

Northborough Fire Station

63 West Main Street
Town of Northborough, MA

CIVIL ENGINEER:



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Scale : N.T.S.

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PLANNING BOARD SUBMISSION
MARCH 18, 2024

REFERENCE

- PROJECT LOCATION: 61 AND 65 WEST MAIN STREET, AND 10 MONROE STREET, NORTHBOROUGH, MA 01532. ASSESSORS MAP 63, LOT 9 PARCEL 2, LOT 10 PARCEL 1, AND LOT 7.
- EXISTING CONDITIONS MAPPING TAKEN FROM PLAN ENTITLED "EXISTING CONDITIONS PLAN 61-65 WEST MAIN STREET NORTHBOROUGH, MA" PREPARED BY CHAPPELL ENGINEERING ASSOCIATES, LLC, DATED SEPTEMBER 1, 2023. DATUMS: HORIZONTAL: NAD 83, VERTICAL: NAVD 88.

GENERAL NOTES

- THE COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGE CONSTRUCTION, 2021 EDITION OR LATEST REVISION, AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. ALL WORK SHALL MEET OR EXCEED THE MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS. THE LATEST REVISION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEERS APPROVAL.
- IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE ANY DEVIATIONS WITH THE ENGINEER AND OWNER.
- ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
- ALL SIGNS SHALL BE REFLECTORIZED TYPE III SHEETING AND CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION.
- ALL UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ALL DAMAGE TO EXISTING UTILITIES OR STRUCTURES, AND THE COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS, AS SHOWN ON THE PLANS SHALL BE THE CONTRACTORS RESPONSIBILITY.
- NO EXCAVATION SHALL BE DONE UNTIL COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.

LAYOUT NOTES

- ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
- ACCESSIBLE RAMPS SHALL BE PER THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES AND CODE OF MASSACHUSETTS REGULATIONS (CMR) TITLE 80C OF THE ARCHITECTURAL ACCESS BOARD REGULATIONS.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
- DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.
- ALIGN WALKWAYS ON DOORWAYS THEY SERVE TO PROVIDE MINIMUM REQUIRED MANEUVERING CLEARANCE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES AND CODE OF MASSACHUSETTS REGULATIONS (CMR) TITLE 80C OF THE ARCHITECTURAL ACCESS BOARD REGULATIONS.

DEMOLITION NOTES

- THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY, AND LANDSCAPING DRAWINGS.
- ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED OF, RELOCATED OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE ALL UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH WORK.
- WATER, SEWER, DRAINAGE, GAS, AND OTHER SITE UTILITIES SERVICING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION.
- THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITHOUT APPROVAL OF THE OWNER.

GRADING AND UTILITY NOTES

- UNDERGROUND UTILITIES DEPICTED WERE COMPILED FROM AVAILABLE RECORD PLANS AND SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES DEPICTED OR NOT DEPICTED ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS TO REPAIR SUCH DAMAGES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
- ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.
- AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
- ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION SHALL BE PROVIDED ON A SKETCH TO SCALE OF THE EXISTING UTILITY WITH TIES TO KNOWN POINTS, PHOTOS AND FURNISHED TO THE ENGINEER FOR RESOLUTION.
- THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION, ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION.
- GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES.
- DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- ALL GRAVITY SANITARY PIPING SHALL BE SDR-35 PVC. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF NORTHBOROUGH WATER AND SEWER COMMISSION REGULATIONS.
- ALL WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS MUST ADHERE TO THE TOWN OF NORTHBOROUGH WATER AND SEWER COMMISSION REGULATIONS SPECIFICATIONS AND SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN.
- EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
- THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.

STATE RIGHT-OF-WAY NOTES

- ALL WORK TO BE PERFORMED WITHIN THE COMMON WEALTH OF MASSACHUSETTS PUBLIC RIGHT-OF-WAY (ROW) SHALL CONFORM TO THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGE CONSTRUCTION, 1988 EDITION OR LATEST REVISION, AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARD DETAILS.
- THE CONTRACTOR SHALL APPLY FOR AND OBTAIN A UTILITY PERMIT FROM THE MASSDOT FOR UTILITY WORK WITHIN THE PUBLIC ROW AND MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
- THE CONTRACTOR SHALL PREPARE A TRANSPORTATION MANAGEMENT PLAN INCLUDING A TEMPORARY TRAFFIC CONTROL PLAN AS REQUIRED FOR THE MASSDOT UTILITY PERMIT APPLICATION AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL TEMPORARY TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), LATEST REVISION.

EROSION AND SEDIMENTATION CONTROL NOTES - MASSACHUSETTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT (CGP) AND THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO CONSTRUCTION.
- SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" AND THE NOTES AND DETAILS SHOWN IN THIS PLAN SET.
- THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- REQUIRED PERIMETER CONTROL SHALL BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
- AS FEASIBLE, CONSTRUCTION SHALL BE PHASED TO LIMIT THE AREA OF EXPOSED SOIL AND THE DURATION OF EXPOSURE. ALL DISTURBED AREAS SHALL BE TEMPORARILY AND/OR PERMANENTLY STABILIZED WITHIN 14 DAYS FOLLOWING COMPLETION OF GRADING ACTIVITIES.
- THE CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER DURING CONSTRUCTION TO ENSURE THAT THE EROSION CONTROL BARRIERS ARE INTACT.
- CLEAN AND MAINTAIN SEDIMENTATION CONTROL BARRIERS WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIER SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
- THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
- THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUB GRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
- SOIL AND OTHER MATERIALS RESULTING FROM SITE CLEARING MAY BE RECYCLED AND/OR REUSED ON THE SITE AS APPROPRIATE. WASTE MATERIALS SHALL BE REMOVED FROM THE SITE.
- CRUSHED STONE CONSTRUCTION ENTRANCES SHALL BE ESTABLISHED AT ALL POINTS OF INGRESS AND EGRESS.
- TEMPORARY DIVERSIONS (TD) MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIP PILES, COIR LOGS, OR SIMILAR MATERIALS.
- TEMPORARY SEDIMENT TRAPS (TST) AND TEMPORARY SWALES (TS) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES.
- DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- CATCH BASINS AND STORM DRAINS SHALL BE PROTECTED WITH HAY BALES OR SEDIMENT BAGS IN PAVED AREAS UNTIL CONTRIBUTING AREA IS PERMANENTLY STABILIZED.
- DEWATERING WASTEWATER PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO A DEWATERING BASIN, HAY BALE CORRALS, OR SEDIMENTATION BAGS.
- CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS.
- RIPRAP OR OTHER ENERGY DISSIPATERS SHALL BE USED WHERE NECESSARY TO CONTROL EROSION.
- ANY EQUIPMENT THAT IS NOT READILY MOBILE (TRACK MACHINERY) SHALL BE PARKED WITHIN THE PROJECT LIMIT OF DISTURBANCE. LARGE AND/OR BULKY MATERIALS SHALL BE STORED SUCH THAT THEY DO NOT INTERFERE WITH THE ONGOING CONSTRUCTION ACTIVITIES OR EROSION CONTROL MEASURES.
- NEWLY VEGETATED AREAS SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE THE ESTABLISHMENT OF STABLE VEGETATED SURFACES.
- THE CONTRACTOR SHALL NOT REMOVE ANY COMPOST FILTER SOCKS OR OTHER EROSION CONTROLS UNTIL THE CONTRIBUTING AREA IS PERMANENTLY STABILIZED.
- ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF THE FINAL PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUB GRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
- INSTALLATION OF THE EROSION CONTROL BARRIERS AS ILLUSTRATED IS INTENDED TO REPRESENT THE MINIMUM SEDIMENTATION CONTROL FACILITIES NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.

STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES

DURING CONSTRUCTION (CONTRACTOR'S RESPONSIBILITY)

- THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE TOWN OF NORTHBOROUGH. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
- ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

POST CONSTRUCTION (OWNER'S RESPONSIBILITY)

- TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER MANAGEMENT SYSTEM FACILITY (INCLUDING BUT NOT LIMITED TO CATCH BASINS, MANHOLES, INLET, OUTLET AND DIVERSION STRUCTURES, AND STORMWATER BEST MANAGEMENT PRACTICES (BMPs)) A MINIMUM OF TWO TIMES PER YEAR, PREFERABLY IN THE SPRING AND FALL.
- THE PARKING LOT AND ENTRY DRIVE SHALL BE SWEEPED BY THE OWNER AS EARLY AS POSSIBLE EVERY SPRING AND ONCE IN THE FALL TO REMOVE SEDIMENTS.
- ALL CLEANING AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEMS POST-CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE OWNER.

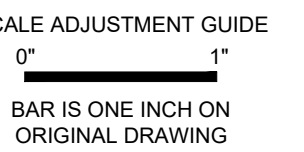
CATCH BASINS WITH SUMPS INSPECTION, MAINTENANCE, AND REPAIR NOTES

- INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED ANNUALLY AND WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO HALF THE SUMP DEPTH.
- THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME OR PAVED OVER SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED.
- CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING HOODS PLACED ON HOODED OUTLETS DURING CLEANING.

UNDERGROUND INFILTRATION/DETENTION SYSTEM BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES

FOLLOWING CONSTRUCTION, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

- THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
- FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 2.7"
 - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
- B-ANNUALLY
 - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES OF THE UNDERGROUND INFILTRATION/DETENTION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.
- JETVAC MAINTENANCE IS RECOMMENDED IF SEDIMENT HAS BEEN COLLECTED TO A DEPTH OF 3" IN THE PRETREATMENT ROW. MORE FREQUENT MAINTENANCE MAY BE REQUIRED TO MAINTAIN MINIMUM FLOW RATES THROUGH THE PRETREATMENT ROW. THE JETVAC PROCESS SHALL ONLY BE PERFORMED ON THE PRETREATMENT ROW.



Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NO.:	23141.00
DATE:	MARCH 18, 2024
SCALE:	NOT TO SCALE
DESIGNED BY:	
CHECKED BY:	
DRAWN BY:	AKL
APPROVED BY:	
DRAWING TITLE:	

NOTES

DRAWING NO.:
C1.1
SHEET NO. 2 OF

NOT FOR CONSTRUCTION

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ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes sections for GENERAL, AADT, ABAN, ADA, ADJ, APPROX, AC, ACCM PIPE, ASSF, ATD, ATG, BB, BC, BD, BIT, BL, BLDG, BM, BMP, BO, BOL, BOS, BOT, BPM, BR, BS, BW, BWL, BYL, C=, CB, CBCI, CC, CCM, CCM, CCW, CD, CE, CEM, CFS, CG, CH, CI, CIP, CJ, CL, CLDI, CLF, CLSM, CLR, CLS, CM, CMP, CO, CONC, CONT, CONST, CP, CR GR, CSP, CSTR, CTE, CW, DEMO, DET, DHV, DI, DIA, DIP, DIV, DMH, DTP, DWL, DWLEx, DBWL, DWP, DYL, DYLeX, DBYL, DW, DWY, EJ, ELEV (or EL), EMB, EMH, EOP, ETR.

Table with 2 columns: Abbreviation and Description. Includes sections for EXIST (or EX), EXC, F&C, F&G, FDC, FDN, FES, FFE, FLDSTN, FND, FT, GAR, GD, GG, GI, GIP, GRAN, GRAV, GRD, GTD, GV, HCPS, HDBC, HDPE, HDPS, HDW, HMA, HMAW, HOR, HPR, HYD, ID, INV, JCT, L=, LB, LOD, LP, LPR, LS, LSOD, LT, LTP, MAX, MB, MCW, MH, MIN, MON, MUTCD, NIC, NO, NTS, OCS, OD, OSHA, OWS, PC, PCC, PCFES, PCTC, PCR, PE, PERF, PGL, PHMA, PI, PIV, POC, POT, PM, PRC, PROJ, PROP, PSB, PT, PVC, PVCH, PVI, PVT, PVMT, PWW, QPA, R&D, R&R, R&S, R=, RA.

Table with 2 columns: Abbreviation and Description. Includes sections for RCP, RDWY, REM, RET, RET WALL, RRLS, ROW, RR, RRS, RS, RT, RTAD, RTED, RTFPD, RTLD, RTMD, RTPD, RTS, S=, SB, SDR, SED, SESC, SFL, SFGD, SG, SHL, SHLD, SHLO, SHP, SM, SMH, SSD, ST, STA, SW, SWL, SWR, SYL, T=, TAN, TD, TEMP, TC, TDS, TGP, TIP, TMH, TOS, TP, TRAN, TRM, TS, TST, TSW, TW, TYP, UP, VAR, VERT, VC, VCC, VCP, VFC, VEG, VEH, VFS, VGC, VGT, VLF, W/, WG, WIP, WM, WMH, WPM, X-SECT, YD, 4DY, 4W, 12W.

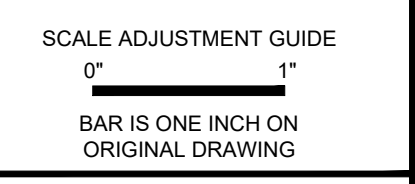
MASSACHUSETTS ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes sections for GENERAL, CMR, MASSDEP, MASSDOT, MA STD., MHB.

CONSTRUCTION NOTES - MASSDOT STANDARDS

Table with 2 columns: Note Number and Description. Includes notes 106.3.0, 107.2.0, 107.2.1, 107.6.0, 107.6.5, 107.6.9, 107.9.0, 201.4.0M, 201.6.0, 201.11.0, 201.12.0, 202.4.0, 204.2.0, 206.8.0, 209.1.0.

Table with 3 columns: EXISTING, LEGEND, PROPOSED. Includes symbols for PROPERTY LINE, SETBACKS, EASEMENT LINE, CONTOUR, SPOT ELEVATION, DRAINAGE LINE, WATER LINE, FIRE WATER LINE, SANITARY SEWER LINE, GAS LINE, ELECTRIC, TELEPHONE LINE, OVERHEAD ELECTRIC LINE, LIMIT OF DISTURBANCE, CATCH BASIN, HYDRANT, DRAINAGE MANHOLE, SEWER MANHOLE, UTILITY POLE, WATER VALVE, GAS GATE, LIGHT POLE, TREE LINE, CHAIN LINK FENCE, WIRE FENCE, WOOD FENCE, FENCE, EDGE OF PAVEMENT, SAWCUT LINE, SIGN, COMPOST FILTER SOCK, SAND BAGS, NO. OF PARKING SPACES.



Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

REVISIONS:

Table with 2 columns: Description and Date. Includes fields for PROJECT NO., DATE, SCALE, DESIGNED BY, CHECKED BY, DRAWN BY, APPROVED BY, DRAWING TITLE.

Table with 2 columns: Description and Date. Includes fields for PROJECT NO., DATE, SCALE, DESIGNED BY, CHECKED BY, DRAWN BY, APPROVED BY, DRAWING TITLE.

LEGEND

DRAWING NO.: C1.2
SHEET NO. 3 OF

NOT FOR CONSTRUCTION

10/20/2024 12:48:11 PM C:\Users\j... \Public\Northborough\New Fire Station\1000012024\1000012024.dwg



SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

Northborough New Fire Station

63 West Main Street
Town of Northborough, MA

REVISIONS:

PROJECT NO.: 23141.00
DATE: MARCH 18, 2024
SCALE: 1"=40'
DESIGNED BY:
CHECKED BY:
DRAWN BY: AKL
APPROVED BY:
DRAWING TITLE:

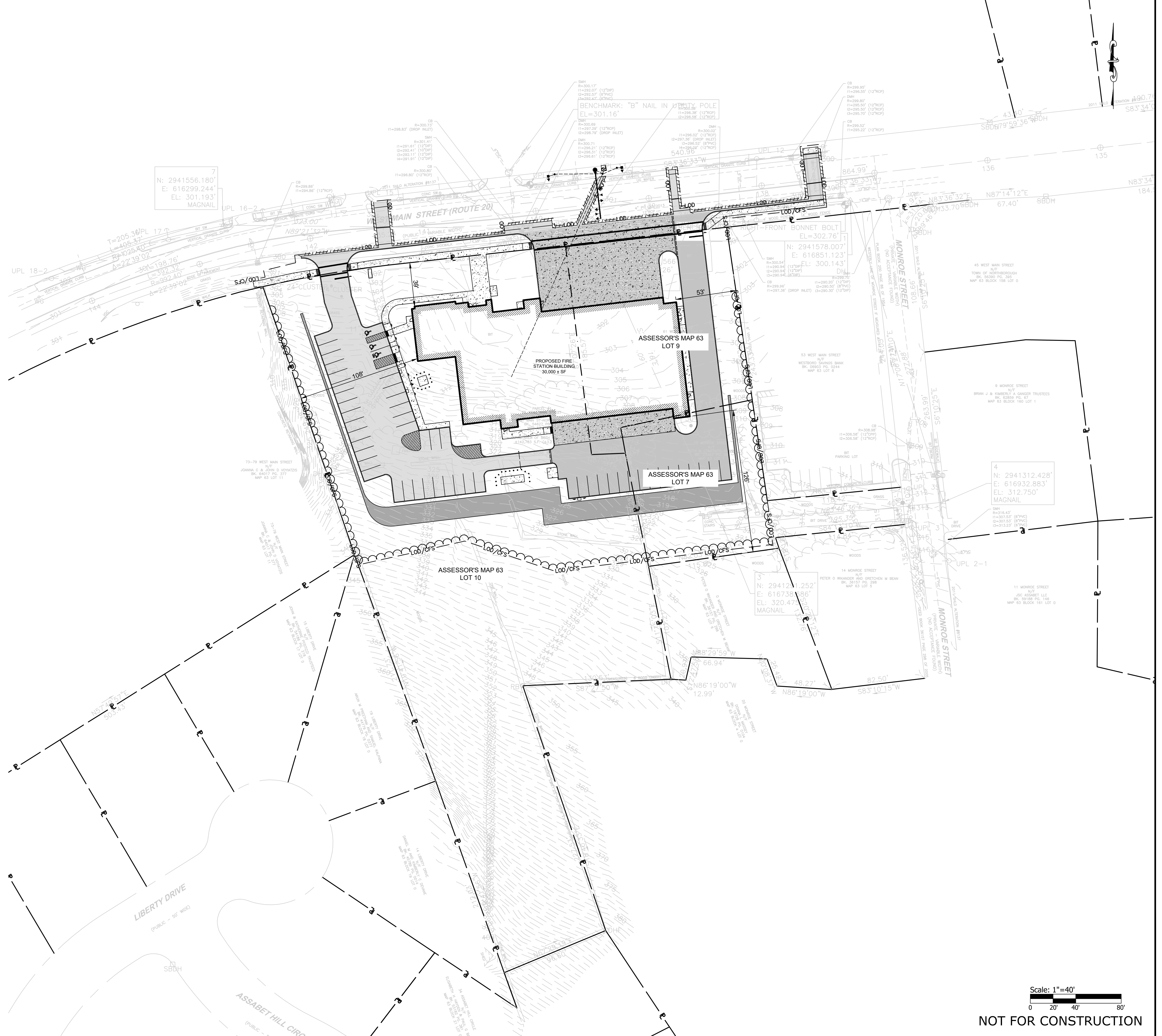
OVERALL PLAN

DRAWING NO.: C1.3
SHEET NO. 4 OF

ZONING TABLE		
EXISTING ZONE: DB-DOWNTOWN BUSINESS		
TOTAL LOT AREA MAP 63 LOT 9 PARCEL 2 = 0.55 ACRES MAP 63 LOT 10 PARCEL 1 = 2.73 ACRES MAP 63 LOT 7 = 0.43 ACRES		
BUILDING AREA 30,000 ± SF		
	REQUIRED	PROVIDED
BUILDING SETBACK		
FRONT SETBACK	6 FT	39 FT
SIDE SETBACK	NONE	53 FT
REAR SETBACK	NONE	126 FT
MAX. FRONT SETBACK	20 FT	39 FT
MIN. LOT FRONTAGE	50 FT	411 FT
MAX. BUILDING HEIGHT	45 FT	BLDG 42 FT & TOWER 68 FT ±
MIN. OPEN SPACE	15%	>15%
MIN. LOT AREA	4,000 SF	161,531 SF (3 LOTS)

PARKING SUMMARY		
	REQUIRED*	PROVIDED
STANDARD SPACES (9'x18')	44	44
ACCESSIBLE SPACES**	3	3
EV SPACES	6	6
TOTAL SPACES	53	53

* BASED ON PROGRAMMING NEEDS
23 EMPLOYEE SPACES (16 FIRE STAFF, 7 ADMINISTRATION)
30 VISITOR SPACES
** ADA REQUIREMENT FOR PARKING LOT 51 TO 75 TOTAL SPACES = 3 SPACES



Scale: 1"=40'
0 20' 40' 80'

NOT FOR CONSTRUCTION

10/20/2023 12:38:41 2/21/2025 Northborough-Ma-Pare_SitePlan-4811805312042424.dwg

DEMOLITION NOTES:

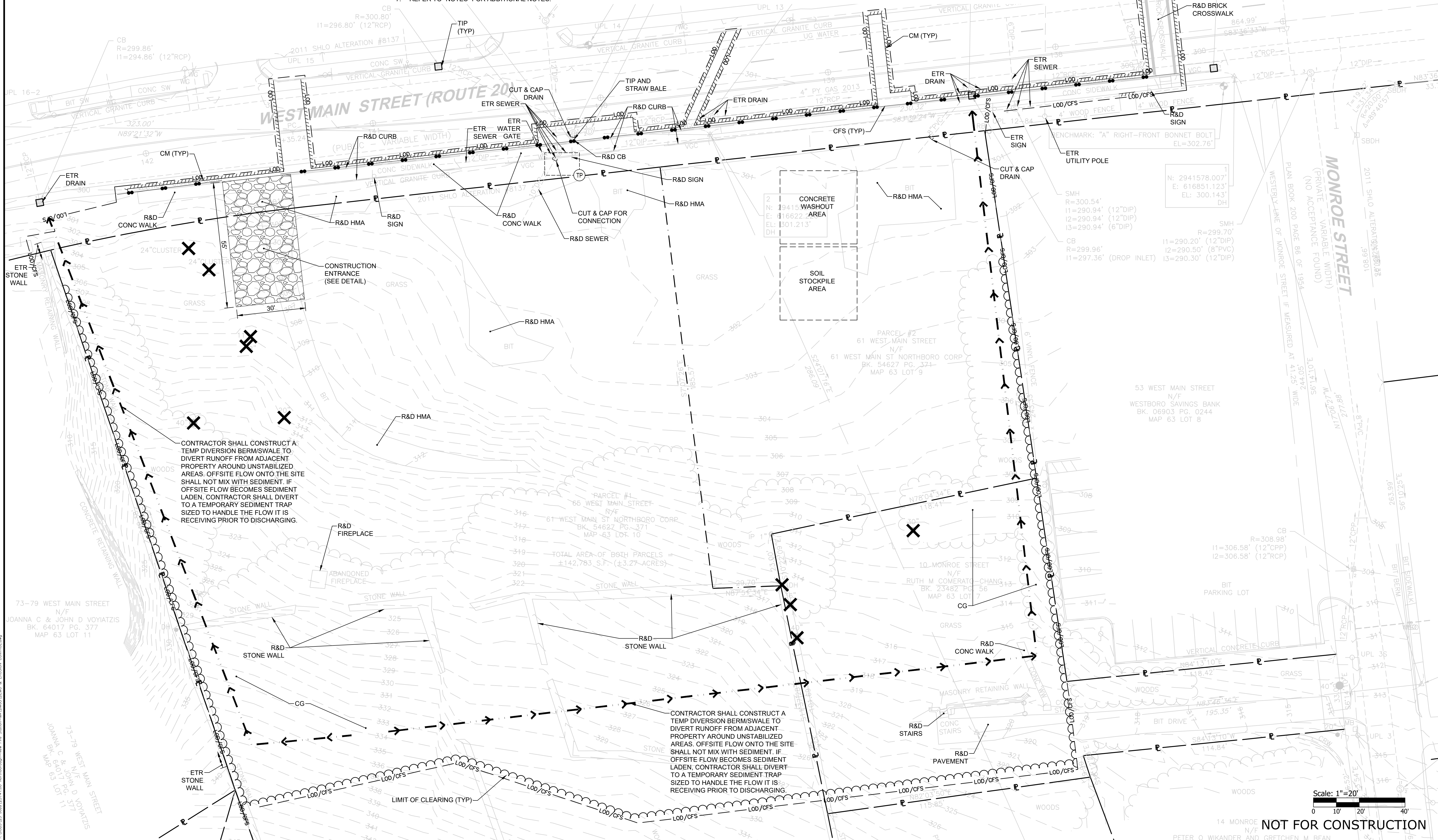
- UTILITY SERVICE TO THE FACILITY SHALL NOT BE INTERRUPTED DUE TO UTILITY WORK SHOWN HEREON. ALL UTILITIES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
- PRIOR TO COMMENCING SITE WORK IN ANY AREA, THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES WITH THE PROJECT AREA USING GROUND-PENETRATING RADAR OR OTHER NONDESTRUCTIVE SURVEY METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXISTING UTILITIES OR STRUCTURES WITHIN THE PROJECT AREA DEPICTED AND NOT DEPICTED ON THE PLANS. ANY DAMAGE TO EXISTING WORKING UTILITIES OR STRUCTURES NOT INTENDED TO BE REMOVED SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- PRIOR TO ANY UTILITY AND/OR DRAINAGE SYSTEM DEMOLITION, PROVISIONS FOR MAINTAINING THE UTILITY SHALL BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE ANY RELATED WORK MAY COMMENCE.
- ALL TEMPORARILY CUT UTILITIES SHALL BE PROTECTED FROM SEDIMENTATION UNTIL IT IS CONNECTED IN ITS POST-CONSTRUCTION POSITION.
- REFER TO ELECTRICAL SITE PLAN FOR ALL ELECTRICAL AND TELECOMMUNICATIONS WORK, INCLUDING DEMOLITION.
- REFER TO "NOTES" FOR ADDITIONAL NOTES.

EROSION AND SEDIMENT CONTROL NOTES:

- THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SILT SACKS IN ALL EXISTING AND NEWLY INSTALLED CATCH BASINS UNTIL THE UPSTREAM AREA IS STABILIZED.
- CONTRACTOR SHALL INSTALL AND MAINTAIN CONSTRUCTION ENTRANCES AT ALL POINTS OF EGRESS FROM THE SITE THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN EROSION CONTROLS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL REPLACE DAMAGED EROSION CONTROLS AT THE OWNER AND ENGINEER'S REQUEST AT NO ADDITIONAL EXPENSE TO THE OWNER.
- THE CONTRACTOR SHALL NOT LEAVE DISTURBED AREAS UNSTABILIZED FOR PERIODS MORE THAN 14 DAYS. PROVIDE TEMPORARY SEED OR MULCH ON DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR GREATER THAN 14 DAYS.
- INSTALL EROSION CONTROLS DOWNSTREAM OF ANY DISTURBED AREAS TO REDUCE POTENTIAL FOR EROSION. CONTRACTOR SHALL INDICATE LOCATIONS OF EROSION CONTROLS FOR REVIEW WITH GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.
- REFER TO "NOTES" FOR ADDITIONAL NOTES.

LEGEND:

- REMOVE & DISPOSE TREE. DISPOSE OF TREE AND STUMP OFF-SITE.
- PROTECT EXISTING TREE TO REMAIN.
- PRIOR TO COMMENCING WORK, CONTRACTOR SHALL EXCAVATE TEST PIT TO CONFIRM LOCATION, ELEVATION, AND SIZE OF UTILITY. PROVIDE INFORMATION TO ENGINEER.
- TDS - TEMPORARY DIVERSION SWALE/BERM
- TST - TEMPORARY SEDIMENT TRAP
- TST LIMITS OF WET STORAGE AREA
- TST LIMITS OF DRY STORAGE AREA



SCALE ADJUSTMENT GUIDE
 0" = 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING

Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA

REVISIONS:

NO.	DATE	DESCRIPTION

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: 1"=20'
 DESIGNED BY:
 CHECKED BY: AKL
 DRAWN BY:
 APPROVED BY:
 DRAWING TITLE:
DEMOLITION, EROSION & SEDIMENT CONTROL PLAN
 DRAWING NO.:
C2.0
 SHEET NO. 5 OF

Scale: 1"=20'
 0 10' 20' 40'

NOT FOR CONSTRUCTION

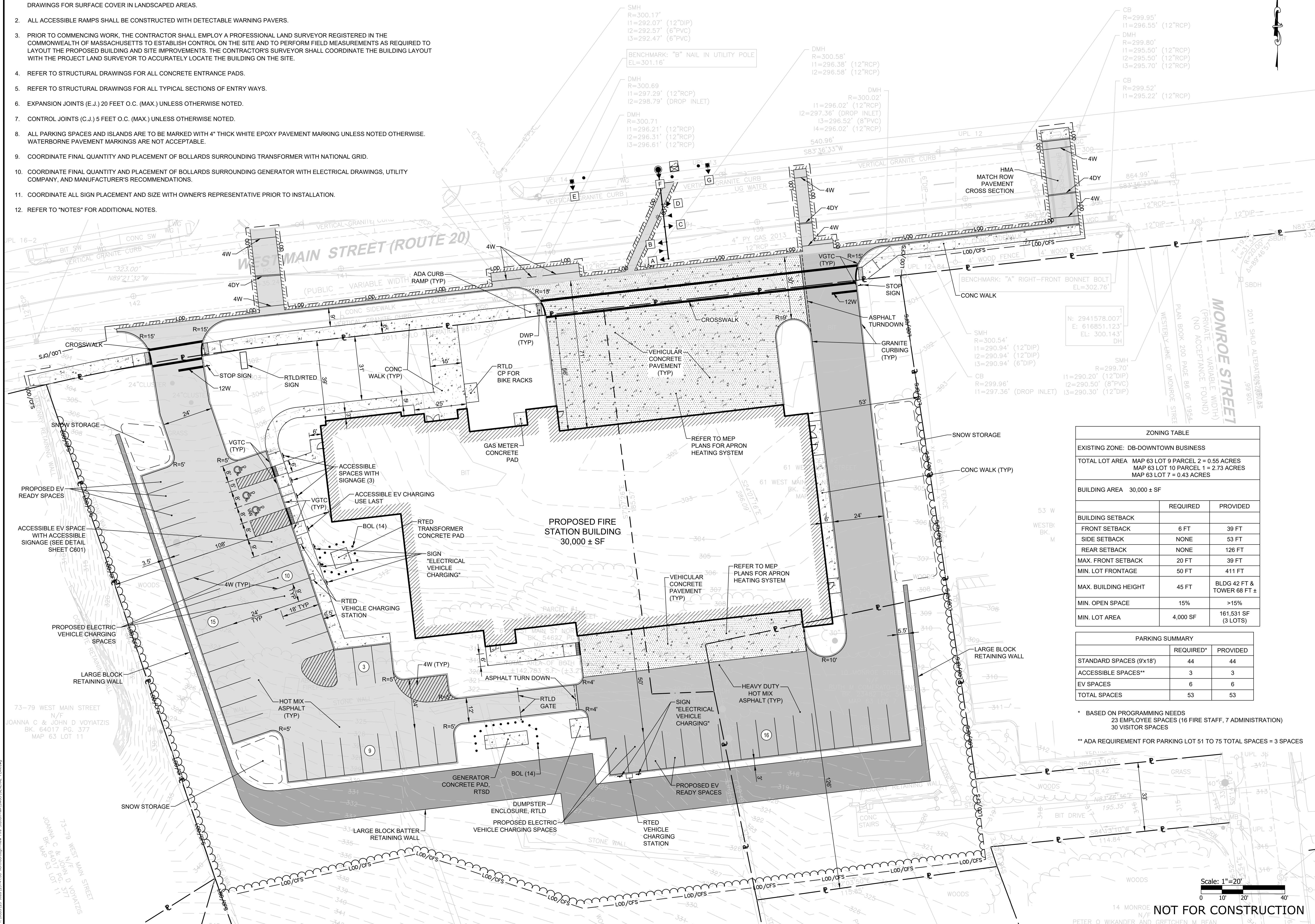
NOTES:

- CONTRACTOR SHALL PROVIDE LOAM AND SEED ON ALL DISTURBED AREAS UNLESS NOTED OTHERWISE. REFER TO LANDSCAPE DRAWINGS FOR SURFACE COVER IN LANDSCAPED AREAS.
- ALL ACCESSIBLE RAMPS SHALL BE CONSTRUCTED WITH DETECTABLE WARNING PAVERS.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS TO ESTABLISH CONTROL ON THE SITE AND TO PERFORM FIELD MEASUREMENTS AS REQUIRED TO LAYOUT THE PROPOSED BUILDING AND SITE IMPROVEMENTS. THE CONTRACTOR'S SURVEYOR SHALL COORDINATE THE BUILDING LAYOUT WITH THE PROJECT LAND SURVEYOR TO ACCURATELY LOCATE THE BUILDING ON THE SITE.
- REFER TO STRUCTURAL DRAWINGS FOR ALL CONCRETE ENTRANCE PADS.
- REFER TO STRUCTURAL DRAWINGS FOR ALL TYPICAL SECTIONS OF ENTRY WAYS.
- EXPANSION JOINTS (E.J.) 20 FEET O.C. (MAX.) UNLESS OTHERWISE NOTED.
- CONTROL JOINTS (C.J.) 5 FEET O.C. (MAX.) UNLESS OTHERWISE NOTED.
- ALL PARKING SPACES AND ISLANDS ARE TO BE MARKED WITH 4" THICK WHITE EPOXY PAVEMENT MARKING UNLESS NOTED OTHERWISE. WATERBORNE PAVEMENT MARKINGS ARE NOT ACCEPTABLE.
- COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING TRANSFORMER WITH NATIONAL GRID.
- COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING GENERATOR WITH ELECTRICAL DRAWINGS, UTILITY COMPANY, AND MANUFACTURER'S RECOMMENDATIONS.
- COORDINATE ALL SIGN PLACEMENT AND SIZE WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- REFER TO "NOTES" FOR ADDITIONAL NOTES.



SCALE ADJUSTMENT GUIDE
 0" 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING

Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA



ZONING TABLE

EXISTING ZONE: DB-DOWNTOWN BUSINESS

TOTAL LOT AREA MAP 63 LOT 9 PARCEL 2 = 0.55 ACRES
 MAP 63 LOT 10 PARCEL 1 = 2.73 ACRES
 MAP 63 LOT 7 = 0.43 ACRES

BUILDING AREA 30,000 ± SF

	REQUIRED	PROVIDED
BUILDING SETBACK		
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SIDE SETBACK	NONE	53 FT
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* BASED ON PROGRAMMING NEEDS
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** ADA REQUIREMENT FOR PARKING LOT 51 TO 75 TOTAL SPACES = 3 SPACES

Scale: 1"=20'
 0 10 20 40'

NOT FOR CONSTRUCTION

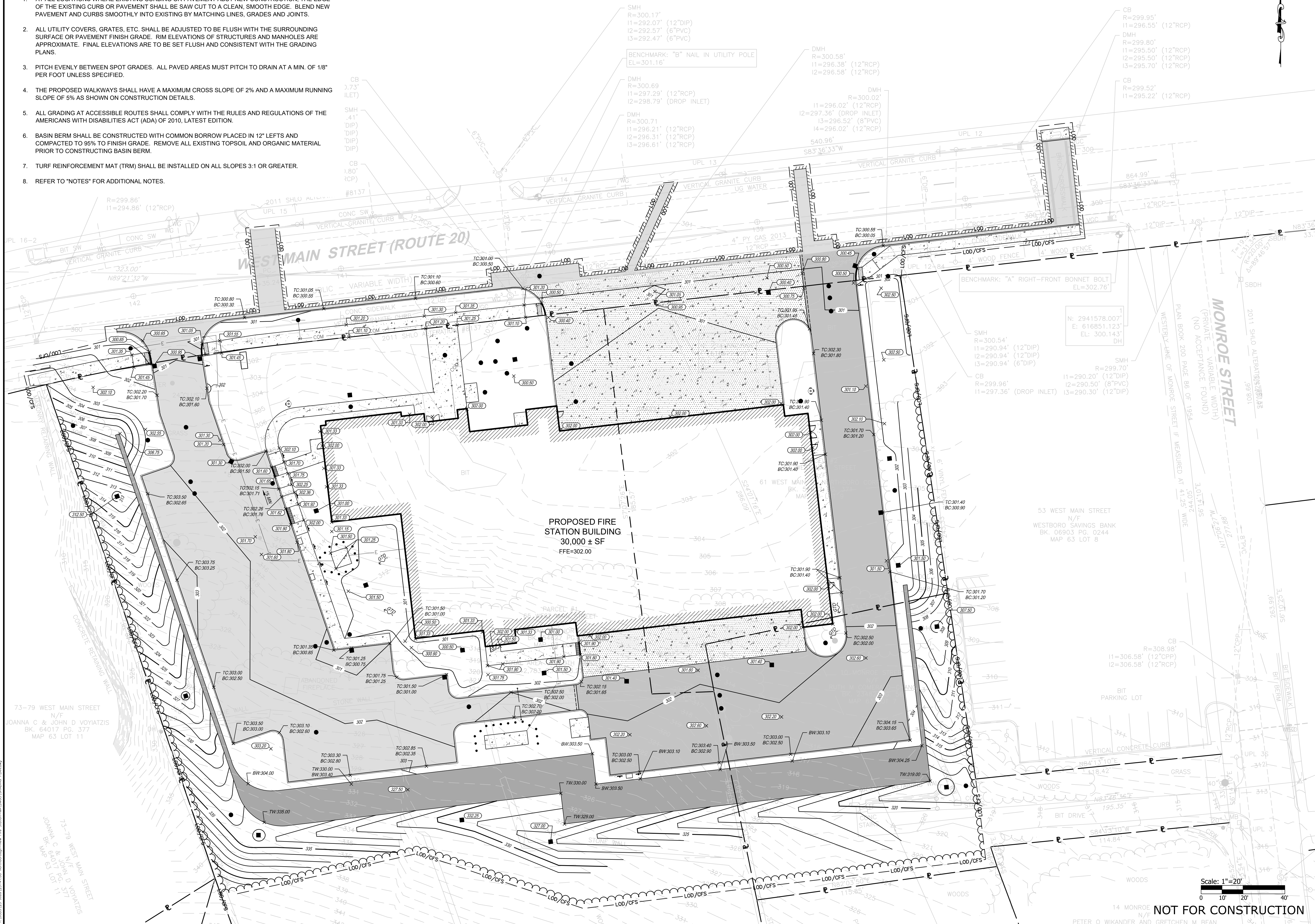
REVISIONS:

NO.	DATE	DESCRIPTION

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: 1"=20'
 DESIGNED BY:
 CHECKED BY:
 DRAWN BY: AKL
 APPROVED BY:
 DRAWING TITLE: GENERAL PLAN
 DRAWING NO.: C3.0
 SHEET NO. 6 OF 6

NOTES:

1. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
2. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT UNLESS SPECIFIED.
4. THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5% AS SHOWN IN CONSTRUCTION DETAILS.
5. ALL GRADING AT ACCESSIBLE ROUTES SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 2010, LATEST EDITION.
6. BASIN BERM SHALL BE CONSTRUCTED WITH COMMON BORROW PLACED IN 12" LEFTS AND COMPACTED TO 95% TO FINISH GRADE. REMOVE ALL EXISTING TOPSOIL AND ORGANIC MATERIAL PRIOR TO CONSTRUCTING BASIN BERM.
7. TURF REINFORCEMENT MAT (TRM) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.
8. REFER TO "NOTES" FOR ADDITIONAL NOTES.



SCALE ADJUSTMENT GUIDE
 0' 10' 20' 30'
 BAR IS ONE INCH ON ORIGINAL DRAWING

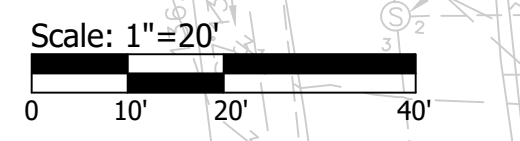
Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA

REVISIONS:

NO.	DATE	DESCRIPTION

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: 1"=20'
 DESIGNED BY:
 CHECKED BY: AKL
 DRAWN BY:
 APPROVED BY:
 DRAWING TITLE:

GRADING PLAN
 DRAWING NO.:
C4.0
 SHEET NO. 7 OF



NOT FOR CONSTRUCTION

NOTES:

1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
2. ALL DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III UNLESS NOTED OTHERWISE.
4. ALL SLOPES PROVIDED ARE FT/FT.
5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SUMP AND OUTLET HOOD PER THE DETAIL.
6. REFER TO "NOTES" FOR ADDITIONAL NOTES.



SCALE ADJUSTMENT GUIDE
 0' 10' 20' 30'
 BAR IS ONE INCH ON ORIGINAL DRAWING

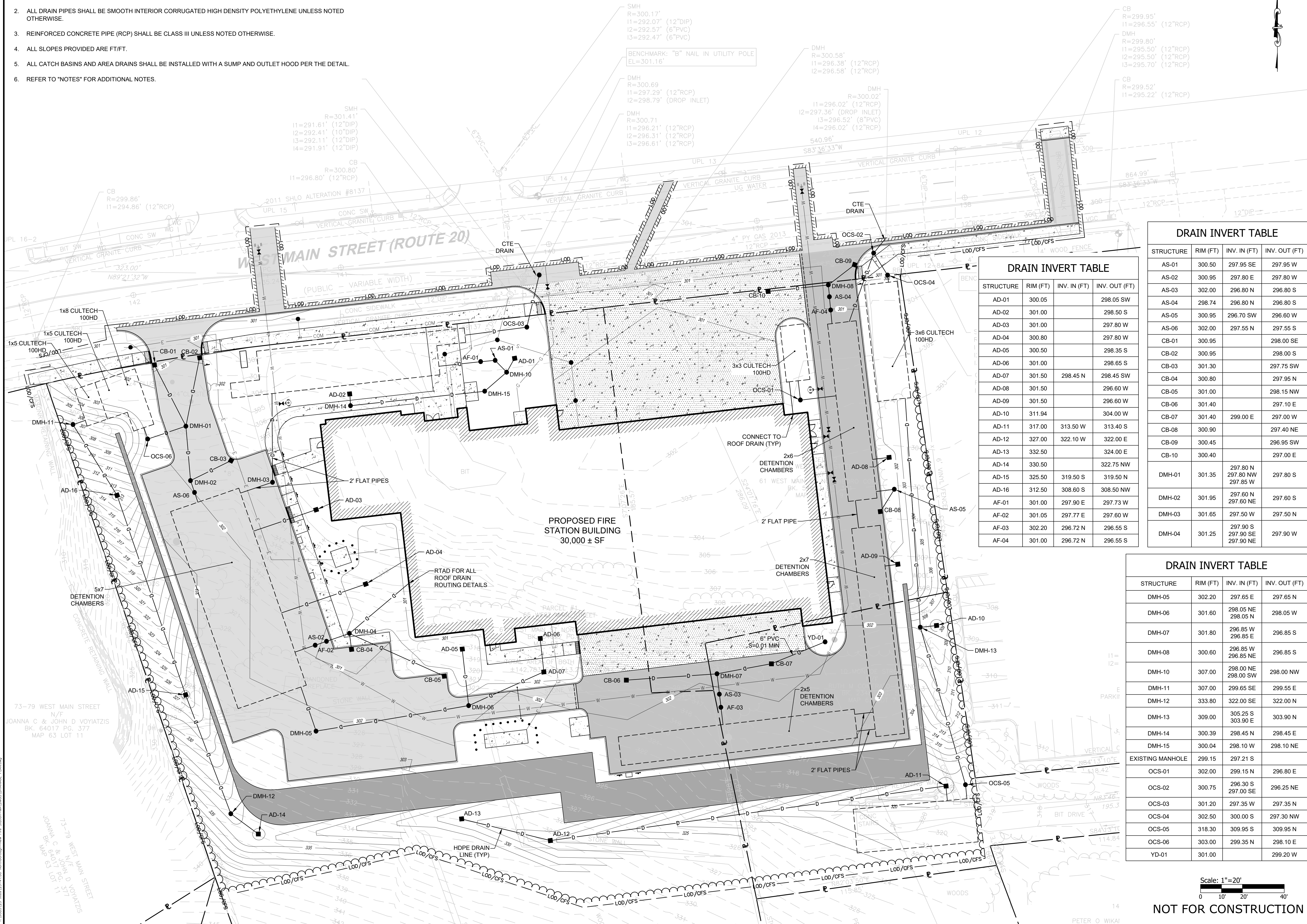
Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA

REVISIONS:

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: 1"=20'
 DESIGNED BY:
 CHECKED BY:
 DRAWN BY: AKL
 APPROVED BY:
 DRAWING TITLE:

DRAINAGE PLAN

DRAWING NO.:
C5.0
 SHEET NO. 8 OF



DRAIN INVERT TABLE

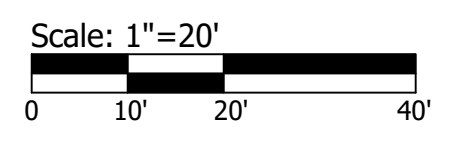
STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
AD-01	300.05		298.05 SW
AD-02	301.00		298.50 S
AD-03	301.00		297.80 W
AD-04	300.80		297.80 W
AD-05	300.50		298.35 S
AD-06	301.00		298.65 S
AD-07	301.50	298.45 N	298.45 SW
AD-08	301.50		296.60 W
AD-09	301.50		296.60 W
AD-10	311.94		304.00 W
AD-11	317.00	313.50 W	313.40 S
AD-12	327.00	322.10 W	322.00 E
AD-13	332.50		324.00 E
AD-14	330.50		322.75 NW
AD-15	325.50	319.50 S	319.50 N
AD-16	312.50	308.60 S	308.50 NW
AF-01	301.00	297.90 E	297.73 W
AF-02	301.05	297.77 E	297.60 W
AF-03	302.20	296.72 N	296.55 S
AF-04	301.00	296.72 N	296.55 S

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
AS-01	300.50	297.95 SE	297.95 W
AS-02	300.95	297.80 E	297.80 W
AS-03	302.00	296.80 N	296.80 S
AS-04	298.74	296.80 N	296.80 S
AS-05	300.95	296.70 SW	296.60 W
AS-06	302.00	297.55 N	297.55 S
CB-01	300.95		298.00 SE
CB-02	300.95		298.00 S
CB-03	301.30		297.75 SW
CB-04	300.80		297.95 N
CB-05	301.00		298.15 NW
CB-06	301.40		297.10 E
CB-07	301.40	299.00 E	297.00 W
CB-08	300.90		297.40 NE
CB-09	300.45		296.95 SW
CB-10	300.40		297.00 E
DMH-01	301.35	297.80 N 297.80 NW 297.85 W	297.80 S
DMH-02	301.95	297.60 N 297.60 NE	297.60 S
DMH-03	301.65	297.50 W	297.50 N
DMH-04	301.25	297.90 S 297.90 SE 297.90 NE	297.90 W

DRAIN INVERT TABLE

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
DMH-05	302.20	297.65 E	297.65 N
DMH-06	301.60	298.05 NE 298.05 N	298.05 W
DMH-07	301.80	296.85 W 296.85 E	296.85 S
DMH-08	300.60	296.85 W 296.85 NE	296.85 S
DMH-10	307.00	298.00 NE 298.00 SW	298.00 NW
DMH-11	307.00	299.65 SE	299.55 E
DMH-12	333.80	322.00 SE	322.00 N
DMH-13	309.00	305.25 S 303.90 E	303.90 N
DMH-14	300.39	298.45 N	298.45 E
DMH-15	300.04	298.10 W	298.10 NE
EXISTING MANHOLE	299.15	297.21 S	
OCS-01	302.00	299.15 N	296.80 E
OCS-02	300.75	296.30 S 297.00 SE	296.25 NE
OCS-03	301.20	297.35 W	297.35 N
OCS-04	302.50	300.00 S	297.30 NW
OCS-05	318.30	309.95 S	309.95 N
OCS-06	303.00	299.35 N	298.10 E
YD-01	301.00		299.20 W



NOT FOR CONSTRUCTION

NOTES:

1. ALL SLOPES PROVIDED ARE FT/FT.
2. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
3. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRIC AND TEL/DATA DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
4. REFER TO "NOTES" FOR ADDITIONAL NOTES.



SCALE ADJUSTMENT GUIDE
 0" 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING

Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA

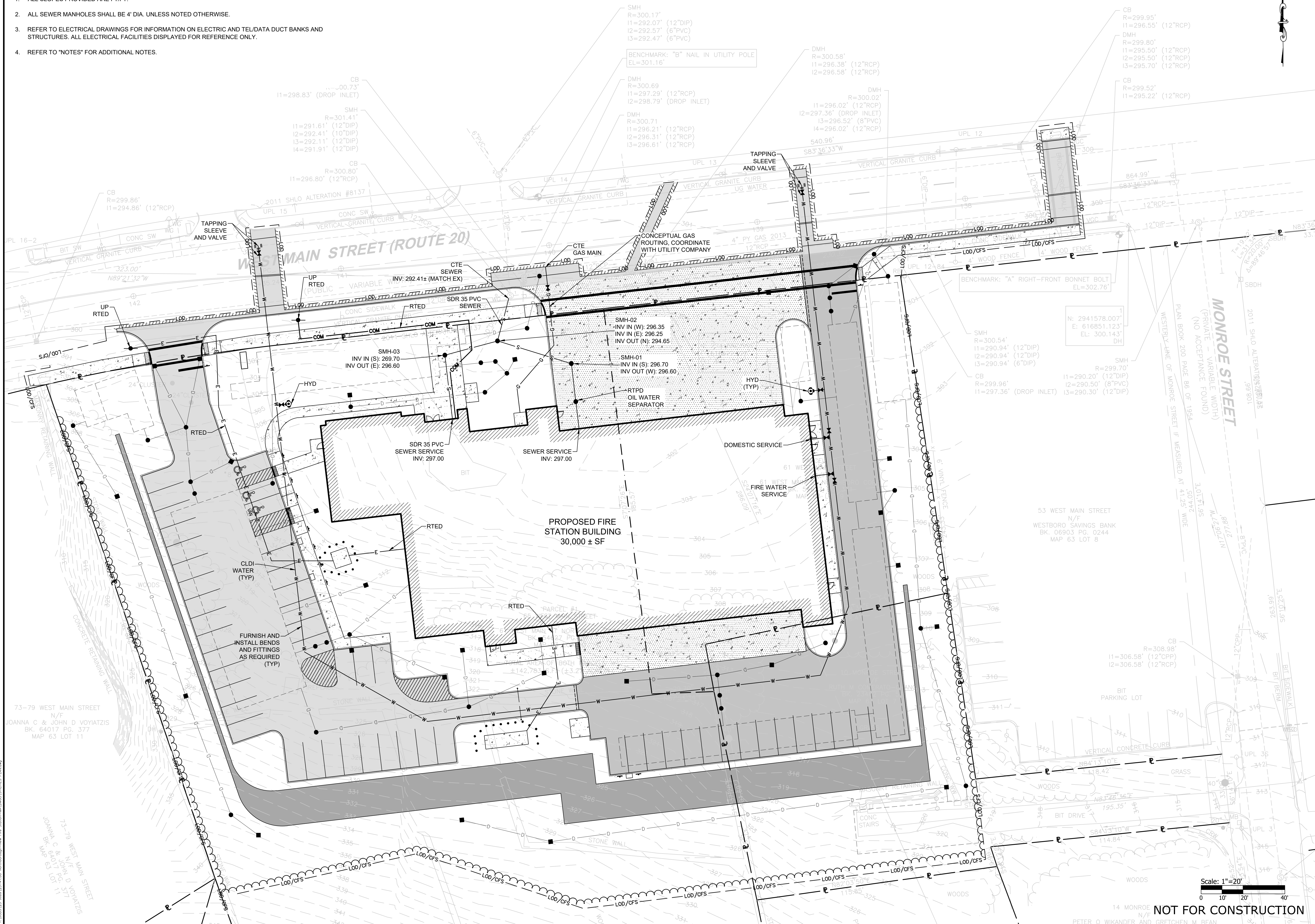
REVISIONS:

NO.	DATE	DESCRIPTION

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: 1"=20'
 DESIGNED BY:
 CHECKED BY:
 DRAWN BY: AKL
 APPROVED BY:
 DRAWING TITLE:

UTILITIES PLAN

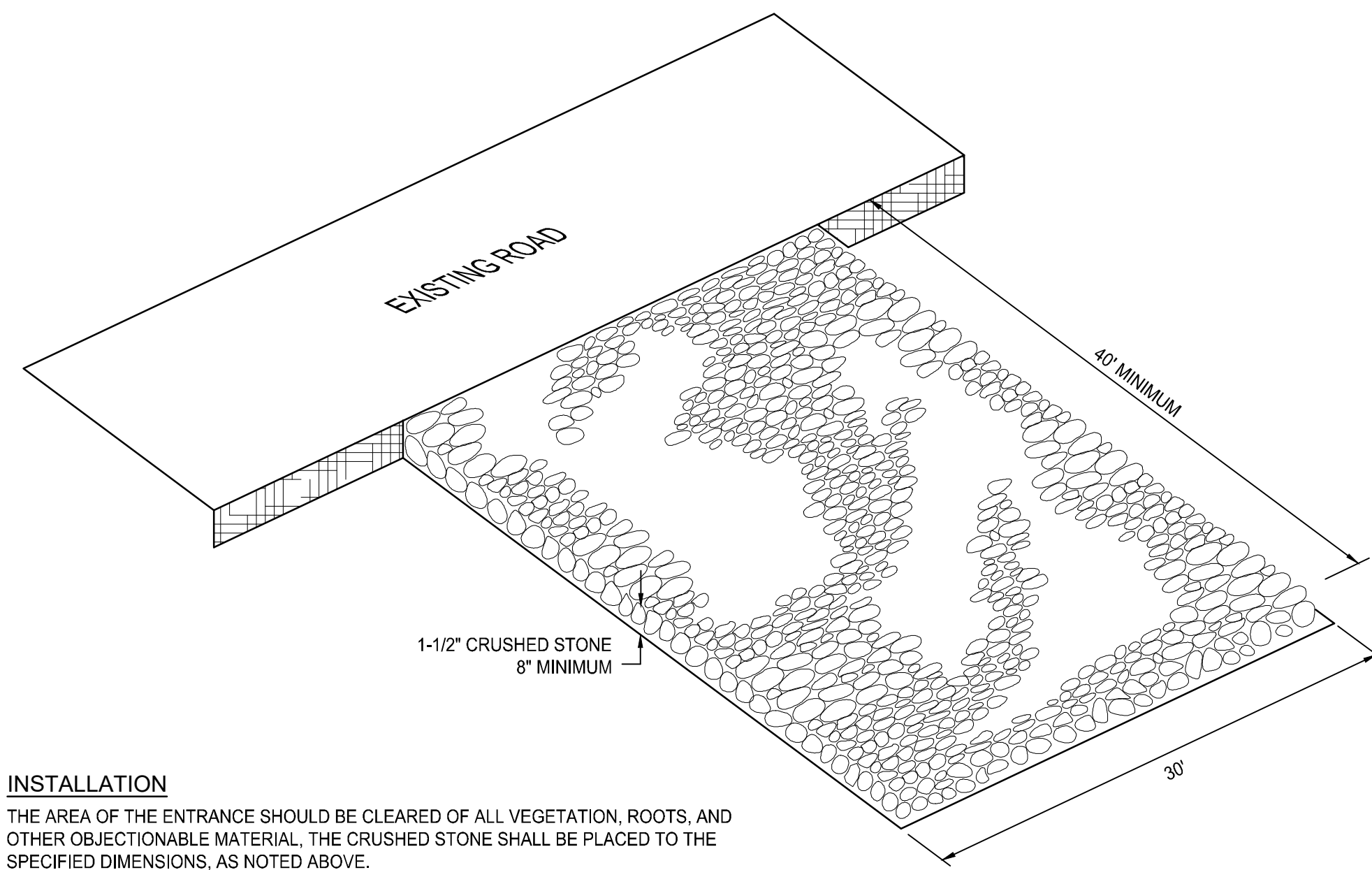
DRAWING NO.:
C6.0
 SHEET NO. 9 OF



Scale: 1"=20'
 0 10 20 40'

NOT FOR CONSTRUCTION

23141.00-12.dwg 12/21/23 10:25 AM Northborough, MA PARE 23141.00-12.dwg 12/21/23 10:25 AM

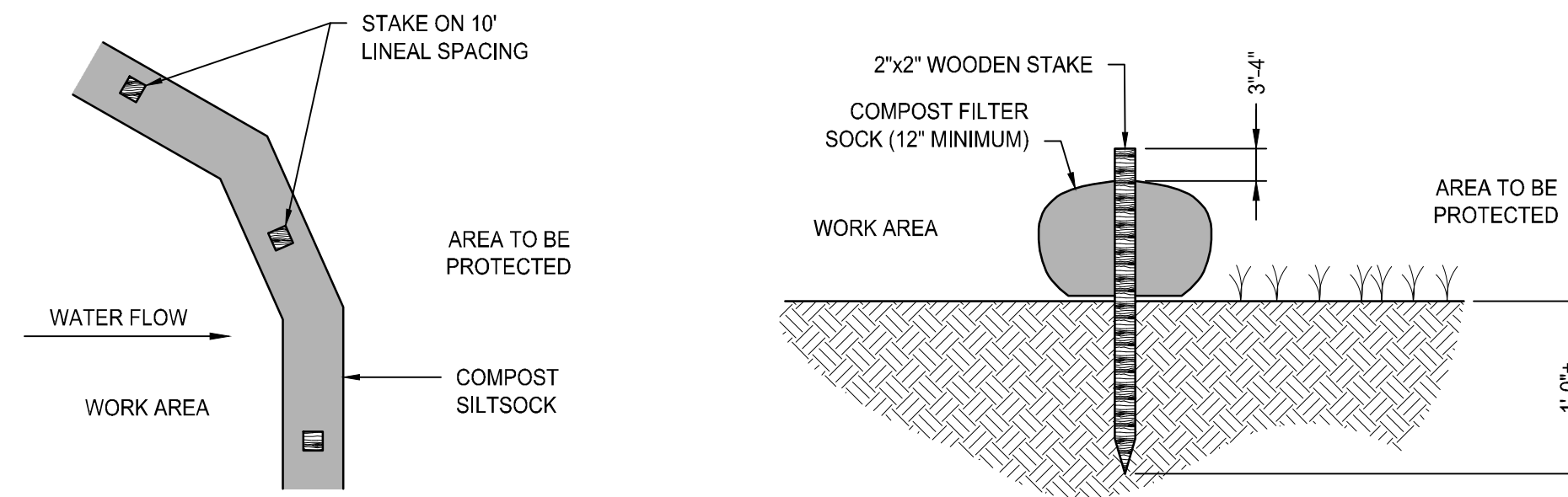


INSTALLATION
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE CRUSHED STONE SHALL BE PLACED TO THE SPECIFIED DIMENSIONS, AS NOTED ABOVE.

MAINTENANCE
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, AND REPAIR, AND / OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

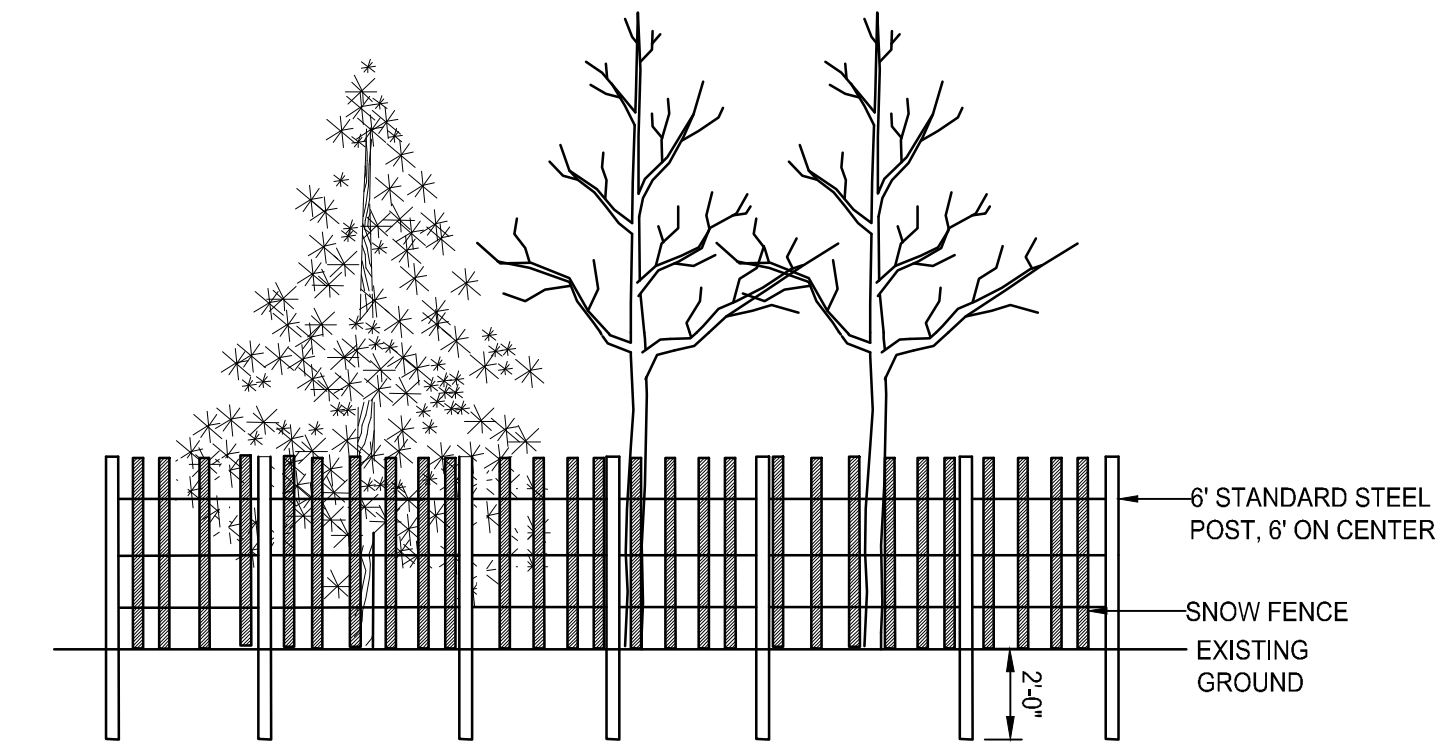
LOCATION
SEE PROJECT PLANS FOR LOCATION OF CONSTRUCTION ENTRANCE.

CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD
NOT TO SCALE



- NOTES:**
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.
 2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
 3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

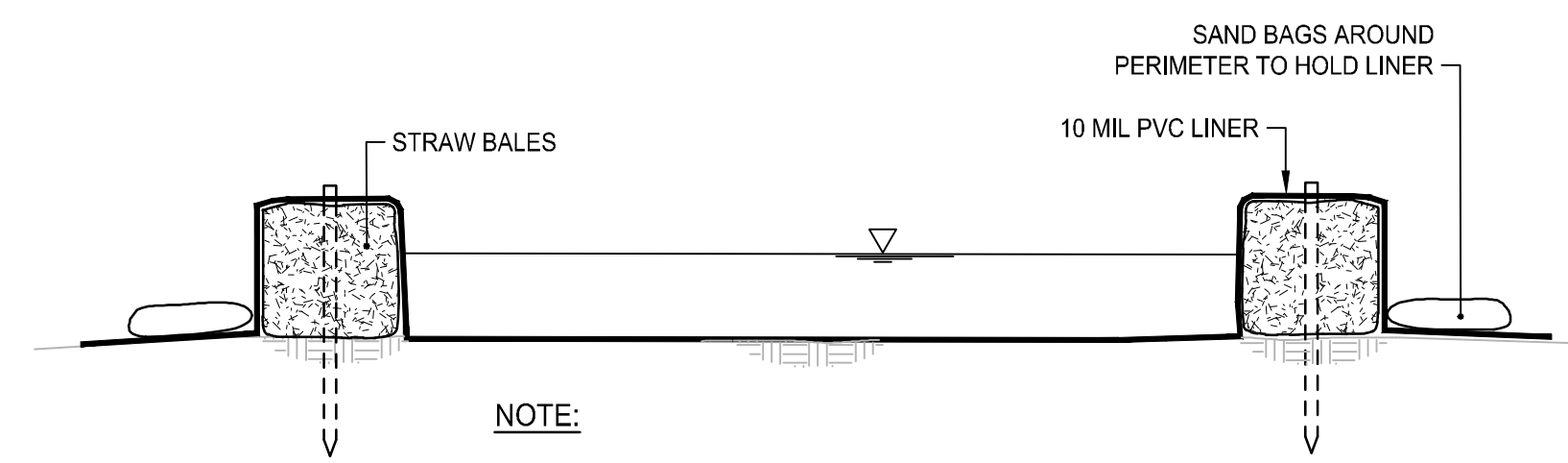
COMPOST FILTER SOCK DETAIL
NOT TO SCALE



- NOTES:**
1. TREE GROUP PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREES TO BE PROTECTED.

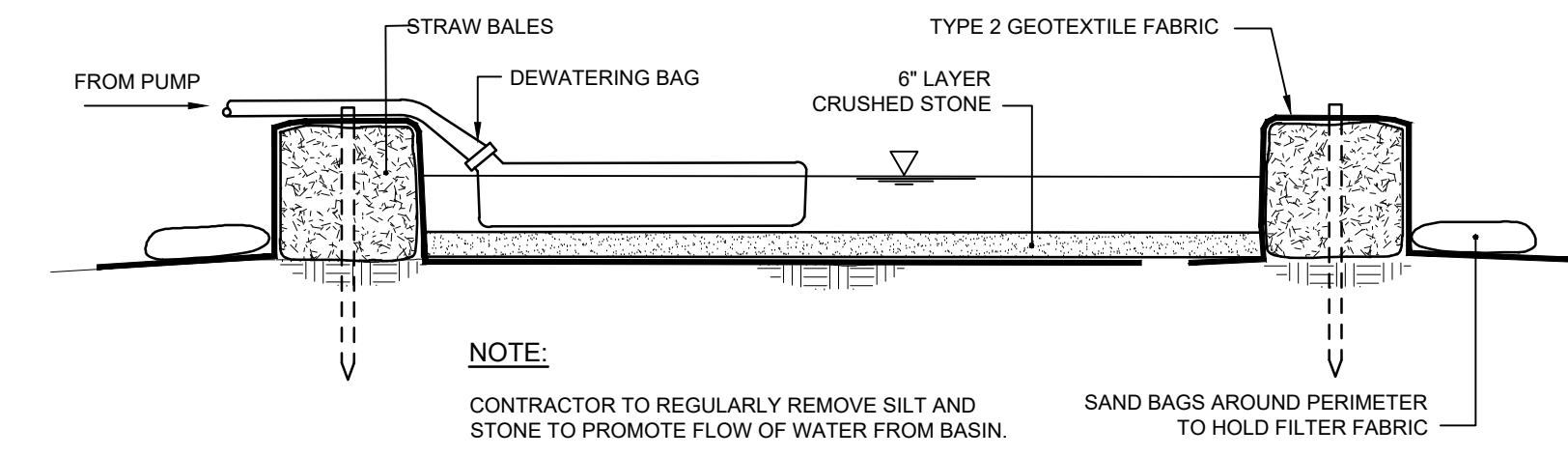
TREE GROUP PROTECTION DETAIL
NOT TO SCALE

SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING



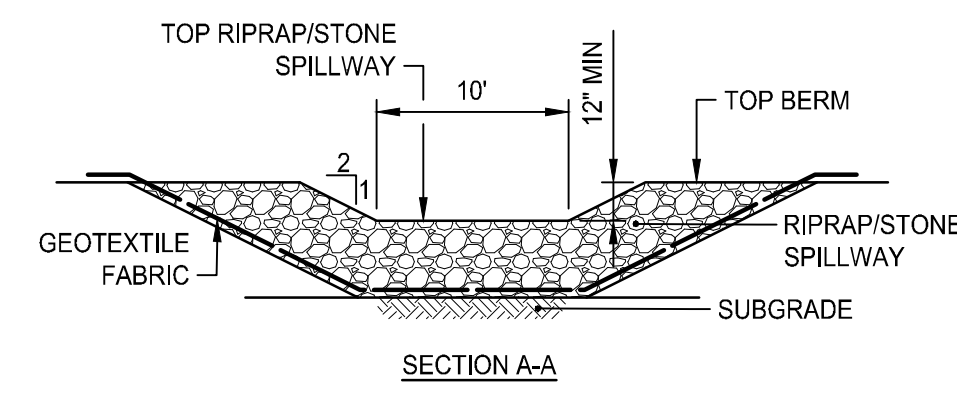
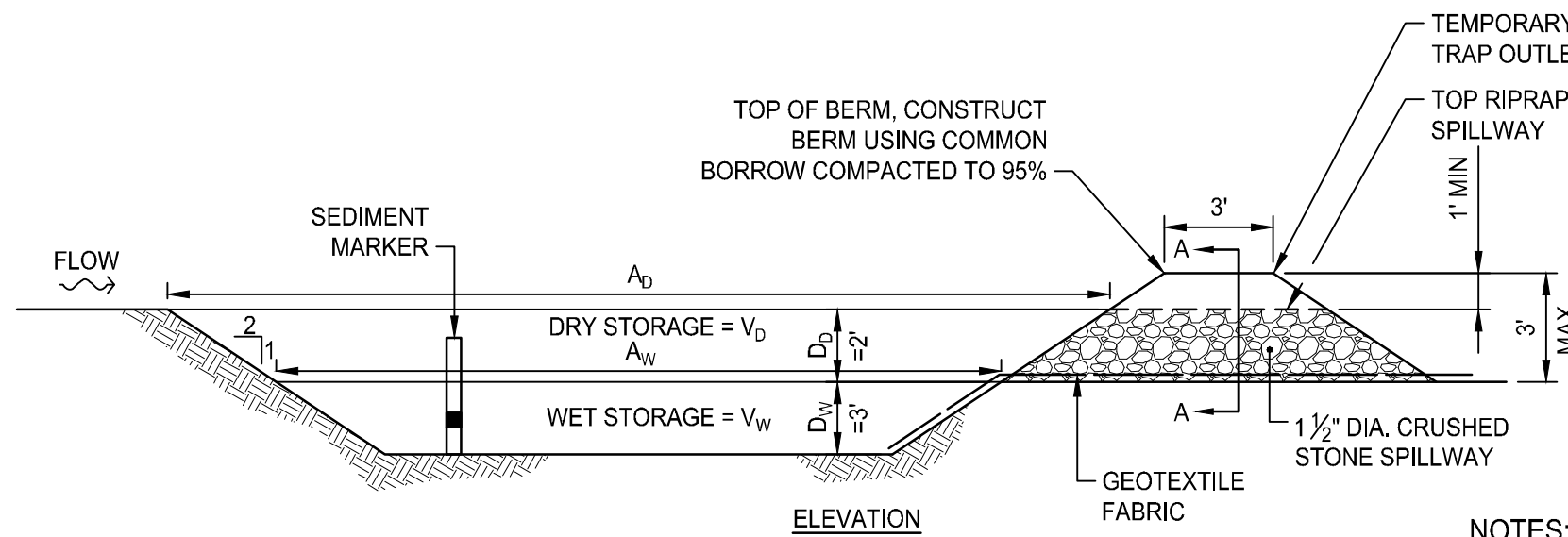
- NOTE:**
1. MINIMUM PLAN DIMENSIONS SHALL BE 10' X 10'.

CONCRETE WASHOUT FACILITY
NOT TO SCALE



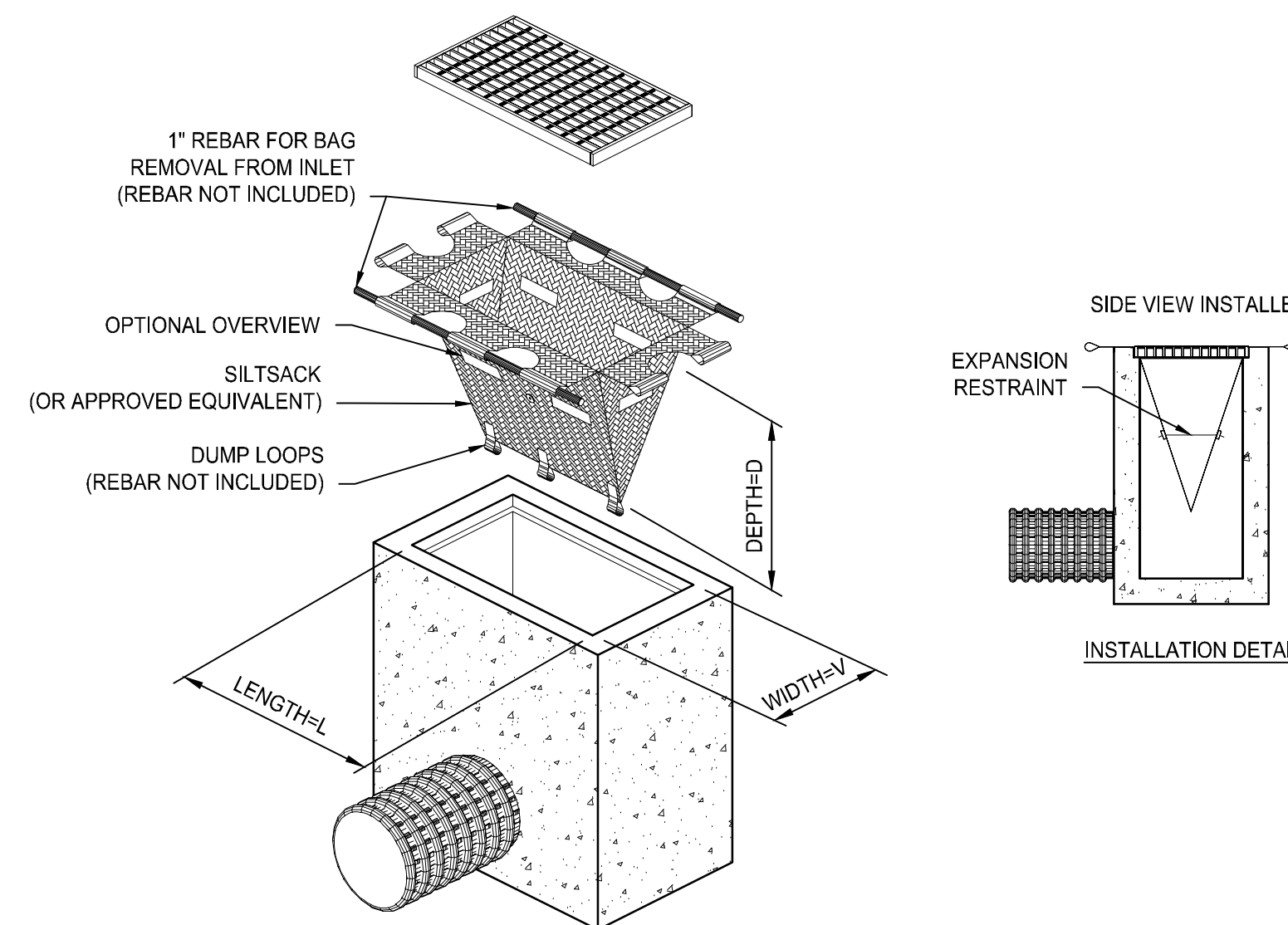
- NOTE:**
- CONTRACTOR TO REGULARLY REMOVE SILT AND STONE TO PROMOTE FLOW OF WATER FROM BASIN.

FILTER FABRIC DEWATERING BASIN
NOT TO SCALE

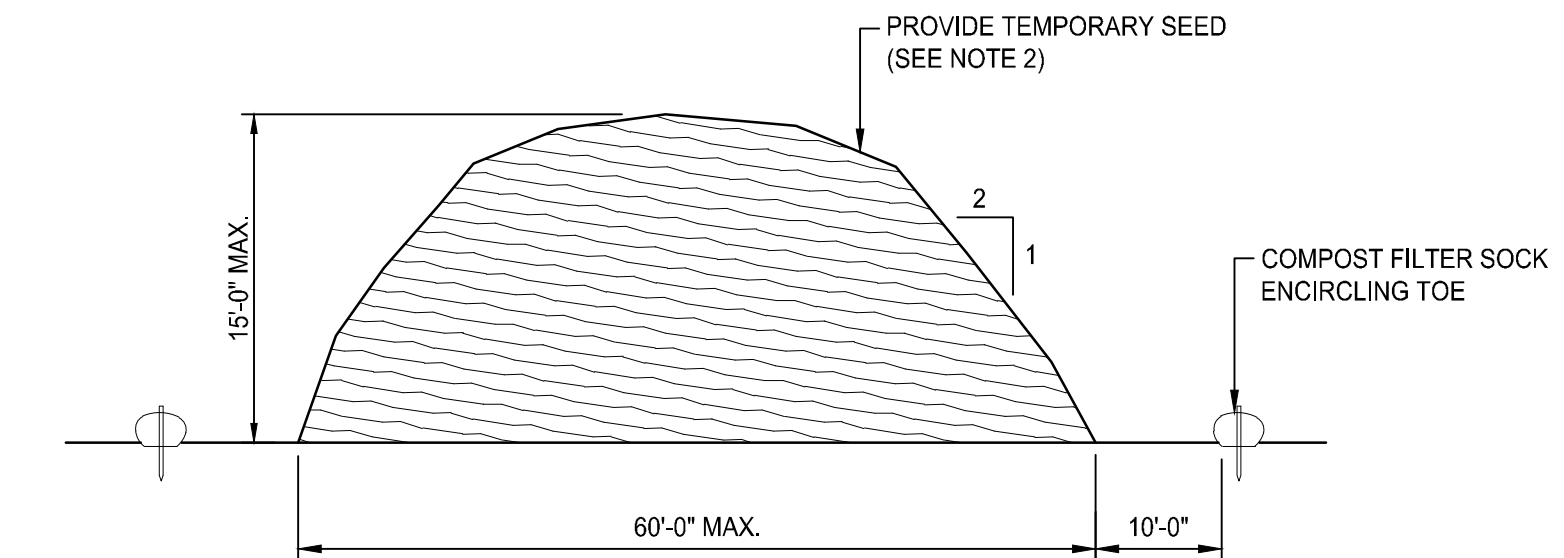


TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE

- NOTES:**
1. TEMPORARY SEDIMENT TRAPS SHALL BE CLEANED OR REMOVED EVERY 6 MONTHS.
 2. RIPRAP SHALL MEET RIDOT STANDARD SPECIFICATION M2.02.0.
 3. STONE SHALL MEET RIDOT STANDARD SPECIFICATION M2.01.4.
 4. SEDIMENT MARKER SHALL BE INSTALLED SUCH THAT TOP OF BLACK ENAMEL BAND IS 1.5' FROM THE BOTTOM OF THE SEDIMENT TRAP.



TEMPORARY INLET PROTECTION
NOT TO SCALE



- NOTES:**
1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
 2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE

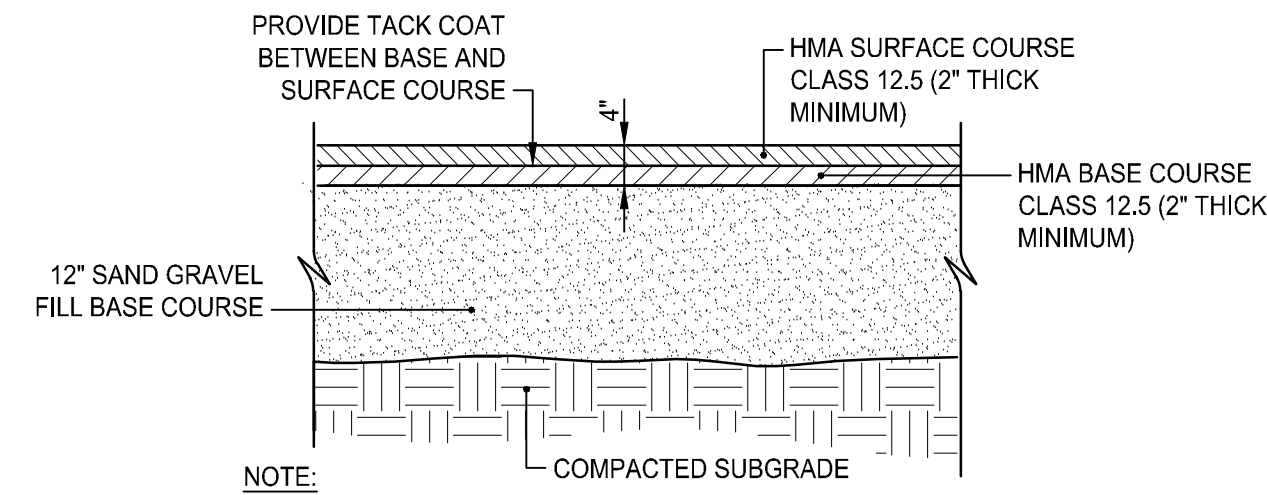
Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

REVISIONS:	

PROJECT NO.:	23141.00
DATE:	MARCH 18, 2024
SCALE:	NOT TO SCALE
DESIGNED BY:	
CHECKED BY:	
DRAWN BY:	AKL
APPROVED BY:	
DRAWING TITLE:	

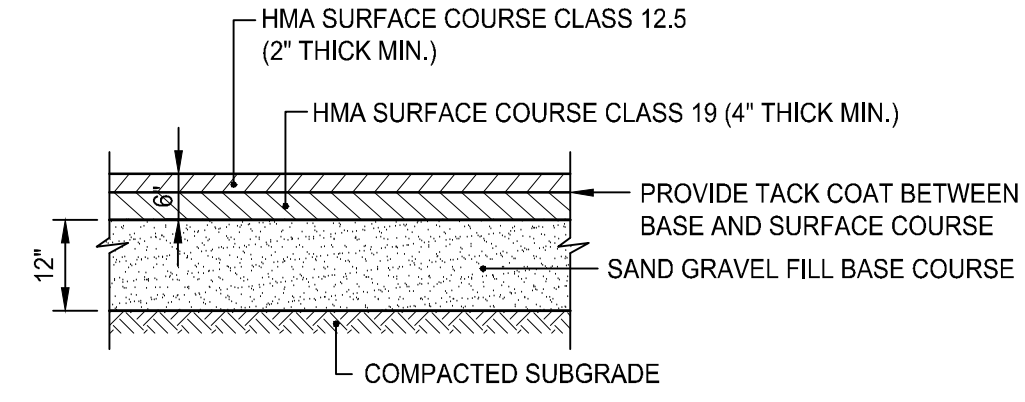
DETAILS 1

DRAWING NO.:	C7.1
SHEET NO.:	10 OF



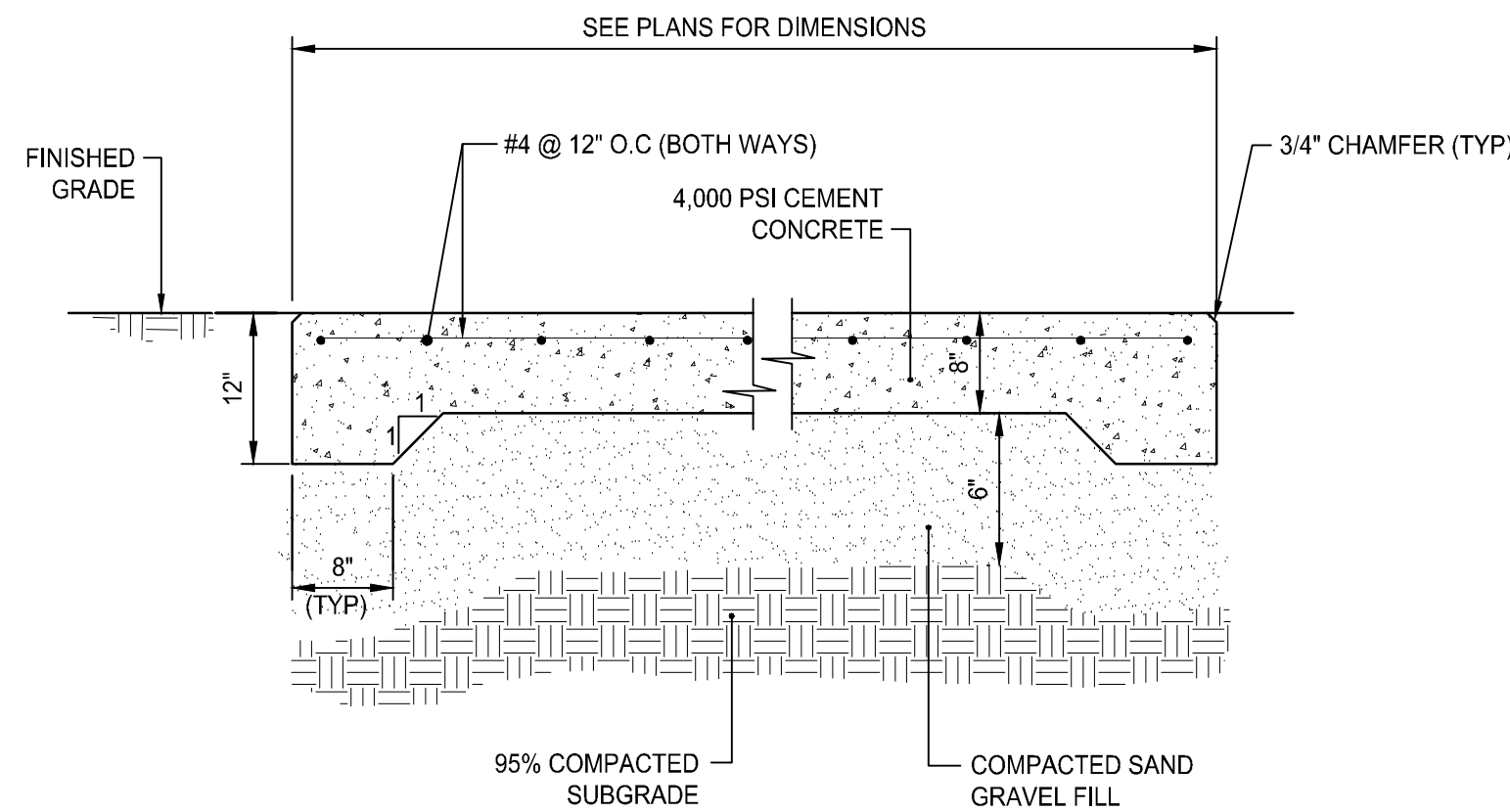
- NOTE:
- SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.
 - THE CONTRACTOR SHALL CHECK EXISTING PAVEMENT DEPTH IN THE CITY RIGHT OF WAY THEN MATCH EXISTING.

HOT MIX ASPHALT PAVEMENT
NOT TO SCALE



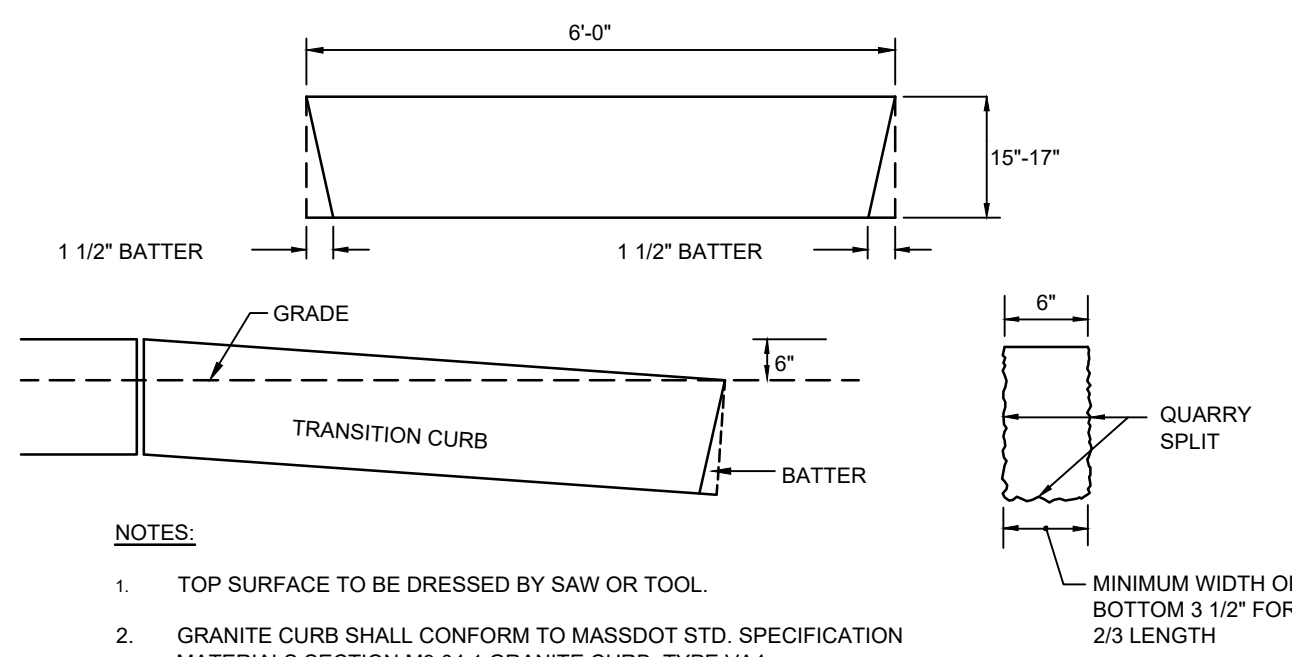
- NOTE:
- SUBMIT JOB MIX FORMULAS TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT

TYPICAL HEAVY DUTY PAVEMENT DETAIL
NOT TO SCALE



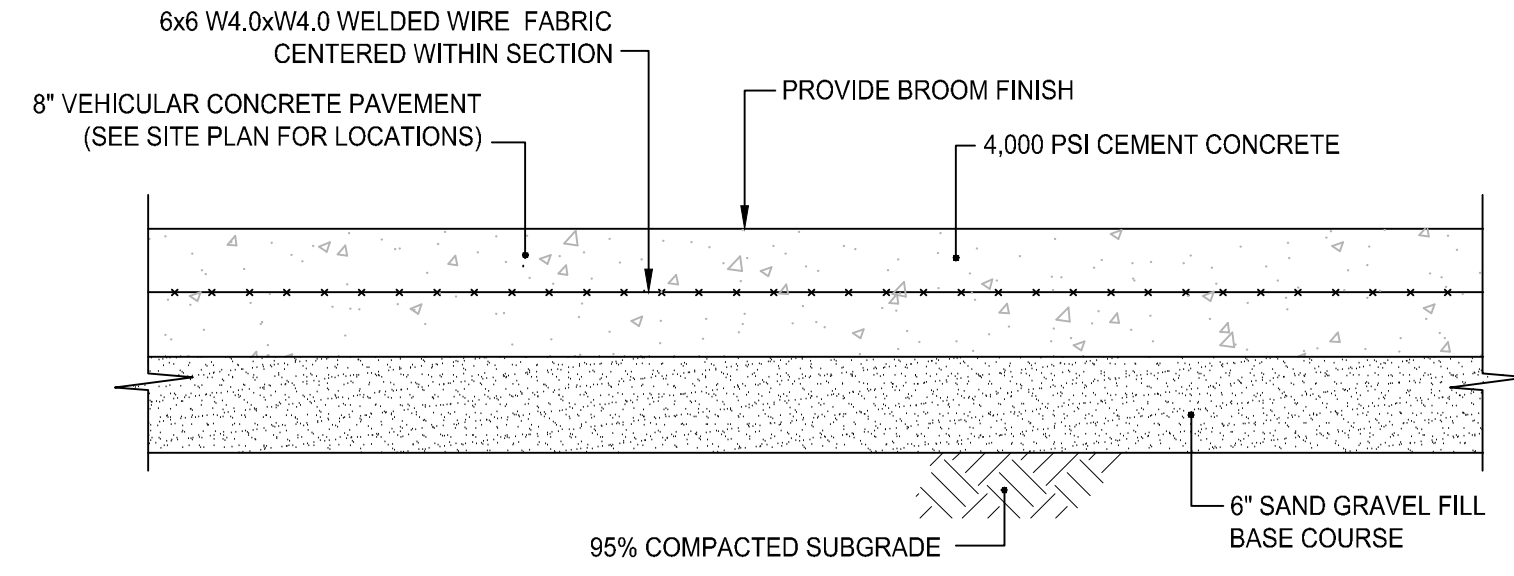
- NOTES:
- FOR DUMPSTER PAD AND BOLLARD LOCATIONS SEE PLANS.
 - REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.

CEMENT CONCRETE DUMPSTER PAD
NOT TO SCALE

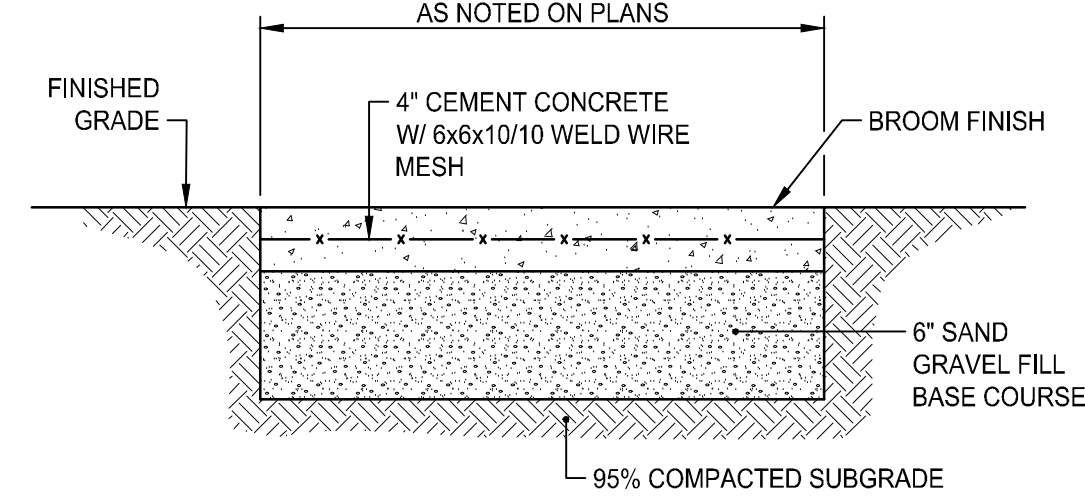


- NOTES:
- TOP SURFACE TO BE DRESSED BY SAW OR TOOL.
 - GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.

6\"/>

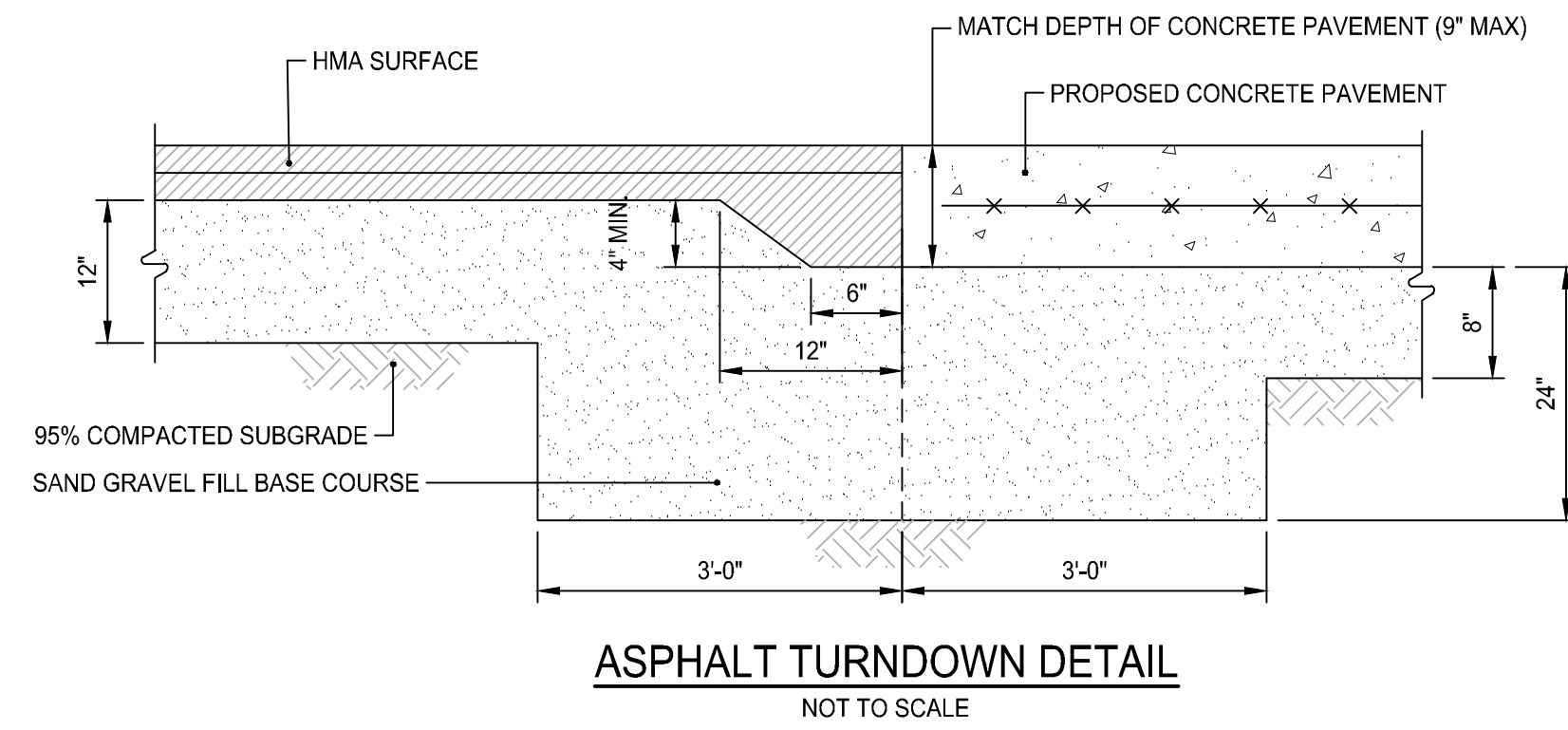


VEHICULAR CONCRETE PAVEMENT DETAIL
NOT TO SCALE

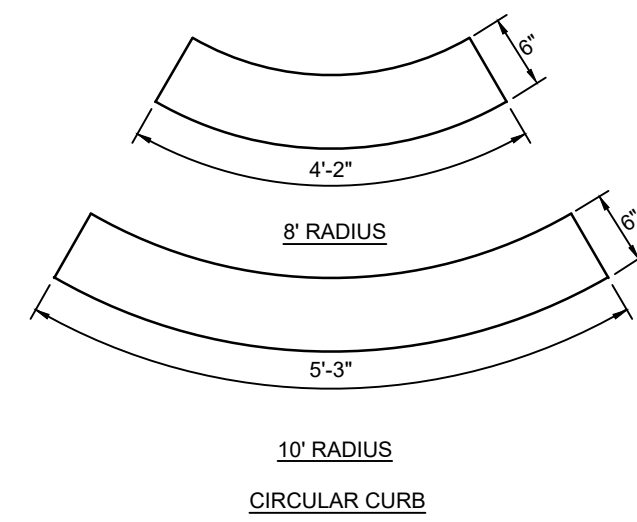
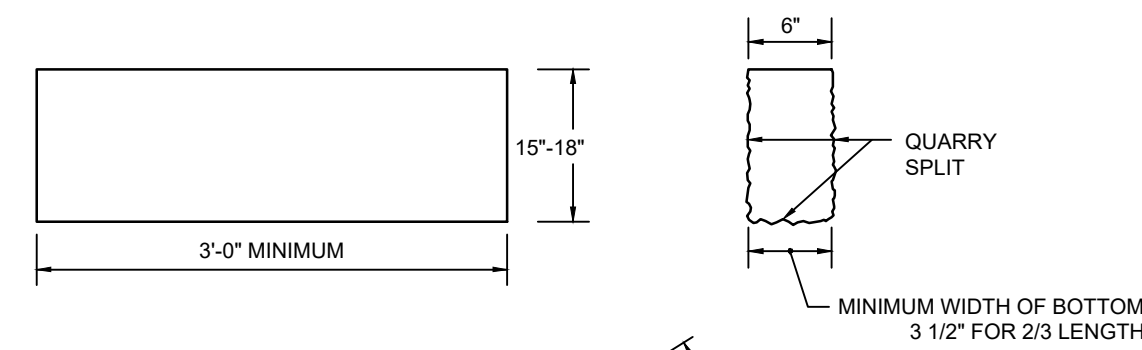


- NOTES:
- CONCRETE SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 905 OF THE RI STANDARD SPECIFICATIONS.
 - WIRE MESH SHALL BE IN ACCORDANCE WITH SECTION M.05.02 OF THE RI STANDARD SPECIFICATIONS.

TYPICAL CEMENT CONCRETE SIDEWALK
NOT TO SCALE

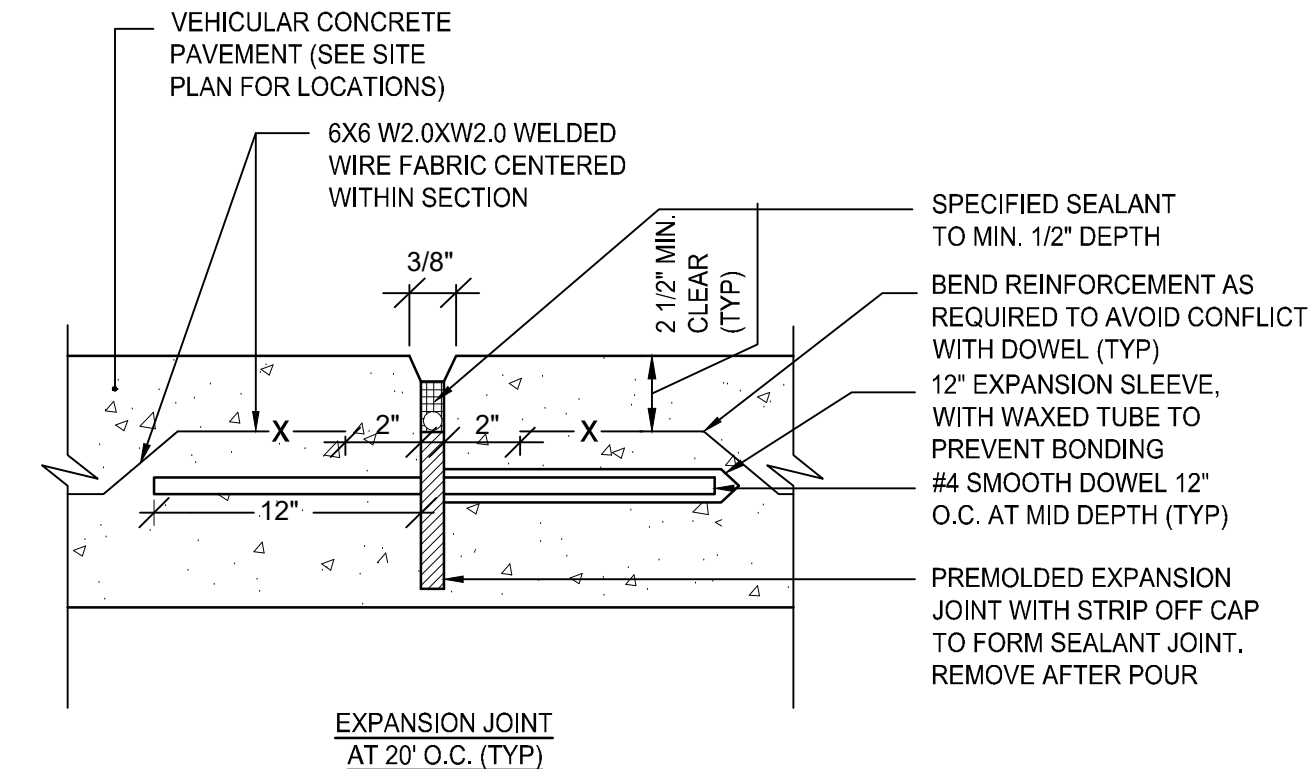


ASPHALT TURNDOWN DETAIL
NOT TO SCALE



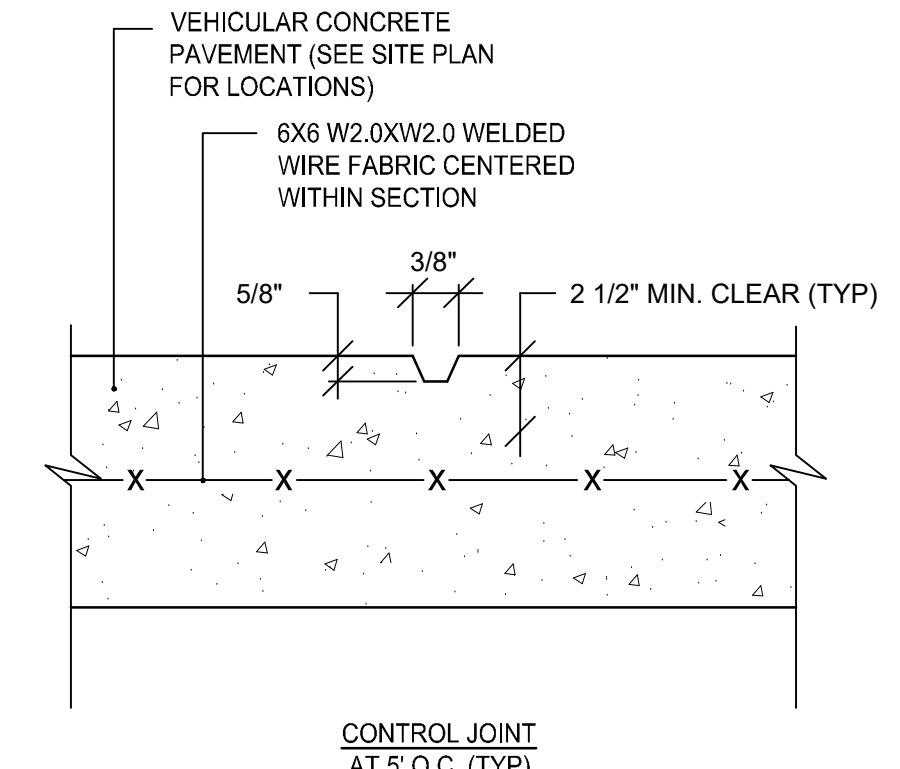
- NOTES:
- MAXIMUM LENGTHS USING 8' & 10' RADII, WITH 90° ANGLE, ARE 4'-2" AND 5'-3" RESPECTIVELY.
 - MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
 - TOP SURFACE TO BE DRESSED BY SAW.
 - CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 100' OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 100' RADIUS.
 - GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.
 - 3000 PSI CONCRETE BACKFILL IS REQUIRED FOR ALL GRANITE CURB.

GRANITE CURB QUARRY SPLIT
NOT TO SCALE

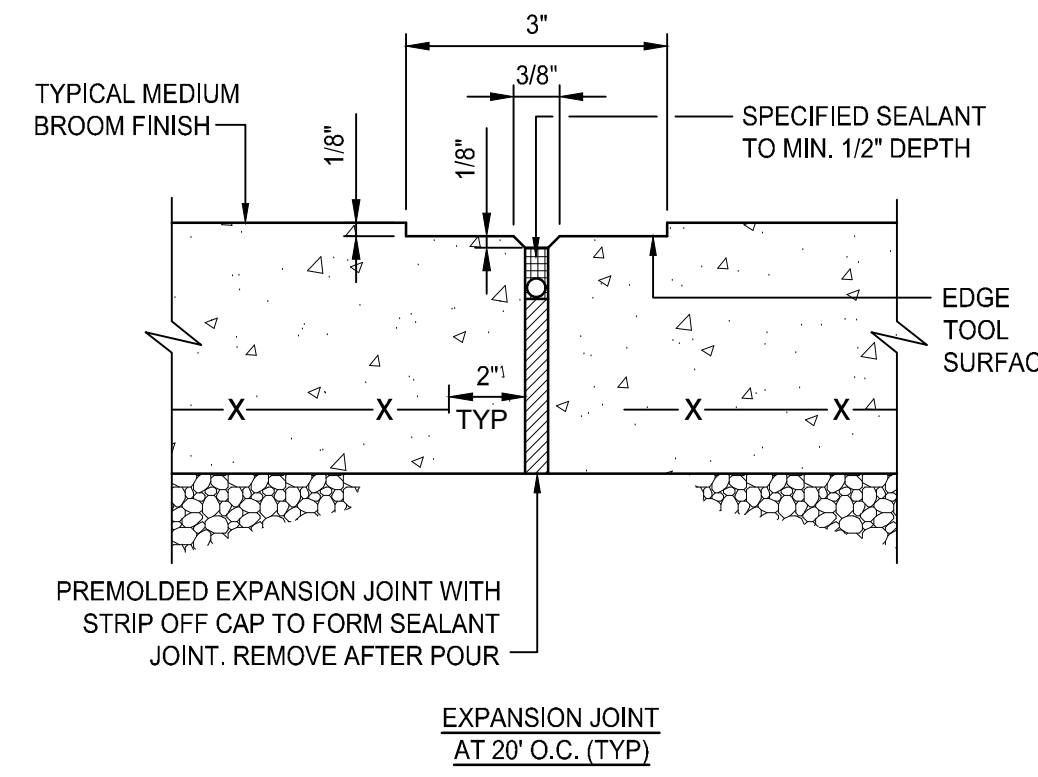


- NOTES:
- EXPANSION JOINTS (E.J.) 20' O.C. UNLESS OTHERWISE NOTED.
 - CONTROL JOINTS (C.J.) 5' O.C. UNLESS OTHERWISE NOTED.
 - WHERE EXISTING AND NEW CONCRETE SIDEWALKS MEET, SAWCUT EXISTING WALK AND INSTALL EXPANSION JOINT AND DOWELS AS SHOWN. DRILL EXISTING CONCRETE WALK EDGE TO RECEIVE STEEL DOWELS AT EXPANSION JOINT.

EXPANSION AND CONTROL JOINTS FOR VEHICULAR CONCRETE PAVING
NOT TO SCALE

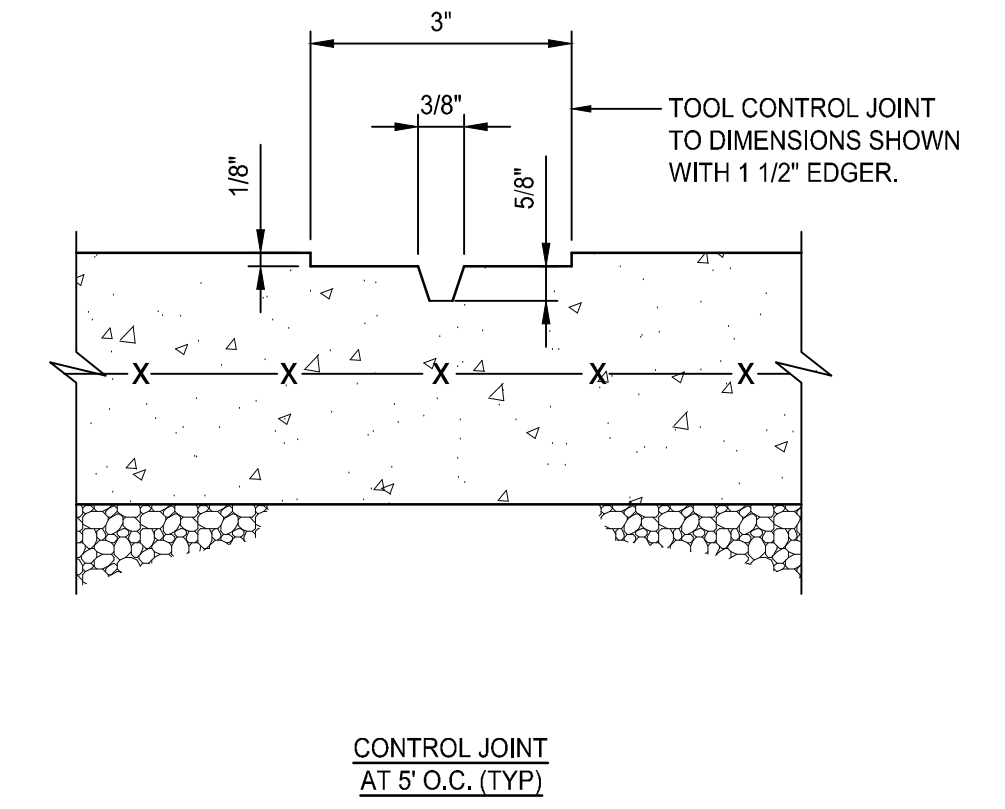


CONTROL JOINT AT 5' O.C. (TYP)

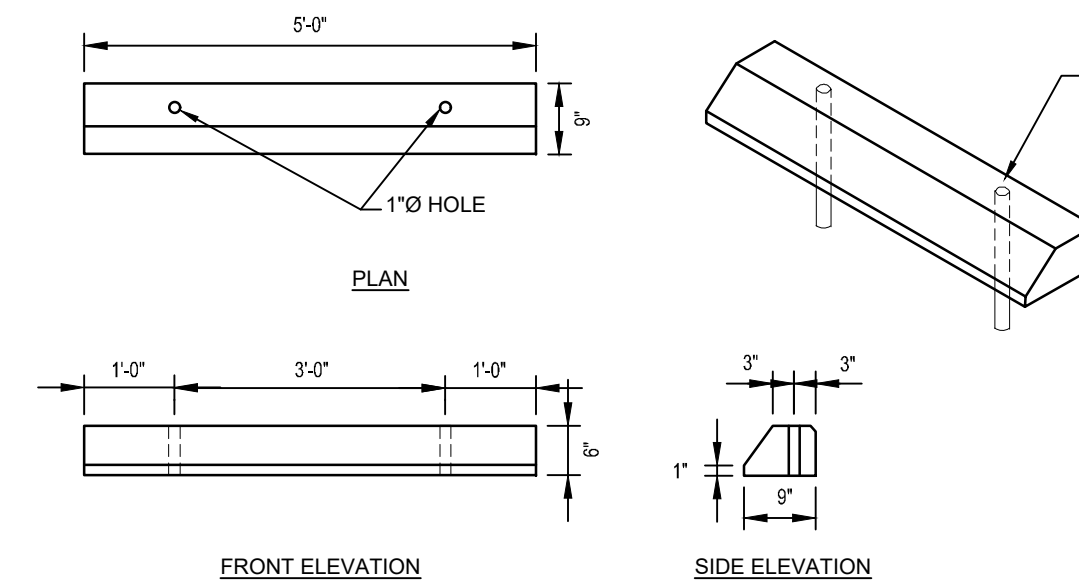


- NOTES:
- EXPANSION JOINTS (E.J.) 20 FEET O.C. UNLESS OTHERWISE NOTED.
 - CONTROL JOINTS (C.J.) 5 FEET O.C. UNLESS OTHERWISE NOTED.
 - WHERE EXISTING AND NEW CONCRETE SIDEWALKS MEET, SAWCUT EXISTING WALK AND INSTALL EXPANSION JOINT AND DOWELS AS SHOWN. DRILL EXISTING CONCRETE WALK EDGE TO RECEIVE STEEL DOWELS AT EXPANSION JOINT.
 - REFER TO LANDSCAPE PLANS FOR LOCATIONS.

EXPANSION AND CONTROL JOINTS FOR SIDEWALK PAVING
NOT TO SCALE

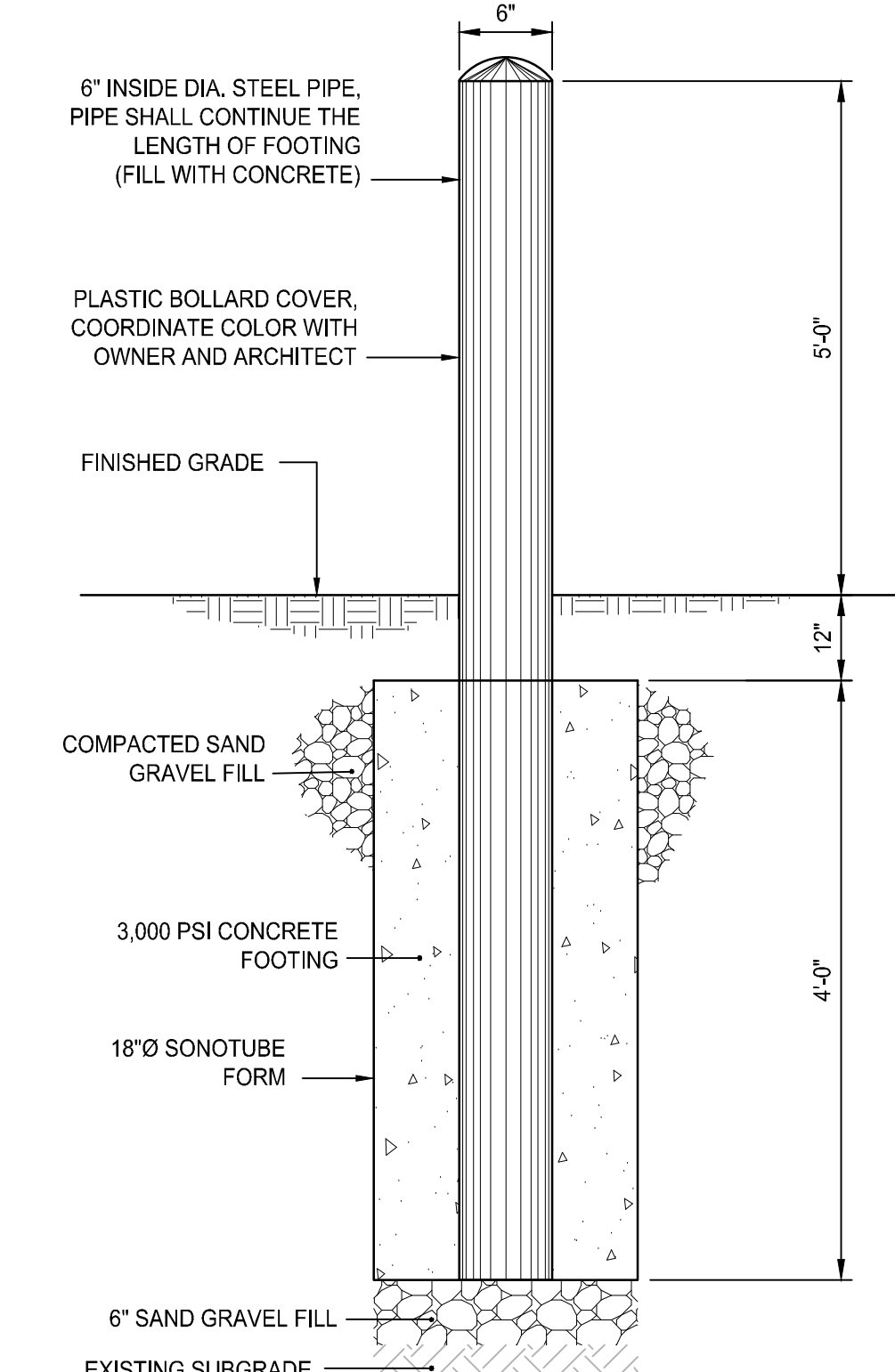


CONTROL JOINT AT 5' O.C. (TYP)

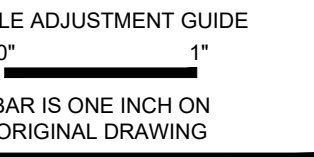


- NOTES:
- ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
 - ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.

PRECAST CONCRETE WHEEL STOPS
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE



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 63 West Main Street
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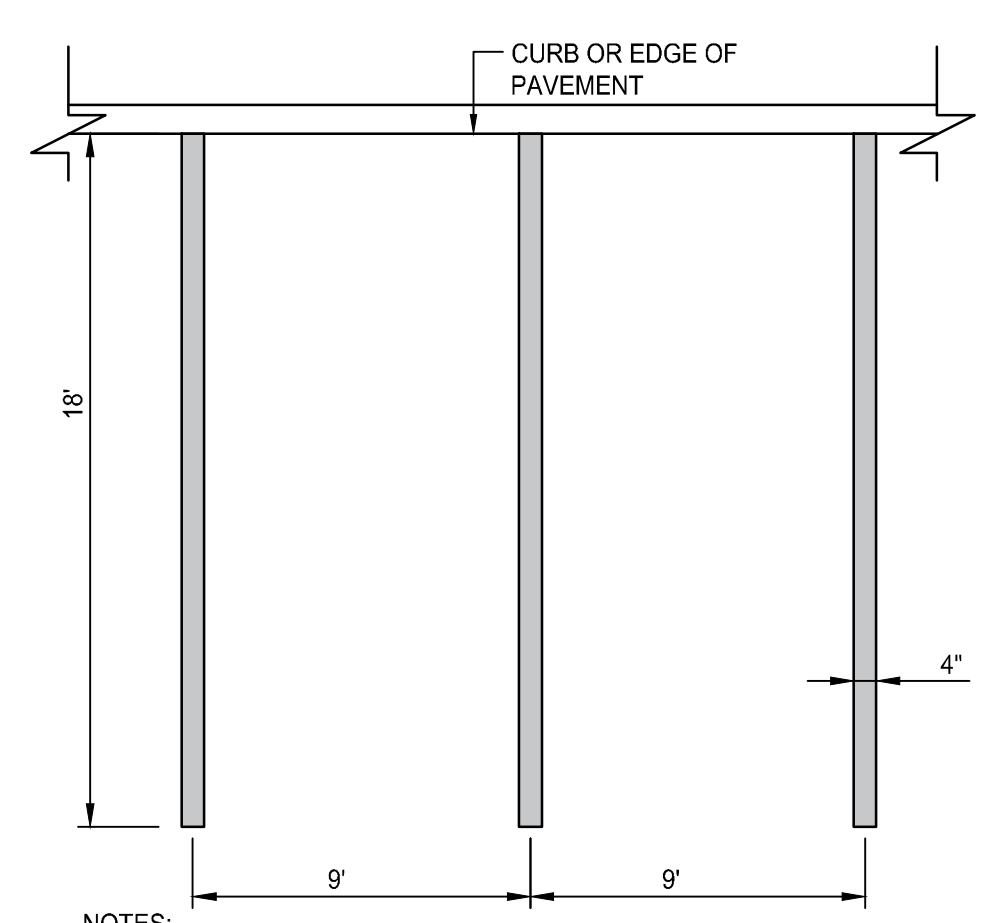
REVISIONS:

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: NOT TO SCALE
 DESIGNED BY:
 CHECKED BY:
 DRAWN BY: AKL
 APPROVED BY:
 DRAWING TITLE:

DETAILS 2

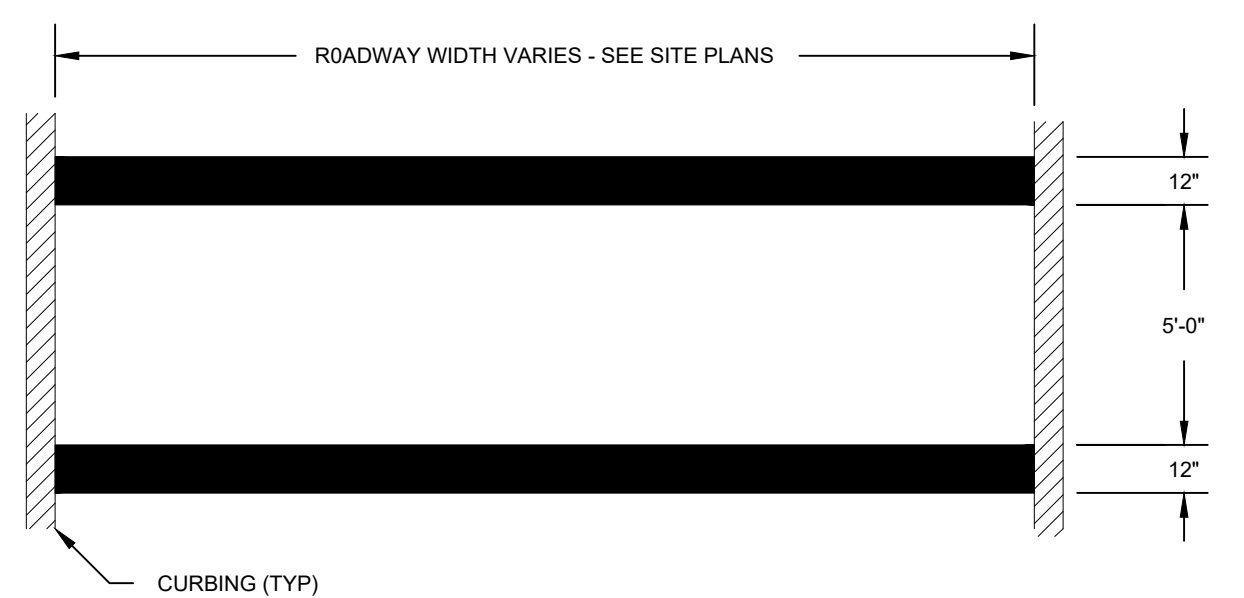
DRAWING NO.:
C7.2
 SHEET NO. 11 OF

NOT FOR CONSTRUCTION



- NOTES:**
- COORDINATE PAVEMENT MARKING COLORS WITH PLANS.
 - ALL PARKING PAVEMENT MARKINGS SHALL BE EPOXY RESIN, CONFORMING TO THE SPECIFICATIONS.

TYPICAL PARKING STALL
NOT TO SCALE



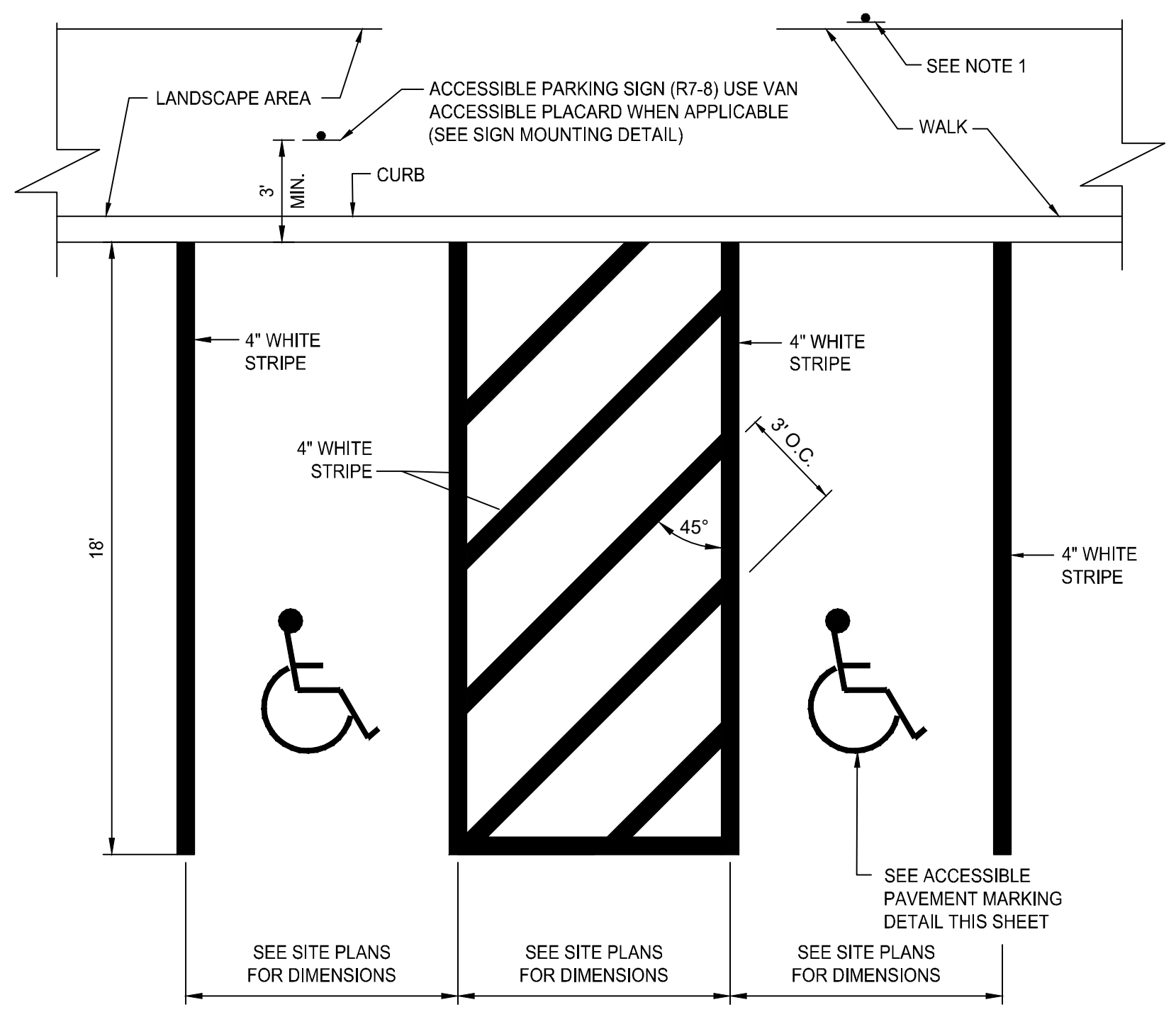
- NOTE:**
- ALL LINE STRIPING TO BE 12" WIDE AND PAINTED WHITE.

CROSSWALK
NOT TO SCALE

LEGEND	DESIGNATION	SIZE
	R1-1	(30" x 30")
	R7-8	(12" x 18")
	R7-8P	(12" x 6")
	S1-1	(30" x 30")
	W16-7P	(12" x 24")
	ACCESSIBLE EV CHARGING	(12" x 18")

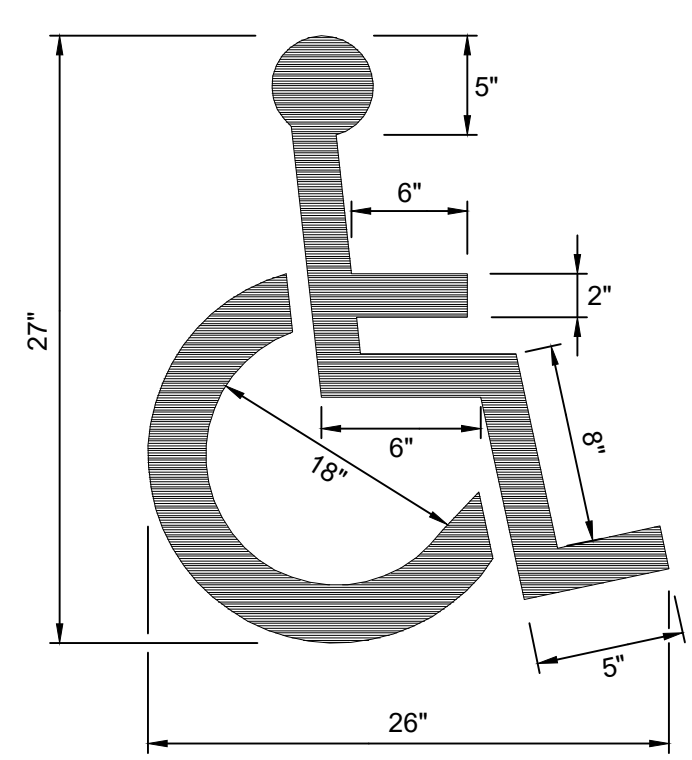
- NOTE:**
- SIGNS SHALL BE CONSTRUCTED OF TYPE III REFLECTORIZED SHEETING AND IN ACCORDANCE WITH MUTCD REQUIREMENTS, LATEST REVISION.
 - THE CONTRACTOR SHALL SUBMIT SAMPLE SIGNS TO THE OWNER FOR APPROVAL PRIOR TO FURNISHING.
 - LETTERS, COLOR, AND FONT FOR NON-STANDARD SIGNS SHALL BE SELECTED BY THE OWNER.
 - R7-8 AND R7-8P SHALL CONFORM TO ACCESSIBLE SIGN MOUNTING DETAIL.

SIGN SCHEDULE



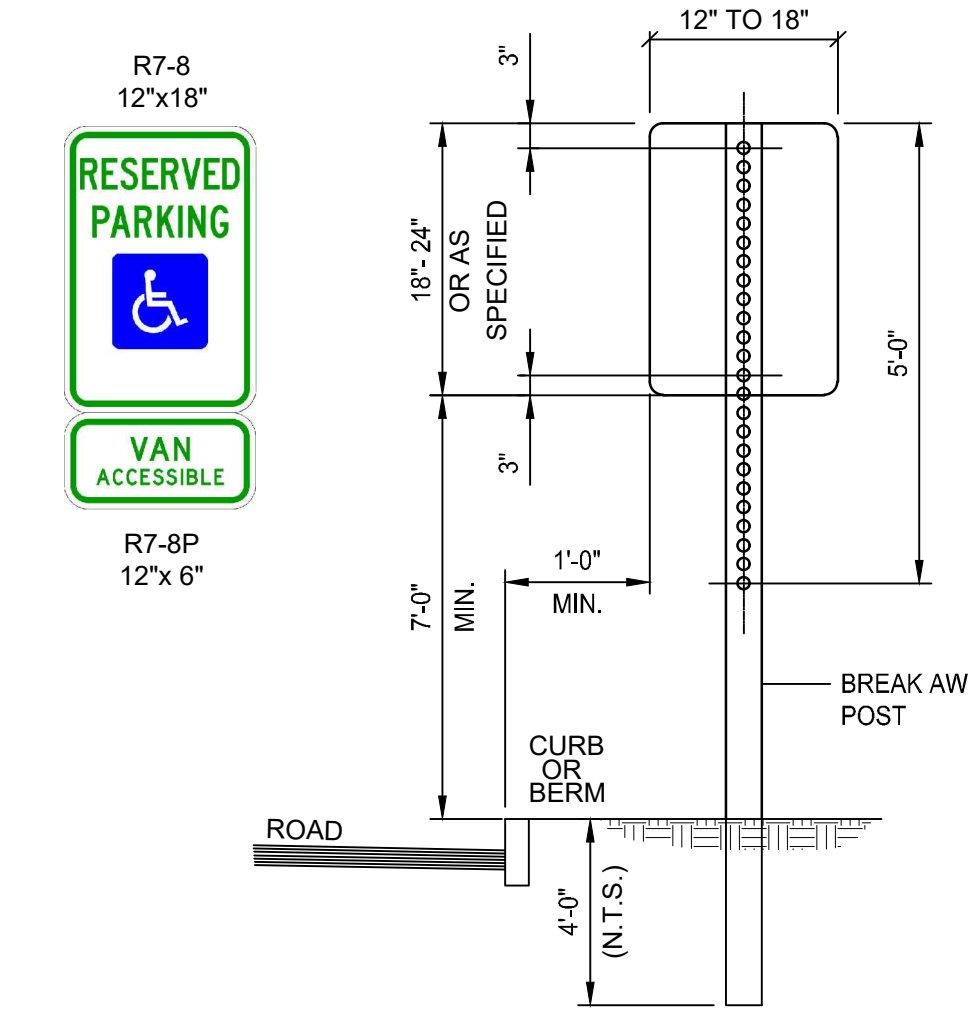
- NOTES:**
- WHERE STALLS ABUT SIDEWALK, PARKING SIGNS SHOULD BE PLACED AT BACK EDGE OF SIDEWALK.
 - ALL PAVEMENT MARKINGS TO BE EPOXY RESIN.

ACCESSIBLE PARKING STALLS @ 90°
NOT TO SCALE



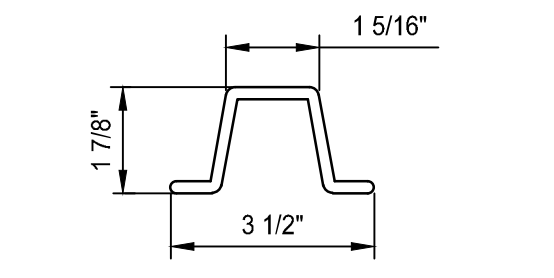
- NOTE:**
- ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

ACCESSIBLE PAVEMENT MARKING
NOT TO SCALE



- NOTE:**
- 5/16" x 2-1/2" GALVANIZED BOLTS & WASHERS
- STEEL SPECIFICATION - A.S.T.M. DESIGNATION A499-54 ZINC (HOT GALVANIZED) SPECIFIED BY - A.S.T.M. A 123.

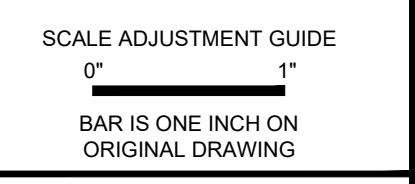
WT./FT.	3.00 #
Mom. lx-x	0.484in 4
Sec Mod x-x	0.569in 4
Mon ly-y	0.886in 3
Sec Mod y-y	0.506in 3



PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOR MORE THAN 45° IN A LINE PARALLEL TO THE FLOW OF TRAFFIC.

- NOTES:**
- ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
 - WASHERS SHALL BE 0.07" THICK.
 - ALL SIGN COLORS, RADII AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 - PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOT MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM THE EDGE OF CURB FACE.
 - ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA).
 - SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBTSCURED BY A VEHICLE PARKED IN THE SPACE.
 - FOR ACCESSIBLE VAN SPACE USE SIGN AS DETAILED.
 - FOR ACCESSIBLE SPACE FOR AUTOMOBILES USE ONLY HANDICAPPED PARKING SIGN.

ACCESSIBLE SIGN MOUNTING
NOT TO SCALE



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63 West Main Street
Town of Northborough, MA

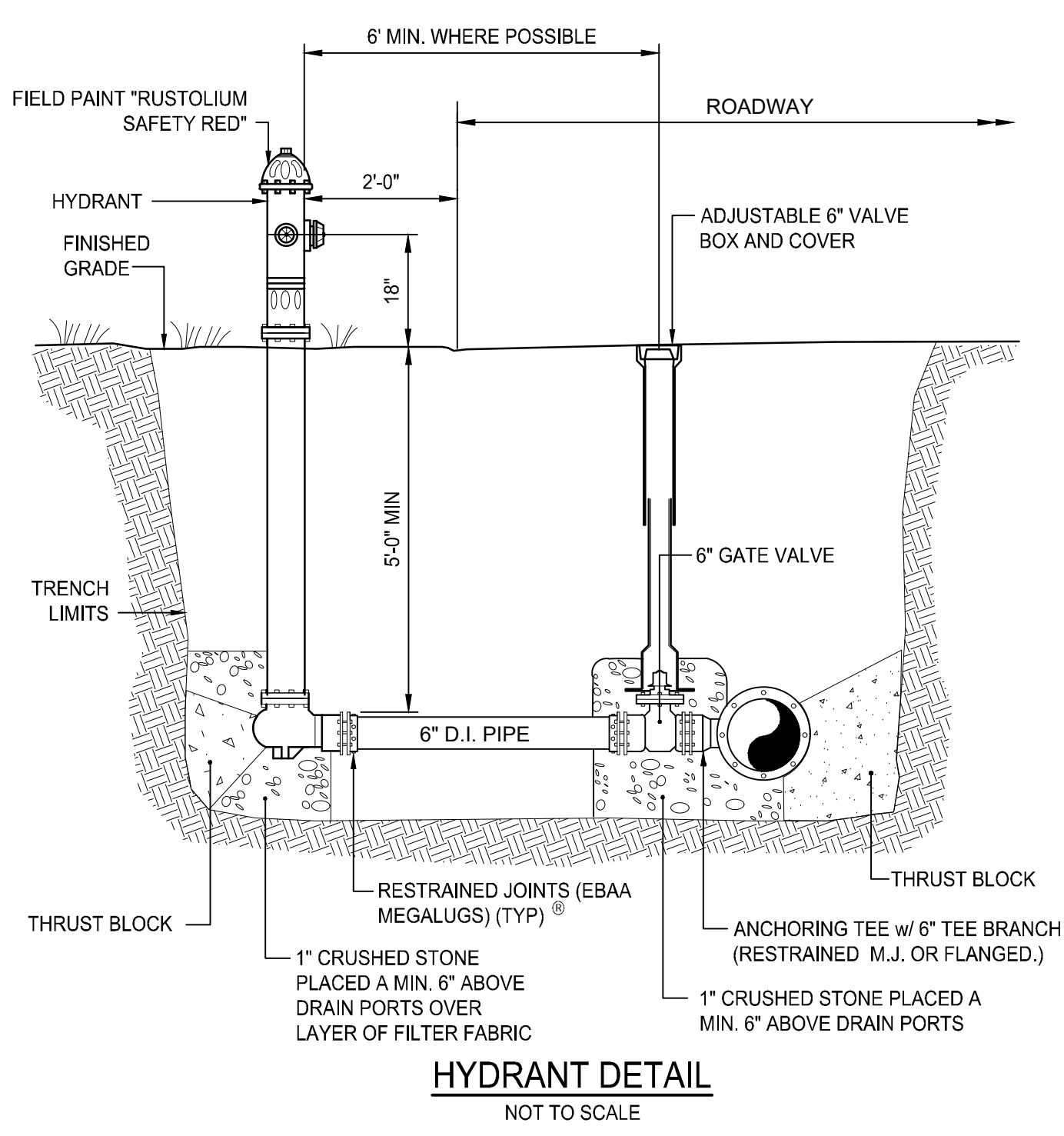
REVISIONS:

NO.	DESCRIPTION	DATE

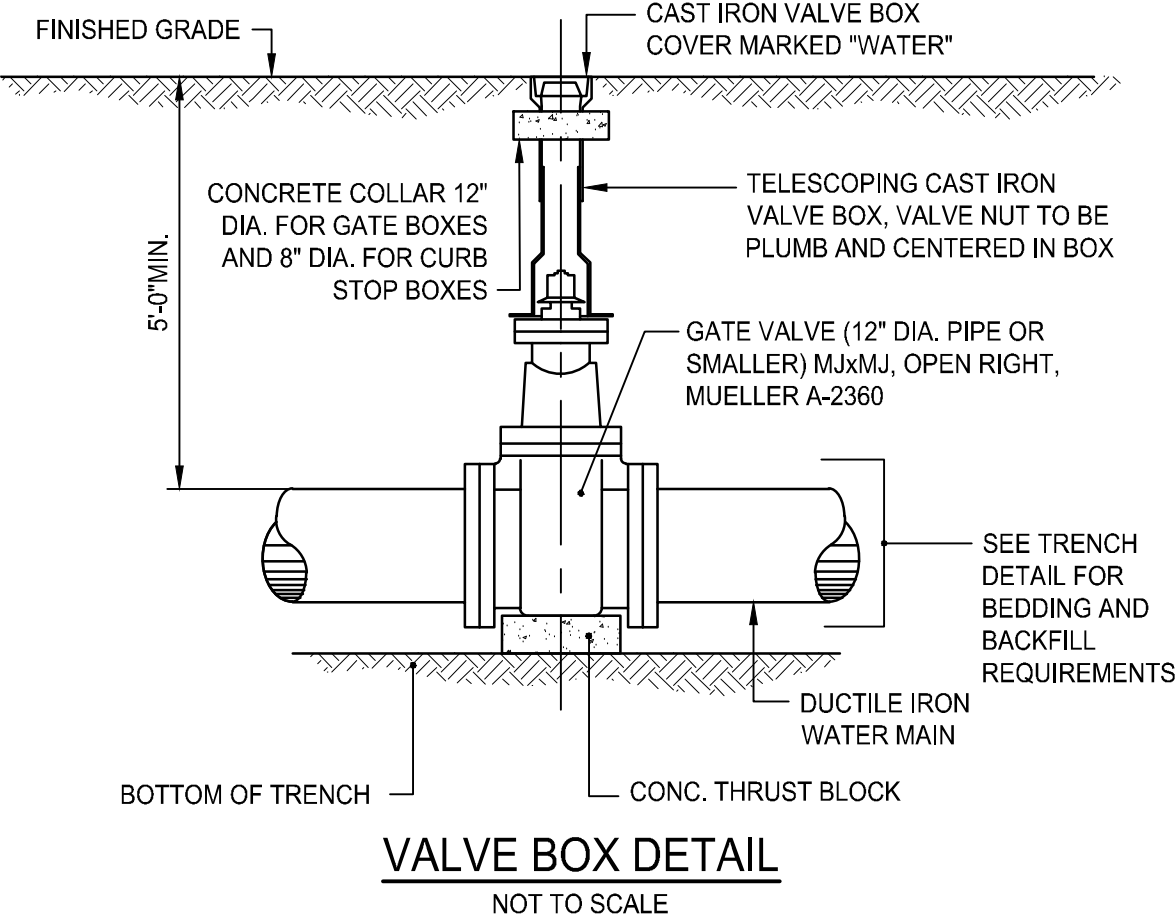
PROJECT NO.: 23141.00
DATE: MARCH 18, 2024
SCALE: NOT TO SCALE
DESIGNED BY:
CHECKED BY:
DRAWN BY: AKL
APPROVED BY:
DRAWING TITLE:

DETAILS 3

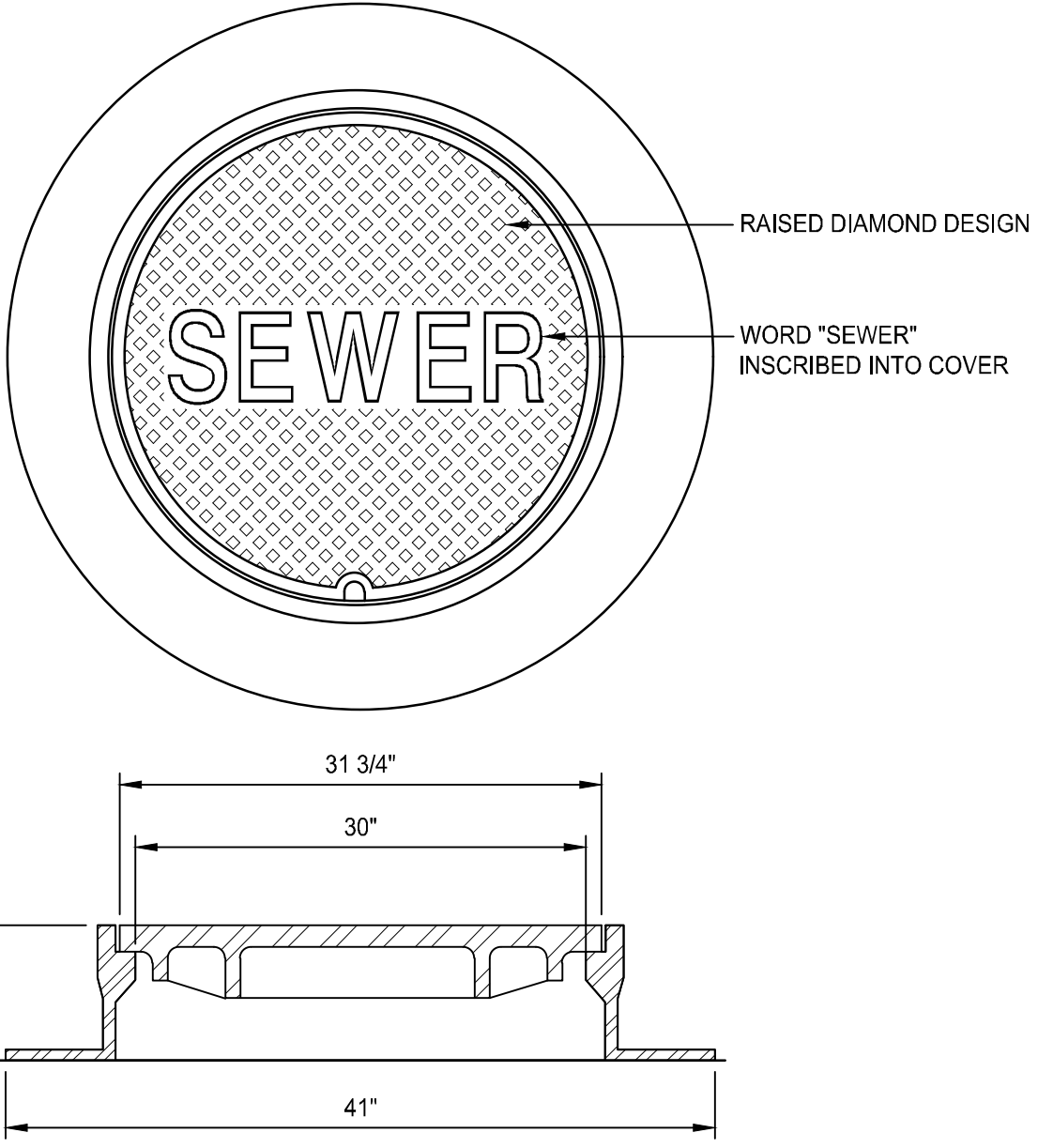
DRAWING NO.:
C7.3
SHEET NO. 12 OF



HYDRANT DETAIL
NOT TO SCALE

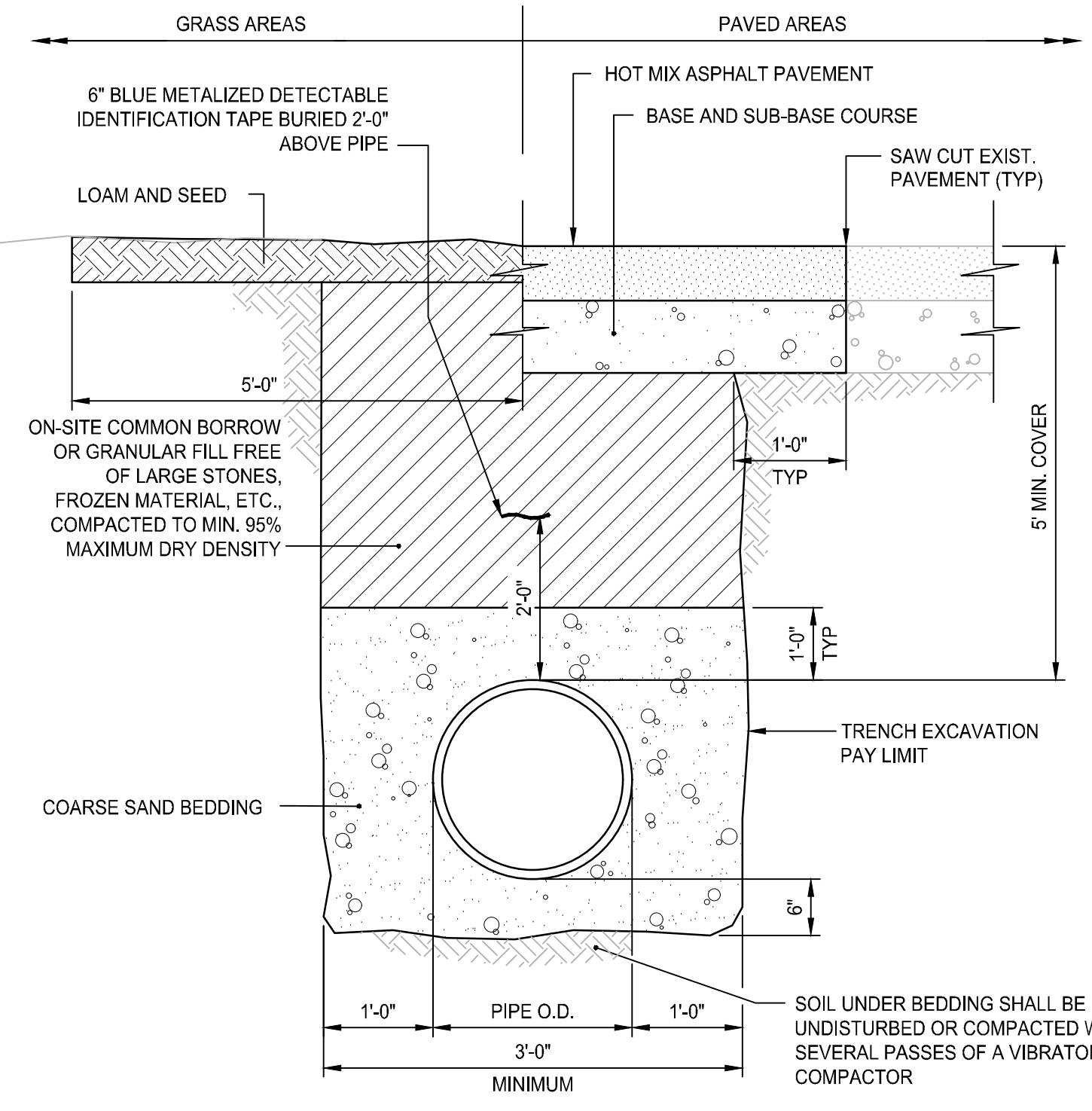


VALVE BOX DETAIL
NOT TO SCALE



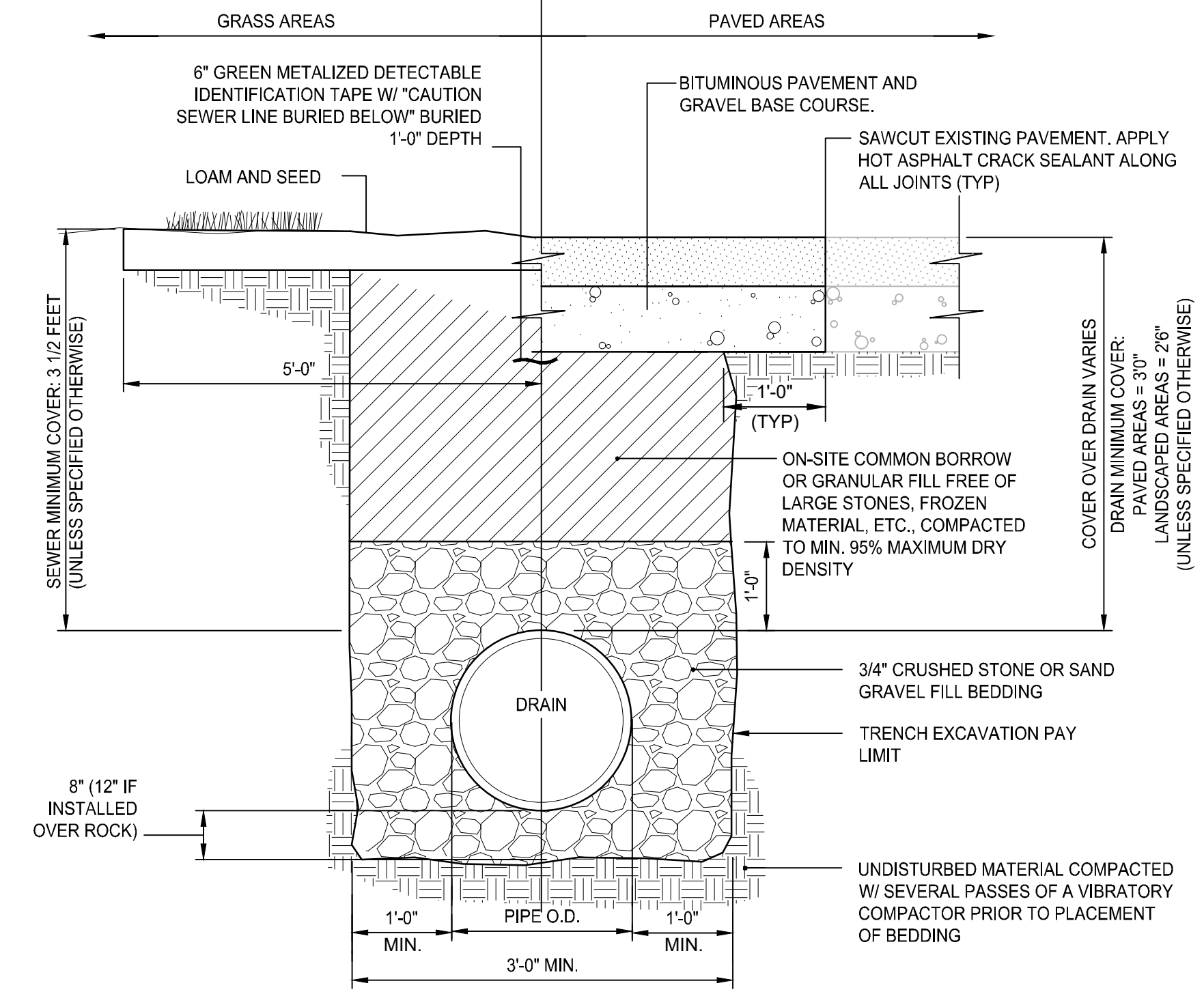
- NOTES:**
1. NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
 2. COVER SHALL MEET H-20 LOADING CRITERIA.

SANITARY MANHOLE FRAME & COVER
NOT TO SCALE



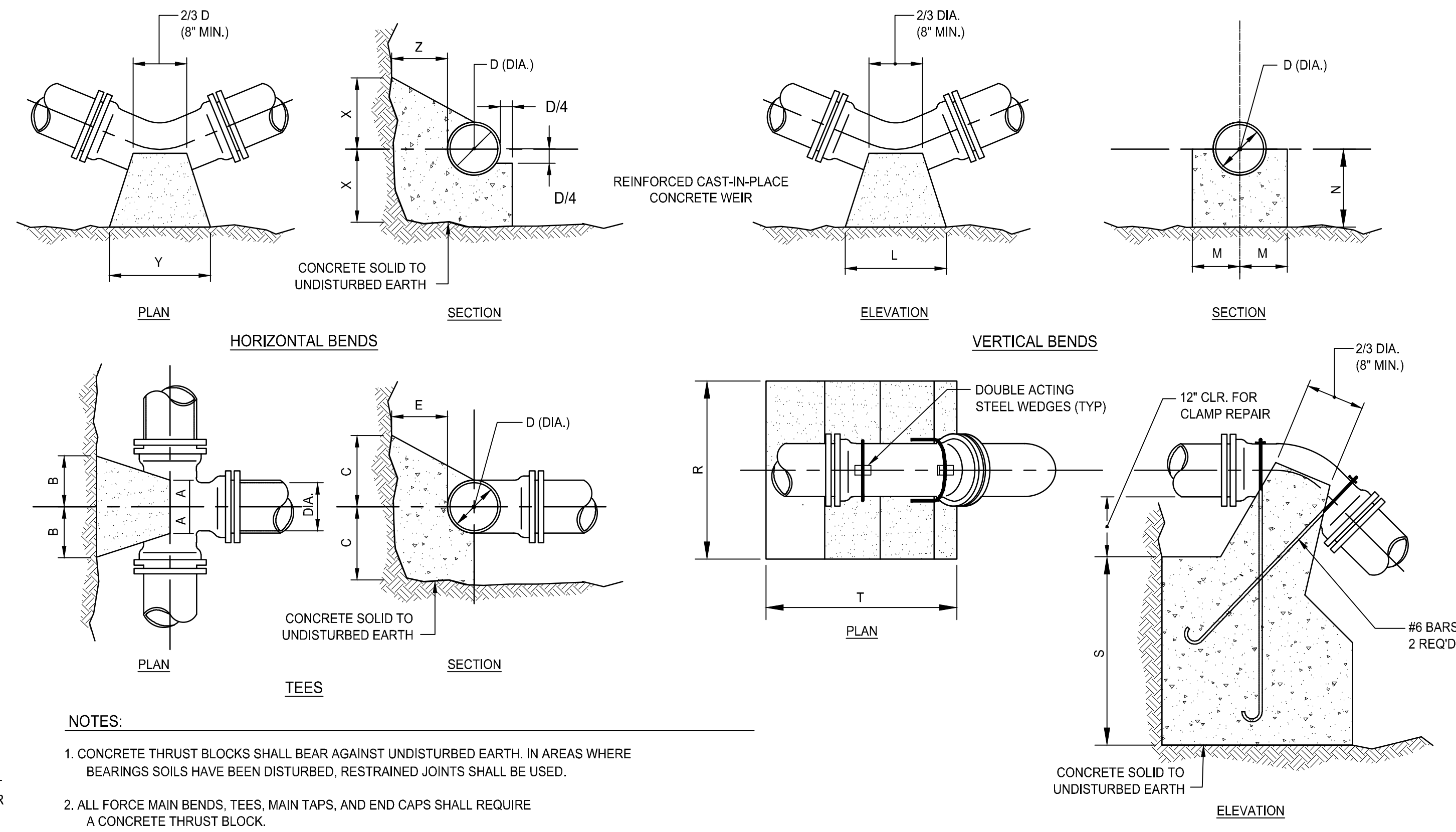
- NOTES:**
1. WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
 2. PIPE SHALL BE BEDDED IN 3/4-INCH CRUSHED STONE IF WITHIN GROUNDWATER.

TYPICAL WATER MAIN TRENCH DETAIL
NOT TO SCALE



- NOTES:**
1. WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
 2. 3/4" DIA. CRUSHED STONE SHALL BE USED AS BEDDING WHERE TRENCH IS BELOW THE GROUND WATER TABLE.

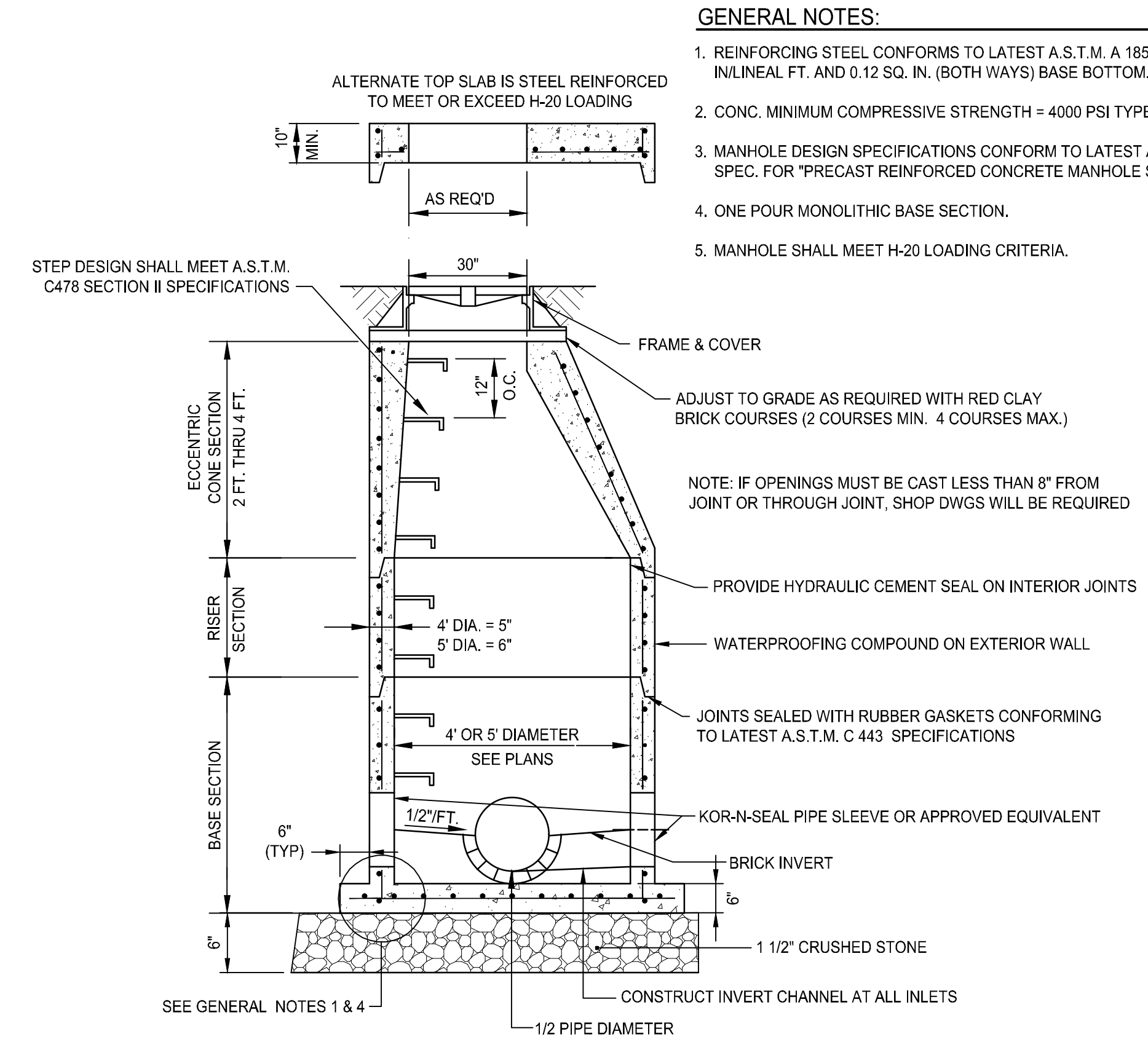
DRAIN/SEWER TRENCH DETAIL
NOT TO SCALE



- NOTES:**
1. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH. IN AREAS WHERE BEARINGS SOILS HAVE BEEN DISTURBED, RESTRAINED JOINTS SHALL BE USED.
 2. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.

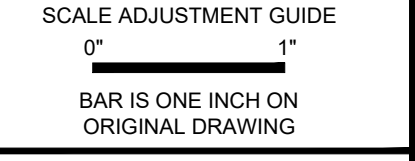
TEES						HORIZONTAL BENDS						VERTICAL BENDS						ANCHORAGES						
PIPE SIZE-D (DIA.)						PIPE SIZE-D (DIA.)						PIPE SIZE-D (DIA.)						PIPE SIZE-D (DIA.)						
	6"	8"	12"	16"	20"	BEND	6"	8"	12"	16"	20"	BEND	6"	8"	12"	16"	20"	BEND	6"	8"	12"	16"	20"	
	A	8"	10"	1-0"	1-3"	1-6"	X	1-0"	1-0"	1-0"	1-3"	1-6"	L	1-3"	1-8"	2-6"	3-6"	4-8"	R	2-6"	3-0"	4-6"	5-4"	6-0"
	B	8"	10"	1-2"	1-4"	1-6"	Y	1-0"	1-8"	2-0"	2-6"	3-0"	M	7"	8"	11"	1-4"	1-6"	S	2-6"	2-9"	3-6"	2-6"	5-6"
	C	10"	1-0"	1-3"	1-6"	1-8"	Z	8"	10"	1-2"	1-4"	1-6"	N	7"	8"	11"	1-4"	1-6"	T	3-0"	4-0"	4-9"	7-0"	9-6"
	E	8"	10"	1-2"	1-6"	1-10"	X	1-0"	1-0"	1-0"	1-3"	1-6"	L	8"	1-0"	1-8"	2-6"	3-0"	R	2-0"	2-8"	4-0"	4-6"	5-0"
						Y	1-0"	1-4"	1-6"	1-8"	2-6"	M	7"	7"	10"	1-0"	1-2"	S	1-8"	2-3"	2-6"	3-2"	3-8"	
						Z	8"	10"	1-2"	1-4"	1-6"	N	7"	7"	10"	1-0"	1-0"	T	2-6"	3-4"	4-0"	6-0"	8-6"	
						X	1-0"	1-0"	1-0"	1-2"	1-4"	L	6"	8"	1-0"	1-4"	1-8"	R	1-6"	2-0"	3-0"	3-8"	4-3"	
						Y	1-0"	1-0"	1-2"	1-4"	1-6"	M	7"	7"	10"	1-0"	1-2"	S	1-3"	1-8"	2-0"	2-4"	2-6"	
						Z	8"	10"	1-2"	1-4"	1-6"	N	7"	7"	8"	10"	1-0"	T	2-0"	2-6"	3-0"	4-6"	5-9"	

CONCRETE THRUST BLOCKS
NOT TO SCALE



TYPICAL SEWER MANHOLE DETAIL
NOT TO SCALE

- GENERAL NOTES:**
1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
 2. CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
 3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
 4. ONE POUR MONOLITHIC BASE SECTION.
 5. MANHOLE SHALL MEET H-20 LOADING CRITERIA.



REVISIONS:

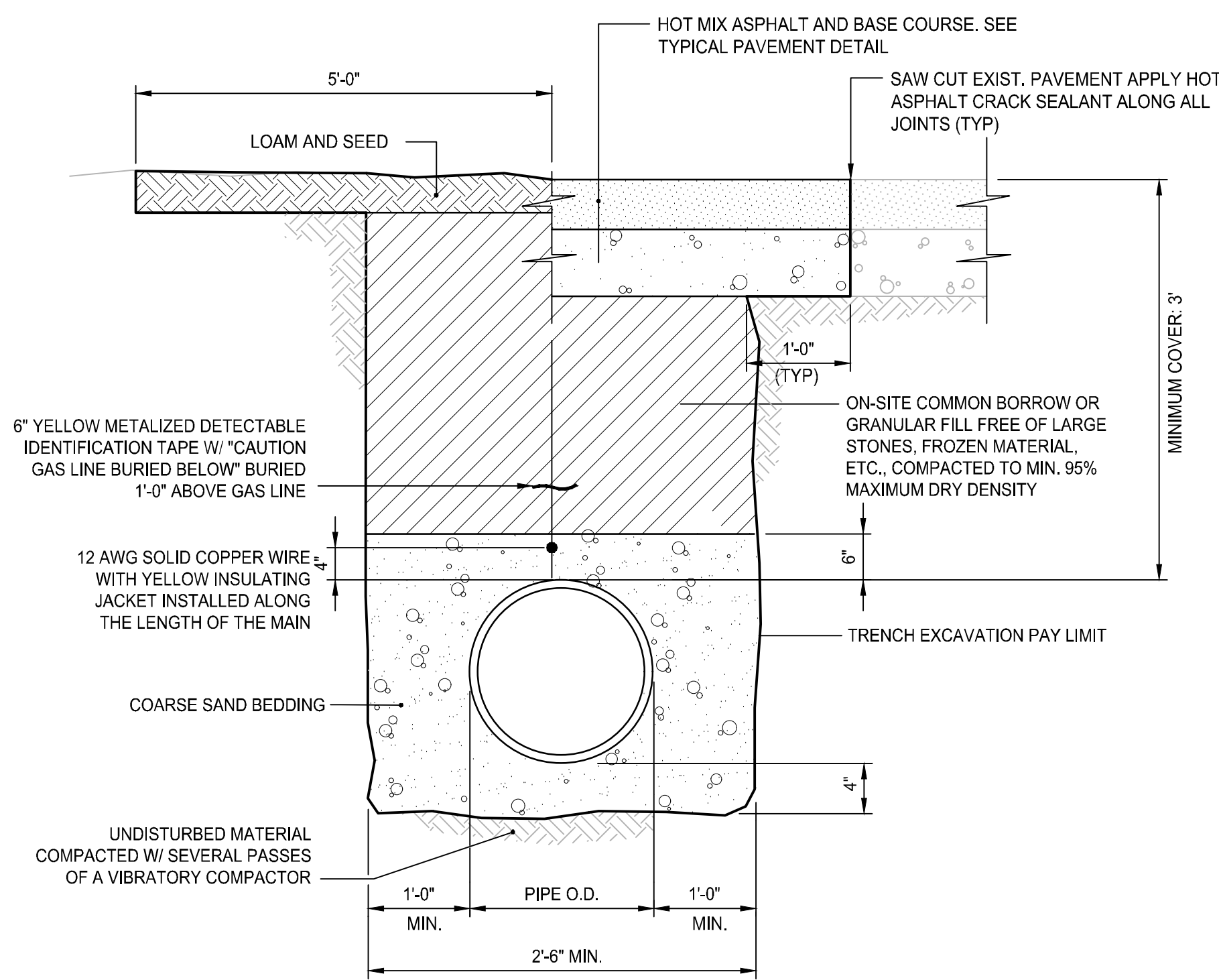
NO.	DESCRIPTION	DATE

PROJECT NO.: 23141.00
 DATE: MARCH 18, 2024
 SCALE: NOT TO SCALE
 DESIGNED BY:
 CHECKED BY:
 DRAWN BY: AKL
 APPROVED BY:
 DRAWING TITLE:

DETAILS 4

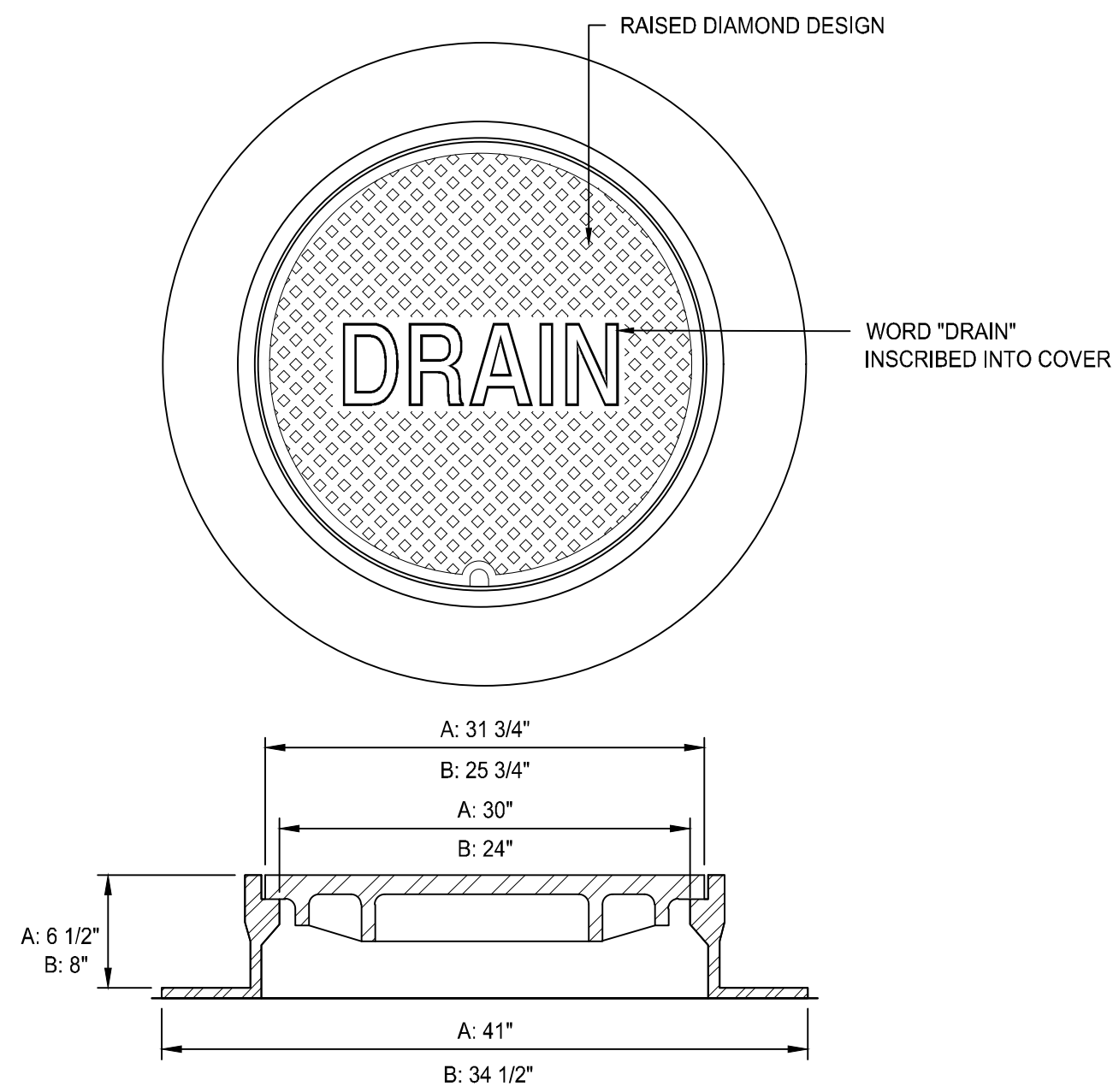
DRAWING NO.:
C7.4
 SHEET NO. 13 OF

NOT FOR CONSTRUCTION



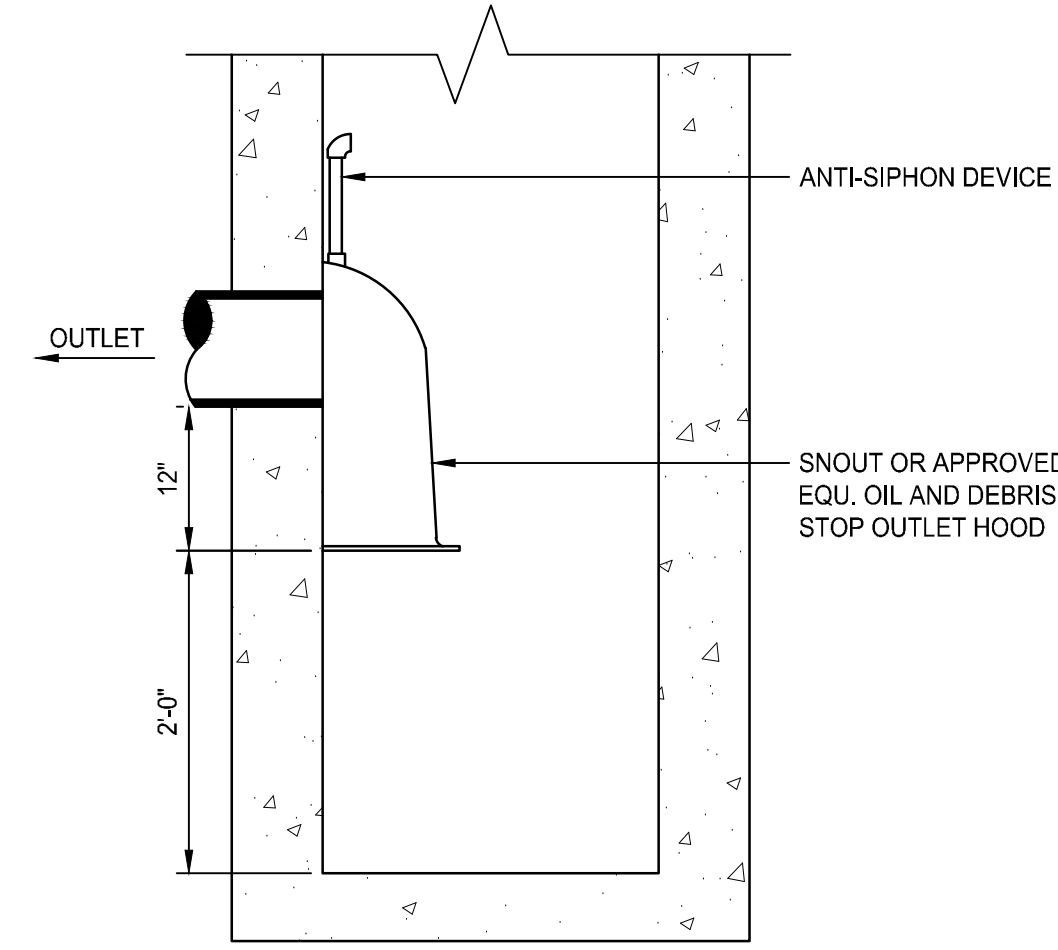
- NOTES:**
- WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
 - WHERE A SLEEVE IS INSTALLED, A TRACING WIRE SHALL BE INSTALLED OUTSIDE OF SLEEVE.
 - GAS TRENCH SHALL BE COORDINATED WITH REQUIREMENTS OF THE GAS COMPANY PRIOR TO COMMENCING WORK.

GAS TRENCH DETAIL
NOT TO SCALE

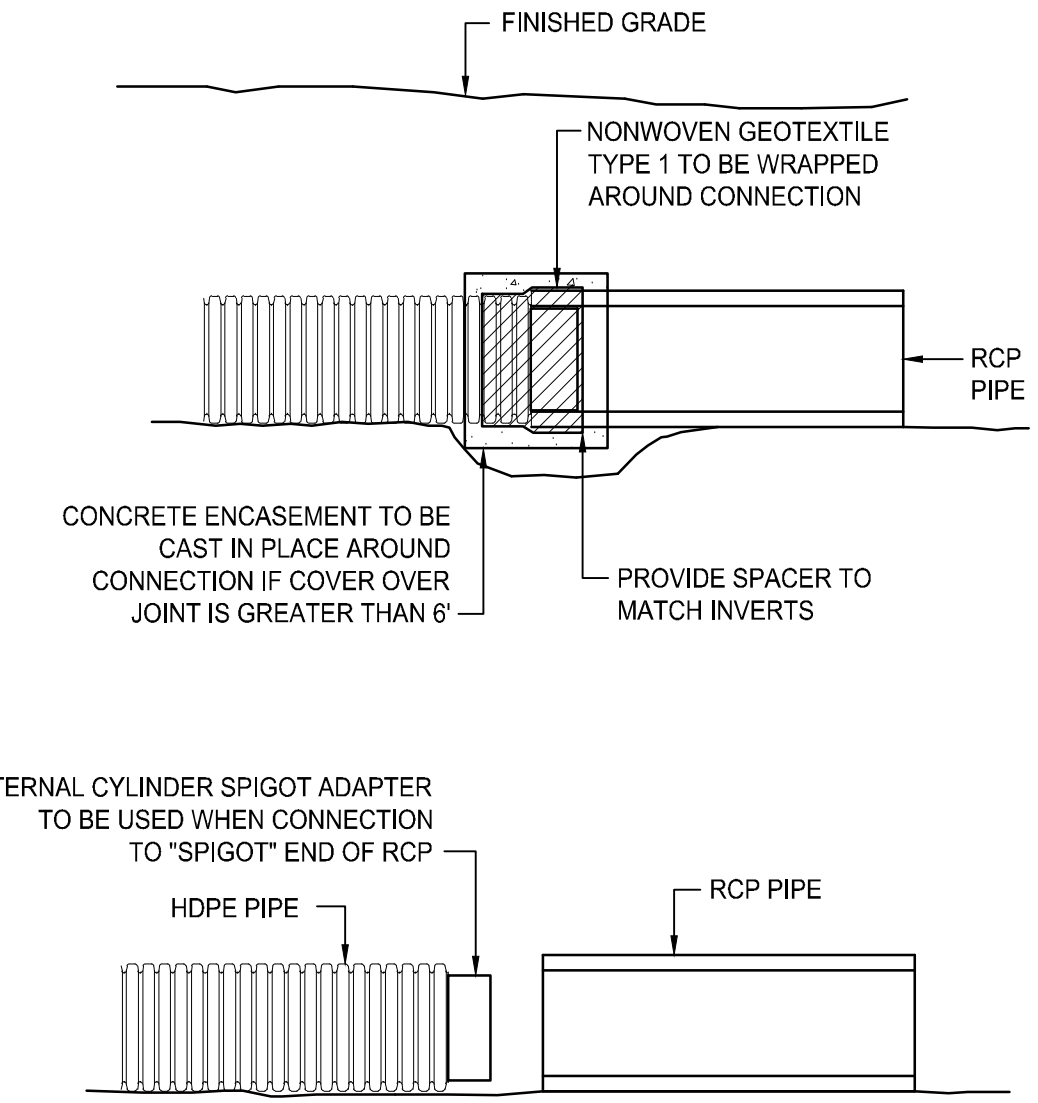


- NOTES:**
- ALL FRAMES AND COVERS SHALL MEET H-20 LOADING CRITERIA.
 - PROVIDE:
 - A: 30" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1557 OR APPROVED EQUIVALENT.
 - B: 24" DIA. DRAIN MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY, INC. MODEL #R-1556 OR APPROVED EQUIVALENT.
 - ALL DRAIN MANHOLES SHALL HAVE 24" DIA. DRAIN MANHOLE COVER UNLESS NOTED OTHERWISE.

DRAIN MANHOLE FRAME & COVER
NOT TO SCALE



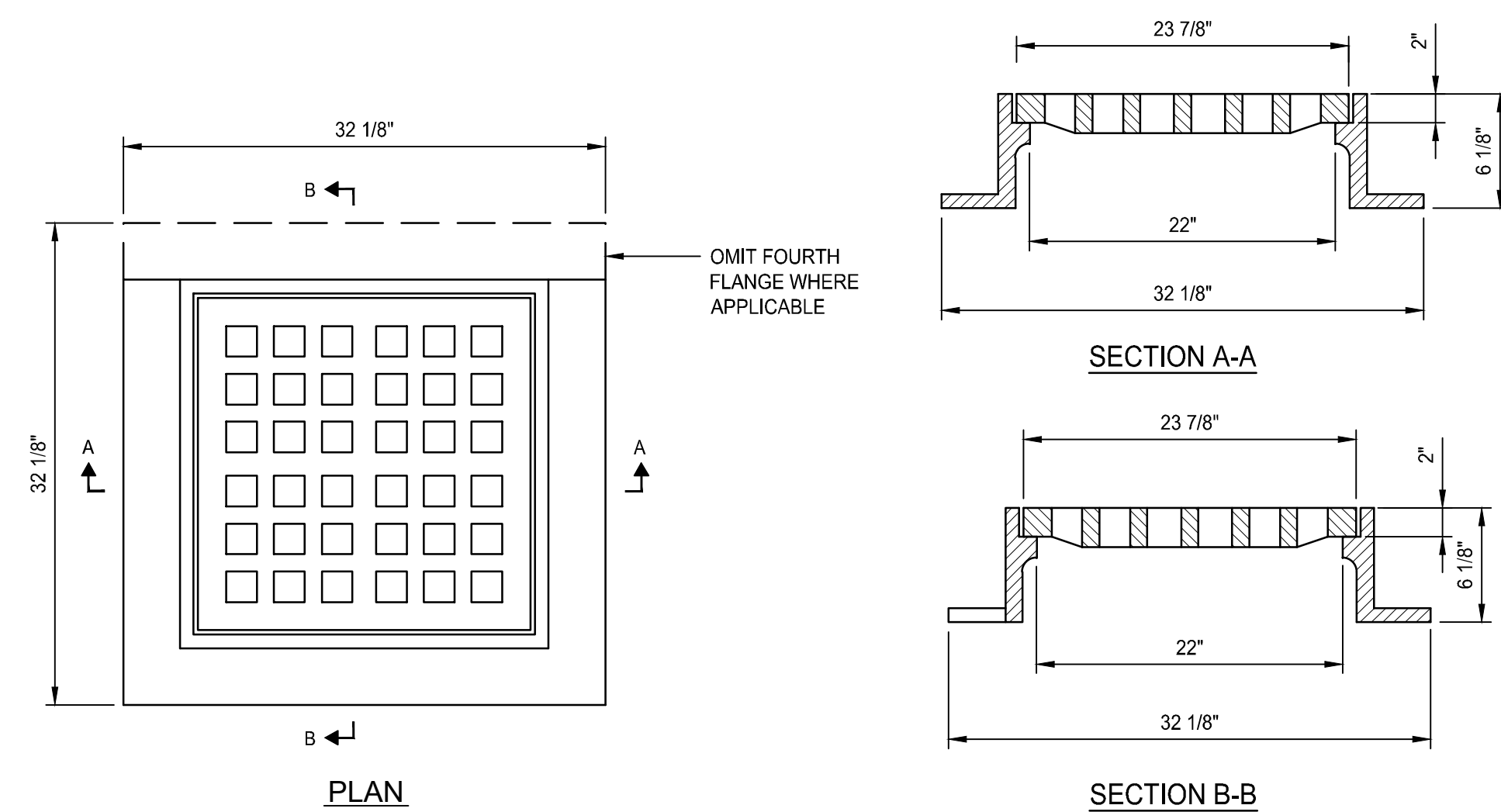
OUTLET HOOD DETAIL
NOT TO SCALE



- NOTES:**
- FOR USE WHERE HDPE PIPE CONNECTS TO PRECAST CONCRETE FLARED END SECTION.
 - INTERNAL CYLINDER ADAPTER TO BE WELDED TO HDPE, OUTSIDE DIAMETER TO BE INSERTED INTO INSIDE DIAMETER OF CONCRETE PIPE.
 - NON-WOVEN GEOTEXTILE TO BE WRAPPED AROUND CONNECTION WITH FULL SEAM OVERLAP TO PROVIDE FULL PROTECTION FROM SOIL INTRUSION.
 - CONNECTION TO BE MADE IN ACCORDANCE WITH PIPE MANUFACTURER'S REQUIREMENTS.
 - INTERNAL CYLINDER SPIGOT ADAPTER NOT REQUIRED IF HDPE IS CONNECTION TO "BELL" END OF RCP.

HDPE/RCP PIPE JOINT
NOT TO SCALE

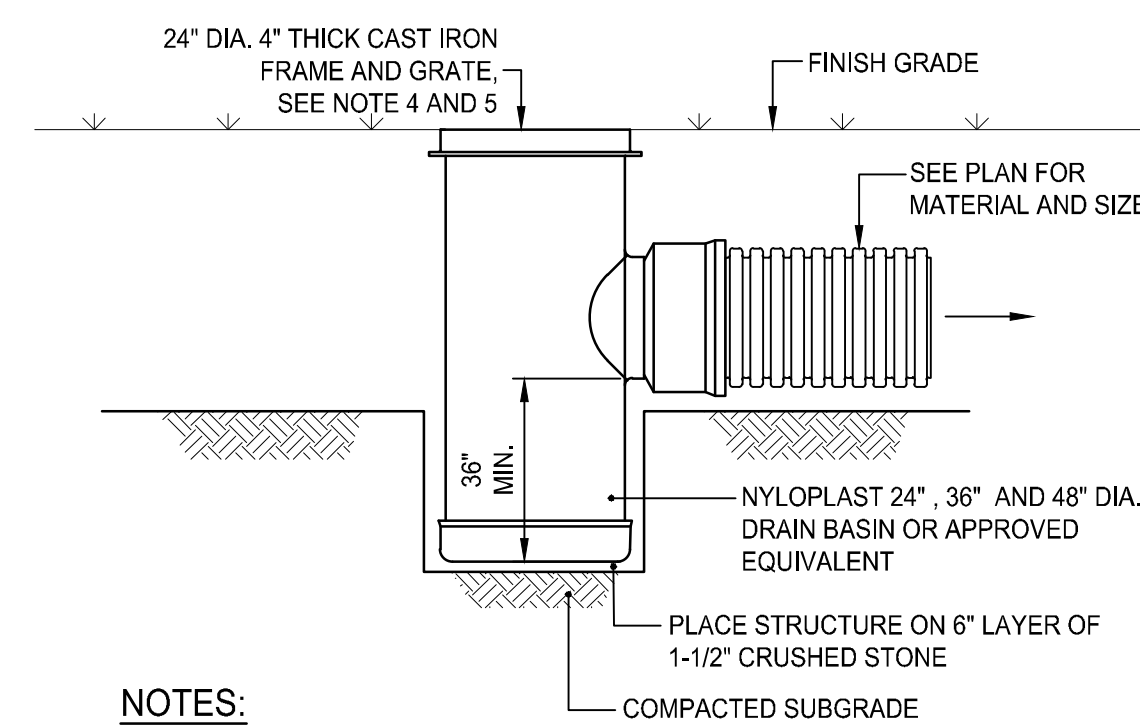
SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING



- NOTES:**
- NEENAH FOUNDRY R-3405-A OR APPROVED EQUIVALENT.
 - FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.

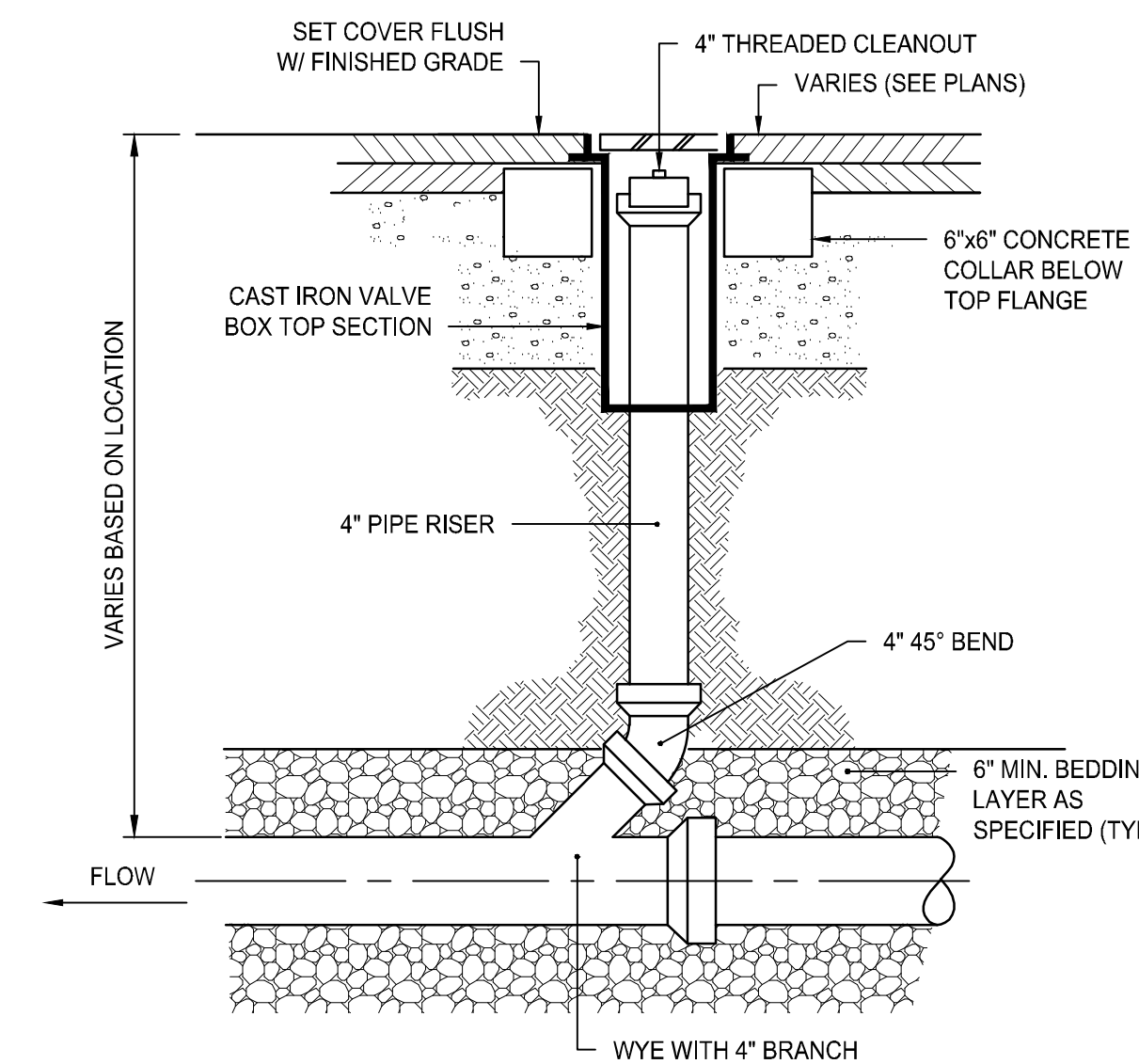
SQUARE CATCH BASIN FRAME & GRATE
NOT TO SCALE

- GENERAL NOTES:**
- REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN/LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM
 - CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
 - MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
 - PROVIDE ONE POUR 6" THICK REINFORCED MONOLITHIC BASE SECTION.
 - MANHOLE SHALL MEET H-20 LOADING CRITERIA.
 - ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT
 - MANHOLES SHALL HAVE 6" THICK WALLS.



- NOTES:**
- DRAIN BASIN SHALL BE CUSTOM MANUFACTURED FOR THE PROJECT WITH THE INLETS AND OUTLETS REQUIRED.
 - STRUCTURES SHALL BE CONSTRUCTED TO WITHSTAND LOADS IMPOSED BY CONSTRUCTION VEHICLES.
 - DRAIN BASIN SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE.
 - FRAME AND GRATE SHALL BE CONSTRUCTED OF DUCTILE IRON AND CONFORM TO ASTM A536 GRADE 70-50-05, UNLESS OTHERWISE SPECIFIED. PROVIDE NYLOPLAST 2499CGS OR APPROVED EQUIVALENT.
 - PROVIDE DOME GRATE AT AD-XX, AD-XX, AND AD-XX. PROVIDE NYLOPLAST 2499CGD OR APPROVED EQUIVALENT.
 - PROVIDE PEDESTRIAN GRATE AT AD-XX, AD-XX AND AD-XX. PROVIDE NYLOPLAST 2499CGP OR APPROVED EQUIVALENT. FRAME AND GRATE SHALL BE ADA COMPLIANT.

AREA DRAIN DETAIL
NOT TO SCALE



CLEANOUT DETAIL
NOT TO SCALE

Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

REVISIONS:

NO.	DATE	DESCRIPTION

PROJECT NO.: 23141.00
DATE: MARCH 18, 2024
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DESIGNED BY:
CHECKED BY:
DRAWN BY: AKL
APPROVED BY:
DRAWING TITLE:

DETAILS 5

DRAWING NO.:
C7.5
SHEET NO. 14 OF

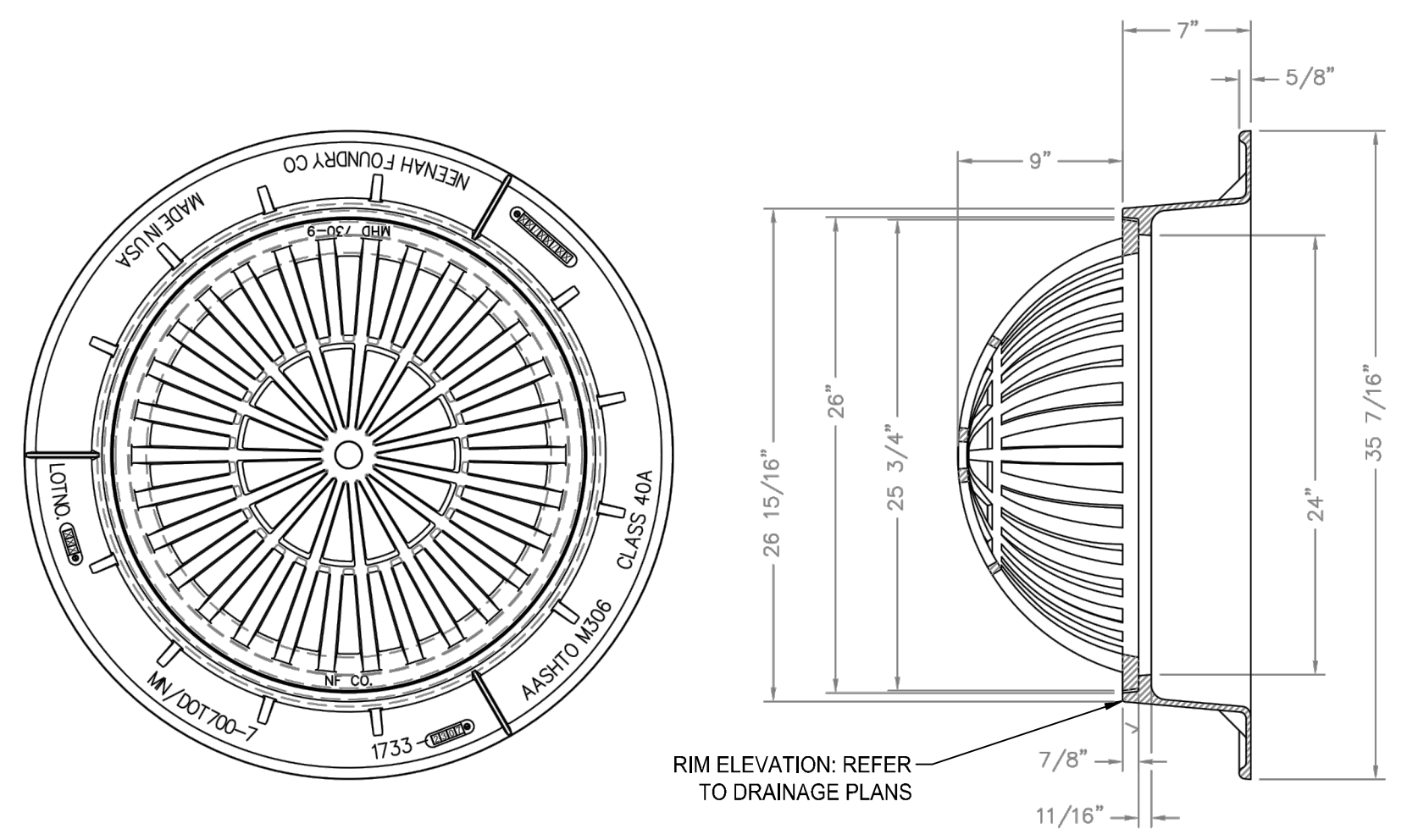
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REVISIONS:

PROJECT NO.: 23141.00
DATE: MARCH 18, 2024
SCALE: NOT TO SCALE
DESIGNED BY:
CHECKED BY:
DRAWN BY: AKL
APPROVED BY:
DRAWING TITLE:

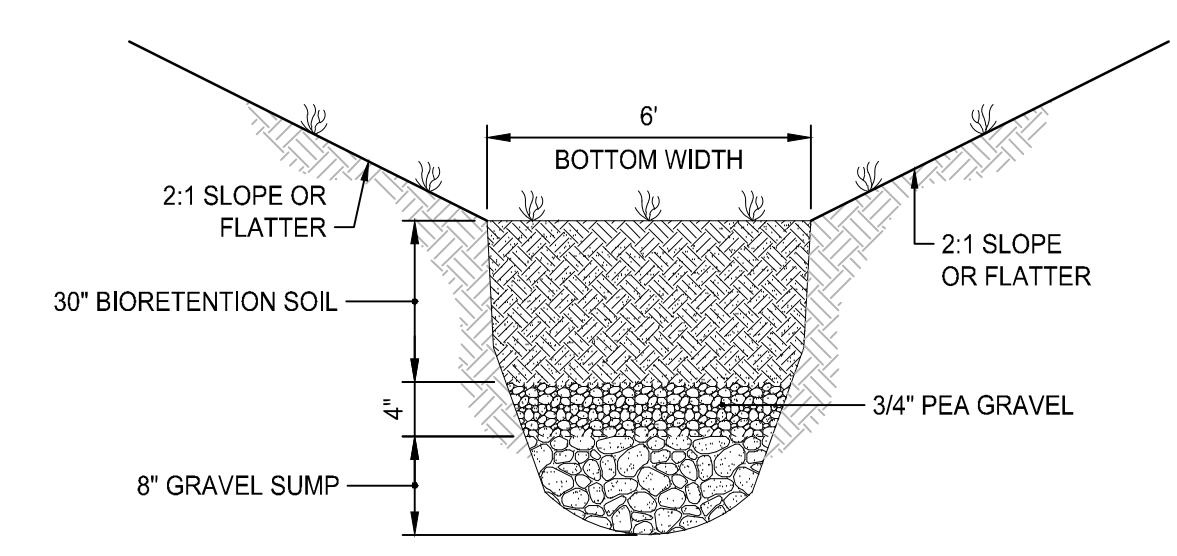
DETAILS 6

DRAWING NO.:
C7.6
SHEET NO. 15 OF



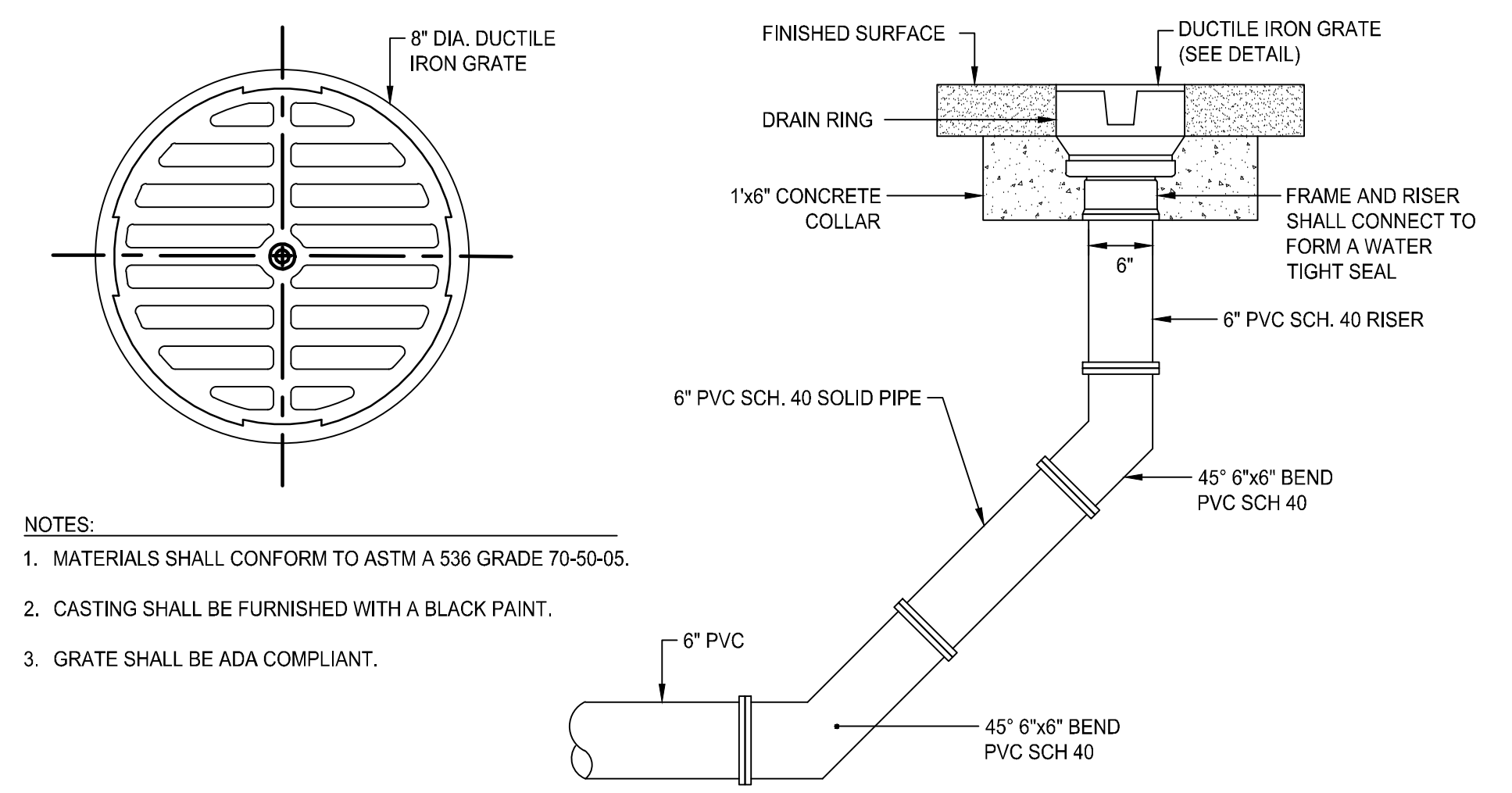
- NOTES:**
- NEENA FOUNDRY R2561 OR APPROVED EQUIVALENT.
 - FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.
 - ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
 - MANHOLES SHALL HAVE 6" THICK WALLS.
 - PROVIDE DOME GRATE AT THE FOLLOWING CATCH BASINS: CB-XX, CB-XX, AND CB-XX.

DOME GRATE DETAIL
NOT TO SCALE



BIORETENTION SOIL: 65-68% SAND, 8-12% SILT, 0-2% CLAY, 23-25% ORGANIC MATTER (USDA LOAMY SAND OR SANDY LOAM)
MULCH: SHREDDED HARDWOOD (AGED 6-MONTHS)

TYPICAL DRY SWALE SECTION
NOT TO SCALE



- NOTES:**
- MATERIALS SHALL CONFORM TO ASTM A 536 GRADE 70-50-05.
 - CASTING SHALL BE FURNISHED WITH A BLACK PAINT.
 - GRATE SHALL BE ADA COMPLIANT.

YARD DRAIN DETAIL
NOT TO SCALE

NOTES:

1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
2. CUT NEAR LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 106.3.0

LEGEND:

- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
- W = SIDEWALK WIDTH
- W_c = CURB WIDTH
- W₁ = PERPENDICULAR RAMP LENGTH
- CC = CEMENT CONCRETE
- * = TOLERANCE FOR CONSTRUCTION ±0.5%
- USABLE SIDEWALK WIDTH PER AAS = W-W_c
- RAMP LENGTH, V1 = W-4'-0" MIN.

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.2.0

LEGEND:

- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
- W = SIDEWALK WIDTH
- W_c = CURB WIDTH
- CC = CEMENT CONCRETE
- * = TOLERANCE FOR CONSTRUCTION ±0.5%
- USABLE SIDEWALK WIDTH PER AAS = W-W_c
- USABLE SIDEWALK WIDTH PER AAS IS NOT TO BE USED FOR DETAILS OF DETECTABLE WARNING PANEL

NOTE: SIDEWALK GUTTERS AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.2.1

LEGEND:

- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
- * = TOLERANCE FOR CONSTRUCTION ±0.5%

NOTE: DETECTABLE WARNING PANEL SHALL BE PLACED IN LINE FROM ROADWAY EDGE (GUTTER LINE) TRUNCATED DOMES TO BE ADJUSTED WITH DIRECTION OF TRAVEL. FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.6. ROADWAY, GUTTER AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.6.0

TYPICAL INSTALLATION

DETAIL OF DETECTABLE WARNING PANEL

SECTION A-A

NOTE:

1. PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.6.5

LEGEND:

- * = TOLERANCE FOR CONSTRUCTION ±0.5%
- ** = SEE E 107.9.0 FOR TRANSITION LENGTH

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.6.9

ROADWAY PROFILE GRADE	ENGLISH UNITS
%	=0%
	>0% TO 1%
	>1% TO 2%
	>2% TO 3%
	>3% TO 4%
	>4% TO 5%

NOTE:

- * HIGH SIDE TRANSITION LENGTH
- * BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 107.9.0

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 201.4.0



SCALE ADJUSTMENT GUIDE
 0" 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING

Northborough New Fire Station
 63 West Main Street
 Town of Northborough, MA

REVISIONS:

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 DATE: MARCH 18, 2024
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 DRAWN BY: AKL
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 DRAWING TITLE:

DETAILS 7

DRAWING NO.: C7.7
 SHEET NO. 16 OF

NOT FOR CONSTRUCTION

CATCH BASIN FRAME

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 201.6.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division

DROP INLET GRATE

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 201.11.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division

CATCH BASIN HOOD

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 201.12.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division

**PRECAST CONCRETE MANHOLES
9' OR LESS IN DEPTH**

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 202.4.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division

GUTTER INLET

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 204.2.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division

SUBDRAIN

DATE OF ISSUE: OCTOBER 2017
DRAWING NUMBER: E 209.1.0

CONSTRUCTION STANDARDS

MASSDOT Highway Division



SCALE ADJUSTMENT GUIDE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING

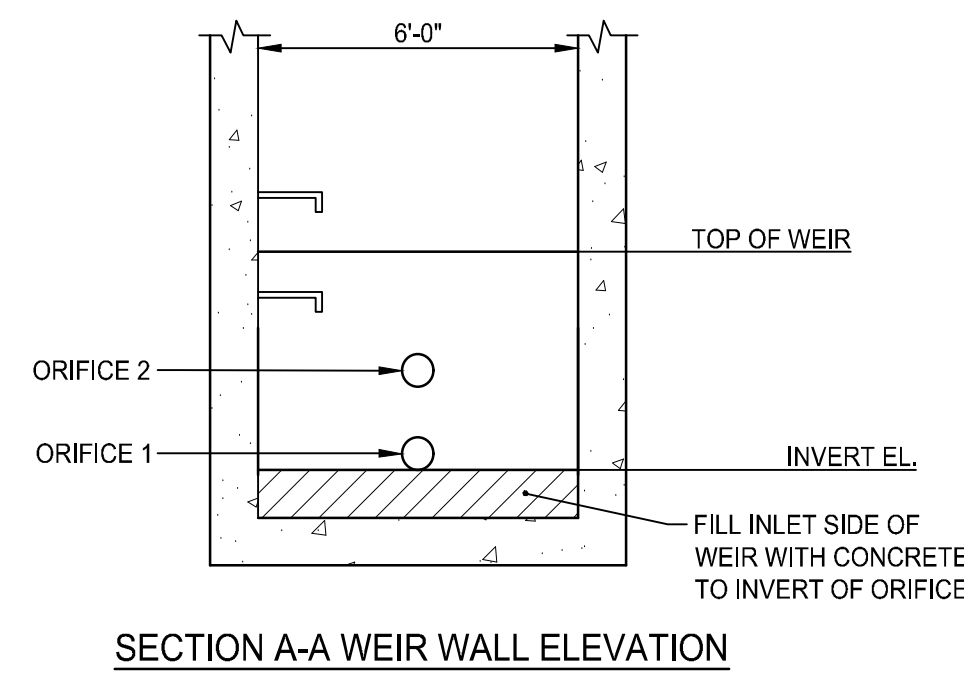
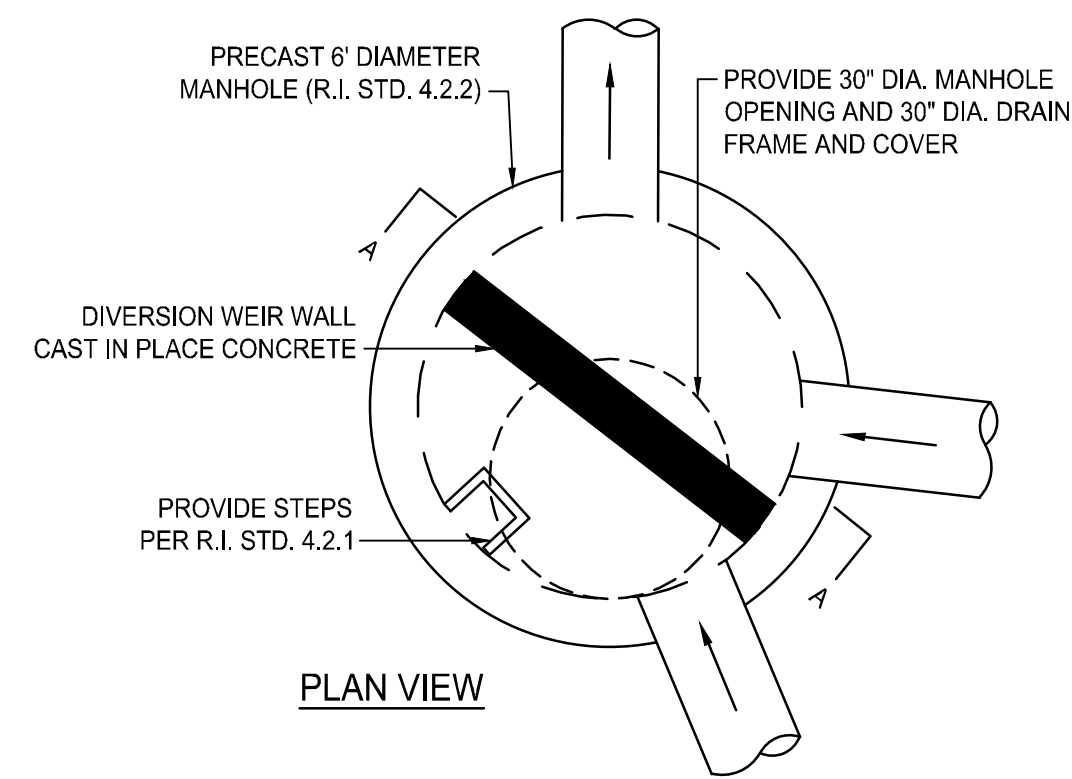
Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

REVISIONS:

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DRAWING TITLE:

DETAILS 8
DRAWING NO.: C7.8
SHEET NO. 17 OF

NOT FOR CONSTRUCTION



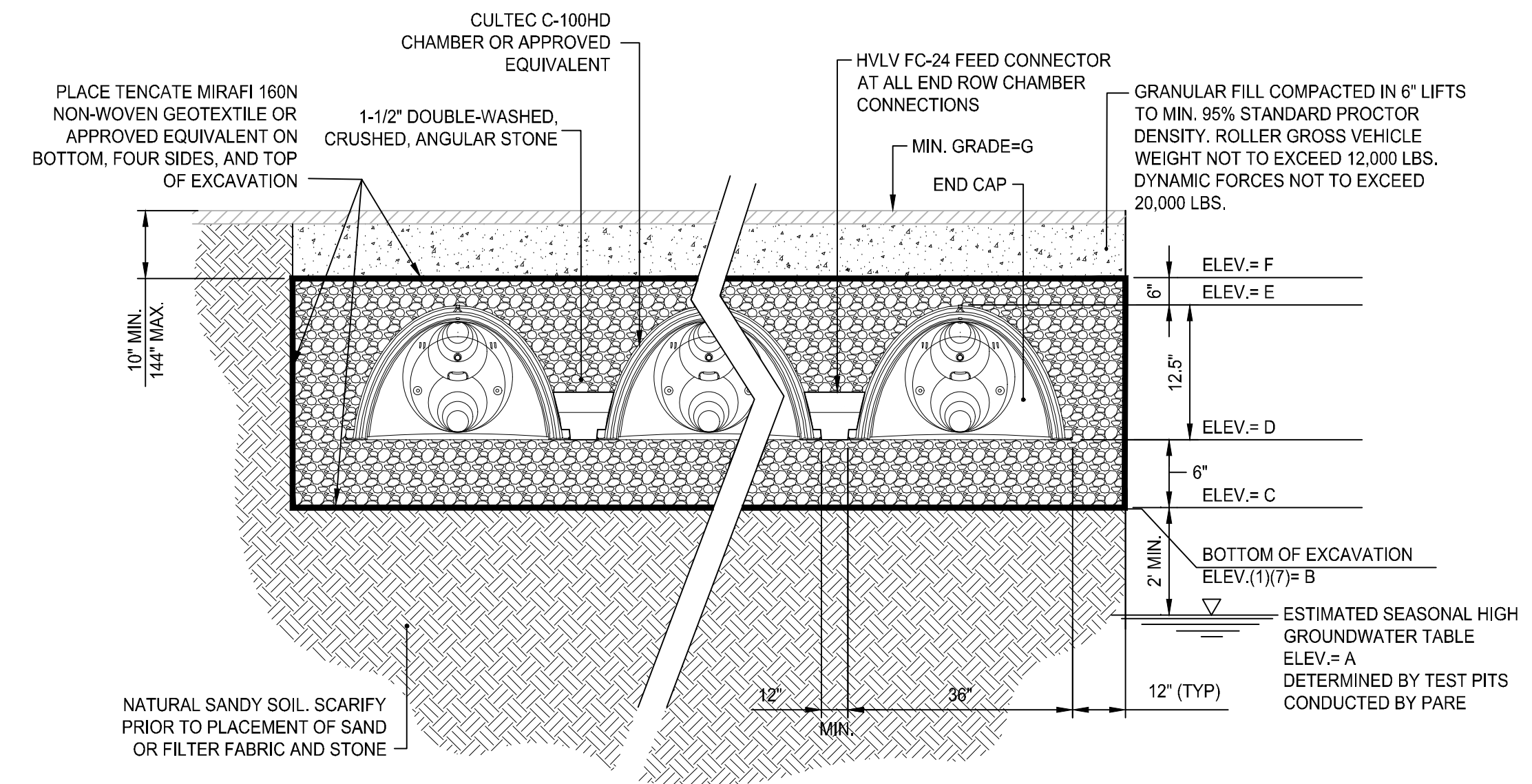
NOTES:

- REFER TO DRAINAGE PLAN FOR INVERT ORIENTATIONS AND ELEVATIONS.
- SEE BELOW SCHEDULE FOR WEIR WALL AND ORIFICE SCHEDULE.

OUTLET CONTROL STRUCTURE (OCS)

NOT TO SCALE

	TOP OF WEIR WALL	ORIFICE INVERT 1 (SIZE IN INCHES)	ORIFICE INVERT 2 (SIZE IN INCHES)
1	300.50	-	-
2	298.25	296.50 (5)	269.75 (6)
3	299.20	297.50 (6)	297.75 (6)
4	300.80	-	-
5	316.50	310.00 (6)	313.35 (5)
6	300.50	-	-



NOTES:

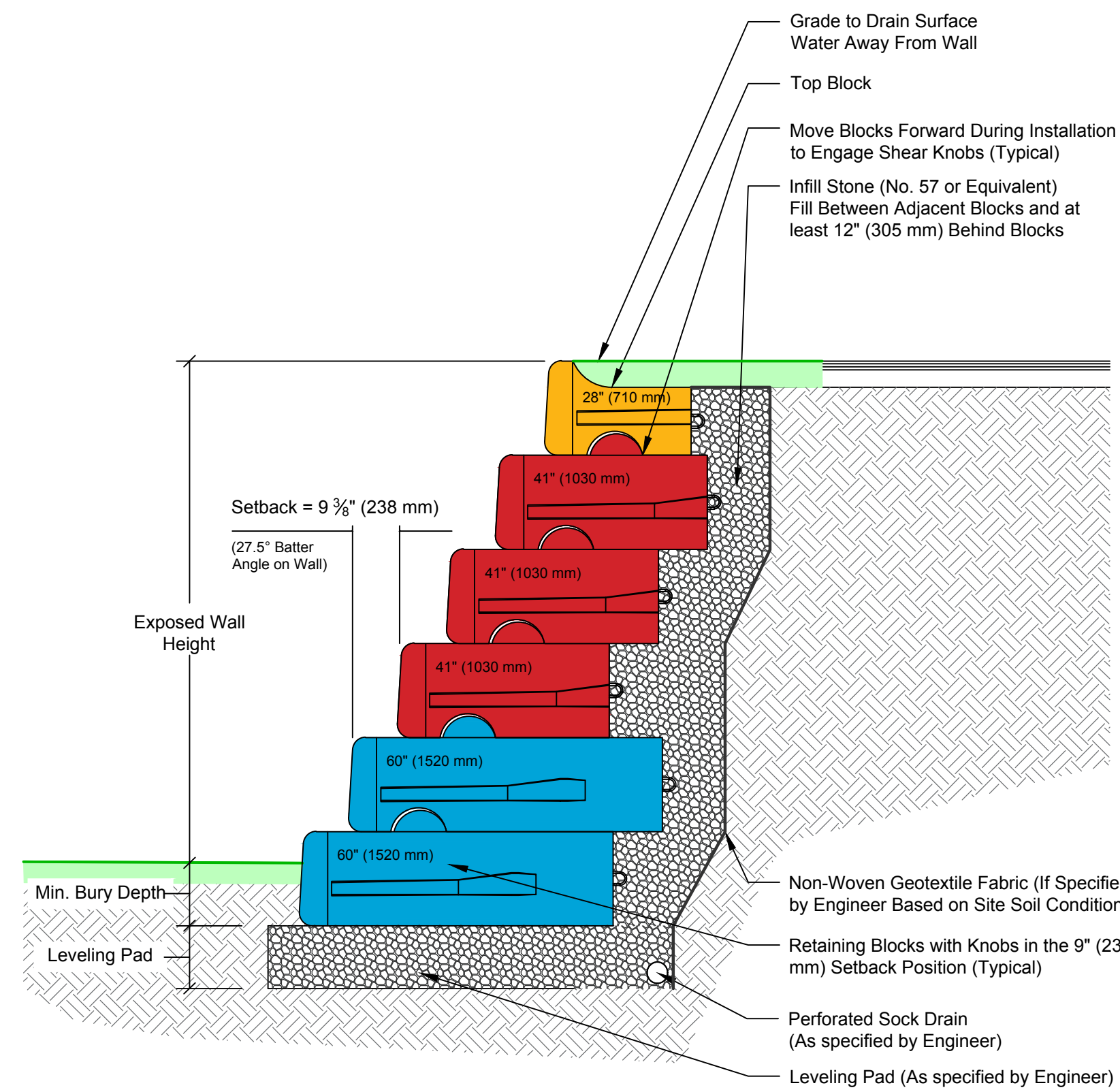
- CONTRACTOR SHALL TAKE PRECAUTION NOT TO COMPACT SUBGRADE.
- CONTRACTOR SHALL NOT PLACE OR OPERATE MACHINERY ON SUBGRADE.
- CONTRACTOR SHALL NOTIFY ENGINEER (48 HRS MIN) PRIOR TO EXPOSING SUBGRADE TO SCHEDULE INSPECTION.
- ONCE CONTRACTOR HAS SUBGRADE EXPOSED, THE ENGINEER SHALL BE CONTACTED FOR INSPECTION.
- CONSTRUCTION OF THE SYSTEM SHALL NOT COMMENCE UNTIL ENGINEER INSPECTS SUBGRADE AND CRUSHED STONE AND GRANTS PERMISSION TO PROCEED.
- CONTRACTOR SHALL INSTALL UNDERGROUND INFILTRATION SYSTEM PER MANUFACTURERS RECOMMENDATIONS.
- REMOVE AND REPLACE TO NATURAL SOIL ELEVATION WITH C-33 SAND WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC WHERE FILL IS PRESENT BELOW STONE BASE.

**UNDERGROUND INFILTRATION SYSTEM DETAIL
C-100HD OR APPROVED EQUIVALENT**

NOT TO SCALE

- MANUFACTURER SHALL BE CULTREC, INC. OR APPROVED EQUIVALENT.
- CONTRACTOR SHALL SUBMIT MANUFACTURERS SHOP DRAWINGS, INCLUDING PLANS, ELEVATIONS, SECTIONS, AND DETAILS, INDICATING LAYOUT, DIMENSIONS, FOUNDATION, COVER, AND JOINTS. INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET AND OUTLET PIPE OPENINGS.
- CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS INCLUDING STORMWATER VOLUME SIZING, STRUCTURAL CALCULATIONS, AND BUOYANCY CALCULATIONS.
- THE SYSTEM SHALL BE WATER TIGHT.
- ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO UNIT INSTALLATION.

UGIS SCHEDULE							
	A	B	C	D	E	F	G
1	296.50	298.50	298.50	299.00	300.05	300.55	301.38
2	296.50	298.50	298.50	299.00	300.05	300.55	301.38
3	297.00	299.00	299.00	299.50	300.55	301.05	301.88



LARGE BATTER WALL SECTION

NOT TO SCALE

- MANUFACTURER SHALL BE REDI-ROCK INTERNATIONAL OR APPROVED EQUIVALENT.
- CONTRACTOR SHALL SUBMIT MANUFACTURERS SHOP DRAWINGS, INCLUDING PLANS, ELEVATIONS, SECTIONS, AND DETAILS, INDICATING LAYOUT, DIMENSIONS, FOUNDATION, COVER, AND JOINTS. INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET AND OUTLET PIPE OPENINGS.
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Northborough New Fire Station
63 West Main Street
Town of Northborough, MA

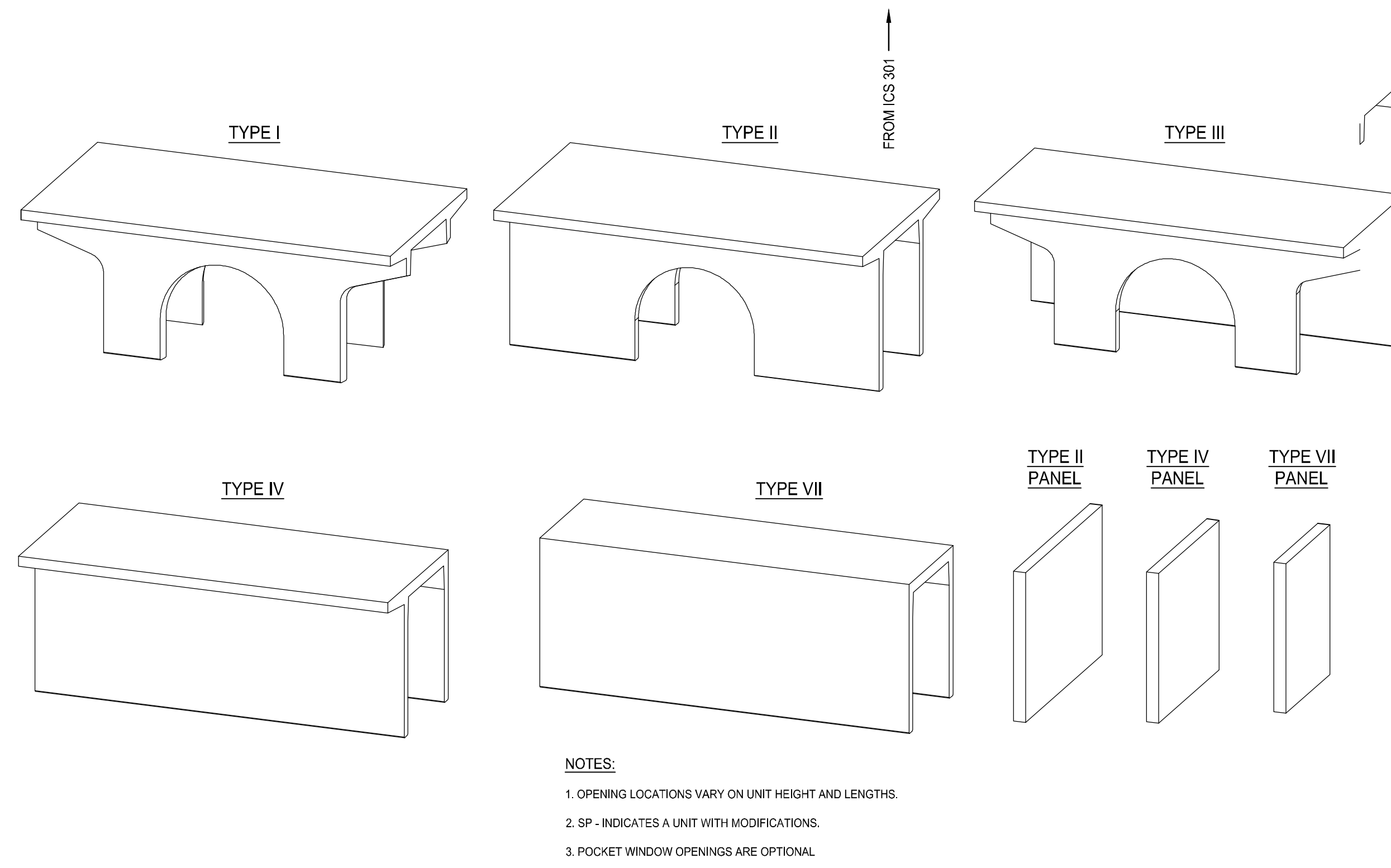
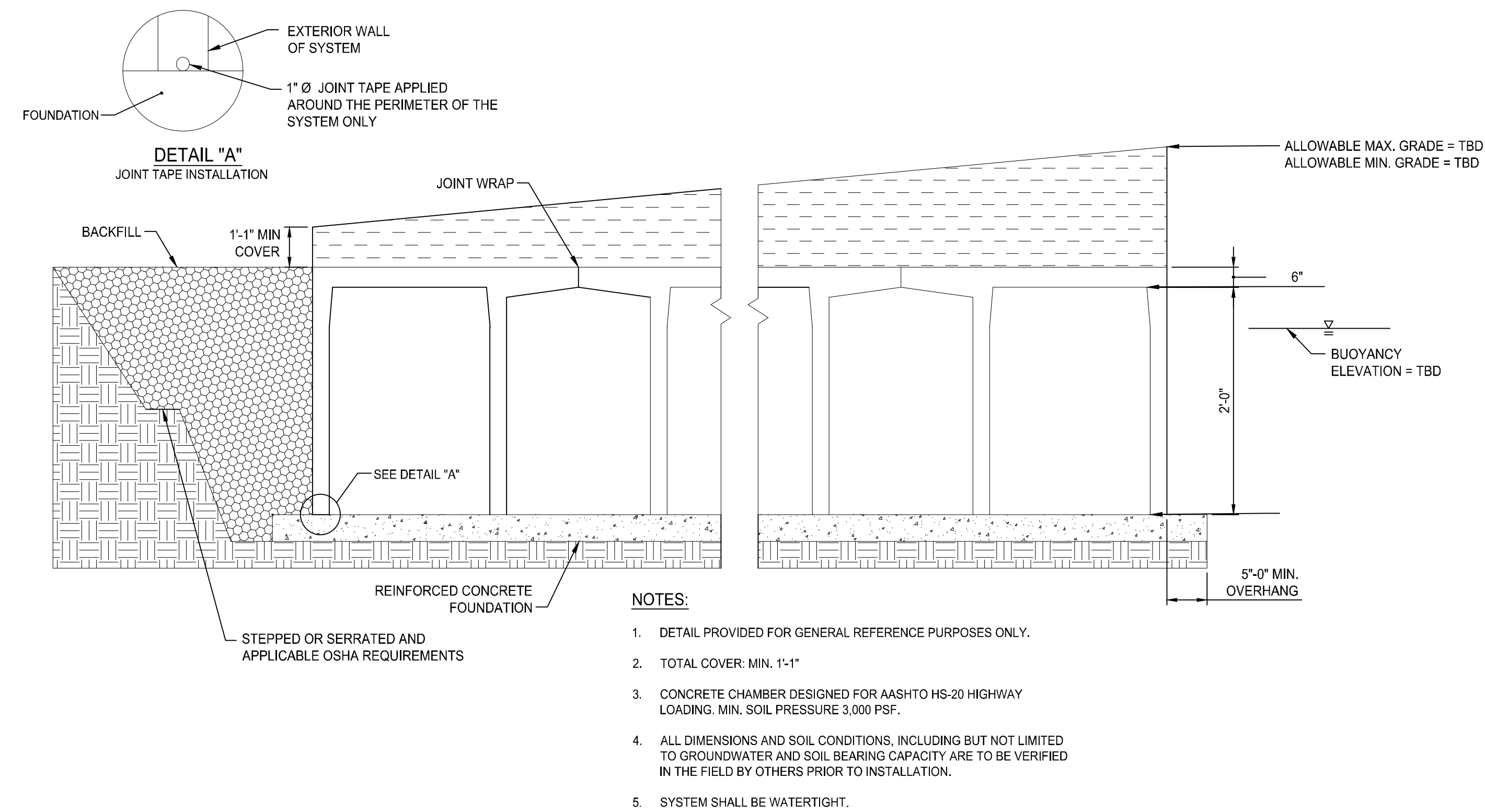
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DETAILS 9

DRAWING NO.:	C7.9
SHEET NO.:	18 OF

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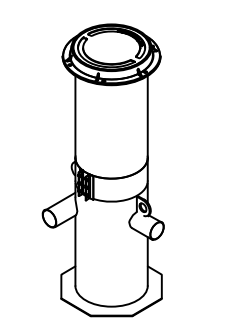
UNDERGROUND CONCRETE VAULT DETENTION SYSTEM
NOT TO SCALE
(STORMTRAP CONCRETE VAULT SYSTEM OR APPROVED EQUIVALENT)

1. MANUFACTURER SHALL BE AQUASHIELD, INC. OR APPROVED EQUIVALENT.
2. CONTRACTOR SHALL SUBMIT MANUFACTURERS SHOP DRAWINGS, INCLUDING PLANS, ELEVATIONS, SECTIONS, AND DETAILS, INDICATING LAYOUT, DIMENSIONS, FOUNDATION, COVER, AND JOINTS. INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET AND OUTLET PIPE OPENINGS.
3. CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS INCLUDING STORMWATER VOLUME SIZING, STRUCTURAL CALCULATIONS, AND BUOYANCY CALCULATIONS.
4. THE SYSTEM SHALL BE WATER TIGHT.
5. CHAMBER SHALL BE DESIGNED FOR AASHTO HS-20 HIGHWAY LOADING. MIN. SOIL PRESSURE 4000 PSF.
6. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO UNIT INSTALLATION.

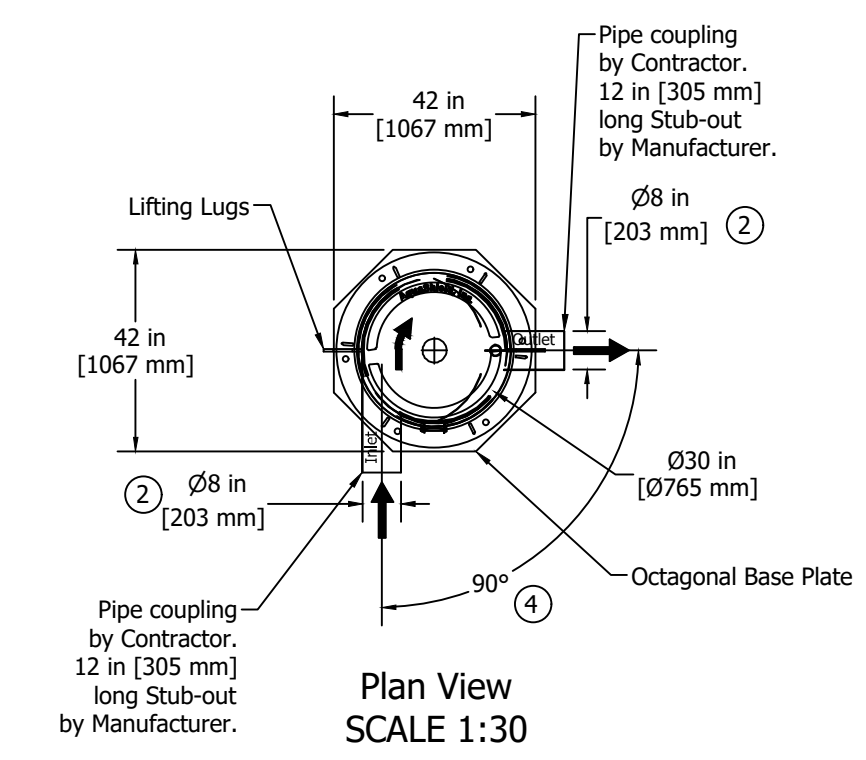
UNDERGROUND CONCRETE VAULT DETENTION SYSTEM UNIT TYPES
NOT TO SCALE
(STORMTRAP CONCRETE VAULT SYSTEM OR APPROVED EQUIVALENT)

1. MANUFACTURER SHALL BE AQUASHIELD, INC. OR APPROVED EQUIVALENT.
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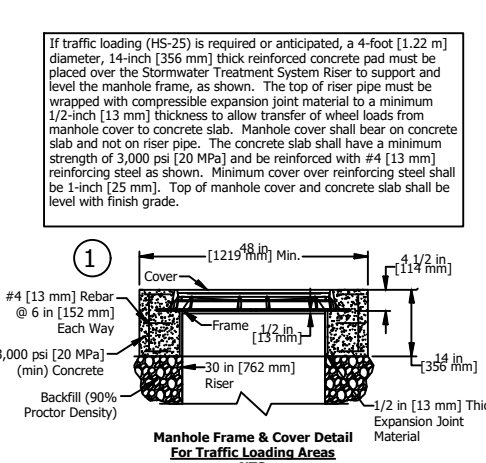
Northborough New Fire Station
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 Town of Northborough, MA



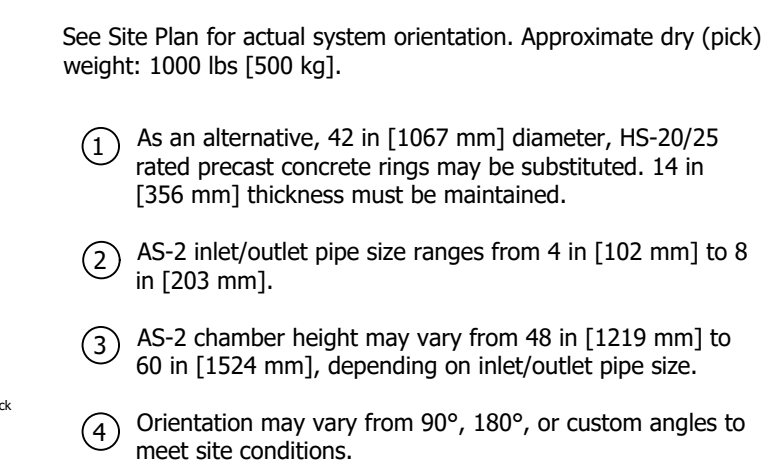
Projected View
SCALE 1:60



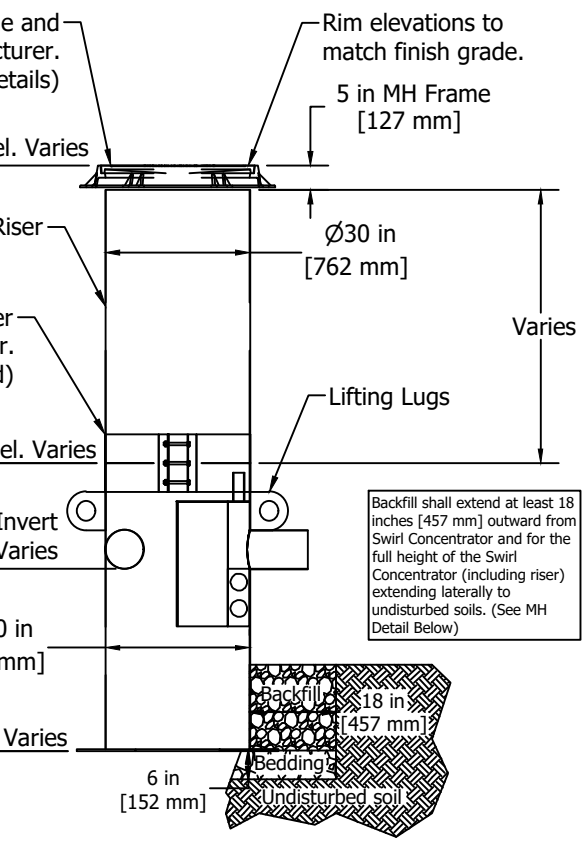
Plan View
SCALE 1:30



Manhole Frame and Cover Detail
For Traffic Loading Areas

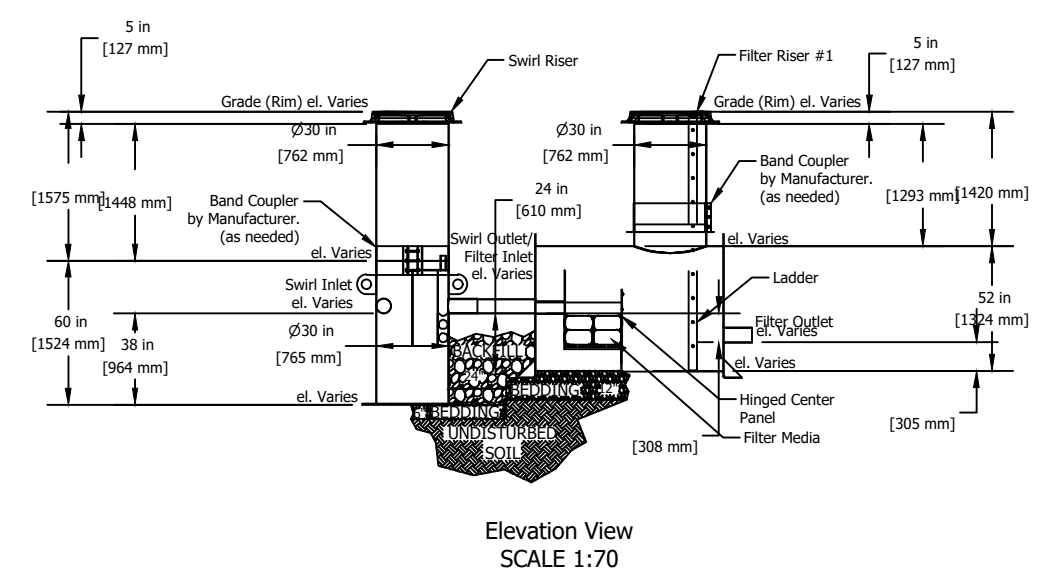
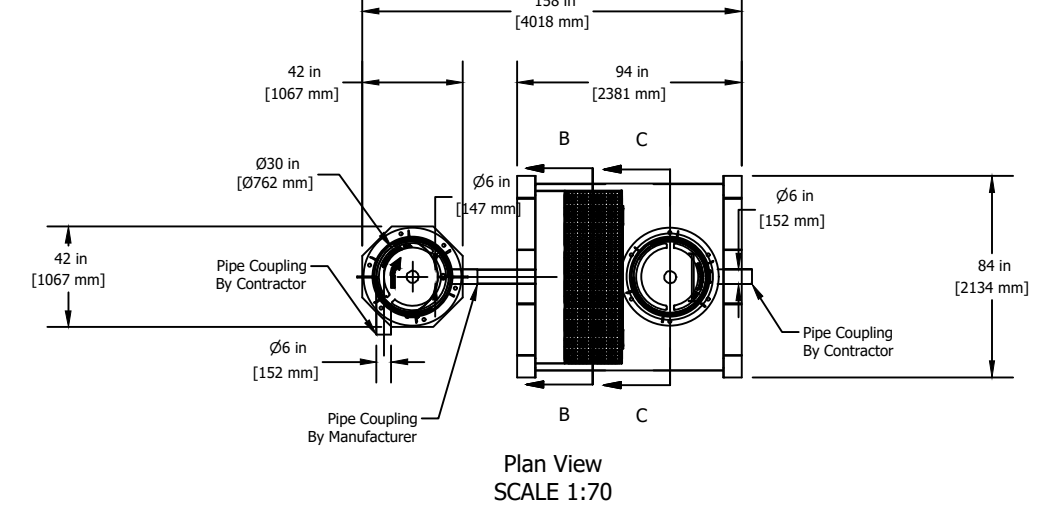
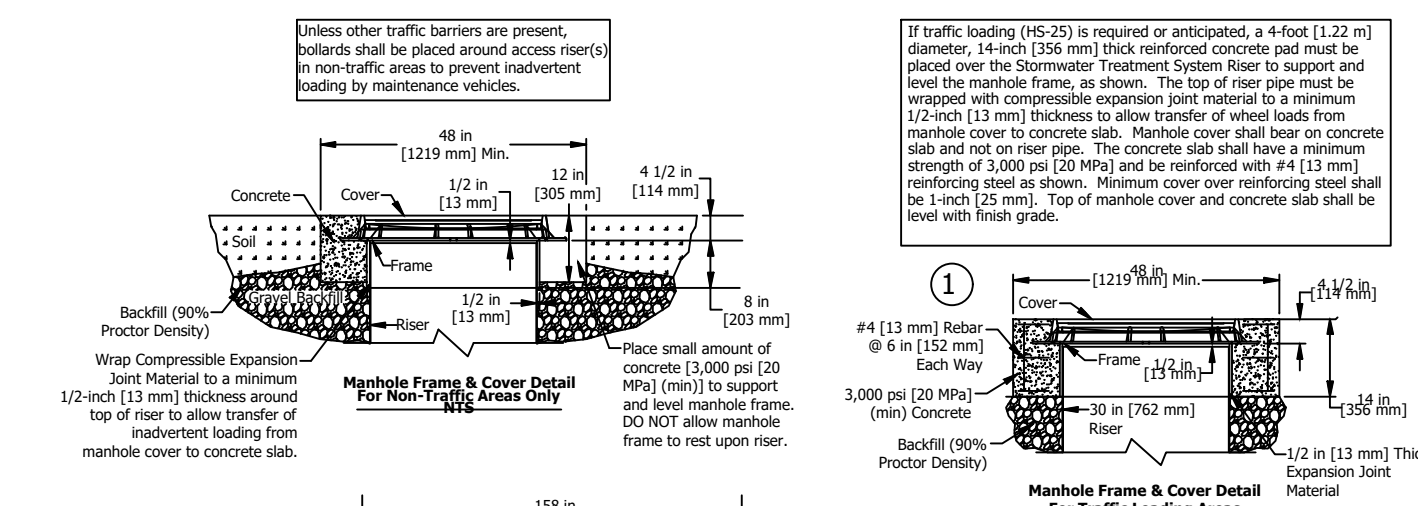


Manhole Frame and Cover Detail
For Non-Traffic Areas



Elevation View
SCALE 1:30

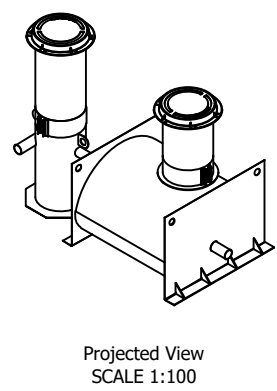
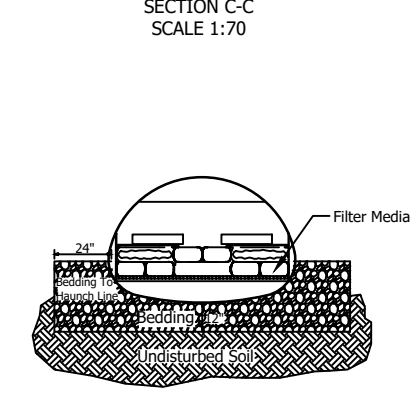
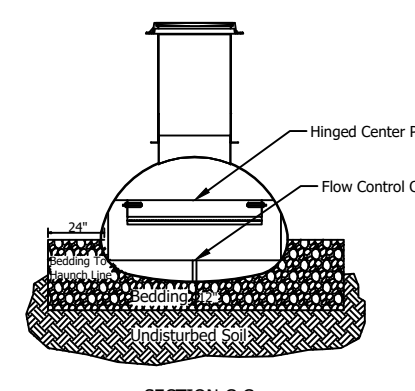
WATER QUALITY UNIT (TSS)
NOT TO SCALE
AQUA FILTER OR APPROVED EQUIVALENT
DETAIL PROVIDED FOR GENERAL REFERENCE PURPOSES ONLY



Elevation View
SCALE 1:70

WATER QUALITY UNIT (TSS AND PHOSPHORUS)
NOT TO SCALE
AQUA FILTER OR APPROVED EQUIVALENT
DETAIL PROVIDED FOR GENERAL REFERENCE PURPOSES ONLY

① As an alternative, 42 in [1067 mm] diameter, HS-20/25 rated precast concrete rings may be substituted. 14 in [365 mm] thickness must be maintained.



Projected View
SCALE 1:100

REVISIONS:

NO.	DATE	DESCRIPTION

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DETAILS 10

DRAWING NO.: C7.10
SHEET NO. 19 OF

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