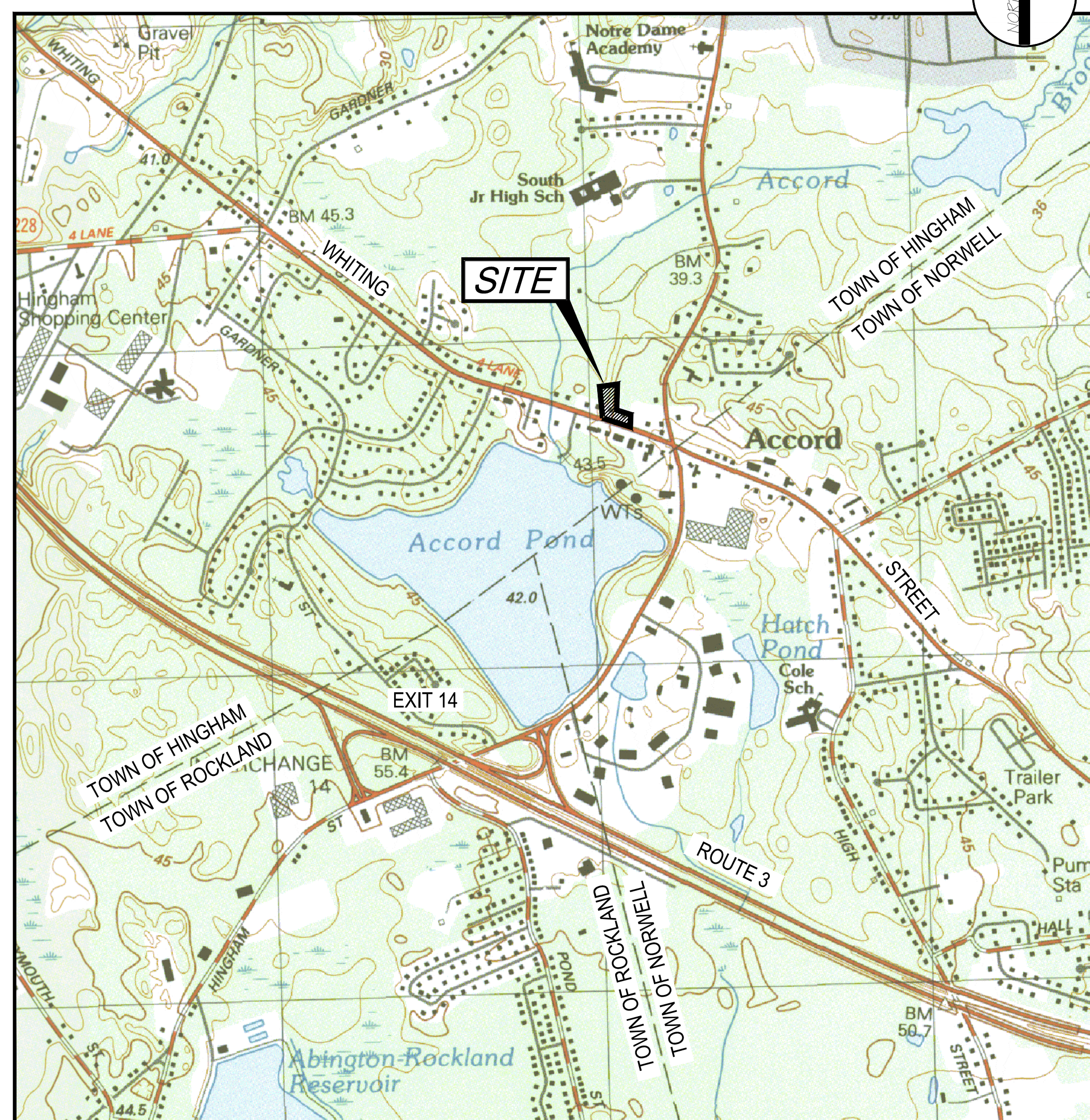


LEGAL COUNSEL:
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SCALE: 1" = 1000'



Sheet Number	Sheet Title
C-001	TITLE SHEET
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C-101	SITE PLAN
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C-901	VEHICLE TURNING PLAN (FIRE)
C-902	VEHICLE TURNING PLAN (FIRE)
C-903	VEHICLE TURNING PLAN (DELIVERY)
C-904	VEHICLE TURNING PLAN (FUEL)
--	ARCHITECTURE CONCEPT

HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd.	By	Date
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Issue Date: 05/01/2020	Project No: 060903	Scale AS SHOWN

Drawing No.:

C-001

File: \\CHA-LFP-COM\PROJ\PROJECTS\ANY\K5\060903.000\CADD\ACAD\060903_C-002 NOTES.DWG Saved: 9/9/2020 7:01:16 PM Plotted: 9/10/2020 7:42:44 PM Current User: Rose, Donald LastSavedBy: 4523

GENERAL

- PROTECTIONS**
 - PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, TREES OR VEGETATION.
 - PROTECT IMPROVEMENTS ON ADJOINING PROPERTIES AND ON OWNER'S PROPERTY.
 - RESTORE DAMAGED IMPROVEMENTS TO ORIGINAL CONDITION AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
- CONDUCT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH OPERATIONS, STREETS, WALKS, AND OTHER ADJACENT UTILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION. STREETS AND ROADWAYS SHALL BE THOROUGHLY CLEANED AND/OR SWEEP ON A DAILY BASIS OR MORE FREQUENTLY AS REQUIRED BY THE GOVERNING AUTHORITY.
- UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS DOT SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND/OR THE APPROPRIATE LOCAL AUTHORITIES.
- 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 ARE REQUIRED FOR ALL 2H:1V SLOPES. SLOPES MAY NOT EXCEED 2H:1V.
- ANY DEVIATIONS, I.E. "FIELD CHANGES" FROM THE DESIGN PLANS) MUST BE APPROVED BY THE DESIGN ENGINEER IN WRITING. 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, INC. ASSUMES NO LIABILITY OR RESPONSIBILITY FOR WORK ASSOCIATED WITH FIELD CHANGES COMPLETED WITHOUT REGARD TO THE "FIELD CHANGE" PROCEDURE.
- RELOCATION OF ANY UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
- *** 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.
- ADDITIONAL BENCHMARKS TO BE SET BY CONTRACTOR PRIOR TO CONSTRUCTION TO ENSURE QUALITY WORKMANSHIP.
- ANY STILLING AND/OR DETENTION BASINS SHOULD RECEIVE PERIODIC MAINTENANCE DURING CONSTRUCTION TO REMOVE DEPOSITED SILTS AND DEBRIS TO ENSURE PROPERTY DRAINAGE AND SETTLING OF PARTICULATE MATTER.
- ALL MANHOLE COVERS FOR CROSS-COUNTRY LOCATIONS OR IN PUBLIC GATHERING LOCATIONS SHALL BE FITTED WITH BOLT LOCKS OR EQUIVALENT.
- UNLESS OTHERWISE LABELED, ALL REINFORCED CONCRETE PIPE, RCP, SHALL BE CLASS V; ALL DUCTILE IRON PIPE SHALL BE CEMENT LINED CLASS S2; ALL P.V.C SEWER SHALL BE SDR 35. ALL HDPE PIPE TO BE HDPE STORM (WATER/TIGHT JOINTS).

SITE DEMOLITION, EROSION & SEDIMENTATION CONTROL

- ALL TEMPORARY STOCKPILE AREAS SHALL HAVE EROSION CONTROLS (HAYBALES AND SILT FENCE) AROUND THE PERIMETER.
- UNDERGROUND UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN. DIG SAFE MUST BE NOTIFIED (1-800-344-7233) AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION.
- ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE AND OBSERVED PRIOR TO ANY WORK STARTING ON THE PROJECT.
- SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON A PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY. WHEN WASHING IS REQUIRED TO REMOVE SEDIMENT PRIOR TO ENTRANCE TO A PUBLIC ROADWAY, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN. ALL FINES IMPOSED FOR TRACKING ONTO PUBLIC ROADS SHALL BE PAID BY THE CONTRACTOR.
- TEMPORARY SEEDING OR OTHER METHOD OF STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE, UNLESS ADDITIONAL CONSTRUCTION OF THE AREAS IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
- UPON COMPLETION OF FINE GRADING, ALL AREAS NOT OTHERWISE PERMANENTLY STABILIZED SHALL BE SEEDED AND MAINTAINED UNTIL A UNIFORM COVERAGE OF 75%± MINIMUM DENSITY, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, IS ACHIEVED.
- MAINTENANCE - EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS INSPECTION DEEMS NECESSARY OR AS DIRECTED BY THE ENGINEER OR ARCHITECT. ACCUMULATED SILT AT ANY EROSION CONTROL DEVICE SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6", AND SHALL BE DISTRIBUTED ON-SITE IN A MANNER NOT CONTRIBUTING TO ADDITIONAL SILTATION.
- ANY CONTRACTOR IS RESPONSIBLE FOR REESTABLISHING ANY EROSION CONTROL DEVICE WHICH HE DISTURBS. EACH CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT OF ANY DEFICIENCIES IN THE ESTABLISHED EROSION CONTROL MEASURES WHICH MAY LEAD TO UNAUTHORIZED DISCHARGE OR STORM WATER POLLUTION, SEDIMENTATION OR OTHER POLLUTANTS. UNAUTHORIZED POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO, EXCESS CONCRETE DUMPING OR CONCRETE RESIDUE, PAINTS, SOLVENTS, GREASE, FUEL, AND LUBE OIL, PESTICIDES, ANY SOLID WASTE MATERIALS.
- ALL SIDE SLOPES SHALL BE SEEDED WITH GRASS OR INSTALL JUTE NETTING TO PREVENT EROSION. SIDE SLOPES ALONG THE PERIMETER OF THE DEVELOPED AREA SHALL BE STABILIZED IMMEDIATELY FOLLOWING CONSTRUCTION.
- MAINTENANCE:** EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS INSPECTION DEEMS NECESSARY OR AS DIRECTED BY THE ENGINEER OR ARCHITECT. ACCUMULATED SILT AT ANY EROSION CONTROL DEVICE SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6", AND SHALL BE DISTRIBUTED ON-SITE IN A MANNER NOT CONTRIBUTING TO ADDITIONAL SILTATION.
- INSPECTIONS:** INSPECTIONS ARE TO BE PERFORMED BY QUALIFIED PERSONNEL. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, MUST BE INSPECTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A STORM EVEN OF 0.5 INCHES OR GREATER. STABILIZED AREAS ARE TO BE INSPECTED ONCE PER MONTH DISTURBED AREAS AND STORAGE AREAS EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR POTENTIAL FOR POLLUTANTS ENTERING THE DRAINAGE SYSTEM. CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THEY ARE WORKING PROPERLY. DISCHARGE LOCATIONS AND POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER CONTROLS ARE PREVENTING SIGNIFICANT IMPACT. BASED ON THE RESULTS OF THE ABOVE INSPECTIONS, ANY NECESSARY CHANGES TO THE PLAN WILL BE MADE WITHIN 7 DAYS OF THE INSPECTION. THE CHANGES MUST BE IMPLEMENTED IN THE FIELD BEFORE THE NEXT STORM EVEN IF PRACTICABLE, OTHERWISE AS SOON AS POSSIBLE.
- INSTALL AND MAINTAIN CATCH BASIN INSERTS IN ALL PROPOSED CATCH BASINS.
- PROVIDE TEMPORARY SEDIMENTATION BASINS, FILTER SOCKS, ETC. AS NECESSARY.
- STOCKPILES ARE TO BE AT LEAST 50 FEET FROM WETLAND AREAS. STOCKPILES NOT TO BE REUSED WITHIN 30 DAYS ARE TO BE STABILIZED WITH SEED OR MULCH.
- POTENTIAL STOCK PILE AREA TO BE PROTECTED WITH EROSION CONTROL MEASURES.
- THE CONTRACTOR SHALL HAVE A WATER TRUCK ON-SITE AT ALL TIMES AND SHALL PROVIDE TEMPORARY PLANTINGS OR OTHER COVERINGS SUCH AS WOOD CHIPS TO MINIMIZE THE AMOUNT OF DUST LEAVING THE PREMISES.
- SUBJECT TO ORDER OF CONDITIONS BY HINGHAM CONSERVATION COMMISSION.
- LOCATIONS OF THE SUBSURFACE RECHARGE SYSTEMS TO BE PROTECTED DURING CONSTRUCTION TO AVOID COMPACTION.

SITE WORK

- 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 DESIGN PLANS AND LIMITED AS-BUILT INFORMATION. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES 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 AT NO ADDITIONAL EXPENSE TO OWNER.
- FILL MATERIAL**
 - ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH, AND DEBRIS PRIOR TO FILL PLACEMENT.
 - 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 TO THE GREATER OF:
 - ADJACENT UNDISTURBED SOIL, OR
 - 95% OF THE MAXIMUM DRY DENSITY OF THE EMBANKMENT MATERIAL AS DETERMINED BY AASHTO STANDARD METHOD T99, METHOD C.
- FINISH GRADING**
 - 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.
 - 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.
 - 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.
 - 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 AT NO ADDITIONAL COST TO THE OWNER.
 - UNDER NO CIRCUMSTANCES MAY ANY UTILITY, STRUCTURE, AND/OR REPAIR BE BACKFILLED UNLESS INSPECTED AND APPROVED BY THE TOWN 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.
 - 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.
 - ALL UTILITIES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH THE APPLICABLE UTILITY PURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
 - WATER**
 - 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.
 - ALL WATER PIPE SHALL BE THICKNESS CLASS S2 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.
 - REFER TO PLUMBING PLANS FOR WATER SERVICE, FIRE PROTECTION, AND SANITARY SEWER CONNECTIONS UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL OBTAIN APPROVAL FOR ALL FIRE DEPARTMENT CONNECTIONS FROM THE FIRE DEPARTMENT PRIOR TO CONSTRUCTION.

WATER TESTING

- THESE NOTES ARE INTENDED TO SUPPLEMENT THE LOCAL REQUIREMENTS FOR MATERIALS AND WORKMANSHIP.
- REQUIRED TESTS FOR WATERLINES AND FORCE MAINS:
 - PERFORM THE FOLLOWING AFTER THE PIPE HAS BEEN INSTALLED AND PRIOR TO FINAL ACCEPTANCE:
 - PRESSURE TEST. / A2. LEAKAGE TEST.
- PRESUMPTIVE HYDROSTATIC TESTS MAY BE PERFORMED WHEN THE SYSTEM IS PARTIALLY BACKFILLED TO "CHECK" THE WORK, BUT FINAL ACCEPTANCE SHALL BE BASED ON HYDROSTATIC TESTS PERFORMED ON THE FINISHED SYSTEM AFTER IT IS COMPLETELY BACKFILLED.
- PRESSURE TEST:**
 - TEST PIPING TO 1.5 TIMES THE PIPE WORKING PRESSURE, OR 150 PSI, WHICHEVER IS GREATER. MEASURE TEST PRESSURES AT THE LOWEST POINT IN THE PIPE SECTION AND CORRECT TO THE ELEVATION OF THE GAUGE.
 - RELIEVE TRAPPED AIR AT THE SECTION HIGH POINTS THROUGH HYDRANTS, OR TAPS INSTALLED FOR THIS PURPOSE, PROVIDED TEMPORARY INSTALLATIONS ARE REMOVED AND PLUGGED AFTER ACCEPTANCE.
 - MAINTAIN THE TEST PRESSURE FOR A PERIOD OF TWO (2) HOURS. AT THE END OF THE TEST PERIOD, IF THE TEST PRESSURE REMAINS CONSTANT, THE PIPE SECTION SHALL HAVE PASSED THE TEST. IF THE PRESSURE HAS DROPPED, IT SHALL BE BROUGHT BACK TO THE TEST PRESSURE BY PUMPING A KNOWN VOLUME OF WATER (BY PUMPING FROM A GRADUATED CONTAINER OR BY METERING) BACK INTO THE PIPE. THE VOLUME OF WATER THUS USED, REPRESENTING LEAKAGE FROM THE PIPE, SHALL BE RECORDED. IF THE LEAKAGE IS LESS THAN THE ALLOWABLE LEAKAGE SPECIFIED BELOW, THE PIPE SHALL HAVE PASSED THE TEST. IF THE LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE SPECIFIED, THE CONTRACTOR SHALL LOCATE THE LEAK, PERMANENTLY REPAIR THE SECTION OF PIPE WHERE THE LEAK IS OCCURRING TO THE SATISFACTION OF THE ENGINEER, AND RETEST THE PIPE AS SPECIFIED ABOVE.
- LEAKAGE TEST:**
 - CONDUCT THE LEAKAGE TEST CONCURRENTLY WITH THE PRESSURE TEST.
 - THE MAXIMUM ALLOWED LEAKAGE IS DETERMINED BY THE FOLLOWING FORMULA:
$$L = \frac{N \times D \times P \times 12}{7400}$$
WHERE L = ALLOWABLE LEAKAGE, IN GPH ; WHERE N = NO. OF JOINTS IN TEST SECTION ; WHERE D = NOMINAL PIPE DIAMETER, IN INCHES ; WHERE P = AVERAGE TEST PRESSURE, IN PSIG
- ACCEPTANCE SHALL BE DETERMINED ON THE BASIS OF ALLOWABLE LEAKAGE. IF ANY PIPE SECTION DISCLOSES LEAKAGE GREATER THAN THAT SPECIFIED, LOCATE, REPAIR AND RETEST UNTIL THE LEAKAGE IS WITHIN THE LIMITS SPECIFIED.
- MAKE ALL VISIBLE LEAKS TIGHT REGARDLESS OF THE AMOUNT OF LEAKAGE, AND IF THE LINES DO NOT MEET THE ABOVE LEAKAGE TEST, REPAIR AND RETEST AS NECESSARY UNTIL THE LEAKAGE REQUIREMENT IS MET. REPAIR OR REPLACE ALL DEFECTIVE WORK.

DISINFECTION OF POTABLE WATER MAINS

- DISINFECT ALL POTABLE WATER MAINS IN ACCORDANCE WITH THE LATEST VERSION OF AWWA C651, EXCEPT THAT THE PLACEMENT OF CHLORINE POWDER OR TABLETS INSIDE THE PIPE DURING INSTALLATION SHALL NOT BE ALLOWED. DISINFECT WATER MAINS AFTER THE PIPING HAS PASSED THE PRESSURE AND LEAKAGE TESTING.
- FLUSH THE PIPE WITH WATER AT A MINIMUM VELOCITY OF 2.5 FEET PER SECOND (FPS) TO CLEAR ALL FOREIGN MATERIAL FROM THE PIPE.
- APPLY A CHLORINE SOLUTION WITH A CONCENTRATION BETWEEN 50 PARTS PER MILLION (PPM) AND 100 PPM. THE CHLORINE SOLUTION SHALL REMAIN IN THE PIPING FOR A MINIMUM OF 24 HOURS. THE CONCENTRATION AT THE END OF THIS PERIOD SHALL BE AT LEAST 25 PPM IN ALL SECTIONS OF THE MAIN. REPEAT THE ENTIRE PROCEDURE IF THE RESIDUAL IS LESS THAN 25 PPM.
 - WHILE THE CHLORINATED WATER IS BEING ADDED, ALL APPURTENANCES (VALVES, HYDRANTS, ETC.) SHALL BE OPERATED SO AS TO COMPLETELY DISINFECT THE NEW WORK.
 - POSITION VALVES SO THAT THE CHLORINE SOLUTION IN THE SECTION BEING DISINFECTED WILL NOT FLOW INTO WATER MAINS IN ACTIVE SERVICE.
 - CHLORINE RESIDUAL SAMPLES SHALL BE TAKEN AS DIRECTED BY THE ENGINEER.
- AFTER THE TWENTY FOUR (24) HOUR RETENTION PERIOD, FLUSH THE MAIN UNTIL RESIDUAL TESTING INDICATES THAT THE CHLORINE CONCENTRATION IS APPROXIMATELY THAT OF THE NEIGHBORING SERVICE AREA.
 - DISPOSE OF HEAVILY CHLORINATED WATER INTO SANITARY SEWER OR TANK TRUCK.
 - THE OWNER AND THE OWNER OF THE SANITARY SEWER SYSTEM SHALL BE NOTIFIED A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO THE DISCHARGE OF ANY WATER TO THE SANITARY SEWER. CONTRACTOR SHALL SUBMIT TO THE ENGINEER WRITTEN CONFIRMATION THAT THE OWNER OF THE SANITARY SEWER SYSTEM HAS APPROVED THE DISCHARGE OF WATER TO ITS SANITARY SEWER.
 - UNDER NO CIRCUMSTANCES WILL THE EMPTYING OF WATER ONTO ROADWAYS, OR INTO DITCHES, CULVERTS, STREAMS OR WETLANDS BE ALLOWED.
- AFTER DISINFECTION AND FINAL FLUSHING, AND PRIOR TO PLACING THE LINES IN SERVICE, THE CONTRACTOR SHALL COLLECT BACTERIOLOGICAL SAMPLES (BOTH COLIFORM AND HETEROTROPHIC PLATE COUNT) AND SUBMIT SAMPLES TO AN APPROVED TESTING LABORATORY. TWO CONSECUTIVE SETS OF SAMPLES SHALL BE TAKEN AT LEAST 24 HOURS APART IN ACCORDANCE WITH AWWA C651. THE COLLECTION POINTS SHALL BE AS DIRECTED BY THE ENGINEER AND LOCAL AUTHORITY HAVING JURISDICTION.
 - THE TESTING LABORATORY PERFORMING THE BACTERIOLOGICAL ANALYSIS SHALL BE ACCEPTABLE TO THE ENGINEER.
 - SUBMIT THREE (3) COPIES OF THE LABORATORY ANALYSIS TO THE ENGINEER.
- ALL PRECAUTION SHALL BE TAKEN TO MAINTAIN DRY AND SANITARY CONDITIONS AND PREVENT CONTAMINATION OF ANY PIPING. IF, IN THE OPINION OF THE ENGINEER, CONTAMINATION HAS OCCURRED, THE CONTRACTOR SHALL REPEAT THE DISINFECTION PROCEDURE AND TESTING AT HIS COST AND EXPENSE.
- ALL TESTING SHALL CONFORM TO THE TOWN, DPW, AND WEIR RIVER WATER SYSTEM REQUIREMENTS.

LEGEND - EXISTING

-----	LOCUS PROPERTY LINE	□	ELECTRIC TRANSFORMER
-----	RIGHT OF WAY LINE	▣	ELECTRIC CONDUIT
-----	ABUTTER LINE	▣▣	ELECTRIC HAND HOLE
-----	LEASE LINE	▣▣▣	ELECTRIC METER
----- 315 -----	MAJOR CONTOUR	⊙ UPR	UTILITY POLE W/ RISER
----- 316 -----	MINOR CONTOUR	+	GUY ANCHOR AND WIRE
----- OHW -----	OVERHEAD WIRE	⚡	LIGHT POLE
----- CLF -----	CHAIN LINK FENCE (CLF)	☆	GROUND LIGHT
----- WDF -----	WOODEN FENCE (WDF)	⊙	MONITORING WELL
----- W -----	UNDERGROUND WATER LINE	⊙	DECIDUOUS TREE
----- D -----	UNDERGROUND DRAIN LINE	⊙	ARBORVITAE TREE
----- G -----	UNDERGROUND GAS LINE	⊙	DO NOT ENTER SIGN
----- E -----	UNDERGROUND ELECTRIC LINE	⊙	IRRIGATION CONTROL VALVE
----- S -----	UNDERGROUND SEWER LINE	XWALK	PEDESTRIAN CROSSING
----- T -----	UNDERGROUND TELEPHONE LINE	FFE	FINISH FLOOR ELEVATION
x 31.0	SPOT ELEVATION	EOP	EDGE OF PAVEMENT
□ CTB	CATCH BASIN	CC	CONCRETE CURB
⊙ DMH	DRAIN MANHOLE	GC	GRANITE CURB
⊙ SMH	SEWER MANHOLE	CKW	CONCRETE WALK
⊙	TELEPHONE MANHOLE	CONC	CONCRETE
⊙	ELECTRIC MANHOLE	CRW	CONCRETE RETAINING WALL
▣	GAS METER	HRLM	METAL HANDRAIL
⚡	WALL HYDRANT	ROH	ROOF OVERHANG
⚡	HYDRANT	SYL	SINGLE YELLOW LINE
⚡	DOWN SPOUT	AG	ABOVE GROUND
⚡	GAS GATE	▣ SBDH/ CB/DH	STONE BOUND/CONC. BOUND w/DRILL HOLE
⚡	WATER GATE		

LEGEND - PROPOSED

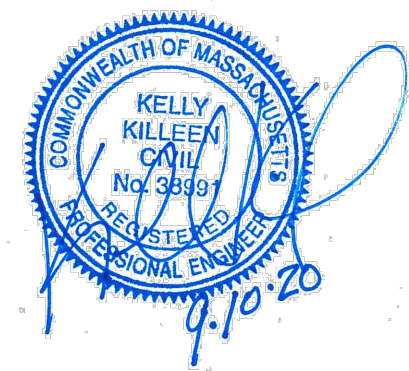
----- S85 -----	MAJOR CONTOUR	□	STORM SEWER DRAIN BASIN
----- S86 -----	MINOR CONTOUR	⊙	STORM MANHOLE
----- W -----	DOMESTIC WATER	⊙	HYDRANT ASSEMBLY
----- FP -----	FIRE PROTECTION	⊙	LINE VALVE
----- UE -----	UNDERGROUND ELECTRIC	⊙	POST INDICATOR VALVE
----- S -----	SANITARY SEWER	⊙	SANITARY MANHOLE
----- FM -----	FORCEMAIN	▣	ELECTRIC MANHOLE
----- ST -----	STORM SEWER	● DH	DRILL HOLE
-----	BIORETENTION LIMIT LINE	■ CB/DH	CONCRETE BOUND w/DRILL HOLE
----- GAS -----	NATURAL GAS		
-----	CHAINLINK FENCE		

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OWNER/APPLICANT:

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HINGHAM, MA 02043



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR, TO ALTER, ADD, DELETE, OR OTHERWISE MODIFY THE SEAL OR STAMP OF A LICENSED PROFESSIONAL. IF THE SEAL OR STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING PERSON SHALL BE CONSIDERED TO BE A VIOLATOR OF THE PROFESSIONAL SEAL ACT. THE SEAL OR STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING PERSON SHALL BE CONSIDERED TO BE A VIOLATOR OF THE PROFESSIONAL SEAL ACT. THE SEAL OR STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING PERSON SHALL BE CONSIDERED TO BE A VIOLATOR OF THE PROFESSIONAL SEAL ACT.

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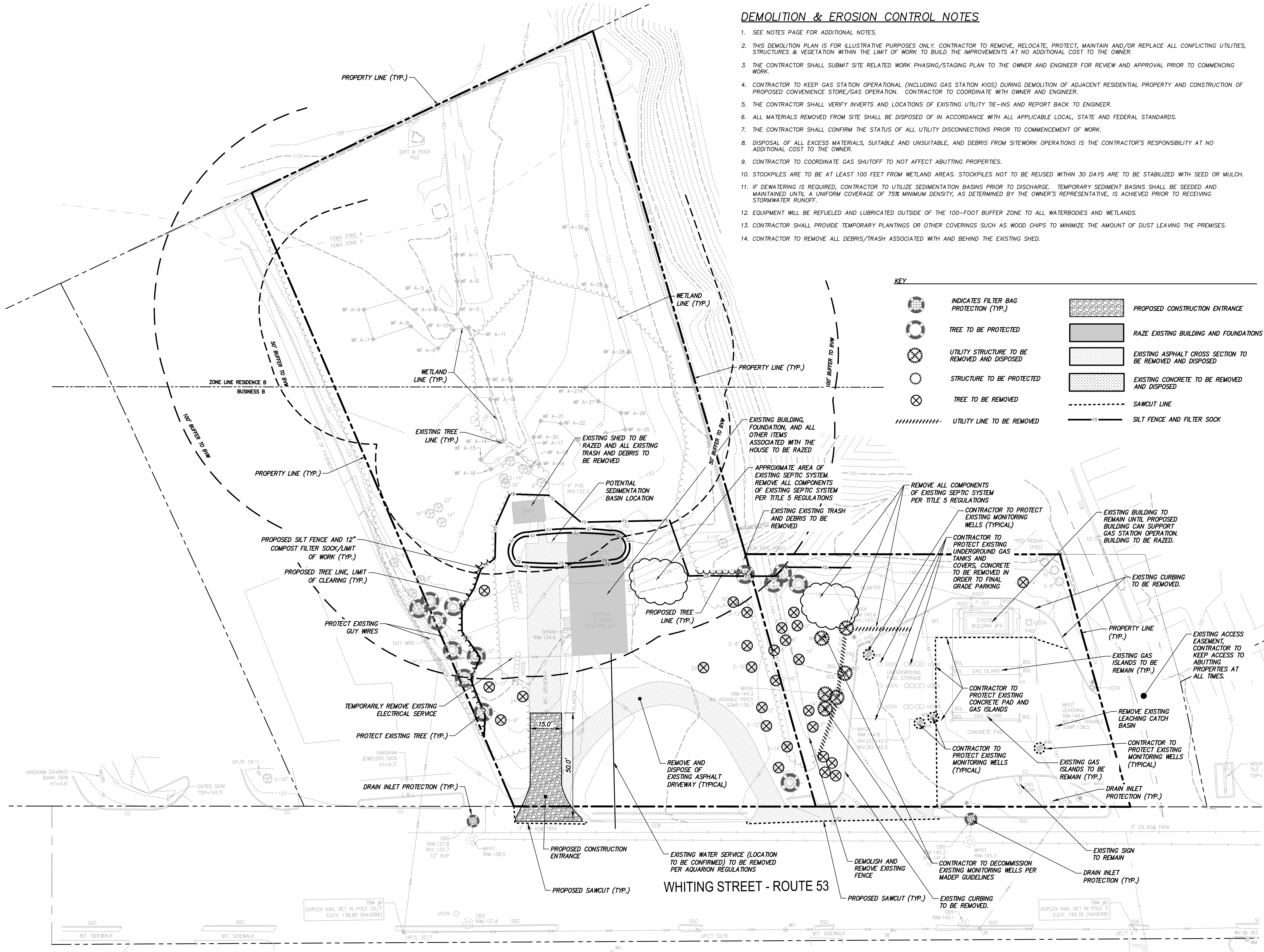
NOTES & LEGEND

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C-002

File: \\CHA-LP2\COM\PROJ\PROJECTS\ANY\5\060903_000\CADD\060903_C-003 DEMOLITION & EROSION CONTROL PLAN.DWG Saved: 9/9/2020 6:38:11 PM Plotted: 9/10/2020 7:43:34 PM Current User: Rose, Donald LastSavedBy: 4323



DEMOLITION & EROSION CONTROL NOTES

- SEE NOTES PAGE FOR ADDITIONAL NOTES.
- THIS DEMOLITION PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR TO REMOVE, RELOCATE, PROTECT, MAINTAIN AND/OR REPLACE ALL CONFLICTING UTILITIES, STRUCTURES & VEGETATION WITHIN THE LIMIT OF WORK TO BUILD THE IMPROVEMENTS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL SUBMIT SITE RELATED WORK PHASING/STAGING PLAN TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
- CONTRACTOR TO KEEP GAS STATION OPERATIONAL (INCLUDING GAS STATION KIOS) DURING DEMOLITION OF ADJACENT RESIDENTIAL PROPERTY AND CONSTRUCTION OF PROPOSED CONVENIENCE STORE/GAS OPERATION. CONTRACTOR TO COORDINATE WITH OWNER AND ENGINEER.
- THE CONTRACTOR SHALL VERIFY INVERTS AND LOCATIONS OF EXISTING UTILITY TIE-INS AND REPORT BACK TO ENGINEER.
- ALL MATERIALS REMOVED FROM SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL STANDARDS.
- THE CONTRACTOR SHALL CONFIRM THE STATUS OF ALL UTILITY DISCONNECTIONS PRIOR TO COMMENCEMENT OF WORK.
- DISPOSAL OF ALL EXCESS MATERIALS, SUITABLE AND UNSUITABLE, AND DEBRIS FROM SITEWORK OPERATIONS IS THE CONTRACTOR'S RESPONSIBILITY AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR TO COORDINATE GAS SHUTOFF TO NOT AFFECT ABUTTING PROPERTIES.
- STOCKPILES ARE TO BE AT LEAST 100 FEET FROM WETLAND AREAS. STOCKPILES NOT TO BE REUSED WITHIN 30 DAYS ARE TO BE STABILIZED WITH SEED OR MULCH.
- IF DEWATERING IS REQUIRED, CONTRACTOR TO UTILIZE SEDIMENTATION BASINS PRIOR TO DISCHARGE. TEMPORARY SEDIMENT BASINS SHALL BE SEEDED AND MAINTAINED UNTIL A UNIFORM COVERAGE OF 75% MINIMUM DENSITY, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, IS ACHIEVED PRIOR TO RECEIVING STORMWATER RUNOFF.
- EQUIPMENT WILL BE REFUELED AND LUBRICATED OUTSIDE OF THE 100-FOOT BUFFER ZONE TO ALL WATERBODIES AND WETLANDS.
- CONTRACTOR SHALL PROVIDE TEMPORARY PLANTINGS OR OTHER COVERINGS SUCH AS WOOD CHIPS TO MINIMIZE THE AMOUNT OF DUST LEAVING THE PREMISES.
- CONTRACTOR TO REMOVE ALL DEBRIS/TRASH ASSOCIATED WITH AND BEHIND THE EXISTING SHED.

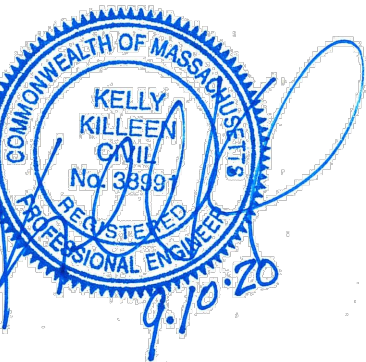
KEY

- | | | | |
|--|--|--|---|
| | INDICATES FILTER BAG PROTECTION (TYP.) | | PROPOSED CONSTRUCTION ENTRANCE |
| | TREE TO BE PROTECTED | | RAZE EXISTING BUILDING AND FOUNDATIONS |
| | UTILITY STRUCTURE TO BE REMOVED AND DISPOSED | | EXISTING ASPHALT CROSS SECTION TO BE REMOVED AND DISPOSED |
| | STRUCTURE TO BE PROTECTED | | EXISTING CONCRETE TO BE REMOVED AND DISPOSED |
| | TREE TO BE REMOVED | | SAWCUT LINE |
| | UTILITY LINE TO BE REMOVED | | SILT FENCE AND FILTER SOCK |



OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



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HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd. By	Date
A	PERMIT SET	KK JM	5/1/2020
B	PERMIT SET	KK JM	9/10/2020

DEMOLITION & SEDIMENT CONTROL PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
C-003

File: \\CHA-LP.COM\PROJ\PROJECTS\ANY\K5\060903.000\CADD\ACAD\060903_C-101_SITE_PLAN.DWG Saved: 9/9/2020 6:18:25 PM Plotted: 9/10/2020 5:35:28 PM Current User: Rose Donald LastSavedBy: 4323

KEY	
	PROPOSED BUILDING
	CONCRETE SIDEWALK
	MONOLITHIC CONCRETE CURB
	PRECAST CONCRETE CURB
	GRANITE TRANSITION CURB
	VERTICAL GRANITE CURB
	OUTLINE OF EXISTING BUILDING
	LIGHT
	SNOW STORAGE
	TEST PIT LOCATION

N/F
HINGHAM COMMONS CONDOMINIUM
ASSESSOR'S MAP 204, LOT 67
MASTER DEED 8242, PAGE 4

ZONING TABLE				
ZONING DISTRICT: BUSINESS B, ACCORD POND WATERSHED, HINGHAM AQUIFER PROTECTION DISTRICT				
REQUIREMENTS	REQUIRED	19 WHITING ST	27 WHITING ST	PROPOSED (COMBINED)
MINIMUM LOT AREA	N/A	0.41± ACRES (18,056 SF)	1.27± ACRES (55,435 SF)	1.68± ACRES (73,491 SF)
MINIMUM FRONTAGE	200 FEET	150 FEET	144 FEET	294 FEET
MAXIMUM BUILDING HEIGHT	35' / 3 STORIES	1 STORY	2 STORY	1.5 STORY
MAX. BUILDING COVERAGE	25%	1.2% (220 SQ. FT.)	3.1% (1,698 SQ. FT.)	4.8% (3,531 SQ. FT.)
MINIMUM FRONT YARD	40 FEET	40.9± FEET	71.8± FEET	40.9± FEET
MINIMUM SIDE YARD	25 FEET	25.5± FEET	53.2± FEET	25.1± FEET
MINIMUM REAR YARD	25 FEET	N/A	>25 FEET	>25 FEET
MINIMUM GREEN YARD	15 FEET	15 FEET	15 FEET	15 FEET

PARKING REQUIREMENTS

RETAIL - 5 SPACES PER 1,000 SQ. FT. GFA
ACCESSORY STORAGE - 1 SPACES PER 1,000 SQ. FT. GFA

GROSS FLOOR AREA = 2,531 (RETAIL) + 1,000 (ACCESSORY STORAGE) = 3,531 SQ. FT.
TOTAL SPACES REQUIRED = (2,531 / 1,000 * 5) + (1,000 / 1,000 * 1) =
13 (12.66) + 1 SPACES - 14 SPACES
TOTAL SPACES PROVIDED = 15 SPACES

15-25 SPACES REQUIRES 1 HANDICAP ACCESSIBLE SPACE.
2 HANDICAP ACCESSIBLE SPACES PROVIDED WITH ONE BEING VAN ACCESSIBLE

LAYOUT NOTES:

- ALL SIGNS AND PAVEMENT MARKING TO BE INSTALLED WITHIN THE PROJECT SITE SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- SIGNS, LANDSCAPING AND OTHER FEATURES LOCATED WITHIN SIGHT TRIANGLE AREAS SHALL BE DESIGNED, INSTALLED AND MAINTAINED SO AS NOT TO EXCEED 2.5-FEET IN HEIGHT. SNOW WINDROWS LOCATED WITHIN SIGHT TRIANGLES THAT EXCEED 3.5-FEET IN HEIGHT OR THAT WOULD OTHERWISE INHIBIT SIGHT LINES SHALL BE PROMPTLY REMOVED.
- GAS STATION OPERATIONAL (INCLUDING GAS STATION KIOS) DURING DEMOLITION OF ADJACENT RESIDENTIAL PROPERTY AND CONSTRUCTION OF PROPOSED RETAIL STORE FOR GAS OPERATION. CONTRACTOR TO COORDINATE WITH OWNER AND ENGINEER.



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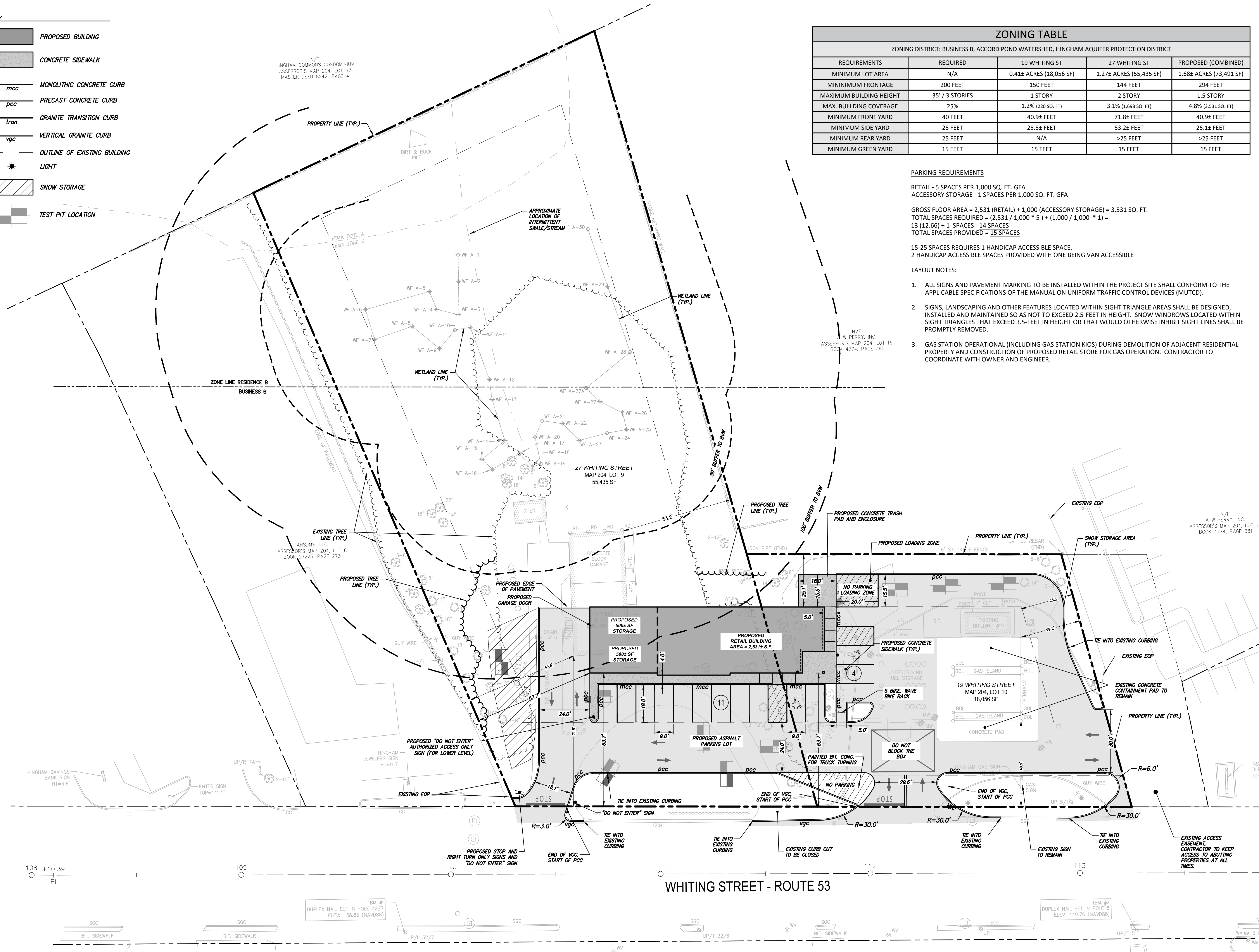
HINGHAM GAS
#19 & 27 WHITING
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HINGHAM, MA 02043

No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

SITE PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

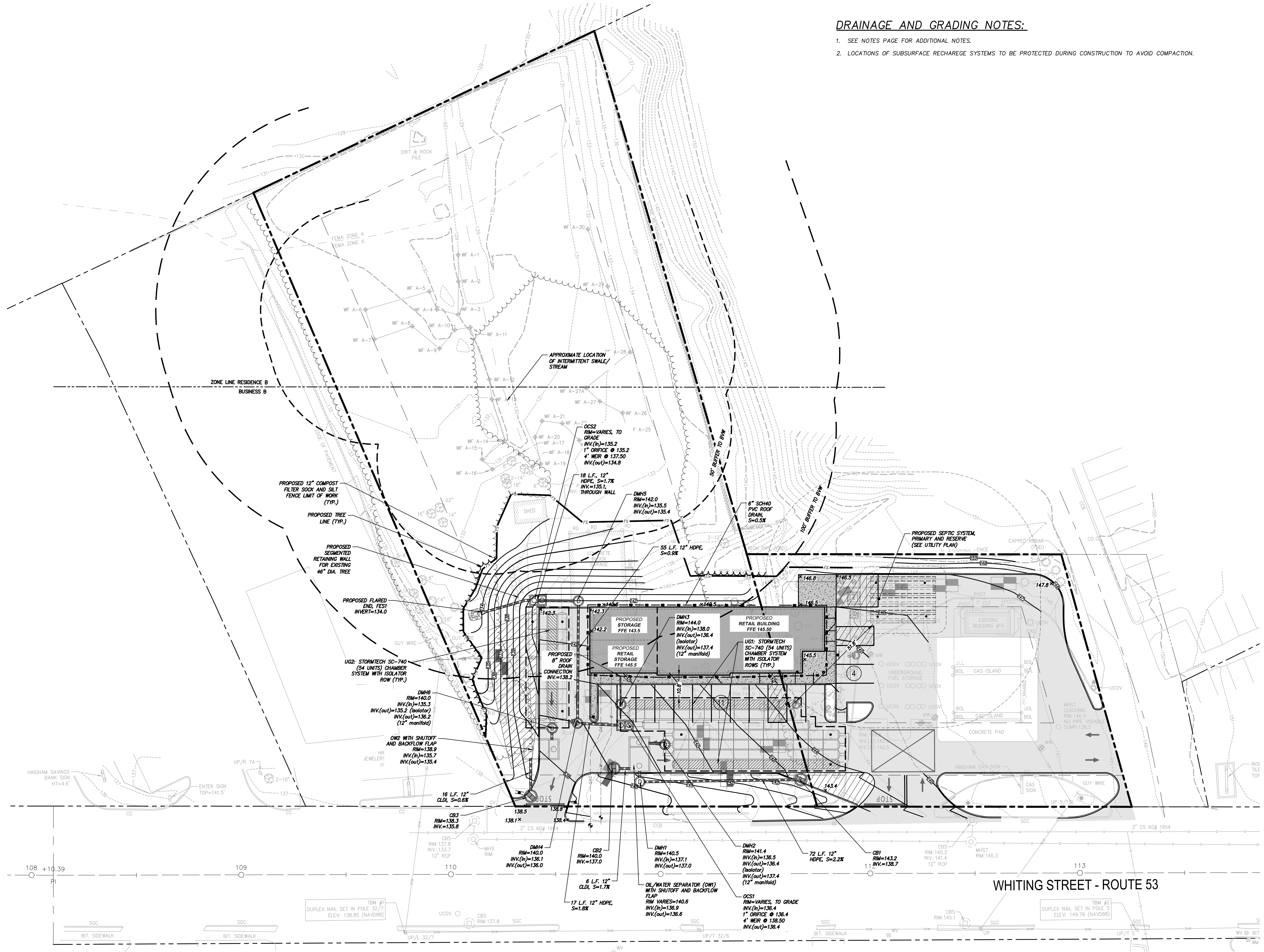
Drawing No.:
C-101



File: \\CHA-LFP-COM\PROJ\PROJECTS\ANY\K5\060903.000\CADD\ACAD\060903_C-201 GRADING & DRAINAGE PLAN.DWG Saved: 9/10/2020 7:10:05 PM Plotted: 9/10/2020 7:44:52 PM Current User: Ross, Donald LastSavedBy: 4323

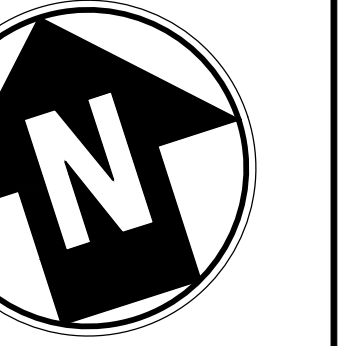
DRAINAGE AND GRADING NOTES:

- SEE NOTES PAGE FOR ADDITIONAL NOTES.
- LOCATIONS OF SUBSURFACE RECHARGE SYSTEMS TO BE PROTECTED DURING CONSTRUCTION TO AVOID COMPACTION.



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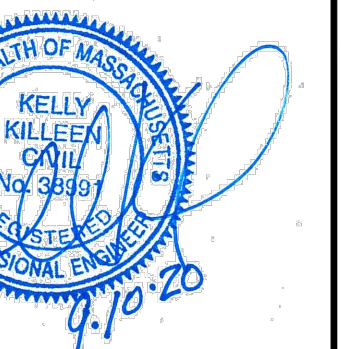
CHA
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Norwell, MA 02061
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0 20 40
Scale in feet

OWNER/APPLICANT:

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REALTY, LLC**
87 DERBY STREET
HINGHAM, MA 02043



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**HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043**

No.	Submittal / Revision	App'd.	By	Date
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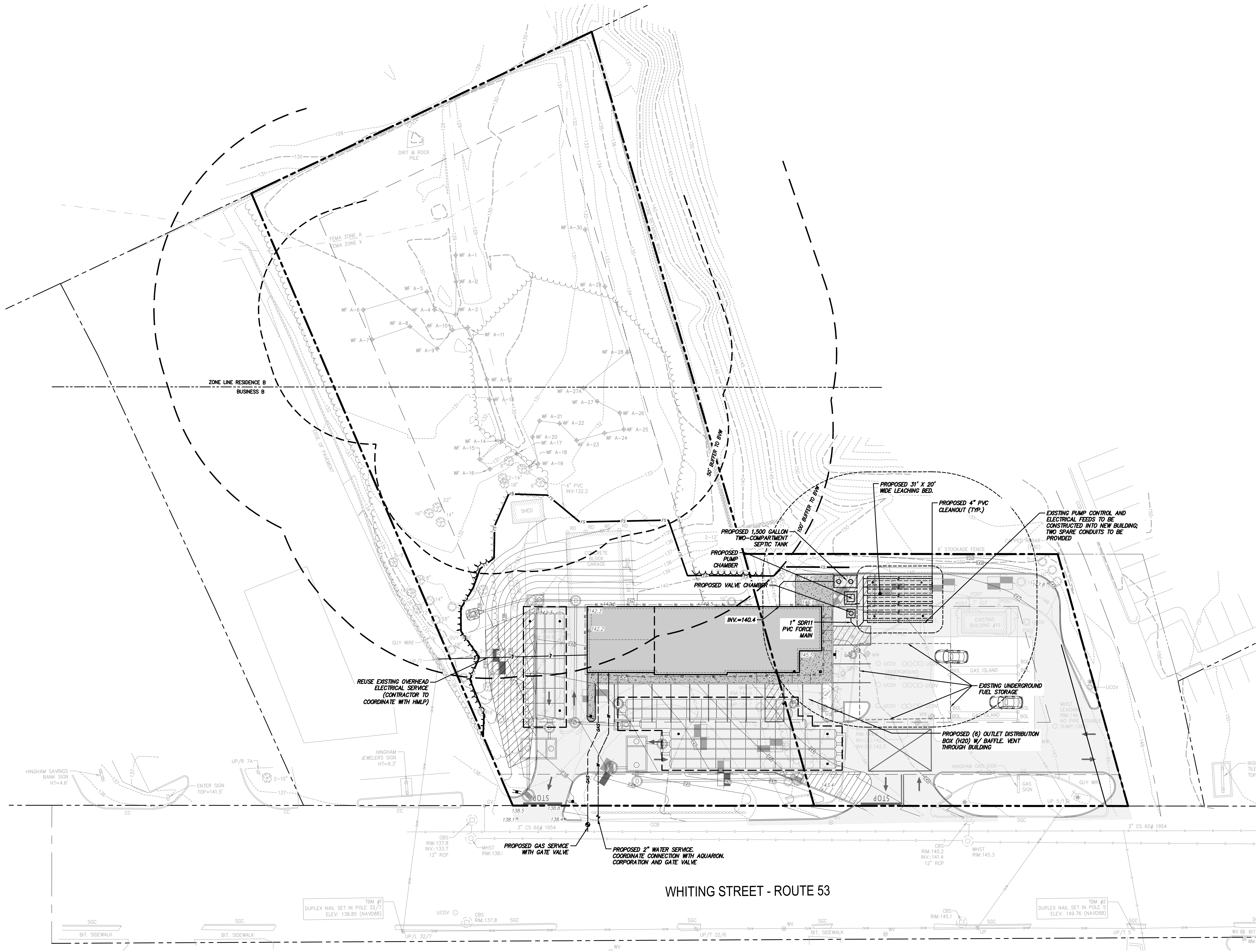
GRADING & DRAINAGE PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:

C-201

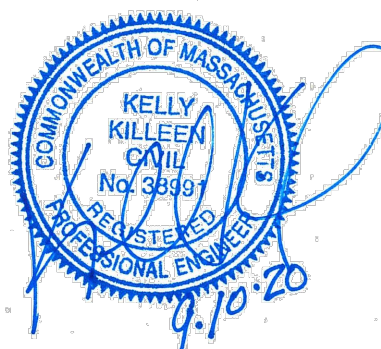
File: \\CHA-LP-COM\PROJ\PROJECTS\ANY\K5 060903.000\CADD\ACAD\060903_C-301 UTILITY PLAN.DWG Saved: 9/9/2020 1:03:32 PM Plotted: 9/10/2020 7:54:26 PM Current User: Rose, Donald LastSavedBy: 4323



0 20 40
Scale in feet

OWNER/APPLICANT:

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HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

UTILITY PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
C-301

1. THE CONTRACTOR SHALL SUPPLY PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN. ANY DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THOSE REQUIRED BY THE CONTRACT DRAWINGS SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL REMUNERATION.
2. THE CONTRACTOR SHALL VERIFY AND VISUALLY INSPECT FINAL SELECTION OF PLANT MATERIALS WITH THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
3. ALL PLANTING LOCATIONS SHALL BE STAKED OUT AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
4. NO PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR MECHANICAL DAMAGE. THE OWNER RETAINS THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNFIT.
5. CONTRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DUE TO AVAILABILITY WITH WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
6. EXISTING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF THE PROPOSED CONTRACT LIMIT LINE.
7. GUARANTEE:
 - A. FOR A PERIOD OF [TWELVE MONTHS] FROM THE DATE THAT THE WORK UNDER THIS CONTRACT IS CERTIFIED AS COMPLETE, THE CONTRACTOR SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) REMOVE AND REPLACE DURING THIS GUARANTEE PERIOD PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK OF SAME SIZE AND QUALITY AS ORIGINALLY SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO THE OWNER.
 - B. REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PERIOD SHALL NOT EXTEND THE GUARANTEE PERIOD OF THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER THE BEGINNING OF THE GUARANTEE PERIOD SHALL BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF PLACEMENT.
8. WATER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING.

1. WEED SEED CONTENT SHALL NOT EXCEED 0.25%.
2. THE SEED MIXTURE SHALL BE DISTRIBUTED BY MEANS OF HYDRO-SEEDING.
3. THE FERTILIZER SHALL BE A 5-10-5 COMMERCIAL GRADE FERTILIZER APPLIED AT THE MANUFACTURERS RECOMMENDED APPLICATION RATE.
4. SEEDING APPLICATION RATE SHALL BE 4 LBS PER 1,000 SQ. FT.
5. WATER THOROUGHLY IMMEDIATELY AFTER SEEDING.
6. MAINTAIN AND PROTECT ALL SEEDED AREAS UNTIL A UNIFORM STAND OF GRASS HAS BEEN ESTABLISHED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.

1. ALL AREAS OF THE SITE WHICH ARE DISTURBED AND NOT PLANTED, MULCHED, PAVED, ETC. SHALL BE TOPSOILED AND SEEDING.

2. TOPSOIL TO BE INSTALLED TO A MINIMUM 4" DEPTH IN LAWN AREAS AND 12" IN PLANTING BEDS.

3. TOPSOIL SHALL CONSIST OF FERTILE, FRIABLE, NATURAL LOAM FREE OF SUBSOIL, CLAY LUMPS, BRUSH, TWIGS, ENVIRONMENTAL CONTAMINANTS, STONES OR OTHER DELETERIOUS MATERIALS LARGER THAN 1.5" IN GREATEST DIMENSION.

4. PROPOSED TOPSOIL SHALL BE TESTED BY AN INDEPENDENT TESTING FACILITY WITH TEST RESULTS SUBMITTED TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL. CONTRACTOR SHALL PAY FOR ALL TESTING. ACCEPTANCE OF TOPSOIL SHALL BE BASED UPON TEST RESULTS. ONE TEST SHALL BE PERFORMED PER 100 C.Y. OF TOPSOIL. LABORATORY TESTS SHALL INCLUDE THE FOLLOWING:

A. SIEVE PARTICLE SIZE ANALYSIS AND GRADIENT OF MINERAL CONTENT.

SCREEN SIZE	% SOIL RETAINED	% SOIL PASSING
1"	0	100
1/4"	3	97
NO. 100	40-60	40-60

B. CHEMICAL ANALYSIS OF THE FOLLOWING:

I. PH (BETWEEN 5.5 AND 7.0)

II. PERCENT OF ORGANIC CONTENT (NO LESS THAN 6% NOR MORE THAN 20%).

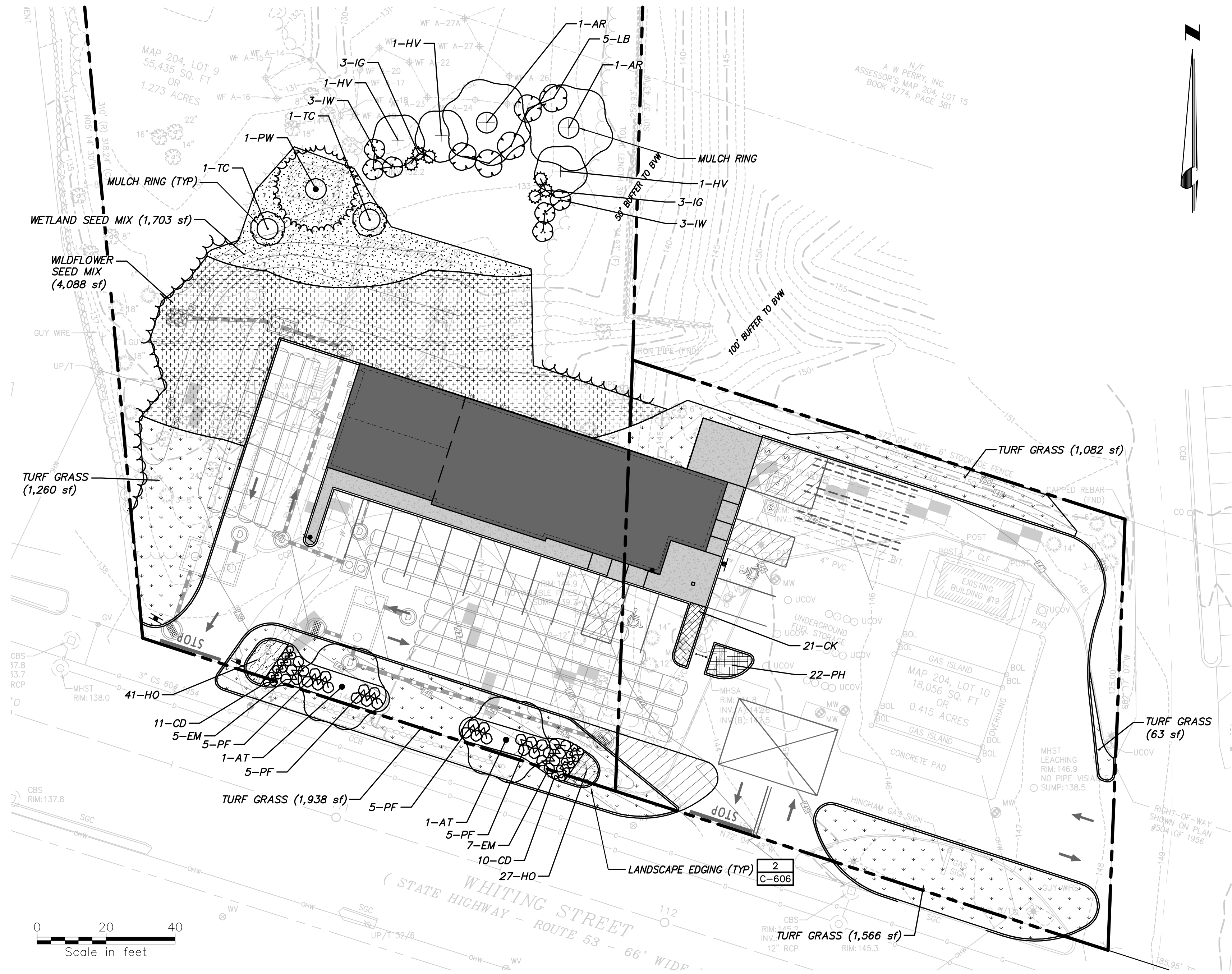
III. NUTRIENT LEVELS OF PHOSPHORUS, POTASSIUM MAGNESIUM, MANGANESE, IRON, ZINC AND CALCIUM


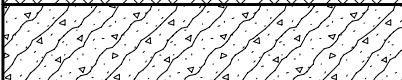
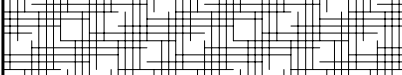
IV. SOLUBLE SALT

V. CATION EXCHANGE CAPACITY (CEC).

C. NATURAL TOPSOIL MAY BE AMENDED WITH APPROVED MATERIALS, BY APPROVED METHODS, TO MEET THE ABOVE SPECIFICATIONS.

	<p><u>WETLAND SEED MIX</u> APPLICATION RATE: 25LBS/ACRE 1750 SQ FT/LB SPECIES: VIRGINIA WILD RYE (Elymus virginicus), LITTLE BLUESTEM (Schizachyrium scoparium), BIG BLUESTEM (Andropogon gerardii), RED FESCUE (Festuca rubra), SWITCH GRASS (Panicum virgatum), PARTRIDGE PEA (Chamaecrista fasciculata), PANICLEDLEAF TICK TREFOIL (Desmodium paniculatum), INDIAN GRASS (Sorghastrum nutans), BLUE VERVAIN (Verbena hastata), BUTTERFLY MILKWEED (Asclepias tuberosa), BLACK EYED SUSAN (Rudbeckia hirta), COMMON SNEEZEWEED (Helenium autumnale), HEATH ASTER (Aster pilosus)/SYMPHYOTRICHUM PILOSUM), EARLY GOLDENROD (Solidago juncea), UPLAND BENTGRASS (Agrostis perennans).</p>	<p>1,703 SF</p>		<p><u>WILDFLOWER SEED MIX</u> APPLICATION RATE: 23 LBS/ACRE 1900 SQ FT/LB SPECIES: LITTLE BLUESTEM (Schizachyrium scoparium), RED FESCUE (Festuca rubra), INDIAN GRASS (Sorghastrum nutans), PARTRIDGE PEA (Chamaecrista fasciculata), CANADA WILD RYE (Elymus canadensis), VIRGINIA WILD RYE (Elymus virginicus), BLUE VERVAIN (Verbena hastata), BUTTERFLY MILKWEED (Asclepias tuberosa), NARROWLEAFED BLUE EYED GRASS (Sisyrinchium angustifolium), BLACK EYED SUSAN (Rudbeckia hirta), NEW ENGLAND ASTER (Symphyotrichum novae-angliae), SPIKED GAYFEATHER/ MARSH BLAZING STAR (Liatris spicata), STARVED/CALICO ASTER (Aster lateriflorus)/SYMPHYOTRICHUM LATERIFLORUM), EARLY GOLDENROD (Solidago juncea), HOLLOW-STEM JOE PYE WEED (Eupatorium fistulosum)/EUTROCHUM FISTULOSUM)</p>	<p>4,088 SF</p>
	<p><u>TURF GRASS</u> 60% KENTUCKY BLUEGRASS* 20% CREEPING RED FESCUE 20% PERENNIAL RYEGRASS *KENTUCKY BLUEGRASS SHALL CONTAIN A MINIMUM OF TWO VARIETIES.</p>	<p>5,908 SF</p>		<p><u>TURF GRASS</u> 60% KENTUCKY BLUEGRASS* 20% CREEPING RED FESCUE 20% PERENNIAL RYEGRASS *KENTUCKY BLUEGRASS SHALL CONTAIN A MINIMUM OF TWO VARIETIES.</p>	<p>5,908 SF</p>



PLANT SCHEDULE									
1 C-606	TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS	
	AR	2	ACER RUBRUM	RED MAPLE	1.5" CAL.	B&B		REPLACEMENT TREES	
	AT	2	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B			
	PW	1	PINUS ALBA	WHITE PINE	1.5" CAL.	B&B			
	TC	2	TSUGA CANADENSIS	CANADIAN HEMLOCK	8'-10' HT.	B&B			
4 C-606	SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS	
	CD	21	CARYOPTERIS X CLANDONENSIS 'DARK KNIGHT'	DARK KNIGHT BLUEBEARD	18-24" HT.	CONT.			
	EM	12	EUONYMUS FORTUNEI 'MOONSHADOW' TM	MOONSHADOW EUONYMUS	6-12"	1 GAL			
	HV	3	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	4' HT.	B&B			
	IG	6	ILEX GLABRA 'SHAMROCK'	INKBERRY	18-24" HT.	CONT.			
	IW	6	ILEX VERTICILLATA	WINTERBERRY	2.5' HT.				
	LB	5	LINDERA BENZOIN	SPICEBUSH	2.5' HT.	CONT.			
	PF	20	POTENTILLA FRUTICOSA 'PINK BEAUTY'	PINK BEAUTY POTENTILLA	18-24" HT.	CONT.			
3 C-606	PERENNIALS & GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
		CK	21	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1' HT.	#1 CONT.	24" o.c.	SPACE 24" O.C.
		HO	68	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1' HT.	#1 CONT.	18" o.c.	SPACE 18" O.C.
		PH	22	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1' HT.	#1 CONT.	24" o.c.	SPACE 24" O.C.

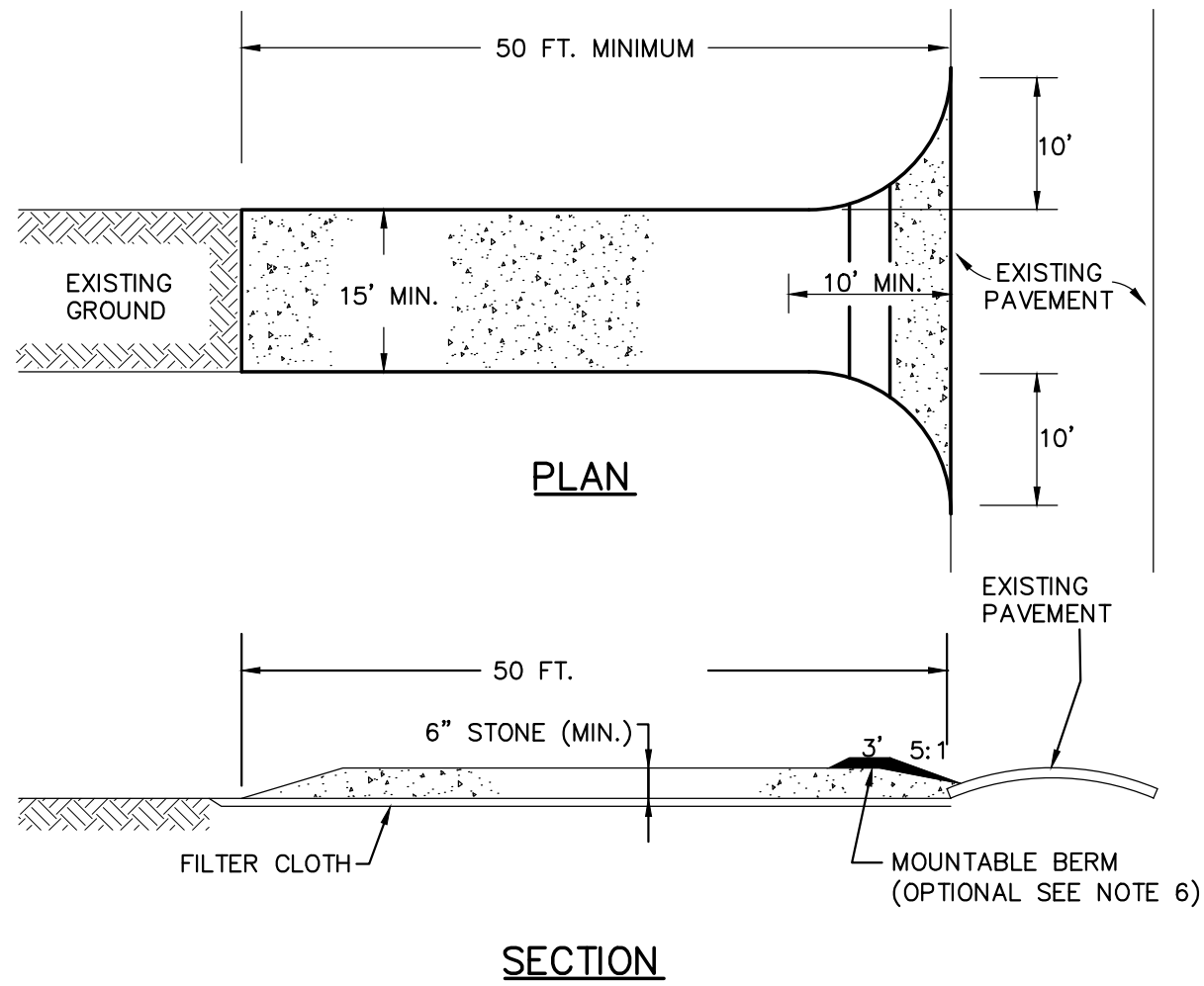
HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	NJS	JK	5/1/2020
B	PERMIT SET	NJS	JK	9/10/2020

Designed By: JK	Drawn By: JK	Checked By: NJS
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
C-501

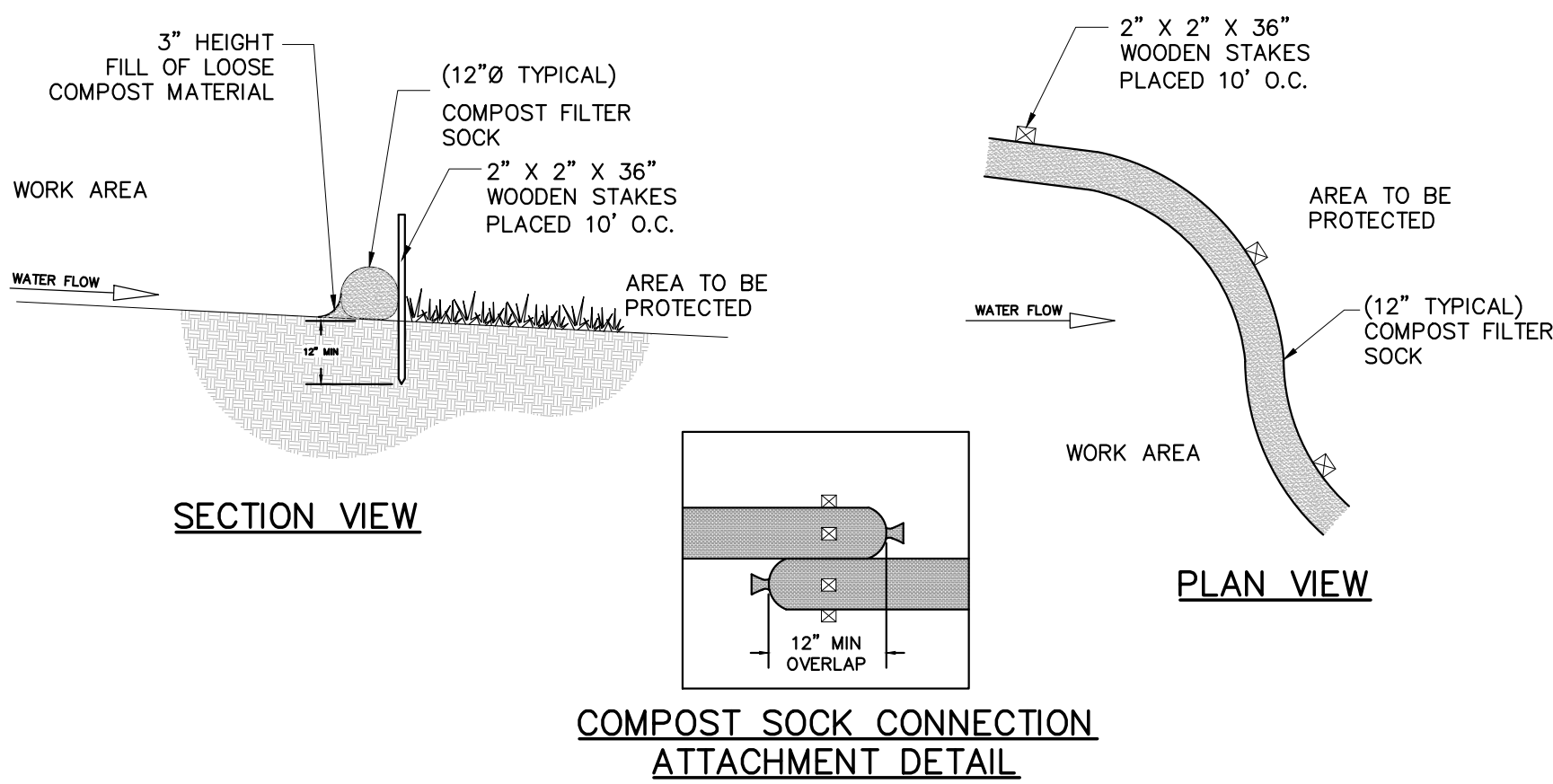
File: \\CHA-LP.COM\PROJ\PROJECTS\ANY\K5\060903.000\CADD\ACAD\060903_C-601 DETAILS.DWG Saved: 9/9/2020 7:00:23 PM Plotted: 9/10/2020 7:57:52 PM Current User: Rose, Donald LastSavedBy: 4323



CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE: USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH: RECOMMEND GREATER THAN OR EQUAL TO 50 FEET WHERE SOILS ARE SANDS AND GRAVELS AND 100 FEET IN SILTS AND CLAYS.
3. THICKNESS: NOT LESS THAN SIX (6) INCHES.
4. WIDTH: FIFTEEN (15) FOOT, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OF EGRESS OCCURS.
5. FILTER CLOTH: SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE INSTALLED.
7. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY AND ON AN ON GOING BASIS.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

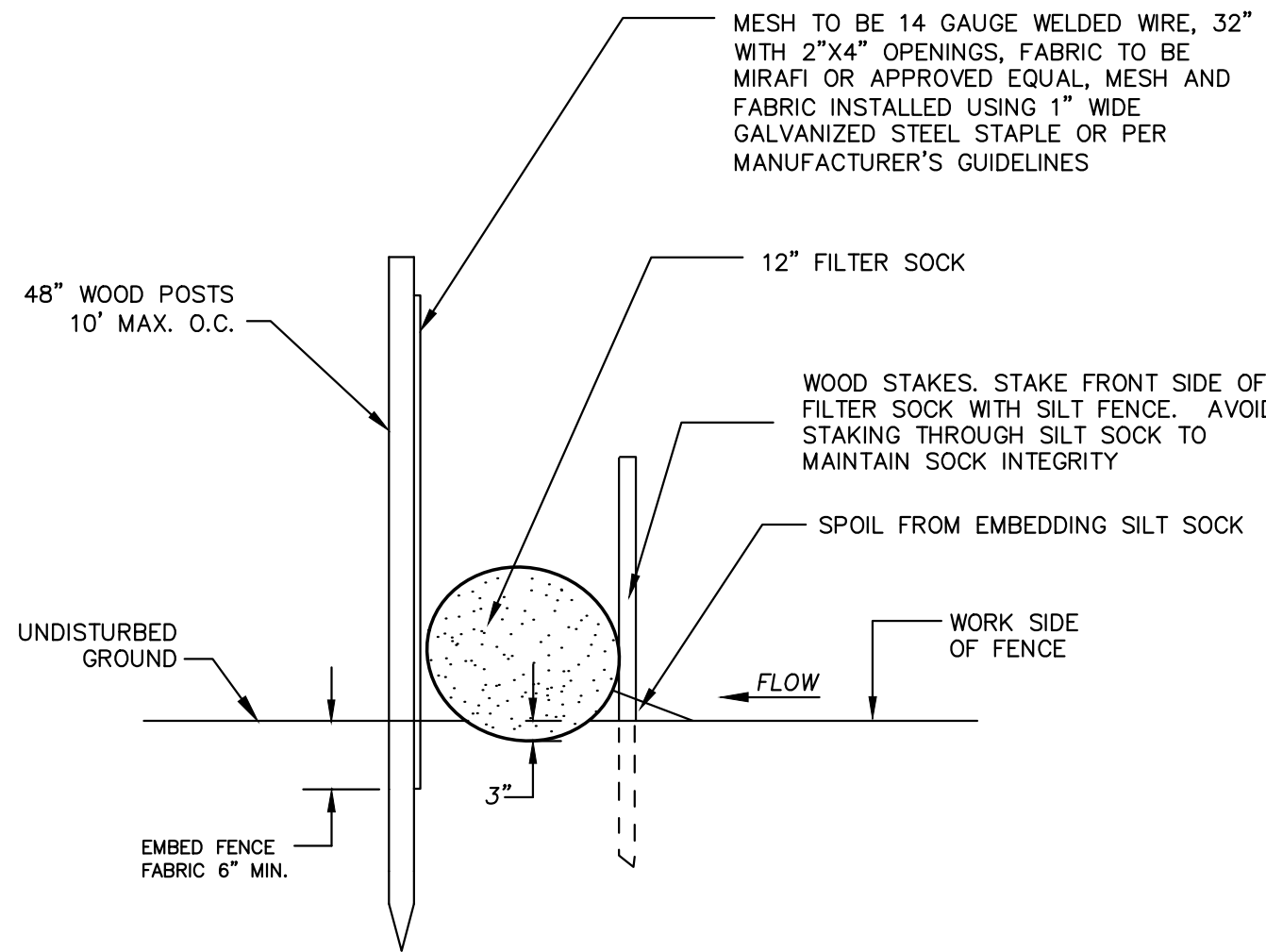
1 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NO SCALE



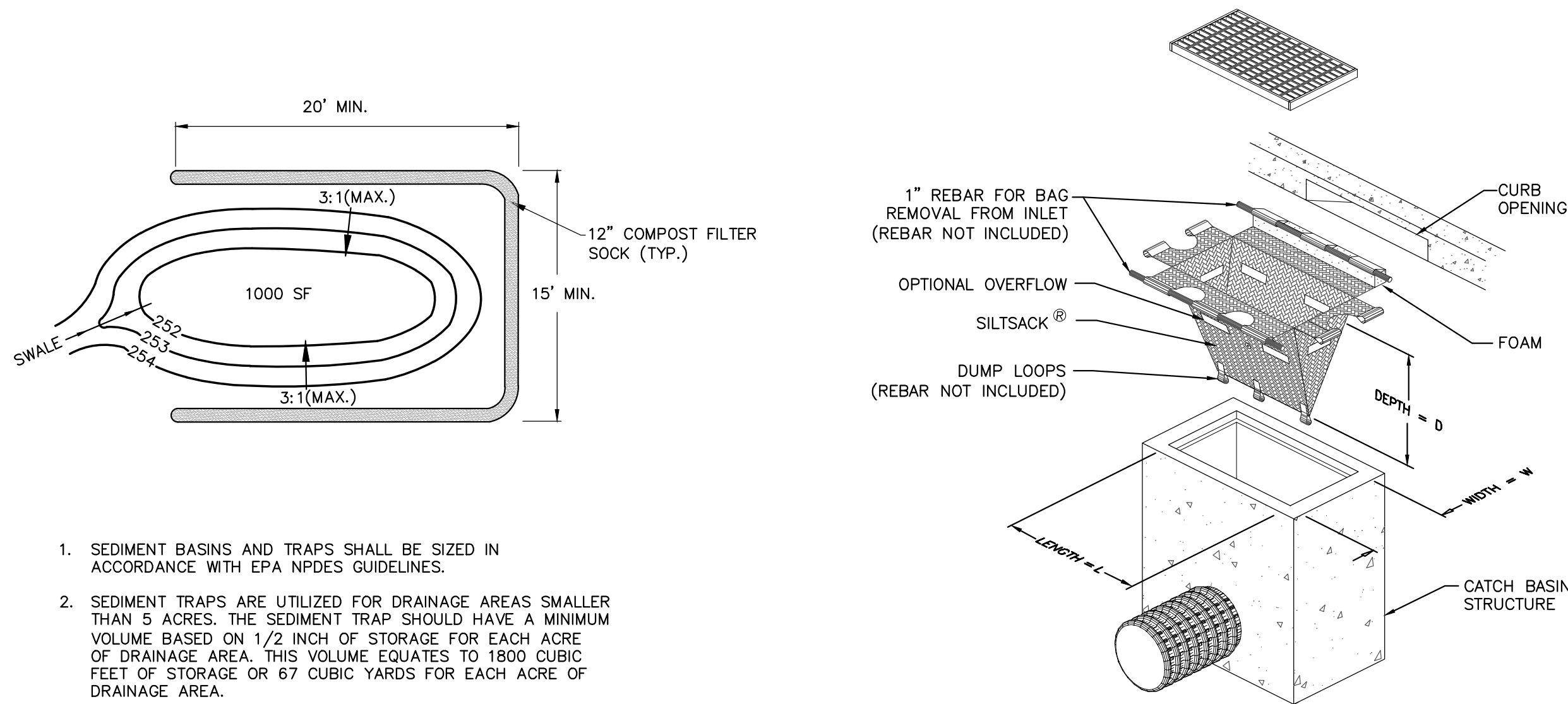
NOTES:

1. PREFABRICATED COMPOST SOCK SHALL BE FILTREXX SOXX OR APPROVED EQUAL.
 2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED. CONTRACTOR SHALL REFER TO MASSDOT SPECIFICATIONS M1.06.0 FOR MATERIAL SPECIFICATIONS.
 3. SOCK SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.
- PRACTICE: COMPOST FILTER SOCK:
A COMPOST FILTER SOCK IS A TYPE OF CONTAINED COMPOST FILTER BERM CONSISTING OF A MESH TUBE FILLED WITH COMPOST MATERIAL THAT IS PLACED PERPENDICULAR TO SHEET FLOW RUNOFF TO RETAIN SEDIMENT FROM DISTURBED AREAS. THE COMPOST FILTER SOCK ACTS AS A FILTER TO RETAIN SEDIMENT AND OTHER POLLUTANTS (E.G., SUSPENDED SOLIDS, NUTRIENTS) WHILE ALLOWING THE WATER TO FLOW THROUGH IT. COMPOST QUALITY MUST MEET AASHTO 2010 SPECIFICATIONS.
- INSTALLATIONS REQUIREMENTS:
ONCE THE FILTER SOCK IS FILLED AND PUT IN PLACE, IT SHOULD BE ANCHORED TO THE SLOPE BY STAKES ALONG THE DOWNHILL SIDE OF THE SOCK AT 10' SPACING ON CENTER (O.C.) THE ENDS OF THE FILTER SOCK SHOULD BE DIRECTED UPSLOPE, TO PREVENT STORMWATER FROM RUNNING AROUND THE END OF THE TUBE.
- MAINTENANCE REQUIREMENTS:
SOCK MUST BE INSPECTED FOR SEDIMENT ACCUMULATION. IF THERE IS EXCESSIVE PONDING BEHIND THE FILTER SOCK OR ACCUMULATED SEDIMENT REACHES THE TOP OF THE SOCK, AN ADDITIONAL SOCK SHOULD BE ADDED ON TOP OR INFRONT OF THE EXISTING SOCK IN THESE AREAS. AN ADEQUATE RESERVE OF SOCKS MUST BE KEPT ON SITE AT ALL TIMES FOR EMERGENCY AND/OR ROUTINE REPLACEMENT. SOCKS SHALL BE REMOVED ONLY AFTER EXPOSED SOILS IN THE CONTRIBUTING DRAINAGE AREA ACHIEVE FINAL STABILIZATION. SEDIMENT ACCUMULATION MUST BE REMOVED ONCE IT HAS REACHED 1/2 OF THE EXPOSED HEIGHT OF THE SOCK.

2 12-INCH COMPOST FILTER SOCK
SCALE: NO SCALE



3 12" FILTER SOCK WITH WIRE BACKED SILT FENCE
SCALE: NO SCALE

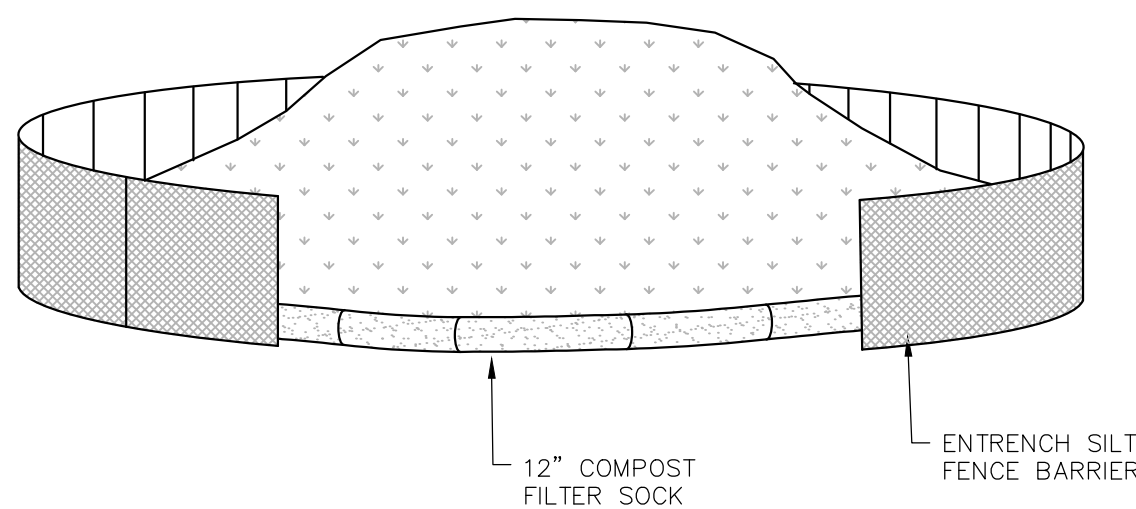


1. SEDIMENT BASINS AND TRAPS SHALL BE SIZED IN ACCORDANCE WITH EPA NPDES GUIDELINES.
2. SEDIMENT TRAPS ARE UTILIZED FOR DRAINAGE AREAS SMALLER THAN 5 ACRES. THE SEDIMENT TRAP SHOULD HAVE A MINIMUM VOLUME BASED ON 1/2 INCH OF STORAGE FOR EACH ACRE OF DRAINAGE AREA. THIS VOLUME EQUATES TO 1800 CUBIC FEET OF STORAGE OR 67 CUBIC YARDS FOR EACH ACRE OF DRAINAGE AREA.
3. SEDIMENT BASIN ARE UTILIZED FOR DRAINAGE AREAS FROM 5 TO 100 ACRES. THE TEMPORARY SEDIMENT BASIN SHOULD HAVE A MINIMUM VOLUME OF 3,600 CUBIC FEET FOR EACH ACRE OF DRAINAGE AREA.
4. LOCATION DICTATED BY SEQUENCE OF CONSTRUCTION. CONTRACTOR TO PROVIDE WHERE NECESSARY TO FILTER RUNOFF FROM CONSTRUCTION AREAS PRIOR TO DISCHARGE.
5. SEDIMENT BASIN TO HAVE 12" VERTICAL PERFORATED PIPE WRAPPED WITH FILTER FABRIC AND SCREEN ON TOP FOR OVERFLOW.

4 TEMPORARY SEDIMENT BASIN
SCALE: NO SCALE

- NOTES:
1. REMOVE ACCUMULATED SEDIMENT WHEN CAPACITY IS REDUCED BY HALF OR PER MANUFACTURER'S RECOMMENDATIONS.
 2. CATCH BASIN INSERT TO BE SILTSACK® BY ACF ENVIRONMENTAL. PHONE: 1-800-448-3636, acfenvironmental.com OR EQUIVALENT.
 3. INSTALL ON ALL EXISTING CATCH BASINS WITHIN SNOW BIRD AVENUE AND ADJACENT CATCH BASINS ON INTERSECTION ROADS IF ROADWAY DRAINAGE CAN REACH THOSE.

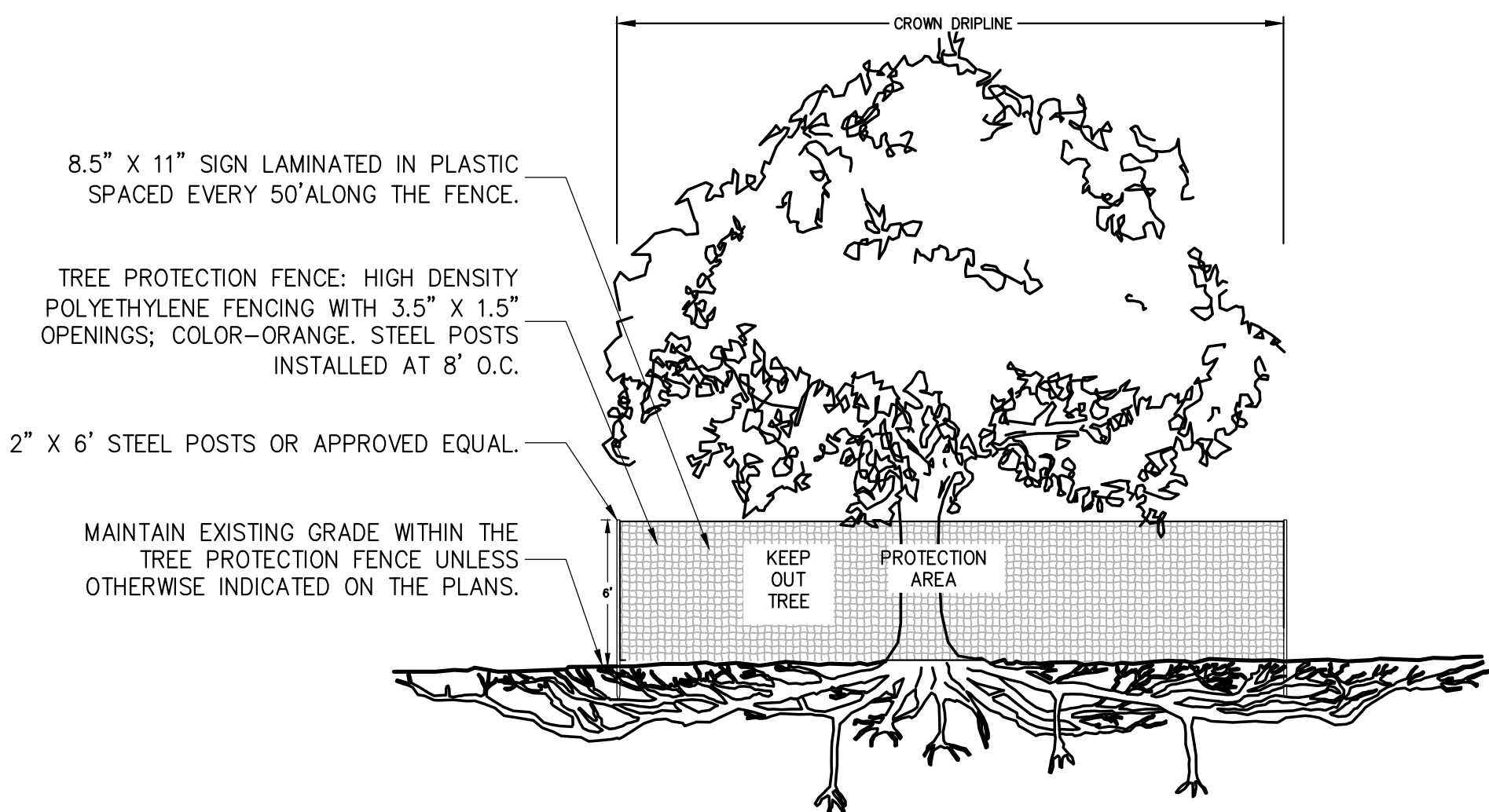
5 FILTER SACK CATCH BASIN INSERT DETAIL
SCALE: NO SCALE



INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH COMOST FILTER SOCK, THEN STABILIZED WITH VEGETATION, OR COVERED.
4. SEE SPECIFICATIONS FOR INSTALLATION OF COMPOST FILTER SOCKS.

6 SOIL STOCKPILE
SCALE: NO SCALE



NOTES:

1. CONTRACTOR TO MAINTAIN INTEGRITY OF CONSTRUCTION FENCE FOR DURATION OF PROJECT.
2. NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
3. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
4. SEE SITE PREPARATION PLAN FOR ANY MODIFICATIONS WITH THE TREE PROTECTION AREA.

7 TREE PROTECTION
NOT TO SCALE

OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



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STREET
HINGHAM, MA 02043

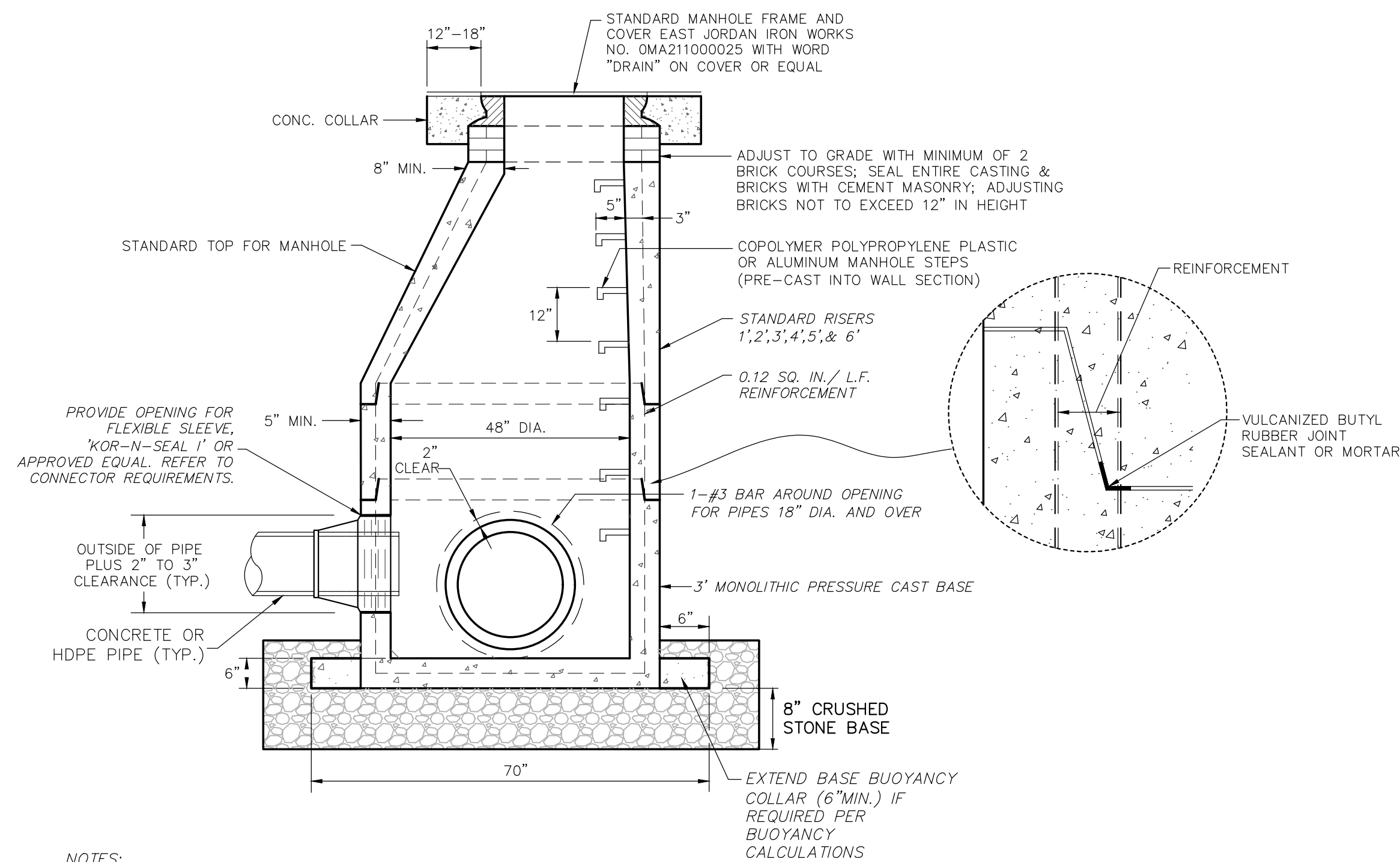
No.	Submittal / Revision	App'd	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

SITE DETAILS

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Issue Date: 05/01/2020	Project No: 060903	Scale:

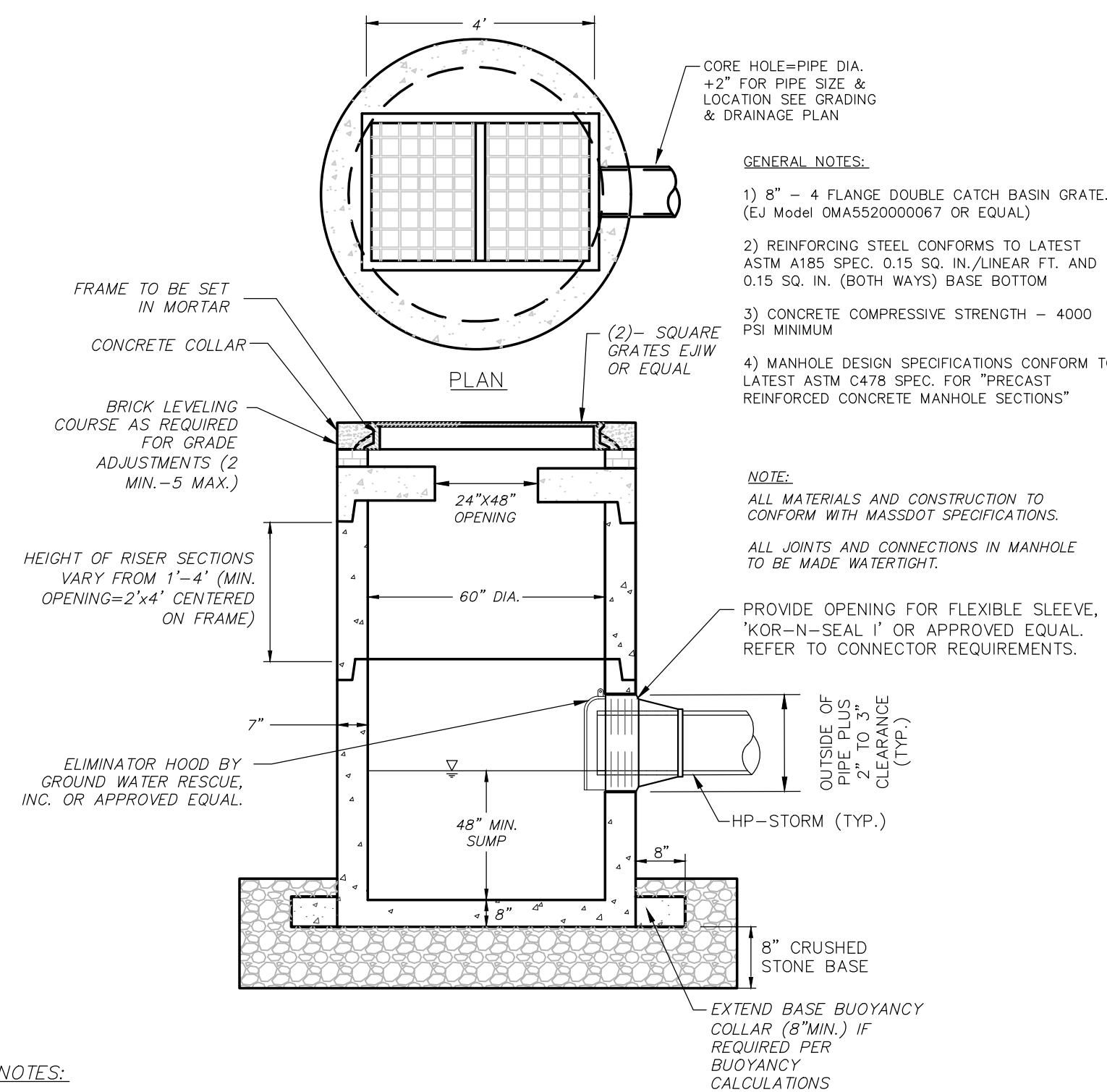
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C-601



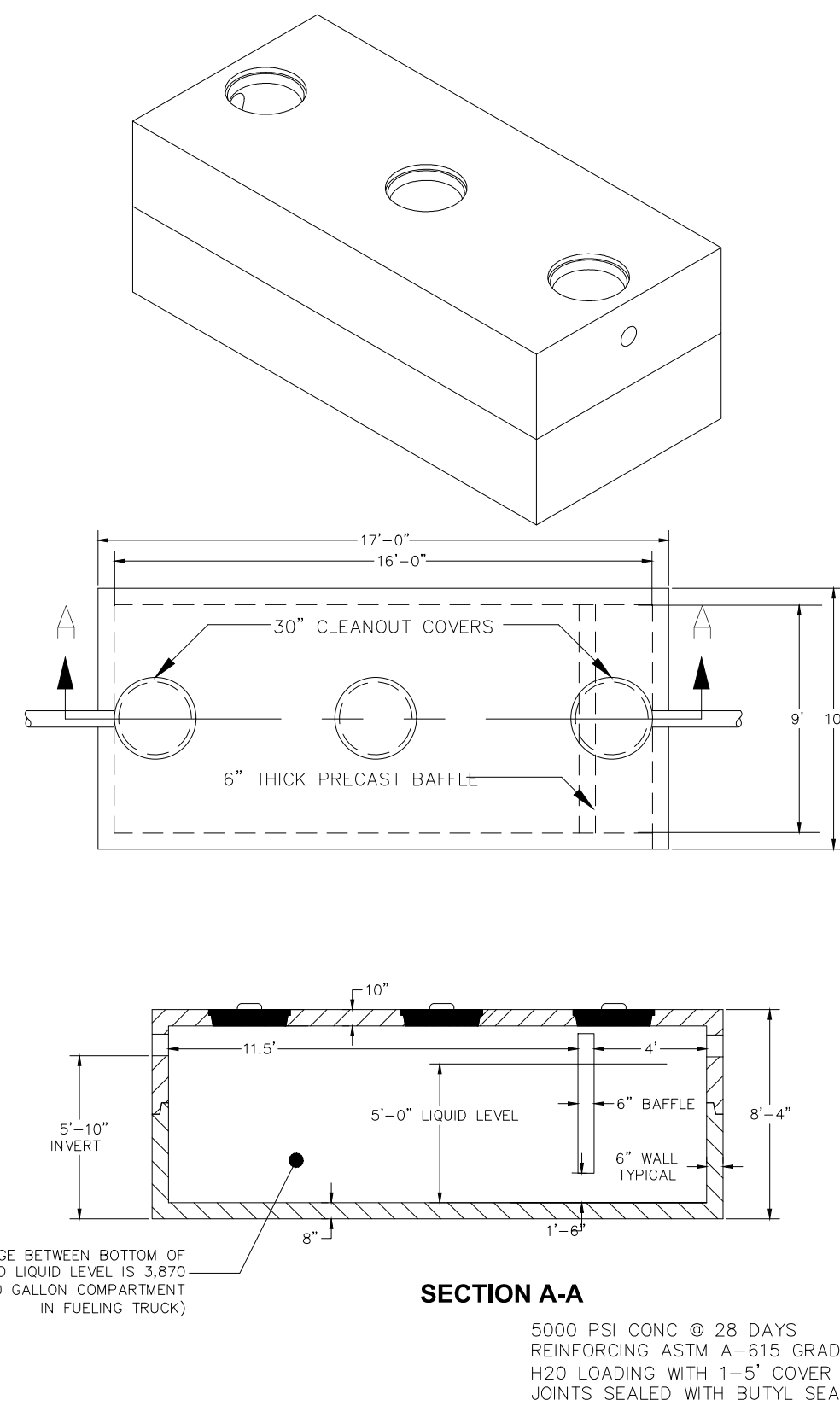
1 STANDARD PRE-CAST DRAIN MANHOLE

SCALE: NO SCALE



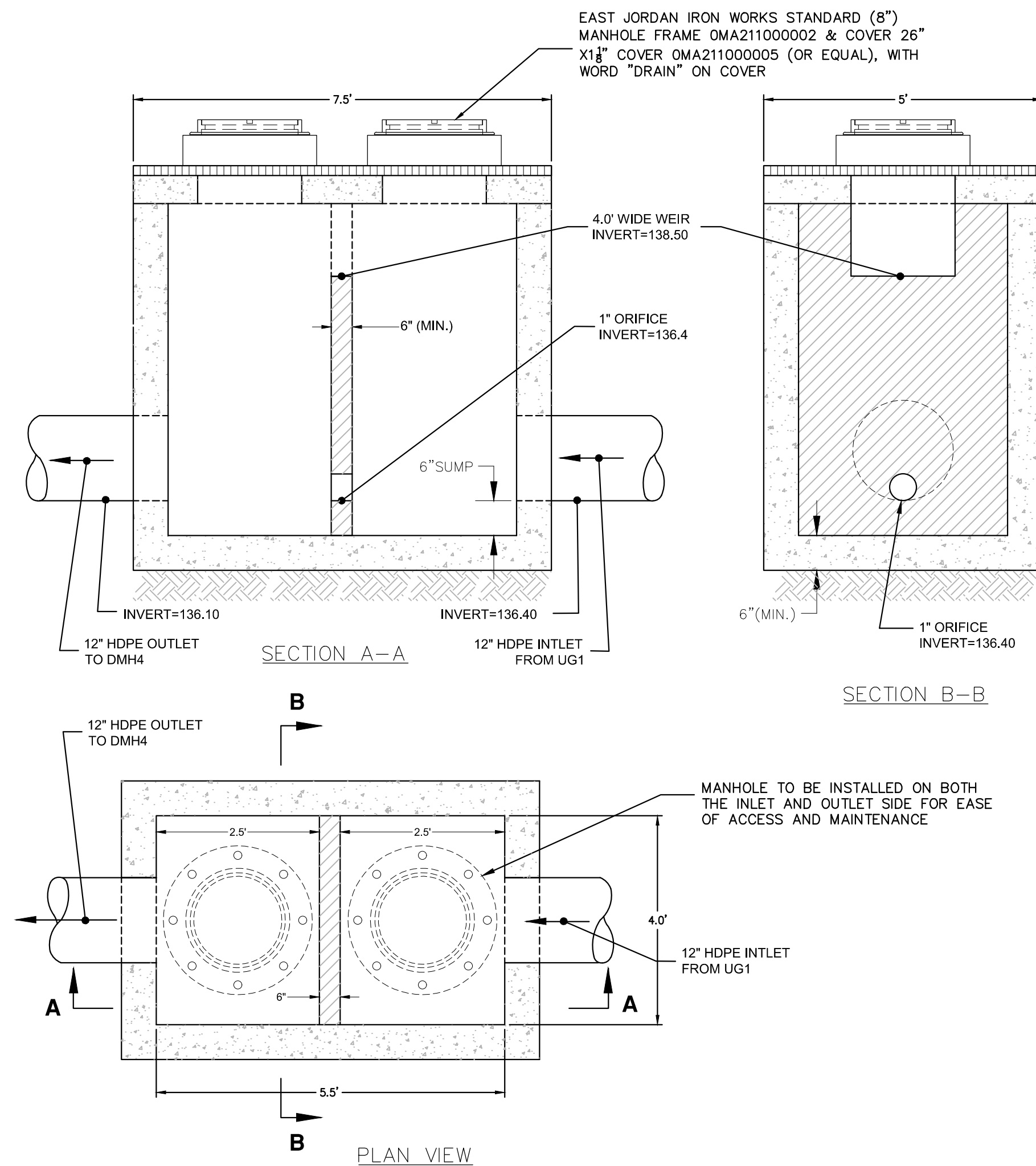
2	DOUBLE GRATE CATCH BASIN
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SCALE: NO SCALE



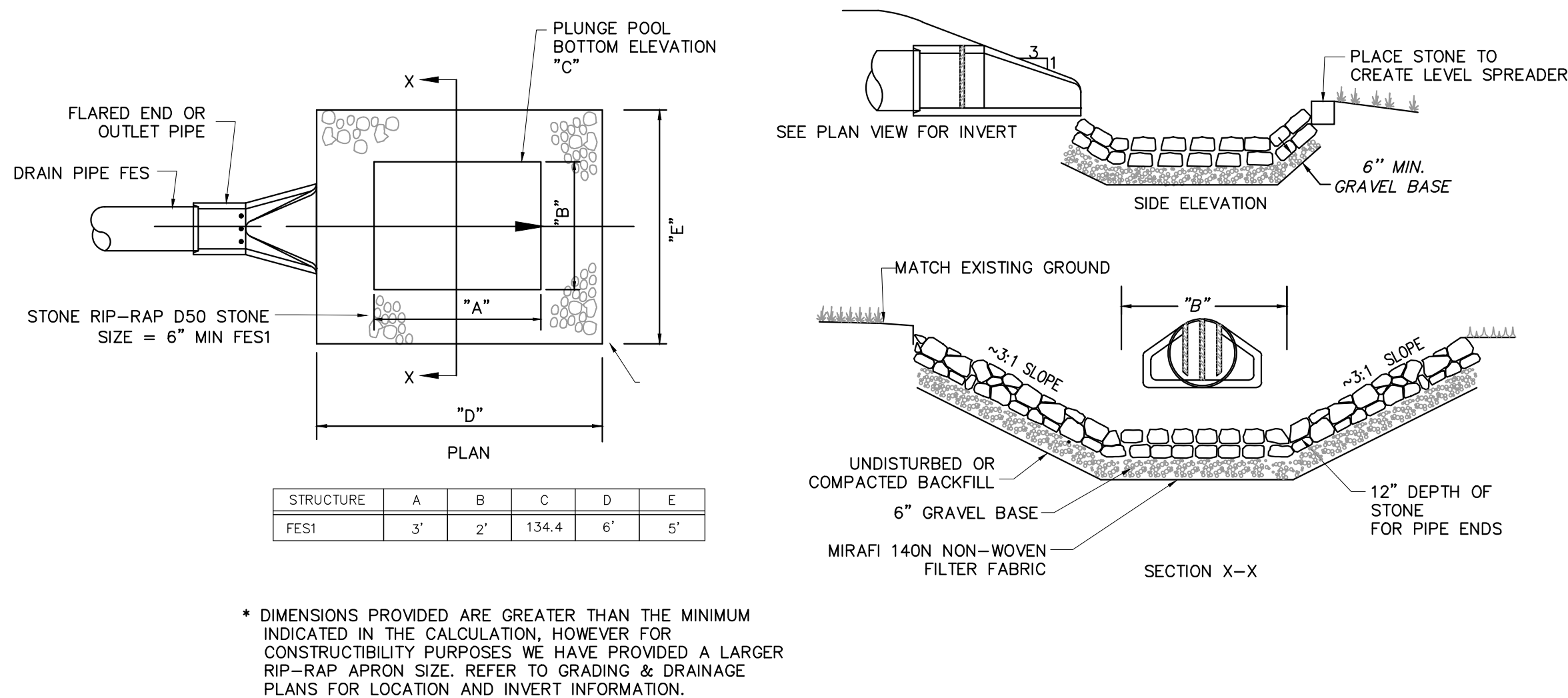
3	ADS HDPE FLARED END SECTION
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SCALE: NO SCALE



OUTLET CONTROL STRUCTURE (OCS-1)

SCALE: NO SCALE



4 PLUNGE POOL/ENERGY DISSIPATER

SCALE: NO SCALE

6,000 GALLON OIL/WATER SEPARATOR

SCALE: NO SCALE

ADS FLARED END SECTION SPECIFICATION:

SCOPE

THIS SPECIFICATION DESCRIBES 12- THROUGH 36-INCH (300 TO 900MM) ADS FLARED END SECTIONS FOR USE IN CULVERT AND DRAINAGE OUTLET APPLICATIONS.

REQUIREMENTS

THE INVERT OF THE PIPE AND THE END SECTION SHALL BE AT THE SAME ELEVATION. THE ADS FLARED END SECTION SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C; CONTACT MANUFACTURER FOR ADDITIONAL CELL CLASSIFICATION INFORMATION. WHEN PROVIDED, THE METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL.

INSTALLATION

INSTALLATION SHALL BE IN ACCORDANCE WITH ADS INSTALLATION INSTRUCTIONS AND WITH THOSE ISSUED BY STATE OR LOCAL AUTHORITIES.



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SITE DETAILS

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Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

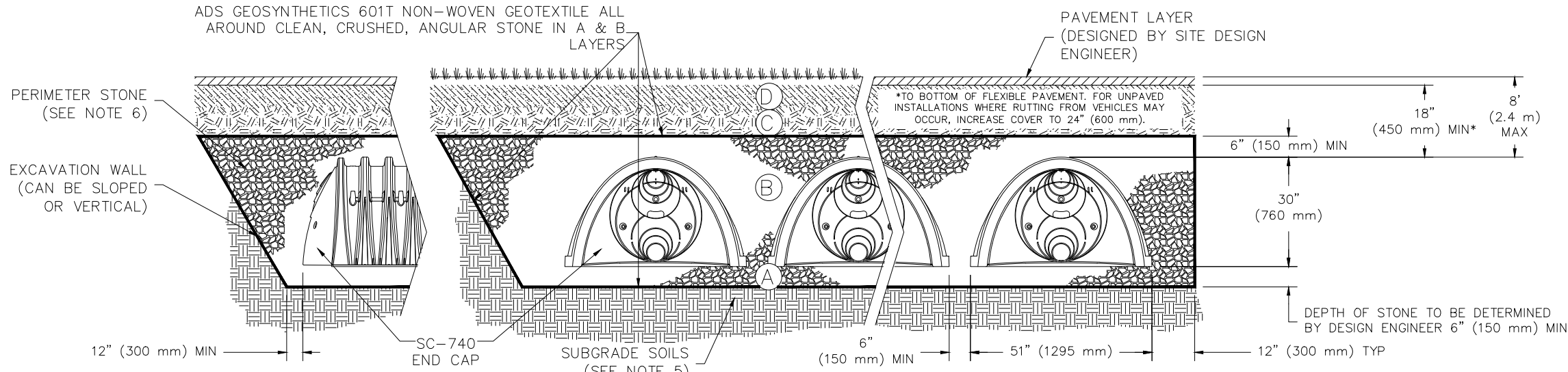
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ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

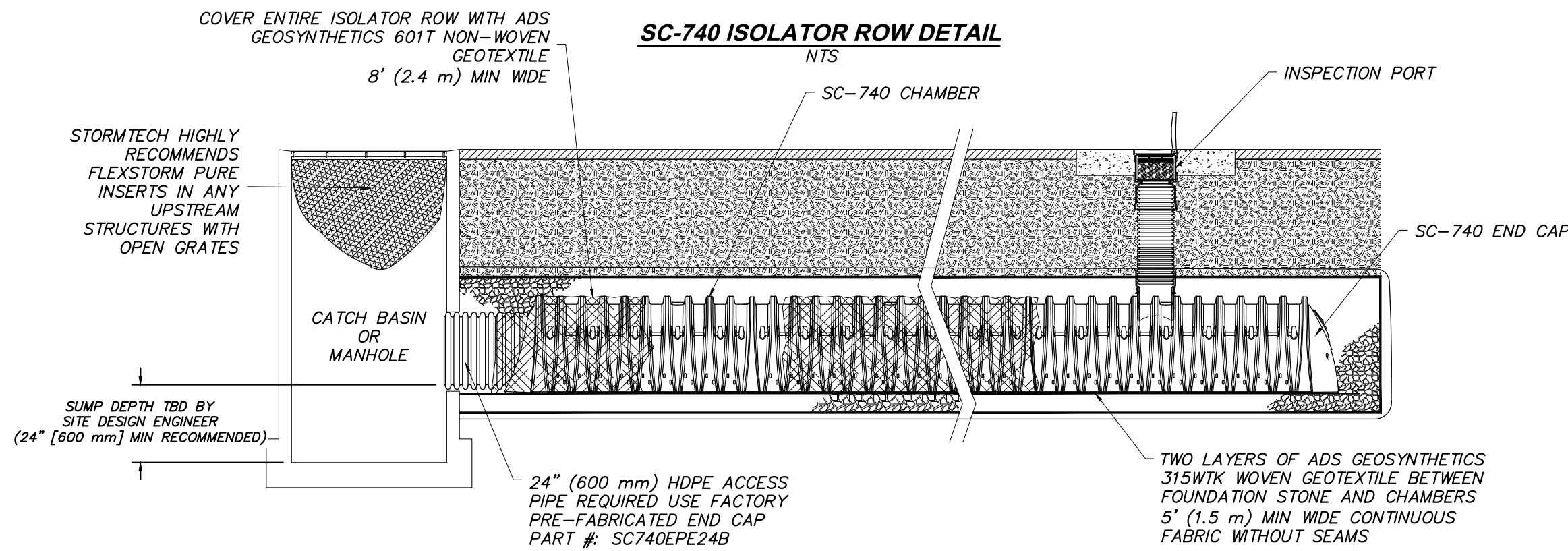
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	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 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 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 95% 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 ¹ 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 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ¹

- PLEASE NOTE:
- 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".
 - 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.
 - 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 SOIL/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.
- STORMTECH SC-740 UNITS TO BE H20 RATED FOR VEHICLE LOADS.



INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT

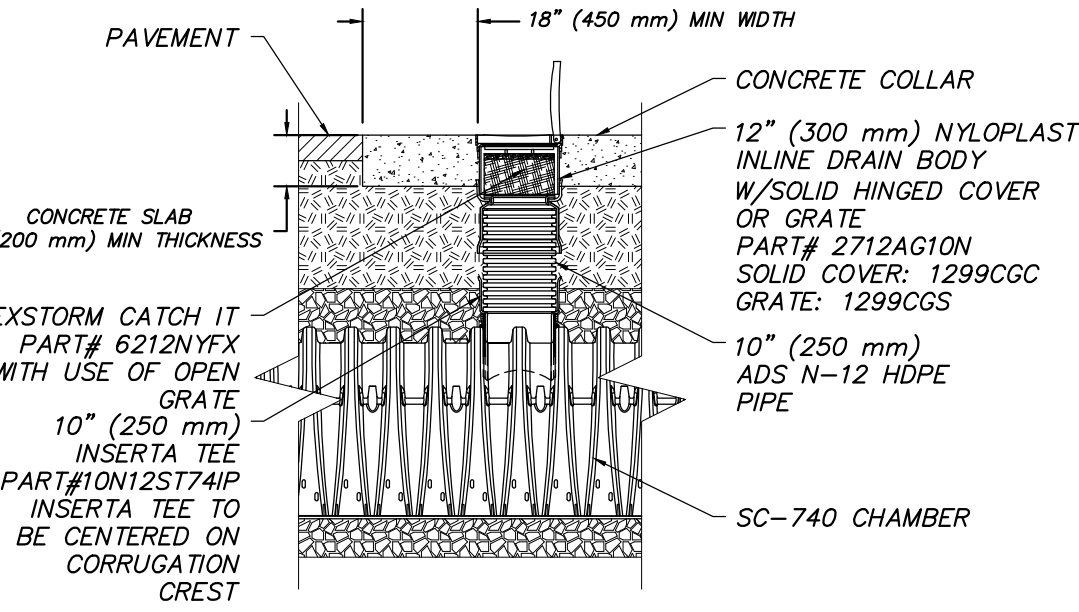
- A. INSPECTION PORTS (IF PRESENT)
- REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - 2.1: MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - 2.2: FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 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 FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- 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.



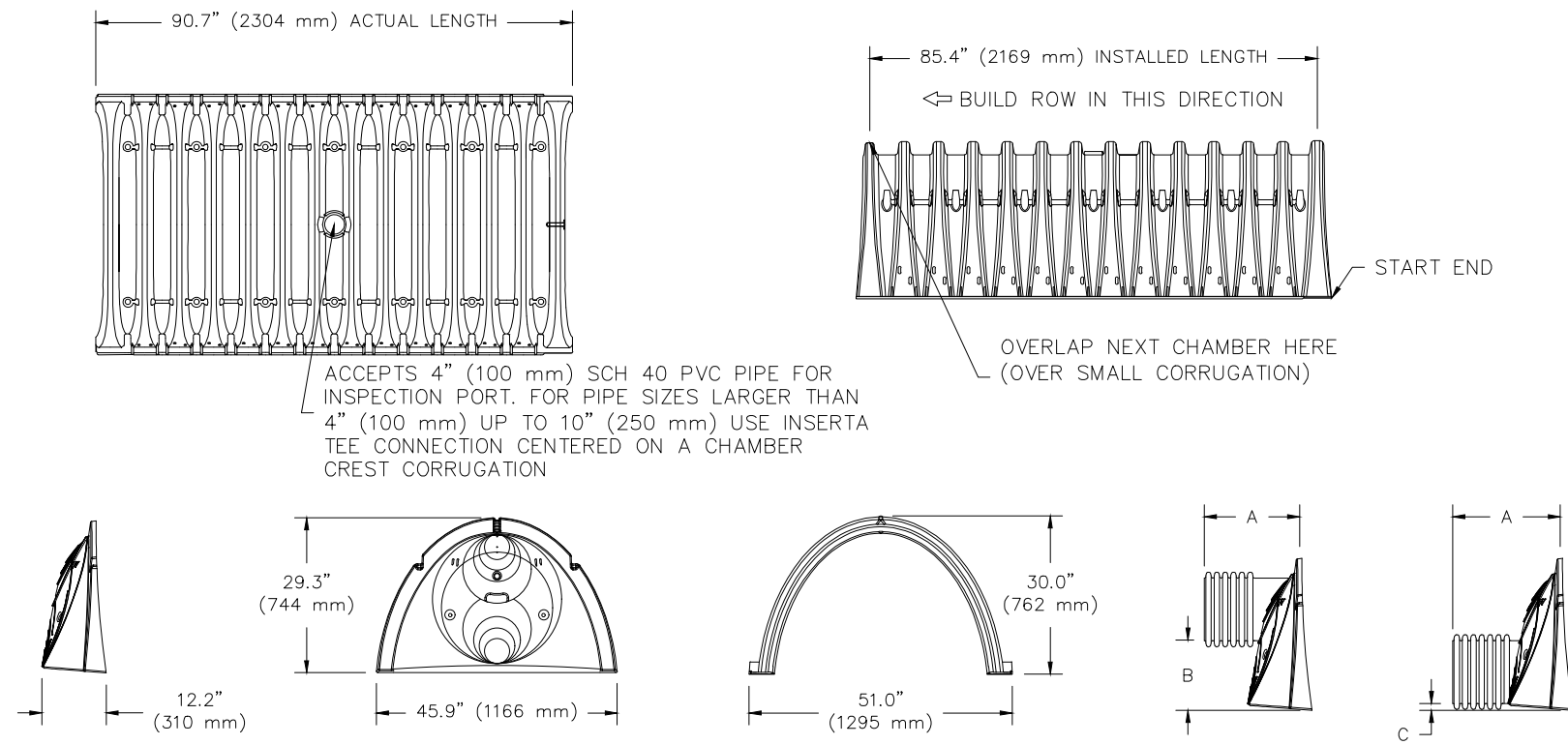
NOTES

- 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 TECHNICAL SPECIFICATION

1 STORMTECH SC-740 CHAMBER UNIT SYSTEM

SCALE: NO SCALE



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4" (1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET (1.30 m ³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET (2.12 m ³)
WEIGHT	75.0 lbs. (33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC	6" (150 mm)	10.9" (277 mm)	16.5" (419 mm)	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	0.6" (15 mm)
SC740EPE08B / SC740EPE08BPC	8" (200 mm)	12.2" (310 mm)	14.5" (368 mm)	---
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	0.7" (18 mm)
SC740EPE10B / SC740EPE10BPC	10" (250 mm)	13.4" (340 mm)	12.5" (318 mm)	---
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	1.2" (30 mm)
SC740EPE12B / SC740EPE12BPC	12" (300 mm)	14.7" (373 mm)	9.0" (229 mm)	---
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	1.3" (33 mm)
SC740EPE15B / SC740EPE15BPC	15" (375 mm)	18.4" (467 mm)	5.0" (127 mm)	---
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	1.6" (41 mm)
SC740EPE18B / SC740EPE18BPC	18" (450 mm)	19.7" (500 mm)	---	0.1" (3 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	---

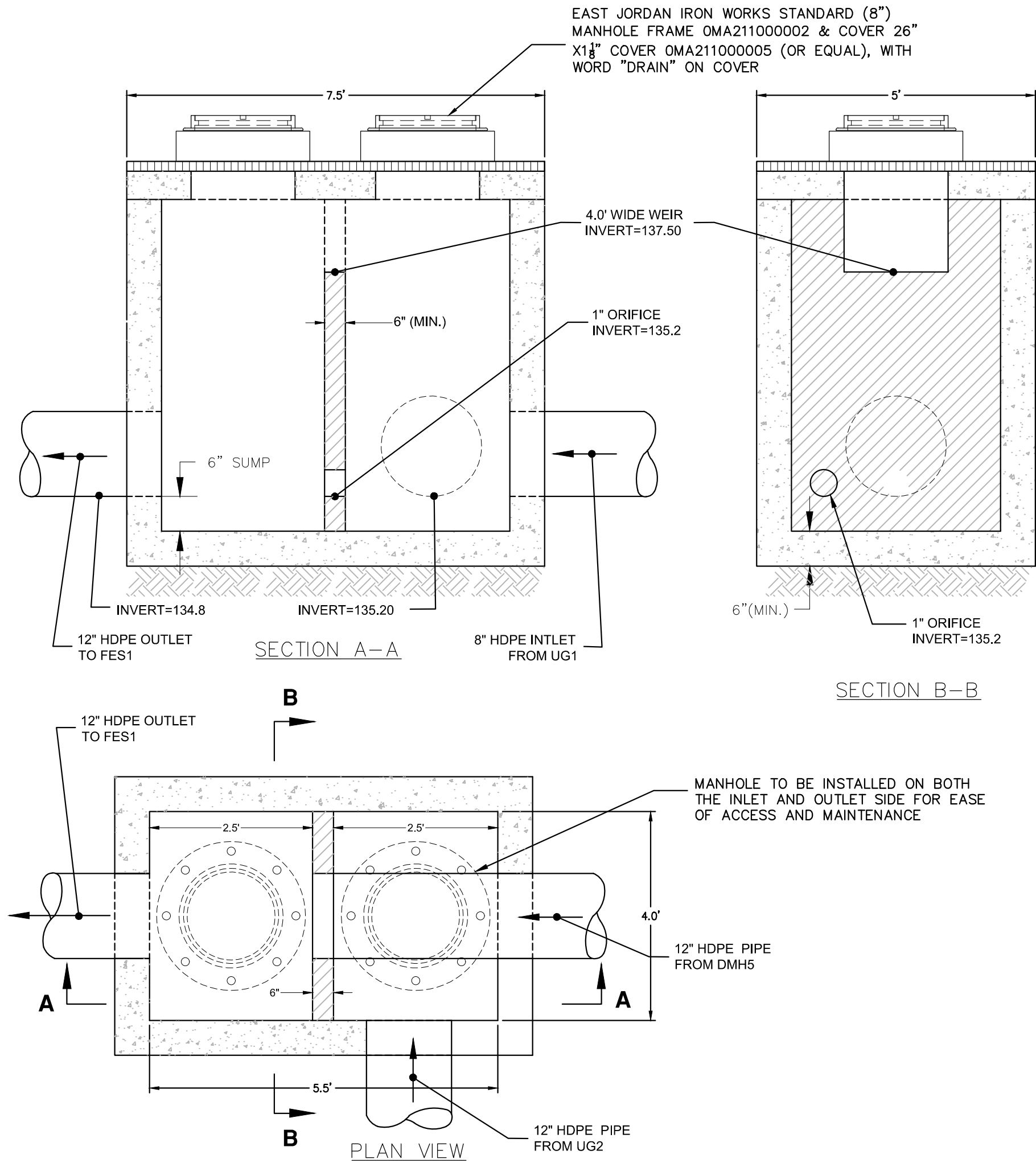
ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHALL BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

2 STORMTECH SC-740 CHAMBER UNIT SYSTEM (CONTINUED)

SCALE: NO SCALE



3 OUTLET CONTROL STRUCTURE (OCS-2)

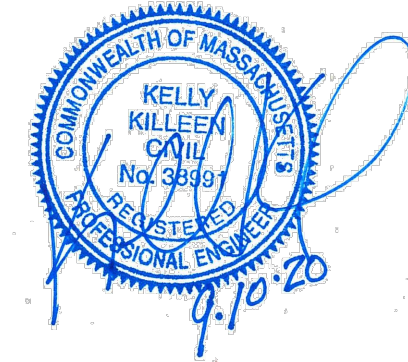
SCALE: NO SCALE

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OWNER/APPLICANT:

**MERHEJ & SONS
REALTY, LLC**
87 DERBY STREET
HINGHAM, MA 02043



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**HINGHAM GAS
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HINGHAM, MA 02043**

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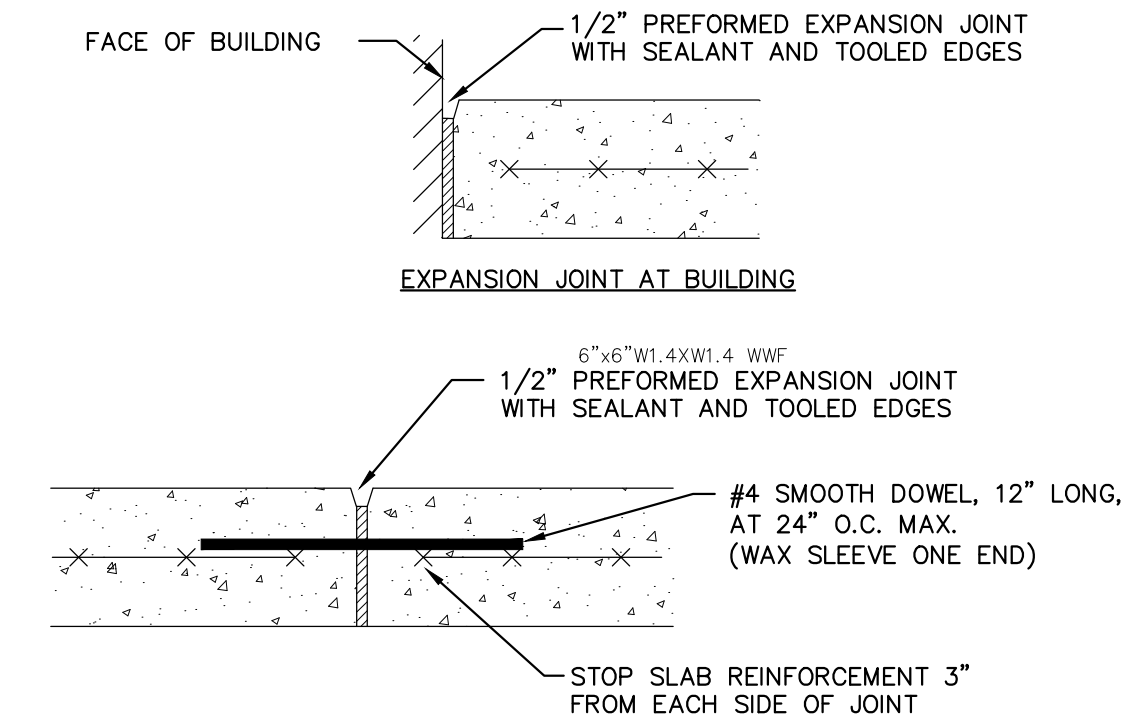
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Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

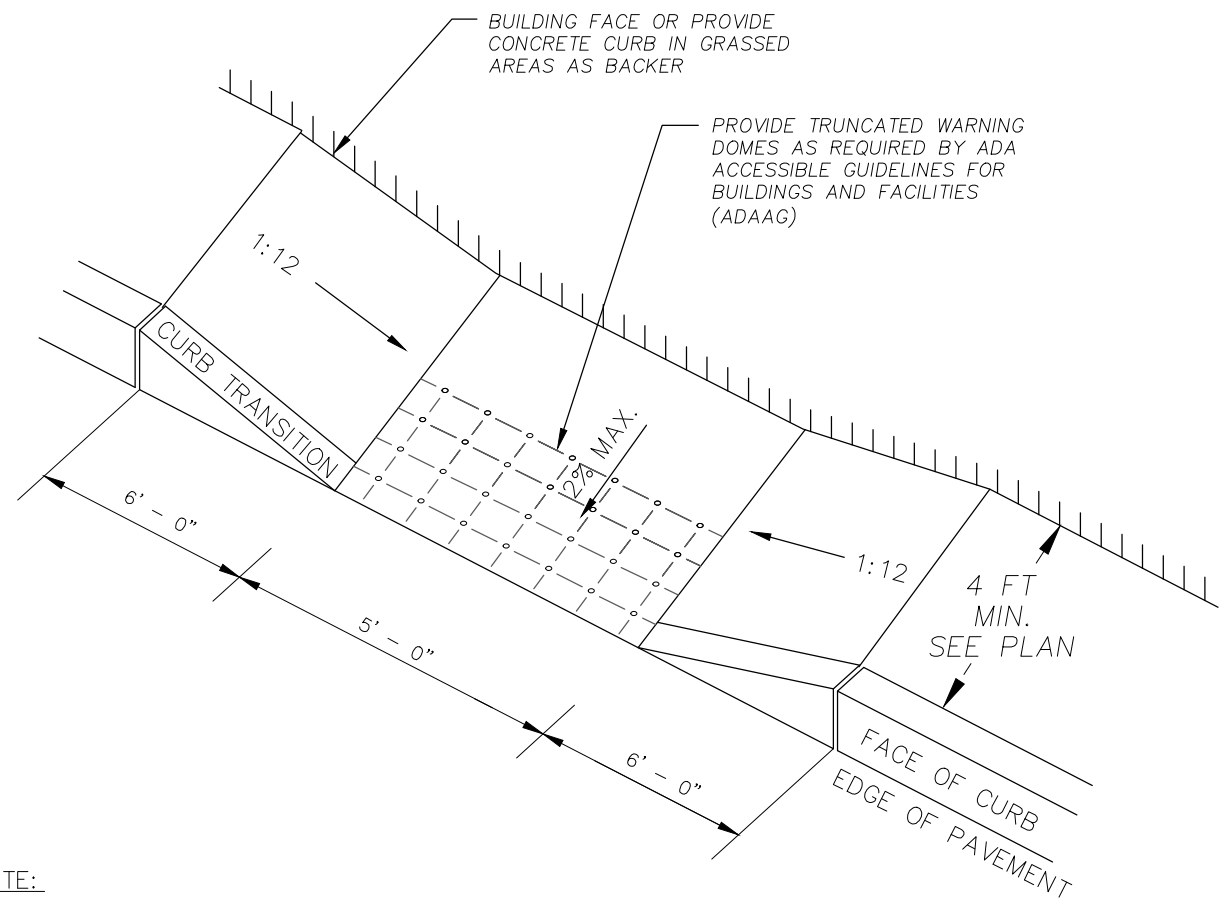
C-603

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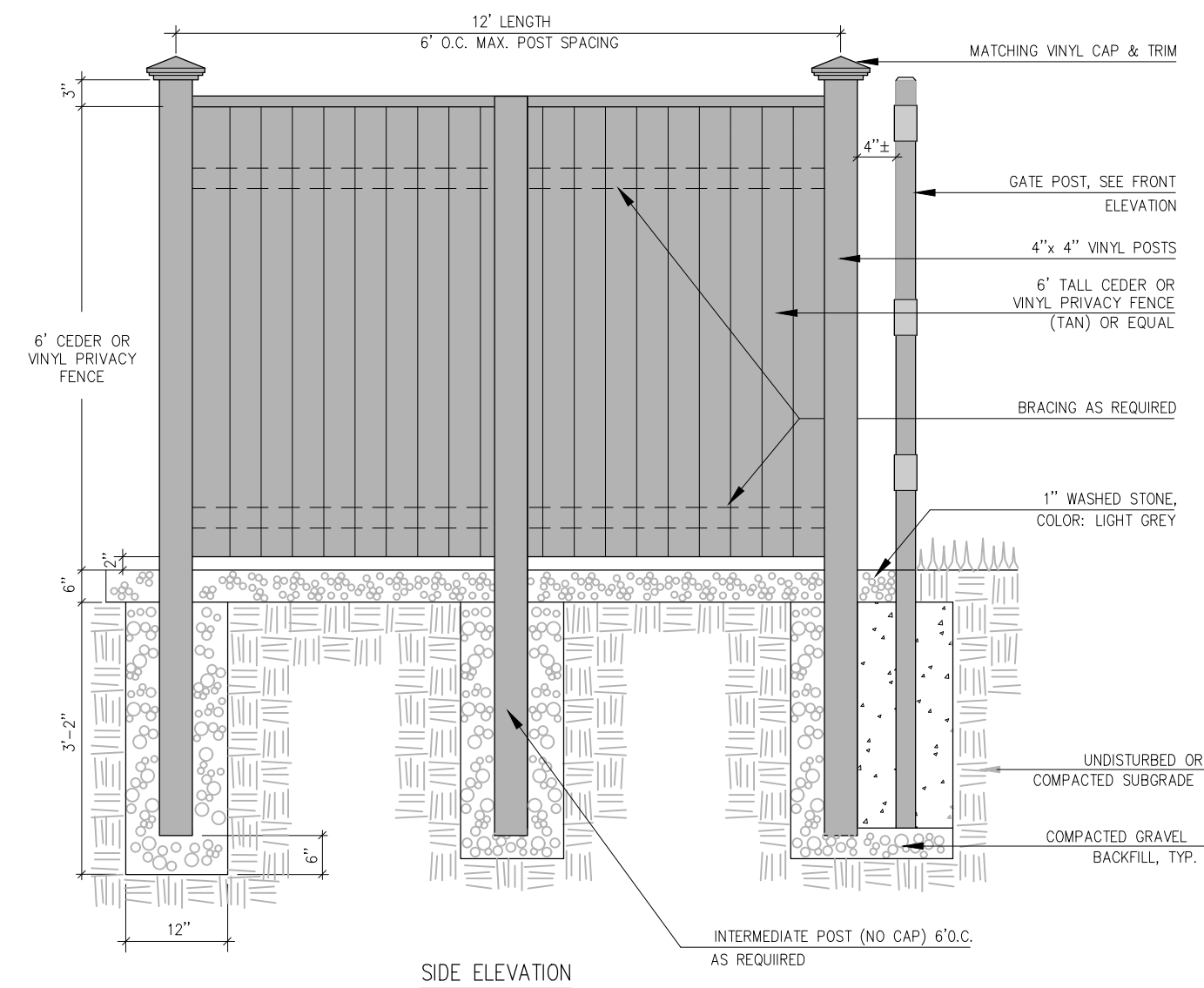


EXPANSION JOINT AT BUILDING

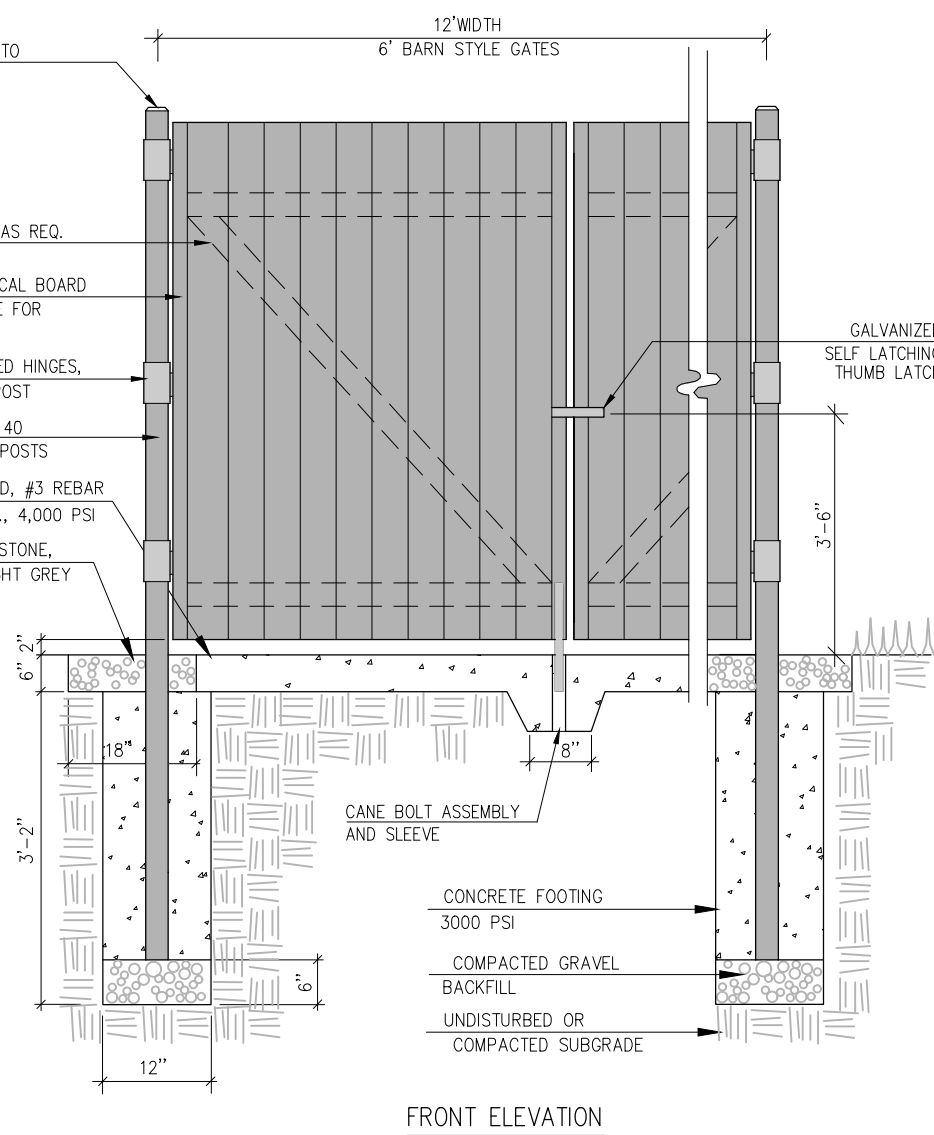
NOTE: PROVIDE EXPANSION JOINTS AT ALL INTERFACES BETWEEN WALKWAY AND VERTICAL BUILDING SURFACES.



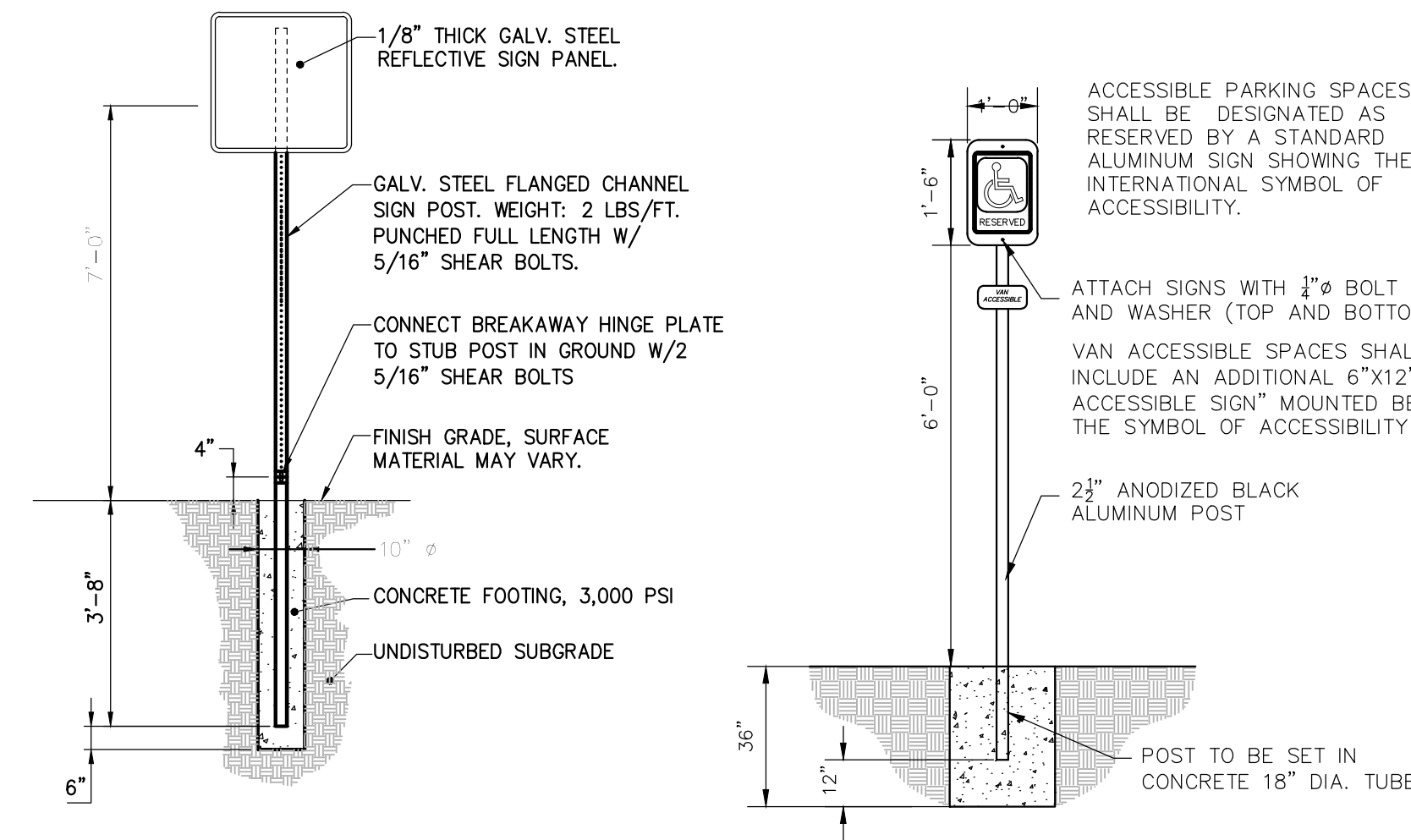
NOTE: ALL SIDEWALK AND RAMP CONSTRUCTION TO CONFORM TO 521 CMR ARCHITECTURAL ACCESS BOARD AND APPLICABLE A.D.A. REGULATIONS.



3 TRASH AND RECYCLING ARE WITH CONC. PAD DETAIL

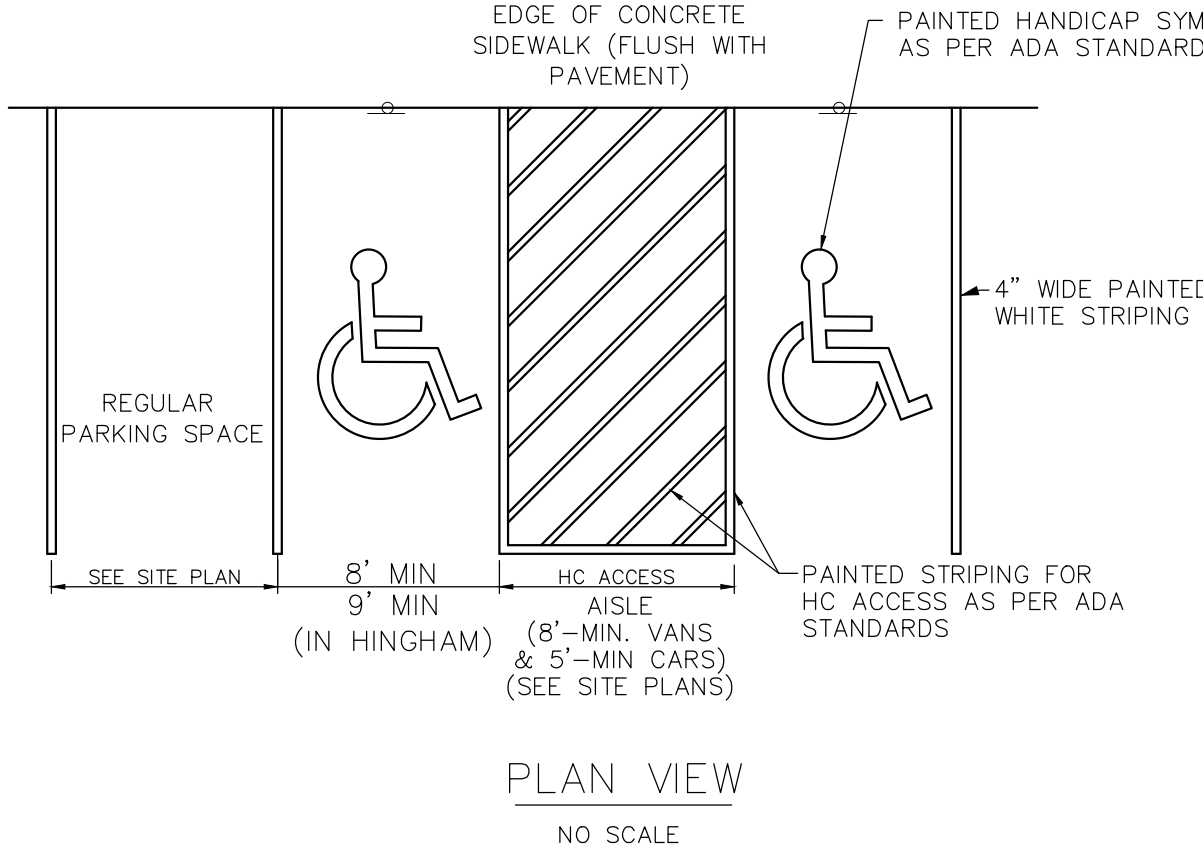


FRONT ELEVATION

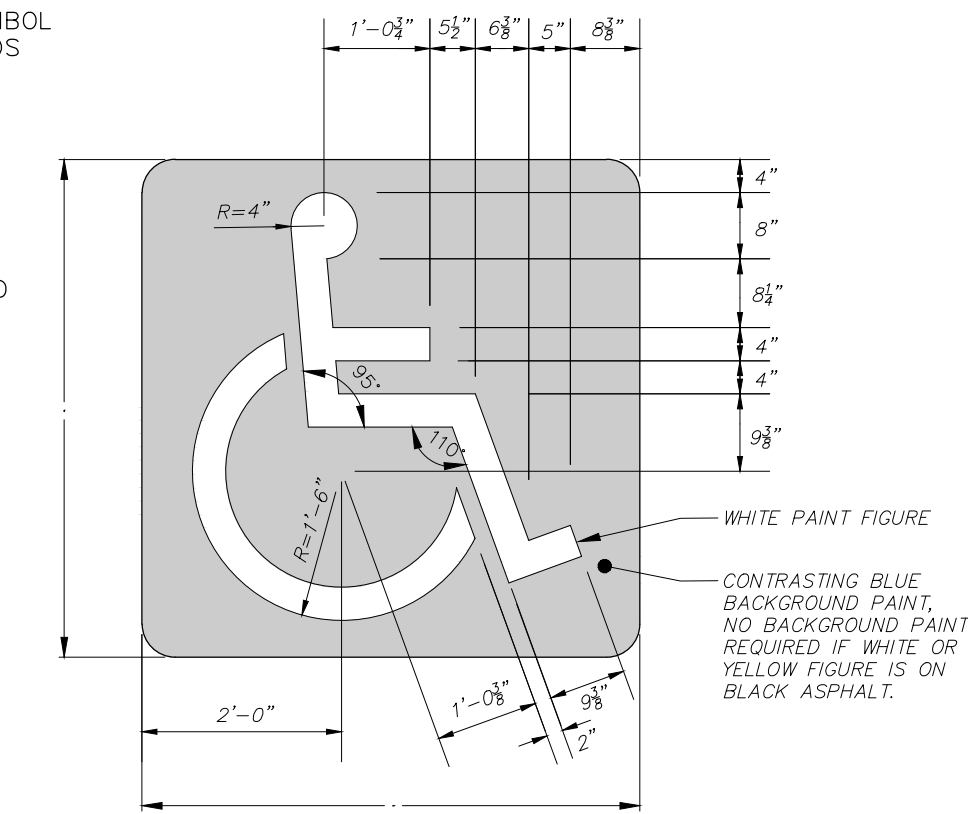


4 ROADWAY SIGNAGE w/BREAKWAY SUPPORT

5 ACCESSIBLE PARKING SIGN DETAIL



6 ACCESSIBLE STRIPING DETAIL



7 5 BIKE WAVE BIKE RACK

NOTES:
1. CONTRACTOR TO FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. BIKE RACK TO BE POWDER COAT BLACK UNLESS OTHERWISE SPECIFIED.
3. MATERIALS LIST
3.1. (1) TUBING - 22 3/8" X .154" WALL STEEL TUBING
3.2. (2) SURFACE PLATE - 07 1/2" X 1/4" THICK STEEL PLATE WITH THREE 9/16" MOUNTING HOLES
3.3. (3) MOUNTED WITH SIX 01/2" X 4-5" STAINLESS STEEL ANCHOR BOLTS



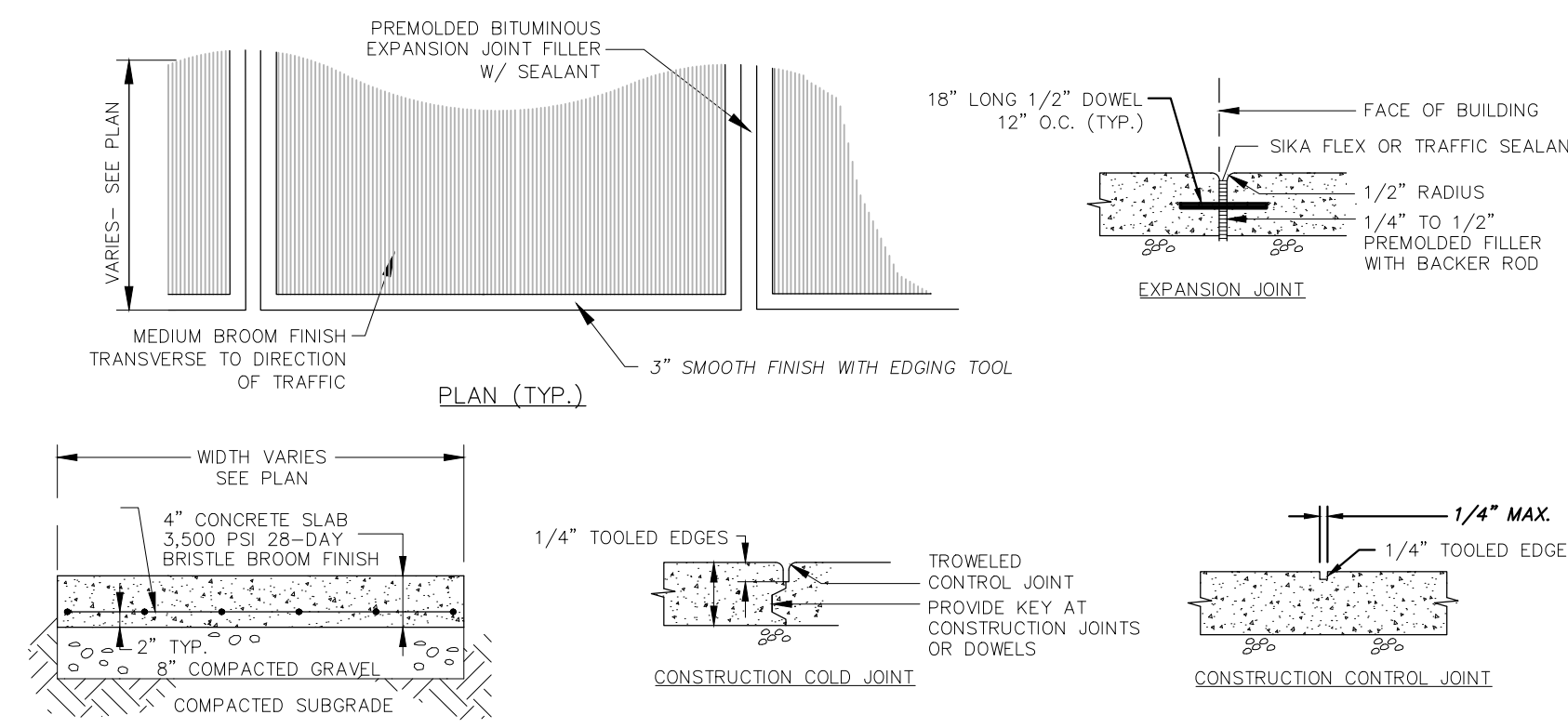
STOP SIGN R1-1

8 SIGN DETAIL



NOTES:
1. ALL PAINT TO BE THERMOPLASTIC.
2. WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULTS.
3. PAINTING OF WORDS TO BE AT THE DISCRETION OF THE OWNER. CONTRACTOR SHALL VERIFY PRIOR TO CONSTRUCTION.

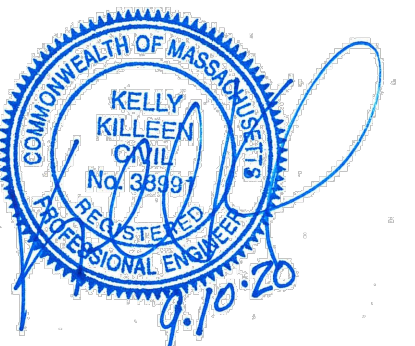
9 PAINTED MARKING DETAIL



10 TYPICAL CONCRETE SIDEWALK

OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
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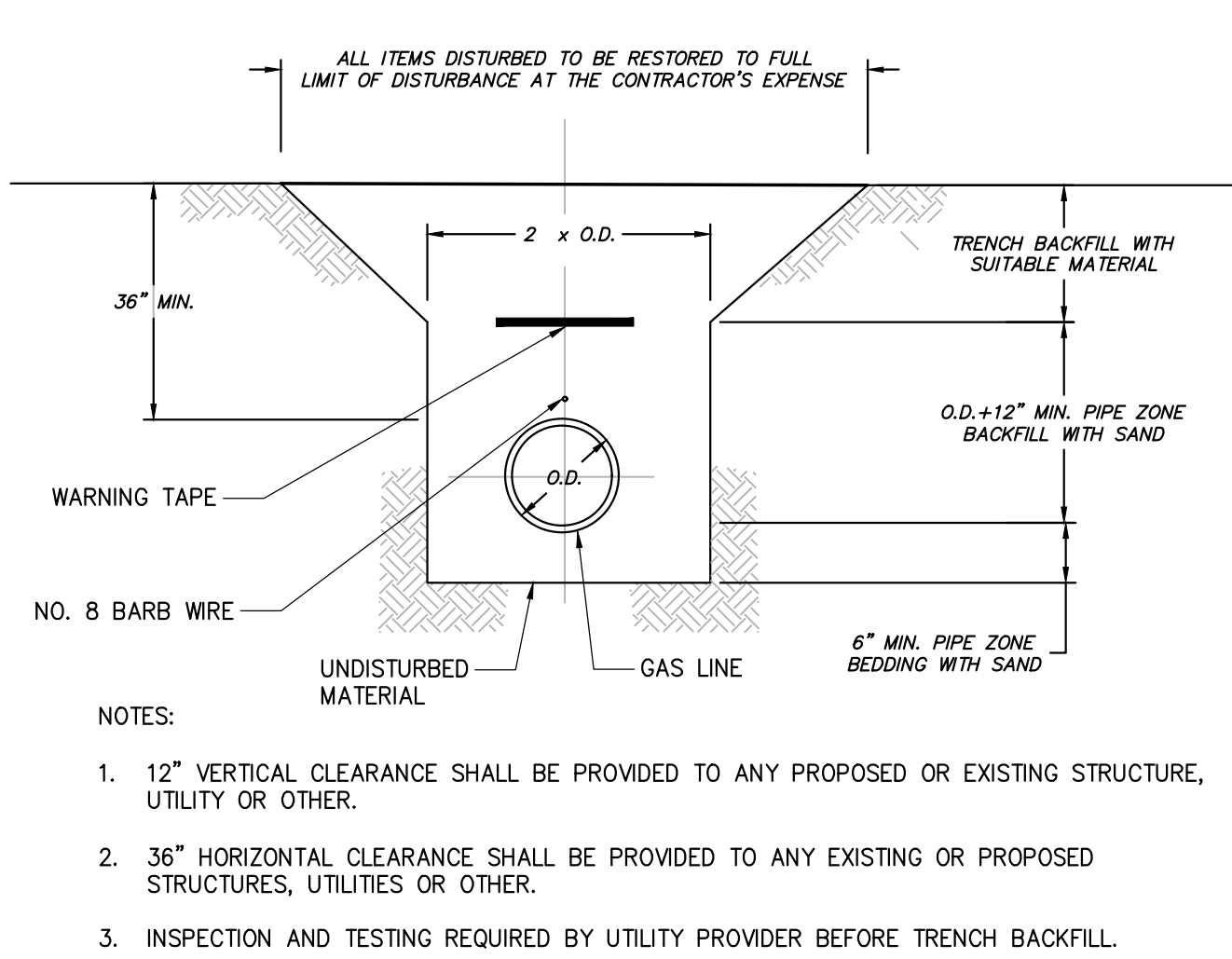
No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

SITE DETAILS

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Issue Date: 05/01/2020	Project No: 060903	Scale:

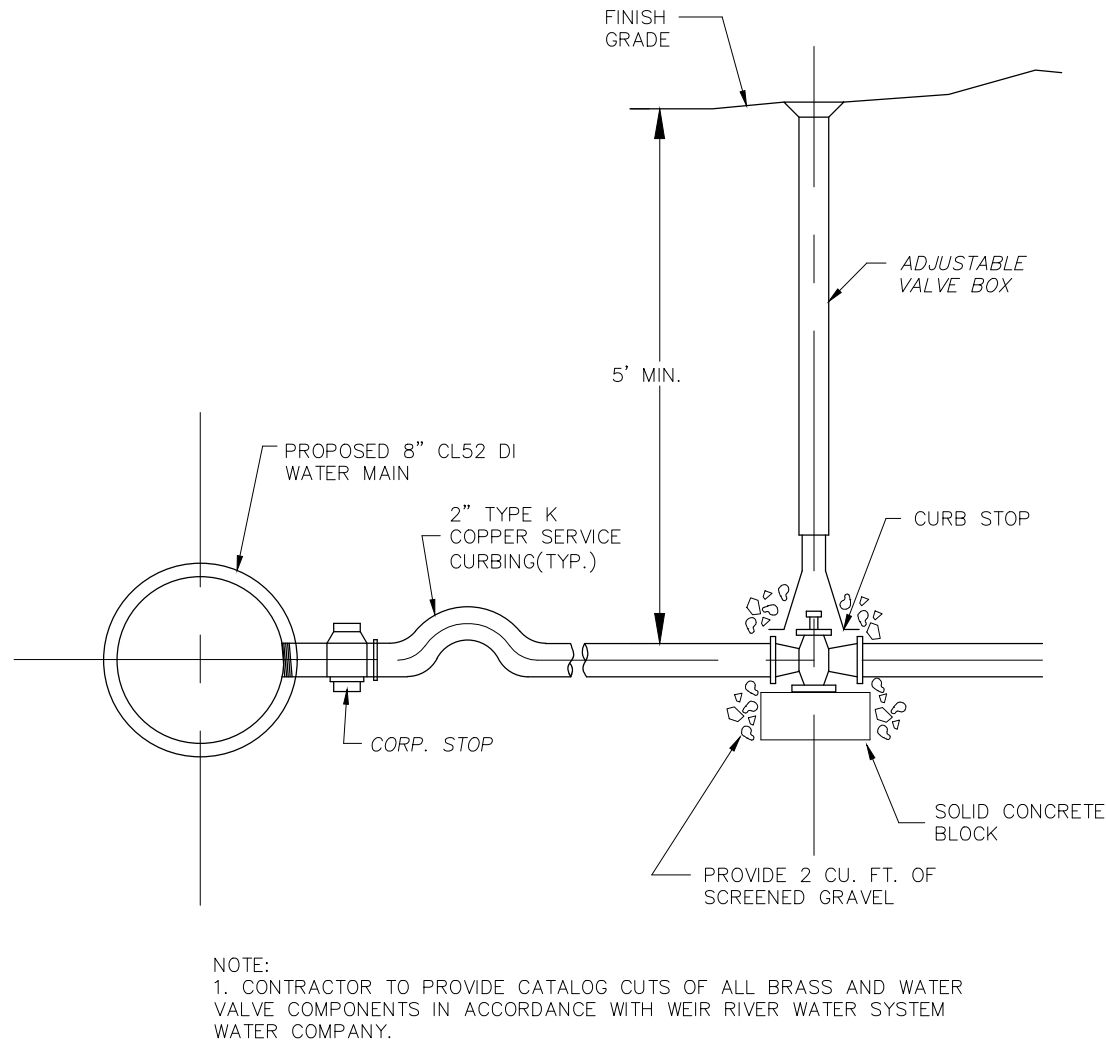
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C-604

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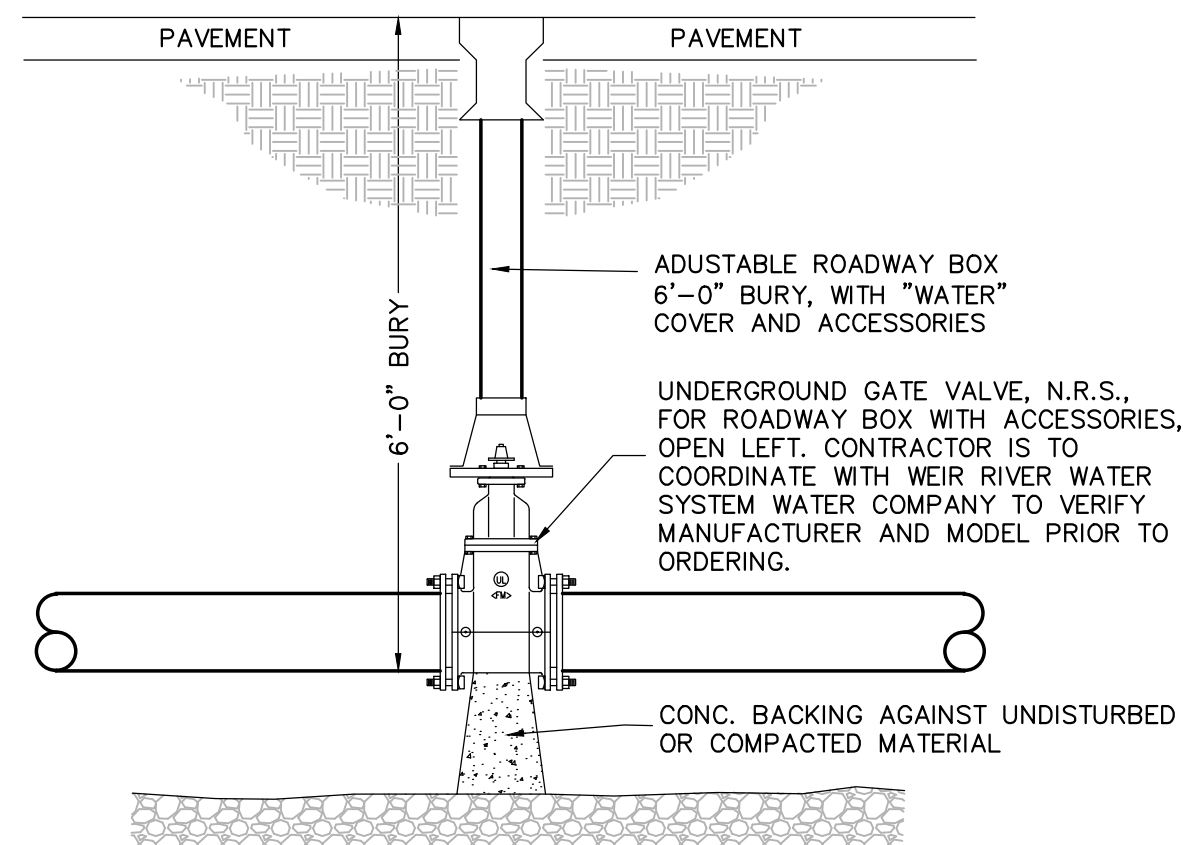
1 TYPICAL GAS UTILITY TRENCH

SCALE: N.T.S.



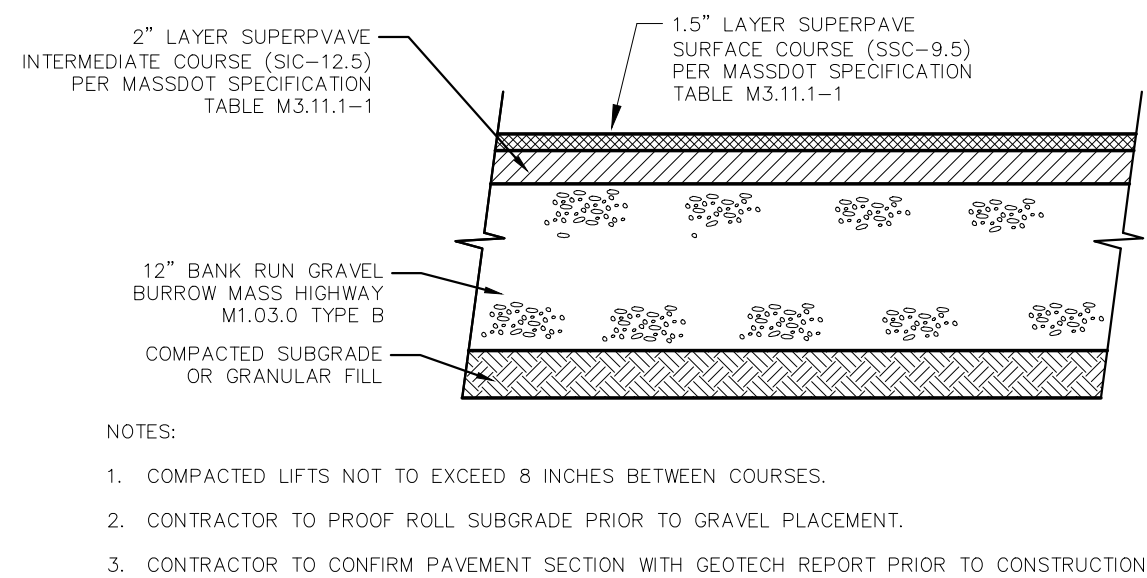
2 WATER SERVICE DETAIL

SCALE: NO SCALE



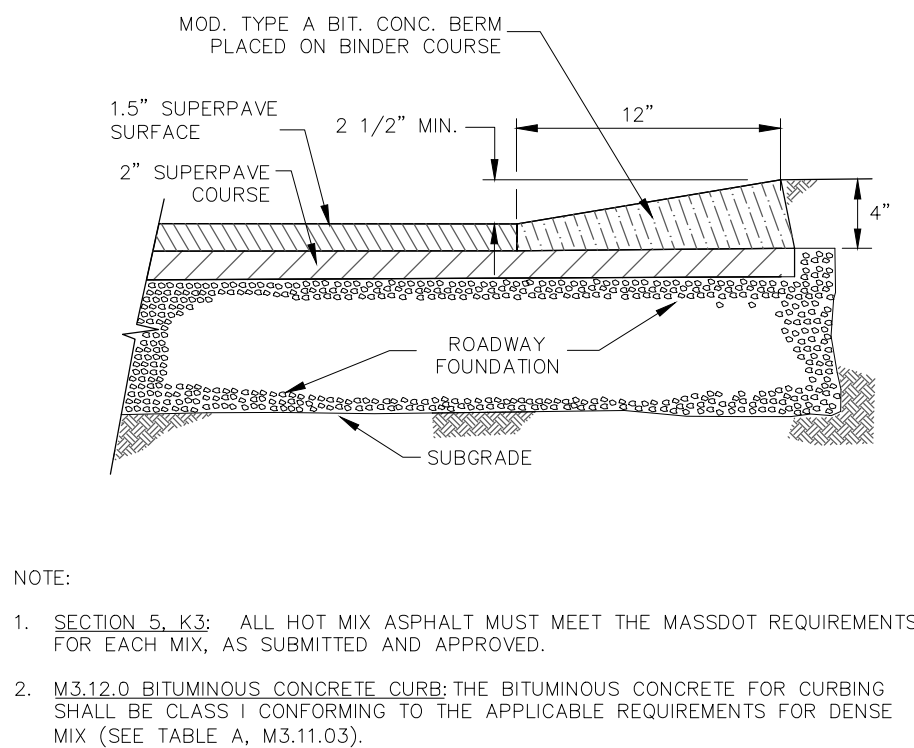
3 ROADWAY BOX VALVE DETAIL

SCALE: NO SCALE



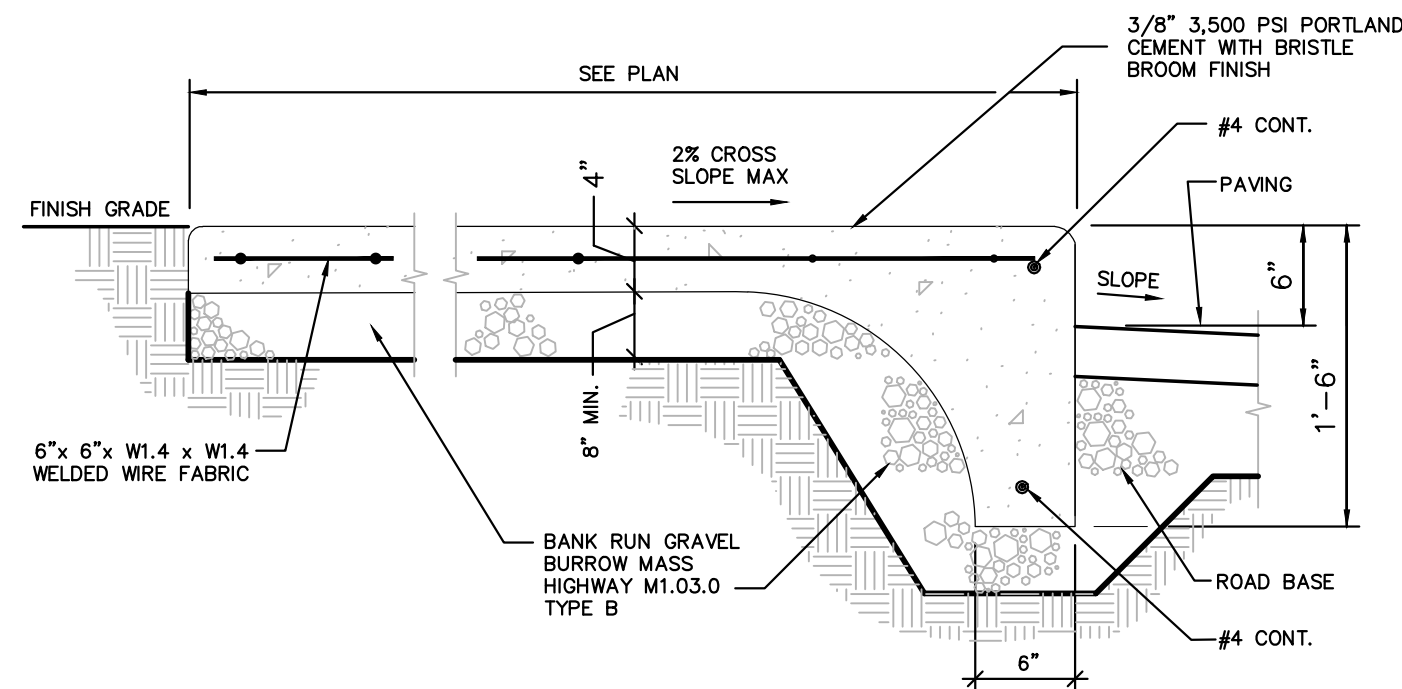
4 BITUMINOUS PAVEMENT SECTION

SCALE: NO SCALE



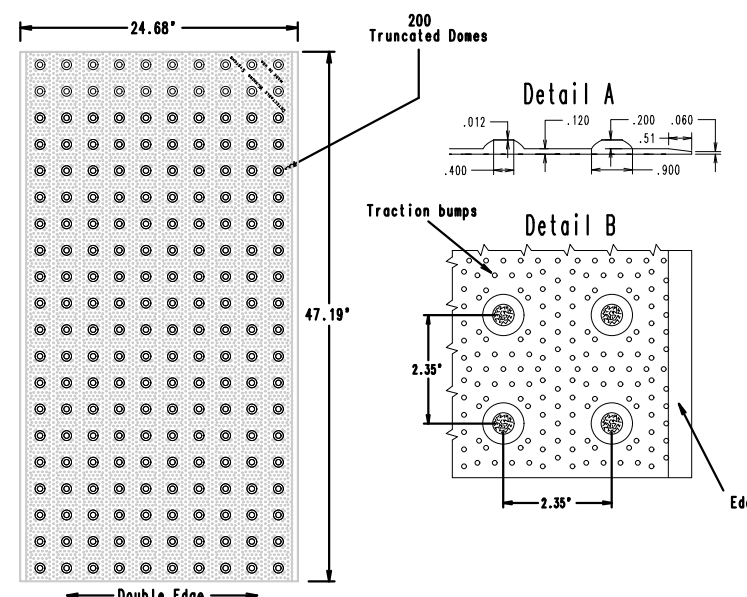
5 CAPE COD BERM (12")

SCALE: NO SCALE



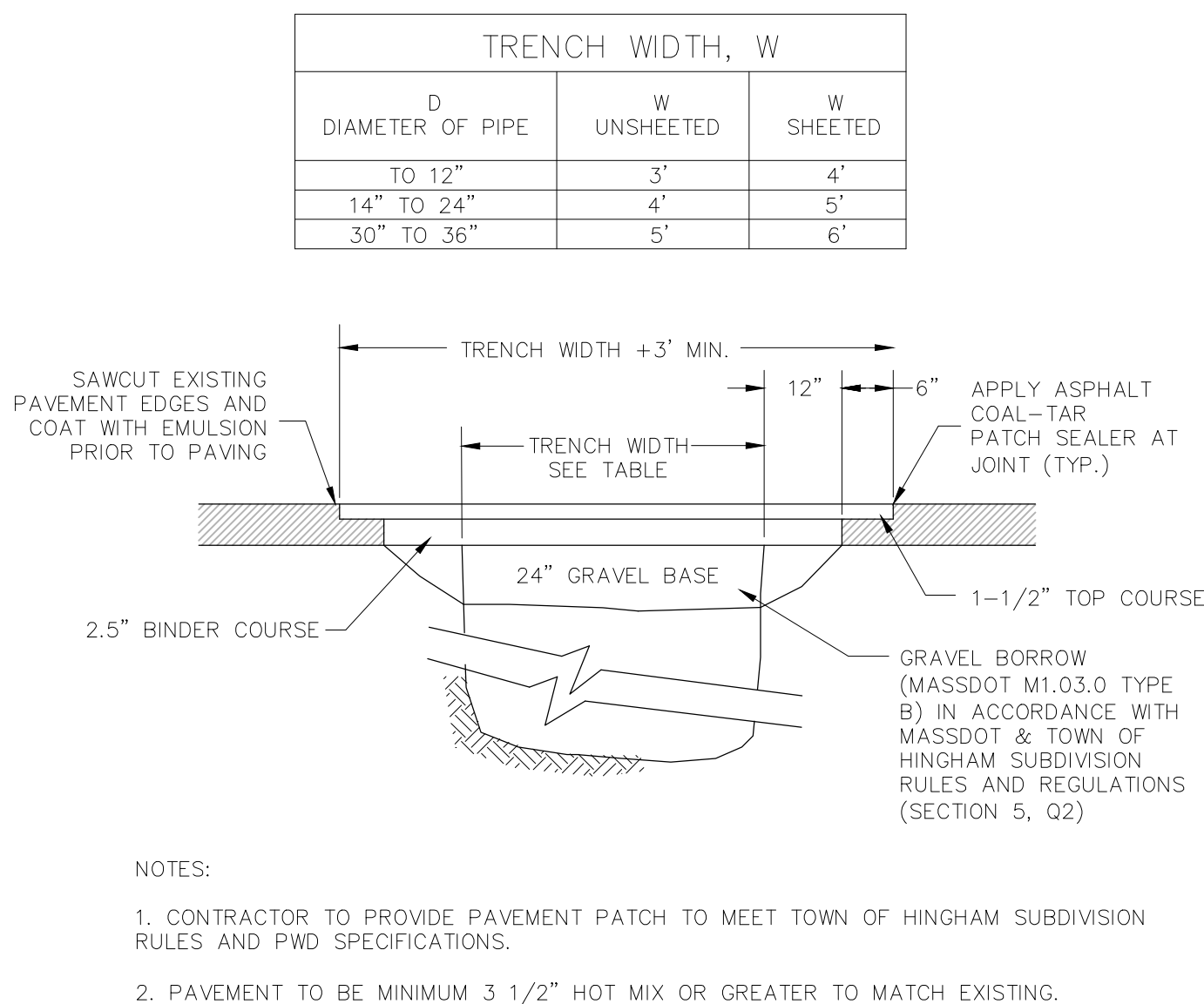
6 INTEGRAL WALK & CURB DETAIL (MONOLITHIC)

SCALE: NO SCALE



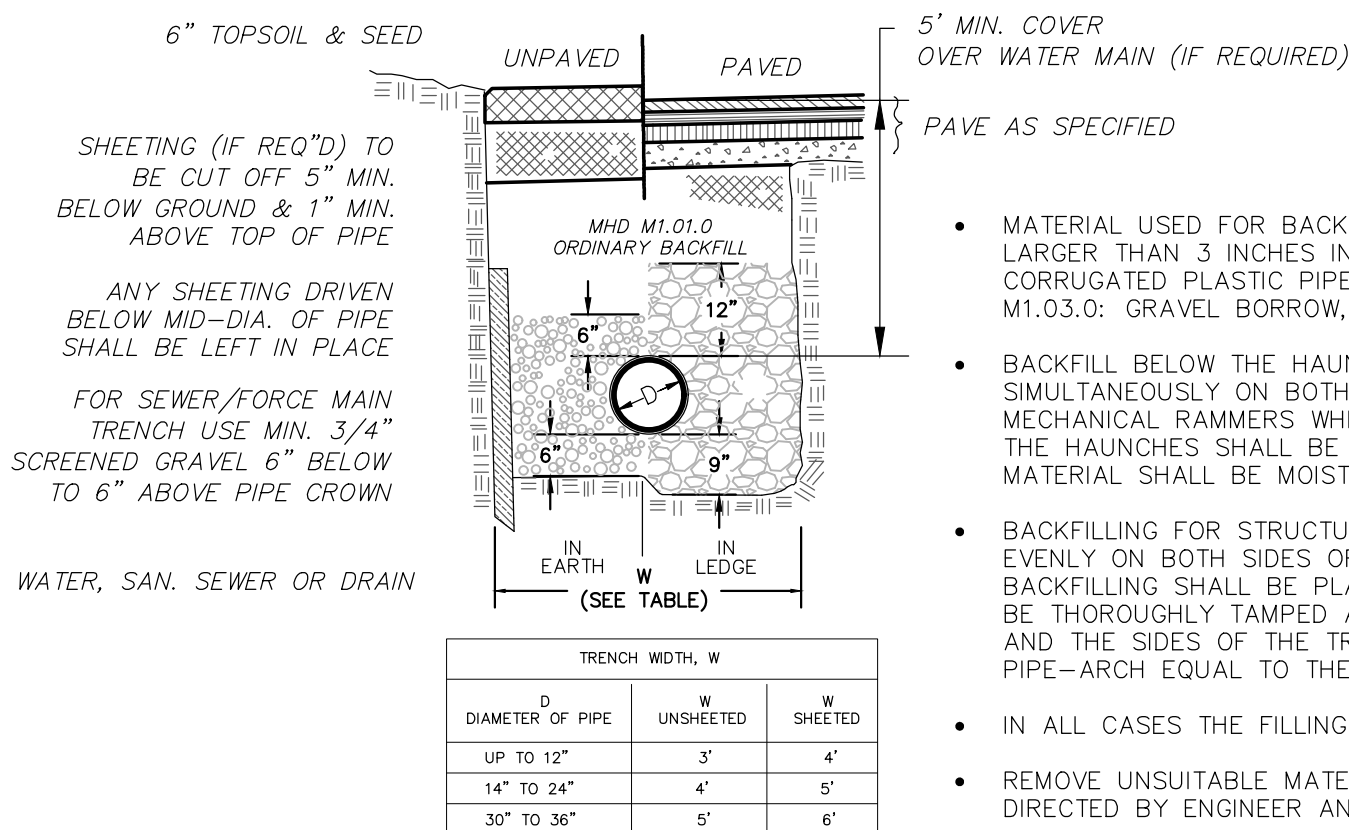
7 DETECTABLE WARNINGS AT RAMPS

SCALE: NO SCALE



8 PAVEMENT PATCH DETAIL FOR TRENCH SECTIONS

SCALE: NO SCALE



9 TYPICAL TRENCH SECTION

SCALE: NO SCALE

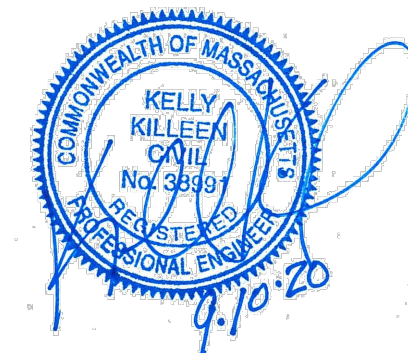
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CHA

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Norwell, MA 02061
TEL 962.5400 • www.chacompanies.com

OWNER/APPLICANT:

MERHEJ & SONS
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HINGHAM, MA 02043



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B	PERMIT SET	KK	JM	9/10/2020

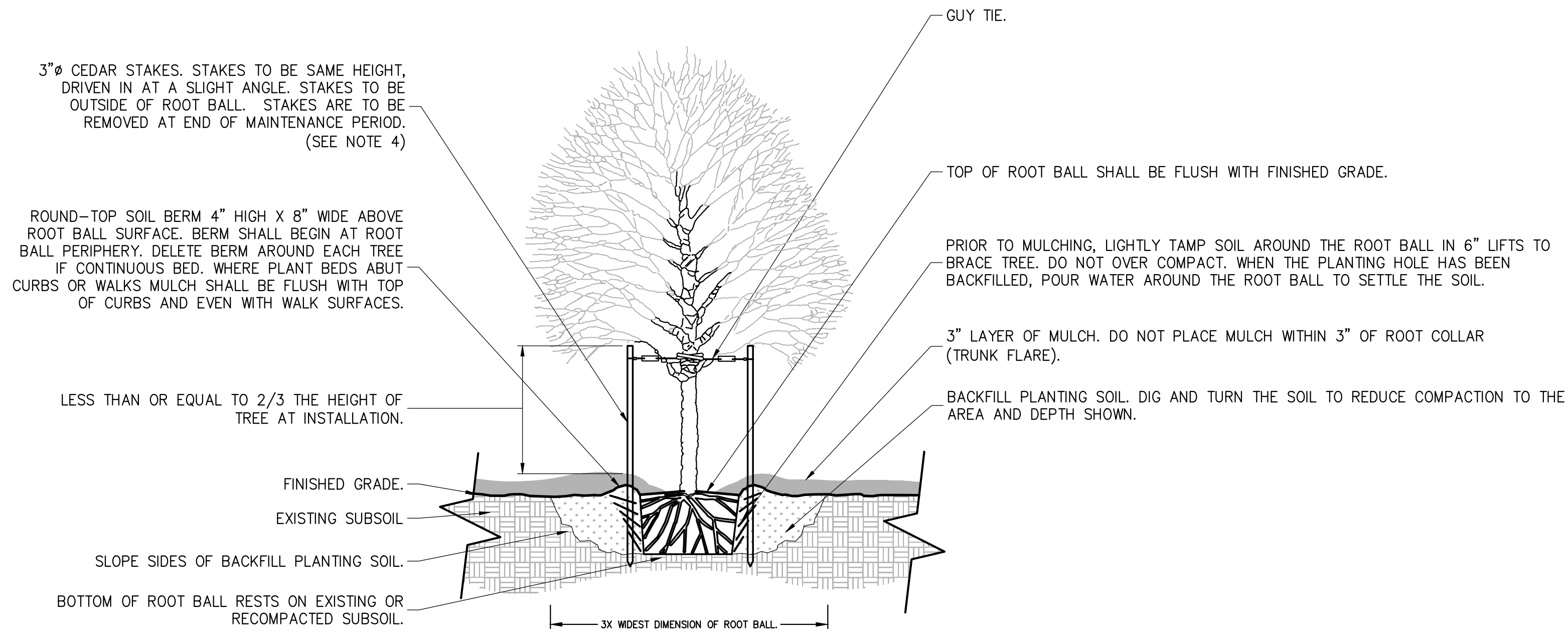
SITE DETAILS

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Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

C-605

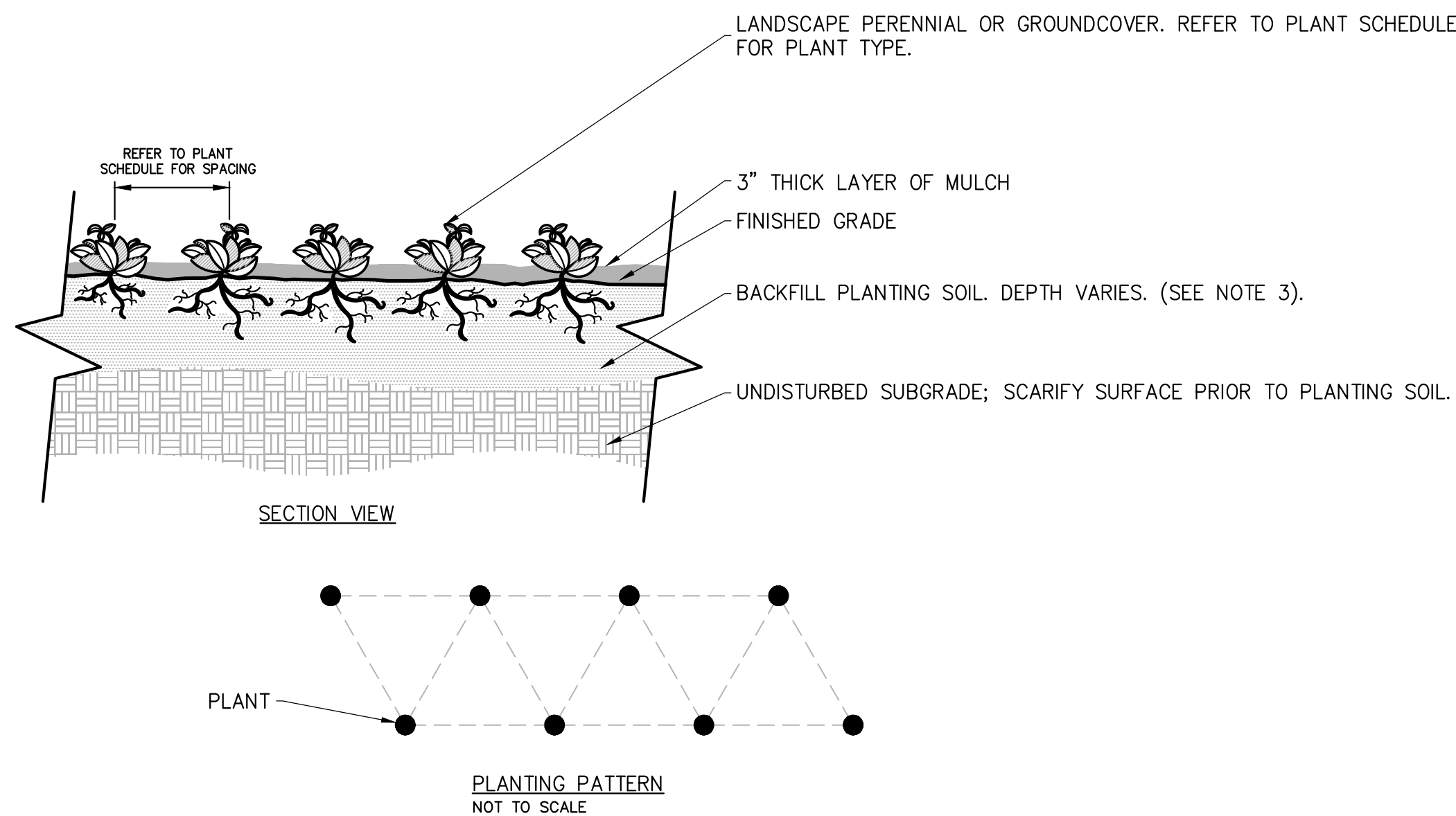
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NOTES:

1. TREE SHALL BARE SAME RELATIONSHIP TO FINISH GRADE AS IN THE NURSERY.
2. PRUNE ANY BROKEN BRANCHES AFTER FINAL PLACEMENT. PRUNE PERIMETER BRANCHES AS REQUIRED BUT RETAIN NATURAL SHAPE OF TREE. NEVER CUT A LEADER. PRUNING TO BE PERFORMED BY A QUALIFIED LANDSCAPE PROFESSIONAL.
3. TREE SHALL BE PLUMB AND STRAIGHT.
4. TREES 2 1/2" CAL. OR GREATER SHALL BE GUYED AND STAKED WITH 3 EQUALLY SPACED STAKES.
5. AFTER PLACEMENT AND ROTATION OF TREE, REMOVE ALL ROPES FROM ROOT BALL AND CUT AND REMOVE TOP HALF OF BURLAP. COMPLETELY REMOVE BURLAP IF IT IS MADE OF SYNTHETIC MATERIAL.

1 DECIDUOUS TREE PLANTING & STAKING
NOT TO SCALE



NOTES:

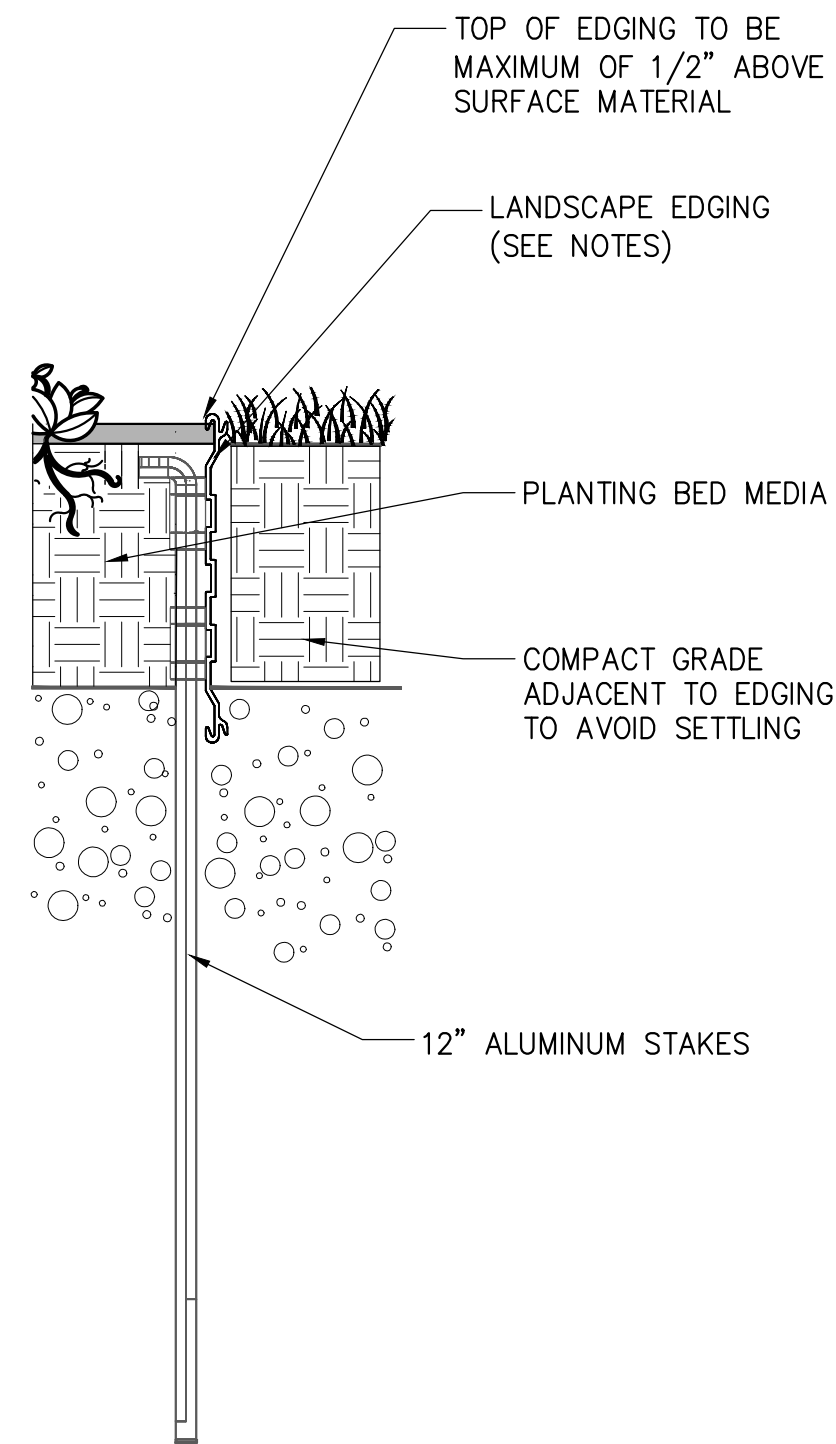
1. SEE PLANTING SCHEDULE FOR GROUNDCOVER AND PERENNIAL SPECIES, SIZE, AND SPACING DIMENSION.
2. SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER AND PERENNIAL PRIOR TO MULCHING.
3. PLANTING SOIL DEPTH FOR PERENNIALS SHALL BE A MINIMUM OF 12" FOR PERENNIALS AND 6" FOR GROUNDCOVERS.

3 GROUNDCOVER/PERENNIAL PLANTING
NOT TO SCALE

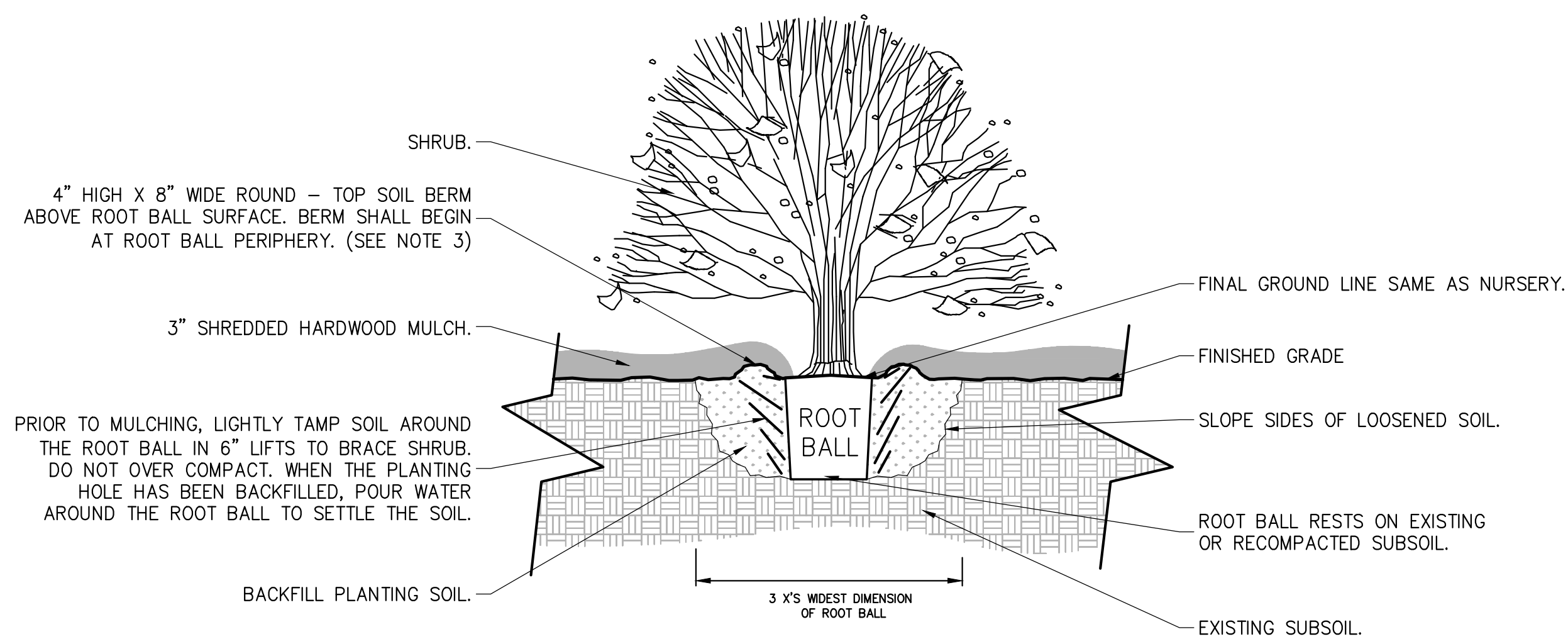
UPDATE AND USE IF NOT USING SPECIFICATIONS

NOTES:

1. EDGING: STANDARD-PROFILE EXTRUDED-ALUMINUM EDGING, ASTM B221 (ASTM B221M), ALLOY 6063-T6, FABRICATED IN STANDARD LENGTHS WITH INTERLOCKING SECTIONS WITH LOOPS STAMPED FROM FACE OF SECTIONS TO RECEIVE STAKES.
2. EDGING SIZE: 3/16 INCH WIDE BY 5-1/2 INCHES DEEP.
3. STAKES: ALUMINUM, ASTM B221 (ASTM B221M), ALLOY 6061-T6, APPROXIMATELY 1-1/2 INCHES WIDE BY 12 INCHES LONG.
4. FINISH BLACK ANODIZED.
5. PAINT COLOR: BLACK.
6. MANUFACTURERS: PROVIDE PRODUCTS BY ONE OF THE FOLLOWING OR APPROVED EQUAL:
 - 6.1. CURVE-RITE ALUMINUM EDGINGS.
 - 6.2. PERMALOC ALUMINUM EDGING.
 - 6.3. RUSSELL, J.D. COMPANY (THE).
 - 6.4. SURE-LOC ALUMINUM EDGING CORPORATION.



2 LANDSCAPE EDGING
NOT TO SCALE



NOTES:

1. MIX PLANTING SOIL IN PLANTING HOLES OR CONTINUOUS BEDS AFTER PLACEMENT AND ROTATION OF SHRUB. REMOVE ALL ROPES FROM ROOT BALL AND CUT AND REMOVE TOP OF BURLAP.
2. DELETE SOIL BERM AROUND EACH SHRUB IF CONTINUOUS BED. PROVIDE NEAT TRIMMED SOIL EDGE AT CONTINUOUS BEDS AGAINST LAWN. WHERE PLANT BEDS ABUT CURBS OR WALKS MULCH SHOULD BE FLUSH WITH TOP OF CURBS AND EVEN WITH WALK SURFACES.
3. PRUNE BROKEN CANES AFTER PLANTING.

4 SHRUB PLANTING
NOT TO SCALE

OWNER/APPLICANT:

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87 DERBY STREET
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A	PERMIT SET	NJS	JK	5/1/2020
B	PERMIT SET	NJS	JK	9/10/2020

SITE DETAILS

Designed By: JK	Drawn By: JK	Checked By: NJS
Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

C-606

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SEPTIC SYSTEM SIZING INFORMATION AND DESIGN DATA

- FOR RETAIL, (50 GPD/ 1,000 S.F.) IS USED, AND FOR GAS ISLAND, (75 GPD/ ISLAND) IS USED BASED ON TITLE 5 (310CMR 15.203).
- TOTAL FLOW RATE REQUIRED FOR THE FACILITY, BASED ON SIZE OF RETAIL AREA AND NUMBER OF GAS ISLANDS:
(3,531 S.F.) X (50 GPD/ 1,000 S.F.) = 176.2 GPD
(3 GAS ISLANDS) X (75 GPD/ GAS ISLAND) = 225 GPD
(176.2 GPD) + (225 GPD) = 401.2 GPD
- THE PROPOSED DESIGN FLOW 401.2 GPD.
- DESIGN FLOW FACTOR OF SAFETY= (401.2 GPD/401.2 GPD)= 1.00
- ONE TWO CHAMBER SEPTIC TANK IS PROPOSED FOR THE NEW FACILITY. THE FIRST CHAMBER OF THE SEPTIC TANK IS SIZED FOR OVER 200% OF THE DAILY DESIGN FLOW AT 1,000 GALLONS. THE SECOND CHAMBER OF THE SEPTIC TANK IS SIZED FOR OVER 100% OF THE DAILY DESIGN FLOW AT 500 GALLONS.

LIST OF LOCAL VARIANCES REQUIRED (TOWN OF HINGHAM BOH RULES & REGULATIONS)

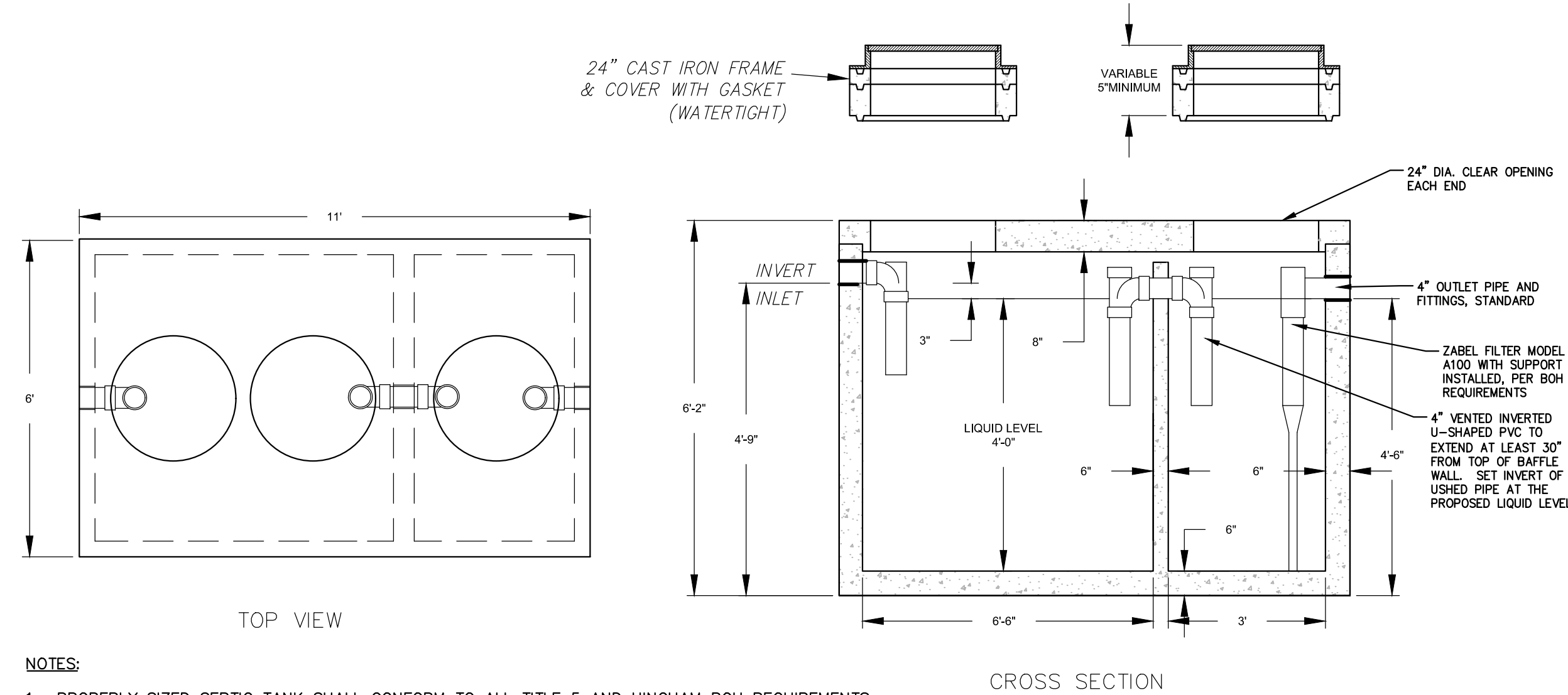
- NONE

SOIL ABSORPTION SYSTEM SIZING INFORMATION:

- SOIL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED PRIOR TO BUILDING CONSTRUCTION
- DESIGN FLOW = 401.2 GPD
- PER 310CMR, SECTION 15.242, LOADING RATE FOR CLASS I (<5 MIN/INCH) SOILS IS =0.74 GPD/SF

CONTROLLING SEASONAL HIGH GROUNDWATER ELEVATION IS WITHIN TEST PIT (TP-4), WHICH RESULTS IN AN ESTIMATED SEASONAL HIGH GROUNDWATER (ESHW) ELEVATION OF 134.18 (REDOXIMORPHIC FEATURES AT 83" FROM TOP OF TP-4).

- THE SYSTEM HAS BEEN DESIGNED TO COMPLY WITH SECTION VII.J OF THE HINGHAM SUPPLEMENTARY RULES AND REGULATIONS TO PROVIDE AT LEAST 6 FEET OF NATURALLY OCCURRING PERMEABLE MATERIAL BELOW THE BOTTOM OF THE SYSTEM TO THE ESHGW FOR SOILS WITH PERCOLATION RATES BETWEEN 2 MINUTES AND 5 MINUTES PER INCH.
- USE LEACHING BED IN ACCORDANCE WITH 310CMR 15.252 WERE SELECTED
- REQUIRED AREA = (401.2 GPD/0.74 GPD/SF) = 542.2 SF
- USE 31 FT LONG X 20 FT WIDE BED::
- LEACHING BED PROVIDED DAILY CAPACITY= (31 FEET LONG) X (20 FEET WIDE) X (0.74 GPD/SF)= 458.8 GPD > 401.6 GPD O.K.

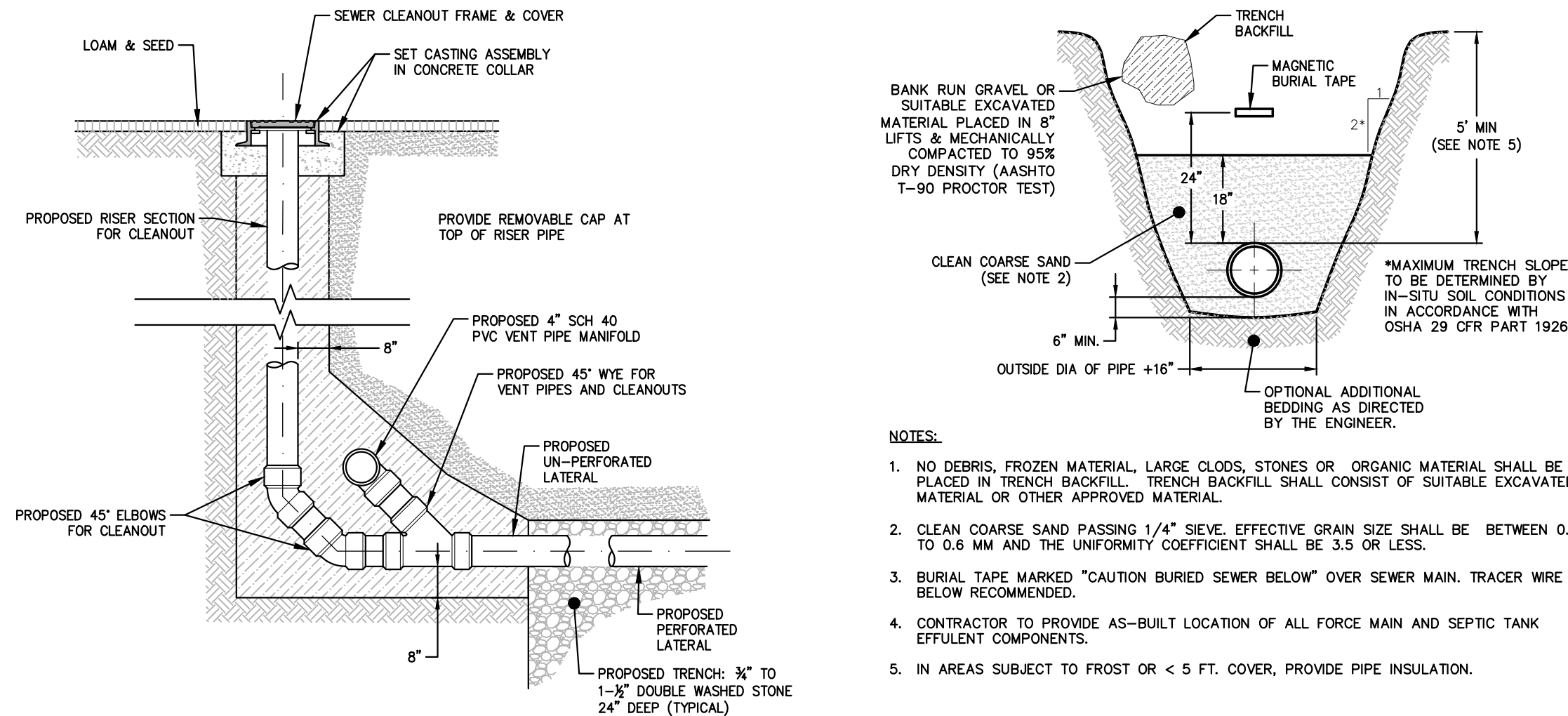


NOTES:

- PROPERLY SIZED SEPTIC TANK SHALL CONFORM TO ALL TITLE 5 AND HINGHAM BOH REQUIREMENTS.
- ALL TANK PENETRATIONS SHALL BE CORED IN FIELD, AFTER TANKS ARE SET IN THE GROUND AND PRIOR TO BACKFILLING.
- STRUCTURE SHALL BE WATERTIGHT.
- SEPTIC TANK TO WITHSTAND H=20 LOADING.
- INLET TEE TO EXTEND A MINIMUM OF 10" BELOW FLOW LINE.
- PROVIDE A MINIMUM 3" SPACE BETWEEN INLET AND FLOW LINE.
- SEAL ALL JOINTS WITH WATERPROOFING MEMBRANE TREMPROOF 60 OR APPROVED EQUAL.
- DIMENSIONS SHOWN HEREIN ARE BASED ON SITUATE CONCRETE PRODUCTS, PRODUCT, AN EQUAL PRODUCT CAN BE USED IF THE MINIMUM CAPACITY OF THE TANK IS 1,500 GALLONS WITH A BAFFLE.
- A MIN. 24" DIA. MANHOLE FRAME & COVER TO GRADE OVER THE INLET AND OUTLET SHALL BE PROVIDED.
- SHOP DRAWING SUBMITTALS SHALL INCLUDE BUOYANCY CALCULATIONS AND CONTRACTOR IS RESPONSIBLE FOR SUITABLE STRUCTURES TO RESIST BUOYANCY. ASSUME TANK SUBMERGED UP TO FEMA FLOOD PLAIN ELEVATION. (10.0 NAVD)
- COVERS SHALL BE CAM LOCK WATERTIGHT COVERS OR APPROVED EQUAL.

1. 1,500 GALLON SEPTIC TANK WITH BAFFLE

SCALE: NO SCALE

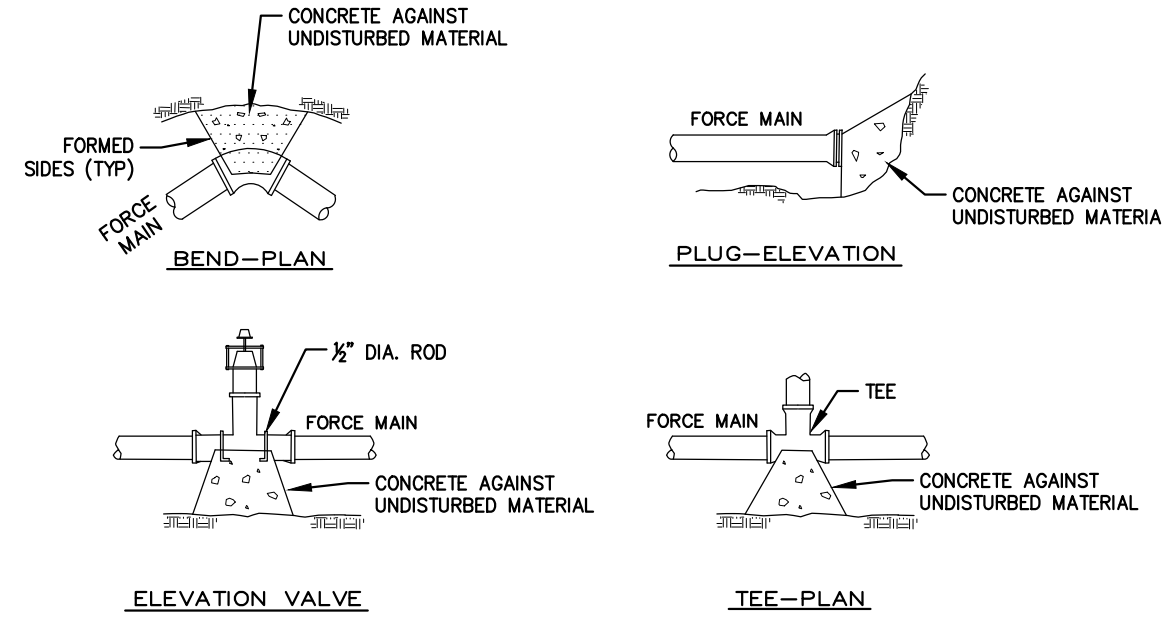


2. CLEANOUT DETAIL

SCALE: NO SCALE

3. TYPICAL TRENCH DETAIL FOR PRESSURE FORCE MAIN

SCALE: NO SCALE



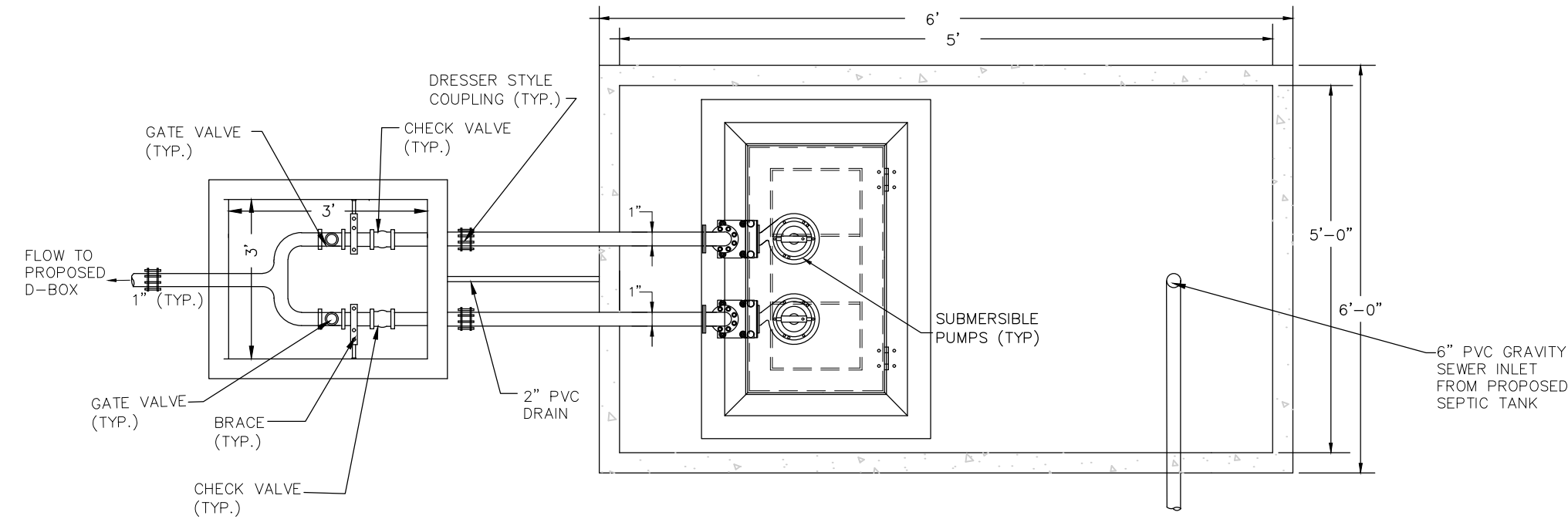
NOTES:

- CONCRETE FOR THRUST BLOCKS SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 1500 PSI AT 28 DAYS.
- THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE BELOW, UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS.

SIZE OF MAIN (IN)	TEES & PLUGS	TABLE OF BEARING AREAS S.F.			
		VALVES		BENDS	
		90°	45°	22-1/2°	11-1/4°
4" & LESS	2	1	2	1	1
6"	3	2	3	2	2
8"	4	3	5	3	2
10" & 12"	9	4	10	6	3

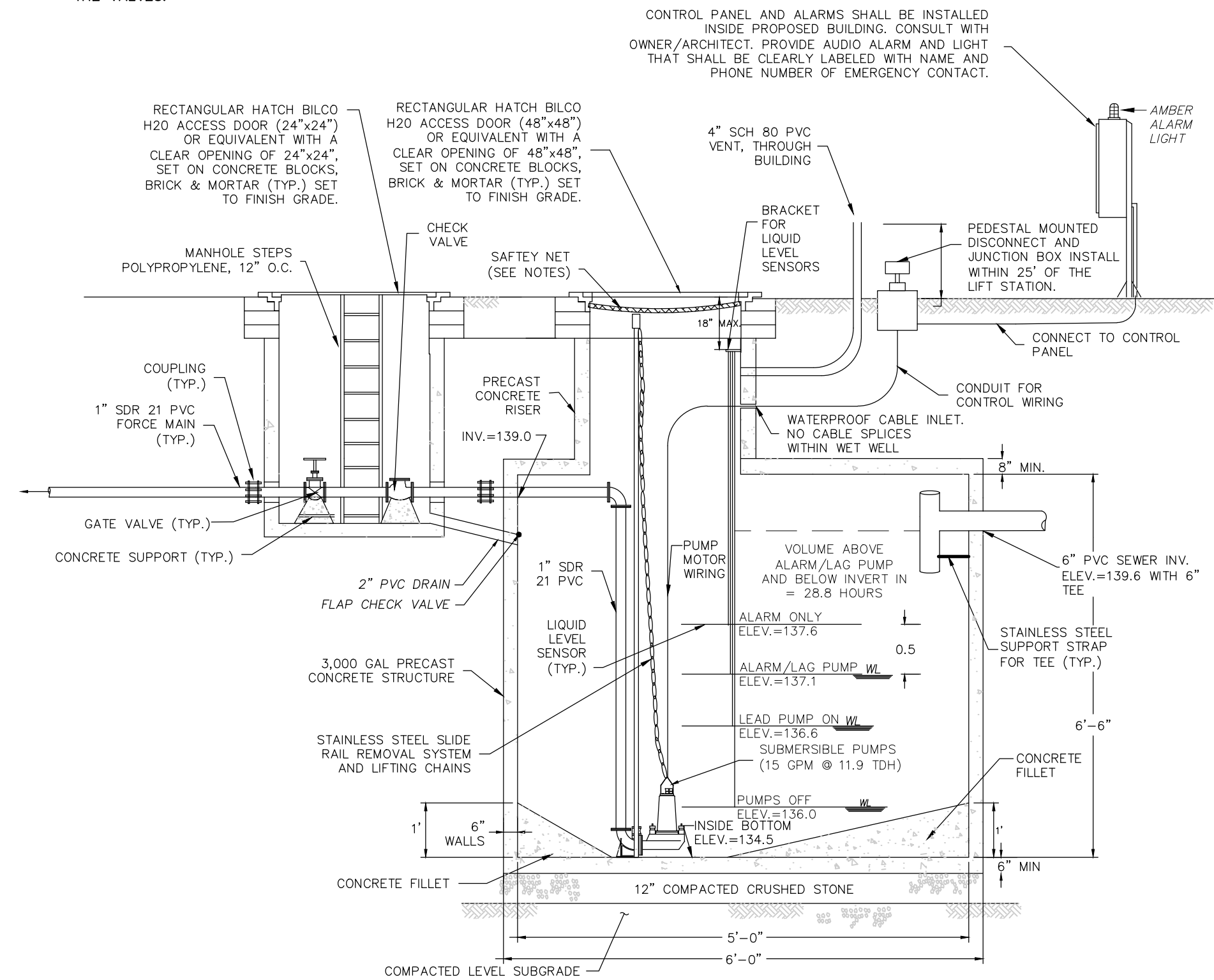
4. THRUST BLOCK DETAILS

SCALE: NO SCALE



PUMP CHAMBER AND VALVE CHAMBER PLAN VIEW

NOTE: CONTRACTOR SHALL SUBMIT SHOP DRAWING OF TANK AND HATCH. HATCH TO BE LARGE ENOUGH TO PROVIDE SUITABLE ACCESS TO OPERATE AND MAINTAIN THE VALVES.



PUMP CHAMBER AND VALVE CHAMBER ELEVATION VIEW

- PUMP EQUIPMENT SHALL BE DUPLEX SUBMERSIBLE PUMPS AS MANUFACTURED. THE UNITS SHALL OPERATE FROM A 230 VOLT, 1 PHASE, 3 WIRE A.C. POWER SOURCE. PUMPS SHALL BE APPROVED BY CHA BEFORE INSTALLATION.
- PUMP STATION WET WELLS AND VALVE CHAMBERS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE STANDARD H2O LOADING, CONSTRUCTED OF REINFORCED CONCRETE FOR COMPRESSIVE STRENGTH TO A MINIMUM OF 5,000 PSI AND TO THE DIMENSIONS AS SHOWN ON THE DETAILS AND MANUFACTURED BY ROTONDO & SONS, REHOBOTH, MA, OR APPROVED EQUAL.
- ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A 615-75 GRADE 60 WITH 1" MINIMUM COVER.
- THE SUBMERSIBLE PUMPS SHALL BE INSTALLED WITH A HYDRAULICALLY SEALED SLIDE COUPLING ARRANGEMENT SO THAT THE PUMPS CAN BE REMOVED FROM THE WET WELL FOR SERVICE AND INSPECTION AND THEN RETURNED TO SERVICE WITHOUT ENTERING THE WET WELL BASIN TO UNBOLT OR UNLOCK THE CONNECTION BETWEEN THE PUMP AND PIPING.
- THE ACCESS COVERS SHALL EXTEND TO FINISH GRADE. THE ACCESS COVERS SHALL BE GALVANIZED STEEL DOOR TO THE CLEAR DIMENSIONS AS SHOWN ON THE DETAILS DESIGNED FOR H=20 WHEEL LOADING PLUS ADDITIONAL 30X LIVE LOAD. THE ACCESS COVERS SHALL HAVE STAINLESS STEEL HINGES WITH STAINLESS STEEL PINS, A FLUSH SPRING LOADED SNAP LOCK OPERABLE FROM THE OUTSIDE BY A REMOVABLE HANDLE, AND FROM THE INSIDE BY A FIXED HANDLE, AND SURFACE MOUNTED PADLOCK.
- EACH SUBMERSIBLE PUMP SHALL BE EQUIPPED WITH 60 FEET OF POWER CABLE WITH EPOXY SEALED HOUSING WITH SECONDARY PRESSURE GROMMET FOR SEALING AND STRAIN RELIEF. ALL INCOMING LEAD WIRES SHALL BE SPLICED IN THE MOTOR TERMINAL HOUSING.
- THE CONTRACTOR SHALL FURNISH AND INSTALL FOUR (4) LIQUID LEVEL SENSORS WITH SUFFICIENT LENGTH OF CABLE FOR EACH PUMP STATION. SUSPENDED TYPE OF LEVEL SENSORS MOUNTED IN A CORROSION RESISTANT POLYPROPYLENE HOUSING, AND MOUNTED TO TANK INTERIOR BY A DETACHABLE BRACKET.
- ELECTRICAL SUPPLY AND CONTROL CIRCUITS SHALL BE DESIGNED TO ALLOW DISCONNECTION AT PEDESTAL MOUNTED WATERTIGHT JUNCTION BOX LOCATED ADJACENT TO THE PUMP STATION. SUPPLY AND CONTROL WIRING SHALL BE PLACED IN SEPARATE CONDUIT.
- THE PUMP MOTORS SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR CLASS 1, DIVISION 2 LOCATIONS.
- ALL INLET AND OUTLET PIPING CONNECTIONS AT THE WET WELLS AND VALVE CHAMBERS SHALL BE MADE WATERTIGHT.
- DISCHARGE PIPING WITHIN WET WELLS AND VALVE CHAMBERS SHALL BE PVC, SCHEDULE 40. PIPING BEYOND VALVE CHAMBERS SHALL BE PVC, SDR 21.
- CONTRACTOR SHALL VERIFY EXISTING, AVAILABLE POWER LOCATION AND PHASE ETC. PRIOR TO ORDERING AND INSTALLING PUMPS.
- PUMP CHAMBER SHALL BE FITTED WITH A SAFETY NET MANUFACTURED BY "SAFE APPROACH" OR APPROVED EQUAL. CONTRACTOR SHALL VERIFY SAFETY NET SPECIFICATIONS WITH THE PEMBROKE BOARD OF HEALTH.
- STAINLESS STEEL SHALL BE USED FOR BRACKETS, RAILS, LIFTING CHAINS AND SAFETY NET BRACKETS.
- PROVIDE THRUST BLOCKING FOR ALL FITTINGS AND BENDS ETC. IN THE FORCEMAIN.

OWNER/APPLICANT:

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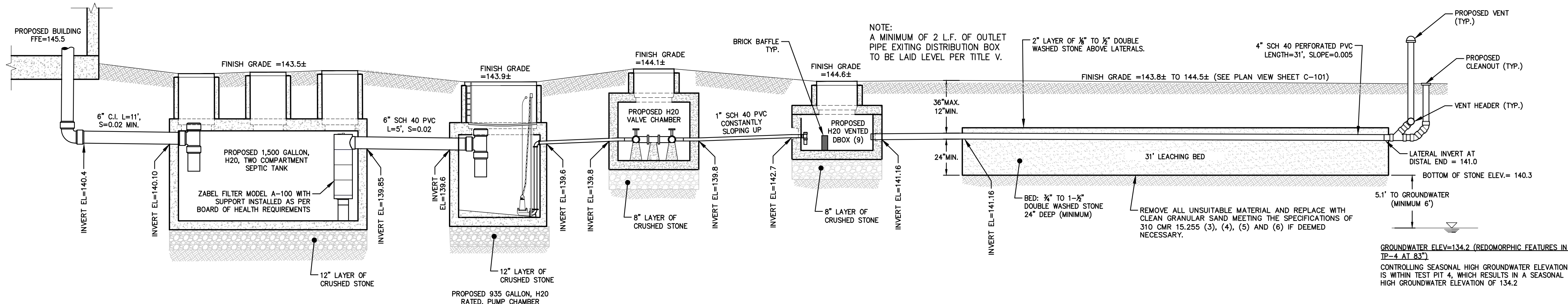
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DETAILS - 1

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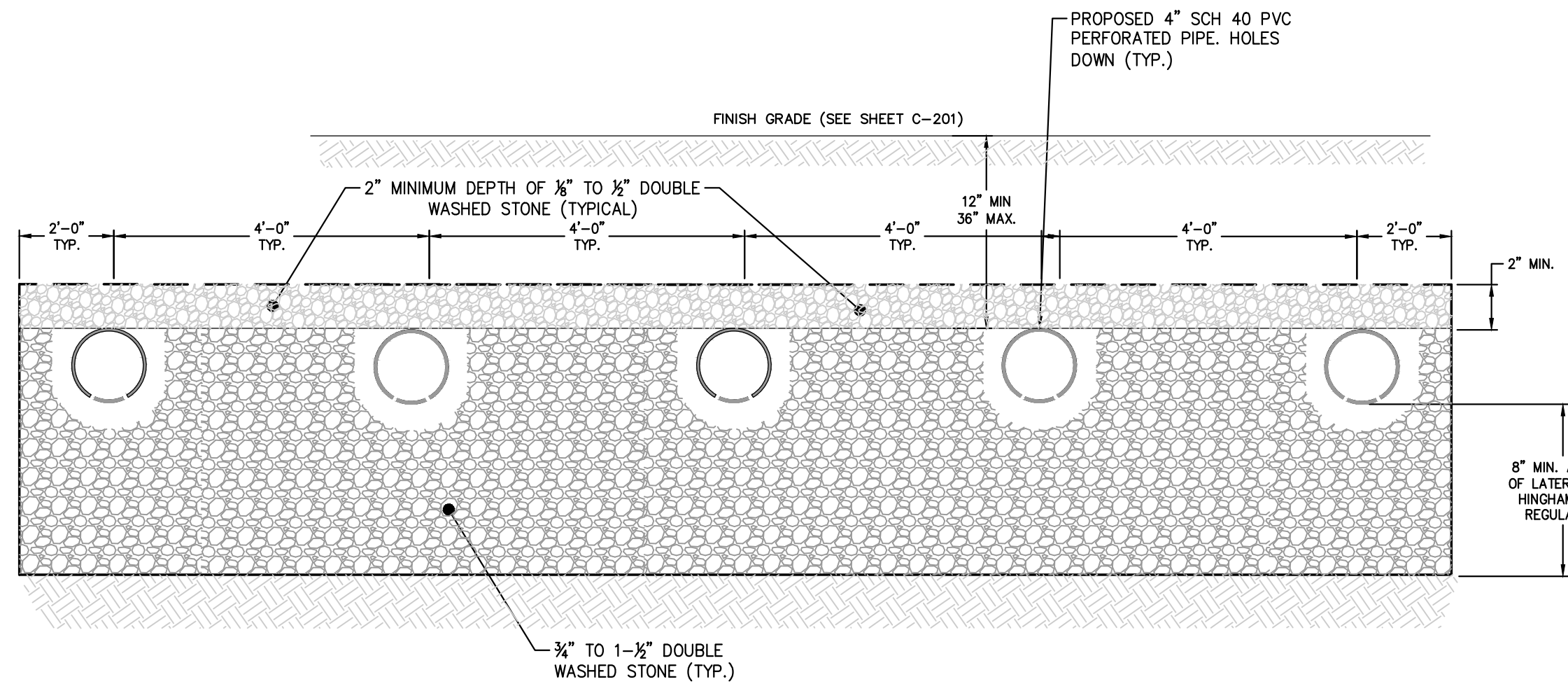
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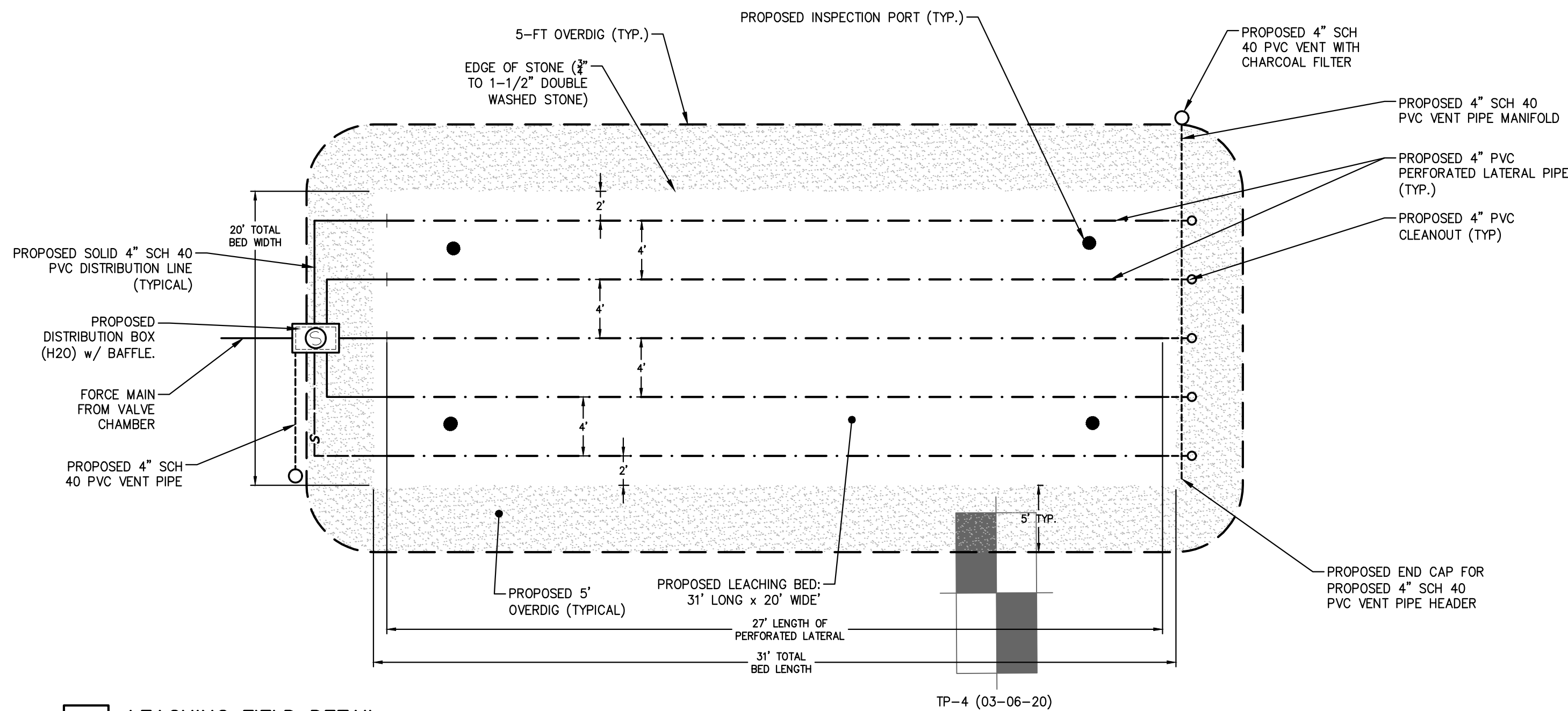
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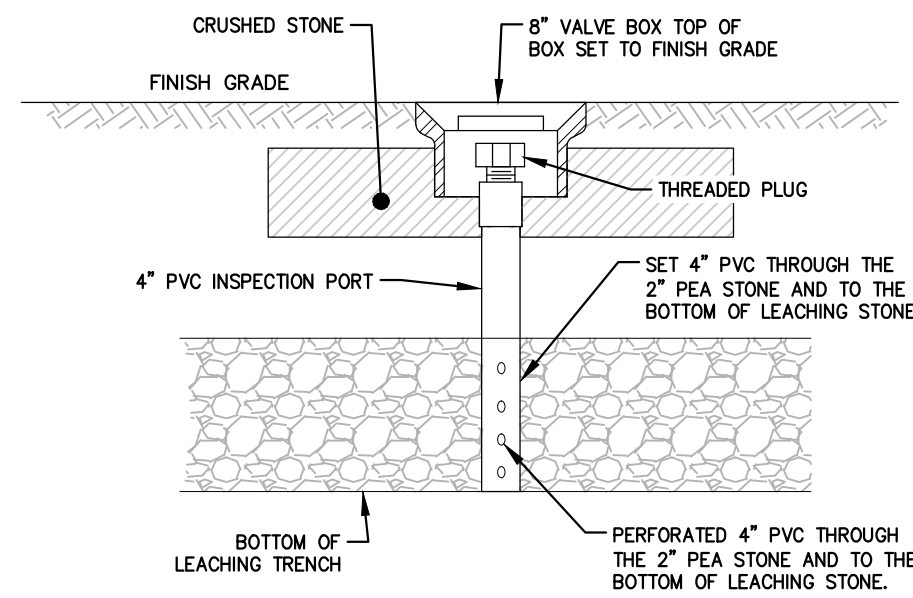
1 SANITARY SYSTEM PROFILE
SCALE: NO SCALE



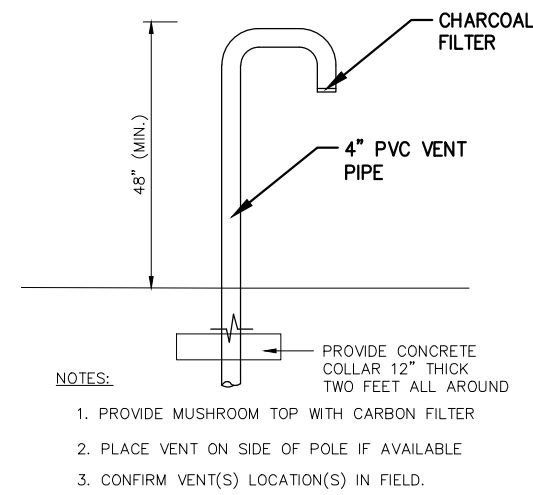
2 LEACHING BED CROSS SECTION
SCALE: NO SCALE



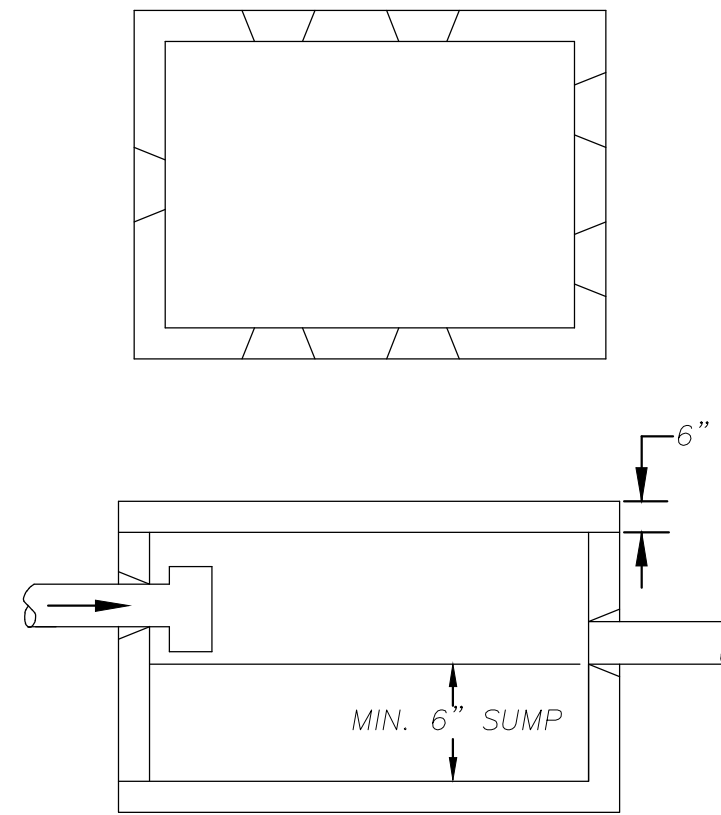
3 LEACHING FIELD DETAIL
SCALE: NO SCALE



4 INSPECTION PORT DETAIL
SCALE: NO SCALE



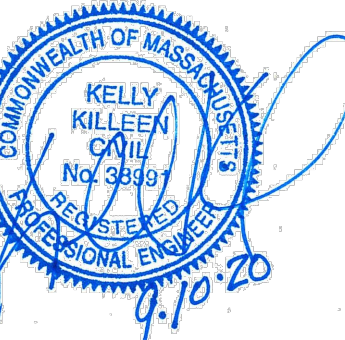
5 4" PVC VENT DETAIL
SCALE: NO SCALE



6 DISTRIBUTION BOX (H2O)
SCALE: NO SCALE

OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



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HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

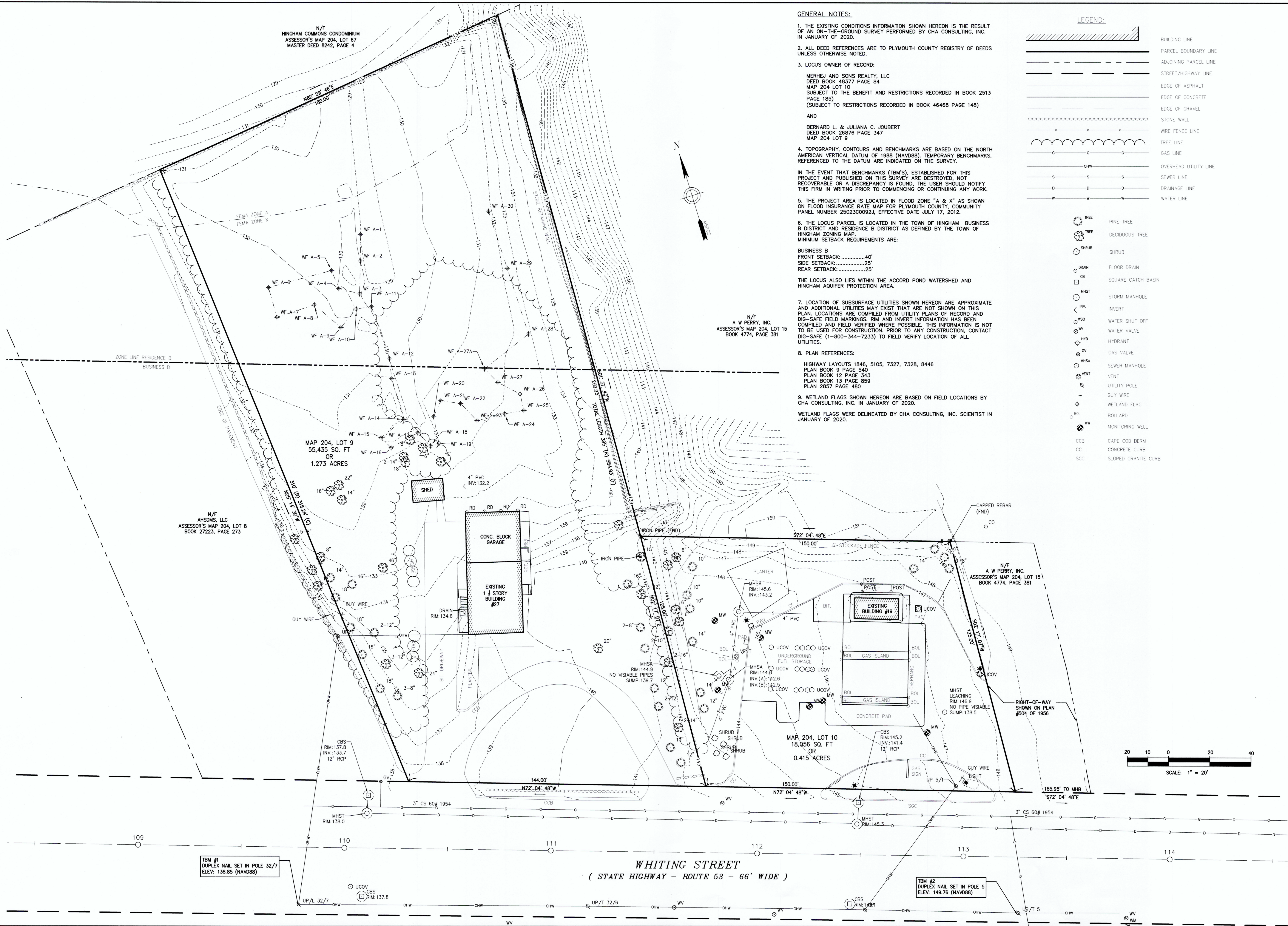
SEPTIC
DETAILS - 2

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

C-608

File: W:\PROJECTS\WV\K5\060903.000\CADD\SURVEY\ACAD\VPASE_060903.DWG



GENERAL NOTES:

1. THE EXISTING CONDITIONS INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA CONSULTING, INC. IN JANUARY OF 2020.
2. ALL DEED REFERENCES ARE TO PLYMOUTH COUNTY REGISTRY OF DEEDS UNLESS OTHERWISE NOTED.
3. LOCUS OWNER OF RECORD:
MERHEJ AND SONS REALTY, LLC
DEED BOOK 48377 PAGE 84
MAP 204 LOT 10
SUBJECT TO THE BENEFIT AND RESTRICTIONS RECORDED IN BOOK 2513 PAGE 185
(SUBJECT TO RESTRICTIONS RECORDED IN BOOK 46468 PAGE 148)
AND
BERNARD L. & JULIANA C. JOUBERT
DEED BOOK 26876 PAGE 347
MAP 204 LOT 9
4. TOPOGRAPHY, CONTOURS AND BENCHMARKS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). 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. THE PROJECT AREA IS LOCATED IN FLOOD ZONE "A & X" AS SHOWN ON FLOOD INSURANCE RATE MAP FOR PLYMOUTH COUNTY, COMMUNITY PANEL NUMBER 25023C0092J, EFFECTIVE DATE JULY 17, 2012.
6. THE LOCUS PARCEL IS LOCATED IN THE TOWN OF HINGHAM, BUSINESS B DISTRICT AND RESIDENCE B DISTRICT AS DEFINED BY THE TOWN OF HINGHAM ZONING MAP.
MINIMUM SETBACK REQUIREMENTS ARE:
BUSINESS B
FRONT SETBACK:.....40'
SIDE SETBACK:.....25'
REAR SETBACK:.....25'
- THE LOCUS ALSO LIES WITHIN THE ACCORD POND WATERSHED AND HINGHAM AQUIFER PROTECTION AREA.
7. 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:
HIGHWAY LAYOUTS 1846, 5105, 7327, 7328, 8446
PLAN BOOK 9 PAGE 340
PLAN BOOK 12 PAGE 343
PLAN BOOK 13 PAGE 859
PLAN 2857 PAGE 480
9. WETLAND FLAGS SHOWN HEREON ARE BASED ON FIELD LOCATIONS BY CHA CONSULTING, INC. IN JANUARY OF 2020.
WETLAND FLAGS WERE DELINEATED BY CHA CONSULTING, INC. SCIENTIST IN JANUARY OF 2020.

LEGEND:	
	BUILDING LINE
	PARCEL BOUNDARY LINE
	ADJOINING PARCEL LINE
	STREET/HIGHWAY LINE
	EDGE OF ASPHALT
	EDGE OF CONCRETE
	EDGE OF GRAVEL
	STONE WALL
	WIRE FENCE LINE
	TREE LINE
	GAS LINE
	OVERHEAD UTILITY LINE
	SEWER LINE
	DRAINAGE LINE
	WATER LINE
	PINE TREE
	DECIDUOUS TREE
	SHRUB
	FLOOR DRAIN
	SQUARE CATCH BASIN
	STORM MANHOLE
	INVERT
	WATER SHUT OFF
	WATER VALVE
	HYDRANT
	GAS VALVE
	SEWER MANHOLE
	VENT
	UTILITY POLE
	GUY WIRE
	WETLAND FLAG
	BOLLARD
	MONITORING WELL
	CAPE COD BERM
	CONCRETE CURB
	SLOPED GRANITE CURB

PREPARED FOR:

MERHEJ AND
SONS REALTY,
LLC

87 DERBY STREET

HINGHAM, MA
02043



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PROJECT LOCATION:

19 & 27

WHITING STREET

HINGHAM, MA

No.	Submittal / Revision	App'd. By	Date
0	Issued as Final	WJD MWC	04/27/2020

EXISTING CONDITIONS
PLAN

Designed By: ---	Drawn By: MWC	Checked By: GXD
Issue Date: 04/27/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:

SHEET 1 OF 1

File: \\CHA-LP.COM\PROJ\PROJECTS\ANY\K5 060903.000\CADD\ACAD 060903.000.dwg Current User: Rose, Donald LastSavedBy: 4323 Saved: 9/8/2020 7:24:32 PM Plotted: 9/10/2020 7:35:00 PM

SOIL TEST DATA:
DATE: 03/06/2020
PERFORMED BY HAZEM DANI, SE#13902
WITNESSED BY JOHN CHESSIA, SE#375

TP-1 EL=140.5
"FILL"
DEPTH: 0"-20"
"C"
DEPTH: 20"-120"
LOAMY SAND (10YR%)
REDOX: 96%, 7.5YR% & 2.5Y% 20%
MASSIVE, FRIABLE
E.S.H.G.W. EL=132.50±
WEeping @ 102" (EL. 132.0)

TP-2 EL=140.2
"FILL"
DEPTH: 0"-16"
"C"
DEPTH: 16"-114"
SAND (10YR%)
REDOX: 77%, 7.5YR% & 2.5Y% 20%
25% GRAVEL, 10% COBBLES
MASSIVE, FRIABLE
E.S.H.G.W. EL=133.78±
WEeping @ 91" (EL. 132.6)

TP-3 EL=139.2
"FILL"
DEPTH: 0"-57"
"C"
DEPTH: 57"-108"
LOAMY SAND (10YR%)
REDOX: 67%, 7.5YR% & 2.5Y% 60%
MASSIVE, FRIABLE
E.S.H.G.W. EL=133.62±
WEeping @ 91" (EL. 131.6)

TP-4 EL=141.1
"FILL"
DEPTH: 0"-10"
"C1"
DEPTH: 10"-83"
SAND (10YR%)
REDOX: NONE
25% GRAVEL, 10% COBBLES
SINGLE GRAIN, LOOSE
"C2"
DEPTH: 83"-108"
SANDY LOAM (10YR%)
REDOX: 83%, 7.5YR% & 2.5Y% 20%
5% GRAVEL
MASSIVE, FRIABLE
E.S.H.G.W. EL=134.18±
CAVING SOIL

TP-5 EL=134.5
"FILL"
DEPTH: 0"-26"
"A"
DEPTH: 26"-38"
SANDY LOAM (10YR%)
REDOX: NONE
MASSIVE, FRIABLE
"C"
DEPTH: 38"-84"
SANDY LOAM (2.5Y%)
REDOX: 38%, 7.5YR% & 2.5Y% 25%
15% COBBLES & STONES
MASSIVE, FRIABLE
E.S.H.G.W. EL=131.33±
WEeping @ 53" (130.1)
CAVING SOIL

TP-6 EL=138.6
"FILL"
DEPTH: 0"-10"
"C"
DEPTH: 10"-120"
LOAMY SAND (10YR%)
REDOX: 60%, 7.5YR% & 2.5Y% MANY
MASSIVE, FRIABLE
E.S.H.G.W. EL=133.60±
CAVING SOIL

SOIL TEST DATA:
DATE: 08/28/2020
PERFORMED BY HAZEM DANI, SE#13902
WITNESSED BY JOHN CHESSIA, SE#375

TP-7 EL=147.6
"Ap"
DEPTH: 0"-12"
SANDY LOAM (10YR ½%), 5% GRAVEL
MASSIVE, FRIABLE
"Bw"
DEPTH: 12"-28"
SANDY LOAM (10YR ¼%), 10% GRAVEL
MASSIVE, FRIABLE
"C"
DEPTH: 28"-120"
FINE GRAVEL AND SAND (10YR%)
25% GRAVEL, 10% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

TP-8 EL=147.3
"Ap"
DEPTH: 0"-12"
SANDY LOAM (10YR ½%)
MASSIVE, FRIABLE
"Bw"
DEPTH: 12"-24"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 24"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

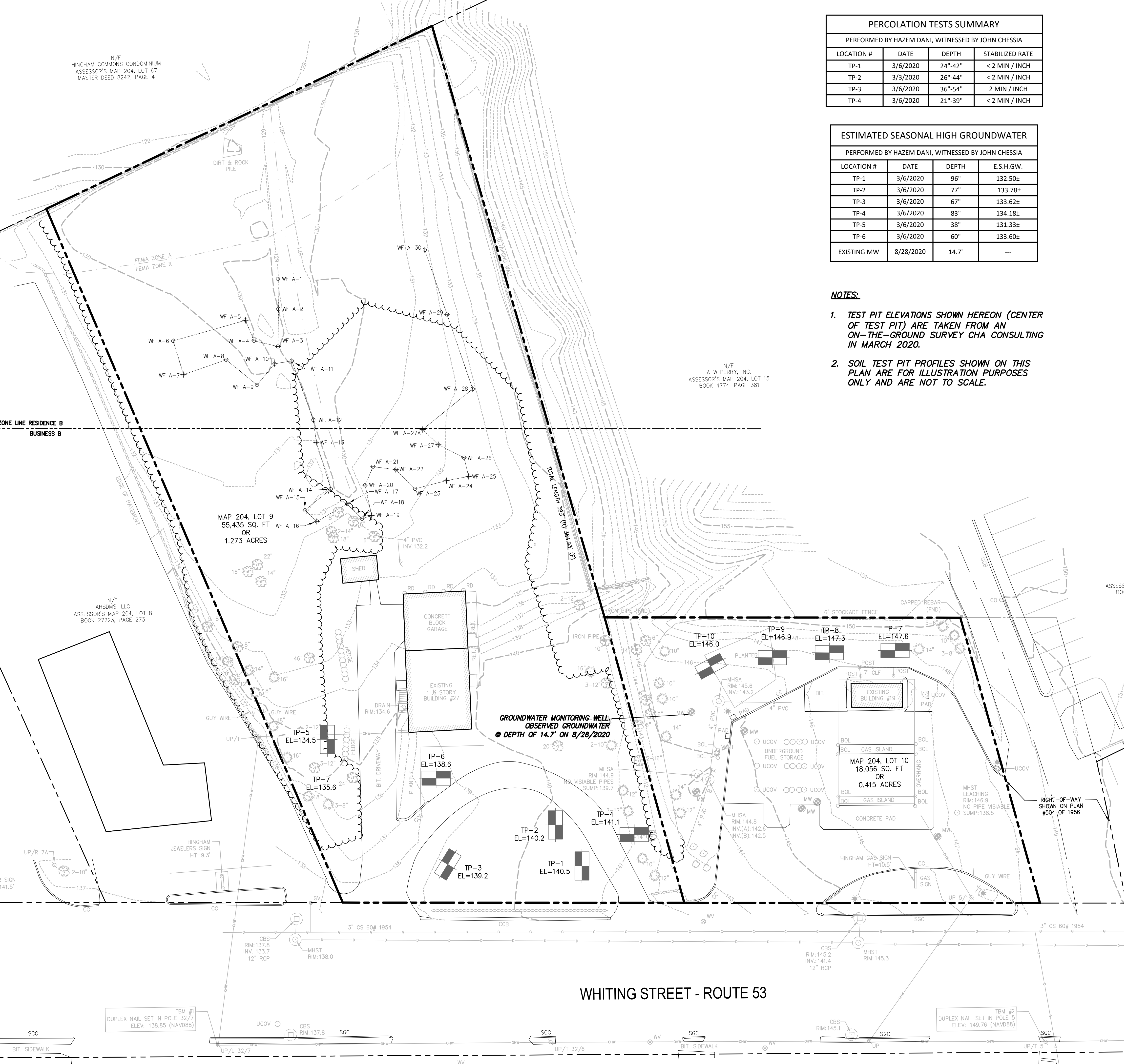
TP-9 EL=146.9
"Ap"
DEPTH: 0"-12"
SANDY LOAM (10YR ½%)
MASSIVE, FRIABLE
"Bw"
DEPTH: 12"-24"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 24"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

TP-10 EL=146.0
"FILL"
DEPTH: 0"-12"
"Bw"
DEPTH: 12"-19"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 19"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

TP-11 EL=146.0
"FILL"
DEPTH: 0"-12"
"Bw"
DEPTH: 12"-19"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 19"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

TP-12 EL=146.0
"FILL"
DEPTH: 0"-12"
"Bw"
DEPTH: 12"-19"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 19"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL

TP-13 EL=146.0
"FILL"
DEPTH: 0"-12"
"Bw"
DEPTH: 12"-19"
SANDY LOAM (10YR ¼%)
MASSIVE, FRIABLE
"C"
DEPTH: 19"-120"
FINE GRAVEL AND SAND (10YR%)
50% GRAVEL, 15% COBBLES
SINGLE GRAIN, LOOSE
NO REDOX
CAVING SOIL




PERCOLATION TESTS SUMMARY			
PERFORMED BY HAZEM DANI, WITNESSED BY JOHN CHESSIA			
LOCATION #	DATE	DEPTH	STABILIZED RATE
TP-1	3/6/2020	24"-42"	< 2 MIN / INCH
TP-2	3/3/2020	26"-44"	< 2 MIN / INCH
TP-3	3/6/2020	36"-54"	2 MIN / INCH
TP-4	3/6/2020	21"-39"	< 2 MIN / INCH


ESTIMATED SEASONAL HIGH GROUNDWATER			
PERFORMED BY HAZEM DANI, WITNESSED BY JOHN CHESSIA			
LOCATION #	DATE	DEPTH	E.S.H.G.W.
TP-1	3/6/2020	96"	132.50±
TP-2	3/6/2020	77"	133.78±
TP-3	3/6/2020	67"	133.62±
TP-4	3/6/2020	83"	134.18±
TP-5	3/6/2020	38"	131.33±
TP-6	3/6/2020	60"	133.60±
EXISTING MW	8/28/2020	14.7'	---

- NOTES:**
- TEST PIT ELEVATIONS SHOWN HEREON (CENTER OF TEST PIT) ARE TAKEN FROM AN ON-THE-GROUND SURVEY CHA CONSULTING IN MARCH 2020.
 - SOIL TEST PIT PROFILES SHOWN ON THIS PLAN ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT TO SCALE.

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0 20 40
Scale in feet

OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043

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HINGHAM GAS
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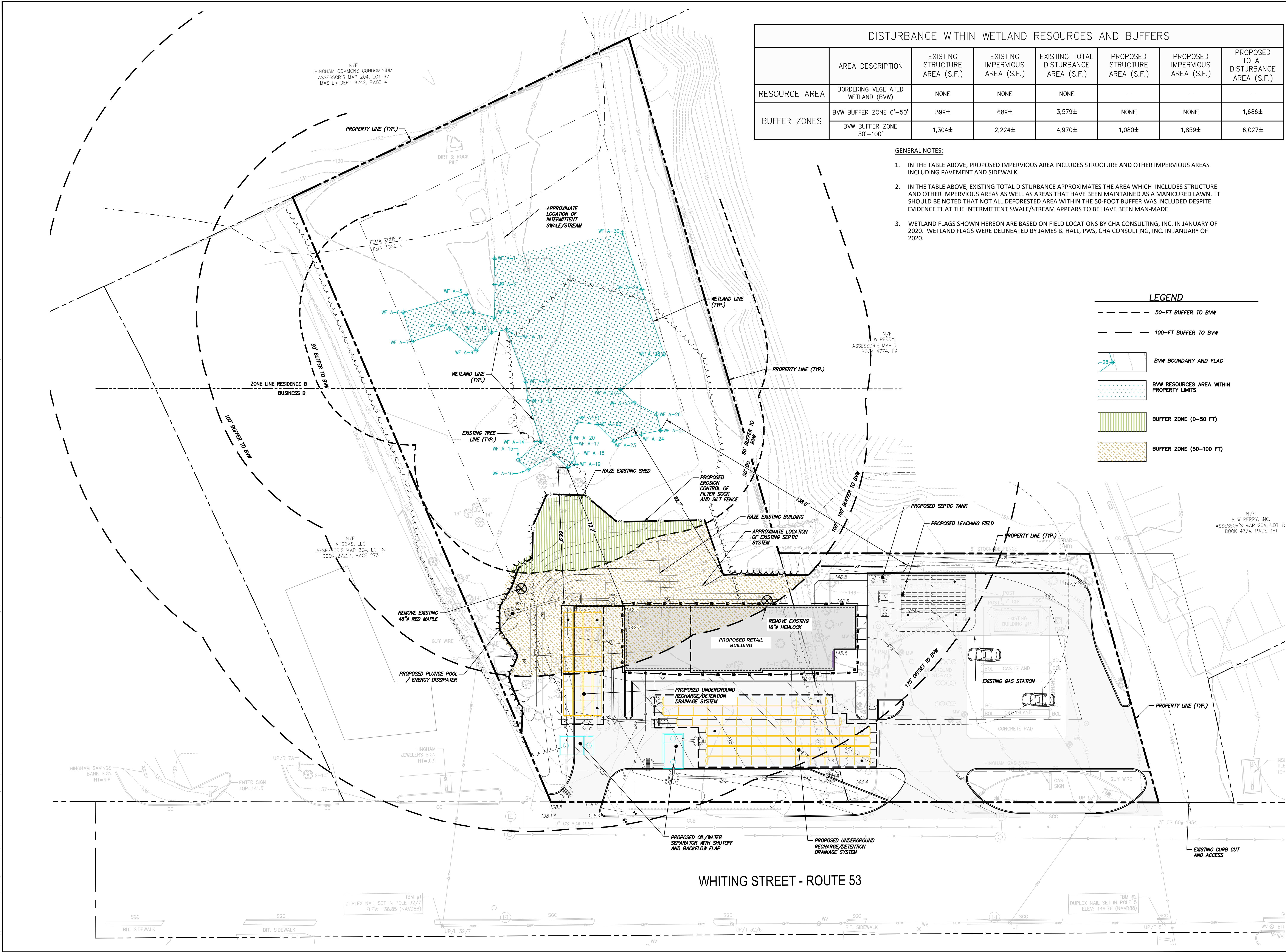
No.	Submittal / Revision	App'd. By	Date
A	PERMIT SET	KK JM	5/1/2020
B	PERMIT SET	KK JM	9/10/2020

TEST PIT PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
G-001

File: \\CHA-LP-COM\PROJ\PROJECTS\ANY\5106903.000\CADD\ACAD\060903.G-002 RESOURCE AREA PLAN.DWG Saved: 9/9/2020 7:10:38 PM Plotted: 9/10/2020 6:24:08 PM Current User: Ross, Donald LastSavedBy: 4323



DISTURBANCE WITHIN WETLAND RESOURCES AND BUFFERS							
	AREA DESCRIPTION	EXISTING STRUCTURE AREA (S.F.)	EXISTING IMPERVIOUS AREA (S.F.)	EXISTING TOTAL DISTURBANCE AREA (S.F.)	PROPOSED STRUCTURE AREA (S.F.)	PROPOSED IMPERVIOUS AREA (S.F.)	PROPOSED TOTAL DISTURBANCE AREA (S.F.)
RESOURCE AREA	BORDERING VEGETATED WETLAND (BVW)	NONE	NONE	NONE	-	-	-
BUFFER ZONES	BVW BUFFER ZONE 0'-50'	399±	689±	3,579±	NONE	NONE	1,686±
	BVW BUFFER ZONE 50'-100'	1,304±	2,224±	4,970±	1,080±	1,859±	6,027±

- GENERAL NOTES:
- IN THE TABLE ABOVE, PROPOSED IMPERVIOUS AREA INCLUDES STRUCTURE AND OTHER IMPERVIOUS AREAS INCLUDING PAVEMENT AND SIDEWALK.
 - IN THE TABLE ABOVE, EXISTING TOTAL DISTURBANCE APPROXIMATES THE AREA WHICH INCLUDES STRUCTURE AND OTHER IMPERVIOUS AREAS AS WELL AS AREAS THAT HAVE BEEN MAINTAINED AS A MANICURED LAWN. IT SHOULD BE NOTED THAT NOT ALL DEFORESTED AREA WITHIN THE 50-FOOT BUFFER WAS INCLUDED DESPITE EVIDENCE THAT THE INTERMITTENT SWALE/STREAM APPEARS TO BE HAVE BEEN MAN-MADE.
 - WETLAND FLAGS SHOWN HEREON ARE BASED ON FIELD LOCATIONS BY CHA CONSULTING, INC. IN JANUARY OF 2020. WETLAND FLAGS WERE DELINEATED BY JAMES B. HALL, PWS, CHA CONSULTING, INC. IN JANUARY OF 2020.

LEGEND

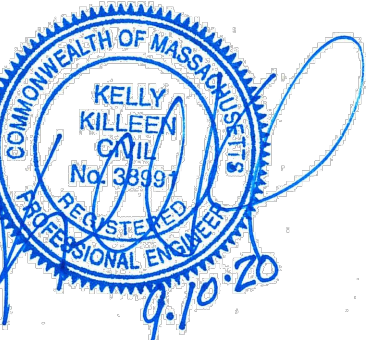
- 50-FT BUFFER TO BVW
- 100-FT BUFFER TO BVW
- BVW BOUNDARY AND FLAG
- BVW RESOURCES AREA WITHIN PROPERTY LIMITS
- BUFFER ZONE (0-50 FT)
- BUFFER ZONE (50-100 FT)

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Scale in feet

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No.	Submital / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

RESOURCE
AREA PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
G-002

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OWNER/APPLICANT:

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REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043

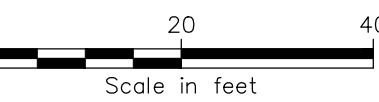
IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN EXISTING OR NEW PROJECT. THE SEAL AND STAMP OF A LICENSED PROFESSIONAL IS ALTERED. THE ALTERING SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

HINGHAM GAS
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No.	Submittal / Revision	App'd.	By	Date
A	PERMIT SET	KK	JM	5/1/2020
B	PERMIT SET	KK	JM	9/10/2020

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:



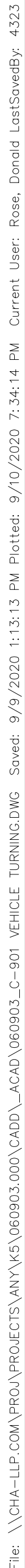
MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043

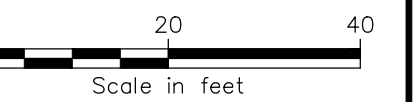
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STREET
HINGHAM, MA 02043

VEHICLE TURNING PLAN (FIRE)

Drawing No.:

C-90 1





MERHEJ & SONS
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87 DERBY STREET
HINGHAM, MA 02043

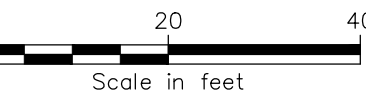
HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

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Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

C-902





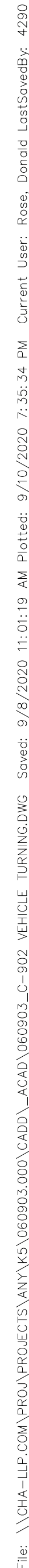
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#19 & 27 WHITING
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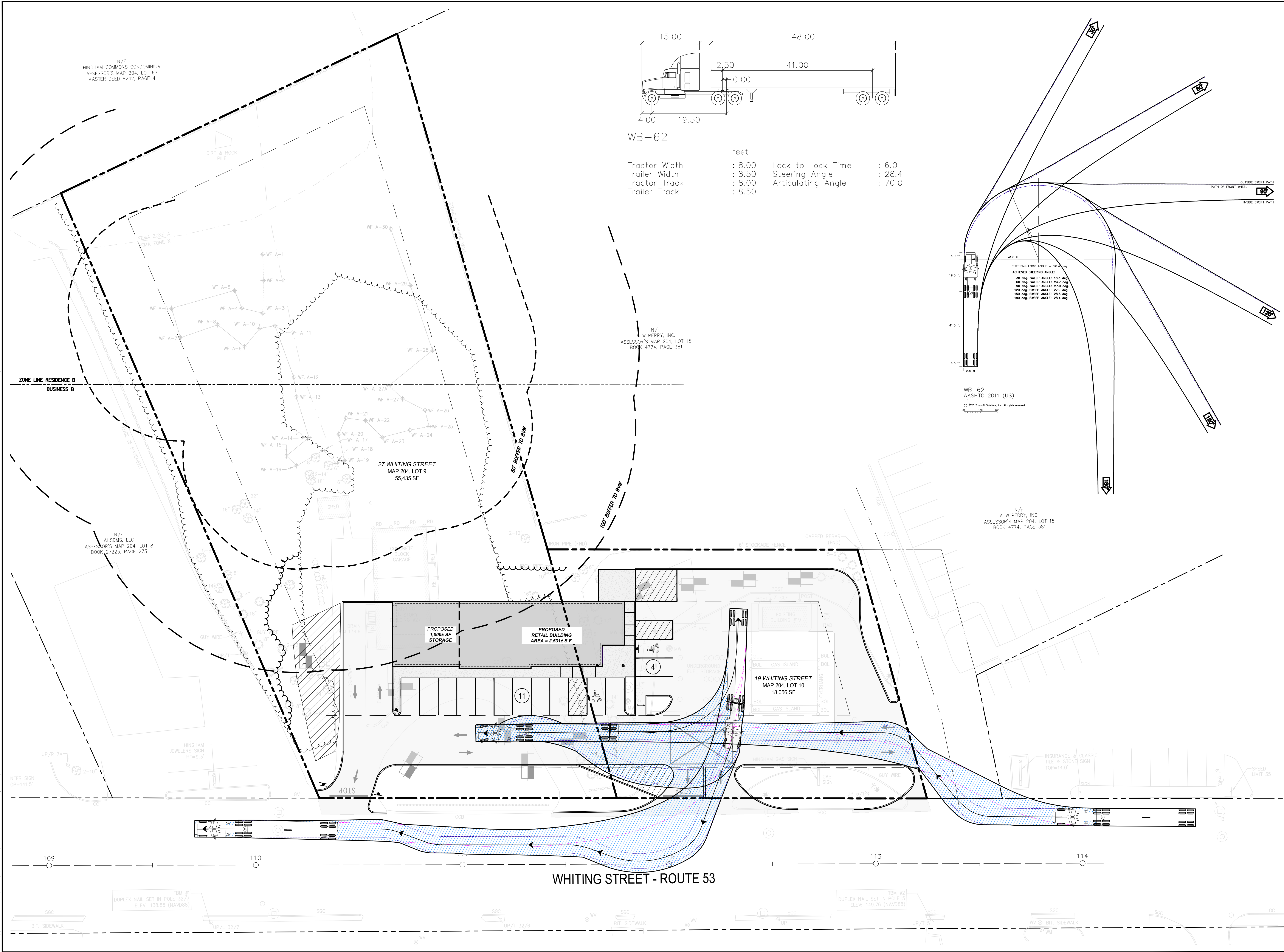
VEHICLE TURNING PLAN (DELIVERY)

Drawing No.:

C-903



File: \\CHA-LP2.COM\PROJ\PROJECTS\ANY\5\060903.000\CADD\ACAD\060903.C-903 VEHICLE TURNING.DWG Saved: 9/8/2020 11:01:06 AM Plotted: 9/10/2020 7:37:05 PM Current User: Rose, Donald LastSavedBy: 4290



0 20 40
Scale in feet

OWNER/APPLICANT:

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87 DERBY STREET
HINGHAM, MA 02043

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER ANY ITEM IN ANY WAY. IF ANY ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

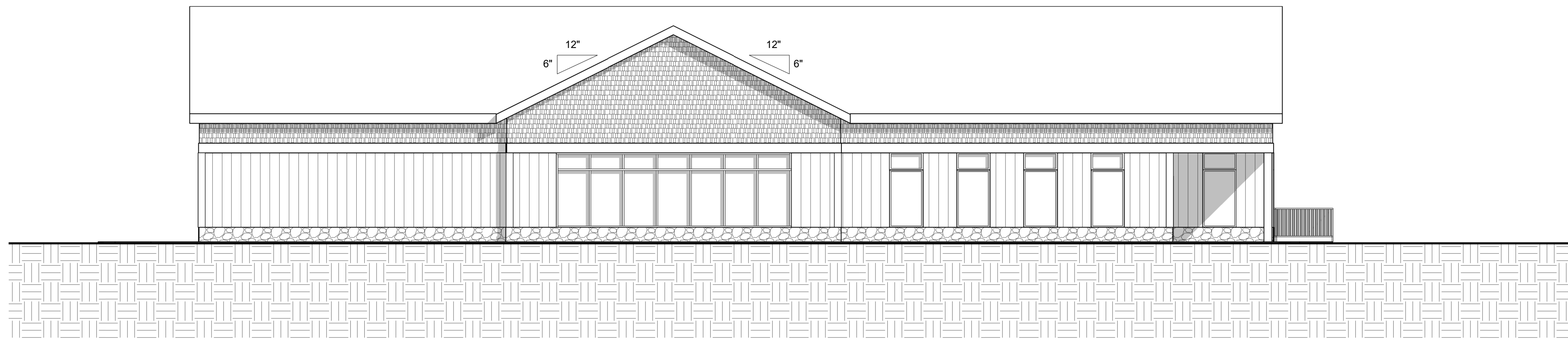
HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submital / Revision	App'd. By	Date
A	PERMIT SET	KK JM	5/1/2020
B	PERMIT SET	KK JM	9/10/2020

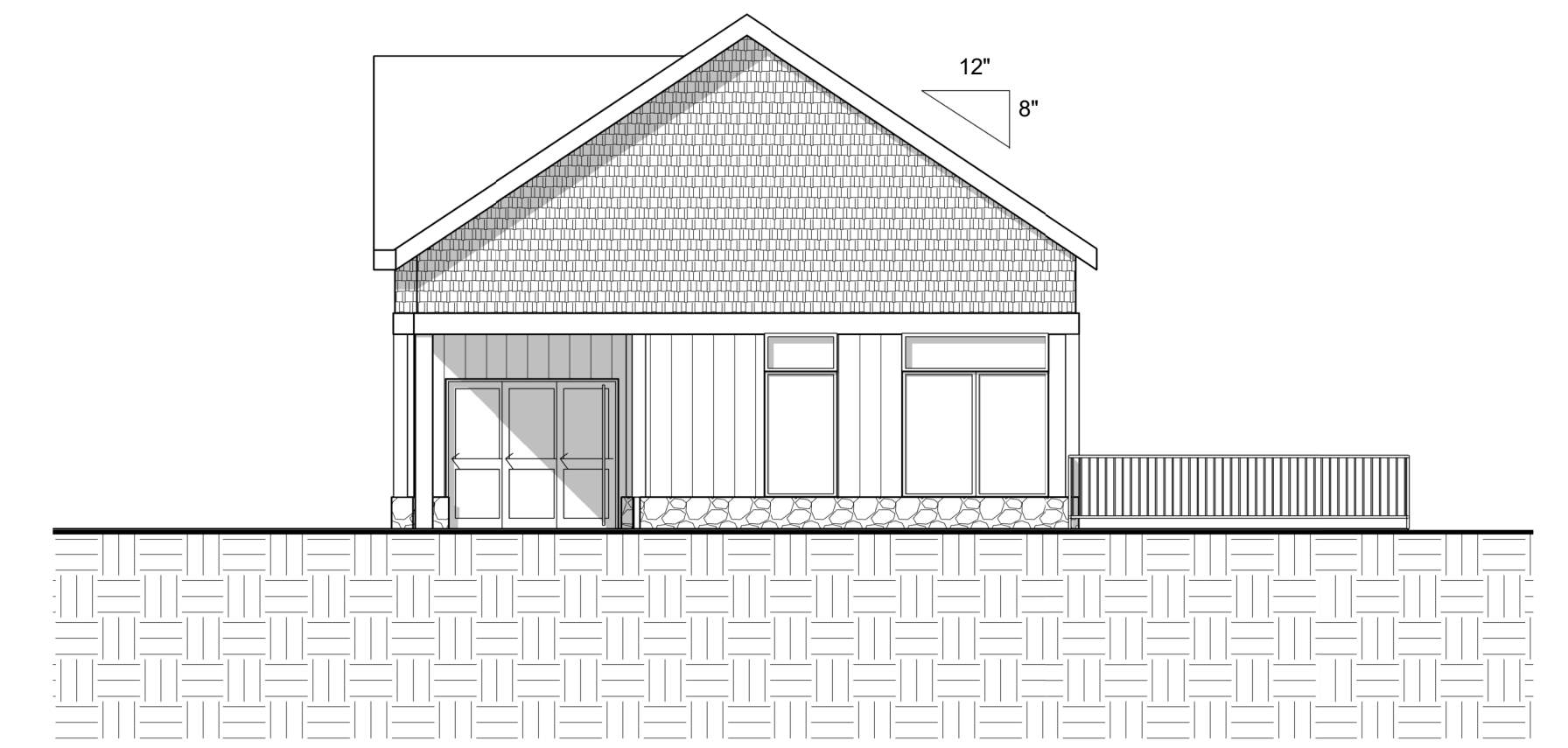
VEHICLE
TURNING PLAN
(FUEL)

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

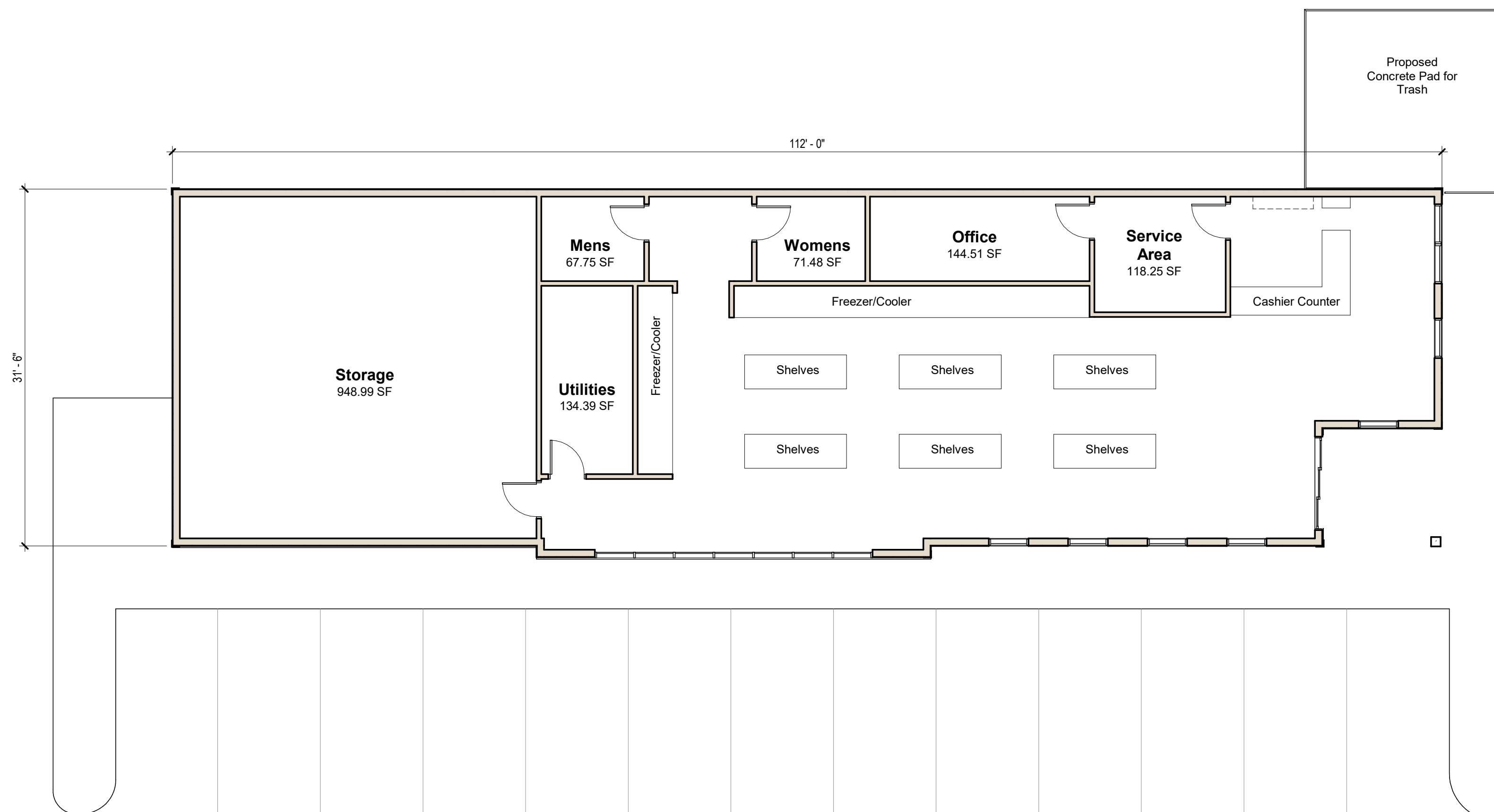
Drawing No.:
C-904



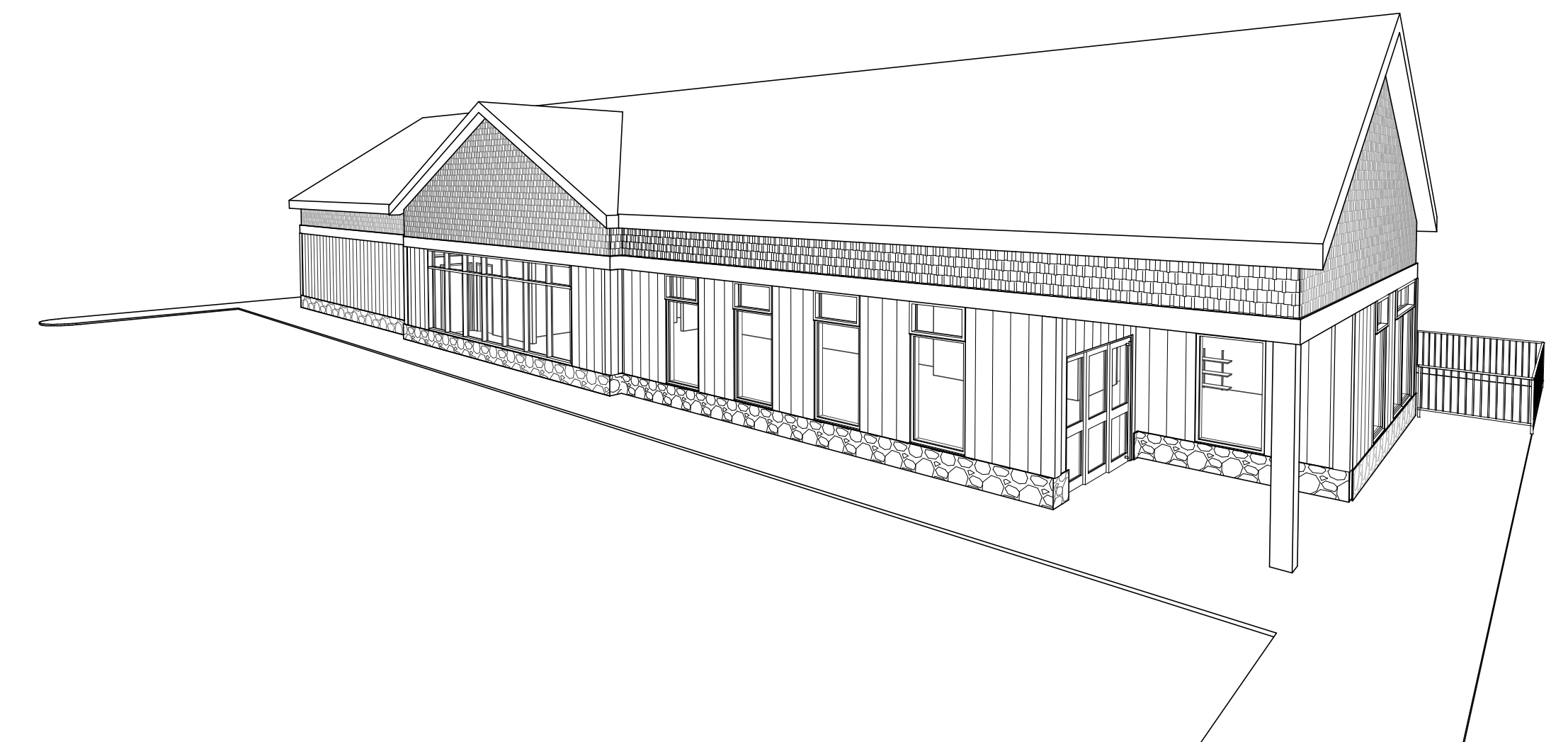
1 South Elevation
1/8" = 1'-0"



2 East Elevation
1/8" = 1'-0"



3 Top of Slab
1/8" = 1'-0"



4 3D View 1