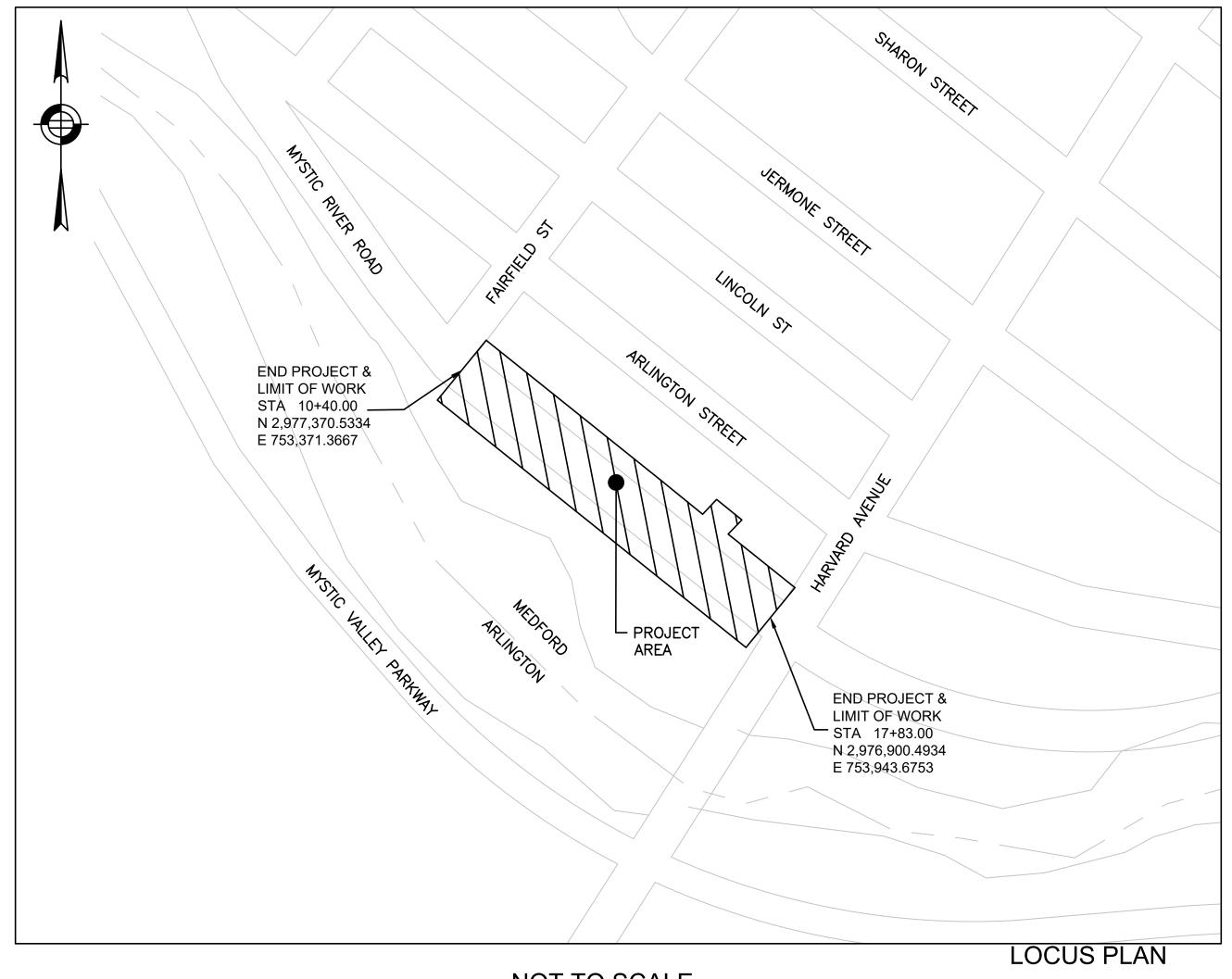
THE CITY OF MEDFORD, MASSACHUSETTS MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT

MIDDLESEX COUNTY PS&E SUBMISSION

<u>INDEX</u>

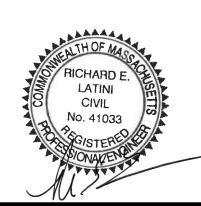
SHEET NO. DESCRIPTION

1 TITLE SHEET & INDEX
2 GENERAL NOTES, LEGEND & ABBREVIATION
3-4 CONSTRUCTION PLANS
5-6 GRADING PLANS
7-8 TRAFFIC SIGN & PAVEMENT MARKING PLAN
9 TRAFFIC SIGN SUMMARY SHEET
10-13 CONSTRUCTION DETAILS
14 PEDESTRIAN RAMP DETAILS
15-17 TEMPORARY TRAFFIC CONTROL DETAILS



NOT TO SCALE

NOT TO SCALE



11/11/24	PS&E SUBMISSION	
04/12/24	PRELIMINARY SUBMISSION	
DATE	DESCRIPTION	REV #

MYSTIC RIVER ROAD SAFETY & ACCESS
IMPROVEMENT PROJECT
TITLE SHEET & INDEX

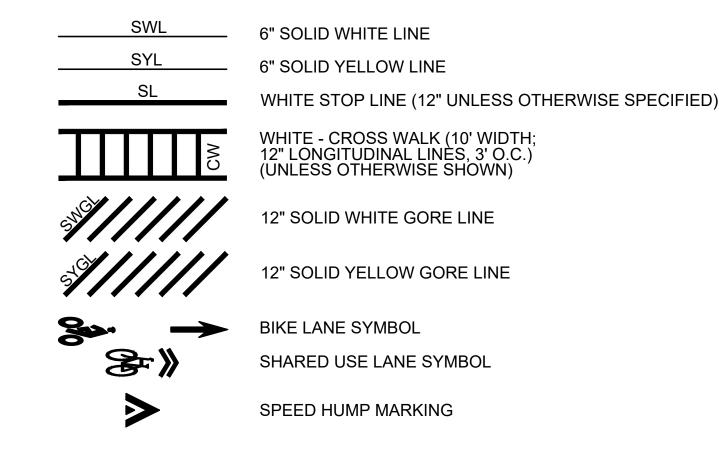
ROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL BY BY NO. SHEETS
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TRAFFIC SIGNAL LEGEND

PROPOSED REMOVE/ABANDON DESCRIPTION TO REMAIN TRAFFIC SIGN

PAVEMENT MARKING LEGEND



GENERAL NOTES

- THE EXISTING CONDITIONS SHOWN ON THESE PLANS CONSIST OF AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY A-PLUS CONSTRUCTION SERVICES CORP. ON JUNE 22, 2023
- THE ELEVATIONS DEPICTED ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (N.A.V.D.) OF 1988(USFT ELEVATIONS ARE ESTABLISHED BY USING MEANS OF RTK GPS USING THE KEYNET VRS NETWORK
- 3. THE HORIZONTAL CONTROL DEPICTED ARE BASED ON MASSACHUSETTS COORDINATE SYSTEM, MAINLAND ZONE. NAD83(2011) EPOCH 2010.00. THE HORIZONTAL CONTROL ARE ESTABLISHED BY USING MEANS OF RTK GPS USING THE KEYNET VRS NETWORK.
- 4. UNDERGROUND UTILITIES SHOWN ARE BASED UPON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN. CH. 82 SEC. 40 OF THE M.G.L. REQUIRES 72 HOUR NOTICE TO ALL UTILITY OWNERS. PRIOR TO EXCAVATIONS, CALL "DIG SAFE" 1-888-DIG-SAFE AND EACH UTILITY OWNER.
- 3. DIVISIONS OF PRIVATE OWNERSHIPS ARE COMPILED FROM DEEDS, RECORD PLANS AND ASSESSOR'S MAPS.
- 4. EXISTING UTILITIES. WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- 5. THE CONTRACTOR SHALL RE-ESTABLISH SURVEY CONTROL PRIOR TO BEGINNING WORK ON THIS CONTRACT.
- 6. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ELECTRIC, TELEPHONE. AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AT NO ADDITIONAL COST TO THE OWNER. IF THE CONTRACTOR ADJUSTS UTILITY COVERS IT SHALL BE DEEMED PART OF THE WORK AND THERE WILL BE NO ADDITIONAL COMPENSATION.
- 7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DAMAGED BY THE CONTRACTOR'S OPERATIONS. INCLUDING STAGING AREAS, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- 8. THE CONTRACTOR IS HEREBY NOTIFIED THAT ADDITIONAL WORK WITHIN THE PROJECT LIMITS MAY BE PERFORMED BY OTHERS.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND CONFIRMING THAT ALL ITEMS TO BE REUSED ARE IN SERVICEABLE CONDITION. IF IT IS DEEMED THAT ANY ITEM IS NOT ABLE TO BE REUSED, THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING AND INCLUDE ESTIMATED COSTS TO INSTALL NEW.

ABBREVIATIONS

AADT

ABAN

ADJ

A.C.

BIT.

BD.

BR.

CB

CBCI

CC

CCM

CEM

CI

CL

CMP

CSP

CO.

CONC

CONT

CONST

CR GR

CPP

DHV

DW

CIP

BLDG

TRAFFIC SIGN MOUNTED ON SIGNAL POST

UTILITY POLE, ETC.

GENERAL GENERAL ANNUAL AVERAGE DAILY TRAFFIC **ABANDON** R&D **RCP** ADJUST RD **APPROX APPROXIMATE RDWY ASPHALT CONCRETE** ASPHALT COATED CORRUGATED METAL PIPE REM ACCM PIPE RET **BITUMINOUS RET WALL BOTTOM OF CURB** BOUND **BASELINE** R&R BUILDING **BENCHMARK** BY OTHERS **BOTTOM OF SLOPE SHLD** BRIDGE **CATCH BASIN** CATCH BASIN WITH CURB INLET **STA CEMENT CONCRETE** SHLO **CEMENT CONCRETE MASONRY** SW CEMENT **CURB INLET**

STATE HIGHWAY LAYOUT LINE SIDEWALK TANGENT DISTANCE OF CURVE/TRUCK % TAN TANGENT **TEMP TEMPORARY** TOP OF CURB TOS TOP OF SLOPE TYP **TYPICAL UTILITY POLE** VAR **VARIES VERT VERTICAL** VC

CAB.

CCVE

DW

FDW

FR

FY

FYL

GL

OL

PED

TR SIG

TSC

ALTH OF MA

CIVIL

No. 41033

RICHARD E. LATINI

VERTICAL CURVE PEDESTRIAN CURB RAMP WG WATER GATE WROUGHT IRON PIPE WM WATER METER/WATER MAIN X-SEC **CROSS SECTION**

DUCTILE IRON PIPE STEADY DON'T WALK - PORTLAND ORANGE DWY **DRIVEWAY** ELEV (or EL.) ELEVATION

FRAME AND COVER

HORIZONTAL

HYDRANT

CAST IRON PIPE

CENTERLINE

COUNTY

CONCRETE

CONTINUOUS

CONSTRUCTION

CROWN GRADE

DROP INLET

DIAMETER

CHAIN LINK FENCE

CORRUGATED METAL PIPE

CORRUGATED STEEL PIPE

CORRUGATED PLASTIC PIPE

DESIGN HOURLY VOLUME

EMB EMBANKMENT EDGE OF PAVEMENT EXIST (or EX) EXISTING **EXCAVATION**

F&G FRAME AND GRATE FDN. **FOUNDATION** GROUND GG **GAS GATE** GI **GUTTER INLET**

GIP GALVANIZED IRON PIPE GRAN GRANITE **GRAV GRAVEL** GRD GUARD **HDW HEADWALL** HOT MIX ASPHALT HMA

INV INVERT JCT **JUNCTION** LENGTH OF CURVE LIGHT POLE

HOR

HYD

PC

ΙT LEFT MAX MAXIMUM MB **MAILBOX** МН **MANHOLE**

MHB MASSACHUSETTS HIGHWAY BOUND MINIMUM NIC NOT IN CONTRACT NO. NUMBER

PCC POINT OF COMPOUND CURVATURE P.G.L. PROFILE GRADE LINE POINT OF INTERSECTION Ы POC POINT ON CURVE

POT POINT ON TANGENT PRC POINT OF REVERSE CURVATURE **PROJ PROJECT** PROP **PROPOSED**

POINT OF CURVATURE

PSB PLANTABLE SOIL BORROW POINT OF TANGENCY PVC POINT OF VERTICAL CURVATURE PVI POINT OF VERTICAL INTERSECTION

POINT OF VERTICAL TANGENCY PVT **PVMT** PAVEMENT PAVED WATER WAY **PWW**

TRAFFIC SIGNAL

ABBREVIATIONS (CONT)

REINFORCED CONCRETE PIPE

RADIUS OF CURVATURE

REMOVE AND DISPOSE

ROAD

ROADWAY

RETAINING WALL

REMOVE AND RESET

REMOVE AND STACK

RIGHT OF WAY

STONE BOUND

SEWER MANHOLE

SHOULDER

STREET

STATION

RAILROAD

RIGHT

REMOVE

RETAIN

CABINET

CLOSED CIRCUIT VIDEO EQUIPMENT STEADY DON'T WALK FLASHING DON'T WALK FLASHING CIRCULAR RED FLASHING CIRCULAR AMBER FLASHING AMBER LEFT ARROW STEADY CIRCULAR GREEN STEADY GREEN LEFT ARROW OVERLAP

PEDESTRIAN PAN, TILE, ZOOM STEADY CIRCULAR RED STEADY RED LEFT ARROW STEADY RED RIGHT ARROW TRAFFIC SIGNAL

TRAFFIC SIGNAL CONDUIT STEADY WALK STEADY CIRCULAR AMBER

STEADY AMBER LEFT ARROW

HOWARD STEIN HUDSON

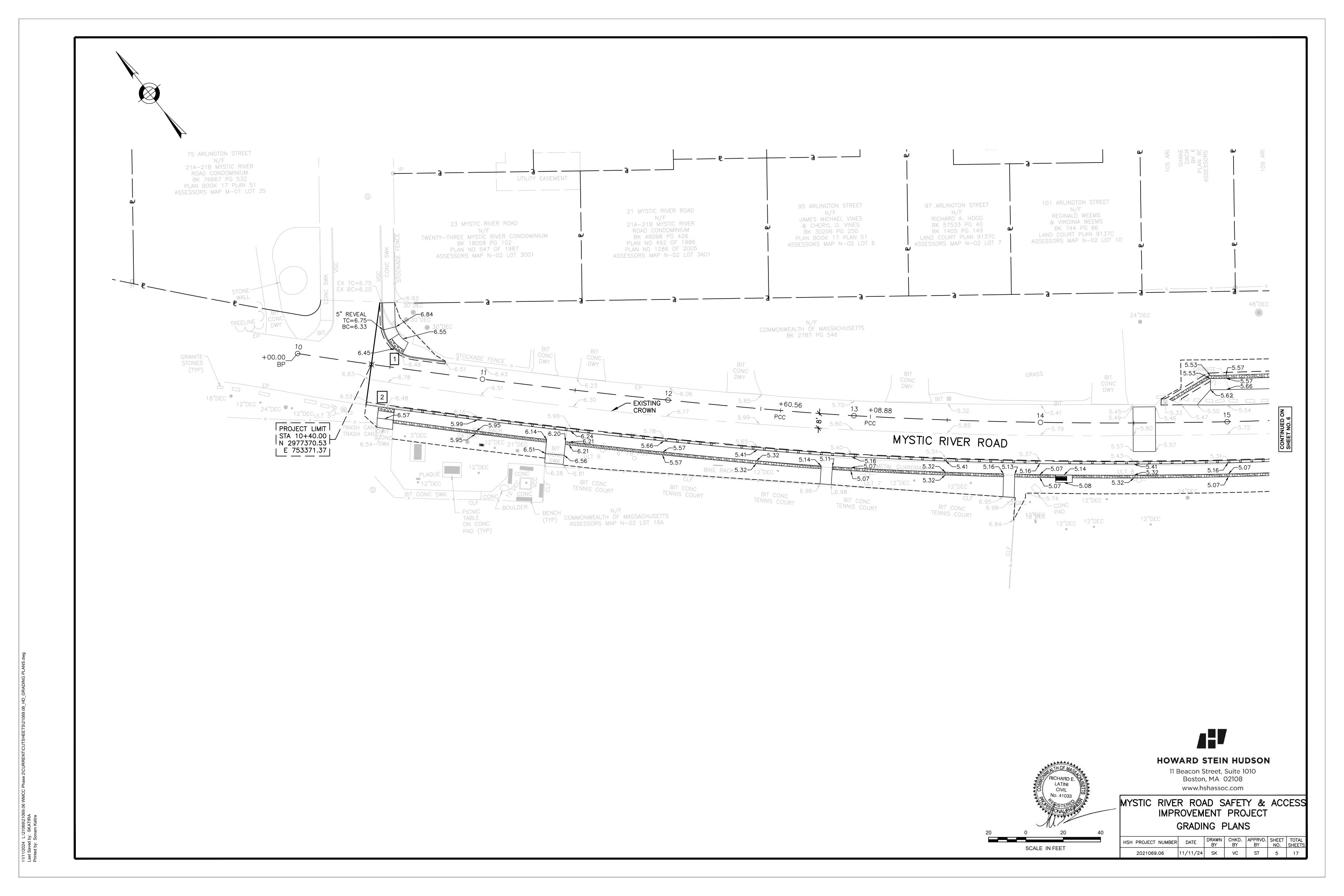
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MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT GENERAL NOTES, LEGEND & **ABBREVIATIONS**

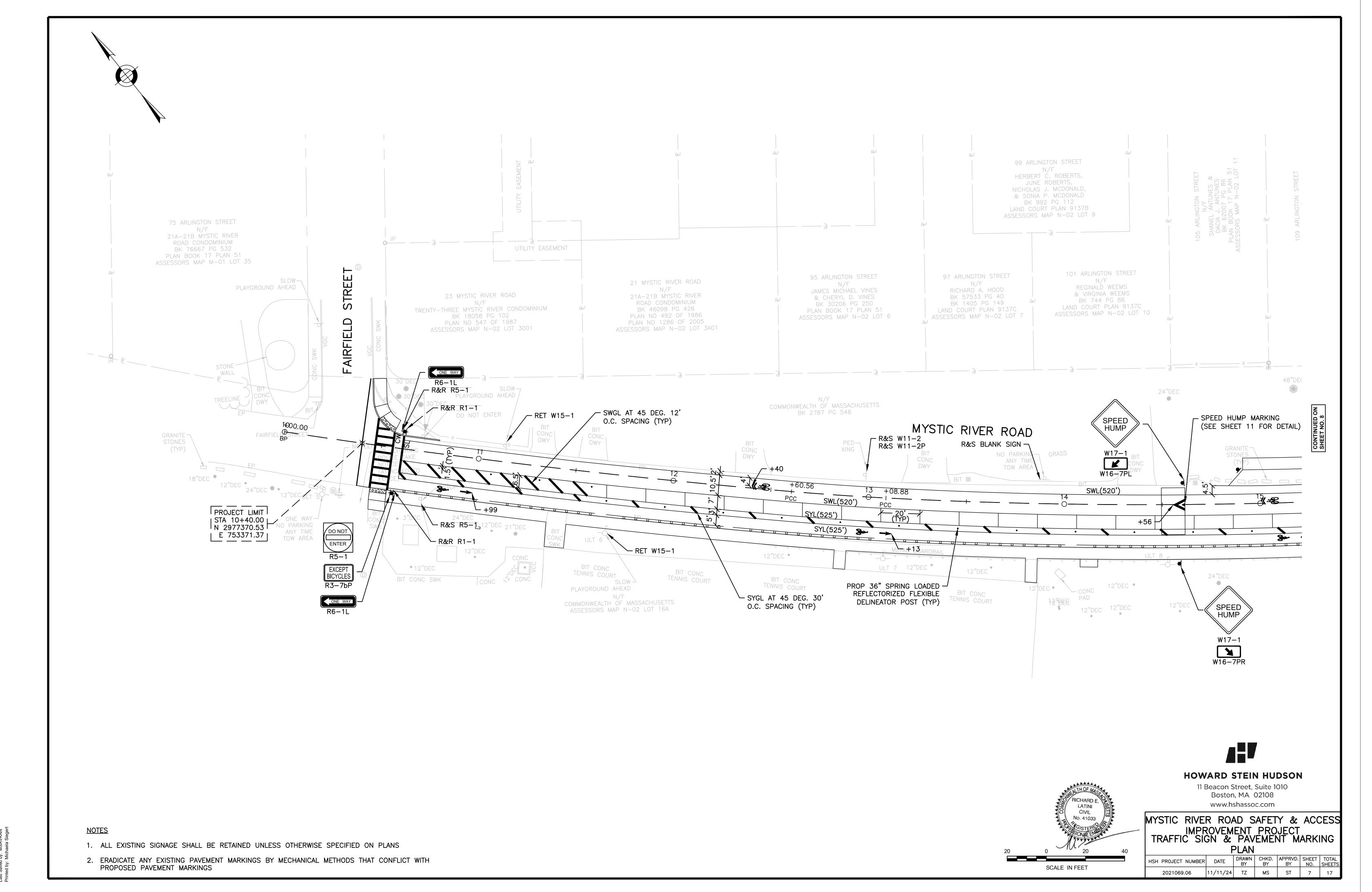
HSH PROJECT NUMBER DATE 11/11/24 SK 2021069.06 VC 2

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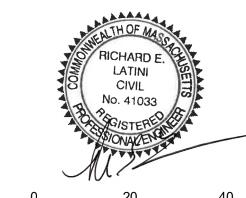


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1. ALL EXISTING SIGNAGE SHALL BE RETAINED UNLESS OTHERWISE SPECIFIED ON PLANS

2. ERADICATE ANY EXISTING PAVEMENT MARKINGS BY MECHANICAL METHODS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS



SCALE IN FEET

IMPROVEMENT PROJECT
TRAFFIC SIGN & PAVEMENT MARKING

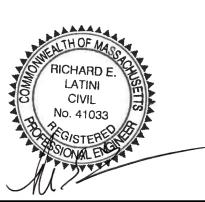
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IDENTI-		F SIGN	UNIT			TEX	T DIMENSION	ONS		NUMBER	co	LOR		DOCT CIZE AND NUMBER	TOTAL
FICATION NUMBER		HES) HEIGHT	AREA SF	TEXT	LETT HEIG	ER HT	VERTICAL SPACING	ARRO RTE. M	OW MKR.	OF SIGNS REQUIRED	BACKGROUND	LEGEND	BORDER	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN
R1-1	18	18	2.25	STOP	1)	1	1)	1	RED	WHITE	WHITE	P5 (1)	2.25
R3-7bP	24	12	2.00	EXCEPT BICYCLES						1	WHITE	BLACK	BLACK	MOUNT W/ R5-1 (1)	2.00
R5-1	30	30	6.25	DO NOT ENTER						1	WHITE	RED	BLACK	P5 (1)	6.25
R6-1L	36	12	3.00	ONE WAY						2	WHITE/BLACK	BLACK	BLACK	MOUNT ON EXIST POST (2)	6.00
R7-1L	12	18	1.50	NO PARKING ANY TIME						1	WHITE	RED	RED	P5 (1)	1.50
R7–1R	12	18	1.50	NO PARKING ANY TIME						1	WHITE	RED	RED	P5 (1)	1.50
R7-200a	24	18	3.00	XX MIN PARKING PICK-UP/DROP-OFF XANY-YANY TIME	COOF		ATE WITH (GN DETAIL		OR	1	COORDINATE SIGN	WITH CITY DETAILS	for	P5 (1)	3.00
R7-200b	24	18	3.00	NO PARKING PICK-UP/DROP-OFF XDAY-YDAY XTIME	COOF		ATE WITH (GN DETAIL		OR	1	COORDINATE SIGN	WITH CITY DETAILS	fOR	P5 (1)	3.00
W11-2	30	30	6.25		(1)	1)	1)	2	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	P5 (2)	12.50
W13-1P	18	18	2.25	15 M.P.H.						1	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W17-1 (1)	2.25
W16-7PL	24	12	2.00	K						2	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W11-2 (1) MOUNT W/ W17-1 (1)	4.00
W16-7PR	24	12	2.00	Y						3	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	MOUNT W/ W11-2 (1) MOUNT W/ W17-1 (2)	6.00
W17-1	30	30	6.25	SPEED HUMP						4	FLUORESCENT YELLOW-GREEN	BLACK	BLACK	P5 (4)	25.00

NOTE: PROPOSED P5 POSTS SHALL BE U-CHANNEL POSTS ONLY

TOTAL AREA: 75.25





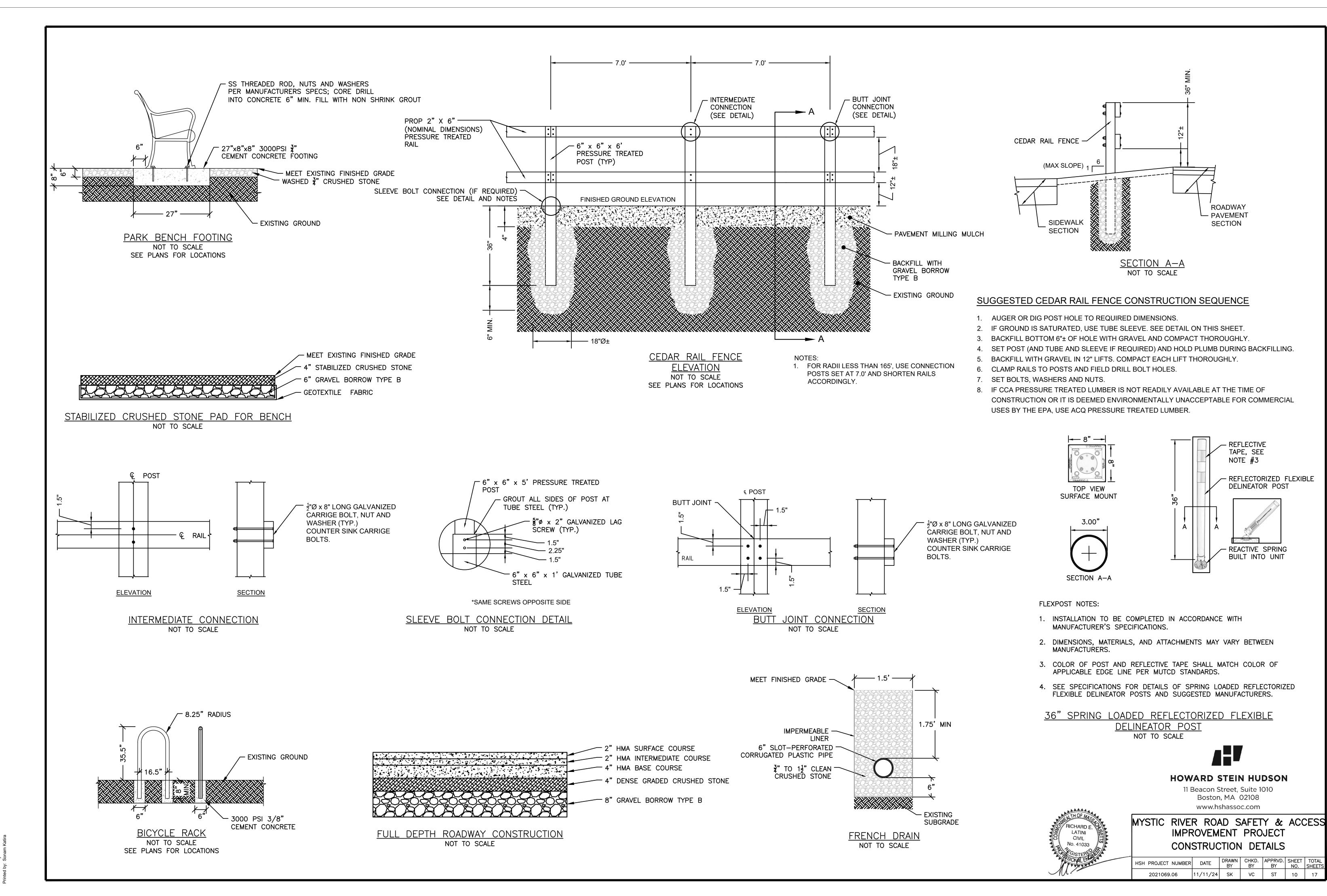
www.hshassoc.com MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT

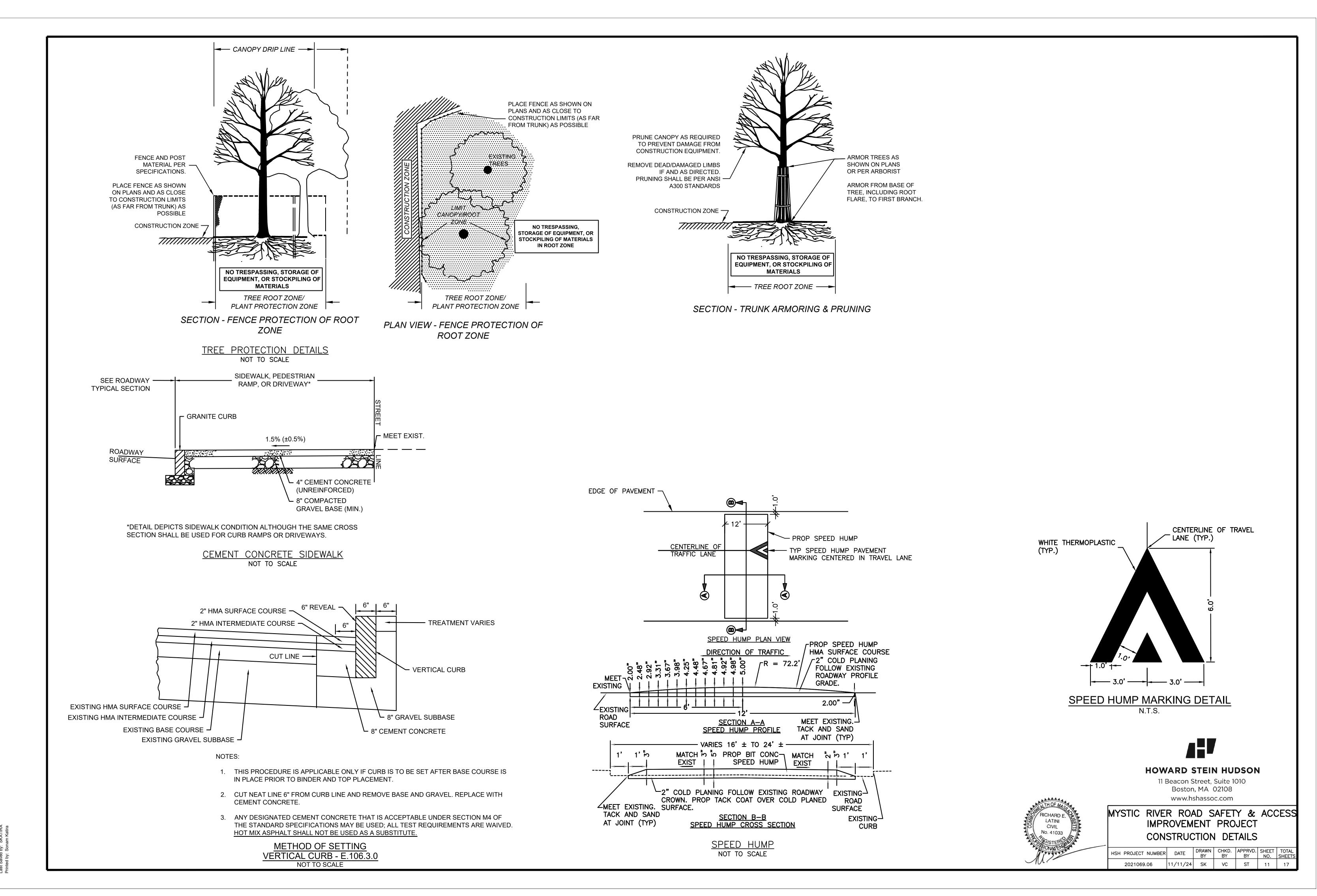
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HSH PROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL BY BY NO. SHEETS 2021069.06 11/11/24 TZ MS ST 9

TRAFFIC SIGN SUMMARY SHEET

① SEE LATEST EDITION OF THE MUTCD WITH MASSACHUSETTS AMENDMENTS AND MASSDOT 2024 STANDARD SPECIFICATIONS FOR TEXT DIMENSIONS AND COLOR.





11/11/2024 L:\21069\21069.06 WMCC Phase 2\CURR

NOTES:

1. FABRIC FOR FENCES 4' OR LESS IN HEIGHT.
TOP SELVAGE TO HAVE KNUCKLED FINISH. BOTTOM SELVAGE TO HAVE
TWISTED AND BARBED FINISH UNLESS OTHERWISE NOTED.
FABRIC FOR FENCES 5' OR OVER IN HEIGHT.
BOTH TOP AND BOTTOM SELVAGE TO HAVE TWISTED AND BARBED
FINISH UNLESS OTHERWISE NOTED.

- 2. THE HEIGHT OF FENCE TO MATCH EXISTING HEIGHT OF FENCE.
- 3. GRADE OF FENCE TO BE PARALLEL WITH THE GRADE OF SIDEWALKS, CURBING, GROUND OR TOP OF WALL.

4. LINE POSTS TO BE SPACED 10'-0" C. TO C. MAXIMUM EXCEPT ON CURVES WHERE THEY SHALL BE SPACED AS FOLLOWS:

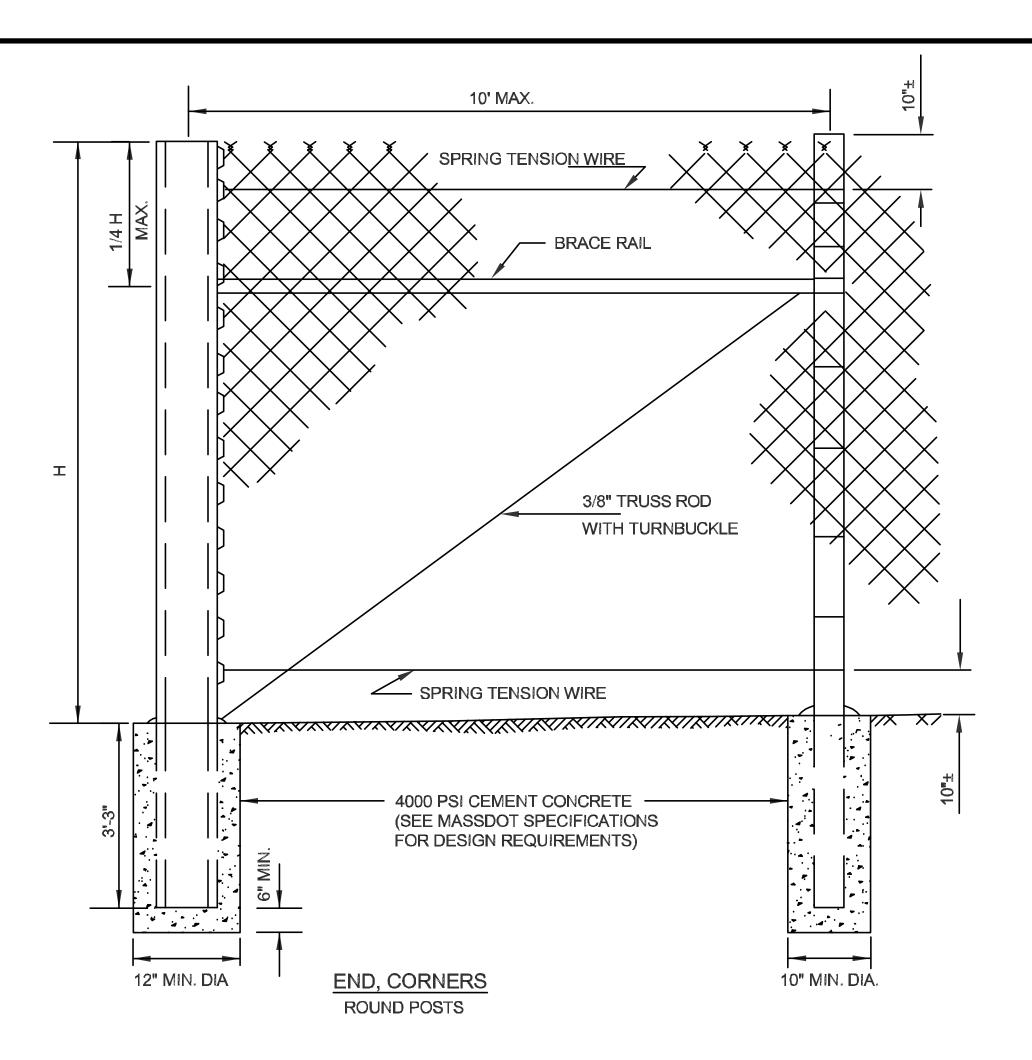
CURVES 200' TO 500' RADIUS 8'-0" C. TO C. MAXIMUM CURVES 100' TO 200' RADIUS 6'-0" C. TO C. MAXIMUM CURVES LESS THAN 100' RADIUS 5'-0" C. TO C. MAXIMUM

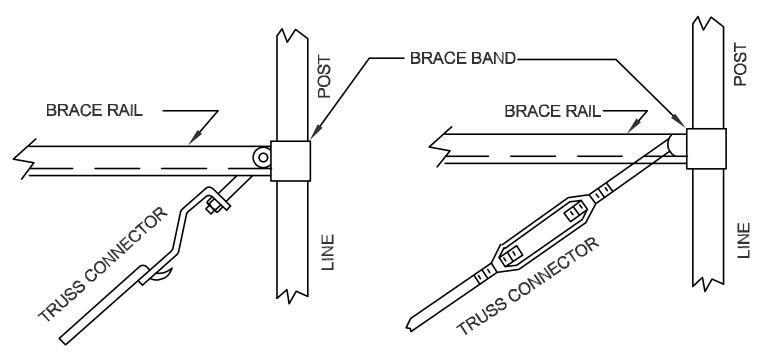
- 5. FOR POST BASES AND CABLE ATTACHMENTS, SEE CHAIN LINK FENCE DETAILS OF CABLE ATTACHMENTS AND POST BASES CONSTRUCTION
- 6. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHODS, SEE STANDARD SPECIFICATIONS

CHAIN LINK FENCE
(PIPE TOP RAIL)
NOT TO SCALE

STANDARD SPECIFICATIONS.

| LINK FENCE





BRACE & TRUSS CONNECTIONS

CHAIN LINK FENCE POST DETAILS NOT TO SCALE



HOWARD STEIN HUDSON

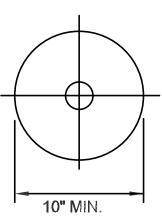
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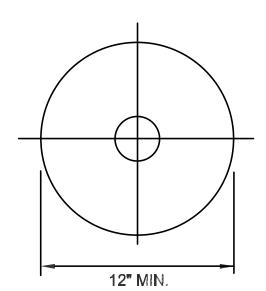


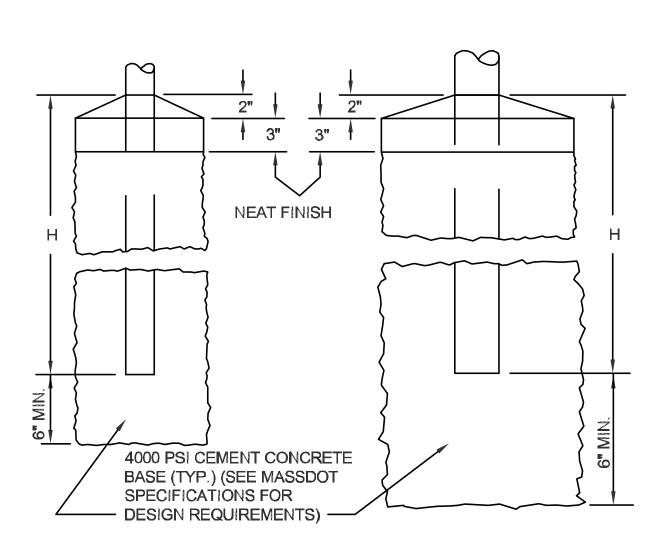
MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT CONSTRUCTION DETAILS

HSH PROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL BY BY NO. SHEETS

2021069.06 11/11/24 SK VC ST 12 17

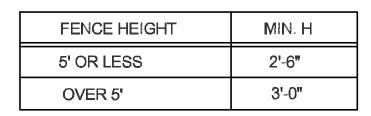


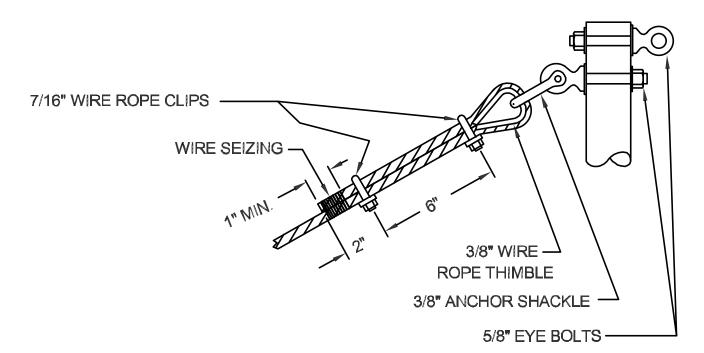




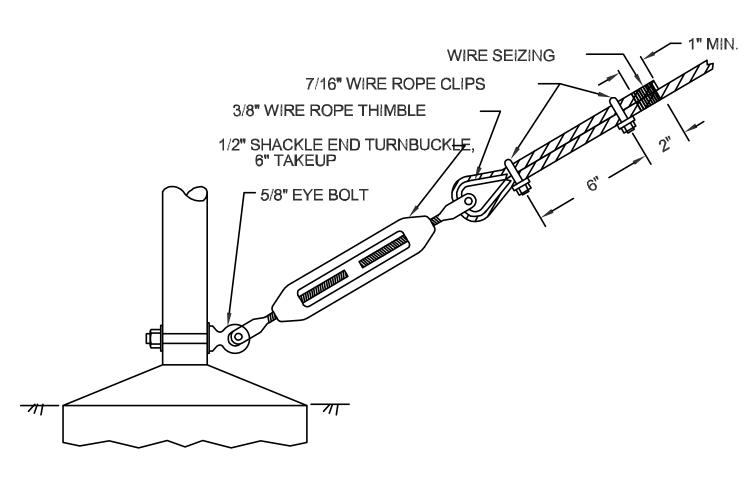
FOR CORNER, END LINE AND PULL POSTS

FOR GATE POSTS





FOR END PULL POST



FOR FASTENING TO BASE OF POST

NOTE:

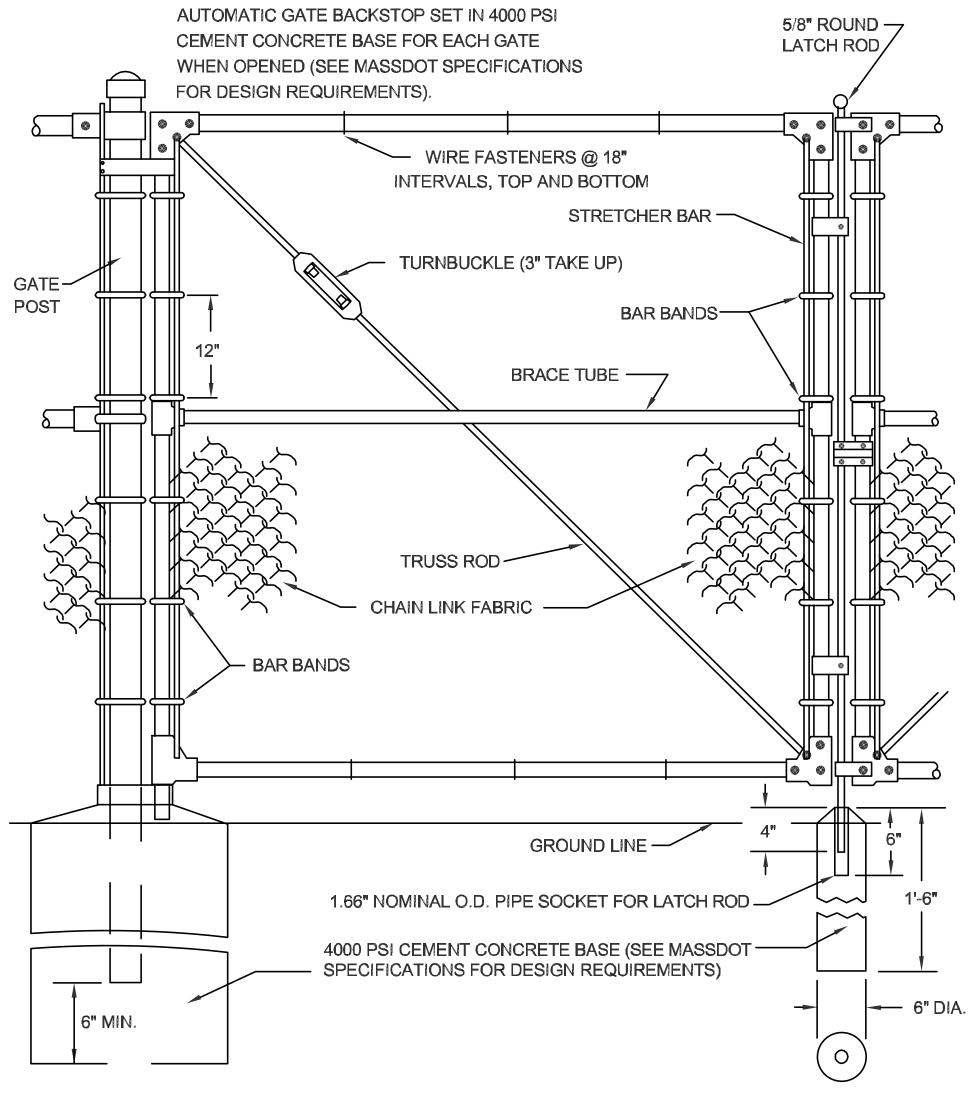
1. FOR EYE BOLT INSTALLATION THROUGH PIPE SECTIONS, USE 2 WASHERS ON "SHOULDER SIDE" AND 1 WASHER WITH LOCK WASHER ON "NUT SIDE" OF POSTS.

DETAILS OF CABLE ATTACHMENTS

CHAIN LINK FENCE DETAILS OF CABLE

ATTACHMENTS AND POST BASES

NOT TO SCALE



DOUBLE GATES

END POSTS TO BE USED ON LATCH SIDE OF SINGLE GATE OPENINGS,

- CHAIN LINK FABRIC FOR GATES TO BE THE SAME AS REQUIRED FOR FENCE.
- 2. FOR GATE POST BASE, SEE CHAIN LINK FENCE DETAILS OF CABLE ATTACHMENTS AND POST BASES CONSTRUCTION DETAIL.

CHAIN LINK FENCE — SWING GATE NOT TO SCALE



HOWARD STEIN HUDSON

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MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT CONSTRUCTION DETAILS

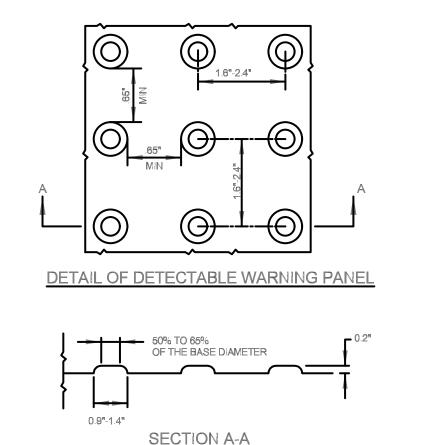
HSH PROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL SHEETS

2021069.06 11/11/24 SK VC ST 13 17

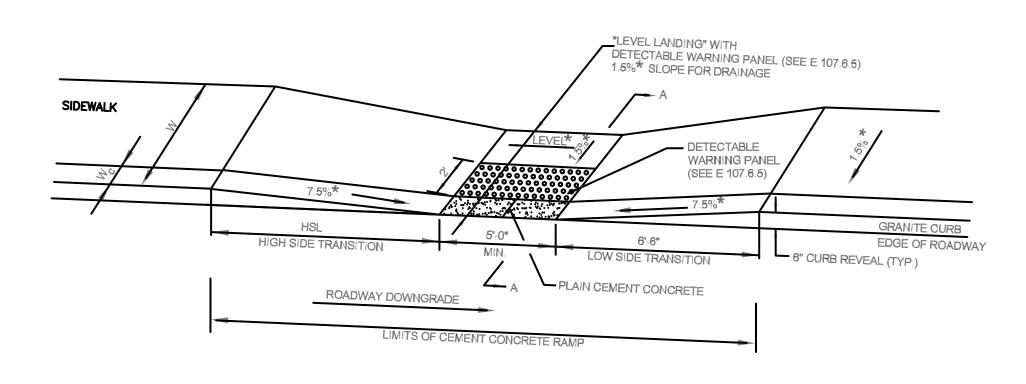
	PEDESTRIAN CURB RAMP WITH LANDSCAPE STRIP (E 107.6.9)										
PCR#	ROADWAY PCR # ELEV. AT		RAMP REFERENCE POINT		LENGTH OF PRIMARY	WIDTH OF	I RAMP	DEPTH OF LEVEL	TRANSITION		GUTTER
	RAMP €	STREET	STATION	OFFSET	RAMP	SIDEWALK	ENTRANCE	LANDING	LEFT SIDE	RIGHT SIDE	SLOPE
2	6.53	MYSTIC RIVER ROAD	10+56	22.0' RT	6.00'	6.00'	8.50'	5.00'	-	-	-0.90%
3	5.96	MYSTIC RIVER ROAD	15+93	9.0' LT	4.00'	6.00'	6.00'	4.00'	-	-	0.70%
4	5.90	MYSTIC RIVER ROAD	15+93	22.0' RT	6.00'	6.00'	6.00'	6.00'	-	-	0.90%

<u>LEGEND:</u>

* = TOLERANCE FOR CONSTRUCTION ± 0.5%



NOTE: CURBING WHERE SHOWN ON PLANS



HSL ≈ HIGH SIDE TRANSITION LENGTH W ≈ SIDEWALK WIDTH

(SEE E 107.9.0)

* ≈ TOLERANCE FOR CONSTRUCTION ±0.5% USABLE SIDEWALK WIDTH PER AAB ≈ W~Wc

USABLE SIDEWALK WIDTH PER AAB IS NOT TO

SEE E 107.6.5 FOR DETAILS OF DETECTABLE

W_C ≈ CURB WIDTH CC ≈ CEMENT CONCRETE

BE LESS THAN 4'0"

WARNING PANEL

FOR FIELD CONDITIONS

NOTE: ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED ROADWAY FOUNDATION SECTION A-A

	PEDESTRIAN CURB RAMP ON NARROW SIDEWALK (E 107.2.1)										
PCR#	ROADWAY ELEV. AT	RAMP	REFERENCE I	POINT	LENGTH OF WIDTH OF RAMP LEVEL TRANSITION			SITION	GUTTER SLOPE		
	RAMP &	STREET	STATION	OFFSET	RAMP	SIDEWALK	ENTRANCE	LANDING	LEFT SIDE	RIGHT SIDE	SLOPE
1	6.46	MYSTIC RIVER ROAD	10+56	7.7' LT	7.00'	10.00'	10.00'	6.50'	6.50'	-	0.70%





DETECTABLE

WARNING PANEL

(SEE E 107.6.5)

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HSH PROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL BY BY NO. SHEETS 2021069.06 11/11/24 SK VC ST

2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH MUTCD AND MASSDOT REVISIONS.

3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.

4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.

5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).

6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.

7. THE FIRST TEN REFLECTORIZED PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.

8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.

9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.

10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.

11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.

12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

13. CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKINGS AND SIGNAGE THAT CONFLICT WITH PROPOSED WORK. CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC SIGNAL EQUIPMENT.

14. AN EXCAVATION GREATER THAN OR EQUAL TO 4" IN DEPTH MUST BE BACKFILLED WITH A 4:1 SLOPE DURING NON-WORKING HOURS.

15. POLICE OFFICER DETAIL SHALL BE PROVIDED WHEN NECESSARY. POLICE DETAILS AND POST LOCATION WILL BE DETERMINED BY THE OFFICER.

16. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL NOT COVERED IN THE PLAN SET SHALL REFER TO MASSDOT "STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS".

17. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED TEMPORARY MARKINGS AND SHALL BAG OR REMOVE SIGNAGE THAT CONFLICTS WITH CONSTRUCTION PERIOD TRAFFIC PATTERNS.

SUGGESTED ADVANCE WARNING SIGN MINIMUM SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS						
ROAD TIPE	А	В	С				
URBAN (30MPH OR LESS)	100 FEET	100 FEET	100 FEET				
URBAN (35MPH OR GREATER)	350 FEET	350 FEET	350 FEET				
RURAL	500 FEET	500 FEET	500 FEET				
EXPRESSWAY/FREEWAY	1,000 FEET	1,500 FEET	2,640 FEET				

BASED ON: TABLE 6C-1 MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH						
MERGING TAPER	AT LEAST L						
SHIFTING TAPER	AT LEAST 0.5L						
SHOULDER TAPER	AT LEAST 0.33L						
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FEET MINIMUM, 100 FEET MAXIMUM						
DOWNSTREAM TAPER	50 FEET MINIMUM, 100 FEET MAXIMUM						

NOTE: USE TABLE 6C-4 SHOWN BELOW TO CALCULATE L SOURCE: TABLE 6C-3 2009 MUTCD

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

WORKZONE DISTANCES

BUFFER SPACE TABLE

POSTED SPEED (MPH)	LENGTH (FT)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

SOURCE: TABLE 6C-2 2009 MUTCD

FORMULAS FOR DETERMINING TAPER LENGTHS

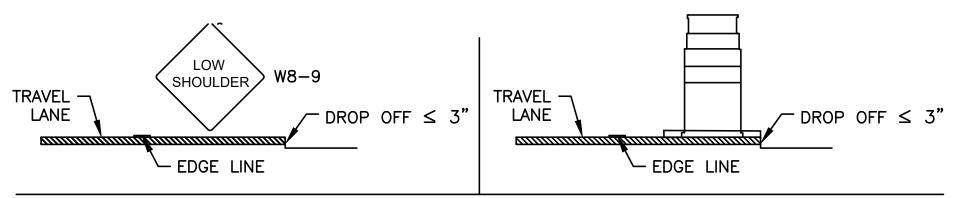
SPEED LIMIT (S)	TAPER LENGTH L (FT)
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	L= WS

SOURCE: TABLE 6C-4 2009 MUTCD

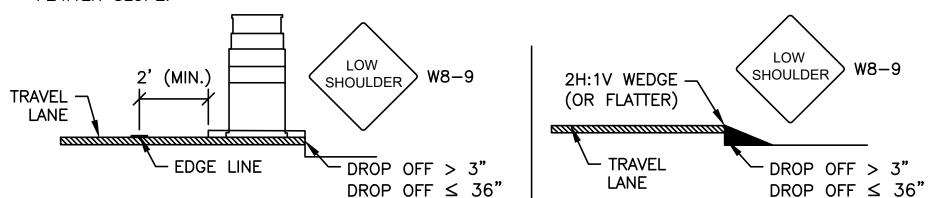
THIS GUIDANCE IS ADOPTED FROM THE ROADSIDE DESIGN GUIDE, 4TH EDITION.

PAVEMENT DROP-OFFS MAY OCCUR DURING PAVING, EXCAVATION, AND OTHER CONSTRUCTION ACTIVITIES. DROP-OFFS CREATE HAZARDS FOR VEHICLES IF NOT PROPERLY MITIGATED. THE FOLLOWING APPLIES FOR ALL ROADS WITH SPEED LIMITS GREATER THAN 30 MPH; FOR ROADS WITH SPEEDS OF 30 MPH OR LESS, TREATMENTS FOR PAVEMENT EDGE DROP-OFFS SHALL BE AT THE DISCRETION OF THE ENGINEER. DROP-OFFS BETWEEN ADJACENT, OPEN TRAVEL LANES SHALL NOT EXCEED 2", AND ANY DROP-OFF IN EXCESS OF 3" SHALL NOT BE LEFT UNATTENDED WITHOUT ONE OF THESE MITIGATION MEASURES APPLIED.

SHOULDER DROP-OFFS 3" OR LESS ADJACENT TO A SHOULDER OR ACTIVE LANE SHOULD BE MITIGATED BY: A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT; OR THE PLACEMENT OF DRUMS ON THE TRAFFIC SIDE OF THE DROP OFF.



SHOULDER DROP-OFFS GREATER THAN 3" BUT LESS THAN OR EQUAL TO 36" MUST BE MITIGATED BY: A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT AND THE PLACEMENT OF DRUMS ON THE TRAFFIC SIDE OF THE DROP-OFF, OFFSET AT LEAST 2' FROM THE TRAVEL LANE; OR A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT AND THE PLACEMENT OF A TEMPORARY WEDGE OF MATERIAL ALONG THE FACE OF THE DROP-OFF. THE WEDGE SHOULD CONSIST OF STABLE MATERIAL PLACED ON A 2H:1V OR FLATTER SLOPE.



SHOULDER DROP-OFFS GREATER THAN 36" MUST BE PROTECTED BY TEMPORARY BARRIER

DESIGNED TO MASSDOT STANDARDS.

TEMPORARY
BARRIER

TRAVEL
LANE
DROP OFF > 36"

SHORT-TERM PAVEMENT EDGE DROP-OFFS

NOT TO SCALE

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MYSTIC RIVER ROAD SAFETY & ACCESS
IMPROVEMENT PROJECT
TEMPORARY TRAFFIC CONTROL
DETAILS

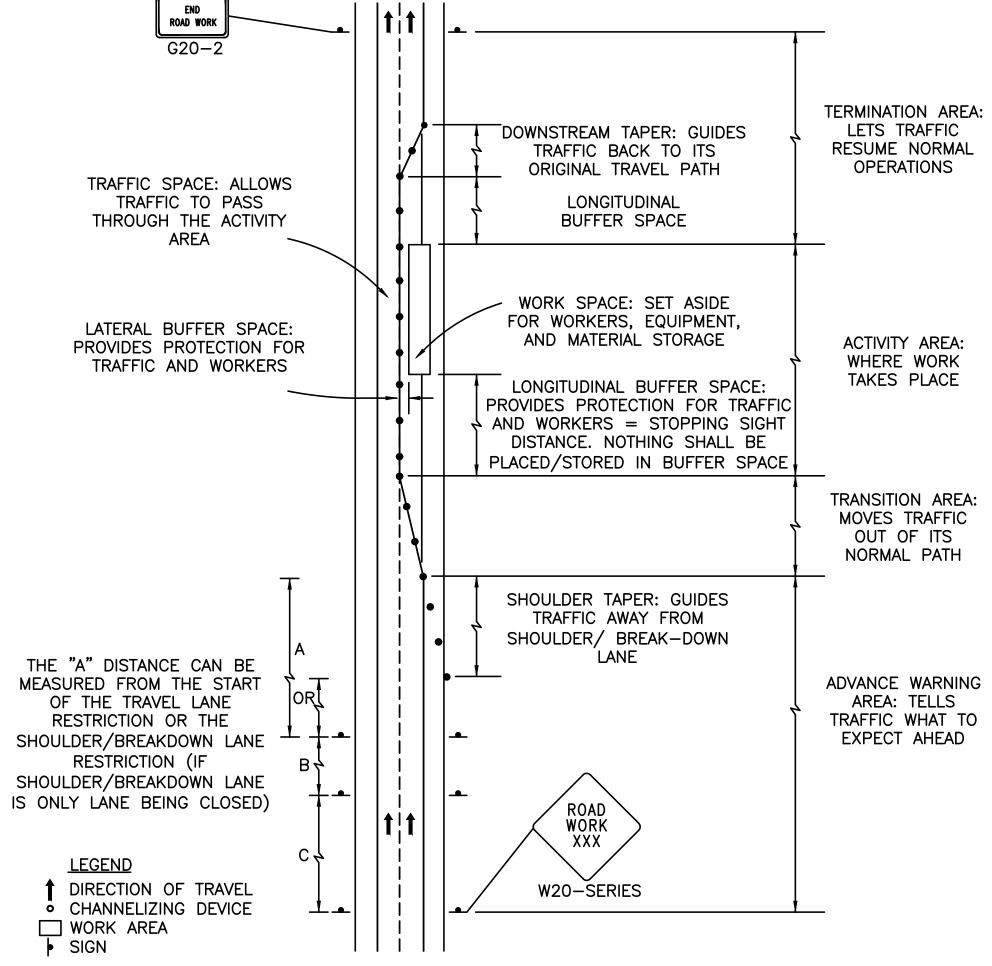
DETAILS						
PROJECT NUMBER	DATE	DRAWN BY	CHKD. BY	APPRVD. BY	SHEET NO.	TOTAL SHEETS
2021069.06	11/11/24	SW	VC	ST	15	17

DIRECTION OF TRAVEL **MERGING** CHANNELIZING DEVICE **TAPER** ☐ WORK AREA SIGN LOGITUDINAL BUFFER SPACE (OPT.) SHIFTING **TAPER DOWNSTREAM** TAPER (OPT.) LATERAL BUFFER SPACE (OPT.) LONGITUDINAL BUFFER SPACE (OPT.) **TAPER TAPER** 4S ft IF S IS IN LONGITUDINAL BUFFER SPACE (OPT.) L/3 SHOULDER TAPER

TYPES OF TAPERS AND BUFFER SPACES

(FIGURE GEN-5)

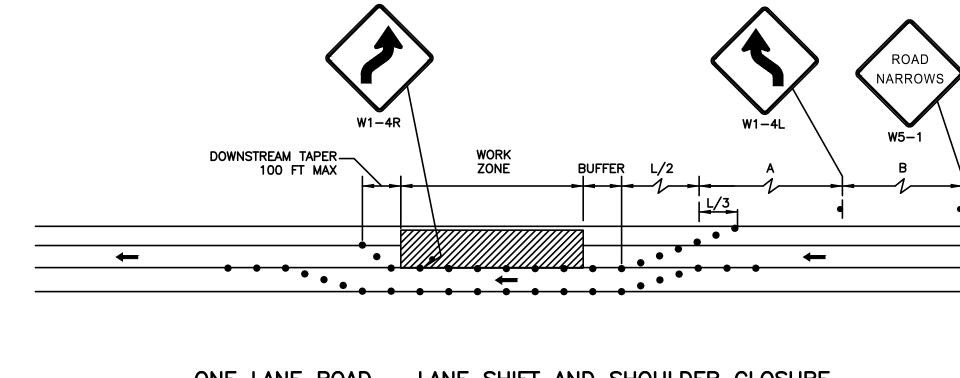
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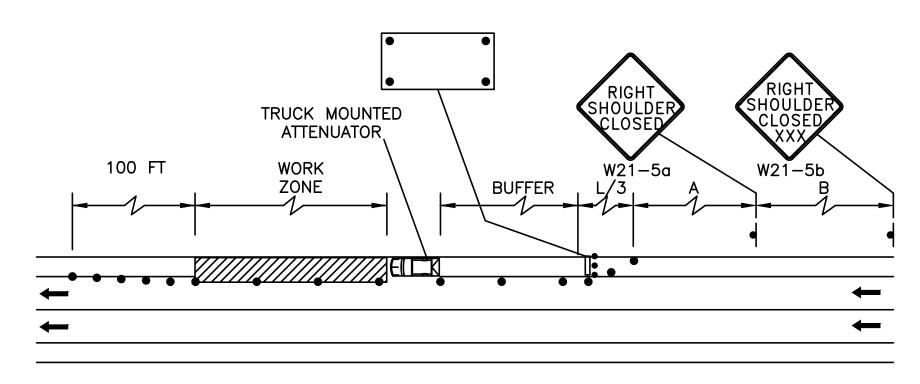
COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE

(FIGURE GEN-4)

NOT TO SCALE

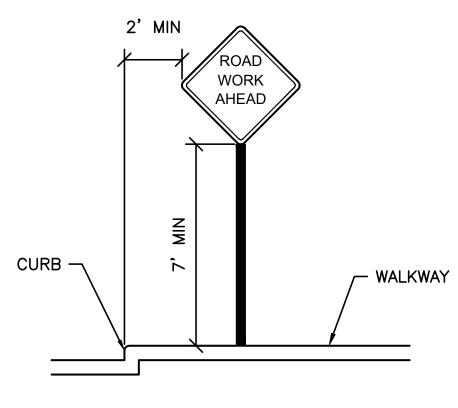




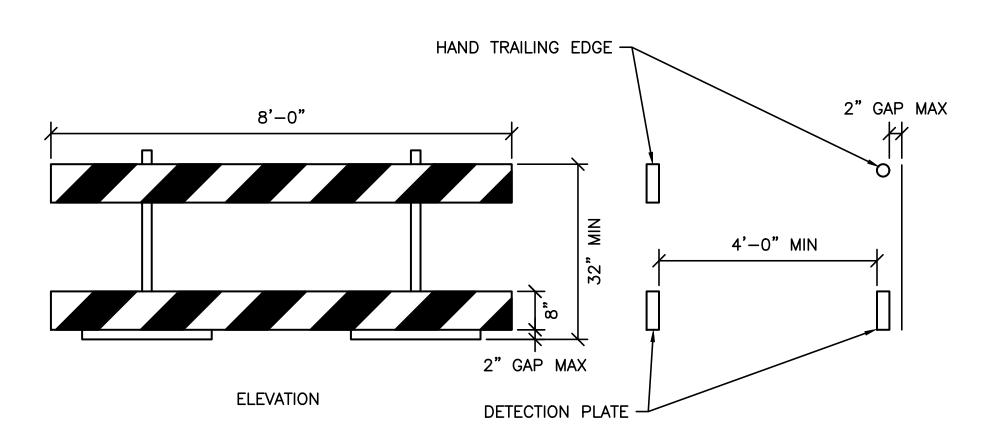


DIVIDED HIGHWAY SHOULDER CLOSED
(FIGURE DIV-9)

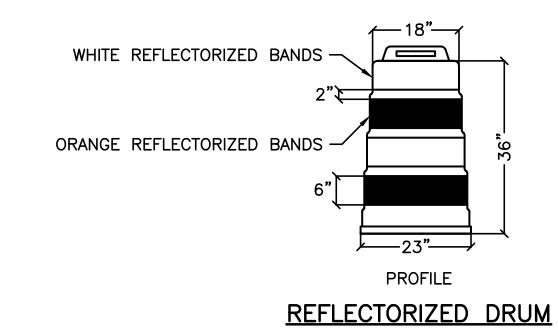
NOT TO SCALE



SIGN MOUNTING DETAIL (WITH CURB)



PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM





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YSTIC	RIVER	ROAD	SAFETY	&	ACCES:
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		DFTA	11 5		

H PROJECT NUMBER DATE DRAWN CHKD. APPRVD. SHEET TOTAL BY NO. SHEETS

2021069.06 11/11/24 SW VC ST 16 17

- 2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
- 3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.

TEMPORARY MARKING FOR CROSSWALK LINES

PEDESTRIAN DETOUR

(FIGURE PED-6)

NOT TO SCALE

E OTHER SII

USE OTHER SIDE

AHEAD

W11-2

W16-9p

(CR0SS-HATCHING OPTIONAL)—

CROSSWAL

(OPTIONAL)

←

300 FT

(100m)

SIDEWALK CLOSED

- 4. TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS DETAIL, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
- 5. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
- 6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

PEDESTRIAN BYPASS (FIGURE PED-7) NOT TO SCALE

W11-2

W16-7P

300 FT

(100m)

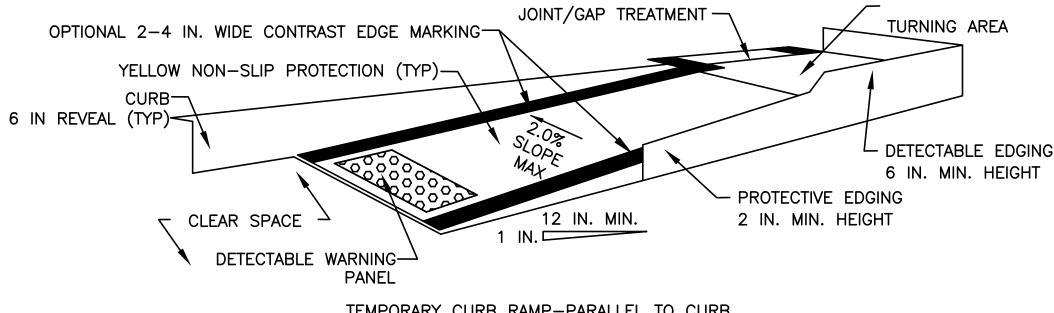
W16-7pL

CROSSWALK LINES.

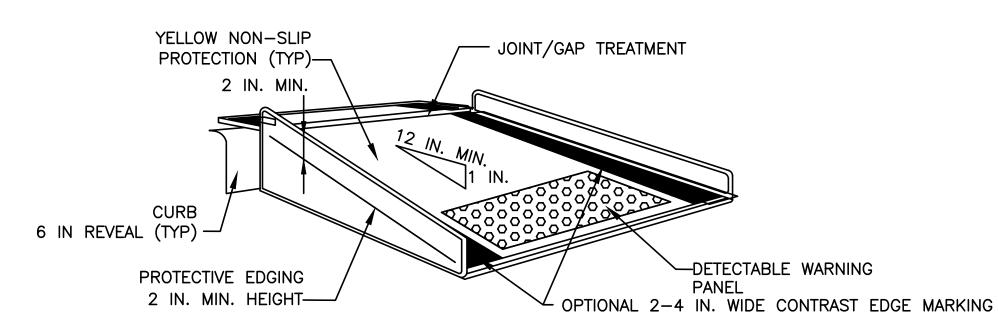
FOR LONG-TERM STATIONARY WORK, THE

DOUBLE YELLOW CENTERLINE AND/OR LANE

LINES SHOULD BE REMOVED BETWEEN THE

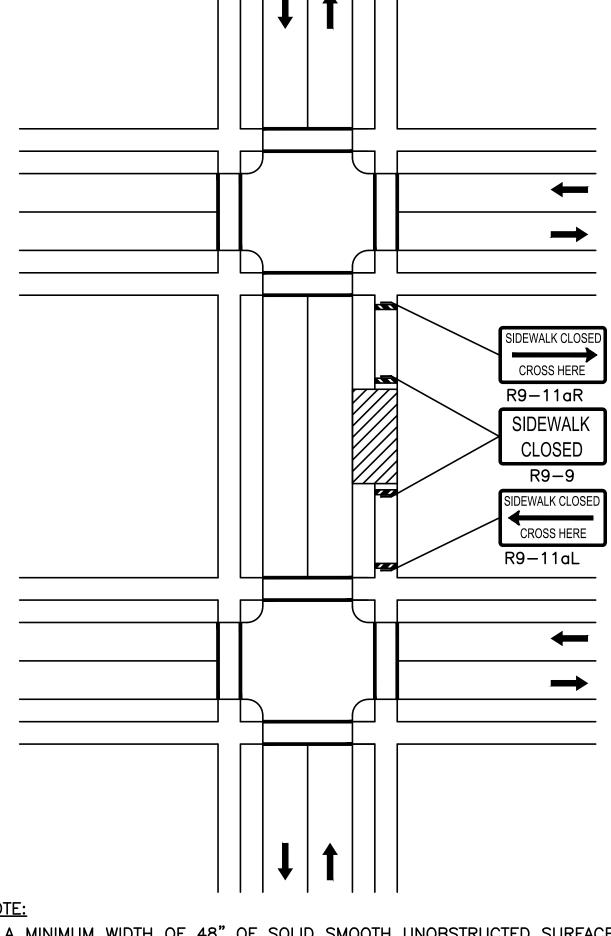


TEMPORARY CURB RAMP-PARALLEL TO CURB



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

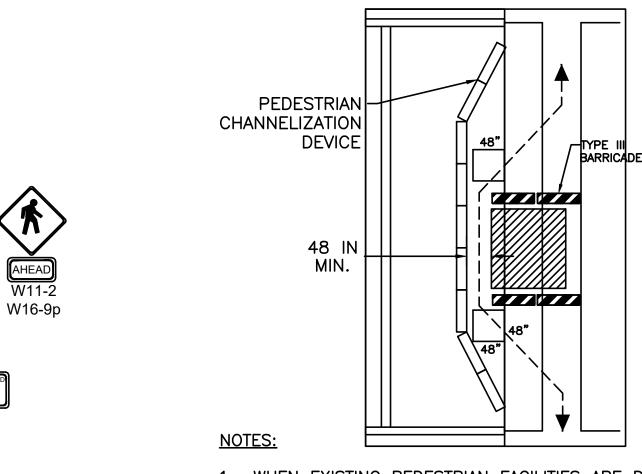
- 1. CONTRACTOR MAY USE PREFABRICATED RAMP PER APPROVAL OF THE ENGINEER.
- 2. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE, AND NON-SLIP SURFACE.
- 3. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
- 4. PROTECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- 5. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
- 6. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
- 7. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
- 8. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
- 9. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
- 10. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
- 11. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

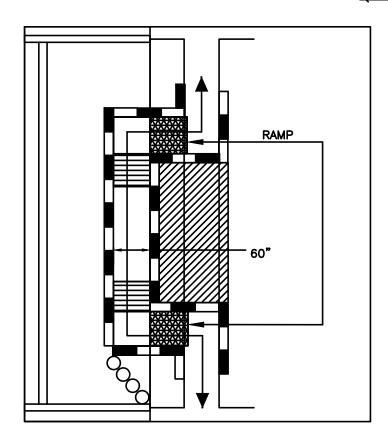


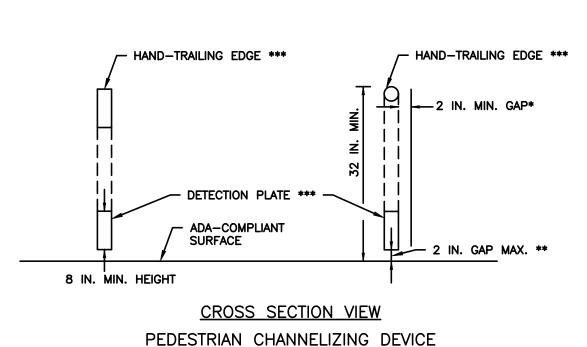
IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. AII PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.

> SIDEWALK CLOSED WITHOUT DETOUR (FIGURE PED-5) NOT TO SCALE

PEDESTRIAN DETAILS (FIGURE PED-1)
NOT TO SCALE







THERE SHALL BE A 2 INCH GAP BETWEEN THE

- HAND-TRAILING EDGE AND ITS SUPPORT. ** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE
- BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.
- *** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.

PEDESTRIAN DETAILS (FIGURE PED-4) NOT TO SCALE

- 1. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- 2. A PEDESTRIAN CHANNELIZATION DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ALONG THE FULL LENGTH OF THE TEMPORARY PEDESTRIAN ROUTE.
- 3. WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT.
- 4. THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- 5. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THE SIDEWALK EXCEEDS 200 FEET THEN A 5 FOOT BY 5 FOOT PASSING ZONE SHALL BE PROVIDED NEAR THE MID-POINT OF THE CLOSURE.
- 6. THE PROTECTIVE REQUIREMENTS OF A TTC WORK ZONE MAY HAVE AN IMPACT IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN PROVIDING PEDESTRIAN DELINEATION SHOULD BE BASED ON ENGINEERING JUDGMENT.
- 7. ON-DEMAND PEDESTRIAN ASSISTANCE PERSONNEL TO ASSIST WITH NAVIGATION AROUND THE CLOSURE/WORK AREA MAY BE CONSIDERED AS AN OPTION IN PLACE OF PROVIDING ADA/AAB DEVICES FOR WORK FOR CLOSURES LASTING 4 HOURS OR LESS.
- 8. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN; VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE. THESE DETAILS ARE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING. AS DETERMINED BY THE ENGINEER.

PEDESTRIAN DETAILS (FIGURE PED-3) NOT TO SCALE



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MYSTIC RIVER ROAD SAFETY & ACCESS IMPROVEMENT PROJECT TEMPORARY TRAFFIC CONTROL **DETAILS**

HSH PROJECT NUMBER DATE 11/11/24 SW 2021069.06 VC