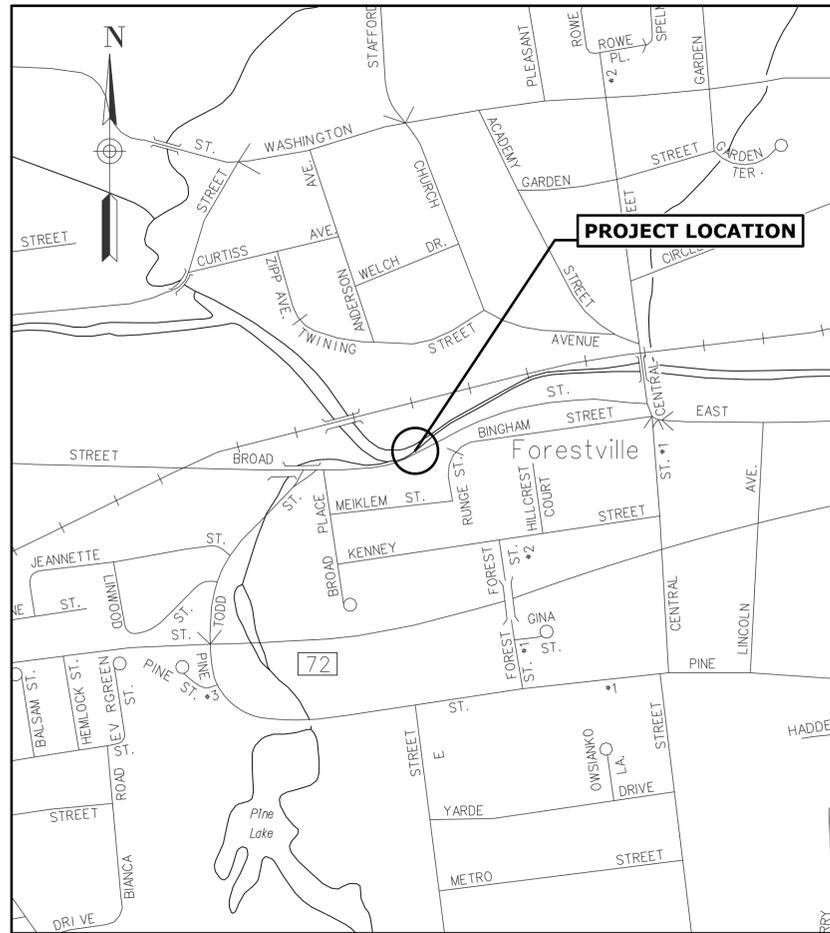


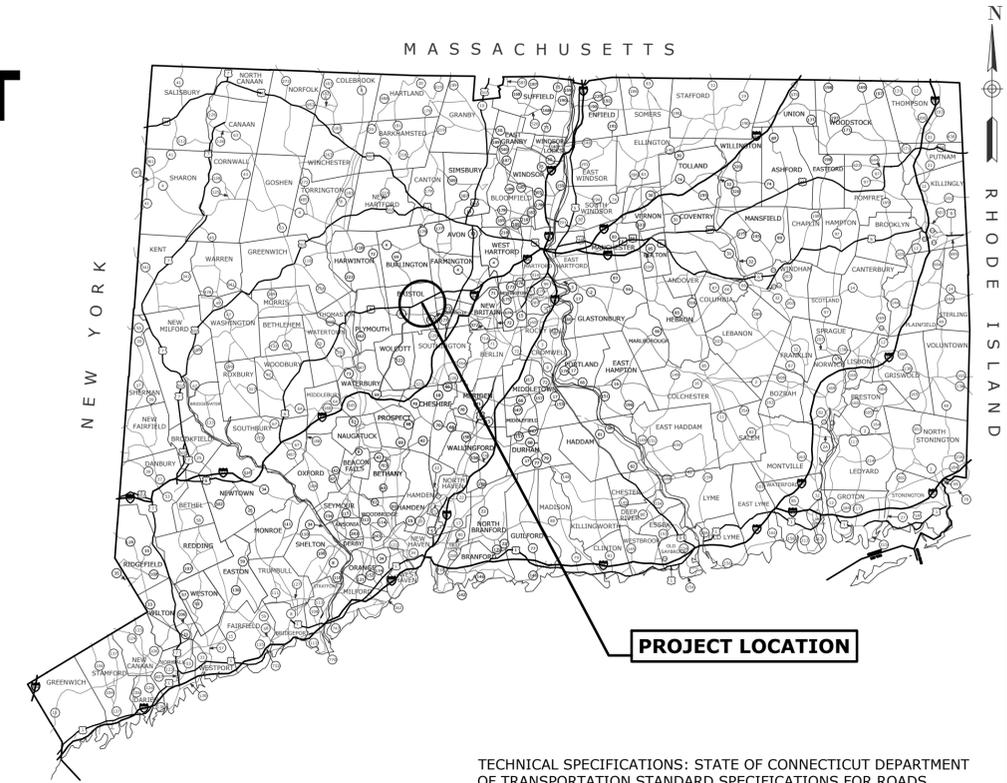
CITY OF BRISTOL, CONNECTICUT

PLAN FOR REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER

ROADWAY RECONSTRUCTION TO BE MAINTAINED BY THE CITY OF BRISTOL



LOCATION MAP
NOT TO SCALE



TECHNICAL SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION (FORM 819 DATED 2024) AND ALL LATEST SUPPLEMENTAL SPECIFICATIONS OR LATEST AT THE TIME OF BID THERETO, AS WELL AS ANY SPECIAL PROVISIONS BY THE CITY OF BRISTOL.

DESIGN STANDARDS: AASHTO POLICY ON THE GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, DATED 2004 AND THE CONNECTICUT DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL DATED 2003. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (AASHTO NINTH EDITION), DATED 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL DATED 2003.

SURVEY: ALL COORDINATES ON THE PROJECT ARE BASED ON 1983 N.A.D. ALL ELEVATIONS ARE BASED ON 1988 N.A.V.D.

CONNECTICUT DEPARTMENT OF TRANSPORTATION OR CITY OF BRISTOL BIDDING AND OTHER INFORMATION AND DOCUMENTS WHICH ARE OBTAINED THROUGH THE INTERNET, WORLD WIDE WEB SITES OR OTHER SOURCES ARE NOT TO BE CONSTRUED TO BE OFFICIAL INFORMATION FOR THE PURPOSES OF BIDDING OR CONDUCTING OTHER BUSINESS WITH THE CITY OF BRISTOL.

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE CITY OF BRISTOL.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE CITY OF BRISTOL TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICIAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

LIST OF DRAWINGS	
SHEET NO.	TITLE
1	TITLE SHEET
2	ALTERNATING ONE-WAY PLAN
3	DETOUR PLAN
4	EXISTING PLAN
5	ROADWAY PLAN
6	ROADWAY PROFILE
7-8	ROADWAY SECTIONS
9	HANDLING WATER PLAN
10	EROSION CONTROL DETAILS
11	HANDLING WATER DETAILS
12	STRUCTURE PLAN
13	MISCELLANEOUS DETAILS
14	BORING LOGS

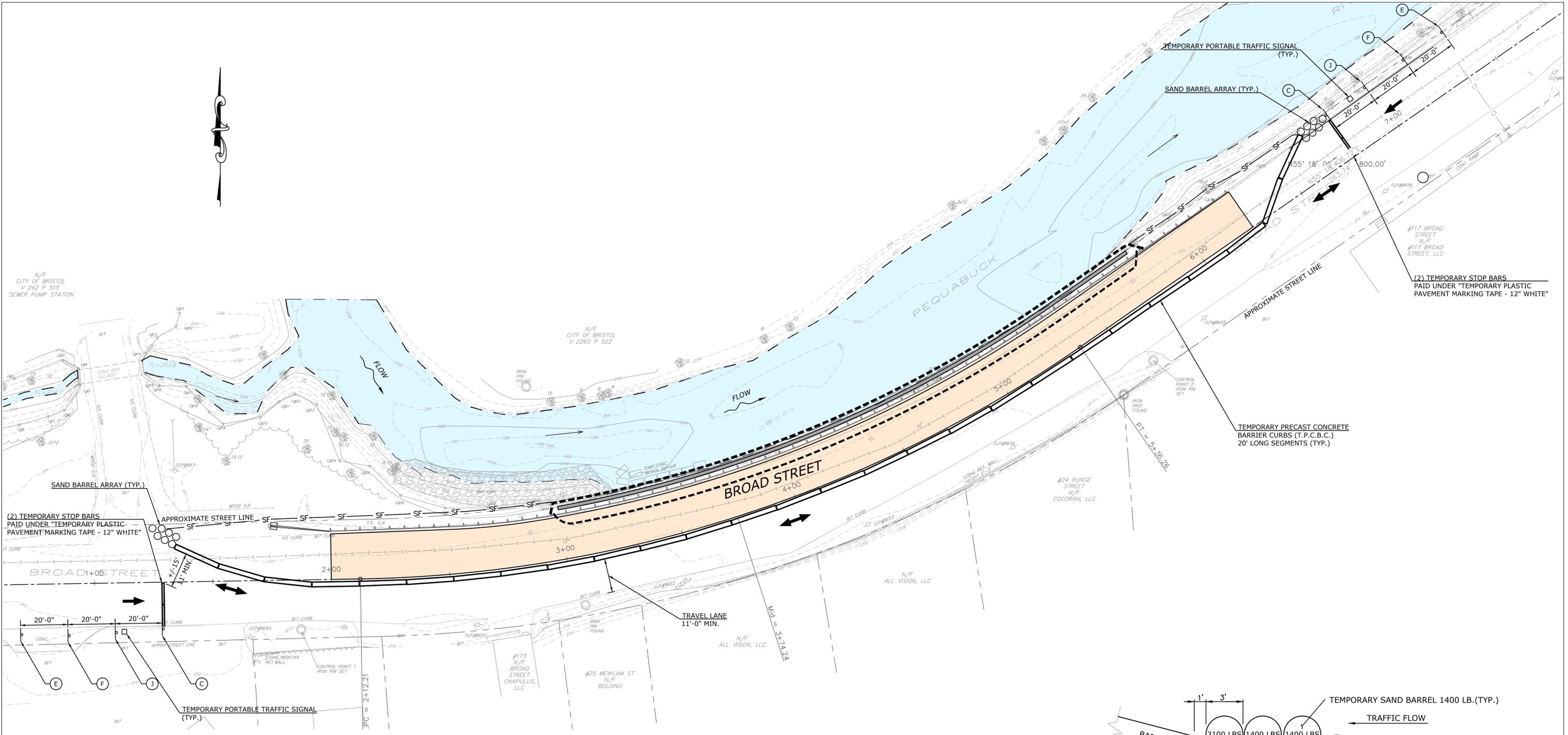
STANDARD DRAWINGS	
DWG. NO.	TITLE
HW-INX-1	HIGHWAY STANDARD INDEX SHEET 1 OF 2
HW-INX-2	HIGHWAY STANDARD INDEX SHEET 2 OF 2
HW-286-01	DRAINAGE TRENCH EXCAVATION
HW-686-01a	CONCRETE PIPE CONNECTION SHEET 1
HW-686-01b	CONCRETE PIPE CONNECTION SHEET 2
HW-822-01	TEMPORARY PRECAST CONCRETE BARRIER CURB
HW-822-02A	TEMPORARY TRAFFIC BARRIERS - DETAILS
HW-910-20	MASH W-BEAM HARDWARE
HW-910-21	METAL BEAM RAIL (R-B MASH) GUIDERAIL
HW-910-23	METAL BEAM RAIL (R-B MASH) HALF AND QUARTER POST SPACING GUIDERAIL
HW-910-25A	METAL BEAM RAIL TRANSITION 350 TO MASH
TR-INX-1	TRAFFIC STANDARD INDEX SHEET
TR-1205-01	DELINEATION, DELINEATORS & OBJECT MARKER DETAILS
TR-1208-01	SIGN PLACEMENT & RETRO REFLECTIVE STRIP DETAILS
TR-1208-02	METAL SIGN POSTS & SIGN MOUNTING DETAILS
TR-1210-04	PAVEMENT MARKINGS - LINES & SYMBOLS
TR-1210-08	PAVEMENT MARKINGS - NON-FREEWAYS
TR-1220-01	SIGNS FOR CONSTRUCTION & PERMIT OPERATIONS
TR-1220-02	CONSTRUCTION SIGN SUPPORTS & CHANNELIZING DEVICES

DESIGNED BY WMC CONSULTING ENGINEERS

SUBMITTED BY _____ DATE _____

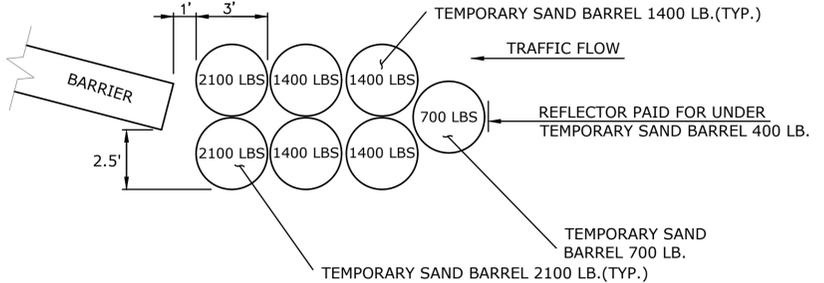
DIRECTOR OF PUBLIC WORKS - CITY OF BRISTOL

RAYMOND ROGOZINSKI _____ DATE _____

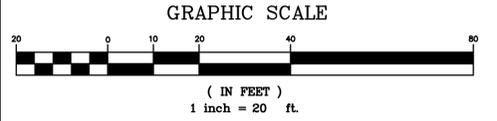


ALTERNATING ONE-WAY TRAFFIC PLAN
SCALE: 1" = 20'-0"

- NOTES:**
1. ALTERNATING ONE-WAY PLAN TO BE IMPLEMENTED AT THE END OF EACH WORK DAY
 2. ALTERNATING ONE-WAY TRAFFIC SIGNS TO BE COVERED DURING ROAD CLOSURE OPERATIONS



SAND BARREL ARRAY
NOT TO SCALE



THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

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DESIGN	K.K.	
DRAWN	D.T.J.	
CHECKED	K.O.E.	
NO.	DATE	DESCRIPTION
REVISIONS		
	09/19/25	

F.D.



WENGELL, McDONNELL & COSTELLO
87 HOLMES ROAD
NEWINGTON, CT 06111
(860) 667-9624

PREPARED FOR

CITY OF BRISTOL
150 MAIN STREET
BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER ALTERNATING ONE-WAY TRAFFIC PLAN

D	BRISTOL-BROAD ST	FD	23067.10	SHEET	2
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					14

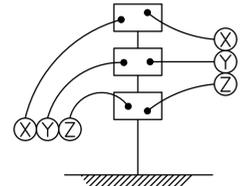
BROAD STREET RETAINING WALL REPLACEMENT CONSTRUCTION SIGNING

SIGN	CONNDOT	DIMENSION	DESCRIPTION	NO. REQ'D
A	80-9929	72" X 48"	BROAD STREET CLOSED TO THRU TRAFFIC EFFECTIVE MONDAY (XX/XX/XXXX)	6
B	80-9919	30" X 10"	BROAD STREET	5
C	31-0552	30"	STOP	5
D	80-9710	30" X 24"	DETOUR (RIGHT ARROW)	2
E	80-9602	30" X 30"	ROAD WORK AHEAD	4
F	80-9834	36" X 36"	ONE LANE ROAD AHEAD	2
G	80-9710	30" X 24"	DETOUR (LEFT ARROW)	3
H	80-9080	48" X 30"	ROAD CLOSED	2
I	80-9710	30" X 24"	DETOUR (STRAIGHT ARROW)	2
J	80-9050	36" X 36"	STOP SIGN AHEAD	3

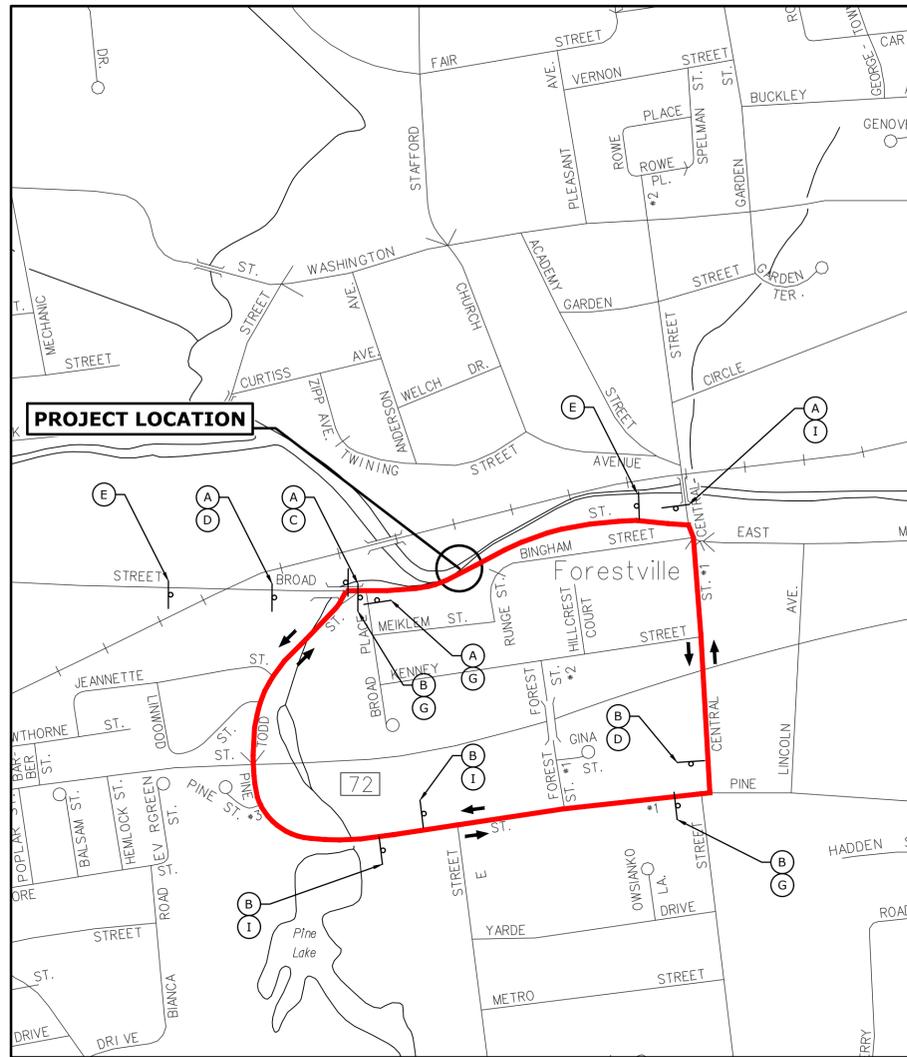
* INDICATES SIGNS TO BE VISIBLE AT LEAST 2 WEEKS PRIOR TO CONSTRUCTION AND THEN COVERED OR REMOVED DURING CONSTRUCTION (SEE NOTE 7, THIS SHEET).
 ** INDICATES SIGNS MOUNTED ON TYPE III CONSTRUCTION BARRICADES WHICH SHALL BE INSTALLED WITH BARRICADE WARNING LIGHT - HIGH INTENSITY.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

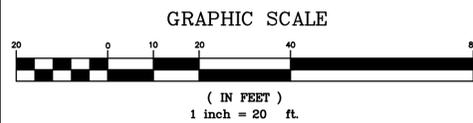
- SIGNS LOCATIONS ARE APPROXIMATE AND SHALL BE ADJUSTED AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN ALTERNATING ONE-WAY TRAFFIC DURING CONSTRUCTION.
- IF ROAD CLOSURE ALLOWED, ALL TRAFFIC OVER BROAD STREET SHALL BE DETOURED TO TODD STREET, PINE STREET, AND CENTRAL STREET.
- TEMPORARY TRAFFIC BARRIERS SHALL BE PROVIDED AT BOTH ENDS OF THE WORK AREA TO ADEQUATELY WARN AND PROHIBIT MOTORISTS AND PEDESTRIANS FROM USING THE BRIDGE DURING CONSTRUCTION. THE BARRIERS SHALL EXTEND ACROSS THE FULL WIDTH OF THE EXISTING ROADWAY AND BEYOND. THE CONTRACTOR SHALL ALSO PROVIDE MOVEABLE TYPE III CONSTRUCTION BARRICADE IN FRONT OF THE TEMPORARY TRAFFIC BARRIERS, OR AS ORDERED BY THE ENGINEER, TO FURTHER ENSURE MOTORIST AND PEDESTRIAN SAFETY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE UPRIGHT STABILITY OF THE TYPE III CONSTRUCTION BARRICADES AT ALL TIMES.
- ALL TRAFFIC CONTROL AND PROTECTION DEVICES, INCLUDING PAVEMENT MARKINGS, SHALL BE IN PLACE BEFORE RESPECTIVE CONSTRUCTION OPERATION COMMENCES.
- ALL TEMPORARY TRAFFIC BARRIERS TO HAVE THREE (3) TYPE DE-7A DELINEATORS MOUNTED ON TOP (10' SPACING) AND REFLECTIVE TAPE ON TRAFFIC SIDE FOR THE ENTIRE LENGTH.
- THE CONTRACTOR SHALL NOTIFY THE TOWN AND POST THE ADVANCE NOTICE SIGNS (SIGN A) AT LEAST 2 WEEKS PRIOR TO CLOSING THE ROAD. NOTICE TO PROCEED WILL BE GIVEN TO INSTALL THE ADVANCED NOTICE SIGNS, BUT THE ROAD MUST REMAIN OPEN UNTIL THE DATE ON THE ADVANCE NOTICE SIGNS.
- ALL EXISTING CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHILE THE DETOUR IS IN EFFECT. ANY REMOVED SIGN SHALL BE REINSTALLED BEFORE THE ROAD IS REOPENED TO TRAFFIC.
- ALL DETOUR SIGNS SHALL BE COVERED WHILE THE DETOUR IS NOT IN EFFECT.



SIGN MOUNTING ORDER



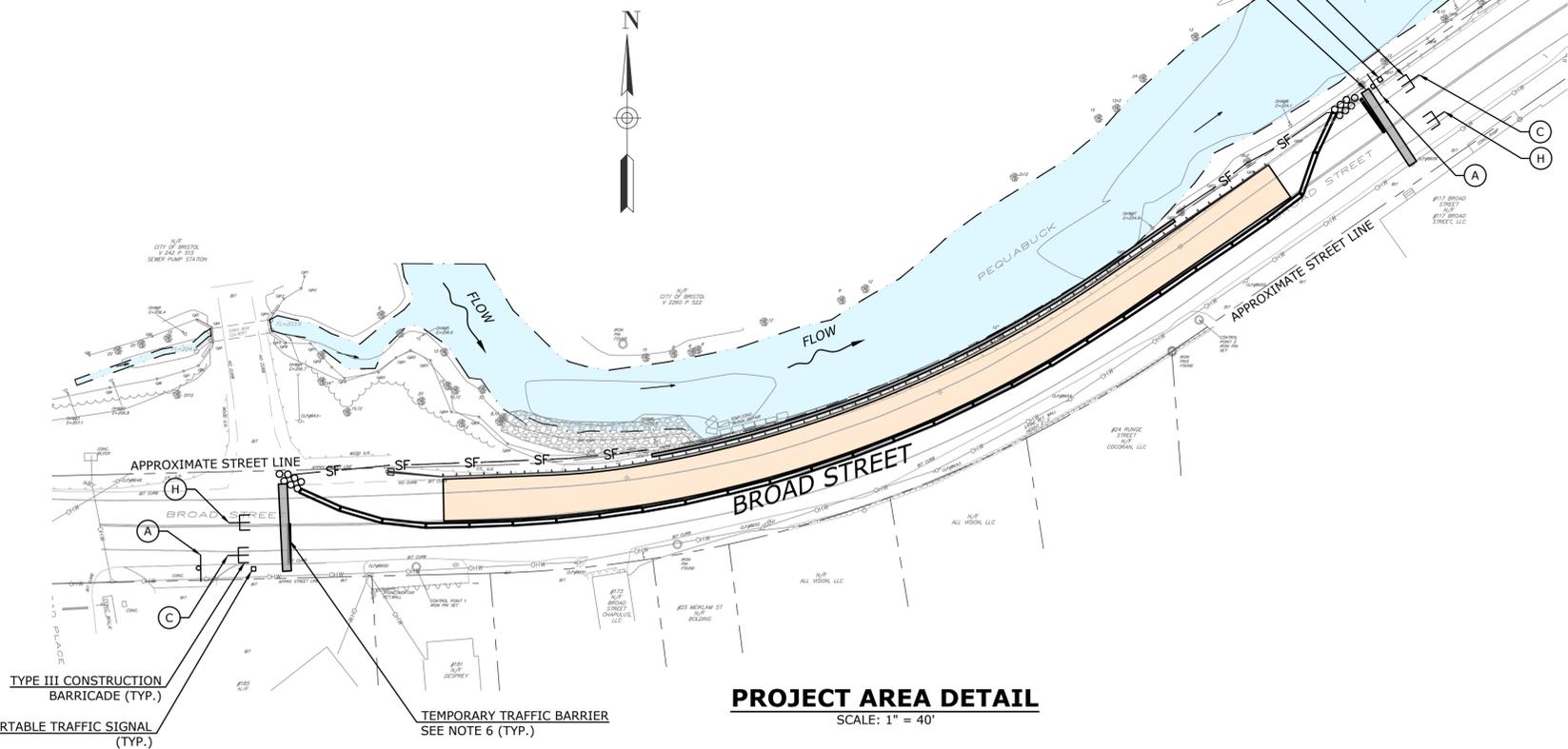
LOCATION MAP
NOT TO SCALE



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	DRAWN	D.T.J.
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NO.	DATE	DESCRIPTION
REVISIONS		
	DATE	09/19/25

F.D.



PROJECT AREA DETAIL
SCALE: 1" = 40'



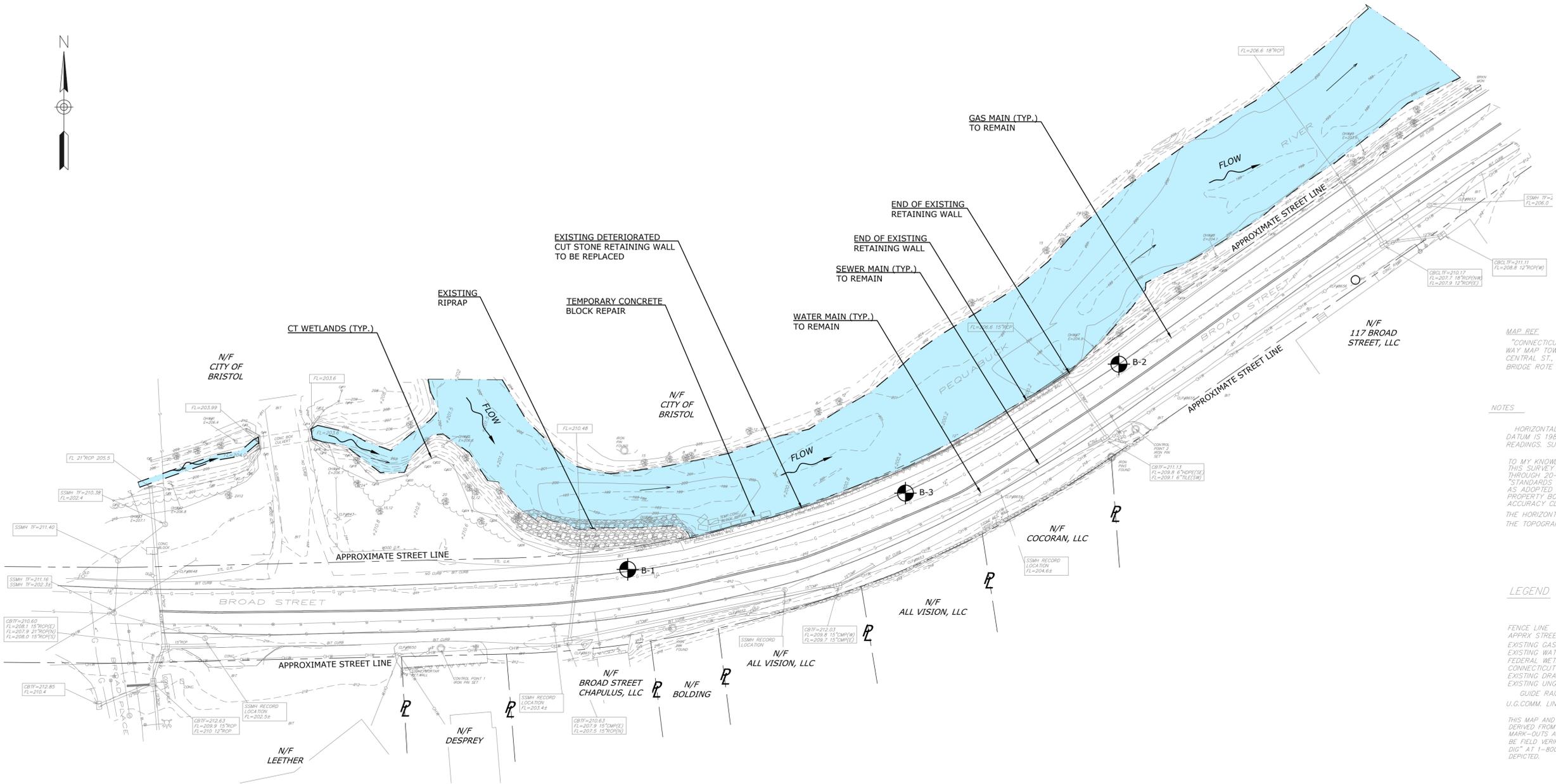
WENGELL, McDONNELL & COSTELLO
87 HOLMES ROAD
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(860) 667-9624

PREPARED FOR

CITY OF BRISTOL
150 MAIN STREET
BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER DETOUR PLAN

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	3
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14



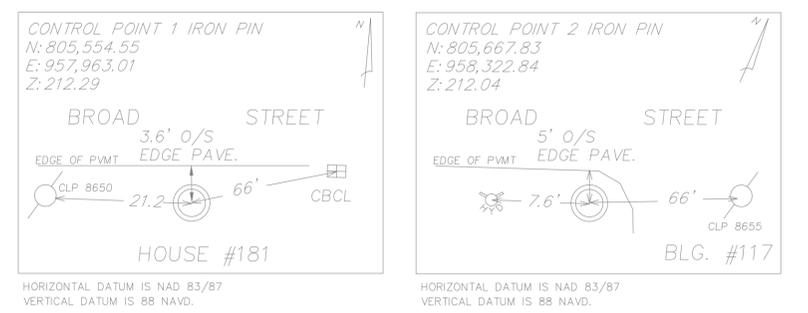
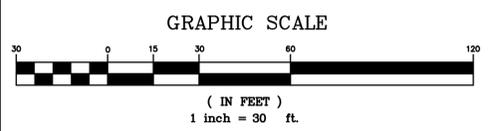
MAP REC
 "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF BRISTOL BROAD STREET FROM CENTRAL ST., WESTERLY TO THE PEQUABUCK RIVER BRIDGE ROUTE NO.113" SHEET 1 OF 3 1'40" REV 6-23-66

NOTES
 HORIZONTAL DATUM IS CT GRID 1983 NAD. VERTICAL DATUM IS 1988 NAVD. BOTH OBTAINED FROM RTK GPS READINGS. SURVEY PERFORMED IN MAY 2024.
 TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT'S DEPT. OF CONSUMER PROTECTION "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1995. PROPERTY BOUNDARY DATA BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS 0.
 THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY. THE TOPOGRAPHIC SURVEY CONFORMS TO A CLASS T-2 ACCURACY.

LEGEND

FENCE LINE	APPRX STREET LINE	EXISTING GAS AS NOTED	FEDERAL WETLANDS	CONNECTICUT WETLANDS	EXISTING DRAINAGE PIPES	EXISTING UGND. ELECTRIC	GUIDE RAILS	U.G. COMM. LINE	ELECTRIC MANHOLE	SEWER MANHOLE	TELEPHONE MANHOLE	ELEC. CABINET	LIGHT STD.	CATCH BASINS	HYDRANT	UTILITY POLE	TREE W/SIZE(INCHES)	TEST BORE
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EXISTING CONDITIONS PLAN
 SCALE: 1" = 30'



SURVEY BENCHMARKS
 SCALE: 1" = 20'

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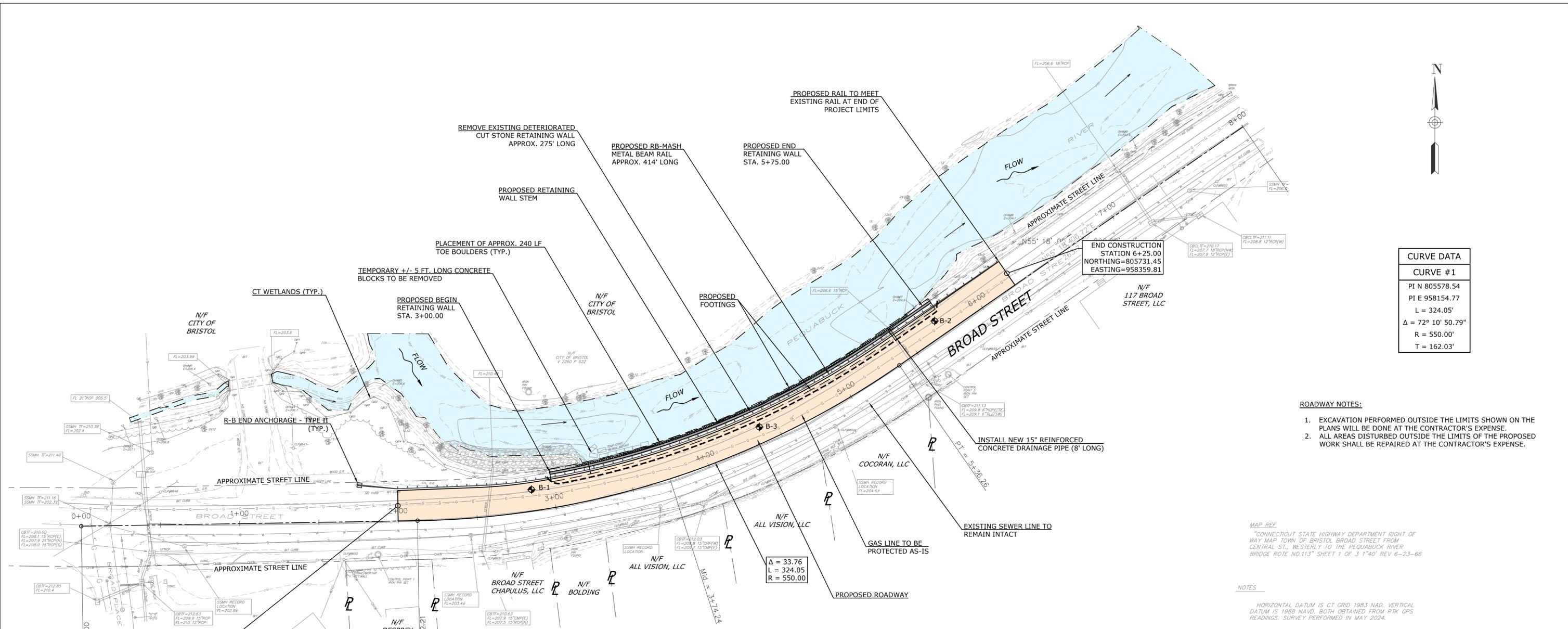
FD
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WMC
 CONSULTING ENGINEERS
 WENGELL, McDONNELL & COSTELLO
 87 HOLMES ROAD
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 (860) 667-9624

PREPARED FOR
 CITY OF BRISTOL
 150 MAIN STREET
 BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER EXISTING CONDITIONS

D	_BRISTOL - BROAD ST_	FD	23067.10	14
SIZE	PROJECT	FILE NAME	NUMBER	REV. OF



CURVE DATA	
CURVE #1	
PI N	805578.54
PI E	958154.77
L	324.05'
Δ	72° 10' 50.79"
R	550.00'
T	162.03'

- ROADWAY NOTES:**
- EXCAVATION PERFORMED OUTSIDE THE LIMITS SHOWN ON THE PLANS WILL BE DONE AT THE CONTRACTOR'S EXPENSE.
 - ALL AREAS DISTURBED OUTSIDE THE LIMITS OF THE PROPOSED WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

MAP REF.
 "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF BRISTOL BROAD STREET FROM CENTRAL ST., WESTERLY TO THE PEQUABUCK RIVER BRIDGE ROUTE NO.113" SHEET 1 OF 3 "140" REV 6-23-66

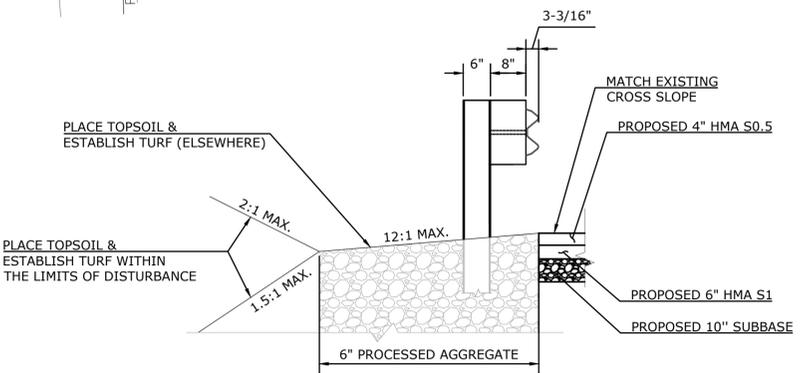
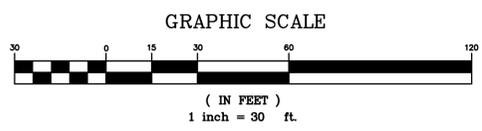
NOTES
 HORIZONTAL DATUM IS CT GRID 1983 NAD, VERTICAL DATUM IS 1989 NAVD. BOTH OBTAINED FROM RTK GPS READINGS. SURVEY PERFORMED IN MAY 2024.

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-3009-1 THROUGH 20-3009-20 OF THE REGULATIONS OF CONNECTICUT'S DEPT. OF CONSUMER PROTECTION "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996. PROPERTY BOUNDARY DATA BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS D.
 THE HORIZONTAL BASELINE CONFORMS TO A CLASS A-2 ACCURACY.
 THE TOPOGRAPHIC SURVEY CONFORMS TO A CLASS T-2 ACCURACY

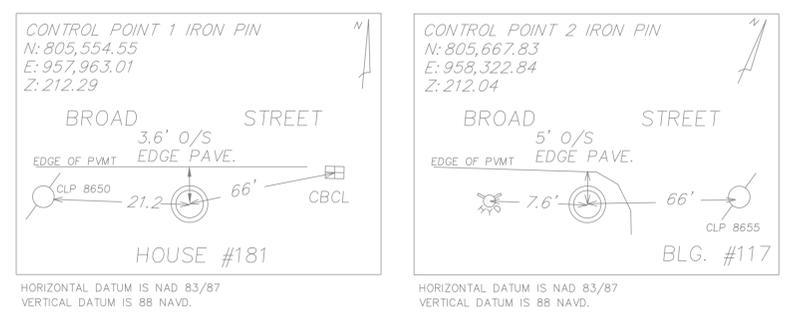
PROPOSED CONDITIONS PLAN
 SCALE: 1" = 30'

Reference system definition - Lat/Long
 BEGIN CONSTRUCTION STATION 2+00.00
 NORTHING=805585.19
 EASTING=957975.54

- FISHERIES NOTES:**
- THE PROJECT SITE IS LOCATED WITHIN THE PEQUABUCK RIVER TROUT MANAGEMENT AREA, AND INCLUDES TROUT SITES THAT ARE REGULARLY STOCKED WITH TROUT.
 - TO COORDINATE TROUT STOCKING ACTIVITIES, MATTHEW (MATTHEW.DEVINE@CT.GOV) SHOULD BE CONTACTED WHEN CONSTRUCTION IS SET TO BEGIN.
 - UNCONFINED INSTREAM WORK SHOULD BE LIMITED FROM JUNE 1ST- SEPTEMBER 30TH. THE INSTALLATION AND REMOVAL OF COFFERDAMS IS PERMISSIBLE OUTSIDE OF THIS PERIOD.
 - PRIOR TO THE PLACEMENT OF CHANNEL BOULDERS FISHERIES STAFF SHALL BE NOTIFIED TO BE PRESENT FOR THE PLACEMENT.



R-B MASH METAL BEAM RAIL
 SCALE: N.T.S.



SURVEY BENCHMARKS
 SCALE: 1" = 20'

LEGEND

FENCE LINE	---	ELECTRIC MANHOLE	⊕
APPRX STREET LINE	---	SEWER MANHOLE	⊙
EXISTING GAS AS NOTED	---	TELEPHONE MANHOLE	⊕
EXISTING WATER MAINS	---	ELEC. CABINET	⊕
FEDERAL WETLANDS	---	LIGHT STD.	⊕
CONNECTICUT WETLANDS	---	CATCH BASINS	⊕
EXISTING DRAINAGE PIPES	---	HYDRANT	⊕
EXISTING UNGND. ELECTRIC	---	UTILITY POLE	⊕
GUIDE RAILS	---	TREE W/SIZE(INCHES)	⊕
U.G.COMM. LINE	---	TEST BORE	⊕

THIS MAP AND THE UTILITIES DEPICTED HEREON WERE DERIVED FROM THE BEST AVAILABLE RECORD MAPS AND MARK-OUTS AND ARE APPROXIMATE ONLY AND SHOULD BE FIELD VERIFIED. PLEASE CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455. ALL UTILITIES MAY NOT BE DEPICTED.

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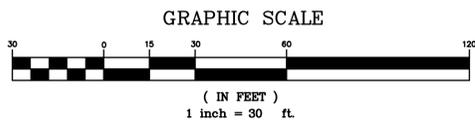
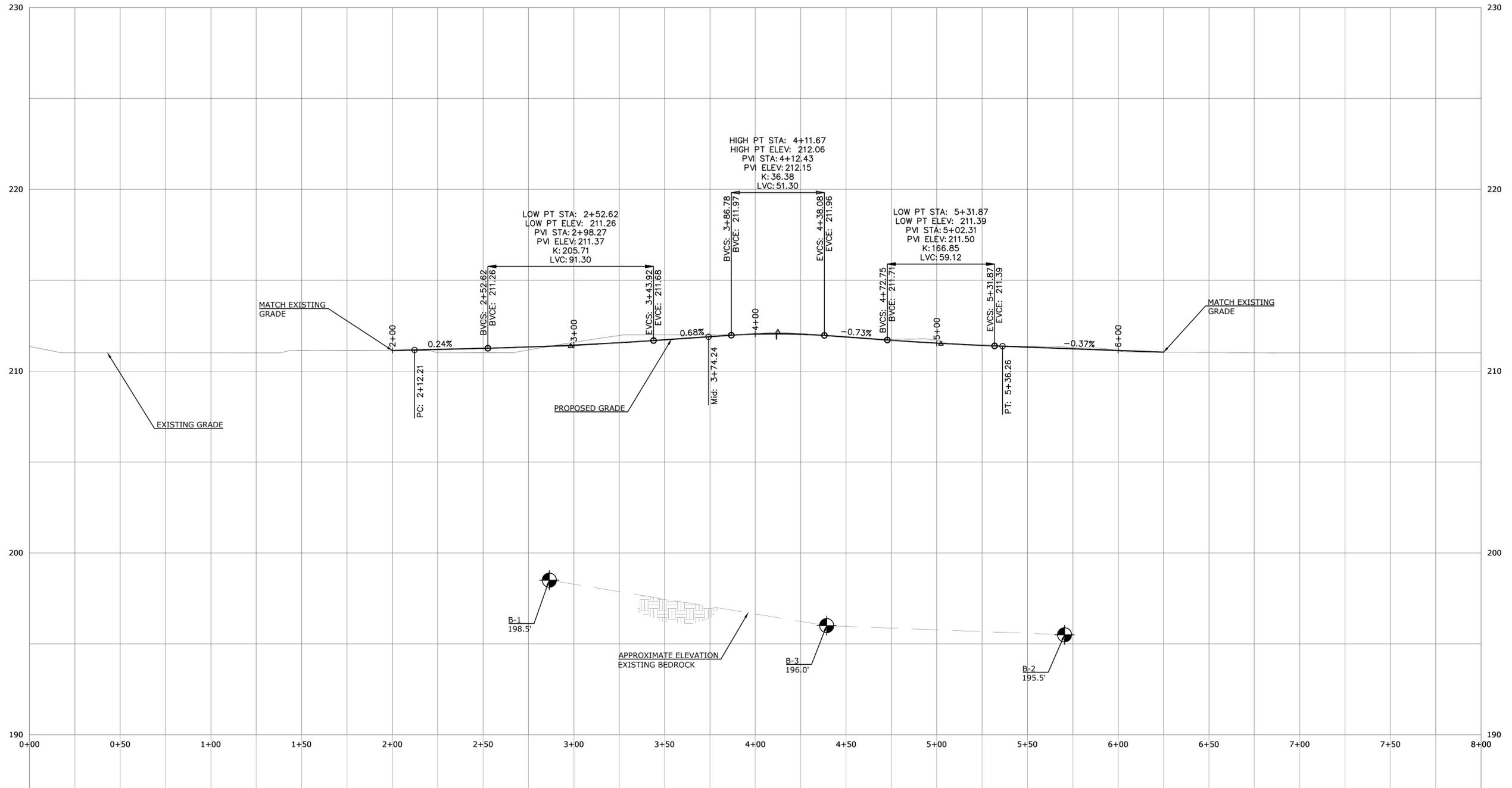
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PREPARED FOR

CITY OF BRISTOL
 150 MAIN STREET
 BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER ROADWAY PLAN

D - BRISTOL-BROAD ST -	FD - 23067.10 -	SHEET 5
SIZE PROJECT	FILE NAME NUMBER REV.	OF 14



PROPOSED ROADWAY PROFILE
SCALE: 1" = 30'

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NO.	DATE	DESCRIPTION	
REVISIONS			

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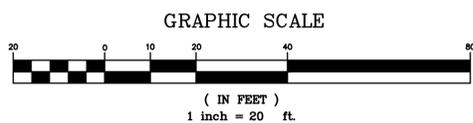
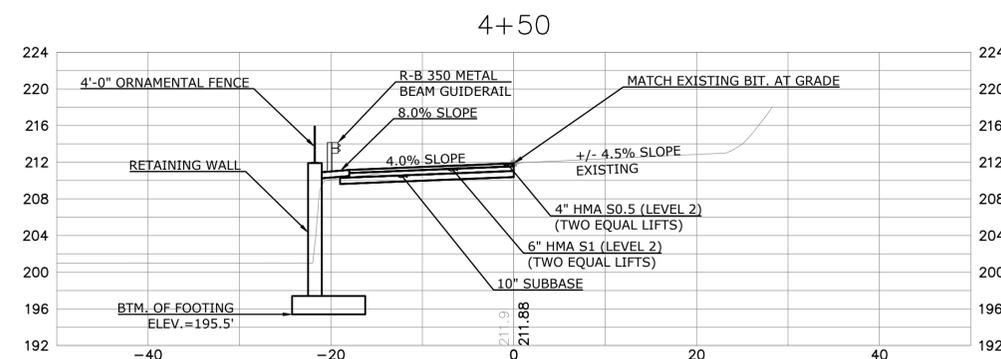
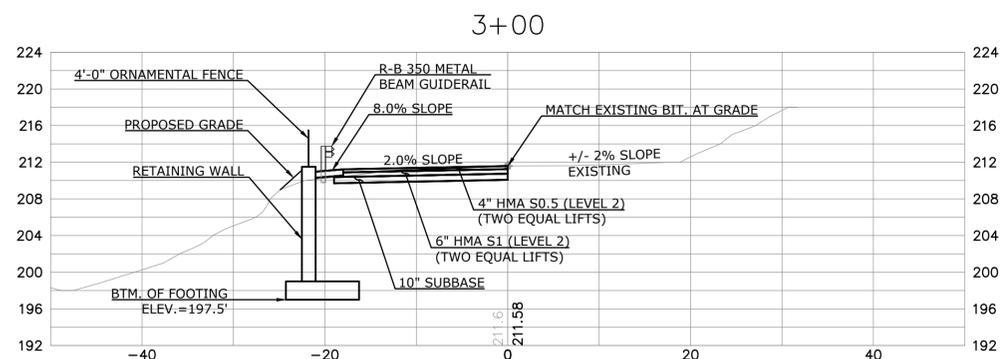
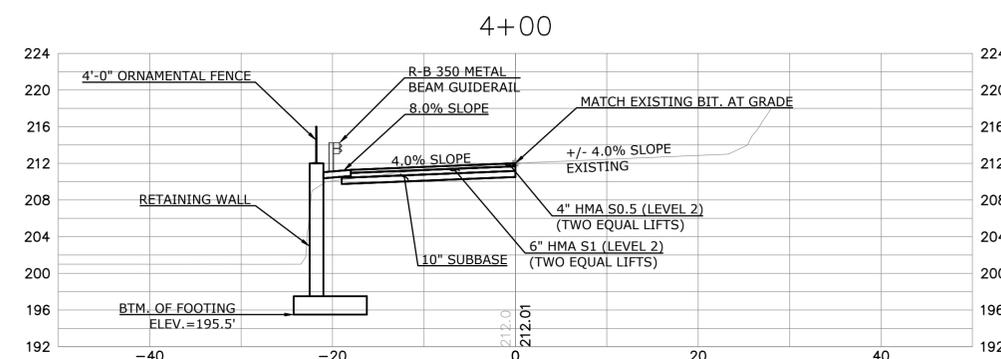
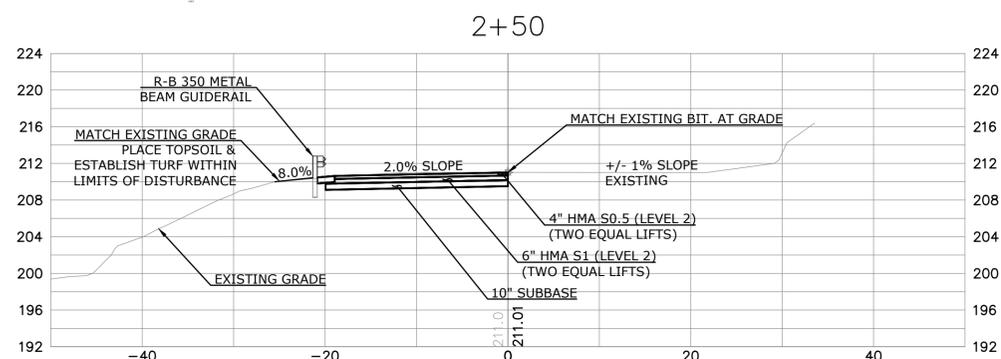
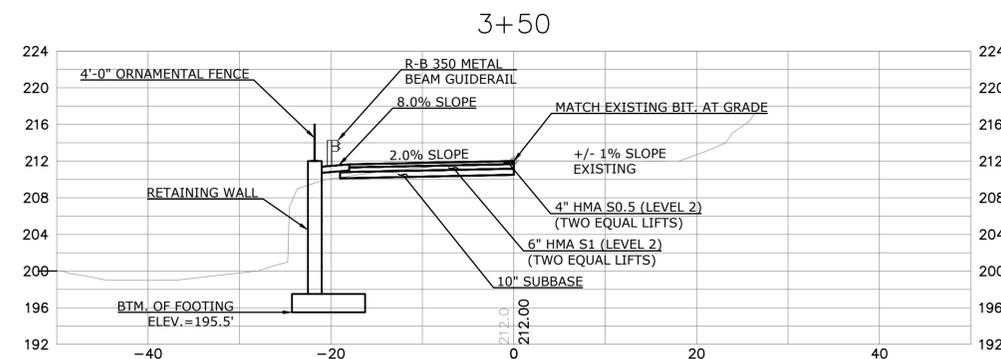
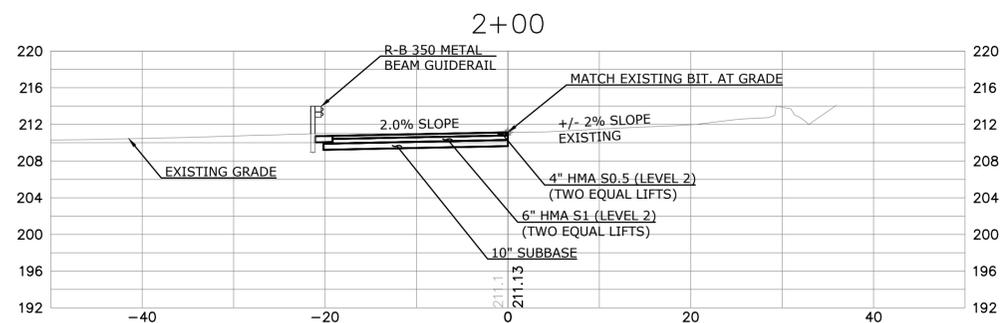
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150 MAIN STREET
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**REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
ROADWAY PROFILE**

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	6
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14



ROADWAY SECTIONS
SCALE: 1" = 10'

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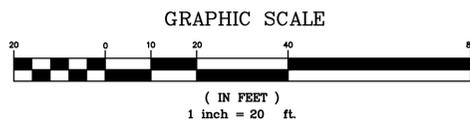
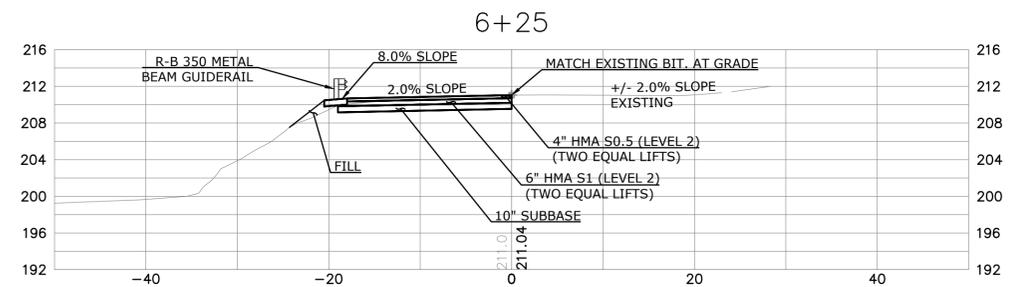
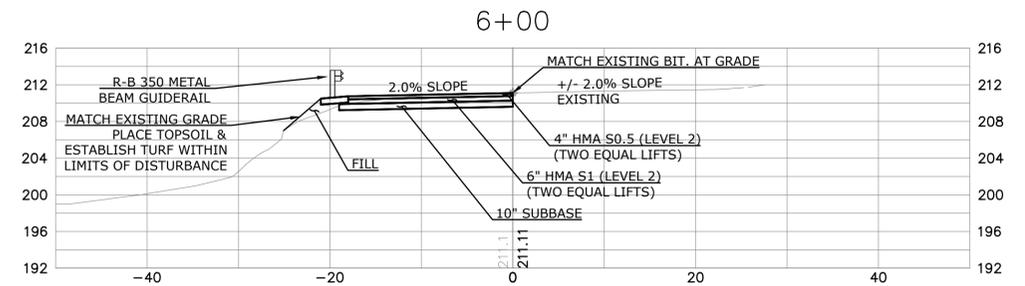
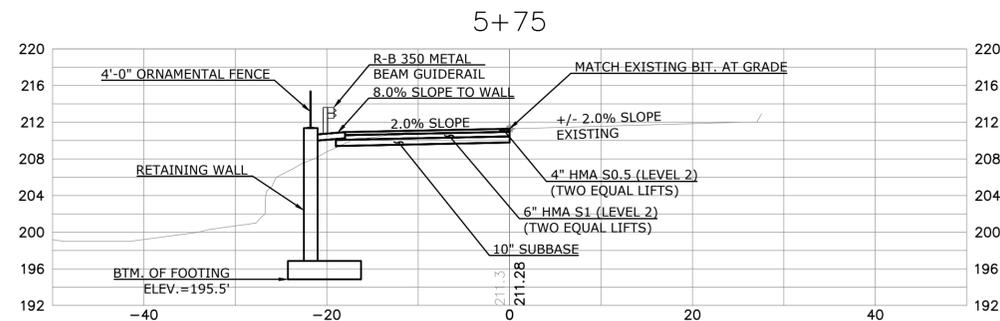
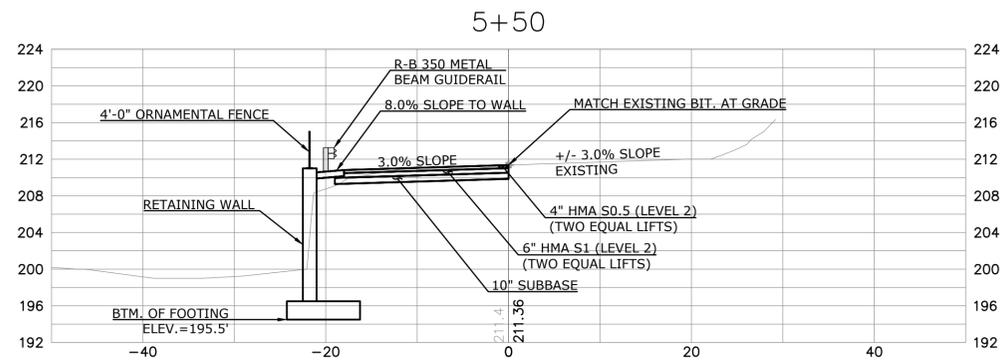
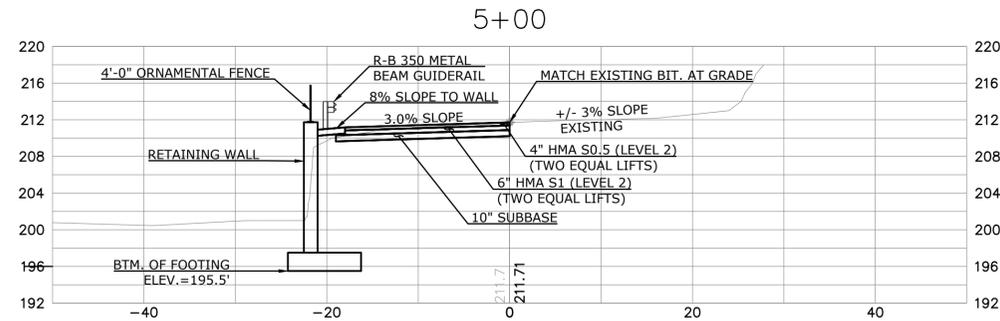
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150 MAIN STREET
BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
ROADWAY SECTIONS - 1 OF 2

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	7
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14



ROADWAY SECTIONS
SCALE: 1" = 10'

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE TOWN AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

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		DESIGN	K.K.
		DRAWN	D.T.J.
		CHECKED	K.O.E.
NO.	DATE	DESCRIPTION	DATE
		REVISIONS	09/19/25

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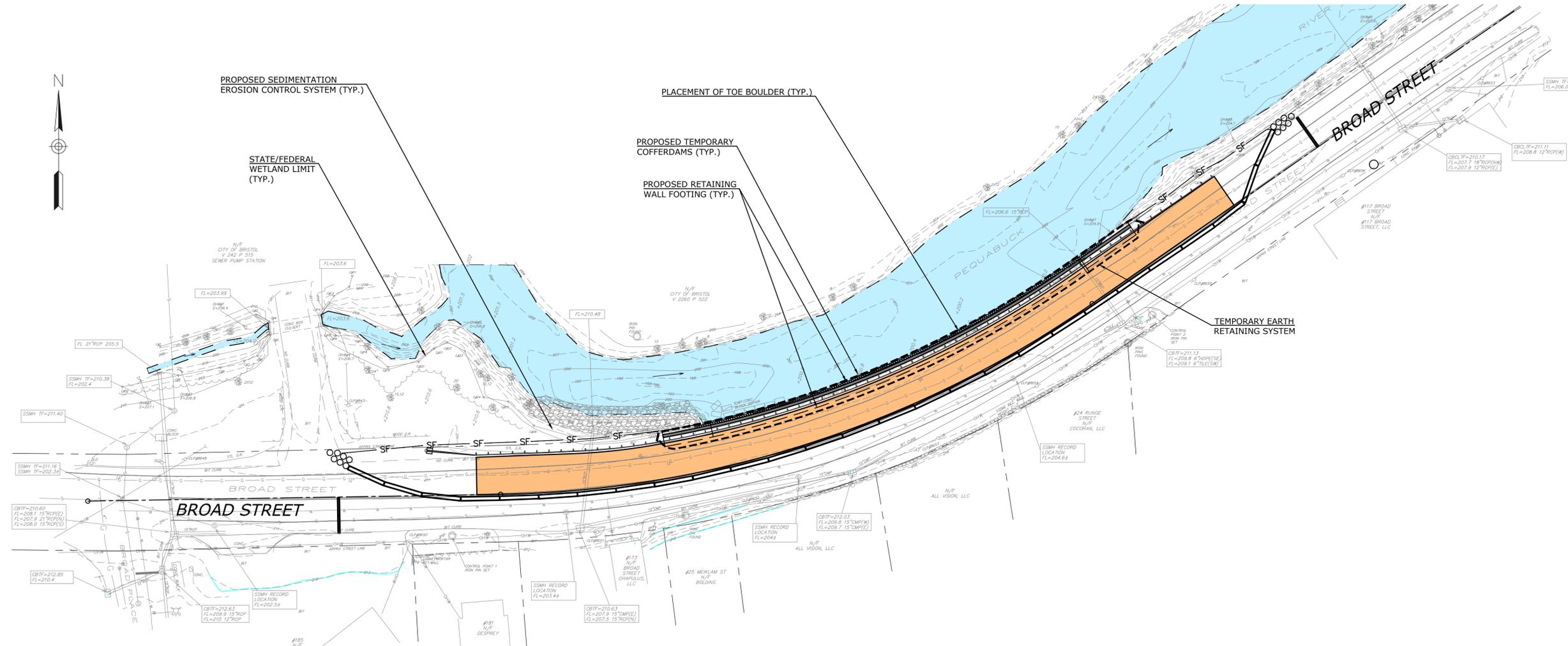
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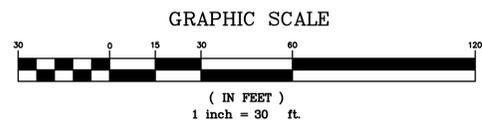
REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
ROADWAY SECTIONS - 2 OF 2

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	8
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14

- WATER HANDLING NOTES:**
1. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY COFFERDAMS AS SHOWN DURING CONSTRUCTION.
 2. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WHEN TEMPORARY COFFERDAMS ARE NOT IN PLACE WITHOUT THE APPROVAL OF THE ENGINEER.
 3. PRIOR TO ANY DEWATERING, THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A WRITTEN PROPOSAL FOR SPECIFIC METHODS AND DEVICES TO BE USED AND MUST OBTAIN THE ENGINEER'S WRITTEN APPROVAL OF SUCH METHODS AND DEVICES.
 4. A DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATIONS OF THE DEWATERING BASIN IS APPROXIMATE. THE EXACT POSITION MAY VARY BASED ON THE PUMPING DESIGN SUBMISSION AND MUST BE APPROVED BY THE ENGINEER. DEWATERING BASINS SHALL BE PAID FOR UNDER ITEM "COFFERDAM AND DEWATERING".
 5. TEMPORARY COFFERDAMS AND WATER-HANDLING-COFFERDAMS SHALL CONSIST OF ANY APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION, AND SHALL CONFORM TO PERMITS.



HANDLING WATER PLAN
SCALE: 1" = 30'



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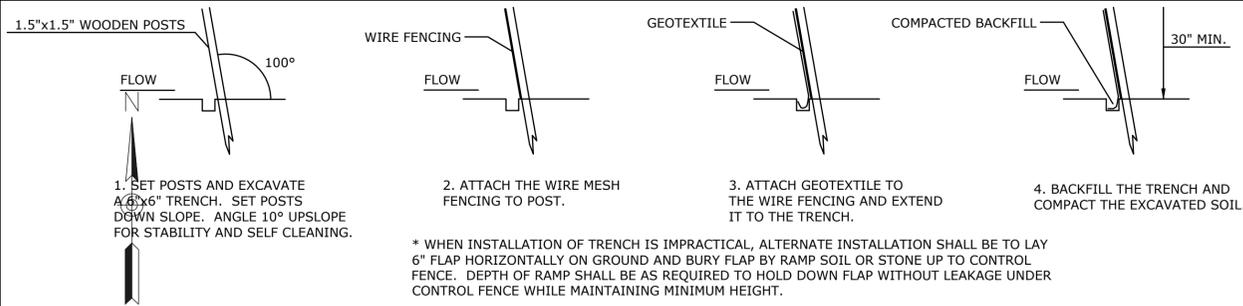
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150 MAIN STREET
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**REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
HANDLING WATER PLAN**

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SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF		14

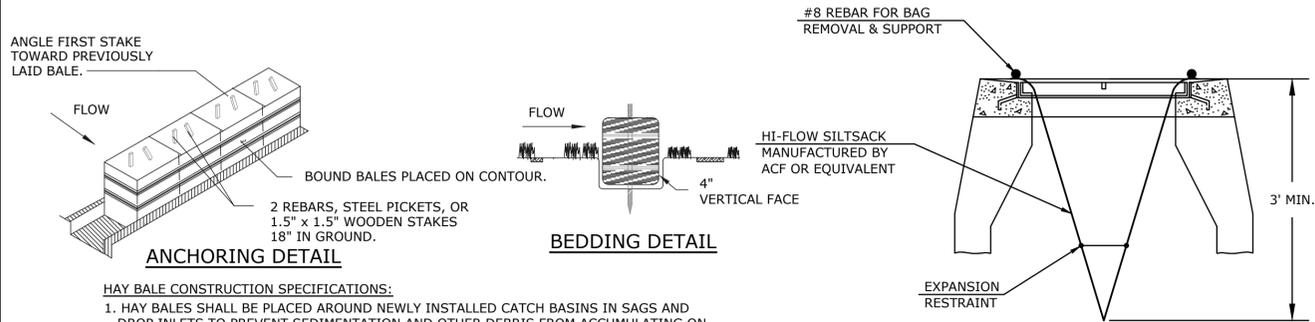


GEOTEXTILE FENCE SYSTEM

REFER TO PAGE 5-11-35 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 55 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

SEDIMENTATION CONTROL SYSTEM INSTALLATION

N.T.S.



ANCHORING DETAIL

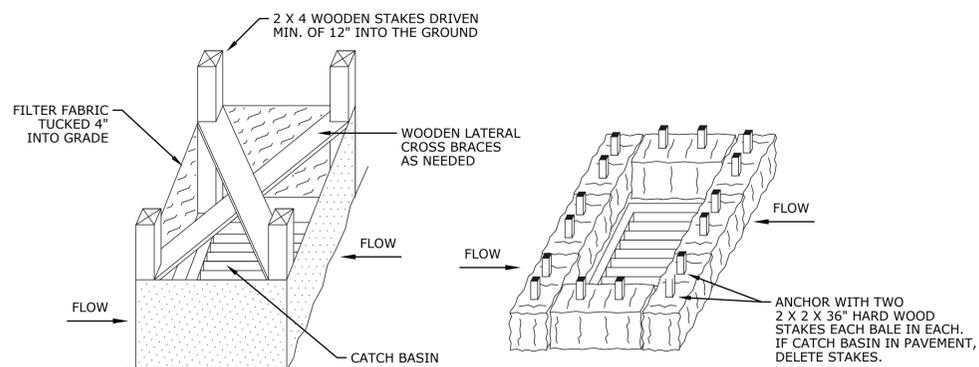
HAY BALE CONSTRUCTION SPECIFICATIONS:

- HAY BALES SHALL BE PLACED AROUND NEWLY INSTALLED CATCH BASINS IN SAGS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REFER TO PAGE 5-11-30 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 53 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

HAY BALE DETAIL

N.T.S.



SILT FENCE INSTALLATION AT CATCH BASINS

HAY BALE INSTALLATION AT CATCH BASINS

NOTE:

- FILTER FABRIC SHALL BE MIRAFI "SILT FENCE", EXXON GTF 180, AMOCO 1380 OR APPROVED EQUAL.

REFER TO PAGE 5-11-33 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 40 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

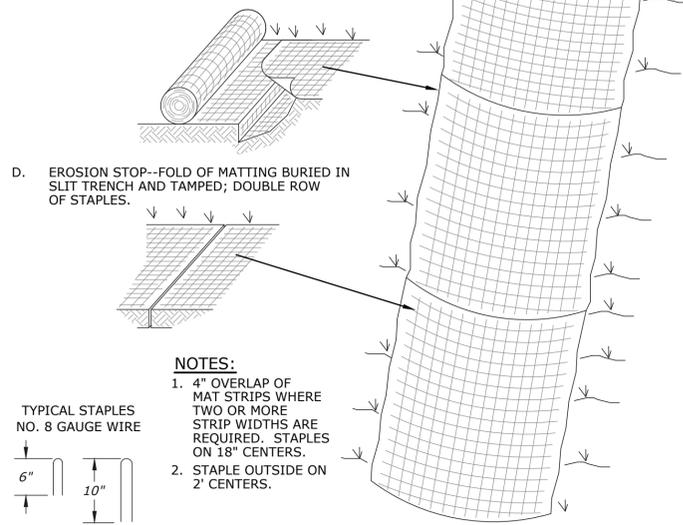
SEDIMENTATION CONTROL DETAILS

N.T.S.

REINFORCEMENT MAT

LANDLOK CS2 BY CONTECH OR AS RECOMMENDED BY MANUFACTURER

- BURY THE TOP END OF THE MATTING STRIP IN A TRENCH 6" OR MORE IN DEPTH.
- TAMP THE TRENCH FULL OF SOIL. SECURE WITH ROW OF STAPLES, 6" SPACING, 4" DOWN FROM THE TRENCH.
- OVERLAP--BURY UPPER END OF LOWER STRIP AS IN 'A' AND 'B'. OVERLAP END OF TOP STRIP 4" AND STAPLE.
- EROSION STOP--FOLD OF MATTING BURIED IN SLIT TRENCH AND TAMPED; DOUBLE ROW OF STAPLES.

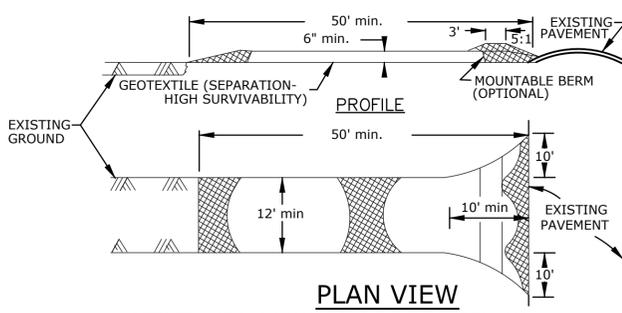


NOTES:

- 4" OVERLAP OF MAT STRIPS WHERE TWO OR MORE STRIP WIDTHS ARE REQUIRED. STAPLES ON 18" CENTERS.
- STAPLE OUTSIDE ON 2" CENTERS.

STEEP SLOPE TREATMENT DETAIL

N.T.S.



PLAN VIEW

REFER TO PAGE 5-12-2 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 50 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

CONSTRUCTION SPECIFICATION:

- STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FT (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH WOULD APPLY).
- THICKNESS - NOT LESS THAN 6".
- WIDTH - 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. GEOTEXTILE WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. 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 RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
- WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SETTLING AREA SIZED TO HOLD THE VOLUME OF WATER USED DURING ANY 2-HOUR PERIOD.
- PERIODIC INSPECTION AND NECESSARY MAINTENANCE SHALL BE PROVIDED AFTER EACH RAINFALL.

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

GENERAL

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE 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. 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. REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" (2002), AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION, 79 ELM STREET, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS.

EROSION CONTROL

ALL AREAS SHALL BE PROTECTED FROM EROSION 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 SEDIMENTATION CONTROL SYSTEM (I.E. HAY BALES AND/OR GEOTEXTILE FENCE). DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE. STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 3:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING. THIS MATTING IS MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TO 3 TONS PER ACRE. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. THE METHODS RECOMMENDED BY THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" SHALL BE USED FOR THE ANCHORING OF MULCH OR NETTING.

EROSION AND SEDIMENTATION CONTROL PLAN

AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF A GEOTEXTILE BARRIER FENCE. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RE-SPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

EROSION AND SEDIMENTATION CONTROL MAINTENANCE PROCEDURES

ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF THE REQUEST AND 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 REQUESTED BY THE ENGINEER 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.

ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND BE MAINTAINED THROUGH ALL CONSTRUCTION PHASES.

WETLAND IMPACTS & DISTURBANCE

EQUIPMENT OPERATING IN WETLANDS: OPERATION OF EQUIPMENT IN WETLAND AREAS IS GENERALLY NOT ALLOWED AND MUST BE APPROVED IN ADVANCE. ANY EQUIPMENT OPERATING IN WETLAND AREAS SHALL BE LOW GROUND PRESSURE (LESS THAN 3 PSI) OR SHALL BE SET ON TEMPORARY FILL OR MATTING. TEMPORARY FILL, TIMBER MATTING OR OTHER MATTING MUST BE APPROVED IN ADVANCE AND WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE GENERAL COST OF OTHER RELATED WORK ITEMS.

TEMPORARY FILL: PLACEMENT OF TEMPORARY FILL (SOIL, RIP RAP, ETC.) IN WETLAND AREAS THAT IS NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS IS GENERALLY NOT ALLOWED AND MUST BE APPROVED IN ADVANCE. ANY TEMPORARY FILL APPROVED FOR PLACEMENT, SHALL BE PLACED ON GEOTEXTILE LAID ON THE PRE-CONSTRUCTION WETLAND GRADE. UNCONFINED TEMPORARY FILL THAT IS PLACED IN FLOWING WATER SHALL BE ONLY CLEAN WASHED STONE.

WETLAND DISTURBANCE: ONLY THOSE WETLAND AREAS SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS OR INCLUDED IN APPROVED PERMITS TO BE DISTURBED, OR ADDITIONAL AREAS SPECIFICALLY APPROVED AS ABSOLUTELY NECESSARY TO COMPLETE THE PROPOSED WORK, SHALL BE DISTURBED.

WETLAND & WETLAND FRINGE AREA RESTORATION: ALL DISTURBED WETLAND AND WETLAND FRINGE AREAS SHALL BE RESTORED WITH A WETLAND SEED MIX OR WETLAND TRANSITIONAL SEED MIX CONTAINING ONLY SPECIES NATIVE TO CONNECTICUT. ALL SEED MIX FOR WETLAND OR WETLAND FRINGE (TRANSITIONAL) AREAS MUST BE SUBMITTED AND APPROVED IN ADVANCE. THIS WORK SHALL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE GENERAL COST OF OTHER RELATED WORK ITEMS.

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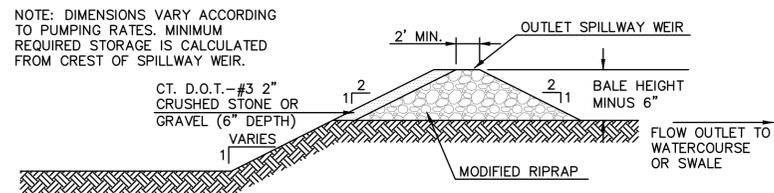
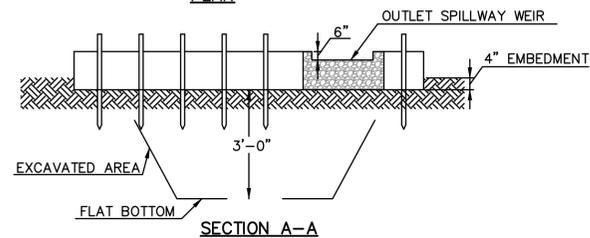
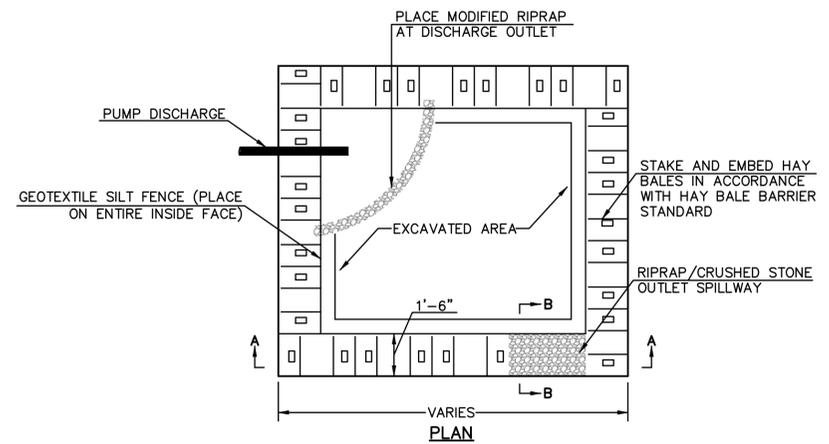
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REPLACEMENT OF RETAINING WALL ALONG BROAD STREET AT PEQUABUCK RIVER EROSION CONTROL DETAILS

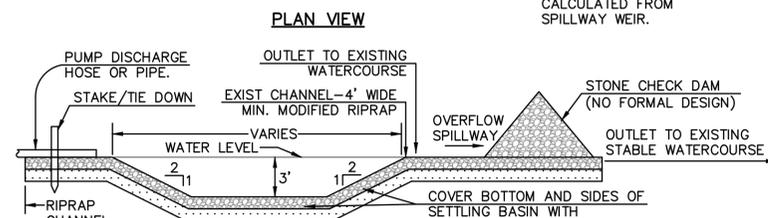
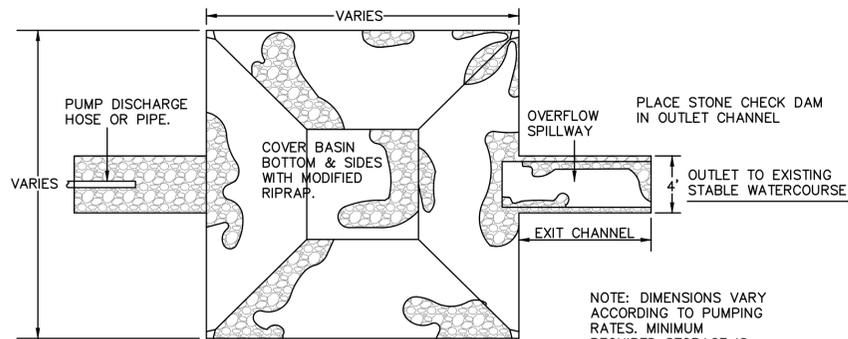
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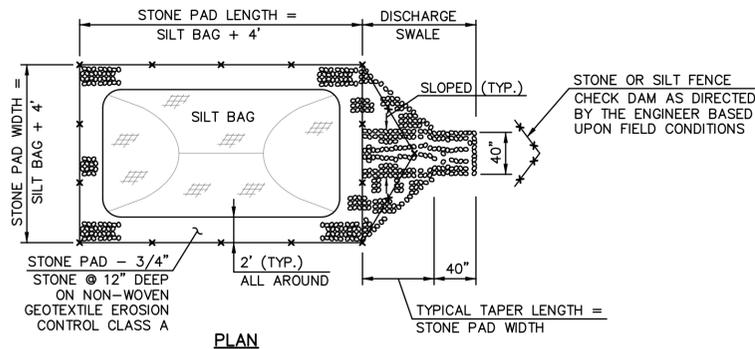
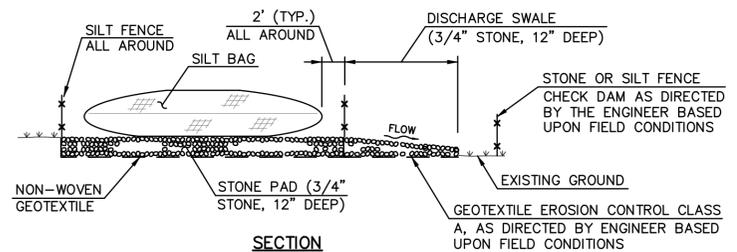
REFER TO PAGE 5-13-7 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".
TYPE II PUMPING SETTLING BASIN
 N.T.S.

PUMPING SETTLING BASIN NOTES:

1. LOCATION AS DIRECTED BY ENGINEER. REMOVE WHEN PUMPING IS COMPLETED.
2. PUMP DISCHARGE PAD SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST GENERAL WORK.
3. STORAGE VOLUME BASED UPON PUMP DISCHARGE, LARGER PAD DIMENSIONS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
4. TYPE II PUMPING SETTLING BASIN TO BE USED WHEN THE EXPECTED DURATION OF USE IS LESS THAN 3 MONTHS. TYPE III PUMPING SETTLING BASIN TO BE USED WHEN THE EXPECTED DURATION OF USE IS LONGER THAN 3 MONTHS.
5. SETTLING BASIN AND EXIT CHANNEL TO BE BACKFILLED AT COMPLETION OF WORK. AREA SHALL BE GRADED AND STABILIZED ACCORDING TO PLANS OR AS DIRECTED BY THE ENGINEER.



REFER TO PAGE 5-13-7 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".
TYPE III PUMPING SETTLING BASIN
 N.T.S.



SILT BAG INSTALLATION
 N.T.S.

GENERAL

EFFLUENT FROM DEWATERED WORK AREA(S) SHOULD NOT BE DISCHARGED DIRECTLY TO THE STREAM BUT BE PROCESSED THROUGH TREATMENT STRUCTURE(S). SUCH STRUCTURES SHOULD NOT BE LOCATED WITHIN THE STREAM CHANNEL OR ADJACENT WETLANDS.

THE PROJECT SHOULD NOT BE CONDUCTED IN A MANNER WHICH IMPEDES STREAM FLOW.

UNCONFINED IN-STREAM ACTIVITIES SHOULD BE LIMITED TO THE TIME PERIOD JUNE 1 THROUGH SEPTEMBER 30.

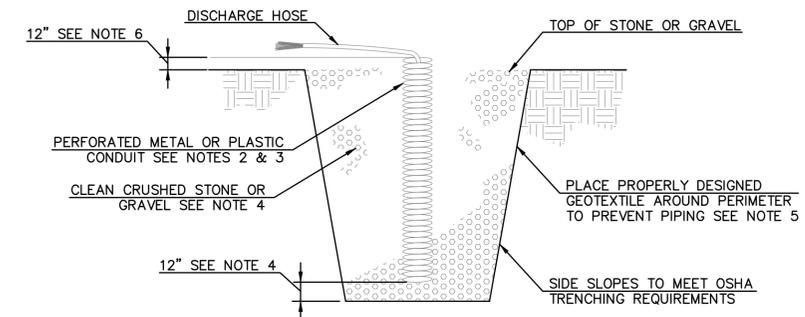
EQUIPMENT OPERATING IN WETLANDS - OPERATION OF EQUIPMENT IN WETLAND AREAS IS NOT ALLOWED AND MUST BE APPROVED IN ADVANCE. ANY EQUIPMENT OPERATING IN WETLAND AREAS SHALL BE LOW GROUND PRESSURE (LESS THAN 3 PSI) OR SHALL BE SET ON TEMPORARY FILL OR MATTING. TEMPORARY FILL, TIMBER MATTING OR OTHER MATTING MUST BE APPROVED IN ADVANCE AND WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE GENERAL COST OF OTHER RELATED WORK ITEMS.

TEMPORARY FILL - PLACEMENT OF TEMPORARY FILL IN WETLAND AREAS THAT IS NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS IS NOT ALLOWED AND MUST BE APPROVED IN ADVANCE. ANY TEMPORARY FILL APPROVED FOR PLACEMENT, SHALL BE PLACED ON GEOTEXTILE LAID ON THE PRE-CONSTRUCTION WETLAND GRADE. UNCONFINED TEMPORARY FILL THAT IS PLACED IN THE FLOWING WATER SHALL BE ONLY CLEAN WASHED STONE.

WETLAND DISTURBANCE - ONLY THOSE WETLANDS SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS OR INCLUDED IN APPROVED PERMITS TO BE DISTURBED, OR ADDITIONAL AREAS SPECIFICALLY APPROVED AS ABSOLUTELY NECESSARY TO COMPLETE THE PROPOSED WORK, SHALL BE DISTURBED.

COFFERDAM NOTES

1. A CONSTRUCTION SEQUENCING PLAN AND A WATER HANDLING PLAN INCLUDING A CONTINGENCY PLAN FOR FLOOD EVENTS MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION IN A WATERWAY.
2. TEMPORARY COFFERDAM SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR TO PROVIDE A MAXIMUM HEIGHT ABOVE THE STREAM BED AS NECESSARY TO RETAIN A 3 YEAR STORM EVENT. THE MAXIMUM TOP OF TEMPORARY COFFERDAM ELEVATION SHALL BE AS DESIGNATED ON THE HANDLING WATER PLANS.
3. TEMPORARY COFFERDAM AND PUMPING NOT PAID SEPARATELY. COST TO BE INCLUDED IN THE PAY ITEM "COFFERDAM AND DEWATERING".



REFER TO PAGE 5-13-3 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

NOTE:

1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO SMALLER THAN CT DOT #67 SIZE NOR LARGER THAN CT DOT #3 SIZE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

PUMP INTAKE
TYPICAL SECTION OF SUMP PIT
 N.T.S.

HANDLING WATER DETAILS

SCALE: N.T.S.

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		DRAWN	D.T.J.
		CHECKED	K.O.E.
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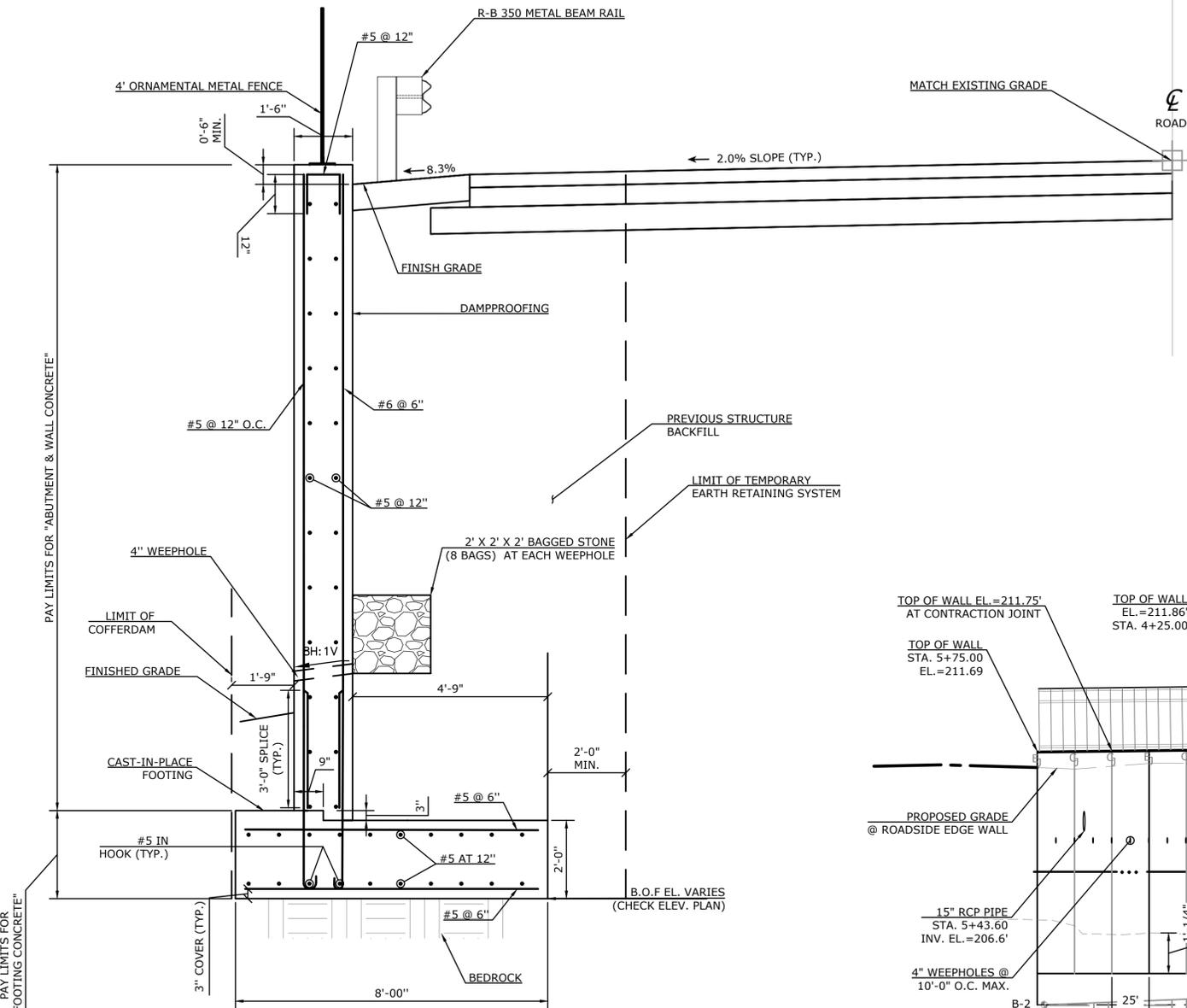
PREPARED FOR

CITY OF BRISTOL
 150 MAIN STREET
 BRISTOL, CT 06010

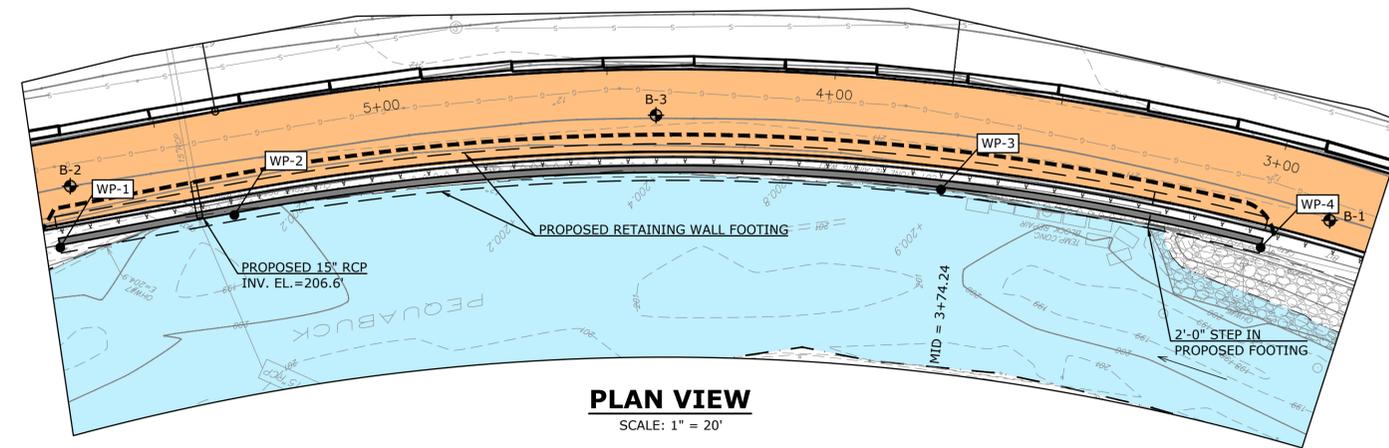
REPLACEMENT OF RETAINING WALL ALONG
 BROAD STREET AT PEQUABUCK RIVER
 HANDLING WATER - DETAILS

D	_BRISTOL - BROAD ST_	FD	-	23067.10	-		SHEET	11
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF			14

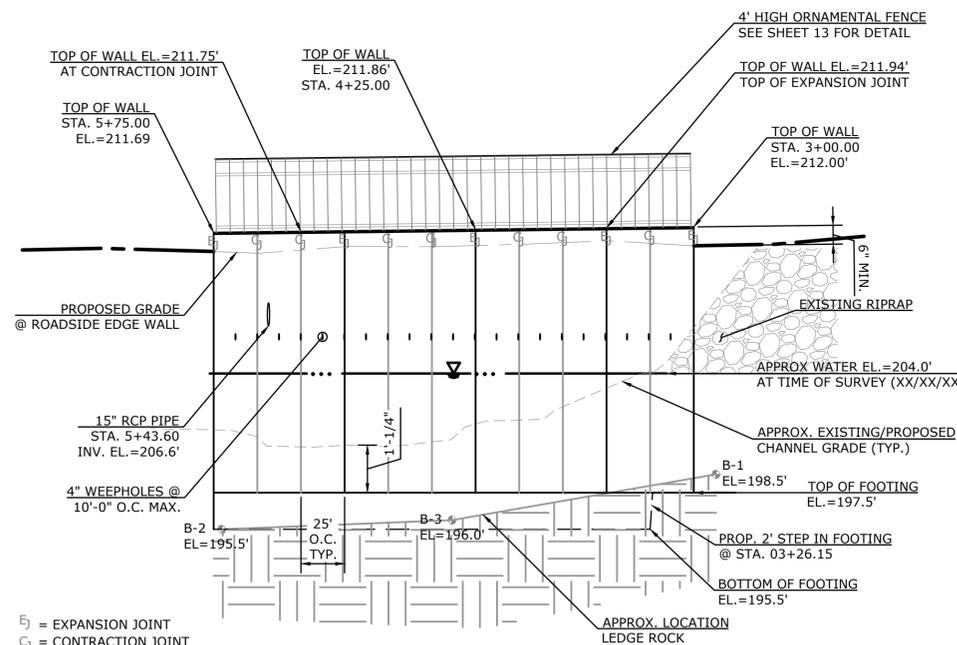
WORKING POINT COORDINATES			
WP	LOCATION	NORTHING	EASTING
1	END OF WALL STEM STA. 05+75.00	805714.19	958310.73
2	WALL STEM PT STA. 05+36.26	805692.44	958278.88
3	WALL STEM MID STA. 03+74.24	805624.01	958140.16
4	BEGINNING OF WALL STEM STA. 03+00.00	805606.87	958071.18



TYPICAL WALL SECTION
SCALE: 1/2" = 1'-0"



PLAN VIEW
SCALE: 1" = 20'



FRONT FACE ELEVATION VIEW
SCALE: 1" = 5'

NOTE:

- ELEVATION VIEW - FACE OF WALL FACING THE RIVER.
- VERTICAL ELEVATIONS DRAWN AS-IS.
- HORIZONTAL DISTANCES SCALED WITH FACTOR 10.4714 FT. (E.G., 50 FT. DRAWN AS 4.7749 FT. AND 25 FT. DRAWN AS 2.3874 FT.)
- CURVED WALL REPRESENTED AS STRAIGHTENED VIEW FOR CLARITY.

GENERAL NOTES:

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 819 (2024), SUPPLEMENTAL DATED JANUARY 2024 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2020, 9TH EDITION, WITH THE INTERIM SPECIFICATIONS AND AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003) WITH 2024 REVISIONS.

CONCRETE: CLASS PCC Ø 3340 F_c = 3,000 P.S.I.
CLASS PCC Ø 3342 F_c = 3,000 P.S.I.
REINFORCEMENT (ASTM A615 GRADE 60) F_y = 60,000 P.S.I.

THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN, F_c, OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 'SECTION 6.01 CONCRETE FOR STRUCTURES.'

DIMENSIONS: ALL ELEVATIONS ARE GIVEN IN FEET, WHEN ELEVATIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZERO.

UTILITIES: THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE VICINITY OF THE CONSTRUCTION SITE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS WHEN WORKING NEAR UTILITIES SO AS NOT TO DISTURB THEM OR PLACE ANY LOAD OR EQUIPMENT ON THEM. ALL UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY WORK AFFECTING CABLES, CONDUITS, OR OTHER UTILITIES.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY ARE BASED ON ROUGH FIELD MEASUREMENTS OR EXISTING DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

CONCRETE NOTES:

JOINT SEAL: SEE SPECIAL PROVISIONS

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" x 1" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE TWO INCHES COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING PAY ITEMS AND CONCRETE CLASSES ARE REQUIRED FOR CAST-IN-PLACE BRIDGE COMPONENTS.

ITEM	COMPONENTS	PCC CLASS
FOOTING CONCRETE (MASS)	WALL FOOTING	PCC03340
ABUTMENT AND WALL CONCRETE (MASS)	WALL STEM	PCC03342

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NO.	DATE	DESCRIPTION
REVISIONS		

FD
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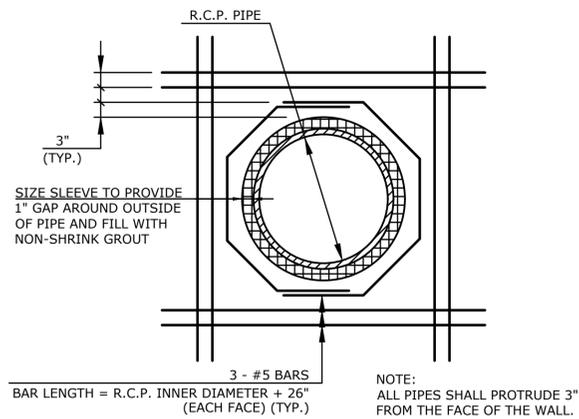


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PREPARED FOR
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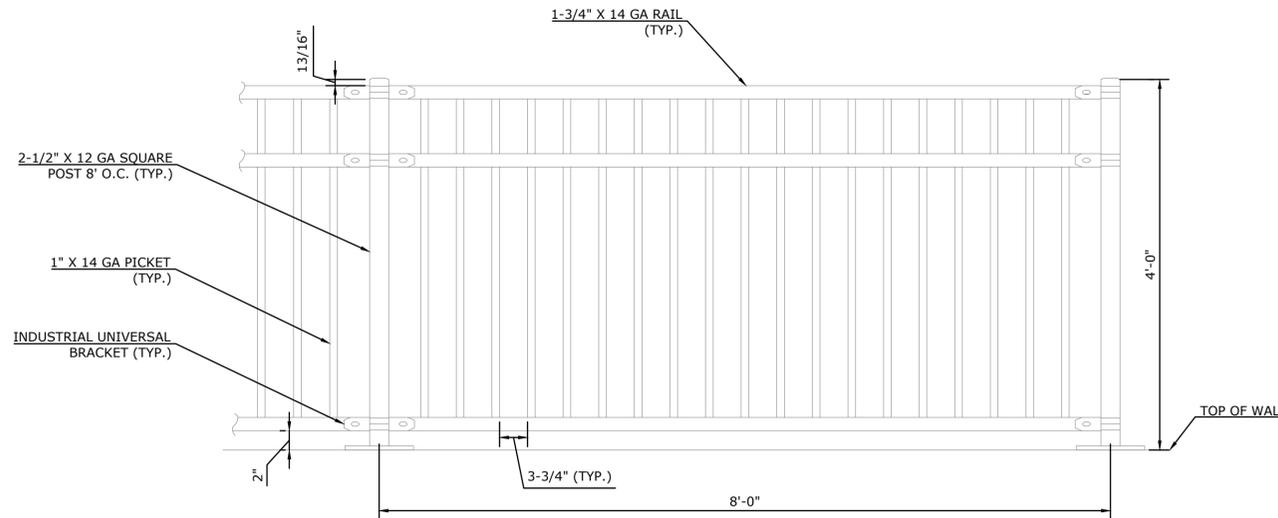
**REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
STRUCTURE DETAILS**

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	12
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14



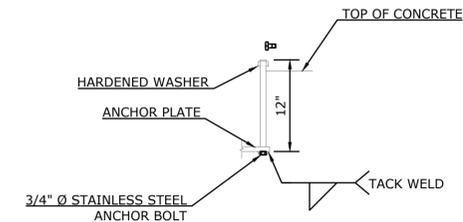
**WINGWALL REINFORCEMENT
AT RCP AND CMP PIPES**

N.T.S.



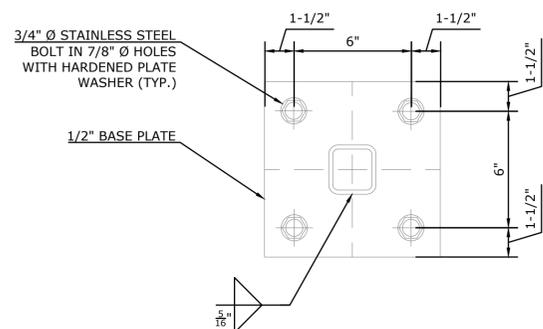
ORNAMENTAL METAL FENCE ELEVATION

SCALE: 1" = 1'-0"



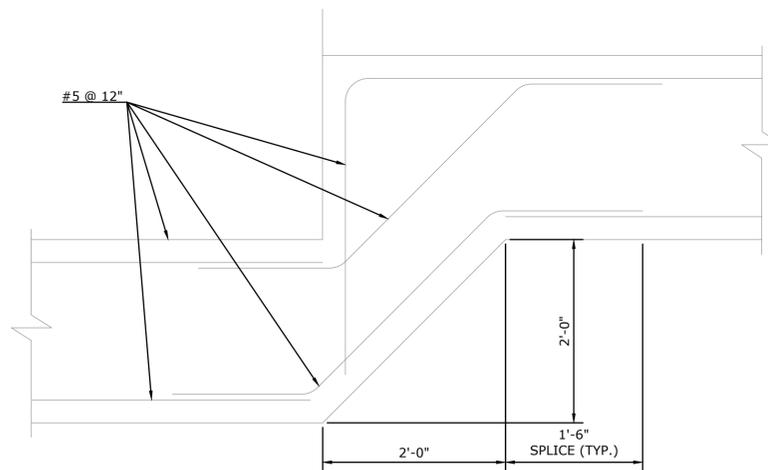
ANCHOR ASSEMBLY

SCALE: N.T.S.



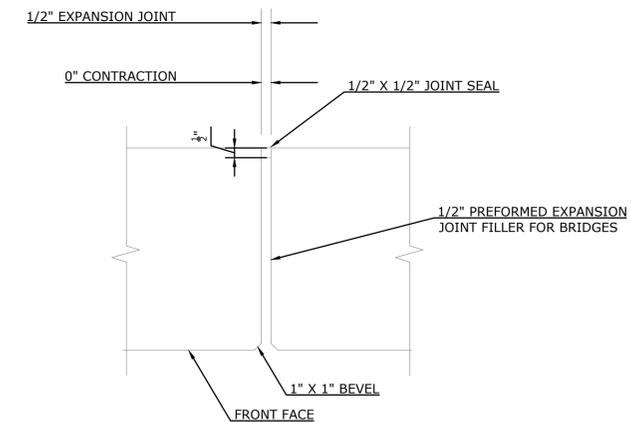
RAILING POST BASE PLATE

SCALE: N.T.S.



FOOTING STEP DETAIL

SCALE: 1" = 1'-0"



VERTICAL STEM JOINT DETAIL

SCALE: N.T.S.

- NOTES:
- NO REINFORCEMENT SHALL PASS THROUGH EXPANSION JOINTS OR CONTRACTION JOINTS. REINFORCEMENTS SHALL PASS THROUGH CONSTRUCTION JOINTS.
 - JOINT SEAL TO EXTEND FROM TOP OF FOOTING TO TOP OF RETAINING WALL AND HORIZONTALLY ALONG TOP OF RETAINING WALL.

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PREPARED FOR

CITY OF BRISTOL
150 MAIN STREET
BRISTOL, CT 06010

REPLACEMENT OF RETAINING WALL ALONG
BROAD STREET AT PEQUABUCK RIVER
MISCELLANEOUS DETAILS

D	_BRISTOL - BROAD ST_	FD	23067.10		SHEET	13
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF	14

*ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT #

**REVISED OR ADDED

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-211_01	ANTI-TRACKING PAD	11-09-22
	HW-286_01	DRAINAGE TRENCH EXCAVATION	11-09-22
	HW-505_01a	STRAIGHT ENDWALLS	01-21-25
	HW-505_01b	STEEL REINFORCING FOR STRAIGHT ENDWALLS (2" DIFF BASE TO FLOW LINE)	01-05-24
	HW-505_01c	STEEL REINFORCING FOR STRAIGHT ENDWALLS (STANDARD RIPRAP APPLICATION)	01-05-24
	HW-505_02	TYPE "D-G" & "L" ENDWALLS	01-05-24
	HW-586_01	CATCH BASIN AND DROP INLET TYPES "C" AND "C-L" STRUCTURES	01-05-24
	HW-586_02	CATCH BASIN (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE I STRUCTURES	01-05-24
	HW-586_03	CATCH BASIN (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE II STRUCTURES	01-05-24
	HW-586_04	PRECAST CATCH BASIN AND ROUND STRUCTURE	10-17-24
	HW-586_05	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE I	10-17-24
	HW-586_06	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II	10-17-24
	HW-586_07a	CATCH BASIN TYPE "C" AND "C-L" TOPS	01-05-24
	HW-586_07b	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE I TOPS	11-09-22
	HW-586_07c	CATCH BASIN TYPE "C" AND "C-L" DOUBLE GRATE TYPE II TOPS	11-08-22
	HW-586_07d	CATCH BASIN TYPE "C-G" AND "C-M" BARRIER CURB TOPS	11-09-22
	HW-586_08	CATCH BASIN FRAMES AND GRATES	11-09-22
	HW-586_09	CATCH BASIN LOCK DOWN TOPS	11-09-22
	HW-586_10a	MANHOLE FRAME AND COVER	01-05-24
	HW-586_10b	MANHOLE FRAME AND GRATE	01-05-24
	HW-586_10c	REINFORCED PRECAST CONCRETE MANHOLE	11-08-22
	HW-586_10d	MANHOLE NON-PRECAST CONCRETE UNIT	11-08-22
	HW-686_01a	CONCRETE PIPE CONNECTION SHEET 1	11-08-22
	HW-686_01b	CONCRETE PIPE CONNECTION SHEET 2	11-08-22
	HW-686_02a	DRAINAGE PIPE ENDS SHEET 1 [CORRUGATED METAL PIPE]	11-08-22
	HW-686_02b	DRAINAGE PIPE ENDS SHEET 2 [CONCRETE PIPE]	11-08-22
	HW-751_01	UNDERDRAINS AND UNDERDRAIN OUTLETS	10-17-24
	HW-803_01	PAVED APRONS	11-08-22
	HW-811_01	CONCRETE CURBING	11-08-22
	HW-813_01	GRANITE STONE TRANSITION CURBING	11-08-22
	HW-813_02	STONE CURBING	11-08-22
	HW-815_01	BITUMINOUS CONCRETE CURBING	11-08-22

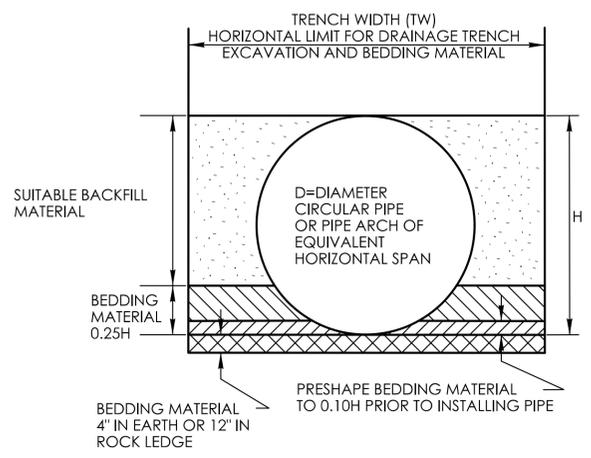
✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-821_01a	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-08-22
	HW-821_01b	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-08-22
	HW-821_01c	TRANSITION - 45" F-SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-08-22
	HW-821_02a	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 1	11-08-22
	HW-821_02b	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 2	11-08-22
	HW-821_03a	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 1	11-08-22
	HW-821_03b	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 2	11-08-22
	HW-821_03c	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 3	11-08-22
	HW-821_03d	TRANSITION - 32" JERSEY SHAPE TO 45" VERTICAL SHAPE SHEET 4	11-08-22
	HW-821_03e	TRANSITION - 32" JERSEY SHAPE TO 45" F-SHAPE	11-08-22
	HW-821_04a	MERRITT PARKWAY NARROW MEDIAN BARRIER	11-08-22
	HW-821_04b	MERRITT PARKWAY - 2' WIDE MEDIAN BARRIER AND ROADSIDE BARRIER	11-08-22
	HW-821_05a	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 1	11-08-22
	HW-821_05b	TRANSITION - 45" F-SHAPE TO 54" VERTICAL SHAPE SHEET 2	11-08-22
	HW-821_06	54" VERTICAL SHAPE BARRIER	11-08-22
	HW-821_07	MISCELLANEOUS DETAILS FOR BARRIER TRANSITIONS	08-20-25
	HW-821_08a	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM	10-17-24
	HW-821_08b	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM - REINF.	11-08-22
	HW-821_09a	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM	11-08-22
	HW-821_09b	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM - REINF.	11-08-22
	HW-821_10a	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM	11-08-22
	HW-821_10b	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM REINF.	11-08-22
	HW-821_11a	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 1	01-05-24
	HW-821_11b	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 2	01-05-24
	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	11-08-22
	HW-822_02a	TEMPORARY TRAFFIC BARRIER - DETAILS	11-08-22
	HW-822_02b	TEMPORARY TRAFFIC BARRIER (BOLTED)	01-23-25
	HW-822_02c	TEMPORARY TRAFFIC BARRIER & TEMPORARY TRAFFIC BARRIER (PINNED)	01-23-25
	HW-905_01	STONE WALL FENCE	11-09-22
	HW-906_01	WIRE FENCE	11-08-22

*ONLY STANDARD SHEETS MARKED WITH AN " ✓ " ARE IN THIS PROJECT #

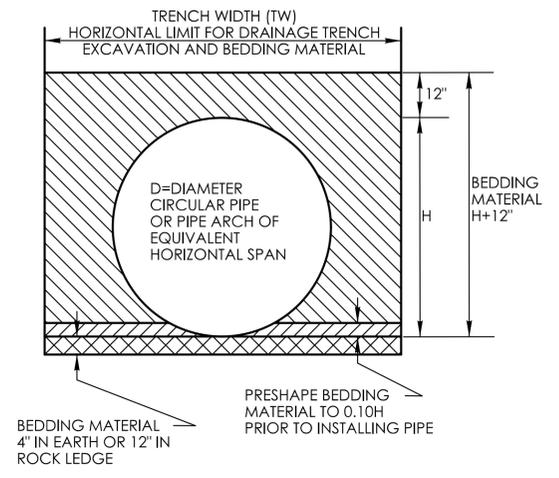
**REVISED OR ADDED

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-910_01	W-BEAM METAL BEAM RAIL HARDWARE	11-08-22
	HW-910_02	METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL	11-08-22
	HW-910_03	METAL BEAM RAIL (TYPE MD-B 350) GUIDERAIL	11-08-22
	HW-910_04	METAL BEAM RAIL (TYPE R-B 350) SYSTEMS 5, 5A, & 6	11-08-22
	HW-910_05	METAL BEAM RAIL R-B 350 SPAN TYPE I, II, III SECTIONS	11-08-22
	HW-910_06	R-B 350 BRIDGE ATTACHMENT SAFETY SHAPE PARAPET	11-08-22
	HW-910_07	R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET	11-08-22
	HW-910_09a	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 1	11-08-22
	HW-910_09b	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 2	11-08-22
	HW-910_10	METAL BEAM RAIL 8" x 6" BOX BEAM	11-08-22
	HW-910_11	CURVED GUIDERAIL TREATMENT DETAIL	11-08-22
	HW-910_12a	MERRITT PARKWAY GUIDERAIL LEADING END ATTACHMENTS AND SYSTEMS 2&3	11-08-22
	HW-910_12b	MERRITT PARKWAY GUIDERAIL HARDWARE DETAILS	11-08-22
	HW-910_12c	MERRITT PARKWAY GUIDERAIL TRAILING END ATTACHMENTS	11-02-22
	HW-910_12d	MERRITT PARKWAY MEDIAN GUIDERAIL AND END ANCHOR	10-17-24
	HW-910_13a	THRIE-BEAM METAL BEAM RAIL HARDWARE	11-08-22
	HW-910_13b	THRIE-BEAM TRANSITIONS	11-08-22
	HW-910_14a	THRIE-BEAM 350 BRIDGE ATTACHMENT	11-08-22
	HW-910_14b	THRIE-BEAM 350 GUIDERAIL TRANSITION TO R-B 350 GUIDERAIL	11-08-22
	HW-910_15	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE I	11-08-22
	HW-910_16	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE II	11-08-22
	HW-910_17	R-B TERMINAL SECTION	11-08-22
	HW-910_18	METAL BEAM RAIL (TYPE MD-I) GUIDERAIL	11-08-22
	HW-910_19a	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE I	10-17-24
	HW-910_19b	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE II	10-17-24
	HW-910_19c	METAL BEAM RAIL (MODIFIED TYPE R-I) SYSTEMS 2 AND 3	11-08-22
	HW-910_20	MASH W-BEAM HARDWARE	10-17-24
	HW-910_21	METAL BEAM RAIL (R-B MASH) GUIDERAIL	01-05-24
	HW-910_22	METAL BEAM RAIL (MD-B MASH) GUIDERAIL	11-08-22
	HW-910_23	METAL BEAM RAIL (R-B MASH) HALF & QUARTER POST SPACING GUIDERAIL	11-08-22
	HW-910_24	METAL BEAM RAIL SPAN SECTION TYPES II AND III	11-08-22

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-910_25a	METAL BEAM RAIL TRANSITION 350 TO MASH	10-17-24
	HW-910_25b	METAL BEAM RAIL MEDIAN APPLICATION TRANSITION 350 TO MASH GUIDERAIL	01-05-24
	HW-910_26	THRIE-BEAM ATTACHMENT HARDWARE	11-08-22
	HW-910_27	THRIE-BEAM ATTACHMENT	11-08-22
	HW-910_29	THRIE-BEAM BRIDGE ATTACHMENT TRAILING END	02-02-24
	HW-910_30a	METAL BEAM RAIL (6 X 6 BOX BEAM) GUIDERAIL - HARDWARE	01-28-25
	HW-910_30b	METAL BEAM RAIL (6 X 6 BOX BEAM) GUIDERAIL	01-28-25
	HW-911_01	R-B END ANCHORAGE TYPE I AND II	10-17-24
	HW-911_02	MD-B END ANCHORAGE TYPE I	10-17-24
	HW-911_03	ANCHOR IN EARTH CUT SLOPE & ANCHOR IN ROCK CUT SLOPE	01-05-24
	HW-911_06a	METAL BEAM RAIL (6 x 6 BOX BEAM) END ANCHORAGE TYPE I - HARDWARE	01-28-25
	HW-911_06b	METAL BEAM RAIL (6 x 6 BOX BEAM) END ANCHORAGE TYPE I	01-28-25
	HW-911_05	MERRITT PARKWAY GUIDERAIL END ANCHORS	11-08-22
	HW-913_01a	CHAIN LINK FENCE	11-08-22
	HW-913_01b	CHAIN LINK FENCE HARDWARE	11-08-22
	HW-913_02	CHAIN LINK FENCE GATES	11-08-22
	HW-918_01a	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 1	11-08-22
	HW-918_01b	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 2	11-08-22
	HW-918_01c	THREE CABLE GUIDERAIL (I-BEAM POSTS) SHEET 3	11-08-22
	HW-921_01	CONCRETE SIDEWALKS	11-08-22
	HW-922_01	BITUMINOUS CONCRETE SIDEWALK AND BITUMINOUS CONCRETE DRIVEWAY	11-08-22
	HW-924_01	CONCRETE DRIVEWAY RAMPS	10-17-24
	HW-930_01	OBJECT MARKER (MAINTENANCE)	10-17-24
	HW-949_01a	LANDSCAPE PLANTING	11-09-22
	HW-949_01b	TREE STAKING	11-02-22
	HW-1800_01	GRADING PLAN FOR IMPACT ATTENUATION SYSTEMS (FLARED AND TANGENTIAL)	10-17-24
	HW-1800_02	GRADING PLAN FOR IMPACT ATTENUATION SYSTEMS (MEDIAN/GORE)	10-17-24



**PIPE TRENCH
FOR PIPES LESS THAN 48"**



**PIPE TRENCH
FOR PIPES GREATER THAN
OR EQUAL TO 48"**

TRENCH WIDTH (TW) CHART

PIPE, PIPE-ARCH, OR DRAINAGE STRUCTURE	TRENCH WIDTH
PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN LESS THAN 30'	2' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN GREATER THAN OR EQUAL TO 30'	3' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
PIPE OR PIPE-ARCH FABRICATED FROM STRUCTURAL PLATES	4' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN
DRAINAGE STRUCTURES	2' BEYOND ALL EXTERIOR OR FOUNDATION WALLS

NOT TO SCALE

SIGNATURE BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:
Leo Fontaine
Digitally signed by
Leo Fontaine, P.E.
Date: 2024.12.16
10:12:03-05'00'

APPROVED BY:
Michael N. Calabrese
Digitally signed by
Michael N.
Calabrese, P.E.
Date: 2025.01.21
12:25:59-05'00'

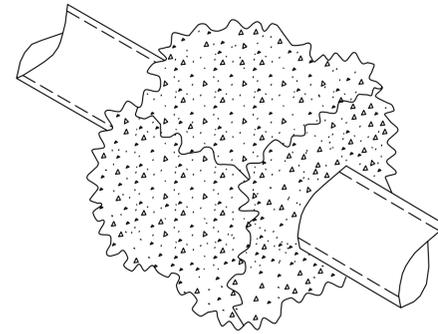


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CTDOT
STANDARD SHEET

STANDARD SHEET TITLE:
DRAINAGE TRENCH EXCAVATION

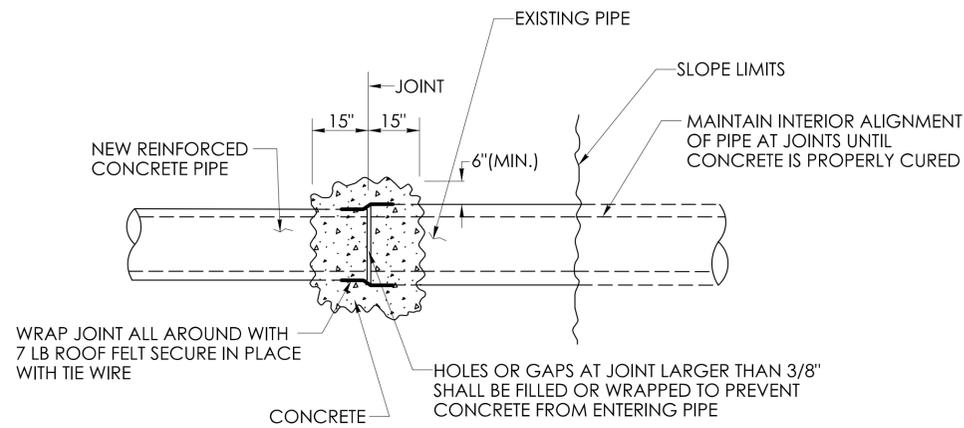
STANDARD SHEET NO.:
HW-286_01



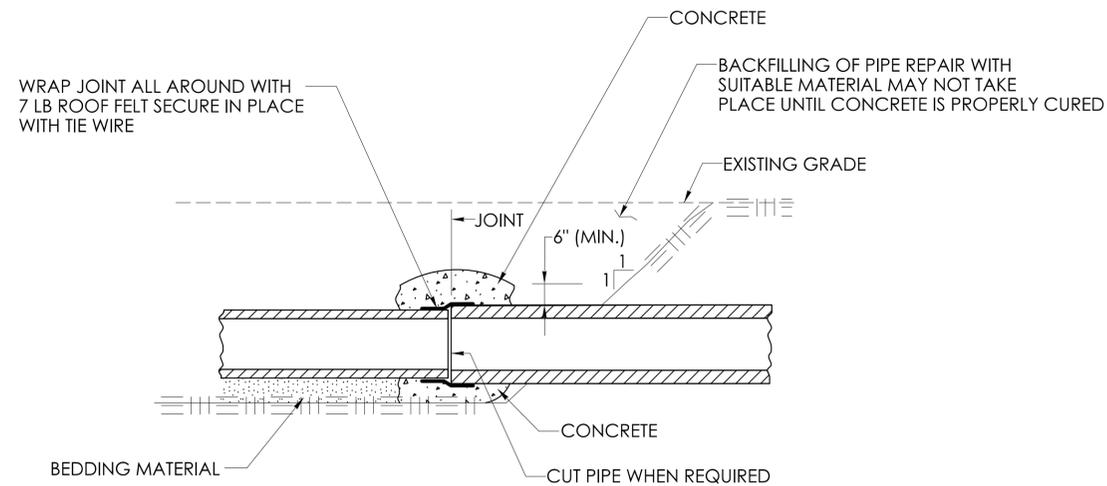
CONCRETE PIPE AT THE JOINT

GENERAL NOTES:

1. "CONCRETE PIPE CONNECTION" IS INTENDED FOR USE WHERE A REINFORCED CONCRETE PIPE REPAIR OR MODIFICATION IS NEEDED SOMEWHERE WITHIN A PIPE RUN WHERE A BELL/SPIGOT JOINT CANNOT BE ACHIEVED.
2. MAINTAIN INTERIOR ALIGNMENT OF PIPE AT JOINTS UNTIL CONCRETE IS PROPERLY CURED.
3. BACKFILL OF PIPE REPAIR WITH SUITABLE MATERIAL MAY NOT TAKE PLACE UNTIL THE CONCRETE IS PROPERLY CURED.
4. CONTRACTOR SHALL MAINTAIN LINE AND GRADE OF PIPE REPAIR OR MODIFICATION BY METHODS APPROVED BY THE ENGINEER
5. HOLES OR GAPS AT JOINT LARGER THAN 3/8" SHALL BE FILLED OR WRAPPED TO PREVENT CONCRETE FROM ENTERING THE PIPE.

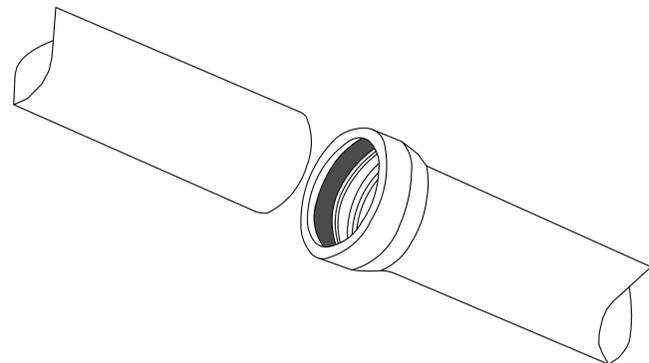


PLAN

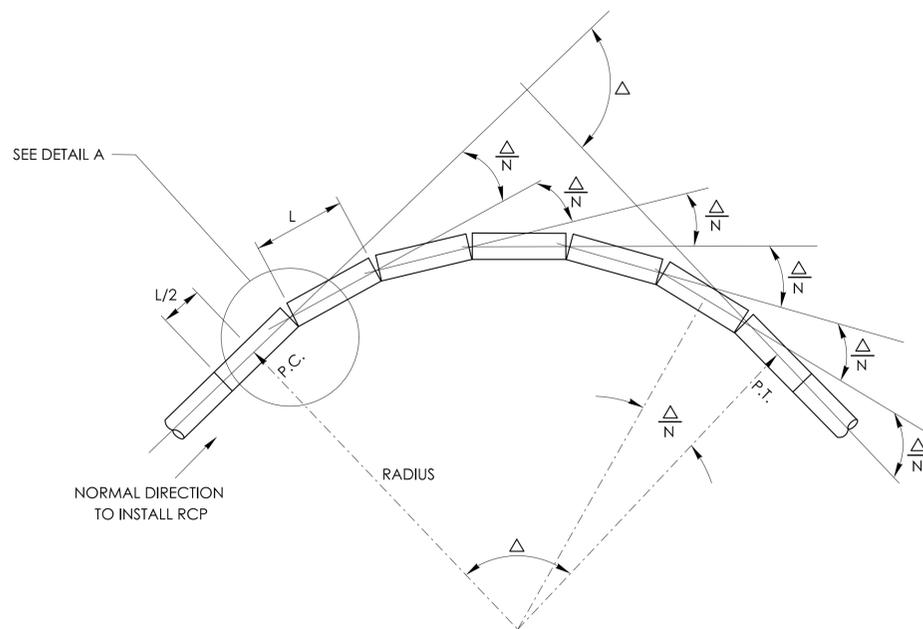


**SECTION
CONCRETE PIPE CONNECTION**

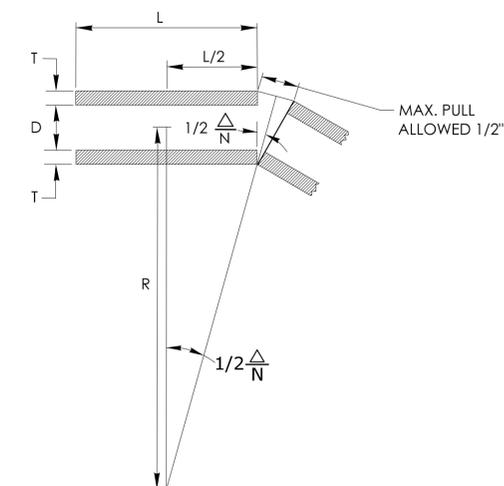
<p>NOT TO SCALE</p>	<p>SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111</p>	<p>SUBMITTED BY: <i>Leo Fontaine</i> Digitally signed by Leo Fontaine, P.E. Date: 2024.12.16 14:02:25-05'00'</p>	<p>APPROVED BY: <i>Michael N. Calabrese</i> Digitally signed by Michael N. Calabrese, P.E. Date: 2025.01.21 13:07:29-05'00'</p>	 <p>CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>CTDOT STANDARD SHEET</p>	<p>STANDARD SHEET TITLE: CONCRETE PIPE CONNECTION SHEET 1</p>	<p>STANDARD SHEET NO.: HW-686_01a</p>
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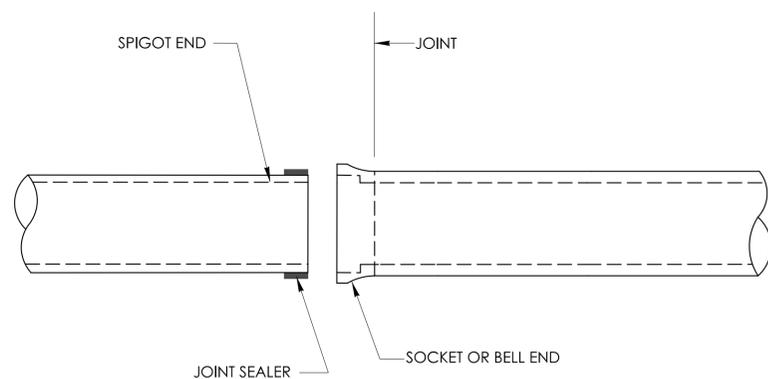
CONCRETE PIPE ASSEMBLY AT THE JOINT



CURVED ALIGNMENT USING DEFLECTED STRAIGHT PIPE FOR MAXIMUM PULL 1/2"



DETAIL A DEFLECTING STANDARD FOR RCP



STANDARD CONNECTION FOR CONCRETE PIPE

MINIMUM RADII FOR RCP PIPE ON CURVED ALIGNMENT

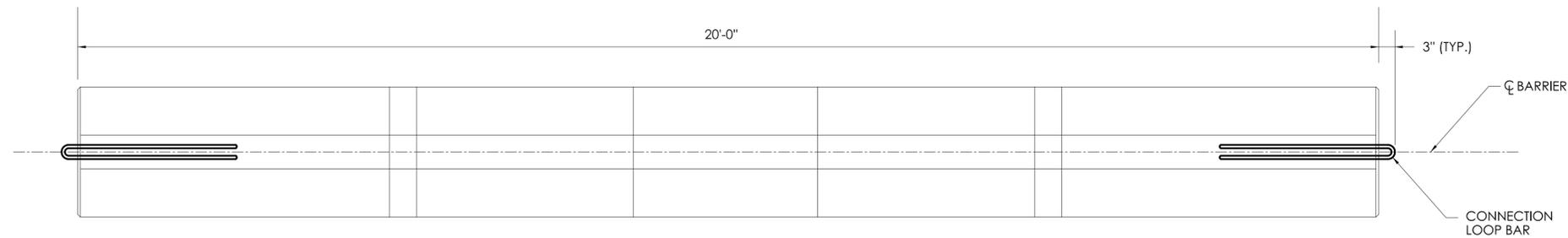
MINIMUM RADII FOR RCP PIPE ON CURVED ALIGNMENT	
DIAMETER (D)	MINIMUM RADII USING 8' PIPE LENGTHS
IN.	FT.
15	337
18	392
21	401
24	452
30	617
36	729
42	842
48	953
54	1066
60	1178
72	1403

NOTES:

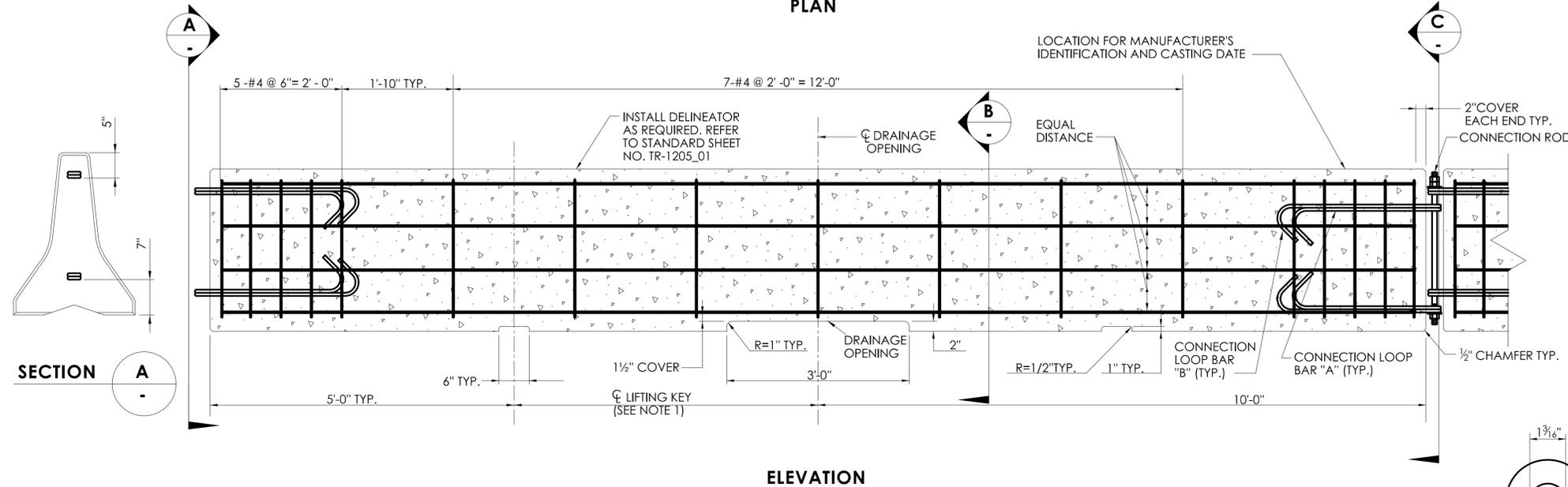
1. N IS THE NUMBER OF PIPE SEGMENTS
2. D IS PIPE DIAMETER
3. L IS LENGTH OF PIPE
4. T IS PIPE THICKNESS
5. Δ IS THE DEGREE OF CURVATURE

GENERAL NOTES:

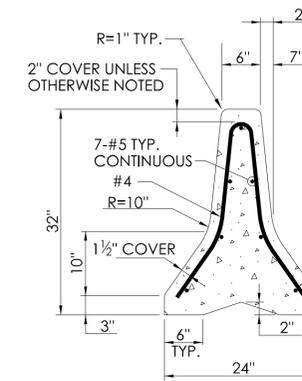
1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" BASED ON TL-3 CRASH TESTS WITH 240' OF TPCBC.



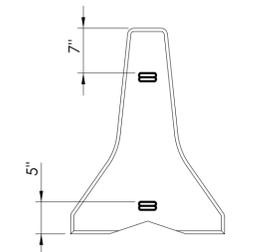
PLAN



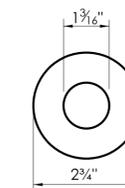
ELEVATION



SECTION B



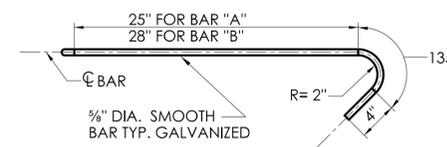
END VIEW C



WASHER DETAIL



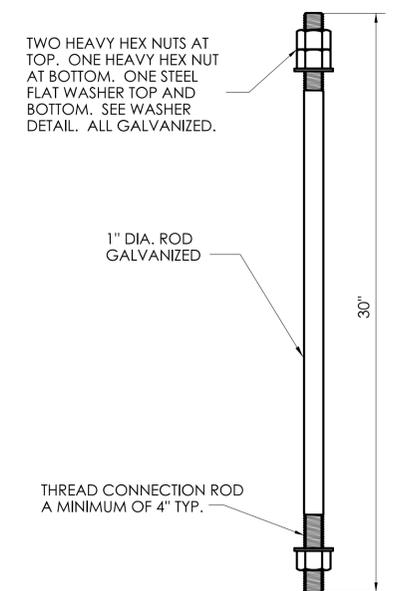
PLAN



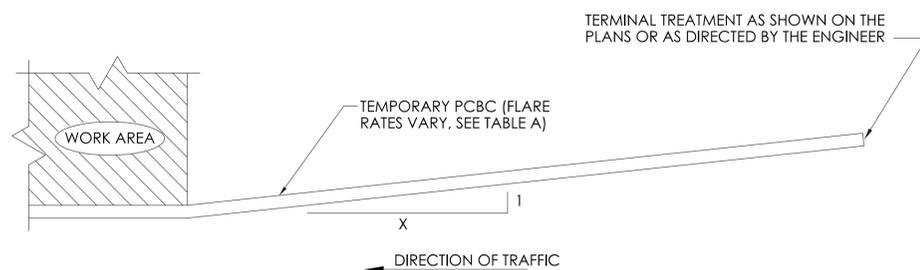
ELEVATION

CONNECTION LOOP BAR

BAR "A" = 6'-0" TOTAL
BAR "B" = 6'-6" TOTAL



CONNECTION ROD



PLAN - TYPICAL INSTALLATION

TABLE A FLARE RATES	
* SPEED	FLARE RATE (X : 1)
≤ 30MPH	4 : 1
> 30MPH BUT < 45MPH	6 : 1
≥ 45MPH NON-LIMITED ACCESS HIGHWAYS	8 : 1
ALL LIMITED ACCESS HGWAYS	10 : 1

* DESIGN SPEED THROUGH THE WORK AREA.

NOT TO SCALE

SIGNATURE BLOCK:
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NEWINGTON, CT 06111

SUBMITTED BY:
Leo Fontaine
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Michael N. Calabrese
Digitally signed by
Michael N.
Calabrese, P.E.
Date: 2025.01.21
13:39:44-05'00'



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DEPARTMENT OF
TRANSPORTATION

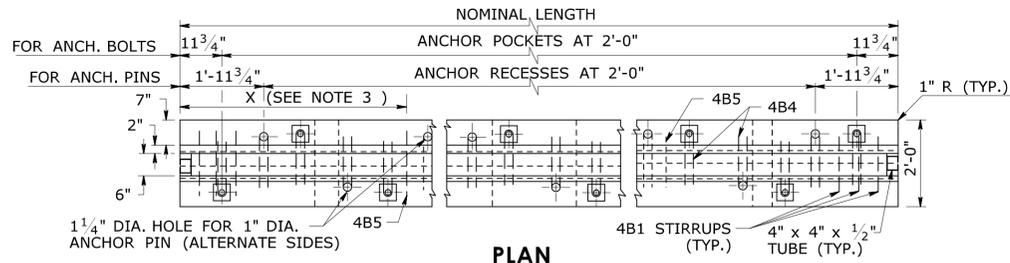
CTDOT
STANDARD SHEET

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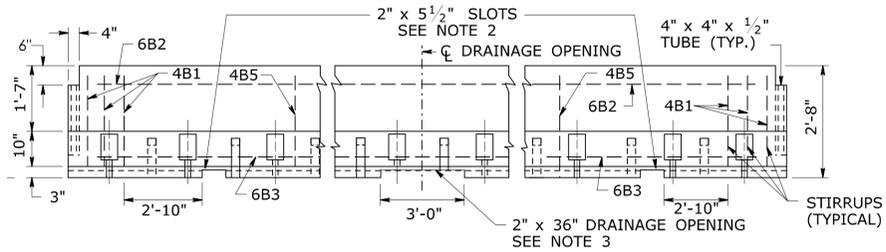
TEMPORARY PRECAST CONCRETE BARRIER CURB

STANDARD SHEET NO.:

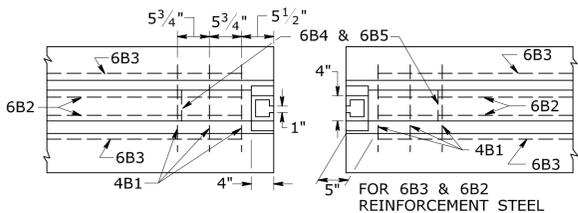
HW-822_01



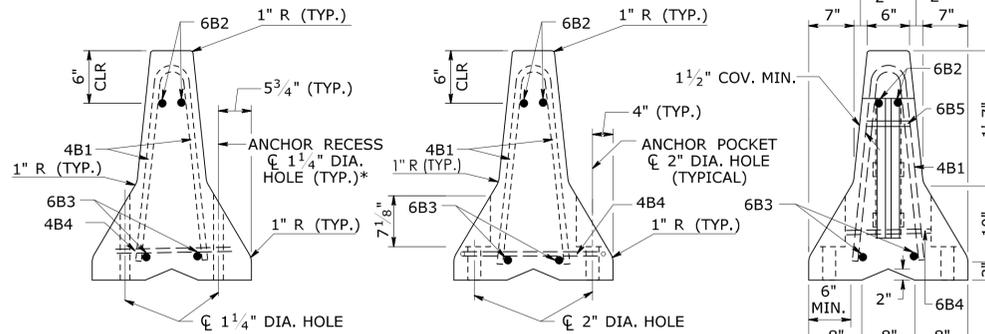
PLAN



ELEVATION



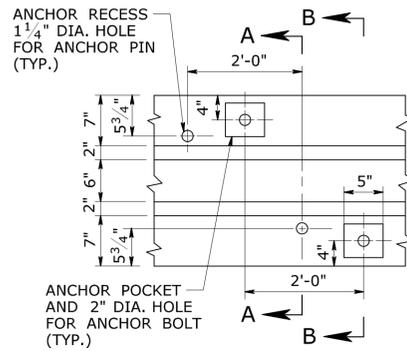
PLAN - BARRIER END



SECTION A-A

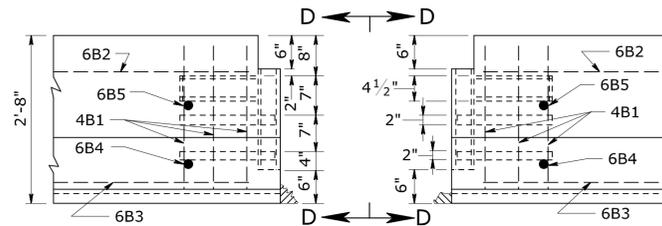
SECTION B-B

SECTION D-D

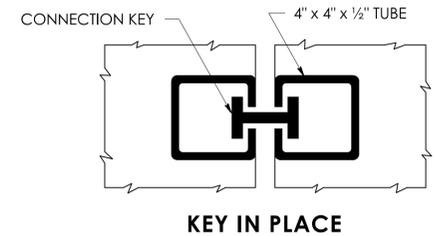


PLAN - ANCHOR RECESS/POCKET

SEE NOTE 5



ELEVATION

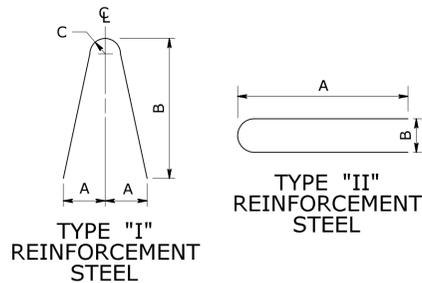


KEY IN PLACE

TABLE OF VARIABLE REINFORCEMENT STEEL			
NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20'	4B4	N.A.	19
20'	4B5	6'-11"	2
18'	4B4	N.A.	17
18'	4B5	6'-5"	2
16'	4B4	N.A.	15
16'	4B5	5'-11"	2
14'	4B4	N.A.	13
14'	4B5	7'-0"	1
12'	4B4	N.A.	11
12'	4B5	6'-0"	1
10'	4B4	N.A.	9
10'	4B5	5'-0"	1
8'	4B4	N.A.	7
8'	4B5	-	0

"X" DISTANCE FROM END OF BARRIER TO 4B5 REINFORCEMENT STEEL

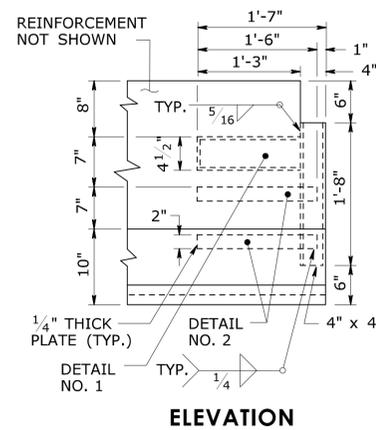
TEMPORARY TRAFFIC BARRIER



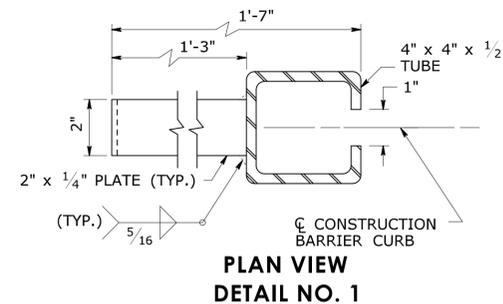
TYPE "I" REINFORCEMENT STEEL

TYPE "II" REINFORCEMENT STEEL

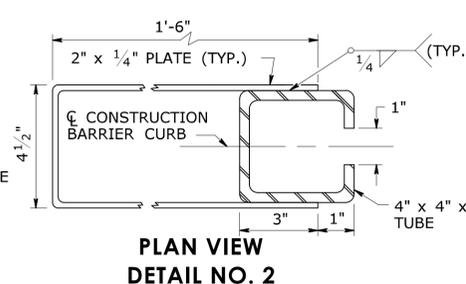
REINFORCEMENT STEEL LIST (EACH BARRIER SECTION)								
MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	#4	6	4'-11"	I	5"	26"	2"	STIRRUPS
4B4	#4	SEE NOTE 4	3'-1"	II	15 1/2"	4"		STIRRUPS
4B5	#4	SEE NOTE 4	4'-11"	I	5"	26"	2"	STIRRUPS
6B2	#6	2	SEE NOTE 4	STR.				LONGITUDINAL (TOP) NORMAL SECTION
6B3	#6	2	SEE NOTE 4	STR.				LONGITUDINAL (BOTTOM) NORMAL SECTION
6B4	#6	2	1'-2"	STR.				TRANSVERSE (BOTTOM) NORMAL SECTION
6B5	#6	2	0'-6"	STR.				TRANSVERSE (TOP) NORMAL SECTION



ELEVATION

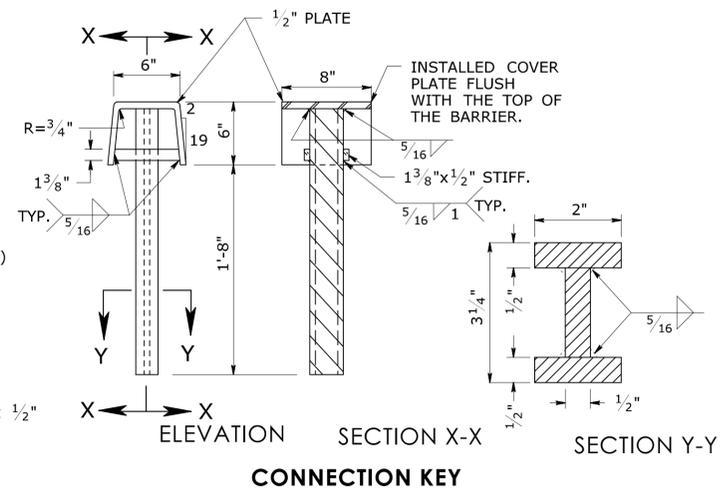


PLAN VIEW DETAIL NO. 1



PLAN VIEW DETAIL NO. 2

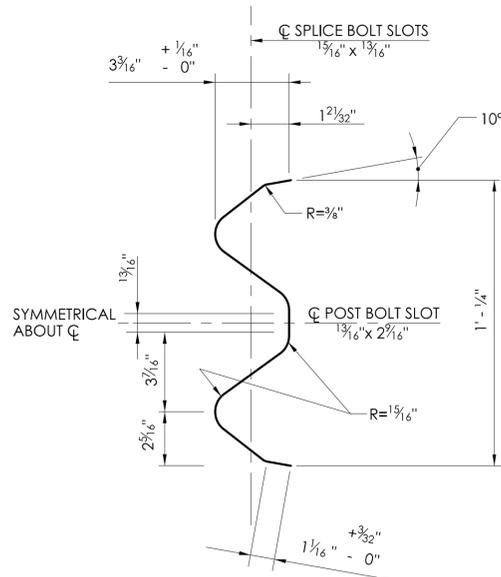
TEMPORARY TRAFFIC BARRIER CONNECTION DETAILS



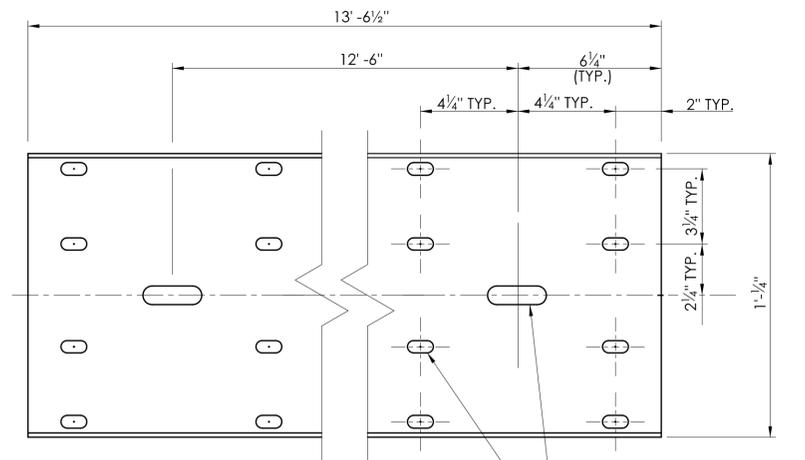
ELEVATION SECTION X-X SECTION Y-Y

GENERAL NOTES:

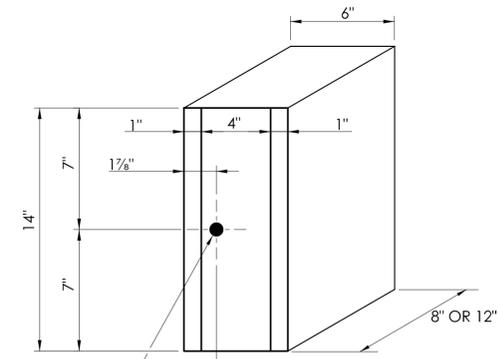
1. CONCRETE CLEAR COVER FOR REINFORCEMENT STEEL IS 1 1/2" (MIN.).
2. 2" x 5 1/2" SLOTS - TWO REQUIRED IN SECTIONS 12 FEET AND GREATER. ONE REQUIRED IN 8 FOOT AND 10 FOOT SECTIONS.
3. 2" x 36" DRAINAGE OPENING IS ONLY REQUIRED FOR TEMPORARY TRAFFIC BARRIER UNITS OF 20 FEET IN LENGTH, LOCATED IN MIDDLE OF THE BARRIER UNIT.
4. A TEMPORARY TRAFFIC BARRIER UNIT IS 20 FEET IN LENGTH; HOWEVER OTHER LENGTHS MAY BE USED TO MEET FIELD CONDITIONS. THE NUMBER AND PLACEMENT OF THE 4B4 AND 4B5 REINFORCEMENT STEEL WILL VARY WITH THE LENGTH OF THE BARRIER UNIT AS SHOWN ON THE TABLE OF VARIABLE REINFORCEMENT STEEL. THE 6B2 AND 6B3 REINFORCEMENT STEEL TO BE PLACED 10 INCHES SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER UNITS.
5. ANCHOR RECESS HOLES OR ANCHOR POCKETS WITH ASSOCIATED REINFORCEMENT STEEL ARE ONLY REQUIRED FOR THE ASSOCIATED TEMPORARY TRAFFIC BARRIER (PINNED) OR TEMPORARY TRAFFIC BARRIER (BOLTED).



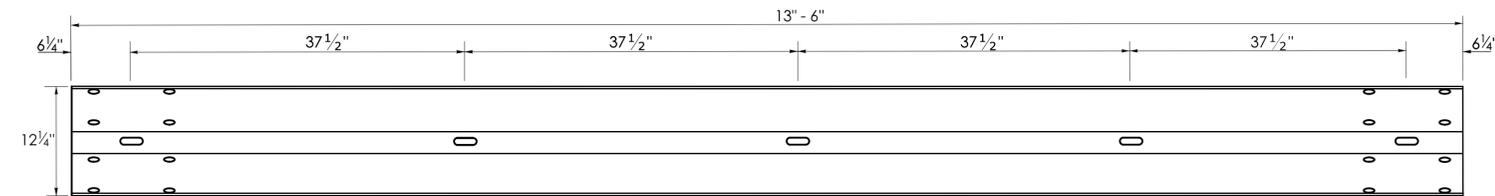
SECTION VIEW



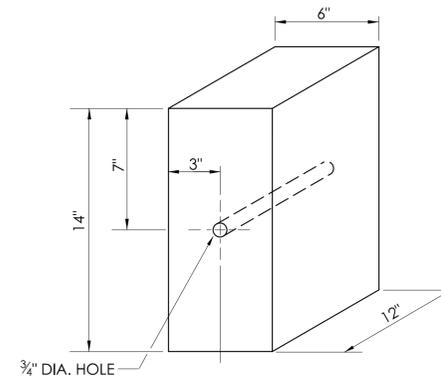
ELEVATION VIEW



8" or 12" PLASTIC BLOCKOUT
NOMINAL DIMENSIONS



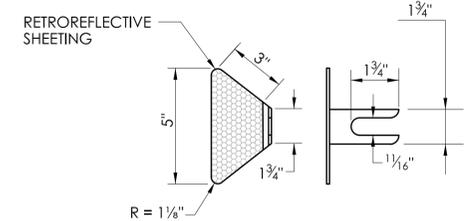
TYPICAL W-BEAM RAIL ELEMENT



12" WOOD BLOCKOUT

GENERAL NOTES:

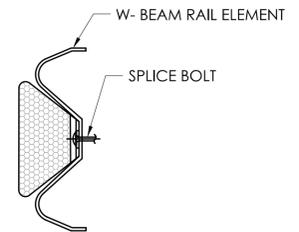
1. W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.
2. W-BEAM GUIDERAIL SHALL USE CLASS A (12 GAUGE), TYPE II W-BEAM RAIL ELEMENTS.
3. SEVEN FOOT LONG STEEL POSTS (W6 X 8.5) ARE TO BE INSTALLED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



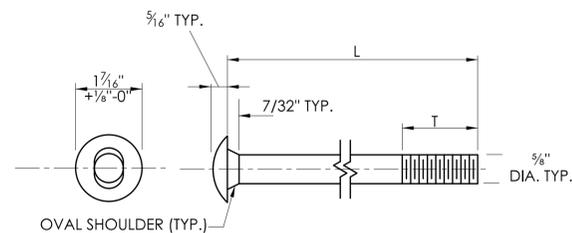
W-BEAM DELINEATOR

INSTALLATION NOTES:

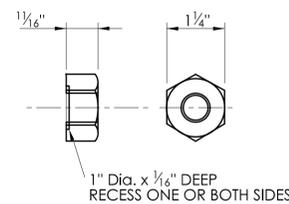
1. INSTALL W-BEAM DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 8' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE W-BEAM DELINEATORS SHALL BE INSTALLED ON ANY LENGTH OF GUIDERAIL.
2. THE SPACING OF W-BEAM DELINEATORS IS 50 FEET, INSTALLED AT RAIL SPLICE LOCATIONS. SPACING IS 25 FEET ON RADII LESS THAN 300 FEET.
3. NO W-BEAM DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
4. RETROREFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. FOR HIGHWAY OFF RAMP, INSTALL W-BEAM DOUBLE SIDED DELINEATORS ACCORDING TO INSTALLATION REQUIREMENTS STATED BELOW FOR W-BEAM DOUBLE SIDED DELINEATORS.



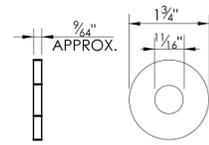
W-BEAM DELINEATOR
INSTALLATION



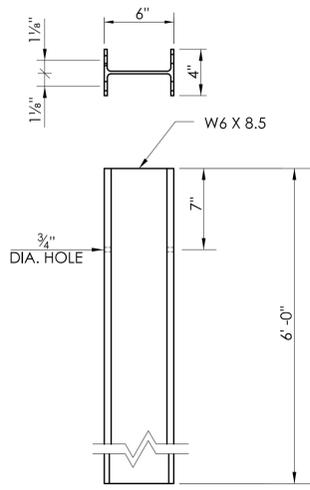
BUTTONHEAD BOLT



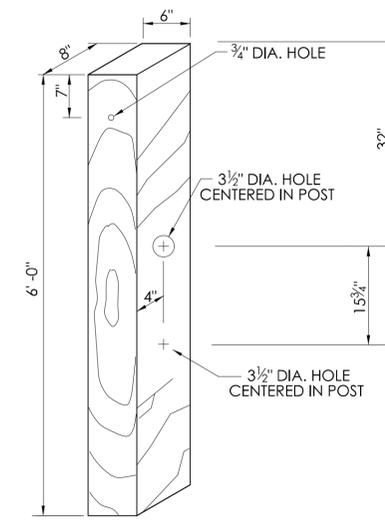
HEX NUT



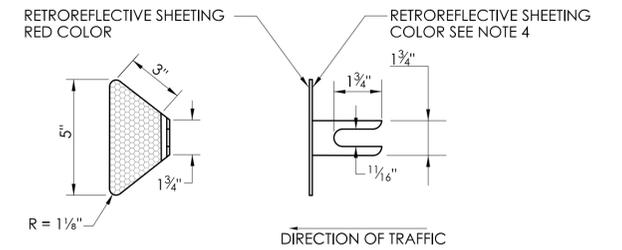
WASHER
[FWC16a]



STEEL POST
6' - 0" LONG



CONTROL RELEASE TIMBER (CRT) POST
6' - 0" LONG



W-BEAM DOUBLE SIDED DELINEATOR
FOR HIGHWAY OFF RAMPS

INSTALLATION NOTES:

1. INSTALL W-BEAM DOUBLE SIDED DELINEATORS ON HIGHWAY OFF RAMP'S W-BEAM GUIDERAIL BETWEEN THE PAINTED TRAFFIC STOP LINE TO THE FARTHEST "WRONG WAY" SIGNS FROM THE INTERSECTION.
2. INSTALL THE W-BEAM DOUBLE SIDED DELINEATORS AT 6'-3" SPACING.
3. NO W-BEAM DOUBLE SIDED DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
4. RETROREFLECTIVE SHEETING COLOR SHALL BE RED ON BACKSIDE (NOT FACING NORMAL DIRECTION OF TRAFFIC) WITH FRONT SIDE HAVING WHITE EXCEPT ON THE LEFT SIDE OF RAMPS WHERE IT SHALL BE YELLOW.

DESIGNATOR	L	T	INTENDED USE
FBB01	1 1/2"	1 1/8"	RAIL SPLICE BOLTS
FBB02	2"	1 3/4"	RUB RAIL BOLTS
FBB03	10"	4"	POST BOLTS (8" BLOCK OUTS)
	14"	4"	POST BOLTS (12" BLOCK OUTS)
	18"	4"	POST BOLTS (2-8" BLOCK OUTS)
FBB04	22"	4"	POST BOLTS (CRT WOOD POST SYSTEM)

5/8" BUTTON HEAD BOLT(S) AND RECESSED NUT(S)

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.

NOT TO SCALE

SIGNATURE BLOCK:
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TRANSPORTATION

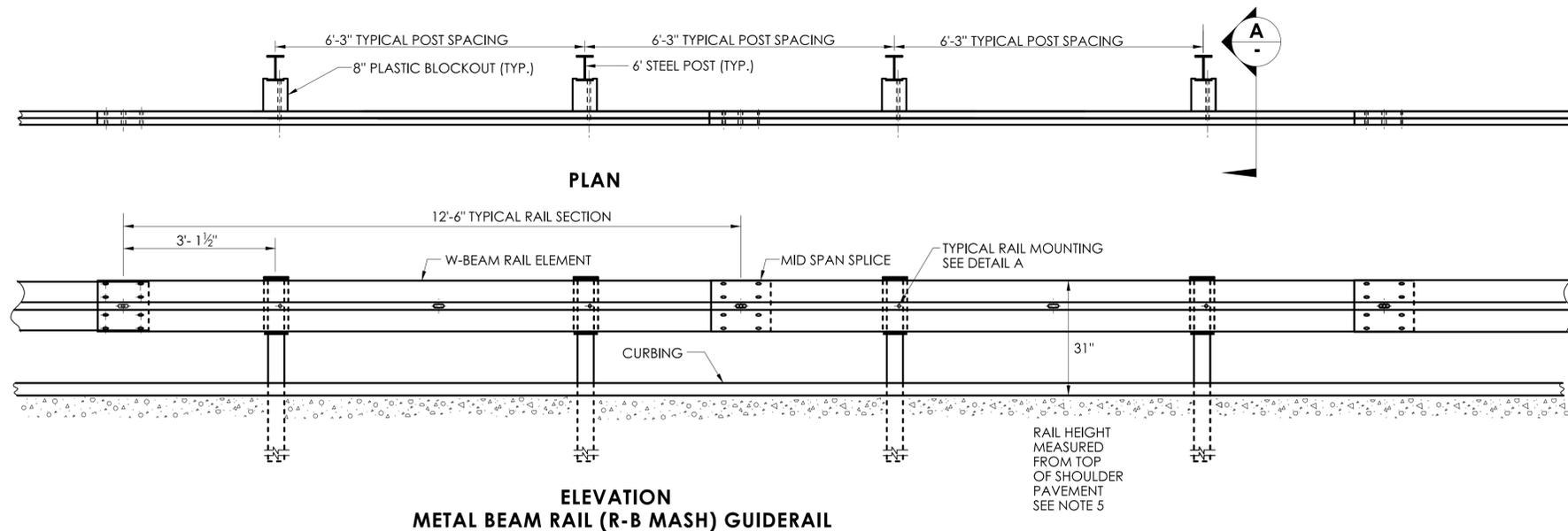
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STANDARD SHEET

STANDARD SHEET TITLE:

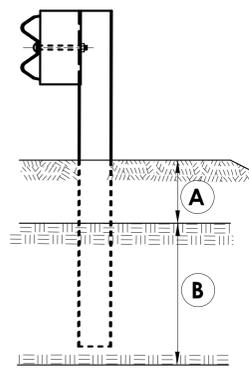
MASH W-BEAM HARDWARE

STANDARD SHEET NO.:

HW-910_20



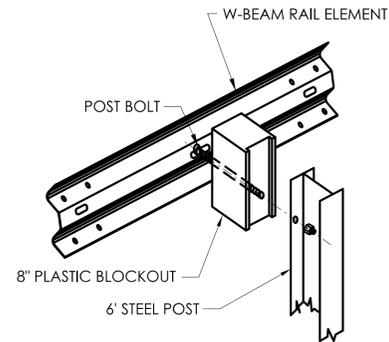
**ELEVATION
METAL BEAM RAIL (R-B MASH) GUIDERAIL**



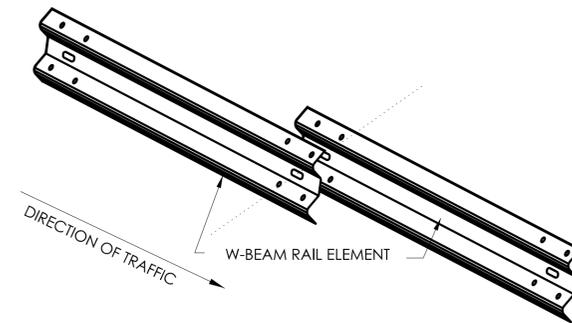
ELEVATION

CONDITION 1:
IF SOIL DEPTH IS \leq 18" DEEP (A)
DRILL 20" DIA. HOLE 24" INTO LEDGE (B)

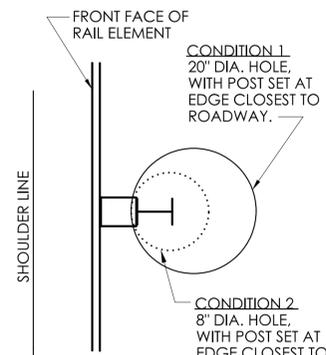
CONDITION 2:
IF SOIL DEPTH IS $>$ 18" DEEP (A)
DRILL 8" DIA. HOLE 12" INTO LEDGE (B) OR TO THE DEPTH OF FULL EMBEDMENT WHICHEVER IS LESS.



**DETAIL A
RAIL MOUNTING**

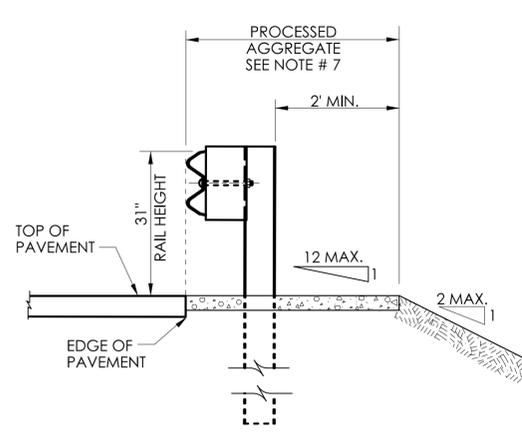


LAP W-BEAM RAIL SECTIONS
NOTE: EIGHT (8) SPLICE BOLTS PER JOINT



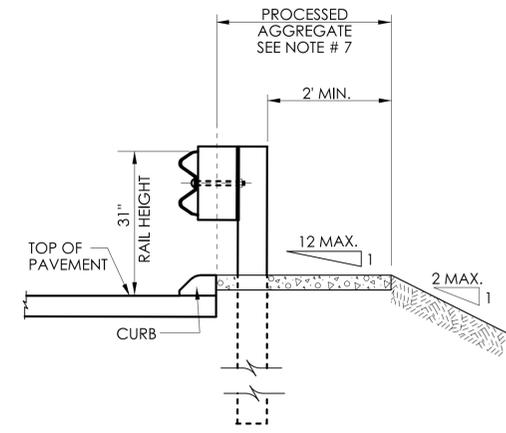
PLAN

GUIDERAIL POSTS IN ROCK



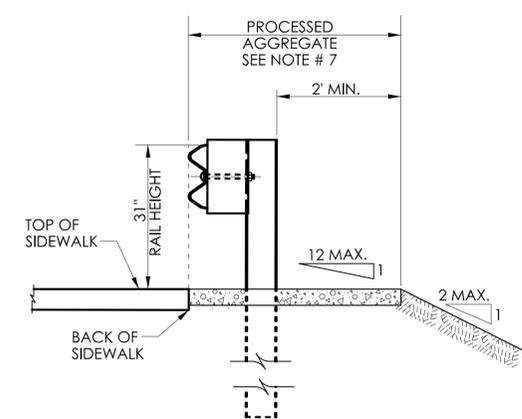
SECTION A

NO CURB APPLICATION



SECTION A

CURB APPLICATION



SECTION A

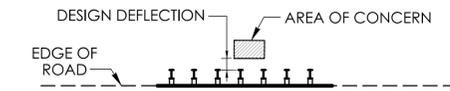
SIDEWALK APPLICATION

GENERAL NOTES:

- SEE SHEET HW-910_20 FOR MASH W-BEAM HARDWARE AND W-BEAM DELINEATOR DETAILS.
- THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITIONS TO BRIDGE PARAPETS SHOULD BE AVOIDED. DO NOT USE ADDITIONAL BLOCKS IF IT CAUSES THE POST TO BE DRIVEN BEYOND AN EMBANKMENT HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.
- IF BLOCKOUTS DO NOT AVOID POST FROM OBSTRUCTION, ONE POST MAY BE OMITTED IF 50 FEET OF GUIDERAIL EXISTS ON BOTH SIDES OF LOCATION. USE METAL BEAM RAIL SPAN SECTION TYPE II OR III FOR MORE THAN ONE CONSECUTIVE OMITTED POST, SEE SHEET HW-910_24.
- W-BEAM GUIDERAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING.
- IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
- RAIL HEIGHT CONSTRUCTION TOLERANCE IS \pm 1 INCH.
- FOR NEW CONSTRUCTION, PLACE 6 INCH LAYER OF PROCESSED AGGREGATE. FOR CONSTRUCTION PROJECTS WITH GUIDERAIL UPGRADE, THE CONTRACT PLANS MAY CALL OUT PROCESSED AGGREGATE ONLY TO BE PLACED IN LOCATION(S) OF EXISTING VERTICAL PAVEMENT EDGE DROP OFF AS A LEVELING MATERIAL, FILLING IN DEPRESSED AREAS.

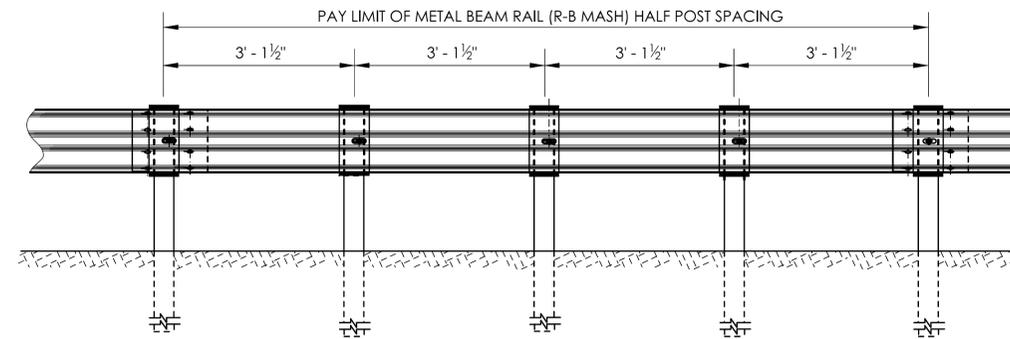
GENERAL NOTES:

1. SEE SHEET HW-910_20 FOR HARDWARE AND W-BEAM DELINEATOR DETAILS.
2. W-BEAM DELINEATOR MAY BE INSTALLED AT POST BOLT CONNECTION TO MAINTAIN APPROPRIATE DELINEATOR SPACING.

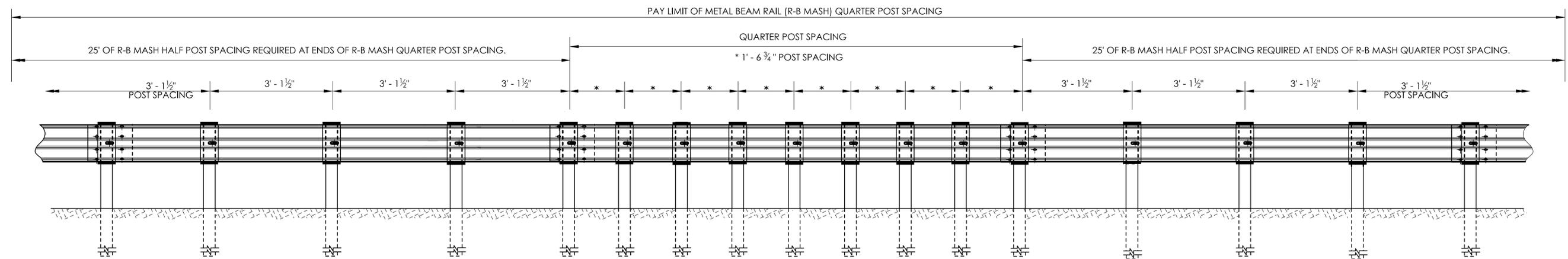


POST SPACING	DESIGN DEFLECTION
STANDARD (6' - 3")	4' - 3"
HALF POST (3' - 1½")	2' - 8"
QUARTER POST (1' - 6¾")	1' - 10"

TABLE 1



METAL BEAM RAIL (R-B MASH) HALF POST SPACING

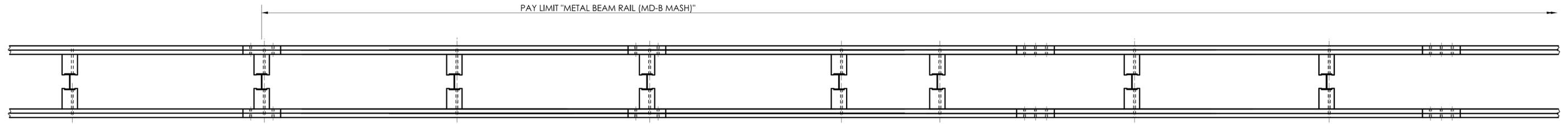


METAL BEAM RAIL (R-B MASH) QUARTER POST SPACING

GENERAL NOTES:

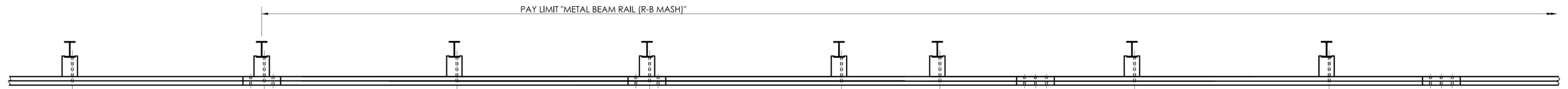
GENERAL NOTES:

1. SEE SHEET HW-910_20 FOR HARDWARE AND W-BEAM DELINEATOR DETAILS.
2. NO POST(S) SHALL BE OMITTED WITHIN THE LENGTH OF GUIDERAIL TRANSITION.



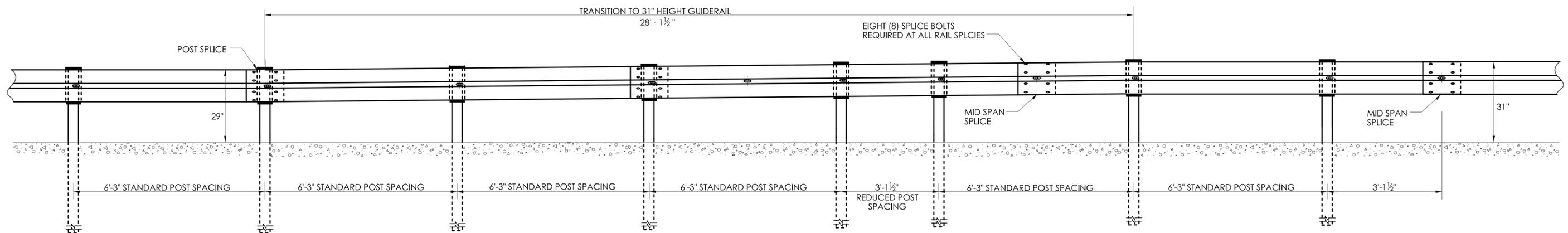
PLAN

METAL BEAM RAIL MD-B 350 TRANSITION TO METAL BEAM RAIL MD-B MASH



PLAN

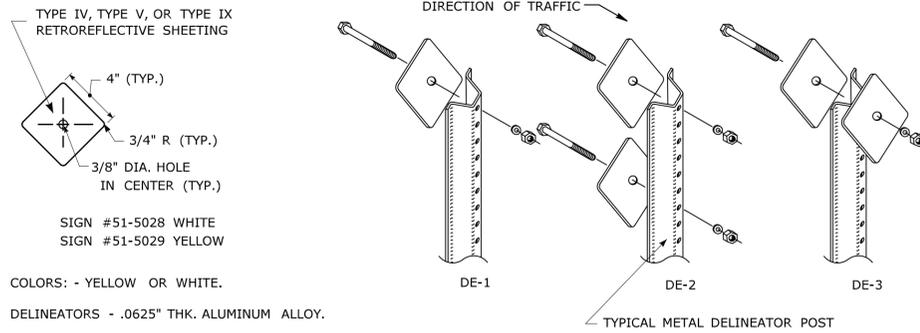
METAL BEAM RAIL R-B 350 TRANSITION TO METAL BEAM RAIL R-B MASH



ELEVATION

NOT TO SCALE	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Digitally signed by Leo Fontaine, P.E. Date: 2024.12.19 15:07:14-05'00'	APPROVED BY: Digitally signed by Michael N. Calabrese, P.E. Date: 2025.01.29 12:35:10-05'00'	CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: METAL BEAM RAIL TRANSITION 350 TO MASH GUIDERAIL	STANDARD SHEET NO.: HW-910_25a
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**DELINEATORS DE-1, DE-2, DE-3
INSTALLATION ON DELINEATOR POSTS**

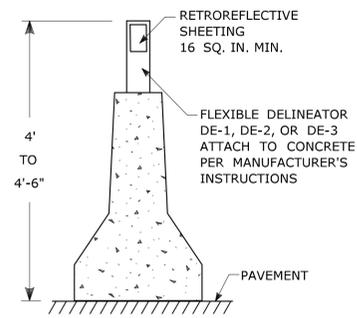


TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING
4" (TYP.)
3/4" R (TYP.)
3/8" DIA. HOLE IN CENTER (TYP.)
SIGN #51-5028 WHITE
SIGN #51-5029 YELLOW
COLORS: - YELLOW OR WHITE.
DELINEATORS - .0625" THK. ALUMINUM ALLOY.

FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.

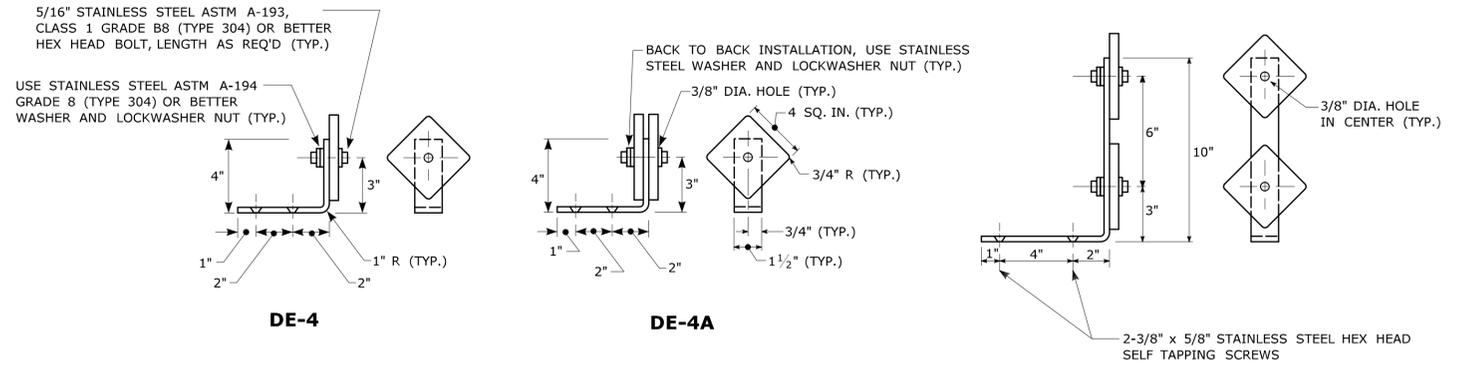
DELINEATORS SHALL BE FASTENED WITH 5/16" STAINLESS STEEL ASTM A-193 CLASS 1, GRADE B8 (TYPE 304) OR BETTER HEX HEAD BOLT (LENGTH AS REQUIRED), WASHER AND FIBER INSERT SELF LOCKING NUT, ON STANDARD METAL DELINEATOR POST.

INSTALLATION ON PERMANENT CONCRETE BARRIER, BRIDGE PARAPETS AND RETAINING WALLS



RETROREFLECTIVE SHEETING 16 SQ. IN. MIN.
FLEXIBLE DELINEATOR DE-1, DE-2, OR DE-3 ATTACH TO CONCRETE PER MANUFACTURER'S INSTRUCTIONS
4" TO 4'-6"
PAVEMENT

**DELINEATORS DE-4, DE-4A, DE-5
FOR INSTALLATION ON METAL BRIDGE RAIL**



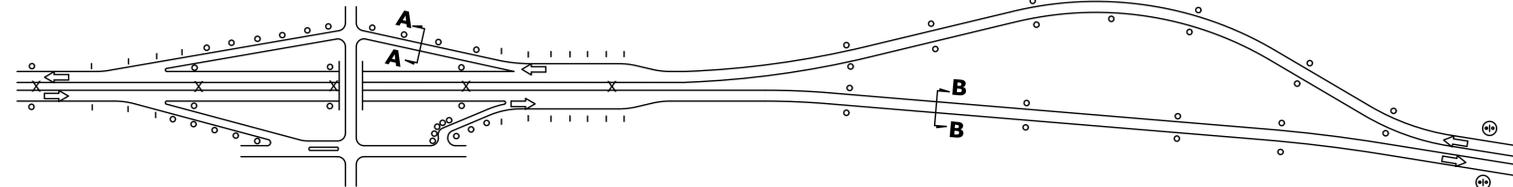
5/16" STAINLESS STEEL ASTM A-193, CLASS 1 GRADE B8 (TYPE 304) OR BETTER HEX HEAD BOLT, LENGTH AS REQ'D (TYP.)
USE STAINLESS STEEL ASTM A-194 GRADE 8 (TYPE 304) OR BETTER WASHER AND LOCKWASHER NUT (TYP.)
BACK TO BACK INSTALLATION, USE STAINLESS STEEL WASHER AND LOCKWASHER NUT (TYP.)
3/8" DIA. HOLE (TYP.)
4 SQ. IN. (TYP.)
3/4" R (TYP.)
3/4" (TYP.)
1 1/2" (TYP.)
1" R (TYP.)
2"
2"
1"
4"
3"
6"
10"
3/8" DIA. HOLE IN CENTER (TYP.)
2-3/8" x 5/8" STAINLESS STEEL HEX HEAD SELF TAPPING SCREWS

COLORS: - YELLOW OR WHITE.
DELINEATORS - .0625" THK. ALUMINUM ALLOY.
BRACKET - .125" THK. ALUMINUM ALLOY, AND SHALL CONFORM TO SPECIFICATION M.18.07-03 BRIDGE RAIL MOUNTING BRACKETS.
FACE SHALL BE PRESSURE SENSITIVE, SELF ADHERING, TYPE IV, TYPE V, OR TYPE IX RETROREFLECTIVE SHEETING.
USE STAINLESS STEEL WASHERS ON FACE OF DELINEATORS, 5/8" O.D. X 3/8" I.D. X .032" THK. (TYP.)

DELINEATORS DE-1, DE-2, DE-3 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

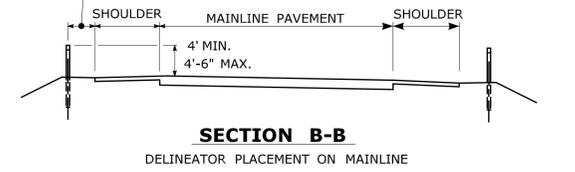
DELINEATORS TYPE DE-4, DE-4A, AND DE-5 TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

TYPICAL MAINLINE & INTERCHANGE DELINEATION



SECTION A-A
DELINEATOR PLACEMENT ON RAMP
ON TANGENT SECTIONS - RIGHT SIDE OF RAMP
ON CURVED SECTIONS - BOTH SIDES OF CURVE
2' TYP. TO 8' MAX. AS DIRECTED BY ENGINEER. ONE OFFSET SHALL BE USED THROUGHOUT PROJECT. DELINEATORS TO BE PLACED IN LINE WITH GUIDE RAIL POSTS WHEN GUIDE RAIL IS 8' OR LESS FROM THE EDGE OF THE ROAD.

SECTION B-B
DELINEATOR PLACEMENT ON MAINLINE
2' TYP. TO 8' MAX. AS DIRECTED BY ENGINEER. ONE OFFSET SHALL BE USED THROUGHOUT PROJECT. DELINEATORS TO BE PLACED IN LINE WITH GUIDE RAIL POSTS WHEN GUIDE RAIL IS 8' OR LESS FROM THE EDGE OF THE ROAD.



DELINEATOR SPACING NOTES:

- 1) AT LOCATIONS WHERE THE MEDIAN WIDTH (BETWEEN SHOULDERS) IS 12' OR LESS, AND MEDIAN BEAM RAIL IS PRESENT, TYPE DE-3 DELINEATORS SHALL BE MOUNTED WITHIN THE MEDIAN BEAM RAIL.
- 2) SPACING ON MAINLINE EXPRESSWAY TANGENTS SHALL BE 400'.
- 3) SPACING ON MAINLINE EXPRESSWAY CURVES SHALL BE AS SPECIFIED IN TABLE 3F-1 OF THE MUTCD.
- 4) ON ACCELERATION AND DECELERATION LANES AND ON-RAMP TANGENT SECTIONS, DELINEATOR SPACING SHALL BE 100'.
- 5) ON CURVED PORTIONS OF RAMP, DELINEATOR SPACING SHALL BE IN ACCORDANCE WITH TABLE 3F-1 OF THE MUTCD, BUT NOT TO EXCEED 100'.

LEGEND:

- o DE-1 DELINEATORS OR DE-4 DELINEATOR ASSEMBLY
- | DE-2 DELINEATORS OR DE-5 DELINEATOR ASSEMBLY
- X DE-3 DELINEATORS ASSEMBLY OR DE-4A DELINEATOR
- ⊙ D10-1, 2, 3, OR 4 ASSEMBLY TO BE INSTALLED WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

COLOR APPLICATION, FOR DE-1 THRU DE-5

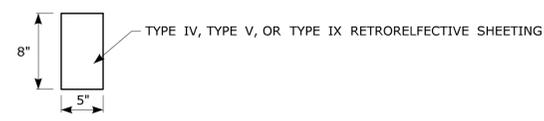
LEFT SIDE OF ALL ROADWAYS AND RAMP - YELLOW
RIGHT SIDE OF ALL ROADWAYS AND RAMP - WHITE

**MUTCD TABLE 3F-1
APPROXIMATE SPACING FOR DELINEATORS
ON HORIZONTAL CURVES**

RADIUS (R) OF CURVE (feet)	APPROXIMATE SPACING (S) ON CURVE (feet)
50	20
115	25
180	35
250	40
300	50
400	55
500	65
600	70
700	75
800	80
900	85
1,000	90

DISTANCE IN FEET WERE ROUNDED TO THE NEAREST 5 FEET. SPACING FOR SPECIFIC RADII MAY BE INTERPOLATED FROM TABLE. THE MINIMUM SPACING SHOULD BE 20 FEET. THE SPACING ON CURVES SHOULD NOT EXCEED 300 FEET. IN ADVANCE OF OR BEYOND A CURVE, AND PROCEEDING AWAY FROM THE END OF THE CURVE, THE SPACING OF THE FIRST DELINEATOR IS 25, THE SECOND IS 35, AND THE THIRD 65 BUT NOT TO EXCEED 300 FEET.
S REFERS TO THE DELINEATOR SPACING FOR SPECIFIC RADII COMPUTED FROM THE FORMULA: S=3√R-50.

**DELINEATORS DE-7, DE-7A, DE-7B, DE-7D FOR
INSTALLATION ON TEMPORARY PRECAST CONCRETE BARRIER CURB
AND TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)**



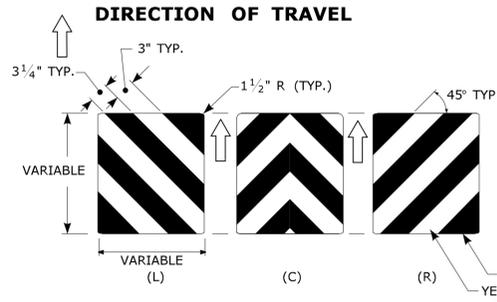
DE-7 ONE WAY WHITE
DE-7A ONE WAY YELLOW
DE-7B TWO WAY YELLOW
DE-7D TWO WAY WHITE
TEMPORARY PRECAST CONCRETE BARRIER DELINEATORS ARE TO BE FABRICATED OF ALUMINUM, STEEL, PLASTIC, OR OF A MATERIAL APPROVED BY THE ENGINEER AND MOUNTED IN THE CENTER OF EACH SECTION OF TEMPORARY BARRIER AS REQUIRED AND PER MANUFACTURER'S INSTRUCTIONS.

SPACING FOR TEMPORARY BARRIER CURB DELINEATORS:

ON THE LEADING TAPERED SECTION - EVERY 20', ON THE FIRST 100' OF THE PARALLEL SECTION - EVERY 20', ON THE REMAINING LENGTH - EVERY 100', MINIMUM OF 2' IF LESS THAN 100',
ALTERNATING ONE WAY TRAFFIC - EVERY 20', ALL OTHER ROADWAYS SHALL BE DELINEATED IN ACCORDANCE WITH MUTCD.

DELINEATORS DE-7, DE-7A, DE-7B, AND DE-7D TO BE PAID FOR UNDER SECTION 12.05 DELINEATORS.

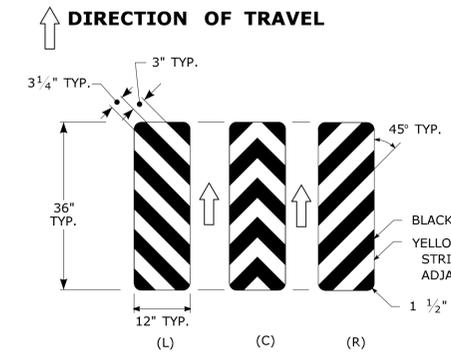
**ATTENUATOR REFLECTORS
SIGN #40-4266**



THIS SHEETING WITHOUT A SUBSTRATE TO BE INSTALLED ON THE NOSE OF THE IMPACT ATTENUATOR WITH ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SHEETING SHALL COVER THE NOSE OF THE IMPACT ATTENUATOR. ON A CURVED NOSE, THE WIDTH OF THE SHEETING SHALL EXTEND 1" BEYOND THE POINT OF CURVATURE ON EACH SIDE OF THE NOSE. THE HEIGHT AND WIDTH OF THE SHEETING VARIES DEPENDING ON THE SIZE OF THE NOSE OF THE IMPACT ATTENUATOR.

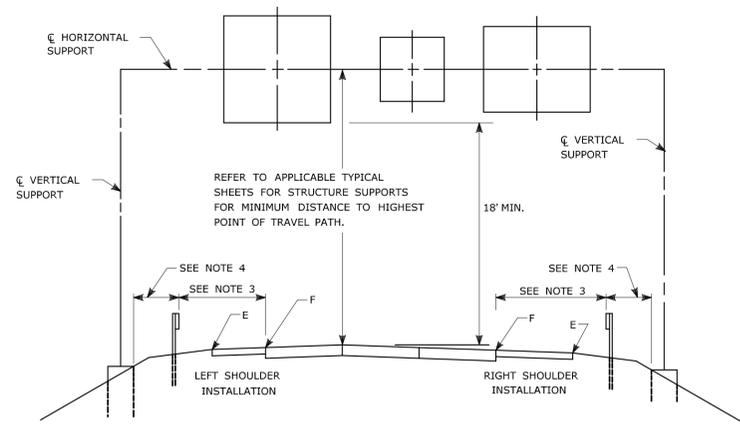
ATTENUATOR REFLECTOR TO BE PAID FOR UNDER SECTION 18.0 IMPACT ATTENUATOR

**TYPE 3 OBJECT MARKERS
SIGN #41-4267**



SIGN #41-4267 MARKER MOUNTED ON 4lb. METAL SIGN POST. BOTTOM OF SIGN #41-4267 TO BE 4" ABOVE ADJACENT EDGE OF PAVEMENT. FINAL LOCATIONS OF SIGN #41-4267 MARKERS WILL BE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

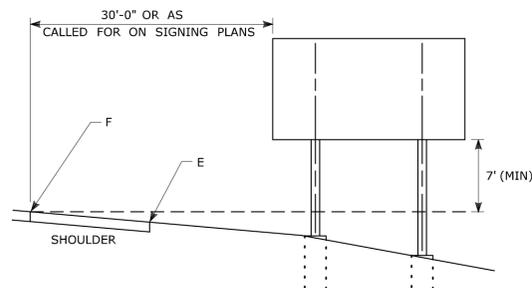
TYPE 3 OBJECT MARKER TO BE PAID FOR UNDER SECTION 12.08 SIGN FACE SHEET ALUMINUM



TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS

NOTES:

- 1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
- 2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
- 3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
- 4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
- 5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.



TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

- 1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
- 2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
- 3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
- 4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.

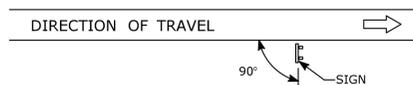


DIAGRAM "A"

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

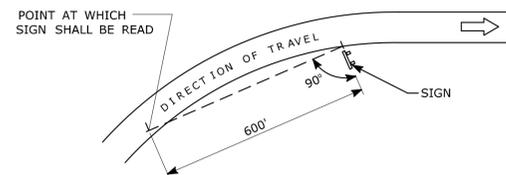


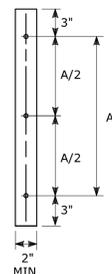
DIAGRAM "B"

SIGN ORIENTATION DETAILS FOR SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

RETROREFLECTIVE STRIPS 48" LONG OR LESS:



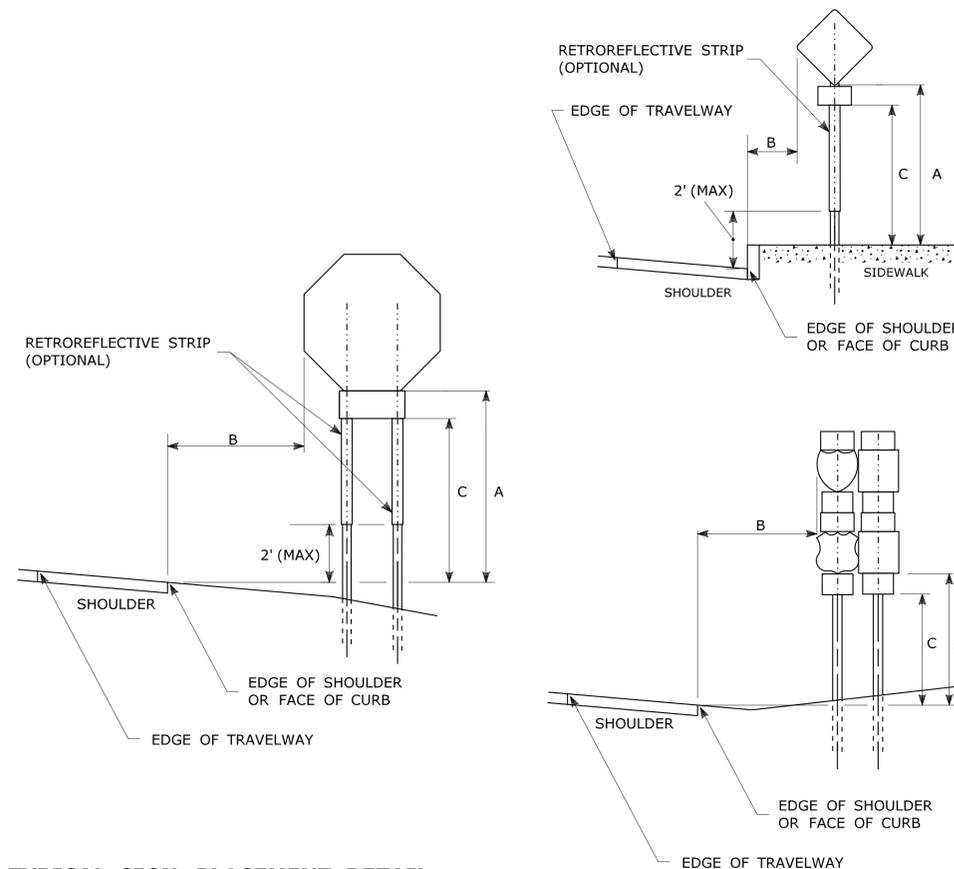
RETROREFLECTIVE STRIPS OVER 48" LONG:



RETROREFLECTIVE STRIP DETAIL

NOTES:

- RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE. REFER TO STANDARD SHEET No. TR-1208.02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.
- RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.



TYPICAL SIGN PLACEMENT DETAIL

NOTES:

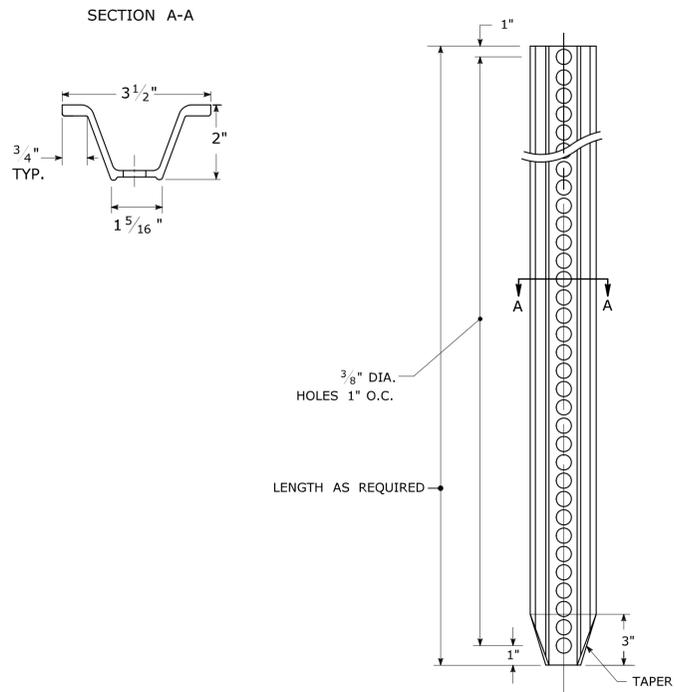
- ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY. REFER TO STANDARD SHEET No. TR-1208.02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.
- IF A RETROREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY. PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

DIM."A" MIN SIGN HEIGHT	DIM."B" MIN LATERAL OFFSET (1)	DIM."C" MIN PLAQUE HEIGHT (1)	ASSEMBLY LOCATION
7' (2)	6' (3) 12' (3)	5'	SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS
5'	2'	4'	• SIGNS IN RURAL AREAS • DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMP • DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS
5'	2'	N/A	• CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMP, AND IN RURAL AREAS • ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMP, AND IN RURAL AREAS
4'	6' (3) 12' (3)	N/A	INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS
4'	2'	4'	CENTRAL ISLANDS OF ROUNDABOUTS
7'	2' (4)	6'	BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
7'	2' (4)	7'	SIDEWALKS (5)

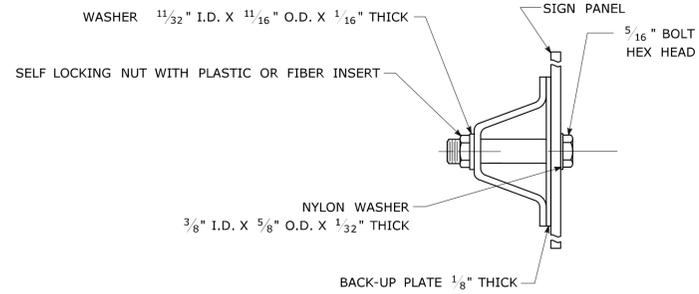
- (1) OR AS DIRECTED BY THE ENGINEER
- (2) 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.
- (3) 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.
- (4) A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.
- (5) A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>		<p>NOT TO SCALE</p>		<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>		<p>MARK F. MAKUCH, P.E. 2018.08.17 09:06:06-04'00'</p>		<p>CTDOT STANDARD SHEET</p>		<p>STANDARD SHEET TITLE: SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS</p>		<p>STANDARD SHEET NO.: TR-1208_01</p>	
3	8-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.		<p>Plotted Date: 8/10/2018</p>		<p>MARK F. CARLINO, P.E. 2018.08.21 07:48:06-04'00'</p>		<p>OFFICE OF ENGINEERING</p>					
2	4-2017	MINOR REVISIONS.											
1	2-2011	MINOR REVISIONS.											
REV.	DATE	REVISION DESCRIPTION											

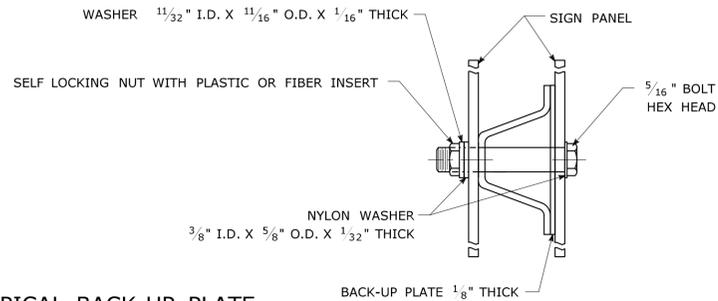
TYPICAL METAL SIGN POSTS



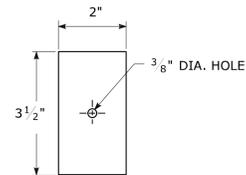
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



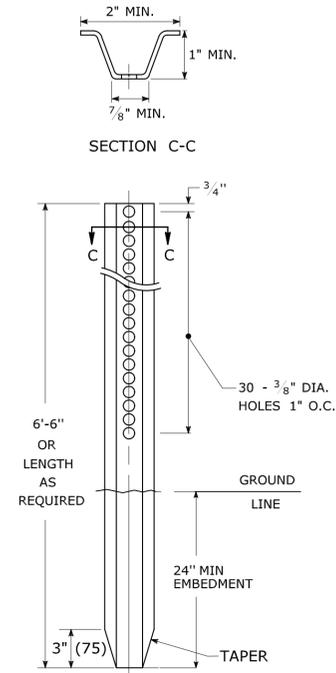
TYPICAL BACK-UP PLATE



BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
 SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
 WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

METAL DELINEATOR POST

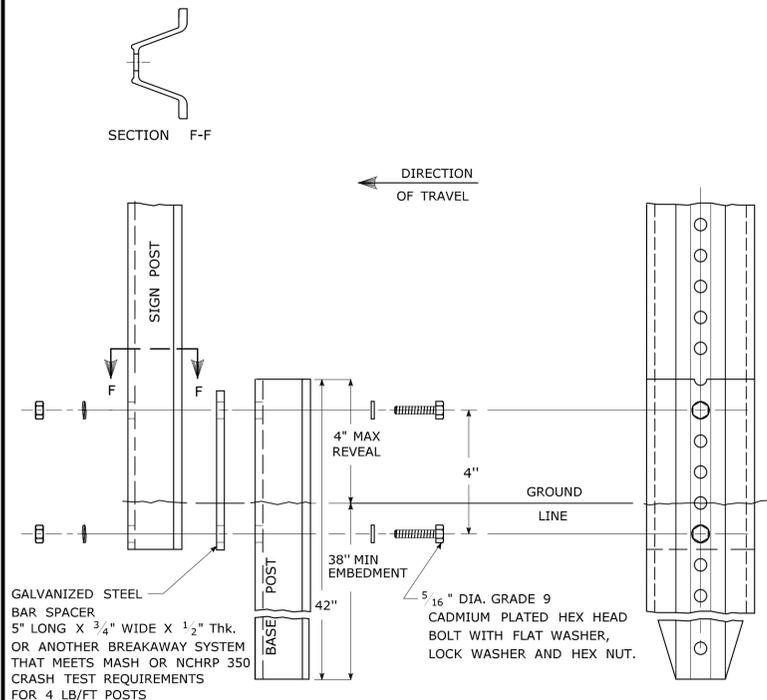
WT./FT. = 1.12 LBS./FT. MIN.



GENERAL NOTES:

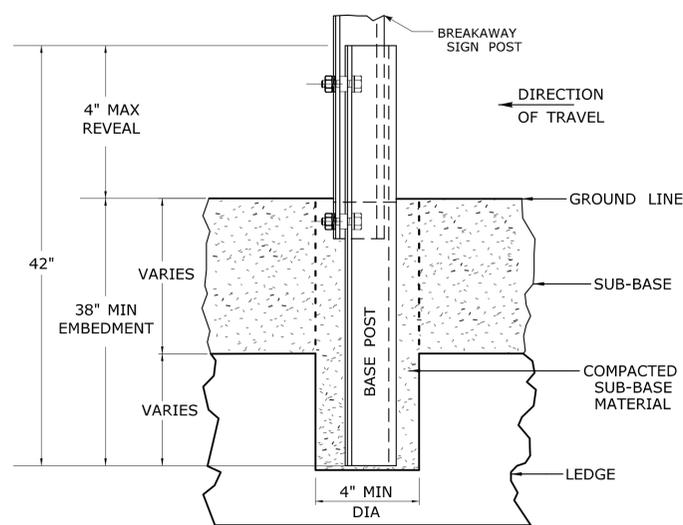
- STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 80 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91 LBS. OR GREATER PER LINEAR YARD.
- AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123.
- WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
- SPACER BAR FOR BREAKAWAY INSTALLATION SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A36.
- ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153.
- ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- SIGN POSTS SHALL BE 4 LBS./FT.

BREAKAWAY INSTALLATION FOR 4 LBS./FT. POSTS

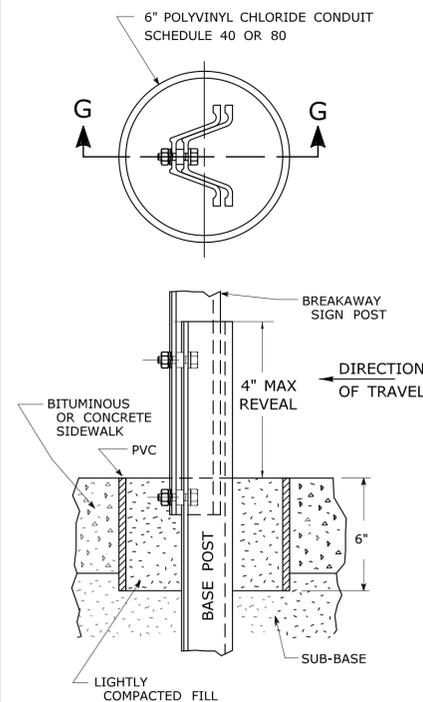


TYPICAL SIGN POST INSTALLATION IN LEDGE

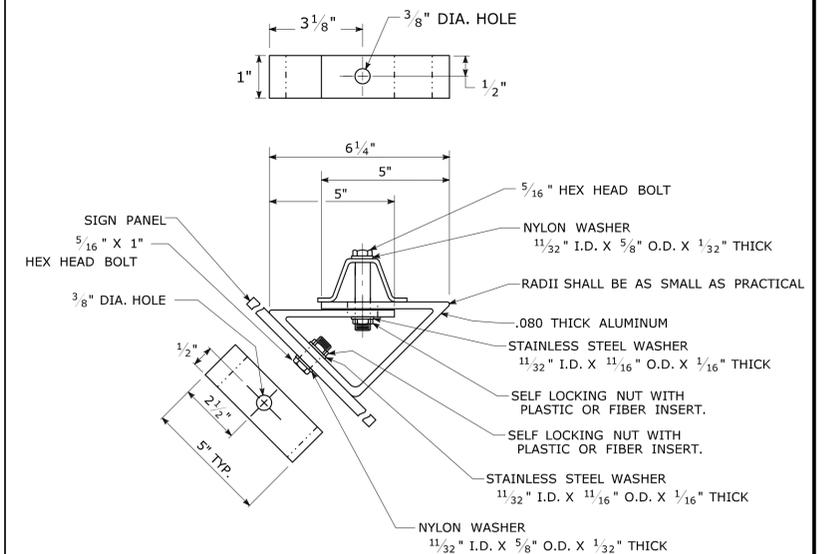
LEDGE SHALL BE REMOVED TO DRIVE THE BASE POST TO A DEPTH OF 38".
 HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.



TYPICAL SLEEVE FOR PAVED AREAS



45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS



REV.	DATE	REVISION DESCRIPTION
2	6-2017	SIGN POST REVISIONS.
1	2-2011	MINOR REVISIONS.

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Plotted Date: 6/6/2017

NOT TO SCALE

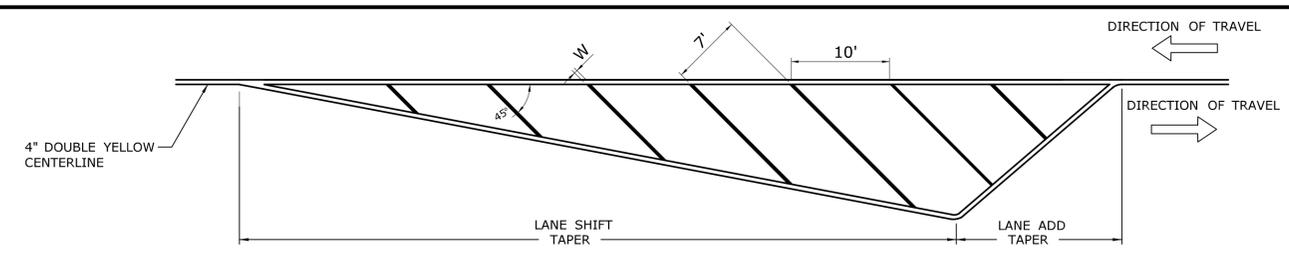
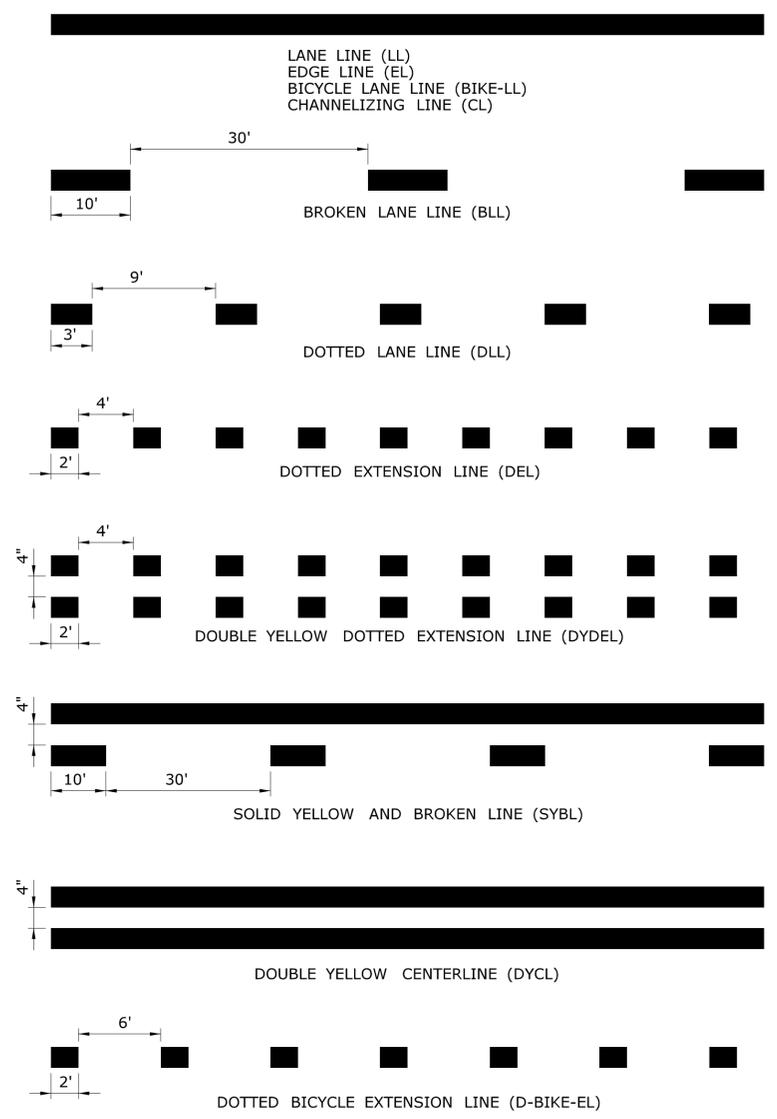


Filename: TR-1208_02_May_2017_Revision.dgn Model: TR-1208_02

SUBMITTED BY:	NAME/DATE/TIME:
Mark F. Makuch	Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00'
Mary E. Baker	Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00'
APPROVED BY:	NAME/DATE/TIME:
Gregory M. Dorosh	Gregory M. Dorosh, P.E. 2017.06.15 09:27:29-04'00'

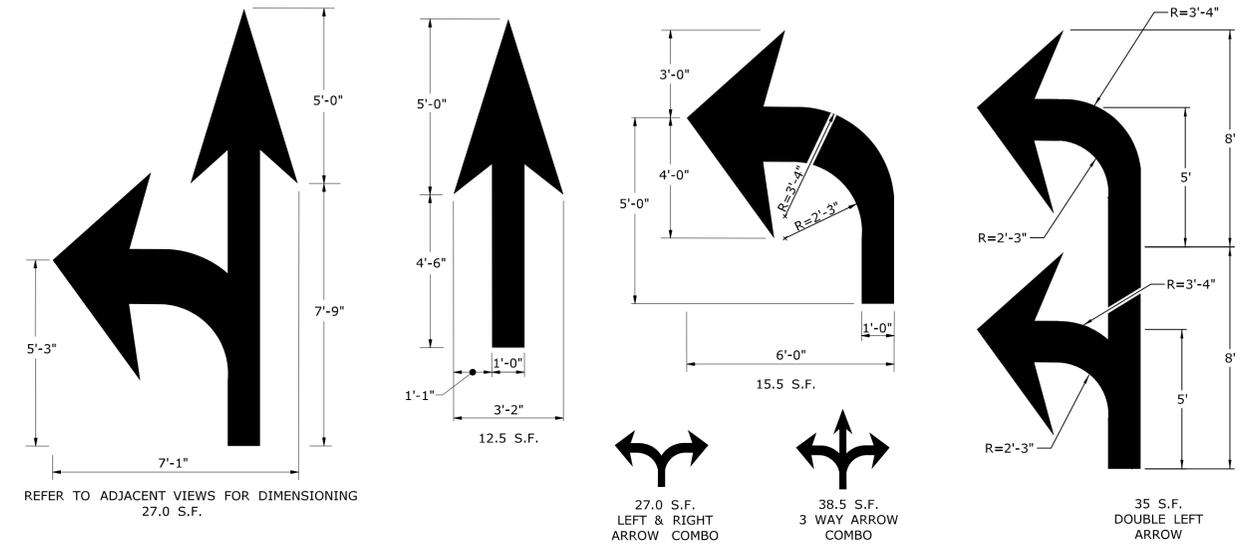
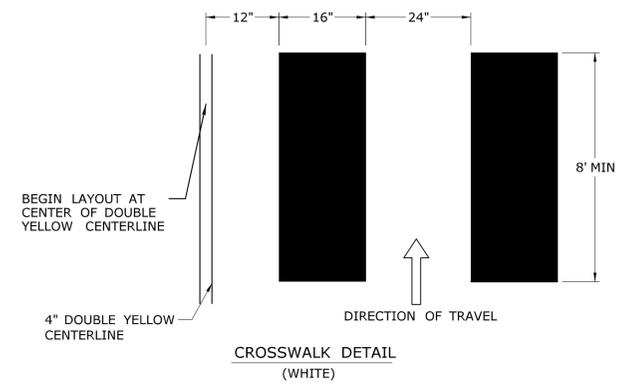
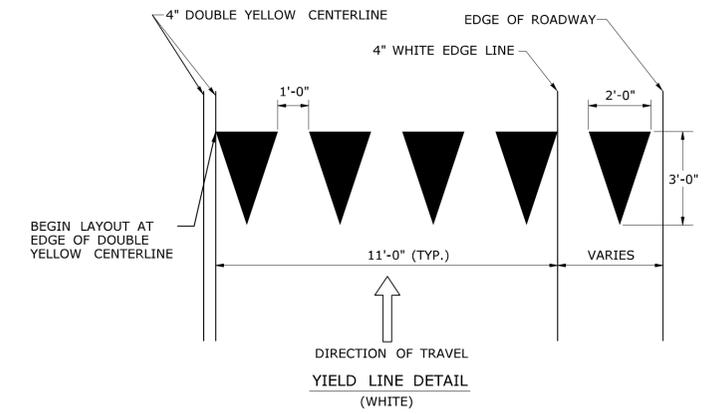
CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:	GUIDE SHEET NO.:
METAL SIGN POSTS AND SIGN MOUNTING DETAILS	TR-1208_02



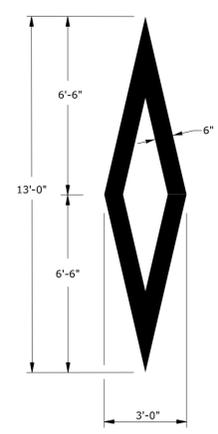
CROSS HATCHED ISLAND DETAIL
(YELLOW)

W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS

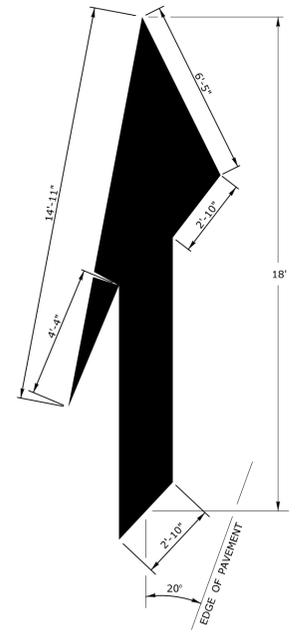


PAVEMENT ARROW DETAILS
(WHITE)

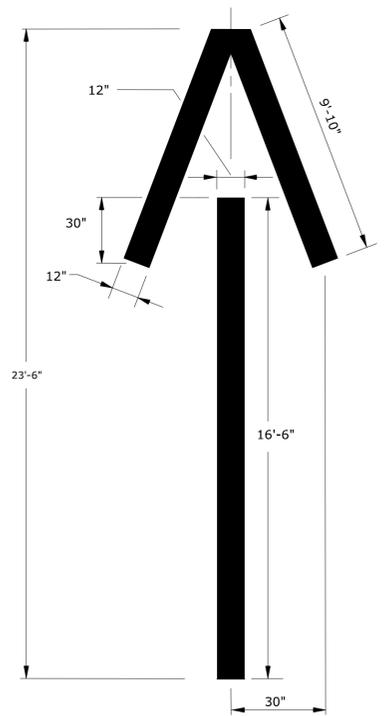
ARROWS SHALL BE CENTERED IN TRAVEL LANE



WHITE PREFERENTIAL LANE SYMBOL
13.0 S.F.



WHITE LANE REDUCTION ARROW
41.8 S.F.



WHITE WRONG WAY PAVEMENT ARROW
36.2 S.F.

- NOTES :
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
 2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.

REV.	DATE	REVISION DESCRIPTION
1	8-2018	REMOVED ROUNDABOUT MARKINGS.

Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210_04.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E. 2018.08.17 09:07:44-04'00'

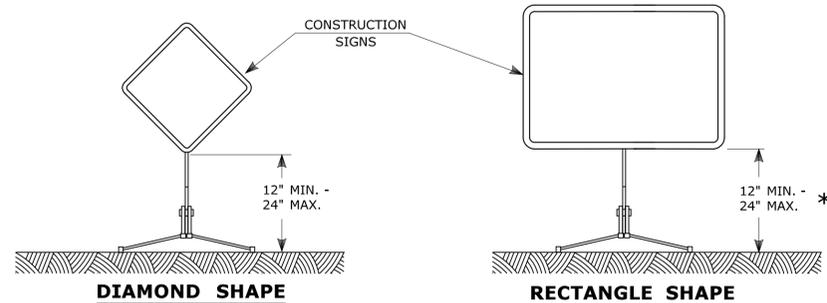
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Mark F. Carliano, P.E. 2018.08.21 07:48:45-04'00'

CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PAVEMENT MARKING LINES AND SYMBOLS

STANDARD SHEET NO.:
TR-1210_04

E5 - SERIES				G20 - SERIES				M4 - SERIES				R1 - SERIES				R9 & R11 - SERIES				W1 - SERIES				W3 - SERIES																																																																																																																																																																																																																																																															
<p>COPY & BORDER - WHITE BACKGROUND - GREEN</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>16.0</td><td>48</td><td>51-6147</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	51-6147	2	<p>END ROAD WORK</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>8.0</td><td>48X24</td><td>80-9612</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	8.0	48X24	80-9612	2	<p>ROAD WORK NEXT 0 MILE(S) BE PREPARED TO STOP</p> <p>VARIABLE MILEAGE</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>90.0</td><td>120X108</td><td>80-9728</td><td></td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	90.0	120X108	80-9728		<p>DETOUR</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>2.0</td><td>24X12</td><td>80-9707</td><td>1</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	2.0	24X12	80-9707	1	<p>DETOUR</p> <p>VARIABLE ARROW</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>5.0</td><td>30X24</td><td>80-9703</td><td>1</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	5.0	30X24	80-9703	1	<p>STOP</p> <p>COPY & BORDER - WHITE BACKGROUND - RED</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>5.19</td><td>30</td><td>31-0552</td><td>1</td></tr> <tr><td>13.30</td><td>48</td><td>31-0557</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	5.19	30	31-0552	1	13.30	48	31-0557	2	<p>SIDEWALK CLOSED</p> <p>COPY & BORDER - BLACK BACKGROUND - WHITE</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>3.75</td><td>30X18</td><td>80-9076</td><td>1</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	3.75	30X18	80-9076	1	<p>ROAD CLOSED 00 MILES AHEAD LOCAL TRAFFIC ONLY</p> <p>VARIABLE MILEAGE COPY & BORDER - BLACK BACKGROUND - WHITE</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>12.5</td><td>60X30</td><td>80-9077</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	12.5	60X30	80-9077	2	<p>(L) (R)</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>9.0</td><td>36</td><td>80-9432L</td><td>1</td></tr> <tr><td>9.0</td><td>36</td><td>80-9431R</td><td>1</td></tr> <tr><td>16.0</td><td>48</td><td>80-9452L</td><td>2</td></tr> <tr><td>16.0</td><td>48</td><td>80-9451R</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9432L	1	9.0	36	80-9431R	1	16.0	48	80-9452L	2	16.0	48	80-9451R	2	<p>BOTH LANES SHIFT LEFT AHEAD (L) (R)</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>16.0</td><td>48</td><td>80-9433L</td><td>2</td></tr> <tr><td>16.0</td><td>48</td><td>80-9435R</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	80-9433L	2	16.0	48	80-9435R	2	<p>BOTH LANES SHIFT RIGHT AHEAD (L) (R)</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>25.0</td><td>60</td><td>80-9483L</td><td>2</td></tr> <tr><td>25.0</td><td>60</td><td>80-9485R</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	25.0	60	80-9483L	2	25.0	60	80-9485R	2	<p>W3-1</p> <p>OCTAGON - RED W/ WHITE BORDER ARROW & BORDER - BLACK BACKGROUND - FLUORESCENT ORANGE</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>9.0</td><td>36</td><td>80-9050</td><td>1</td></tr> <tr><td>16.0</td><td>48</td><td>80-9051</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9050	1	16.0	48	80-9051	2																																																																																																												
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D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>16.0</td><td>48</td><td>80-9837</td><td>2</td></tr> <tr><td>16.0</td><td>48</td><td>80-9838</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	80-9837	2	16.0	48	80-9838	2	<p>W21-6</p> <p>SLOW MOVING TRUCKS AHEAD</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>32.0</td><td>96X48</td><td>80-9815</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	32.0	96X48	80-9815	2	<p>W22-1</p> <p>TURN OFF 2-WAY RADIO AND CELL PHONE</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>10.5</td><td>42X36</td><td>80-9623</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	10.5	42X36	80-9623	2	<p>W22-2</p> <p>USE SHOULDER</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>16.0</td><td>48</td><td>80-9956</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	80-9956	2	<p>W22-3</p> <p>SHOULDER CLOSED AHEAD (1) (2)</p> <table border="1"> <thead> <tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr> </thead> <tbody> <tr><td>(1) 16.0</td><td>48</td><td>80-9957</td><td>2</td></tr> <tr><td>(2) 9.0</td><td>36</td><td>80-9958</td><td>1</td></tr> <tr><td>(2) 16.0</td><td>48</td><td>80-9959</td><td>2</td></tr> </tbody> </table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	(1) 16.0	48	80-9957	2	(2) 9.0	36	80-9958	1	(2) 16.0	48	80-9959	2	<p>W16 - SERIES</p> <p>NEW</p> <p>COPY & BORDER - BLACK BACKGROUND - ORANGE</p> <table border="1"> <thead> <tr><th>AREA (SQ. 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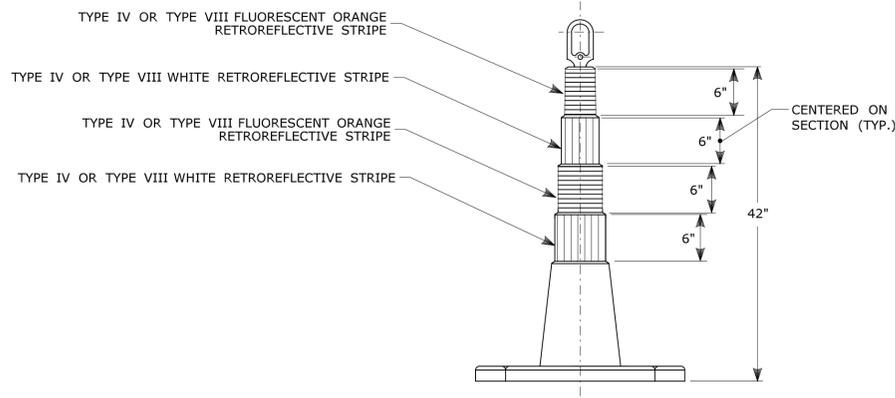


PORTABLE CONSTRUCTION SIGNS

NOTES FOR PORTABLE SIGN SUPPORTS:

- SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
- PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220.01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

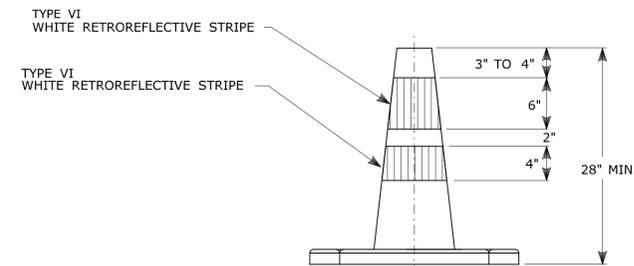
* FOR E5-1 (EXIT SIGNS) USE MIN 48".



42" TRAFFIC CONE

NOTES:

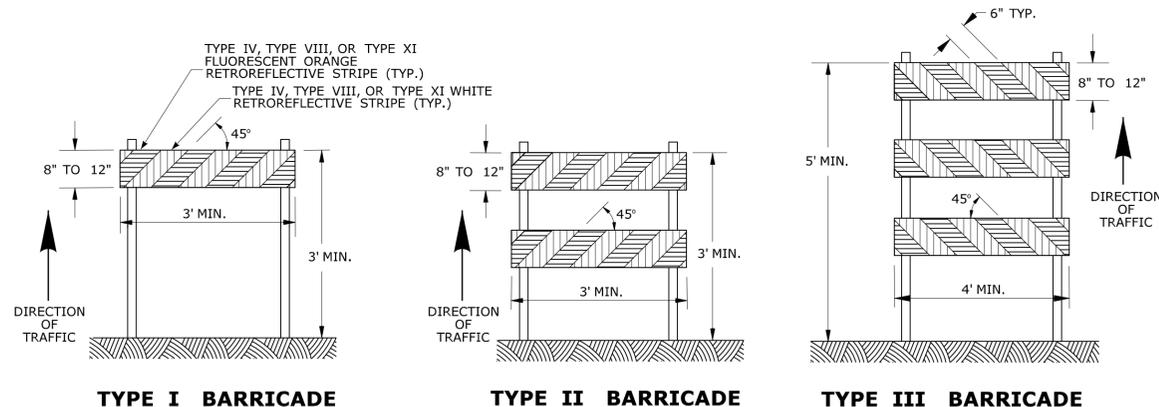
- TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



TRAFFIC CONE

NOTES:

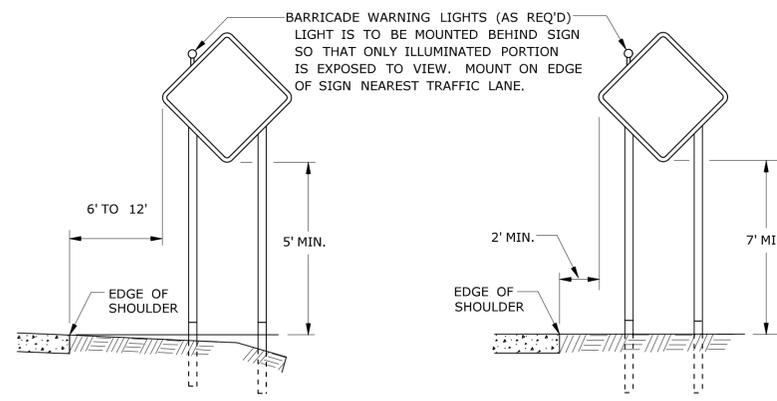
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- IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
- THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.



CONSTRUCTION BARRICADES

NOTES:

- CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
- MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
- SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.



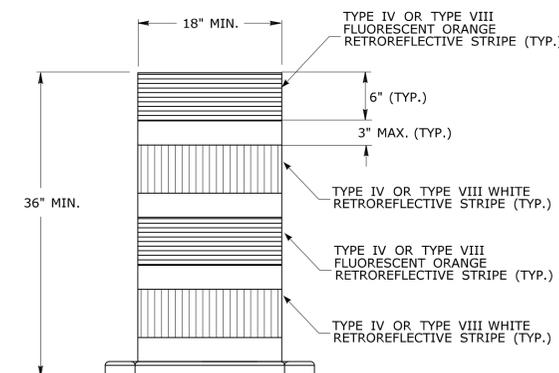
RURAL AREA

URBAN AREA

**PLACEMENT OF CONSTRUCTION SIGNS
TYPICAL LONG TERM INSTALLATION**

NOTES:

- SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.
REFER TO STANDARD SHEETS:
TR-1208.01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."
TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."



**TRAFFIC DRUM
FRONT VIEW**

NOTES:

- TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
- THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
- THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
- THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>		<p>NOT TO SCALE</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>SUBMITTED BY: <i>Mark F. Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2018.08.17 09:12:43-04'00'</p>	<p>CTDOT STANDARD SHEET</p>	<p>STANDARD SHEET TITLE: CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES</p>	<p>STANDARD SHEET NO.: TR-1220_02</p>
<p>3 8-2018 UPDATED SHEETING TYPE AND COLOR.</p> <p>2 8-2015 UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION.</p> <p>1 2-2011 MINOR REVISIONS.</p>	<p>APPROVED BY: <i>YFC</i> NAME/DATE/TIME: Mark F. Carfino, P.E. 2018.08.21 07:49:51-04'00'</p>			<p>OFFICE OF ENGINEERING</p>			
<p>REV. DATE REVISION DESCRIPTION</p>	<p>Plotted Date: 8/10/2018</p>		<p>Filename: TR-1220_02_3.2018.dgn Model: TR-1220_02</p>				