MARKINGS & PARKING LOT STRIPING DETAIL

N.T.S.



HANDICAP PARKING SIGN DETAIL

N.T.S.



TRUNCATED DOME PATTERN

N.T.S.

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PROJECT NO.: W141161  
 DRAWN BY: NEM/AWP  
 CHECKED BY: JAK  
 DATE: 07/08/15  
 SCALE: AS NOTED  
 CAD I.D.: W141161SS2

PROJECT: **SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2 (WOUBURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER & CITY OF WOUBURN  
 MIDDLESEX COUNTY MASSACHUSETTS

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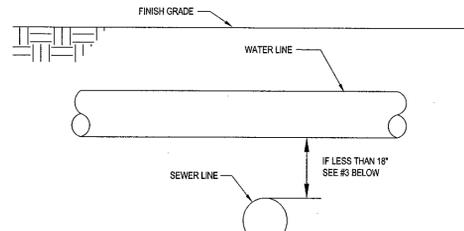
**J.A. KURICH**  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 No. 10101  
 State of Massachusetts

SHEET TITLE: **CONSTRUCTION DETAIL SHEET**

SHEET NUMBER: **11** OF 14

REV 2 - 01/13/2016

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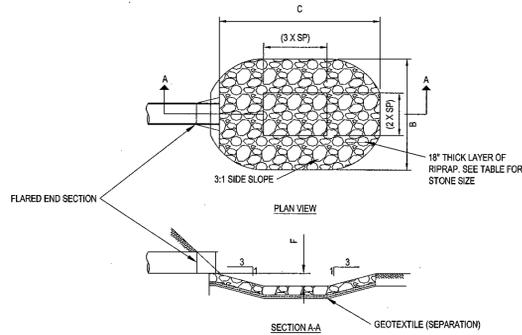
NOTES:  
 1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN AND THE SEWER LINE SHALL BE A MINIMUM OF 18 INCHES.  
 2. THE HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND THE SEWER LINE SHALL BE A MINIMUM OF 10 FEET.  
 3. IF 1 OR 2 CANNOT BE MAINTAINED EITHER:  
 A. WATER MAIN IS TO BE RE-LOCATED OR RE-CONSTRUCTED USING MECHANICAL JOINTS DUCTILE IRON PIPE FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING. CENTER WATER MAIN LENGTH OF PIPE SO THAT CENTER OF PIPE SECTION IS OVER SEWER. CENTER LENGTH OF SEWER PIPE UNDER CENTER OF WATER MAIN SO THAT JOINTS ARE THE MAXIMUM DISTANCE POSSIBLE APART.  
 B. WATER AND SEWER LINES SHALL BE CONCRETE ENCASED PER DETAIL.

WHERE 10' HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION CANNOT BE ACHIEVED

**WATER MAIN CROSSING**

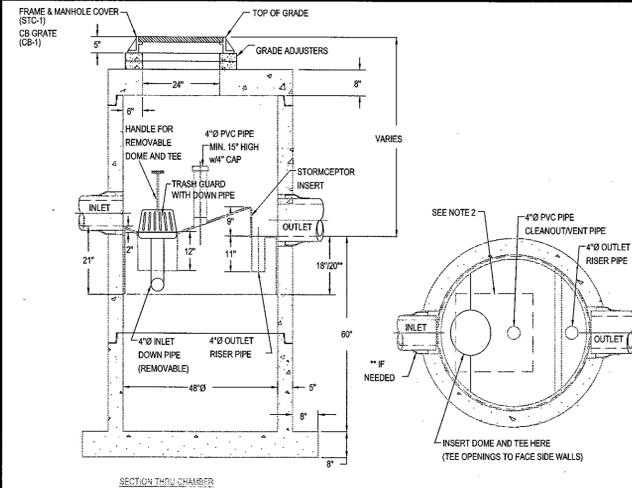
N.T.S.

SCOUR HOLE DIMENSIONS (FT.)					AVG. STONE SIZE
FES #	B	C	Sp	F	
1	5	8	1	0.5	8"
2	5	8	1	0.5	8"



**RIPRAP OUTLET PROTECTION**

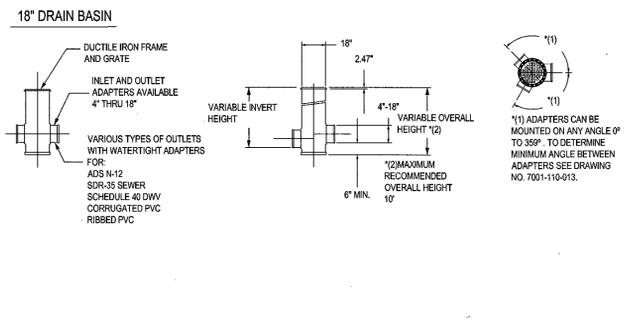
N.T.S.



NOTE: 1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE OUTLET WHERE APPLICABLE.  
 2. THE COVER SHOULD BE POSITIONED OVER THE 4" CLEANOUT PIPE AND THE 4" INLET DOWN PIPE.  
 3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4989143, #4983311, #5725760, #5733115, #5849181, #6066785, AND #6371660.  
 4. CONTRACTOR TO PROVIDE CRANE TO SET UNIT (HEAVIEST SECTION WEIGHS 5000 LB)  
 \* FOR UNITS WITH ONE INLET THE INVERT DROP MAY BE 1" PER STORMCEPTOR TECHNICAL MANUAL. SEE PLANS FOR ELEVATIONS.

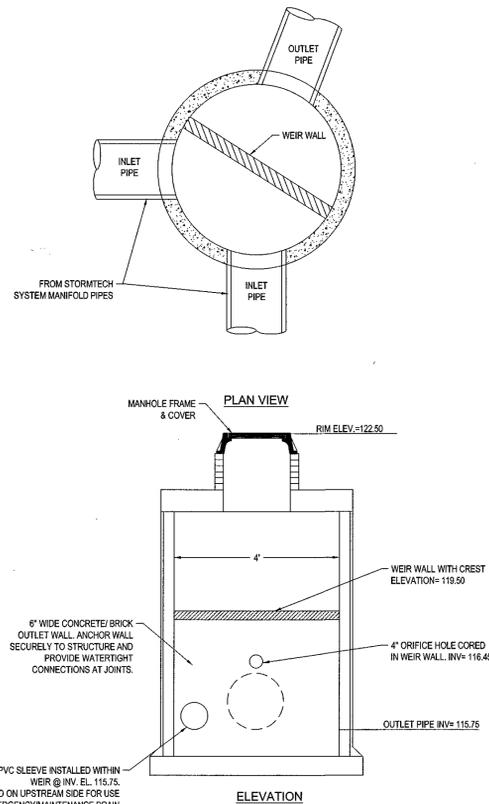
**STORMCEPTOR MODEL 450i (OR APPROVED EQUAL)**

N.T.S.



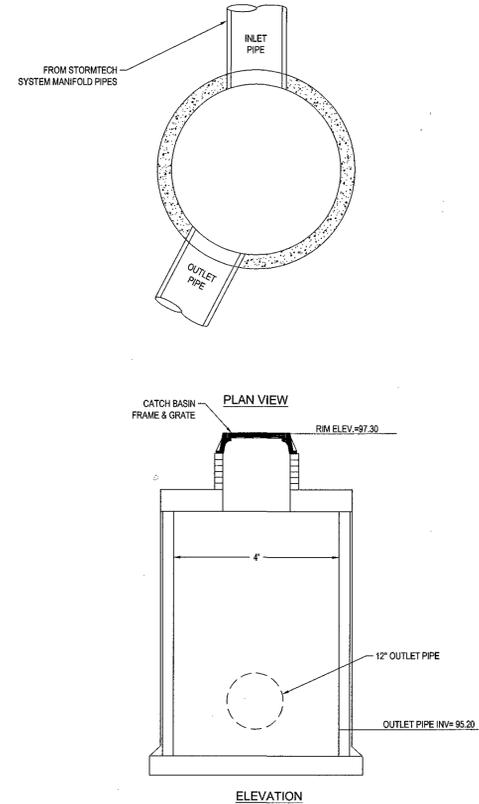
**YARD DRAIN DETAIL**

N.T.S.



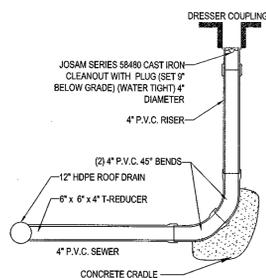
**BASIN #1 OUTLET CONTROL STRUCTURE (OSC-1)**

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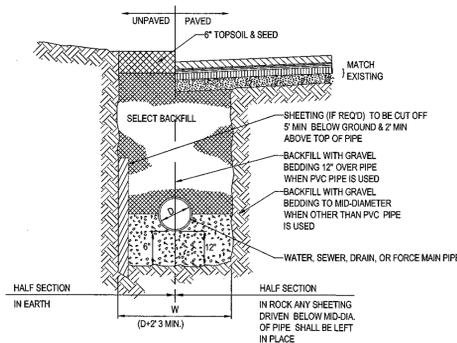
**BASIN #2 OUTLET CONTROL STRUCTURE (OCS-2)**

N.T.S.



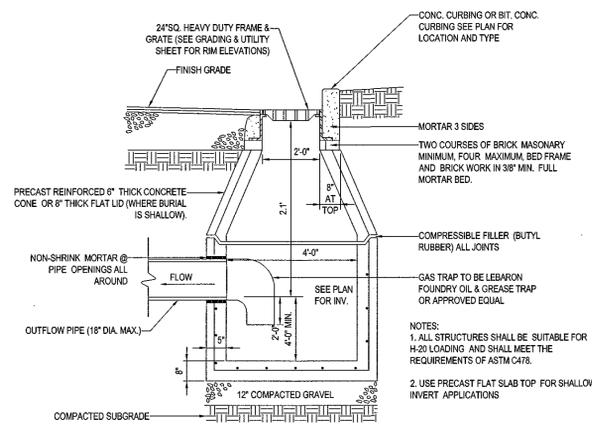
**CLEANOUT DETAIL**

N.T.S.



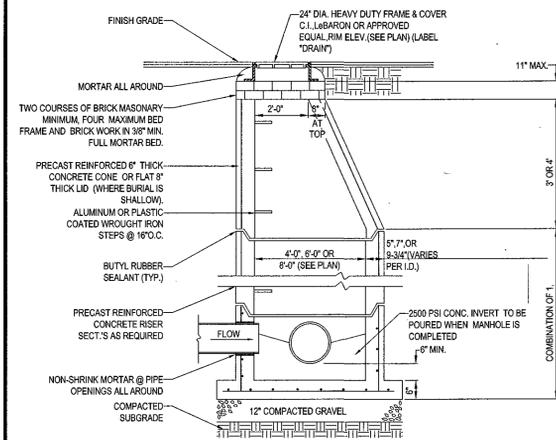
**TYPICAL UTILITY TRENCH**

N.T.S.



**PRECAST CONCRETE DEEP SUMP CATCH BASIN DETAIL**

N.T.S.



**TYP. PRECAST CONCRETE MANHOLE STORM DRAIN**

N.T.S.

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**PRELIMINARY NOT FOR CONSTRUCTION**

PROJECT No.: W141161  
 DRAWN BY: NEMAWP  
 CHECKED BY: JAK  
 DATE: 07/26/15  
 SCALE: AS NOTED  
 CAD/L.D.: W141161S22

**SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**

ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2 (WOBBURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER & CITY OF WOBBURN  
 MIDDLESEX COUNTY MASSACHUSETTS

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**J.A. JUNGICH**  
 PROFESSIONAL ENGINEER  
 No. 10173  
 State of Massachusetts

SHEET TITLE:  
**CONSTRUCTION DETAIL SHEET**

SHEET NUMBER:  
**12**  
 OF 14

REV 2 - 01/13/2016

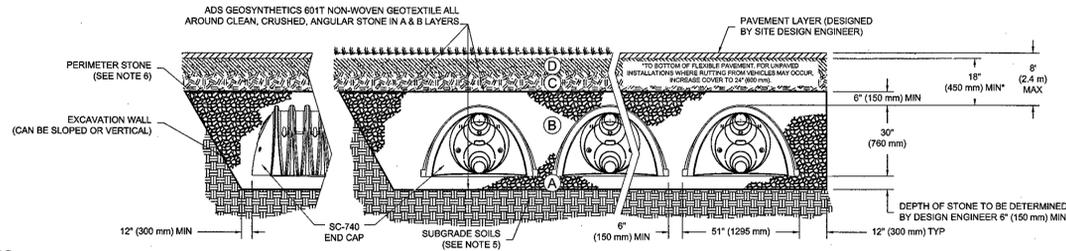
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**ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2.4, A-3 OR AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

- PLEASE NOTE:  
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE."  
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.  
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



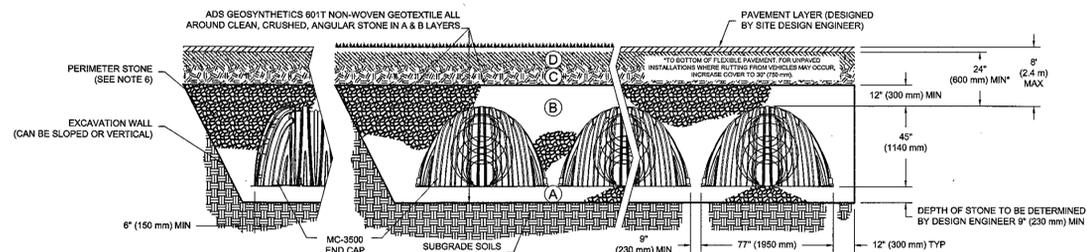
**NOTES:**

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

**ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS**

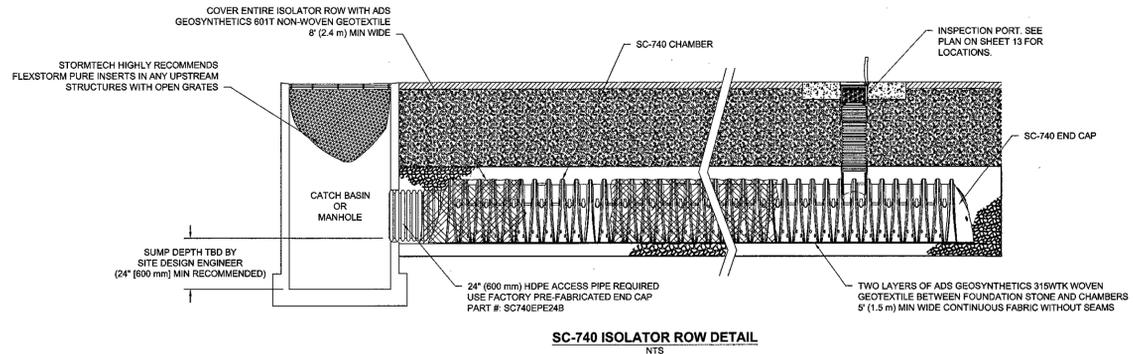
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2.4, A-3 OR AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>2</sup> 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>2</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. **

- PLEASE NOTE:  
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE."  
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.  
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



**NOTES:**

- MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



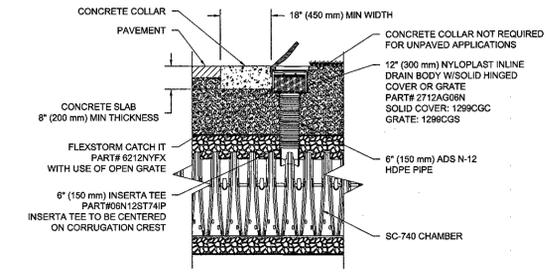
SC-740 ISOLATOR ROW DETAIL  
NTS

**INSPECTION & MAINTENANCE**

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT  
 A. INSPECTION PORTS (IF PRESENT)  
 A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN  
 A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED  
 A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG  
 A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)  
 A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.  
 B. ALL ISOLATOR ROWS  
 B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW  
 B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE  
 i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY  
 ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE  
 B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS  
 A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED  
 B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN  
 C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

**NOTES**

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SC-740 6" INSPECTION PORT DETAIL  
NTS

**REVISIONS**

REV	DATE	COMMENT	BY
1	11/17/15	TOWN AND PEER REVIEW COMMENTS	AWP
2	01/13/16	TOWN REVIEW COMMENTS	CFD
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

**PRELIMINARY NOT FOR CONSTRUCTION**

PROJECT No.: W141161  
 DRAWN BY: NEM/AWP  
 CHECKED BY: JAK  
 DATE: 07/06/15  
 SCALE: AS NOTED  
 CAD ID: W141161SS2

PROJECT: **SITE DEVELOPMENT PLANS FOR FX WINCHESTER, LLC**  
 ASSESSOR'S MAP 26, LOT 140 (WINCHESTER)  
 MAP 74, BLOCK 2, LOT 2 (WOUBURN)  
 416 CAMBRIDGE STREET  
 TOWN OF WINCHESTER & CITY OF WOUBURN  
 MIDDLESEX COUNTY MASSACHUSETTS

**BOHLER ENGINEERING**  
 352 TURNPIKE ROAD  
 SOUTHBOROUGH, MA 01772  
 Phone: (508) 480-9900  
 Fax: (508) 480-9080  
[www.BohlerEngineering.com](http://www.BohlerEngineering.com)

**J.A. KUCICH**  
 PROFESSIONAL ENGINEER  
 No. 11530  
 State of Massachusetts  
 License No. 11530  
 Exp. 12/31/17

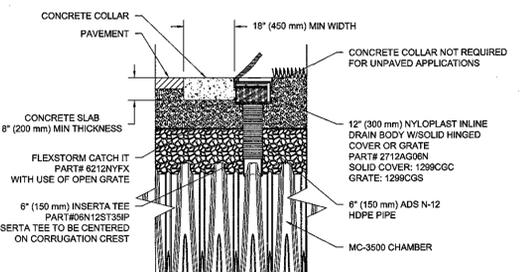
SHEET TITLE: **CONSTRUCTION DETAIL SHEET**  
 SHEET NUMBER: **14**  
 OF 14  
 REV 2 - 01/13/2016

**INSPECTION & MAINTENANCE**

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT  
 A. INSPECTION PORTS (IF PRESENT)  
 A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN  
 A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED  
 A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG  
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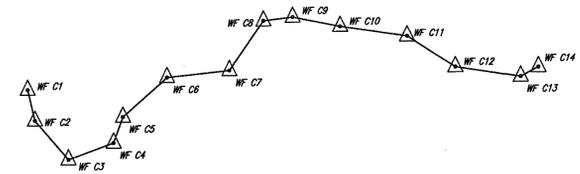
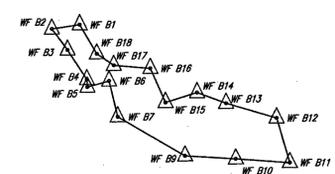
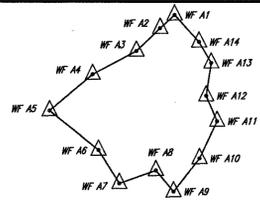
**NOTES**

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

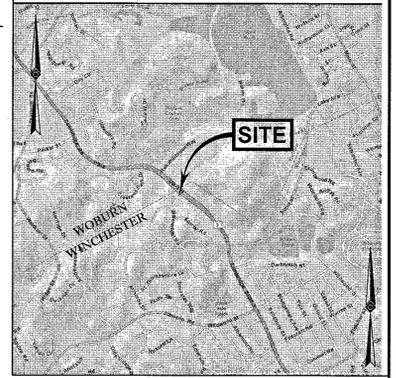


MC-3500 6" INSPECTION PORT DETAIL  
NTS

P:\HW\141161\DWG\141161-142.dwg, 14-230.dwg, 10/20/2014, 4:28:00 PM, cdbpoc3, Xao0310-1.dwg, User:JAK, 10/29/2015



- LEGEND**
- EXISTING CONTOUR
  - x 123.45 EXISTING SPOT ELEVATION
  - x TC 123.45 EXISTING TOP OF CURB ELEVATION
  - x G 123.45 EXISTING GUTTER ELEVATION
  - x TW 123.45 EXISTING TOP OF WALL ELEVATION
  - x BW 123.45 EXISTING BOTTOM OF WALL ELEVATION
  - x GF 123.45 EXISTING GROUND FLOOR ELEVATION
  - x FF 123.45 EXISTING FINISHED FLOOR ELEVATION
  - HYDRANT
  - WATER VALVE
  - GAS VALVE
  - ELECTRIC METER
  - OVERHEAD WIRES
  - APPROX. LOC. UNDERGROUND GAS LINE
  - APPROX. LOC. UNDERGROUND ELECTRIC LINE
  - APPROX. LOC. UNDERGROUND WATER LINE
  - UTILITY POLE
  - UTILITY POLE/LIGHT POLE
  - GUY WIRE
  - MAIL BOX
  - METAL GUIDE RAIL
  - POST
  - CHAIN LINK FENCE
  - LANDSCAPED AREA
  - DMH DRAINAGE/STORM MANHOLE
  - EMH ELECTRIC MANHOLE
  - SMH SANITARY/SEWER MANHOLE
  - CB CATCH BASIN OR INLET
  - EOP EDGE OF PAVEMENT
  - LAMP
  - TREE & TRUNK SIZE
  - SWL SOLID WHITE LINE
  - SYL SOLID YELLOW LINE
  - DYL DOUBLE YELLOW LINE
  - DAWL DASHED WHITE LINE
  - BLDG BUILDING
  - SBDH STONE BOUND W/DRILL HOLE
  - CBDH CONCRETE BOUND W/DRILL HOLE
  - EPLP ESCUTCHEON PIN IN LEAD PLUG
  - PVC POLYVINYL CHLORIDE PIPE
  - INV INVERT ELEVATION
  - GRT GRATE ELEVATION
  - RCP REINFORCED CONCRETE PIPE
  - UG UNDERGROUND
  - CONC CONCRETE
  - (S) SURVEY DIMENSION
  - (D) DEED DIMENSION



MAP 26, LOTS 359-470  
NF LANDS OF  
CRESENT PARK  
CONDOMINIUM  
L.C. DOC. #795677

MAP 73, BLOCK 8, LOT 1  
NF LANDS OF  
CRESENT PARK  
CONDOMINIUM  
L.C. DOC. #795677

MAP 74, BLOCK 2, LOT 3  
NF LANDS OF  
CAMBRIDGE ROAD  
REALTY TRUST  
CERT. #230018

MAP 74, BLOCK 2, LOT 2  
NF LANDS OF  
EATON REALTY TRUST  
CERT. #228822

MAP 74, BLOCK 2, LOT 1  
NF LANDS OF  
ALCO REALTY TRUST  
CERT. #190064  
BK. 1125, PG. 114

MAP 26, LOT 139  
NF LANDS OF  
SEGURET REALTY TRUST  
CERT. #248890  
BK. 1387, PG. 73

MAP 26, LOT 140  
NF LANDS OF  
416 CAMBRIDGE STREET  
REALTY TRUST  
CERT. #250474  
BK. 1411, PG. 52

MAP 26, LOTS 359-470  
NF LANDS OF  
CRESENT PARK  
CONDOMINIUM  
L.C. DOC. #795677

- NOTES:**
- PROPERTY KNOWN AS PARCELS 26-139-0 & 26-140-0 ON THE TOWN OF WINCHESTER, CITY OF WOBURN, MIDDLESEX COUNTY, MASSACHUSETTS MAP 24.
  - AREA = 130,148 SQUARE FEET OR 2.988 ACRES.
  - LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGAIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
  - THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
  - THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
  - BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN) PER REF. #2
  - ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
  - THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
  - THE DELINEATION LINE WAS PLACED IN THE FIELD BY LUCAS ENVIRONMENTAL ON 6/19/2015, AND FIELD LOCATED BY CONTROL POINT ASSOCIATES, INC. ON 8/19/2015.

- REFERENCES:**
- THE TAX ASSESSOR'S MAP OF TOWN OF WINCHESTER, MIDDLESEX COUNTY, MASSACHUSETTS, SHEET #24.
  - MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS), PANEL 408 OF 606," MAP NUMBER 2501700086, EFFECTIVE DATE: JUNE 4, 2010.
  - MAP ENTITLED "TOWN OF WINCHESTER, MASS. ACCEPTANCE PLAN AND PROFILE OF A PORTION OF WAINWRIGHT ROAD," PREPARED BY JOHN H. CIARCA TOWN ENGINEER, DATED OCTOBER 25, 1985, FILED IN THE TOWN OF WINCHESTER, MASS. TOWN CLERK'S OFFICE AS PLAN NO. 1577.
  - GAS FACILITY MAPPING PROVIDED BY NATIONAL GRID, DATED SEPTEMBER 26, 2014.
  - ELECTRIC FACILITY MAPPING PROVIDED BY NSTAR ELECTRIC.
  - MAP ENTITLED "PLAN AND PROFILE OF WAINWRIGHT DRIVE, CARRIAGE HILL SUBDIVISION, WINCHESTER, MASS., OWNED BY SARAH MOSS," PREPARED BY WHITMAN & HOWARD INC., DATED DECEMBER 16, 1963.
  - MAP ENTITLED "PROPOSED SEWER & WATER PLAN, 287 CAMBRIDGE ST., WOBURN MASS.," PREPARED BY NEW ENGLAND ENGINEERING GROUP, DATED OCTOBER 11, 2013.
  - MAP ENTITLED "PLAN OF RETAINING WALL, WINCHESTER, MASS.," PREPARED BY WHITMAN & HOWARD, INC., DATED MARCH 16, 1966, FILED IN THE MIDDLESEX COUNTY LAND REGISTRATION OFFICE AS PLAN NO. 1630A.
  - MAP ENTITLED "WINCHESTER, 1833 ALTERATION," DATED 1933, FILED WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION AS PLAN NO. 3166.

**UTILITIES:**

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREIN IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.

SERIAL NUMBER(S): 20143906403

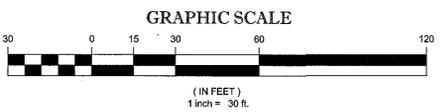
UTILITY COMPANY: COMCAST - FEMROKE VERIZON  
 PHONE NUMBER: 617-584-3069 / 855-242-1649  
 NSTAR ELECTRIC  
 PHONE NUMBER: 617-424-2000  
 NATIONAL GRID GAS - BOSTON ON TARGET LOCATING  
 PHONE NUMBER: 800-233-5325 / 800-977-4646 / 508-429-1022



THE COMMONWEALTH OF MASSACHUSETTS REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

**CURVE DATA TABLE**

#	RADIUS	DELTA	LENGTH	CHORD BEARING	CHORD LENGTH
C1	160.96'	17°47'28"	49.98'	S36°18'39"E	49.78'
C2	25.63'	98°00'15"	43.84'	S03°47'44"W	38.69'
C3	153.00'	27°20'14"	73.00'	S39°07'45"W	72.31'



THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

**GERRY L. HOLDRIGHT**  
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

No.	LOCATED WETLANDS	S.P.P.	J.M.B.	GL.H.	6-22-15
1	LOCATED WETLANDS				
DESCRIPTION OF REVISION					
FIELD DATE	9-26-14	<b>BOUNDARY &amp; TOPOGRAPHIC SURVEY</b>			
FIELD BOOK NO.	14-04MA	<b>SEB, LLC</b>			
FIELD BOOK PG.	88-91	416 CAMBRIDGE STREET MAP 26, LOT 140 (WINCHESTER) MAP 74, BLOCK 2, LOT 2 (WOBURN) TOWN OF WINCHESTER & CITY OF WOBURN MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS			
FIELD CREW	T.M.S.P.P.	<b>CONTROL POINT ASSOCIATES, INC.</b>			
DRAWN	IND-SND	333 TURNPIKE ROAD SOUTH BOROUGH, MA 01772 508.948.3000 - 508.948.3003 FAX			
REVIEWED	J.L.S.	APPROVED	A.J.L.	DATE	10-10-14
SCALE	1"=30'	FILE NO.	CM14178	DWG. NO.	1 OF 1

**CAMBRIDGE STREET**  
(A.K.A. ROUTE 3)  
(PUBLIC - VARIABLE WIDTH)  
(1933 STATE HIGHWAY ALTERATION)

**WAINWRIGHT ROAD**  
(PUBLIC - 50' WIDE)