

Proposed Site Development Plans

for

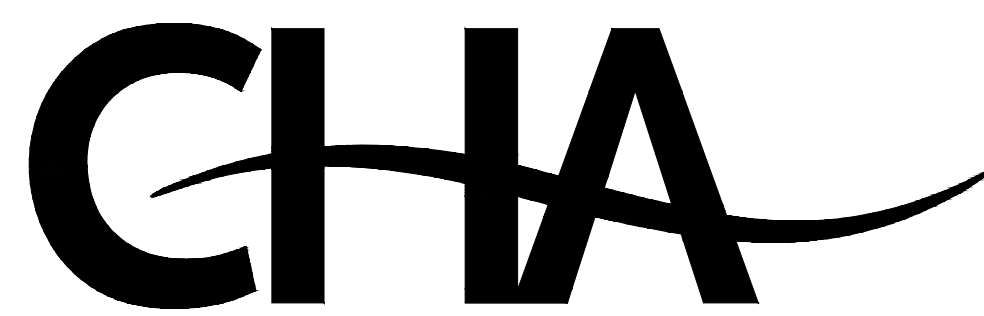
Herb Chambers Jaguar / Land Rover of Sudbury

83 Boston Post Road, Sudbury, MA

APPLICANT

Herb Chambers 83 Boston Post Road, LLC

CIVIL ENGINEER

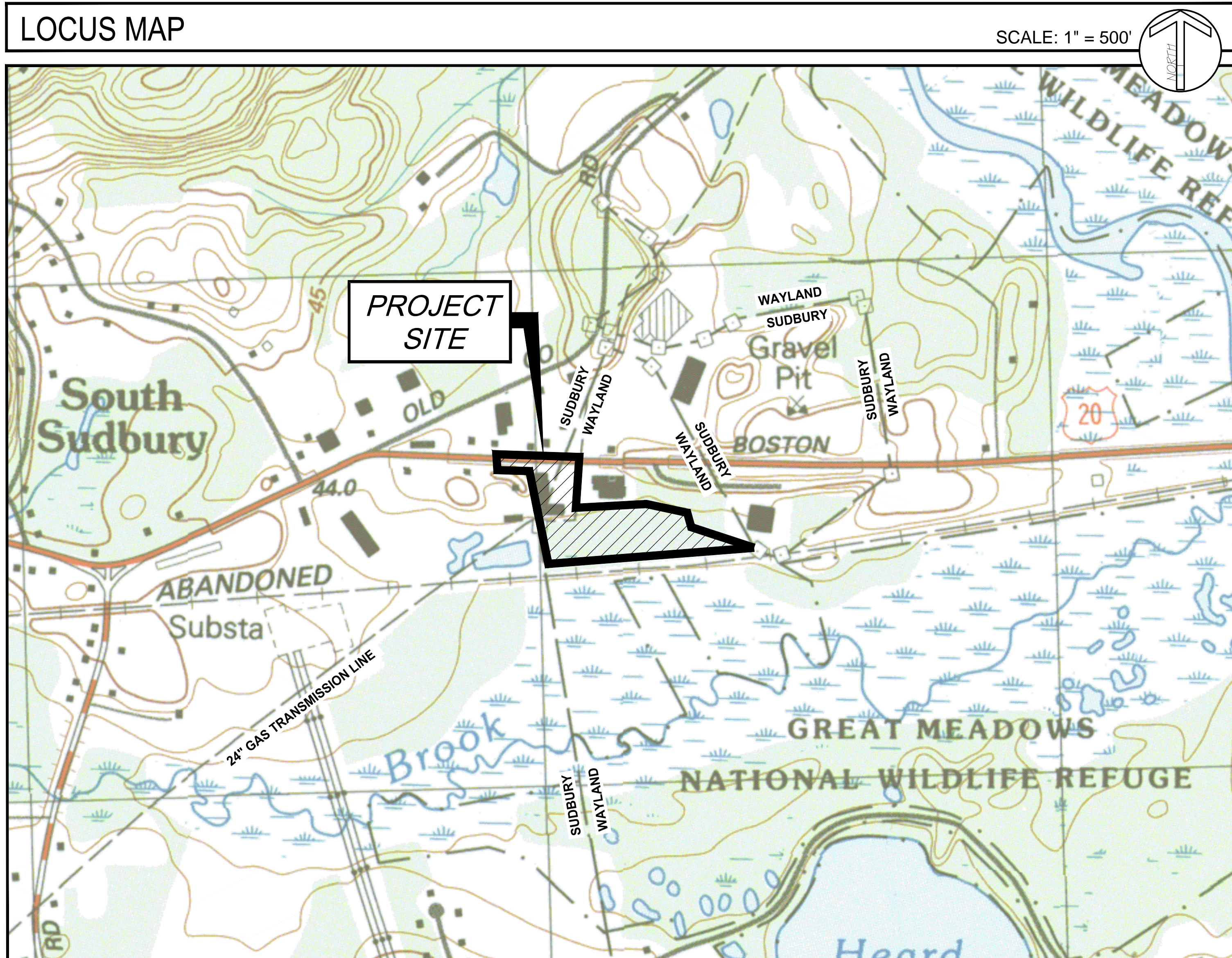


CHA CONSULTING, INC.
141 LONGWATER DRIVE - SUITE 104
NORWELL, MA 02061
781-982-5400

ARCHITECT



REGENT
ASSOCIATES, INC.
ARCHITECTS
24 PRIME PARKWAY, SUITE 202
NATICK, MA 01760



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DATE SITE PLAN ENDORSED: _____

SUBMISSION DATE: DECEMBER 2018

CHA

141 Longwater Drive, Suite 104
Norwell, MA 02061
781.982.5400 • www.chaconsulting.com

APPLICANT

HERB CHAMBERS
83 BOSTON POST RD, LLC

LAND-ROVER

JAGUAR

Seal of the Commonwealth of Massachusetts
KELLY WILLEN
SUDBURY
12/19/18

IT IS HEREBY CERTIFIED THAT THE ABOVE NAMED PERSON IS A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MASSACHUSETTS, AND IS THE DESIGNER OF THE ABOVE PROJECT.

DATE OF THIS CERTIFICATION: 12/19/18

Proposed Site Development Plans
for
HERB CHAMBERS
JAGUAR / LAND ROVER of SUDBURY
83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776

No.	Submitted	Revision	Appr'd. By	Date
D	Final (DWG)	Consent/Comment	KK	SFA
C	Sudbury Site Plan Approval	KK	SFA	12/19/18
B	Wayland Site Plan Approval	KK	SFA	12/19/18
A	20th Issued	KK	SFA	12/19/18

TITLE SHEET

Designed By: SA

Drawn By: JM / SA

Checked By: KK

Issue Date: 12/19/18

Project No: 31554

Scale: AS SHOWN

Drawing No.:
C-001

File: \\A\PROJECTS\WATER\PROJ\31554\SUB\DRY\CAD\31554_A0_C-002_NOTES.DWG, Saved: 1/18/2019 9:11:39 AM, Printed: 1/22/2019 10:37:07 AM, Current User: Muel-chen, James, Last Saved By: 4293

GENERAL

1. **PROTECTIONS:**
- A. PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, TREES OR VEGETATION TO REMAIN.
- B. PROTECT IMPROVEMENTS ON ADJOINING PROPERTIES AND ON OWNER'S PROPERTY.
- C. RESTORE DAMAGED IMPROVEMENTS TO ORIGINAL CONDITION AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
- D. CONDUCT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH OPERATIONS, STREETS, WALKS, AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION. STREETS AND ROADWAYS SHALL BE KEPT CLEAN AND FREE OF DIRT AND DEBRIS AT ALL TIMES.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MASSDOT SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND/OR THE APPROPRIATE LOCAL AUTHORITIES.
3. ALL SLOPES, UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION AS SOON AS POSSIBLE TO PREVENT EROSION INTO WETLAND RESOURCE AREAS, ABUTTING PROPERTIES, OR PUBLIC WAYS. EROSION CONTROL, BLANKETS OR TURF REINFORCEMENT MATS ARE REQUIRED FOR ALL 2H:1V SLOPES WHERE RIP-RAP IS NOT PROPOSED. SLOPES MAY NOT EXCEED 2H:1V.
4. ANY DEVIATIONS, I.E. "FIELD CHANGES" FROM THE DESIGN PLAN(S) MUST BE APPROVED BY THE DESIGN ENGINEER. CONTRACTOR SHOULD BE AWARE THAT LOCAL AND STATE AUTHORITIES HAVE JURISDICTION AND APPROVALS MUST BE OBTAINED FROM THE APPROPRIATE AUTHORITY PRIOR TO THE IMPLEMENTATION OF THE "FIELD CHANGE." CHA ASSUMES NO LIABILITY OR RESPONSIBILITY FOR WORK ASSOCIATED WITH FIELD CHANGES COMPLETED WITHOUT REGARD TO THE "FIELD CHANGE" PROCEDURE.
5. REFER TO THE SURVEY GENERAL NOTES ON EXISTING CONDITIONS PLAN OF THIS SET FOR EXISTING CONDITIONS NOTES AND SURVEY RELATED REFERENCES.
6. RELOCATION OF ANY UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
7. *** DIG SAFE NOTE ***
IN ACCORDANCE WITH MGL CH. 82, SEC. 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, BLAST, DEMOLISH, BORE, OR PERFORM OTHER EARTH MOVING OPERATIONS NO LESS THAN 72 HOURS AND NO MORE THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF SUCH WORK (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) OR CALL "DIG SAFE" AT 1-888-DIG-SAFE.
8. LOCATION OF UNDERGROUND UTILITIES ON THESE PLANS ARE APPROXIMATE ONLY AND ARE BASED ON ACTUAL FIELD LOCATIONS OF VISIBLE STRUCTURES AND PLAN COMPLETIONS. EXISTING UTILITY LOCATIONS AND ELEVATIONS SHOWN SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. TEST PITS SHALL BE PERFORMED BY CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO THE START OF ANY CONSTRUCTION.
9. **USE OF EXPLOSIVES:**
- A. COMPLY WITH ALL LAWS, RULES AND REGULATIONS OF FEDERAL, STATE, AND LOCAL AUTHORITIES AND INSURERS WHICH GOVERN STORAGE, USE, MANUFACTURE, SALE, HANDLING, TRANSPORTATION, LICENSING, OR OTHER DISPOSITION OF EXPLOSIVES. UTILIZE SPECIAL PRECAUTIONS FOR PROPER USE OF EXPLOSIVES TO PREVENT HARM TO HUMAN LIFE AND DAMAGE TO SURFACE STRUCTURES, ALL UTILITY LINES OR OTHER SUBSURFACE STRUCTURES. DO NOT CONDUCT BLASTING OPERATIONS UNTIL PERSONS IN VICINITY HAVE HAD AMPLE NOTICE AND HAVE REACHED POSITIONS OF SAFETY.
- B. BLASTING OF ANY ROCK SHALL REQUIRE APPROPRIATE APPROVALS FROM THE LOCAL FIRE DEPARTMENT, BUILDING INSPECTOR AND OTHER PERTINENT AGENCIES. PRIOR TO COMMENCEMENT OF WORK, ALL BLASTED ROCK OR OTHER EXCESS MATERIALS MUST BE REMOVED FROM THE SITE AND DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR.
10. ADDITIONAL BENCHMARKS TO BE SET BY CONTRACTOR PRIOR TO CONSTRUCTION TO ENSURE QUALITY WORKMANSHIP.

11. THE PLANS CONTAINED HEREIN SHALL SUPERSEDE ANY AND ALL PREVIOUS DESIGN PREPARED FOR THE SUBJECT SITE. THE CONTRACTOR SHALL REVIEW ALL PLANS AND SPECIFICATIONS AND NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES IN THE WORK. FAILURE TO DO SO DURING CONTRACT DOCUMENT REVIEW PERIOD WILL NEGATE ANY CLAIM DURING CONSTRUCTION FOR EXTRA TIME TO COMPLETE THE WORK.
12. ANY STILLING AND/OR DETENTION BASINS SHOULD RECEIVE PERIODIC MAINTENANCE DURING CONSTRUCTION TO REMOVE DEPOSITED SILTS AND DEBRIS TO ENSURE PROPERTY DRAINAGE AND PREVENTING OF PARTICULATE MATTER.
13. ALL MANHOLE COVERS FOR CROSS-COUNTRY LOCATIONS OR IN PUBLIC GATHERING SHALL BE FITTED WITH BOLT LOCKS OR EQUIVALENT.
14. UNLESS OTHERWISE LABELED, ALL REINFORCED CONCRETE PIPE, RCP, SHALL BE CLASS III; ALL DUCTILE IRON PIPE SHALL BE CEMENT LINING CLASS 52; ALL PVC SEWER SHALL BE SDR 35; ALL CORRUGATED PLASTIC PIPE SHALL BE DOUBLE WALLED N-12 AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS OR APPROVED EQUAL.

SEQUENCE OF CONSTRUCTION

SEE SHEET C-102

SITE WORK

1. CAUTION - NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS PRIOR TO ANY EXCAVATION, BLASTING, DEMOLITION, BORING, OR OTHER EARTH MOVING OPERATIONS TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS.

2. FILL MATERIAL

- A. ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH, AND DEBRIS PRIOR TO FILL PLACEMENT.
- B. PLACE APPROPRIATE FILL MATERIAL AS DESIGNATED BY THE GEOTECHNICAL ENGINEER IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT INCHES (8") IN LOOSE DEPTH AND COMPACT EACH LAYER AT OPTIMUM MOISTURE CONTENT OF FILL MATERIAL TO DENSITY EQUAL TO ORIGINAL ADJACENT GROUND, UNLESS SUBSEQUENT EXCAVATION FOR NEW WORK IS REQUIRED.
3. FINISH GRADING

- A. GRADE ALL AREAS WHERE FINISH GRADE ELEVATIONS ARE INDICATED ON DRAWINGS, OTHER THAN PAVED AREAS AND BUILDINGS, INCLUDING EXCAVATED AREAS, FILLED AND TRANSITION AREAS, AND LANDSCAPED AREAS. GRADED AREAS SHALL BE UNIFORM AND SMOOTH, FREE FROM DEBRIS, OR IRREGULAR SURFACE CHANGES. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.10 FEET ABOVE OR BELOW ESTABLISHED SUBGRADE ELEVATIONS, AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISH DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION POTENTIAL.
- B. GRADE SURFACE TO MATCH ADJACENT GRADES AND TO PROVIDE FLOW TO SURFACE DRAINAGE STRUCTURES, OR GRADE AS DESIGNATED ON THE PLANS AFTER FILL PLACEMENT AND COMPACTION.

4. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL CLEANUP OF THE PROJECT ON A DAILY BASIS AND AT THE COMPLETION OF THE PROJECT. OPEN TRENCHES, DITCHES, EXCAVATIONS, ETC. SHALL NOT BE PERMITTED TO BE LEFT OPEN OVERNIGHT. CONTRACTOR WILL BACKFILL OR UTILIZE SUITABLE STEEL PLATES FOR THE SECURING OF THE PROJECT SITE PRIOR TO CEASING WORK EACH DAY.

5. APPROPRIATE TRAFFIC CONTROL, I.E. SIGNAGE, BARRICADES, AND OTHER MEANS, WILL BE SUPPLIED BY THE CONTRACTOR IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL AGENCIES.

6. UNDER NO CIRCUMSTANCES MAY ANY UTILITY, STRUCTURE, AND/OR REPAIR BE BACKFILLED UNLESS INSPECTED AND APPROVED BY THE CITY / MUNICIPALITY OFFICIALS AND/OR REPRESENTATIVE. RECEIPT OF APPROVAL TO BACKFILL WILL NOT RELEASE THE CONTRACTOR FROM ANY RESPONSIBILITY OR LIABILITY FOR PERFORMANCE TESTS REQUIRED AS PART OF THIS PROJECT.

7. PROPER SHORING AND TRENCH BOXES SHALL BE UTILIZED AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES TO PROVIDE A SAFE WORKING ENVIRONMENT. SHORING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS WITH EXPERIENCE IN SHORING DESIGN.

8. ALL UTILITIES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

9. WATER:

- A. ALL WATER PIPING, VALVES, HYDRANTS, AND FITTINGS ETC. TO CONFORM TO LOCAL GUIDELINES OR AS DIRECTED BY THE WATER DEPARTMENT. CONSTRUCTION OF WATER LINE TO CONFORM TO ALL LOCAL AND STATE AGENCIES HAVING JURISDICTION.
- B. ALL WATER PIPE SHALL BE THICKNESS CLASS 52 DUCTILE IRON. ALL PIPES AND FITTINGS SHALL HAVE A CEMENT LINING TWICE THE THICKNESS SPECIFIED IN AWWA C104 AND SHALL HAVE A BITUMINOUS SEAL COAT APPLIES INSIDE AND OUTSIDE CONFORMING TO AWWA C104, "TYTON" OR MECHANICAL JOINTS ARE PERMITTED UNLESS OTHERWISE DIRECTED.
- C. REFER TO PLUMBING PLANS FOR WATER SERVICE, FIRE PROTECTION, AND SANITARY SEWER CONNECTIONS UNLESS OTHERWISE NOTED.

UTILITY NOTES

1. THESE NOTES ARE INTENDED TO SUPPLEMENT THE LOCAL REQUIREMENTS FOR MATERIALS AND WORKMANSHIP.
2. WATER AND SEWER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST LOCAL AND STATE CODES INCLUDING THE RECOMMENDATIONS OF THE AMERICAN WATER WORKS ASSOCIATION AND THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION TECHNICAL REPORT 16. CONSTRUCTION SHALL PROCEED IN A WORKMANLIKE MANNER WITH STATE-OF-THE-ART CONSTRUCTION TECHNIQUES.
3. THE CONTRACTOR SHALL INSULATE WATER AND SEWER MAINS AS INDICATED ON THE PLANS OR WHEN DESIGN OR CONSTRUCTION ENCUMBRANCES DICTATE ALIGNMENT TO OCCUR ABOVE THE FROST LINE (5' BELOW FINISH GRADE OR SHALL OVER). PROCUREMENT AND INSTALLATION OF PIPE INSULATION SHALL CONFORM TO THE REQUIREMENTS LISTED IN THE LATEST MASSDOT SPECIFICATIONS FOR SECTION 301.60P AND MATERIAL SPECIFICATION M9.11.1. THE PIPE INSULATION SHALL BE PRE-MOLDED TYPE CELLULAR GLASS INSULATION WITH ALUMINUM JACKET CONFORMING TO THE LATEST REQUIREMENTS OF ASTM-522 OR APPROVED EQUAL.
4. THE CONTRACTOR SHALL FOLLOW ALTERNATE CONSTRUCTION PROCEDURES WHEN DESIGN OR CONSTRUCTION ENCUMBRANCES PREVENT HORIZONTAL SEPARATION OF 10 FEET OR THE ALTERNATE OF 18 INCHES OF VERTICAL SEPARATION BETWEEN WATER AND SEWER MAINS. IN AREAS WHERE THE ABOVE OFFSETS CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE CONSTRUCTED WITH MEGA-LUG MECHANICAL TYPE FITTINGS OR APPROVED EQUAL FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING OR LATERAL ENCROACHMENT AND SHALL STRADDLE A FULL LENGTH OF CLASS 52 CEMENTED LINED DUCTILE IRON WATER PIPE.
5. THE DEFLECTION IN ALL GRAVITY SEWER PIPE SHALL BE TESTED USING A GO, NO-GO MANDREL TEST TO ENSURE THAT PROPER INSTALLATION HAS OCCURRED. TEST SHALL CONFORM WITH PIPE MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT INDICATE MORE THAN 7.5% DEFLECTION, 0.0 N.
6. EACH SEGMENT OF THE SEWER MAIN INCLUDING MANHOLES SHALL BE LEAK TESTED AND OBSERVED BY A REPRESENTATIVE OF THE ENGINEER IN ACCORDANCE WITH THE FOLLOWING PROCEDURES.

CONCRETE AND REINFORCING STEEL NOTES:

THIS SECTION PERTAINS ONLY TO SITE RELATED CONCRETE WORK THAT IS NOT OTHERWISE COVERED IN THE ARCHITECTURAL AND STRUCTURAL PLANS PREPARED BY REGENT ASSOCIATES.

1. GENERAL:

- ALL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIALS IS THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR IS RESPONSIBLE FOR DISSEMINATION OF ALL REVISIONS AND REQUIREMENTS TO THE SUBCONTRACTORS.
- REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF ALL DRAWINGS AND SPECIFICATIONS. HOWEVER THE ENGINEER DOES NOT GUARANTEE AGAINST HUMAN ERROR AND FOR THAT REASON IT IS IMPERATIVE THAT THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND DETAILS AND MUST VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.
- PRESUMED ALLOWABLE SOIL BEARING CAPACITY IS 4000 PSF. VERIFY IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

2. MATERIALS

- CONCRETE:** APPROVED, READY MIXED CONCRETE HAVING AN MINIMUM COMPRESSIVE STRENGTH (f'c) OF 4000 PSI AT 28 DAYS WITH 3/4" AGGREGATE MAX., SLUMP 1-3 INCHES UNLESS OTHERWISE NOTED. PROVIDE AIR-ENTRAINMENT ADMIXTURE TO AID THE FREEZE/THAW RESISTANCE OF ALL EXPOSED CONCRETE
 - REINFORCING STEEL:** ASTM A615 GRADE 60 DEFORMED BARS. ASTM A185 WELDED WIRE FABRIC
 - FORM WORK:** SMOOTH PLYWOOD FORMS FOR EXPOSED SLABS OR VERTICAL SURFACES. BOARD FORMS FOR FOOTINGS OR UNEXPOSED CONCRETE SURFACES. NO EARTH FORMS PERMITTED.
 - GROUT:** NONMETALLIC, NON-SHRINK GROUT UNDER BASE PLATES OR BEARING PLATES
3. **EXECUTION**
- CONCRETE:** PLACE CONCRETE ACCORDING TO THE APPROVED METHODS OF ACI 301.89. STRENGTH (f'c) OF 4000 PSI AT 28 DAYS. SLUMP 1-3 INCHES UNLESS OTHERWISE NOTED WITH MAXIMUM 3/4 INCH AGGREGATE AND MAXIMUM 6% AIR ENTRAINMENT FOR EXTERIOR CONCRETE EXPOSED TO MOISTURE.
 - REINFORCING STEEL:** PLACE REINFORCING USING STANDARD BAR SUPPORTS TO PROVIDE PROPER CLEARANCE AND PREVENT DISPLACEMENT DURING CONCRETE OPERATIONS. LAP CONTINUOUS BARS 40 DIAMETERS. PROVIDE THE FOLLOWING MINIMUM CONCRETE COVERAGE:
 - 3" CONCRETE PLACED AGAINST EARTH
 - 2" FORMED CONCRETE EXPOSED TO EARTH, WEATHER, OR WATER
 - 2" SLABS ON GRADE (MINIMUM FROM TOP)
 - 2" FRAMED SLABS (NOT EXPOSED TO WEATHER)
 - 2" FRAMED SLABS (EXPOSED TO WEATHER)

- PLACE DEFORMED BARS IN ACCORDANCE WITH THE LATEST EDITION OF CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS." ALL WELDED WIRE MESH SHALL CONFORM TO ASTM A185. LAP 20 SQUARES AT ALL JOINTS AND THE 1/4" ON CENTER. PROVIDE (2) #6 BARS EACH SIDE OF ALL OPENINGS IN WALLS AND SLABS. BARS TO EXTEND 24" BEYOND EDGE OF OPENINGS. (FOR SIZE AND LOCATION OF OPENINGS REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS).
- NO HORIZONTAL CONSTRUCTION JOINTS ARE ALLOWED UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR ALLOWED IN WRITING BY THE ENGINEER.
- ALL GROUT FOR BASE PLATES SHALL BE NON-SHRINK AND NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.

REINFORCING BAR	EMBEDMENT LENGTH	STANDARD HOOK
#4	12"	12"
#5	12"	12"
#6	12"	12"
#7	16"	16"
#8	20"	20"

- FORM WORK:** PROPERLY BRACE AND SHORE FORM WORK TO MAINTAIN ALIGNMENT AND TOLERANCES IN ACCORDANCE TO ACI 347. (DETAILS NOT SHOWN IN DRAWINGS SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL (ACI 315)).

4. QUALITY CONTROL

- CONTRACTOR SHALL MAKE PROVISIONS TO HAVE FOUR CYLINDERS CAST FOR EACH (50) CUBIC FEET OF CONCRETE POURED OR FOR ANY ONE DAY OPERATION.
- TESTING LABORATORY SHALL BE RESPONSIBLE FOR MAKING AND CURING SPECIMENS IN CONFORMANCE TO ASTM C31 AND TESTING SPECIMENS IN ACCORDANCE TO ASTM C38.

5. EXCAVATION & COMPACTED FILL

- COMPACTED FILL SHALL BE PLACED IN LEVEL, UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN UNCOMPACTED THICKNESS AND BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.

- FILL TO CONFORM TO THE PROJECT SPECIFICATIONS FOR STRUCTURAL FILL OR AS DIRECTED BY THE ENGINEER. BACKFILL AND EXCAVATION TO BE COMPLETED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND STRUCTURAL ENGINEER.

6. EXPANSION, CONTRACTION, AND CONSTRUCTION JOINTS

- CONTRACTOR SHALL PROVIDE CONTRACTION JOINTS IN WALLS AND SLABS NOT TO EXCEED 20' (OR EQUALLY SPACED) AND EXPANSION JOINTS NOT TO EXCEED 90' (IF APPLICABLE)

- ALL CONSTRUCTION JOINTS SHALL HAVE ROUGHENED, KEYED, AND/OR BONDING AGENT APPLIED TO THE CONCRETE LAYING SURFACES AS DIRECTED BY THE ENGINEER OR TO THE MOST STRINGENT ACI 318 STANDARDS

7. CONCRETE FINISHING

- ALL EXPOSED CONCRETE SHALL BE FINISHED TO PROJECT ARCHITECTURAL STANDARDS OR AS DIRECTED BY THE ENGINEER. ALL EXPOSED CORNERS SHALL BE CHAMFERED.
- ALL VOIDS, POCKETS, AND DEFORMATIONS IN THE EXPOSED FACE OF WALL SHALL BE CORRECTED TO A SMOOTH, UNIFORM FINISH OR AS DIRECTED BY THE ENGINEER.

SEWER TESTING NOTES

1. EXFILTRATION TEST:

- A. PREPARATION OF TEST. AFTER THE MANHOLE HAD BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND THOSE EXTERIOR JOINTS WITHIN SIX FEET OF THE GROUND SURFACE SHALL BE FILLED AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. THE TEST SHALL BE MADE PRIOR TO PLACING THE SHELF AND INVERT AND BEFORE FILLING AND POINTING THE HORIZONTAL JOINTS. BELOW THE 6- FOOT DEPTH LINE. IF THE GROUNDWATER TABLE HAS BEEN ALLOWED TO RISE ABOVE THE BOTTOM OF THE MANHOLE, IT SHALL BE LOWERED FOR THE DURATION OF THE TEST. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLE PLUGGED AND PLUGS BRACED TO PREVENT BLOW OUT.
- B. TEST PROCEDURE. THE MANHOLE SHALL THEN BE FILLED WITH WATER TO THE TOP OF THE CONE SECTION. IF THE EXCAVATION HAS NOT BEEN BACKFILLED AND OBSERVATION INDICATED NO VISIBLE LEAKAGE, THAT IS, NO WATER VISIBLY MOVING DOWN THE SURFACE OF THE MANHOLE, THE MANHOLE MAY BE CONSIDERED TO BE SATISFACTORILY WATER TIGHT. IF THE TEST AS DESCRIBED ABOVE IS UNSATISFACTORY AS DETERMINED BY THE ENGINEER OR IF THE MANHOLE EXCAVATION HAS BEEN BACKFILLED THE TEST SHALL BE CONTINUED. A PERIOD OF TIME MAY BE PERMITTED, IF THE CONTRACTOR WISHES, TO ALLOW FOR ABSORPTION.
- C. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE. IF NECESSARY, AND THE MEASURING TIME OF AT LEAST EIGHT HOURS BEGUN AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE EXTRAPOLATED TO A 24-HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24-HOUR PERIOD. IF THE TEST FAILS THIS REQUIREMENTS, BY THE LEAKAGE DOES NOT EXCEED THREE GALLONS PER VERTICAL FOOT PER DAY, REPAIRS BY APPROVED METHODS MAY BE MADE AS DIRECTED BY THE ENGINEER TO BRING THE LEAKAGE WITHIN THE ALLOWABLE RATE ON ONE GALLON PER VERTICAL FOOT PER DAY. LEAKAGE DUE TO A DEFECTIVE SECTION OR JOINT OF EXCEEDING THE THREE-GALLON PER VERTICAL FOOT PER DAY RATE, SHALL BE CAUSE FOR THE REJECTION OF THE MANHOLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UNCOVER, DISASSEMBLE, RECONSTRUCT OR REPLACE THE MANHOLE AS DIRECTED BY THE ENGINEER. THE MANHOLE SHALL THEN BE RE-TESTED AND, IF SATISFACTORY, INTERIOR JOINTS SHALL BE FILLED AND POINTED.
- D. BACKFILLING. THE TEST MAY BE CONDUCTED EITHER BEFORE OR AFTER BACKFILLING AROUND THE MANHOLE. HOWEVER, IF THE CONTRACTOR ELECTS TO BACKFILL PRIOR TO TESTING, IT SHALL BE AT HIS OWN RISK AND IT SHALL BE INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE REASON FOR ANY FAILURE OF THE TEST. NO ADJUSTMENT IN THE LEAKAGE ALLOWANCE WILL BE MADE FOR UNKNOWN CAUSES SUCH AS LEAKING PLUGS, ABSORPTION, ETC., I.E., IT WILL BE ASSUMED THAT ALL LOSS OF WATER DURING THE TEST IS A RESULT OF LEAKS THROUGH THE JOINTS OF THROUGH THE CONCRETE. FURTHERMORE, THE CONTRACTOR SHALL TAKE ANY STEPS NECESSARY TO ASSURE THE ENGINEER THAT THE WATER TABLE IS BELOW THE BOTTOM OF THE MANHOLE THROUGHOUT THE TEST.

2. VACUUM TEST:

- A. THE VACUUM TESTING SYSTEM SHALL BE SUPPLIED BY NPC SYSTEMS, INC. OR EQUIVALENT AS APPROVED BY THE ENGINEER. THE TESTING SHALL BE DONE IMMEDIATELY AFTER ASSEMBLY OF THE MANHOLE AND BEFORE BACKFILLING. A 60 LB-FT. TORQUE WRENCH SHALL BE USED TO TIGHTEN EXTERNAL CLAMPS THAT SECURE THE TEST COVER TO THE TOP OF THE MANHOLE. ALL LIFT HOLES SHALL BE PLUGGED WITH A NON-SHRINKING MORTAR. THE CONTRACTOR SHALL PLUG THE PIPE OPENINGS, TAKING CARE TO SECURELY BRACE THE PLUGS AND THE PIPE TO PREVENT THE PLUGS FROM BEING DRAWN INTO THE MANHOLE.
- B. A VACUUM OF 10 INCHES OF MERCURY, HG (4.0 PSI), SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. THE MANHOLE PASSES THE TEST IF THE VACUUM REMAINS GREATER THAN OR EQUAL TO 9 INCHES HG (4.4 PSI) FOR A PERIOD GREATER THAN ONE MINUTE FOR MANHOLES UP TO 10 FEET DEEP, ONE MINUTE FIFTEEN SECONDS FOR MANHOLES 10-15 FEET DEEP, AND ONE MINUTE THIRTY SECONDS FOR MANHOLES 15-25 FEET DEEP.
- C. IF THE MANHOLE FAILS THE INITIAL TEST, THE CONTRACTOR SHALL LOCATE THE LEAKS AND MAKE PROPER REPAIRS. LEAKS MAY BE FILLED WITH A WET SLURRY OF ACCEPTED QUICK SETTING MATERIAL. IF THE MANHOLE FAILS THE VACUUM TEST AGAIN, ADDITIONAL REPAIRS MUST BE MADE, AND THE MANHOLE MUST BE TESTED BY EXFILTRATION AS OUTLINED IN PARAGRAPH 3.03 (A). FIELD QUALITY CONTROL.
3. **LEAKAGE TEST**
- A. THE PIPELINES SHALL BE MADE AS NEARLY WATERTIGHT AS PRACTICABLE, AND LEAKAGE TESTS AND MEASUREMENTS SHALL BE MADE AFTER THE PIPELINE HAS BEEN BACKFILLED
- B. WHERE THE GROUNDWATER LEVEL IS MORE THAN 1 FT ABOVE THE TOP OF THE PIPE AT ITS UPPER END, THE CONTRACTOR SHALL CONDUCT EITHER INFILTRATION TESTS OR LOW PRESSURE AIR TESTS.
- C. AT THE TIME OF THE TEST, THE CONTRACTOR SHALL DETERMINE THE GROUNDWATER ELEVATION FROM OBSERVATION WELLS, EXCAVATIONS OR OTHER MEANS, ALL SUBJECT TO REVIEW BY THE ENGINEER.
- D. FOR MAKING THE LOW PRESSURE AIR TESTS, THE CONTRACTOR SHALL USE EQUIPMENT SPECIFICALLY DESIGNED AND MANUFACTURED FOR THE PURPOSES OF TESTING SEWER PIPELINES USING LOW PRESSURE AIR. THE EQUIPMENT SHALL BE PROVIDED WITH AN AIR REGULATORY VALVE OR AIR SAFETY SO SET THAT THE INTERNAL AIR PRESSURE IN THE PIPELINE CANNOT EXCEED 8 PSIG.
- E. THE LEAKAGE TEST USING LOW PRESSURE AIR SHALL BE MADE ON EACH MANHOLE-TO-MANHOLE SECTION OF PIPELINE AFTER PLACEMENT OF THE BACKFILL.
- F. PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR GREATER THAN THE DIAMETER OF THE PIPE TO BE TESTED. PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRING EXTERNAL BRACING OR BLOCKING.
- G. ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
- H. LOW PRESSURE AIR SHALL BE INTRODUCED INTO THE SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES 4 PSIG. GREATER THAN THE MAXIMUM PRESSURE EXERTED BY THE GROUNDWATER THAT MAY BE ABOVE THE INVERT OF THE PIPE AT THE TIME OF THE TEST. HOWEVER, THE INTERNAL AIR PRESSURE IN THE SEALED LINE SHALL NOT BE ALLOWED TO EXCEED 8 PSIG. WHEN THE MAXIMUM PRESSURE EXERTED BY THE GROUNDWATER IS GREATER THAN 4 PSIG., THE CONTRACTOR SHALL CONDUCT ONLY AN INFILTRATION TEST.

- I. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE IN THE SECTION UNDER TEST. AFTER THE STABILIZATION PERIOD, THE LOW PRESSURE AIR SUPPLY HOSE SHALL BE QUICKLY DISCONNECTED FROM THE CONTROL PANEL. THE TIME REQUIRED IN MINUTES FOR THE PRESSURE IN THE SECTION UNDER TEST TO DECREASE FROM 3.5 TO 2.5 PSIG IN WALLS AND SLABS SHALL BE USED TO DETERMINE THE LEAKAGE RATE. (FOR SIZE AND LOCATION OF THE PIPE) SHALL NOT BE LESS THAN THAT SHOWN IN THE FOLLOWING TABLE:

PIPE DIAMETER IN INCHES VS. MINUTES

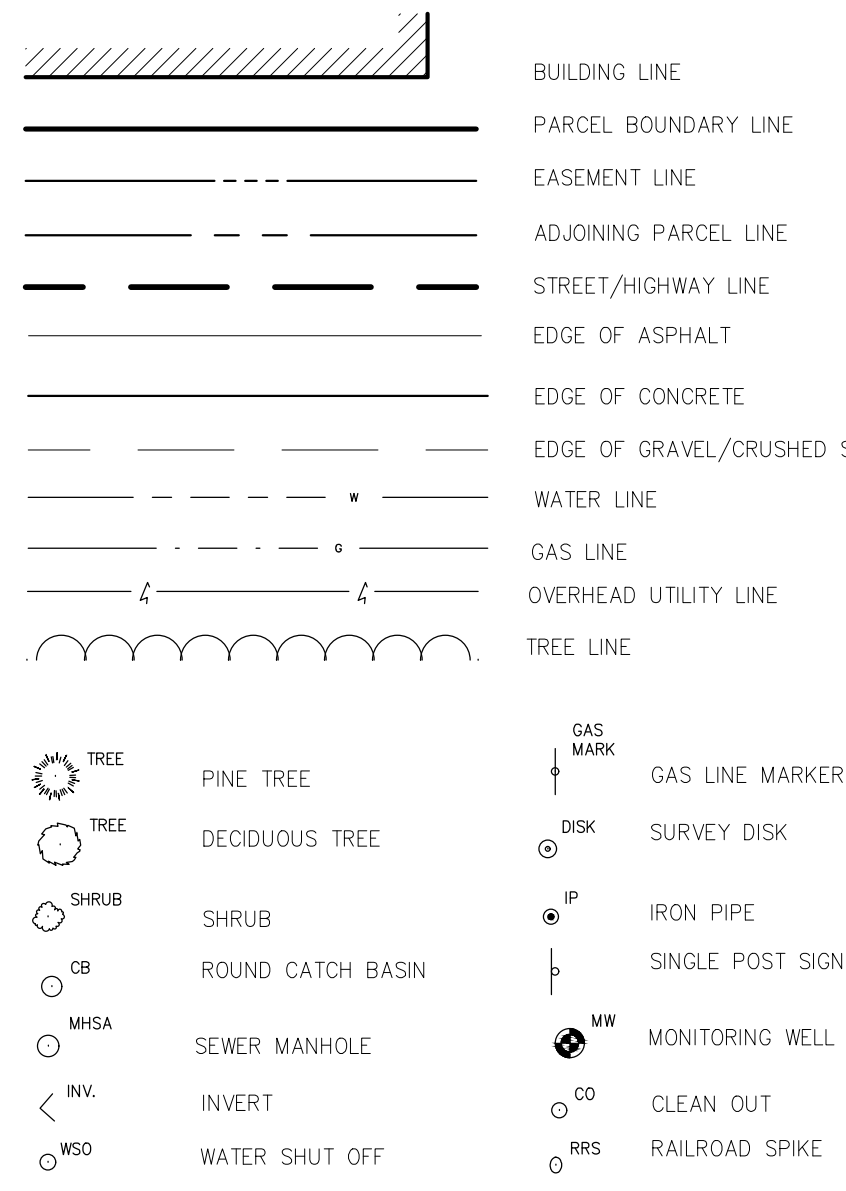
6"	5.0 MIN. 40 SEC.
8"	7.0 MIN. 34 SEC.
10"	9.0 MIN. 26 SEC.
12"	11.0 MIN. 20 SEC.
15"	14.0 MIN. 10 SEC.
18"	17.0 MIN. 0 SEC.
21"	19.0 MIN. 50 SEC.
24"	22.0 MIN. 40 SEC.
27"	25.0 MIN. 30 SEC.

- J. FOR MAKING THE INFILTRATION AND EXFILTRATION TESTS, THE CONTRACTOR SHALL FURNISH SUITABLE TEST PLUGS, WATER PUMPS, AND APPURTENANCES, AND ALL LABOR REQUIRED TO PROPERLY CONDUCT THE TESTS ON SECTIONS OF ACCEPTABLE LENGTH.
- K. FOR MAKING THE INFILTRATION TESTS, UNDERDRAINS, IF USED, SHALL BE PLUGGED AND OTHER GROUNDWATER DRAINAGE SHALL BE STOPPED TO PERMIT THE GROUNDWATER TO RETURN TO ITS NORMAL LEVEL INsofar AS PRACTICABLE
- L. UPON COMPLETION OF A SECTION OF THE SEWER, THE CONTRACTOR SHALL DEWATER IT AND CONDUCT A SATISFACTORY TEST TO MEASURE THE INFILTRATION FOR AT LEAST 24 HOURS. THE AMOUNT OF INFILTRATION, INCLUDING MANHOLES, TEES, AND CONNECTIONS, SHALL NOT EXCEED 200 GAL. PER INCH DIAMETER PER MILE OF SEWER PER 24 HOURS.
- M. FOR MAKING THE EXFILTRATION TESTS, THE SEWERS SHALL BE SUBJECTED TO AN INTERNAL PRESSURE BY PLUGGING THE PIPE AT THE LOWER END AND THEN FILLING THE PIPELINES AND MANHOLES WITH CLEAN WATER TO A HEIGHT OF 2 FT. ABOVE THE TOP OF THE SEWER AT ITS UPPER END. WHERE CONDITIONS BETWEEN MANHOLES, MAY RESULT IN TEST PRESSURES WHICH WOULD CAUSE LEAKAGE AT THE STOPPERS IN BRANCHES, PROVISIONS SHALL BE MADE BY SUITABLE TIES, BRACES, AND WEDGES TO SECURE THE STOPPERS AGAINST LEAKAGE RESULTING FROM THE TEST PRESSURE.
- N. THE RATE OF LEAKAGE FROM THE SEWERS SHALL BE DETERMINED BY MEASURING THE AMOUNT OF WATER REQUIRED TO MAINTAIN THE LEVEL 2 FT. ABOVE THE TOP OF THE PIPE.
- O. LEAKAGE FROM THE SEWERS UNDER TEST SHALL NOT EXCEED THE REQUIREMENTS FOR LEAKAGE INTO SEWERS AS HEREIN BEFORE SPECIFIED.
- P. THE SEWERS SHALL BE TESTED BEFORE ANY CONNECTIONS ARE MADE TO BUILDINGS.
- Q. THE CONTRACTOR SHALL CONSTRUCT WEIRS OR OTHER MEANS OF MEASUREMENTS AS MAY BE REQUIRED.
- R. SUITABLE BULKHEADS SHALL BE INSTALLED, AS REQUIRED, TO PERMIT THE TEST OF THE SEWER.
- S. SHOULD THE SECTIONS UNDER TEST FAIL TO MEET THE REQUIREMENTS, THE CONTRACTOR SHALL DO ALL WORK OF LOCATING AND REPAIRING LEAKS AND RETESTING AS THE ENGINEER MAY REQUIRE WITHOUT ADDITIONAL COMPENSATION.
- T. IF, IN THE JUDGMENT OF THE ENGINEER, IT IS IMPRACTICABLE TO FOLLOW THE FOREGOING PROCEDURES FOR ANY REASON, ACCEPTABLE MODIFICATIONS IN THE PROCEDURES SHALL BE MADE AS REQUIRED, BUT IN ANY EVENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ULTIMATE TIGHTNESS OF THE LINE WITHIN THE ABOVE TEST REQUIREMENTS.

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER OR HIS REPRESENTATIVE.
2. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
3. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE OWNER OR HIS REPRESENTATIVE PRIOR TO CONTINUING WORK.
4. ALL SITEWORK SHALL CONFORM TO THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS, AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THE PROJECT.
5. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
6. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY CONTRACTOR OPERATIONS.
7. UNLESS DIRECTED OTHERWISE, ALL EXISTING TURF OR VEGETATED AREAS WITHIN THE PROPOSED LIMITS OF WORK FOR EXCAVATION, GRADING, OR IMPROVEMENT SHALL BE CLEARED AND GRUBBED. WITHIN THE CLEARING AND GRUBBING AREA, REMOVE ALL TREES, SHRUBS AND ROOTS UNLESS DESIGNATED OTHERWISE. CLEARING SHALL INCLUDE THE FELLING, CUTTING AND OFF-SITE DISPOSAL OF ALL TREES, SHRUBS, STUMPS AND VEGETATIVE DEBRIS PRODUCED THROUGH THE CLEARING OPERATIONS.
8. FILL DEPRESSIONS CAUSED BY TEST PITS AND CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
9. THE CONTRACTOR SHALL PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS OR EARTHWORK AREAS WHICH WOULD CAUSE FLOODING OF THE PROJECT SITE AND SURROUNDING AREA, OR SOFTENING OR LOOSENING OF THE SOIL AT EXCAVATION OR EARTHWORK SUB-GRADES.
10. THE CONTRACTOR SHALL PROVIDE, INSTALL, OPERATE, MAINTAIN AND REMOVE ADEQUATE AND SATISFACTORY DEWATERING SYSTEMS AND DRAINAGE OF EXCAVATIONS TO PERMIT CONSTRUCTION TO PROCEED "IN THE DRY". THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE ADEQUACY OF THE METHODS, MATERIALS AND EQUIPMENT EMPLOYED. THE CONTRACTOR SHALL BEAR THE FULL COST OF PROVIDING ALL NECESSARY DEWATERING.
11. THE CONTRACTOR SHALL PROHIBIT SEEPAGE, GROUNDWATER FLOW OR SURFACE INFILTRATION AND RUNOFF FROM UNDERMINING OR OTHERWISE DAMAGING ADJACENT STRUCTURES AND UTILITIES.
12. ANY WATER PUMPED FROM EXCAVATIONS WILL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO TEMPORARY SEDIMENT BASINS WITH CONTROLLED DISCHARGE. DEFER TO THE "SITE WORK & PREPARATION PLAN" AND "EROSION & SEDIMENTATION CONTROL PLAN" HEREIN.
13. PAVING, CONCRETE WORK AND BASE COURSE PREPARATION SHALL BE DONE ONLY AFTER EXCAVATION AND CONSTRUCTION WORK WHICH MIGHT INJURE THEM HAS BEEN COMPLETED. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED BEFORE ACCEPTANCE.
14. PAVEMENT OR BASE MATERIALS SHALL NOT BE PLACED ON A MUDDY OR FROZEN SUBGRADE.
15. ESTABLISHMENT OF GRADES, GRADE CONTROL, AND CONFORMANCE TO REQUIRED GRADE TOLERANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
16. PROTECT GRADED, FINISHED OR PAVED AREAS FROM DAMAGE AND KEEP THEM FREE OF TRASH AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS.
17. PAVEMENT EXCAVATED DURING UTILITY CONSTRUCTION, WHETHER ON THE SITE OR ADJACENT PROPERTIES, SHALL BE RESTORED AND MATCHED WITH EXACTLY THE SAME MATERIALS AND TOLERANCES AS PRIOR TO DISRUPTION, AT NO ADDITIONAL COST TO THE OWNER, OR ADJACENT PROPERTY OWNERS.
18. STONE USED FOR MACHINE PLACED RIP-RAP SHALL BE REASONABLY WELL GRADED, HARD, DURABLE, ANGULAR IN SHAPE, RESISTANT TO WEATHERING AND FREE FROM ORGANIC MATERIAL. ROUNDED STONES OR BOULDERS ARE NOT ACCEPTABLE. THE MINIMUM WEIGHT OF THE STONE SHALL BE 155 POUNDS PER CUBIC FOOT. STONE SHALL BE PLACED IN CONFORMANCE WITH THE LINES, GRADES AND THICKNESSES SHOWN ON THE DRAWINGS.
19. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
20. ALL RIP RAP STONE SHALL BE HAND CHINKED AND SHALL CONFORM TO MASSACHUSETTS HIGHWAY DEPARTMENT STANDARDS.

LEGEND:



Proposed Site Development Plans

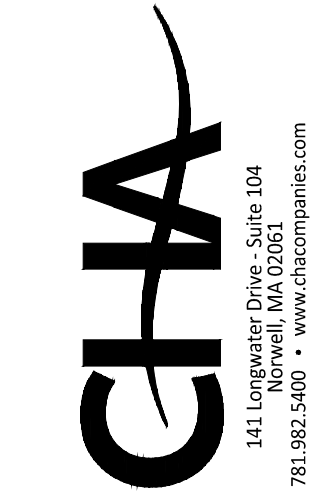
for

HERB CHAMBERS

JAGUAR / LAND ROVER OF SUBURY

83 BOSTON POST ROAD - ROUTE 20

SUBURY, MA 01776



APPLICANT



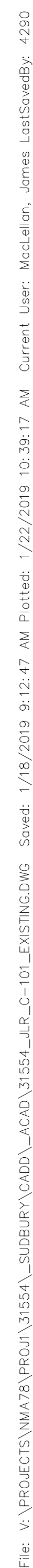
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GENERAL NOTES & LEGEND

Designed By: SA	Drawn By: JM / SA	Checked By: KK
Issue Date: 12/19/18	Project No: 31554	Scale: AS SHOWN

Drawing No.:

C-002



1. THE EXISTING CONDITIONS INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA CONSULTING, INC. DURING MARCH 2017.

2. ALL DEED AND MAP REFERENCES ARE TO MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS UNLESS OTHERWISE NOTED.

3. LOCUS OWNER OF RECORD:

HERB CHAMBERS 83 BOSTON POST RD., LLC
DEED BOOK 49646 PAGE 576
DEED BOOK 1339 PAGE 63
MAP 21 LOTS 2 & 4 (WAYLAND)
MAP K11 LOTS 15 & 99 (SUDBURY)

4. TOPOGRAPHY, CONTOURS AND BENCHMARKS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) BASED ON GPS OBSERVATIONS. TEMPORARY BENCHMARKS, REFERENCED TO THE DATUM ARE INDICATED ON THE SURVEY.

IN THE EVENT THAT BENCHMARKS (TBM'S), ESTABLISHED FOR THIS PROJECT AND PUBLISHED ON THIS SURVEY ARE DESTROYED, NOT RECOVERABLE OR A DISCREPANCY IS FOUND, THE USER SHOULD NOTIFY THIS FIRM IN WRITING PRIOR TO COMMENCING OR CONTINUING ANY WORK.

5. A PORTION OF THE PROJECT AREA FALLS WITHIN FLOOD ZONE AE (BASE FLOOD ELEVATION = 121 NAVD 88) AS SHOWN ON FLOOD INSURANCE RATE MAP FOR MIDDLESEX COUNTY, PANEL NUMBER 507 OF 656, MAP NUMBER 25017C0507F, REVISED DATE JULY 7, 2014.

6. LOCATION OF SUBSURFACE UTILITIES SHOWN HEREON ARE APPROXIMATE AND ADDITIONAL UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN. LOCATIONS ARE COMPILED FROM UTILITY PLANS OF RECORD AND DIG-SAFE FIELD MARKINGS. RIM AND INVERT INFORMATION HAS BEEN COMPILED AND FIELD VERIFIED WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE USED FOR CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, CONTACT DIG-SAFE (1-800-344-7233) TO FIELD VERIFY LOCATION OF ALL UTILITIES.

8. PLAN REFERENCES:

PLAN NUMBER 26232A,
PLAN AND COURT PLAN 29597A,
ESTATE HIGHWAY LAYOUT PLAN 644-1 DATED OCTOBER 3, 1901,
ESTATE HIGHWAY LAYOUT PLAN 840-3 DATED DECEMBER 3, 1901,
PLAN NUMBER 173 OF 1931,
PLAN NUMBER 961 OF 1949,
PLAN NUMBER 1159 OF 1957 (SHEET 15 OF 33) OF 1951,
PLAN NUMBER 991 OF 1955,
PLAN NUMBER 1681 OF 1955,
PLAN NUMBER 159 OF 1959,
PLAN NUMBER 63 OF 1960,
PLAN NUMBER 189 OF 1980,
PLAN NUMBER 799 OF 2000.

TOPOGRAPHIC PLAN OF LAND IN SUDBURY & WAYLAND MASSACHUSETTS PREPARED
FOR: FOREIGN MOTORS WEST, AS PREPARED BY SCHOFIELD BROTHERS OF NEW
ENGLAND, DATED SEPTEMBER 3, 2003 AND LAST REVISED DECEMBER 5, 2003.

AS-BUILT SITE PLAN IN WAYLAND, MASS PREPARED FOR R & S HATCH REALTY TRUST,
AS PREPARED BY DRAKE ASSOCIATES, INC. DATED MARCH 2005.

ALTA/ACSM LAND TITLE SURVEY IN SUDBURY & WAYLAND MASSACHUSETTS
PREPARED FOR: HINKLEY, ALLEN AND SNYDER, LLP, AS PREPARED BY SCHOFIELD
BROTHERS OF NEW ENGLAND, DATED MAY 10, 2006

CLA

141 Longwater Drive • Suite 104
Norwell, MA 02061
781.982.5400 • www.chacompanies.com

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HERB CHAMBERS
83 BOSTON POST RD, LLC



Proposed Site Development Plans

for
HERB CHAMBERS

JAGUAR / LAND ROVER of SUDBURY

83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776

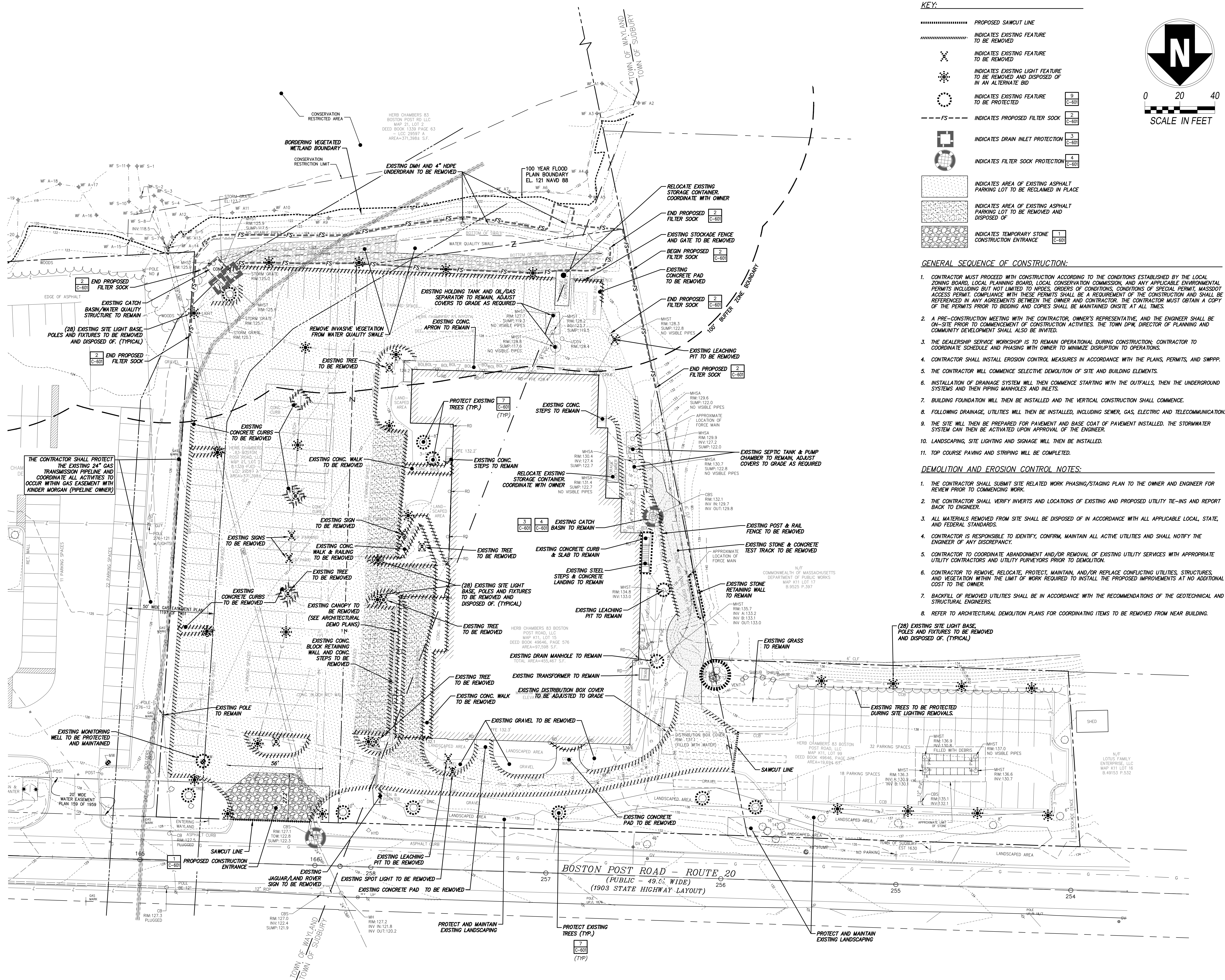
No.	Submital / Revision	Appl. By	Date
D	Final IDW / Council Comments	KK	01/18/19
C	Subsity Site Plan Approval	KK	12/18/18
B	Wetland Site Plan Approval	KK	12/18/18
A	ZBA Submital	KK	12/12/18

EXISTING CONDITIONS PLAN

Designed By: SA	Drawn By: JM / SA	Checked By: KK
Issue Date: 12/19/18	Project No: 31554	Scale: AS SHOWN

Drawing No.:

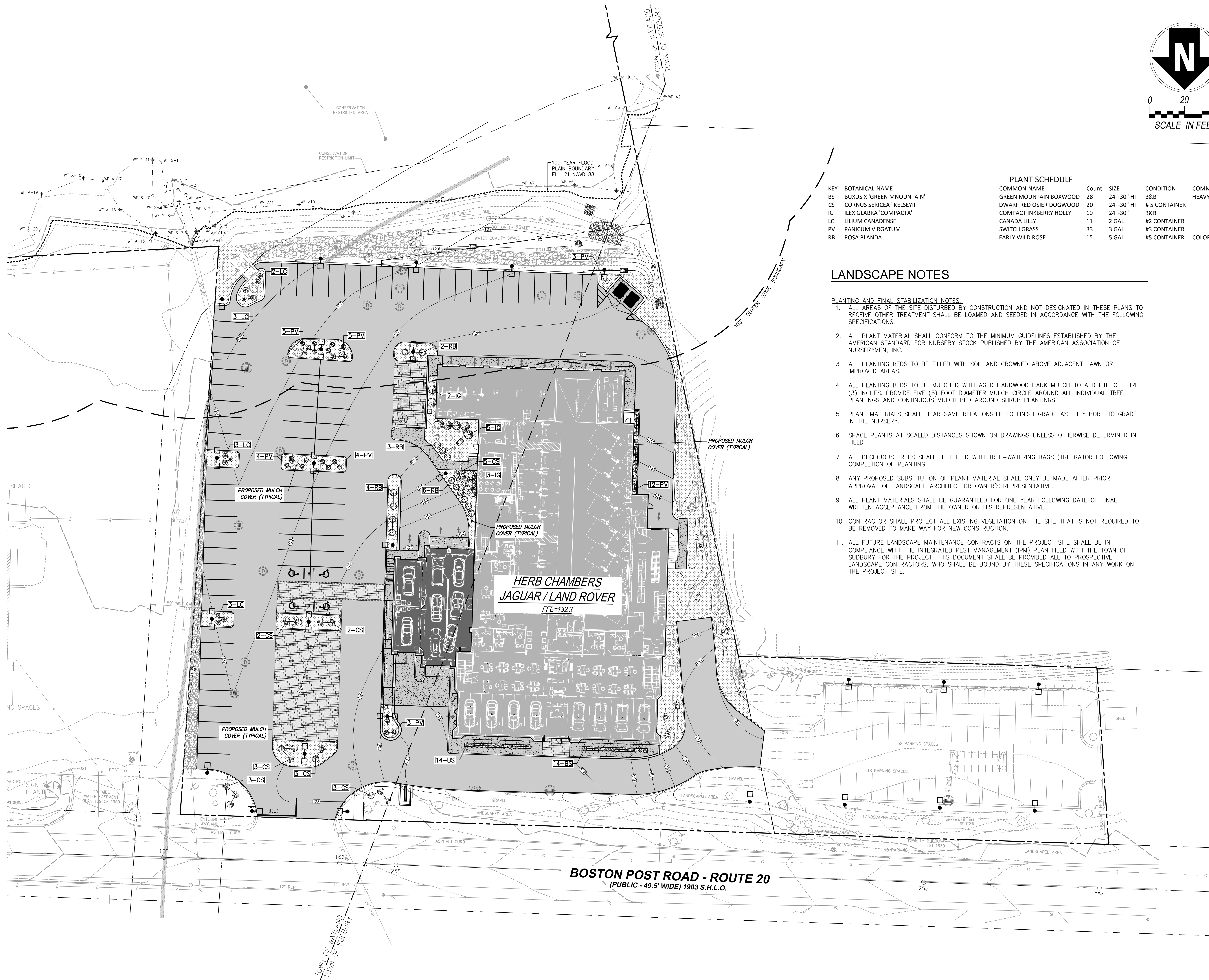
C-101



GENERAL SEQUENCE OF CONSTRUCTION:

Proposed Site Development Plans

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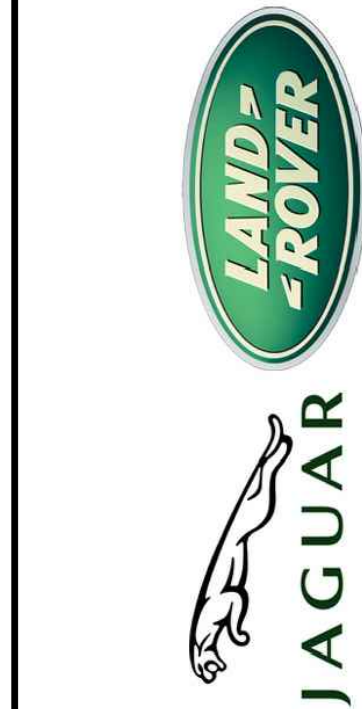
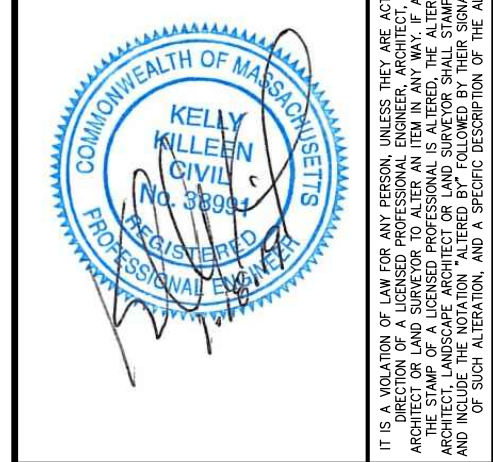


KEY	BOTANICAL-NAME	COMMON-NAME	Count	SIZE	CONDITION	COMMENTS
BS	BUXUS X 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	28	24"-30" HT	B&B	HEAVY
CS	CORNUS SERICEA 'KELSEYII'	DWARF RED OSIER DOGWOOD	20	24"-30" HT	# 5 CONTAINER	
IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY HOLLY	10	24"-30"	B&B	
LC	LILIUM CANADENSE	CANADA LILLY	11	2 GAL	#2 CONTAINER	
PV	PANICUM VIRGATUM	SWITCH GRASS	33	3 GAL	#3 CONTAINER	
RB	ROSA BLANDA	EARLY WILD ROSE	15	5 GAL	#5 CONTAINER	COLOR SHALL BE PINK

LANDSCAPE NOTES

- PLANTING AND FINAL STABILIZATION NOTES:
- ALL AREAS OF THE SITE DISTURBED BY CONSTRUCTION AND NOT DESIGNATED IN THESE PLANS TO RECEIVE OTHER TREATMENT SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS.
 - ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
 - ALL PLANTING BEDS TO BE FILLED WITH SOIL AND CROWNED ABOVE ADJACENT LAWN OR IMPROVED AREAS.
 - ALL PLANTING BEDS TO BE MULCHED WITH AGED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3) INCHES. PROVIDE FIVE (5) FOOT DIAMETER MULCH CIRCLE AROUND ALL INDIVIDUAL TREE PLANTINGS AND CONTINUOUS MULCH BED AROUND SHRUB PLANTINGS.
 - PLANT MATERIALS SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO GRADE IN THE NURSERY.
 - SPACE PLANTS AT SCALED DISTANCES SHOWN ON DRAWINGS UNLESS OTHERWISE DETERMINED IN FIELD.
 - ALL DECIDUOUS TREES SHALL BE FITTED WITH TREE-WATERING BAGS (TREEGATOR FOLLOWING COMPLETION OF PLANTING.
 - ANY PROPOSED SUBSTITUTION OF PLANT MATERIAL SHALL ONLY BE MADE AFTER PRIOR APPROVAL OF LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
 - ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL WRITTEN ACCEPTANCE FROM THE OWNER OR HIS REPRESENTATIVE.
 - CONTRACTOR SHALL PROTECT ALL EXISTING VEGETATION ON THE SITE THAT IS NOT REQUIRED TO BE REMOVED TO MAKE WAY FOR NEW CONSTRUCTION.
 - ALL FUTURE LANDSCAPE MAINTENANCE CONTRACTS ON THE PROJECT SITE SHALL BE IN COMPLIANCE WITH THE INTEGRATED PEST MANAGEMENT (IPM) PLAN FILED WITH THE TOWN OF SUDBURY FOR THE PROJECT. THIS DOCUMENT SHALL BE PROVIDED ALL TO PROSPECTIVE LANDSCAPE CONTRACTORS, WHO SHALL BE BOUND BY THESE SPECIFICATIONS IN ANY WORK ON THE PROJECT SITE.

Proposed Site Development Plans
for
HERB CHAMBERS
JAGUAR / LAND ROVER of SUDBURY
83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776



APPLICANT
HERB CHAMBERS
83 BOSTON POST RD, LLC



LANDSCAPE PLAN

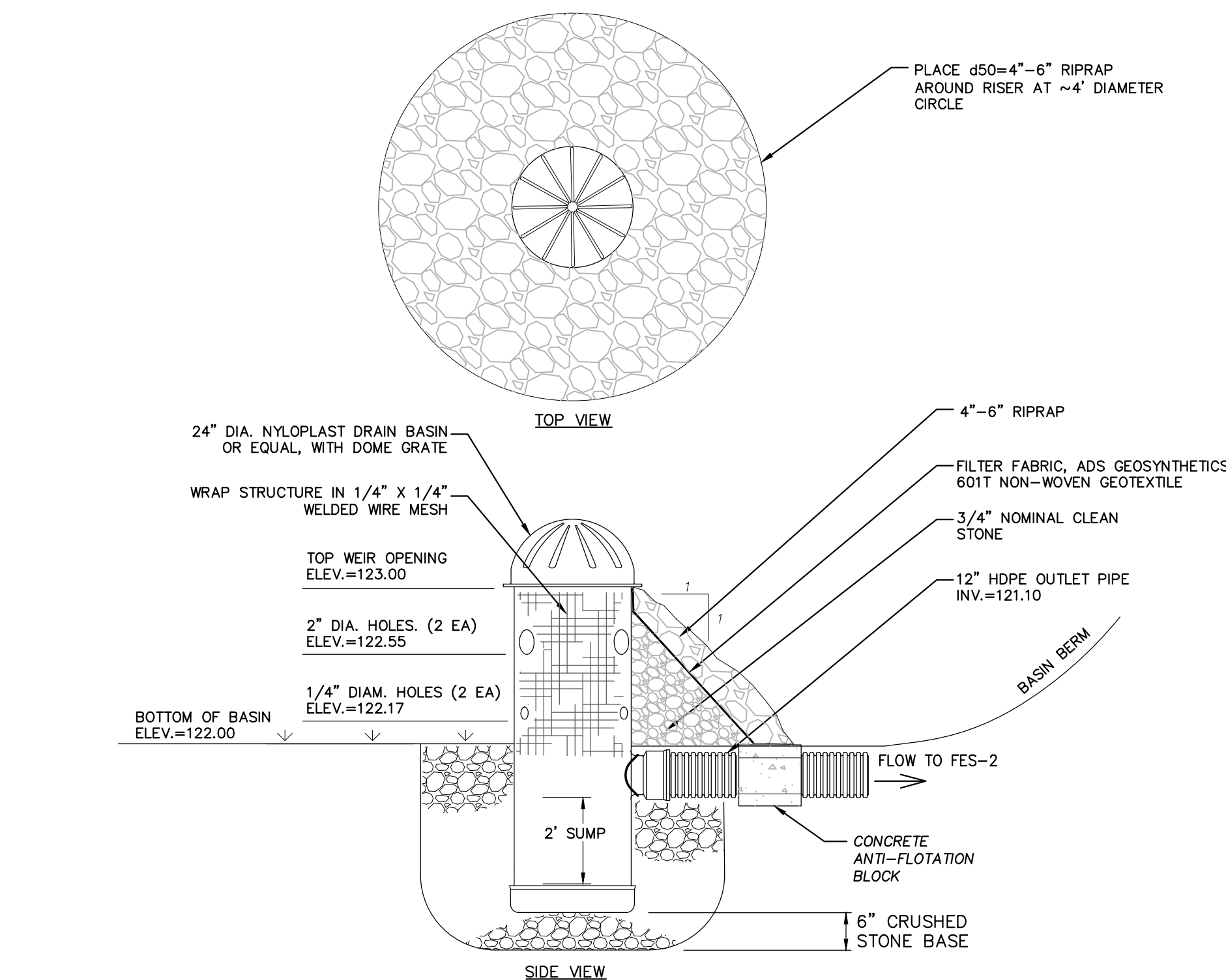
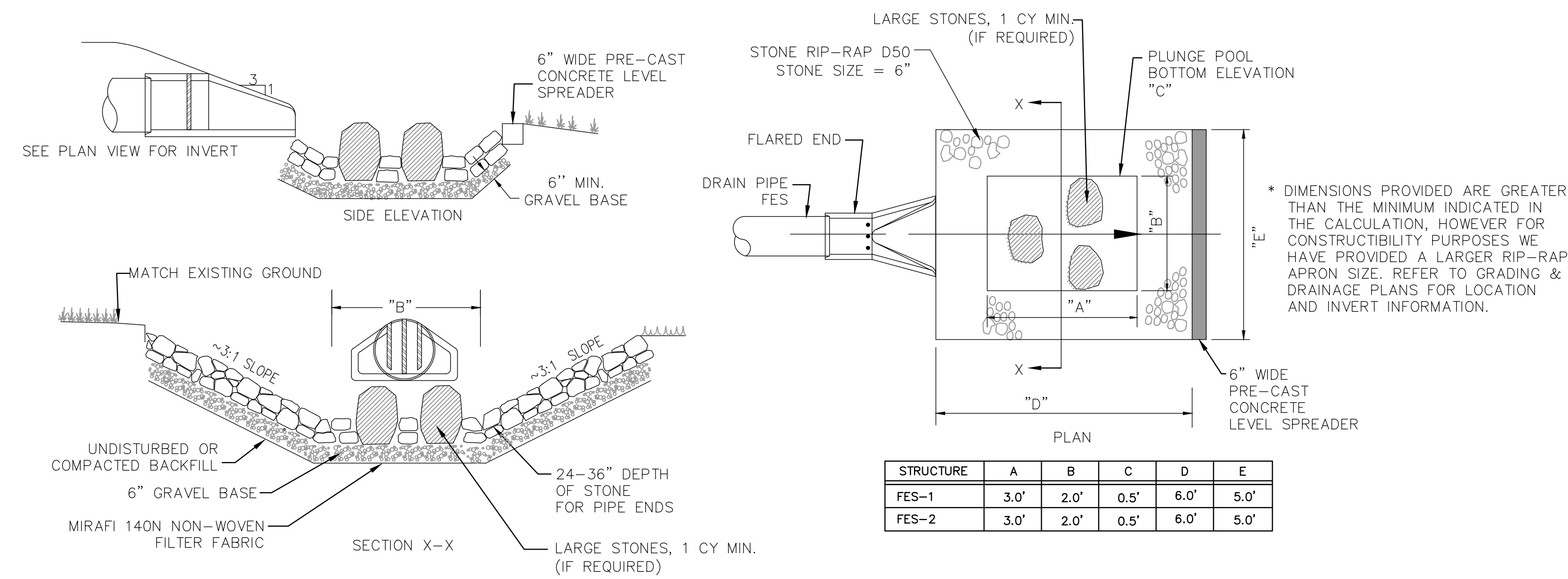
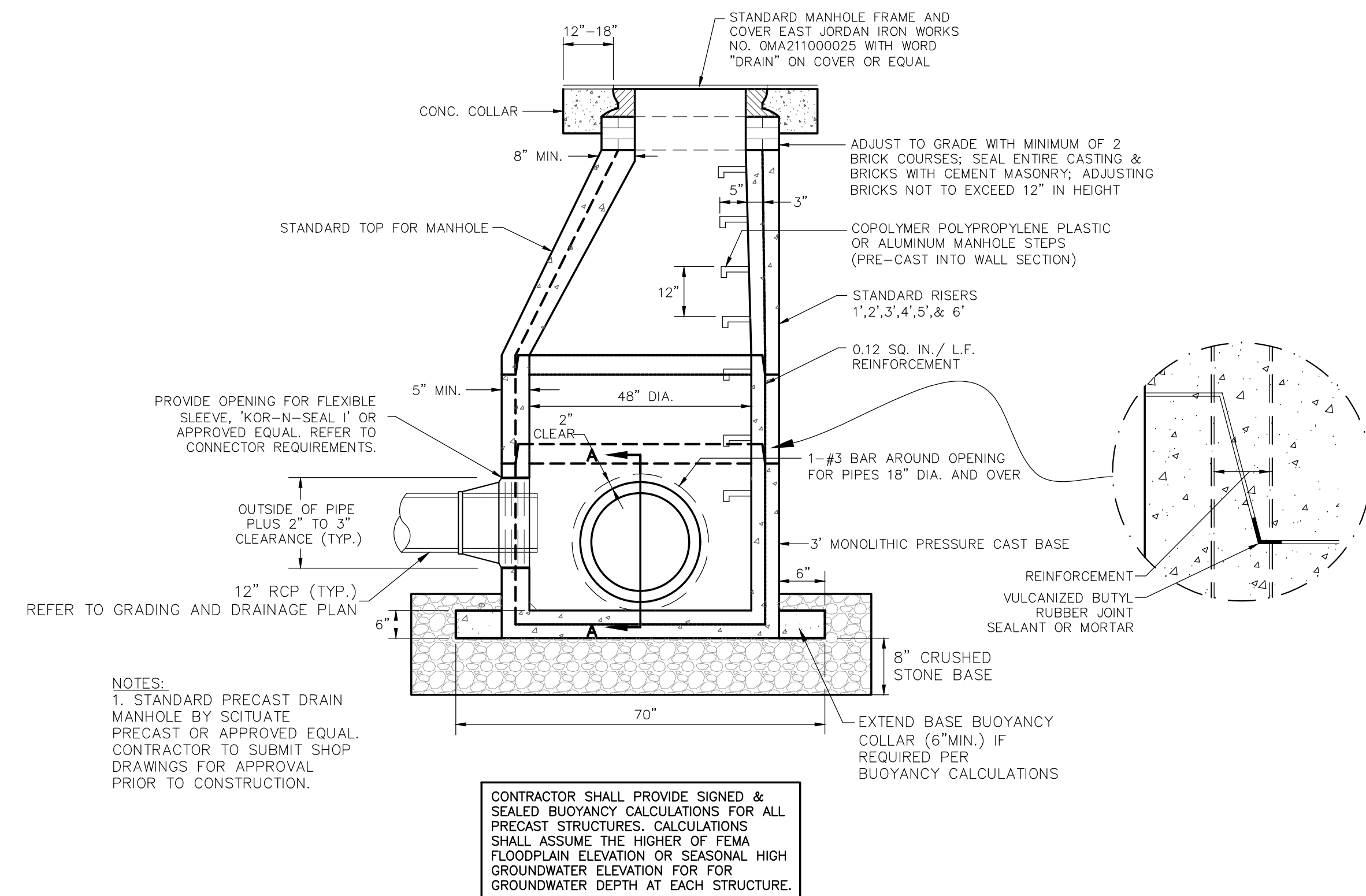
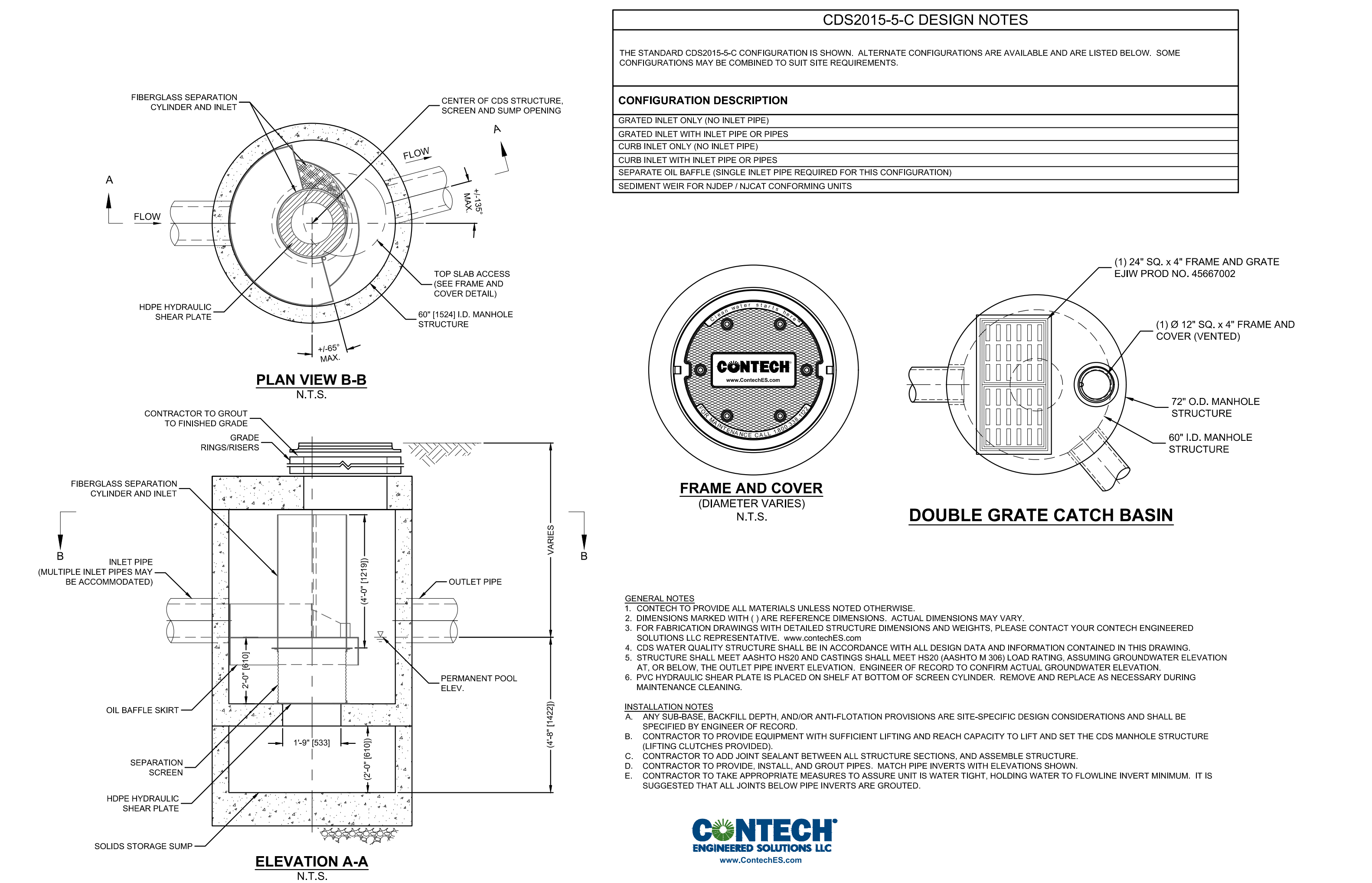
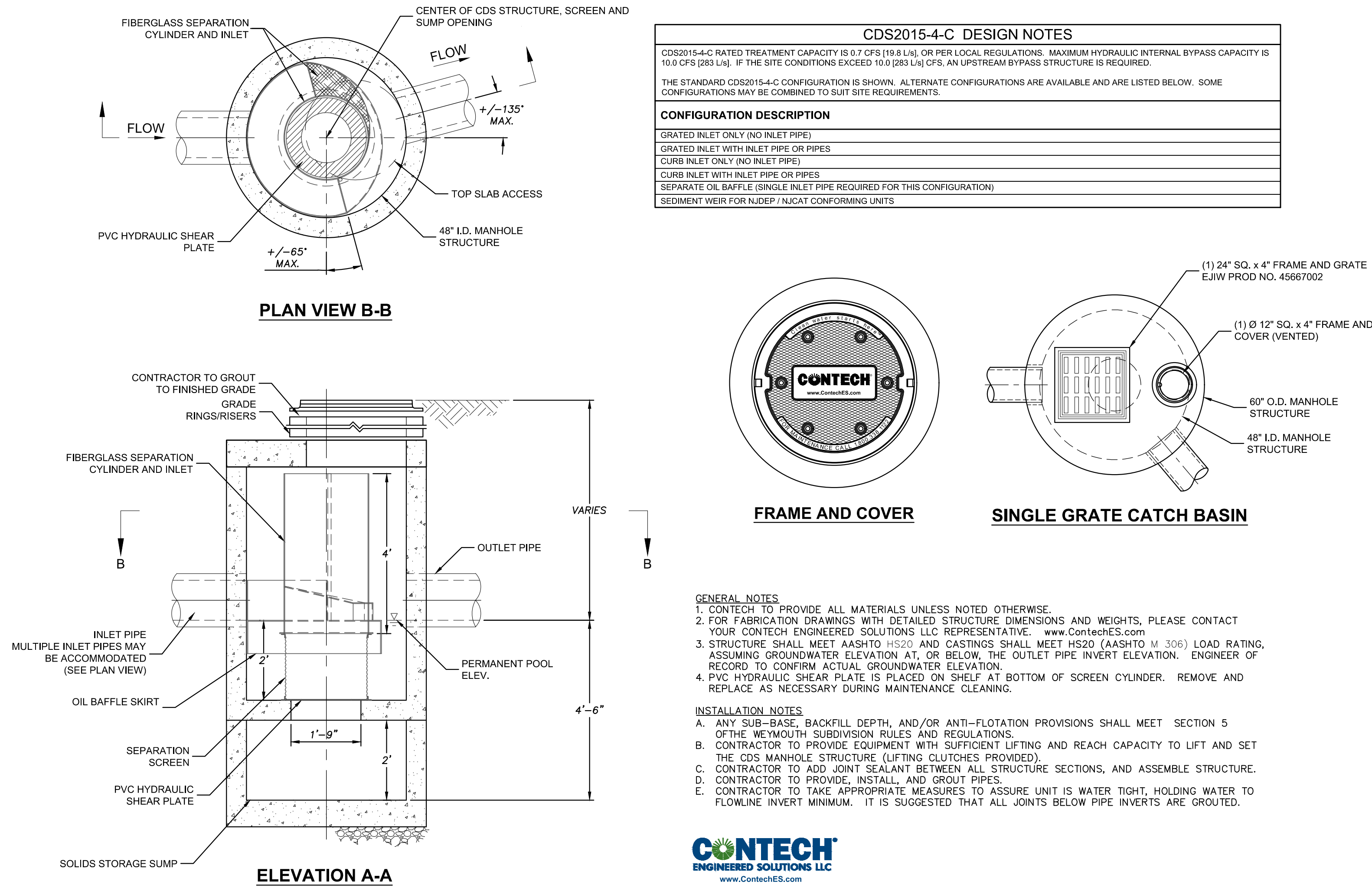
Designed By: SA
Issue Date: 12/19/18

Drawn By: JM / SA
Project No: 31554

Checked By: KK
Scale: AS SHOWN

Drawing No.:
C-501

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APPLICANT
HERB CHAMBERS
83 BOSTON POST RD, LLC

LAND-ROVER
JAGUAR

COMMONWEALTH OF MASSACHUSETTS
KELLY WILLEN
JANUARY 15, 2020

IT IS HEREBY CERTIFIED THAT THE ABOVE DRAWING IS A TRUE AND CORRECT COPY OF THE ORIGINAL DRAWING AS SUBMITTED TO THE BOARD OF REGISTRATION OF PROFESSIONAL ENGINEERS AND ARCHITECTS OF THE COMMONWEALTH OF MASSACHUSETTS FOR REVIEW AND APPROVAL.

PROPOSED SITE DEVELOPMENT PLANS
for
HERB CHAMBERS
JAGUAR / LAND ROVER OF SUDBURY
83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776

No.	Submitted	Revision	By	Date

No.	Submitted	Revision	By	Date

DETAILS-3

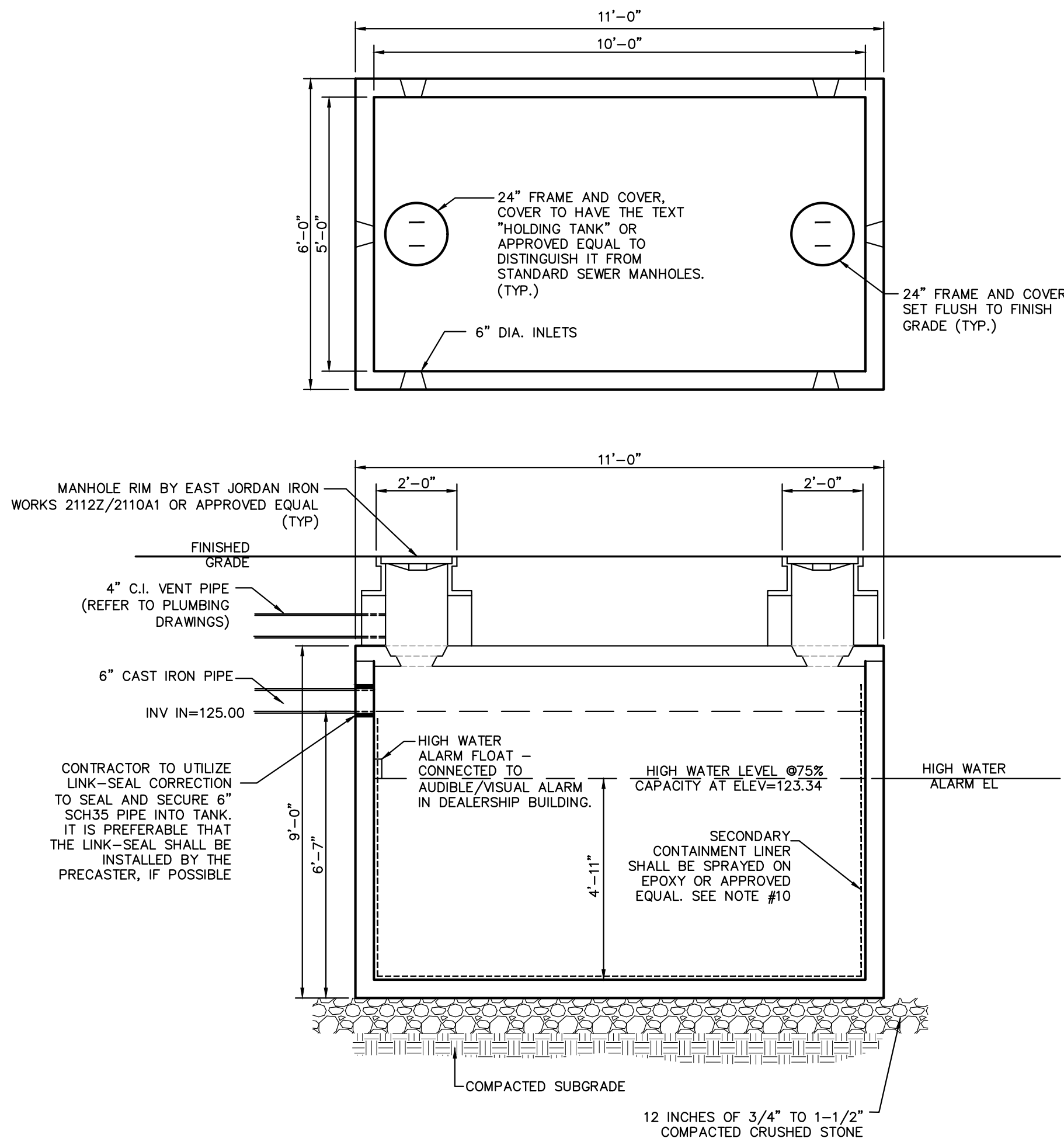
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Issue Date: 12/19/18

Drawn By: JM / SA
Project No: 31554

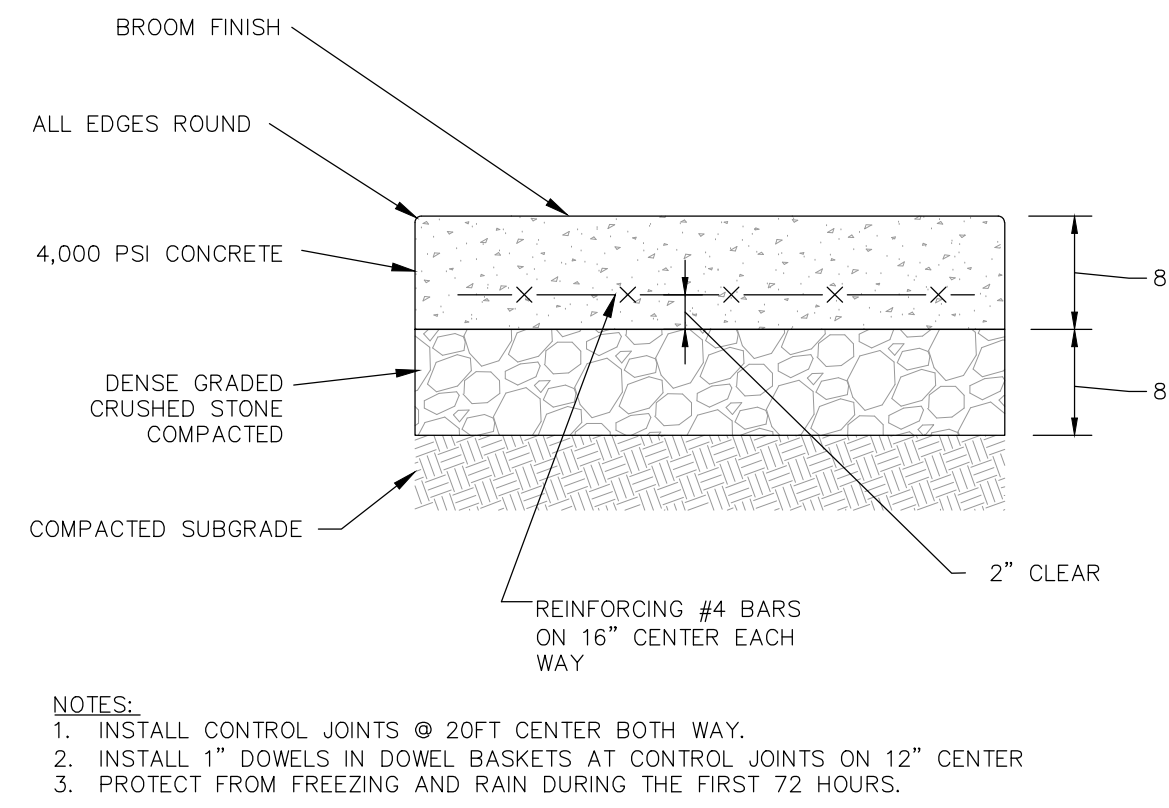
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C-603

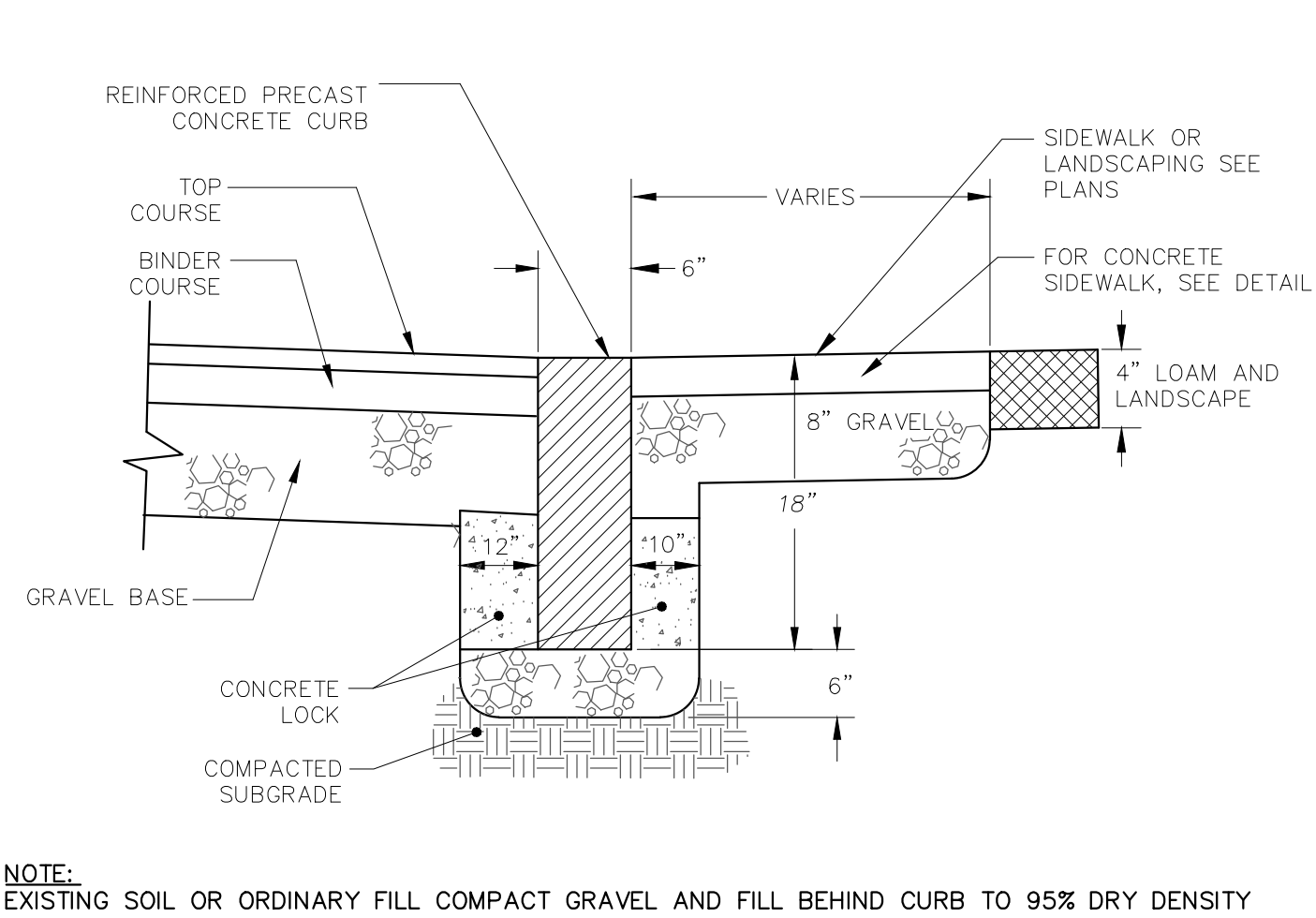
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1 2,500 GALLON PRECAST CONCRETE TIGHT TANK
SCALE: NO SCALE



4 REINFORCED CONCRETE SECTION
FOR DUMPSTER/COMPACTOR PAD
SCALE: NO SCALE



8 FLUSH CONCRETE / GRANITE CURB
SCALE: NO SCALE

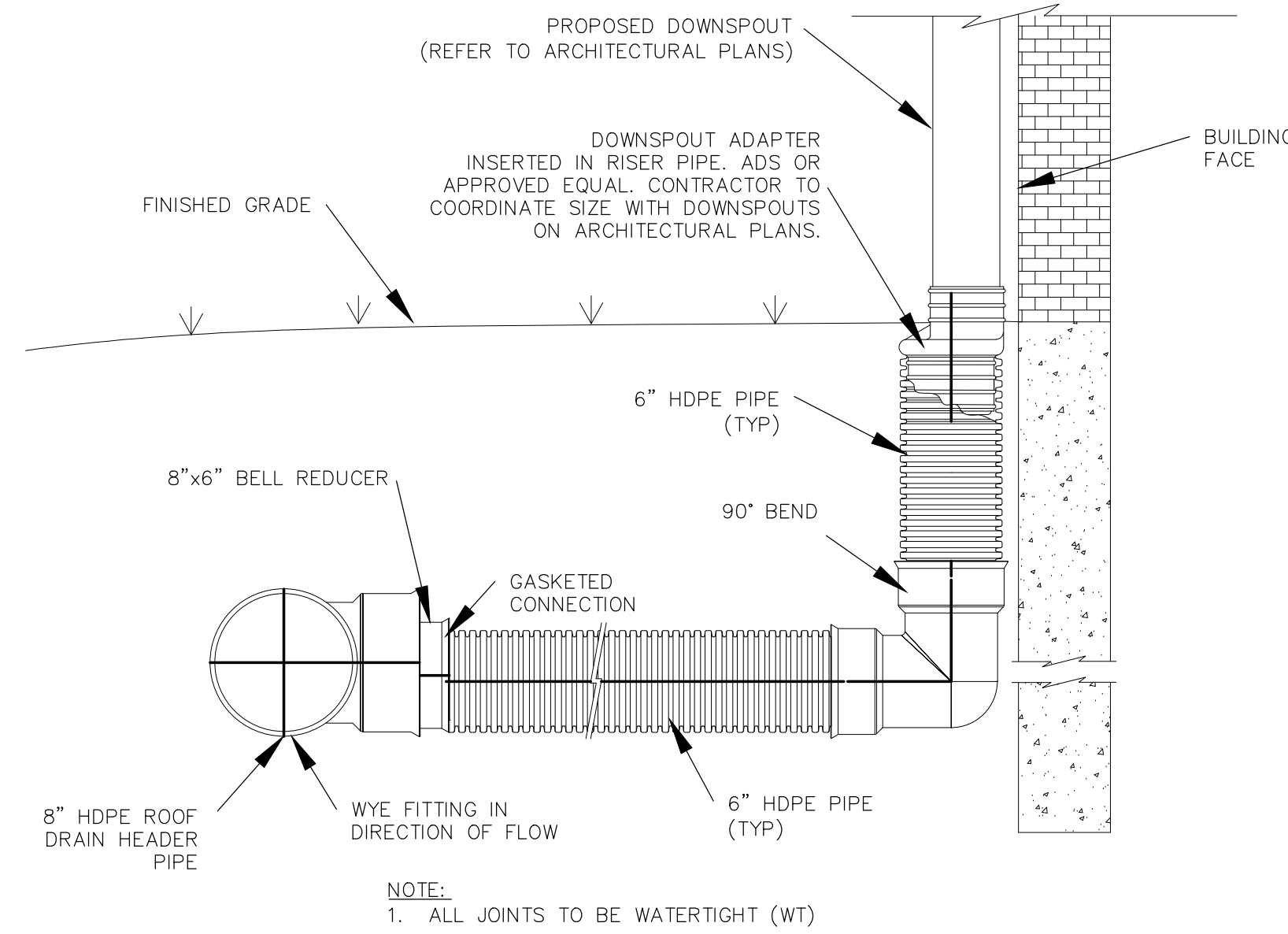
BUOYANCY CALCS:

BUOYANCY CALCULATIONS NEED TO ASSUME THE 2,500 GALLON PRECAST CONCRETE HOLDING TANK STRUCTURE TO BE FULLY SUBMERGED IN GROUNDWATER AND A SAFETY FACTOR OF 1.5.

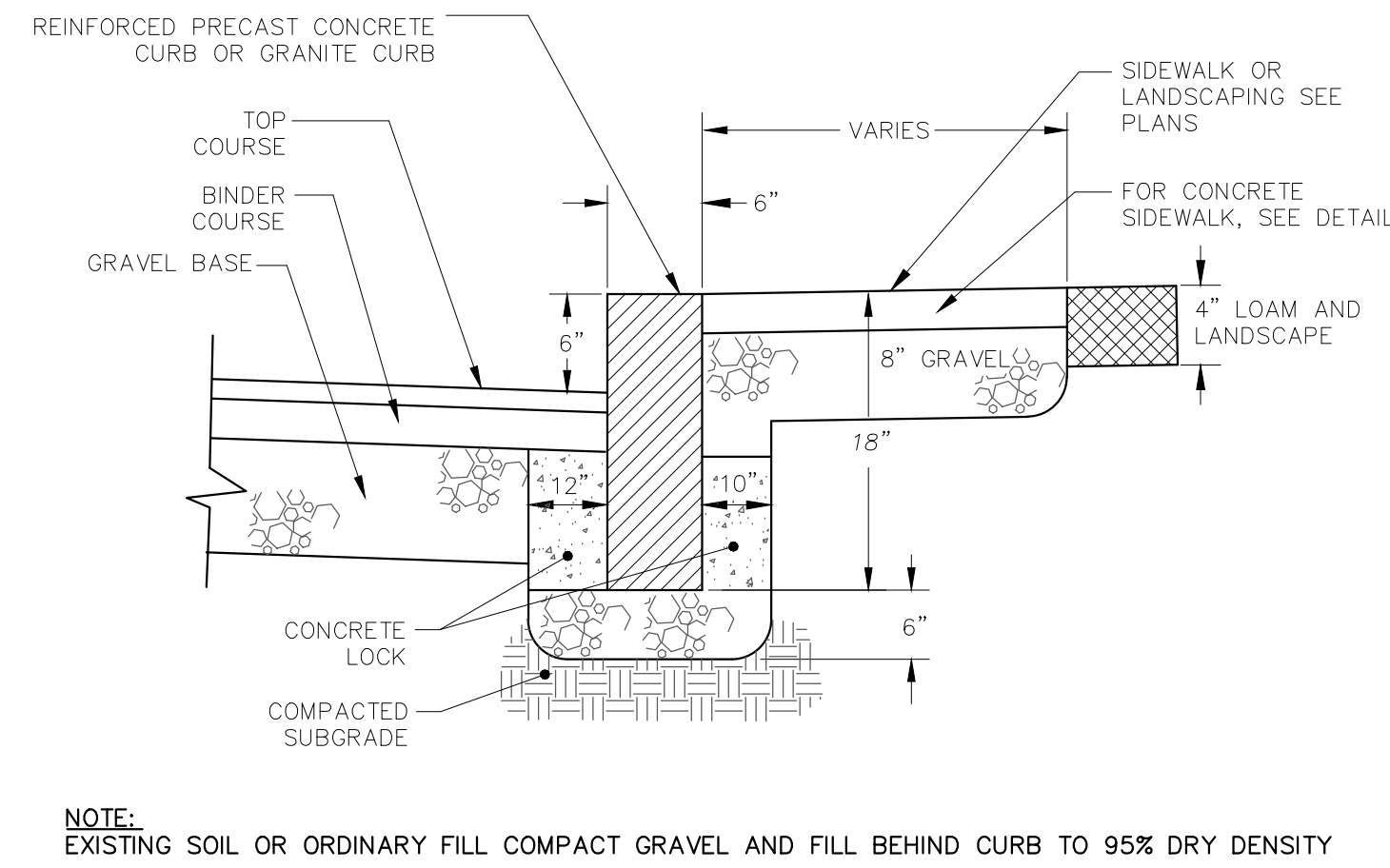
CONTRACTOR IS RESPONSIBLE FOR PROVIDING BUOYANCY CALCULATIONS BASED ON FIELD CONDITIONS AND TANKS UTILIZED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY NECESSARY BALLAST AT NO ADDITIONAL COST TO THE OWNER TO ENSURE THERE ARE NO BUOYANCY ISSUES. CONTRACTOR SHALL SUBMIT A SHOP DRAWING ACCORDINGLY FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

NOTES:

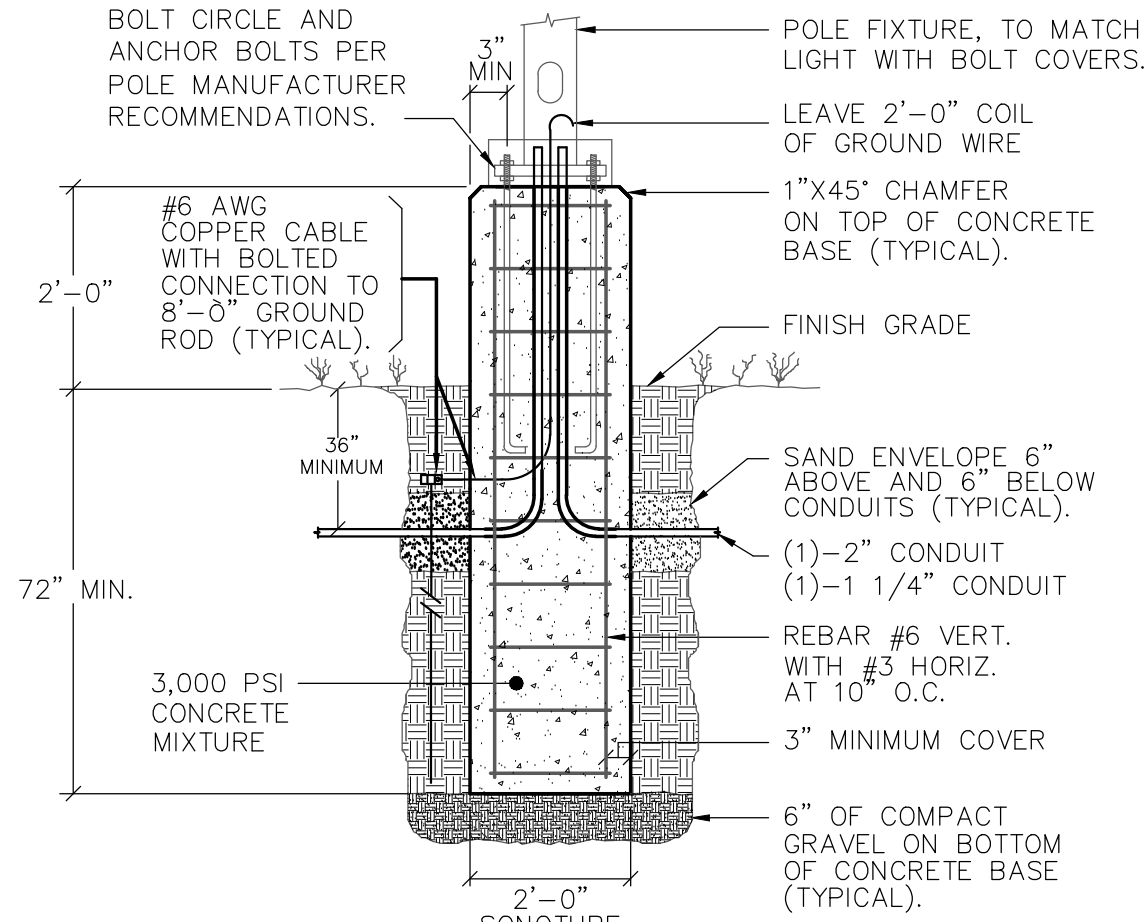
1. HOLDING TANK SHALL BE CONSTRUCTED OF PRECAST CONCRETE, OR OTHER DEP. APPROVED TANK MATERIALS. APPLICABLE FOR INDUSTRIAL WASTE HOLDING REQUIREMENTS.
2. CONCRETE 4,000 PSI MIN. AFTER 28 DAYS.
3. CEMENT, PORTLAND TYPE I OR III, ASTM C150-81.
4. ADMIXTURES, ASTM C233-82.
5. REINFORCEMENT ASTM A615.
6. TANK AND FRAMES/COVERS SHALL BE H20 LOADING RATED.
7. JOINTS SEALED WITH BUTYL RUBBER.
8. THE TANK SHALL HAVE A FLOAT SET AT 75% OF TANK CAPACITY (BELOW INVERT CAPACITY). THE FLOAT WILL BE CONNECTED TO A CONTROL PANEL TO BE MOUNTED INSIDE THE BUILDING THAT WILL HAVE AN AUDIBLE AND VISUAL ALARM TO NOTIFY THE FACILITY THAT THE TANK IS TO BE PUMPED.
9. OWNER SHALL ENTER INTO A PUMPING CONTRACT WITH A LOCAL HAULING COMPANY AND WILL NEED TO PROVIDE EVIDENCE OF THAT CONTRACT TO THE ENGINEER TO PROVIDE WITH THE TIGHT-TANK CERTIFICATION SUBMISSION TO DEP.
10. CONTRACTOR SHALL FURNISH AND INSTALL A SECONDARY LINER SYSTEM INSIDE THE PRECAST CONCRETE TANKS. LINER SHALL BE A SPRAY-ON EPOXY RESIN SYSTEM THAT COMPLIES WITH THE MASSDEP INDUSTRIAL WASTE HOLDING TANK REGULATIONS. SUBMIT SHOP DRAWING FOR ENGINEER REVIEW AND APPROVAL.



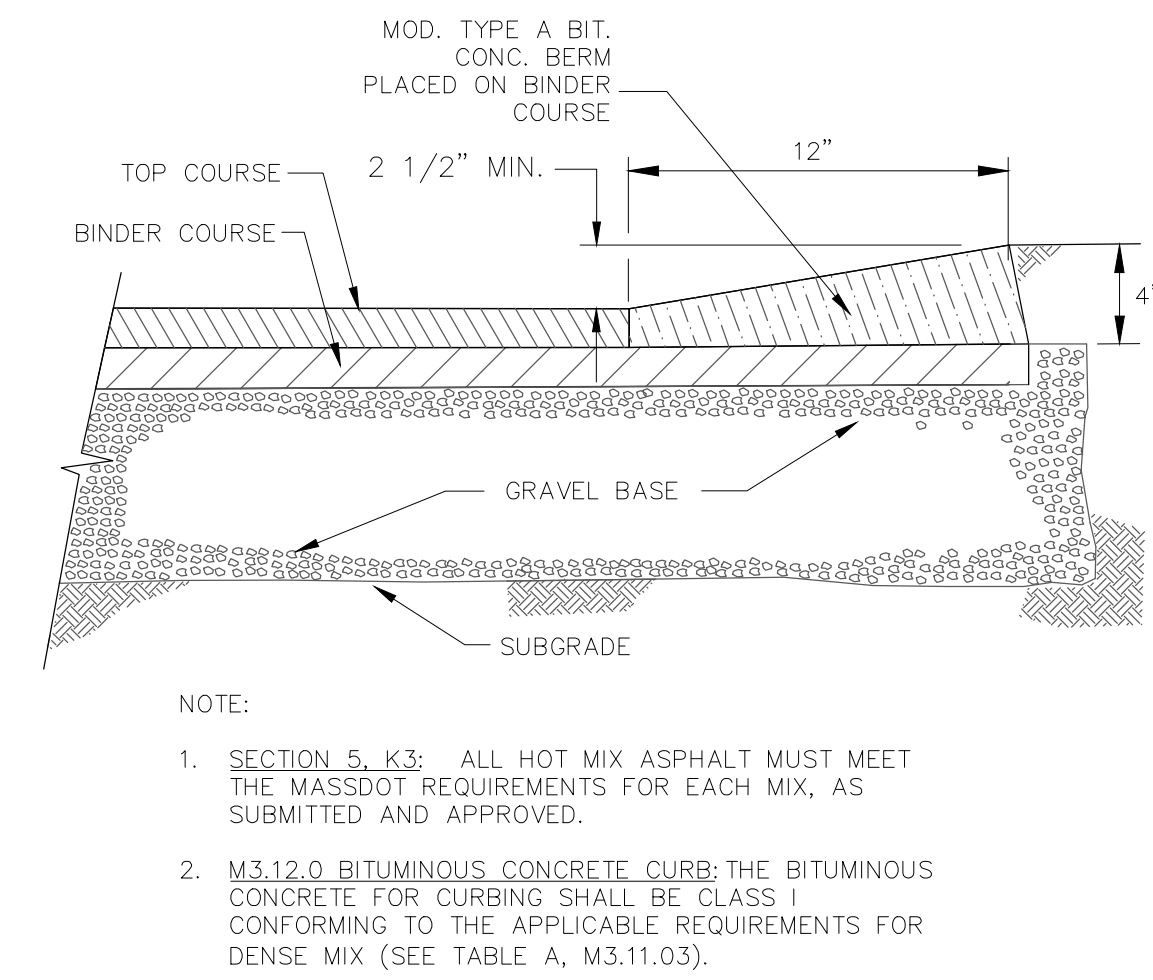
2 ROOF DRAIN CONNECTION
SCALE: NO SCALE



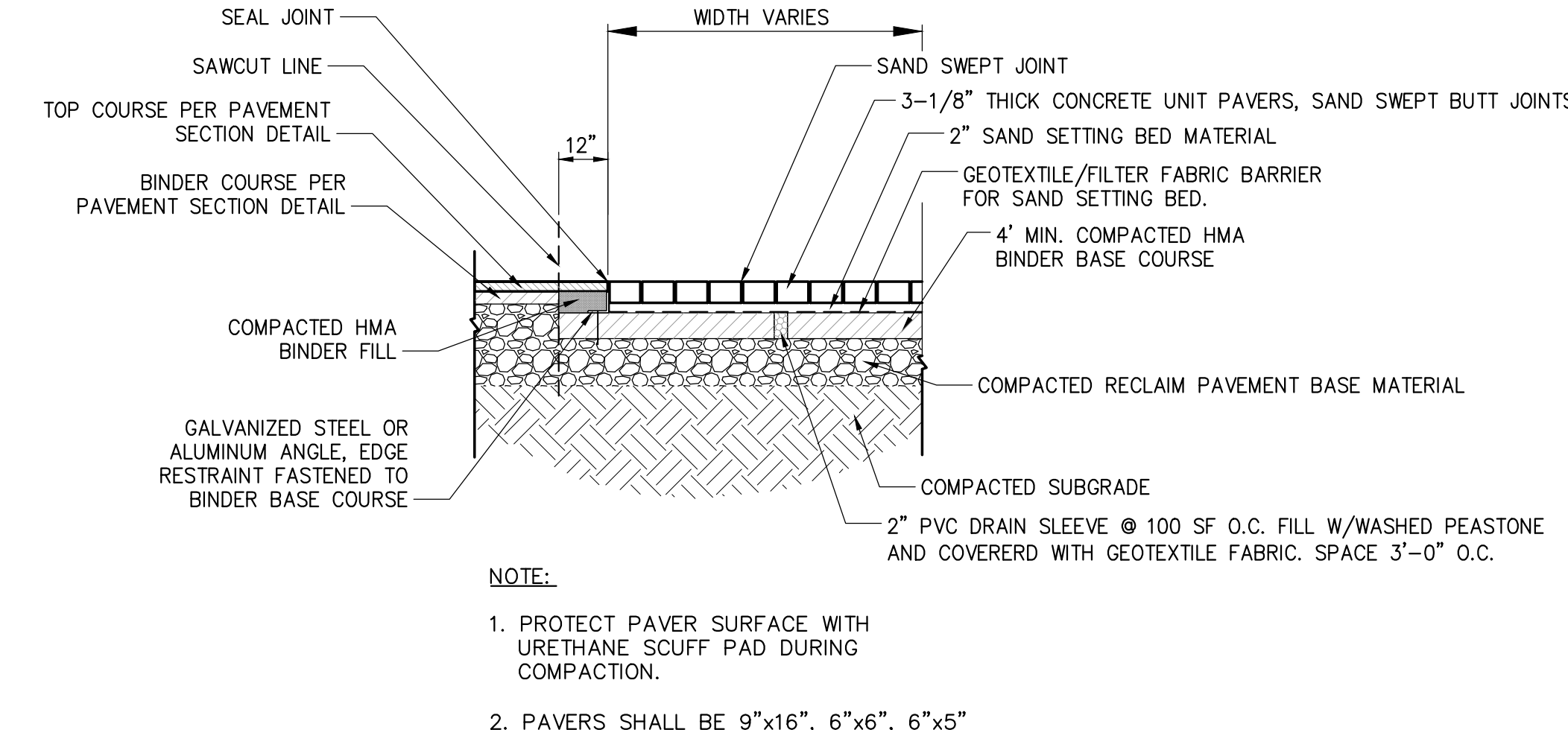
6 VERTICAL CONCRETE / GRANITE CURB
SCALE: NO SCALE



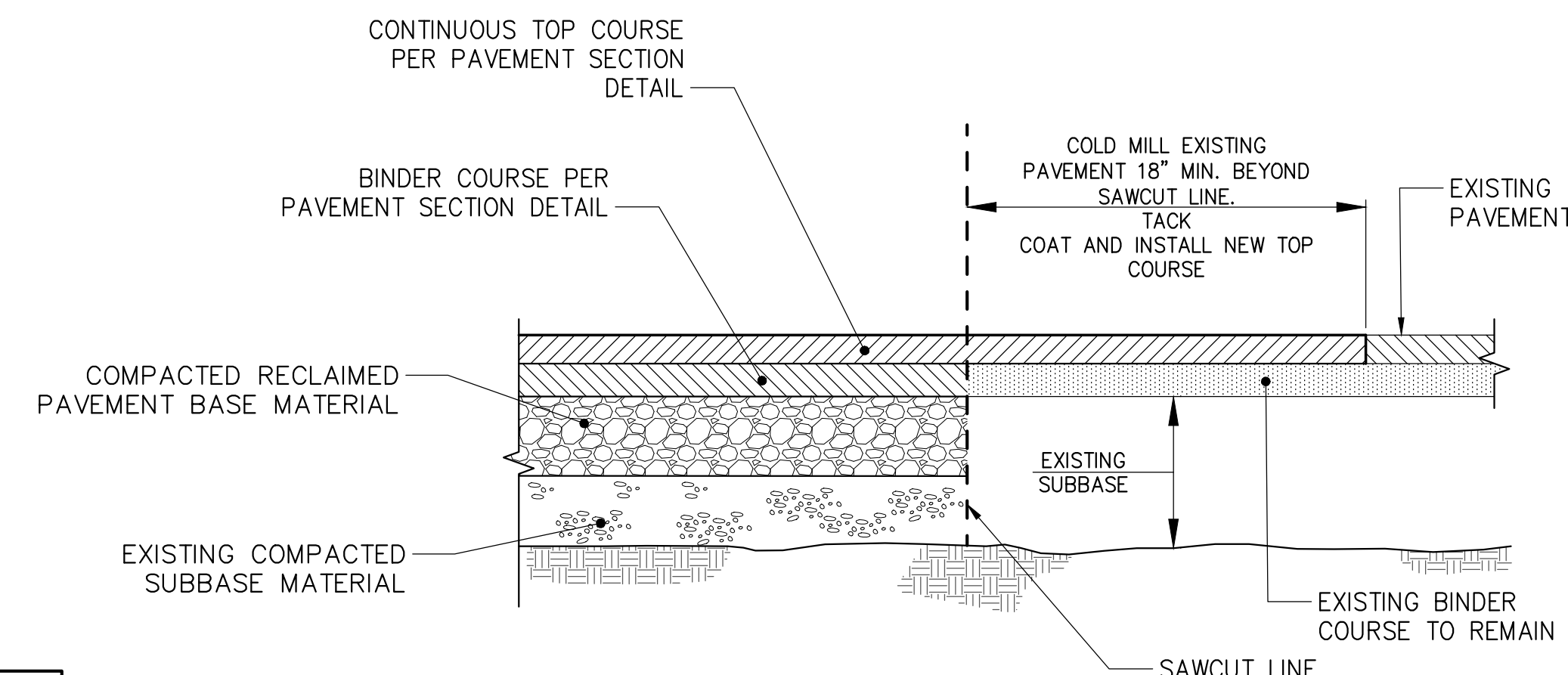
3 PRE-CAST POLE BASE DETAIL
SCALE: NO SCALE



7 CAPE COD BERM (12")
SCALE: NO SCALE



9 CONCRETE UNIT PAVERS SECTION
SCALE: NO SCALE



10 PAVEMENT TRANSITION DETAIL
SCALE: NO SCALE

No.	Submitted	Revision	Appr. By	Date
D	Free (DWI) Consent/Comment	KK	SFA	01/18/19
C	Suburb Plan Approval	KK	SFA	12/18/18
B	Warrant for Plan Approval	KK	SFA	12/18/18
A	228	Revised	KK	12/18/18

DETAILS-4

Designed By:	Drawn By:	Checked By:
SA	JM / SA	KK
Issue Date:	Project No:	Scale:
12/19/18	31554	AS SHOWN

Diagram illustrating the proposed curb and gutter cross-section. The curb is 6" high with a top width of 6". The gutter is 3" wide and 3" deep. The curb face is 7 1/2" wide. The curb is constructed with an asphalt binder course and an asphalt surface course, separated by an adhesive layer. The backfill is labeled "BACKFILL IF APPLICABLE SEE PLANS". The limits of proposed pavement are indicated by dashed lines.

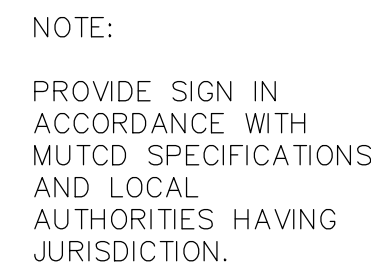
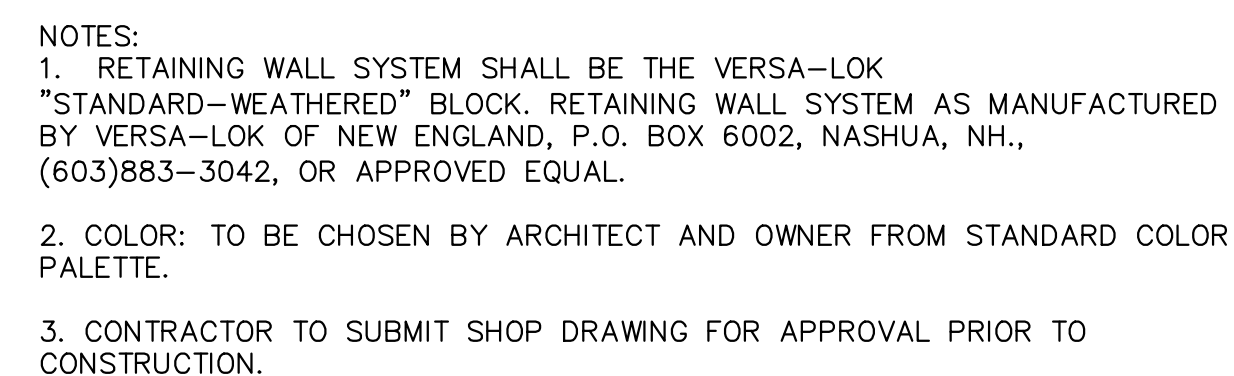
SCALE: NO SCALE



1. PROVIDE CONSTRUCTION CONTROL JOINT EVERY 5' OR AS NOTED ON SCORING PLAN.
2. PROVIDE EXPANSION JOINT EVERY 25' OF 400 SQUARE FEET OR AS NOTED ON SCORING PLAN.
3. PITCH WALK TO DOWN GRADE SIDE AT 2% MAX.
4. REFER TO ARCHITECTURAL PLANS FOR JOINT PATTERN AND FINISH SURFACE IN ENTRANCE AREA WALK.

SCALE: NO SCALE

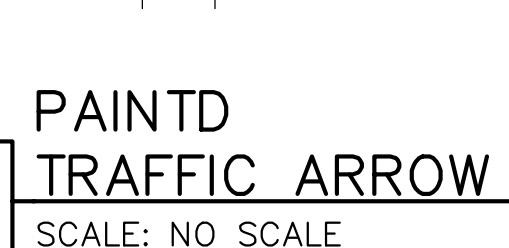
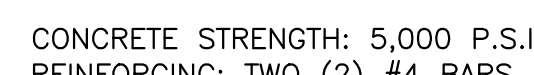




SCALE: NO SCALE



SCALE: NO SCALE



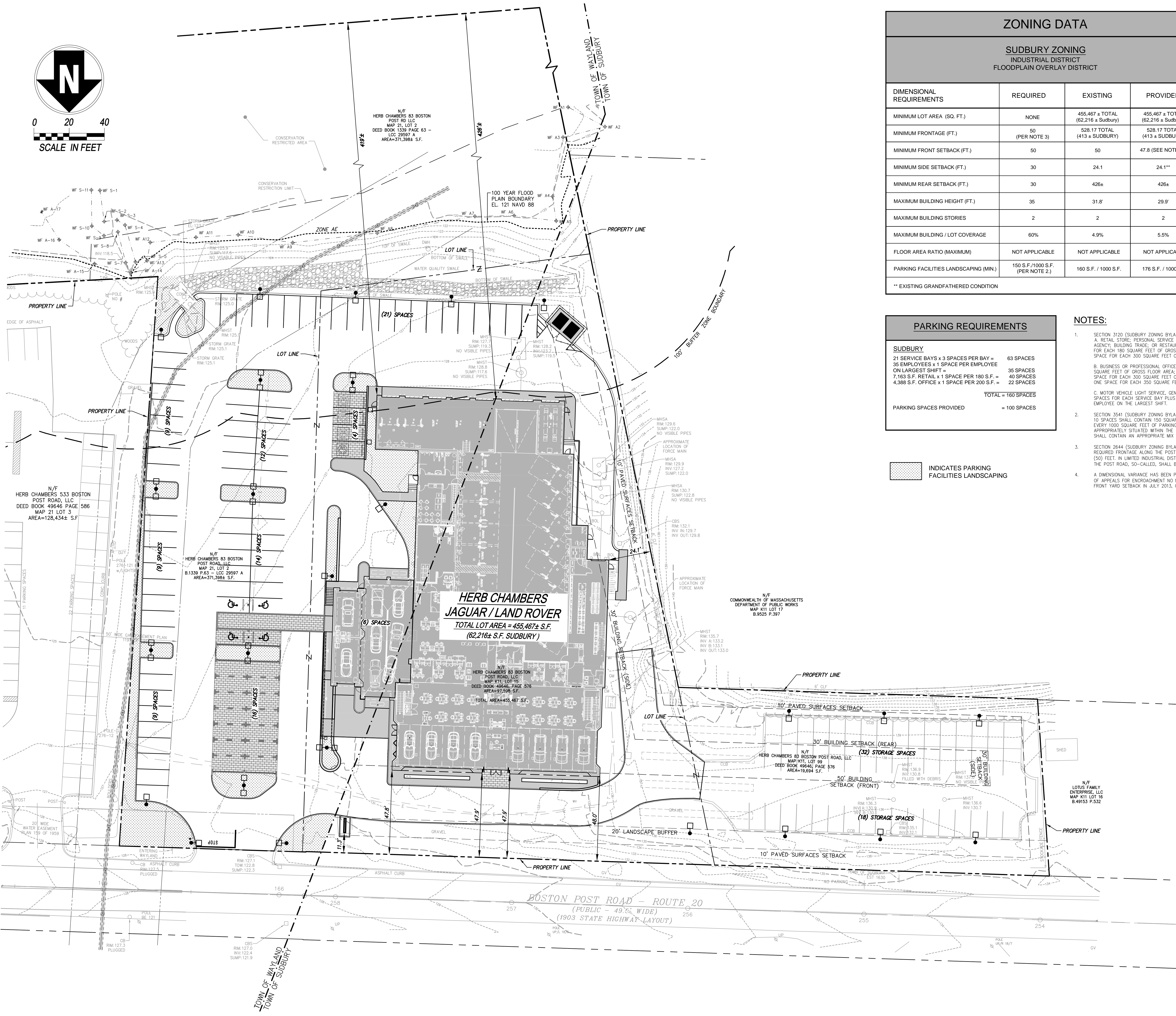
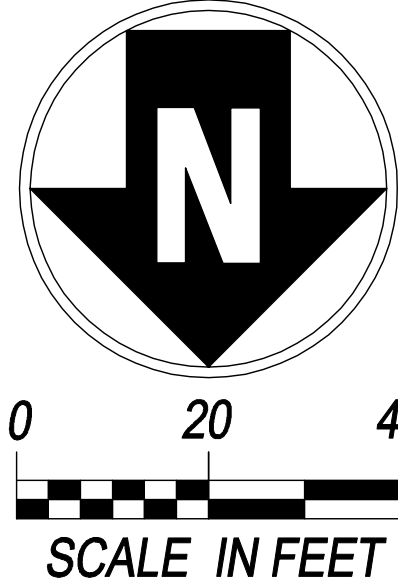
8	PARKING S
	SCALE: NO SCALE



STOP BAR
SCALE: NO SCALE



SCALE: NO SCALE



ZONING DATA

SUDBURY ZONING INDUSTRIAL DISTRICT FLOODPLAIN OVERLAY DISTRICT

DIMENSIONAL REQUIREMENTS	REQUIRED	EXISTING	PROVIDED
MINIMUM LOT AREA (SQ. FT.)	NONE	455,467 ± TOTAL (62,216 ± Sudbury)	455,467 ± TOTAL (62,216 ± Sudbury)
MINIMUM FRONTAGE (FT.)	50 (PER NOTE 3)	528.17 TOTAL (413 ± SUDBURY)	528.17 TOTAL (413 ± SUDBURY)
MINIMUM FRONT SETBACK (FT.)	50	50	47.8 (SEE NOTE #4)
MINIMUM SIDE SETBACK (FT.)	30	24.1	24.1**
MINIMUM REAR SETBACK (FT.)	30	426±	426±
MAXIMUM BUILDING HEIGHT (FT.)	35	31.8'	29.9'
MAXIMUM BUILDING STORIES	2	2	2
MAXIMUM BUILDING / LOT COVERAGE	60%	4.9%	5.5%
FLOOR AREA RATIO (MAXIMUM)	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
PARKING FACILITIES LANDSCAPING (MIN.)	150 S.F./1000 S.F. (PER NOTE 2.)	160 S.F. / 1000 S.F.	176 S.F. / 1000 S.F.

** EXISTING GRANDFATHERED CONDITION

PARKING REQUIREMENTS

SUDBURY	
21 SERVICE BAYS x 3 SPACES PER BAY =	63 SPACES
35 EMPLOYEES x 1 SPACE PER EMPLOYEE	
ON LARGEST SHIFT =	35 SPACES
7,163 S.F. RETAIL x 1 SPACE PER 180 S.F. =	40 SPACES
4,388 S.F. OFFICE x 1 SPACE PER 200 S.F. =	22 SPACES
TOTAL =	160 SPACES
PARKING SPACES PROVIDED	= 100 SPACES

INDICATES PARKING
FACILITIES LANDSCAPING

NOTES:

- SECTION 3120 (SUDBURY ZONING BYLAWS)
A. RETAIL STORE; PERSONAL SERVICE ESTABLISHMENT; BANK OR FINANCIAL AGENCY; BUILDING TRADE; OR RESTAURANT WITH NO SEATING - ONE SPACE FOR EACH 180 SQUARE FEET OF GROSS FLOOR AREA; EXCEPT IN VBD, ONE SPACE FOR EACH 300 SQUARE FEET OF GROSS FLOOR AREA.
B. BUSINESS OR PROFESSIONAL OFFICE - ONE SPACE FOR EACH 200 SQUARE FEET OF GROSS FLOOR AREA; EXCEPT IN RESEARCH DISTRICT, ONE SPACE FOR EACH 300 SQUARE FEET OF GROSS FLOOR AREA, AND IN VBD, ONE SPACE FOR EACH 350 SQUARE FEET OF GROSS FLOOR AREA.
C. MOTOR VEHICLE LIGHT SERVICE, GENERAL AND BODY REPAIR, THREE SPACES FOR EACH SERVICE BAY PLUS ONE SPACE FOR EACH EMPLOYEE ON THE LARGEST SHIFT.
- SECTION 3541 (SUDBURY ZONING BYLAWS) PARKING AREAS WITH MORE THAN 10 SPACES SHALL CONTAIN 150 SQUARE FEET OF PLANTED AREAS FOR EVERY 1000 SQUARE FEET OF PARKING PROPOSED, INCLUDING AISLES, APPROPRIATELY SITUATED WITHIN THE PARKING AREA. SUCH PLANTED AREA SHALL CONTAIN AN APPROPRIATE MIX OF TREES AND OTHER PLANTS.
- SECTION 2644 (SUDBURY ZONING BYLAWS) IN INDUSTRIAL DISTRICTS, THE REQUIRED FRONTAGE ALONG THE POST ROAD, SO-CALLED, SHALL BE FIFTY (50) FEET. IN LIMITED INDUSTRIAL DISTRICTS, THE REQUIRED FRONTAGE ALONG THE POST ROAD, SO-CALLED, SHALL BE ONE HUNDRED (100) FEET.
- A DIMENSIONAL VARIANCE HAS BEEN PREVIOUSLY GRANTED BY THE BOARD OF APPEALS FOR ENCROACHMENT NO MORE THAN FIVE (5) FEET INTO THE FRONT YARD SETBACK IN JULY 2013, CASE NUMBER 1340.

Proposed Site Development Plans

for
HERB CHAMBERS

JAGUAR / LAND ROVER of SUDBURY

83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776

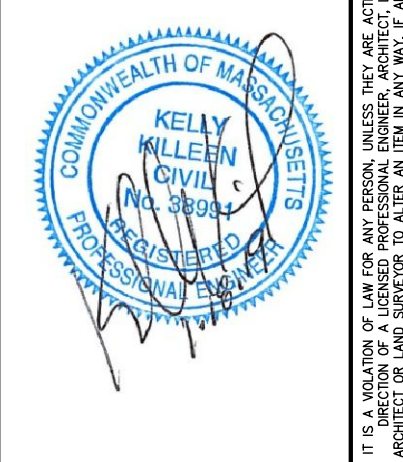
No.	Submitted / Revision	Appr. By	Date
D	Final DPM / Comm. Comment	KK	01/18/19
C	Sudbury Site Plan Approval	KK	12/18/18
B	Wayland Site Plan Approval	KK	12/18/18
A	20% Submittal	KK	12/12/18

ZONING PLAN - SUDBURY, MA

Designed By: SA	Drawn By: JM / SA	Checked By: KK
Issue Date: 12/19/18	Project No: 31554	Scale: AS SHOWN

Drawing No.:

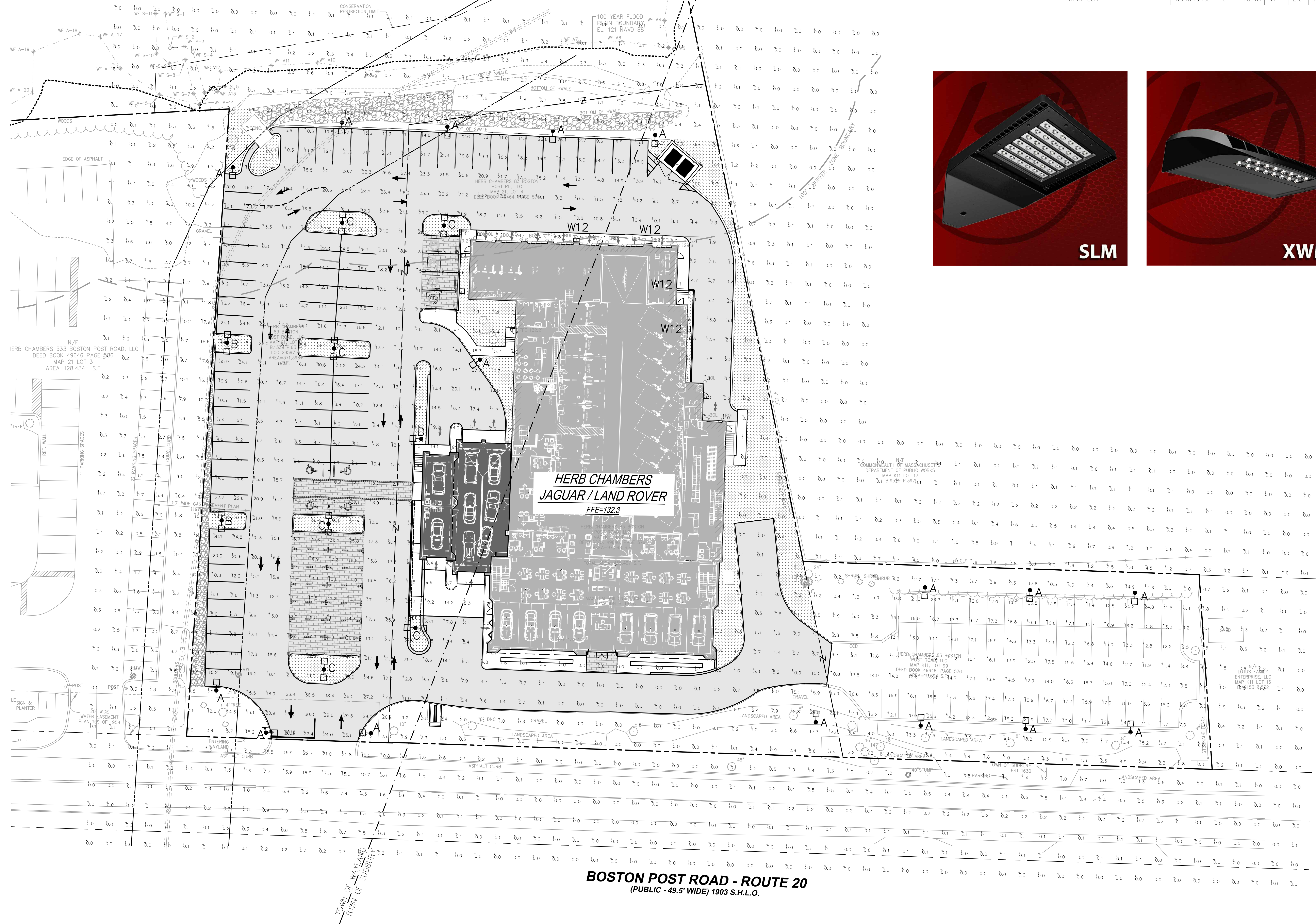
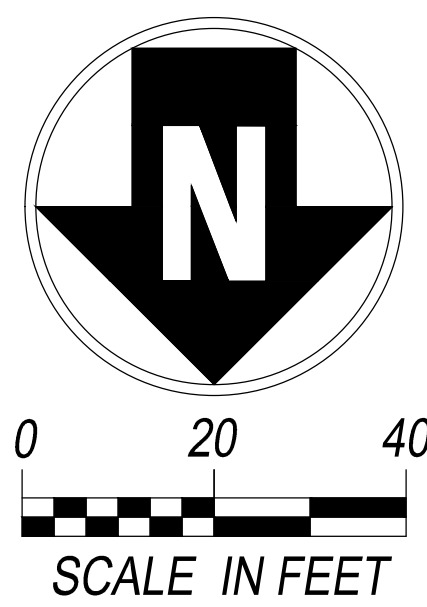
EX-001



HERB CHAMBERS
83 BOSTON POST RD, LLC

APPLICANT





Luminaire Schedule									
Label	Qty	Arrangement	Description	LLD	UDF	LLF	Arr. Lum.	Arr. Watts	
A	16	SINGLE	SLM-LED-36L-SIL-FT-50-70CRI-SINGLE-18" MH	1.000	1.000	1.000	37815	317.8	
B	2	D180°	SLM-LED-36L-SIL-FT-50-70CRI-D180-18" MH	1.000	1.000	1.000	75630	635.6	
C	6	D180°	SLM-LED-36L-SIL-5W-50-70CRI-D180-18" MH	1.000	1.000	1.000	71568	635.6	
D	1	SINGLE	SLM-LED-36L-SIL-5W-50-70CRI-SINGLE-18" MH	1.000	1.000	1.000	35784	317.8	
W12	4	SINGLE	XWM-FT-LED-08-50-12" MH	1.000	1.000	1.000	8654	76	

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CALCS @ 4' AFG- 10' X 10'	Illuminance	Fc	4.67	47.1	0.0	N.A.	N.A.
EAST-SIDE LOT	Illuminance	Fc	15.38	26.5	8.8	1.75	3.01
INTERIOR ROW DISPLAY	Illuminance	Fc	17.66	37.0	4.7	3.76	7.87
MAIN LOT	Illuminance	Fc	16.45	47.1	2.3	7.15	20.48



APPLICANT

HERB CHAMBERS
83 BOSTON POST RD, LLC

LAND-ROVER

JAGUAR

COMMONWEALTH OF MASSACHUSETTS
KELLY WILLEN
TOWN ENGINEER

IT IS HEREBY CERTIFIED THAT THE ABOVE IS A TRUE AND CORRECT COPY OF THE RECORD DRAWING AS SUBMITTED TO THE TOWN OF SUBURY, MASSACHUSETTS, FOR THE PROJECT DESCRIBED HEREIN.

Proposed Site Development Plans
for
HERB CHAMBERS
JAGUAR / LAND ROVER OF SUBURY
83 BOSTON POST ROAD - ROUTE 20
SUBURY, MA 01776

No.	Submitted	Revision	Appr. By	Date
D	Free (DW) Owner/Contractor	KK	SFA	01/18/19
C	Suburb Plan Approval	KK	SFA	12/19/18
B	Working Plan Approval	KK	SFA	12/19/18
A	2nd Submittal	KK	SFA	12/19/18

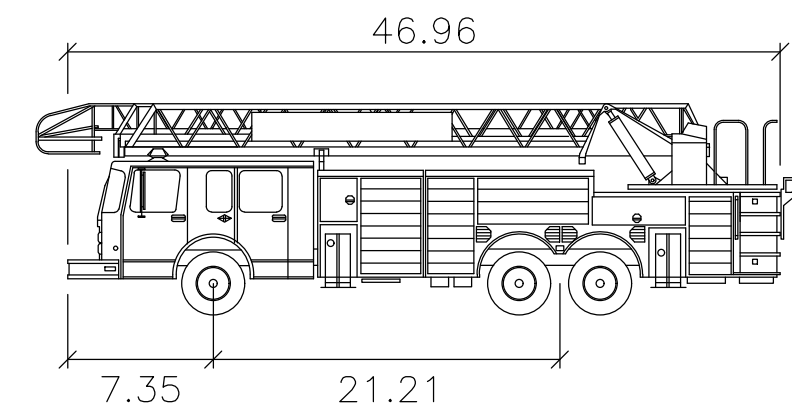
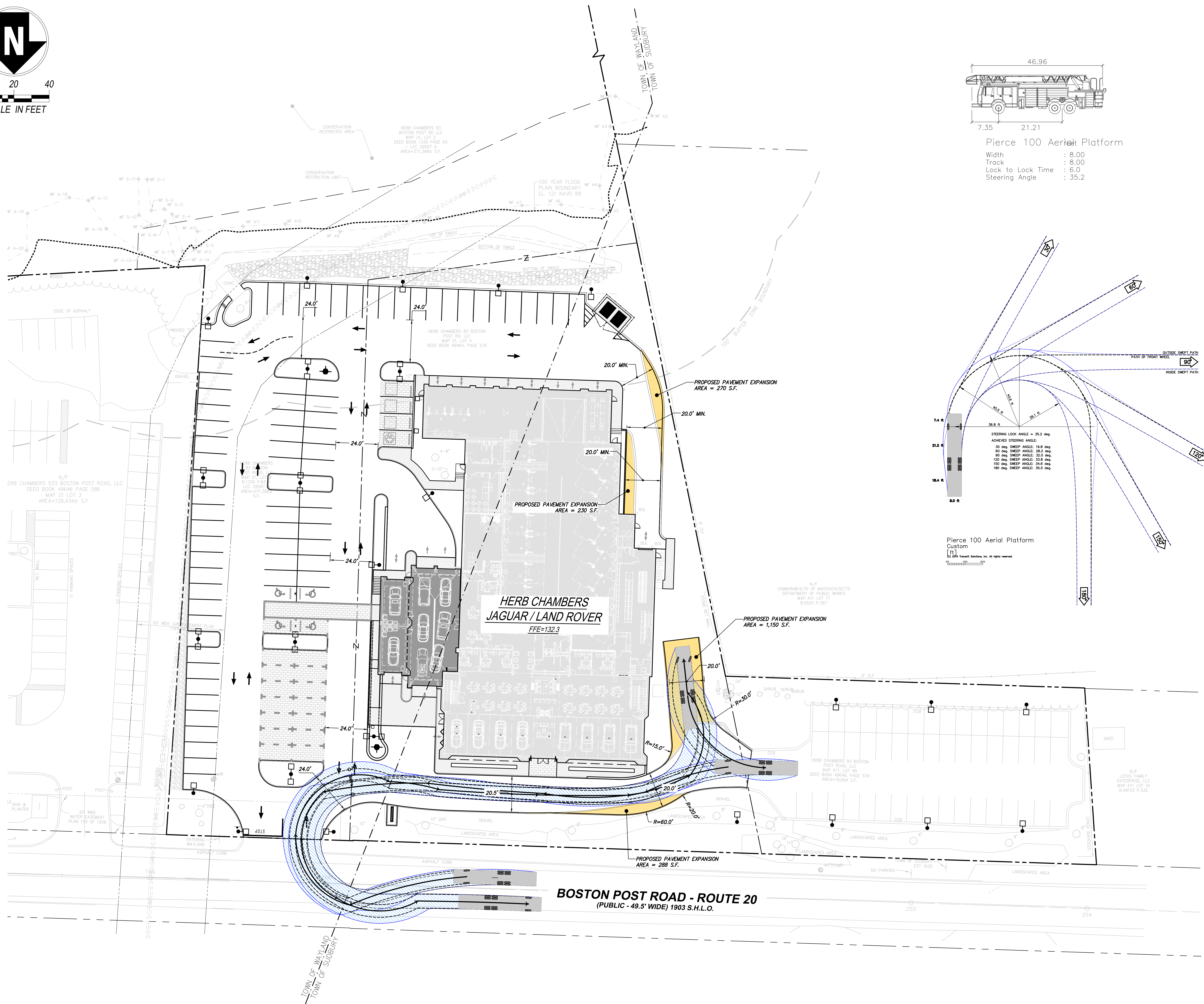
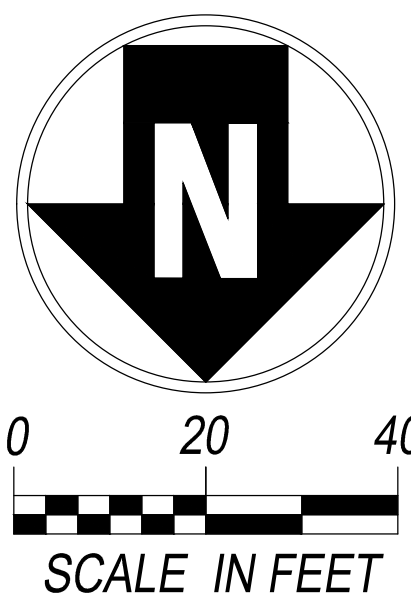
LIGHTING PLAN

Designed By: SA
Issue Date: 12/19/18

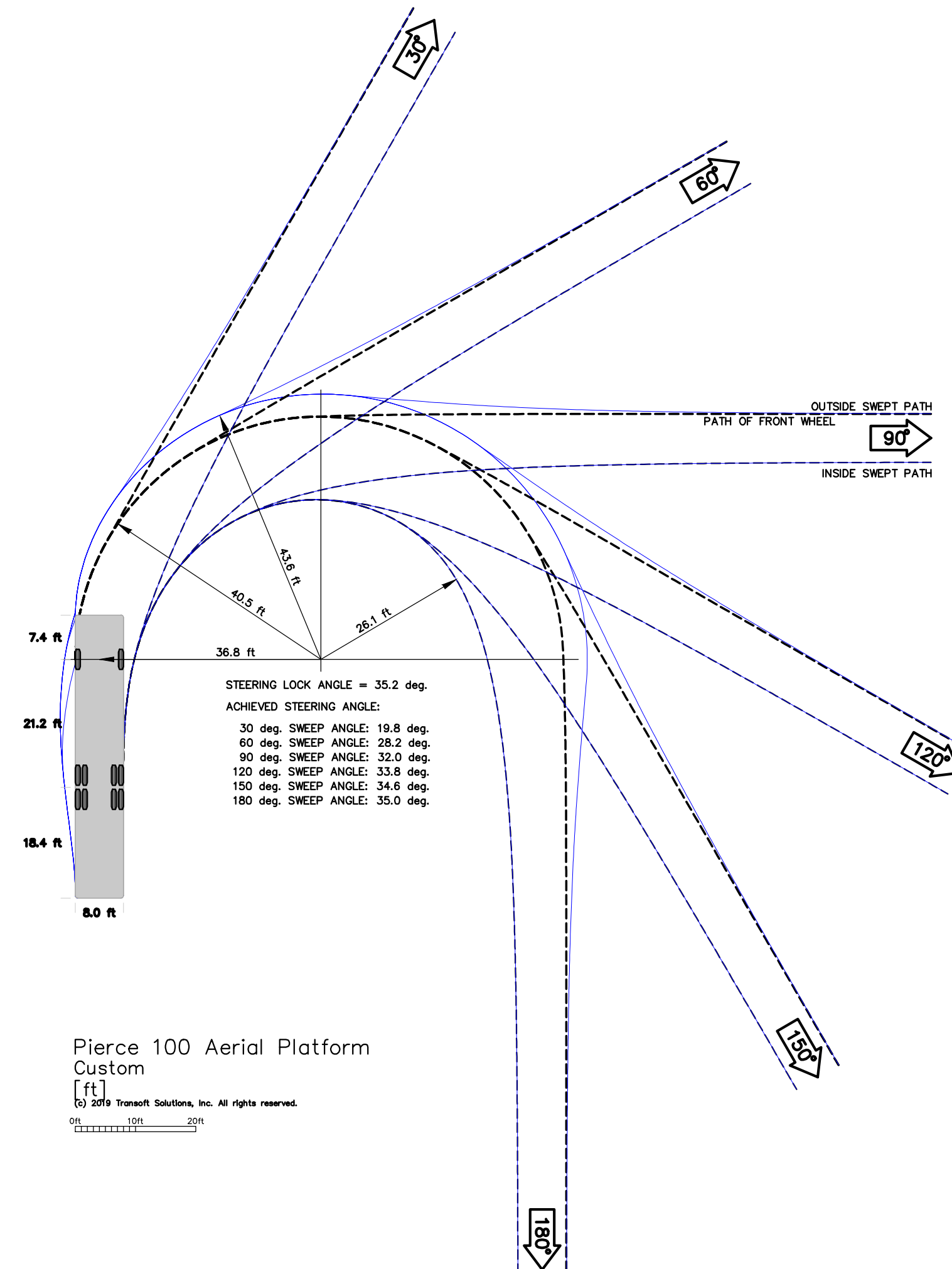
Drawn By: JM / SA
Project No: 31554

Checked By: KK
Scale: AS SHOWN

Drawing No.:
LT-101



Pierce 100 Aerial Platform
Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 35.2



Pierce 100 Aerial Platform
Custom
[ft]
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141 Longwater Drive, Suite 104
781.885.5400 • www.cliaonline.com

APPLICANT

HERB CHAMBERS
83 BOSTON POST RD, LLC

KELLY
SHELLY
SHERMAN
REGISTERED PROFESSIONAL ENGINEER
No. 10154
EXPIRATION DATE: 12/31/2024
OFFICE: 100 STATE STREET, 10TH FLOOR, BOSTON, MA 02109

Proposed Site Development Plans
for
HERB CHAMBERS
JAGUAR / LAND ROVER of SUBURY
83 BOSTON POST ROAD - ROUTE 20
SUBURY, MA 01776

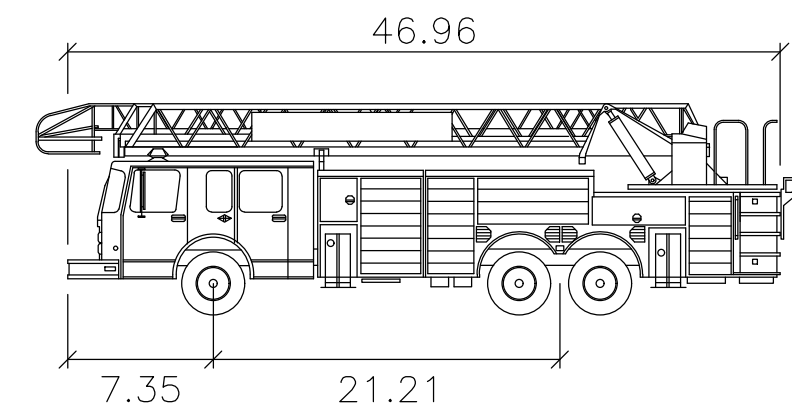
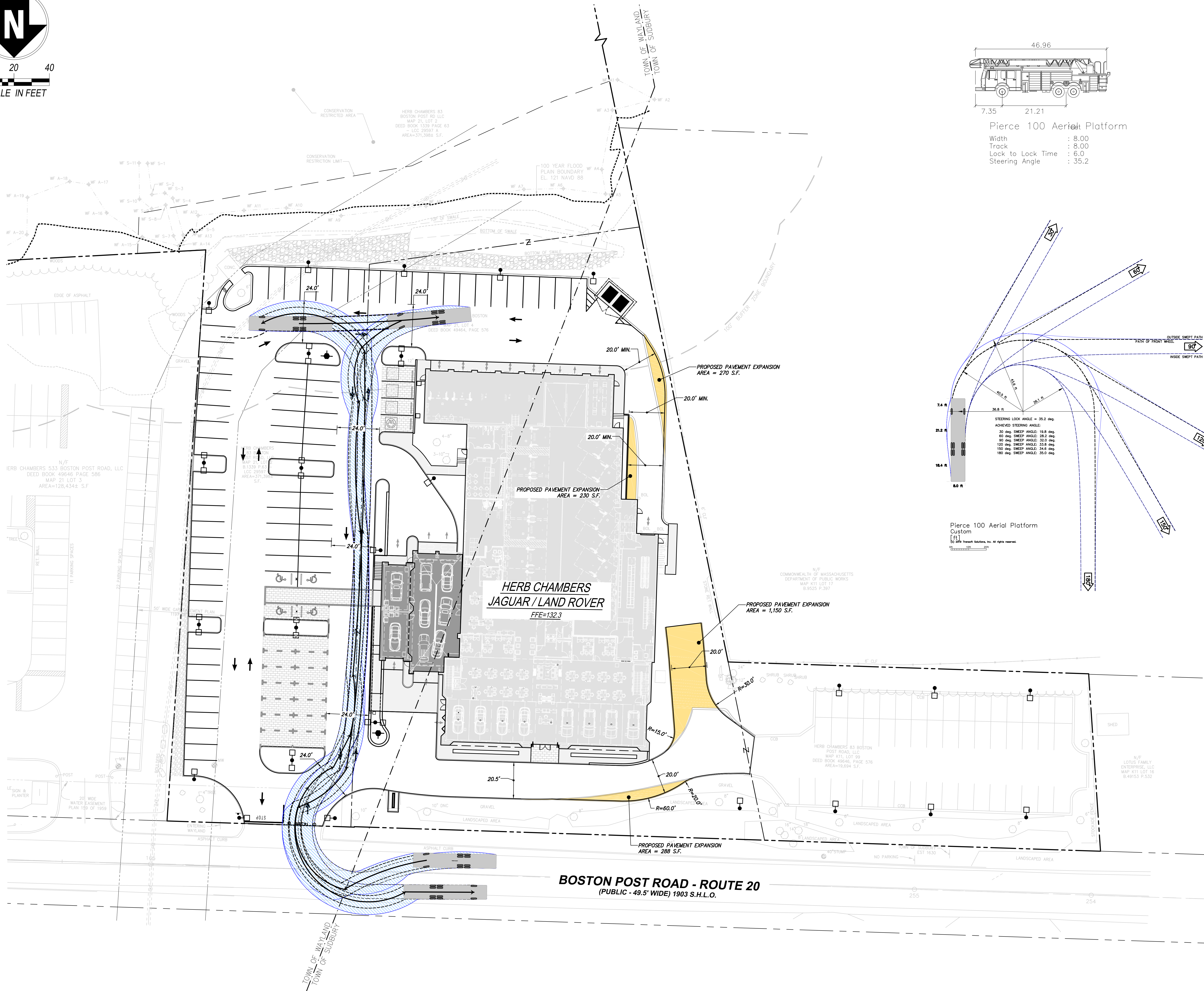
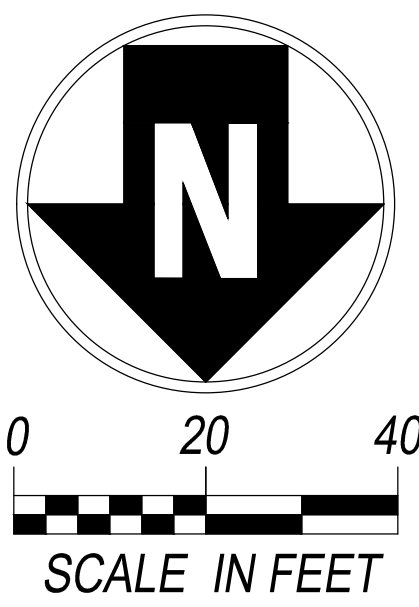
No.	Submittal	Revision	Prep'd By	Date
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FIRE ACCESS PLAN
(FRAMINGHAM)

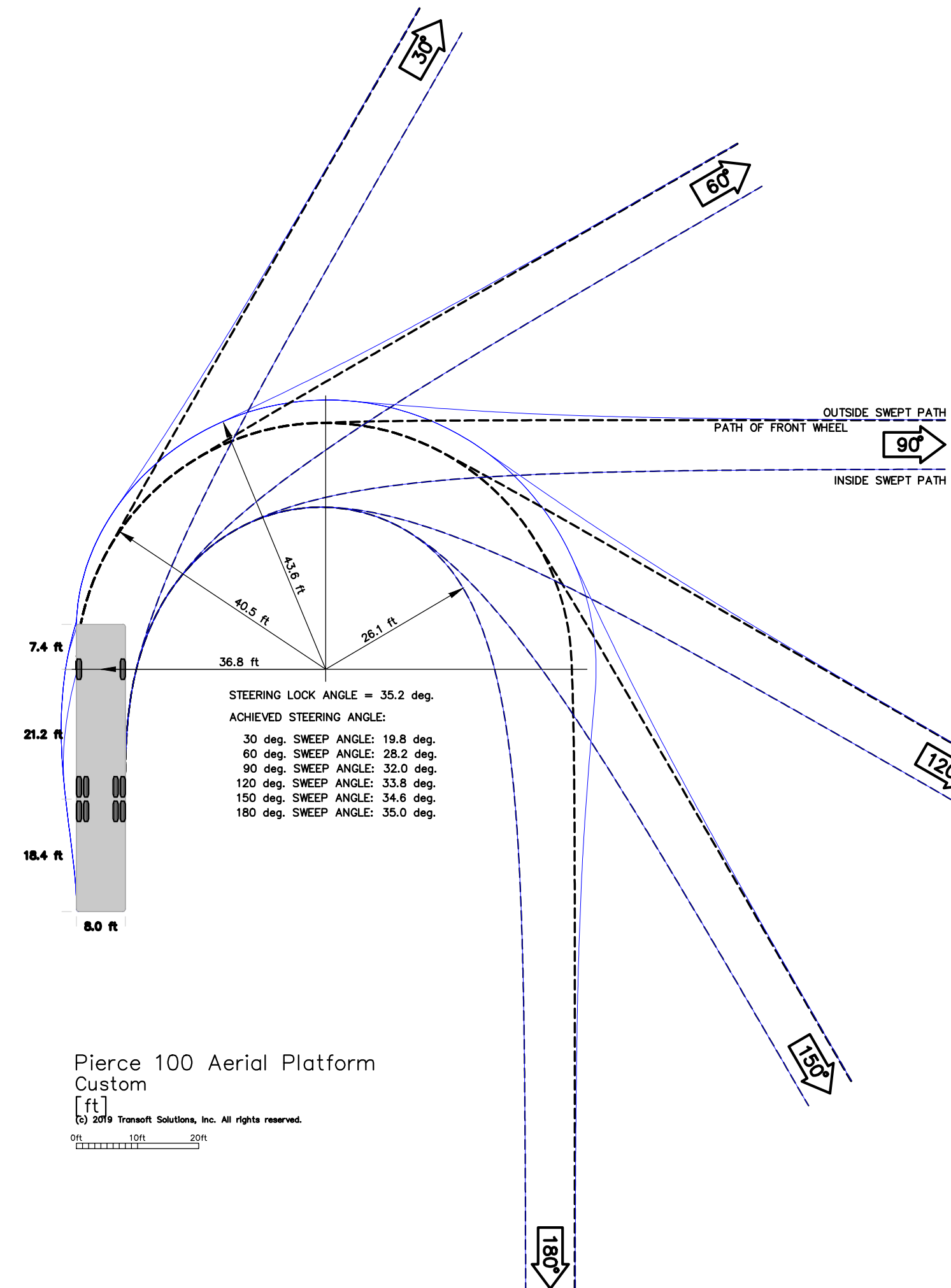
Designed By:	Drawn By:	Checked By:
SA	JM / SA	KK

Issue Date:	Project No:	Scale:
12/19/18	31554	AS SHOWN

Drawing No.:
C-905



Pierce 100 Aerial Platform
Width : 8.00
Track : 8.00
Lock to Lock Time : 6.0
Steering Angle : 35.2



Pierce 100 Aerial Platform
Custom
[ft]
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141 Longwater Drive, Suite 104
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APPLICANT

HERB CHAMBERS
83 BOSTON POST RD, LLC

LAND-ROVER
JAGUAR

KELLY MILLER
Professional Engineer
State of Massachusetts
License No. 121818

Proposed Site Development Plans
for
HERB CHAMBERS
JAGUAR / LAND ROVER of SUDBURY
83 BOSTON POST ROAD - ROUTE 20
SUDBURY, MA 01776

No.	Submittal	Revision	Permit	By	Date
D	Final (PWT) Development	1	RM	SFA	01/18/19
C	Submittal for Review	1	RM	SFA	12/18/18
B	Submittal for Review	1	RM	SFA	12/18/18
A	Submittal	1	RM	SFA	12/18/18

FIRE ACCESS
PLAN
(FRAMINGHAM)

Designed By:	Drawn By:	Checked By:
SA	JM / SA	KK

Issue Date:	Project No:	Scale:
12/19/18	31554	AS SHOWN

Drawing No.:
C-906