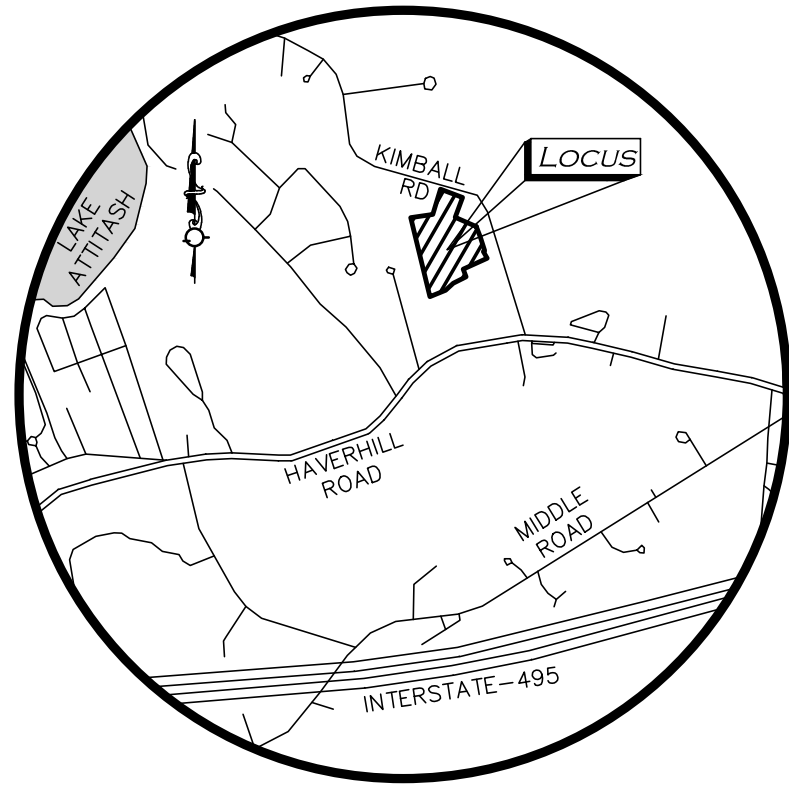




LOCUS MAP
(NOT TO SCALE)

SITE DEVELOPMENT PLANS FOR:

27 KIMBALL ROAD AMESBURY, MA 01913

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108
617.556.5280

BUILDING ARCHITECT:
KEPHART
2555 WALNUT STREET
DENVER, CO 80205
303.832.4474

**SITE CIVIL ENGINEERS, LAND
SURVEYORS:**
ALLEN & MAJOR ASSOCIATES, INC.
100 COMMERCE WAY, SUITE 5
WOBURN, MA 01801
781.935.6889

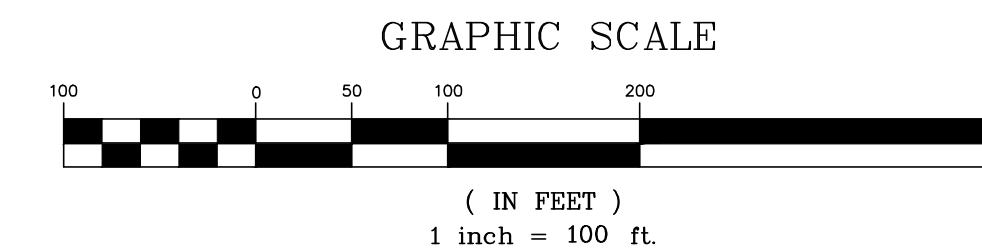
LANDSCAPE ARCHITECT:
COPLEY WOLFF
234 CONGRESS STREET
BOSTON, MA 02110
617.654.9000

WETLAND SCIENTIST
GODDARD CONSULTING
291 MAIN STREET, SUITE 8
NORTHBOROUGH, MA 01532
508.393.3784

GEOTECHNICAL ENGINEER
HALEY & ALDRICH, INC.
465 MEDFORD STREET, SUITE 2200
BOSTON, MA 02129
617.886.7376



ZONING DISTRICT: RESIDENCE 40 (R-40)



PREPARED BY:

**ALLEN & MAJOR
ASSOCIATES, INC.**
civil engineering land surveying
environmental consulting landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN, MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

LIST OF DRAWINGS

CIVIL

DRAWING TITLE	SHEET NO.	ISSUED	REVISED THRU
EXISTING CONDITIONS PLAN	V-101	12/09/2025	01/23/2026
ABBREVIATIONS & NOTES	C-001	01/26/2026	-
ABBREVIATIONS & NOTES	C-002	01/26/2026	-
EROSION CONTROL PLAN	C-100	01/26/2026	-
SITE PREPARATION PLAN	C-101	01/26/2026	-
LAYOUT & MATERIALS PLAN	C-102	01/26/2026	-
GRADING & DRAINAGE PLAN	C-103	01/26/2026	-
DRAINAGE STRUCTURE INFO	C-103A	01/26/2026	-
UTILITIES PLAN	C-104	01/26/2026	-
SEWER OVERVIEW PLAN	C-104A	01/26/2026	-
SEWER STRUCTURE INFO	C-104B	01/26/2026	-
LIGHTING PLAN	C-105	01/26/2026	-
DETAILS	C-501	01/26/2026	-
DETAILS	C-502	01/26/2026	-
DETAILS	C-503	01/26/2026	-
DETAILS	C-504	01/26/2026	-
DETAILS	C-505	01/26/2026	-
DETAILS	C-506	01/26/2026	-
DETAILS	C-507	01/26/2026	-
DETAILS	C-508	01/26/2026	-

LANDSCAPE

PLANTING PLAN	L-101	01/26/2026	-
PLANTING DETAILS	L-201	01/26/2026	-



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

ISSUED FOR COMPREHENSIVE PERMIT: JANUARY 26, 2026



-CITY OF AMESBURY ASSESSORS MAP 73, LOT 19
-DEED BOOK 21807, PAGE 263

PLAN REFERENCES

-PLAN BOOK 202, PLAN 77
 -PLAN BOOK 286, PLAN 17
 -PLAN BOOK 305, PLAN 88
 -PLAN BOOK 353, PLAN 67
 -PLAN BOOK 4454, PLAN 527
 -PLAN BOOK 4823, PLAN 116
 -PLAN BOOK 4941, PLAN 139
 -PLAN BOOK 5009, PLAN 236
 -PLAN BOOK 5065, PLAN 4
 -PLAN BOOK 5257, PLAN 366
 -PLAN BOOK 5722, PLAN 169
 -PLAN BOOK 5826, PLAN 242

NOTES

1. NORTH ARROW IS BASED ON MASSACHUSETTS GRID COORDINATE SYSTEM (MAINLAND ZONE) (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM ESSEX (NORTH) REGISTRY OF DEEDS IN LAWRENCE, MA.
3. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING ELEVATION.
4. CONTOUR INTERVAL IS ONE FOOT (1').
5. WETLAND BUFFERS SHOWN HEREON ARE BASED UPON THE WETLAND FLAGS. WETLAND FLAGS BEYOND THE PROPERTY LINES WERE LOCATED TO ESTABLISH THE BUFFER BUT NOT SHOWN ON THE SURVEY.

UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

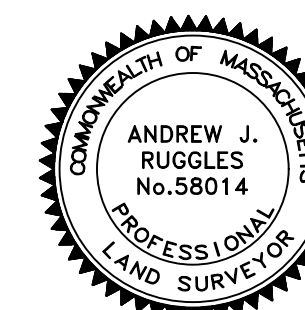
LEGEND

IRON PIPE (IP)	
IRON ROD (IR)	
CATCH BASIN (CB)	
SEWER MANHOLE (SMH)	
UTILITY POLE	
UTILITY POLE W/LIGHT	
GUY WIRE	
FIRE HYDRANT	
TREE	
MAILBOX	
WELL	
WETLAND FLAG	
WETLAND AREA	
BUILDING	
BUILDING OVERHANG	
WETLAND	
BUFFER ZONE	
EASEMENT LINE	
1' CONTOUR	
5' CONTOUR	
PROPERTY LINE	
ABUTTERS LINE	
TREE LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CHAIN LINK FENCE	
WOOD/STOCKADE FENCE	
WIRE FENCE	
WATER LINE	
DRAIN LINE	
SEWER LINE	
GAS LINE	
ELECTRIC LINE	
OVERHEAD WIRES	
FOOTPRINT AREA	FPA
FINISHED FLOOR ELEVATION	FFE
CONCRETE	CONC.
GRANITE	GRAN.
REINFORCED CONCRETE PIPE	RCP
POLYVINYL CHLORIDE PIPE	PVC
DUCTILE IRON PIPE	DI
CORRUGATED METAL PIPE	CMP
FOUND	FND
NOW OR FORMERLY	N/F

WE HEREBY CERTIFY THAT:

THIS PLAN IS THE RESULT OF AN ACTUAL ON
THE GROUND SURVEY PERFORMED ON OR
BETWEEN NOVEMBER 10, 2025 AND NOVEMBER
24, 2025.

ALLEN & MAJOR ASSOCIATES, INC.



Digitally signed by
Andrew J. Ruggles
Date: 2026.01.23
12:10:58-05'00'

PROFESSIONAL LAND SURVEYOR FOR
ALLEN & MAJOR ASSOCIATES, INC.

2	1/23/25	ADDED INVERTS
1	12/31/25	VARIOUS REVISIONS
REV	DATE	DESCRIPTION

APPLICANT:

MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:

27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO.	3410-03	DATE:	12/09/2021
SCALE:	1" = 40'	DWG. NAME:	S-3410-03-E
DRAFTED BY:	CTP	CHECKED BY:	AJH

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.

civil engineering ♦ land surveying
environmental consulting ♦ landscape architecture
www.allenmajor.com

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TEL: (781) 935-6889
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WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

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DRAWING TITLE:

EXISTING CONDITIONS

	SHEET No.
--	------------------

V-101

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N:\PROJECTS\3410-03\CIVIL\DRAWINGS\CURRENT\C-3410-03_ABBREVIATIONS & NOTES.DWG

GENERAL NOTES:

1.

TOPOGRAPHIC INFORMATION AND EXISTING SITE FEATURES WERE OBTAINED FROM AN ACTUAL FIELD SURVEY PERFORMED BY ALLEN & MAJOR ASSOCIATES, INC, 100 COMMERCE WAY, WOBURN, MASSACHUSETTS.
2.

ZONING DISTRICT IS RESIDENCE 40 (R40) AND WATER RESOURCE PROTECTION DISTRICT C.
3.

OVERALL LOT SIZE: 9.23± ACRES
4.

THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE X (UNSHADED). AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FEMA FLOOD INSURANCE RATE MAP NUMBER 25009C0102G, DATED JULY 8, 2025.
5.

DURING CONSTRUCTION, ALL VEHICLES MUST BE PARKED ON SITE.
6.

DURING CONSTRUCTION, ALL STAGING AND DELIVERIES WILL OCCUR ON SITE.
7.

THIS PROJECT WILL BE SERVED BY PUBLIC WATER AND SEWER AND PRIVATE, TELEPHONE, CABLE AND ELECTRIC. ALL UTILITY LINES WILL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
8.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS AT NO ADDITIONAL COST.
9.

ALL SITE WORK DONE FOR THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE SITE PLANS AND SITE WORK SPECIFICATIONS FOR CONSTRUCTION.
10.

ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
11.

ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF MASSACHUSETTS AT THE CONTRACTOR'S EXPENSE.
12.

ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE.
13.

THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE CITY DEPARTMENTS, THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.
14.

APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAG MEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROLS SHALL BE IMPLEMENTED AND OPERATED ACCORDING TO THE MASS DEPARTMENT OF TRANSPORTATION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
15.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A MASSACHUSETTS PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
16.

ALL BUILDING DIMENSIONS ARE MEASURED TO THE OUTSIDE FACE OF THE BUILDING.
17.

ALL RADII ARE 3 FEET UNLESS OTHERWISE NOTED.
18.

ALL PARKING LOT AND AISLE DIMENSIONS ARE TAKEN FROM THE FACE OF CURB AND INDICATE EDGE OF PAVEMENT.
19.

CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST.
20.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION FEES REQUIRED TO CARRY OUT THE WORK INCLUDING BUT NOT LIMITED TO DEMOLITION.
21.

DISPOSAL OF ALL DEMOLISHED MATERIALS INCLUDING EXISTING MISC. CONSTRUCTION DEBRIS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS AT NO ADDITIONAL COST.
22.

ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER TREATMENT ARE TO RECEIVE SIX INCHES (6") MINIMUM OF TOPSOIL & SEED, AND BE MAINTAINED UNTIL ESTABLISHED & ACCEPTED.
23.

EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE PROTECTED, ABANDONED, REMOVED OR RELOCATED AS NECESSARY.
24.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S GOVERNING AUTHORITY'S SPECIFICATIONS AND SHALL BE APPROVED BY SAME.
25.

THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO DETERMINE EXACT POINT OF SERVICE CONNECTION AND DISCONNECTION AT EXISTING UTILITY.
26.

ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARKS SHOWN ON THE EXISTING CONDITIONS SITE PLAN AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR AT GROUND BREAKING.
27.

CONTRACTOR IS RESPONSIBLE FOR DIGGING TEST HOLES AND VERIFYING ANY EXISTING UTILITY OR STRUCTURE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT BASED ON EXACT LOCATION OF EXISTING

NOTES

- UTILITIES, THERE ARE NO CONFLICTS BETWEEN THE EXISTING AND THE PROPOSED UTILITIES/DRAINAGE STRUCTURES.
28.

THE CONTRACTOR SHALL ADHERE TO ALL PERMIT CONDITIONS PROVIDED BY ALL GOVERNING AGENCIES AT NO ADDITIONAL COSTS. THIS INCLUDES BUT IS NOT LIMITED TO BUILDING PERMITS, DEMOLITION PERMITS, PLUMBING, AND ELECTRICAL PERMITS. PERMITS FROM THE PLANNING BOARD OR CITY COUNCIL.
29.

DURING EXCAVATION, ANY EXISTING EARTH CUT MATERIALS THAT DO NOT MEET THE "ORDINARY FILL" SPECIFICATIONS OR "LOAM" SPECIFICATIONS AND CANNOT BE REUSED SHALL BE REMOVED OFFSITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNERS. MATERIAL WHICH DOES NOT MEET THE SPECIFICATION INCLUDES ALL BOULDERS, ROCKS, CONSTRUCTION DEBRIS, AND MISC. MATERIAL. PRIOR TO REUSE, CONTRACTOR TO PROVIDE TESTING REPORT OF SIEVE ANALYSIS TO ENGINEER FOR APPROVAL. CONTRACTOR CAN AMEND MATERIALS AND CONTINUE TO RETEST AS NECESSARY AT NO ADDITIONAL COST TO OWNER. AFTER AMENDING, IF MATERIAL STILL DOES NOT MEET THE SPECIFICATIONS, IT IS TO BE REMOVED FROM SITE AT NO ADDITIONAL COST TO THE OWNER AND IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
30.

ANY PROPOSED SIGNAGE SHALL BE APPROVED BY SEPARATE APPLICATION TO THE APPROPRIATE MUNICIPAL AUTHORITY INCLUDING BUT NOT LIMITED TO THE ZONING BOARD OF APPEALS AND CITY COUNCIL. ALL PROPOSED SIGNAGE MUST MEET THE REQUIREMENTS OF THE LOCAL ZONING CODE.

GRADING & DRAINAGE NOTES:

1.

EXISTING PAVEMENT SHALL BE SAW-CUT AND PAVEMENT JOINT SHALL BE INSTALLED WHERE NECESSARY TO ENSURE A SMOOTH CONTINUOUS GRADE.
2.

PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONTINUING WORK.
3.

ALL GRADING OPERATIONS SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES.
4.

IN LANDSCAPED AREAS THE TOP ELEVATION OF MANHOLES SHALL MATCH THE FINISH GRADE OF THE TOPSOIL. IN PAVED AREAS THE TOP ELEVATIONS OF MANHOLES SHALL MATCH FINISH GRADE.
5.

ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED AS SOON AS POSSIBLE UPON COMPLETION OF CONSTRUCTION WORK IN THE AREA.
6.

TEMPORARY TUBULAR BARRIER PROTECTION AND/OR SILT SACKS SHALL BE INSTALLED AND MAINTAINED AT EXISTING DRAINAGE STRUCTURES DURING CONSTRUCTION, TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE DRAINAGE SYSTEM.
7.

CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE PER DEMOLITION PLAN.
8.

ALL CATCH BASINS, MANHOLES, INFILTRATION SYSTEMS, AND WATER QUALITY STRUCTURES ARE TO BE CLEANED TO REMOVE ALL CONSTRUCTION SILT AND DEBRIS PRIOR TO FINAL APPROVAL.
9.

IF ANY EXISTING UTILITY STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER AT NO ADDITIONAL COST.
10.

ALL STORM PIPES ENTERING STRUCTURES SHALL BE GROUTED TO ENSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
11.

ALL STORM DRAIN MANHOLES SHALL HAVE TRAFFIC BEARING RING & COVERS & SHALL BE LABELED "DRAIN".
12.

THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
13.

CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
14.

CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES STEEPER THAN 3H:1V.
15.

ALL DRAINAGE SYSTEM COMPONENTS SHALL CONFORM TO LOCAL REQUIREMENTS.

UTILITY NOTES:

1.

THE LATEST STANDARDS OF THE LOCAL MUNICIPALITY SHALL BE FOLLOWED WHEN INSTALLING ANY STORM DRAIN WORK. STORM DRAIN WORK WILL BE INSPECTED BY THE LOCAL GOVERNING AUTHORITY PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2.

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 FURNISHED TO THE ENGINEER FOR RESOLUTION.
3.

ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ALL UTILITIES SCHEDULED FOR ABANDONMENT OR REMOVAL AND DISPOSAL MUST BE COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY OWNER, WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES, JUNCTION BOXES AND SIMILAR STRUCTURES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURE TO ALLOW DRAINAGE. BACKFILL AND COMPACT EXCAVATIONS RESULTING FROM REMOVAL OF UTILITY FACILITATES, AS REQUIRED TO RESTORE THE ORIGINAL GRADE.
4.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENTS OF ELECTRIC, TELEPHONE AND ANY OTHER UTILITY BY THE UTILITY OWNER.
5.

THE CONTRACTOR SHALL USE THE FOLLOWING PIPE MATERIALS:
 - DRAIN – HDPE (HIGH DENSITY CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INNER WALL), ASTM D2321 (UNLESS OTHERWISE SPECIFIED ON PLAN)
6.

BEFORE UTILITY WORK BEGINS, THE CONTRACTOR WILL COORDINATE WITH THE LOCAL MUNICIPALITY FOR THE APPROPRIATE PERMIT AND INSPECTION FEES.

ABBREVIATIONS

ABAN	ABANDON	L	LENGTH
ADJ	ADJUST	LB	LEACHING BASIN
		LP	LIGHT POLE
B	BORING		
BC	BOTTOM OF CURB	MAT	MATERIAL
BIT	BITUMINOUS	MAX	MAXIMUM
BCB	BITUMINOUS CONCRETE BERM	MH	MANHOLE
BLDG	BUILDING	MIN	MINIMUM
BM	BENCH MARK	MISC	MISCELLANEOUS
BOS	BOTTOM OF SLOPE	MTD	MOUNTED
BOW	BOTTOM OF WALL	MW	MONITORING WELL
BRK	BRICK		
BV&B	BUTTERFLY VALVE & BOX	N	NORTH
BVW	BORDERING VEGETATED WETLAND	NIC	NOT IN CONTRACT
		NO	NUMBER
		NTS	NOT TO SCALE
CATV	CABLE TELEVISION		
CB	CATCH BASIN	OC	ON CENTER
CF	CUBIC FEET	OD	OUTSIDE DIAMETER
CFS	CUBIC FEET PER SECOND	OHW	OVERHEAD WIRE
CI	CAST IRON (PIPE)	OHVD	OVERHEAD
CL	CENTERLINE	OW	OBSERVATION WELL
CLDI	CEMENT LINED DUCTILE IRON (PIPE)		
CM	CONSTRUCTION MANAGER	PC	POINT OF CURVATURE
CMP	CORRUGATED METAL PIPE	PCC	PRECAST CONCRETE CURB
CO	CLEAN OUT	PI	POINT OF INTERSECTION
CONC	CONCRETE	PKG	PARKING
CONST	CONSTRUCTION	PL	PROPERTY LINE
CONT	CONTRACTOR	PLMB	PLUMBING
CRD	COORDINATE	POC	POINT ON CURVATURE
CPP	CORRUGATED POLYETHYLENE PIPE	POT	POINT ON TANGENT
CUL	CULVERT	PRC	POINT OF REVERSE CURVATURE
CY	CUBIC YARD	PROP, P	PROPOSED
		PT	POINT (OR POINT OF TANGENT)
		PVC	POLYVINYL CHLORIDE (PIPE)
DB	DISTRIBUTION BOX		
DBL	DOUBLE	R&R	REMOVE & RESET/REPLACE
DEM	DEMOLISH	R&S	REMOVE & STACK
DET	DETENTION	RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON (PIPE)	RD	ROAD (OR ROOF DRAIN)
DIA	DIAMETER	RED	REDUCER
DIM	DIMENSION	RELOC	RELOCATE
DMH	DRAIN MANHOLE	REM	REMOVE
DW	DOMESTIC WATER (OR DRY WELL)	RET	RETAIN, RETAINING OR RETENTION
DWG	DRAWING	ROW	RIGHT OF WAY
DYCL	DOUBLE YELLOW CENTERLINE	RR	RAILROAD
		RWL	RAIN WATER LEADER
		RWY	ROADWAY
EHH	ELECTRIC HANDHOLE		
EL	ELEVATION	SD	SUBDRAIN
ELEC	ELECTRIC	SF	SQUARE FEET
EMH	ELECTRIC MANHOLE	SGC	SLOPED GRANITE CURB
EOP	EDGE OF PAVEMENT	SMH	SEWER MANHOLE
EOR	EDGE OF ROAD	SP	STANDPIPE
EOW	EDGE OF WETLANDS	SPEC	SPECIFICATION
ETC	ELECTRIC, TELEPHONE, CABLE	STA	STATION
EXIST	EXISTING	STC	STORMCEPTOR
EXT	EXTERIOR	STD	STANDARD
		STRTL	STRUCTURAL
		SWEL	SOLID WHITE EDGE LINE
FA	FIRE ALARM	SW	SIDEWALK
FCC	FLUSH CONCRETE CURB	SWLL	SOLID WHITE LANE LINE
FES	FLARED END SECTION	SYCL	SOLID YELLOW CENTERLINE
FFE	FINISH FLOOR ELEVATION		
FLNP	FIRE LANE NO PARKING	TB	TEST BORING
FPS	FEET PER SECOND	TC	TOP OF CURB
FS	FIRE SERVICE	TD	TRENCH DRAIN
FT	FOOT/FEET	TEL	TELEPHONE
		TMH	TELEPHONE MANHOLE
GC	GENERAL CONTRACTOR	TOS	TOP OF SLOPE
GEN	GENERAL	TOW	TOP OF WALL
GG	GAS GATE	TP	TEST PIT
GR	GUIDE RAIL	TS&V	TAPPING SLEEVE & VALVE
GRAN	GRANITE	TYP	TYPICAL
GV	GATE VALVE		
GV&B	GATE VALVE & BOX	UD	UNDERDRAIN
GW	GROUND WATER	UL	UNDERWRITERS LABORATORY
		UP	UTILITY POLE
HCR	HANDICAP RAMP	VCP	VITRIFIED CLAY PIPE
HCR	HORIZONTAL	VERT	VERTICAL
HT	HEIGHT	VGC	VERTICAL GRANITE CURB
HW	HEADWALL		
HWY	HIGHWAY	WD	WOOD
HYD	HYDRANT	WG	WATER GATE
		WM	WATER MAIN
		WMH	WATER MANHOLE
ID	INSIDE DIAMETER	WSO	WATER SHUTOFF
IN	INCHES		
INCL	INCLUDE		
INST	INSTALLED		
INV, I.E.	INVERT, INVERT ELEVATION		



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
-----	------	-------------

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: NONE DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

PREPARED BY:

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DRAWING TITLE: ABBREVIATIONS & NOTES	SHEET No. C-001
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EROSION CONTROL NOTES

EROSION & SEDIMENTATION CONTROL NOTES:

1.

EROSION CONTROL SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS TO SILT CONTROLS SHOWN ON THE APPROVED PLANS AS A RESULT OF ACTUAL FIELD CONDITIONS OR CONSTRUCTION PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH B.M.P. (BEST MANAGEMENT PRACTICES) PER THE E.P.A. 2022 "CONSTRUCTION GENERAL PERMIT" MANUAL, AND MASSACHUSETTS 2003 EROSION & SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS. ANY SUCH MODIFICATIONS FROM THE ABOVE MANUALS SHALL BE INSTALLED AS APPROVED BY THE ENGINEER OR THE LOCAL MUNICIPALITY.
2.

AREAS OF EXPOSED SOIL UNDERGOING CONSTRUCTION THAT WILL NOT BE COVERED AND OR FINISHED GRADED SHALL BE STABILIZED AS SOON AS PRACTICABLE BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY (UNLESS MUNICIPALITY HAS STRICTER REQUIREMENTS WHICH SHALL BE FOLLOWED) IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE EROSION CONTROL MESH, NETTING OR MULCH AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND SHOWN ON THE DESIGN PLANS. IF MULCH IS USED, STRAW MULCH SHALL BE APPLIED AT THE RATE OF 4 BALES PER 1,000 SQUARE FEET. APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE. MULCH SHALL BE KEPT MOIST TO AVOID LOSS DUE TO WIND. MULCH AND NETTING SHALL BE APPLIED IN THE BASE OF ALL GRASSED WATERWAYS, IN VEGETATIVE SLOPES WHICH EXCEED 15% AND DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS.
3.

IF DISTURBED AREAS DO NOT RECEIVE FINAL SEEDING BY OCTOBER 1ST OF THE CONSTRUCTION YEAR, THEN ALL DISTURBED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP AT THE RATE OF 3 LBS PER 1,000 SQUARE FEET. WINTER SEEDING SHALL BE COVERED WITH EROSION CONTROL MESH (MULCH AND NETTING). HEAVY GRADE MATS SHALL BE USED IN THE BASE OF ALL GRASSED WATERWAYS ON VEGETATED SLOPES IN EXCESS OF 15%, AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS. MULCH AND NETTING SHALL ALSO BE PROVIDED FOR ADDITIONAL WINTER PROTECTION.
4.

ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3LBS PER 1,000 SQUARE FOOT AND MULCHED, AND REUSED AS REQUIRED. TUBULAR BARRIERS SHALL BE PLACED DOWN GRADIENT FROM STOCKPILED LOAM. LOAM SHALL BE STOCKPILED AT LOCATIONS DESIGNATED BY THE OWNER AND ENGINEER.
5.

ALL TUBULAR BARRIERS, SILT SACKS, AND EROSION CONTROL BERMS SHALL BE INSTALLED ACCORDING TO THE SITE PREPARATION PLAN. THESE SHALL BE MAINTAINED DURING DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER. ALL THE FILTER BARRIERS AND EROSION CONTROL BERMS SHALL BE INSPECTED AFTER ANY RAINFALL OR RUNOFF EVENT, MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE AT LEAST 85-90% VIGOROUS PERENNIAL COVER OF GRASSES.
6.

ADJACENT ROADS SHALL BE PERIODICALLY SWEEPED OR WASHED TO AVOID TRACKING MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA AS OFTEN AS NECESSARY (WHICH COULD BE ON A DAILY BASIS) TO REMOVE ANY SOIL OR SEDIMENTS AT NO ADDITIONAL COST TO THE OWNER. A WATERING TRUCK WILL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AT NO ADDITIONAL COST TO THE OWNER.
7.

THE CONTRACTOR SHALL USE EXTREME CAUTION TO AVOID ALLOWING SEDIMENTS TO ENTER THE STORM DRAIN SYSTEM DURING CONSTRUCTION. BOTH EXISTING AND PROPOSED CATCH BASIN INLETS SHALL BE PROTECTED DURING CONSTRUCTION BY THE USE SILT SACKS AND/OR TUBULAR BARRIERS AROUND EACH INLET AS NOTED ON THE PLANS. INLET PROTECTION MAY BE REMOVED ONLY AFTER FINISHED AREAS ARE PAVED AND THE VEGETATED SLOPES ARE ESTABLISHED WITH AT LEAST 85-90% OF VIGOROUS PERENNIAL GROWTH.
8.

AS APPLICABLE, EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISHED SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.
9.

AT A MINIMUM, ALL TUBULAR BARRIERS AND FILTER FABRIC SHALL REMAIN IN PLACE UNTIL SEEDINGS OR PLANTINGS HAVE BECOME 85-90% ESTABLISHED. THE LOCAL CONSERVATION COMMISSION MUST APPROVE THE REMOVAL OR RELOCATION OF ANY OF THE TUBULAR BARRIERS AND FILTER FABRIC. ONCE THE TUBULAR BARRIERS ARE REMOVED THE AREAS ARE TO BE LOAMED AND SEEDED TO ACHIEVE FULL STABILIZATION.
10.

AT THE OWNER'S DISCRETION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED TO MAINTAIN STABILITY OF EARTHWORKS AND FINISHED GRADED AREAS. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ADDITIONAL MEASURES AS SPECIFIED BY THE OWNER. THIS INCLUDES BUT IS NOT LIMITED TO REQUESTS BY MA DEP, THE ENGINEER AND THE LOCAL MUNICIPALITY, AS AUTHORIZED BY THE OWNER. FAILURE TO COMPLY WITH THE OWNER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.
11.

INSPECTIONS AND MONITORING MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. WEEKLY INSPECTIONS SHALL BE HELD THROUGH THE DURATION OF CONSTRUCTION ACTIVITY. WEEKLY INSPECTION REPORTS SHALL BE MAINTAINED BY THE CONTRACTOR AND LOCATED IN THE CONTRACTORS FIELD OFFICE ONSITE. IN ADDITION TO THE NORMAL WEEKLY INSPECTIONS, THE CONTRACTOR SHALL PERFORM AN INSPECTION OF ALL EROSION CONTROL MEASURES AFTER EACH RAINFALL OR RUNOFF EVENT, AND PERFORM THE NECESSARY REPAIRS. THE INSPECTIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE SITE'S DOWN STREAM DISCHARGE POINTS.
12.

IF ANY EVIDENCE OF SEDIMENTATION IS OBSERVED AT THE STORMWATER MANAGEMENT AREA INLETS, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE A PLAN TO THE ENGINEER TO REMOVE ANY ACCUMULATED SEDIMENT IN THESE AREAS. THE CONTRACTOR SHALL ALSO IMMEDIATELY PROVIDE ADDITIONAL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT FURTHER DEGRADATION OF THE AREA.
13.

FOLLOWING THE TEMPORARY OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMI-MONTHLY TO ENSURE THE AREAS HAVE A MINIMUM OF 85-90% VEGETATED VIGOROUS GROWTH. RE-SEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.
14.

CONTRACTOR & ALL SITE SUBCONTRACTORS SHALL BE FAMILIAR WITH & FOLLOW ALL APPROVED PERMITS AND CONDITIONS. CONTRACTOR SHALL MAINTAIN A COPY OF ALL APPROVED PERMITS ONSITE. ALL CONDITIONS & RECOMMENDATIONS WITHIN THE APPROVED PERMITS SHALL BE COMPLETED.
15.

ALL EROSION MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE LOCAL MUNICIPALITY.
16.

EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
17.

TOP OF STOCKPILES SHALL BE COVERED IN SUCH MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.
18.

ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER. NO AREA SUBJECT TO EROSION SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR PERIODS LONGER THAN IS ABSOLUTELY NECESSARY TO CARRY OUT THAT PORTION OF THE CONSTRUCTION WORK OR SIX MONTHS AFTER SOIL HAS BEEN DISTURBED WHICHEVER IS LESS.
19.

CULVERT/PIPE INLETS AND OUTFALLS SHALL BE PROTECTED BY TUBULAR BARRIER FILTERS AND STONE CHECK DAMS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED.
20.

TUBULAR BARRIER DIKES SHALL BE CONSTRUCTED AT ALL EXISTING & PROPOSED CATCH BASINS. NO SEDIMENTATION SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.
21.

ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED, CLEANED AND REPAIRED OR REPLACED AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION. IN ADDITION, INSPECTIONS SHALL TAKE PLACE WEEKLY AND BEFORE AND AFTER EACH RAINFALL EVENT.
22.

ALL PROPOSED SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH JUTE MESH AND PROTECTED FROM EROSION UNTIL WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
23.

THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES ADDITIONAL TUBULAR BARRIERS FOR INSTALLATION AT THE DIRECTION OF THE ENGINEER OR THE TOWN ENGINEER TO MITIGATE ANY EMERGENCY CONDITION.
24.

AS CONSTRUCTION DISTURBANCE IS GREATER THAN 1 ACRE, A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT NOI, AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL NEED TO BE SUBMITTED TO THE EPA. THE NPDES PERMIT FOR STORM WATER DISCHARGE, & CONSTRUCTION GENERAL PERMIT NOI WILL BE REQUIRED TO BE SUBMITTED AT LEAST 14 DAYS PRIOR TO COMMENCING CONSTRUCTION BY THE CONTRACTOR.
25.

OWNER AND CONTRACTOR ARE RESPONSIBLE FOR COMPLIANCE WITH THE CONSTRUCTION GENERAL PERMIT NOI. WEEKLY SWPPP INSPECTION REPORTS TO BE PERFORMED BY CONTRACTOR. COPIES OF ALL SWPPP INSPECTION REPORTS SHALL BE PROVIDED TO THE LOCAL MUNICIPALITY, EPA, DEP, OR ANY OTHER AUTHORITY REQUESTING WITHIN 3 DAYS OF EACH INSPECTION.
26.

APPLICABLE WORK AND MATERIALS SHALL COMPLY WITH ALL LOCAL, MA DEP, EPA CONSTRUCTION GENERAL PERMIT STANDARDS. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE SITE PLAN REGULATIONS FROM THE LOCAL AND USDA SOIL CONSERVATION SERVICE VEGETATIVE PRACTICES IN SITE DEVELOPMENT.
27.

A WATERING TRUCK SHALL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS AND AS REQUIRED.
28.

IF DEWATERING IS NECESSARY IT SHALL ONLY BE COMPLETED AS FOLLOWS: THE DISCHARGE SHALL BE STOPPED IMMEDIATELY IF THE RECEIVING AREA SHOWS ANY SIGN OF INSTABILITY OR EROSION. ALL CHANNELS, SWALES, AND DITCHES DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE PRIOR TO DIRECTING DISCHARGE TO THEM. IF A CONSTRUCTION EQUIPMENT BUCKET IS USED, IT SHALL EMPTY THE MATERIAL TO A STABLE AREA. NO DEWATERING SHALL OCCUR DURING PERIODS OF INTENSE, HEAVY RAIN. FLOW TO THE SEDIMENT REMOVAL STRUCTURE SHALL NOT EXCEED THE STRUCTURE'S CAPACITY TO SETTLE AND FILTER FLOW OR ITS VOLUME CAPACITY. WHENEVER POSSIBLE, THE DISCHARGE FROM THE SEDIMENT REMOVAL STRUCTURE SHALL DRAIN TO A WELL-VEGETATED BUFFER BY SHEET FLOW WHILE MAXIMIZING THE DISTANCE TO THE NEAREST WATER RESOURCE AND MINIMIZING THE SLOPE OF THE BUFFER AREA. THERE SHALL BE NO DIRECT DISCHARGE TO EXISTING WETLANDS OR STREAMS. ALL DISCHARGE SHALL BE IN COMPLIANCE WITH STATE, LOCAL, AND FEDERAL REQUIREMENTS.
29.

INITIATE STABILIZATION OF EXPOSED AREAS IMMEDIATELY IF CONSTRUCTION WORK TEMPORARILY OR PERMANENTLY CEASES.
30.

ALL DISCHARGES FROM POLLUTION SOURCES ARE PROHIBITED ONSITE SUCH AS FUELS, WASTEWATER FROM WASH OUT OF CONCRETE, WASTEWATER FROM CLEAN OUT OF PAINTS, FORM RELEASE OILS, SOLVENTS, ADHESIVES, CURING COMPOUNDS, POLLUTANTS USED FOR MAINTENANCE OF VEHICLES AND EQUIPMENT, SOAPS & SOLVENTS, TOXIC OR HAZARDOUS SUBSTANCES, CHEMICALS AND OILS. IF A POLLUTANT IS DISCHARGED IT NEEDS TO BE IMMEDIATELY CLEANED UP BY REMOVING THE CHEMICAL AND AFFECTED SOIL OR AREA OF SPILL FROM THE SITE IN ACCORDANCE WITH BOTH THE MANUFACTURER RECOMMENDATIONS, FEDERAL, STATE, AND LOCAL REQUIREMENTS. DO NOT HOSE DOWN AND SPREAD SPILLED ITEM. ALL CHEMICALS USED ON THE SITE SHALL BE IN LEAK-PROOF CONTAINERS STORED AWAY FROM WETLANDS, SURFACE WATERS, STORMWATER INLETS, AND DRAINAGE MEASURES. SPILL KITS SHALL BE AVAILABLE ONSITE FOR EMERGENCY USE. THERE SHALL BE A SECONDARY CONTAINMENT MEASURE OF ALL CHEMICALS IN ADDITION TO SPILL-PROOF CONTAINERS.
31.

PRIOR TO COMMENCEMENT OF CONSTRUCTION, APPLICABLE CONTRACTOR PERSONNEL MUST HAVE AN UNDERSTANDING OF THE EPA CONSTRUCTION GENERAL PERMIT REQUIREMENTS AND THEIR SPECIFIC RESPONSIBILITIES UNDER THE PERMIT. AT A MINIMUM, PERSONNEL MUST BE TRAINED AND UNDERSTAND THE FOLLOWING: LOCATION OF ALL STORMWATER CONTROLS AND HOW TO MAINTAIN THEM, PROCEDURES FOR COMPLYING WITH THE POLLUTION PREVENTION REQUIREMENTS, PROCEDURES FOR CONDUCTING INSPECTIONS, RECORDING FINDINGS, AND TAKING CORRECTIVE ACTION.
32.

ALL SEDIMENT TRACKED ONTO ROADWAYS MUST BE REMOVED AT END OF EACH WORK DAY.
33.

ALL USE OF CATIONIC TREATMENT CHEMICALS (EXAMPLES INCLUDE POLYMERS, CHITOSAN, CATIONIC PAM, FLOCCULANTS OR OTHER CHEMICAL UTILIZED FOR STABILIZATION) ARE PROHIBITED. IF ALL OTHER AVAILABLE STABILIZATION MEASURES ARE NOT POSSIBLE AND USE OF CATIONIC CHEMICALS IS ABSOLUTELY NECESSARY THE CONTRACTOR WILL NEED TO CONTACT THE NEW ENGLAND OFFICE IN WRITING FOR APPROVAL AND SPECIFIC REQUIREMENTS (MAXIMUM DOSAGE RATE, RESIDUAL TESTING, SPECIFIC LIMITATIONS, ETC) PRIOR TO USE.
34.

IF USING NON-VEGETATIVE STABILIZATION MEASURES, IT MUST BE COMPLETED NO LATER THAN 14 DAYS AFTER INITIATING STABILIZATION. ALL AREAS OF EXPOSED SOILS MUST BE COVERED.
35.

INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE AT LEAST ONCE EVERY 7 DAYS BY THE CONTRACTOR. AT A MINIMUM INSPECTIONS SHALL INCLUDE ALL DISTURBED AREAS, ALL STORMWATER CONTROLS AND POLLUTION PREVENTION MEASURES. ALL LOCATIONS WHERE STABILIZATION MEASURES HAVE BEEN IMPLEMENTED, EQUIPMENT AND MATERIAL STORAGE AREAS, ALL AREAS WHERE STORMWATER FLOWS AND ALL POINTS OF DISCHARGE. WHEN CORRECTIVE ACTIONS ARE REQUIRED, THE CONTRACTOR MUST IMMEDIATELY TAKE ALL STEPS TO PREVENT POLLUTANT DISCHARGES UNTIL A PERMANENT SOLUTION IS IMPLEMENTED. AS NECESSARY NEW OR MODIFIED CONTROLS MUST BE INSTALLED AND OPERATIONAL. THE REPAIR MUST BE COMPLETED WITHIN 7 DAYS FROM THE TIME OF DISCOVERY. WITHIN 24 HOURS OF A TRIGGERING CONDITION OCCURRING THAT REQUIRES A CORRECTIVE ACTION, A CORRECTIVE ACTION REPORT MUST BE COMPLETED.

MAINTENANCE:

1.

ALL MEASURES STATED ON THE STORMWATER POLLUTION PREVENTION PLANS SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION BY CONTRACTOR UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.

•

ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A HEALTHY STAND OF GRASS IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.

•

ALL SEDIMENT CONTROLS SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE TUBULAR SEDIMENT CONTROLS WHEN IT REACHES HALF THE HEIGHT OF THE CONTROL MEASURE OR AS REQUESTED BY THE OWNER OR ENGINEER.

•

THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.

•

THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

•

OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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APPLICANT:
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201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:

27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: NONE DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

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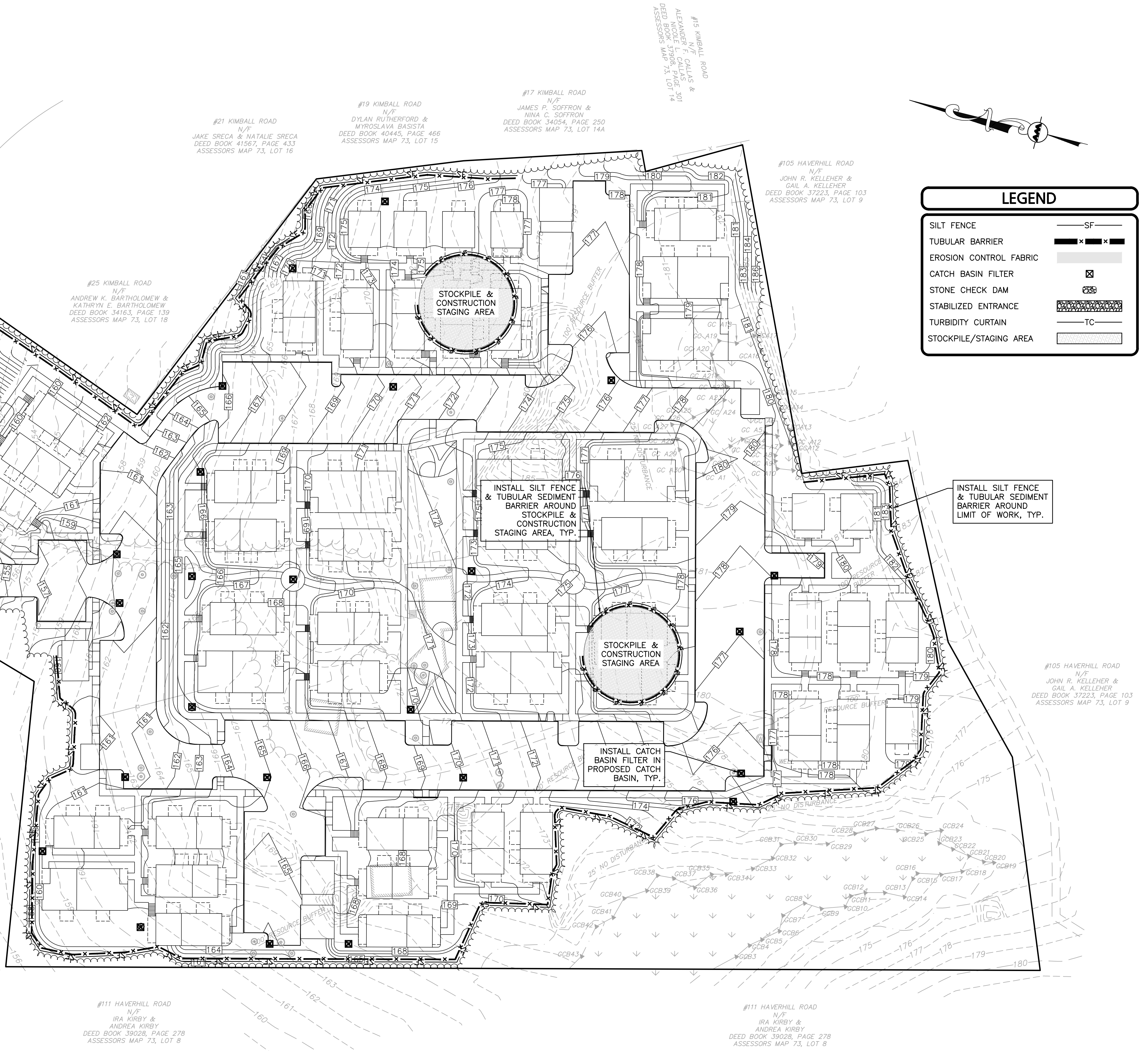
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DRAWING TITLE: ABBREVIATIONS & NOTES	SHEET No. C-002
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- NOTES:**
1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
 3. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE CITY OF AMESBURY DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.
 4. ADJUST EROSION CONTROL MEASURES AS NECESSARY AS CONSTRUCTION PROGRESSES INCLUDING ADDITIONAL SILT SACKS IN PROPOSED CB'S AND LOCATION OF STOCKPILE & CONSTRUCTION STAGING AREA.
 5. SEE THE ABBREVIATIONS AND NOTES PLAN AND DETAILS FOR FURTHER INFORMATION.



LEGEND

SILT FENCE	—SF—
TUBULAR BARRIER	—x—x—x—
EROSION CONTROL FABRIC	—[Pattern]—
CATCH BASIN FILTER	—[Pattern]—
STONE CHECK DAM	—[Pattern]—
STABILIZED ENTRANCE	—[Pattern]—
TURBIDITY CURTAIN	—TC—
STOCKPILE/STAGING AREA	—[Pattern]—



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DRAWING TITLE:

EROSION CONTROL PLAN

SHEET No.

C-100

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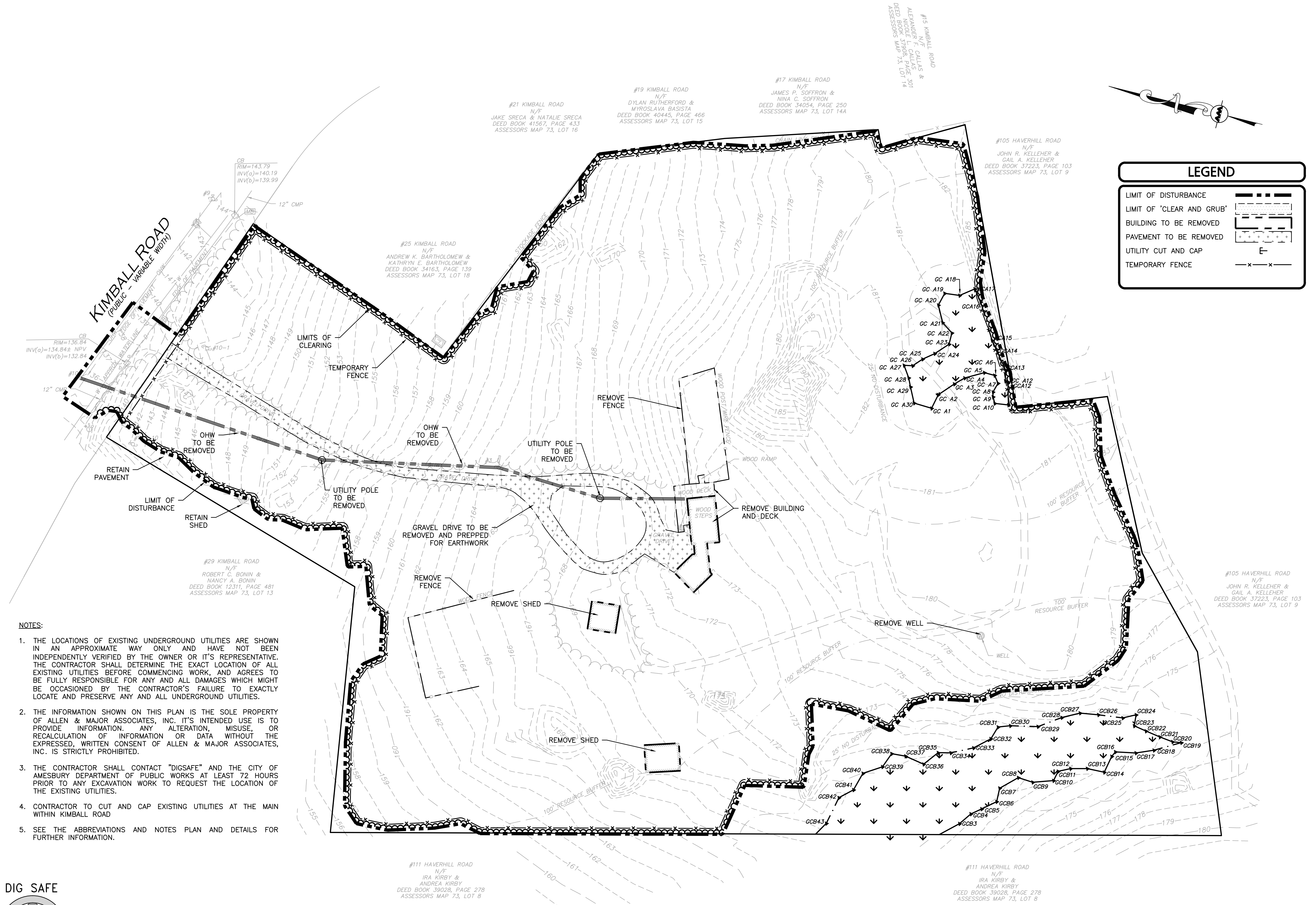
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3. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE CITY OF AMESBURY DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.
4. CONTRACTOR TO CUT AND CAP EXISTING UTILITIES AT THE MAIN WITHIN KIMBALL ROAD
5. SEE THE ABBREVIATIONS AND NOTES PLAN AND DETAILS FOR FURTHER INFORMATION.



LEGEND

- LIMIT OF DISTURBANCE
- LIMIT OF 'CLEAR AND GRUB'
- BUILDING TO BE REMOVED
- PAVEMENT TO BE REMOVED
- UTILITY CUT AND CAP
- TEMPORARY FENCE



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DRAWING TITLE: SITE PREPARATION PLAN SHEET No. C-101

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OFF-STREET PARKING SUMMARY TABLE

USE: MULTI-FAMILY DWELLING
THE MINIMUM NUMBER OF OFF-STREET PARKING SPACES SHALL BE 1.5 PER RESIDENTIAL UNIT.

BUILDING SUMMARY:
95 UNITS PROPOSED IN 51 BUILDINGS
(95 UNITS)*(1.5 SPACES REQ'D/UNIT) = 143 SPACES

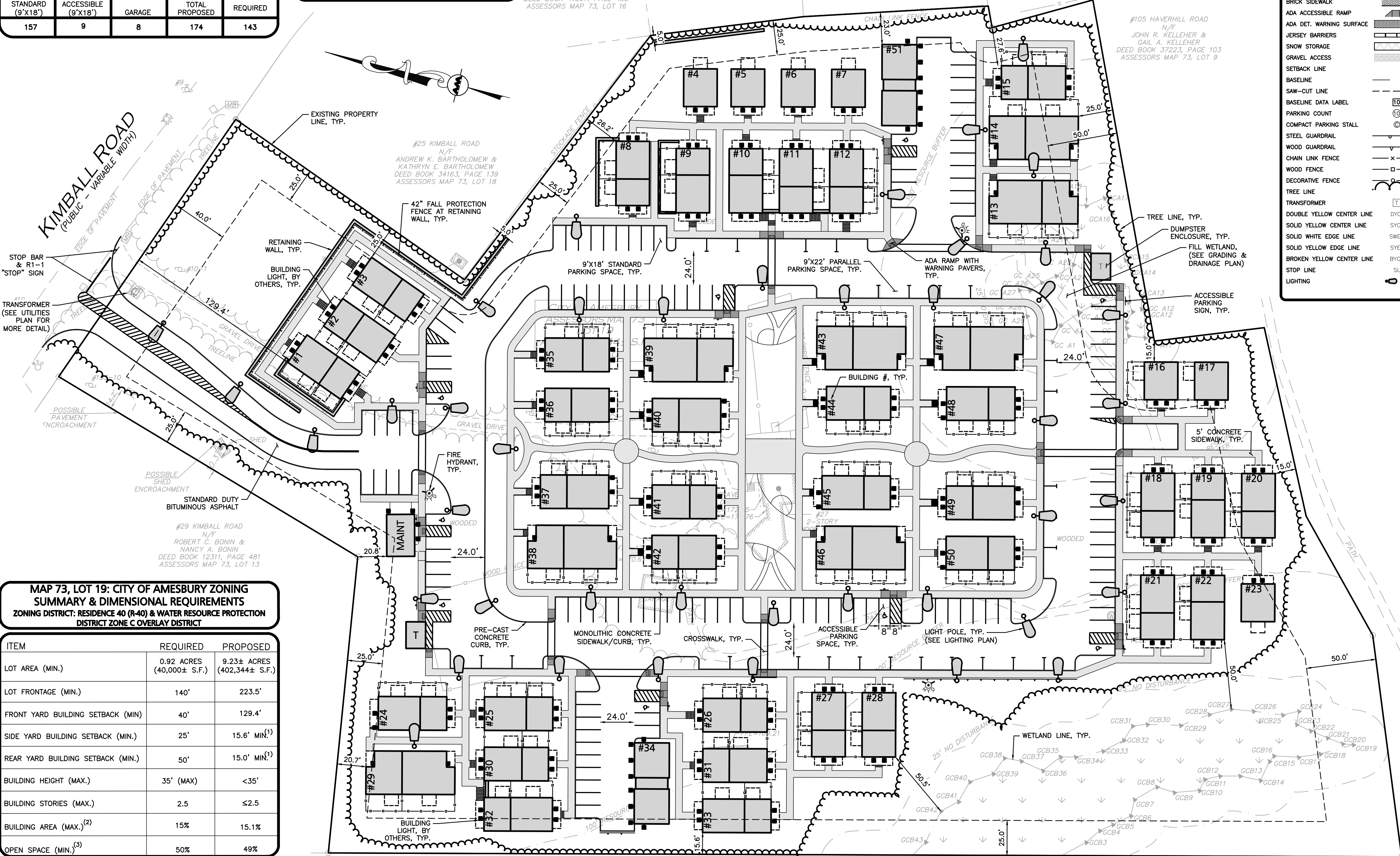
ADA REQUIRED BY ZONING:
101-150 SPACES ADA REQUIRED SPACES = 5 SPACES (1 VAN)

ADA PROVIDED:
9 ACCESSIBLE SPACES, 9 OF WHICH ARE VAN ACCESSIBLE
& 0 OF WHICH ARE WITHIN A GARAGE.

STANDARD (9'X18')	ACCESSIBLE (9'X18')	GARAGE	TOTAL PROPOSED	REQUIRED
157	9	8	174	143

ARCHITECTURAL BUILDING TYPE	NUMBER OF UNITS PER BUILDING TYPE	UNIT 1 NUMBER OF BEDROOMS	UNIT 2 NUMBER OF BEDROOMS	BUILDING COUNT	TOTAL NUMBER OF UNITS	TOTAL NUMBER OF BEDROOMS
1	1	2	0	7	7	14
2	2	1	2	8	16	24
3	2	2	1	24	48	72
4	2	3	1	10	20	40
CARRIAGE BUILDING	2	1	1	2	4	4
TOTAL:				51	95	154

DESCRIPTION	TOTAL	PERCENT
UNITS WITH 1 BEDROOM	46	48%
UNITS WITH 2 BEDROOM	39	41%
UNITS WITH 3 BEDROOM	10	11%
TOTAL:	95	100%

MAP 73, LOT 19: CITY OF AMESBURY ZONING SUMMARY & DIMENSIONAL REQUIREMENTS
ZONING DISTRICT: RESIDENCE 40 (R-40) & WATER RESOURCE PROTECTION DISTRICT ZONE C OVERLAY DISTRICT

ITEM	REQUIRED	PROPOSED
LOT AREA (MIN.)	0.92 ACRES (40,000± S.F.)	9.23± ACRES (402,344± S.F.)
LOT FRONTAGE (MIN.)	140'	223.5'
FRONT YARD BUILDING SETBACK (MIN)	40'	129.4'
SIDE YARD BUILDING SETBACK (MIN.)	25'	15.6' MIN ⁽¹⁾
REAR YARD BUILDING SETBACK (MIN.)	50'	15.0' MIN ⁽¹⁾
BUILDING HEIGHT (MAX.)	35' (MAX)	<35'
BUILDING STORIES (MAX.)	2.5	≤2.5
BUILDING AREA (MAX.) ⁽²⁾	15%	15.1%
OPEN SPACE (MIN.) ⁽³⁾	50%	49%

1. WAIVER REQUIRED
2. BUILDING AREA - THE AGGREGATE OF THE MAXIMUM HORIZONTAL CROSS-SECTION AREA OF ALL BUILDINGS ON A LOT EXCLUSIVE OF CORNICES, EAVES, GUTTERS, CHIMNEYS, UNENCLOSED PORCHES, BAY WINDOWS, BALCONIES, AND TERRACES EXPRESSED AS A PERCENTAGE OF TOTAL LOT AREA.
3. OPEN SPACE - THE SPACE, UNOBSTRUCTED TO THE SKY AND NOT DEVOTED TO STREETS, ON A LOT UNOCCUPIED BY BUILDINGS OR STRUCTURES, DRIVEWAYS, WALKWAYS, OFF-STREET PARKING OR LOADING SPACES, AND EXPRESSED AS A PERCENTAGE OF TOTAL LOT AREA. 2016-013.



BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

LEGEND

PROPERTY LINE	---
SIGN	+
BOLLARD	•
BUILDING	[Hatched Box]
BUILDING ARCHITECTURE	[Hatched Box]
CURB	---
RETAINING WALL	[Hatched Box]
PARKING STRIPING	[Hatched Box]
ROADWAY STRIPING	[Hatched Box]
TRAFFIC ARROWS	[Arrow]
HEAVY DUTY CONCRETE	[Hatched Box]
HEAVY DUTY PAVEMENT	[Hatched Box]
RUMBLE STRIP	[Hatched Box]
SIDEWALK	---
BRICK SIDEWALK	[Hatched Box]
ADA ACCESSIBLE RAMP	[Hatched Box]
ADA DET. WARNING SURFACE	[Hatched Box]
JERSEY BARRIERS	[Hatched Box]
SNOW STORAGE	[Hatched Box]
GRAVEL ACCESS	[Hatched Box]
SETBACK LINE	---
BASELINE	---
SAW-CUT LINE	---
BASELINE DATA LABEL	[Box]
PARKING COUNT	[Circle]
COMPACT PARKING STALL	[Circle]
STEEL GUARDRAIL	[Hatched Box]
WOOD GUARDRAIL	[Hatched Box]
CHAIN LINK FENCE	[Hatched Box]
WOOD FENCE	[Hatched Box]
DECORATIVE FENCE	[Hatched Box]
TREE LINE	---
TRANSFORMER	[Box]
DOUBLE YELLOW CENTER LINE	[Line]
SOLID YELLOW CENTER LINE	[Line]
SOLID WHITE EDGE LINE	[Line]
SOLID YELLOW EDGE LINE	[Line]
BROKEN YELLOW CENTER LINE	[Line]
STOP LINE	[Line]
LIGHTING	[Symbol]

NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
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3. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE CITY OF AMESBURY DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.
4. ALL SIGNS AND PAVEMENT MARKINGS TO BE INSTALLED WITHIN THE PROJECT SITE SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. SEE THE ABBREVIATIONS AND NOTES PLAN AND DETAILS FOR FURTHER INFORMATION.

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV DATE DESCRIPTION

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: 1" = 40' DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

PREPARED BY:



ALLEN & MAJOR
ASSOCIATES, INC.

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environmental consulting • landscape architecture
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DRAWING TITLE: LAYOUT & MATERIALS PLAN SHEET NO. C-102

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N:\PROJECTS\3410-03\CIVIL\DRAWINGS\CURRENT\C-3410-03_GRADING & DRAINAGE.DWG

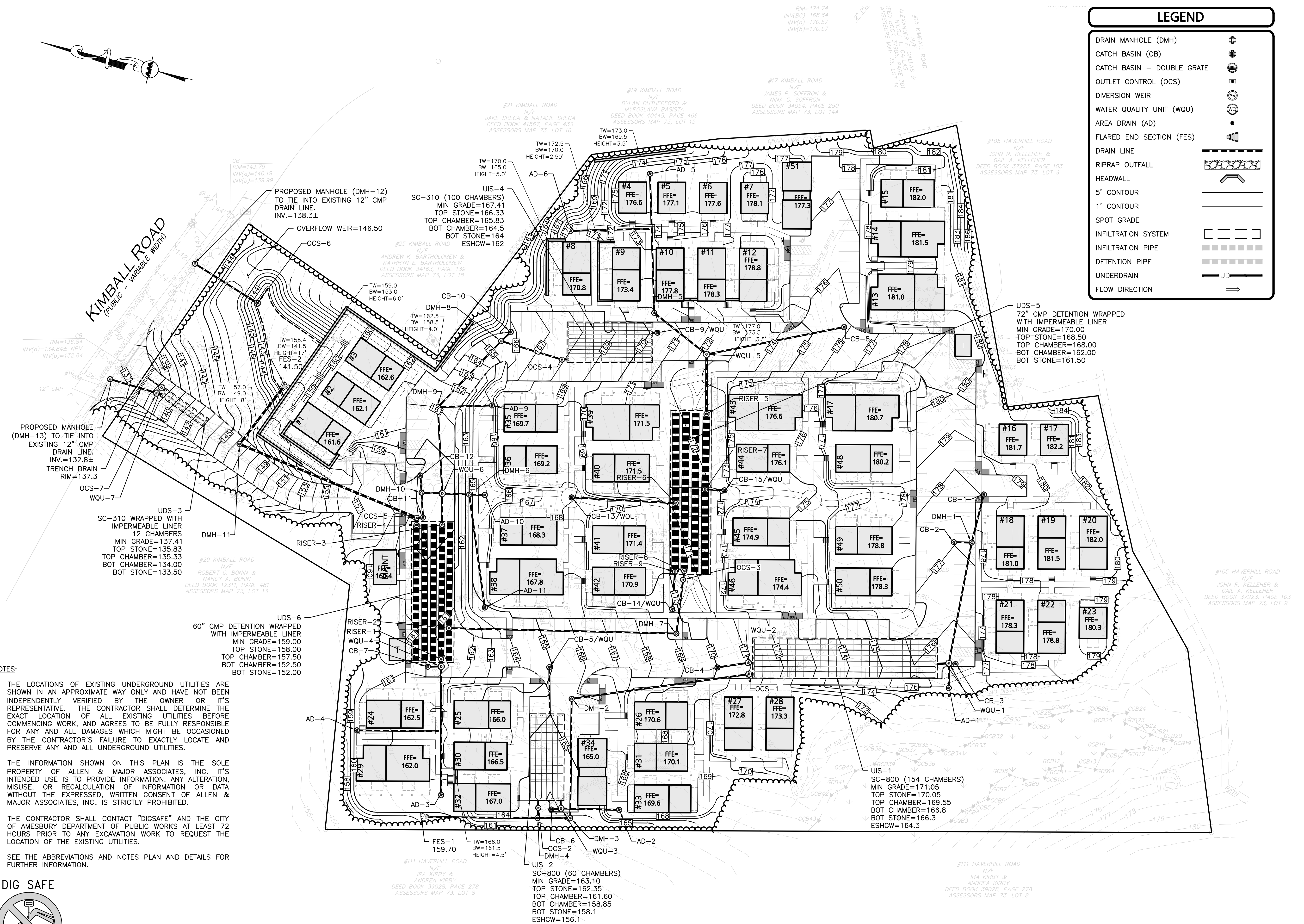
NOTES:

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4. SEE THE ABBREVIATIONS AND NOTES PLAN AND DETAILS FOR FURTHER INFORMATION.

DIG SAFE



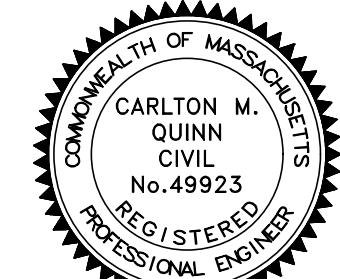
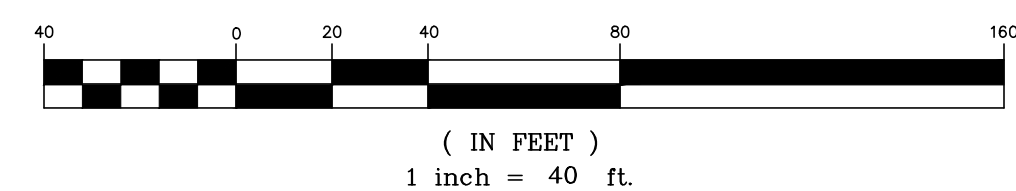
BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233



LEGEND

DRAIN MANHOLE (DMH)	
CATCH BASIN (CB)	
CATCH BASIN - DOUBLE GRATE	
OUTLET CONTROL (OCS)	
DIVERSION WEIR	
WATER QUALITY UNIT (WQU)	
AREA DRAIN (AD)	
FLARED END SECTION (FES)	
DRAIN LINE	
RIPRAP OUTFALL	
HEADWALL	
5' CONTOUR	
1' CONTOUR	
SPOT GRADE	
INFILTRATION SYSTEM	
INFILTRATION PIPE	
DETENTION PIPE	
UNDERDRAIN	
FLOW DIRECTION	

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO.	3410-03	DATE:	01-26-2026
SCALE:	1" = 40'	DWG. NAME:	C-3410-03
DESIGNED BY:	BDP/CB	CHECKED BY:	CMQ

PREPARED BY:



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DRAWING TITLE:	SHEET NO.
GRADING & DRAINAGE PLAN	C-103

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DRAIN PIPE TABLE				
PIPE SEGMENT	SIZE	LENGTH	SLOPE	MATERIAL
AD-1 - WQU-1	12"	21.415'	4.67%	HDPE
AD-2 - WQU-3	12"	50.361'	4.77%	HDPE
AD-3 - WQU-4	12"	111.372'	4.40%	HDPE
AD-4 - 12" HDPE (2)	12"	71.554'	2.10%	HDPE
AD-5 - DMH-5	12"	120.684'	2.10%	HDPE
AD-6 - 12" HDPE (1)	12"	68.594'	1.02%	HDPE
AD-9 - DMH-9	12"	46.939'	4.26%	HDPE
AD-10 - DMH-6	12"	13.534'	4.43%	HDPE
AD-11 - DMH-6	12"	98.821'	4.05%	HDPE
CB-1 - DMH-1	12"	42.951'	4.42%	HDPE
CB-2 - DMH-1	12"	15.409'	2.60%	HDPE
CB-3 - WQU-1	12"	5.840'	1.71%	HDPE
CB-4 - WQU-2	12"	27.000'	1.11%	HDPE
CB-5/WQU - UIS-2B	12"	41.470'	1.57%	HDPE
CB-6 - WQU-3	12"	8.463'	2.36%	HDPE
CB-7 - WQU-4	12"	11.566'	2.59%	HDPE
CB-8 - WQU-5	12"	121.513'	4.80%	HDPE
CB-9/WQU - UIS-4A	12"	5.502'	1.82%	HDPE
CB-10 - DMH-8	12"	11.500'	1.74%	HDPE
CB-11 - DMH-10	12"	21.641'	2.31%	HDPE

DRAIN PIPE TABLE				
PIPE SEGMENT	SIZE	LENGTH	SLOPE	MATERIAL
CB-12 - DMH-10	12"	14.793'	3.38%	HDPE
CB-13/WQU - RISER-6	12"	90.394'	2.21%	HDPE
CB-14/WQU - RISER-9	12"	32.493'	4.62%	HDPE
CB-15/WQU - RISER-7	12"	16.810'	2.97%	HDPE
DMH-1 - WQU-1	12"	106.475'	4.41%	HDPE
DMH-2 - DMH-3	12"	103.447'	1.26%	HDPE
DMH-3 - DMH-4	12"	28.424'	1.06%	HDPE
DMH-4 - FES-1	12"	94.015'	1.06%	HDPE
DMH-5 - WQU-5	12"	57.869'	2.18%	HDPE
DMH-6 - WQU-6	12"	23.437'	6.40%	HDPE
DMH-7 - RISER-2	12"	197.270'	3.75%	HDPE
DMH-8 - DMH-9	12"	79.329'	5.67%	HDPE
DMH-9 - WQU-6	12"	74.959'	3.34%	HDPE
DMH-10 - WQU-6	12"	17.920'	2.23%	HDPE
DMH-11 - FES-2	18"	61.050'	1.15%	HDPE
OCS-1 - DMH-2	12"	155.112'	2.71%	HDPE
OCS-2 - DMH-4	12"	8.808'	0.91%	HDPE
OCS-3 - DMH-7	12"	47.029'	4.25%	HDPE
OCS-4 - DMH-8	12"	55.171'	4.35%	HDPE
OCS-5 - DMH-11	18"	166.379'	5.83%	HDPE

DRAIN PIPE TABLE				
PIPE SEGMENT	SIZE	LENGTH	SLOPE	MATERIAL
OCS-6 - DMH-12	12"	63.946'	5.00%	HDPE
OCS-7 - DMH-13	12"	42.208'	1.66%	HDPE
RISER-4 - OCS-5	12"	6.193'	0.00%	HDPE
RISER-8 - OCS-3	12"	7.505'	0.00%	HDPE
TRENCH DRAIN - WQU-7	8"	14.519'	2.76%	HDPE
UDS-3B - OCS-7	12"	5.050'	0.00%	HDPE
UIS-1C - OCS-1	12"	4.048'	0.00%	HDPE
UIS-2C - OCS-2	12"	7.625'	0.00%	HDPE
UIS-4B - OCS-4	12"	5.187'	0.00%	HDPE
WQU-1 - UIS-1A	15"	11.030'	1.81%	HDPE
WQU-2 - UIS-1B	12"	4.561'	2.19%	HDPE
WQU-3 - UIS-2A	12"	7.907'	1.26%	HDPE
WQU-4 - RISER-1	15"	6.356'	1.57%	HDPE
WQU-5 - RISER-5	18"	51.575'	1.55%	HDPE
WQU-6 - RISER-3	15"	27.095'	2.95%	HDPE
WQU-7 - UDS-3A	8"	4.277'	2.34%	HDPE

DRAIN STRUCTURE TABLE	
STRUCTURE	STRUCTURE DETAILS
AD-1	RIM = 176.0 INV OUT = 168.80 (WQU-1)
AD-2	RIM = 168.6 INV OUT = 163.00 (WQU-3)
AD-3	RIM = 160.5 INV OUT = 157.00 (WQU-4)
AD-4	RIM = 160.1 INV OUT = 156.00 (12" HDPE (2))
AD-5	RIM = 175.5 INV OUT = 166.80 (DMH-5)
AD-6	RIM = 170.2 INV OUT = 166.50 (12" HDPE (1))
AD-9	RIM = 166.0 INV OUT = 159.50 (DMH-9)
AD-10	RIM = 165.5 INV OUT = 159.60 (DMH-6)
AD-11	RIM = 164.8 INV OUT = 160.00 (DMH-6)
CB-1	RIM = 178.1 INV OUT = 174.50 (DMH-1)
CB-2	RIM = 177.1 INV OUT = 173.00 (DMH-1)
CB-3	RIM = 176.0 INV OUT = 167.90 (WQU-1)
CB-4	RIM = 170.0 INV OUT = 167.20 (WQU-2)
CB-5/WQU	RIM = 164.9 INV OUT = 159.50 (UIS-2B)
CB-6	RIM = 164.0 INV OUT = 160.80 (WQU-3)
CB-7	RIM = 161.0 INV OUT = 152.40 (WQU-4)
CB-8	RIM = 175.8 INV OUT = 168.73 (WQU-5)
CB-9/WQU	RIM = 170.2 INV OUT = 164.60 (UIS-4A)
CB-10	RIM = 165.9 INV OUT = 162.30 (DMH-8)
CB-11	RIM = 159.1 INV OUT = 155.00 (DMH-10)

DRAIN STRUCTURE TABLE	
STRUCTURE	STRUCTURE DETAILS
CB-12	RIM = 159.1 INV OUT = 155.00 (DMH-10)
CB-13/WQU	RIM = 168.0 INV OUT = 164.00 (RISER-6)
CB-14/WQU	RIM = 169.8 INV OUT = 164.50 (RISER-9)
CB-15/WQU	RIM = 172.4 INV OUT = 168.00 (RISER-7)
DMH-1	RIM = 177.5 INV IN = 172.60 (CB-1) INV IN = 172.60 (CB-2) INV OUT = 172.50 (WQU-1)
DMH-2	RIM = 165.8 INV IN = 162.60 (OCS-1) INV OUT = 162.50 (DMH-3)
DMH-3	RIM = 163.4 INV IN = 161.20 (DMH-2) INV OUT = 161.10 (DMH-4)
DMH-4	RIM = 163.1 INV IN = 160.80 (DMH-3) INV IN = 160.70 (OCS-2) INV OUT = 160.70 (FES-1)
DMH-5	RIM = 170.9 INV IN = 164.27 (AD-5) INV OUT = 164.16 (WQU-5)
DMH-6	RIM = 164.1 INV IN = 156.00 (AD-11) INV IN = 159.00 (AD-10) INV OUT = 155.50 (WQU-6)
DMH-7	RIM = 169.3 INV IN = 160.00 (OCS-3) INV OUT = 159.90 (RISER-2)
DMH-8	RIM = 165.8 INV IN = 162.10 (OCS-4) INV IN = 162.10 (CB-10) INV OUT = 162.00 (DMH-9)
DMH-9	RIM = 161.1 INV IN = 157.50 (AD-9) INV IN = 157.50 (DMH-8) INV OUT = 156.50 (WQU-6)
DMH-10	RIM = 159.1 INV IN = 154.50 (CB-11) INV IN = 154.50 (CB-12) INV OUT = 154.40 (WQU-6)
DMH-11	RIM = 146.3 INV IN = 142.30 (OCS-5) INV OUT = 142.20 (FES-2)
DMH-12	RIM = 142.2 INV IN = 138.30 (OCS-6)
DMH-13	RIM = 136.3 INV IN = 132.80 (OCS-7)
OCS-1	RIM = 171.0 INV IN = 166.80 (UIS-1C) INV OUT = 166.80 (DMH-2)
OCS-2	RIM = 164.4 INV IN = 158.85 (UIS-2C) INV OUT = 160.78 (DMH-4)
OCS-3	RIM = 170.4 INV IN = 162.00 (RISER-8) INV IN = 154.00 (DMH-10) INV OUT = 162.00 (DMH-7)

DRAIN STRUCTURE TABLE	
STRUCTURE	STRUCTURE DETAILS
OCS-4	RIM = 167.9 INV IN = 164.50 (UIS-4B) INV OUT = 164.50 (DMH-8)
OCS-5	RIM = 159.0 INV IN = 152.00 (RISER-4) INV OUT = 152.00 (DMH-11)
OCS-6	RIM = 146.0 INV OUT = 141.50 (DMH-12)
OCS-7	RIM = 138.3 INV IN = 133.50 (UDS-3B) INV OUT = 133.50 (DMH-13)
RISER-1	RIM = 161.0 INV IN = 152.00 (WQU-4) INV IN = 152.50 (RISER-3)
RISER-2	RIM = 161.6 INV IN = 152.50 (DMH-7) INV IN = 152.50 () INV OUT = 152.50 ()
RISER-3	RIM = 159.7 INV IN = 153.20 (WQU-6) INV OUT = 152.50 (RISER-1)
RISER-4	RIM = 159.0 INV OUT = 152.00 (OCS-5) INV OUT = 152.50 ()
RISER-5	RIM = 172.7 INV IN = 162.00 (WQU-5) INV OUT = 162.00 (RISER-7)
RISER-6	RIM = 171.1 INV IN = 162.00 (CB-13/WQU) INV IN = 162.00 () INV OUT = 162.00 (RISER-9)
RISER-7	RIM = 171.9 INV IN = 167.50 (CB-15/WQU) INV IN = 162.00 (RISER-5) INV OUT = 162.00 ()
RISER-8	RIM = 170.6 INV IN = 162.00 () INV OUT = 162.00 (OCS-3)
RISER-9	RIM = 170.2 INV IN = 163.00 (CB-14/WQU) INV IN = 162.00 (RISER-6)
WQU-1	RIM = 176.0 INV IN = 167.80 (DMH-1) INV IN = 167.80 (CB-3) INV IN = 167.80 (AD-1) INV OUT = 167.70 (UIS-1A)
WQU-2	RIM = 171.0 INV IN = 166.90 (CB-4) INV OUT = 166.90 (UIS-1B)
WQU-3	RIM = 164.1 INV IN = 160.60 (AD-2) INV IN = 160.60 (CB-6) INV OUT = 160.60 (UIS-2A)
WQU-4	RIM = 161.0 INV IN = 152.10 (AD-3) INV IN = 152.10 (CB-7) INV OUT = 152.10 (RISER-1)
WQU-5	RIM = 172.4 INV IN = 162.90 (DMH-5) INV IN = 162.90 (CB-8) INV OUT = 162.80 (RISER-5)
WQU-6	RIM = 159.7 INV IN = 154.00 (DMH-9) INV IN = 154.00 (DMH-10) INV IN = 154.00 (DMH-6) INV OUT = 154.00 (RISER-3)
WQU-7	RIM = 138.5 INV IN = 133.60 (TRENCH DRAIN) INV OUT = 133.60 (UDS-3A)

OCS-1
6" ORIFICE=168.30
WEIR=169.50
INV. OUT=166.80

OCS-2
6" ORIFICE=160.78
WEIR=161.80
INV. OUT=160.78

OCS-3
6" ORIFICE=161.50
WEIR=168.00
INV. OUT=161.50

OCS-4
WEIR=165.45
INV. OUT=164.50

OCS-5
3" ORIFICE=152.00
WEIR=157.25
INV. OUT=152.00

OCS-6
6" ORIFICE=144.80
WEIR=145.90
INV. OUT=141.50

OCS-7
3" ORIFICE=133.50
WEIR=135.50
INV. OUT=133.50



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: NONE DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

PREPARED BY:

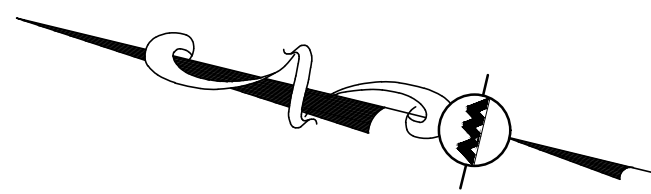


ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting • landscape architecture
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100 COMMERCE WAY, SUITE 5
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TEL: (781) 935-6889
FAX: (781) 935-2896

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DRAWING TITLE: DRAINAGE STRUCTURE INFO SHEET No. C-103A



MATCHLINE - SEE SHEET C-104A



LEGEND

SEWER MANHOLE

SEWER CLEANOUT

SEWER VENT

SEWER LINE

SEWER FORCEMAIN

CONCRETE PIPE ENCASEMENT

WATER LINE

WATER (FIRE SERVICE)

WATER (DOMESTIC SERVICE)

WATER VALVE

HYDRANT

WATER LINE REDUCER

GAS LINE

GAS VALVE

SEPTIC/HOLDING TANK

GREASE TRAP

LIGHT FIXTURE

OVER HEAD WIRE

UTILITY POLE

ELECTRIC MANHOLE/SPLICE BOX

SWITCHING STATION

HAND HOLE

ELECTRICAL CONDUIT

LIGHTING CONDUIT

IRRIGATION SLEEVE

ELEC/TELE/CABLE CONDUIT

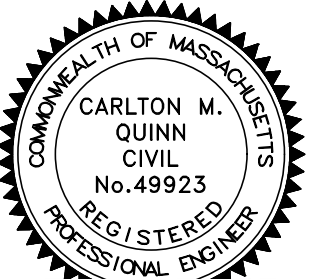
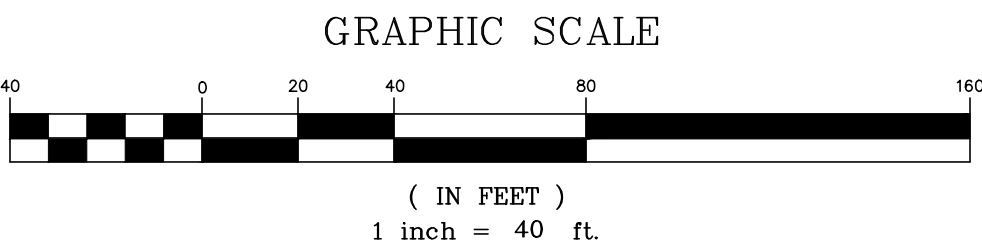
TELE/CABLE CONDUIT

TELE/FIRE CONDUIT

- NOTES:
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
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 - THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE CITY OF AMESBURY DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.
 - SEE THE ABBREVIATIONS AND NOTES PLAN AND DETAILS FOR FURTHER INFORMATION.
 - ALL FIRE HYDRANT ASSEMBLIES SHALL INCLUDE A FIRE HYDRANT & 6" CLDI WATER SERVICE OR AS OTHERWISE REQUIRED BY THE FIRE DEPARTMENT. FINAL LOCATION OF ALL HYDRANTS SHALL BE BASED ON FINAL DESIGN PLANS IN COORDINATION WITH BUILDING FDC LOCATIONS & FIRE DEPARTMENT REQUIREMENTS.

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1-888-344-7233



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO.	3410-03	DATE:	01-26-2026
SCALE:	1" = 40'	DWG. NAME:	C-3410-03
DESIGNED BY:	BDP/CB	CHECKED BY:	CMQ

PREPARED BY:

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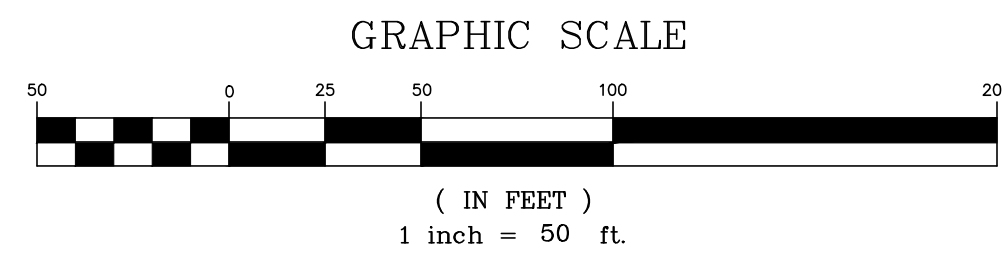
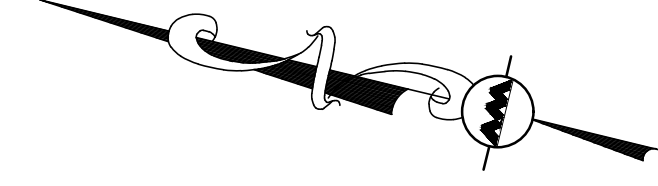
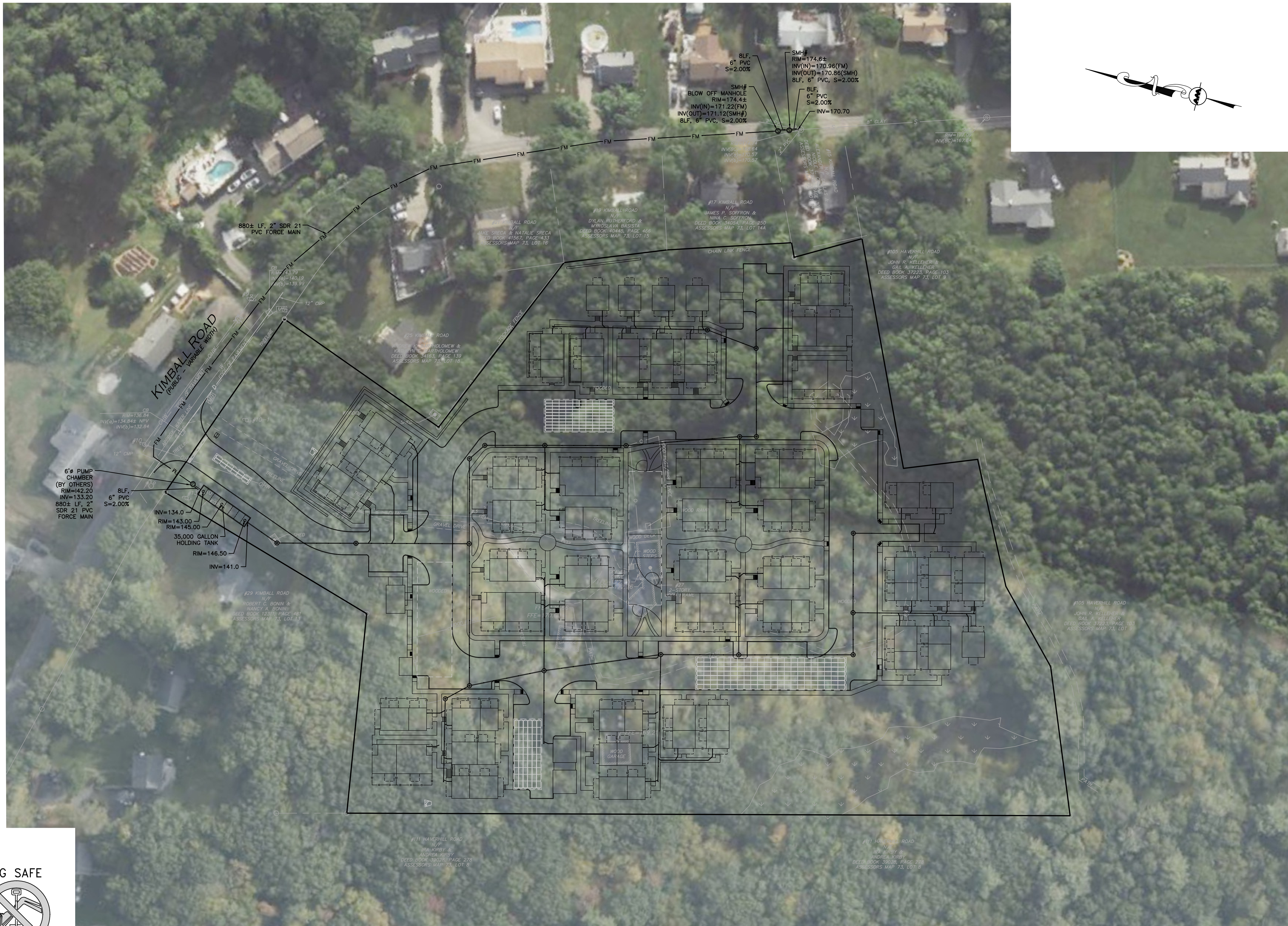
DRAWING TITLE:	SHEET NO.
UTILITIES PLAN	C-104

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AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: 1" = 50' DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

PREPARED BY:

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DRAWING TITLE: SEWER OVERVIEW PLAN SHEET No. C-104A

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SEWER STRUCTURE TABLE		
STRUCTURE	STRUCTURE DETAILS	
CO-2	RIM = 177.0 INV OUT = 176.60 (SMH-13)	
CO-3	RIM = 175.5 INV OUT = 175.10 (SMH-14)	
CO-4	RIM = 158.0 INV OUT = 157.60 (SMH-70)	
CO-5	RIM = 161.4 INV OUT = 161.00 (SMH-22)	
CO-6	RIM = 158.9 INV OUT = 158.55 (SMH-22)	
CO-7	RIM = 155.2 INV OUT = 154.77 (SMH-20)	
CO-8	RIM = 165.7 INV OUT = 165.30 (SMH-19)	
CO-9	RIM = 167.8 INV OUT = 167.37 (SMH-18)	
CO-10	RIM = 160.9 INV OUT = 160.52 (SMH-17)	
CO-11	RIM = 163.1 INV OUT = 162.71 (SMH-15)	
CO-12	RIM = 166.8 INV OUT = 166.40 (SMH-69)	
HOLDING TANK IN	RIM = 141.6 INV IN = 141.00 (SMH-26)	
SMH-13	RIM = 178.0 INV IN = 173.42 (CO-2) INV OUT = 173.32 (SMH-14)	
SMH-14	RIM = 176.9 INV IN = 170.22 (SMH-13) INV IN = 170.22 (CO-3) INV OUT = 170.12 (SMH-16)	
SMH-15	RIM = 176.3 INV IN = 160.71 (CO-11) INV IN = 160.71 (SMH-69) INV OUT = 160.61 (SMH-71)	
SMH-16	RIM = 176.0 INV IN = 167.83 (SMH-14) INV OUT = 167.73 (SMH-18)	
SMH-17	RIM = 175.9 INV IN = 157.68 (SMH-71) INV IN = 157.68 (CO-10) INV OUT = 157.58 (SMH-67)	
SMH-18	RIM = 173.1 INV IN = 163.29 (SMH-16) INV IN = 163.29 (CO-9) INV OUT = 163.19 (SMH-19)	
SMH-19	RIM = 170.1 INV IN = 160.06 (SMH-18) INV IN = 160.06 (CO-8) INV OUT = 159.96 (SMH-22)	
SMH-20	RIM = 168.9 INV IN = 152.21 (SMH-67) INV IN = 152.21 (CO-7) INV OUT = 152.11 (SMH-21)	
SMH-21	RIM = 165.0 INV IN = 150.49 (SMH-20) INV OUT = 150.39 (SMH-23)	
SMH-22	RIM = 165.6 INV IN = 155.51 (SMH-19) INV IN = 155.51 (CO-6) INV IN = 155.51 (CO-5) INV OUT = 155.41 (SMH-24)	
SMH-23	RIM = 163.6 INV IN = 149.84 (SMH-21) INV OUT = 149.74 (SMH-25)	
SMH-24	RIM = 162.7 INV IN = 152.48 (SMH-22) INV IN = 152.48 (SMH-70) INV OUT = 152.38 (SMH-25)	
SMH-25	RIM = 165.1 INV IN = 147.45 (SMH-24) INV IN = 147.45 (SMH-23) INV OUT = 147.35 (SMH-68)	
SMH-26	RIM = 150.0 INV IN = 142.07 (SMH-68) INV OUT = 141.97 (HOLDING TANK IN)	
SMH-67	RIM = 171.7 INV IN = 154.50 (SMH-17) INV OUT = 154.40 (SMH-20)	
SMH-68	RIM = 156.0 INV IN = 144.30 (SMH-25) INV OUT = 144.20 (SMH-26)	
SMH-69	RIM = 178.0 INV IN = 162.22 (CO-12) INV OUT = 162.12 (SMH-15)	
SMH-70	RIM = 162.6 INV IN = 153.75 (CO-4) INV OUT = 153.75 (SMH-24)	
SMH-71	RIM = 176.2 INV IN = 158.23 (SMH-15) INV OUT = 158.13 (SMH-17)	



APPLICANT:

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27 KIMBALL ROAD
AMESBURY, MA

PREPARED BY:

WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

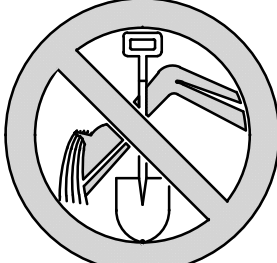
DRAWING TITLE:	SHEET No.
SEWER STRUCTURE INFO	C-104B
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NOTES:

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- FOOT CANDLE VALUES SHOWN ON THE PLAN ARE PRODUCED UTILIZING DESIGN MASTER PHOTOMETRICS SOFTWARE AND ASSOCIATED IES FILES BY THE MANUFACTURER FOR THE PROPOSED LIGHT FIXTURE.
- ALL PHOTOMETRIC DATA REFERS TO UNITS IN FOOT CANDLES (FC). THE LIMIT OF 1.0 FC ILLUMINATION IS SHOWN IN A RED SOLID LINE AND THE LIMIT OF THE 0.5 FOOT CANDLE (FC) ILLUMINATION IS SHOWN IN BLUE.
- QUANTITY SHOWN IN LUMINAIRE SCHEDULE TABLE DENOTES NUMBER OF FIXTURE HEADS. REFER TO PLAN FOR POLES WITH DOUBLE FIXTURES.
- ALL ILLUMINATION ON PARKING LOTS MUST BE SHIELDED SO AS NOT TO SHINE UPON ADJUTING PROPERTIES.
- SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL LIGHTING INFORMATION.
- ALL PROPOSED LIGHTING FIXTURES SHALL BE DARK SKY COMPLIANT.
- LIGHT POLES ADJACENT TO PARKING SHALL HAVE THE 3'-0" REVEAL FOOTING. LIGHT POLES ADJACENT TO SIDEWALKS SHALL HAVE FOOTING IN A FLUSH CONDITION.

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GENERAL PHOTOMETRIC SCHEDULE

AVERAGE FOOT-CANDLES	1.61
MAXIMUM FOOT-CANDLES	19.4
MINIMUM FOOT-CANDLES	0.0

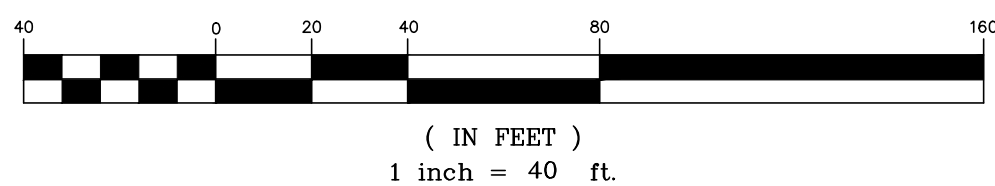
LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	QTY	DESCRIPTION	MOUNTING	MOUNTING HEIGHT	TOTAL LUMENS	LAMP DEPRECIATION
PTT2		3	Seville Series 4 Sided Decorative Lantern, Clear Seeded Acrylic, Type 2	POLE	10'-0"	61620	0.9
PTT4		32	Seville Series 4 Sided Decorative Lantern, Clear Seeded Acrylic, Type 4	POLE	10'-0"	60900	0.9
PTT5		7	Seville Series 4 Sided Decorative Lantern, Clear Seeded Acrylic, Type 5	POLE	10'-0"	68220	0.9
WMT4		186	Seville Series 4 Sided Decorative Lantern, Clear Seeded Acrylic, Type 4	WALL	6'-0"	29925	0.9

LEGEND

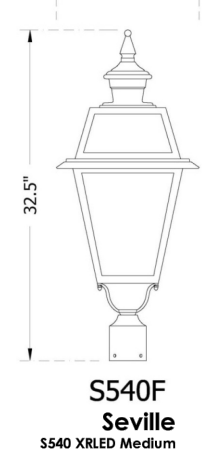
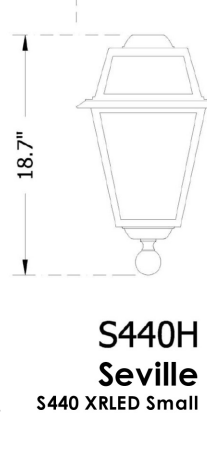
SINGLE POLE LIGHT	
WALL MOUNT LIGHT	
1 FOOTCANDLE CONTOUR	
.5 FOOTCANDLE CONTOUR	
LIGHTING LEVELS GIVEN IN FOOT-CANDLES	

GRAPHIC SCALE



- SIZE AND FOOTING FOR BASES TO BE VERIFIED BY STRUCTURAL ENGINEER.
 - LIGHT POLES ADJACENT TO PARKING SHALL HAVE THE 3'-0" REVEAL FOOTING. LIGHT POLES ADJACENT TO SIDEWALKS SHALL HAVE FOOTING IN A FLUSH CONDITION.
- SINGLE LUMINAIRE FIXTURE (AS PER PLAN)
- ROUND POLE
- ANCHOR BOLTS FURNISHED BY THE ELECTRICAL SUB-CONTR. & INSTALLED BY GENERAL CONTR.
- 1" CHAMFER AROUND BASE
- BITUMINOUS PAVING
- FINISHED GRADE
- 8-#6 BARS
- 3" MIN.
- CONDUITS IN BASE TO BE R.G.S.
- CONDUITS BY ELECTRICAL SUB-CONTRACTOR. PROVIDE WARNING TAPE OVER CONDUITS
- 4' MIN. BELOW GROUND
- 2' MIN. TOP OF CONDUITS
- 1'-6"
- #3 TIES @ 12" O.C. TOP TO BOTTOM (TYP.)
- 12' FIXTURE HEIGHT

LIGHT POLE & BASE DETAIL - FLUSH CONDITION
NOT TO SCALE



S440H
Seville
S440 XRLED Small

S540F
Seville
S540 XRLED Medium



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REV DATE DESCRIPTION

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DRAWING TITLE:

LIGHTING PLAN

SHEET NO.

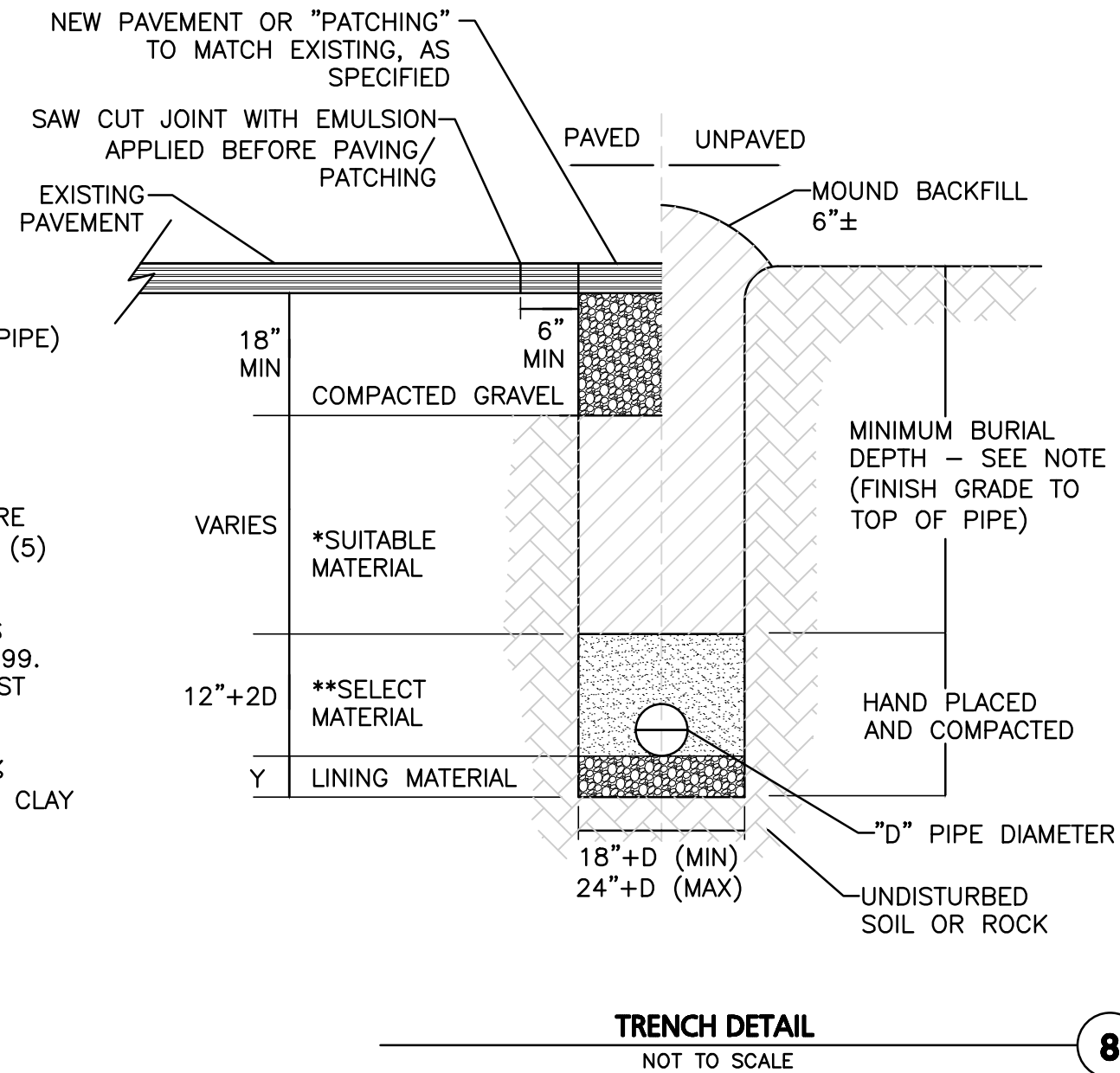
C-105

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NOTES:

1. MINIMUM BURIAL DEPTH (FINISH GRADE TO TOP OF PIPE)
GRAVITY PIPE - SEE PLAN
PRESSURE PIPE UNDER PAVING - 4' (TYPICAL)
PRESSURE PIPE BENEATH UNPAVED - 3'
- *PIPE SHALL BE INSULATED WITH 2" EXTRUDED POLYSTYRENE BOARD SET 2" ABOVE TOP OF PRESSURE PIPE (FORCE MAIN) WHEN COVER IS LESS THAN FIVE (5) AND WHERE SHOWN ON THE PLANS
2. WHERE BACKFILL IS DESIGNATED AS COMPACTED, THIS MEANS 90 TO 95% STANDARD PROCTOR. AASHTO T-99. ALL FILL PLACED BELOW PIPES AND STRUCTURES MUST MEET THIS REQUIREMENT.
3. FOR ALL TRENCHES WITH A GRADE GREATER THAN 4% AND/OR WHERE GROUNDWATER IS APPARENT, INSTALL CLAY DAMS AROUND THE PIPE AT 100' INTERVALS.



8

CONDITION & PIPE	**SELECT MATERIAL	LINING MATERIAL	Y-DIMENSION
DUCTILE IRON "ORDINARY SOIL"	TYPE I, II, OR III	SAND OR TYPE III	3"
RCP "ORDINARY SOIL"	TYPE II OR III	SAND OR TYPE III	3"
ALL PIPE OVER BEDROCK OR LEDGE	TYPE II OR III	SAND OR TYPE III	8"
DUCTILE IRON IN CLAY OR MUCK	TYPE II OR III	SAND	4"
RCP IN CLAY	TYPE II OR III	SAND	8"
ALL PLASTICS	TYPE III	SAND OR TYPE III	6"

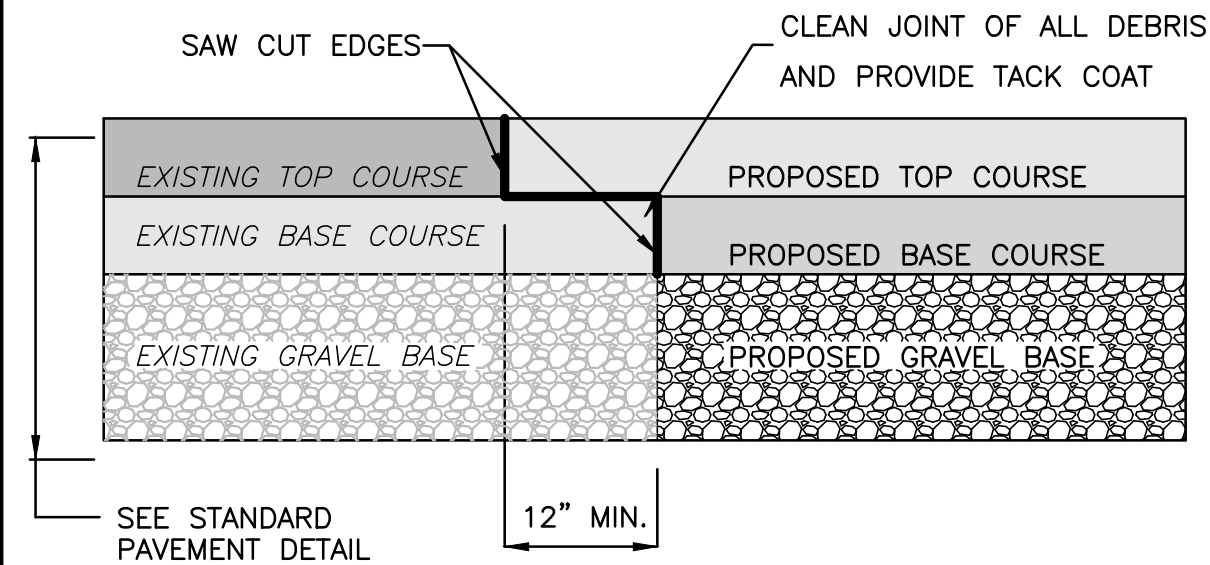
SUITABLE MATERIAL SHALL CONTAIN NO STONE GREATER THAN 4" IN DIAMETER, NO FROZEN LUMPS, AND ONLY MINOR AMOUNTS OF CLAY OR ORGANIC MATERIAL. ALL MATERIAL TO BE PLACED IN MAX 12" LIFTS AND COMPACTED BEFORE PLACING NEXT LIFT.

**TYPE I MATERIAL SHALL BE EITHER GRAVEL OR EXCAVATED MATERIAL CONTAINING NO STONES GREATER THAN 1.5" DIAMETER, NO FROZEN LUMPS, CLAY OR ORGANIC MATERIAL.

**TYPE II MATERIAL SHALL BE CLEAN, HARD, CRUSHED OR NATURAL STONE WITH A GRADATION BY WEIGHT OF 100% PASSING A 1.5" SQUARE OPENING, NOT MORE THAN 25% PASSING A ¾" OPENING, AND NOT MORE THAN 5% PASSING A ½" SQUARE OPENING.

**TYPE III MATERIAL SHALL BE CLEAN, HARD, CRUSHED STONE FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 1" SQUARE OPENING, AND 0 TO 5% PASSING A ½" SQUARE OPENING.

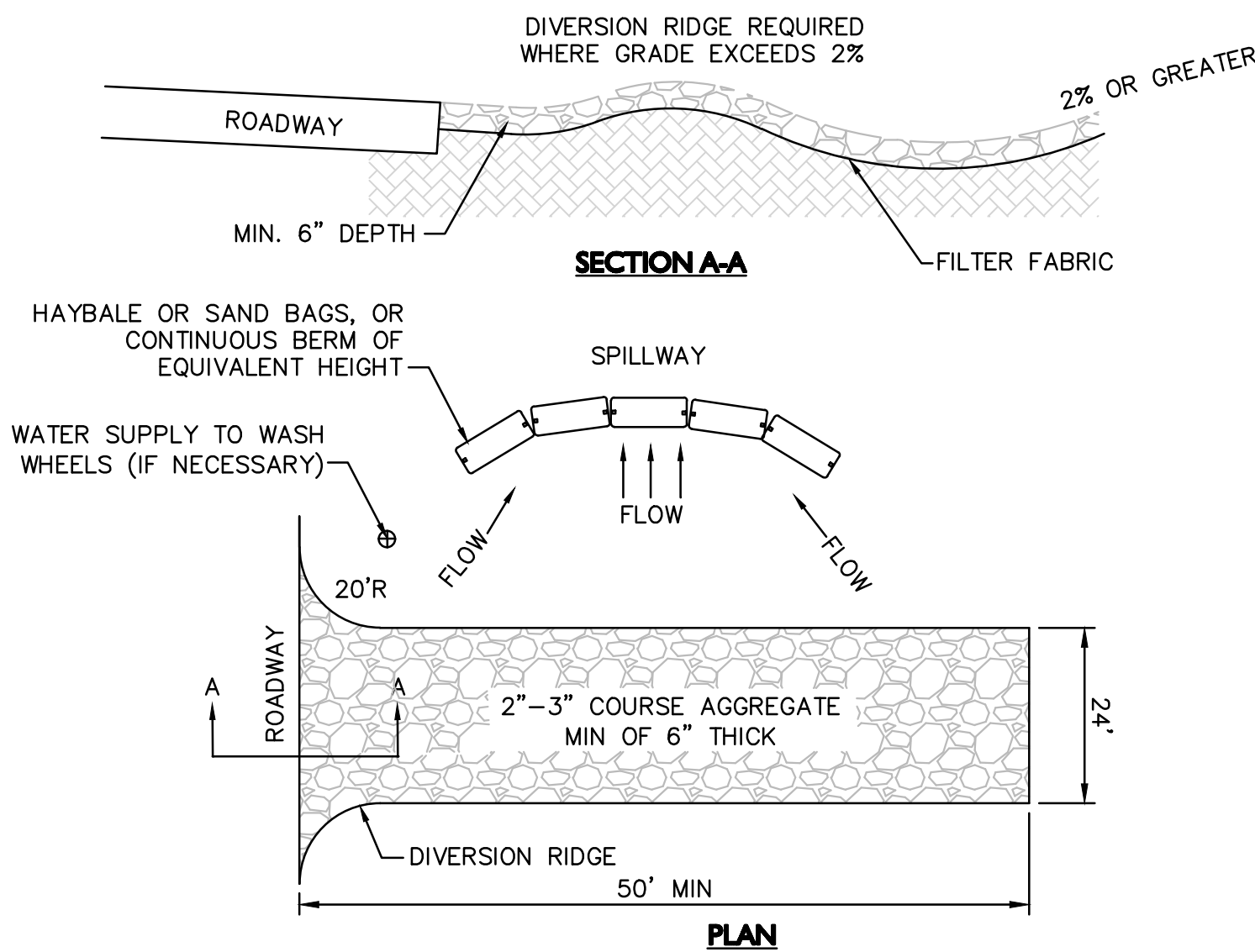
NOTE:
TACK COAT - PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.



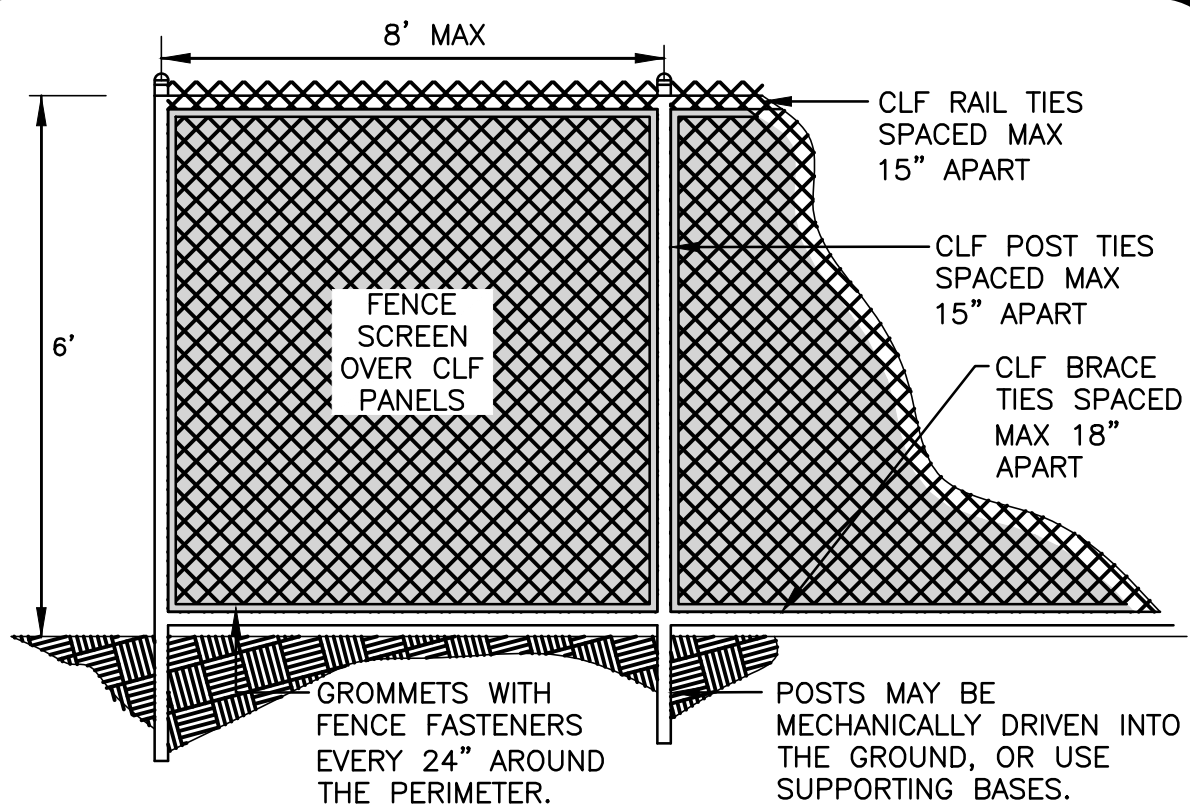
7

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTERING THE PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. USE SANDBAGS, HAYBALES, OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.
5. SEE EROSION CONTROL PLAN FOR PAD DIMENSIONS AND LOCATION.



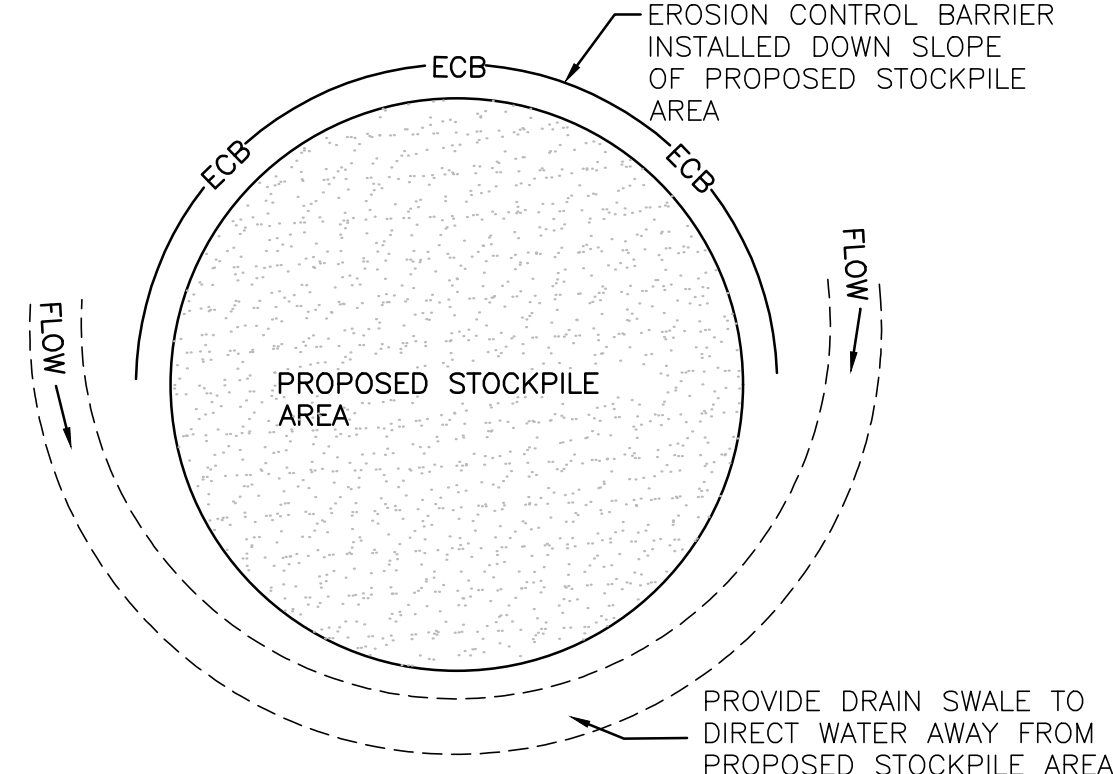
6



NOTES:

1. SCREEN MATERIAL SHALL BE MADE FROM KNITTED HIGH DENSITY POLYETHYLENE WITH UV ADDITIVES.
2. SCREEN FILAMENT STRENGTH SHALL BE A MINIMUM OF 50LBS/FT.
3. SCREEN MATERIAL BREAK STRENGTH SHALL BE A MINIMUM OF 500 LBS/FT.
4. SCREEN SHADE / WIND BLOCKAGE SHALL BE A MINIMUM OF 85%.
5. SCREEN COLOR SHALL BE GREEN OR BLACK.

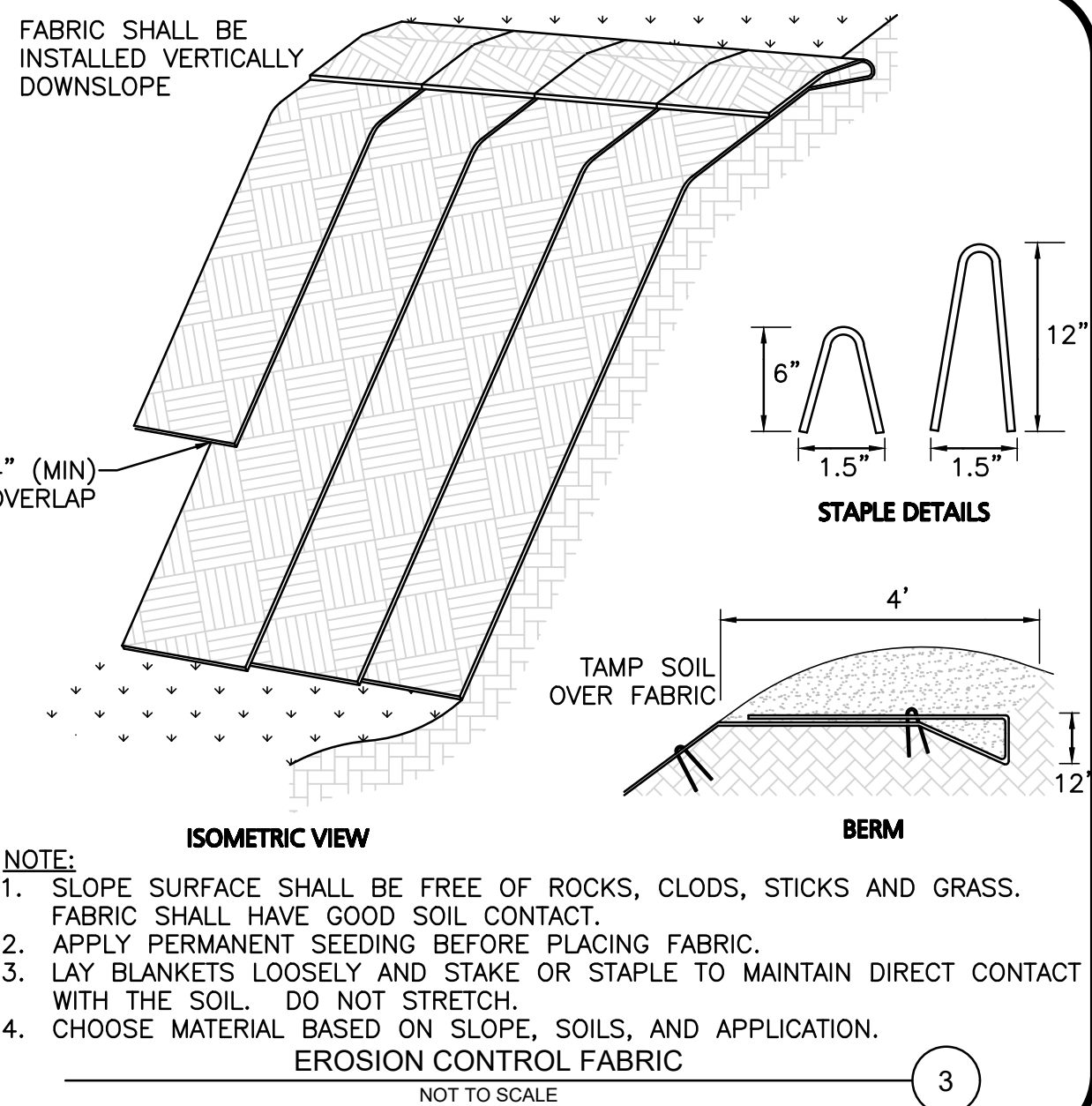
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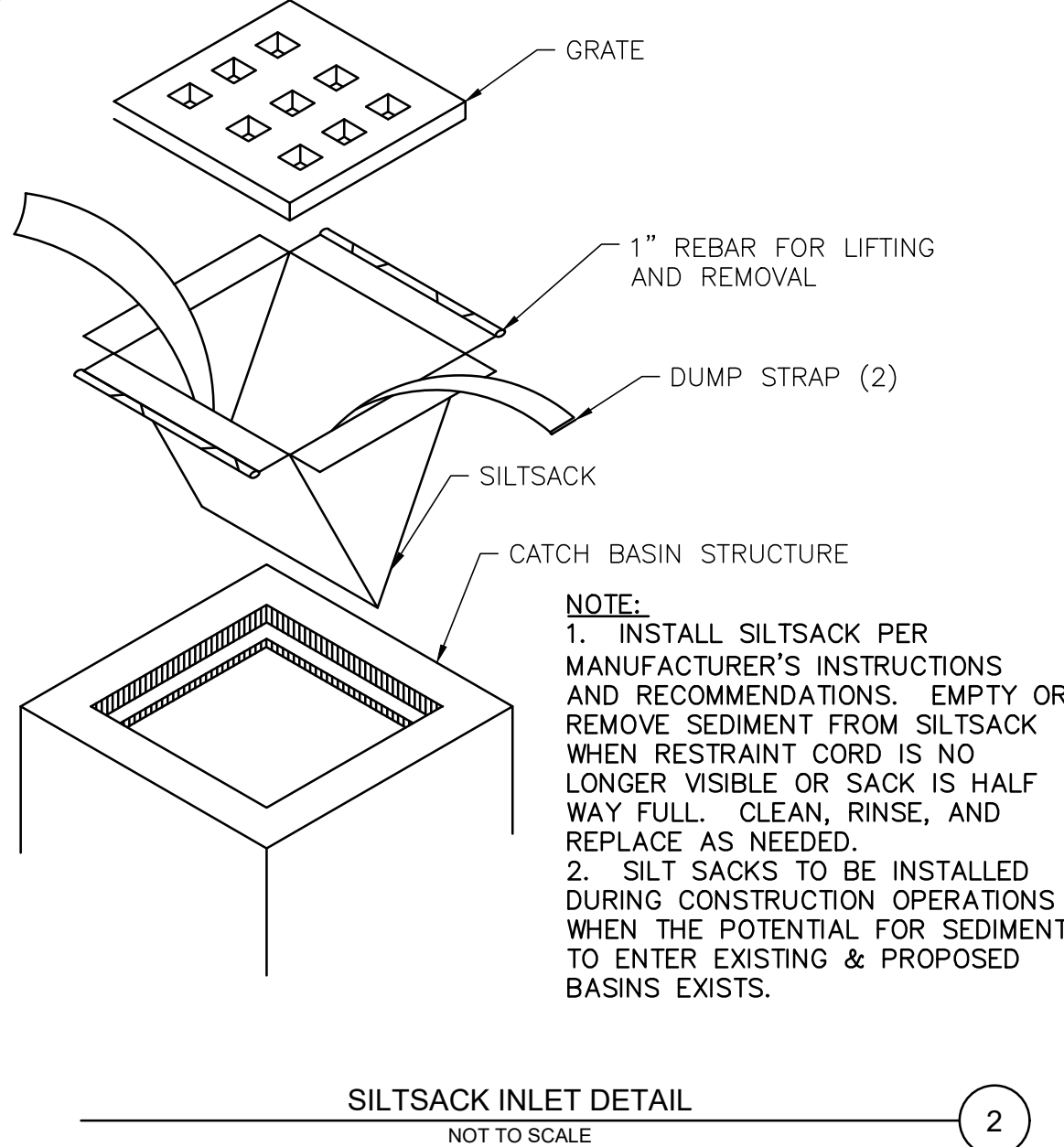
NOTES:

1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH STRAW AND MULCH (AT 100 LBS/1,000 S.F.), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

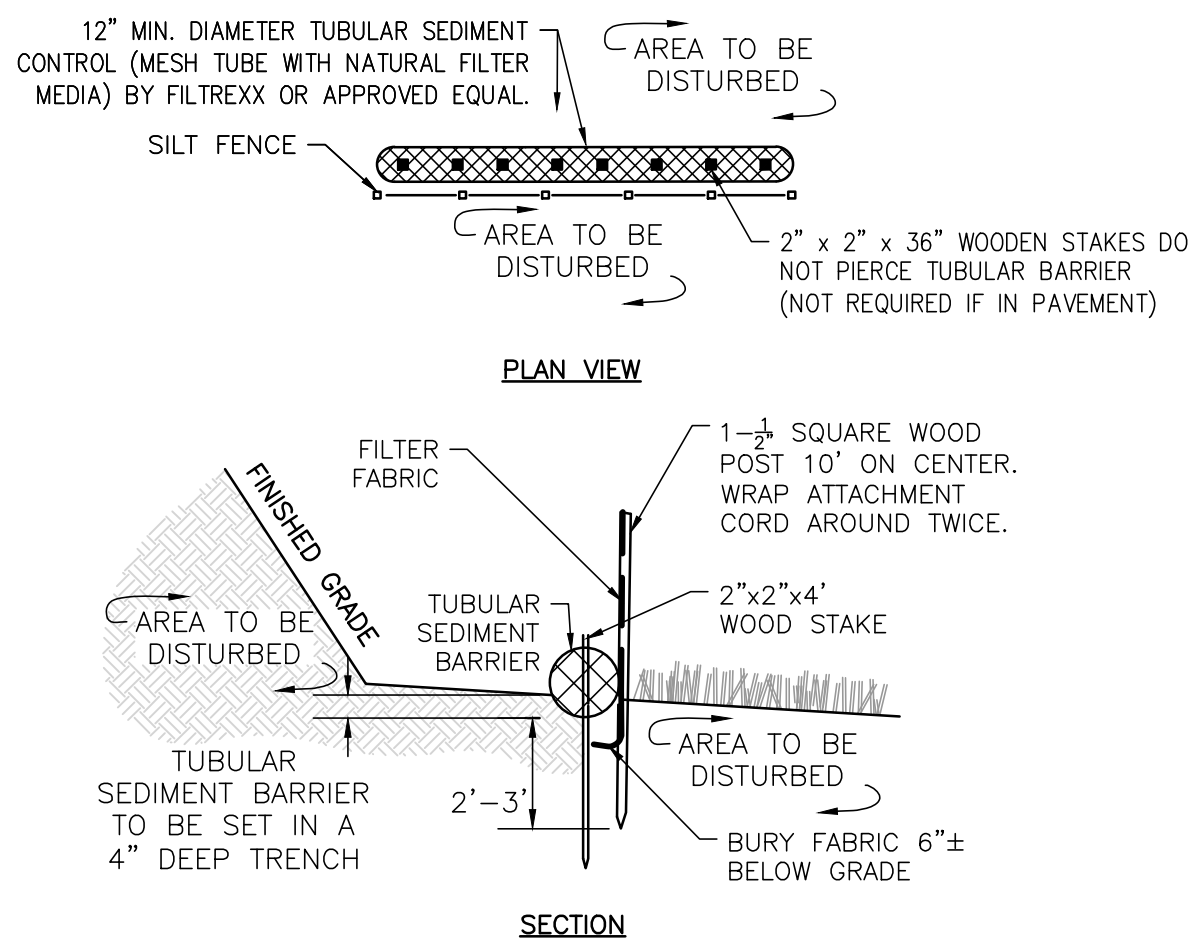
4



3



2



NOTES:

1. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
2. INSTALL WOODEN STAKES IN A CRISS-CROSS PATTERN EVERY 8' ON CENTER.
3. OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
4. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
5. WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
6. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.
7. DEPTH TO BE 2' UNLESS POST IS TO BE SET IN PEAT THEN 3' OR GREATEST DEPTH POSSIBLE BY PUSHING BY HAND SHALL BE REQUIRED.

1



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV DATE DESCRIPTION
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:

27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026
SCALE: AS SHOWN DWG. NAME: C-3410-03
DESIGNED BY: BDP/CB CHECKED BY: CMQ

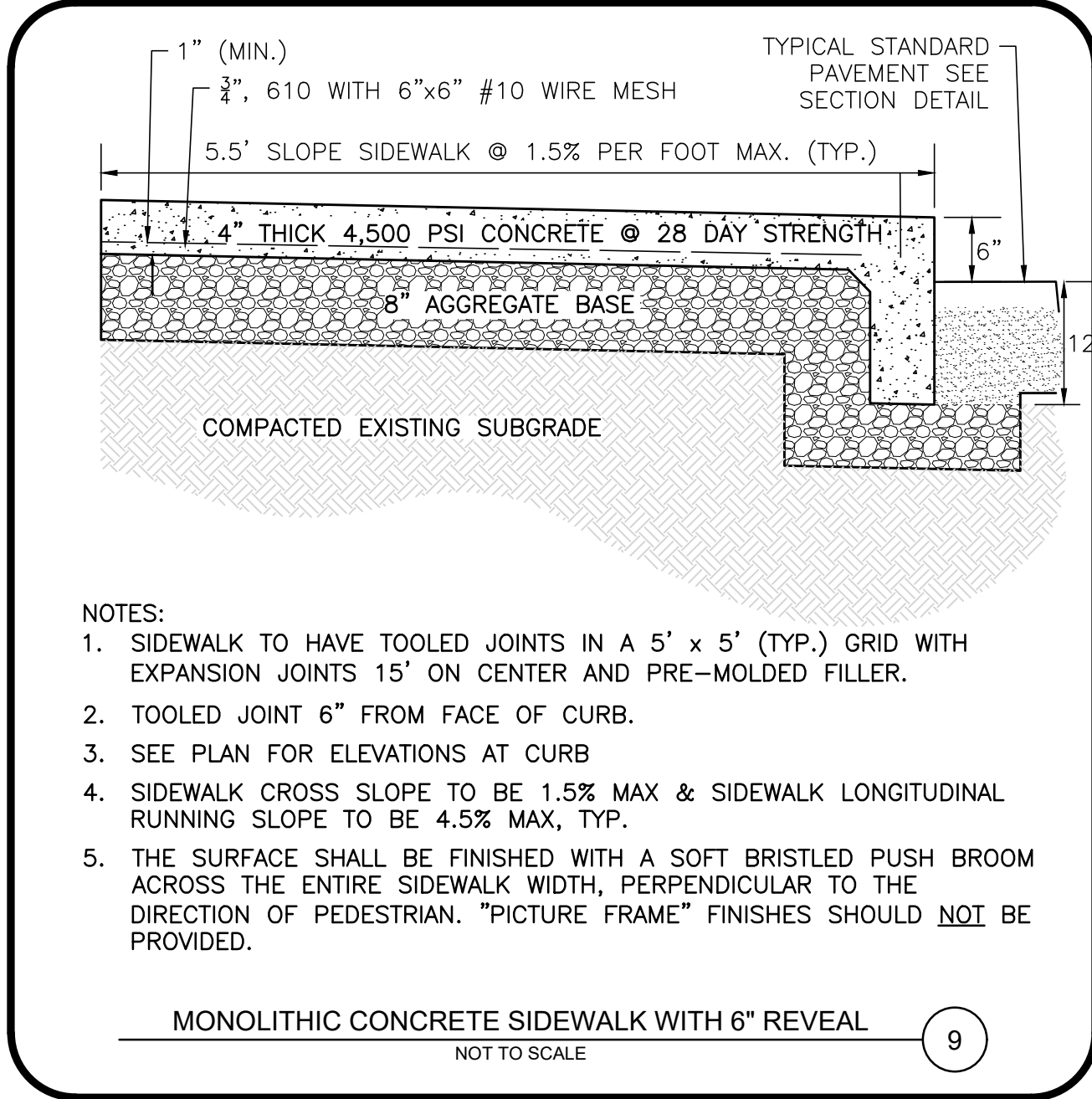
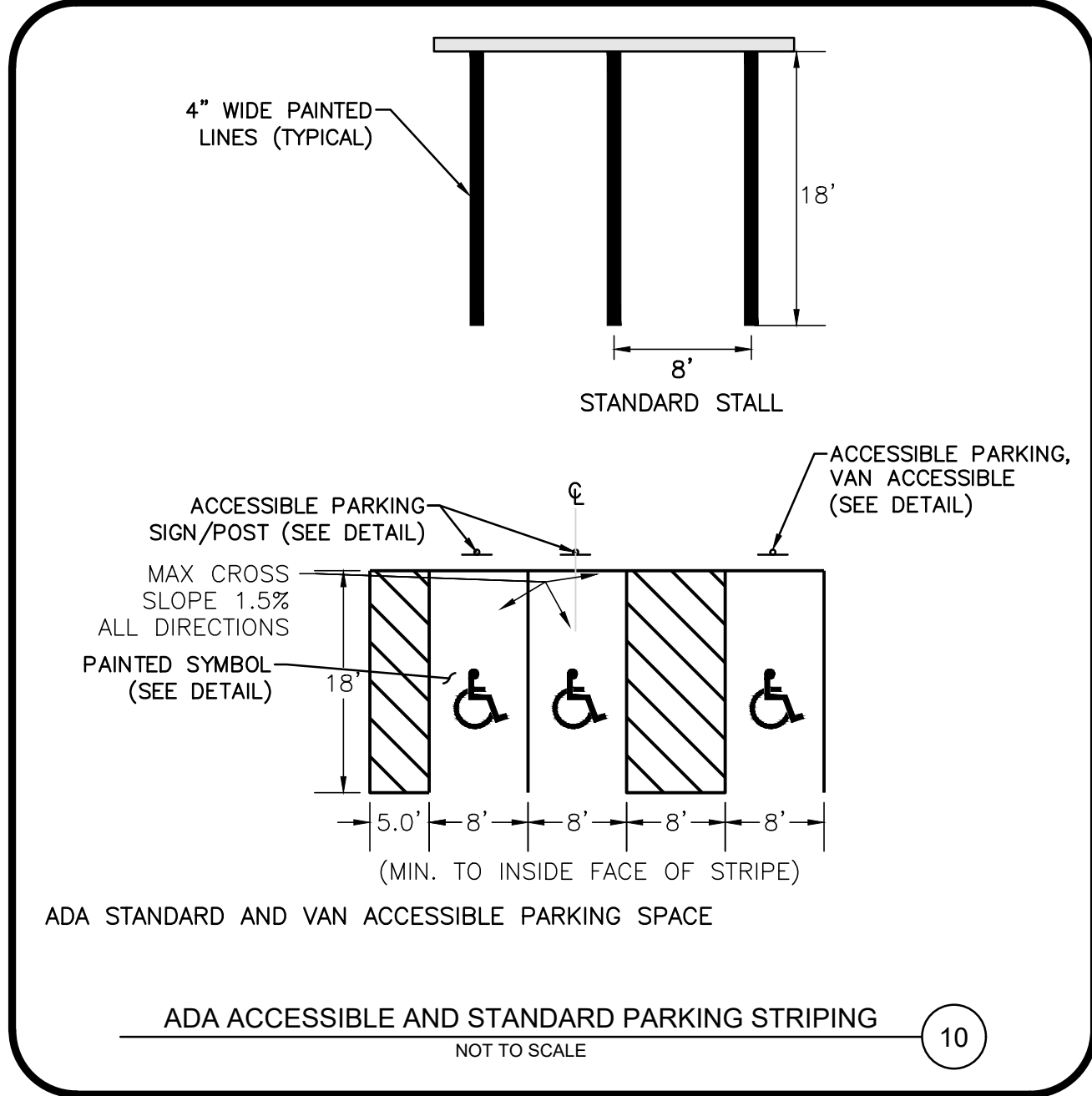
PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
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STANDARD SIGNAGE TABLE:					
DESC.	SIGN	SIZE	MOUNTING HEIGHT	DESCRIPTION	REFLEC-TORIZED
R1-1		30"x30"	7' - 0"	WHITE ON RED	YES
R7-8 (MODIFIED)		12"x20"	7' - 0"	GREEN & BLUE ON WHITE	NO
R7-8		12"x20"	7' - 0"	GREEN & BLUE ON WHITE	NO

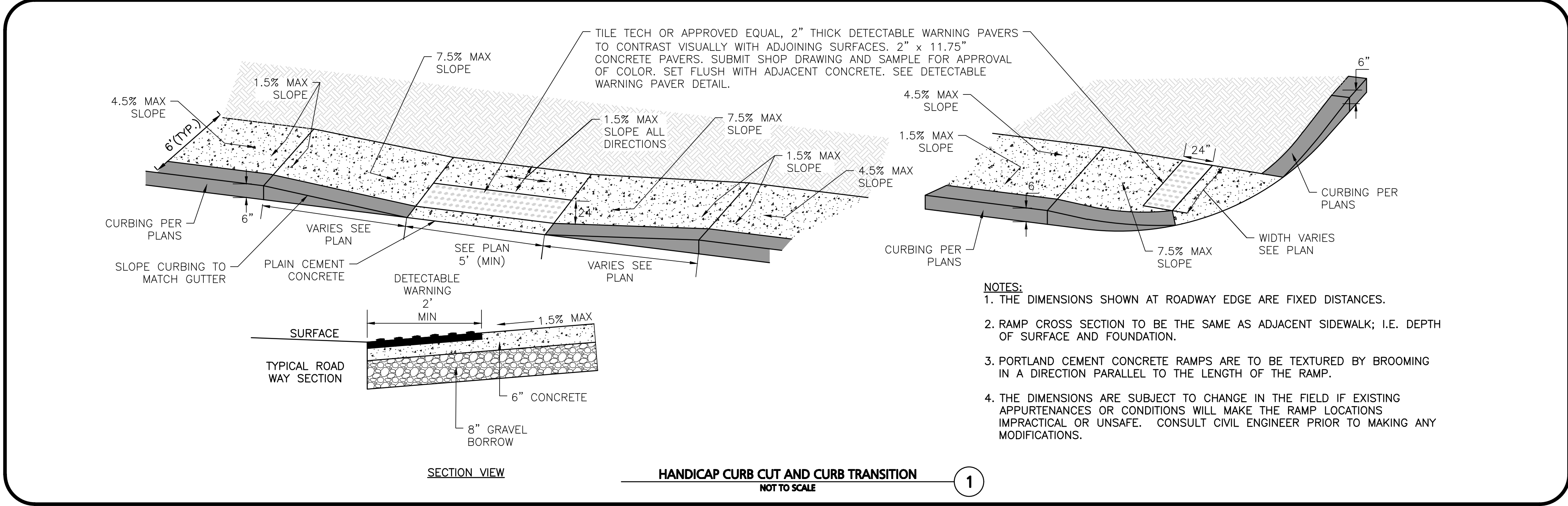
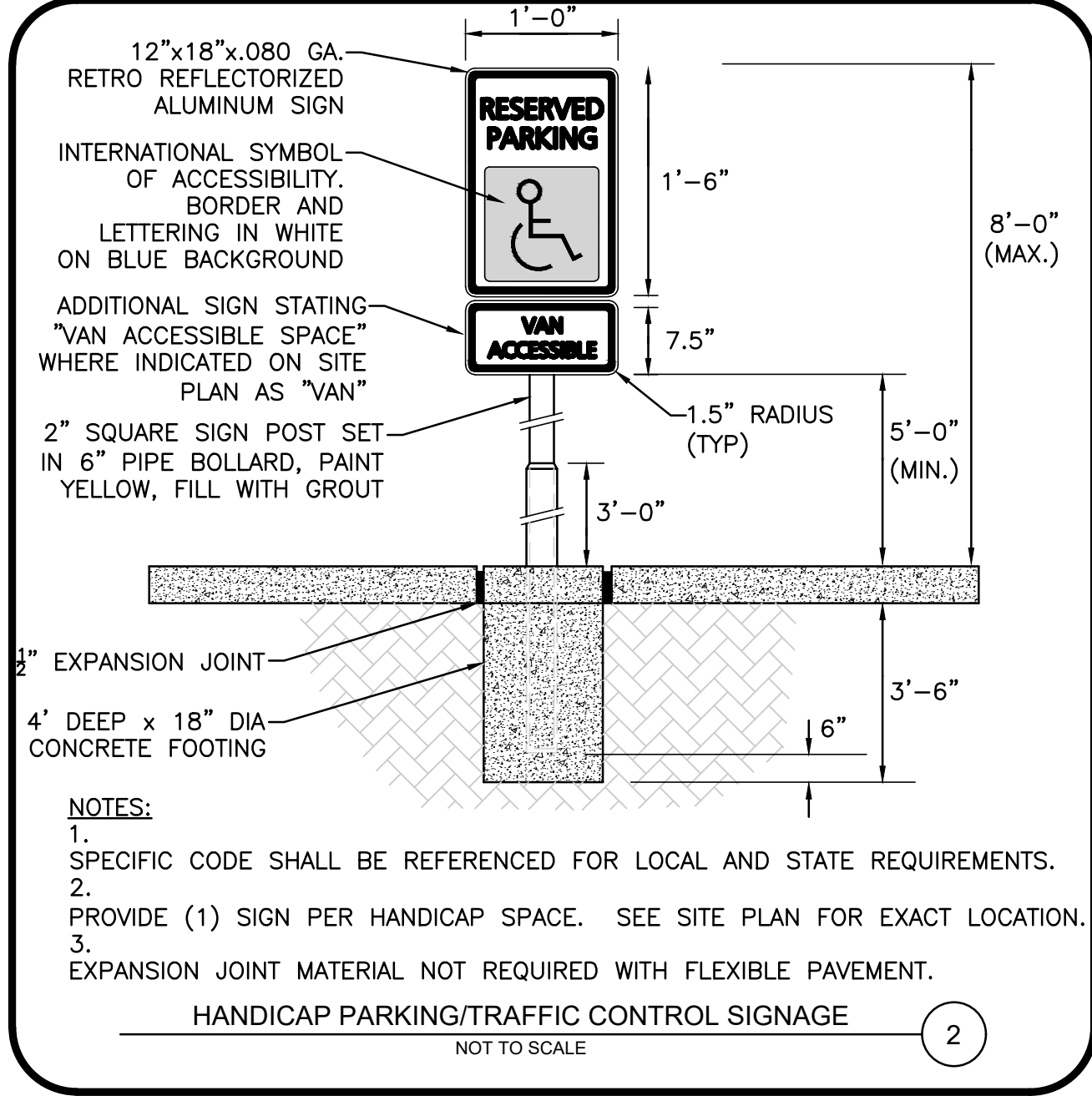
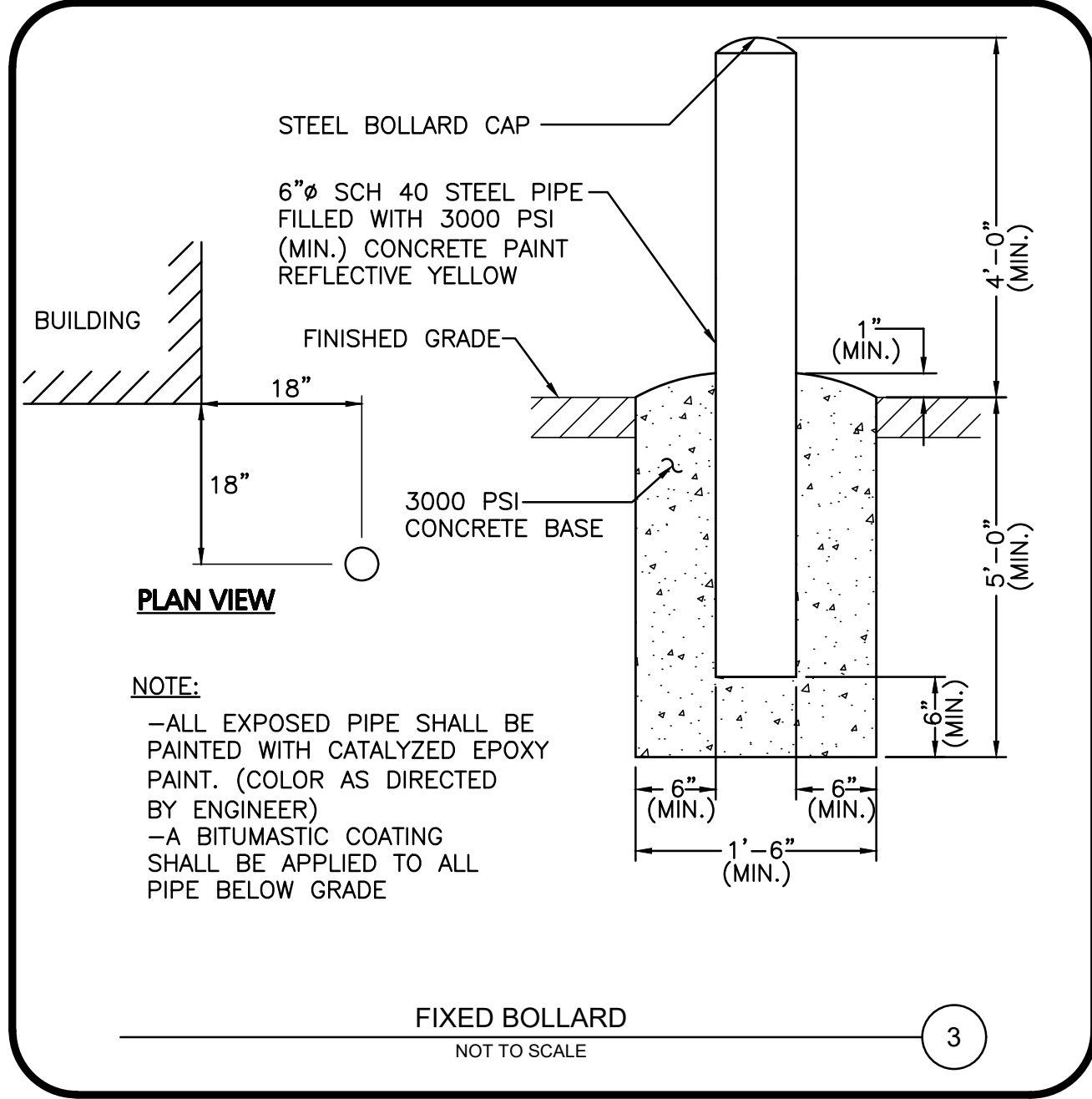
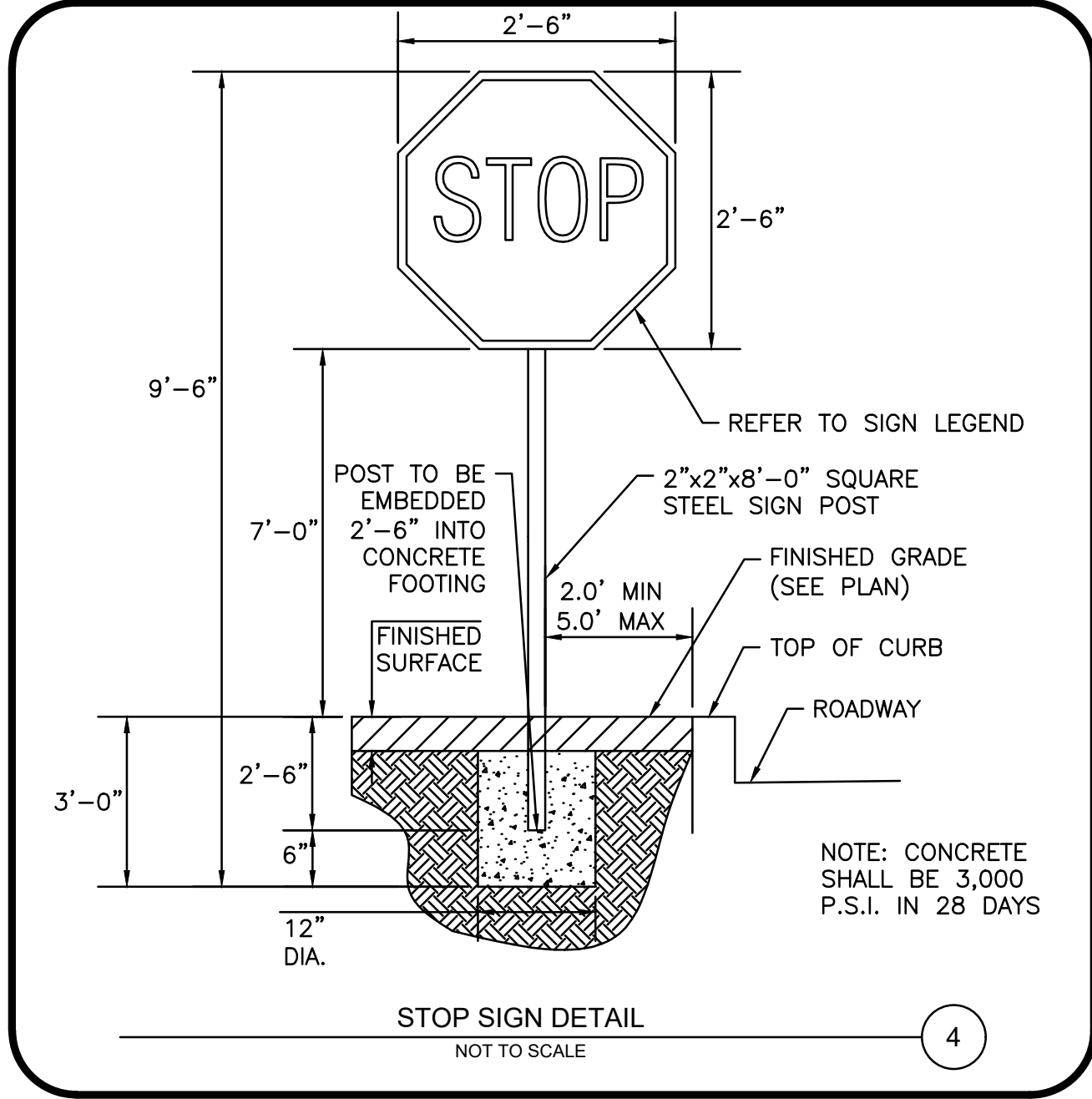
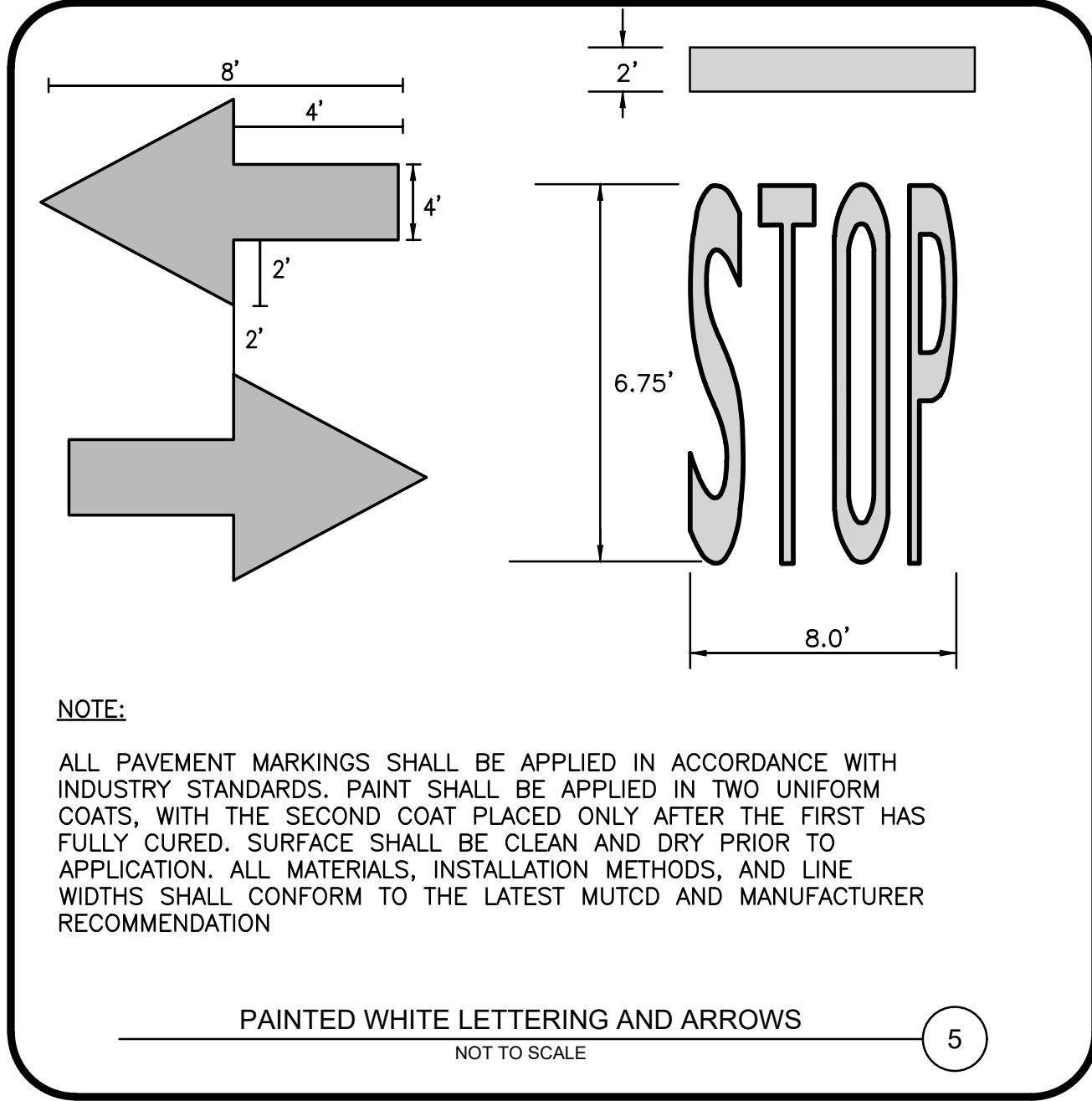
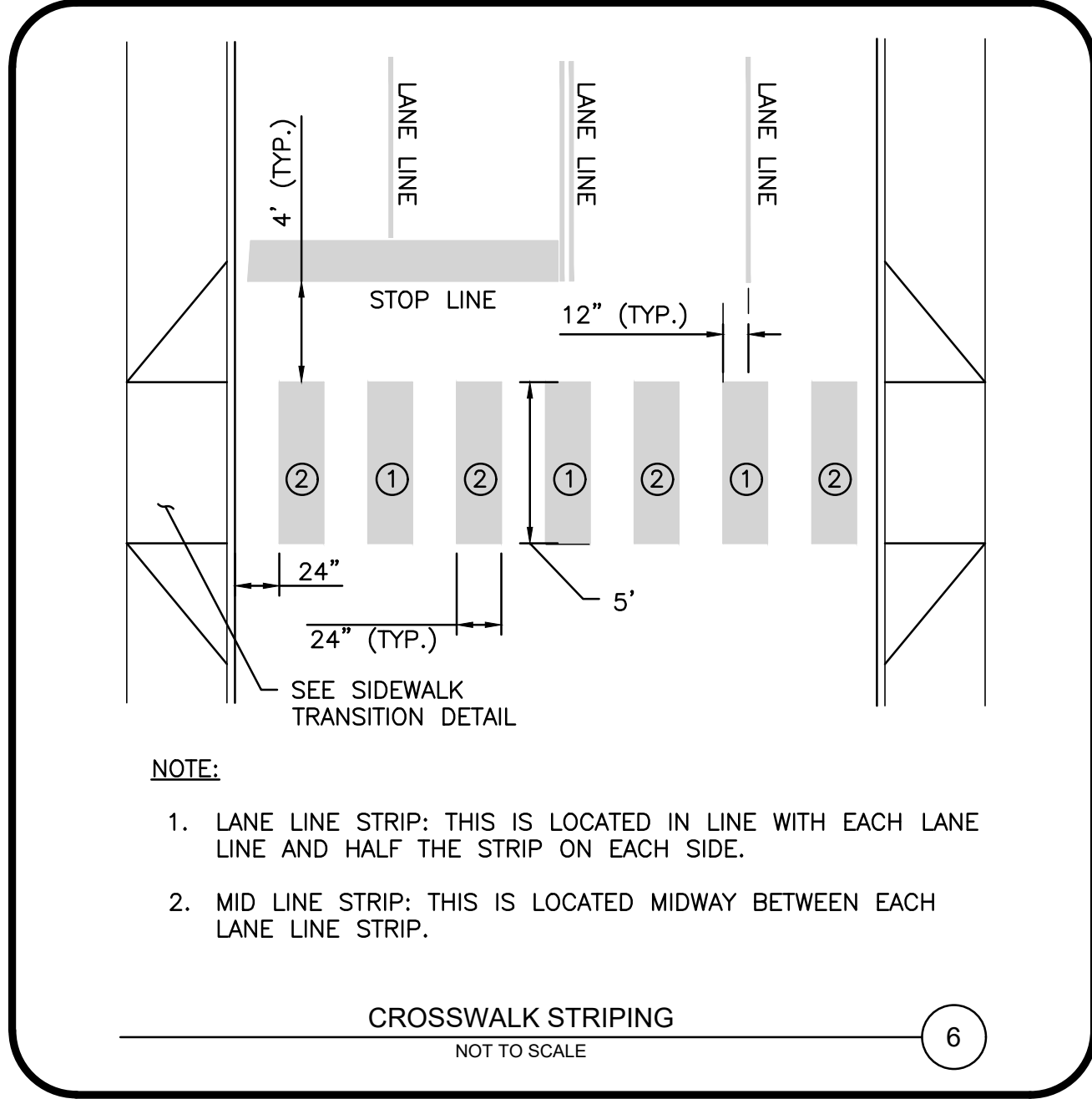
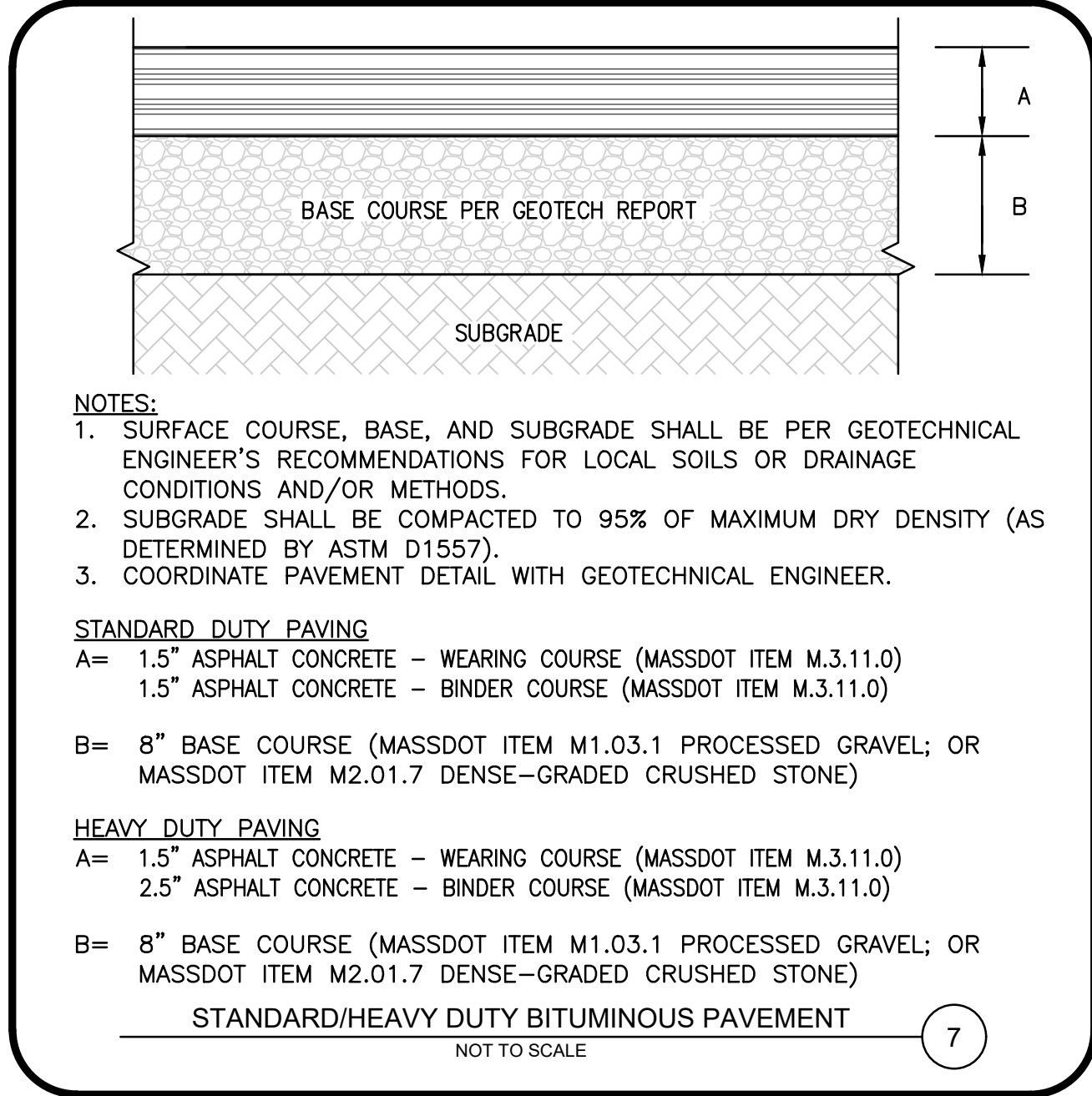
NOTES:

1. TRAFFIC AND SAFETY SIGNAGE SHALL COMPLY WITH MUTCD STANDARDS.
2. WHERE APPLICABLE THE SIGN SUPPORT SHALL COMPLY WITH THE BREAKAWAY REQUIREMENTS OF THE LATEST EDITION OF AASHTO'S "SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS".

STANDARD SIGNAGE TABLE

NOT TO SCALE

8



COMMONWEALTH OF MASSACHUSETTS
CARLTON M. QUINN
CIVIL
No. 49923
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

APPLICANT:

MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:

27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO.	3410-03	DATE:	01-26-2026
SCALE:	AS SHOWN	DWG. NAME:	C-3410-03
DESIGNED BY:	BDP/CB	CHECKED BY:	CMQ
PREPARED BY:			

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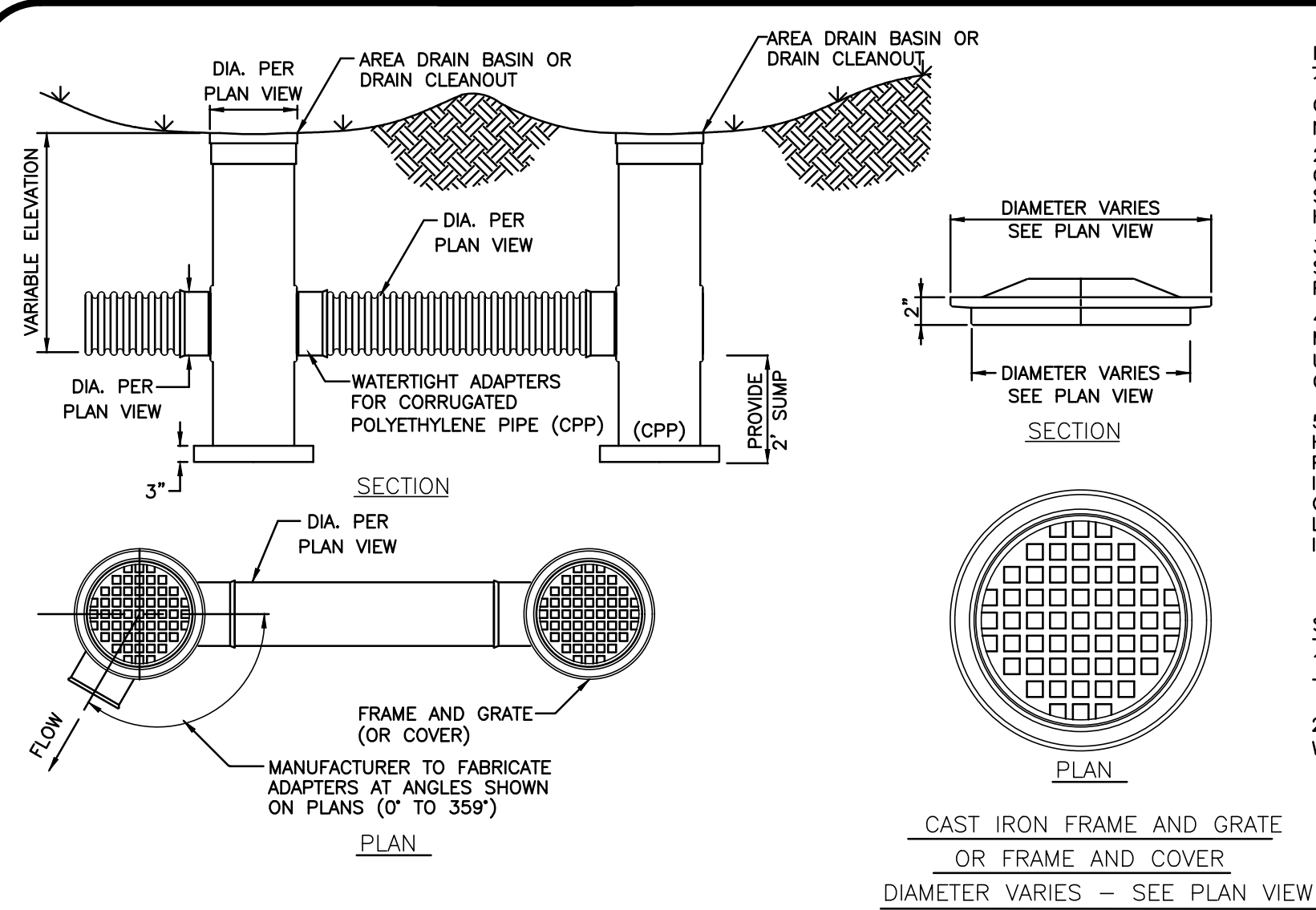
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NOT USED
NOT TO SCALE

7

NOT USED
NOT TO SCALE

6

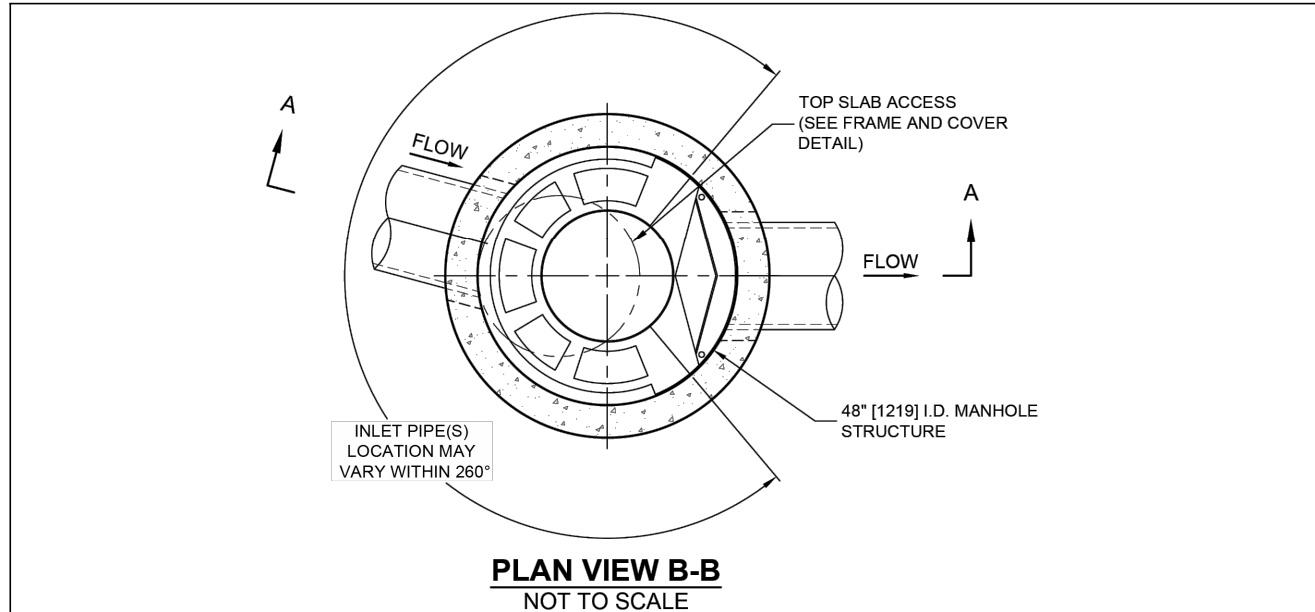


- NOTES:
1. AREA DRAINS (AD) AND DRAIN CLEANOUTS (CO) SHALL BE NYLOPLAST OR APPROVED EQUAL.
 2. AREA DRAIN GRATES AND CLEANOUT SOLID COVERS SHALL BE HEAVY DUTY RATED H-20.
 3. WATER-TIGHT CONNECTIONS SHALL MEET ASTM 3212 FOR POLYETHYLENE PIPE.
 4. ALL COMPONENTS SHALL BE AS MANUFACTURED BY NYOPLAST U.S.A., INC. (770-932-2443) OR APPROVED EQUAL.
 5. AREA DRAINS LOCATED IN HARDSCAPE SUBJECT TO PEDESTRIAN TRAFFIC SHALL BE INSTALLED WITH ADA COMPLIANT GRATES. AREA DRAINS LOCATED IN LANDSCAPE AREAS SHALL BE INSTALLED WITH BEEHIVE GRATES.

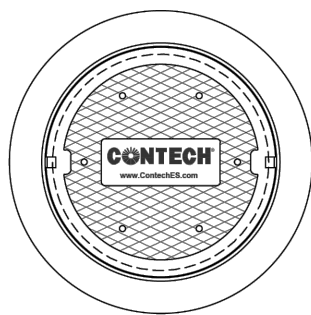
- SPECIFICATIONS:
1. QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B
 2. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

AREA DRAINS (AD) AND DRAIN CLEANOUTS (CO)
NOT TO SCALE

5



CS-4 RATED TREATMENT CAPACITY IS 2.0 CFS, OR PER LOCAL REGULATIONS. THE STANDARD CS-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.	
CONFIGURATION DESCRIPTION	
GRATED INLET ONLY (NO INLET PIPE)	
GRATED INLET WITH INLET PIPE OR PIPES	
CURB INLET ONLY (NO INLET PIPE)	
CURB INLET WITH INLET PIPE OR PIPES	



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS				
STRUCTURE ID				
WATER QUALITY FLOW RATE (cfs [L/s])				
PEAK FLOW RATE (cfs [L/s])				
RETURN PERIOD OF PEAK FLOW (yrs)				
RIM ELEVATION				
PIPE DATA:				
INLET PIPE 1				
INLET PIPE 2				
OUTLET PIPE				
NOTES / SPECIAL REQUIREMENTS:				

- GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE
 2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
 3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
 4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO M199 LOAD RATING, ASSUMING EARTH COVER OF 0' 2" (50), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M300 AND BE CAST WITH THE CONTECH LOGO.
 5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
 6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].
- INSTALLATION NOTES:
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
 - C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
 - D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
 - E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

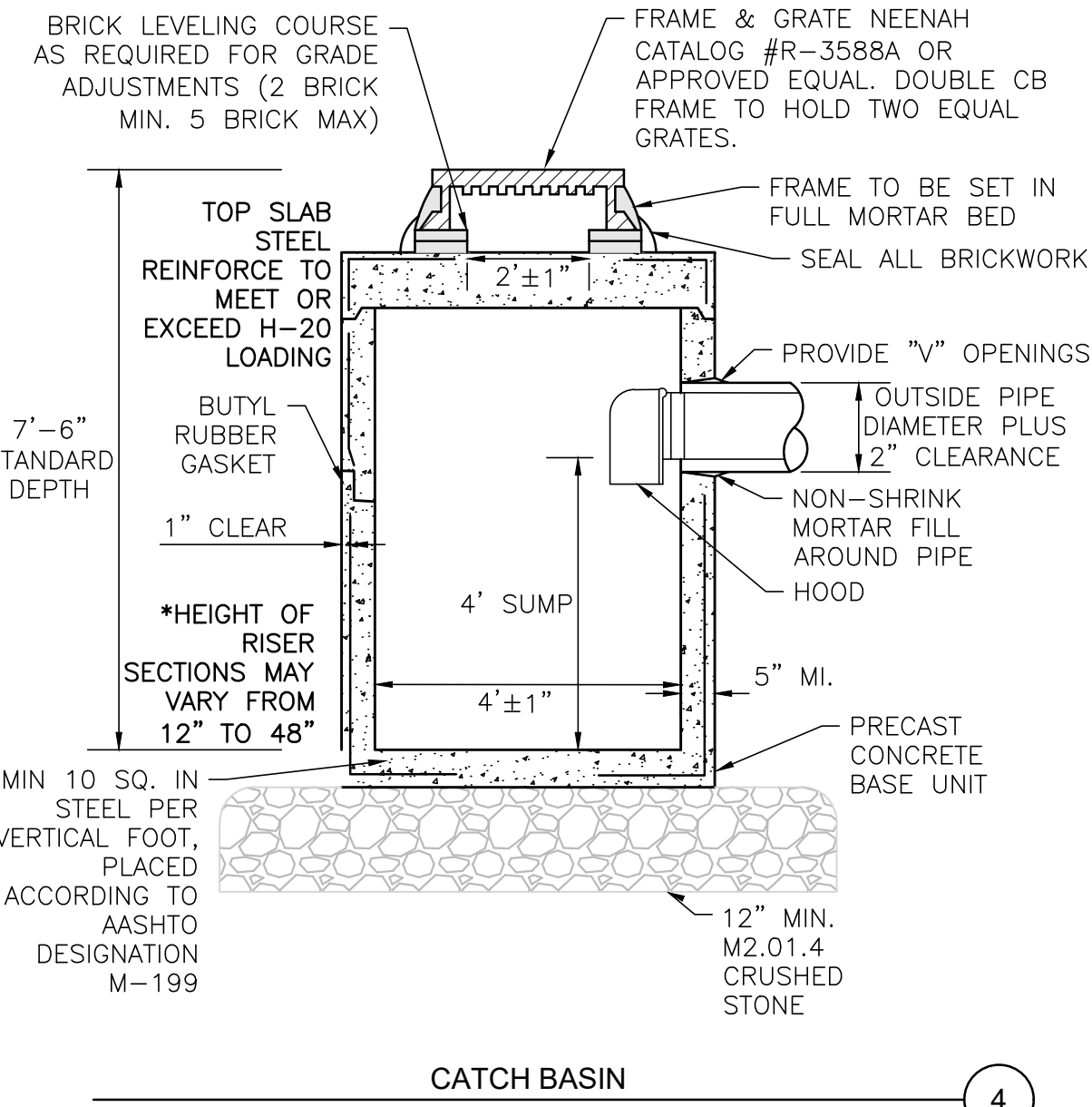


CS-4
CASCADE SEPARATOR
STANDARD DETAIL

CASCADE
separator™

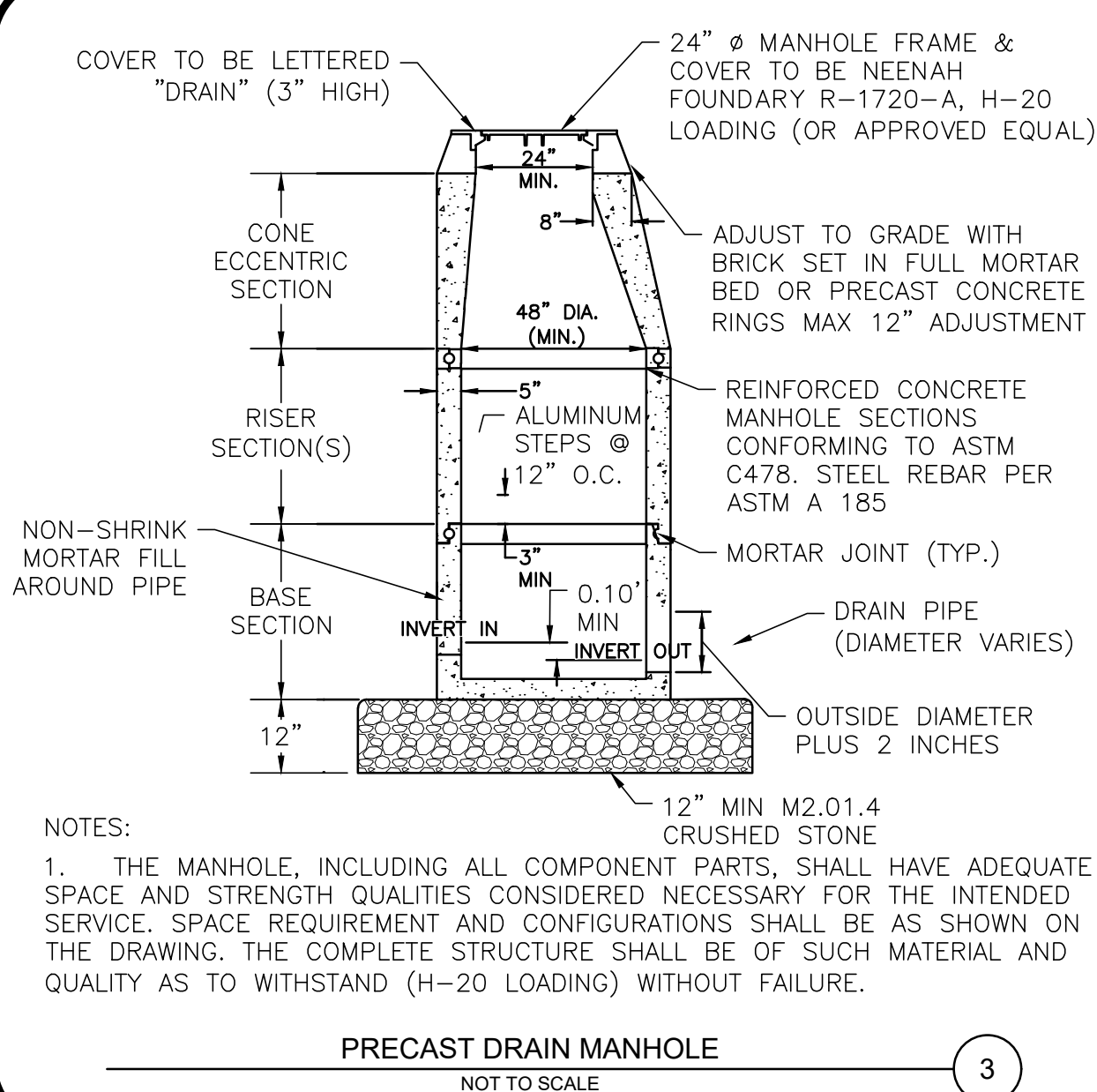
CASCADE SEPARATOR - CS4 - (WQU)
NOT TO SCALE

2



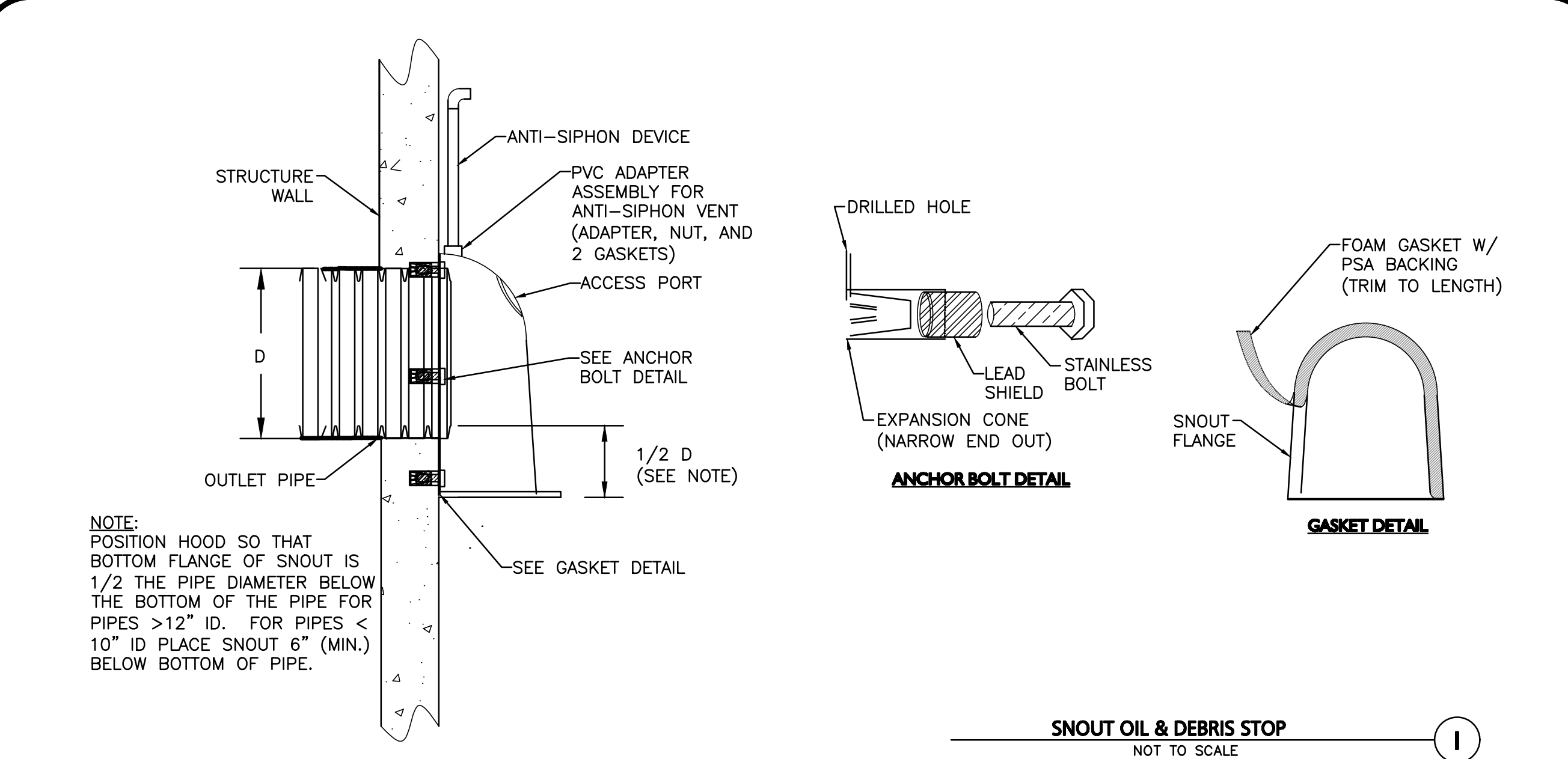
CATCH BASIN
NOT TO SCALE

4



PRECAST DRAIN MANHOLE
NOT TO SCALE

3



SNOUT OIL & DEBRIS STOP
NOT TO SCALE

1



PROFESSIONAL ENGINEER FOR
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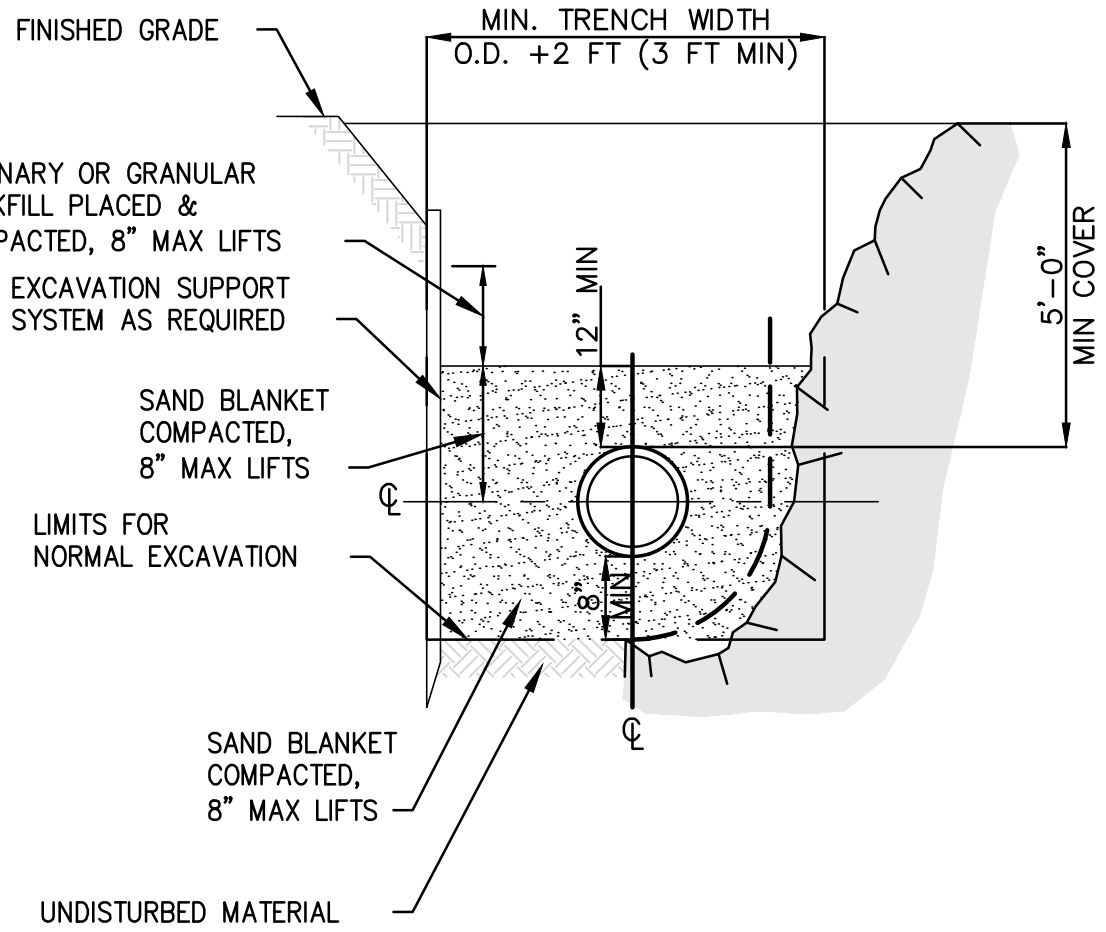
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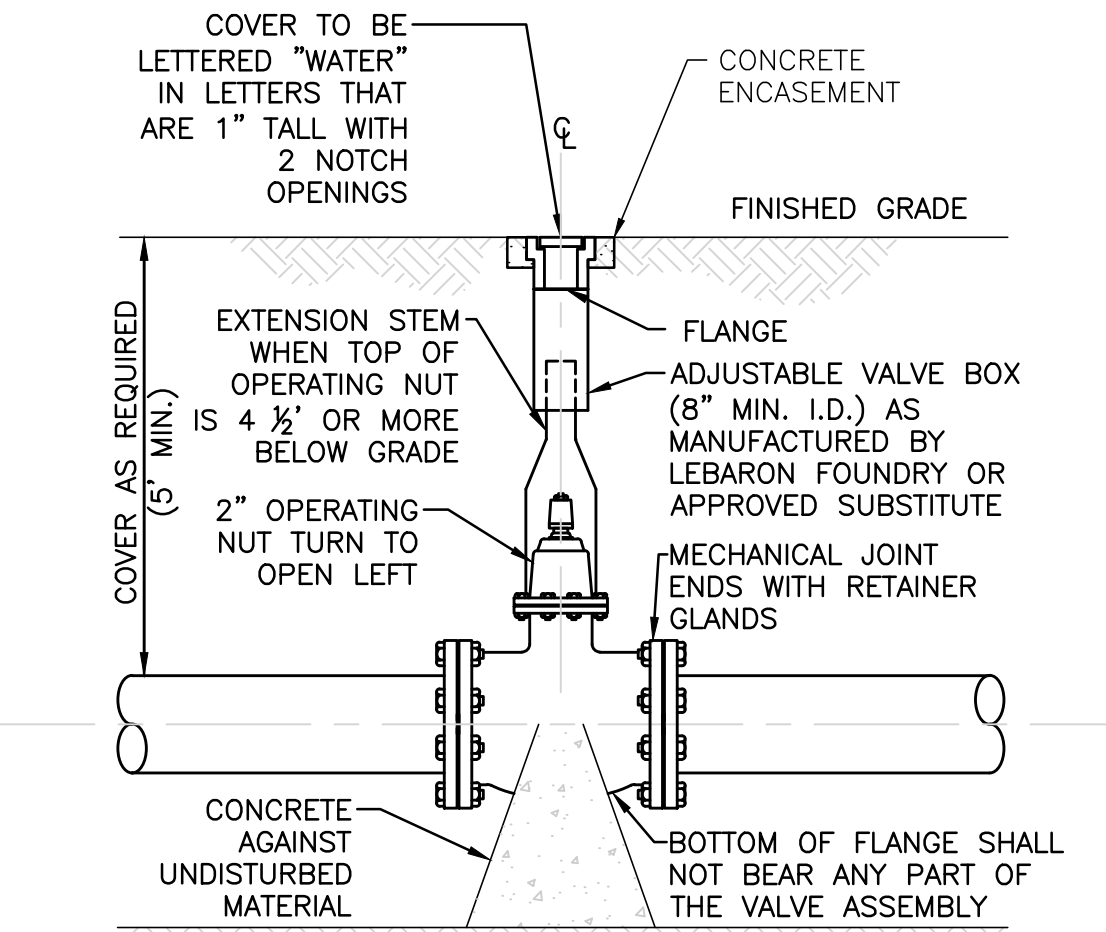
NOT USED
NOT TO SCALE

10



WATER TRENCH SECTION
NOT TO SCALE

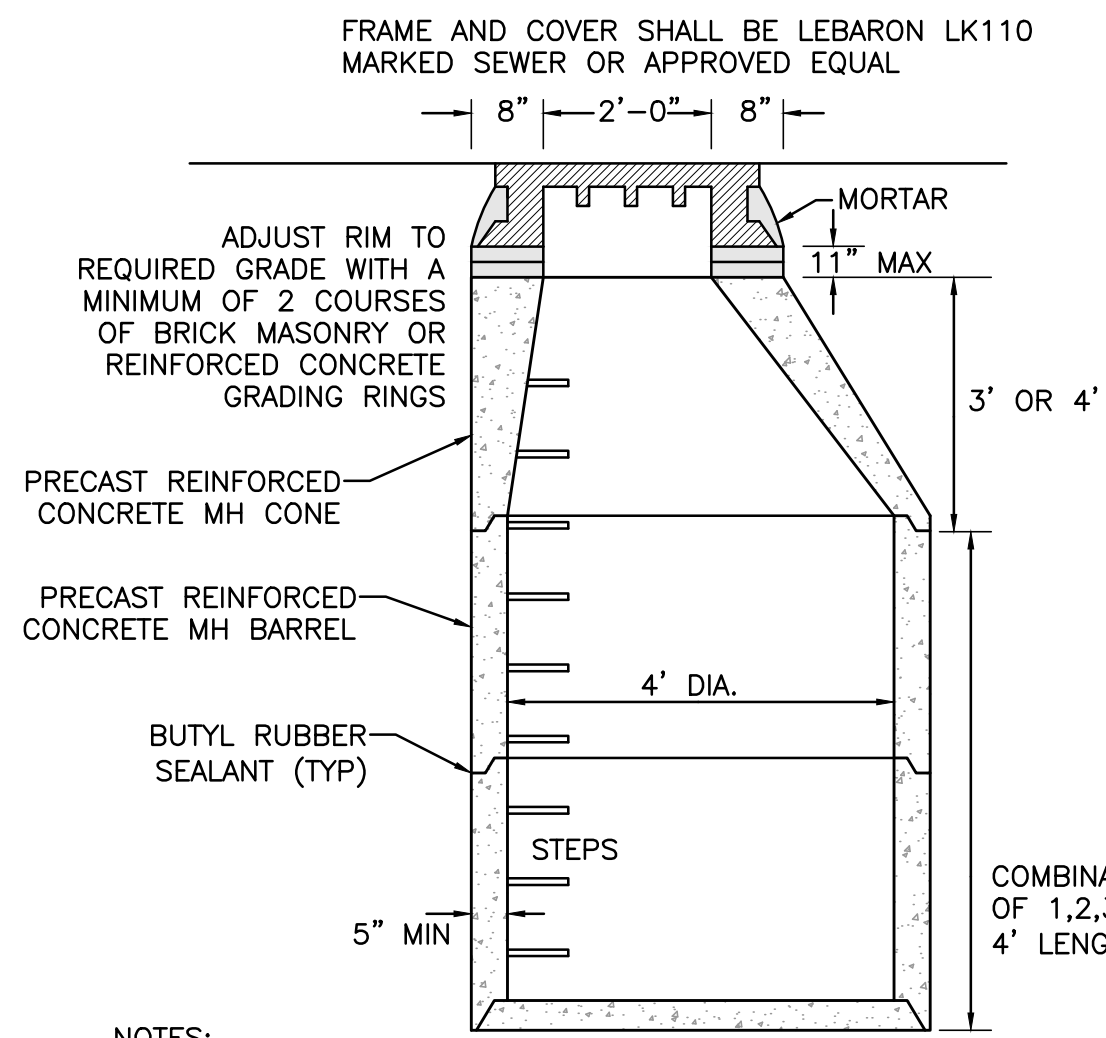
9



NOTE:
1.) ALL GATE VALVES ARE TO BE M.J. OPEN LEFT, A.P. SMITH, METROPOLITAN TRIM, AMERICAN 80CRS, MUELLER RESILIENT WEDGE VALVE MODEL A-2360-20 OR MUELLER DOUBLE DISC NRS GATE VALVE WITH STANDARD M.J. XMJ ENDS MODEL A-2380-20M

GATE VALVE
NOT TO SCALE

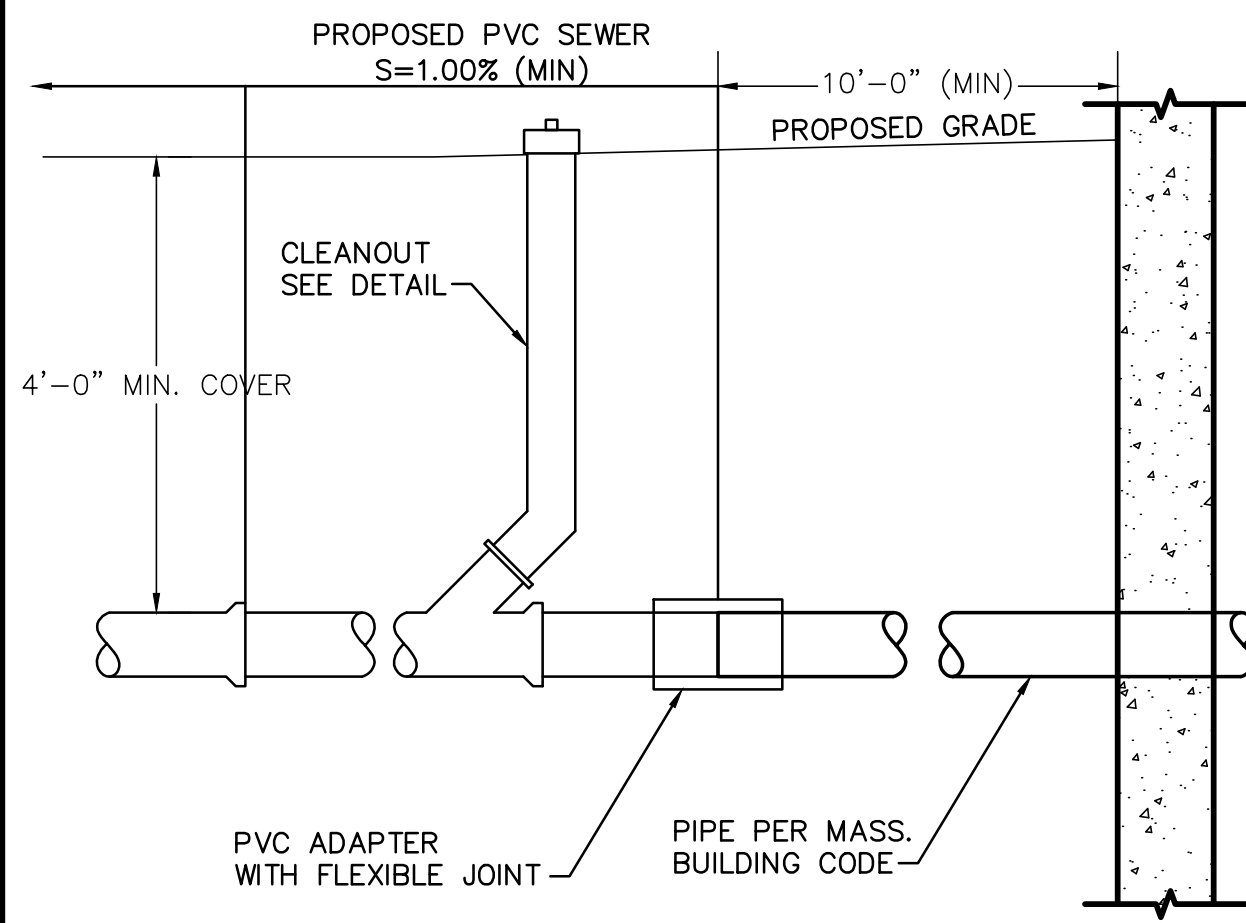
8



NOTES:
1. ALL EXTERIOR SURFACES OF MANHOLE GRADE ADJUSTMENT COURSES SHALL BE COVERED WITH 1/2" TO 3/8" MASONRY CEMENT PLASTER

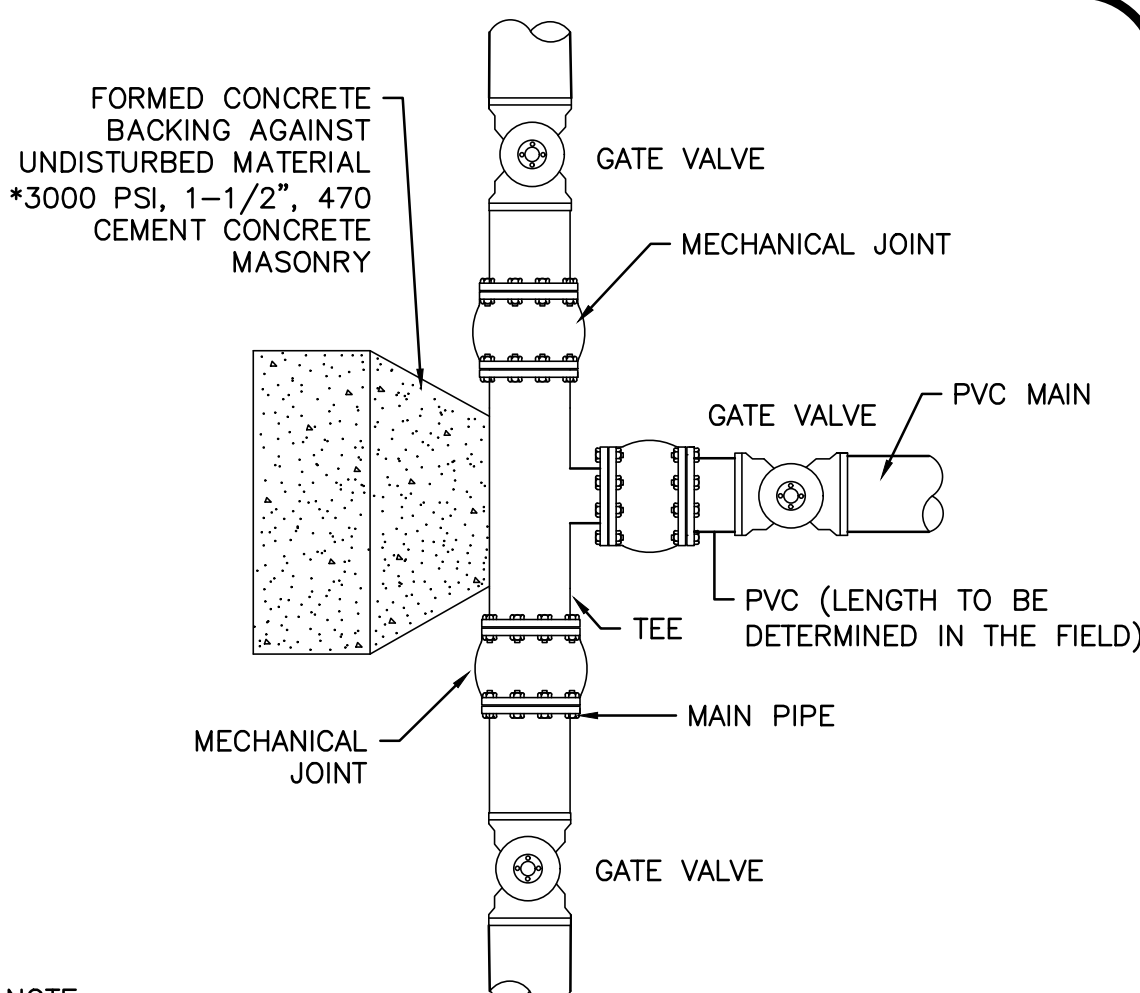
PRECAST CONCRETE SEWER MANHOLE
NOT TO SCALE

7



BUILDING SEWER SERVICE
NOT TO SCALE

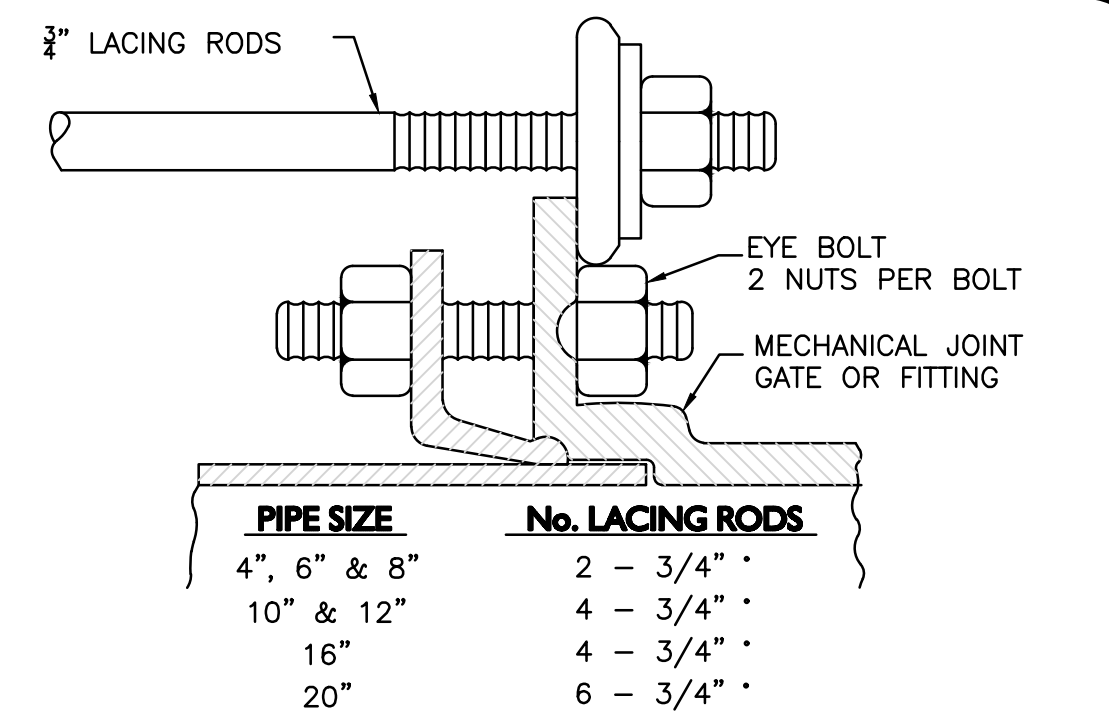
6



NOTE:
1.) ALL FITTINGS (TEES, BENDS, OFFSETS, ETC.) ARE TO BE MADE IN NORTH AMERICA AND ARE TO BE MEGALUG JOINT RESTRAINTS, AS MANUFACTURED BY EBAA IRON WORKS, INC.

3-WAY GATE WATER CONNECTION WITH MECHANICAL JOINTS
NOT TO SCALE

5

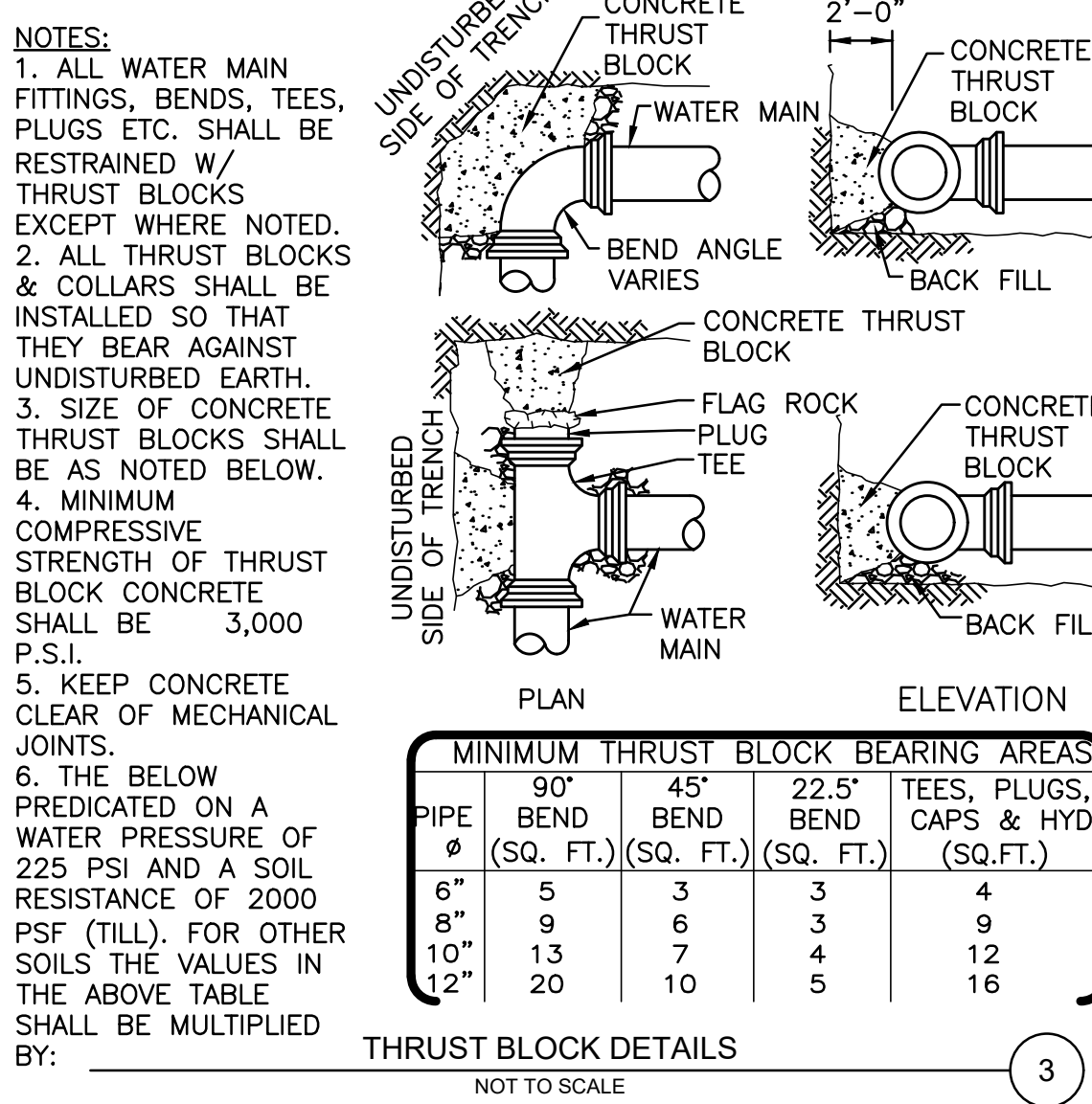


* STANDARD LENGTHS ARE 6' & 10'. COUPLINGS MAY BE USED FOR LONGER LENGTHS.

NOTES:
1. NUMBER OF LACING RODS IS BASED ON MAXIMUM PRESSURE OF 125 P.S.I. IN MAIN.
2. EYE-BOLTS AND LACING RODS ARE TO BE FABRICATED FROM A-36 STEEL.
3. STEEL LACING RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 36,000 P.S.I.
4. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 7,000 LBS. EACH.

MECHANICAL JOINT LACING DETAIL
NOT TO SCALE

4

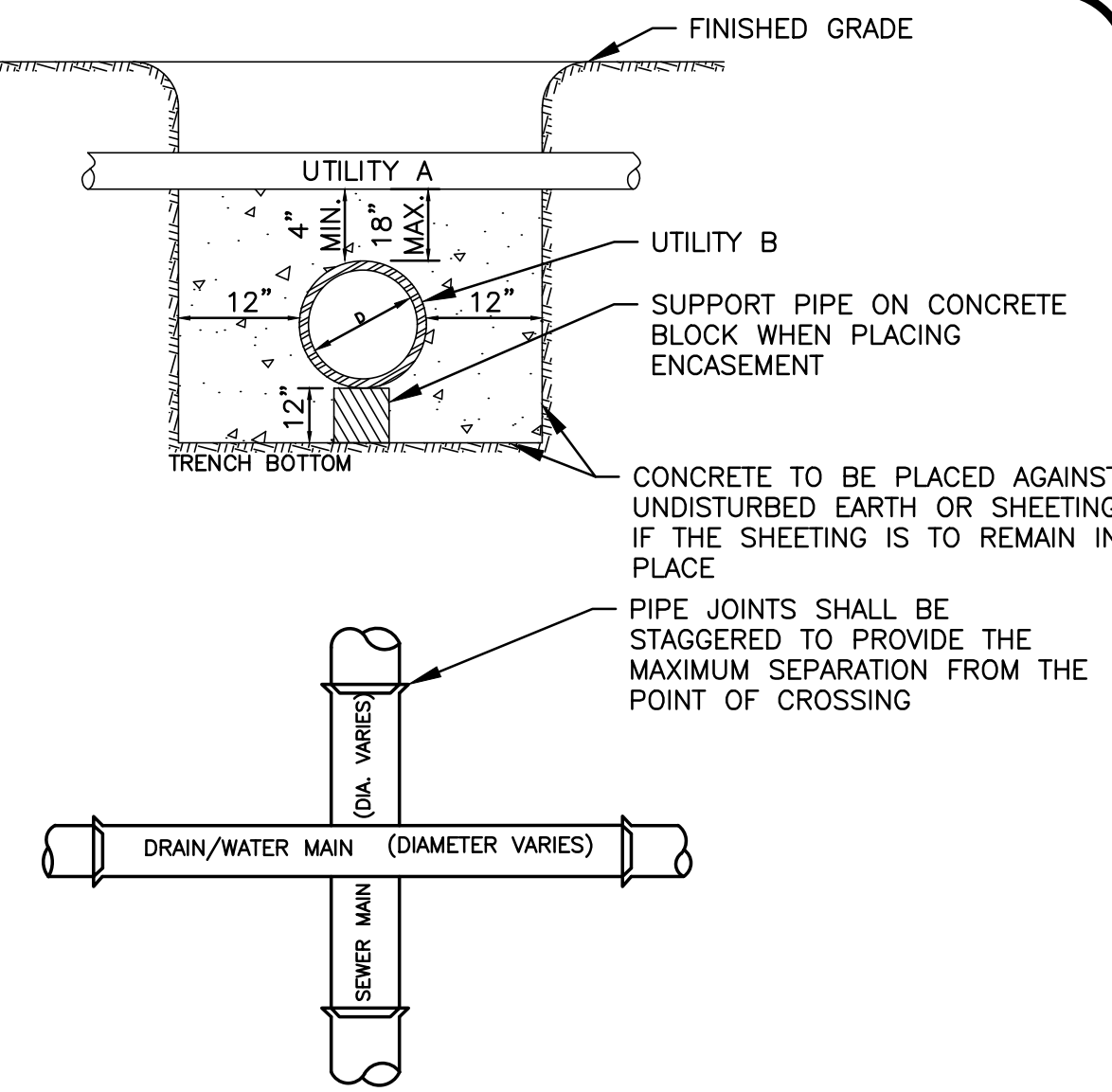


NOTES:
1. ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS ETC. SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
2. ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
3. SIZE OF CONCRETE THRUST BLOCKS SHALL BE AS NOTED BELOW.
4. MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 3,000 P.S.I.
5. KEEP CONCRETE CLEAR OF MECHANICAL JOINTS.
6. THE BELOW PREDICATED ON A WATER PRESSURE OF 225 PSI AND A SOIL RESISTANCE OF 2000 PSF (TILL). FOR OTHER SOILS THE VALUES IN THE ABOVE TABLE SHALL BE MULTIPLIED BY:

THRUST BLOCK DETAILS
NOT TO SCALE

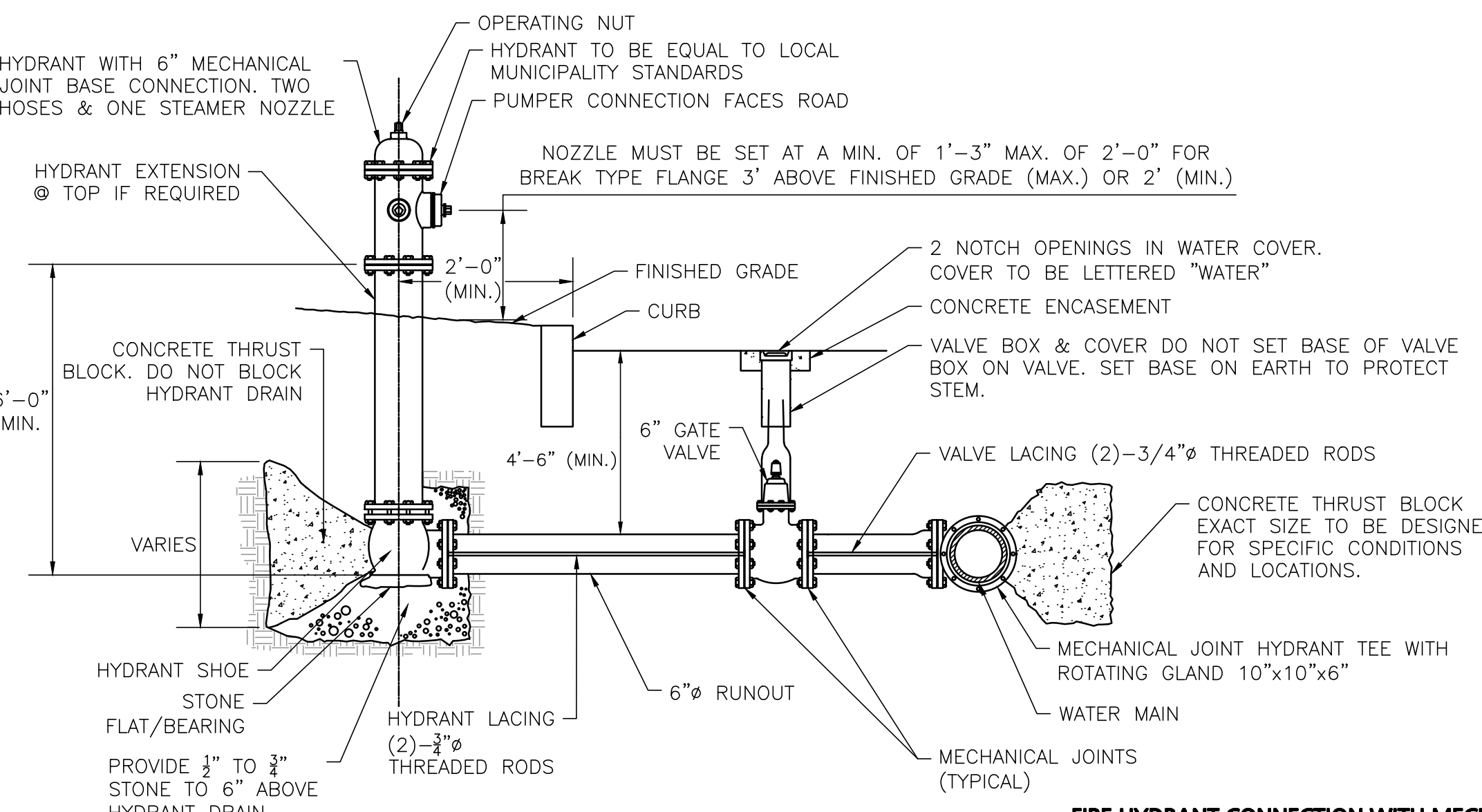
3

NOTES:
WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET BETWEEN A SEWER MAIN AND A WATER/DRAIN MAIN:
1. THE WATER/DRAIN MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER/DRAIN MAIN AND THE SEWER MAIN SHALL BE AT LEAST 36 INCHES.
2. THE PIPE CROSSING SHALL OCCUR AS CLOSE TO 90° AS PRACTICABLE.
3. THE PIPE JOINTS SHALL BE STAGGERED TO PROVIDE THE MAXIMUM SEPARATION FROM THE POINT OF CROSSING.
4. THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 20 LINEAR FEET CENTERED ON THE CROSSING.
5. UTILITIES A AND B CAN BE EITHER NEW OR EXISTING.
6. WHEN ONE UTILITY IS A SANITARY SEWER, IT IS PREFERABLE TO BE POSITIONED AS SHOWN FOR UTILITY B.
7. ENCASEMENT EXTENDS 10'-0" ON EACH SIDE OF THE CENTERLINE OF UTILITY A.
8. PIPE MUST BE BRACED VERTICALLY AND HORIZONTALLY TO PREVENT FLOATATION DURING PLACEMENT OF CONCRETE.



SEWER, WATER / DRAIN CROSSING DETAIL
NOT TO SCALE

2



NOTES:
1. ALL HYDRANTS, VALVES AND LOCAL CONNECTIONS SHALL COMPLY WITH THE SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
2. PIPING TO BE RESTRAINED WITH RODDING OR RETAINING GLANDS.
3. GATE VALVE INSTALLATION IS TYPICAL FOR ALL GATES SHOWN ON THE DRAWINGS.

FIRE HYDRANT CONNECTION WITH MECHANICAL JOINT
NOT TO SCALE

1



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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27 KIMBALL ROAD
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PROJECT NO. 3410-03 DATE: 01-26-2026
SCALE: AS SHOWN DWG. NAME: C-3410-03
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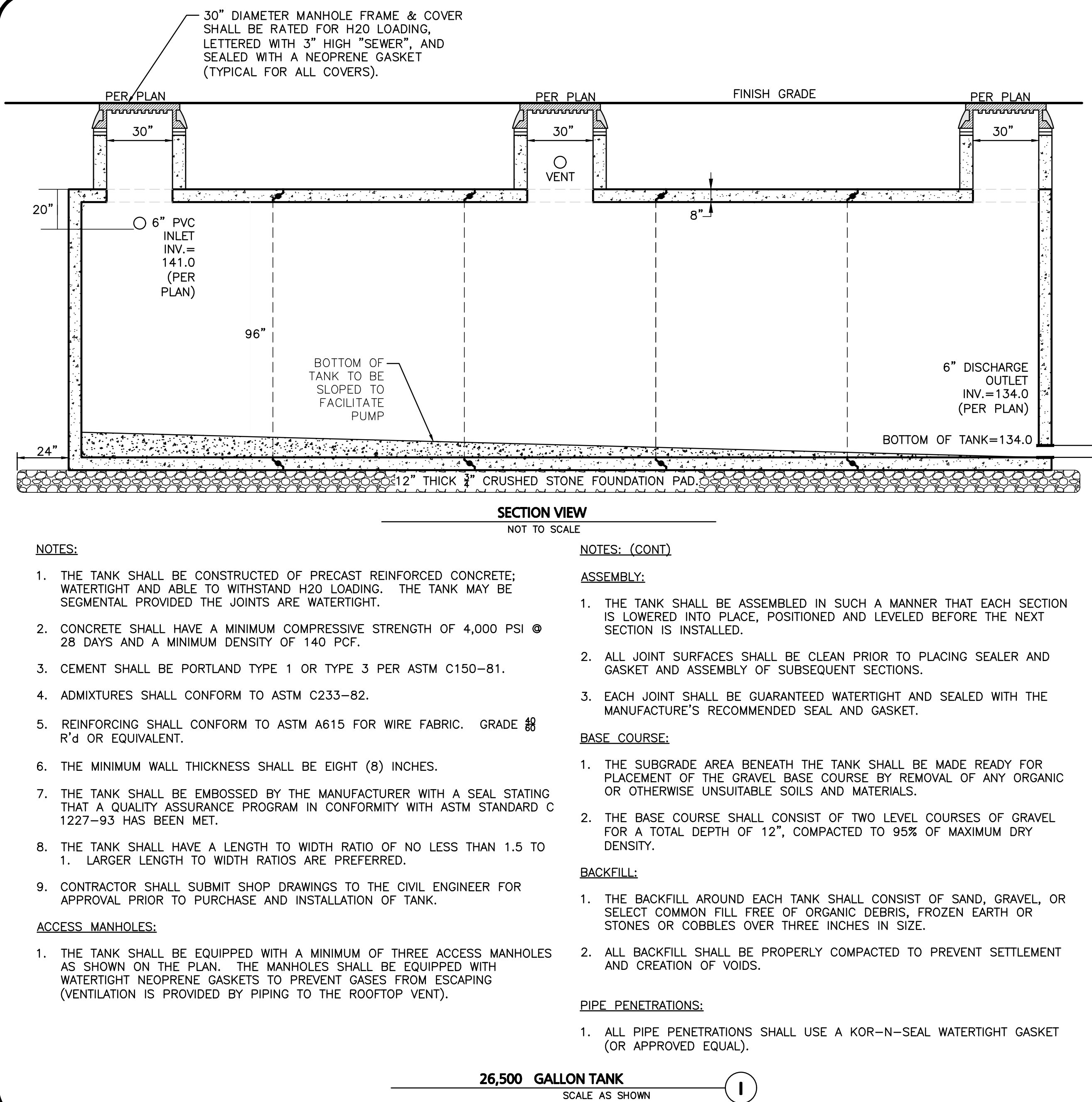
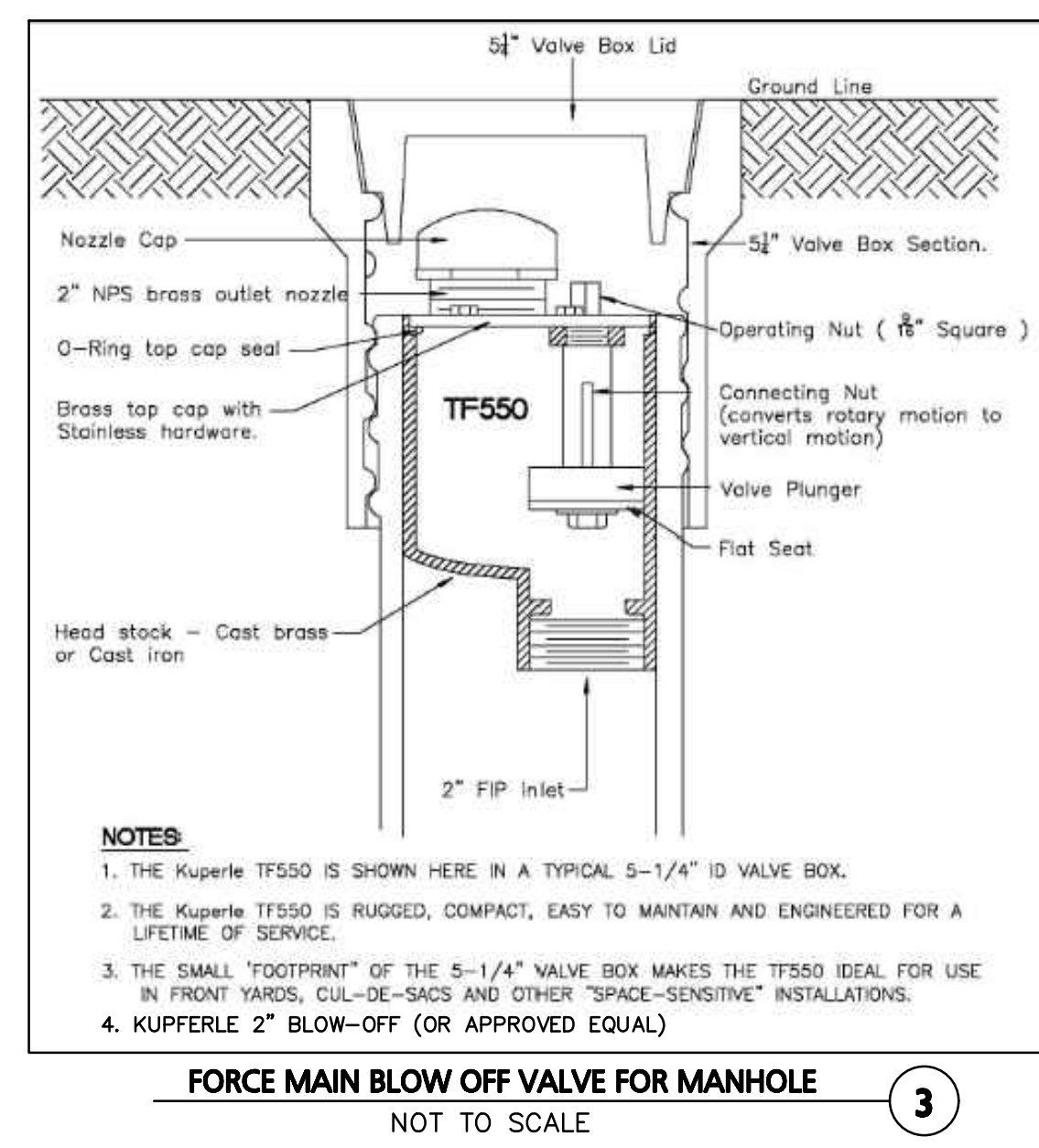
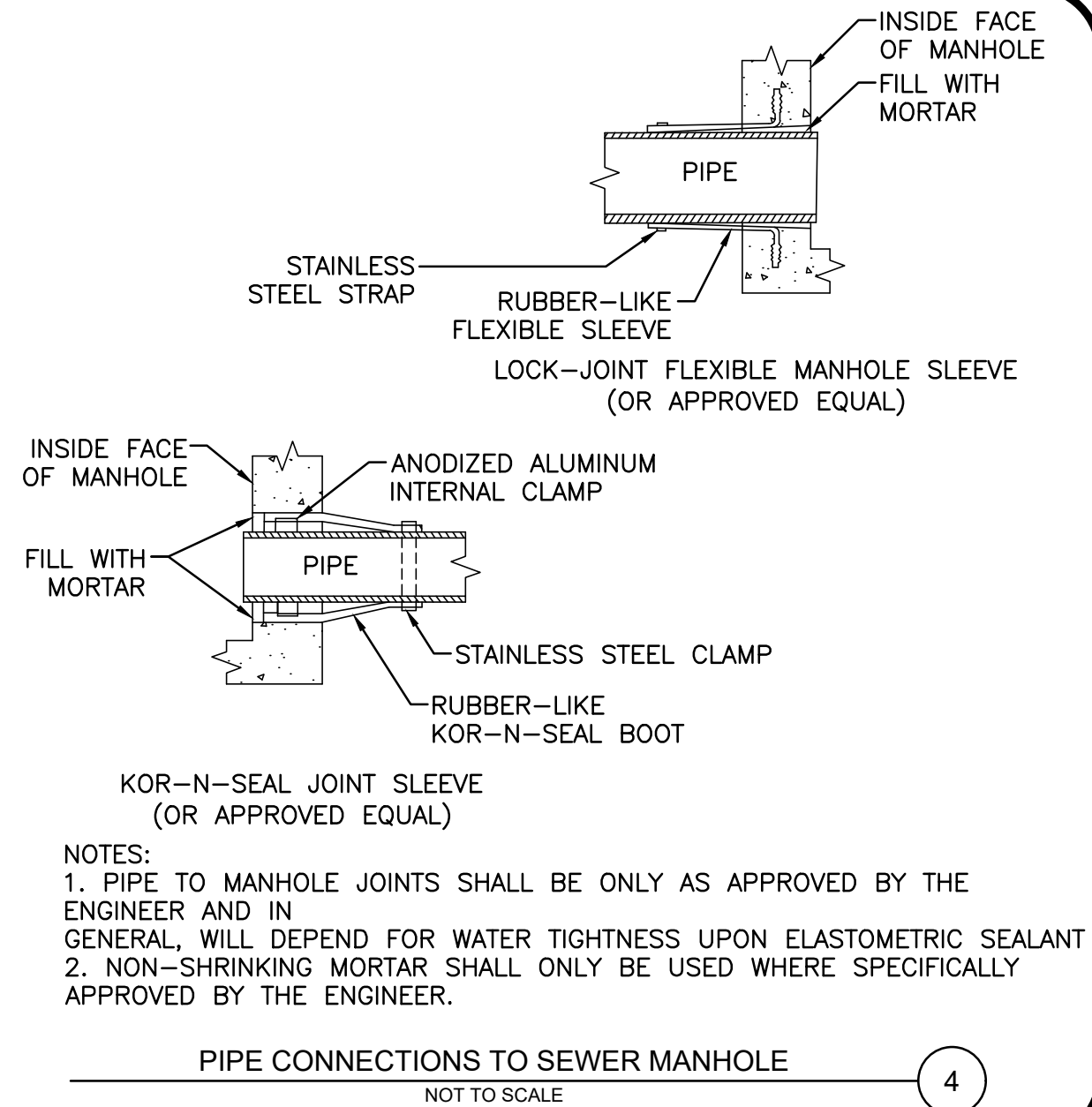
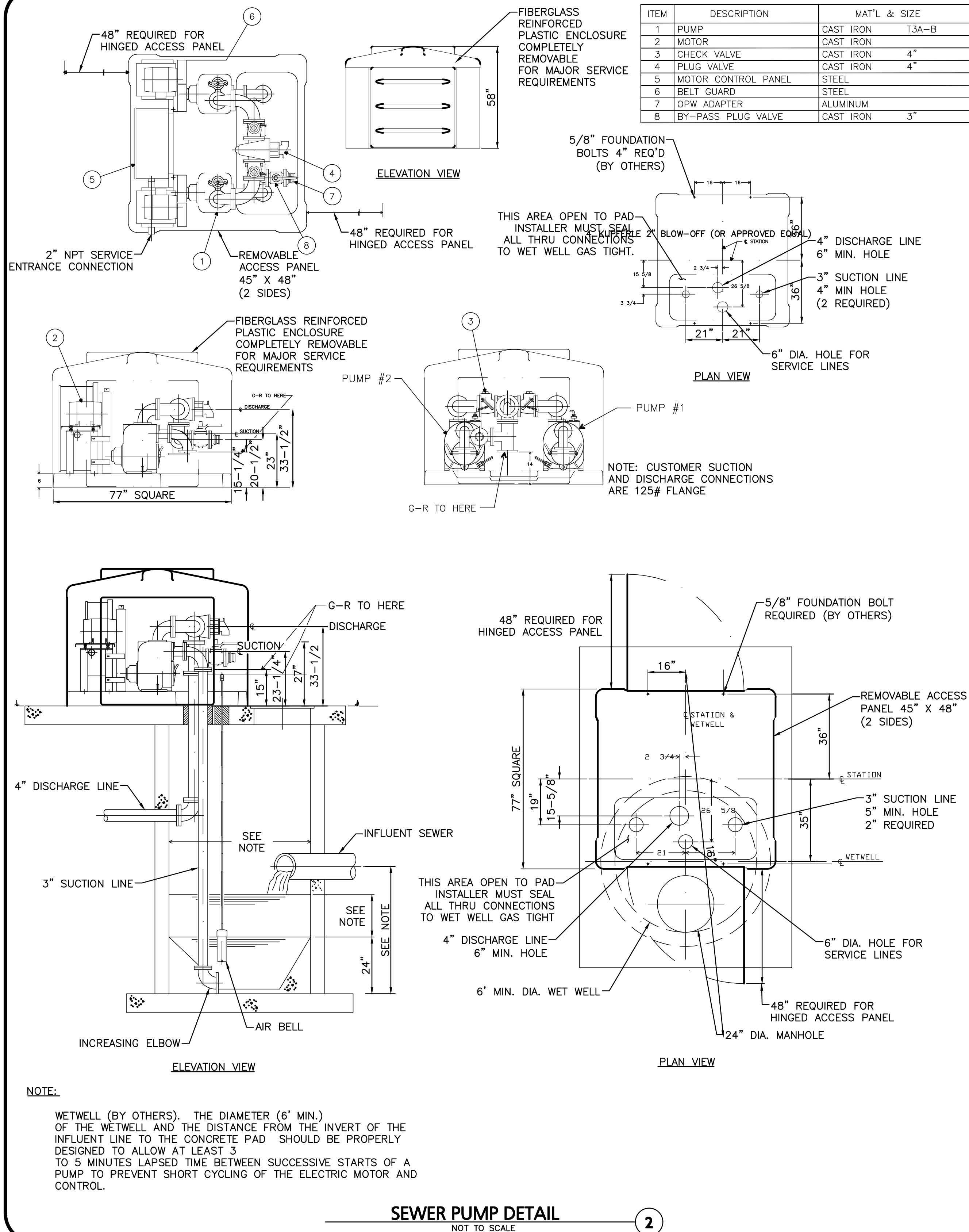
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DRAWING TITLE: SHEET No.

DETAILS C-506

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SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

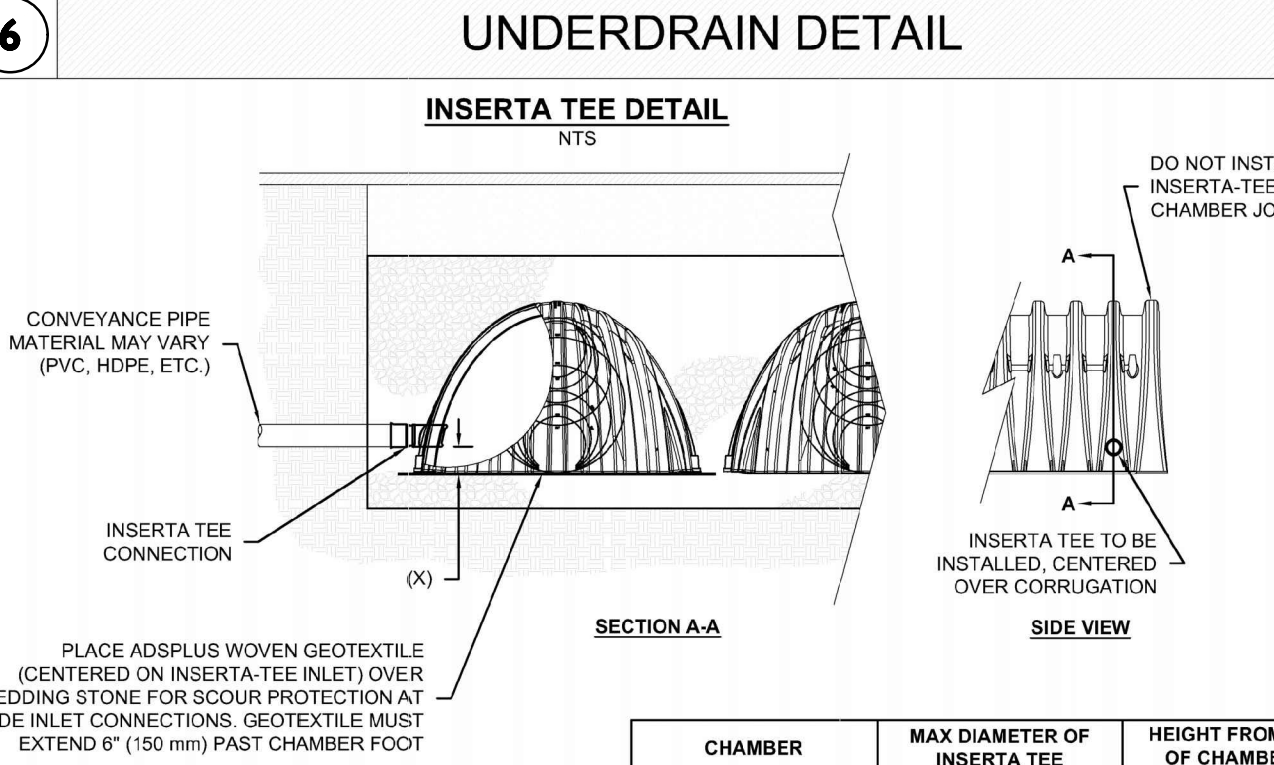
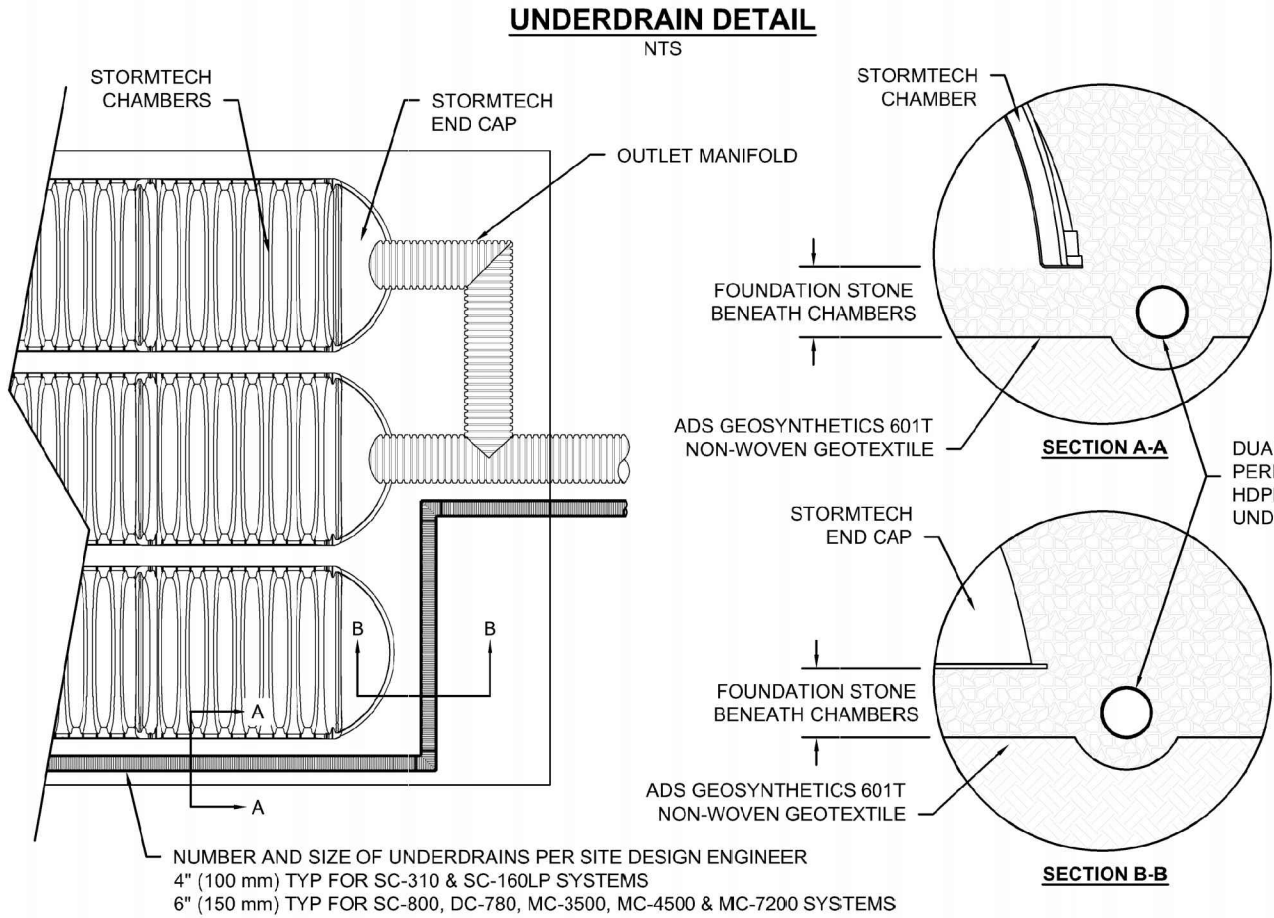
- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE: AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER-TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
 - WHEEL LOADS IS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



- NOTES:**
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
 - CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	6" (150 mm)
MC-7200	12" (300 mm)	8" (200 mm)

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4" (0.42 m ³)	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	~4.7 CUBIC FEET	(0.83 m ³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m ³)
WEIGHT	35.0 lbs.	(16.4 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE08TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE08BPC	---	---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC	---	---	0.5" (13 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC	---	---	0.7" (18 mm)
SC310ECEZ	12" (300 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310ECEZ 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 SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL, PRE-CORED END CAPS END WITH "PC"

INSERTA-TEE SIDE INLET DETAIL

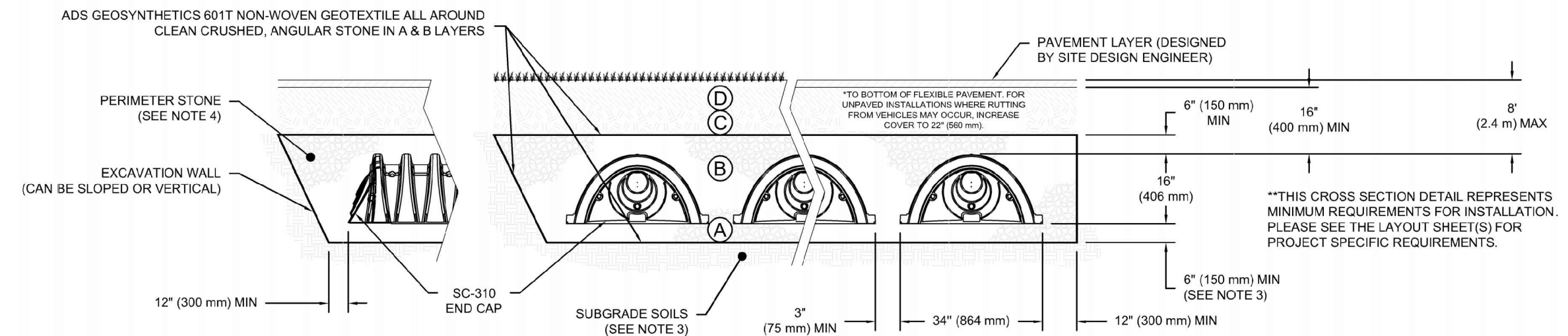
SC-310 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 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.	3.25	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 16" (400 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, 61, 66, 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. ^{2,3}

PLEASE NOTE:

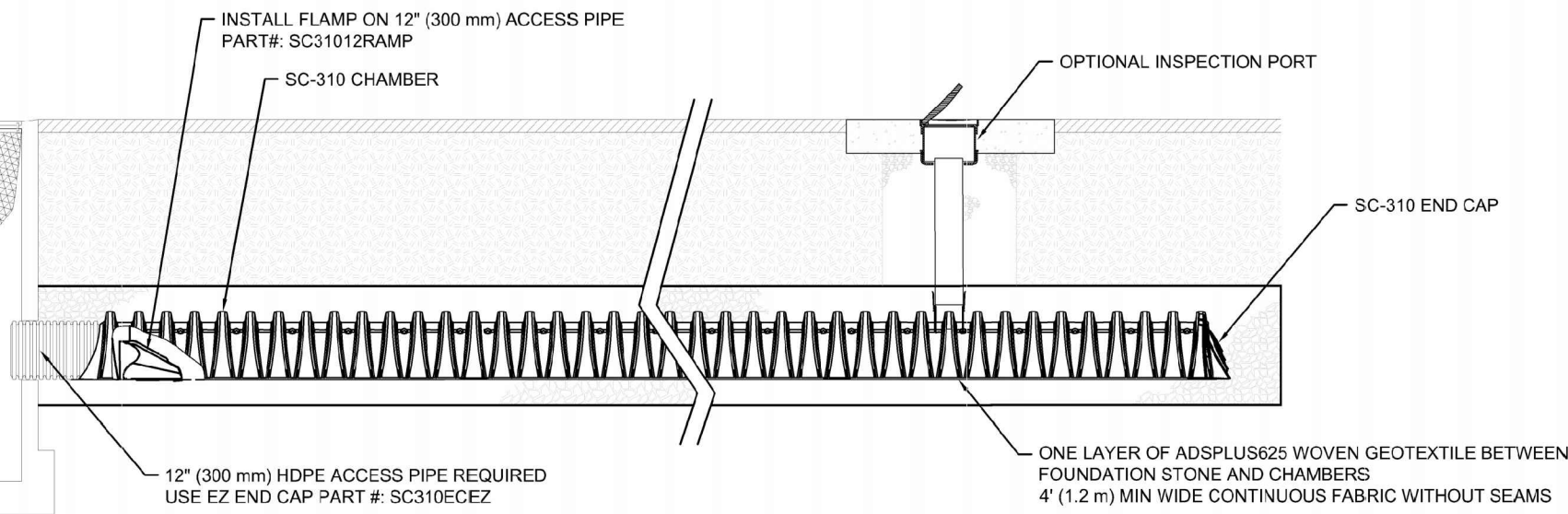
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'X' LOCATION MATERIALS WHEN PLACED AND COMPACTED 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.
- 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.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



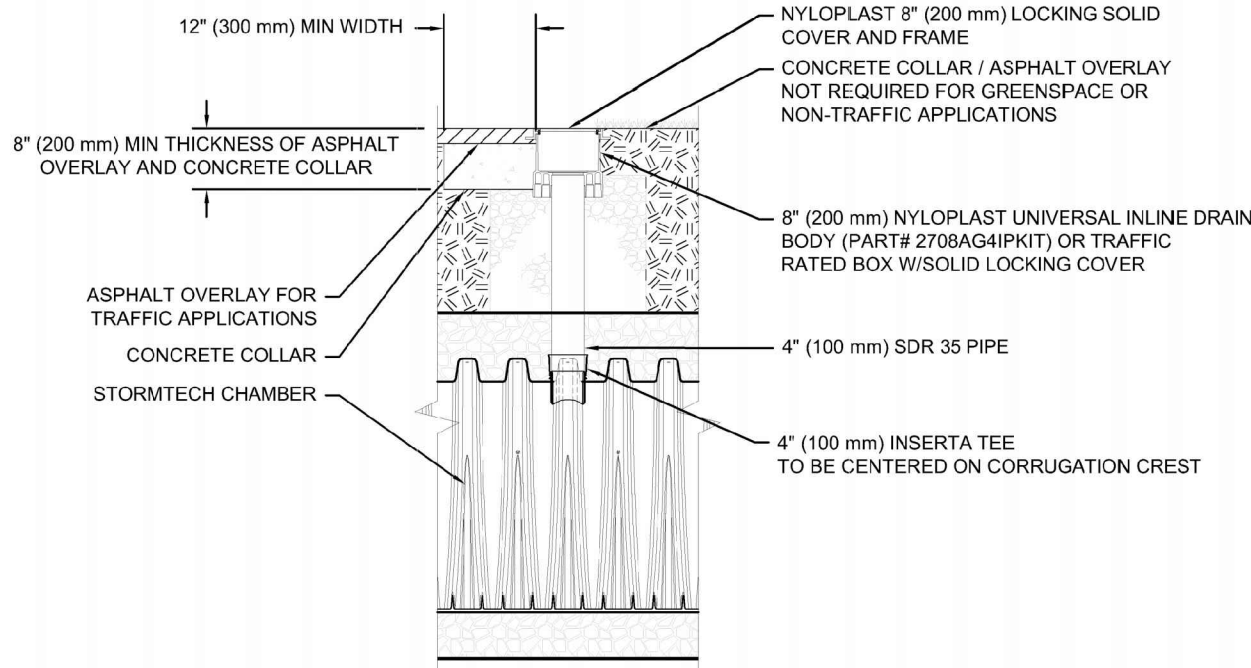
NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-310 CROSS SECTION DETAIL



SC-310 ISOLATOR ROW PLUS DETAIL



INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE OPEN LID ON ANY CR PLAST INLINE DRAIN
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROW PLUS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
- i) MIRRORS OR POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- B.2. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 46" (1.1 m) OR MORE IS PREFERRED
- B.3. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS. RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

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

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT:
MP PROPERTIES IV, LLC
201 WASHINGTON STREET, SUITE 2100
BOSTON, MA 02108

PROJECT:
27 KIMBALL ROAD
AMESBURY, MA

PROJECT NO. 3410-03 DATE: 01-26-2026

SCALE: AS SHOWN DWG. NAME: C-3410-03

DESIGNED BY: BDP/CB CHECKED BY: CMQ

PREPARED BY:



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DRAWING TITLE: SHEET No.

DETAILS C-507

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SC-800 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-800.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
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 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
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IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

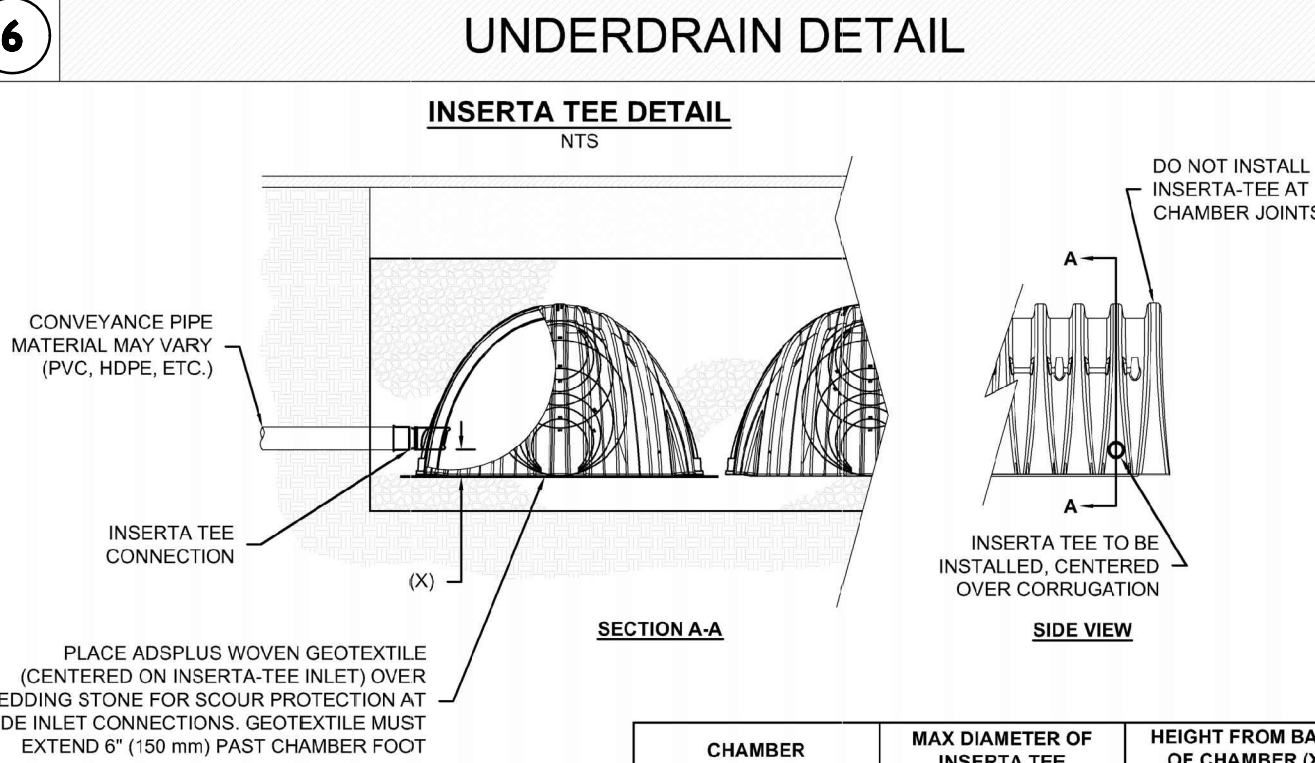
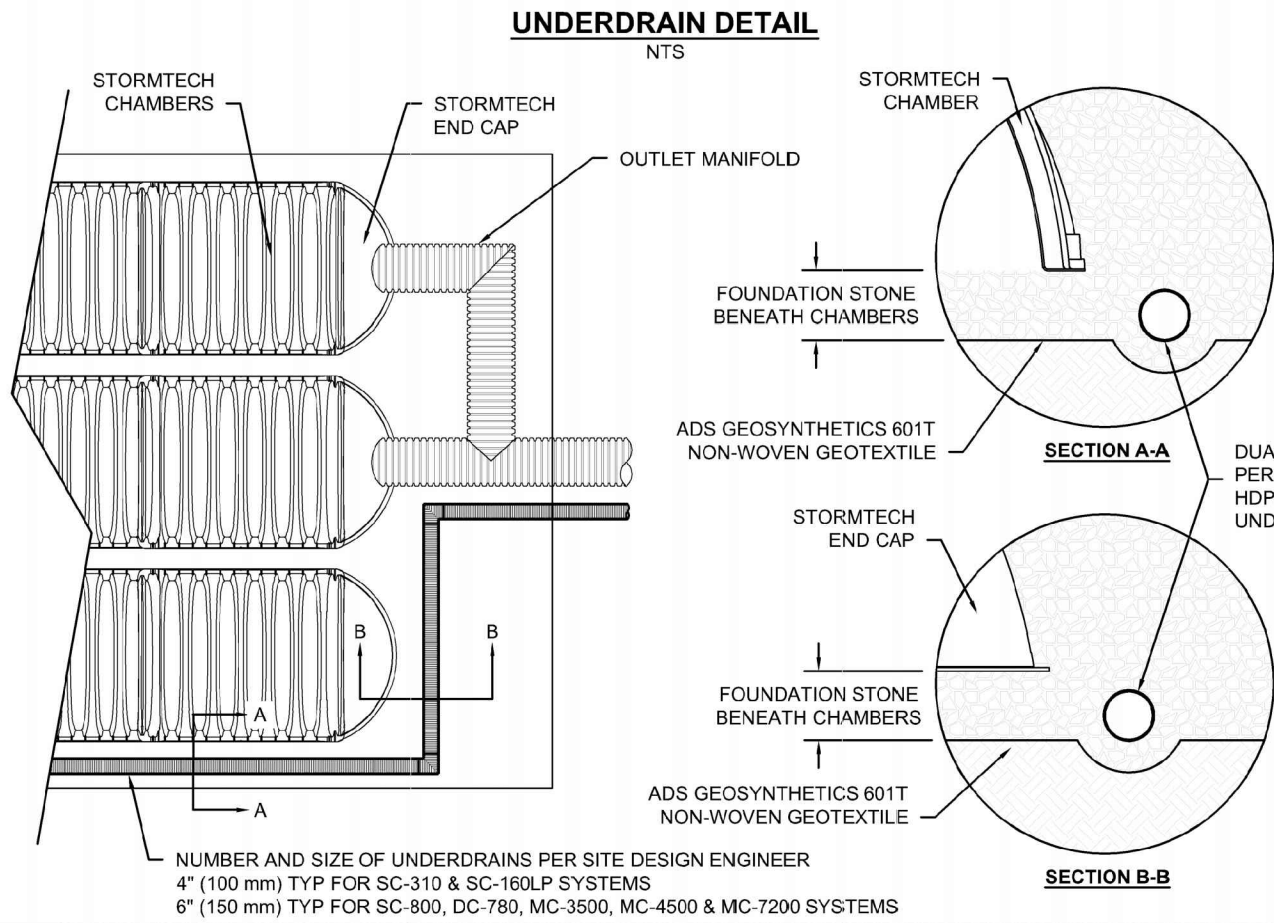
- STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG-BOOM JOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM .3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIRE LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE SC-310DC-780/SC-800".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



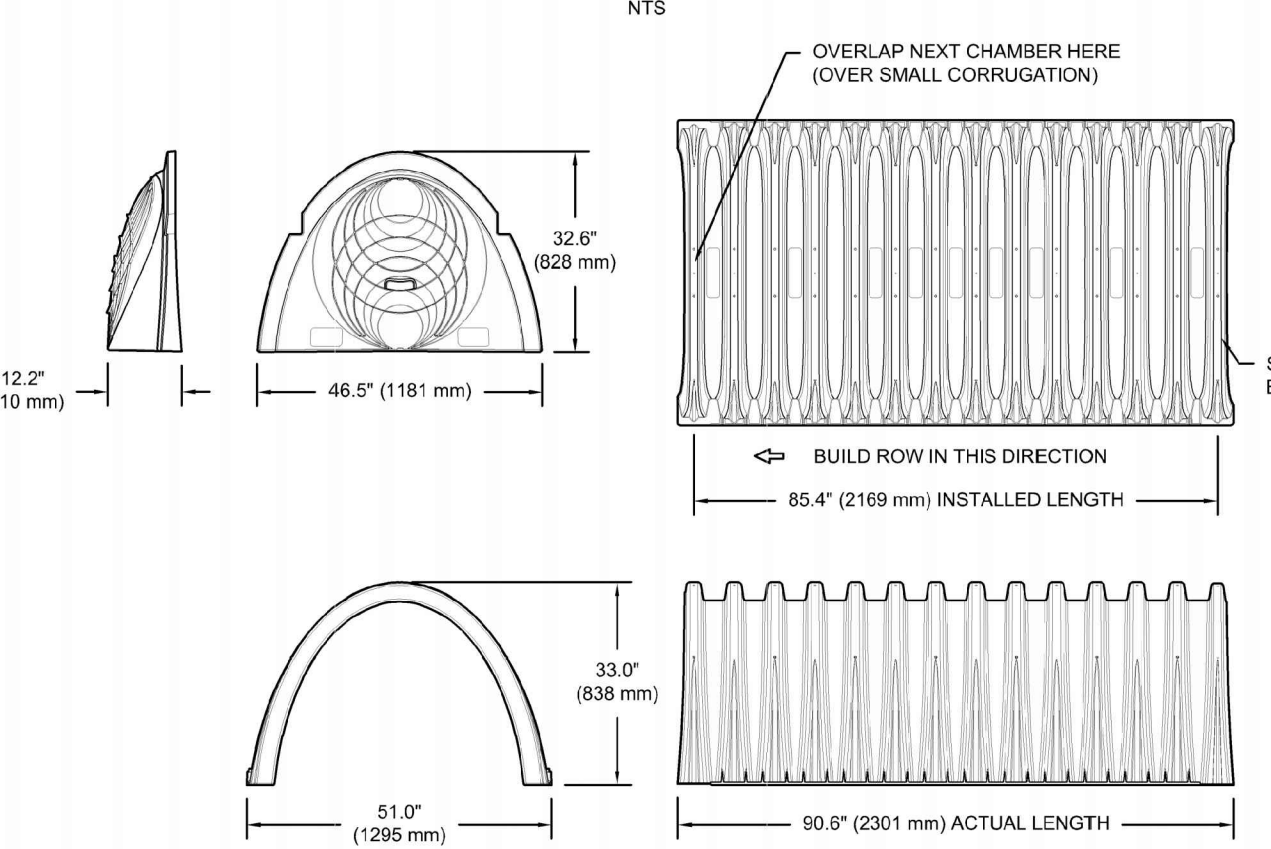
- NOTES:**
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
 - CONTACT ADS ENGINEERING SERVICES IF INSERT A TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

INSERTA-TEE SIDE INLET DETAIL

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

INSERTA TEE FITTINGS AVAILABLE FOR SDP 26, SDP 28, SDP 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

SC-800 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET (1.43 m ³)
MINIMUM INSTALLED STORAGE*	78.4 CUBIC FEET (2.22 m ³)
WEIGHT	81.8 lbs. (37.1 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	(1181 mm X 928 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET (0.09 m ³)
MINIMUM INSTALLED STORAGE**	14.7 CUBIC FEET (0.42 m ³)
WEIGHT	15.7 lbs. (7.1 kg)

* ASSUMES 6" (150 mm) STONE ABOVE AND BELOW CHAMBER, 3" (75 mm) BETWEEN CHAMBERS
** ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (75 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06BPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC	---	---	0.9" (23 mm)
SC800EPE08BPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC	---	---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC	---	---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC	---	---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC	---	---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	6.0" (203 mm)	---
SC800EPE18BPC	---	---	2.0" (51 mm)
SC800ECEZ	24" (600 mm)	---	2.3" (58 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL.

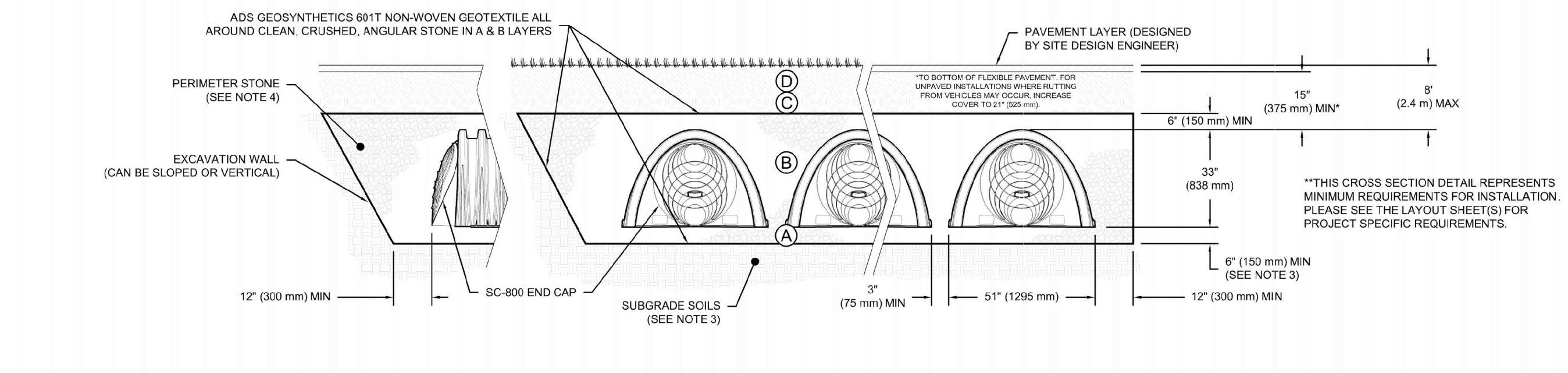
SC-800 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 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 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M143 ¹ A-1, A-2, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 61, 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 (63 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. ^{2,3}

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 ROLLING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- 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.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

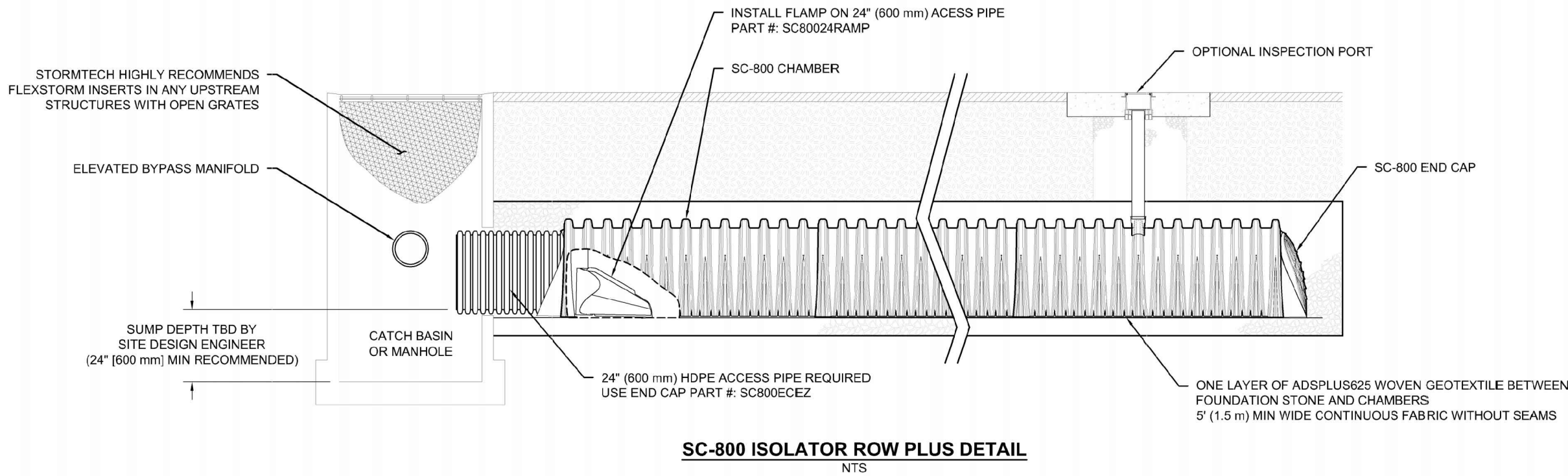


NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 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. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-800 CROSS SECTION DETAIL

SC-800 ISOLATOR ROW PLUS DETAIL



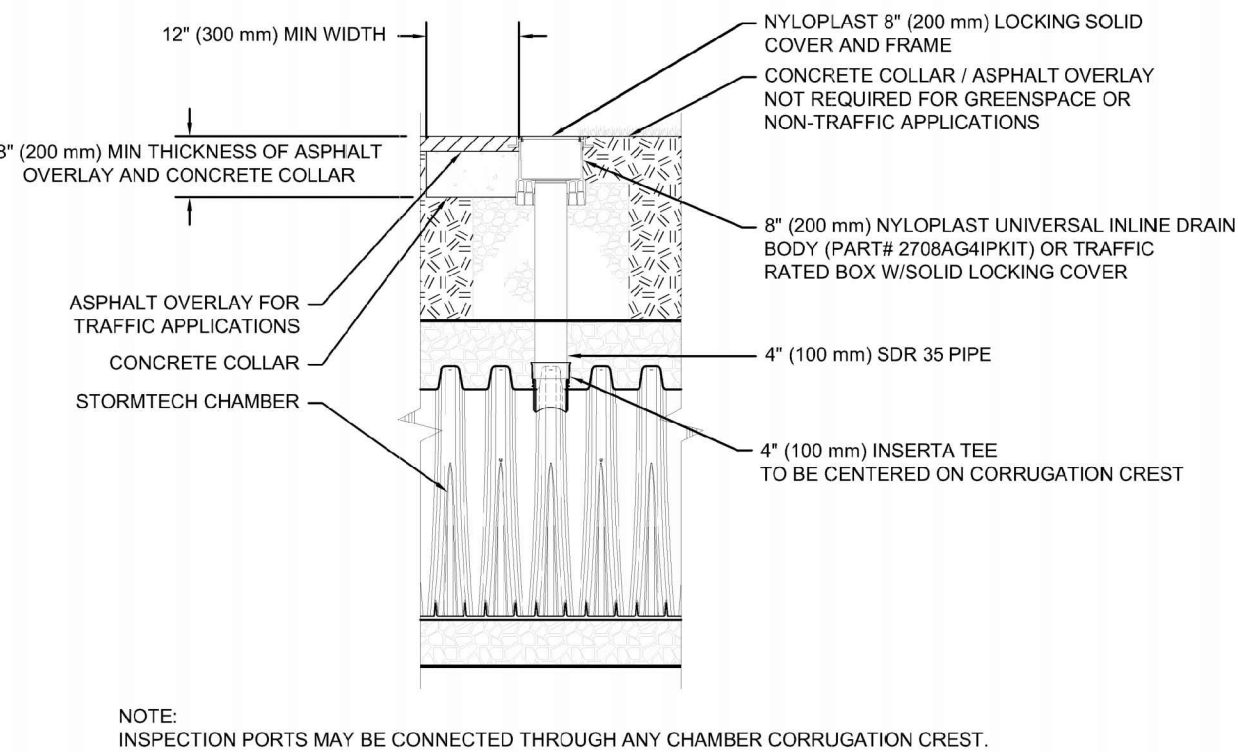
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS 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.
 - ALL ISOLATOR ROW PLUS ROWS
 - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS OR POLES OR CAMERA MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - 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 PLUS 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.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

 DECIDUOUS TREE
 EVERGREEN TREE
 LARGE ORNAMENTAL SHRUB
 SHRUB, PERENNIAL & GROUNDCOVER PLANTING

CopleyWolff

PROJECT TEAM:
APPLICANT/OWNER (MP PROPERTIES IV, LLC)
 1 WASHINGTON STREET, SUITE 2100
 BOSTON, MA 02108
CIVIL ENGINEER (ALLEN & MAJOR ASSOCIATES)
 100 COMMERCE WAY, SUITE 5
 DORCHESTER, MA 01801

CONSULTANT:

PROJECT NAME: _____

**PROPOSED
MULTI-FAMILY
DEVELOPMENT**
7 KIMBALL ROAD,
MESBURY, MA

AMP:

ISSUED FOR REVIEW

VDG PROJECT NUMBER:25148

SUANCES:

[illegible]

DATE: 01/26/2026
SCALE: 1"=30'-0"
DRAWN BY: MM
CHECKED BY: JM

DRAWING TITLE:
PLANTING
PLAN

DRAWING NUMBER:

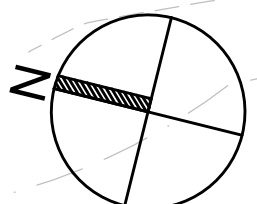
-101

1/26/2026 12:05:06 PM - T:\25148 27 KIMBALL\CD\27 KIMBALL PLANS.DWG - MICHAEL MACNULTY

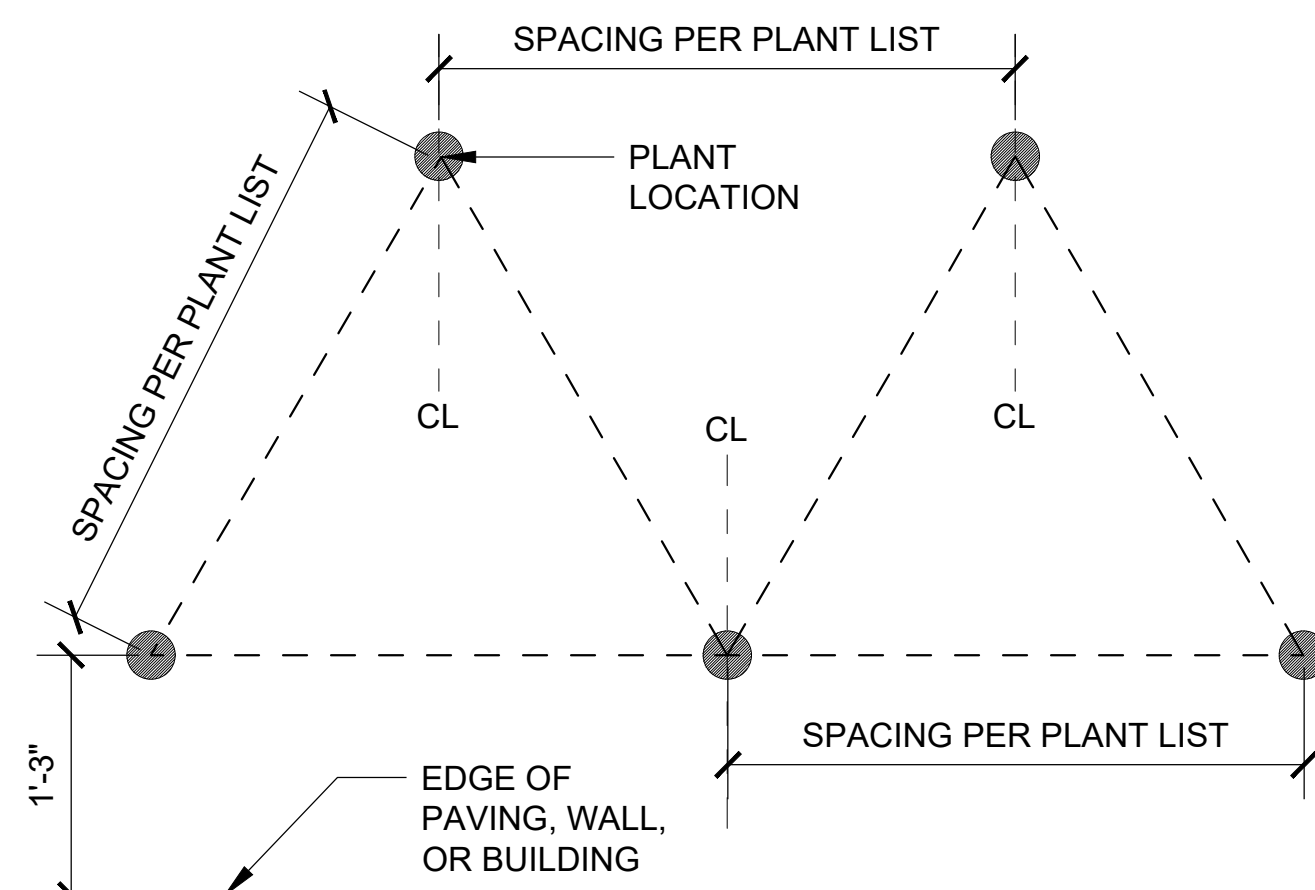
PLANTING AND SOIL NOTES:

1. IF DISCREPANCIES EXIST BETWEEN THE QUANTITY OF PLANTS DRAWN ON THE PLANTING PLAN AND THE QUANTITY OF PLANTS IN THE PLANT LIST, THE LARGER QUANTITY SHALL GOVERN.
2. ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY (SEE SPECS).
3. THE LANDSCAPE ARCHITECT SHALL ONLY REVIEW TREES THAT ARE IN THE GROUND AT THE NURSERY. NO PRE-DUG TREES WILL BE ACCEPTED. THEREFORE TIMING OF IN-GROUND REVIEWS MUST BE COORDINATED WITH EXPECTED INSTALLATION DATES. COPLEY WOLFF RESERVES THE RIGHT TO REJECT ANY TREES FOR REVIEW THAT ARE PRE-DUG.
4. ALL NEW PLANTS TO BE BALLED & BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
5. THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
6. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE, AND ONLY AFTER WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.
7. ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
8. CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
9. STAKE LOCATION OF ALL PROPOSED PLANTING FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING.
10. NEW SHRUBS AND GROUNDCOVER SHALL BEAR THE SAME RELATIONSHIP TO GRADE AS IT BORE TO PREVIOUS GRADE. ALL TREES SHALL BE SET 3" HIGHER THAN PREVIOUS GRADE SUCH THAT ROOT FLARES ARE EXPOSED. NO TREES SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING.
11. ALL PLANT BEDS TO RECEIVE UN-DYED, AGED AND SHREDDED BARK MULCH AS PER SPECIFICATIONS UNLESS OTHERWISE NOTED.
12. PRUNE TREES IN ACCORDANCE WITH THE SPECIFICATIONS.
13. ALL PLANT MATERIAL SHALL BE MAINTAINED BY CONTRACTOR UNTIL FINAL ACCEPTANCE AND GUARANTEED FOR TIME PERIOD AS OUTLINED IN THE SPECIFICATIONS.
14. CONFIRM ALL QUANTITIES AGAINST PLANTING PLANS, GRADING PLANS, AND SPECIFICATIONS, INCLUDING SITE DISTURBANCE OUTSIDE OF THE LIMIT OF GRADING NECESSITATED TO FACILITATE CONSTRUCTION.
15. WHERE SAND AND GRAVEL ARE SPECIFIED FOR A DRAINAGE LAYER, EXTEND DRAINAGE LAYER TO ASSOCIATED DRAIN LINES, DRAINAGE AREAS, OR DAYLIGHT.
16. WHERE ONE SOIL TYPE MEETS ANOTHER SOIL TYPE, FORM A 1:1 SLOPED BOUNDARY TRANSITION.
17. ALL EXCAVATION AND PLACEMENT OF SOILS WITHIN THE DRIP LINE OF EXISTING TREES TO BE PERFORMED BY HAND.
18. SCARIFY SUBGRADE IN ACCORDANCE WITH SOIL PREPARATION SPECIFICATIONS AND DETAILS BEFORE PLACEMENT OF ANY PLANTING SOILS.
19. DO NOT PLACE OR HANDLE SOILS THAT ARE WET.
20. PROTECT ALL EXISTING SOILS AGAINST COMPACTION, CONTAMINATION WITH CONSTRUCTION MATERIALS, AND ALL DISTURBANCE.
21. CONTRACTOR IS RESPONSIBLE FOR ACTUAL SITE CONDITIONS, COORDINATION OF SOILS PLACEMENT, AND PLANTING SUBDRAINAGE.
22. DO NOT PLACE ANY PLANTING SOIL PRIOR TO INSPECTION BY LANDSCAPE ARCHITECT.

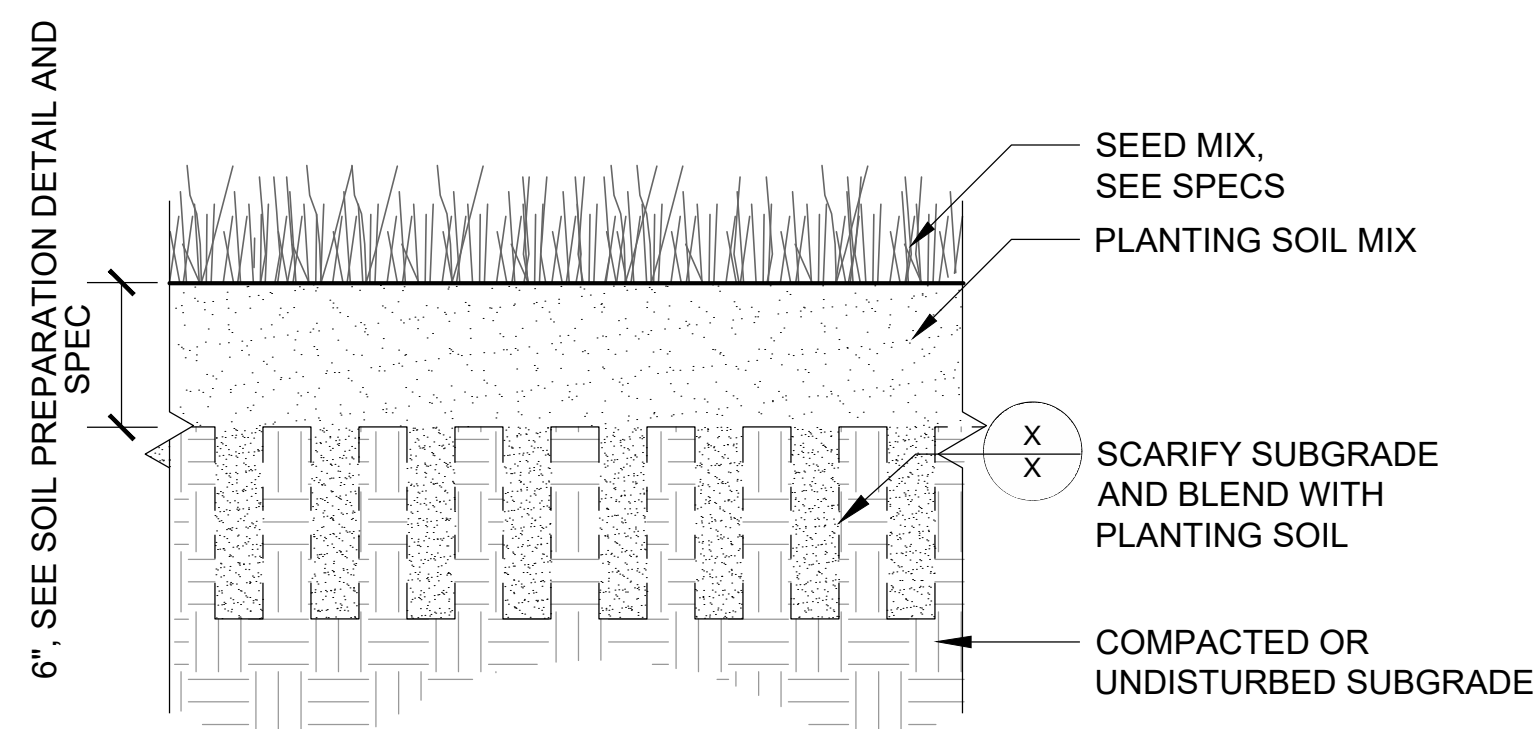
SCALE: 1" = 30'-0"



PLANT SPACING:	# OF PLANTS / SF
8"	2.6
12"	1.15
15"	.733
18"	.512
36"	.128
48"	.0725



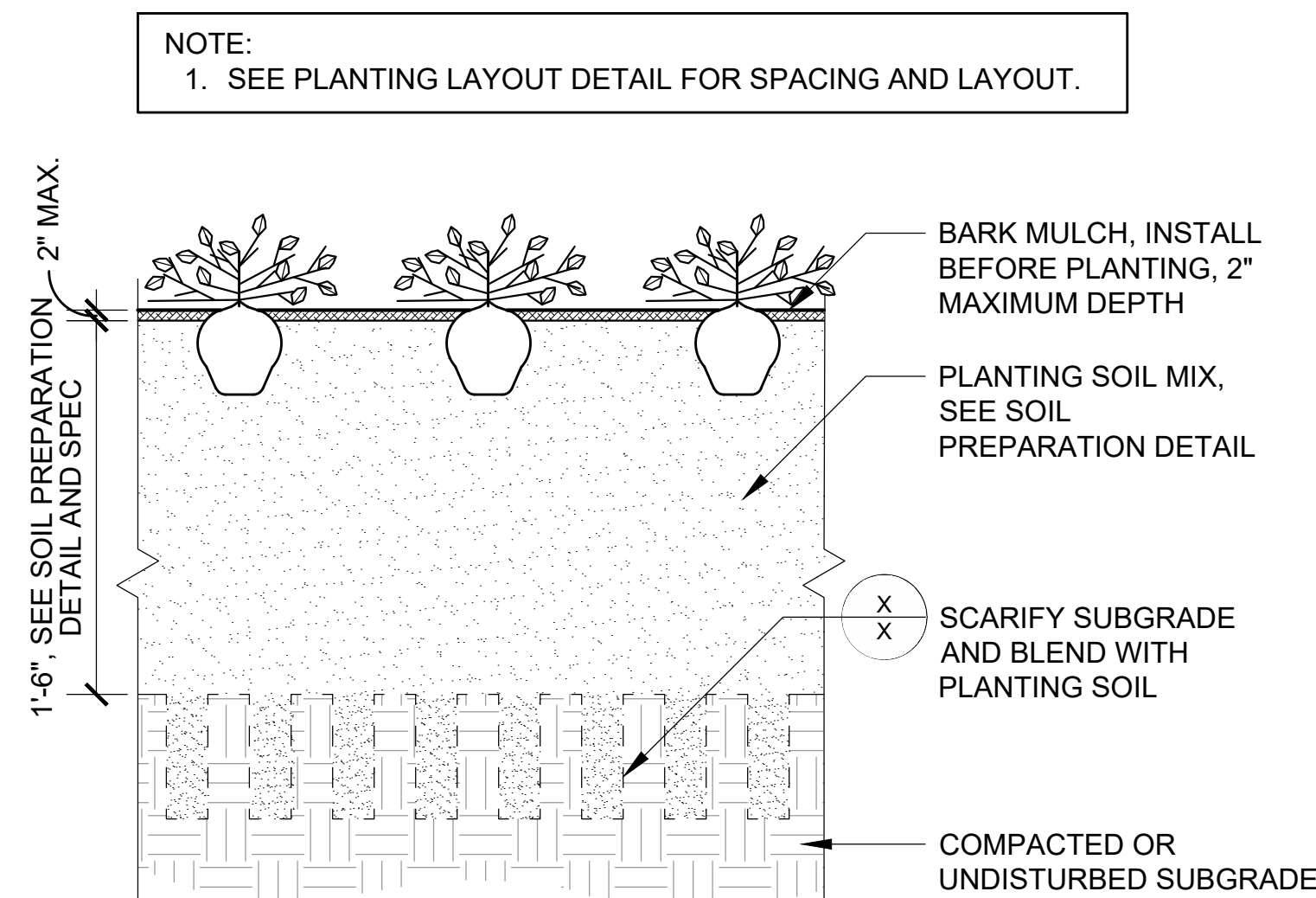
01 PLANTING LAYOUT DIAGRAM
1" = 1'-0"



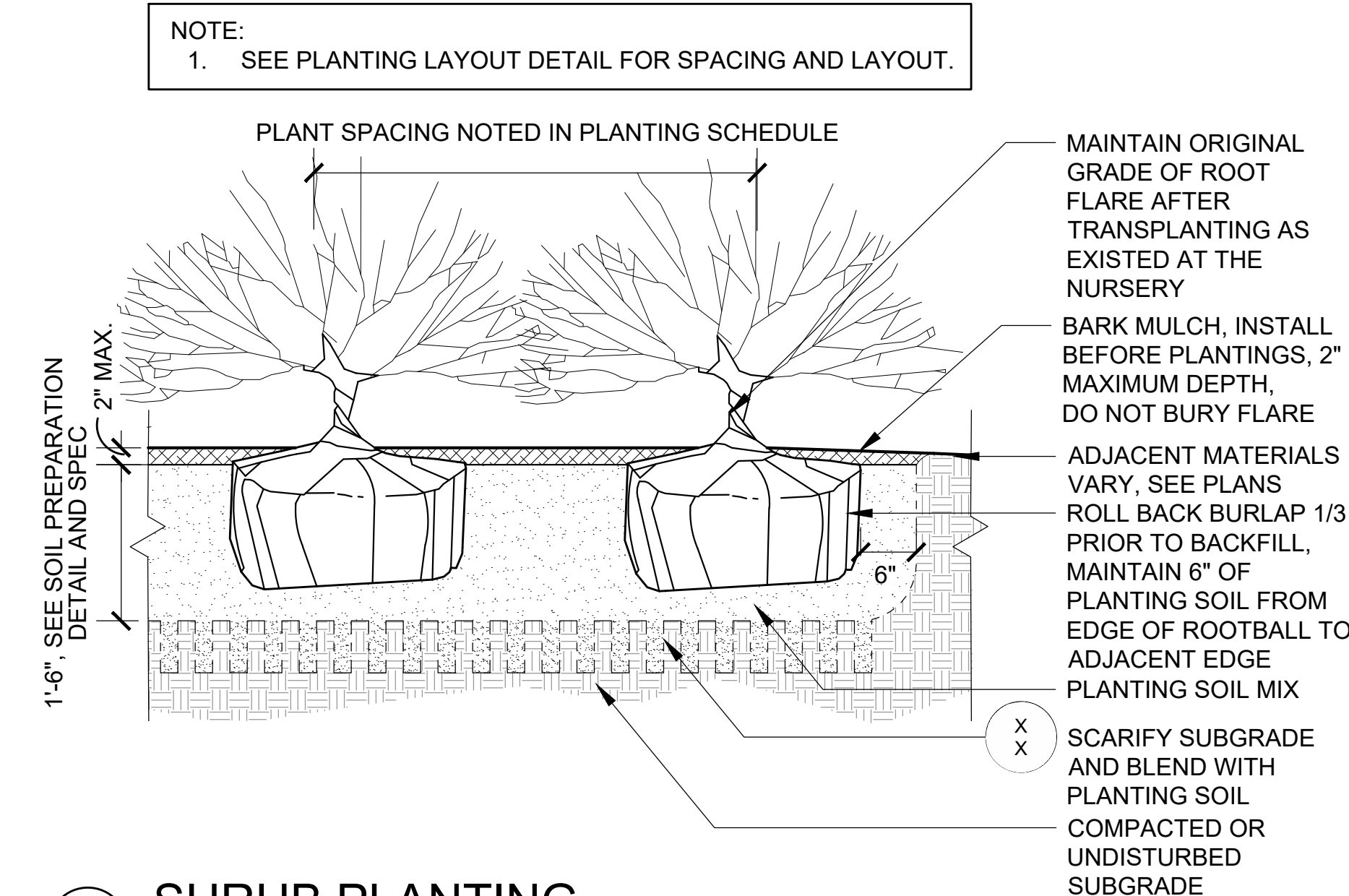
02 SEEDING LAWN
1 1/2" = 1'-0"

PLANTING SCHEDULE

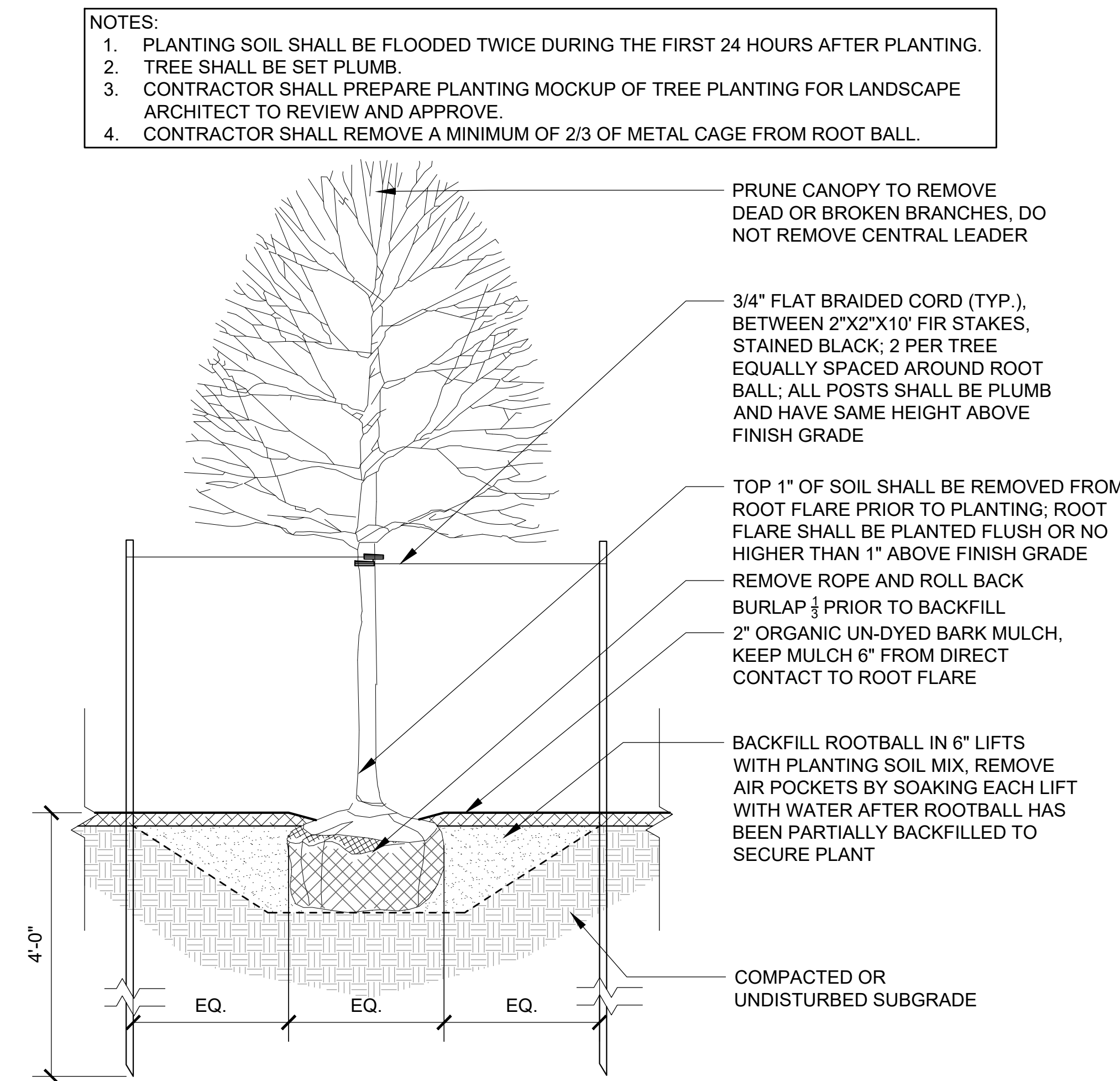
SYM	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	COMMENTS
DECIDUOUS TREES						
AR	19	Acer rubrum	Red Maple	3'-3.5' cal.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches, limb to 7'
ALA	4	Amelanchier lamarckii	Juneberry	8'-10' ht.	AS SHOWN	B&B, multi-stem, 3-4 evenly-sized main trunks, full branches
COV	3	Carya ovata	Shagbark Hickory	3'-3.5' cal.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches, limb to 7'
CCA	7	Cercis canadensis	Eastern Redbud Multi-Stem	8'-10' Ht.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches
NS	15	Nyssa sylvatica	Black Tupelo	2'-2.5' cal.	AS SHOWN	Container, single stem, matched, straight central leader, full branches
QB	9	Quercus bicolor	Swamp White Oak	3'-3.5' cal.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches, limb to 7'
QP	18	Quercus palustris	Pin Oak	3'-3.5' cal.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches, limb to 7'
UAP	35	Ulmus americana 'Princeton'	Princeton American Elm	3'-3.5' cal.	AS SHOWN	B&B, single stem, matched, straight central leader, full branches, limb to 7'
EVERGREEN TREES						
AB	12	Abies balsamea	Balsam Fir	8'-10' ht.	AS SHOWN	B&B, full to the ground, matched
JV	14	Juniperus virginiana	Eastern Redcedar	8'-10' ht.	AS SHOWN	B&B, full to the ground, matched
PG	11	Picea glauca	White Spruce	8'-10' ht.	AS SHOWN	B&B, full to the ground, matched
SHRUBS						
COC		Cephalanthus occidentalis	Buttonbush	#3 cont., 30" ht. min.	36" O.C.	full and rounded, staggered rows
CSA		Cornus sericea 'Arc tic Fire'	Arc tic Fire Yellow Dogwood	#3 cont., 24" ht. min.	48" O.C.	full and rounded, staggered rows
HQP		Hydrangea quercifolia 'Pee Wee'	Pee Wee Oakleaf Hydrangea	#3 cont., 30" ht. min.	36" O.C.	full and rounded, staggered rows
IG		Ilex glabra	Inkberry Holly	#3 cont., 24" ht. min.	30" O.C.	full and rounded, staggered rows
POP		Physocarpus opulifolius	Ninebark	#3 cont., 24" ht. min.	48" O.C.	full and rounded, staggered rows
RH		Rhododendron viscosum	Swamp Azalea	#3 cont., 24" ht. min.	36" O.C.	full and rounded, staggered rows
RE		Rhododendron x 'P.J.M.'	P.J.M. Rhododendron	#3 cont., 20" ht. min.	36" O.C.	full and rounded, staggered rows
VS		Vaccinium x 'Sunshine Blue'	Sunshine Blue Highbush Blueberry	#3 cont., 24" ht. min.	24" O.C.	full and rounded, staggered rows
VL		Viburnum lentago	Nannyberry	#3 cont., 42" ht. min.	48" O.C.	full and rounded, staggered rows
PERENNIALS & GROUNDCOVERS						
AH		Amsonia hubrichtii	Arkansas Bluestar	#2 cont.	18" O.C.	staggered rows
AU		Arctostaphylos uva-ursi	Kinnikinnick	#2 cont.	12" O.C.	staggered rows
ATU		Asclepias tuberosa	Butterfly Milkweed	#2 cont.	12" O.C.	staggered rows
AXB		Astilbe x arendsii 'Bridal Veil'	Bridal Veil Astilbe	#2 cont.	15" O.C.	staggered rows
CKF		Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	#2 cont.	24" O.C.	staggered rows
CPE		Carex pensylvanica	Pennsylvania Sedge	#2 cont.	12" O.C.	staggered rows
EP		Echinacea purpurea	Coneflower	#2 cont.	18" O.C.	staggered rows
LXS		Leucanthemum x superbum	Shasta Daisy	#2 cont.	18" O.C.	staggered rows
MD		Monarda didyma	Bee Balm	#2 cont.	12" O.C.	staggered rows
PV		Ranunculus virginicus	Switchgrass	#3 cont.	24" O.C.	staggered rows
RH		Rudbeckia hirta	Black-eyed Susan	#2 cont.	12" O.C.	staggered rows
SHE		Sporobolus heterolepis	Prairie Dropseed	#2 cont.	24" O.C.	staggered rows
VA		Vaccinium angustifolium	Lowbush Blueberry	#3 cont., 12" spd. min.		full and rounded, staggered rows



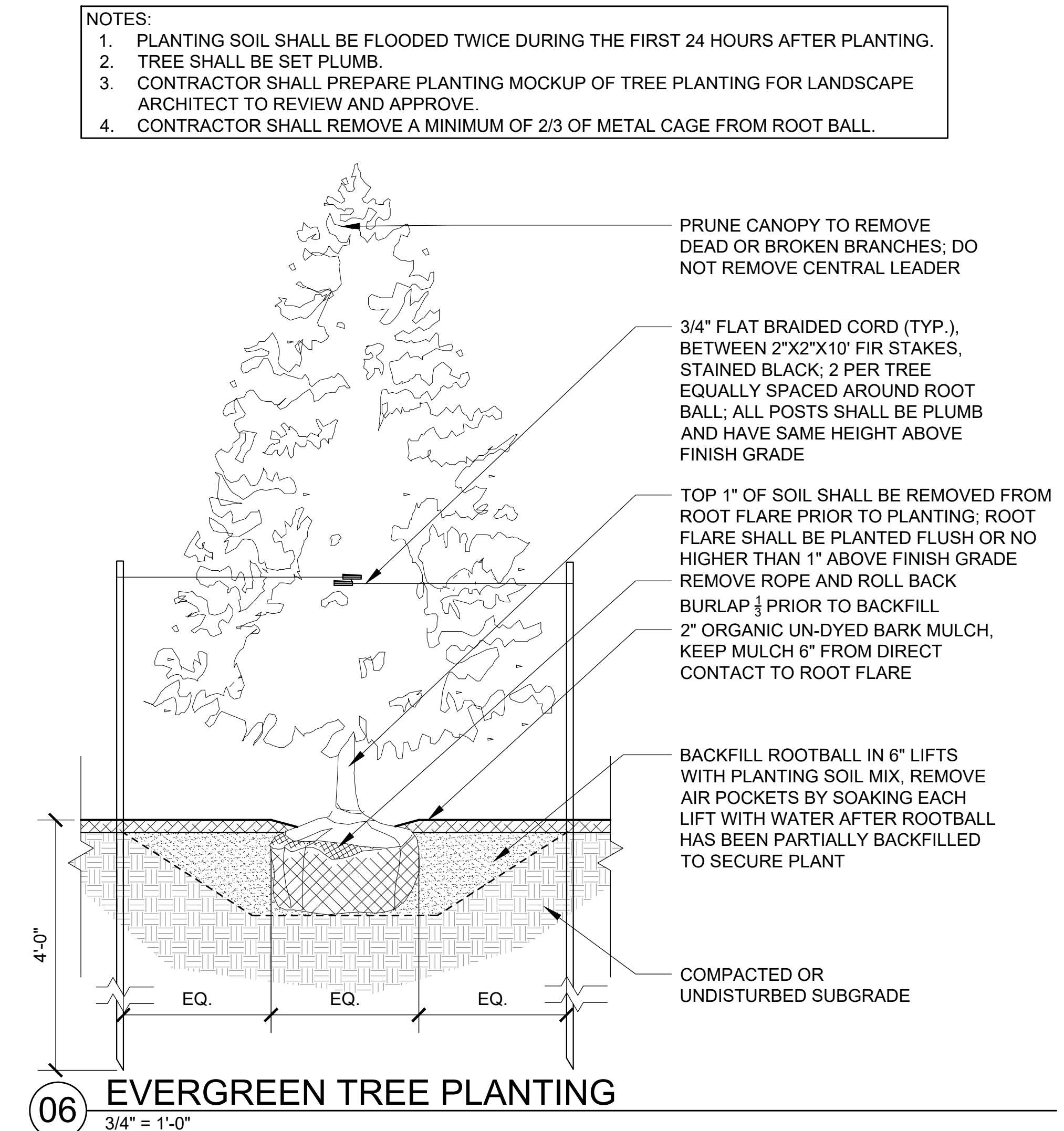
03 GROUNDCOVER AND PERENNIAL PLANTING



04 SHRUB PLANTING



05 DECIDUOUS TREE PLANTING



06 EVERGREEN TREE PLANTING

**PROPOSED
MULTI-FAMILY
DEVELOPMENT**
27 KIMBALL ROAD,
AMESBURY, MA

ISSUED FOR REVIEW

[illegible]

PLANTING DETAILS