
SECTION 4

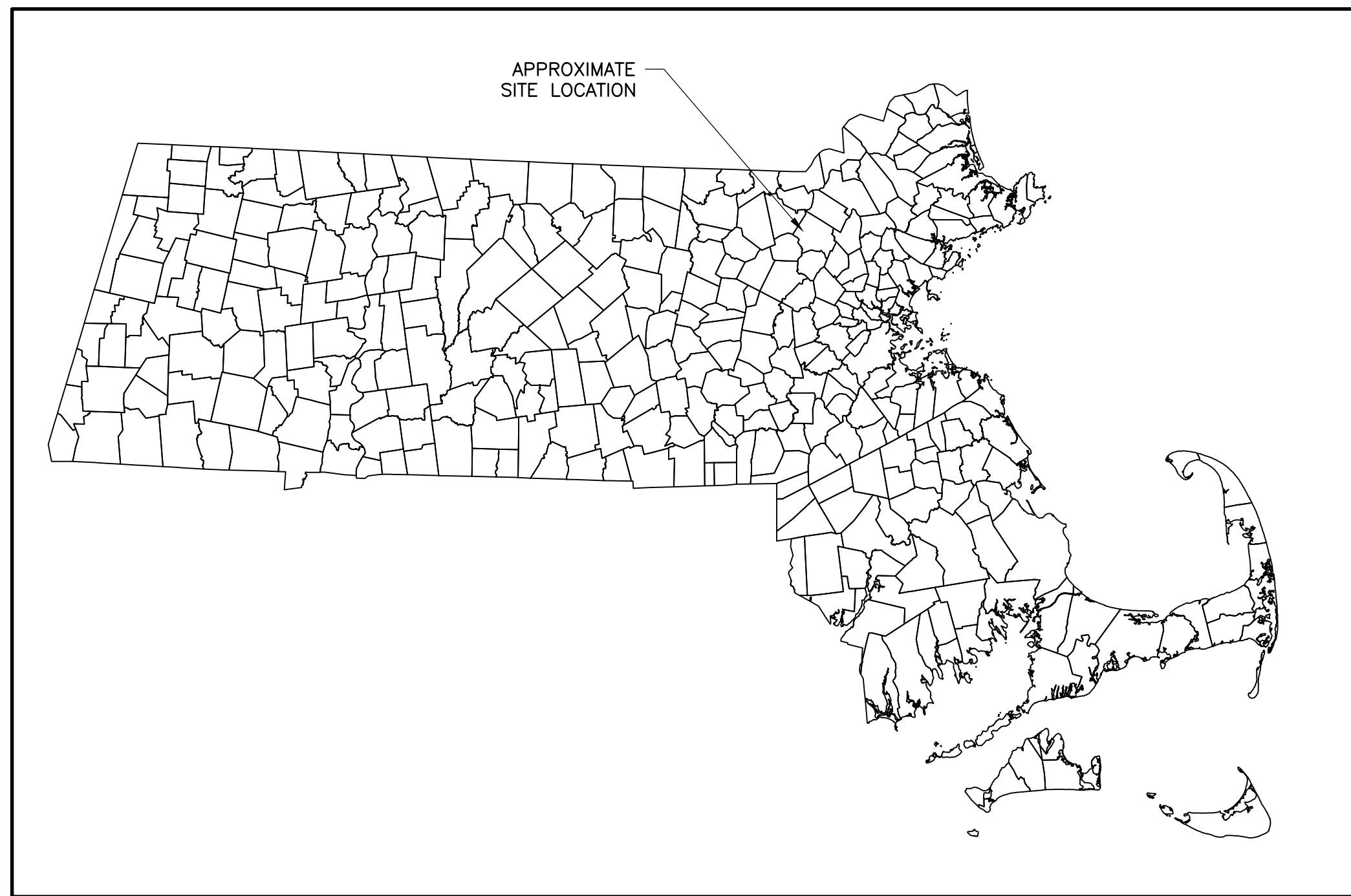
SITE PERMITTING DRAWINGS

SITE PLANS FOR PERMITTING

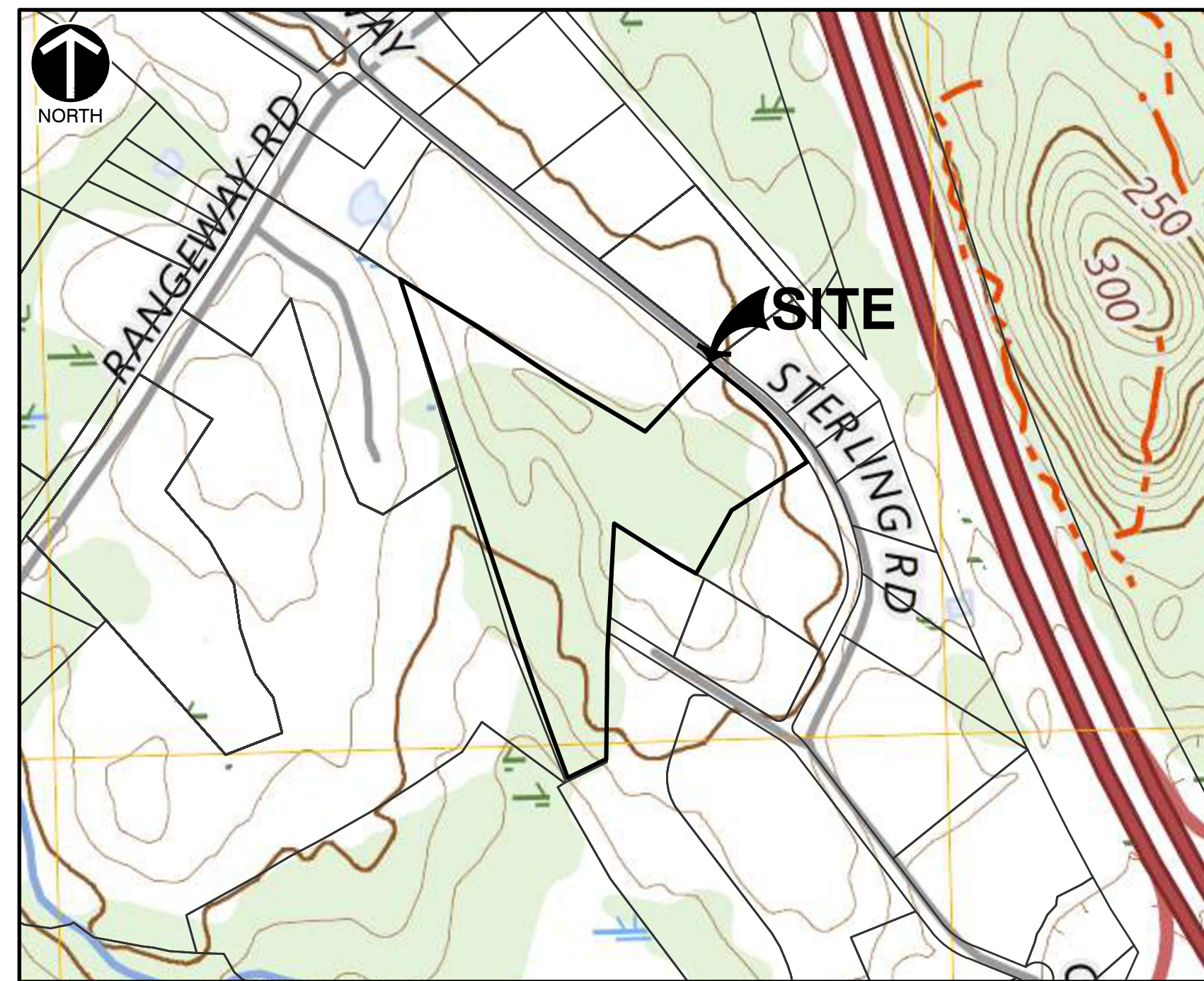
14 STERLING ROAD

NORTH BILLERICA, MASSACHUSETTS

PREPARED FOR:
W.L. FRENCH EXCAVATING CORPORATION
 (OWNER / APPLICANT)



LOCATION OF SITE IN MASSACHUSETTS



SITE LOCUS

NOTE: THE SITE PROPERTY BOUNDARY IS APPROXIMATE.
 SOURCE: USGS - BILLERICA, MA QUADS. LAST REVISED 2024.
 SCALE: 1" = 500'

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MARCH 13, 2026



NO.	DATE	DESCRIPTION

31 Bellows Road
 Raynham, MA 02767
 Ph: 774.501.2176
 www.cecinc.com

Civil & Environmental
 Consultants, Inc.

SITE PLANS FOR PERMITTING
W.L. FRENCH EXCAVATING CORPORATION
14 STERLING ROAD
NORTH BILLERICA, MASSACHUSETTS

TITLE SHEET

DATE: MARCH 13, 2026 | DRAWN BY: KFH | DSK
 DATE SCALE: AS SHOWN | CHECKED BY: AS SHOWN | PROJECT NO: 347-169 | APPROVED BY: DSK

DRAWING NO.: **C000**

SHEET 1 OF 14

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GENERAL NOTES

- EXISTING CONDITIONS AS DEPicted ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT FROM THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND TOWN OF BILLERICA IMMEDIATELY.
- EXISTING TOPOGRAPHY AND CONTOURS WERE PREPARED BASED ON AN UNMANNED AERIAL VEHICLE (UAV) SURVEY PERFORMED BY W.L. FRENCH EXCAVATING CORPORATION (W.L. FRENCH) ON JANUARY 23, 2025. EXISTING GRADES ARE SUPPLEMENTED WITH UAV SURVEY PERFORMED BY W.L. FRENCH IN APRIL 2022.
- EXISTING SITE FEATURES AND UNDERGROUND UTILITIES REPRESENT AS-BUILT INFORMATION PREPARED BY W.L. FRENCH AND PROVIDED TO CEC IN ELECTRONIC FORMAT. AS-BUILT INFORMATION IS BASED ON THE FOLLOWING PLANS:
 - "AS-BUILT DRAINAGE PLAN" DATED NOVEMBER 26, 2019.
 - "AS-BUILT WATER PLAN" DATED NOVEMBER 26, 2019.
 - "AS-BUILT SEPTIC/SEWER PLAN" DATED NOVEMBER 26, 2019.
 - "AS-BUILT PAVEMENT & CLEARING PLAN" DATED APRIL 8, 2022.
 - "AS-BUILT GAS/ELECTRIC PLAN" DATED NOVEMBER 26, 2019.INVERT ELEVATIONS FOR SANITARY SEWER AND DRAINAGE INFRASTRUCTURE ARE SHOWN BASED ON RECORD INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE.
- THE EXISTING WETLAND DELINEATION WAS PREPARED BY THREE OAKS ENVIRONMENTAL ON OCTOBER 17, 2024, AND APPROVED BY THE BILLERICA CONSERVATION COMMISSION WITH THE ISSUANCE OF AN ORDER OF RESOURCE AREA DELINEATION ON NOVEMBER 17, 2025 (RECORDED DECEMBER 18, 2025, BK 39750, PG 95). WETLAND FLAG LOCATIONS WERE SURVEYED BY W.L. FRENCH AND WERE PROVIDED TO CEC IN ELECTRONIC FORMAT. THE SURVEY WORK WAS COMPLETED USING GPS ON THE ASSUMED COORDINATE SYSTEM FOR THE PROJECT.
- THE SITE PROPERTY BOUNDARY WAS PROVIDED TO CEC BY W.L. FRENCH.
- THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING THOSE LABELED PER RECORD DATA) PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS. INFORM ENGINEER OF ANY CONFLICTS.
- THE CONTRACTOR SHALL CALL DIGSAFE AT 1-800-322-4844 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER AND ENGINEER PRIOR TO EXCAVATION.
- THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
- ANY WORK PERFORMED IN RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL OR STATE REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.
- THE CONTRACTOR IS TO WORK PERFORMED INSPECTIONS AS REQUIRED BY THE UNITED STATES EPA FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS.
- CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL PRACTICES IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN, STORM WATER POLLUTION PREVENTION PLAN AND STATE AND LOCAL REGULATIONS.
- ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS. IF NO SPECIFICATIONS ARE SUPPLIED, USE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- ITEM NUMBERS REFER TO THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CONSTRUCTION WITHIN PUBLIC ROADS OR RIGHT-OF-WAYS SHALL COMPLY WITH THE TOWN OF BILLERICA DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS & STANDARD DETAILS, LATEST REVISION. WHEN IN CONFLICT, THE TOWN OF BILLERICA REQUIREMENTS SHALL PREVAIL.
- THE CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICTS ALL WORK ASSOCIATED WITH THE PROJECT.
- BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.
- ADJUST/RECONSTRUCT ALL EXISTING CASTINGS, CLEANOUTS, ETC. WITHIN PROJECT AREA TO GRADE AS REQUIRED.

DEMOLITION NOTES

- ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATION.
- NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION.
- TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH THE DETAILED DRAWINGS. DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
- PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
- ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
- ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY. ALL ABANDONED BOXES AND VALVES SHALL BE REMOVED.
- THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
- EROSION & SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND FUNCTION PROPERLY PRIOR TO INITIATION OF DEMOLITION ACTIVITIES.
- IF ASBESTOS OR HAZARDOUS MATERIALS ARE FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.

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- CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
- CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC.. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
- ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO; WELLS, ASBESTOS, UNDER GROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO PHASE I ESA, PHASE II, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
- ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE IF THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION REPORT. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.
- THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

LAYOUT NOTES

- THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES, AND SHALL TAKE PRECAUTIONS TO PROTECT UTILITIES THAT ARE TO REMAIN. CONTRACTOR SHALL RELOCATE EXISTING UTILITIES AS INDICATED OR AS NECESSARY FOR CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN.
- ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH EQUIVALENT MATERIALS AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON-SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
- THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE TOWN OF BILLERICA. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO; INCREASED IMPERVIOUS PAVEMENT, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, CHANGES TO LANDSCAPING, ETC.

GRADING NOTES

- ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, TOP OF GRAVEL, OR GRATE ELEVATION AT THE DRAWDOWN POINT UNLESS NOTED OTHERWISE.
- ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION & SEDIMENT CONTROL PLAN PREPARED FOR THIS PROJECT.
- EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, AND COMPACTION.
- CONTRACTOR TO PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A MINIMUM DEPTH OF 6 INCHES.
- OUTER SLOPES SHALL BE 2:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
- AREAS WHICH DO NOT RECEIVE STONE OR GRAVEL SURFACE TREATMENT SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION & SEDIMENTATION CONTROL PLAN, UNLESS NOTED OTHERWISE.
- ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS NOTED OTHERWISE. EXCESS SOIL MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.

STORM DRAINAGE NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH THE TOWN OF BILLERICA DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS & STANDARD DETAILS, LATEST REVISION.
- DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
- ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES, SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
- ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES WITHIN THE PROPERTY ARE TO BE PRIVATE AND MAINTAINED BY THE OWNER.
- ALL CATCH BASINS AND MANHOLES WITH A DEPTH GREATER THAN 4' SHALL BE PROVIDED WITH STEPS. STEPS SHALL MEET THE REQUIREMENTS OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- STORM SEWER PIPE SHALL BE ONE OF THE FOLLOWING: PVC SDR-35, HIGH DENSITY POLYETHYLENE, OR REINFORCED CONCRETE PIPE. ALL STORM SEWER PIPE IS TO BE INSTALLED PER TOWN OF BILLERICA SPECIFICATIONS.
- TRENCHES SHALL BE SHAPED TO GIVE THE PIPE A CONTINUOUS AND EVEN BEARING. WHERE THE BOTTOM OF THE TRENCH HAS BEEN TAKEN OUT TO A GREATER DEPTH THAN ABOVE SPECIFIED, IT SHALL BE REFILLED WITH EARTH, PROPERLY COMPACTED AND SHAPED. THE CONTRACTOR SHALL UNDERCUT UNSUITABLE MATERIAL AND REPLACE IT WITH SUITABLE MATERIAL. BEDDING SHALL BE COMPRISED OF A 6" LAYER OF 3/4"- 1 1/2" INCH CRUSHED STONE FOR PROPER SUPPORT AND PROTECTION FROM SETTILING.

UTILITY NOTES

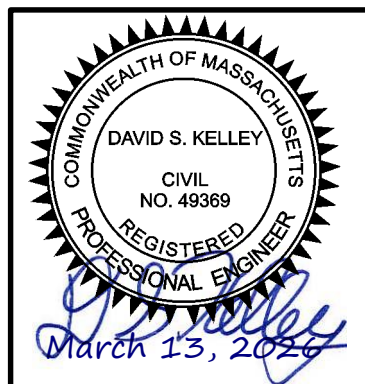
- ALL CONSTRUCTION SHALL COMPLY WITH THE TOWN OF BILLERICA DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SPECIFICATIONS & STANDARD DETAILS, LATEST REVISION.
- ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PRIVATE UTILITY COMPANY SPECIFICATIONS. CONTRACTOR SHALL COORDINATE UTILITY DISCONNECTIONS WITH THE APPROPRIATE AGENCY.
- THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- CONTRACTOR SHALL ADJUST ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF ALL IMPROVEMENTS. DRAWINGS SHALL INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE HORIZONTAL AND VERTICAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED.

TABLE OF ABBREVIATIONS

ABAN	ABANDON	LA	LANDSCAPE AREA
ACR	ACCESSIBLE CURB RAMP	LOD	LIMIT OF DISTURBANCE
ADA	AMERICANS WITH DISABILITIES ACT	LOW	LIMIT OF WORK
ADJ	ADJUST	LP	LOW POINT
APPROX	APPROXIMATE	MAX	MAXIMUM
ARCH	ARCHITECTURAL	MCC	MONOLITHIC CONCRETE CURB
BC	BOTTOM OF CURB	ME	MATCH EXISTING
BCB	BITUMINOUS CONCRETE BERM	MES	METAL END SECTION
BCC	BITUMINOUS CONCRETE CURB	MIN	MINIMUM
BIT	BITUMINOUS	MW	MONITORING WELL
BLDG	BUILDING	N	NORTH
BLSF	BORDERING LAND SUBJECT TO FLOODING	NOZ	NO DISTURB ZONE
BOT	BOTTOM	NE	NORTHEAST
BS	BOTTOM OF SLOPE	NIC	NOT IN CONTRACT
BW	BOTTOM OF WALL	NTS	NOT TO SCALE
BWLL	BROKEN WHITE LANE LINE	NW	NORTHWEST
CATV	CABLE TV	OHW	OVERHEAD WIRE
CB	CATCH BASIN	PB	PULL BOX
CCB	CAPE COD BERM	PCC	PRECAST CONCRETE CURB
CIP	CAST IRON PIPE	PIV	POST INDICATOR VALVE
CLF	CHAIN LINK FENCE	PL	PROPERTY LINE
CMP	CORRUGATED METAL PIPE	PROP	PROPOSED
CO	CLEANOUT	PVC	POLYVINYLCHLORIDE PIPE
CONC	CONCRETE	R	RADIUS
COND	CONDUIT	R&D	REMOVE AND DISPOSE
CS	CURB STOP AND BOX	R&R	REMOVE AND RESET
DCB	DOUBLE CATCH BASIN	R&S	REMOVE AND SALVAGE
DET	DETENTION	RIM	RIM ELEVATION
DIA	DIAMETER	RA	RIVERFRONT AREA
DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
DMH	DRAIN MANHOLE	RD	ROOF DRAIN
DPW	DEPARTMENT OF PUBLIC WORKS	REM	REMOVE
DW	DOMESTIC WATER	RET	RETAIN
DYCL	DOUBLE YELLOW CENTER LINE	ROW	RIGHT-OF-WAY
ECC	EXTRUDED CONCRETE CURB	S	SOUTH
ELEV	ELEVATION	SAS	SOIL ABSORPTION SYSTEM
EMH	ELECTRIC MANHOLE	SCB	SINGLE CATCH BASIN
EOP	EDGE OF PAVEMENT	SE	SOUTHEAST
EX	EXISTING	SGE	SLOPED GRANITE EDGING
EXIST	EXISTING	SLP	SITE LIGHT POLE
F&C	FRAME AND COVER	SMH	SEWER MANHOLE
F&G	FRAME AND GRATE	SW	SOUTHWEST
FA	FIRE ALARM	SWEL	SOLID WHITE EDGE LINE
FDN	FOUNDATION	SWLL	SOLID WHITE LANE LINE
FES	FLARED END SECTION	SYS	SYSTEM
FFE	FIRST FLOOR ELEVATION	TC	TOP OF CURB
FM	FORCE MAIN	TMH	TELEPHONE MANHOLE
FO	FIBER OPTICS	TR	TRASH BAY
FP	FIRE PROTECTION	TS	TOP OF SLOPE
GG	GAS GATE	TSV	TAPPING SLEEVE, VALVE, AND BOX
GI	GUTTER INLET	TW	TOP OF WALL
GM	GAS METER	TYP	TYPICAL
GRAN	GRANITE	UD	UNDERDRAIN
GT	GREASE TRAP	UG	UNDERGROUND
GTD	GRADE TO DRAIN	UP	UTILITY POLE
HDPE	HIGH DENSITY POLYETHYLENE	VGC	VERTICAL GRANITE CURB
HH	HAND HOLE	W	WEST
HP	HIGH POINT	WM	WATER METER
HW	HEADWALL	WQI	WATER QUALITY INLET
HYD	HYDRANT	WQU	WATER QUALITY UNIT
INF	INFILTRATION	WV	WATER VALVE AND BOX
INV	INVERT ELEVATION		

GENERAL NOTES

DATE:	MARCH 13, 2026	DRAWN BY:	KFH
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			DSK



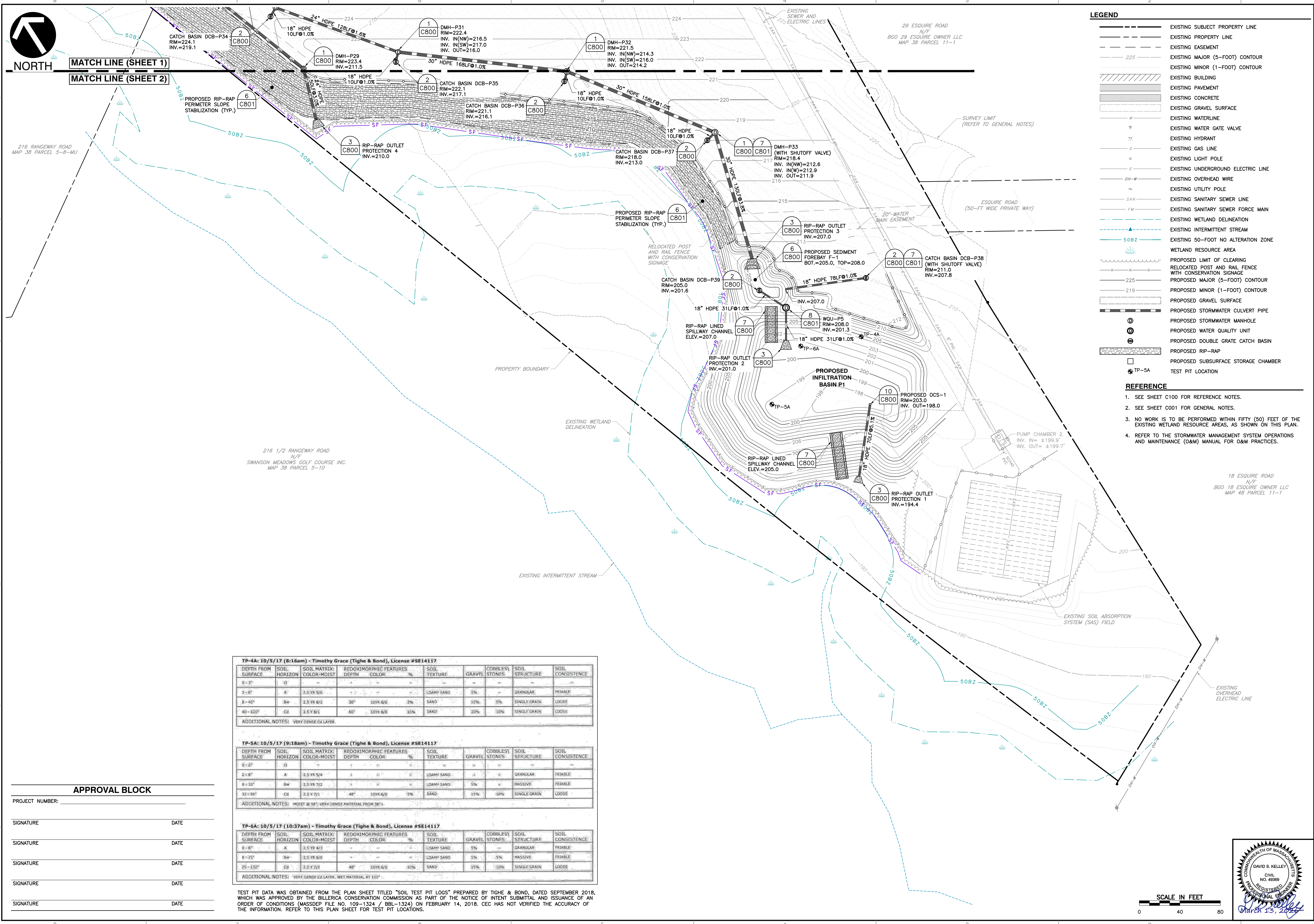
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SHEET 2 OF 14

31 Bellows Road
Raynham, MA 02767
Ph: 774.501.2176
www.cecinco.com



SITE PLANS FOR PERMITTING
W.L. FRENCH EXCAVATING CORPORATION
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NORTH BILLERICA, MASSACHUSETTS



LEGEND

	EXISTING SUBJECT PROPERTY LINE
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING MAJOR (5-FOOT) CONTOUR
	EXISTING MINOR (1-FOOT) CONTOUR
	EXISTING BUILDING
	EXISTING PAVEMENT
	EXISTING CONCRETE
	EXISTING GRAVEL SURFACE
	EXISTING WATERLINE
	EXISTING WATER GATE VALVE
	EXISTING HYDRANT
	EXISTING GAS LINE
	EXISTING LIGHT POLE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING OVERHEAD WIRE
	EXISTING UTILITY POLE
	EXISTING SANITARY SEWER LINE
	EXISTING SANITARY SEWER FORCE MAIN
	EXISTING WETLAND DELINEATION
	EXISTING INTERMITTENT STREAM
	EXISTING 50-FOOT NO ALTERATION ZONE
	WETLAND RESOURCE AREA
	PROPOSED LIMIT OF CLEARING
	RELOCATED POST AND RAIL FENCE WITH CONSERVATION SIGNAGE
	PROPOSED MAJOR (5-FOOT) CONTOUR
	PROPOSED MINOR (1-FOOT) CONTOUR
	PROPOSED GRAVEL SURFACE
	PROPOSED STORMWATER CULVERT PIPE
	PROPOSED STORMWATER MANHOLE
	PROPOSED WATER QUALITY UNIT
	PROPOSED DOUBLE GRATE CATCH BASIN
	PROPOSED RIP-RAP
	PROPOSED SUBSURFACE STORAGE CHAMBER
	TEST PIT LOCATION

- REFERENCE**
- SEE SHEET C100 FOR REFERENCE NOTES.
 - SEE SHEET C001 FOR GENERAL NOTES.
 - NO WORK IS TO BE PERFORMED WITHIN FIFTY (50) FEET OF THE EXISTING WETLAND RESOURCE AREAS, AS SHOWN ON THIS PLAN.
 - REFER TO THE STORMWATER MANAGEMENT SYSTEM OPERATIONS AND MAINTENANCE (O&M) MANUAL FOR O&M PRACTICES.

SUBMITTAL & REVISION RECORD

NO.	DATE	DESCRIPTION
1	3/13/2025	SUBMITTED TO PLANNING BOARD AND CONSERVATION COMMISSION FOR PERMITTING

31 Bellows Road
Raynham, MA 02767
Ph: 774.501.2176
www.cecinc.com

CEC
Civil & Environmental
Consultants, Inc.

**SITE PLANS FOR PERMITTING
W.L. FRENCH EXCAVATING CORPORATION
14 STERLING ROAD
NORTH BILLERICA, MASSACHUSETTS**

**PROPOSED STORMWATER
MANAGEMENT PLAN
(SHEET 2 OF 2)**

DATE:	MARCH 13, 2025	DRAWN BY:	KFH
DWG SCALE:	1" = 40'	CHECKED BY:	DSK
PROJECT NO.:	C401	APPROVED BY:	DSK

TP-4A: 10/5/17 (8:16am) - Timothy Grace (Tighe & Bond), License #SE14117

DEPTH FROM SURFACE	SOIL HORIZON	SOIL MATRIX: COLOR-MOIST	REDOXIMORPHIC FEATURES: DEPTH COLOR %	SOIL TEXTURE	GRAVEL	COBBLES/ STONES	SOIL STRUCTURE	SOIL CONSISTENCE
0-2"	G							
3-8"	A	2.5 YR 5/6		LOAMY SAND	5%		GRANULAR	FRIABLE
8-40"	Bw	2.5 YR 8/1	36" 10YR 6/8 2%	SAND	10%	5%	SINGLE GRAIN	LOOSE
40-120"	Cd	2.5 Y 8/1	60" 10YR 6/8 10%	SAND	20%	10%	SINGLE GRAIN	LOOSE

ADDITIONAL NOTES: VERY DENSE Cg LAYER.

TP-5A: 10/5/17 (9:18am) - Timothy Grace (Tighe & Bond), License #SE14117

DEPTH FROM SURFACE	SOIL HORIZON	SOIL MATRIX: COLOR-MOIST	REDOXIMORPHIC FEATURES: DEPTH COLOR %	SOIL TEXTURE	GRAVEL	COBBLES/ STONES	SOIL STRUCTURE	SOIL CONSISTENCE
0-2"	G							
2-8"	A	2.5 YR 5/4		LOAMY SAND	5%		GRANULAR	FRIABLE
8-32"	Bw	2.5 YR 7/2		LOAMY SAND	5%		MASSIVE	FRIABLE
32-96"	Cg	2.5 Y 7/1	48" 10YR 6/8 5%	SAND	15%	10%	SINGLE GRAIN	LOOSE

ADDITIONAL NOTES: MOIST @ 96"; VERY DENSE MATERIAL FROM 36"+

TP-6A: 10/5/17 (10:37am) - Timothy Grace (Tighe & Bond), License #SE14117

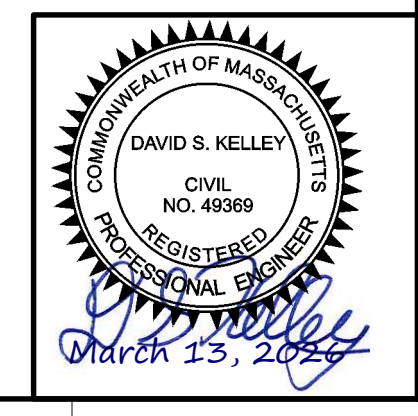
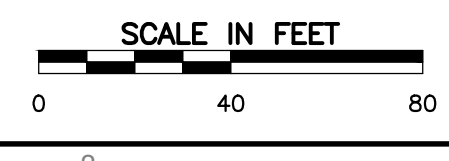
DEPTH FROM SURFACE	SOIL HORIZON	SOIL MATRIX: COLOR-MOIST	REDOXIMORPHIC FEATURES: DEPTH COLOR %	SOIL TEXTURE	GRAVEL	COBBLES/ STONES	SOIL STRUCTURE	SOIL CONSISTENCE
0-8"	A	2.5 YR 4/1		LOAMY SAND	5%		GRANULAR	FRIABLE
8-25"	Bw	2.5 YR 6/1		LOAMY SAND	5%	5%	MASSIVE	FRIABLE
25-132"	Cg	2.5 Y 7/2	48" 10YR 6/8 10%	SAND	15%	10%	SINGLE GRAIN	LOOSE

ADDITIONAL NOTES: VERY DENSE Cg LAYER; WET MATERIAL AT 132"

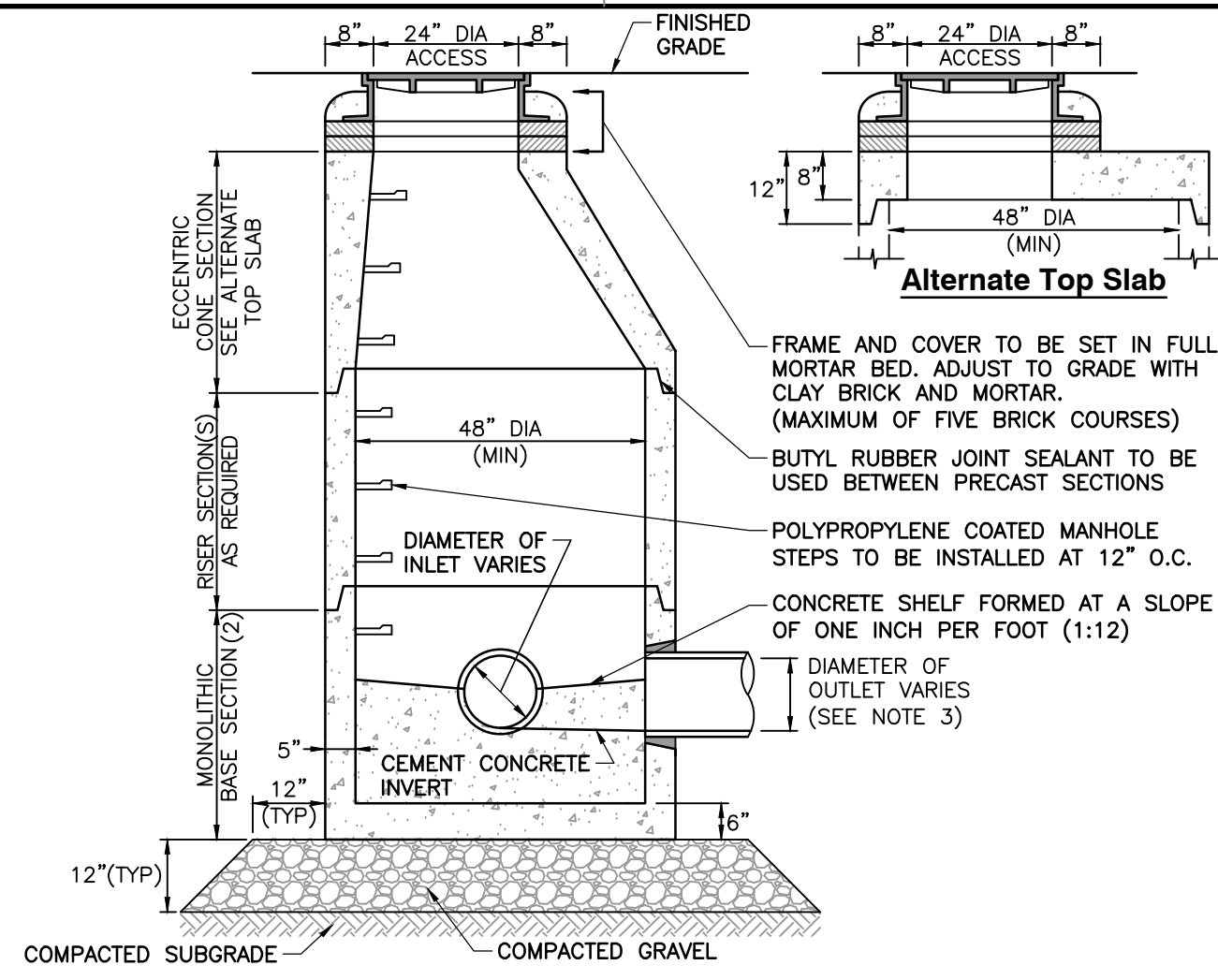
TEST PIT DATA WAS OBTAINED FROM THE PLAN SHEET TITLED "SOIL TEST PIT LOGS" PREPARED BY TIGHE & BOND, DATED SEPTEMBER 2018, WHICH WAS APPROVED BY THE BILLERICA CONSERVATION COMMISSION AS PART OF THE NOTICE OF INTENT SUBMITTAL AND ISSUANCE OF AN ORDER OF CONDITIONS (MASSDEP FILE NO. 109-1324 / BBL-1324) ON FEBRUARY 14, 2018. CEC HAS NOT VERIFIED THE ACCURACY OF THE INFORMATION. REFER TO THIS PLAN SHEET FOR TEST PIT LOCATIONS.

APPROVAL BLOCK

PROJECT NUMBER:	
SIGNATURE	DATE
SIGNATURE	DATE
SIGNATURE	DATE
SIGNATURE	DATE
SIGNATURE	DATE

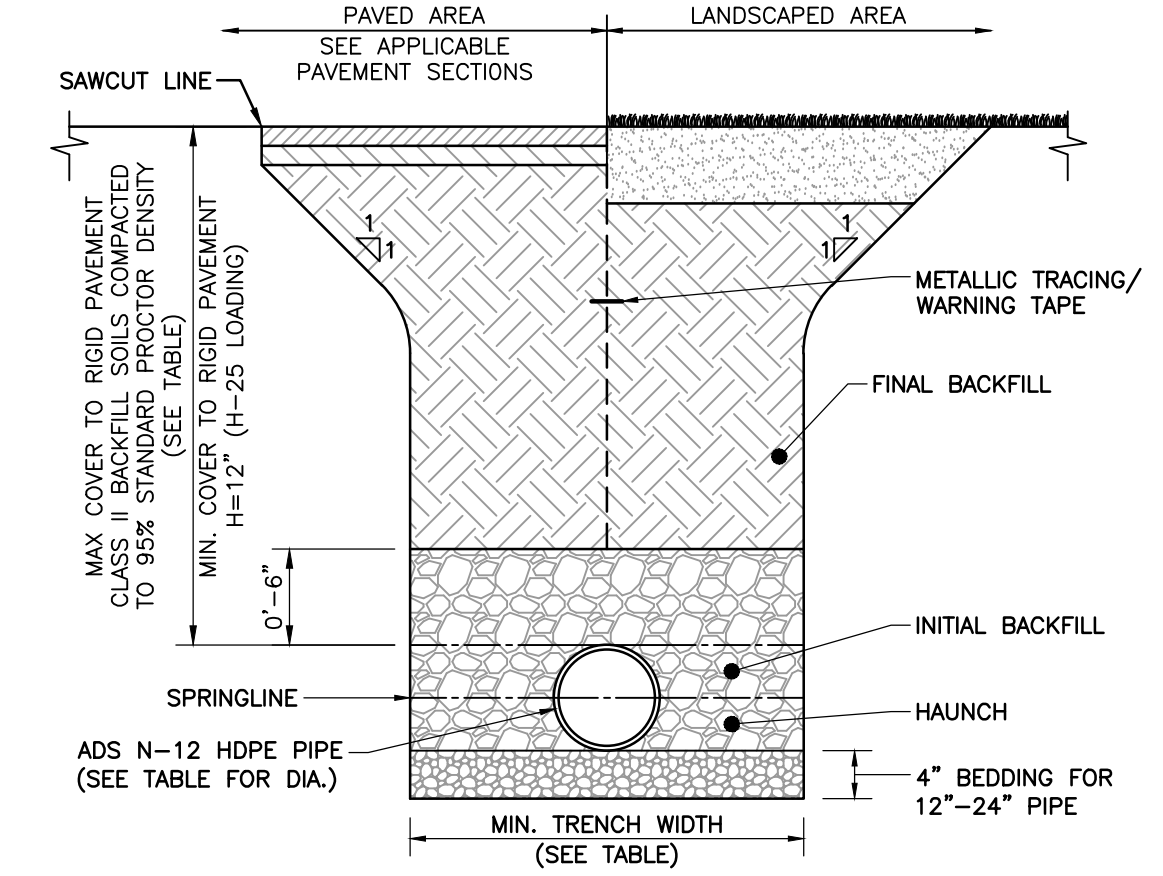


I:\cecin.com\lab\proj\140-000\147-1591-C400\Drawings\147-159-001-Proposed Drainage Plan.dwg(6/01) LS(3/13/2025 - Anonymous) - LP_3/13/2025 11:28 AM



- NOTES**
- STRUCTURE TO BE PRECAST CONCRETE, MINIMUM 4,000 PSI. ALL SECTIONS TO BE DESIGNED TO MEET OR EXCEED HS-20 LOADING.
 - BASE TO BE SINGLE POUR MONOLITHIC SECTION.
 - REFER TO DESIGN PLAN SHEETS C400 AND C401 FOR PIPE SIZES AND ALIGNMENT. PROVIDE OPENINGS FOR PIPES WITH 2" MAXIMUM CLEARANCE. MORTAR ALL PIPE CONNECTIONS.

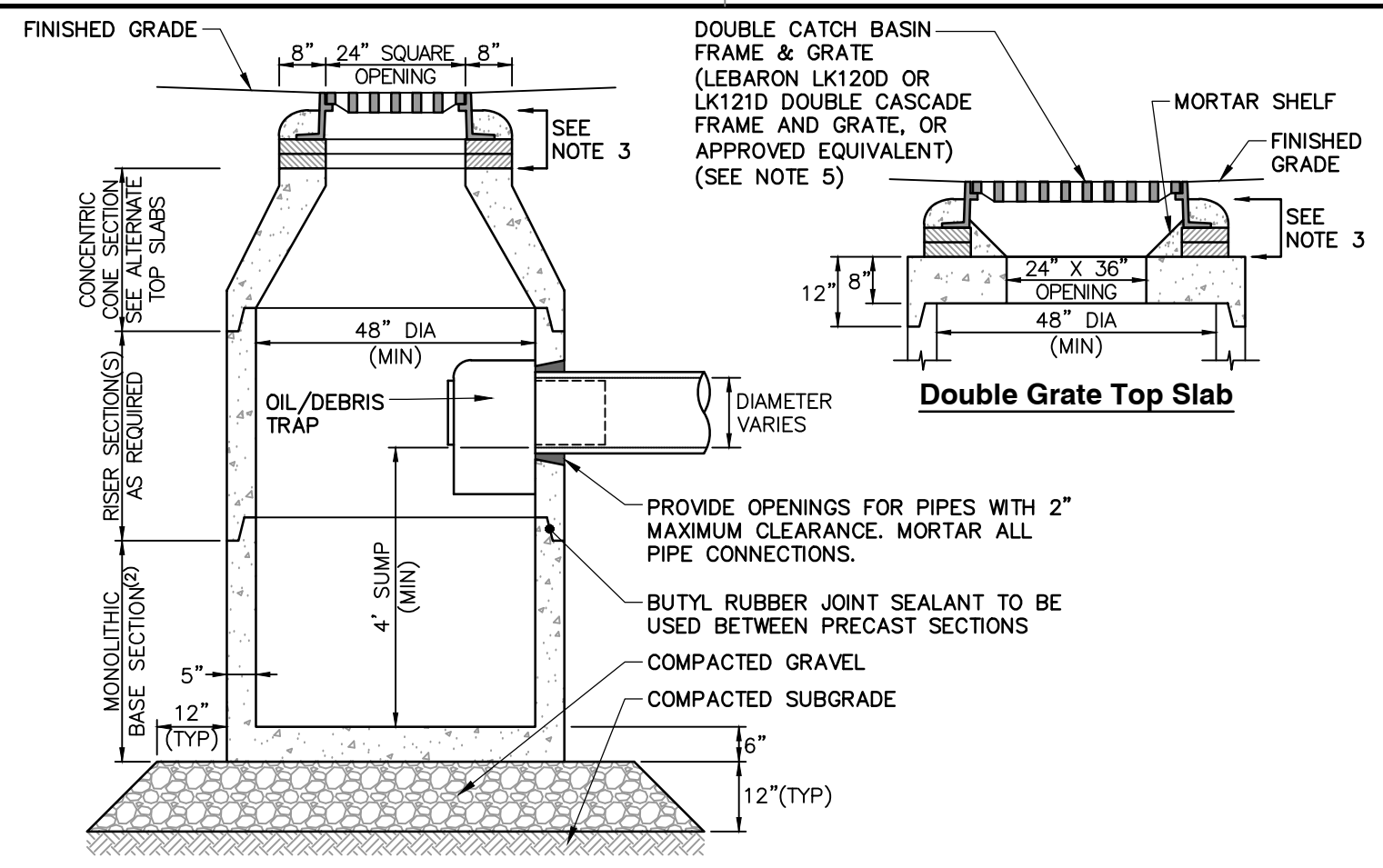
1 DRAIN MANHOLE
N.T.S.



HDPE PIPE DIA.	MIN. TRENCH WIDTH	MAX. BURIAL DEPTH**
12"	30 INCHES	24 FEET
18"	39 INCHES	24 FEET
24"	48 INCHES	20 FEET
30"	56 INCHES	20 FEET

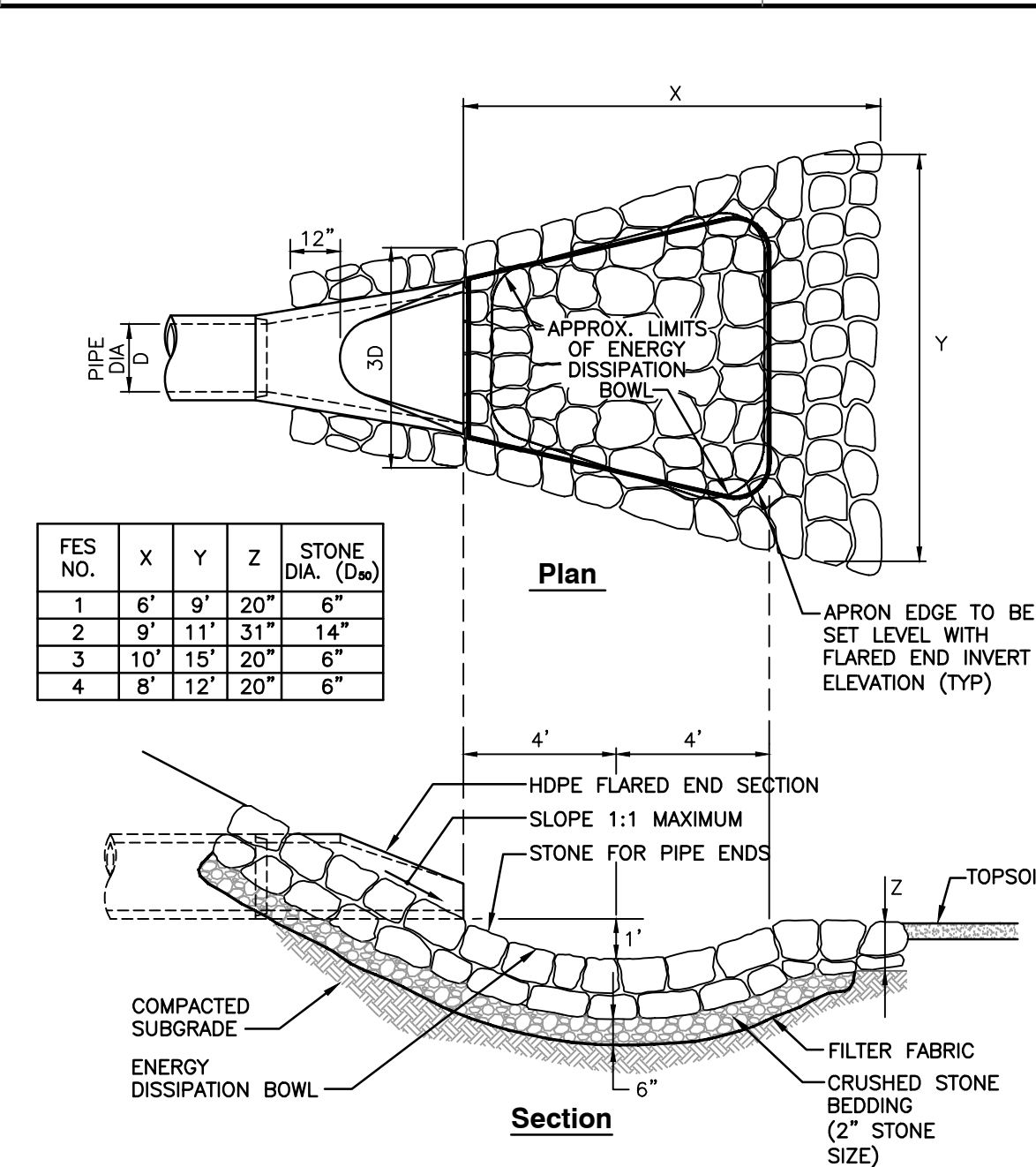
**BASED ON CLASS II BACKFILL, 95% COMPACTION.

5 HDPE DRAINAGE PIPE TRENCH
N.T.S.



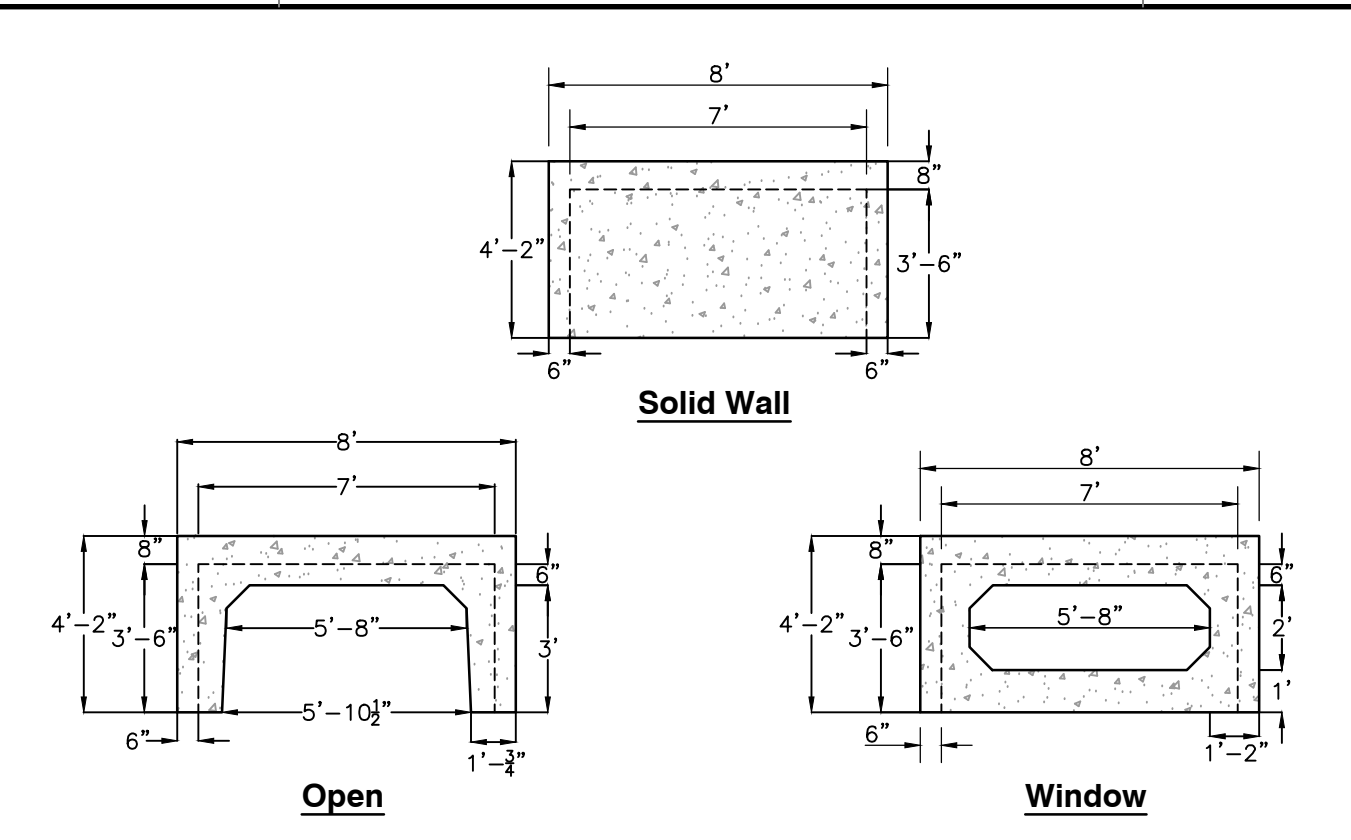
- CONSTRUCTION NOTES**
- STRUCTURE TO BE PRECAST CONCRETE, MINIMUM 4,000 PSI. ALL SECTIONS TO BE DESIGNED TO MEET OR EXCEED HS-20 LOADING.
 - BASE TO BE SINGLE POUR MONOLITHIC SECTION.
 - FRAME AND GRATE TO BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. MAXIMUM OF FIVE BRICK COURSES.
 - PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAXIMUM CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON THE PIPE. GROUT ALL CONNECTIONS WITH NON-SHRINK GROUT.
 - THE SEDIMENT FOREBAY DOES NOT REQUIRE A CASCADE GRATE.

2 DOUBLE GRATE CATCH BASIN WITH OIL/DEBRIS TRAP
N.T.S.



FES NO.	X	Y	Z	STONE DIA. (D ₅₀)
1	6'	9'	20'	6"
2	9'	11'	31'	14"
3	10'	15'	20'	6"
4	8'	12'	20'	6"

3 RIP-RAP OUTLET PROTECTION
N.T.S.

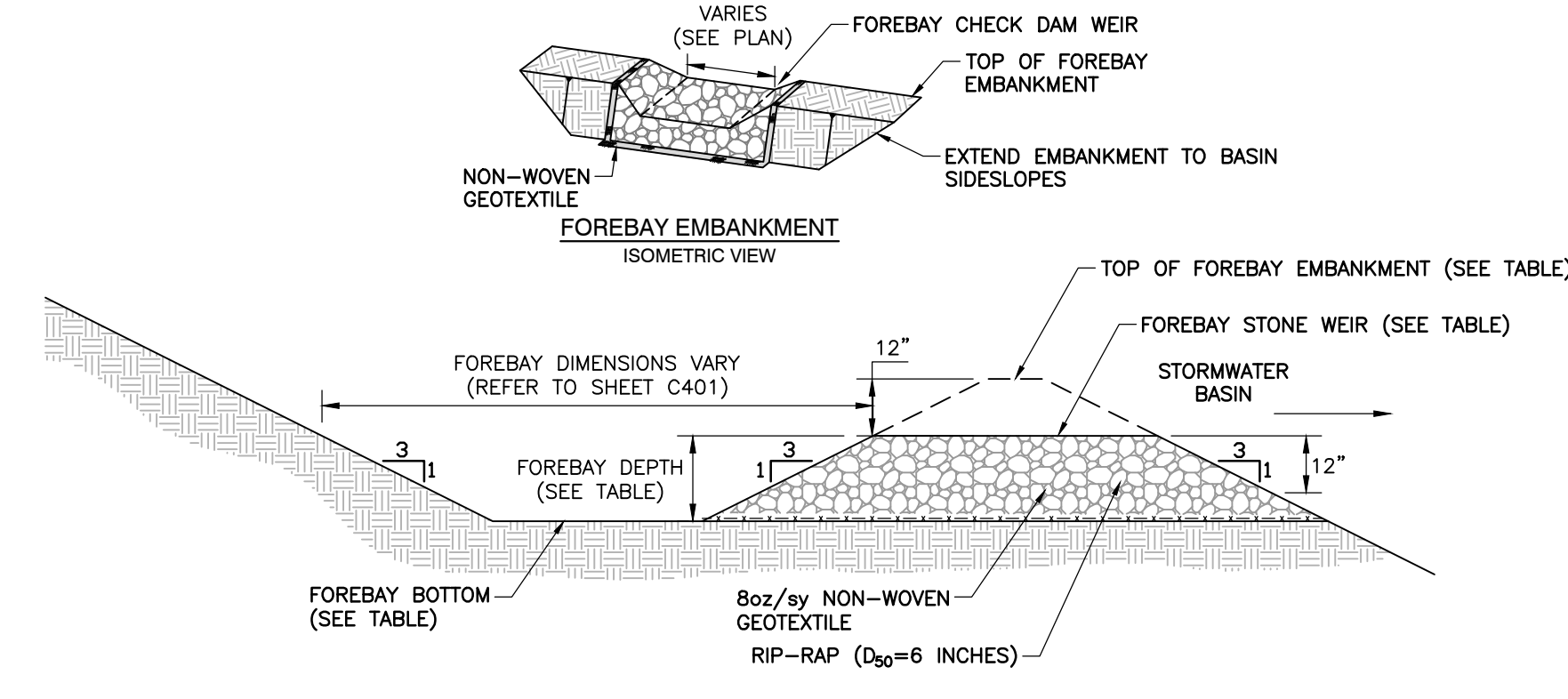


3'-6" RETAIN-IT TYPE 6 MODULE SPECIFICATIONS

- OUTSIDE DIMENSIONS (LxWxH) = 8FT x 8FT x 4.17FT
- INSIDE DIMENSIONS (LxWxH) = 7FT x 7FT x 3.5FT
- BARE MODULE STORAGE VOLUME = 188.46 CF
- MODULE WEIGHT = 12,136 LBS
- MINIMUM COVER = 6 INCHES
- MAXIMUM COVER = 10 FT
- CONCRETE = 5,000 PSI, 28 DAYS
- REINFORCING STEEL CONFORMS TO LATEST ASTM A615
- H-20 DESIGN LOADING PER AASHTO HS-20-44

4 TYPICAL 3'-6" TYPE 6 RETAIN-IT MODULE
N.T.S.

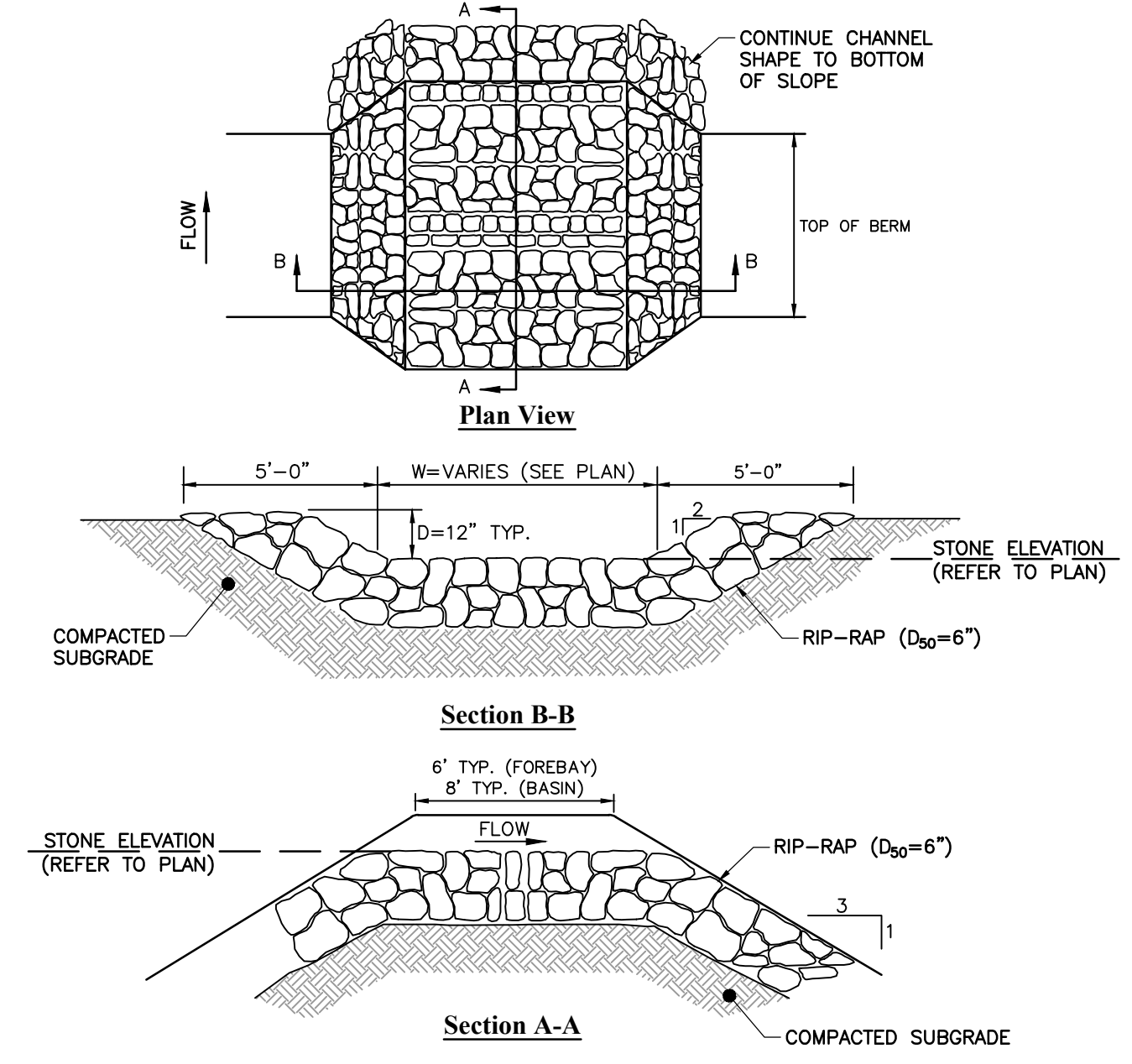
- CONSTRUCTION NOTES**
- WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
 - USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
 - ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 - BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
 - INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
 - MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.



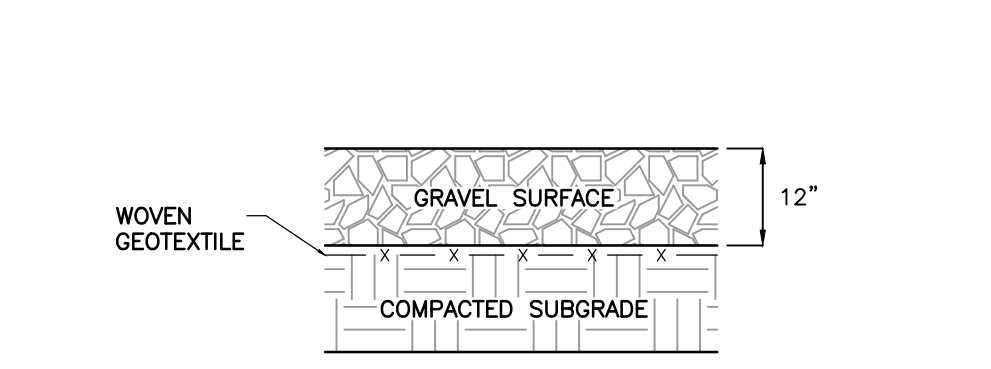
FOREBAY ID	FOREBAY ELEVATIONS		DEPTH (FEET)	CONTRIBUTING IMPERVIOUS AREA (ACRES)	0.1" WOV REQUIRED (FT ²)	VOLUME PROVIDED (FT ³)
	TOP	BOTTOM				
F1	208.0	205.0	2.0	±4.8	±1,745	±1,750

- NOTES:**
- REFER TO DESIGN PLAN SHEET C401 FOR SEDIMENT FOREBAY LOCATION AND LAYOUT.
 - EACH SEDIMENT FOREBAY IS SIZED TO STORE THE 0.1" WATER QUALITY VOLUME (WQV) BELOW THE STONE WEIR ELEVATION FOR PRE-TREATMENT BASED ON THE CONTRIBUTING IMPERVIOUS DRAINAGE AREA.

6 PROPOSED SEDIMENT FOREBAY DETAIL
N.T.S.



7 RIP-RAP LINED SPILLWAY
N.T.S.



- NOTES:**
- GRADATION OF GRAVEL WILL BE DETERMINED BY THE OWNER DURING CONSTRUCTION.

8 GRAVEL SECTION
N.T.S.

APPROVAL BLOCK

PROJECT NUMBER: _____

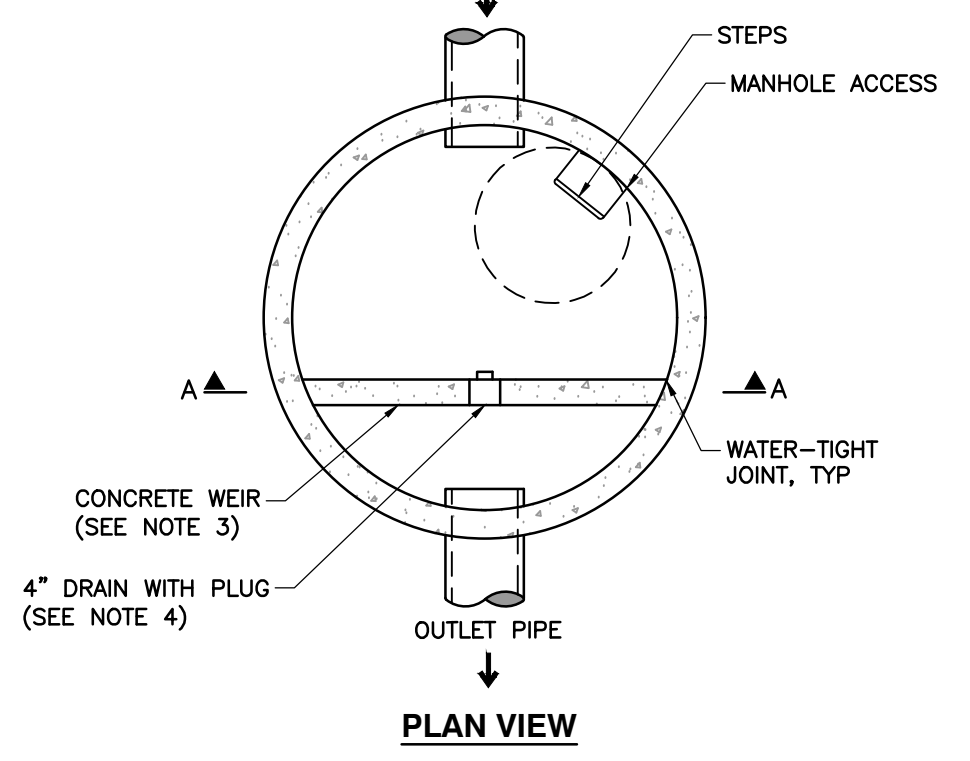
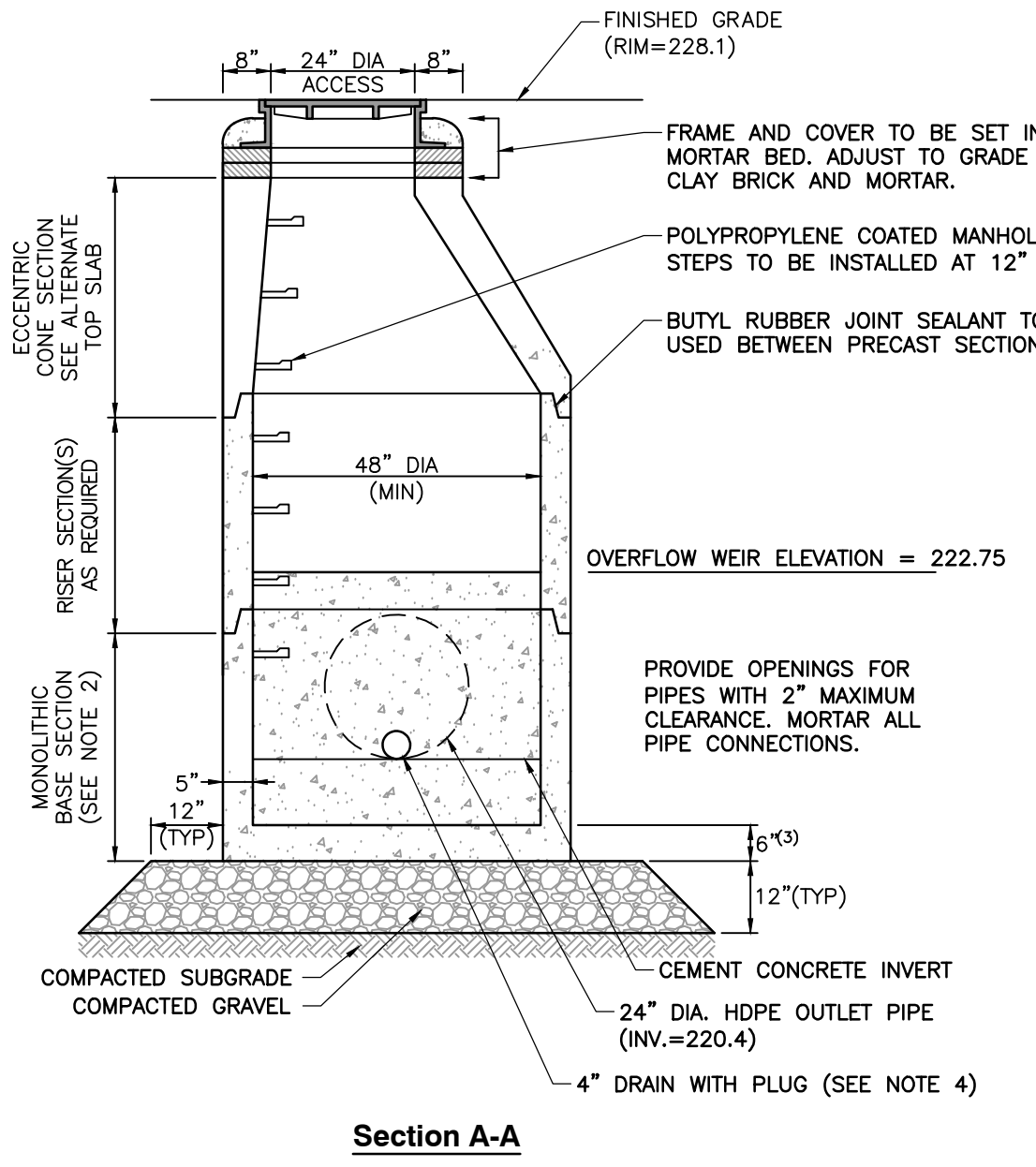
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SIGNATURE _____ DATE _____

SIGNATURE _____ DATE _____

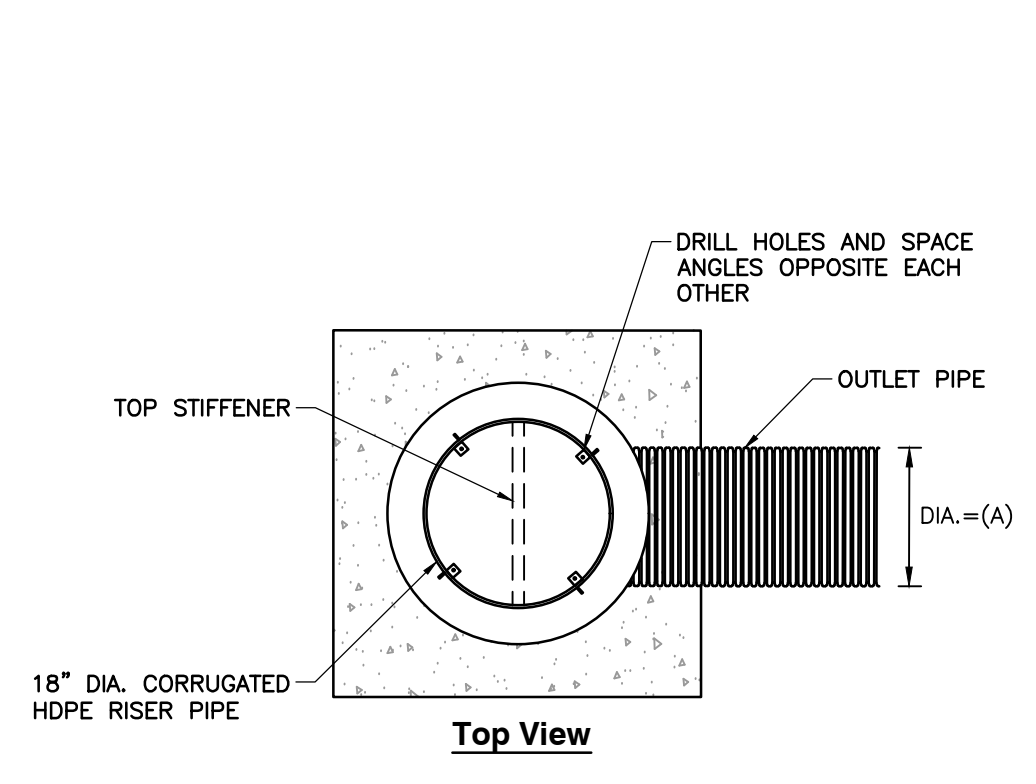
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SIGNATURE _____ DATE _____



- NOTES**
- STRUCTURE TO BE PRECAST CONCRETE, MINIMUM 4,000 PSI. ALL SECTIONS TO BE DESIGNED TO MEET OR EXCEED HS-20 LOADING.
 - BASE TO BE SINGLE POUR MONOLITHIC SECTION.
 - SEE SECTION A-A VIEW FOR WEIR ELEVATION AND CONFIGURATION.
 - PLUG SHALL CONSIST OF A 4" PVC PIPE WITH A THREADED PLUG.

9 OUTLET CONTROL STRUCTURE 3
N.T.S.



	A	B	C	D	E	F	OUTLET PIPE INVERT ELEVATIONS	
STORMWATER BASIN ID	OUTLET PIPE DIAMETER (INCHES)	PERFORATIONS INVERT ELEVATION	PERFORATION DIAMETER (INCHES)	ROWS OF PERFORATIONS (X" SPACING, IF APPLICABLE)	CREST ELEVATION	BOTTOM OF BASIN ELEVATION	INLET	OUTLET
TEMPORARY BASIN	12	212.0	0.5	8 (4" O.C.)	216.0	212.0	211.0	210.4
BASIN P1	18	201.5	1	3 (6" O.C.)	203.0	198.0	198.0	194.4

10 TYPICAL STORMWATER BASIN OUTLET CONTROL STANDPIPE DETAIL
N.T.S.

REVISION RECORD

NO.	DATE	DESCRIPTION

31 Bellows Road
Raynham, MA 02767
Ph: 774.501.2176
www.cecinc.com

W.L. FRENCH EXCAVATING CORPORATION
14 STERLING ROAD
NORTH BILLERICA, MASSACHUSETTS

Civil & Environmental Consultants, Inc.

SITE PLANS FOR PERMITTING

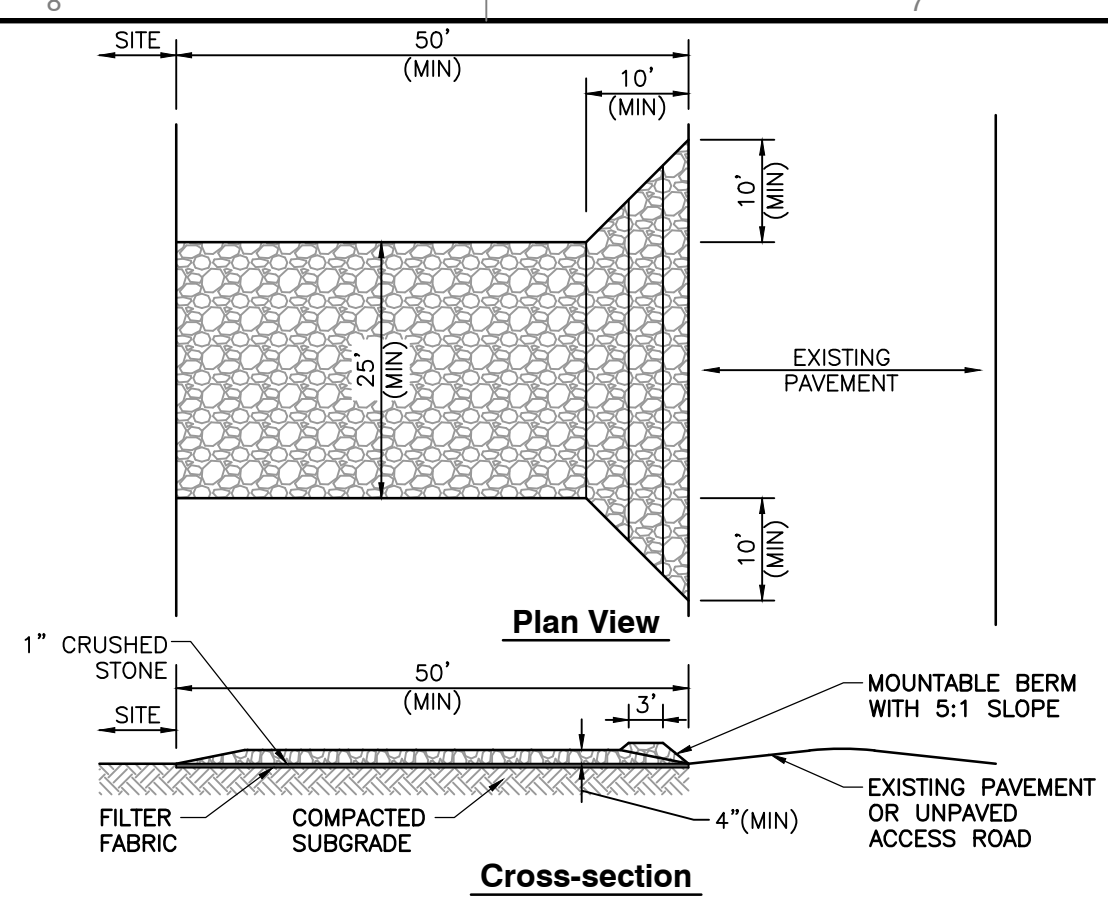
GENERAL DETAILS (SHEET 1 OF 2)

DRAWING NO. **C800**

SHEET 13 OF 14

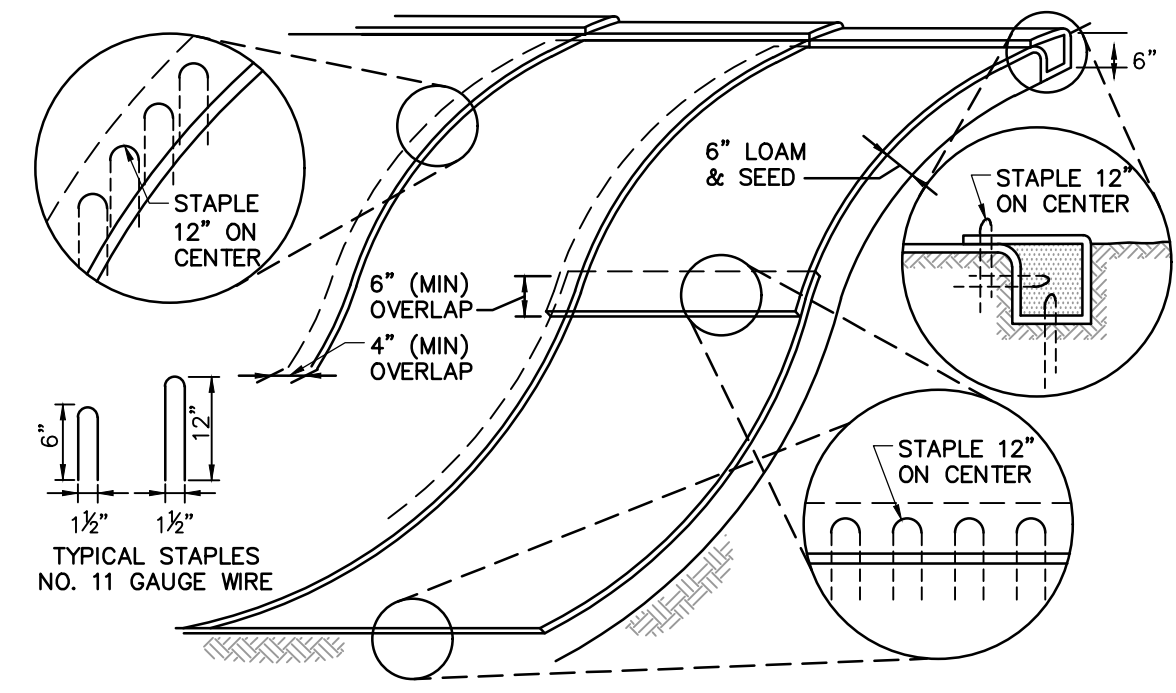
DATE: MARCH 15, 2025 | DRAWN BY: KFH | DSK
DWG SCALE: AS SHOWN | CHECKED BY: 347-159 | APPROVED BY: DSK

APPROVED BY: *David S. Kelley*
DAVID S. KELLEY
CIVIL ENGINEER
NO. 46989
REGISTERED PROFESSIONAL ENGINEER
March 15, 2025



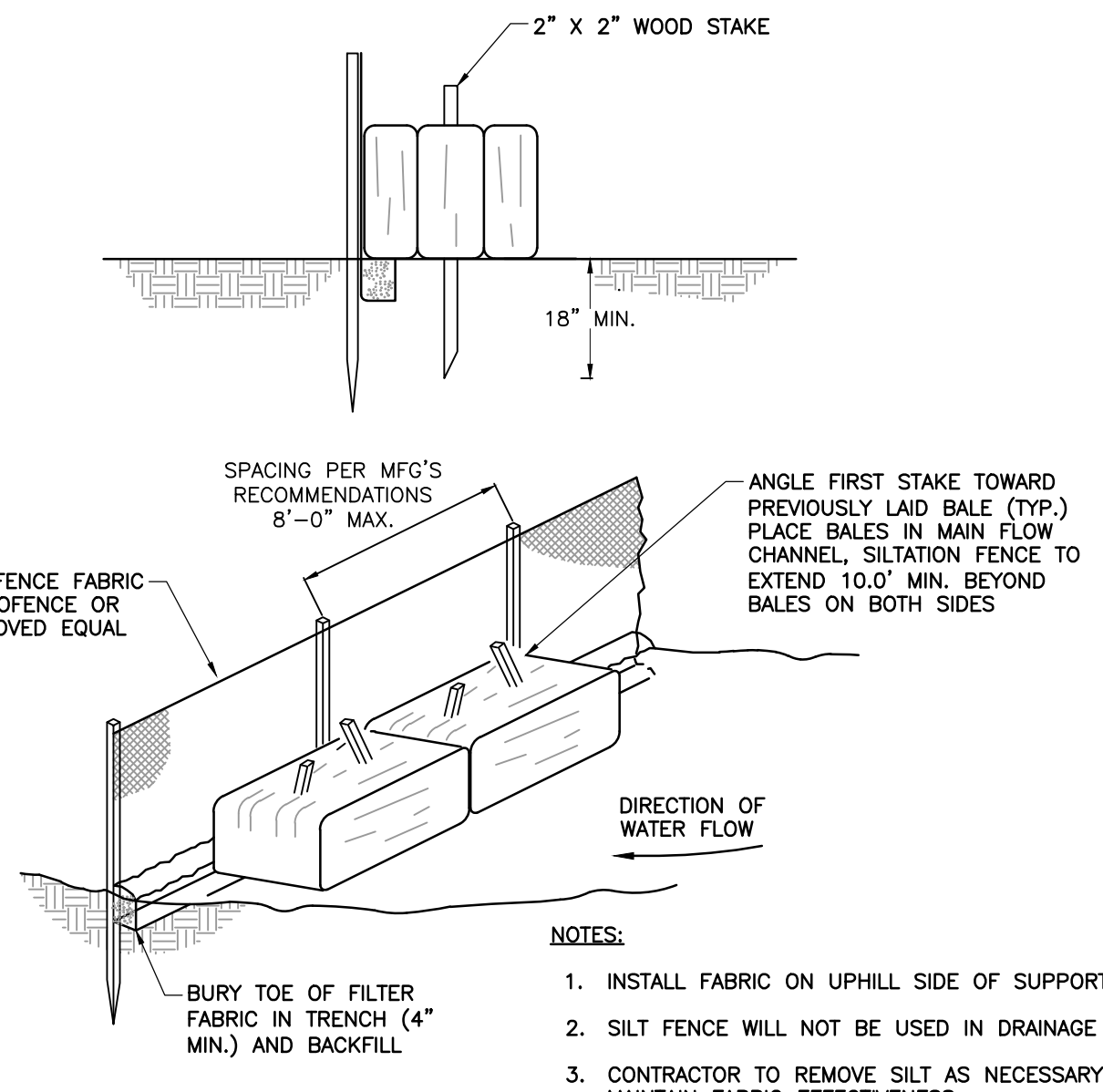
- NOTES:**
- ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
 - STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO FINAL FINISHED MATERIALS BEING INSTALLED.

1 STABILIZED CONSTRUCTION EXIT
N.T.S.



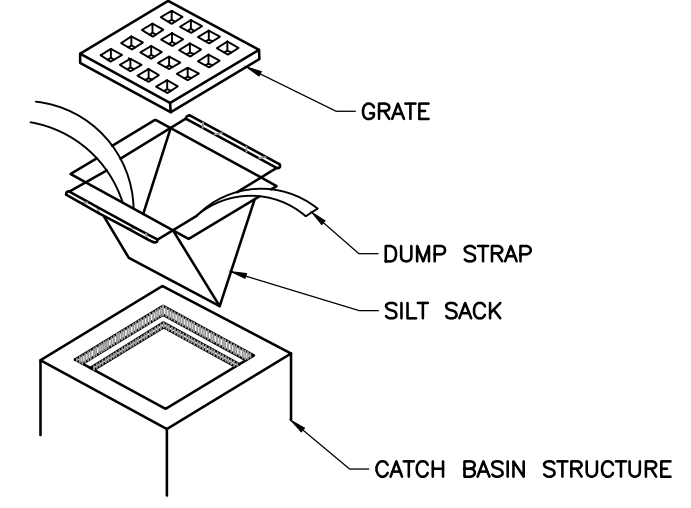
- NOTES:**
- BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A SIX (6) INCH DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
 - ROLL THE BLANKET DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
 - THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROXIMATELY FOUR (4) INCH OVERLAP WHERE TWO (2) OR MORE STRIP WIDTHS ARE REQUIRED.
 - WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH SIX (6) INCH MINIMUM OVERLAP AND STAPLE BOTH TOGETHER.
 - MORE FASTENERS MAY BE REQUIRED DUE TO BLANKET COMPOSITION, SOIL TYPE, SURFACE UNIFORMITY AND SLOPE STEEPNESS. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
 - TO BE PLACED ON SLOPES 3:1 OR GREATER.

2 EROSION CONTROL BLANKET
N.T.S.



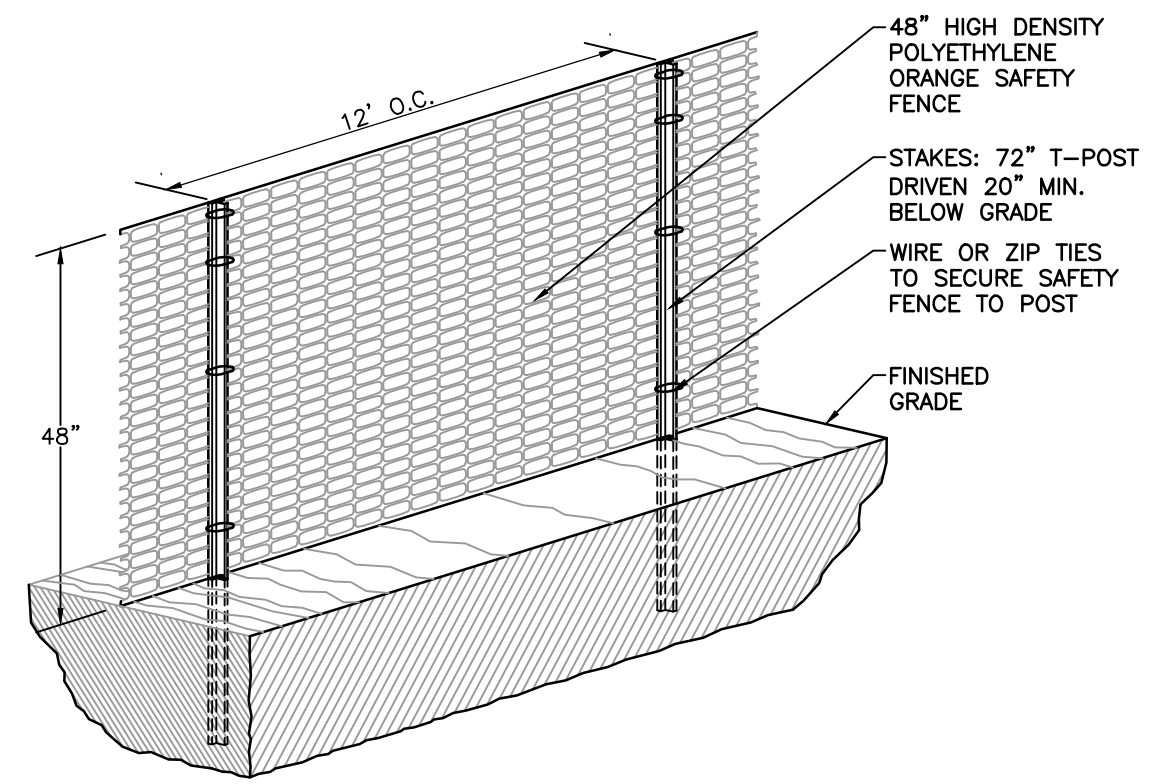
- NOTES:**
- INSTALL FABRIC ON UPHILL SIDE OF SUPPORT POSTS.
 - SILT FENCE WILL NOT BE USED IN DRAINAGEWAYS.
 - CONTRACTOR TO REMOVE SILT AS NECESSARY TO MAINTAIN FABRIC EFFECTIVENESS.

3 SILT FENCE AND STRAW BALE EROSION CONTROL BARRIER
N.T.S.



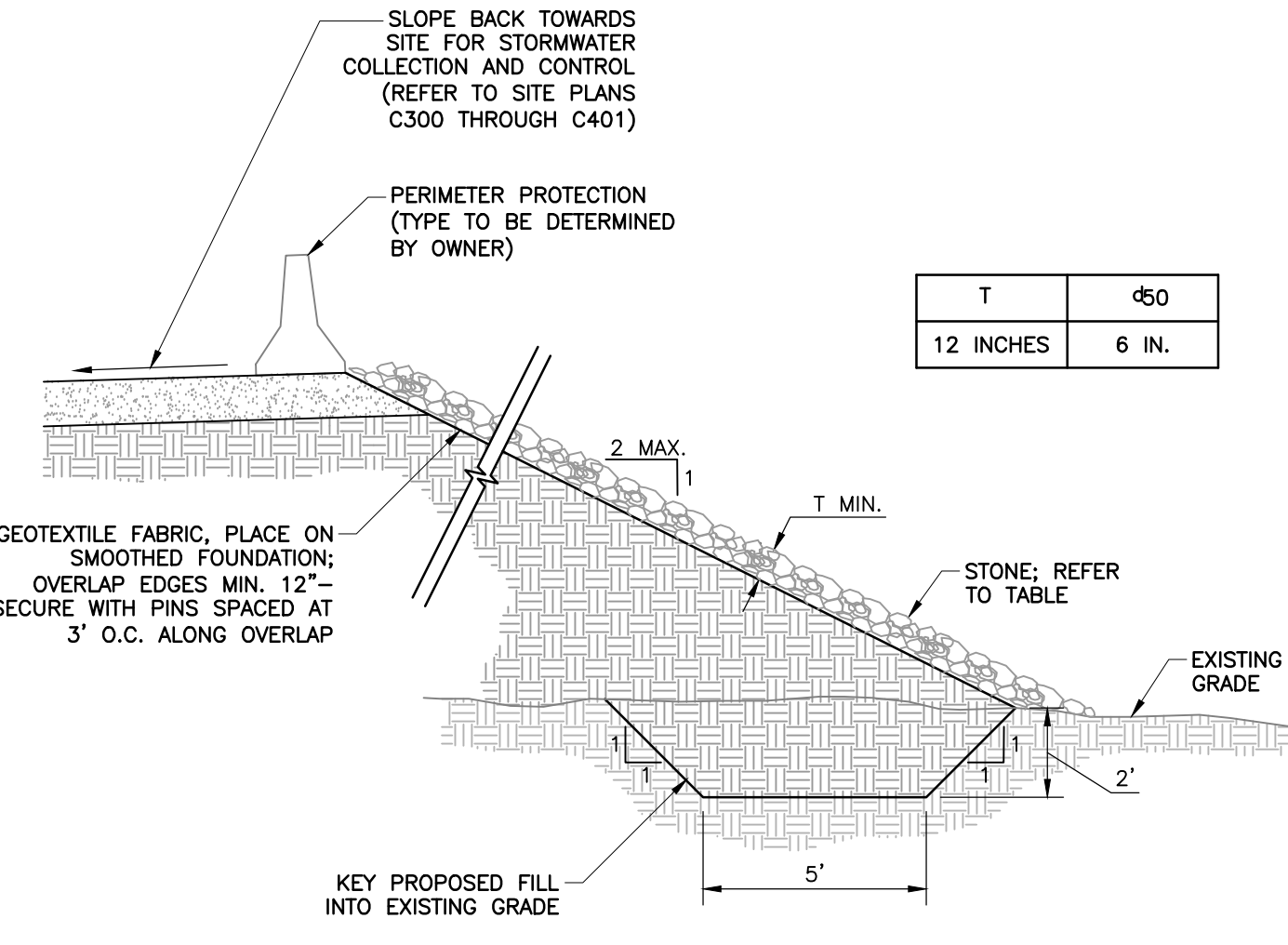
- NOTES:**
- INSTALL SILT SACK PER MANUFACTURER'S INSTRUCTIONS. EMPTY OR REMOVE SEDIMENT FROM SILT SACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
 - SILT SACKS TO BE INSTALLED DURING CONSTRUCTION OPERATIONS WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING AND PROPOSED CATCH BASINS EXISTS.

4 SILT SACK INLET PROTECTION
N.T.S.



- NOTES:**
- ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
 - SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
 - THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED BY THE OWNER.

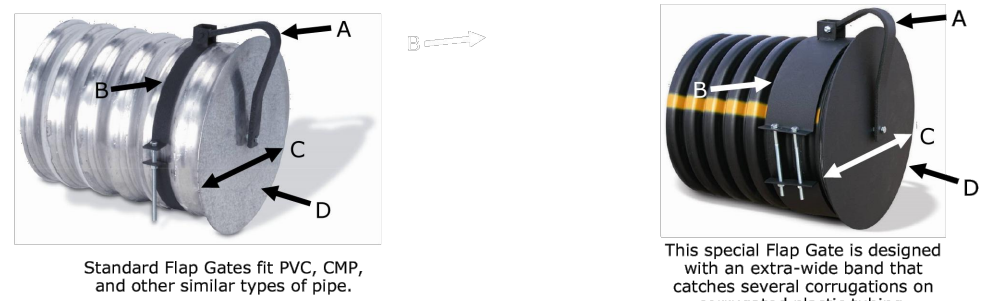
5 ORANGE CONSTRUCTION FENCE
N.T.S.



6 RIP-RAP SLOPE STABILIZATION
N.T.S.

Standard Flap Gates
Help to keep damaging water out of drainage systems.

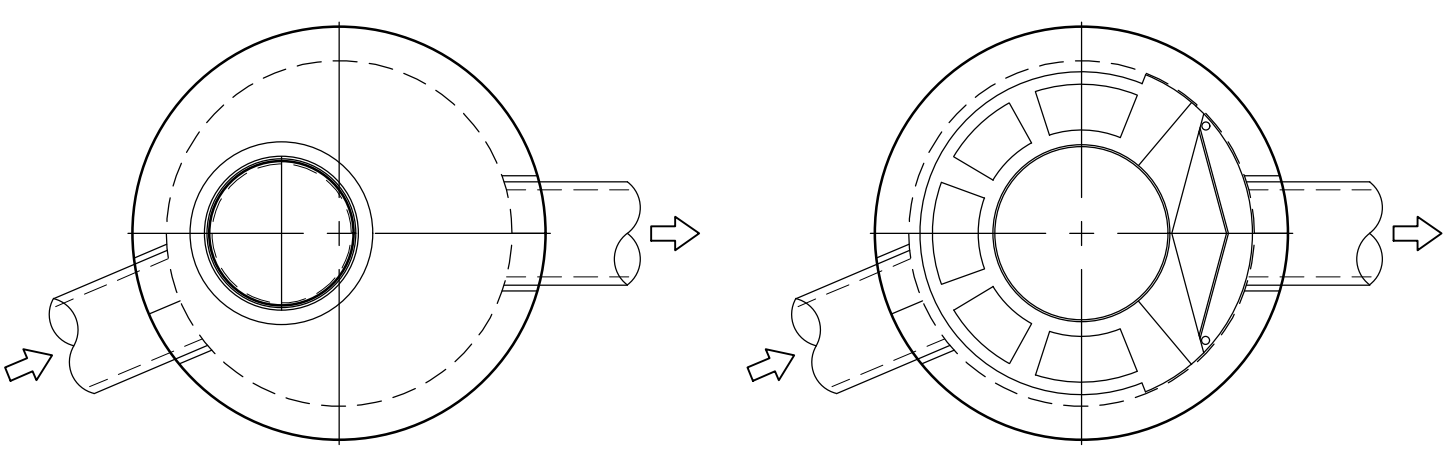
- Constructed with quality materials and has a special finish for longer life.
- Flaps for mild steel Flap Gates are galvanized up to FG15 size.
- Flaps for FG15P and larger are powder coated. Mild steel attachment brackets have a durable powder coat finish. 304 Stainless Steel Flap Gates are not powder coated.
- Flap Gates do not have a gasket and are not watertight.
- Flap should sit flush against the pipe, not the band, to ensure optimal performance. (Please specify type of pipe when ordering.)



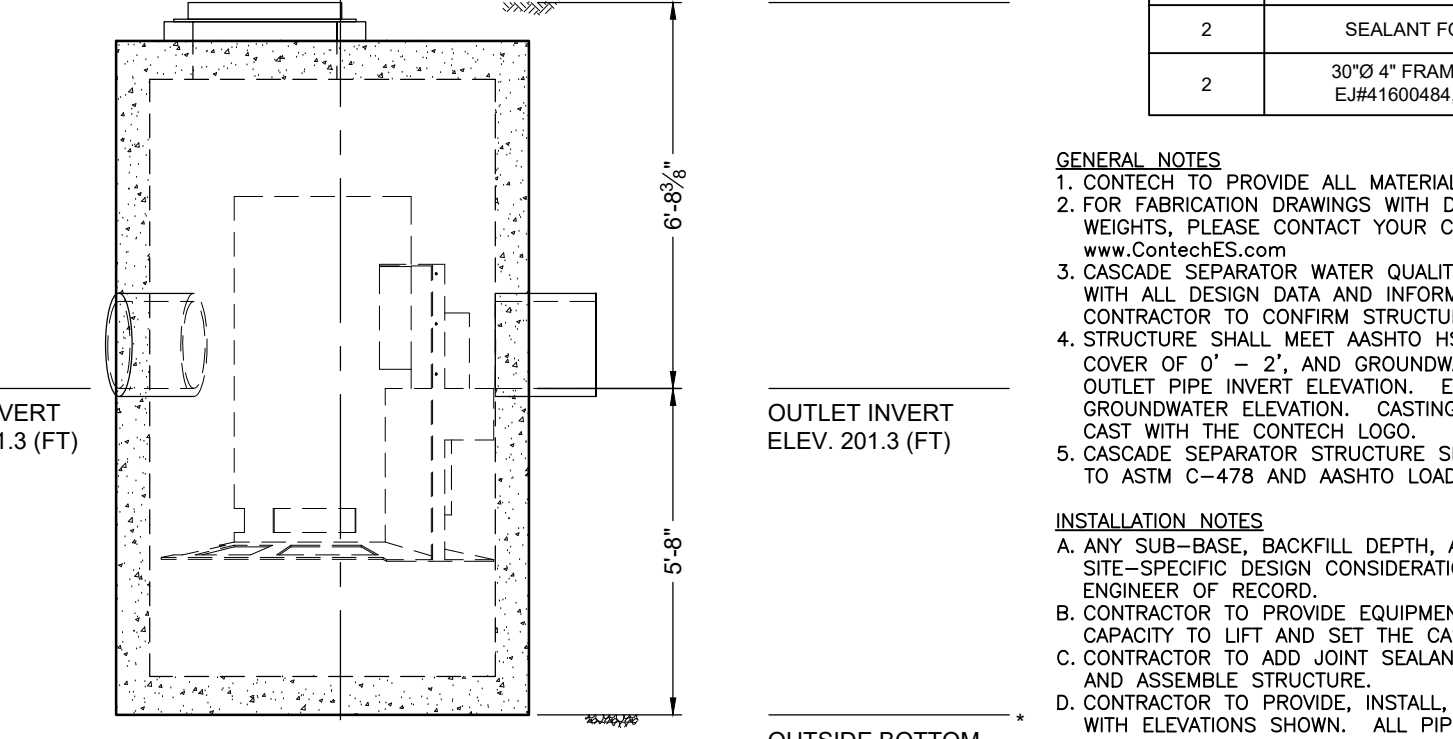
Standard Flap Gates for Corrugated Plastic Tubing			
Size	Flap Gate Dimensions	Flap Description (D)	Range of Measurements for OD of Corr. Plastic Tubing
	A	B	C
4"	1/2" x 1"	6 1/2"	3.85" to 5.1"
4"	1/2" x 1"	6 1/2"	3.85" to 5.1"
4"	1/2" x 1"	6 1/2"	3.85" to 5.1"
6"	1/2" x 1"	8 1/2"	5.25" to 7"
6"	1/2" x 1"	8 1/2"	5.25" to 7"
6"	1/2" x 1"	8 1/2"	5.25" to 7"
8"	1/2" x 1"	12 1/2"	8.75" to 10"
8"	1/2" x 1"	12 1/2"	8.75" to 10"
10"	1/2" x 1"	14 1/2"	11.25" to 12.5"
10"	1/2" x 1"	14 1/2"	11.25" to 12.5"
12"	1/2" x 1"	17 1/2"	13.2" to 14.7"
12"	1/2" x 1"	17 1/2"	13.2" to 14.7"
15"	1/2" x 2"	21"	16.7" to 18.2"
15"	1/2" x 2"	21"	16.7" to 18.2"
18"	1/2" x 2"	24"	20.5" to 22"
18"	1/2" x 2"	24"	20.5" to 22"
21"	N/A	N/A	N/A
24"	1/2" x 2"	30"	27.4" to 28.9"
30"	1/2" x 2"	38"	35" to 36.5"
36"	1/2" x 2"	45"	41" to 42.5"
48"	1/2" x 3"	59 1/2"	53.5" to 55.5"

- NOTES:**
- INSTALL THE AGRI-DRAIN HDPE CORRUGATED FLAP GATES ON THE FOLLOWING STRUCTURE'S OUTLET PIPES (PIPE DIAMETER INCLUDED FOR REFERENCE):
DMH-P26 (24"), DMH-P27 (24"), DMH-P33 (30"), CB-P38 (18")

7 AGRI-DRAIN HDPE CORRUGATED FLAP GATES
N.T.S.



WQU-P5 PLAN VIEW (INTERNAL NOT SHOWN)
WQU-P5 SECTION FOR PIPE ORIENTATION (TOP SLAB NOT SHOWN)



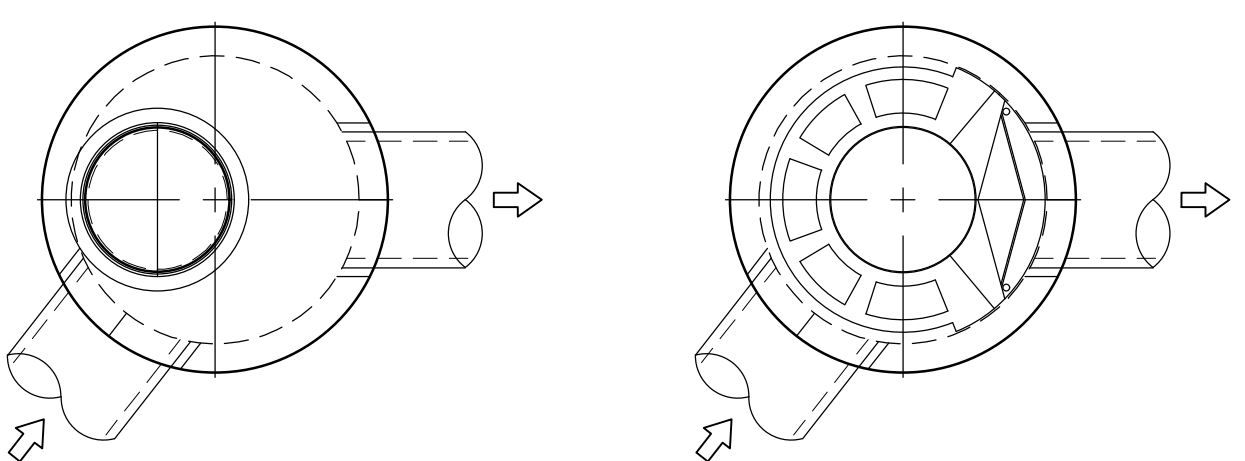
WQU-P5 ELEVATION VIEW (CASCADE CS-6)

MATERIAL LIST		
COUNT	DESCRIPTION	INSTALLED BY
1	CS-5 CYLINDER INSERT, STD	CONTECH
1	CS-6 CYLINDER INSERT, STD	CONTECH
2	SEALANT FOR JOINTS	CONTRACTOR
2	30"x4" FRAME & COVER, EJ#41600484, OR EQUIV.	CONTRACTOR

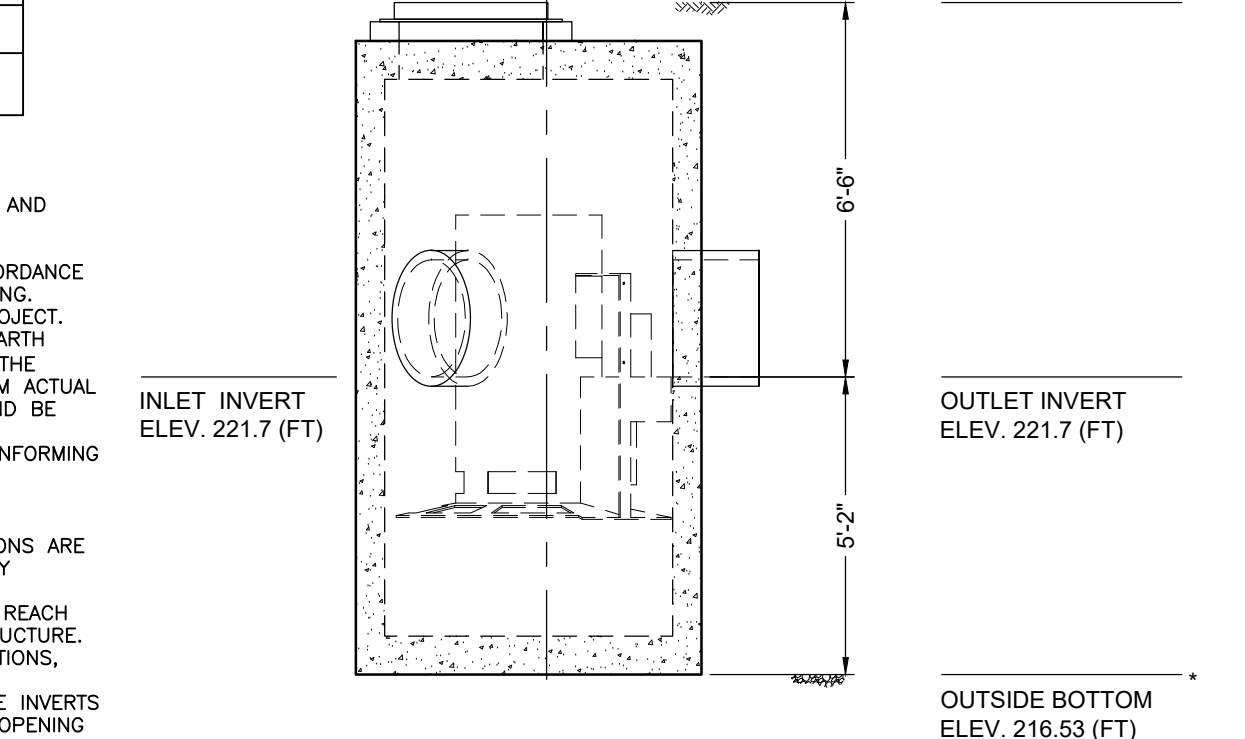
- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE.
 - CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
 - STRUCTURE SHALL MEET ASHTO H5-25 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET ASHTO M006 AND BE CAST WITH THE CONTECH LOGO.
 - CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND ASHTO LOAD FACTOR DESIGN METHOD.

- INSTALLATION NOTES:**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
 - CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLY STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
 - 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.
- * OUTSIDE TOP AND BOTTOM OF SYSTEM MAY DIFFER DEPENDING ON MANUFACTURING LOCATION.

8 WATER QUALITY UNIT DETAILS
N.T.S.



WQU-P6 PLAN VIEW (INTERNAL NOT SHOWN)
WQU-P6 SECTION FOR PIPE ORIENTATION (TOP SLAB NOT SHOWN)



WQU-P6 ELEVATION VIEW (CASCADE CS-5)

APPROVAL BLOCK

PROJECT NUMBER: _____

SIGNATURE _____ DATE _____

SIGNATURE _____ DATE _____

SIGNATURE _____ DATE _____

SIGNATURE _____ DATE _____

NO.	DATE	DESCRIPTION

31 Bellows Road
Raynham, MA 02767
Ph: 774.501.2176
www.cecinc.com

CEC
Civil & Environmental
Consultants, Inc.

SITE PLANS FOR PERMITTING
W.L. FRENCH EXCAVATING CORPORATION
14 STERLING ROAD
NORTH BILLERICA, MASSACHUSETTS

GENERAL DETAILS
(SHEET 2 OF 2)

DATE: MARCH 13, 2025 [DRAWN BY: KFH]
DWG SCALE: AS SHOWN [CHECKED BY: DSK]
PROJECT NO: 347-169
APPROVED BY: DSK

DRAWING NO: **C801**
SHEET 14 OF 14

