

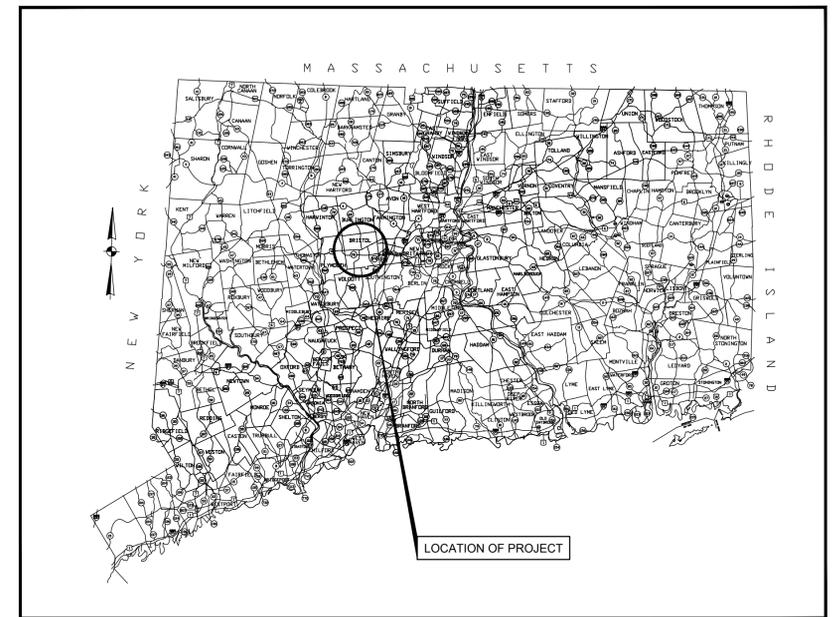
PROJECT LOCATION PLAN
NOT TO SCALE

CITY OF BRISTOL PLAN FOR THE REPLACEMENT OF BRIDGE NO. 017041 FIELD STREET OVER UNNAMED STREAM STATE PROJECT NO. #####-#####

FROM STATION 1+90 TO STATION 3+10
LENGTH = 120'
SCALES: AS NOTED
TO BE MAINTAINED BY THE CITY OF BRISTOL

MAYOR
Jeff Caggiano
CITY ENGINEER
Nancy Levesque, P.E.

March 16, 2023



PROJECT VICINITY MAP
NOT TO SCALE

DESIGN DATA
FUNCTIONAL CLASSIFICATION: URBAN LOCAL ROAD
DESIGN SPEED: 35 mph
ADT (EST.): 100

CONSTRUCTION SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION FORM 818 (2020), SUPPLEMENTAL SPECIFICATIONS DATED JULY 2022 AND SPECIAL PROVISIONS.

LIST OF DRAWINGS

SHEET NO.	TITLE	DRAWING	SHEET NO.	STANDARD DRAWINGS	FHWA APPROVAL DATE
1	TITLE SHEET	TITLE	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	7-24-13
2	GENERAL NOTES AND TYPICAL SECTION	GEN-01	TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS	8/2018
3	EXISTING CONDITIONS PLAN	EXC-01	TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES	8/2018
4	ROADWAY PLAN & PROFILE	PLA-01			
5	CULVERT PROFILE	PRO-01			
6 - 9	CROSS SECTIONS	XSC-01 - XSC-04			
10	CULVERT GENERAL PLAN	STR-01			
11	CULVERT ELEVATION AND SECTIONS	STR-02			
12	BORING LOGS	STR-03			
13	WATER HANDLING PLAN	WTH-01			
14	SEDIMENT & EROSION CONTROL NOTES	SED-01			
15	SEDIMENT & EROSION CONTROL DETAILS	SED-02			
16	DETOUR PLAN	DET-01			
17	UTILITY RELOCATION PLAN (SANITARY SEWER)	UTL-01			

JOSEPH A. CERMOLA III, P.E., LICENSE NO. 12757

LIST OF DRAWING REVISIONS

SHEET NO.	DESCRIPTION	DATE	BY

TITLE

1

CARDINAL
ENGINEERING ASSOCIATES

180 RESEARCH PKWY | MERIDEN, CT 06450 | 203-238-1969
457 BANTAM RD | LITCHFIELD, CT 06769 | 860-597-9106

GENERAL NOTES

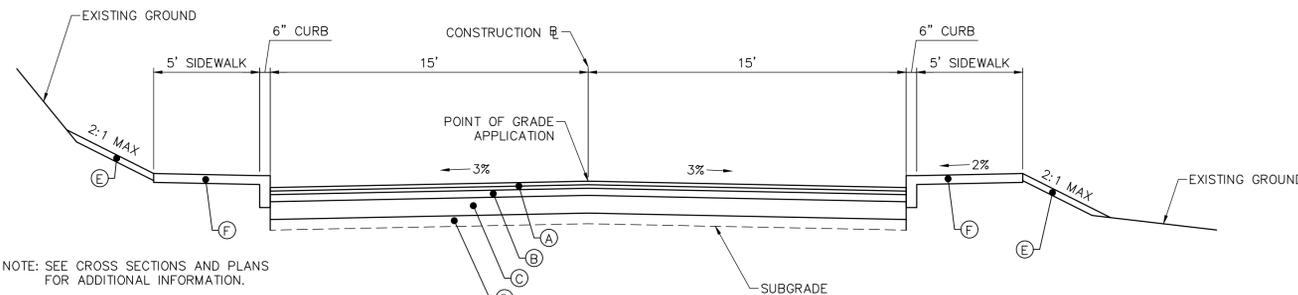
- CONSTRUCTION SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION FORM 818 (2020), SUPPLEMENTAL SPECIFICATIONS DATED JULY 2022 AND SPECIAL PROVISIONS.
- THE PROJECT SITE SHALL CONSIST OF THE AREA WITHIN THE MUNICIPALLY-OWNED RIGHT OF WAY BETWEEN THE DESIGNATED BEGINNING AND END STATIONS FOR THE PROJECT AS SHOWN ON THE PLANS. IT SHALL ALSO INCLUDE ANY EASEMENTS TO PERFORM WORK ON PRIVATELY OWNED PROPERTY AS DEPICTED ON THE PLANS. THE CONTRACTOR SHALL LIMIT HIS CONSTRUCTION ACTIVITIES TO THE AREA WITHIN THE PROJECT SITE.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL REGULATIONS, THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 818, WITH SUPPLEMENTAL SPECIFICATIONS, 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS.
- ALL DIMENSIONS ARE FEET UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL WALK THE PROJECT PRIOR TO CONSTRUCTION WITH A REPRESENTATIVE FROM THE TOWN AND THE ENGINEER. TREES TO BE REMOVED SHALL BE MARKED IN THE FIELD. NO TREES 3" IN DIAMETER OR GREATER SHALL BE CUT DOWN FROM APRIL 15 TO AUGUST 31. EXTREME CARE SHALL BE EXERCISED TO PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL. NO TREES SHALL BE REMOVED UNTIL AUTHORIZATION IS GIVEN BY THE TOWN. COST IS INCLUDED IN THE ITEM "CLEARING AND GRUBBING".
- ANY PHYSICAL FEATURES DISTURBED BY THE CONTRACTOR SHALL BE REPLACED OR RECONSTRUCTED AS DIRECTED BY THE ENGINEER TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO CONSTRUCTION AT THE CONTRACTORS EXPENSE.
- ALL DIMENSIONS AND ELEVATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF MANUFACTURING AND CONSTRUCTION, AND NECESSARY ADJUSTMENTS MADE AS ORDERED BY THE ENGINEER.
- WORKING HOURS SHALL BE LIMITED TO THE HOURS BETWEEN 7:00 A.M. AND 5:00 P.M., MONDAY THRU FRIDAY. NO WORK WILL BE PERFORMED ON WEEKENDS, HOLIDAYS, OR SPECIAL DAYS AS DIRECTED BY THE ENGINEER. THE ONLY EXCEPTIONS TO THESE LIMITATIONS WILL BE AS DIRECTED BY THE ENGINEER TO CORRECT OR HANDLE EMERGENCY CONDITIONS, OR IF APPROVED BY THE ENGINEER IN WRITING.
- THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION. COORDINATE ACCESS WITH PAVING OPERATIONS SO THAT JOINTS ARE MINIMIZED (SEE MAINTENANCE AND PROTECTION OF TRAFFIC SPECIFICATIONS). NO TRANSVERSE JOINTS SHALL BE ALLOWED DURING THE PAVING OF THE WEARING COURSE.
- ALL DISTURBED AREAS THAT WILL NOT BE PAVED SHALL RECEIVE 4" OF TOPSOIL AND TURF ESTABLISHMENT UNLESS OTHERWISE NOTED.
- RCP SHALL BE CLASS IV UNLESS NOTED OTHERWISE.
- ALL SWALES AND DITCHES WILL HAVE TEMPORARY "U" SHAPED STONE DIKES PLACED PERPENDICULAR TO FLOW AT 30' SPACING DURING CONSTRUCTION TO PREVENT EROSION.
- ALL REQUIRED UTILITY RELOCATIONS SHALL BE PERFORMED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES PRIOR TO ANY WORK AND COORDINATE HIS WORK WITH THE UTILITY COMPANY WORK. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANY FOR THE UTILITY COMPANY TO HOLD ANY POLES THAT NEED TO BE SUPPORTED DURING THE CONTRACTOR'S TRENCHING OPERATIONS. THE COST TO COORDINATE THIS WORK WITH THE UTILITY COMPANIES SHALL BE INCIDENTAL TO THE PROJECT UNLESS A SPECIFIC PAY ITEM IS INCLUDED.
- IF THE CONTRACTOR WILL BE REQUIRED TO WORK IN PROXIMITY OF AND BENEATH OVERHEAD POWER LINES AS WELL AS TELEPHONE, CABLE TV AND TELECOMMUNICATION LINES. THE OVERHEAD LINES ARE NOT ANTICIPATED TO BE DE-ENERGIZED DURING THE PROSECUTION OF THIS WORK. THE CONTRACTOR SHALL SPECIFICALLY COMPLY WITH THE REQUIREMENTS DETAILED IN OSHA REGULATIONS (STANDARDS 29 CFR) CRANES AND DERRICKS - 1926.550 AS WELL AS OTHER APPLICABLE OSHA STANDARDS. THE CONTRACTOR SHALL MAINTAIN A SAFE DISTANCE FROM ALL UTILITY POLES DURING CONSTRUCTION ACTIVITIES.
- THE INFORMATION SHOWN ON THESE PLANS IS BASED ON LIMITED INVESTIGATIONS AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OF WORK REQUIRED. LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES HAVE BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION. THIS INFORMATION WAS COMPILED UTILIZING UTILITY COMPANY & TOWN RECORD MAPS AND FIELD SURVEY AND THEREFORE, IS CONSIDERED TO BE APPROXIMATE. ALL UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION OF ALL UTILITIES AND TO NOTIFY UTILITY COMPANIES OF NECESSARY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF THE UTILITY COMPANIES. UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND THE COST OF REPAIR WORK SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT CALL BEFORE-DIG AT 1-800-922-4455 FOR MARKING OF EXISTING UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF EXCAVATION (MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS).
- CONTRACTOR TO SUPPLY UTILITY COMPANIES WITH SUFFICIENT VERTICAL AND HORIZONTAL STAKEOUT OF PROPOSED STORM DRAINAGE, PROPOSED ROADWAY, AND OTHER PROPOSED IMPROVEMENTS TO PERFORM UTILITY RELOCATIONS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE ITEM "CONSTRUCTION STAKING."
- ANTICIPATED UTILITY POLE RELOCATIONS, IF ANY, ARE SHOWN ON THE PLANS. ADDITIONAL POLE RELOCATIONS MAY BE REQUIRED. CONTRACTOR TO PROVIDE STAKEOUT OF PROPOSED IMPROVEMENTS PRIOR TO COMMENCEMENT OF WORK TO DETERMINE IF ADDITIONAL POLE RELOCATIONS ARE REQUIRED. POLE RELOCATIONS MAY NOT BE COMPLETED PRIOR TO THE INSTALLATION OF STORM DRAINAGE AND ROADWAY IMPROVEMENTS. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES TO RESET ALL UTILITY BOXES TO FINISHED GRADE. THERE WILL BE NO SEPARATE PAYMENT TO COORDINATE THIS WORK OR CLAIM FOR TIME EXTENSION.
- THE CONTRACTOR SHALL RESET ALL WATER AND GAS CURB STOPS BOXES AND WATER AND GAS GATE VALVE BOXES TO FINISHED GRADE. THERE SHALL BE NO SEPARATE MEASUREMENT OR PAYMENT FOR THIS WORK AS IT IS INCIDENTAL TO CONSTRUCTION.
- EXISTING PAVEMENT SHALL BE REMOVED IN FILL AREAS PRIOR TO PLACING FILL. EXISTING PAVEMENT OUTSIDE OF THE CUT AND FILL LIMITS THAT WILL NOT BE USED IN THE PROPOSED CONDITIONS SHALL BE REMOVED. PAYMENT SHALL BE MADE UNDER THE ITEM "EARTH EXCAVATION."
- ALL EXISTING DRAINAGE PIPES AND CULVERTS WITHIN THE PROJECT SLOPE LIMITS THAT ARE DESIGNATED TO BE REMOVED SHALL BE REMOVED AND BACKFILLED AS SPECIFIED IN SECTION 2.05 "TRENCH EXCAVATION" UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. COORDINATE THIS WORK WITH THE RECONNECTION OF ANY EXISTING FOUNDATION AND OTHER DRAINS TO THE PROPOSED DRAINAGE SYSTEM.
- THE CONTRACTOR SHALL MAINTAIN ALL ROAD NAME SIGNS AS INDICATED ON THE PLANS AND SHALL MAINTAIN ALL TRAFFIC CONTROL SIGNS AS NEEDED DURING CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. COST IS INCLUDED IN THE ITEM "MAINTENANCE AND PROTECTION OF TRAFFIC".
- PLANIMETRIC AND TOPOGRAPHIC FEATURES ARE BASED ON FIELD SURVEY PERFORMED BY CARDINAL ENGINEERING ASSOCIATES, IN JANUARY 2022. SURVEY BASELINE CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY. STREETLINE AND PROPERTY LINE INFORMATION (IF SHOWN) ARE APPROXIMATE AND BASED ON LIMITED FIELD SURVEY. ALL ELEVATIONS ARE BASED ON NAVD 88. HORIZONTAL COORDINATES ARE BASED ON CONNECTICUT STATE PLANE COORDINATE SYSTEM (NAD 83). VERTICAL ACCURACY IS CLASS T-2.
- ALL TYPE 'C' CATCH BASIN TOP OF FRAME ELEVATIONS SHALL BE MEASURED IN THE CENTER OF THE GRATE AT THE GUTTER LINE AND REFLECT THE ELEVATION WITH THE STANDARD DEPRESSION AS SHOWN ON "DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE 'C' CATCH BASIN" (SEE CTDOT STANDARD DETAIL SHEET NO. HW-507.01). ALL TYPE 'C-L' CATCH BASIN TOP OF FRAME ELEVATIONS SHALL BE MEASURED IN THE CENTER OF THE GRATE.
- ALL UNCONFINED INSTREAM WORK SHALL BE PERFORMED BETWEEN JUNE 1 AND SEPTEMBER 30.

LIST OF ABBREVIATIONS

AGGR	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NO	NUMBER
A	ALGEBRAIC DIFFERENCE IN GRADES	PERF	PERFORATED
APPROX	APPROXIMATE	POB	POINT OF BEGINNING
ASPH	ASPHALT	PCC	POINT OF COMPOUND CURVATURE
BK	BACK	PC	POINT OF CURVATURE
B	BASELINE	POE	POINT OF ENDING
BM	BENCHMARK	PGA	POINT OF GRADE APPLICATION
BIT	BITUMINOUS	PI	POINT OF INTERSECTION
BCLC	BITUMINOUS CONCRETE LIP CURBING	PRC	POINT OF REVERSE CURVE
CGR	CABLE GUIDERAIL	PT	POINT OF TANGENCY
CI / CIP	CAST IRON PIPE	PVC	POINT OF VERTICAL CURVATURE
CB	CATCH BASIN	PVCC	POINT OF VERTICAL COMPOUND CURVATURE
C	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION
CC	CONCRETE CURBING	PVRC	POINT OF VERTICAL REVERSE CURVE
CL	CLASS	PVT	POINT OF VERTICAL TANGENCY
CONC	CONCRETE	POC	POINT ON CURVATURE
CP	CONTROL POINT	POT	POINT ON TANGENT
COR	CORNER	PVC	POLYVINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE	R	RADIUS
CPFE	CORRUGATED POLYETHYLENE FLARED END	RR	RAILROAD
CPP	CORRUGATED POLYETHYLENE PIPE	K	RATE OF VERTICAL CURVATURE
CY	CUBIC YARD	REINF	REINFORCED
DIA	DIAMETER	RCCE	REINFORCED CONCRETE CULVERT END
DBL	DOUBLE	RCP	REINFORCED CONCRETE PIPE
DRIVE	DRIVEWAY	REQD	REQUIRED
DI / DIP	DUCTILE IRON PIPE	RT	RIGHT
EA	EACH	ROW	RIGHT OF WAY
EP	EDGE OF PAVEMENT	RSC	RIGID STEEL CONDUIT
EL / ELEV	ELEVATION	RD	ROAD
EX / EXIST	EXISTING	SAN	SANITARY
FG	FINISHED GRADE	SS	SANITARY SEWER
FP	FLAGPOLE	SED	SEDIMENTATION
FE	FLARED END	SCB	SEDIMENT CONTROL BALES
FL	FLOW LINE	SCS	SEDIMENT CONTROL SYSTEM
FT	FOOT	SHLD	SHOULDER
FND	FOUND	SF	SQUARE FOOT
FOUND	FOUNDATION	SY	SQUARE YARD
G	GAS	STD	STANDARD
GV	GAS VALVE	STA	STATION
GSC / GC	GRANITE STONE CURBING	SSD	STOPPING SIGHT DISTANCE
HP	HIGH POINT	ST	STREET
HORIZ	HORIZONTAL	§	STREET LINE
HRS	HOURS	TBD	TO BE DETERMINED
HYD	HYDRANT	TF	TOP OF FRAME
INV	INVERT	TFP	TYPICAL
IE	INVERT ELEVATION	UD	UNDERDRAIN
IP	IRON PIN	VERT	VERTICAL
LT	LEFT	VC	VERTICAL CURVE
L	LENGTH	VF	VERTICAL FEET
LVC	LENGTH OF VERTICAL CURVE	VCP	VITRIFIED CLAY PIPE
LTP	LIGHT POLE	W	WATER
LF	LINEAR FEET	WV	WATER VALVE
LP	LOW POINT		
LS	LUMP SUM		
MB	MAILBOX		
MH	MANHOLE		
MAX	MAXIMUM		
MBR	METAL BEAM RAIL		
MCE	METAL CULVERT END		
MIN	MINIMUM		
MON	MONUMENT		
NTS	NOT TO SCALE		

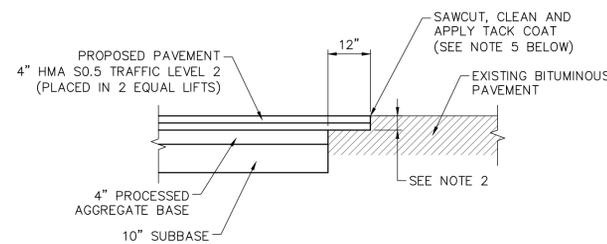
STANDARD CONVENTIONS

EXISTING		PROPOSED
	APPROXIMATE LIMIT OF CUT SLOPE	
	APPROXIMATE LIMIT OF FILL SLOPE	
	APPROXIMATE PROPERTY LINE	
	APPROXIMATE STREET LINE	
	BASELINE STATION	
	BITUMINOUS CONCRETE DRIVEWAY	
	BORING NUMBER B10 (SEE BORING LOG SHEET)	B10
	CATCH BASIN	
	CONTROL POINT	
	CONCRETE DRIVEWAY/ CONCRETE DRIVEWAY RAMP	
	CULVERT END	
	DRAINAGE DITCH	
	DRAINAGE PIPE	
	EASEMENT LINE (PERMANENT)	
	EASEMENT LINE (TEMPORARY)	
	ELECTRIC LINE (OVERHEAD OR UNDERGROUND)	
	GAS LINE	
	GAS TEST PIT	TP G1
	GAS VALVE or WATER VALVE	
	HIGH VOLTAGE OVERHEAD LINE	
	HOUSE/ STRUCTURE	
	HYDRANT	
	INLAND WETLAND LIMITS	
	MAILBOX	
	MANHOLE (STORM)	
	MANHOLE (SANITARY)	
	MONUMENT	■ MON
	NORTH ARROW	
	ORDINARY HIGH WATER	
	RIPRAP APRON	
	SANITARY SERVICE CONNECTION	
	SANITARY SEWER	
	SEDIMENTATION CONTROL SYSTEM	
	SIGN	
	SPOT ELEVATION	x 33.2
	STONE WALL	
	TELEPHONE LINE (OVERHEAD OR UNDERGROUND)	
	TEST HOLE NUMBER 5 (SEE CONTRACT DOCUMENTS)	TH-5
	TREE	
	TREE LINE	
	UNDERDRAIN	
	"U" SHAPED STONE DIKE	
	UTILITY POLE	
	WATER COURSE	
	WATER LINE	
	WATER TEST PIT	TP W1



- LEGEND**
- (A) 4" - HMA S0.5 TRAFFIC LEVEL 2 (PLACED IN 2 EQUAL LIFTS)
 - (B) 4" - PROCESSED AGGREGATE BASE
 - (C) 10" - SUBBASE ON EARTH, 18" ON ROCK
 - (D) ADDITIONAL SUBBASE AS NEEDED
 - (E) 4" - TOPSOIL AND TURF ESTABLISHMENT
 - (F) MONOLITHIC CONCRETE CURB AND SIDEWALK

ROADWAY TYPICAL SECTION
NOT TO SCALE



- NOTES:
- THIS DETAIL IS TO BE USED WHERE "SAWCUT & MATCH EXISTING PAVEMENT" IS CALLED FOR ON THE PLANS.
 - OVERLAP BOTH BITUMINOUS CONCRETE COURSES OVER EXISTING SUBBASE.
 - MINIMUM THICKNESS TO BE SAME AS PROPOSED BITUMINOUS OR MATCH THICKNESS OF EXISTING PAVEMENT, WHICHEVER IS GREATER.
 - PAVEMENT MATCH TREATMENT WILL BE INCIDENTAL TO THE WORK.
 - TO BE PAID FOR UNDER THE ITEM "CUT BITUMINOUS CONCRETE PAVEMENT".

PAVEMENT TRANSITION DETAIL
NOT TO SCALE

PRELIMINARY DESIGN NOT FOR CONSTRUCTION

REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
GENERAL NOTES & TYPICAL SECTION

DATE: March 2023
SCALE: AS NOTED
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: JAC

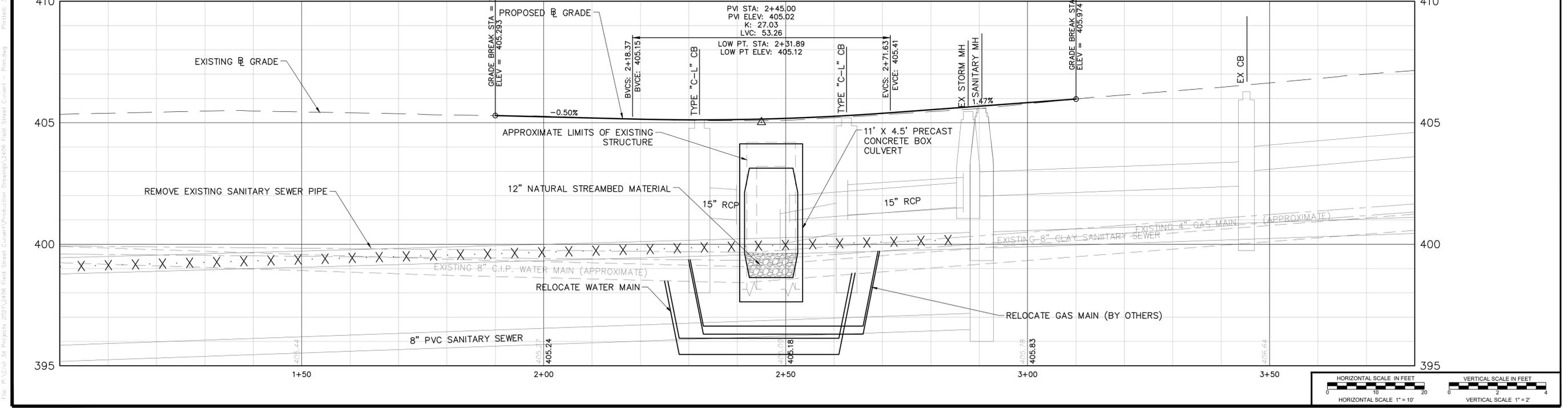
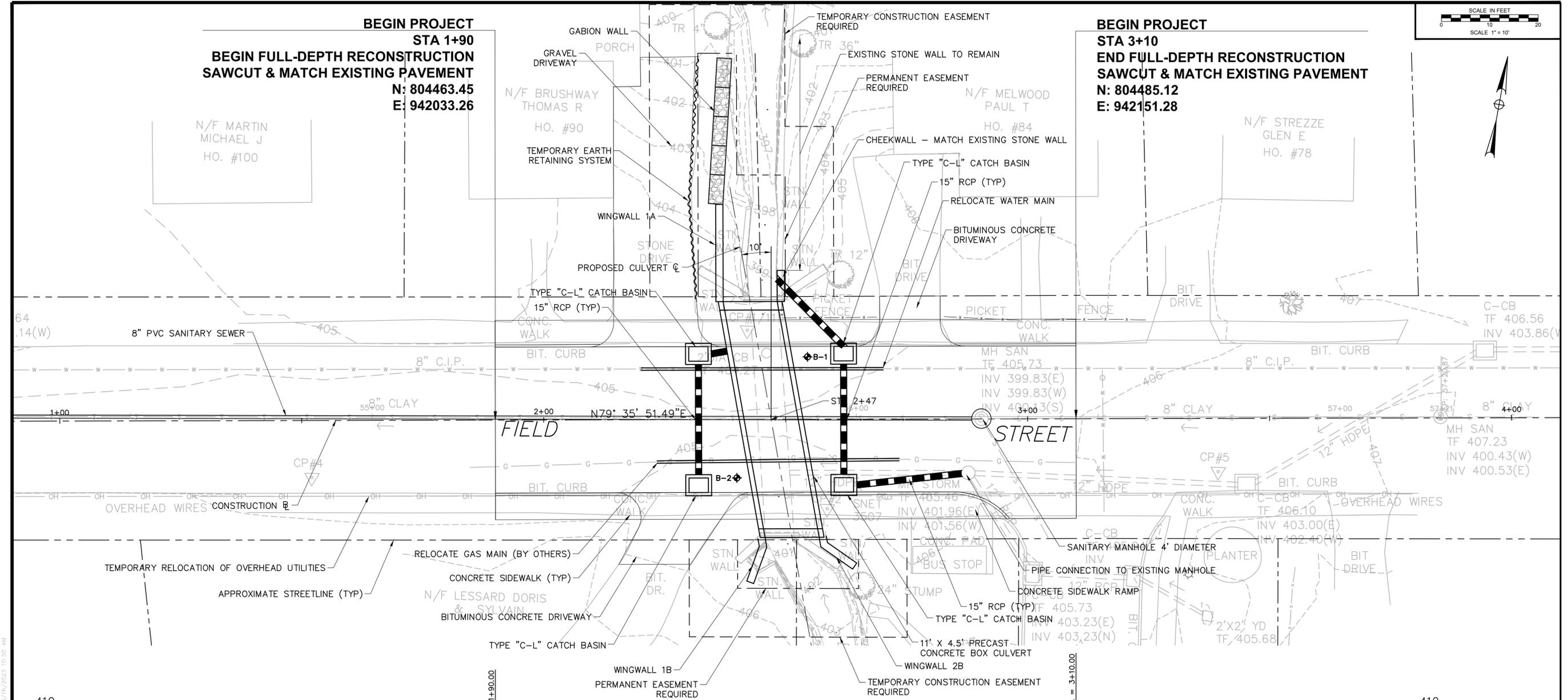
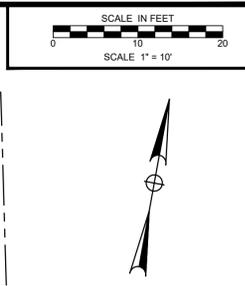
CARDINAL ENGINEERING ASSOCIATES
480 BEECHER RD / MIDDLETOWN, CT 06450-298-1819
487 BARTON RD / LITCHFIELD, CT 06039-597-9106

GEN-01

2

**BEGIN PROJECT
STA 1+90
BEGIN FULL-DEPTH RECONSTRUCTION
SAWCUT & MATCH EXISTING PAVEMENT
N: 804463.45
E: 942033.26**

**BEGIN PROJECT
STA 3+10
END FULL-DEPTH RECONSTRUCTION
SAWCUT & MATCH EXISTING PAVEMENT
N: 804485.12
E: 942151.28**



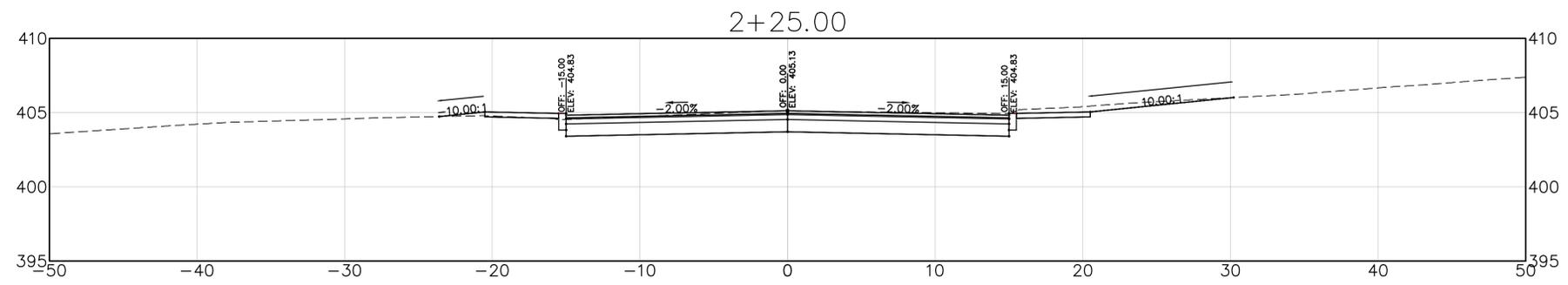
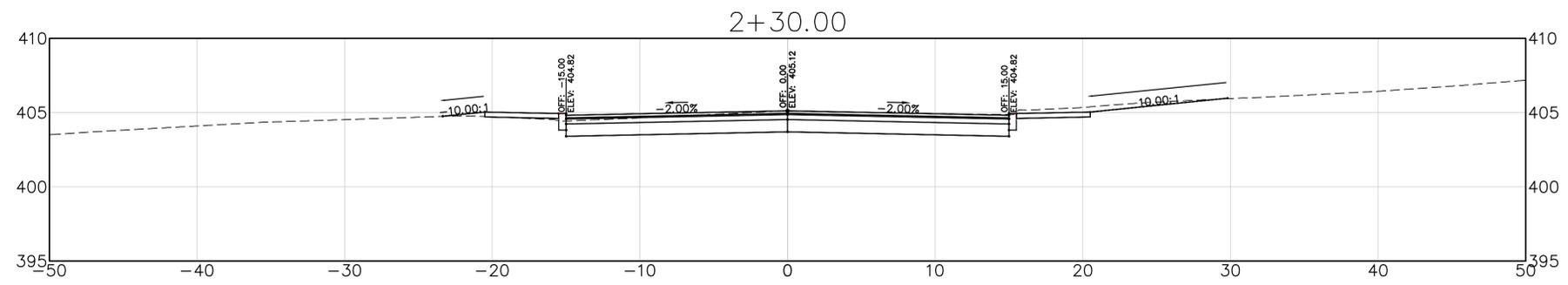
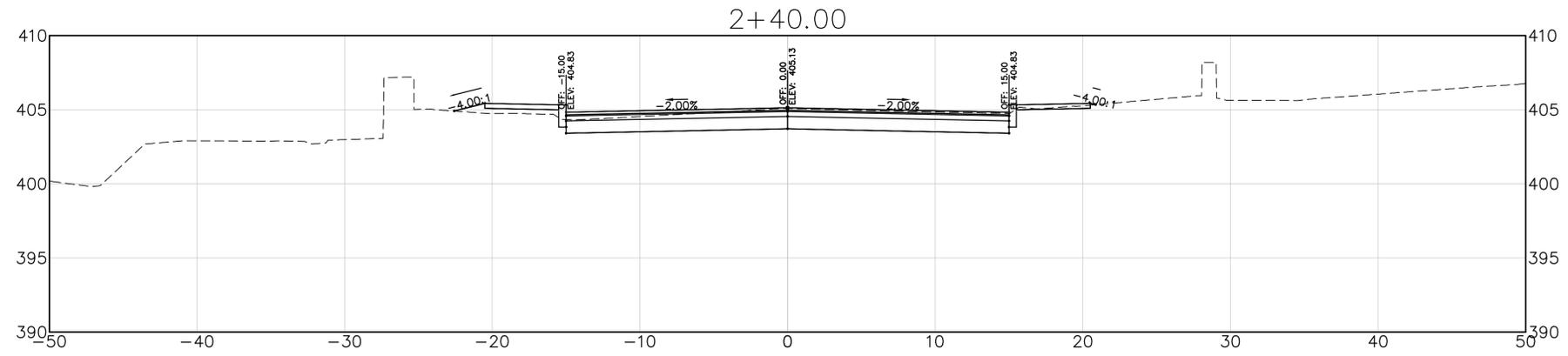
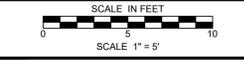
NO.	REVISION	DATE	BY

DATE: March 2023
SCALE: AS NOTED
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: JAC

CARDINAL
ENGINEERING ASSOCIATES
180 RESEARCH PARKWAY, MERIDEN, CT 06460-1008-1109
407 BANTAM RD | LIC#FIELD CT 069371860-377-7106

REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
ROADWAY PLAN & PROFILE

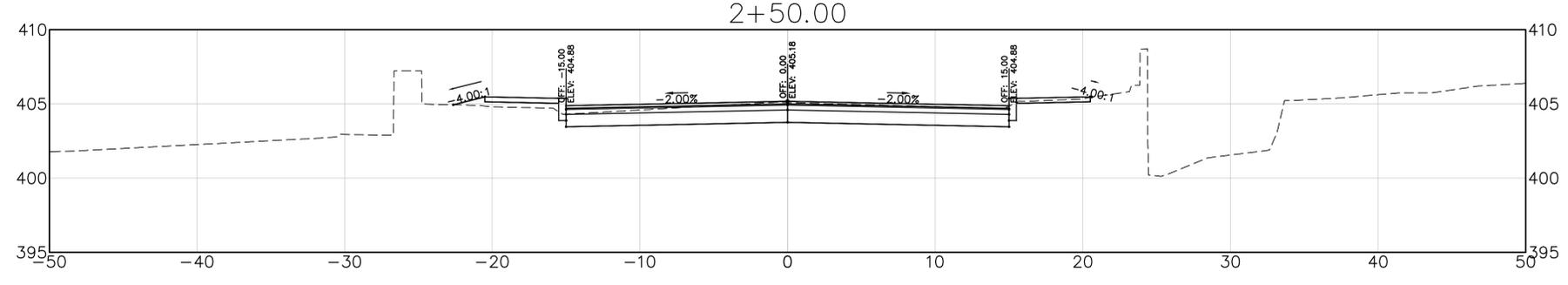
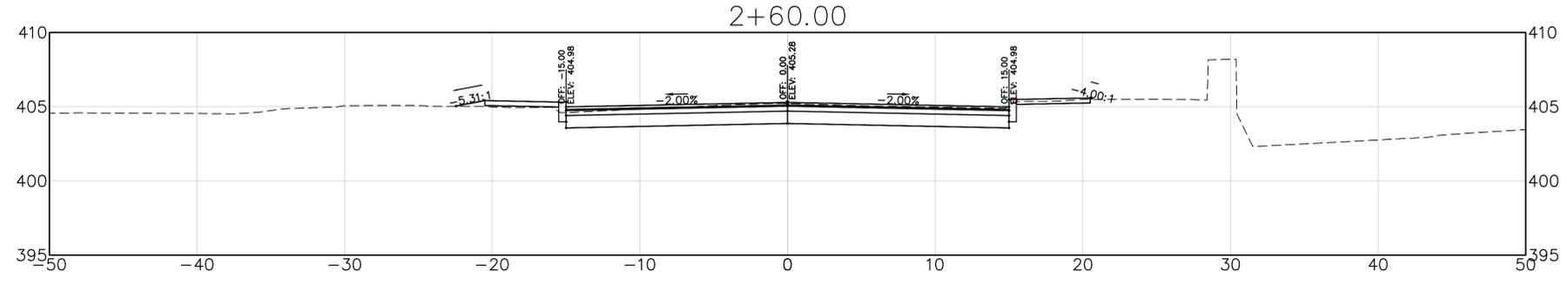
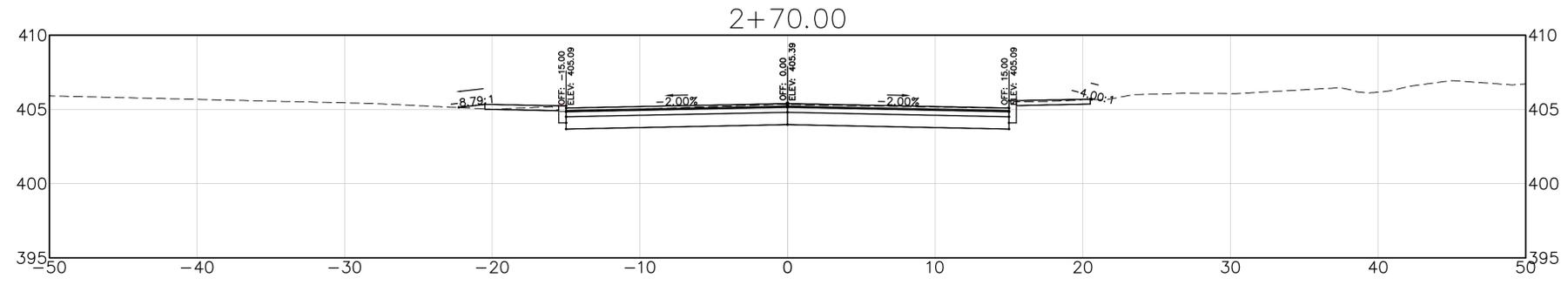
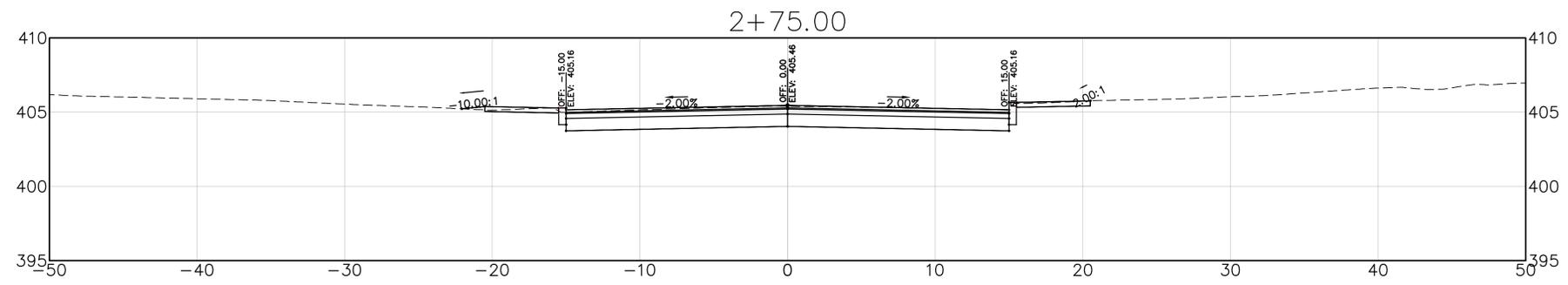
PLA-01
4



PRELIMINARY DESIGN NOT FOR CONSTRUCTION

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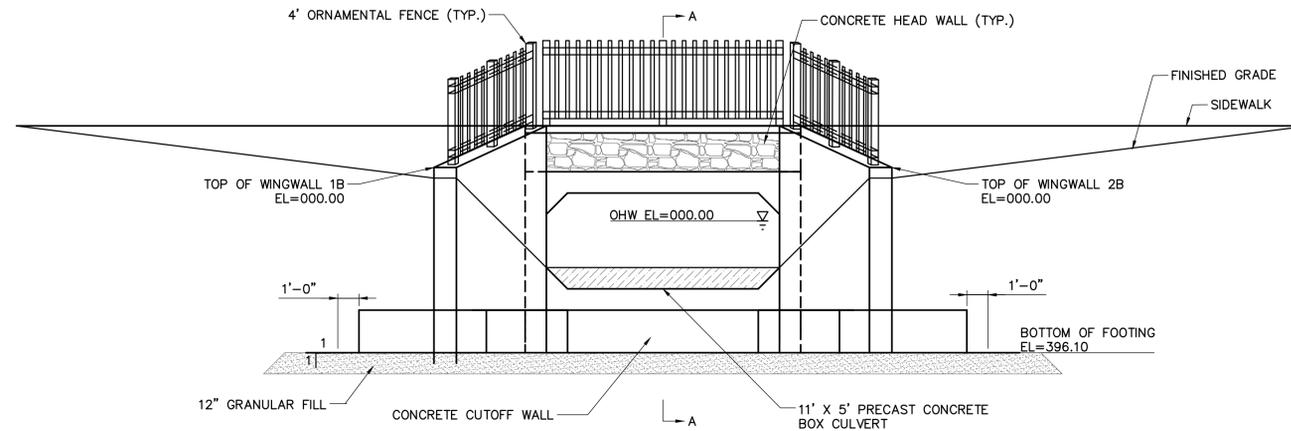
DATE: March 2023 SCALE: AS NOTED DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: JAC		NO.	REVISION	DATE	BY
CARDINAL ENGINEERING ASSOCIATES 480 RESEARCH PARKWAY MERIDEN, CT 06450-1008-1819 487 BANTAM RD LIC#FIELD CT 067371800-377-7106		REPLACEMENT OF BRIDGE NO. 017041 FIELD STREET OVER UNNAMED STREAM BRISTOL, CONNECTICUT CROSS SECTIONS			
XSC-02		7			



PRELIMINARY DESIGN NOT FOR CONSTRUCTION

File: D:\CADD_14_01\Projects\2023\230614_01\Check_Curbs\Drawings\A17041-X-SECTION.dwg PlotDate: 2/16/2023 10:41 AM

480 RESEARCH PARKWAY MERIDEN, CT 06460 860-268-4169 487 BANTAM RD LICFIELD, CT 06257 860-377-7106	
DATE: March 2023 SCALE: AS NOTED DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: JAC	NO. _____ REVISION _____ DATE _____ BY _____
REPLACEMENT OF BRIDGE NO. 017041 FIELD STREET OVER UNNAMED STREAM BRISTOL, CONNECTICUT CROSS SECTIONS	
XSC-03	
8	



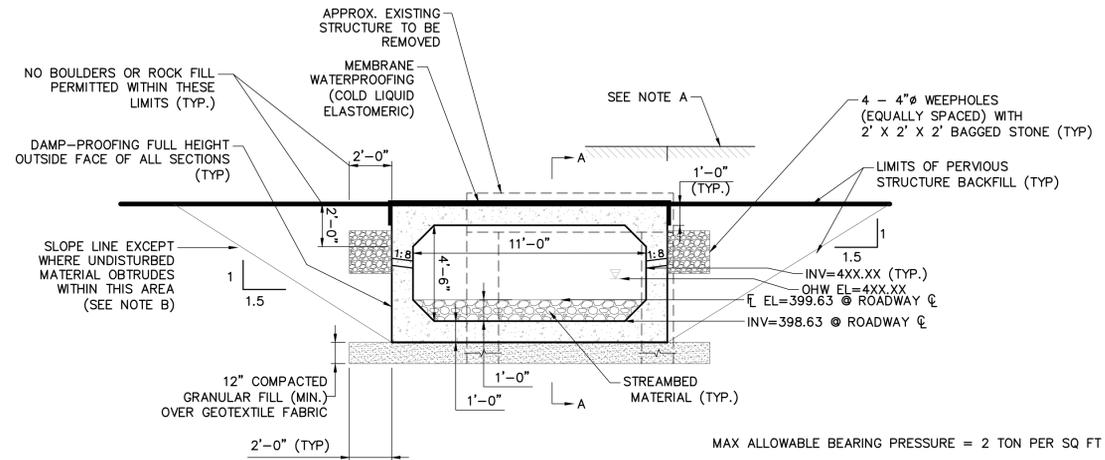
**PROPOSED NORTH/UPSTREAM ELEVATION
(SOUTH/DOWNSTREAM ELEVATION SIMILAR)**

SCALE: 1/4"=1'-0"

NOTE: CONCRETE FORM LINER ON WINGWALLS AND ORNAMENTAL FENCE NOT SHOWN FOR CLARITY. SEE SHEET STR-04 & STR-07 FOR DETAILS.

NOTES:

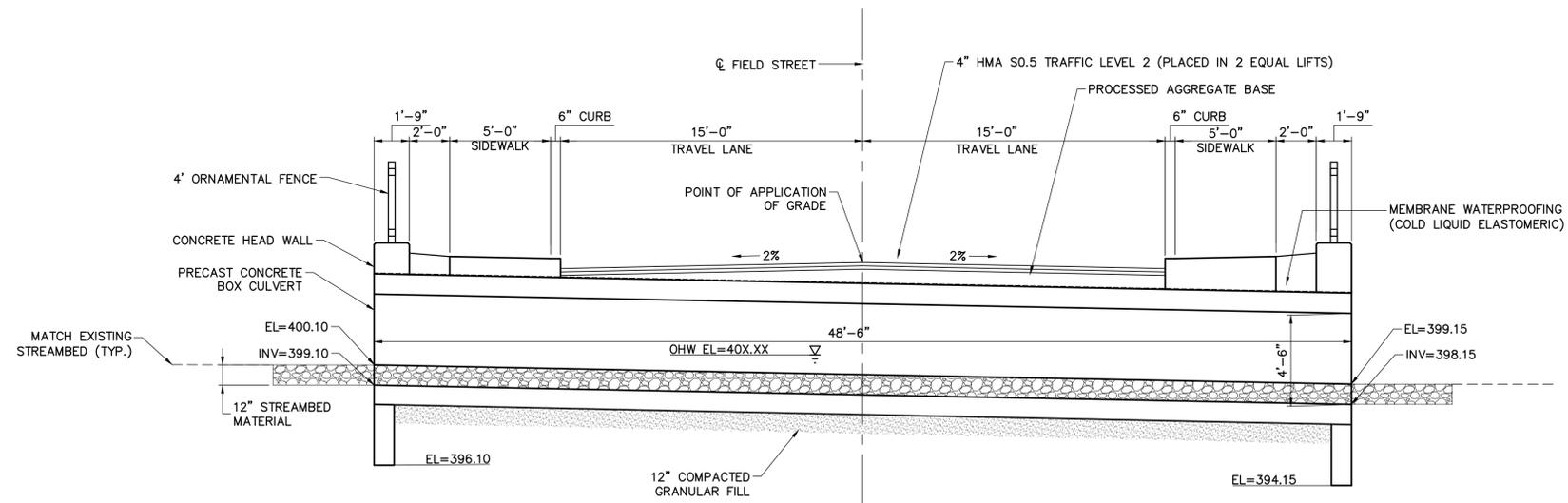
- A. CUT HMA SO.5 SURFACE COURSE WITH A 3/8" X 2" DEEP KERF AND FILL WITH A POURABLE SEALANT WHEN COVER IS LESS THAN 2'-0" FROM TOP OF BOX TO FINISHED WEARING SURFACE. COST OF CUTTING AND SEALING TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "SAWING AND SEALING JOINTS".
- B. THE COST OF ANY EXCAVATION AND BACKFILL OUTSIDE OF THE PAY LIMITS FOR THE ITEMS "STRUCTURE EXCAVATION-EARTH (EXCLUDING COFFERDAM AND DEWATERING)", "STRUCTURE EXCAVATION-ROCK (EXCLUDING COFFERDAM AND DEWATERING)" OR "PERVIOUS STRUCTURE BACKFILL" SHALL BE INCLUDED IN THE ITEM "COFFERDAM AND DEWATERING". MATERIAL FOR BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 2.16, "PERVIOUS STRUCTURE BACKFILL", OF THE STANDARD SPECIFICATIONS.



TYPICAL LONGITUDINAL SECTION

SCALE: 1/4"=1'-0"

MAX ALLOWABLE BEARING PRESSURE = 2 TON PER SQ FT



SECTION A-A

SCALE: 1/4"=1'-0"

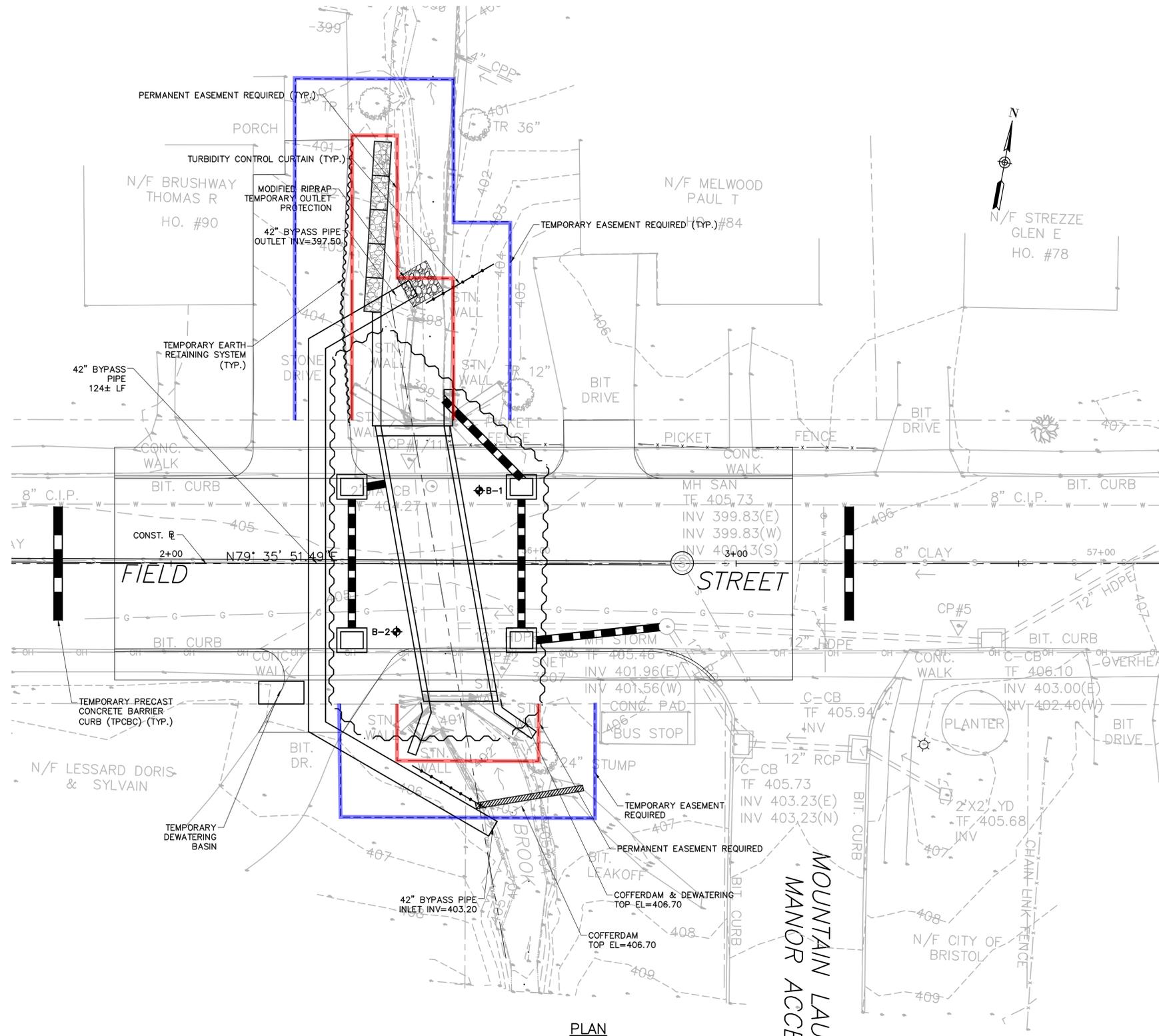
NO.	REVISION	DATE	BY

DATE: March 2023
SCALE: AS NOTED
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: JAC

CARDINAL
ENGINEERING ASSOCIATES
480 BEECHER RD | MERIDEN, CT 06460 | 203-239-4869
487 BANTAM RD | LITCHFIELD, CT 06751 | 860-597-9106

REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
CULVERT ELEVATION AND SECTIONS

STR-02



PLAN
SCALE: 1"=10'

LEGEND

- TEMPORARY PRECAST CONCRETE BARRIER CURB (TPCBC)
- TEMPORARY COFFERDAM

SUGGESTED CONSTRUCTION SEQUENCE NOTES

1. INSTALL EROSION & SEDIMENT CONTROL SYSTEM.
2. INSTALL 42" BYPASS PIPE.
3. CONSTRUCT COFFERDAM AND TEMPORARY EARTH RETAINING SYSTEM. DIVERT FLOW TO BYPASS PIPE.
4. REMOVE THE EXISTING CULVERT AND HEADWALL.
5. RELOCATE UNDERGROUND UTILITIES (SANITARY SEWER, GAS, WATER).
6. INSTALL CUTOFF WALLS AND RETURN WALLS.
7. INSTALL PRECAST CONCRETE BOX CULVERT.
8. INSTALL WINGWALL FOOTINGS AND WINGWALLS.
9. INSTALL GABION WALL.
10. BACKFILL BOX CULVERT AND WINGWALLS, GRADE CHANNEL, REMOVE BYPASS PIPE, COFFERDAMS AND DIRECT FLOW INTO NEW CULVERT.
11. INSTALL PAVEMENT AND HEADWALL, PLACE BARRICADES, SAND BARREL ARRAY AND TRAFFIC DRUMS AS NECESSARY TO PROTECT THE REMAINING WORK AREAS ON THE BRIDGE AND REDIRECT TRAFFIC.
12. OPEN ROADWAY, CONSTRUCT REMAINING STRUCTURE ELEMENTS (ALTERNATING ONE-WAY TRAFFIC IF REQUIRED).
13. CONSTRUCT THE REMAINING ROADWAY AND CULVERT IMPROVEMENTS UTILIZING ALTERNATING ONE-WAY TRAFFIC AS REQUIRED.

TEMPORARY HYDRAULIC DATA

PARAMETER	VALUE
AVERAGE DAILY FLOW	# CFS
AVERAGE SPRING FLOW	# CFS
2-YEAR FREQUENCY DISCHARGE	## CFS
TEMPORARY DESIGN DISCHARGE	## CFS
TEMPORARY DESIGN FREQUENCY	# YEAR
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	###'
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	###'

CONSTRUCTION SEQUENCE GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.
2. SEQUENCE OF CONSTRUCTION NOTES SHALL BE USED IN CONJUNCTION WITH THE HIGHWAY CONSTRUCTION, MAINTENANCE AND PROTECTION OF TRAFFIC PLANS.
3. THE SUGGESTED STEPS ILLUSTRATE A SEQUENCE OF CONSTRUCTION THAT CONFORMS TO STAGING REQUIREMENTS. THE SEQUENCE MAY BE ALTERED, SUBJECT TO THE APPROVAL OF THE ENGINEER SO LONG AS THE OPERATION OF VEHICULAR TRAFFIC IS MAINTAINED.
4. NEITHER THE WORK NOR STEPS LISTED IN THE CONSTRUCTION SEQUENCE ARE INTENDED TO COVER ALL DETAILS OF THE WORK. THE CONTRACTOR SHALL PREPARE A DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE FOR REVIEW AND APPROVAL BY THE ENGINEER.
5. THE TEMPORARY COFFERDAM SHALL CONSIST OF SHEETS OR ANY OTHER APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION AND SHALL CONFORM TO PERMITS.
6. THE CONTRACTOR IS HEREIN NOTIFIED THAT THE OVERHEAD ELECTRICAL FACILITIES WILL REMAIN LIVE THROUGHOUT THE DURATION OF CONSTRUCTION.

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REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
WATER HANDLING PLAN

WTH-01
13

RESPONSIBILITY AND AUTHORITY

THE CITY/TOWN, OR ITS AUTHORIZED REPRESENTATIVE, HAS THE RESPONSIBILITY AND AUTHORITY FOR THE IMPLEMENTATION, OPERATION, MONITORING, AND MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL MEASURES.

GENERAL

- 1. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY/TOWN STANDARDS, THE CONNECTICUT DOT SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818 (2020) JULY 2022 SUPPLEMENT, 2002 CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, AND THE PROJECT SPECIFICATIONS.
2. THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION, AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.
3. IN GENERAL, ALL CONSTRUCTION ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INsofar AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES, AND WATERBODIES, AND TO PREVENT, INsofar AS POSSIBLE, EROSION ON THE SITE.
4. ALL EROSION CONTROL MATTING SHALL BE AS SPECIFIED ON THE PLANS OR AN APPROVED EQUAL. ALL EROSION CONTROL MATTING SHALL BE LISTED ON THE QUALIFIED PRODUCT LIST FOR CONNECTICUT DEPARTMENT OF TRANSPORTATION PROJECTS (REPORT NUMBER 211-12-04-4), DATED APRIL 2004 OR LATEST REVISION. THIS REPORT IS POSTED ON THE CONNECTICUT DEPARTMENT OF TRANSPORTATION WEB SITE. INSTALLATION SHALL CONFORM TO CONN DOT FORM 818, SECTION 7.55, GEOTEXTILE.
5. THE EROSION CONTROL PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
6. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES:
7. ALL AREAS SHALL BE PROTECTED FROM SEDIMENTATION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIAL (I.E. HAY BALES AND/OR GEOTEXTILE FENCE)
8. THE EXISTING NATURAL DRAINAGE PATTERNS AND VEGETATIVE COVER SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT.
9. CONSTRUCTION EQUIPMENT SHALL BE A TYPE THAT DOES NOT DAMAGE ADJACENT AREAS AND MINIMIZES THE NEED FOR AND SIZE OF ACCESS ROADWAYS.
10. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER SO AS TO KEEP LAND GRADING AND DISTURBANCES TO A MINIMUM.
11. WATERCOURSE ELEVATIONS WITHIN THE CONSTRUCTION SITE SHALL BE RESTORED. CHANNELS SHALL BE DIVERTED AND CLEARED OF SEDIMENT AND DEBRIS.
12. EXCESS EXCAVATED MATERIAL AND OTHER DEBRIS SHALL NOT BE STORED OR DISPOSED OF WITHIN THE ADJACENT WATERCOURSES OR WETLAND AREAS.
13. ANY CONSTRUCTION ROADS BUILT DURING CONSTRUCTION SHALL BE REMOVED AND ALL GRADE ELEVATIONS SHALL BE RESTORED TO ORIGINAL CONDITION.
14. DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION SHALL NOT BE DISCARDED ON SITE.

LAND GRADING

GENERAL:

THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

- A. THE CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
B. THE PERMANENT EXPOSED FACES OF FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
C. THE CUT FACE OF ROCK EXCAVATION SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO FOUR VERTICAL (1:4).
D. PROVISION SHOULD BE MADE TO CONDUCT SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
E. EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTILING, OR CRACKING.
F. NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OWNER OR UPON ADJACENT WETLANDS, WATERCOURSES, OR WATERBODIES.
G. PRIOR TO ANY REGRADING, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE.

TOPSOILING

GENERAL:

- 1. TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED AREAS IN ORDER TO PROVIDE A SOIL MEDIUM HAVING FAVORABLE CHARACTERISTICS FOR THE ESTABLISHMENT, GROWTH, AND MAINTENANCE OF VEGETATION.
2. UPON ATTAINING FINAL SUBGRADES, SCARIFY SURFACE TO PROVIDE A GOOD BOND WITH TOPSOIL.
3. REMOVE ALL LARGE STONES, TREE LIMBS, ROOTS AND CONSTRUCTION DEBRIS.
4. APPLY LIME ACCORDING TO SOIL TEST OR AT THE RATE OF 2 TON PER ACRE.
MATERIAL:
1. TOPSOIL SHOULD HAVE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS FAVORABLE TO THE GROWTH OF PLANTS.
2. TOPSOIL SHOULD HAVE A SANDY OR LOAMY TEXTURE.
3. TOPSOIL SHOULD BE RELATIVELY FREE OF SUBSOIL MATERIAL AND MUST BE FREE OF STONES (OVER 1" IN DIAMETER), LUMPS OF SOIL, ROOTS, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS. IT SHOULD BE FREE OF ROOTS OR RHIZOMES SUCH AS THISTLE, NUTGRASS, AND QUACKGRASS.
4. AN ORGANIC MATTER CONTENT OF SIX PERCENT (6%) IS REQUIRED. AVOID LIGHT COLORED SUBSOIL MATERIAL.
5. SOLUBLE SALT CONTENT OF OVER 500 PARTS PER MILLION (PPM) IS LESS SUITABLE. AVOID TIDAL MARSH SOILS BECAUSE OF HIGH SALT CONTENT AND SULFUR ACIDITY.
6. THE pH SHOULD BE MORE THAN 6.0. IF LESS, ADD LIME TO INCREASE pH TO AN ACCEPTABLE LEVEL.

APPLICATION:

- 1. AVOID SPREADING WHEN TOPSOIL IS WET OR FROZEN.
2. SPREAD TOPSOIL UNIFORMLY TO A DEPTH OF AT LEAST FOUR INCHES, OR TO THE DEPTH SHOWN ON THE PLANS.

TEMPORARY VEGETATIVE COVER

GENERAL:

- 1. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL UNPROTECTED AREAS THAT PRODUCE SEDIMENT, AREAS WHERE FINAL GRADING HAS BEEN COMPLETED, AND AREAS WHERE THE ESTIMATED PERIOD OF BARE SOIL EXPOSURE IS LESS THAN 12 MONTHS. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IF AREAS WILL NOT BE PERMANENTLY SEEDDED BY OCTOBER 15.

SITE PREPARATION:

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. APPLY LIME ACCORDING TO SOIL TEST OR AT A RATE OF 1 TON OF GROUND DOLOMITIC LIMESTONE PER ACRE.
4. APPLY FERTILIZER ACCORDING TO SOIL TEST OR AT THE RATE OF 330 LB OF 10-10-10 PER ACRE (7.5 LB PER 1000 SF) AND SECOND APPLICATION OF 240 LB OF 10-10-10 (5.5 LB PER 1000 SF) WHEN GRASS IS 4" TO 6" HIGH. APPLY ONLY WHEN GRASS IS DRY.
5. UNLESS HYDROSEEDDED, WORK IN LIME AND FERTILIZER TO A DEPTH OF 4" USING A DISK OR ANY SUITABLE EQUIPMENT.
6. TILLAGE SHOULD ACHIEVE A REASONABLY UNIFORM LOOSE SEEDBED. WORK ON CONTOUR IF SITE IS SLOPING.
ESTABLISHMENT:
1. SELECT APPROPRIATE SPECIES FOR THE SITUATION. NOTE RATES AND SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).
2. APPLY SEED UNIFORMLY ACCORDING TO THE RATE INDICATED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
3. UNLESS HYDROSEEDDED, COVER RYEGRASS SEEDS WITH NOT MORE THAN 2" OF SOIL USING SUITABLE EQUIPMENT.
4. MULCH IMMEDIATELY AFTER SEEDING IF REQUIRED. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW.) APPLY STRAW OR HAY MULCH AND ANCHOR TO SLOPES GREATER THAN 3% OR WHERE CONCENTRATED FLOW WILL OCCUR.

PERMANENT VEGETATIVE COVER

GENERAL:

- 1. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED AS VARIOUS SECTIONS OF THE PROJECT ARE COMPLETED IN ORDER TO STABILIZE THE SOIL, REDUCE DOWNSTREAM DAMAGE FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE AESTHETIC NATURE OF THE SITE. IT WILL BE APPLIED TO ALL CONSTRUCTION AREAS SUBJECT TO EROSION WHERE FINAL GRADING HAS BEEN COMPLETED AND A PERMANENT COVER IS NEEDED.

SITE PREPARATION:

- 1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.
2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.
3. PERFORM ALL PLANTING OPERATIONS PARALLEL TO THE CONTOURS OF THE SLOPE.
4. APPLY TOPSOIL AS INDICATED ELSEWHERE HEREIN.
5. APPLY FERTILIZER ACCORDING TO SOIL TEST OR SPREAD SEEDING: WORK DEEPLY IN SOIL, BEFORE SEEDING, 330 LB OF 10-10-10 FERTILIZER PER ACRE (7.5 LB PER 1000 SF); THEN SIX (6) TO EIGHT (8) WEEKS LATER, APPLY ON THE SURFACE AN ADDITIONAL 30 LB OF 10-10-10 FERTILIZER PER ACRE. AFTER SEPTEMBER 1, TEMPORARY VEGETATIVE COVER SHALL BE APPLIED, FALL SEEDING; WORK DEEPLY IN SOIL, BEFORE SEEDING. 240 LB OF 10-10-10 FERTILIZER PER ACRE (5.5 LB PER 1000 SF)

VEGETATIVE COVER SELECTION & MULCHING

TEMPORARY VEGETATIVE COVER:

PERENNIAL RYEGRASS 3 LB/1000 SF (LOLIUM PERENNE)

PERMANENT VEGETATIVE COVER:

CREEPING RED FESCUE 2 LB/1000 SF (FESTUCA RUBRA)

REDTOP 1 LB/1000 SF (AGROSTIS ALBA)

TALL FESCUE 2 LB/1000 SF (FESTUCA ARUNDINACEA)

TEMPORARY MULCHING:

STRAY OR HAY 60-90 LB/1000 SF (TEMPORARY VEGETATIVE AREAS)

WOOD FIBER IN HYDROMULCH SLURRY 25-50 LB/1000 SF

ESTABLISHMENT:

- 1. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EQUIPMENT PRIOR TO SEEDING (EXCEPT WHEN HYDROSEEDING).
2. SELECT ADAPTED SEED MIXTURE FOR THE SPECIFIC SITUATION. NOTE RATES AND THE SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPEC).
3. APPLY SEED UNIFORMLY ACCORDING TO RATE INDICATED, BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.
4. COVER GRASS AND LEGUME SEED WITH NOT MORE THAN 1/4" OF SOIL WITH SUITABLE EQUIPMENT (EXCEPT WHEN HYDROSEEDING).
5. MULCH IMMEDIATELY AFTER SEEDING, IF REQUIRED, ACCORDING TO TEMPORARY MULCHING SPECIFICATIONS. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION).
6. USE PROPER INOCULANT ON ALL LEGUME SEEDINGS. USE FOUR (4) TIMES NORMAL RATES WHEN HYDROSEEDING.
7. USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IN CRITICAL AREAS WHERE IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER TO PREVENT EROSION.

TEMPORARY EROSION / SEDIMENTATION CONTROL DEVICES

THE FOLLOWING EROSION/SEDIMENTATION CONTROL DEVICES ARE PLANNED FOR THE SITE DURING THE CONSTRUCTION PERIOD. THESE DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS OR AS DESCRIBED HEREWITHIN.

- 1. SYNTHETIC FILTER BARRIERS AND HAY BALES WILL BE INSTALLED DOWNGRADIENT OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS REVEGETATED. INSTALLATION DETAILS ARE PROVIDED IN THE PLAN SET ON THE EROSION CONTROL DETAIL SHEETS.
2. STRAW OR HAY MULCH IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED ON SLOPES OF LESS THAN 3 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED IN AREAS OF CONCENTRATED FLOW OR ON SLOPES STEEPER THAN 3 PERCENT SHALL BE COVERED WITH FABRIC NETTING OR EQUAL AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 4:1 AND WHERE SHOWN ON THE PLANS, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR.
3. CONSTRUCTION ENTRANCES WILL BE INSTALLED AT ALL ACCESS POINTS OF THE SITE TO PREVENT THE TRACKING OF SOIL ONTO CITY STREETS AND STATE ROADS.
4. IF REQUIRED TEMPORARY SEDIMENTATION BASINS AND OR SEDIMENT TRAPS SHALL BE CONSTRUCTED IN THE LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN OR AT LOCATIONS SPECIFIED BY THE ENGINEER DURING CONSTRUCTION TO ALLOW SETTLEMENT OF FINE GRAIN PARTICLES FROM DEWATERING OPERATIONS AND SURFACE RUNOFF. THE REQUIRED VOLUME OF STORAGE IS 134 CUBIC YARDS FOR EVERY ACRE OF DISTURBED SITE ENTERING THE BASIN. A SEDIMENTATION BASIN WILL BE REQUIRED WHEN TWO ACRES ARE DISTURBED THAT DISCHARGE TO ANY POINT.
5. TEMPORARY STORAGE AND STOCKPILE AREAS SHALL BE SURROUNDED BY A SYNTHETIC FILTER BARRIER. TEMPORARY DRAINAGE SWALES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS NECESSARY TO DIVERT RUNOFF INTO THE SEDIMENTATION BASINS.
6. SEDIMENT TRAPS WILL BE INSTALLED AROUND ALL CATCH BASINS. THE SEDIMENT TRAPS SHALL BE LEFT IN PLACE UNTIL THE TRIBUTARY AREA IS PAVED OR REVEGETATED.
7. WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED OR HAVE TEMPORARILY BEEN SUSPENDED FOR MORE THAN SEVEN DAYS, OR WHEN FINAL GRADES ARE REACHED IN ANY PORTION OF THE SITE, STABILIZATION PRACTICES SHALL BE IMPLEMENTED WITHIN THREE DAYS. AREAS THAT WILL REMAIN DISTURBED BUT INACTIVE FOR AT LEAST THIRTY DAYS SHALL RECEIVE TEMPORARY SEEDING IN ACCORDANCE WITH THE GUIDELINES. AREAS THAT WILL REMAIN DISTURBED BEYOND THE PLANTING SEASON, SHALL RECEIVE LONG-TERM, NON-VEGETATIVE STABILIZATION SUFFICIENT TO PROTECT THE SITE THROUGH THE WINTER. IN ALL CASES, STABILIZATION MEASURES SHALL BE IMPLEMENTED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE GUIDELINES.
8. IF WORK IS CONDUCTED BETWEEN SEPTEMBER 15TH AND APRIL 15TH OF ANY CALENDAR YEAR, ALL DENUDED AREAS WILL BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.
9. ALL STREETS SHALL BE SWEEP OR WASHED TO CONTROL MUD AND DUST AS NECESSARY AS DETERMINED BY THE TOWN AND/OR THE ENGINEER.
10. DURING GRUBBING OPERATIONS, CHECK DAMS WILL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
11. EFFLUENT FROM DEWATERED WORK AREAS SHALL NOT BE DISCHARGED DIRECTLY TO THE WATERCOURSE BUT BE PROCESSED THROUGH TREATMENT STRUCTURES. SUCH STRUCTURES ARE NOT TO BE LOCATED WITHIN THE WATERCOURSE CHANNEL OR ADJACENT WETLANDS.

PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

- 1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIP RAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED AND SEEDDED. FABRIC NETTING ANCHORED WITH STAPLES SHALL BE PLACED OVER THE MULCH IN AREAS WHERE THE FINISH GRADE SLOPE IS GREATER THAN 3H:1V. ALL AREAS SHALL RECEIVE PROTECTION WITHIN 30 DAYS. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
2. CATCH BASINS WILL BE PROVIDED WITH SEDIMENT SUMPS.

GENERAL PHASING OF EROSION AND SEDIMENTATION CONTROL MEASURES:

THE CONSTRUCTION OF THE TEMPORARY SEDIMENTATION BASINS, IF REQUIRED MUST BE COMPLETED BEFORE OTHER WORK BEGINS AT THE SITE. EXTREME CAUTION MUST BE TAKEN TO LIMIT THE EXTENT OF DISTURBED AREAS. WORK SHALL BE CONDUCTED IN THE FOLLOWING ORDER (FOR ADDITIONAL INFORMATION SEE SEQUENCE OF CONSTRUCTION):

- A. INSTALL CRUSHED STONE CONSTRUCTION ENTRANCES.
B. AND STORAGE AREAS AND IN OTHER AREAS AS INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER. INSTALL HAY BALE SEDIMENT TRAPS AT ALL EXISTING CATCH BASINS AND DRAINS.
C. CONSTRUCT TEMPORARY SEDIMENTATION BASINS AND, IF REQUIRED, TEMPORARY SWALES TO DIRECT RUNOFF TO BASINS. INSTALL CHECK DAMS IN SWALES AND OTHER AREAS OF CONCENTRATED FLOW.
D. DISPOSE OF ANY UNUSABLE FILL MATERIAL OFF SITE. DISPOSAL OF MATERIALS SHALL BE CONDUCTED IN A MANNER CONSISTENT WITH THIS PLAN WHICH WILL AVOID EROSION AND SEDIMENTATION OFF SITE. PLACE FILL MATERIAL WHICH IS SUITABLE FOR REUSE WITHIN DESIGNATED STOCKPILE AREAS.
E. DURING GRUBBING OPERATIONS, INSTALL CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
F. INSTALL PROPOSED STORM SEWER SYSTEM AND CATCH BASINS. PROTECT CATCH BASINS FROM SILTATION WITH APPROPRIATE CONTROLS AS SHOWN ON THE DETAIL SHEETS.
G. STABILIZE DISTURBED AREAS WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS.
H. RECONSTRUCT ROADWAYS.
I. RESTORE DISTURBED AREAS, COMPLETE SEEDING AND LANDSCAPING AND REMOVE EROSION CONTROL DEVICES.

ADDITIONAL REQUIREMENTS

IN ADDITION TO THE MEASURES LISTED ABOVE, THE FOLLOWING WORK WILL BE PERFORMED AS REQUIRED:

- 1. REMOVE ACCUMULATED SEDIMENT AHEAD OF ANY SILT BARRIERS (AS NECESSARY) AND DISPOSE OFF SITE.
2. DUST AND WIND EROSION SHALL BE CONTROLLED THROUGHOUT THE LIFE OF THE CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, SPRINKLING OF WATER ON EXPOSED SOILS AND HAUL ROADS.
3. IF EXCAVATION IS INTERRUPTED BY HEAVY RAINS, ADDITIONAL MULCHING OR GRAVEL WORK MATS MAY BE REQUIRED ON AREAS OF EXPOSED SOILS, SOILS WHICH HAVE BECOME UNSUITABLE FOR USE DUE TO EXPOSURE TO HEAVY RAINS SHALL BE REMOVED FROM THE WORK AREA AND DRIED OR DISPOSED OF OFF SITE IN A MANNER CONSISTENT WITH THIS PLAN.
4. CLEAN OUT ALL CULVERTS, CATCH BASINS AND STORM SEWERS IN STREETS ADJACENT TO THE PROJECT AREA AFTER COMPLETION OF THE PROJECT.
5. CONSTRUCTION EQUIPMENT IS NOT TO ENTER ANY WATERCOURSE OR WETLAND.
6. EQUIPMENT IS NOT TO BE WASHED IN OR NEAR WETLANDS OR WATERCOURSES.
7. EQUIPMENT MAINTENANCE SHALL NOT BE CARRIED OUT WITHIN THE PROJECT SITE UNLESS APPROVED IN WRITING BY THE ENGINEER.
8. TRASH RECEPTACLES SHALL BE REQUIRED ON THE JOB SITE.
9. DUMPING OF OIL, CHEMICALS OR OTHER DELETERIOUS MATERIALS ON THE GROUND IS FORBIDDEN. THE CONTRACTOR SHALL PROVIDE A MEANS OF CATCHING, RETAINING AND PROPERLY DISPOSING OF DRAINED OIL, REMOVED OIL FILTERS OR OTHER DELETERIOUS MATERIAL. ALL SPILLS OF SUCH MATERIAL SHALL BE REPORTED IMMEDIATELY BY THE CONTRACTOR TO DEP. THE CONTRACTOR SHALL STORE OIL ABSORBENT MATERIALS ON SITE FOR THE CLEANUP OF SPILLS.

SEDIMENTATION AND EROSION CONTROL MAINTENANCE PROCEDURES DURING CONSTRUCTION:

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION BY THE CONTRACTOR ON A DAILY BASIS AND FOLLOWING ALL STORMS. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUIRED. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS FOLLOWING ALL STORM EVENTS. THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES AND PIPES AT THE COMPLETION OF CONSTRUCTION AND AS REQUIRED TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP AND CLEAN SEDIMENT COVERED STONES.

SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS REQUIRED AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO INSURE THAT THEY WORK AS PLANNED DURING THE CONSTRUCTION.

POST CONSTRUCTION:

- 1. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS IS AS FOLLOWS: THESE DEVICES SHALL BE INSPECTED IN APRIL OF EACH YEAR AT A MINIMUM. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASINS WHEN THE DEPTH OF THE SEDIMENT IS WITHIN ONE FOOT OF THE OUTLET PIPE INVERT. THE SEDIMENT WILL BE REMOVED FROM THE SITE BY THE TOWN OR THE CATCH BASIN CLEANING CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
2. STREETS ARE TO BE CLEANED WITH STREET SWEEPERS ANNUALLY AT A MINIMUM.
3. THE SITE SHALL BE INSPECTED EVERY 6 MONTHS AND AFTER MAJOR STORMS FOR EVIDENCE OF EROSION ALL ERODED SURFACES ARE TO BE REPAIRED AND PERMANENTLY STABILIZED.

INSPECTION:

QUALIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION ACTIVITY THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.1 INCHES OR GREATER. WHERE SITES HAVE BEEN TEMPORARILY OR FINALLY STABILIZED, SUCH INSPECTION SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH FOR 3 MONTHS. FULL TIME CONSTRUCTION INSPECTION WILL BE PROVIDED BY THE ENGINEER.

1. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ASSESSABLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING.

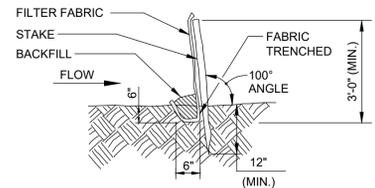
2. BASED ON THE RESULTS OF THE INSPECTION, THE DESCRIPTION OF POTENTIAL SOURCES AND POLLUTION PREVENTION MEASURES IDENTIFIED IN THE PLAN SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER SUCH INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE SITE WITHIN 24 HOURS AND IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 3 CALENDAR DAYS FOLLOWING THE INSPECTION. THE PLAN SHALL BE REVISED AND THE SITE CONTROLS UPDATED IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES AND GUIDELINES. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION CONTROL PLAN AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS PART OF THE PLAN FOR AT LEAST 3 YEARS AFTER THE DATE OF INSPECTION. THE REPORT SHALL BE SIGNED BY THE PERMITTED OR HIS AUTHORIZED REPRESENTATIVE.

Table with 4 columns: NO., REVISION, DATE, BY.

DATE: March 2023
SCALE: AS NOTED
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: JAC

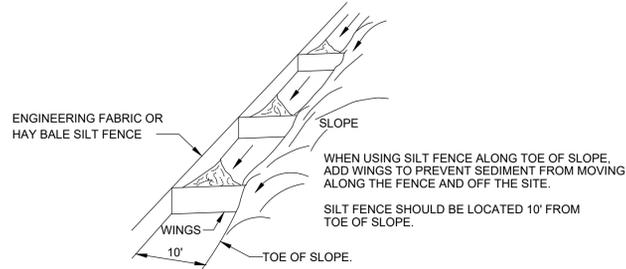
CARDINAL ENGINEERING ASSOCIATES
180 BEECHACRE PARKWAY, MIDDLETOWN, CT 06450-0008, 203-849-4100
487 BANTAM RD | LITCHFIELD, CT 06037-6605-597-9106

REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
SEDIMENT & EROSION CONTROL NOTES



SILT FENCE INSTALLATION

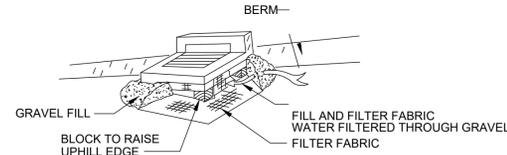
- A) MINIMUM LENGTH OF SILT FENCE IS 15 L.F.
- B) MAXIMUM POST SPACING IS 10 L.F.
- C) JOINTS ONLY AT SUPPORT POST WITH MINIMUM 6" OVERLAP, SECURELY SEALED.
- D) SEDIMENTATION DEPOSITS SHALL BE REMOVED WHEN THEY REACH 1/2 THE HEIGHT OF THE SILT FENCE.
- E) SILT FENCE SHALL NOT BE USED IN A WATER COURSE.
- F) UPON ESTABLISHMENT OF GROUND COVER ON DISTURBED AREAS, AND WHEN DIRECTED BY THE ENGINEER, FENCE WILL BE REMOVED AND ANY SEDIMENTATION WILL BE THINLY SPREAD UPON EXISTING GROUND COVER.



SEDIMENTATION CONTROL SYSTEM

TOE OF SLOPE

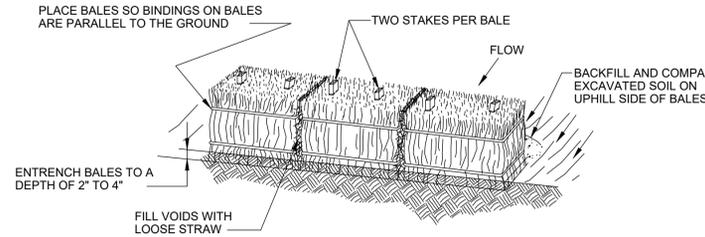
(WHERE DIRECTED BY ENGINEER)



WHERE DIRECTED BY ENGINEER, CONTRACTOR SHALL CONSTRUCT A STONE DIKE IN LIEU OF THE FILTER FABRIC CHECK DAM.

SEDIMENTATION CONTROL SYSTEM FOR CATCH BASINS

NOTE: RAISE AND PROTECT CATCH BASIN TOPS WITH CRUSHED STONE AS SOON AS POSSIBLE TO PERMIT DRAINAGE TO ENTER STORM SYSTEMS, WHEN ROADWAY IS BROUGHT UP TO SUBBASE BEFORE PAVING.



INSTALLATION

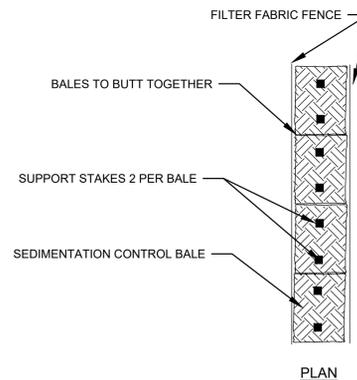
- A) IDEALLY, BALES SHOULD BE ENTRENCHED 2 TO 4 INCHES AND TIGHTLY BUTTED TOGETHER. BALES CAN BE SUCCESSFULLY PLACED WITHOUT A TRENCH IF GOOD GROUND CONTACT IS MADE. REMOVE HEAVY BRUSH AND FILL IN ALL VOIDS WITH LOOSE STRAW.
- B) BALES SHALL BE ONLY USED AS A TEMPORARY BARRIER AND FOR NO LONGER THAN 60 DAYS. THEY SHALL NOT BE USED ON A JOB ADJACENT TO A RESIDENTIAL NEIGHBORHOOD, RESIDENCES OR ADJACENT TO OR IN A WATERCOURSE.
- C) WHEN SEDIMENTATION DEPOSITS REACH WITHIN 3" OF THE TOP OF THE BALES, REMOVE SEDIMENTATION OR ADD ADDITIONAL BALES ON SEDIMENTATION DIRECTLY BEHIND THE FIRST ROW OF BALES AS DIRECTED BY THE ENGINEER.
- D) UPON ESTABLISHMENT OF GROUND COVER ON DISTURBED AREAS AND WHEN DIRECTED BY THE THE ENGINEER, HAY BALES WILL BE REMOVED AND USED AS MULCH. ANY SEDIMENTATION WILL BE THINLY SPREAD UPON ESTABLISHED GROUND COVER.



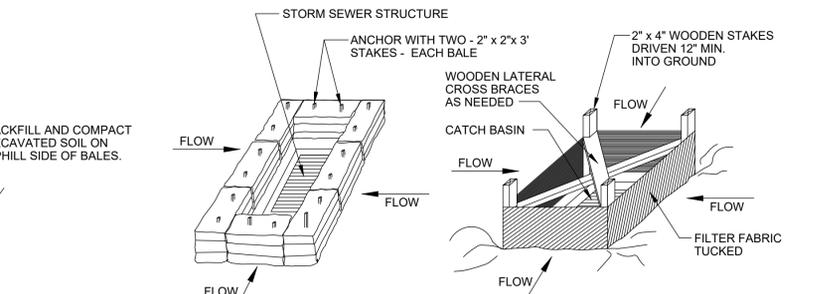
BALE PLACEMENT

BALES PLACED AWAY FROM TOE OF SLOPE HAVE A LARGER CONFINEMENT AREA. ADDITIONAL BALES SHOULD BE ADDED BEHIND ORIGINAL BALES BEFORE SEDIMENT TOPS THE FIRST BALE.

DIKES HAY/STRAW BALES



PLAN



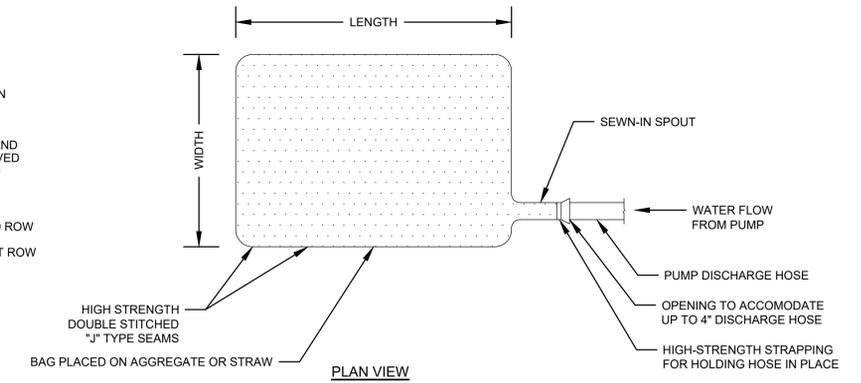
HAY BALE INSTALLATION

AT CATCH BASIN

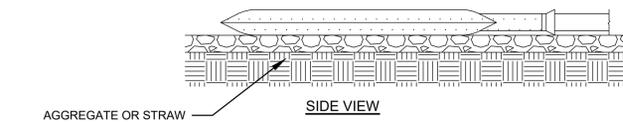
SILT FENCE INSTALLATION

AT CATCH BASIN

CATCH BASIN IN A DEPRESSION

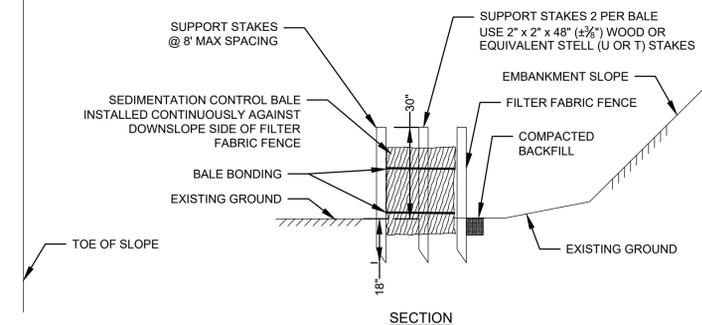


PLAN VIEW



SIDE VIEW

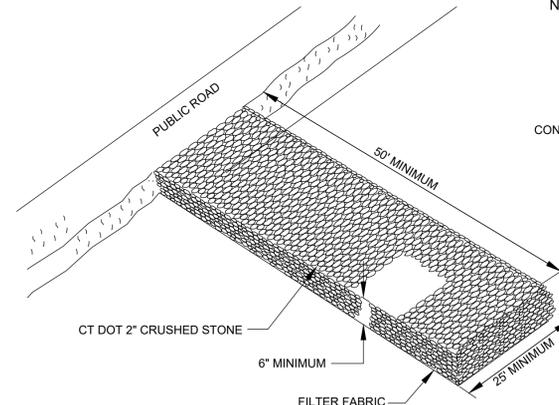
SYNTHETIC FILTER BAG



SECTION

SEDIMENTATION CONTROL SYSTEM DOUBLE SILT FENCE WITH HAYBALES

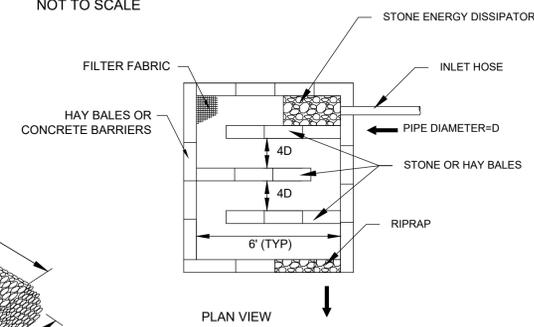
NOT TO SCALE



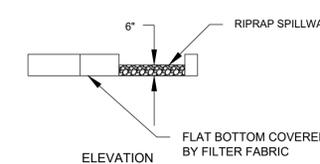
NOTES:

- 1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL 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 AND/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.
- 2. ANTI-TRACKING PADS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.

ANTI-TRACKING PAD



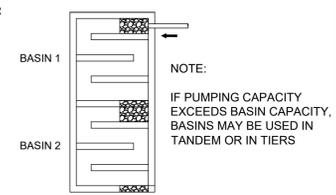
PLAN VIEW



ELEVATION

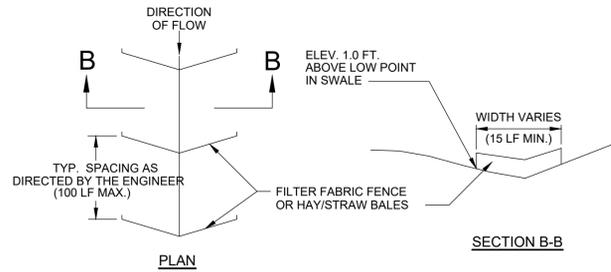
DEWATERING BASIN

NOT TO SCALE



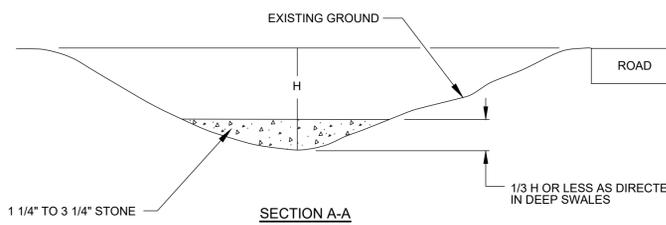
NOTES:

- 1. VOLUME OF BASIN IS EQUAL TO THE MAXIMUM VOLUME OF WATER CAPABLE OF BEING PUMPED OVER ONE HOUR. THIS VOLUME CAN BE DETERMINED BY THE CONTRACTOR USING THE PUMP MANUFACTURER'S SPECIFICATIONS.
- 2. CONTRACTOR TO SHOW APPROXIMATE LOCATION AND SIZE OF HIS PROPOSED DEWATERING BASIN(S) ON HIS EROSION AND SEDIMENTATION CONTROL PLANS. SEE SECTION 1.10, ENVIRONMENTAL COMPLIANCE.
- 3. DEWATERING BASIN(S) NOT TO BE LOCATED IN ANY WETLAND AREA.
- 4. THERE WILL BE NO SEPARATE PAYMENT FOR THE DEWATERING BASINS, BUT IT WILL BE INCLUDED IN THE COST OF THE RESPECTIVE ITEMS "COFFERDAM AND DEWATERING" AND SEDIMENT AND EROSION CONTROL.

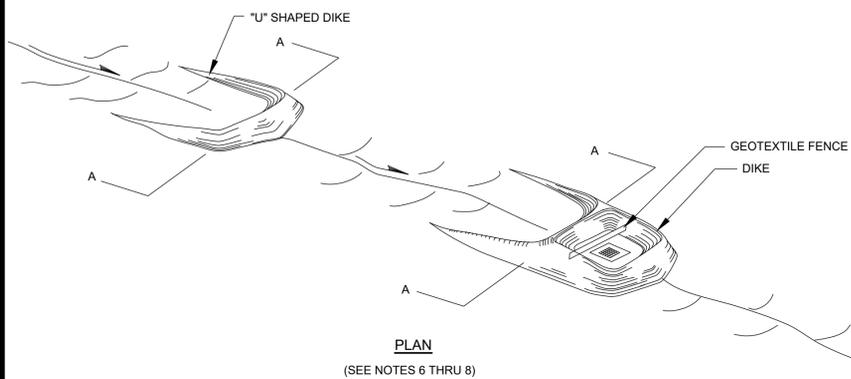


CHECK DAM

FILTER FABRIC OR HAY/STRAW BALES



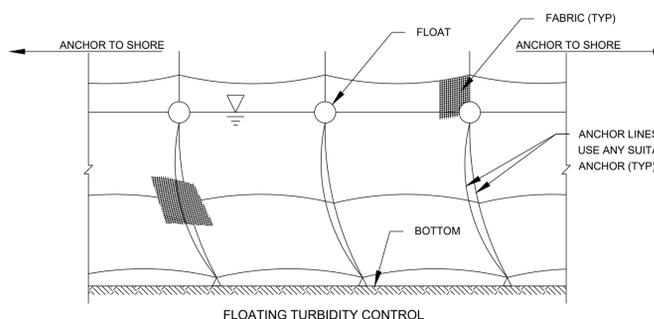
SECTION A-A



PLAN

(SEE NOTES 6 THRU 8)

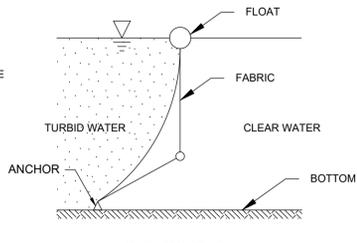
"U" SHAPED STONE DIKE



FLOATING TURBIDITY CONTROL

TURBIDITY CONTROL CURTAIN

NOT TO SCALE



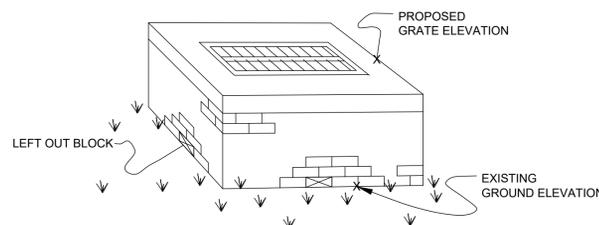
FLOATING SECTION

NOTE:

SEE PLANS AND SPECIAL PROVISIONS FOR LOCATION OF AND ADDITIONAL INFORMATION REGARDING TURBIDITY CONTROL CURTAIN.

SHORT TERM ALTERNATE

(SEE NOTES 2 THRU 5)



NOTES:

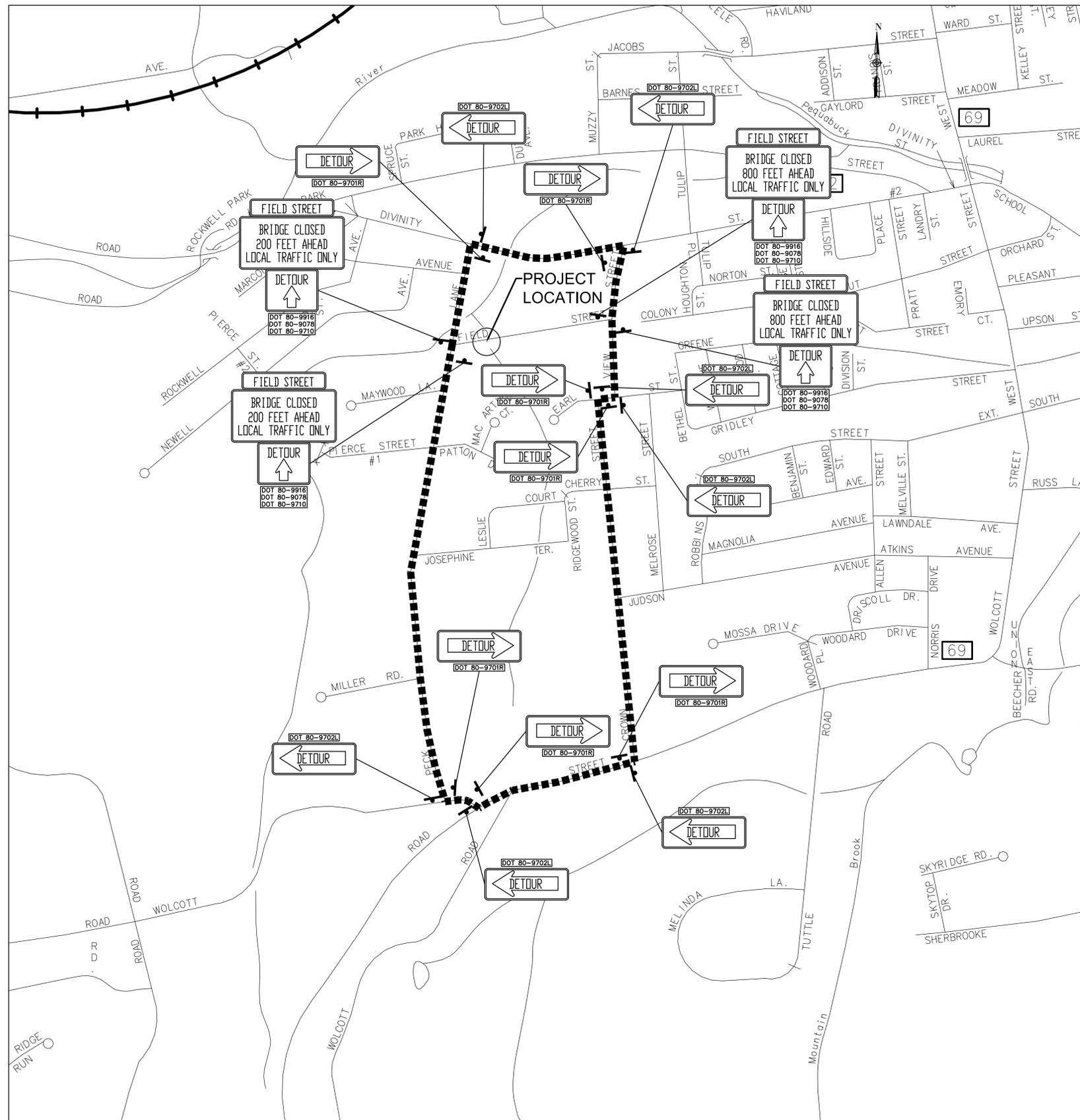
- 1. ALL DIMENSIONS ARE IN INCHES (") EXCEPT AS NOTED.
- 2. CONSTRUCT CATCH BASINS LEAVING ONE (1) BLOCK OUT PER SIDE AT EXISTING GROUND ELEVATION TO ALLOW WATER TO ENTER.
- 3. IF GROUND WITHIN A CATCH BASIN'S WATERSHED BECOMES DISTURBED AND THE CATCH BASIN WILL NOT BE BACKFILLED TO TOP OF GRATE ELEVATION FOR AT LEAST EIGHT (8) HOURS, INSTALL SEDIMENTATION CONTROL SYSTEM FOR CATCH BASIN.
- 4. INSTALL LEFT OUT BLOCKS NOT SOONER THAN TWO (2) HOURS PRIOR TO BACKFILLING AROUND CATCH BASIN.
- 5. IMMEDIATELY AFTER PLACING FILL, INSTALL SEDIMENTATION CONTROL SYSTEMS.
- 6. THE ENDS OF THE DIKE SHALL BE THE SAME ELEVATION AS THE SPILLWAY OR GREATER.
- 7. MAXIMUM HEIGHT OF DIKE SHOULD NOT EXCEED 1/3 HEIGHT OF THE CHANNEL.
- 8. STONE DIKES SHALL BE PLACED AT 50' INTERVALS IN ALL TEMPORARY DITCHES AND CHANNELS.

NO.	REVISION	DATE	BY

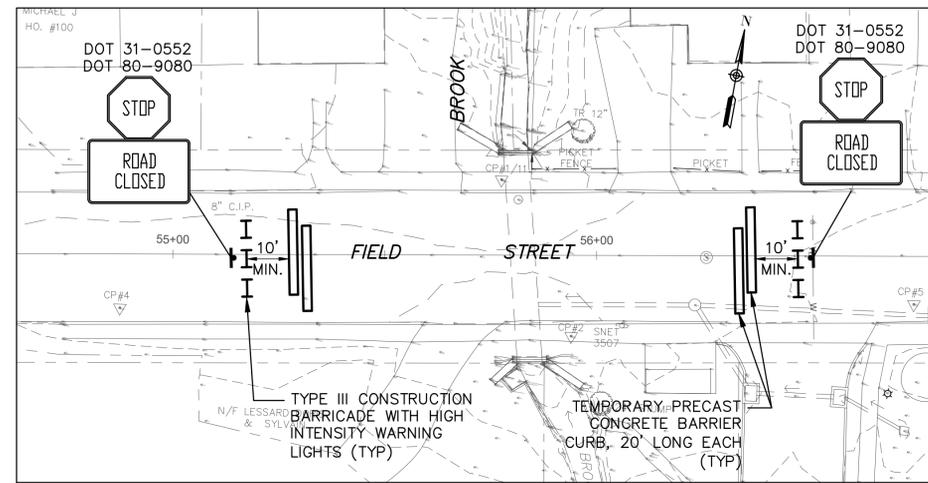
DATE: March 2023
SCALE: AS NOTED
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: JAC

CARDINAL
ENGINEERING ASSOCIATES
480 RESEARCH PARKWAY
MIDDLETOWN, CT 06450-3988
487 BANTAM RD | LITCHFIELD, CT 06751-8605-597-9106

REPLACEMENT OF BRIDGE NO. 017041
FIELD STREET OVER UNNAMED STREAM
BRISTOL, CONNECTICUT
SEDIMENT & EROSION CONTROL DETAILS



TRAFFIC DETOUR PLAN
SCALE: 1" = 400'



CONSTRUCTION AREA PLAN
SCALE: 1" = 20'

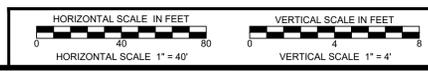
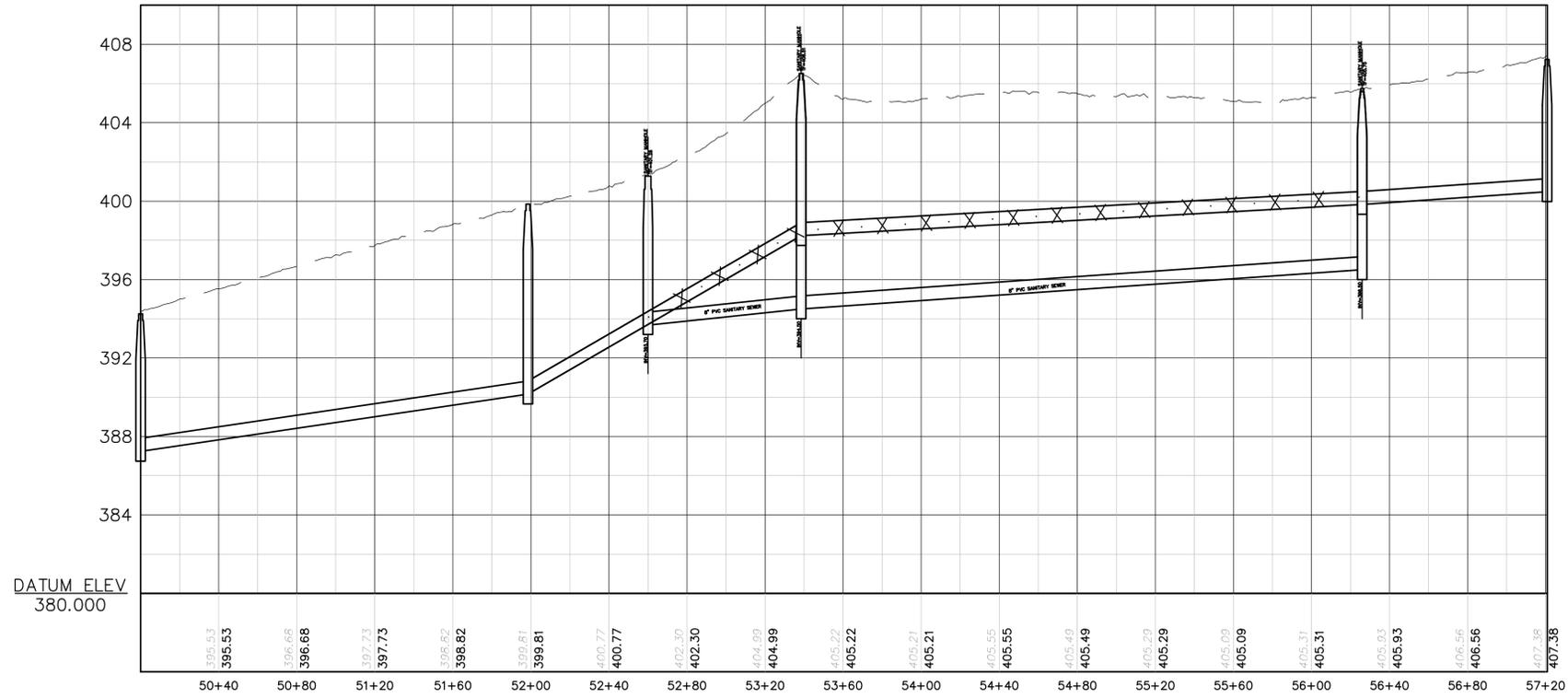
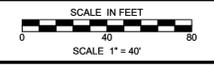
GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. ADJUST ALL SIGN LOCATIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE OR COVER EXISTING SIGNS WHICH ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN, AS DIRECTED BY THE ENGINEER.
3. UPON COMPLETION OF THE PROJECT, ALL EXISTING SIGNS AND PAVEMENT MARKINGS WHICH ARE REMOVED IN ADVANCE OF STAGE CONSTRUCTION SHALL BE RE-ESTABLISHED AS DIRECTED BY THE ENGINEER.
4. TEMPORARY SIGNS AND OTHER TEMPORARY TRAFFIC PROTECTIVE DEVICES SHALL REMAIN IN PLACE AS SHOWN THROUGHOUT THE FULL DURATION OF EACH STAGE OF CONSTRUCTION. TRAFFICMEN SHALL BE REQUIRED WHEN DEVICES SHOWN ARE INSTALLED, RELOCATED, OR REMOVED.
5. ALL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION, LATEST REVISION.
6. TEMPORARY PRECAST CONCRETE BARRIER CURB SHALL BE IN PLACE WHENEVER WORK HAS BEGUN AND THE CONTRACTOR IS NOT ACTIVELY WORKING AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF THE WORK SITE. SEE SPECIFICATIONS.



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<p>CARDINAL ENGINEERING ASSOCIATES</p> <p>480 BEECHER RD. MIDDLETOWN, CT 06450-398-480 487 BANTAM RD. LITCHFIELD, CT 06751-660-597-9106</p>	<p>DATE: March 2023 SCALE: AS NOTED DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: JAC</p>
<p>REPLACEMENT OF BRIDGE NO. 017041 FIELD STREET OVER UNNAMED STREAM BRISTOL, CONNECTICUT DETOUR PLAN</p>	
<p>DET-01</p>	
<p>16</p>	



PRELIMINARY DESIGN NOT FOR CONSTRUCTION

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NO.	REVISION	DATE	BY

DATE: March 2023
 SCALE: AS NOTED
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 CHECKED BY:
 APPROVED BY: JAC

CARDINAL
 ENGINEERING ASSOCIATES
 480 RESEARCH PARKWAY MERIDEN, CT 06450 860-368-4816
 457 BANTAM RD | LICFIELD, CT 06231 860-377-7106

REPLACEMENT OF BRIDGE NO. 017041
 FIELD STREET OVER UNNAMED STREAM
 BRISTOL, CONNECTICUT
 UTILITY RELOCATION PLAN (SANITARY SEWER)