

# MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	1	205

PROJECT FILE NO. 608562  
TITLE SHEET & INDEX

SIGNAL AND INTERSECTION IMPROVEMENTS

## FELLSWAY / MCGRATH HWY (ROUTE 28) / MYSTIC AVE (ROUTE 38)

IN THE CITY OF

### SOMERVILLE

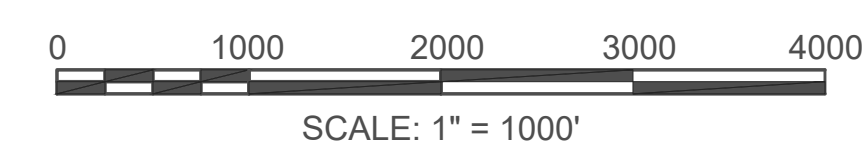
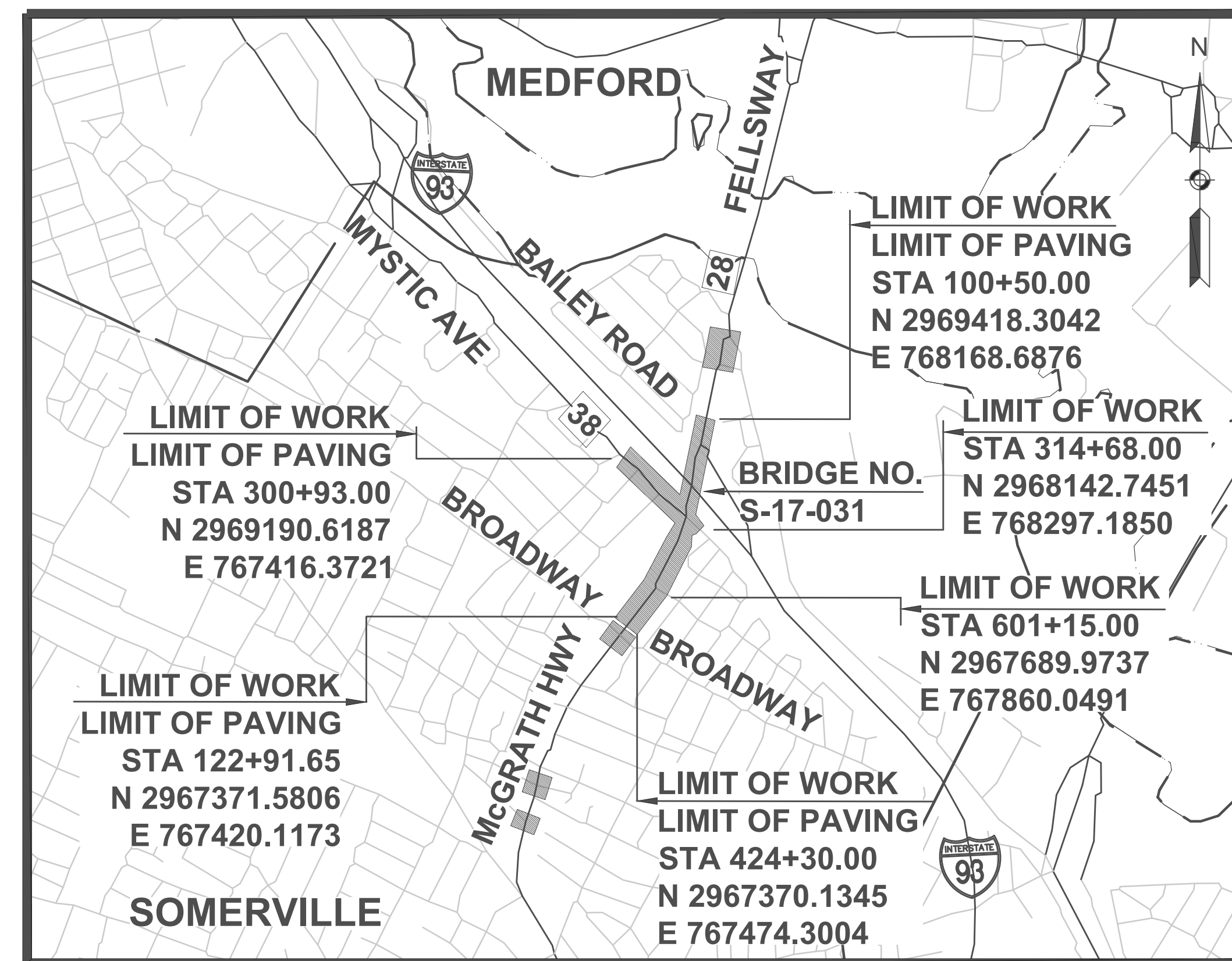
### MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. HSI/HSI(VUS)-003S(762)

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

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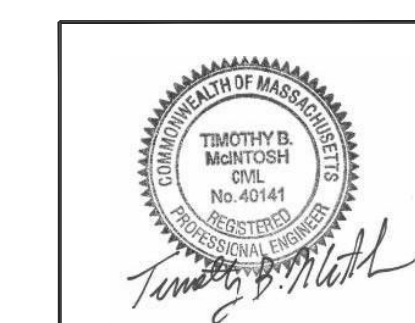
TOTAL LENGTH OF PROJECT = 3,616.65 FEET = 0.685 MILES  
 FELLSWAY / MCGRATH HIGHWAY (ROUTE 28) = 2,241.65 FEET = 0.424 MILES  
 MYSTIC AVENUE (ROUTE 38) = 1,375.00 FEET = 0.260 MILES

#### DESIGN DESIGNATION (FELLSWAY / McGRATH HWY (ROUTE 28))

	FELLSWAY	MCGRATH HWY
DESIGN SPEED	35 MPH	35 MPH
ADT (2018)	62,700	47,700
ADT (2038)	71,800	62,600
K	6.7%	7.4%
D	67% (SB)	59% (NB)
T (PEAK HOUR)	3.2%	0.9%
T (AVERAGE DAY)	3.0%	2.4%
DHV	4,800	4,650
DDHV	3,200 (SB)	2,740 (NB)
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL

#### DESIGN DESIGNATION (MYSTIC AVENUE (ROUTE 38))

DESIGN SPEED	30 MPH
ADT (2018)	32,800
ADT (2038)	37,400
K	8.2%
D	60% (NB)
T (PEAK HOUR)	1.0%
T (AVERAGE DAY)	3.6%
DHV	3,060
DDHV	1,820 (NB)
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL



Timothy B. McIntosh, P.E.  
Digitally signed by Timothy B. McIntosh, P.E. Date: 2024.08.19 10:40:36 -0400

**vhb**  
 260 Arsenal PL #2  
 PO Box 9151  
 Watertown, MA 02471  
 617.924.1770

DATE	DESCRIPTION	REV #



APPROVED  
  
 Digitally signed by Carrie Lualaba Date: 2024.08.20 11:51:07 -0400  
 CHIEF ENGINEER 08/20/2024  
 DATE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	2	205
PROJECT FILE NO. 608562			

LEGEND & ABBREVIATIONS

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE SD2.022
		ELECTRIC PULLBOX SD2.030
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASS D.P.W. MANHOLE
		COMBINED SEWER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		STAND PIPE
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		EROSION CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		QUADRUPOLE WIRE LOOP DETECTOR
		VIDEO DETECTION AREA
		SINGLE POINT VIDEO DETECTION CAMERA
		PEDESTRIAN PUSH BUTTON, SIGN AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD, WITH/WITHOUT BACKPLATE
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED, WITH/WITHOUT BACKPLATE
		FLASHING BEACON, WITH/WITHOUT BACKPLATE
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		SIGNAL POST AND BASE
		MAST ARM, SHAFT AND BASE
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		OVERHEAD SIGN
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE - SD2.022 (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT
		ETHERNET ANTENNA

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE (12" LINE WIDTH UNLESS OTHERWISE NOTED)
		CROSSWALK (WIDTHS AS NOTED)
		SOLID WHITE LINE (6" LINE WIDTH UNLESS OTHERWISE NOTED)
		SOLID YELLOW LINE (6" LINE WIDTH)
		BROKEN WHITE LINE, 10' LINE W/30' SPACING (6" LINE WIDTH)
		DOTTED WHITE LINE EXTENSION, 2' LINE W/6' SPACING (6" LINE WIDTH)
		DOUBLE YELLOW CENTER LINE (6" LINE WIDTH)
		SOLID WHITE CHANNELIZATION LINE (12" LINE WIDTH)
		SOLID YELLOW CHANNELIZATION LINE (12" LINE WIDTH)
		RAISED CROSSING MARKING
		BIKE LANE MARKING
		BICYCLE CROSSING
		YIELD LINE
		TWO-STAGE TURN QUEUE BOX

PAVEMENT MARKINGS TABLE		
ITEM NO.	DESCRIPTION	MATERIAL
864.031	BKE LANE RIDER	REFLECTORIZED PREFORMED THERMOPLASTIC
864.032	BIKE LANE ARROW	
864.036	YIELD MARKINGS	
864.037	SPEED HUMP MARKINGS	
864.04	ARROWS & ONLYS	REFLECTORIZED THERMOPLASTIC
864.08	BIKE LANE CROSSING	COLORED COATING (GREEN)
864.09	BUS LANE	COLORED COATING (RED)
864.110	ROUTE SHIELD LEGEND (38,93)	REFLECTORIZED PREFORMED THERMOPLASTIC
864.111	CARDINAL DIRECTION TEXT (SOUTH)	
864.112	BUS/BIKE LANE LEGENDS (BUS, BIKE, ONLY)	
864.114	"PED" LEGEND	
864.115	"XING" LEGEND	
864.116	BIKE BOX ARROW	
864.117	BIKE BOX BICYCLE RIDER	WET REFLECTIVE RECESSED THERMOPLASTIC
868.106	SWL, BWL, DWLEX, BIKE LANE CROSSING (BORDER)	
868.112	DWL, SWCHL, CROSSWALKS, STOP LINES	
869.106	DBYL, SYL	
869.112	SYCHL	

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MASS.	HSI/HSI(VUS)-003S(762)	3	205
PROJECT FILE NO. 608562			

**GENERAL NOTES:**

**LEGEND & ABBREVIATIONS**

- THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE COMPILED BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY VANASSE HANGEN BRUSTLIN, INC. BETWEEN SEPTEMBER 2019 AND JANUARY 2020.
- KCI TECHNOLOGIES COMPLETED LEVEL B SUBSURFACE UTILITY ENGINEERING (SUE) BETWEEN APRIL AND MAY OF 2023, AND LEVEL A SUBSURFACE UTILITY ENGINEERING (SUE) IN APRIL OF 2024.
- THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND GRADES IN THE FIELD BEFORE COMMENCING WORK AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- PROTECTION OF UNDERGROUND FACILITIES. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NECESSITY OF MAKING HIS OWN INVESTIGATION IN ORDER TO ASSURE THAT NO DAMAGE TO EXISTING STRUCTURES, DRAINAGE LINES, TRAFFIC SIGNAL CONDUITS, ETCETRA, WILL OCCUR.
- DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
- THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED CONDUIT AND SIGNAL EQUIPMENT. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS IF REQUIRED.
- EXISTING STREET LIGHTING POLES WILL BE RELOCATED BY EVERSOURCE, UNLESS DIRECTED BY THE ENGINEER.
- TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE THOROUGHLY COATED WITH A HOT APPLIED PAVEMENT JOINT ADHESIVE MEETING THE REQUIREMENTS OF SUBSECTION 450 OF 2024 STANDARD SPECIFICATIONS.
- AFTER MILLING OPERATIONS AND PRIOR TO PAVING THE SUPERPAVE INTERMEDIATE OR SURFACES COURSES THE ENGINEER SHALL EVALUATE THE MILLED SURFACE AND SHALL APPLY THE APPROPRIATE REPAIR METHOD IF REQUIRED.
- EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- IF SUITABLE, EXISTING GRANITE CURB & EDGING SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
- THE RIGHT-OF-WAY LINES AND BASELINES SHOWN ON THIS PLAN ARE BASED ON STATE HIGHWAY LAYOUTS 5564 AND 5723 DATED 1968 AND MIDDLESEX COUNTY LAYOUT DATED 1908. THE MONUMENTS FOUND ON THIS PLAN WERE FIELD LOCATED AND USED TO ESTABLISH THE RIGHT-OF-WAY LINES. THE PROPERTY LINES OF INDIVIDUAL OWNERS ALONG THE RIGHT-OF-WAY SHOWN ON THIS PLAN ARE FROM RECORD DEEDS AND PLANS, INDIVIDUAL ABUTTERS PROPERTIES WERE NOT SURVEYED.
- PROPOSED BOUNDS SHALL BE PLACED BY A LICENSED PROFESSIONAL SURVEYOR. THE CONTRACTOR SHALL EXERCISE DUE CARE WHEN WORKING AROUND ALL PROPERTY BOUNDS WHICH ARE TO REMAIN. SHOULD ANY DAMAGE TO A BOUND RESULT FROM THE ACTIONS OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE THE BOUND REPLACED AND/OR REALIGNED BY A LICENSED PROFESSIONAL SURVEYOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
- DISPOSAL OF ALL SURPLUS MATERIAL SHALL BE AS APPROVED BY THE ENGINEER AND OWNER.
- LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE PLANS.
- IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

**ABBREVIATIONS**

GENERAL	
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
ADJ (BO-EV)	ADJUST BY OTHERS EVERSOURCE
ADJ (BO-EV TRANS)	ADJUST BY OTHERS EVERSOURCE TRANSMISSION
ADJ (BO-NG)	ADJUST BY OTHERS NATIONAL GRID
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
BW	BOTTOM OF WALL
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSMH	COMBINED SEWER MANHOLE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DCRLO	DEPARTMENT OF CONSERVATION & RECREATION LAYOUT
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
LO	LAYOUT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
OHW	OVERHEAD WIRE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE

**ABBREVIATIONS (cont.)**

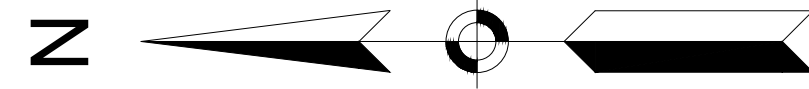
GENERAL	
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SGE	SLOPED GRANITE EDGING
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
TW	TOP OF WALL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VGC	VERTICAL GRANITE CURVE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

**TRAFFIC SIGNAL**

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
←FR→	FLASHING RED LEFT ARROW
→FR→	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
←FY→	FLASHING YELLOW LEFT ARROW
→FY→	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
←G→	STEADY GREEN LEFT ARROW
→G→	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
↑G	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PEP	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
←R→	STEADY RED LEFT ARROW
→R→	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR YELLOW
←Y→	STEADY YELLOW LEFT ARROW
→Y→	STEADY YELLOW RIGHT ARROW

**UTILITY COLOR GUIDE**

UTILITY	LINE COLOR
ELECTRIC	RED
GAS-OIL-STEAM	BROWN
COMMUNICATION / CATV	ORANGE
POTABLE WATER	BLUE
SEWER	GREEN
DRAINAGE	TRADITIONAL GRAYSCALE



LEGEND:

(XX) CONSTRUCTION PLANS

(XX) ALIGNMENT PLANS

(XX) DRAINAGE AND UTILITY PLANS

(XX) SIGN AND PAVEMENT MARKING PLANS

(XX) SEE SHEET 5 FOR TRAFFIC SIGNAL LOCATIONS

⊕ BORINGS

⊙ QUALITY LEVEL A SUBSURFACE UTILITY ENGINEERING (SUE) TEST HOLES

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	4	205

PROJECT FILE NO. 608562

KEY PLAN  
SHEET 1 OF 2

412+36.64 MYSTIC AVE (RTE-38) TO MCGRATH HWY (RTE-28)=  
312+18.29 MYSTIC AVE (RTE-38) SB

MIDDLESEX AVENUE (PUBLIC)

LIMIT OF WORK  
LIMIT OF PAVING  
STA 209+50.00  
N 2968531.4521  
E 768136.6536

LIMIT OF WORK  
LIMIT OF PAVING  
STA 100+50.00  
N 2969418.3042  
E 768168.6876

LIMIT OF PAVING  
STA 314+29.76  
N 2968173.9000  
E 768275.0167

MYSTIC AVENUE (RTE 38)  
NORTHBOUND (PUBLIC)

ROUTE 93 NORTHERN  
EXPRESSWAY (PUBLIC)

LIMIT OF WORK  
STA 314+68.00  
N 2968142.7451  
E 768297.1850

LIMIT OF WORK  
STA 601+15.00  
N 2967689.9737  
E 767860.0491

FELLSWAY (PUBLIC)

TEN HILLS ROAD (PUBLIC)

B-3

B-6

B-5

B-4

LIMIT OF WORK  
LIMIT OF PAVING  
STA 424+30.00  
N 2967370.1345  
E 767474.3004

206+15.86 FELLSWAY (RTE-28) TO I-93 SB ON-RAMP=  
500+95.34 I-93 NB OFF-RAMP TO MYSTIC AVE

105+86.83 FELLSWAY-MCGRATH (RTE-28)=  
501+48.50 I-93 NB OFF-RAMP TO MYSTIC AVE

LIMIT OF WORK  
LIMIT OF PAVING  
STA 114+30.00, 18.5' LT  
N 2968061.8859  
E 767939.6328

B-1A

B-2

B-2A

B-1

WHEATLAND STREET  
(PUBLIC)

FELLSWAY W (PUBLIC)

310+00.50 MYSTIC AVE (RTE-38) SB=  
109+53.94 FELLSWAY-MCGRATH (RTE-28)

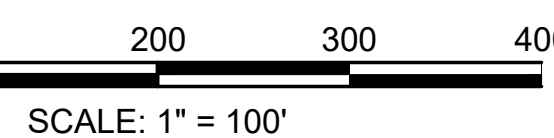
409+45.73 MYSTIC AVE (RTE-38) TO MCGRATH HWY (RTE-28)=  
108+75.15 FELLSWAY-MCGRATH (RTE-28)

505+50 I-93 NB OFF-RAMP TO MYSTIC AVE=  
304+88.86 MYSTIC AVE (RTE-38) SB

LIMIT OF WORK  
LIMIT OF PAVING  
STA 300+93.00  
N 2969190.6187  
E 767416.3721

MYSTIC AVENUE (PUBLIC)

BAILEY ROAD (PUBLIC)



McGRATH HWY (PUBLIC)

BLAKELEY AVENUE (PUBLIC)

BROADWAY (PUBLIC)

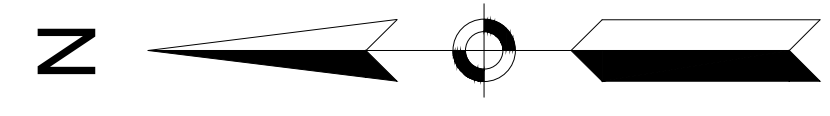
LIMIT OF WORK  
LIMIT OF PAVING  
STA 122+91.65  
N 2967371.5806  
E 767420.1173


SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

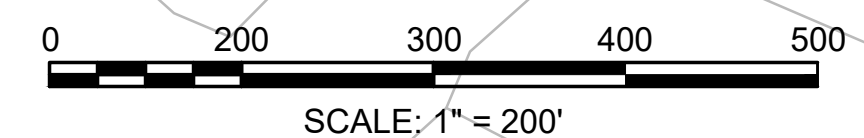
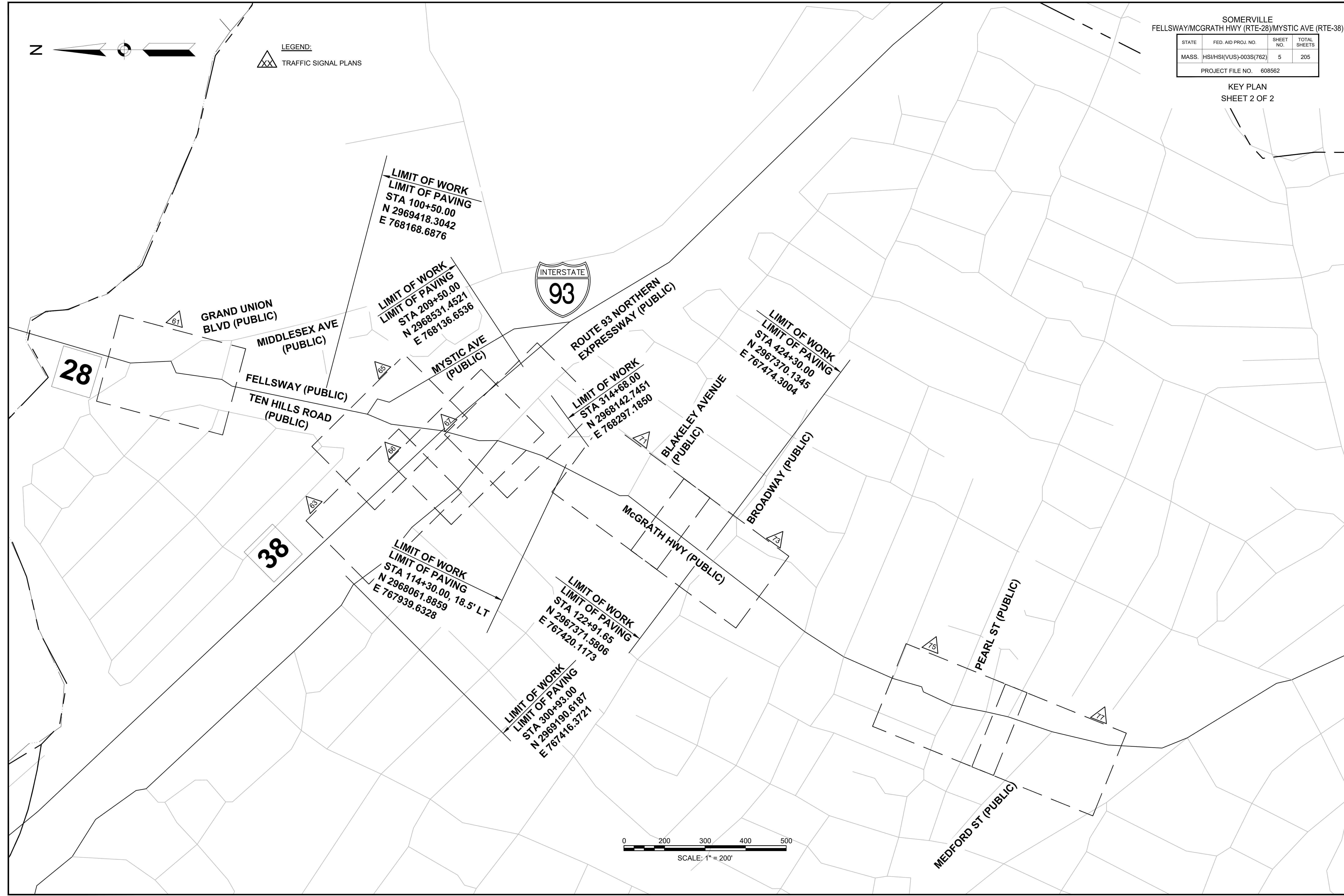
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	5	205

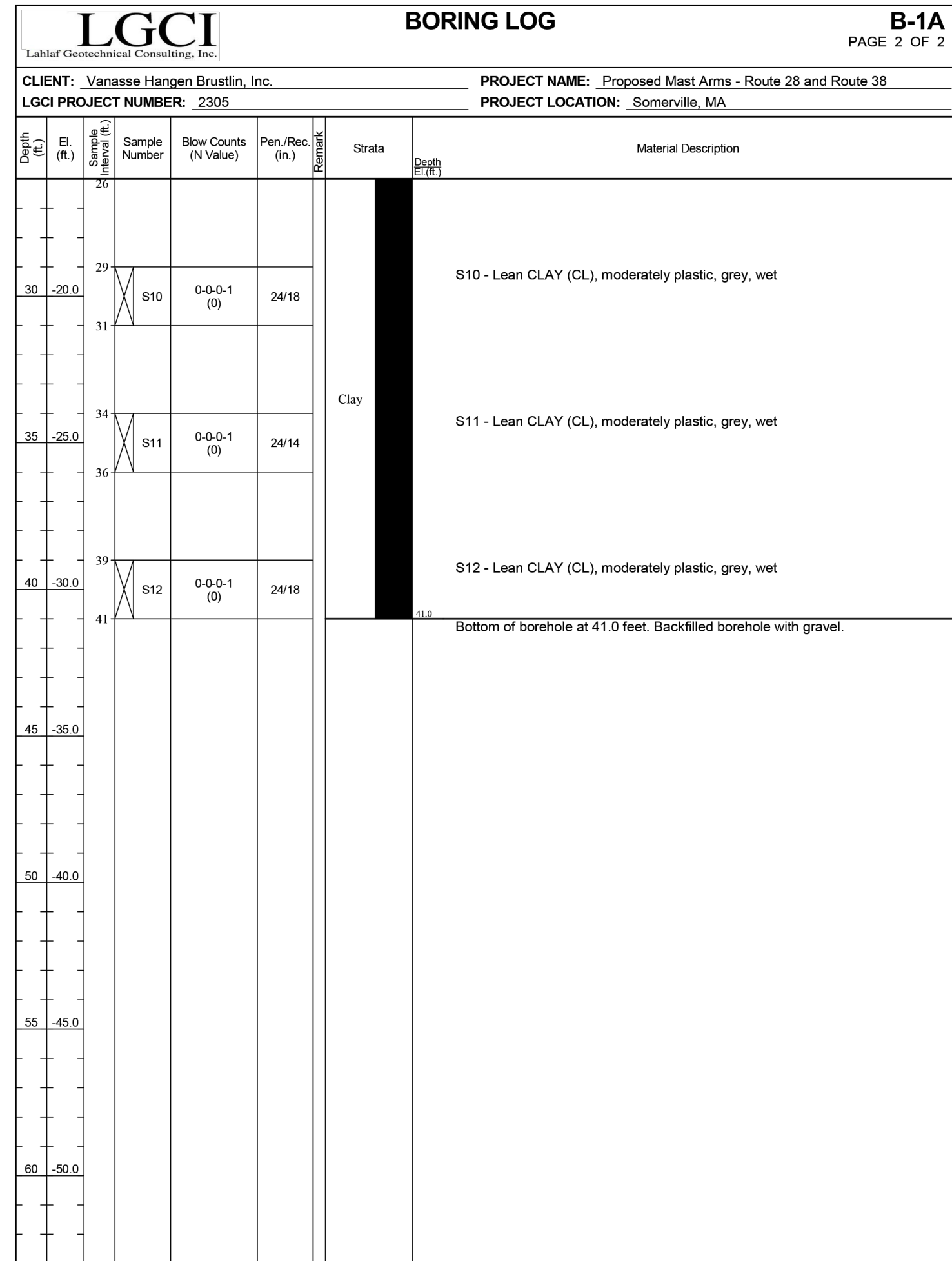
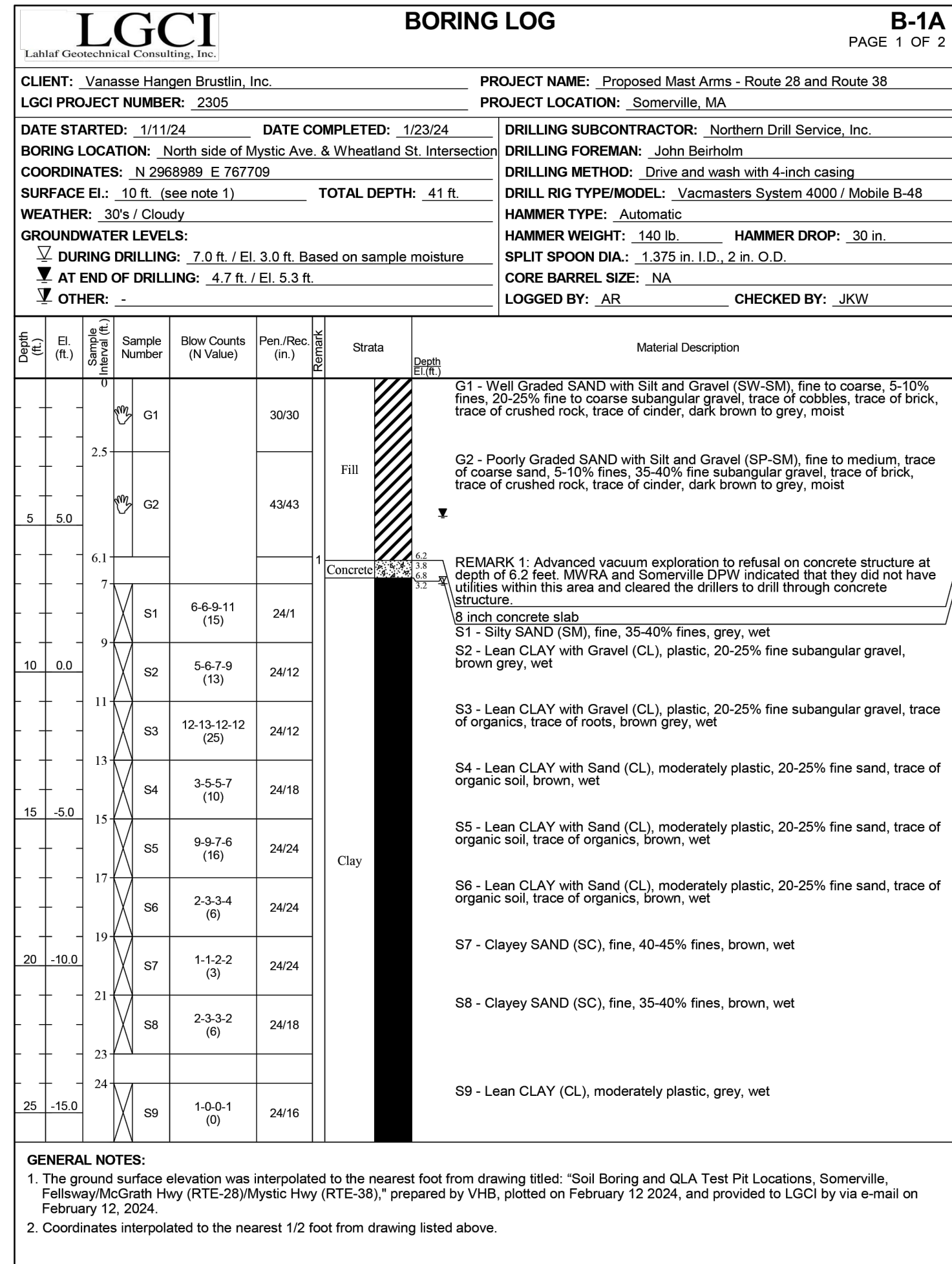
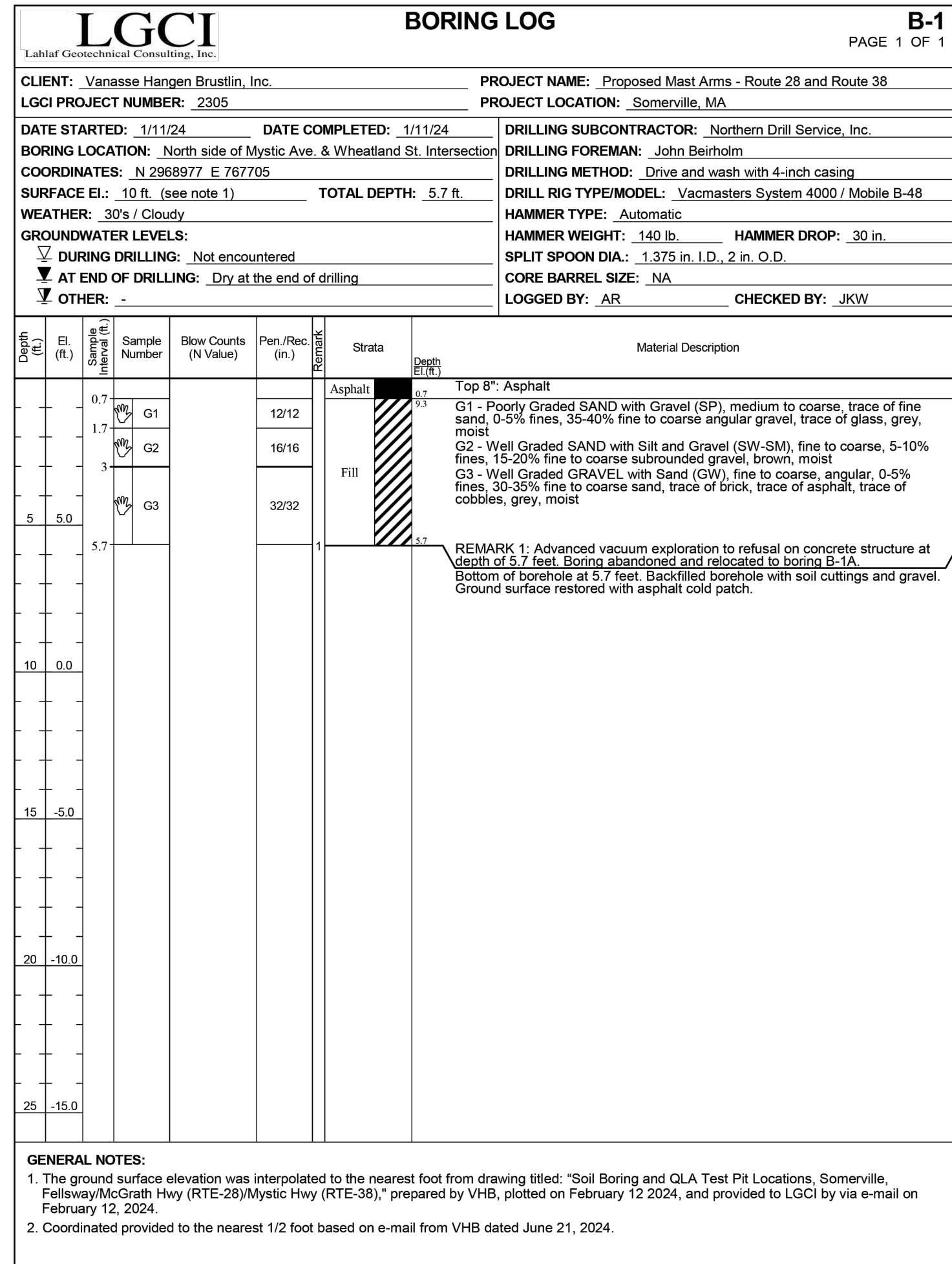
PROJECT FILE NO. 608562

KEY PLAN  
 SHEET 2 OF 2



LEGEND:  
 TRAFFIC SIGNAL PLANS





**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

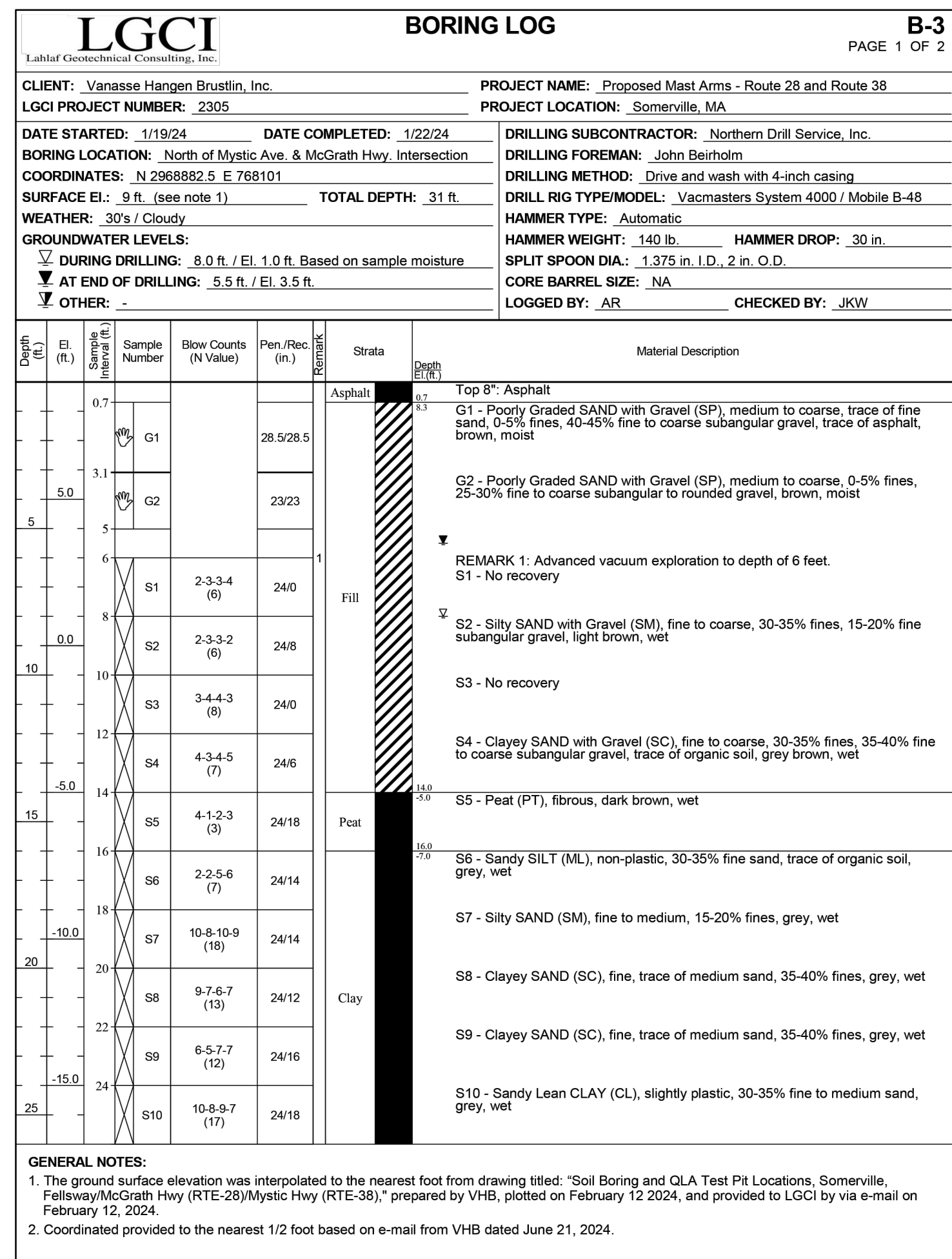
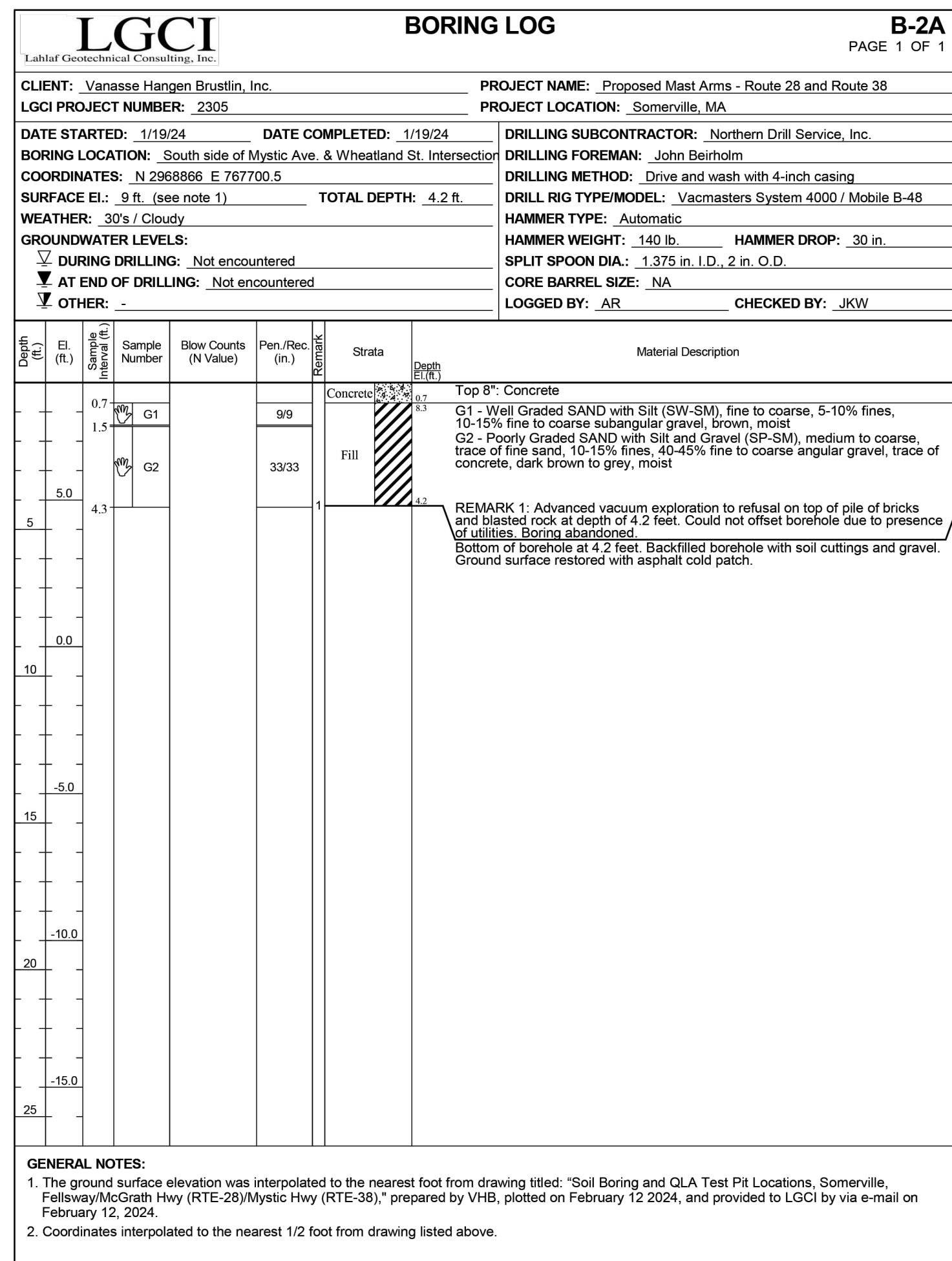
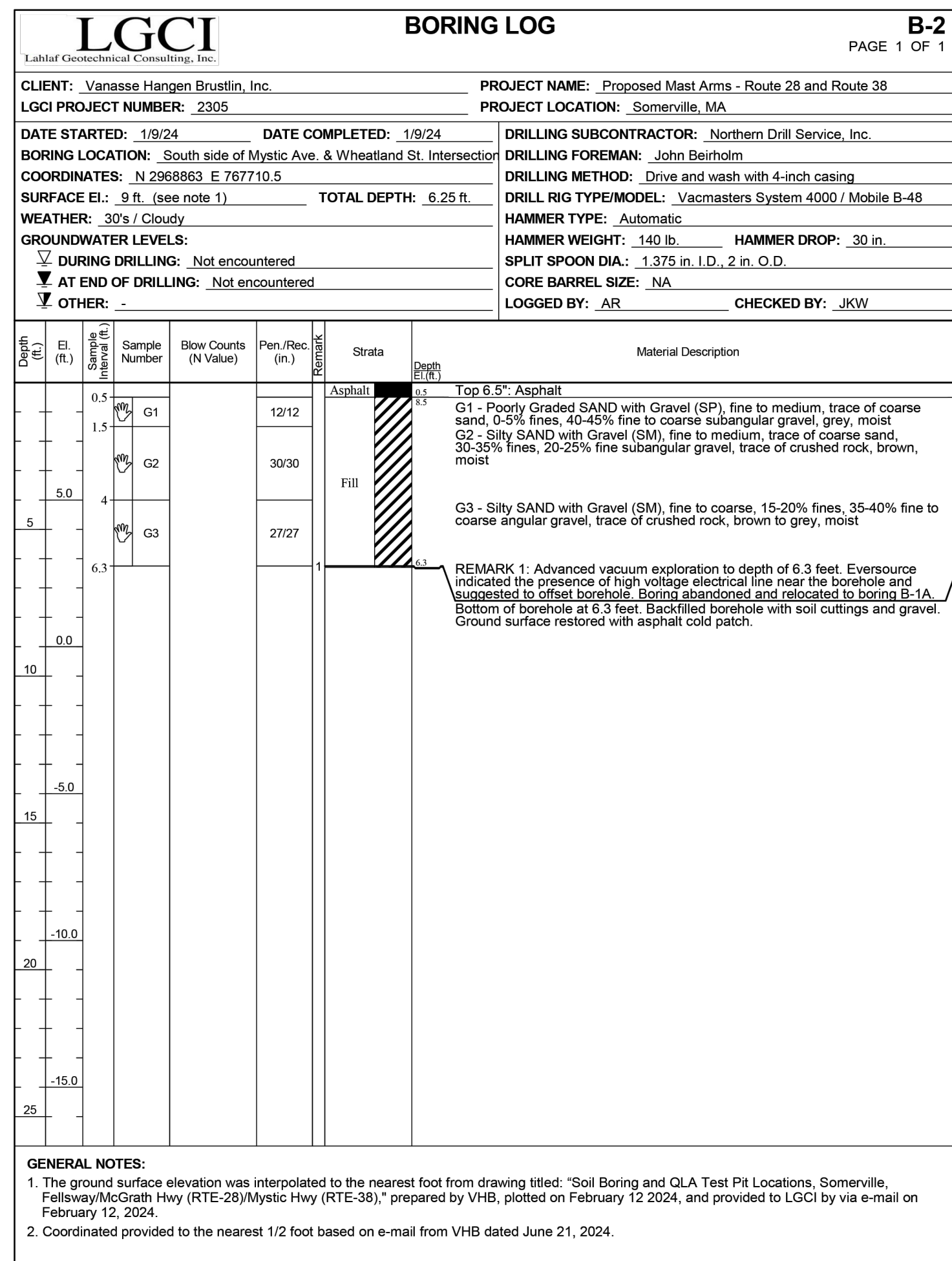
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	6	205

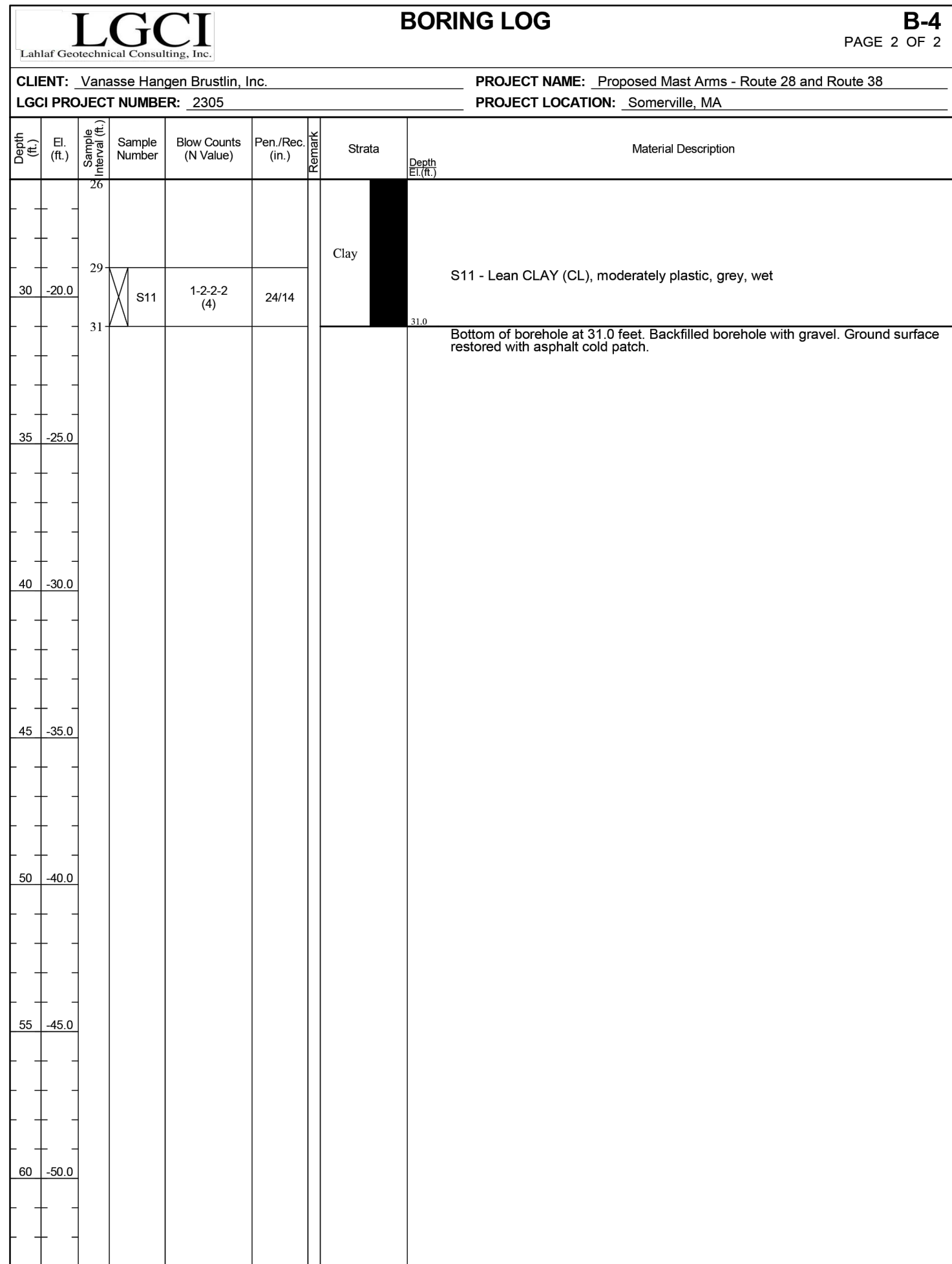
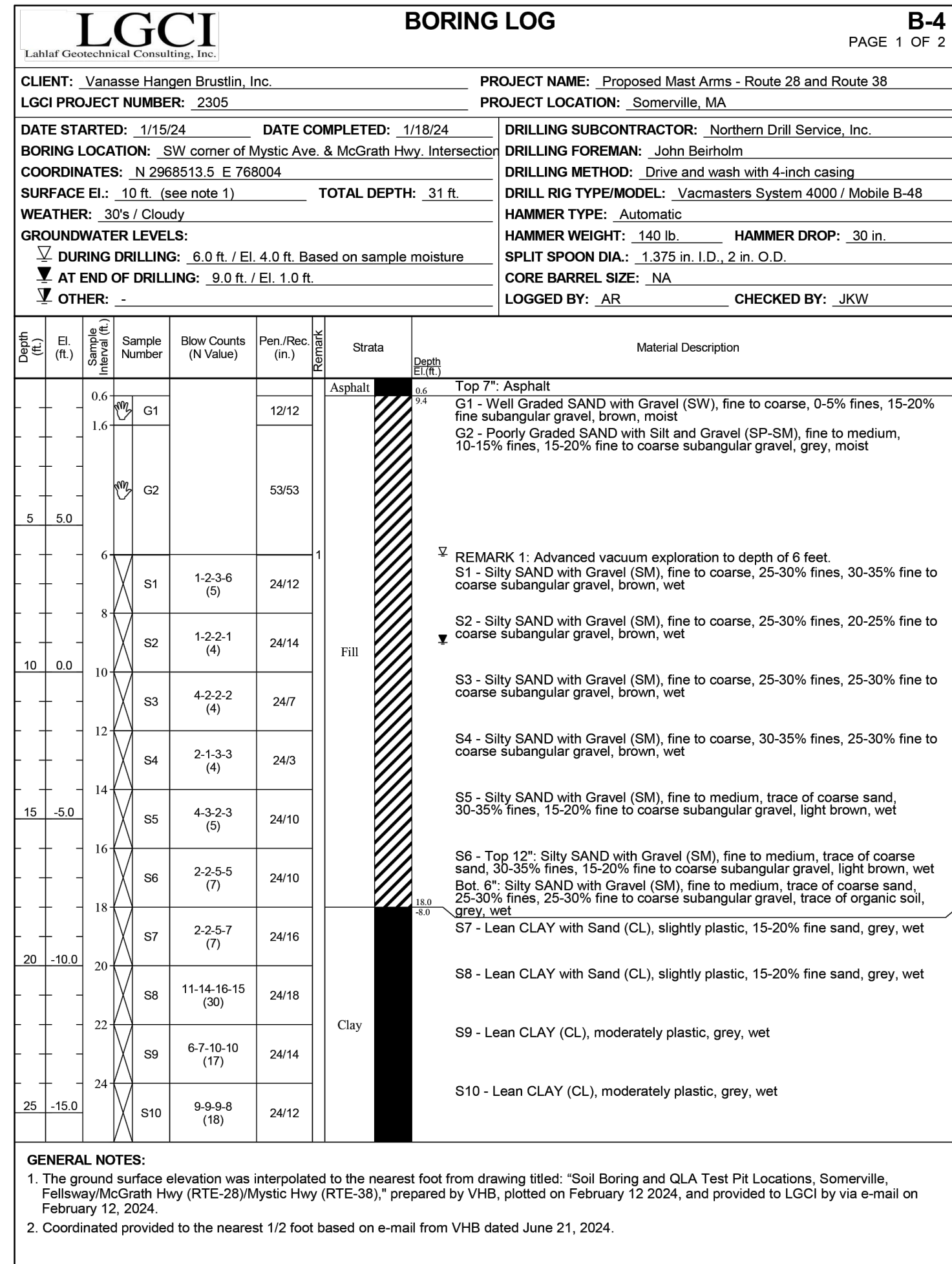
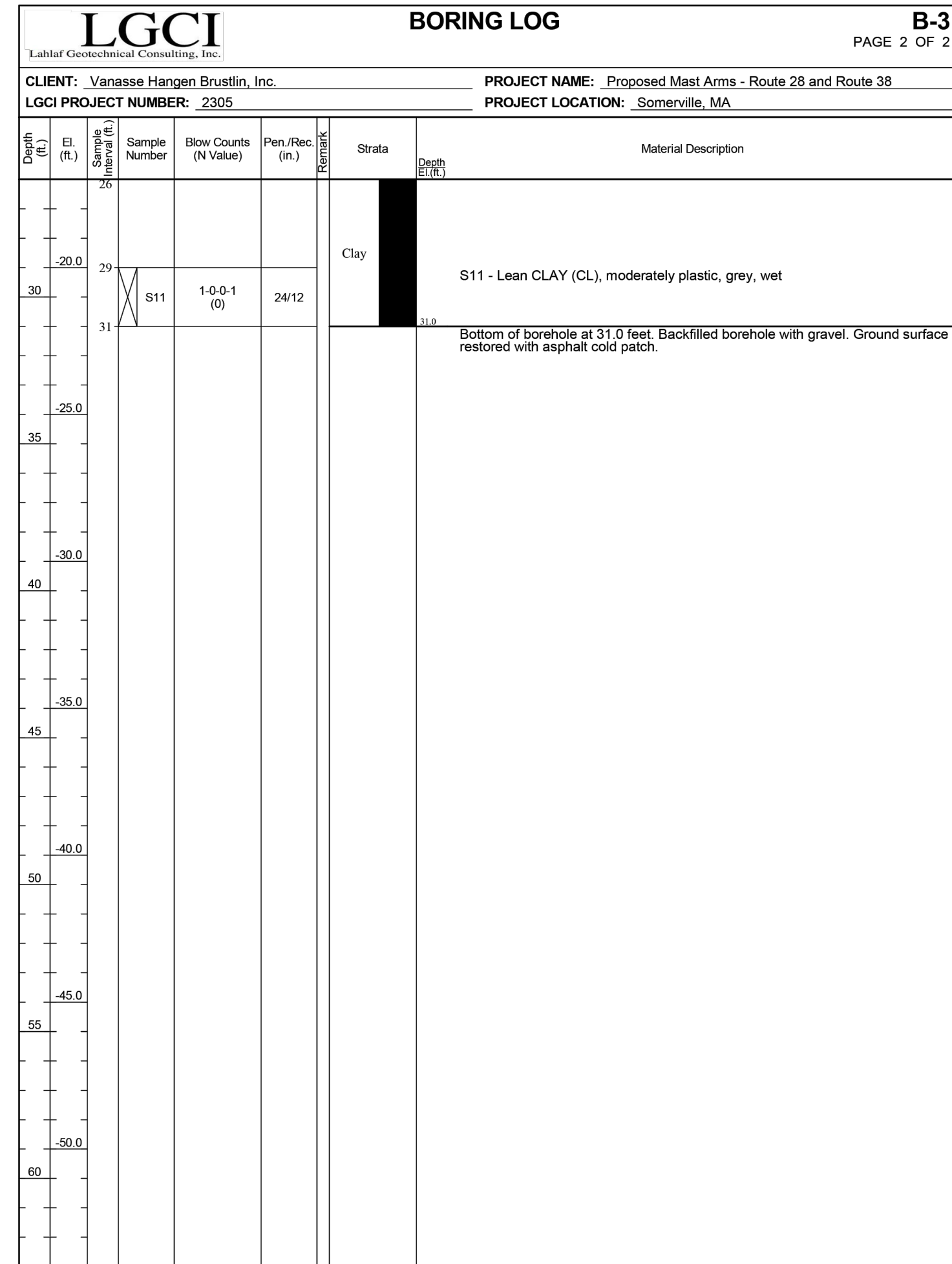
PROJECT FILE NO. 608562

**BORING LOGS**

**BORING NOTES:**

- LOCATION OF BORING SHOWN ON THE PLANS THUS:
- BORINGS TAKEN FOR THE PURPOSES OF DESIGN AND SHOW CONDITIONS AT THE BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE THRU GROUND WATER LEVEL.
- FIGURES TO THE LEFT OF COLUMNS INDICATE DEPTH BELOW SURFACE AT THE BORING POINT.
- FIGURES IN THE COLUMNS INDICATE NUMBER OF BLOWS PRODUCED BY A 30" FALL OF 140 POUND MASS HAMMER REQUIRED TO DRIVE 2" I.D. SPOON 1 FOOT.
- BORING SAMPLES TAKEN BETWEEN 01/09/2024 AND 01/23/2024.
- BORING CONTRACTOR:  
LAHLAF GEOTECHNICAL CONSULTING, INC. (LGCI)  
100 CHELMSFORD ROAD, SUITE 2 BILLERICA, MA 01862  
PHONE: 978-330-5912  
EMAIL: LGCI@LGCINC.NET



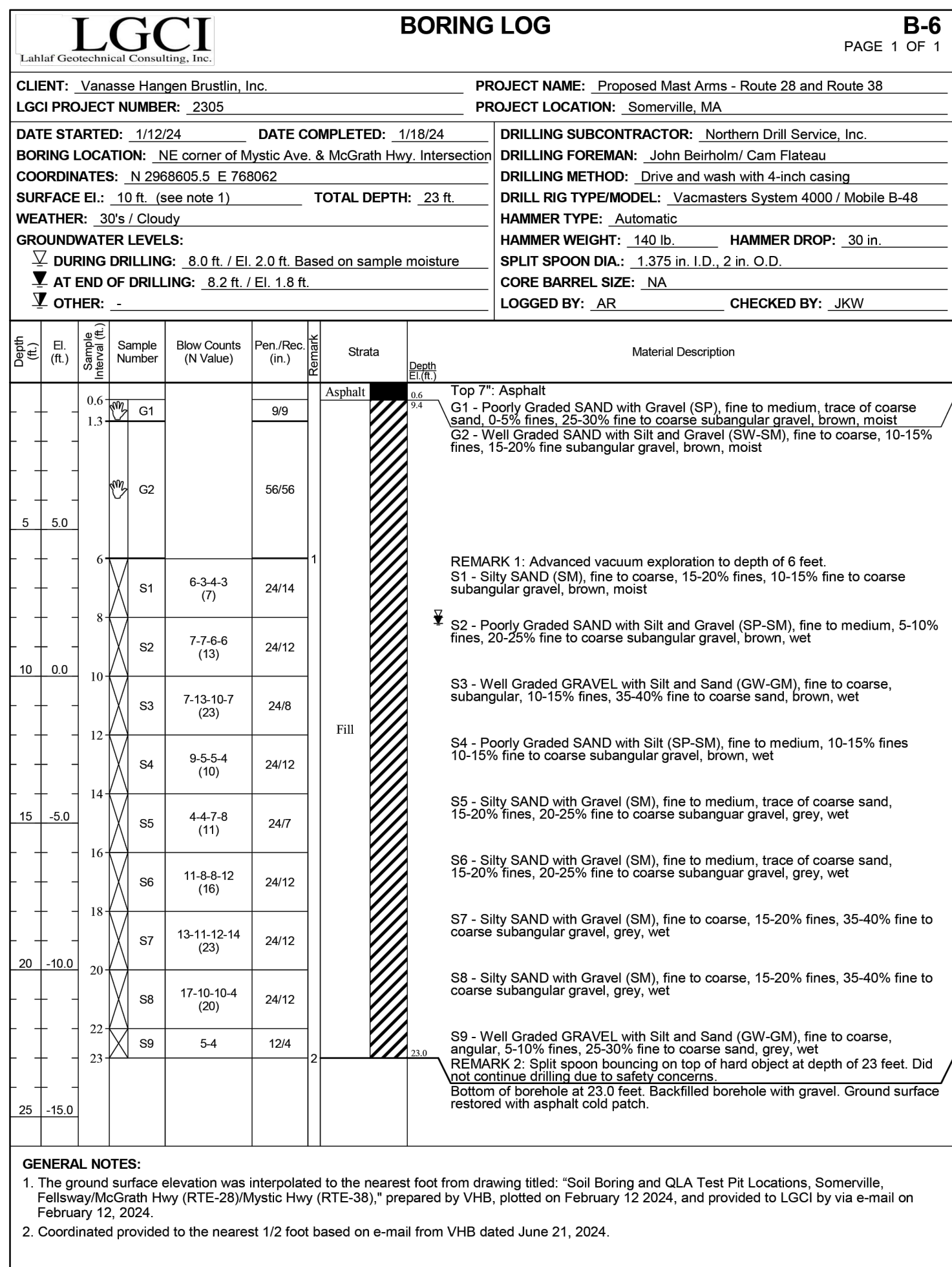
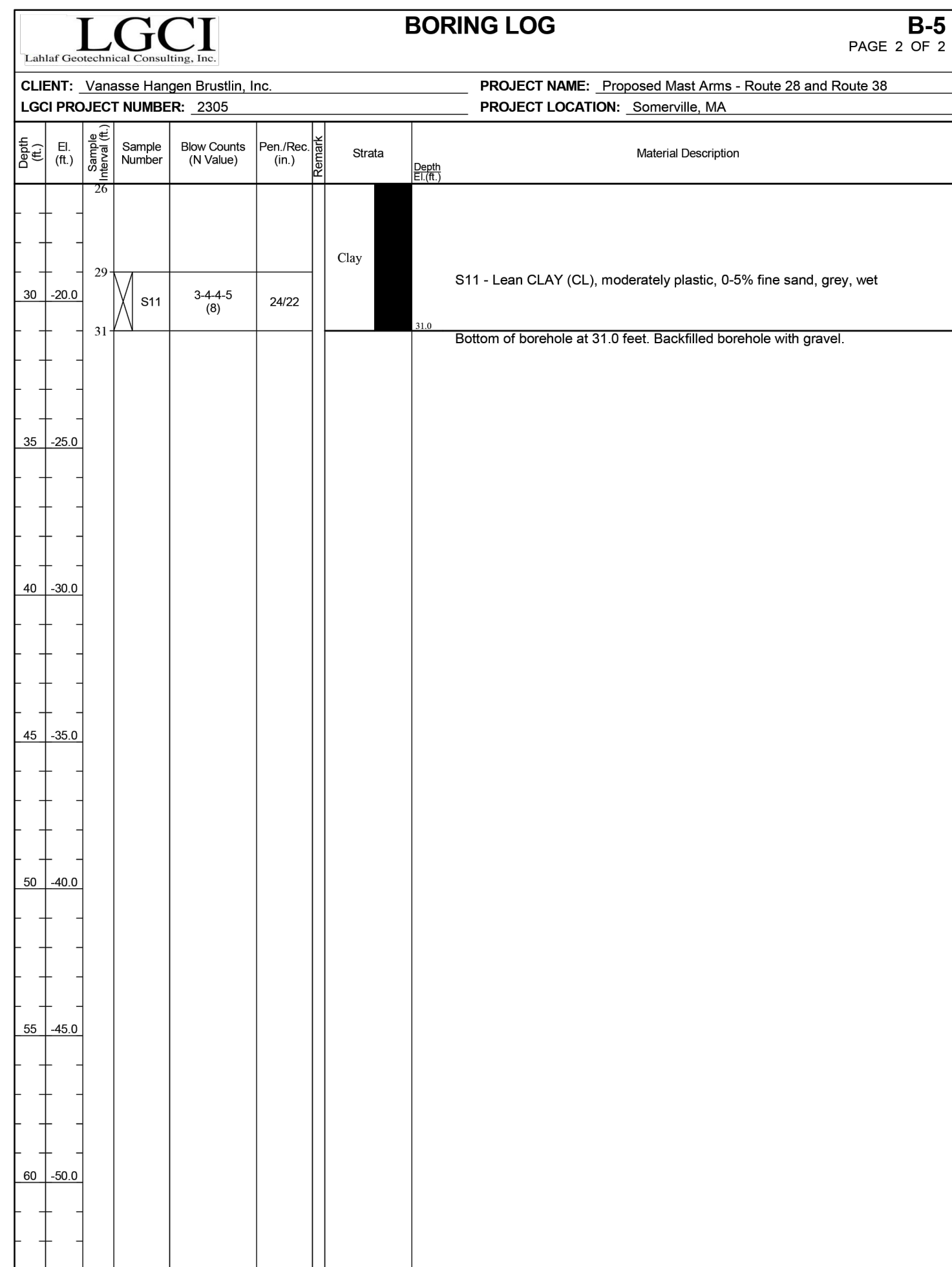
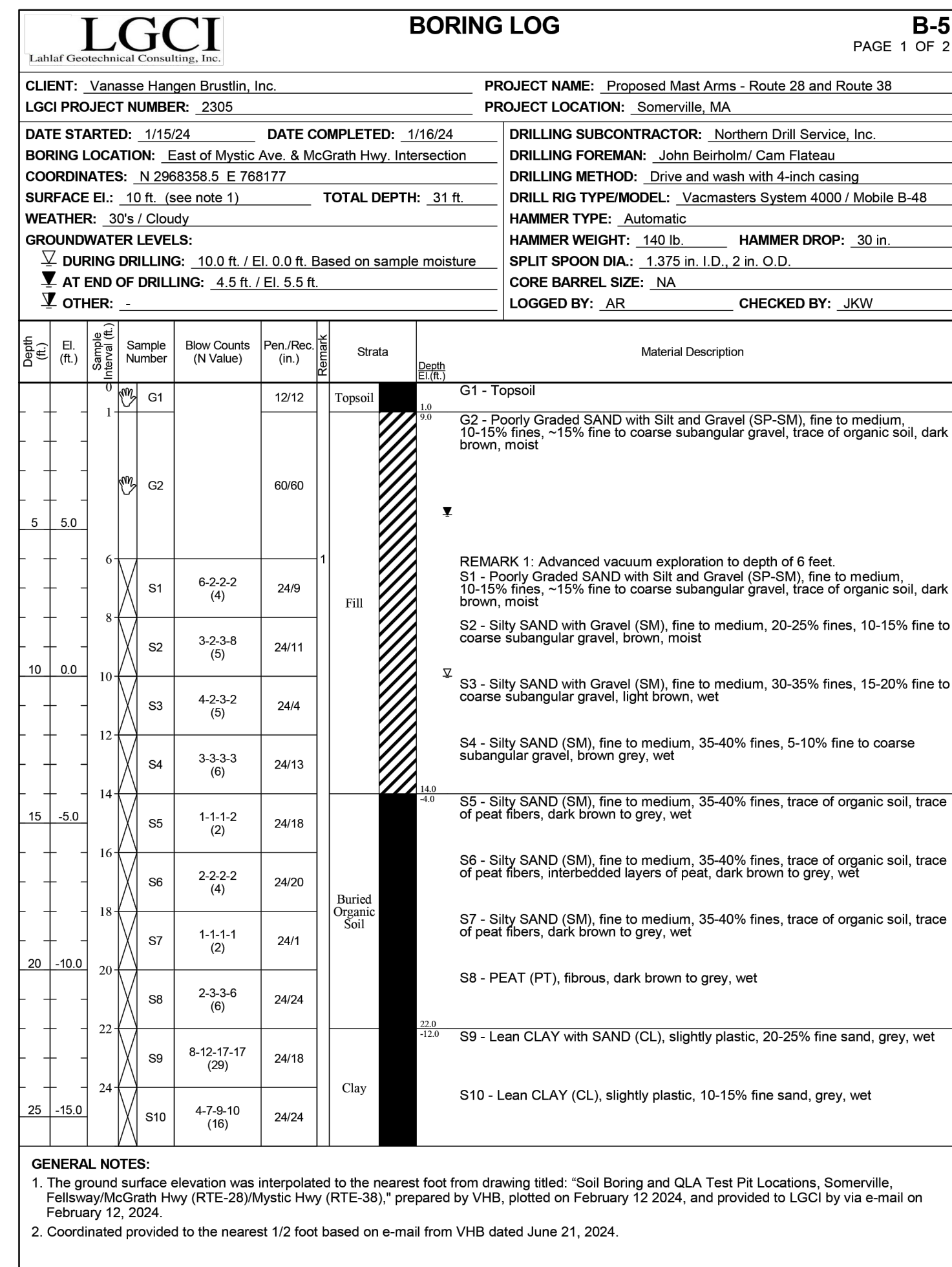


**SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	7	205
PROJECT FILE NO.		608562	

**BORING LOGS**

**BORING NOTES:**  
 SEE SHEET 6 OF 205 FOR BORING NOTES.



**GENERAL NOTES:**  
 1. The ground surface elevation was interpolated to the nearest foot from drawing titled: "Soil Boring and QLA Test Pit Locations, Somerville, Fellsway/McGrath Hwy (RTE-28)/Mystic Hwy (RTE-38)," prepared by VHB, plotted on February 12, 2024, and provided to LGCI by via e-mail on February 12, 2024.  
 2. Coordinated provided to the nearest 1/2 foot based on e-mail from VHB dated June 21, 2024.

# PAVEMENT NOTES

## PROPOSED PAVEMENT MILL AND OVERLAY - TYPE 1

SURFACE: 1 3/4" SUPERPAVE SURFACE COURSE 12.5 - P (SSC-12.5-P)  
 STANDARD MILL: 1 3/4"

## PROPOSED PAVEMENT MILL AND OVERLAY - TYPE 2

SURFACE: 1 3/4" SUPERPAVE SURFACE COURSE 12.5 - P (SSC-12.5-P)  
 INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 - P (SIC-12.5-P)  
 LEVELING: VARIABLE DEPTH (1" MIN, 2" MAX) SUPERPAVE LEVELING COURSE 9.5 (SLC-9.5) - LOCATION AS INDICATED BELOW  
 STANDARD MILL: 3 3/4"  
 VARIABLE DEPTH (1" - 2") LEVELING COURSE  
 STA 413+50 TO STA 415+50

## PROPOSED FULL DEPTH PAVEMENT

SURFACE: 1 3/4" SUPERPAVE SURFACE COURSE 12.5 - P (SSC-12.5-P)  
 INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 - P (SIC-12.5-P)  
 BASE COURSE: 4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)  
 SUBBASE: 4" DENSE GRADED CRUSHED STONE FOR SUB-BASE  
 SUBBASE: 8" GRAVEL BORROW (TYPE B)

## PROPOSED FULL DEPTH PAVEMENT LESS THAN 4 FEET WIDE

SURFACE: 1 3/4" SUPERPAVE SURFACE COURSE 12.5 - P (SSC-12.5-P)  
 INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 - P (SIC-12.5-P)  
 BASE COURSE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE  
 SUBBASE: 8" GRAVEL BORROW (TYPE B)

## PROPOSED CEMENT CONCRETE PEDESTRIAN CURB RAMP / STAMPED CEMENT CONCRETE / SIDEWALK / SIDEWALK BUFFER / ROADWAY BUFFER / MEDIAN

SURFACE: 4" CEMENT CONCRETE AIR ENTRAINED (4000 PSI, 3/4", 610 LB)  
 SUBBASE: 8" GRAVEL BORROW, (TYPE B)

## PROPOSED CEMENT CONCRETE DRIVEWAY

SURFACE: 6" CEMENT CONCRETE AIR ENTRAINED (4000 PSI, 3/4", 610 LB)  
 SUBBASE: 8" GRAVEL BORROW, (TYPE B)

## PROPOSED HOT MIX ASPHALT - SEPARATED BIKE LANE (SBL) / PROPOSED HOT MIX ASPHALT - SHARED USE PATH (SUP)

SURFACE: 1 3/4" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
 INTERMEDIATE: 2 1/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)  
 SUBBASE: 8" GRAVEL BORROW, (TYPE B)

## PROPOSED HOT MIX ASPHALT - DRIVEWAY

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
 INTERMEDIATE: 2 1/2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
 SUBBASE: 8" GRAVEL BORROW, (TYPE B)

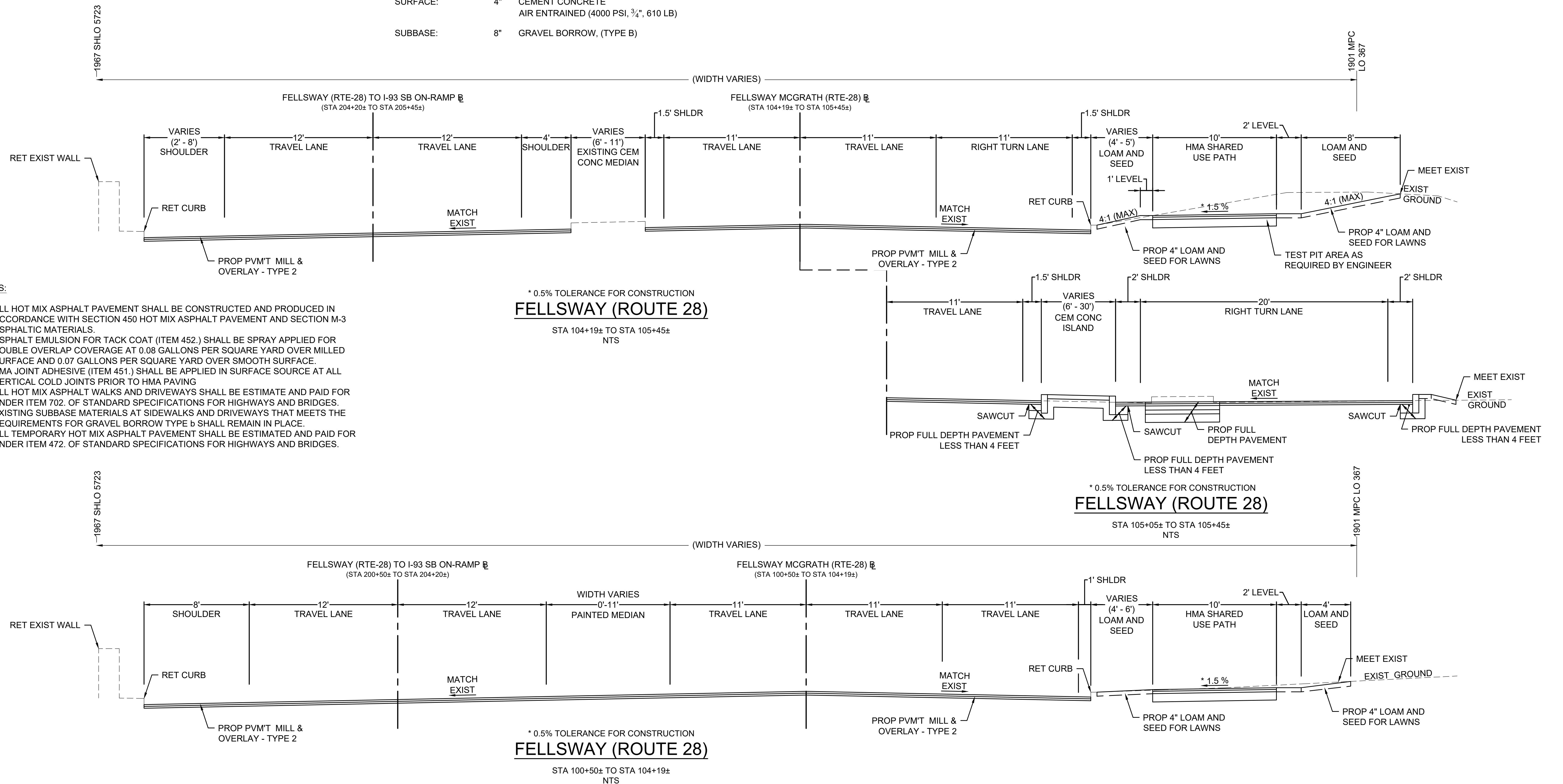
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	8	205
PROJECT FILE NO. 608562			

## TYPICAL SECTIONS & PAVEMENT NOTES

### PROPOSED HOT MIX ASPHALT - SIDEWALK / PATCH

SURFACE: 1 1/4" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
 INTERMEDIATE: 1 3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
 SUBBASE: 8" GRAVEL BORROW, (TYPE B)



### NOTES:

- ALL HOT MIX ASPHALT PAVEMENT SHALL BE CONSTRUCTED AND PRODUCED IN ACCORDANCE WITH SECTION 450 HOT MIX ASPHALT PAVEMENT AND SECTION M-3 ASPHALTIC MATERIALS.
- ASPHALT EMULSION FOR TACK COAT (ITEM 452.) SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.08 GALLONS PER SQUARE YARD OVER MILLED SURFACE AND 0.07 GALLONS PER SQUARE YARD OVER SMOOTH SURFACE.
- HMA JOINT ADHESIVE (ITEM 451.) SHALL BE APPLIED IN SURFACE SOURCE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING
- ALL HOT MIX ASPHALT WALKS AND DRIVEWAYS SHALL BE ESTIMATE AND PAID FOR UNDER ITEM 702. OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- EXISTING SUBBASE MATERIALS AT SIDEWALKS AND DRIVEWAYS THAT MEETS THE REQUIREMENTS FOR GRAVEL BORROW TYPE B SHALL REMAIN IN PLACE.
- ALL TEMPORARY HOT MIX ASPHALT PAVEMENT SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 472. OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

### \* 0.5% TOLERANCE FOR CONSTRUCTION FELLSWAY (ROUTE 28)

STA 104+19± TO STA 105+45±  
 NTS

### \* 0.5% TOLERANCE FOR CONSTRUCTION FELLSWAY (ROUTE 28)

STA 105+05± TO STA 105+45±  
 NTS

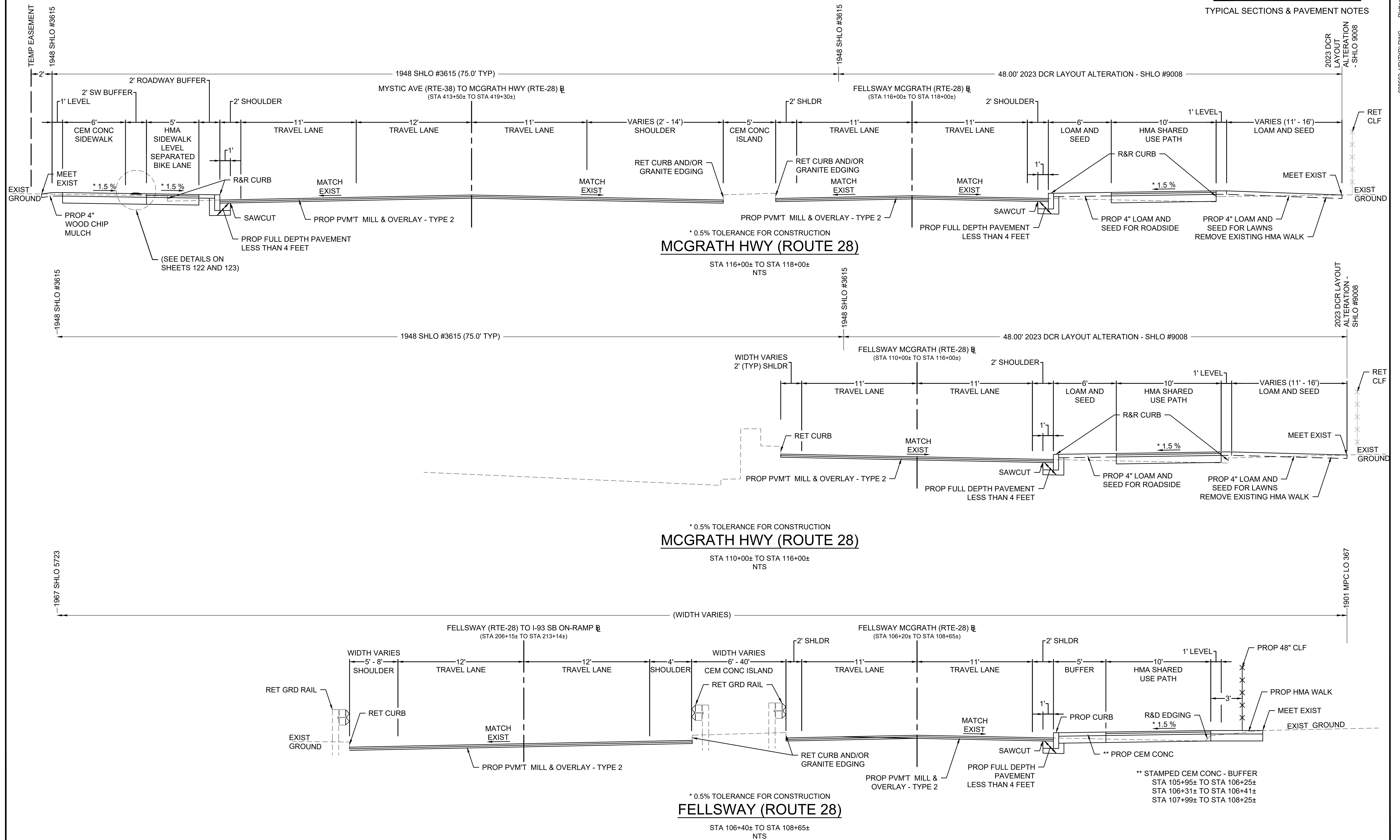
### \* 0.5% TOLERANCE FOR CONSTRUCTION FELLSWAY (ROUTE 28)

STA 100+50± TO STA 104+19±  
 NTS

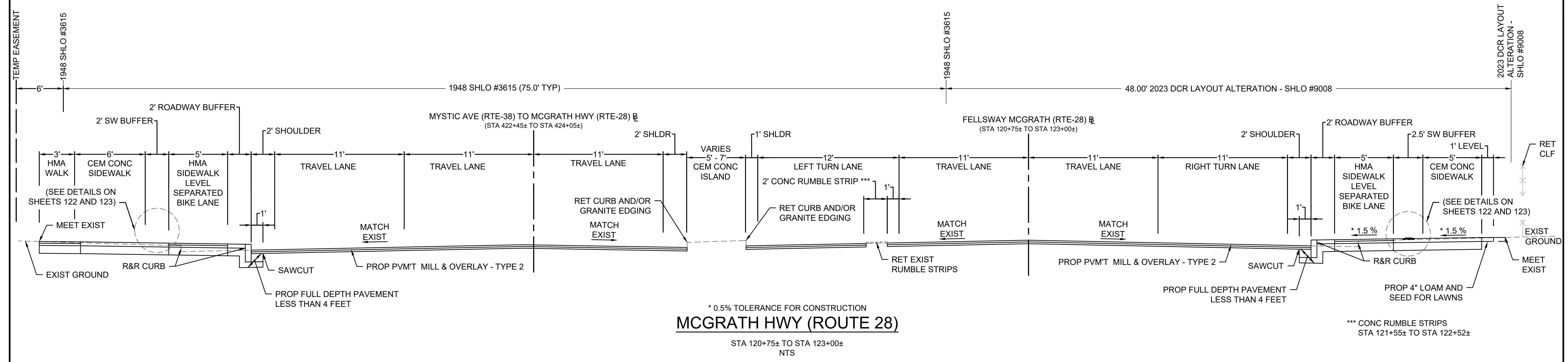


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	9	205
PROJECT FILE NO. 608562			

TYPICAL SECTIONS & PAVEMENT NOTES

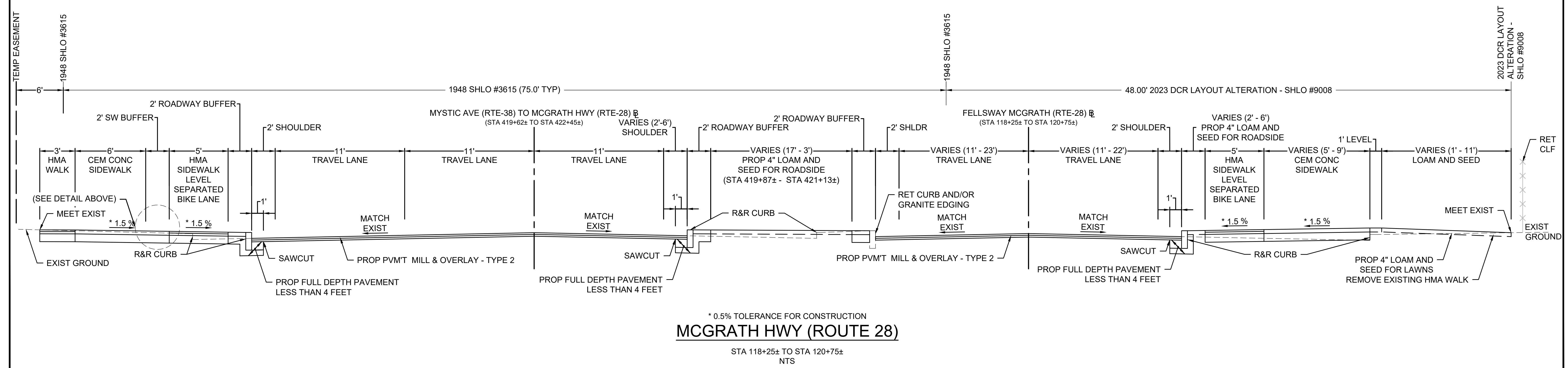


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	10	205
PROJECT FILE NO. 608562			



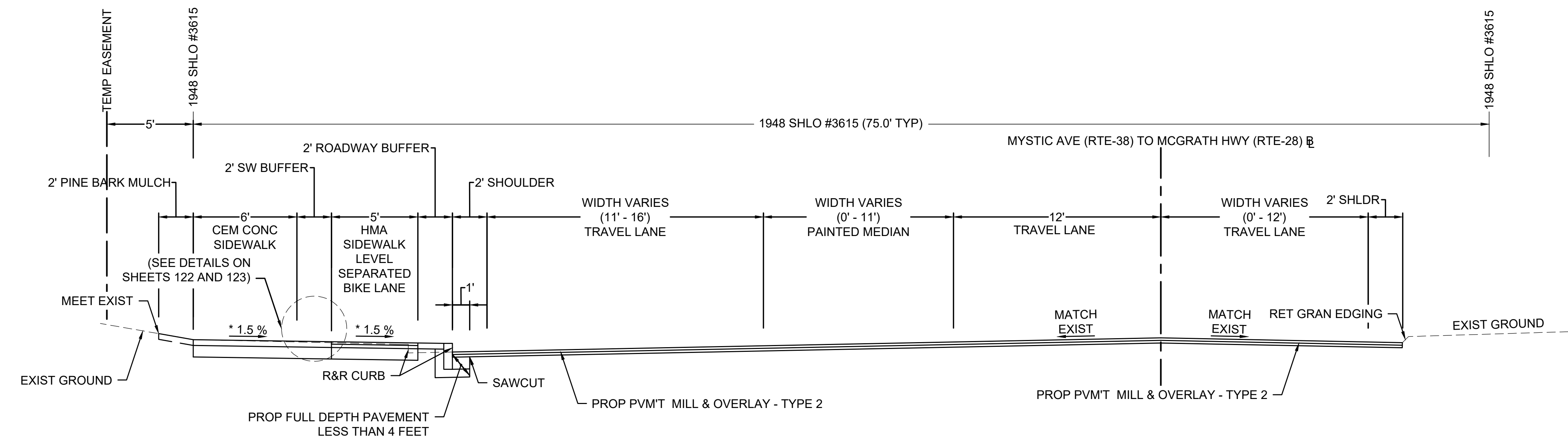
\* 0.5% TOLERANCE FOR CONSTRUCTION  
**MCGRATH HWY (ROUTE 28)**  
 STA 120+75± TO STA 123+00±  
 NTS

\*\*\* CONC RUMBLE STRIPS  
 STA 121+55± TO STA 122+52±



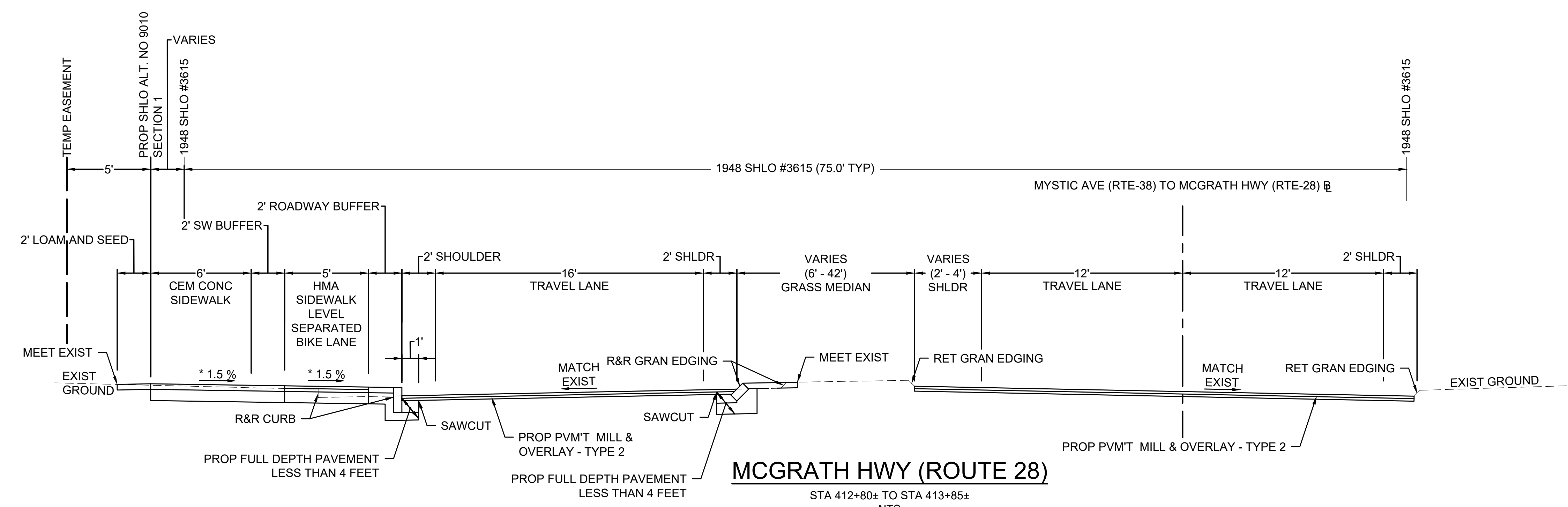
\* 0.5% TOLERANCE FOR CONSTRUCTION  
**MCGRATH HWY (ROUTE 28)**  
 STA 118+25± TO STA 120+75±  
 NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	11	205
PROJECT FILE NO. 608562			



**MCGRATH HWY (ROUTE 28)**

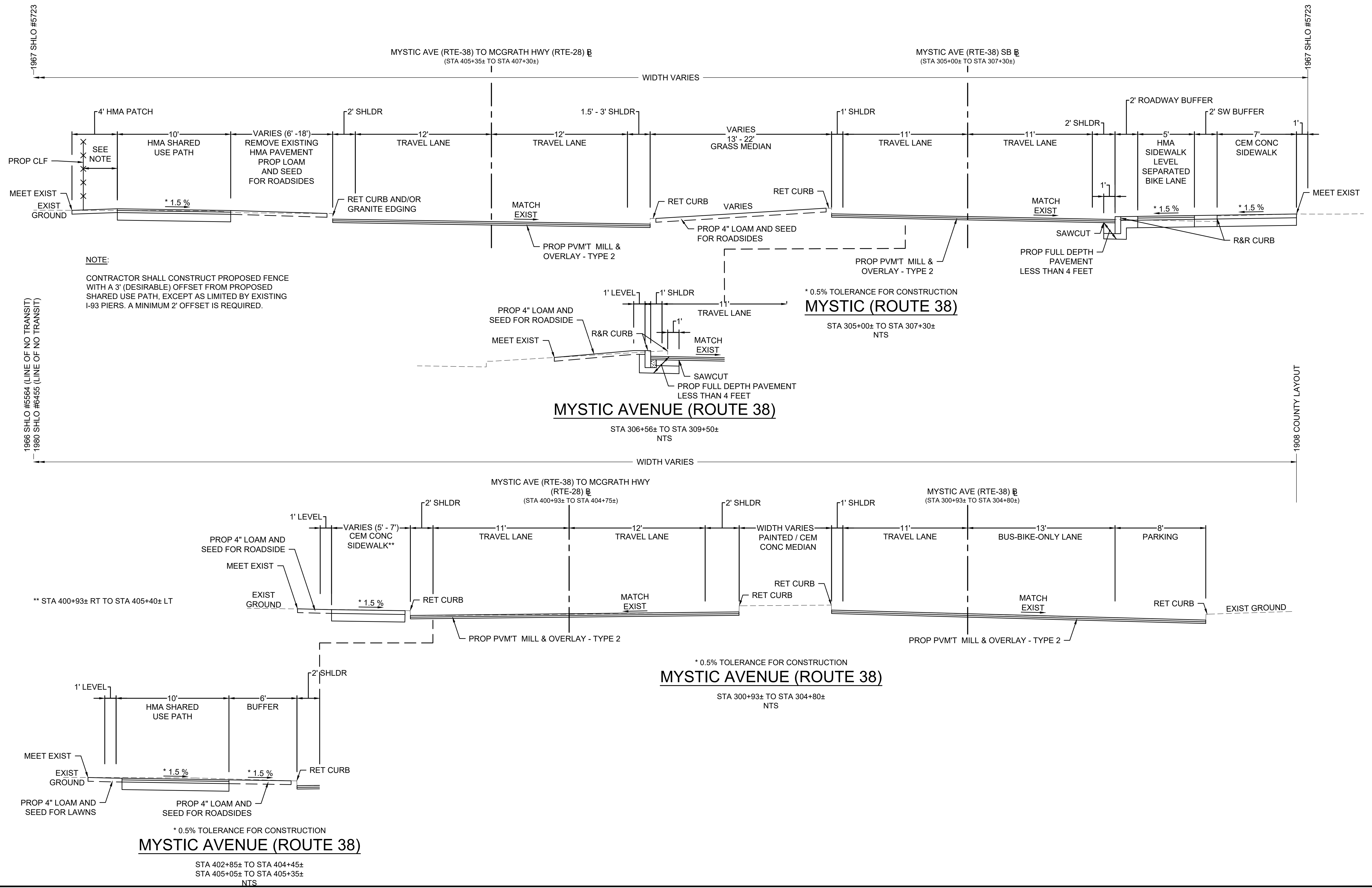
STA 413+85± TO STA 415+50±  
 NTS



**MCGRATH HWY (ROUTE 28)**

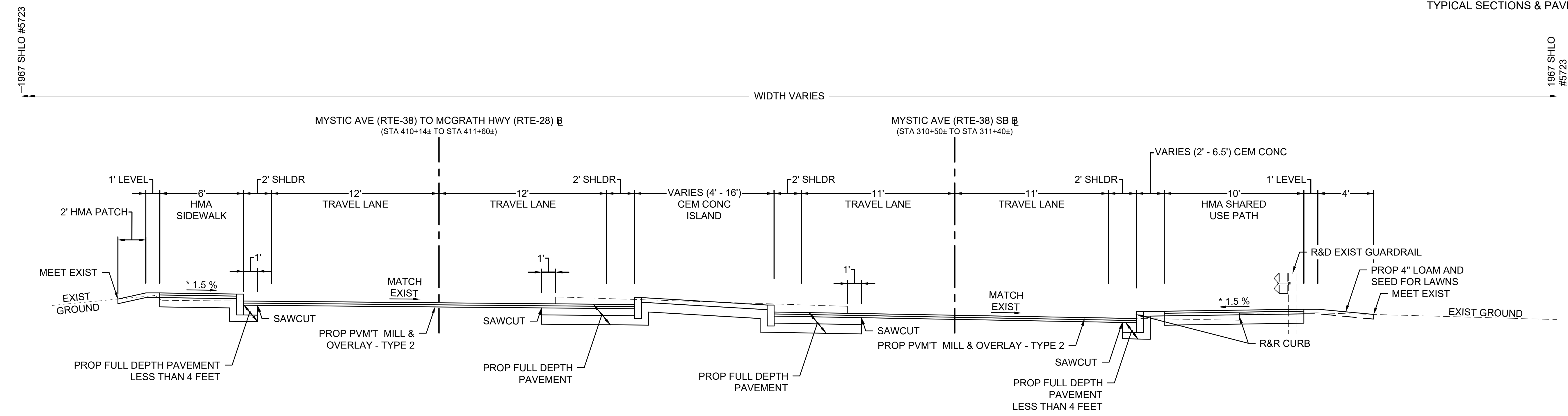
STA 412+80± TO STA 413+85±  
 NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	12	205
PROJECT FILE NO. 608562			

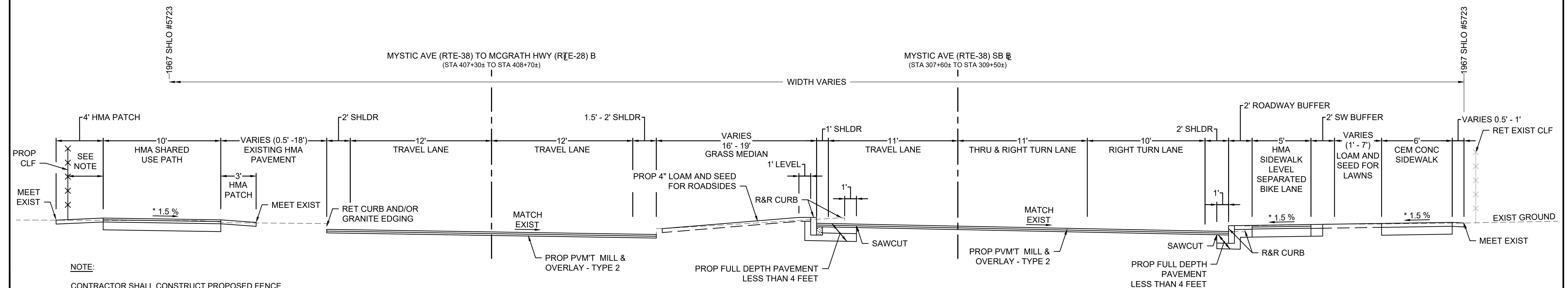


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	13	205
PROJECT FILE NO. 608562			

TYPICAL SECTIONS & PAVEMENT NOTES



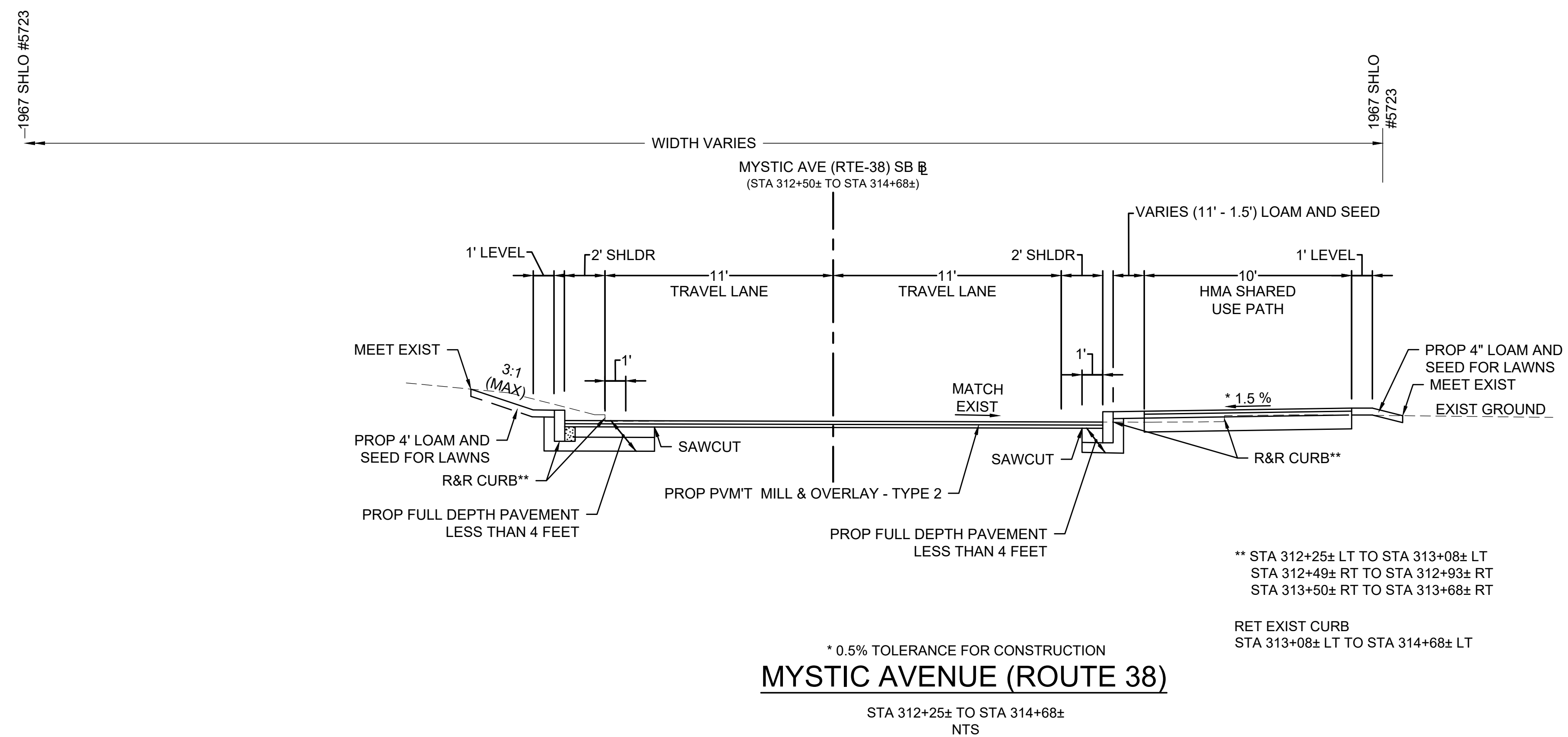
\* 0.5% TOLERANCE FOR CONSTRUCTION  
**MYSTIC AVENUE (ROUTE 38)**  
 STA 310+00± TO STA 311+40±  
 NTS



\* 0.5% TOLERANCE FOR CONSTRUCTION  
**MYSTIC AVENUE (ROUTE 38)**  
 STA 307+60± TO STA 309+50±  
 NTS

**NOTE:**  
 CONTRACTOR SHALL CONSTRUCT PROPOSED FENCE WITH A 3' (DESIRABLE) OFFSET FROM PROPOSED SHARED USE PATH, EXCEPT AS LIMITED BY EXISTING I-93 PIERS. A MINIMUM 2' OFFSET IS REQUIRED.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	14	205
PROJECT FILE NO. 608562			



HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 40

DRAINAGE DETAILS

SEE SHEET 40

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

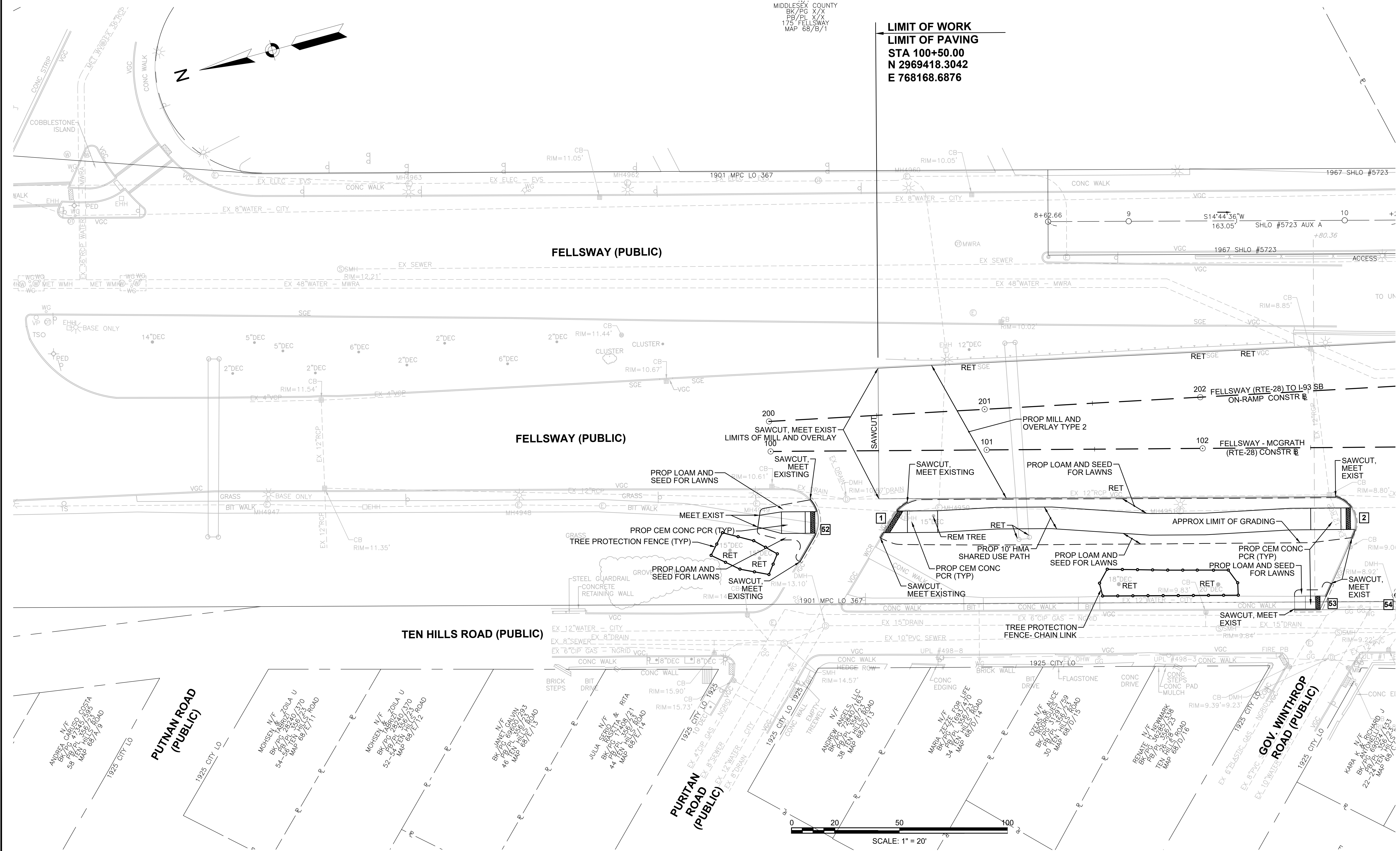
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	15	205

PROJECT FILE NO. 608562

CONSTRUCTION PLANS

MIDDLESEX COUNTY  
BK/PG X/X  
PB/PL X/X  
175 FELLSWAY  
MAP 68/B/1

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**



CONTINUED ON  
SHEET NO. 16

608562\_HD(CONST).DWG  
Plotted on 15-Jul-2024 1:57 PM

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

SEE SHEET 49

WATER SUPPLY ALTERATIONS

SEE SHEET 41

DRAINAGE DETAILS

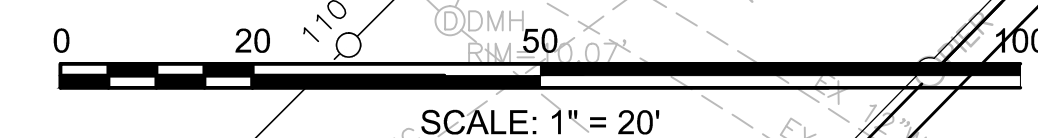
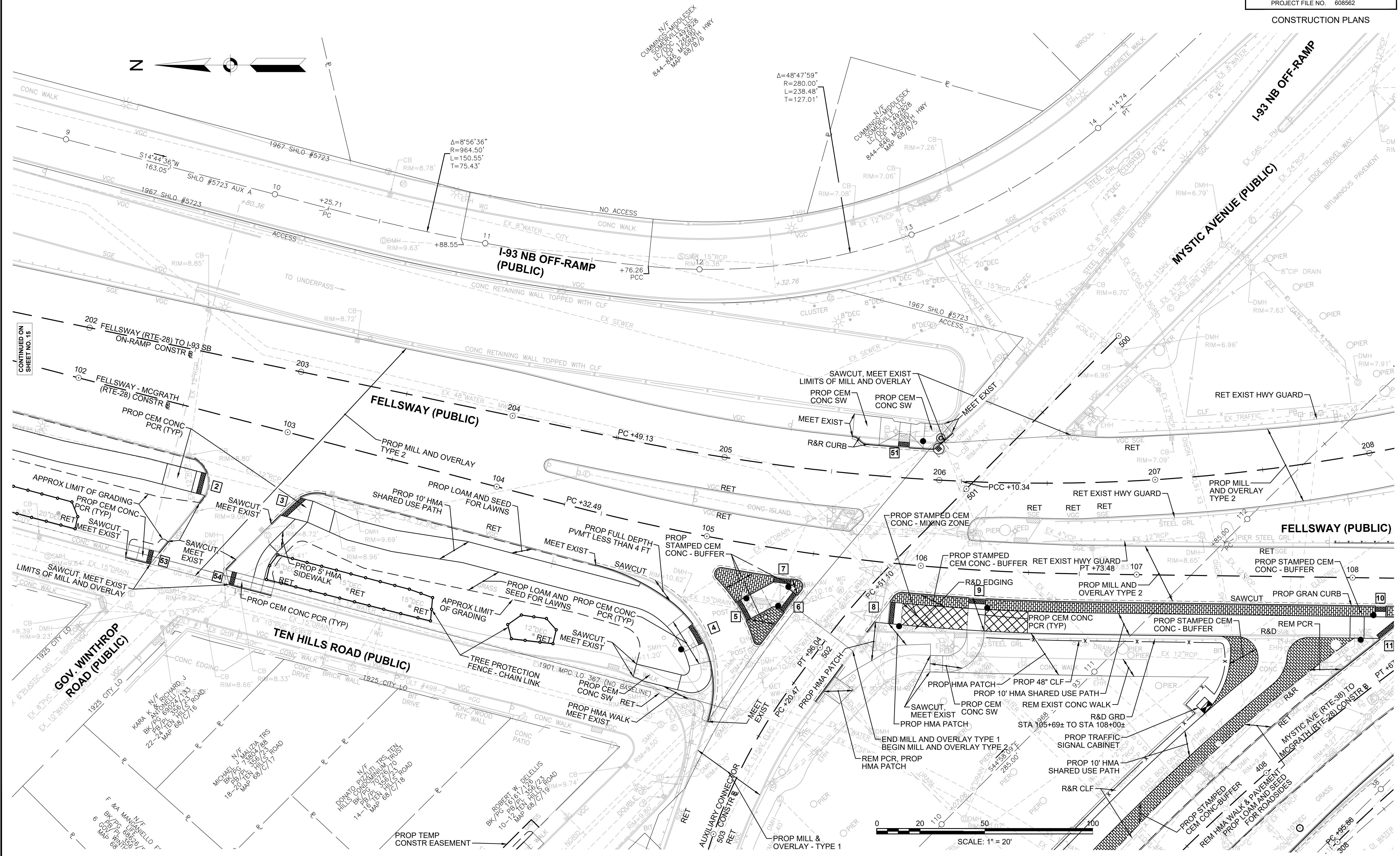
SEE SHEET 41

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	16	205

PROJECT FILE NO. 608562

CONSTRUCTION PLANS



CONTINUED ON SHEET NO. 22

CONTINUED ON SHEET NO. 15

CONTINUED ON SHEET NO. 17

608562\_HD(CONST).DWG Plotted on 15-Jul-2024 1:58 PM



HIGHWAY GUARD DETAILS

DESCRIPTION

PROPOSED TRANSITION TO NCHRP 350 GUARDRAIL  
PROPOSED TRAILING ANCHORAGE

LOCATION

STA 107+91.3, LT TO STA 108+25.6, LT  
STA 108+25.6, LT TO STA 108+35.0, LT

TRAFFIC SIGNAL CONDUIT

SEE SHEET 50

WATER SUPPLY ALTERATIONS

SEE SHEET 42

DRAINAGE DETAILS

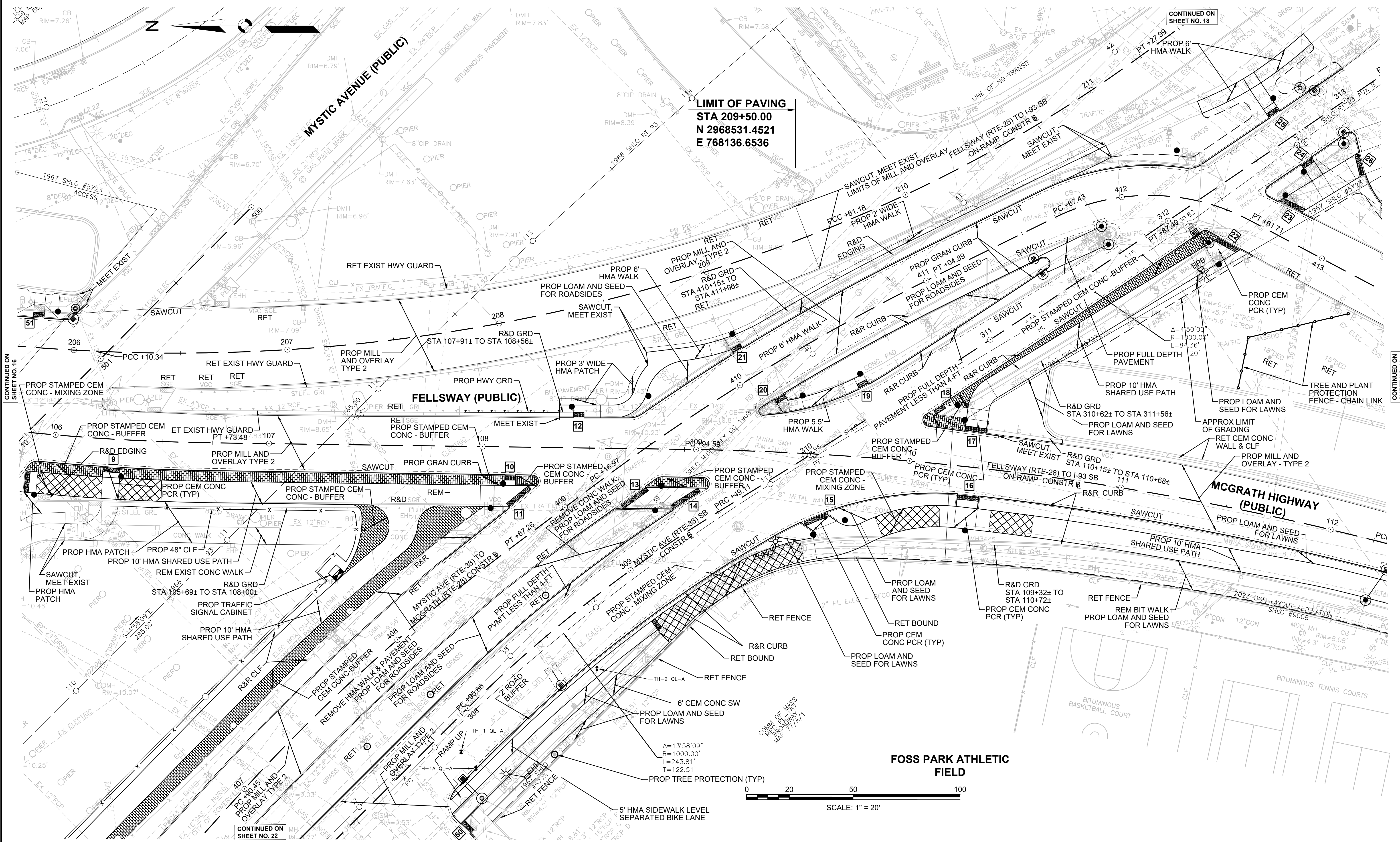
SEE SHEET 42

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	17	205

PROJECT FILE NO. 608562

CONSTRUCTION PLANS



**LIMIT OF PAVING**  
**STA 209+50.00**  
**N 2968531.4521**  
**E 768136.6536**

CONTINUED ON  
SHEET NO. 18

CONTINUED ON  
SHEET NO. 16

CONTINUED ON  
SHEET NO. 18

CONTINUED ON  
SHEET NO. 22

608562\_HD(CONST).DWG  
 Plotted on 15-Jul-2024 1:58 PM

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

SEE SHEET 51

WATER SUPPLY ALTERATIONS

SEE SHEET 43

DRAINAGE DETAILS

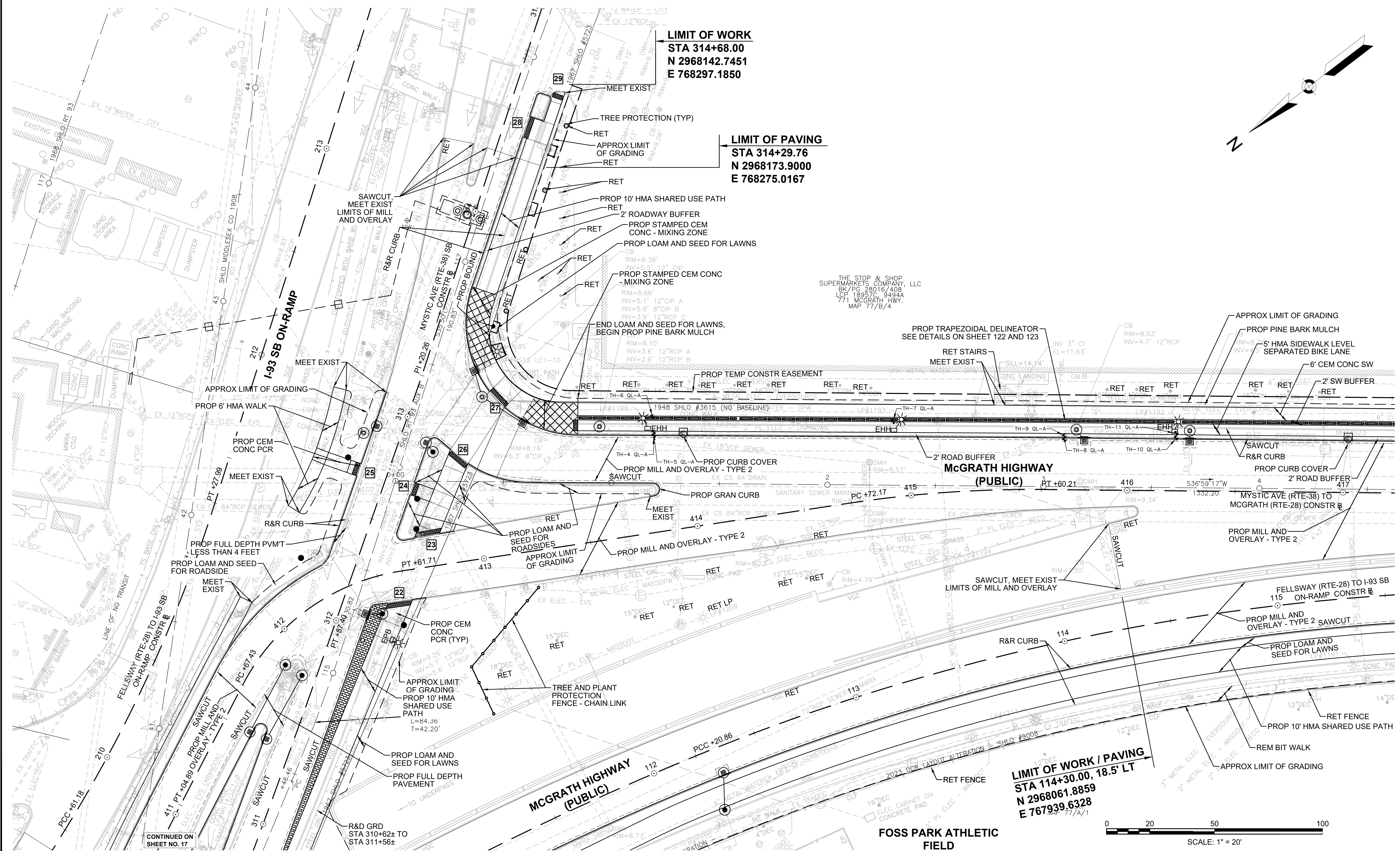
SEE SHEET 43

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	18	205

PROJECT FILE NO. 608562

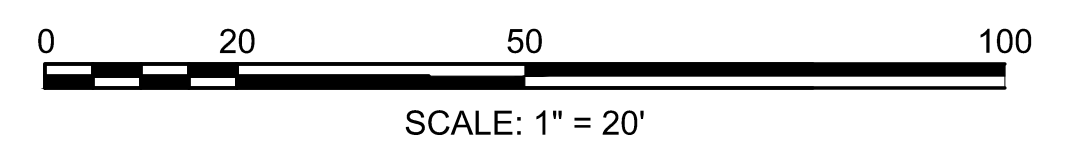
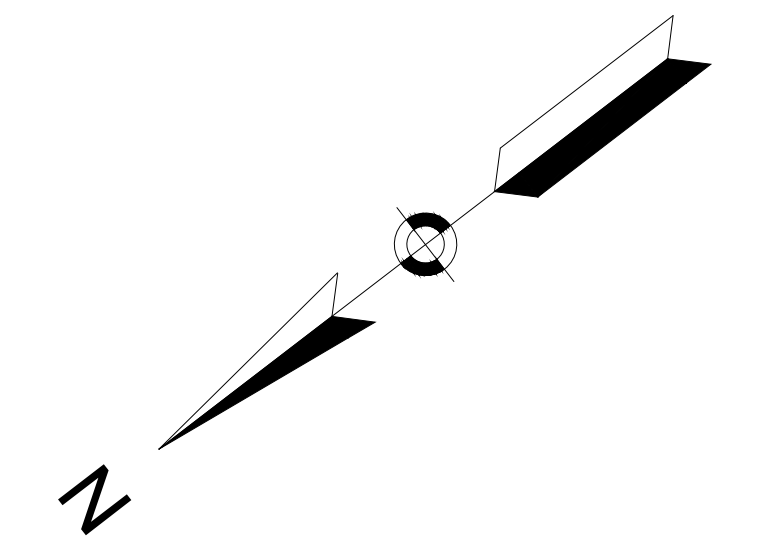
CONSTRUCTION PLANS



**LIMIT OF WORK**  
 STA 314+68.00  
 N 2968142.7451  
 E 768297.1850

**LIMIT OF PAVING**  
 STA 314+29.76  
 N 2968173.9000  
 E 768275.0167

**LIMIT OF WORK / PAVING**  
 STA 114+30.00, 18.5' LT  
 N 2968061.8859  
 E 767939.6328



CONTINUED ON SHEET NO. 17

R&D GRD STA 310+62± TO STA 311+56±

CONTINUED ON SHEET NO. 19

608562\_HD(CONST).DWG Plotted on 15-Jul-2024 1:59 PM

HIGHWAY GUARD DETAILS

DESCRIPTION  
PROPOSED TRANSITION TO RIGID BARRIER (DOUBLE FACED)  
PROPOSED IMPACT ATTENUATOR, NON-REDIRECTIVE, TL-2

LOCATION  
STA 418+05.9, RT TO STA 418+51.6, RT  
STA 418+51.6, RT TO STA 418+65.7, RT

TRAFFIC SIGNAL CONDUIT

SEE SHEET 52

WATER SUPPLY ALTERATIONS

SEE SHEET 44

DRAINAGE DETAILS

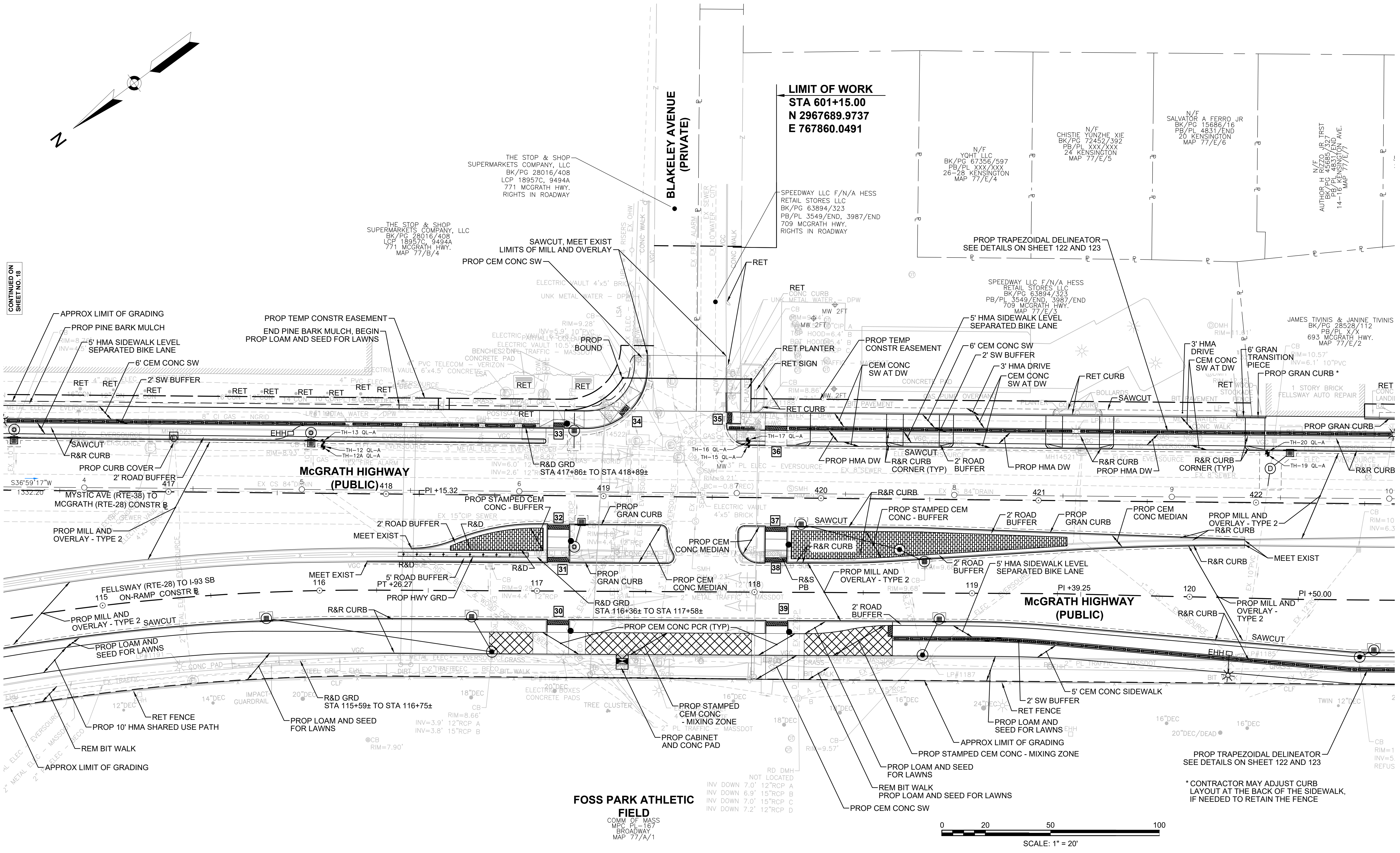
SEE SHEET 44

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	19	205

PROJECT FILE NO. 608562

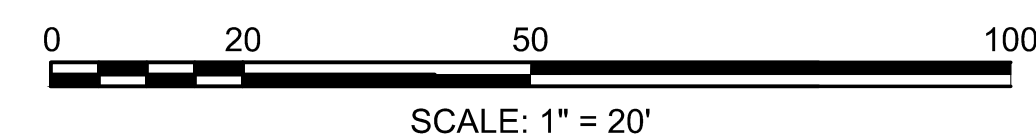
CONSTRUCTION PLANS



CONTINUED ON SHEET NO. 18

CONTINUED ON SHEET NO. 20

**FOSS PARK ATHLETIC FIELD**  
 COMM OF MASS  
 MFC PL 157  
 BROADWAY  
 MAP 77/A/1



\* CONTRACTOR MAY ADJUST CURB LAYOUT AT THE BACK OF THE SIDEWALK, IF NEEDED TO RETAIN THE FENCE

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 45

DRAINAGE DETAILS

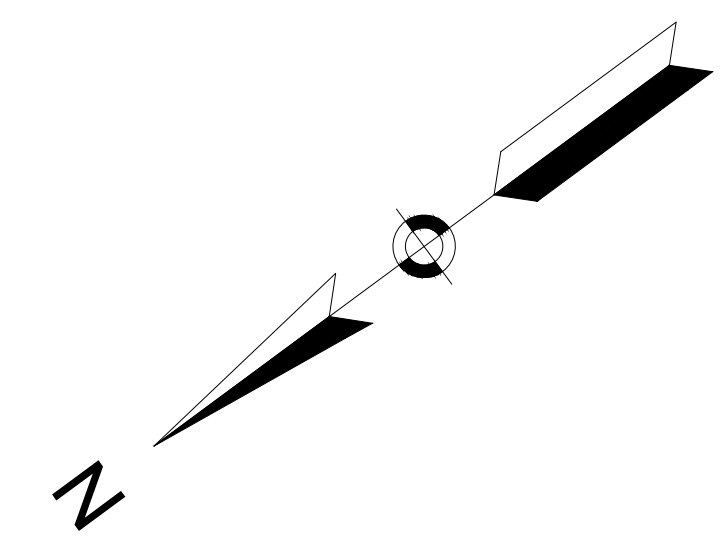
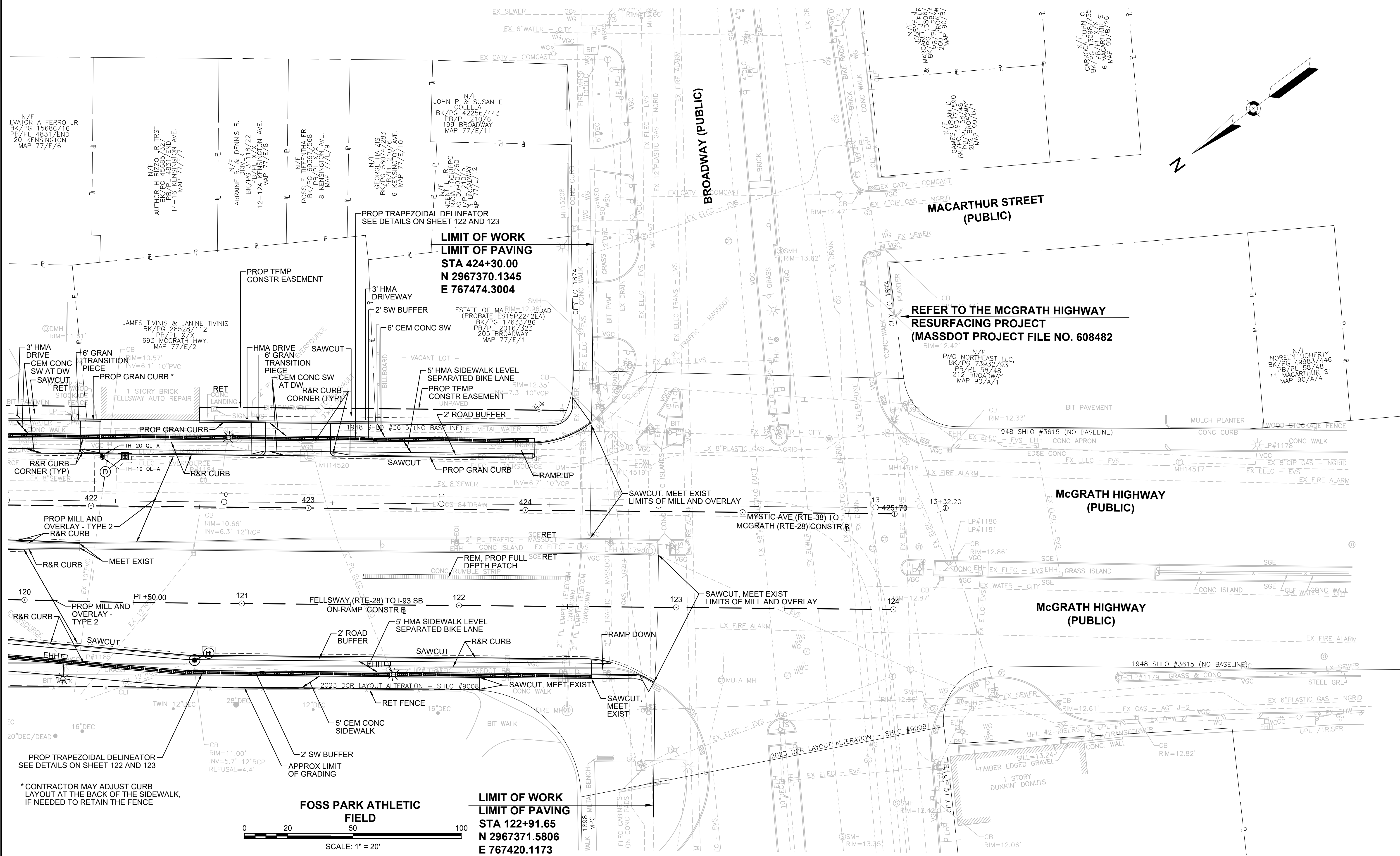
SEE SHEET 45

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	20	205

PROJECT FILE NO. 608562

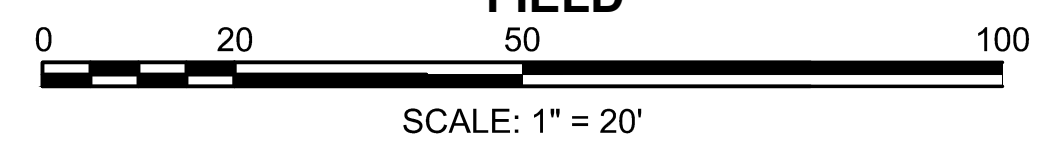
CONSTRUCTION PLANS



**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 424+30.00**  
**N 2967370.1345**  
**E 767474.3004**

**REFER TO THE MCGRATH HIGHWAY**  
**RESURFACING PROJECT**  
**(MASSDOT PROJECT FILE NO. 608482)**

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 122+91.65**  
**N 2967371.5806**  
**E 767420.1173**



CONTINUED ON  
SHEET NO. 19

\* CONTRACTOR MAY ADJUST CURB LAYOUT AT THE BACK OF THE SIDEWALK, IF NEEDED TO RETAIN THE FENCE

**FOSS PARK ATHLETIC FIELD**

608562\_HD(CONST).DWG Plotted on 21-Aug-2024 1:35 PM

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 46

DRAINAGE DETAILS

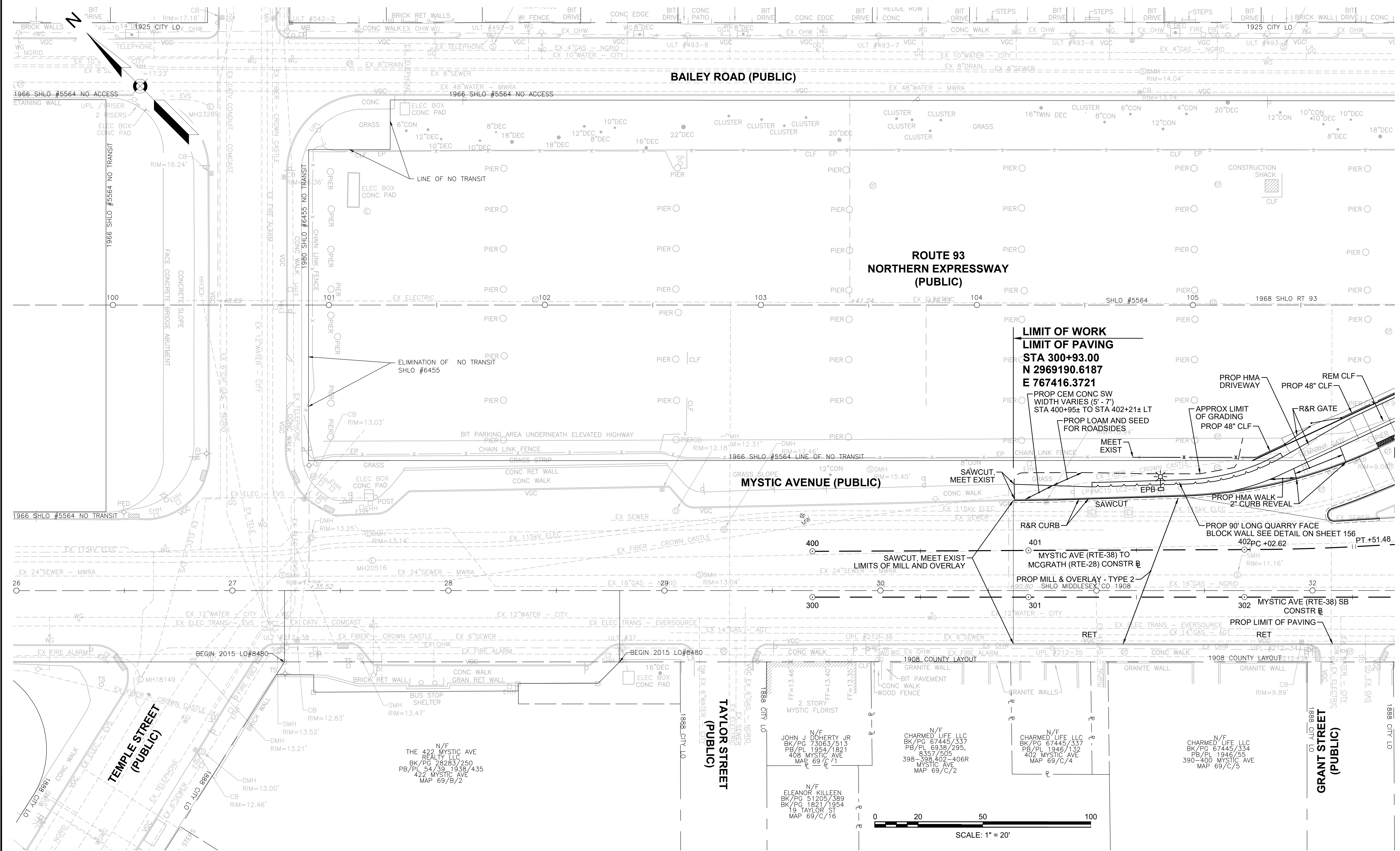
SEE SHEET 46

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HS(VUS)-003S(762)	21	205

PROJECT FILE NO. 608562

CONSTRUCTION PLANS



**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 300+93.00**  
**N 2969190.6187**  
**E 767416.3721**

PROP CEM CONC SW  
 WIDTH VARIES (5' - 7')  
 STA 400+95± TO STA 402+21± LT  
 PROP LOAM AND SEED  
 FOR ROADSIDES  
 MEET EXIST  
 R&R CURB  
 SAWCUT, MEET EXIST  
 LIMITS OF MILL AND OVERLAY  
 PROP HMA DRIVEWAY  
 PROP 48" CLF  
 APPROX LIMIT  
 OF GRADING  
 PROP 48" CLF  
 R&R GATE  
 PROP HMA WALK  
 2" CURB REVEAL  
 PROP 90' LONG QUARRY FACE  
 BLOCK WALL SEE DETAIL ON SHEET 156  
 PT +51.48

N/F  
 THE 422 MYSTIC AVE  
 REALTY, LLC  
 BK/PG 28283/250  
 PB/PL 54/39-1938/435  
 422 MYSTIC AVE  
 MAP 69/B/2

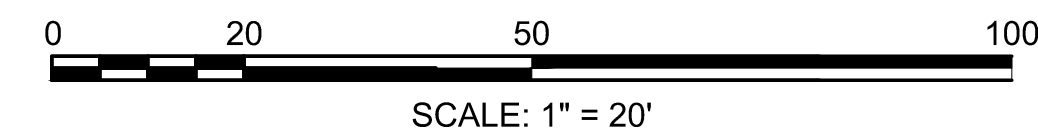
N/F  
 JOHN J. DOHERTY, JR.  
 BK/PG 73063/513  
 PB/PL 1954/1821  
 408 MYSTIC AVE  
 MAP 69/C/1

N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/337  
 PB/PL 6938/295,  
 8357/505  
 398-398 402-406R  
 MYSTIC AVE  
 MAP 69/C/2

N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/337  
 PB/PL 1946/132  
 402 MYSTIC AVE  
 MAP 69/C/4

N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/334  
 PB/PL 1946/55  
 390-400 MYSTIC AVE  
 MAP 69/C/5

N/F  
 ELEANOR KILLEEN  
 BK/PG 51205/389  
 BK/PG 1821/1954  
 19 TAYLOR ST  
 MAP 69/C/16



CONTINUED ON  
SHEET NO. 22

608562\_HD(CONST).DWG Plotted on 15-Jul-2024 2:00 PM

HIGHWAY GUARD DETAILS

TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

DESCRIPTION

LOCATION

SEE SHEET 55

SEE SHEET 47

SEE SHEET 47

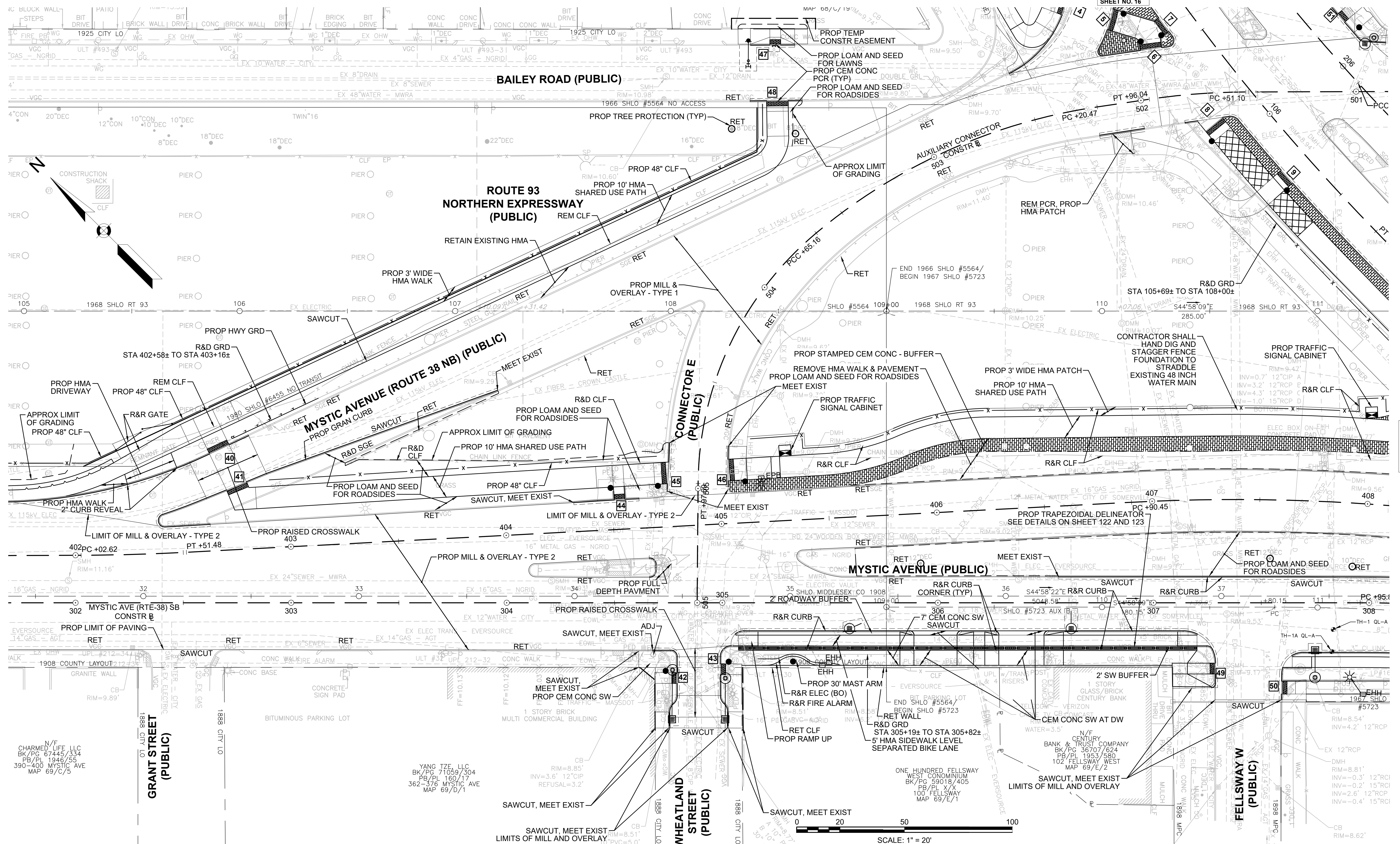
PROPOSED TRANSITION TO NCHRP 350 GUARDRAIL  
PROPOSED TRAILING ANCHORAGE

STA 402+84.5 LT TO STA 403+16.4, LT  
STA 402+75.8, LT TO STA 402+84.5, LT

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	22	205

PROJECT FILE NO. 608562

CONSTRUCTION PLANS



CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 17

N/F  
CHARMED LIFE LLC  
BK/PG 67445/334  
PB/PL 1946/55  
390-400 MYSTIC AVE  
MAP 69/C/5

YANG TZE, LLC  
BK/PG 71059/304  
PB/PL 160/17  
362-376 MYSTIC AVE  
MAP 69/D/1

ONE HUNDRED FELLSWAY  
WEST CONDOMINIUM  
BK/PG 59018/405  
PB/PL X/X  
100 FELLSWAY  
MAP 69/E/1





**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

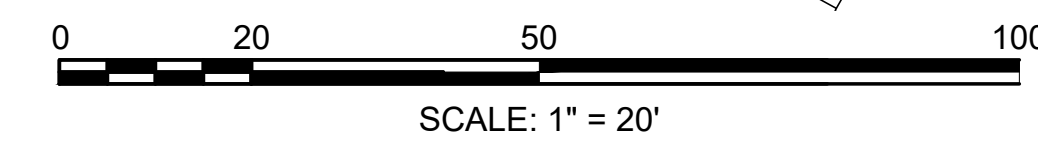
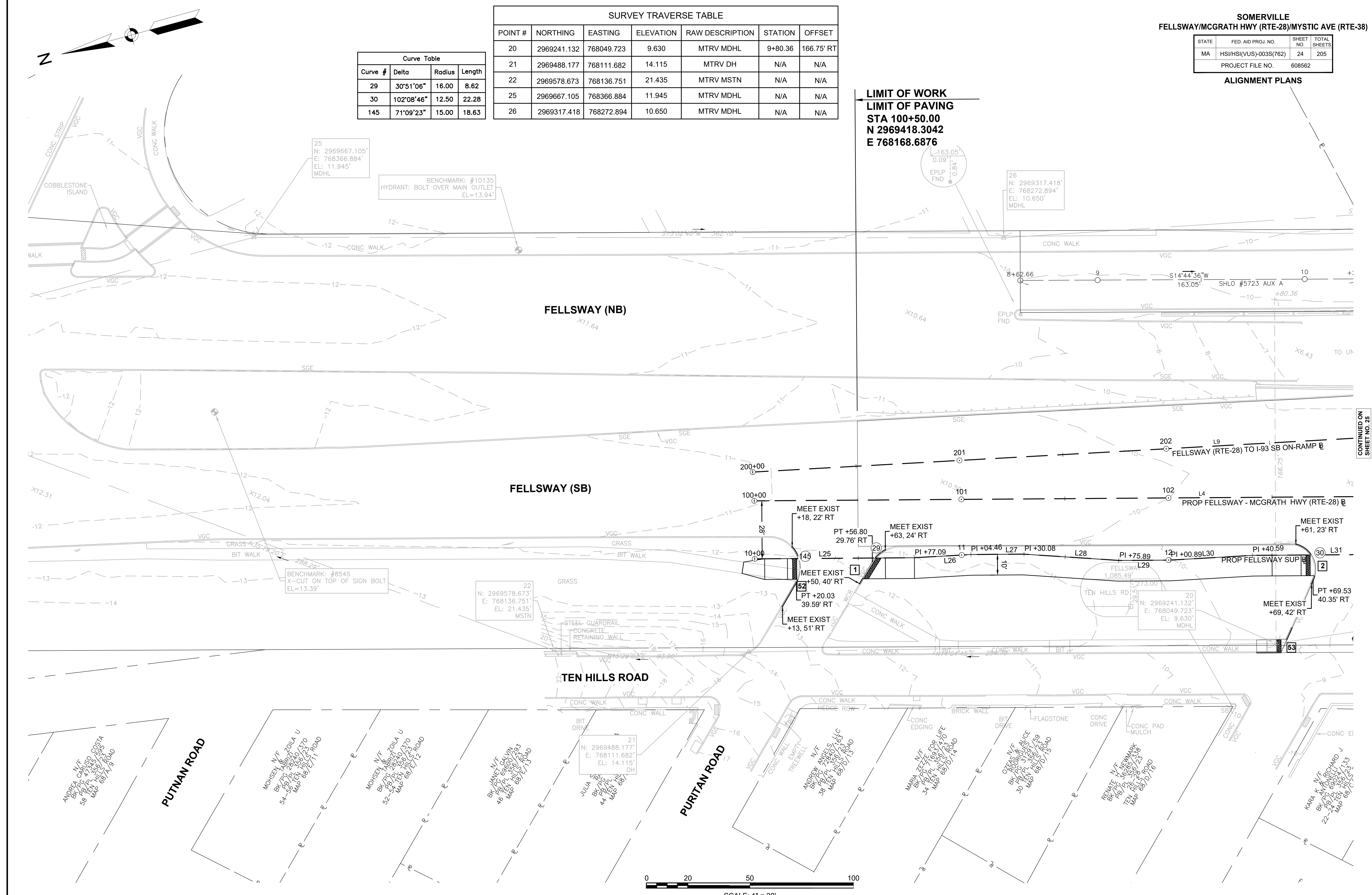
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	24	205
PROJECT FILE NO.			608562

**ALIGNMENT PLANS**

SURVEY TRAVERSE TABLE						
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
20	2969241.132	768049.723	9.630	MTRV MDHL	9+80.36	166.75' RT
21	2969488.177	768111.682	14.115	MTRV DH	N/A	N/A
22	2969578.673	768136.751	21.435	MTRV MSTN	N/A	N/A
25	2969667.105	768366.884	11.945	MTRV MDHL	N/A	N/A
26	2969317.418	768272.894	10.650	MTRV MDHL	N/A	N/A

Curve Table			
Curve #	Delta	Radius	Length
29	30°51'06"	16.00	8.62
30	102°08'46"	12.50	22.28
145	71°09'23"	15.00	18.63

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**



CONTINUED ON  
 SHEET NO. 25



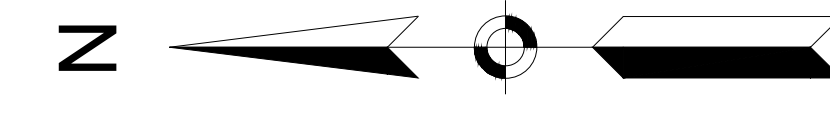
**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	25	205
PROJECT FILE NO.			608562

**ALIGNMENT PLANS**

SURVEY TRAVERSE TABLE						
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
17	2968956.865	768017.438	11.030	MTRV DHS	110+07.06	124.80' LT
19	2968848.254	768133.292	8.250	MTRV DH	13+13.53	63.57' RT
20	2969241.132	768049.723	9.630	MTRV MDHL	9+80.36	166.75' RT
27	2968953.239	768200.271	8.280	MTRV MAGSET	12+32.76	27.81' LT

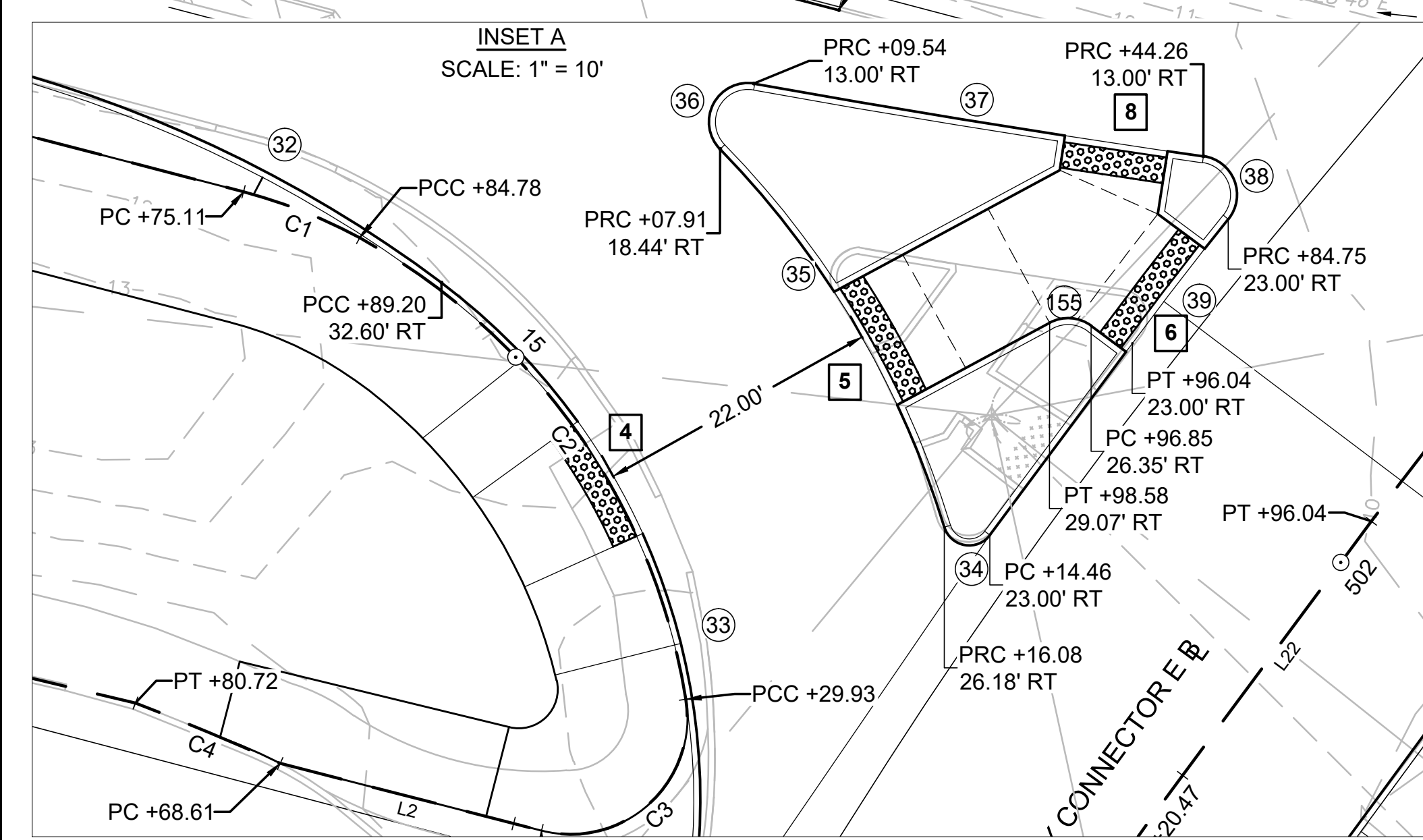
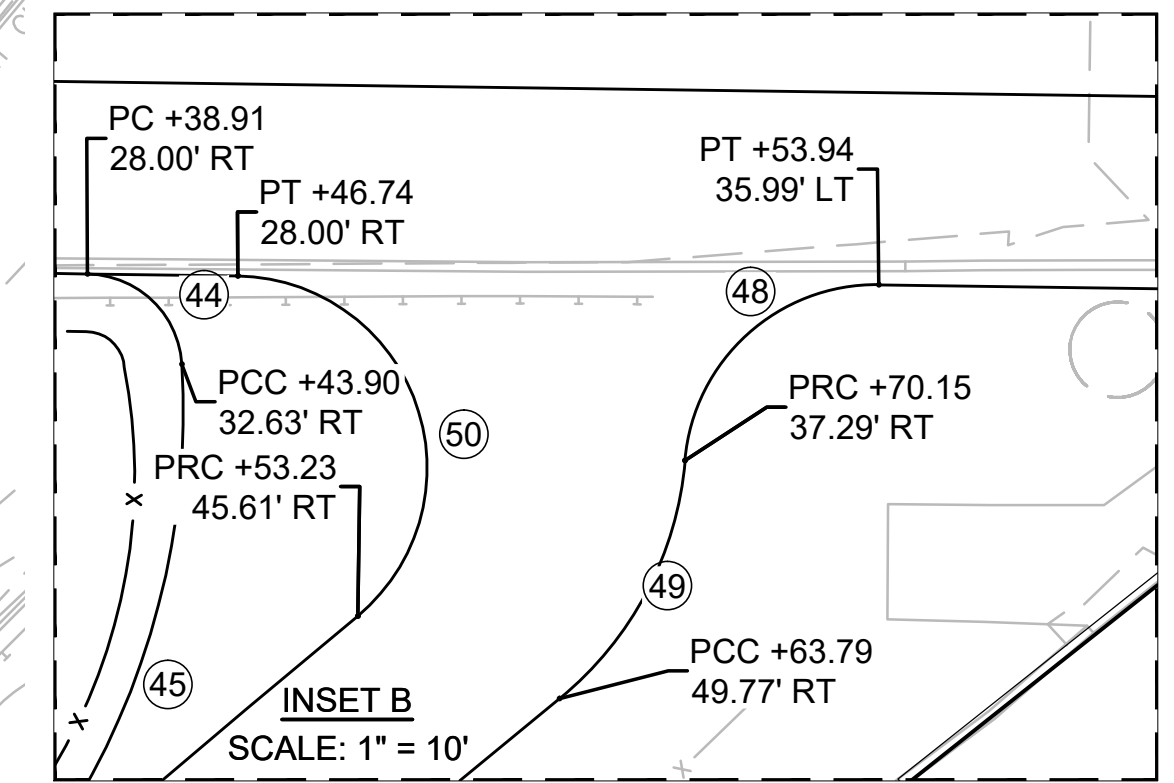
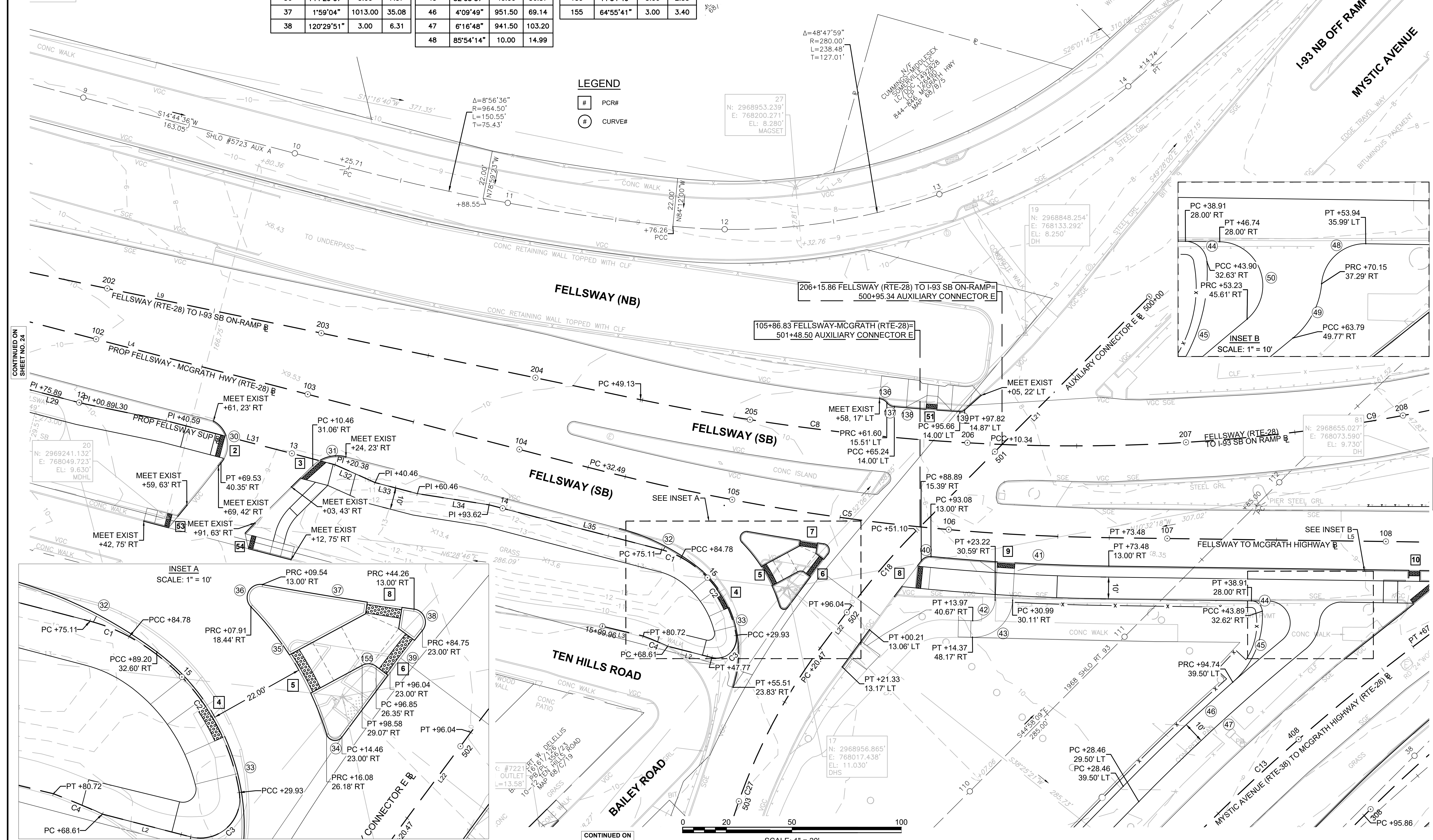
Curve Table				Curve Table				Curve Table			
Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length
30	102°08'46"	12.50	22.28	40	58°21'01"	5.00	5.09	49	45°47'14"	18.00	14.38
32	22°06'03"	100.00	38.57	41	4°36'24"	1013.00	81.45	50	139°33'29"	10.00	24.36
33	71°39'10"	50.00	62.53	42	88°05'51"	10.00	15.38	51	1°47'28"	951.50	29.75
34	126°18'29"	2.00	4.41	43	87°54'47"	18.00	27.62	137	45°46'43"	5.00	3.99
35	27°14'49"	72.00	34.24	44	85°46'42"	5.00	7.49	138	1°43'20"	998.00	30.00
36	144°29'07"	3.00	7.57	45	52°05'37"	40.00	36.37	139	44°54'49"	3.00	2.35
37	1°59'04"	1013.00	35.08	46	4°09'49"	951.50	69.14	155	64°55'41"	3.00	3.40
38	120°29'51"	3.00	6.31	47	6°16'48"	941.50	103.20				
				48	85°54'14"	10.00	14.99				



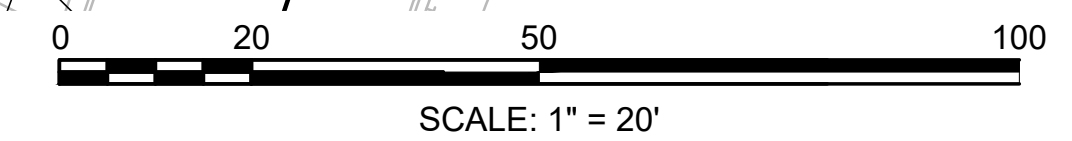
608562\_HD  
 768272.894'  
 10.650'  
 IL

**LEGEND**

- # PCR#
- CURVE#



CONTINUED ON SHEET NO. 31



CONTINUED ON SHEET NO. 24

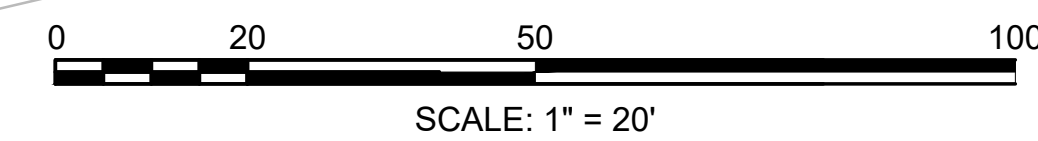
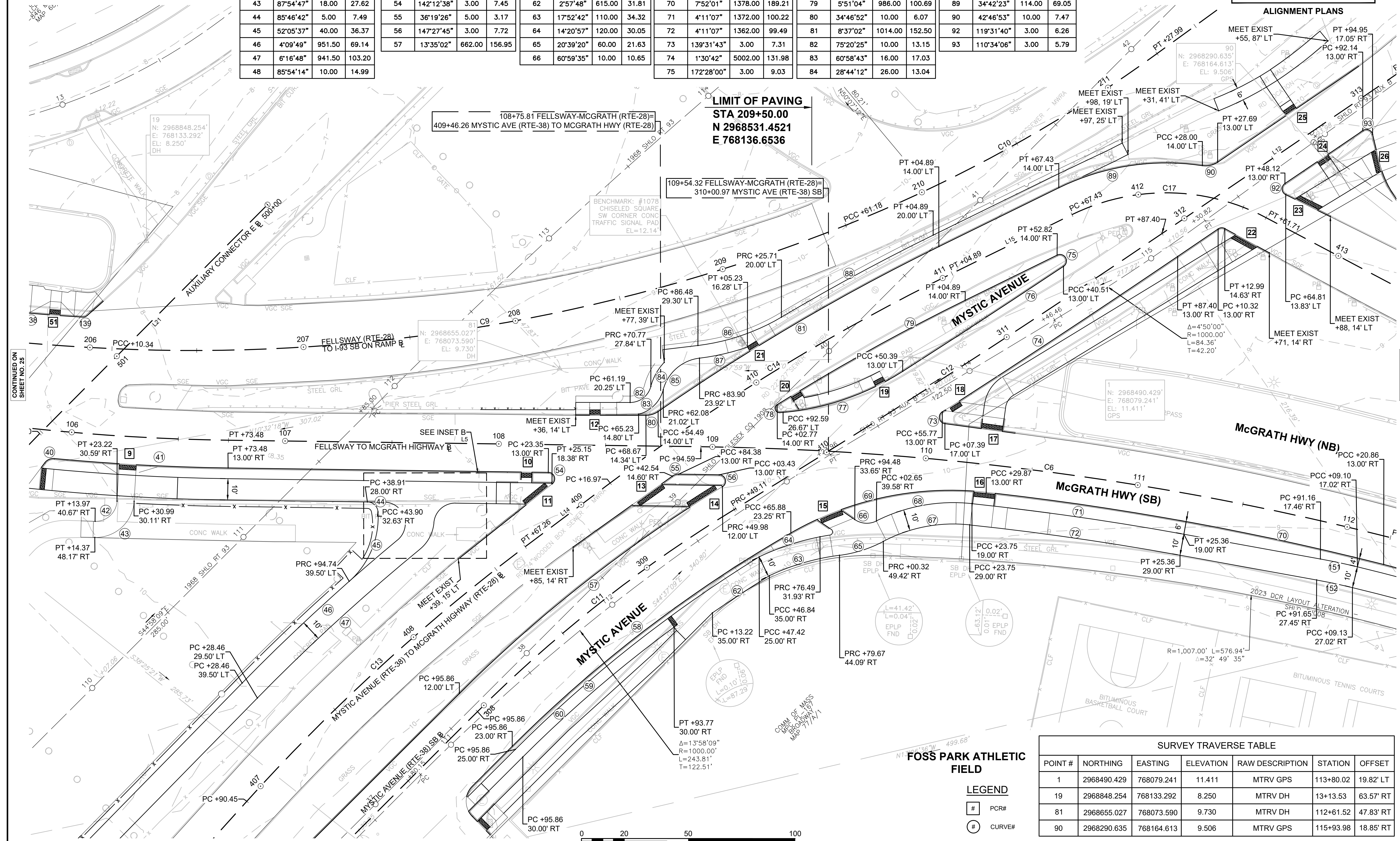
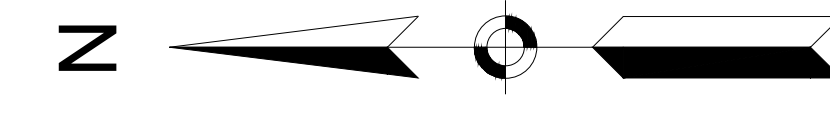
CONTINUED ON SHEET NO. 26

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	26	205
PROJECT FILE NO. 608562			

**ALIGNMENT PLANS**

Curve Table				Curve Table				Curve Table				Curve Table				Curve Table				Curve Table																																																																																																																																																																																																							
Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length																																																																																																																																																																																												
40	58°21'01"	5.00	5.09	49	45°47'14"	18.00	14.38	58	15°02'51"	627.00	164.67	67	34°11'30"	70.00	41.78	76	1°02'06"	4976.00	89.89	85	68°27'06"	20.00	23.89	41	4°36'24"	1013.00	81.45	50	139°33'29"	10.00	24.36	59	13°21'35"	625.00	145.73	68	33°00'13"	80.00	46.08	77	28°05'56"	125.00	61.30	87	12°29'14"	106.00	23.10	42	88°05'51"	10.00	15.38	51	1°47'28"	951.50	29.75	60	8°37'50"	620.00	93.39	69	36°16'55"	150.00	94.99	78	152°33'06"	2.00	5.33	88	4°32'12"	1020.00	80.76	43	87°54'47"	18.00	27.62	54	142°12'38"	3.00	7.45	62	2°57'48"	615.00	31.81	70	7°52'01"	1378.00	189.21	79	5°51'04"	986.00	100.69	89	34°42'23"	114.00	69.05	44	85°46'42"	5.00	7.49	55	36°19'26"	5.00	3.17	63	17°52'42"	110.00	34.32	71	4°11'07"	1372.00	100.22	80	34°46'52"	10.00	6.07	90	42°46'53"	10.00	7.47	45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04				
41	4°36'24"	1013.00	81.45	50	139°33'29"	10.00	24.36	59	13°21'35"	625.00	145.73	68	33°00'13"	80.00	46.08	77	28°05'56"	125.00	61.30	87	12°29'14"	106.00	23.10	42	88°05'51"	10.00	15.38	51	1°47'28"	951.50	29.75	60	8°37'50"	620.00	93.39	69	36°16'55"	150.00	94.99	78	152°33'06"	2.00	5.33	88	4°32'12"	1020.00	80.76	43	87°54'47"	18.00	27.62	54	142°12'38"	3.00	7.45	62	2°57'48"	615.00	31.81	70	7°52'01"	1378.00	189.21	79	5°51'04"	986.00	100.69	89	34°42'23"	114.00	69.05	44	85°46'42"	5.00	7.49	55	36°19'26"	5.00	3.17	63	17°52'42"	110.00	34.32	71	4°11'07"	1372.00	100.22	80	34°46'52"	10.00	6.07	90	42°46'53"	10.00	7.47	45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																												
42	88°05'51"	10.00	15.38	51	1°47'28"	951.50	29.75	60	8°37'50"	620.00	93.39	69	36°16'55"	150.00	94.99	78	152°33'06"	2.00	5.33	88	4°32'12"	1020.00	80.76	43	87°54'47"	18.00	27.62	54	142°12'38"	3.00	7.45	62	2°57'48"	615.00	31.81	70	7°52'01"	1378.00	189.21	79	5°51'04"	986.00	100.69	89	34°42'23"	114.00	69.05	44	85°46'42"	5.00	7.49	55	36°19'26"	5.00	3.17	63	17°52'42"	110.00	34.32	71	4°11'07"	1372.00	100.22	80	34°46'52"	10.00	6.07	90	42°46'53"	10.00	7.47	45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																				
43	87°54'47"	18.00	27.62	54	142°12'38"	3.00	7.45	62	2°57'48"	615.00	31.81	70	7°52'01"	1378.00	189.21	79	5°51'04"	986.00	100.69	89	34°42'23"	114.00	69.05	44	85°46'42"	5.00	7.49	55	36°19'26"	5.00	3.17	63	17°52'42"	110.00	34.32	71	4°11'07"	1372.00	100.22	80	34°46'52"	10.00	6.07	90	42°46'53"	10.00	7.47	45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																												
44	85°46'42"	5.00	7.49	55	36°19'26"	5.00	3.17	63	17°52'42"	110.00	34.32	71	4°11'07"	1372.00	100.22	80	34°46'52"	10.00	6.07	90	42°46'53"	10.00	7.47	45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																																																				
45	52°05'37"	40.00	36.37	56	147°27'45"	3.00	7.72	64	14°20'57"	120.00	30.05	72	4°11'07"	1362.00	99.49	81	8°37'02"	1014.00	152.50	92	119°31'40"	3.00	6.26	46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																																																																												
46	4°09'49"	951.50	69.14	57	13°35'02"	662.00	156.95	65	20°39'20"	60.00	21.63	73	139°31'43"	3.00	7.31	82	75°20'25"	10.00	13.15	93	110°34'06"	3.00	5.79	47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																																																																																																				
47	6°16'48"	941.50	103.20					66	60°59'35"	10.00	10.65	74	1°30'42"	5002.00	131.98	83	60°58'43"	16.00	17.03									48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																																																																																																																												
48	85°54'14"	10.00	14.99									75	172°28'00"	3.00	9.03	84	28°44'12"	26.00	13.04																																																																																																																																																																																																								



**LEGEND**

■	PCR#
○	CURVE#

**SURVEY TRAVERSE TABLE**

POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
1	2968490.429	768079.241	11.411	MTRV GPS	113+80.02	19.82' LT
19	2968848.254	768133.292	8.250	MTRV DH	13+13.53	63.57' RT
81	2968655.027	768073.590	9.730	MTRV DH	112+61.52	47.83' RT
90	2968290.635	768164.613	9.506	MTRV GPS	115+93.98	18.85' RT

CONTINUED ON SHEET NO. 25

CONTINUED ON SHEET NO. 27

CONTINUED ON SHEET NO. 31

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	27	205
PROJECT FILE NO.		608562	

**ALIGNMENT PLANS**

**SURVEY TRAVERSE TABLE**

POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
2	2968246.345	767953.207	8.945	MTRV MAGSET	115+10.56	216.39' RT
4	2968160.559	768327.713	9.374	MTRV DH	117+93.55	38.55' LT
5	2968051.597	767972.692	9.248	MTRV DHS	116+75.45	314.31' RT
7	2968059.535	767879.260	10.041	MTRV MAGSET	N/A	N/A
90	2968290.635	768164.613	9.506	MTRV GPS	115+93.98	18.85' RT

**Curve Table**

Delta	Radius	Length
34°42'23"	114.00	69.05
42°46'53"	10.00	7.47
119°31'40"	3.00	6.26
110°34'06"	3.00	5.79
108°22'24"	52.00	98.36
169°39'40"	3.00	8.88
22°34'26"	1016.00	400.29
18°40'11"	1012.00	329.76
18°40'11"	1002.00	326.50
39°33'23"	50.00	34.52
3°16'34"	310.00	17.72
3°16'34"	300.00	17.15

**LIMIT OF WORK**  
**STA 314+68.00**  
**N 2968142.7451**  
**E 768297.1850**

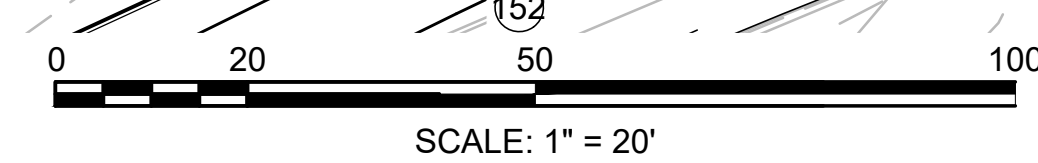
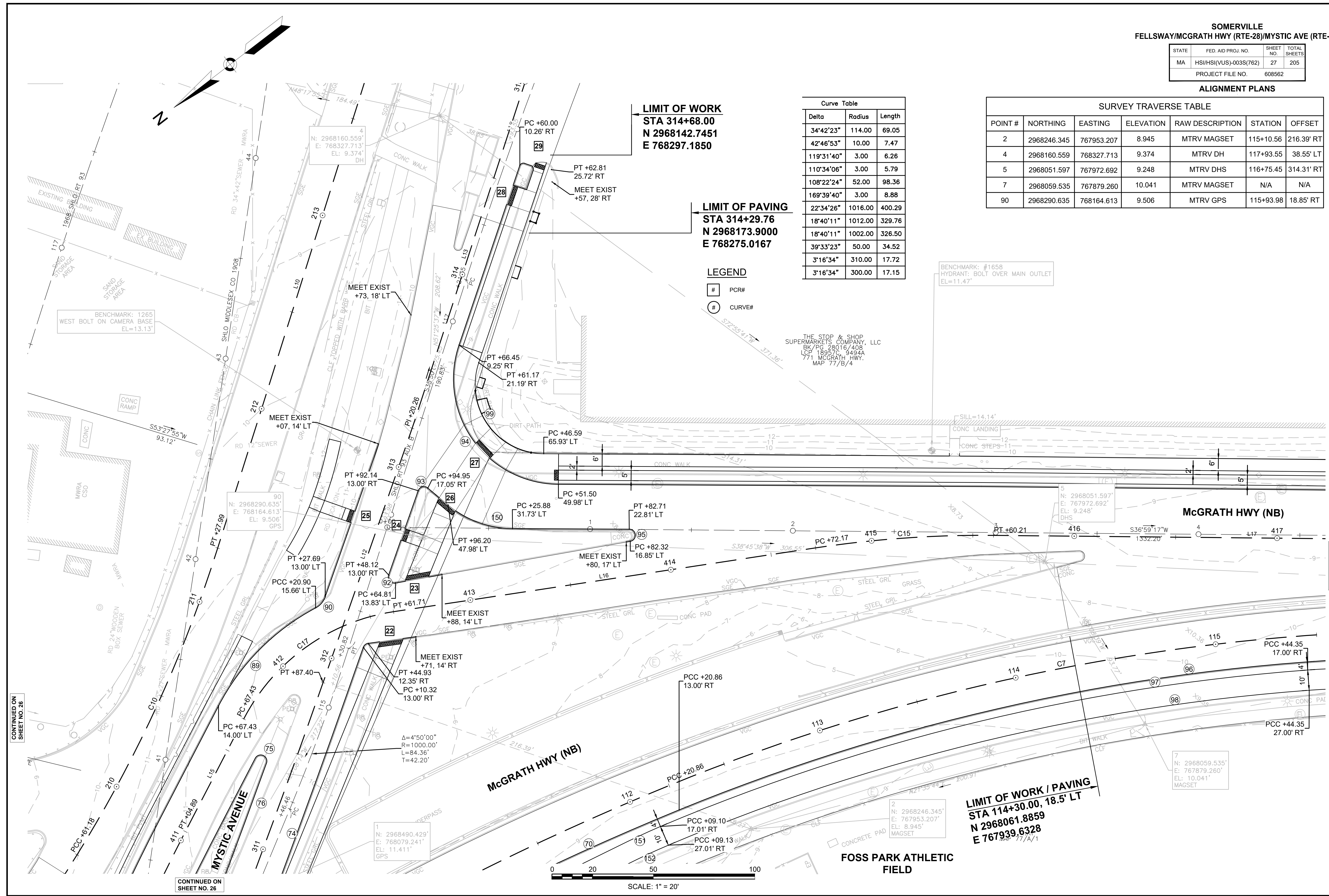
**LIMIT OF PAVING**  
**STA 314+29.76**  
**N 2968173.9000**  
**E 768275.0167**

**LEGEND**

- # PCR#
- CURVE#

THE STOP & SHOP  
 SUPERMARKETS COMPANY, LLC  
 BK/PG 28016/408  
 LCF 18957C 9494A  
 771 MCGRATH HWY.  
 MAP 77/B/4

BENCHMARK: #1658  
 HYDRANT: BOLT OVER MAIN OUTLET  
 EL=11.47'



**LIMIT OF WORK / PAVING**  
**STA 114+30.00, 18.5' LT**  
**N 2968061.8859**  
**E 767939.6328**

CONTINUED ON  
 SHEET NO. 26

CONTINUED ON  
 SHEET NO. 26

CONTINUED ON  
 SHEET NO. 28

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	28	205
PROJECT FILE NO.			608562

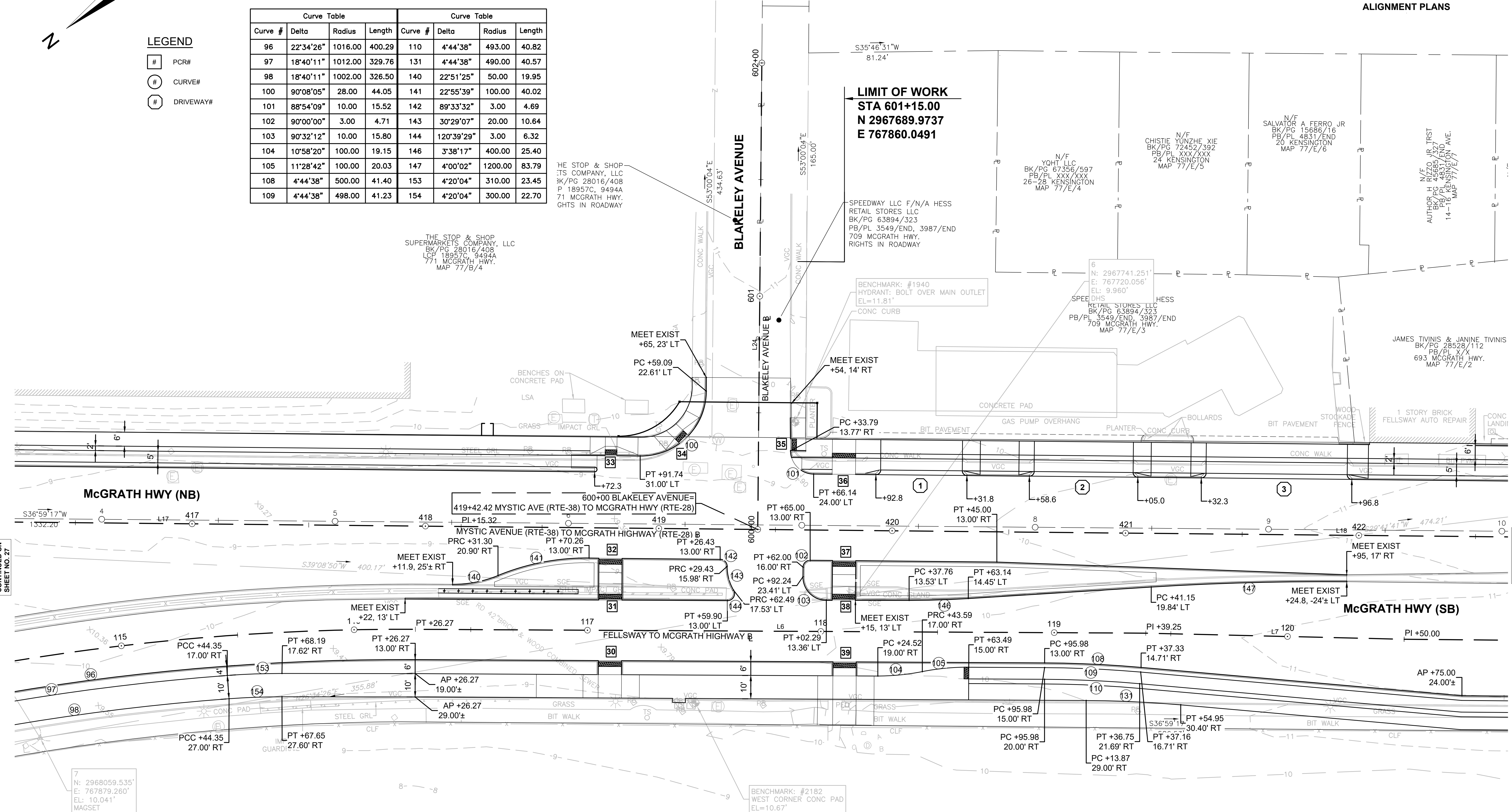
**ALIGNMENT PLANS**

SURVEY TRAVERSE TABLE						
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
6	2967741.251	767720.056	9.960	MTRV DHS	114+59.42	34.31' RT
7	2968059.535	767879.260	10.041	MTRV MAGSET	118+15.90	15.89' LT

Curve Table				Curve Table			
Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length
96	22°34'26"	1016.00	400.29	110	4°44'38"	493.00	40.82
97	18°40'11"	1012.00	329.76	131	4°44'38"	490.00	40.57
98	18°40'11"	1002.00	326.50	140	22°51'25"	50.00	19.95
100	90°08'05"	28.00	44.05	141	22°55'39"	100.00	40.02
101	88°54'09"	10.00	15.52	142	89°33'32"	3.00	4.69
102	90°00'00"	3.00	4.71	143	30°29'07"	20.00	10.64
103	90°32'12"	10.00	15.80	144	120°39'29"	3.00	6.32
104	10°58'20"	100.00	19.15	146	3°38'17"	400.00	25.40
105	11°28'42"	100.00	20.03	147	4°00'02"	1200.00	83.79
108	4°44'38"	500.00	41.40	153	4°20'04"	310.00	23.45
109	4°44'38"	498.00	41.23	154	4°20'04"	300.00	22.70

**LEGEND**

- # PCR#
- # CURVE#
- # DRIVEWAY#



**FOSS PARK ATHLETIC FIELD**  
 COMM OF MASS  
 MFG PL - 167  
 BROADWAY  
 MAP 77/A/1

0 20 50 100  
 SCALE: 1" = 20'

CONTINUED ON SHEET NO. 27

CONTINUED ON SHEET NO. 23

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	29	205
PROJECT FILE NO.		608562	

**ALIGNMENT PLANS**

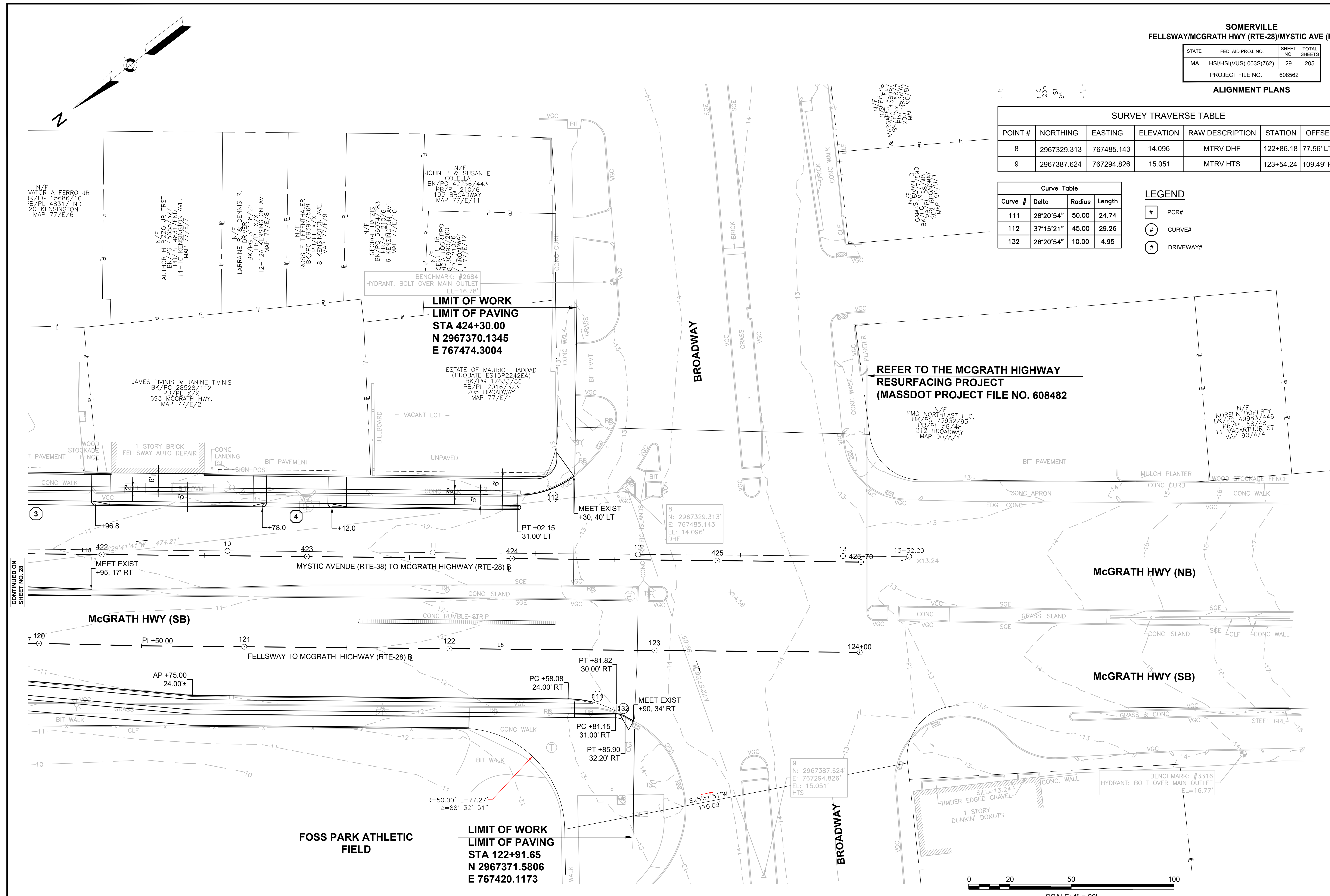
**SURVEY TRAVERSE TABLE**

POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
8	2967329.313	767485.143	14.096	MTRV DHF	122+86.18	77.56' LT
9	2967387.624	767294.826	15.051	MTRV HTS	123+54.24	109.49' RT

Curve Table			
Curve #	Delta	Radius	Length
111	28°20'54"	50.00	24.74
112	37°15'21"	45.00	29.26
132	28°20'54"	10.00	4.95

**LEGEND**

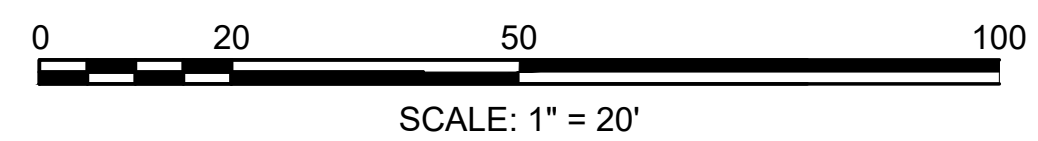
- # PCR#
- ⊙ CURVE#
- ⊙ DRIVEWAY#



**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 424+30.00**  
**N 2967370.1345**  
**E 767474.3004**

**REFER TO THE MCGRATH HIGHWAY**  
**RESURFACING PROJECT**  
**(MASSDOT PROJECT FILE NO. 608482)**

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 122+91.65**  
**N 2967371.5806**  
**E 767420.1173**



CONTINUED ON  
 SHEET NO. 28

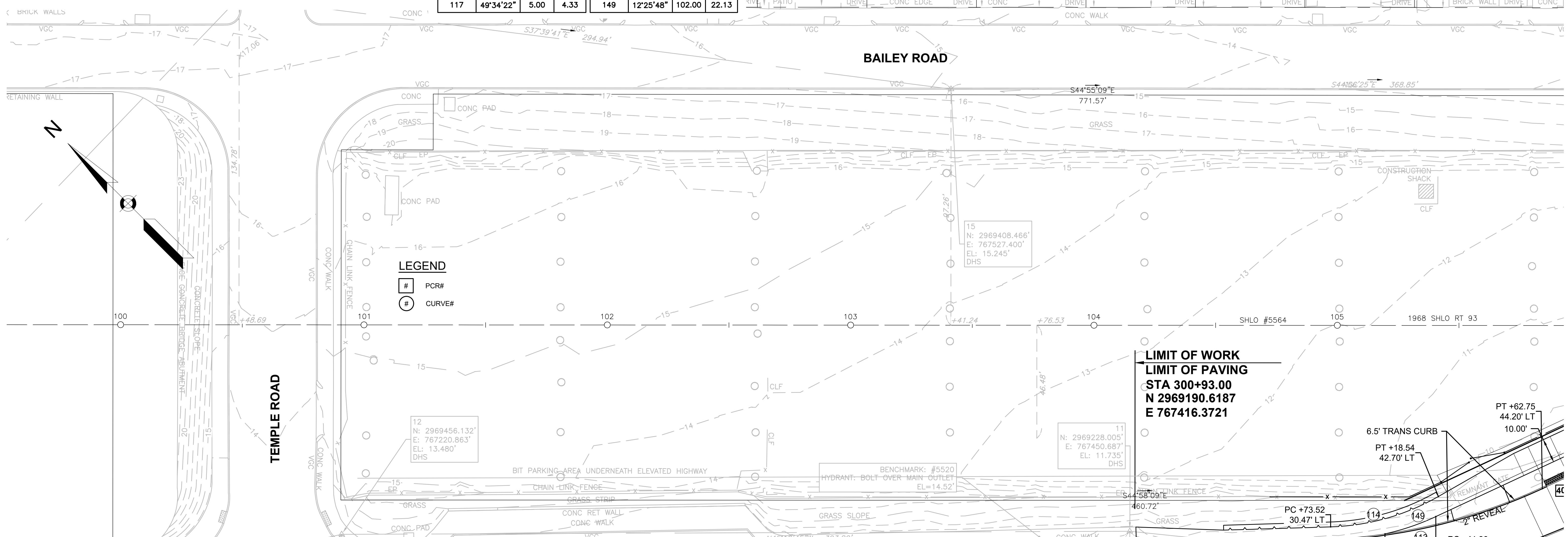
**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	30	205
PROJECT FILE NO. 608562			

SURVEY TRAVERSE TABLE						
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
11	2969228.005	767450.687	11.735	MTRV DHS	30+90.80	47.73' LT
12	2969456.132	767220.863	13.480	MTRV DHS	27+66.98	46.37' LT
15	2969408.466	767527.400	15.245	MTRV DHS	103+41.24	97.26' LT

Curve Table				Curve Table			
Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length
113	23°11'16"	230.00	93.08	118	48°52'50"	5.00	4.27
114	28°02'24"	95.00	46.49	119	48°14'10"	5.00	4.21
115	89°57'51"	3.00	4.71	120	90°03'08"	5.00	7.86
116	49°11'57"	5.00	4.29	121	90°00'00"	6.00	9.42
117	49°34'22"	5.00	4.33	149	12°25'48"	102.00	22.13

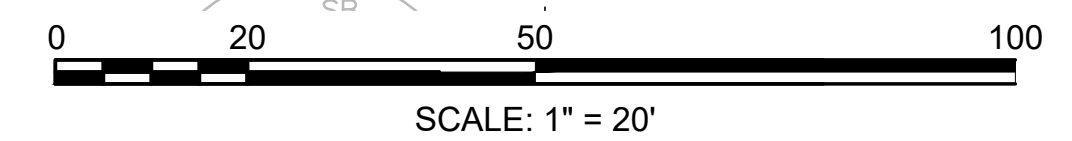
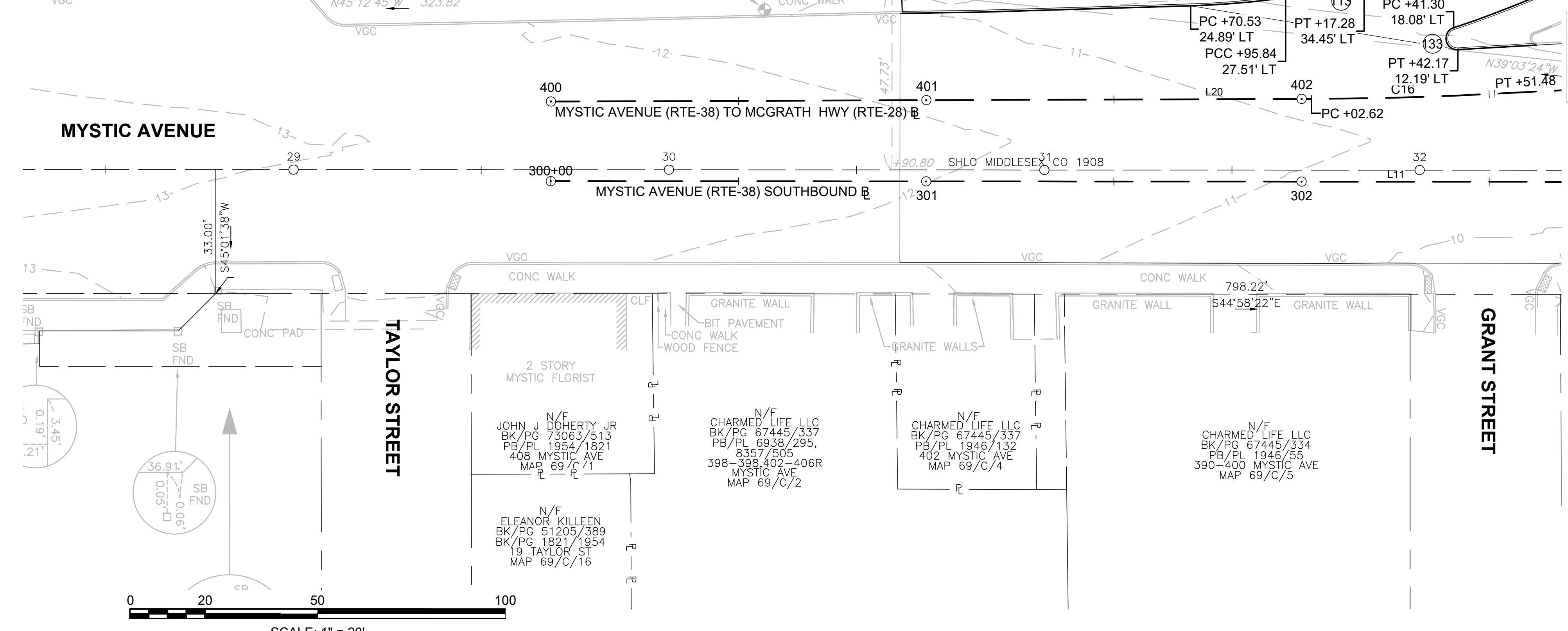
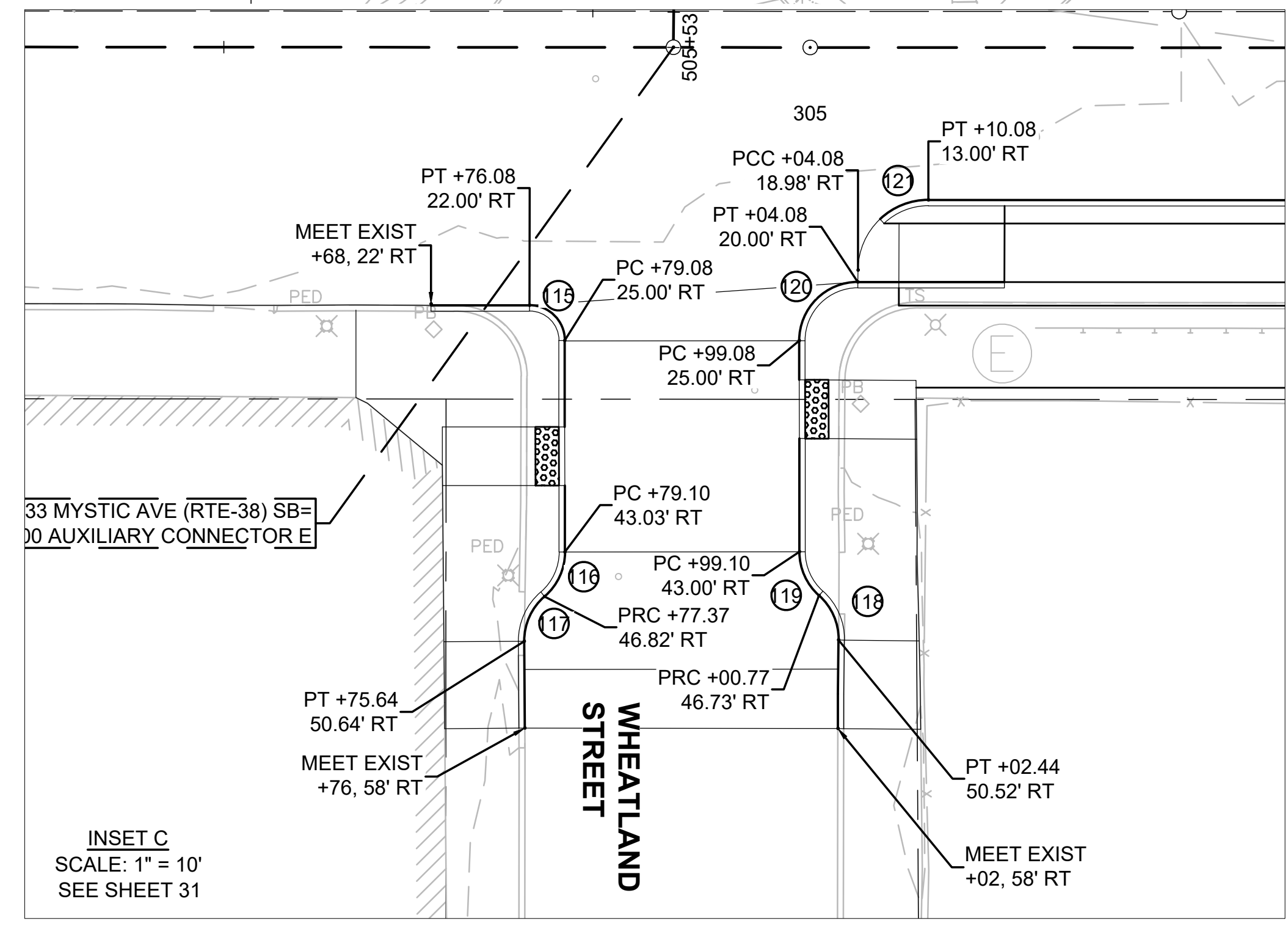
**ALIGNMENT PLANS**



**LEGEND**

- # PCR#
- CURVE#

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 300+93.00**  
**N 2969190.6187**  
**E 767416.3721**



**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

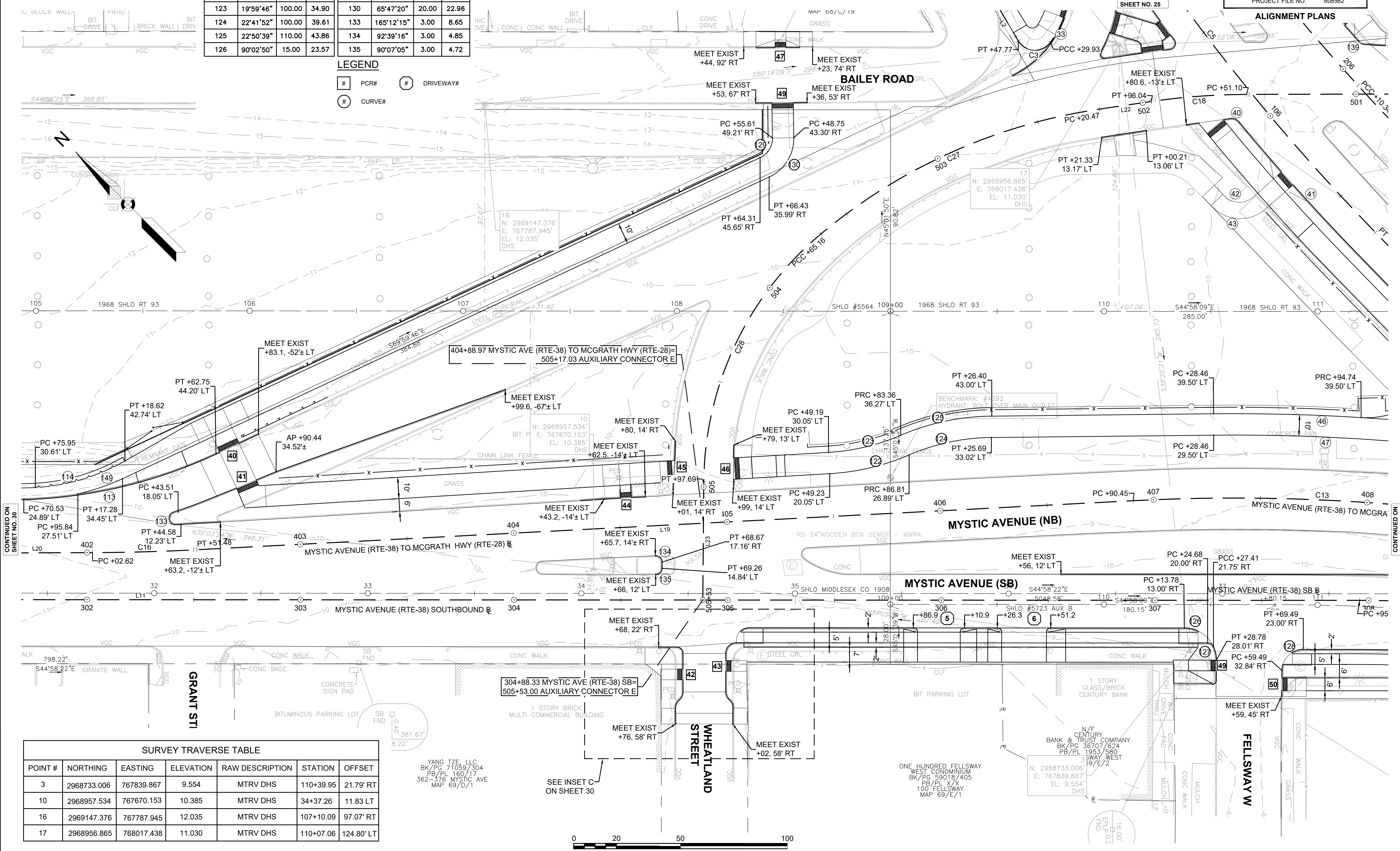
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	31	205
PROJECT FILE NO. 608562			

**ALIGNMENT PLANS**

Curve Table				Curve Table			
Curve #	Delta	Radius	Length	Curve #	Delta	Radius	Length
113	23°11'16"	230.00	93.08	127	65°22'32"	3.00	3.42
114	28°02'24"	95.00	46.49	128	89°04'06"	10.00	15.55
122	19°59'47"	110.00	38.39	129	65°46'12"	10.00	11.48
123	19°59'46"	100.00	34.90	130	65°47'20"	20.00	22.96
124	22°41'52"	100.00	39.61	133	165°12'15"	3.00	8.65
125	22°50'39"	110.00	43.86	134	92°39'16"	3.00	4.85
126	90°02'50"	15.00	23.57	135	90°07'05"	3.00	4.72

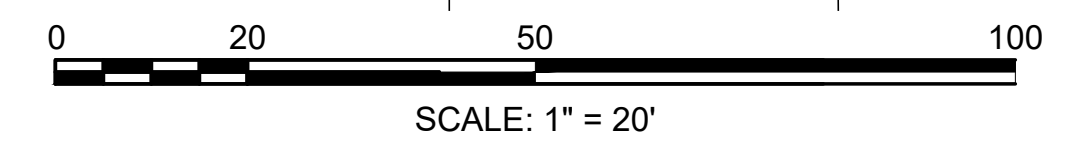
**LEGEND**

- # PCR#
- # DRIVEWAY#
- # CURVE#



**SURVEY TRAVERSE TABLE**

POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	STATION	OFFSET
3	2968733.006	767839.867	9.554	MTRV DHS	110+39.95	21.79' RT
10	2968957.534	767670.153	10.385	MTRV DHS	34+37.26	11.83' LT
16	2969147.376	767787.945	12.035	MTRV DHS	107+10.09	97.07' RT
17	2968956.865	768017.438	11.030	MTRV DHS	110+07.06	124.80' LT



YANG TZE, LLC  
 BK/PC 71059/304  
 PB/PL 160/17  
 362-376 MYSTIC AVE  
 MAP 69/D/1

ONE HUNDRED FELLSWAY  
 WEST CONDOMINIUM  
 BK/PC 59018/405  
 PB/PL X/X  
 100 FELLSWAY  
 MAP 69/E/1

N/F CENTURY  
 BANK & TRUST COMPANY  
 BK/PC 36707/624  
 PB/PL 1953/580  
 39/E/2  
 N: 2968733.006  
 E: 767839.867  
 EL: 9.554'  
 DHS

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	32	205
PROJECT FILE NO.		608562	

**GRADING PLAN**

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**

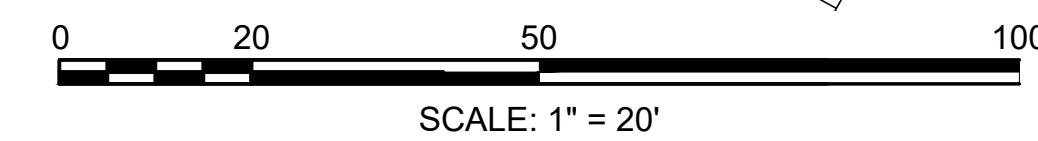
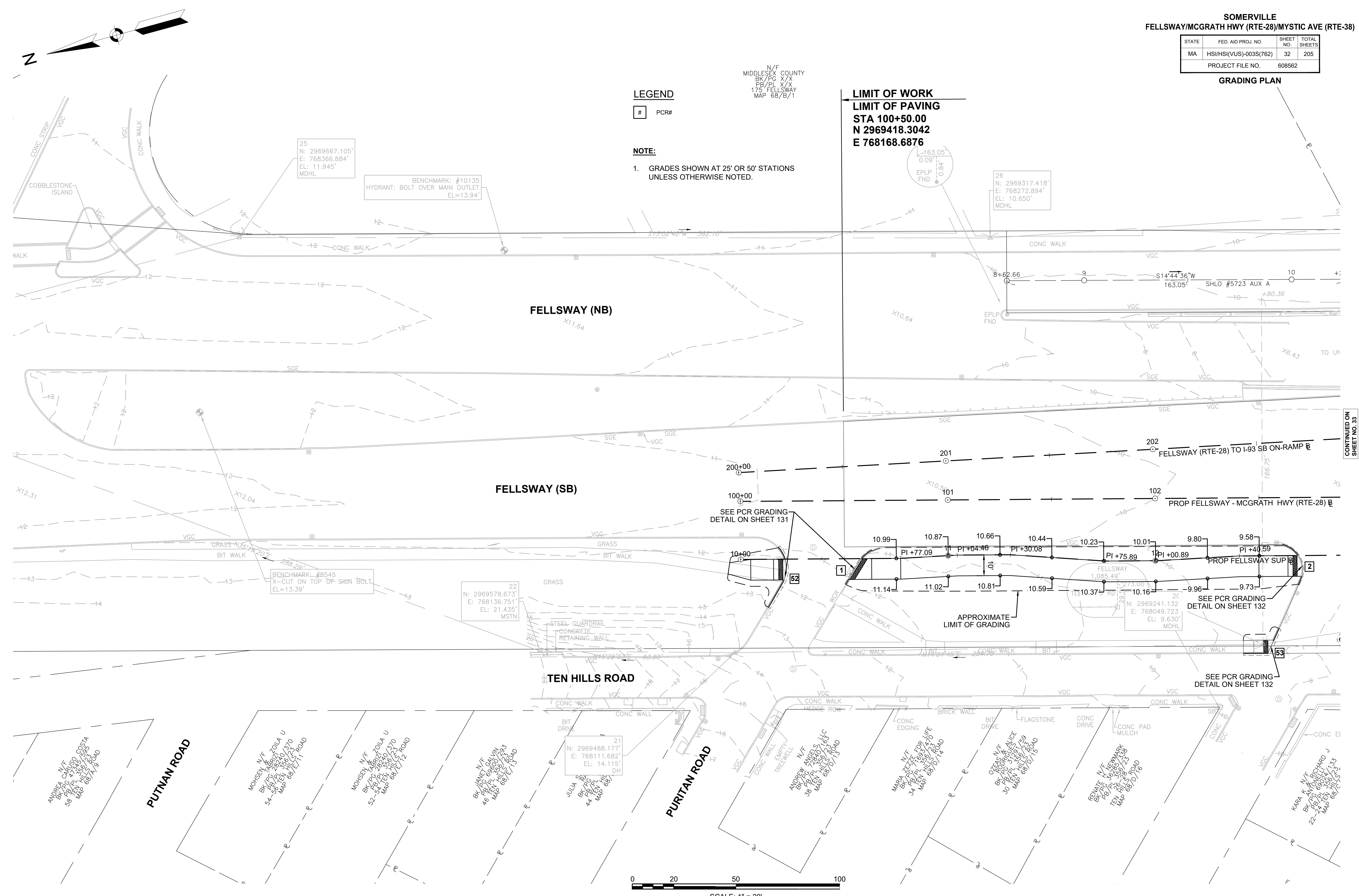
**LEGEND**

# PCR#

**NOTE:**

- GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.

N/F  
MIDDLESEX COUNTY  
BK/PC X/1  
FB/PL X/1  
175 FELLSWAY  
MAP 68/B/1



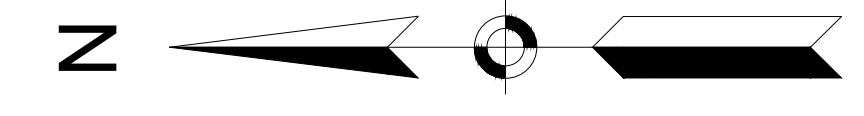
CONTINUED ON SHEET NO. 33



**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	33	205
PROJECT FILE NO.			608562

**GRADING PLAN**



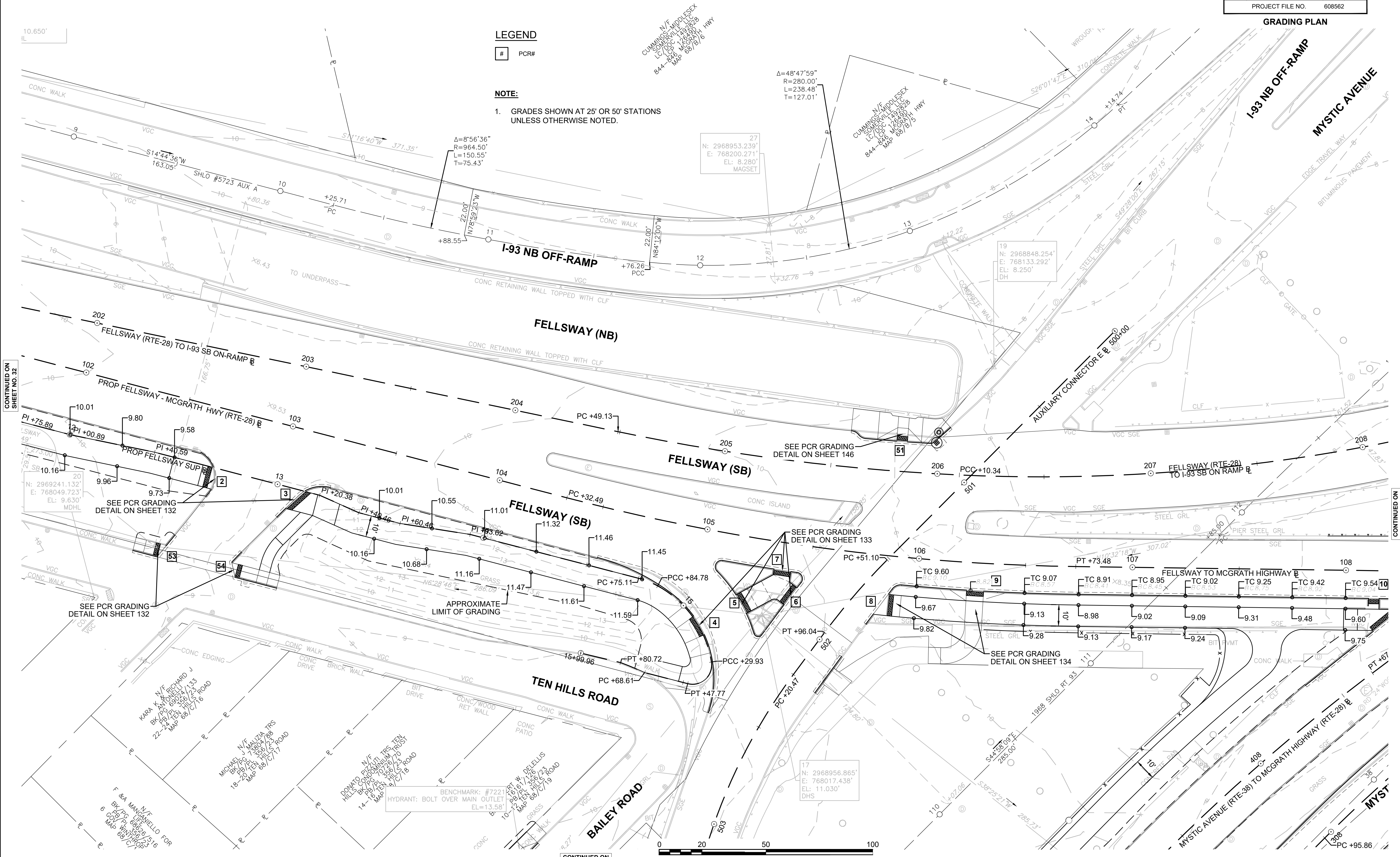
10.650'  
 IL

**LEGEND**

# PCR#

**NOTE:**

- GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.



CONTINUED ON  
 SHEET NO. 32

CONTINUED ON  
 SHEET NO. 34

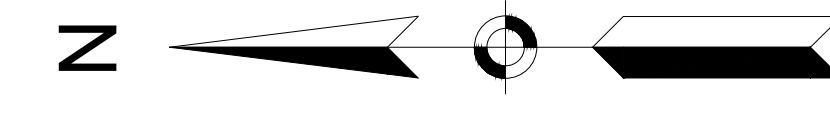
CONTINUED ON  
 SHEET NO. 39

SCALE: 1" = 20'

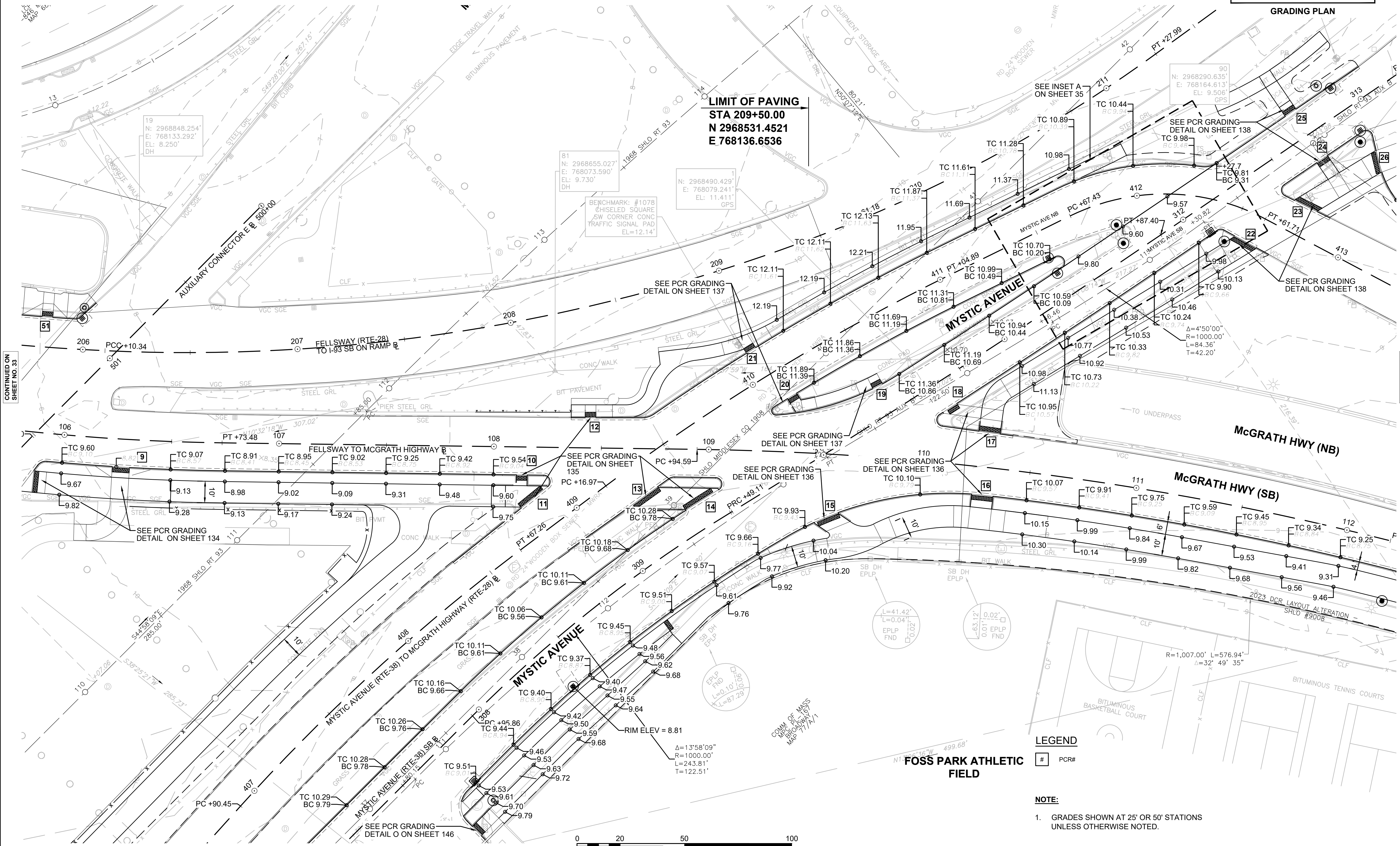
**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	34	205
PROJECT FILE NO. 608562			

**GRADING PLAN**



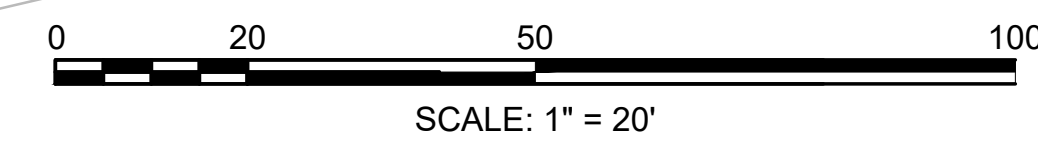
**LIMIT OF PAVING**  
**STA 209+50.00**  
**N 2968531.4521**  
**E 768136.6536**



CONTINUED ON SHEET NO. 33

CONTINUED ON SHEET NO. 35

CONTINUED ON SHEET NO. 39



**LEGEND**

# PCR#

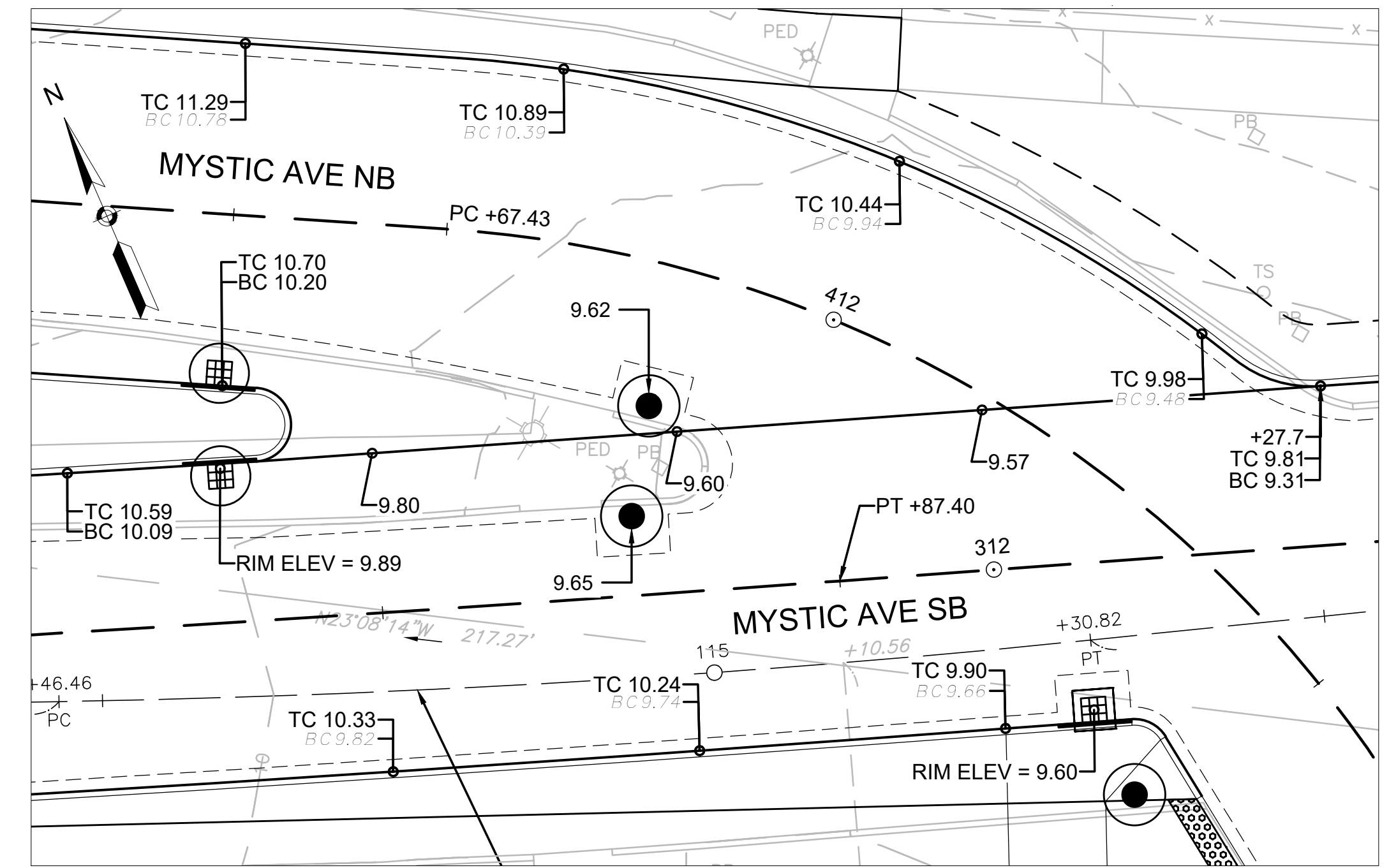
**NOTE:**

- GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	35	205
PROJECT FILE NO.			608562

**GRADING PLAN**



**LIMIT OF WORK**  
 STA 314+68.00  
 N 2968142.7451  
 E 768297.1850

**LIMIT OF PAVING**  
 STA 314+29.76  
 N 2968173.9000  
 E 768275.0167

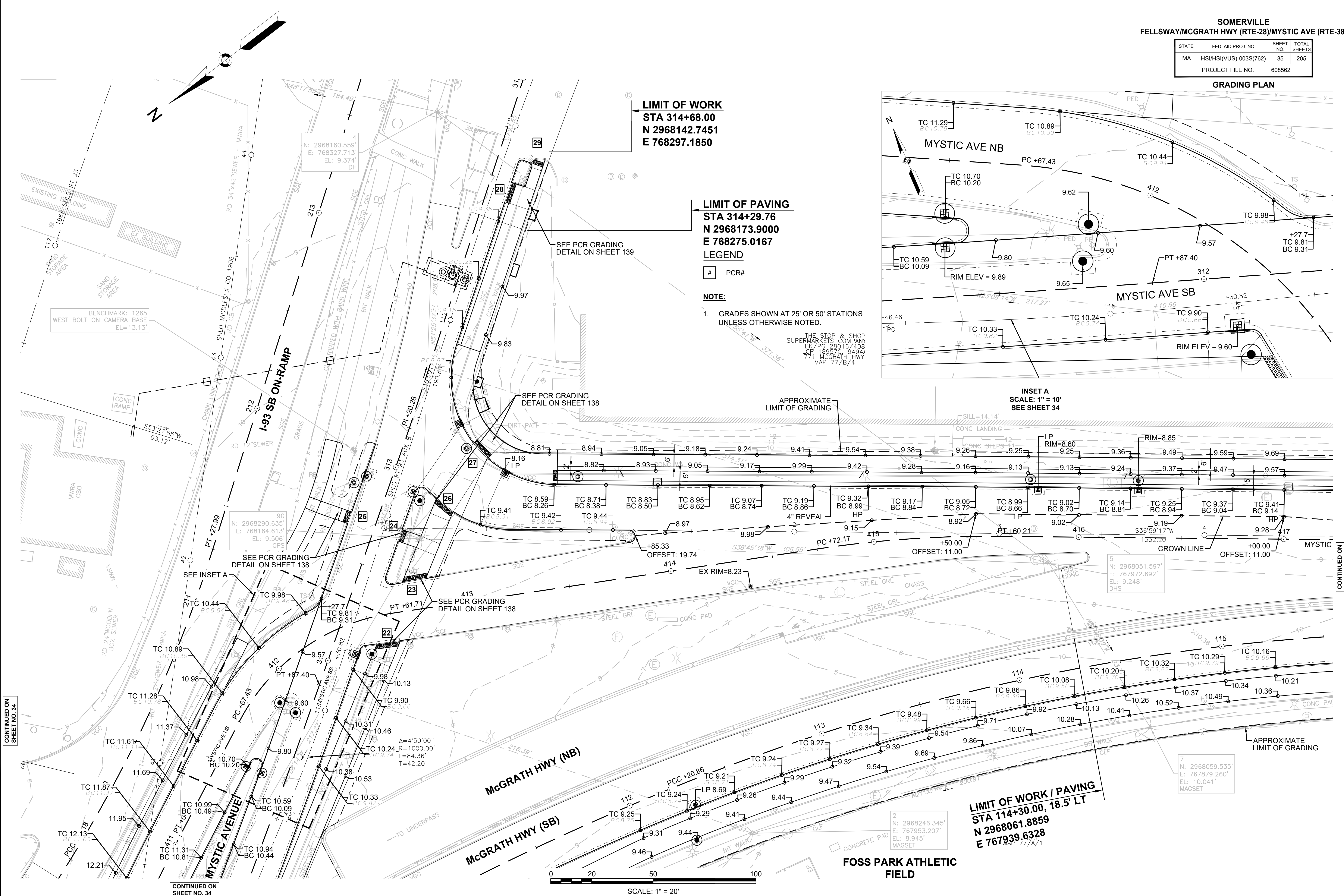
**LEGEND**

# PCR#

**NOTE:**

- GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.

THE STOP & SHOP  
 SUPERMARKETS COMPANY  
 BK/PG 28016/408  
 LCP 18957C 9494Z  
 771 MCGRATH HWY.  
 MAP 77/B/4



CONTINUED ON SHEET NO. 34

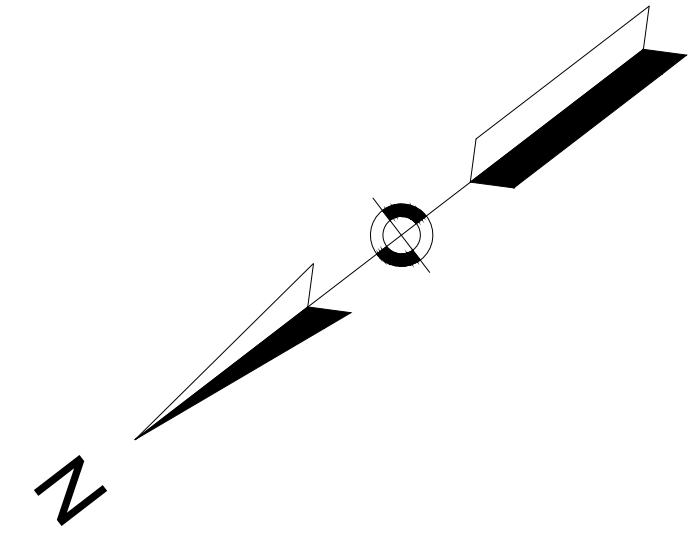
CONTINUED ON SHEET NO. 34

CONTINUED ON SHEET NO. 36

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	36	205
PROJECT FILE NO.			608562

**GRADING PLAN**

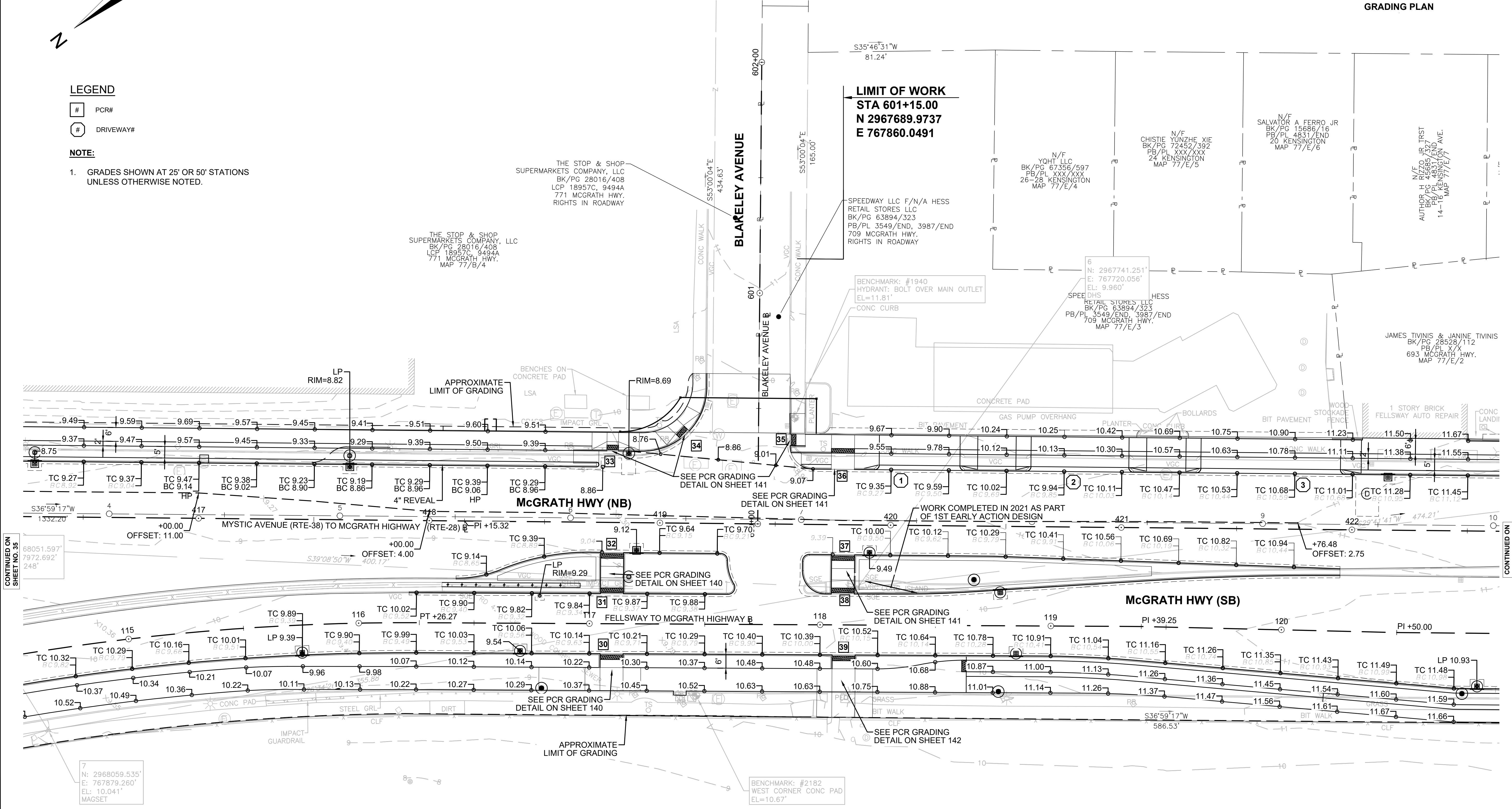


**LEGEND**

- # PCR#
- # DRIVEWAY#

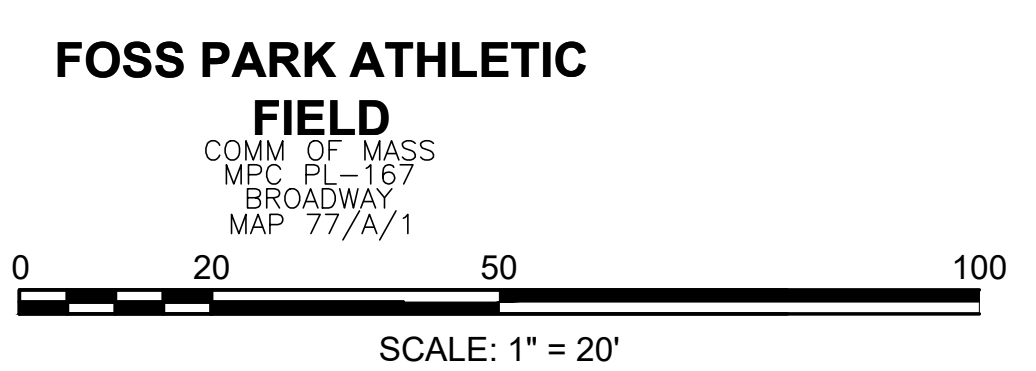
**NOTE:**

1. GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.



CONTINUED ON SHEET NO. 35

CONTINUED ON SHEET NO. 37



**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	37	205
PROJECT FILE NO.		608562	

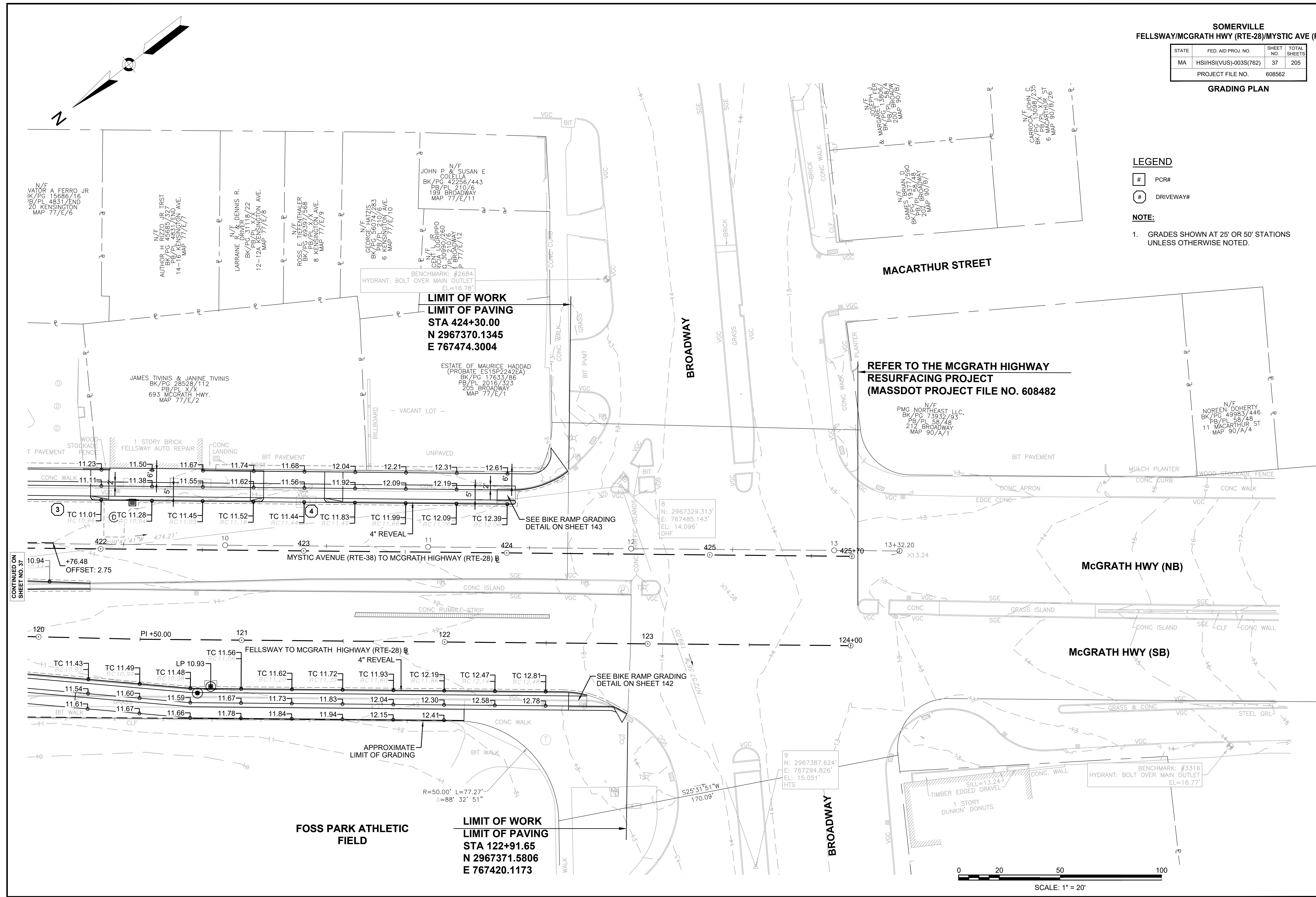
**GRADING PLAN**

**LEGEND**

- # PCR#
- # DRIVEWAY#

**NOTE:**

1. GRADES SHOWN AT 25' OR 50' STATIONS UNLESS OTHERWISE NOTED.



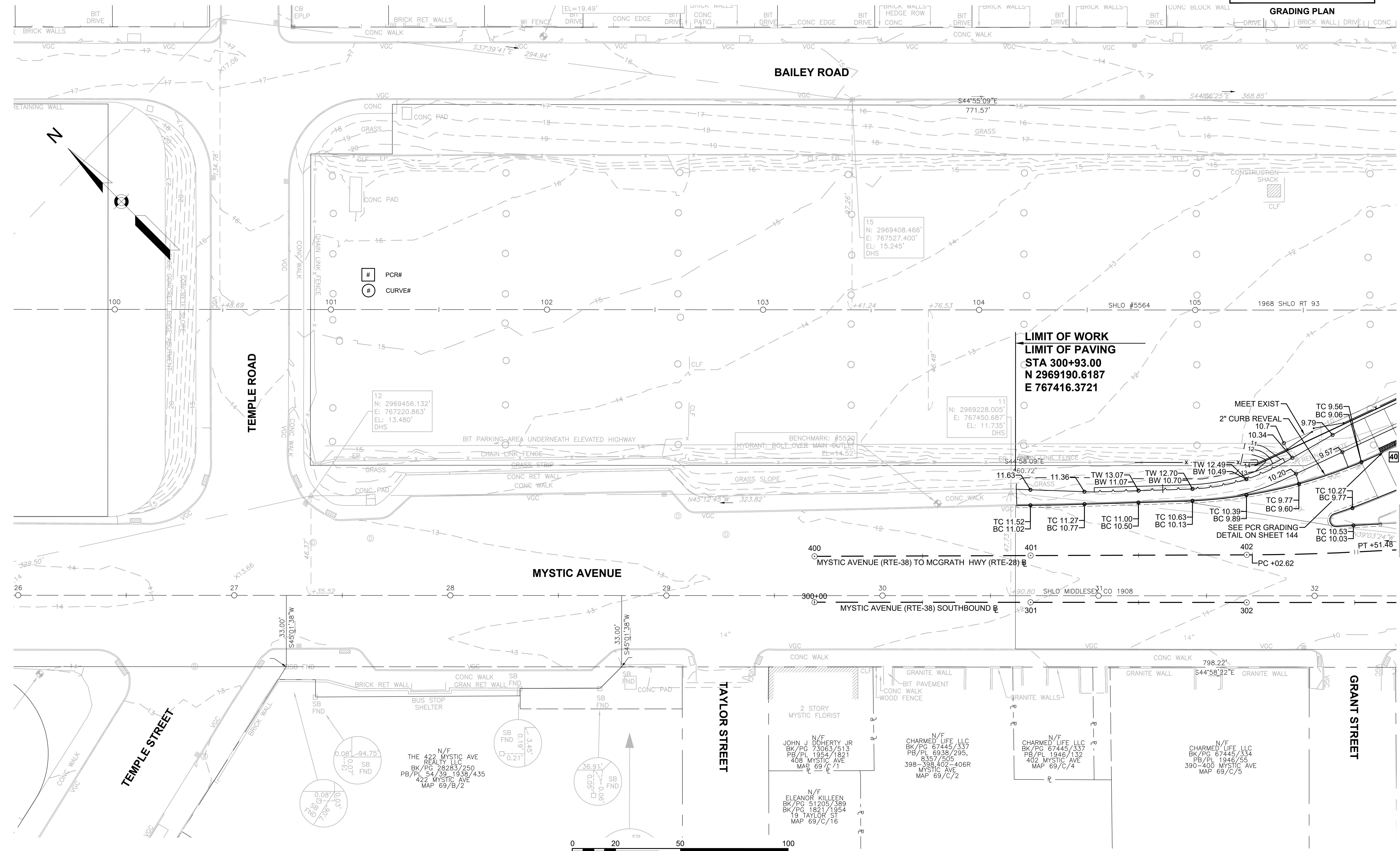
CONTINUED ON SHEET NO. 37

Plotted on 16-Jul-2024 2:28 PM 608562\_HD(GRAD).DWG

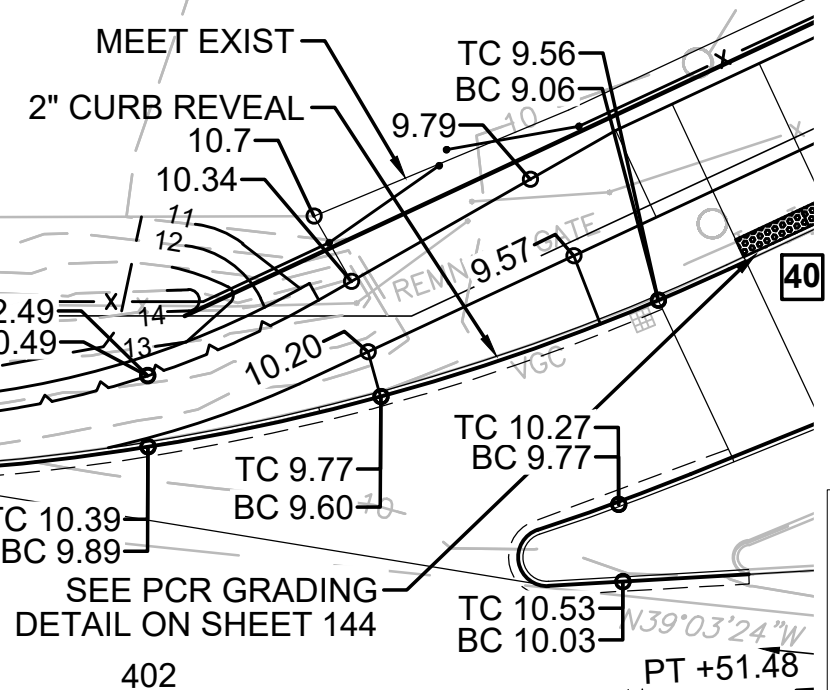
**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	38	205
PROJECT FILE NO. 608562			

**GRADING PLAN**



**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 300+93.00**  
**N 2969190.6187**  
**E 767416.3721**



N/F  
 THE 422 MYSTIC AVE  
 REALTY LLC  
 BK/PG 28283/250  
 PB/PL 54/39, 1938/435  
 422 MYSTIC AVE  
 MAP 69/B/2

N/F  
 JOHN J. DOHERTY JR  
 BK/PG 73063/513  
 PB/PL 1954/1821  
 408 MYSTIC AVE  
 MAP 69/C/1

N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/337  
 PB/PL 6938/295,  
 8357/505  
 398-398, 402-406R  
 MYSTIC AVE  
 MAP 69/C/2

N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/337  
 PB/PL 1946/132  
 402 MYSTIC AVE  
 MAP 69/C/4

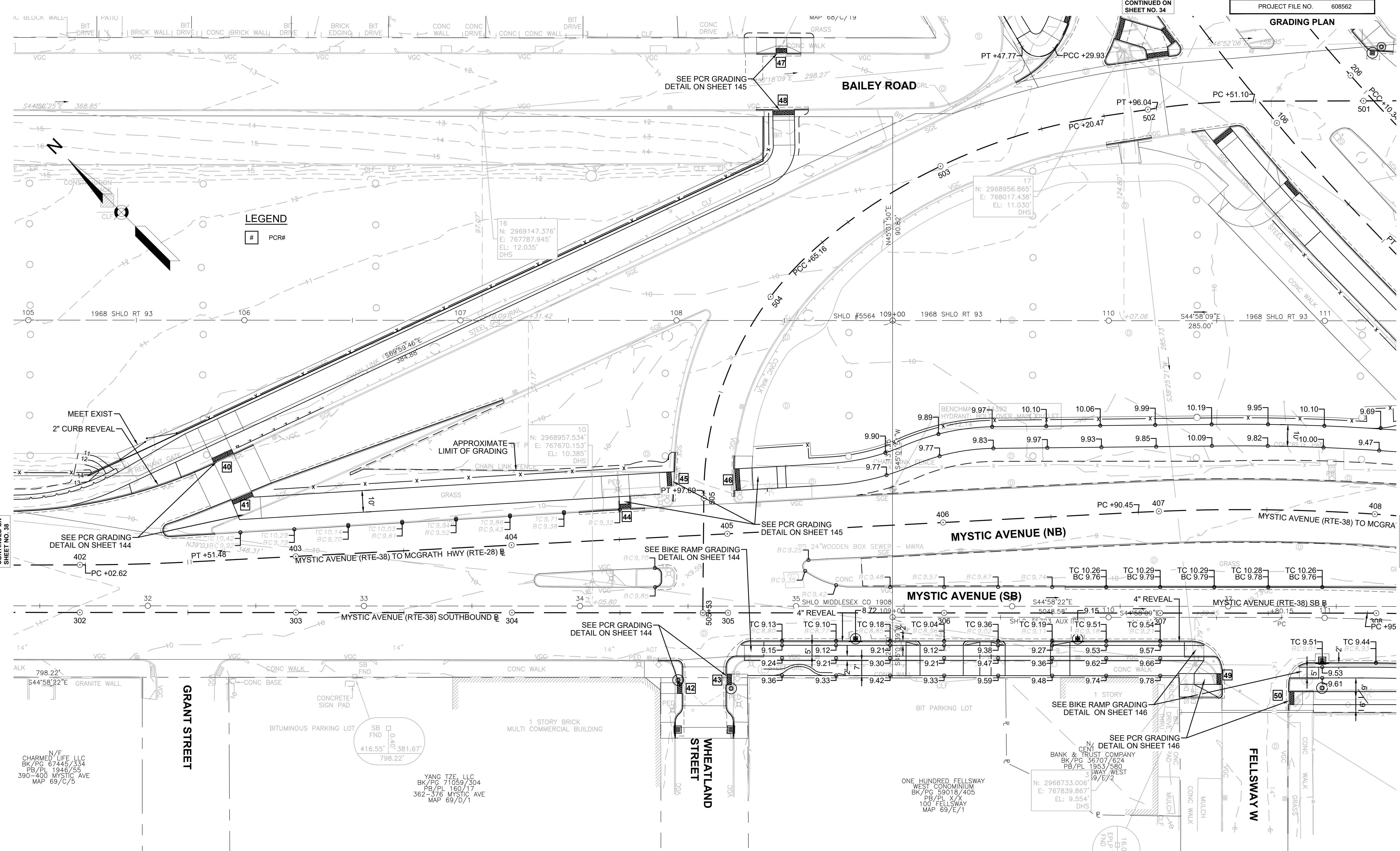
N/F  
 CHARMED LIFE LLC  
 BK/PG 67445/334  
 PB/PL 1946/55  
 390-400 MYSTIC AVE  
 MAP 69/C/5

CONTINUED ON  
 SHEET NO. 39

**SOMERVILLE**  
**FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

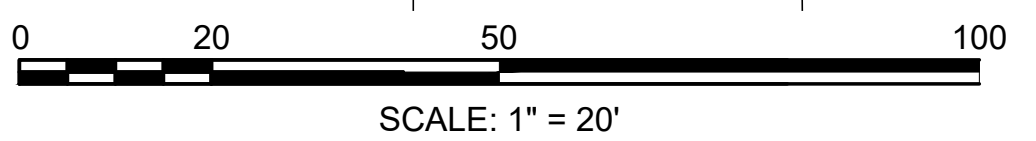
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	39	205
PROJECT FILE NO. 608562			

**GRADING PLAN**



**LEGEND**

# PCR#



N/F  
 CHARMED LIFE, LLC  
 BK/PG 67445/334  
 PB/PL 1946/55  
 390-400 MYSTIC AVE  
 MAP 69/C/5

YANG TZE, LLC  
 BK/PG 71059/304  
 PB/PL 160/17  
 362-376 MYSTIC AVE  
 MAP 69/D/1

ONE HUNDRED FELLSWAY  
 WEST CONDOMINIUM  
 BK/PG 59018/405  
 PB/PL X/X  
 100 FELLSWAY  
 MAP 69/E/1

N: 2968733.006'  
 E: 767839.867'  
 EL: 9.554'  
 DHS

16.00'  
 END  
 0.2

CONTINUED ON  
 SHEET NO. 38

CONTINUED ON  
 SHEET NO. 34

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	40	205

PROJECT FILE NO. 608562

DRAINAGE AND UTILITY PLANS

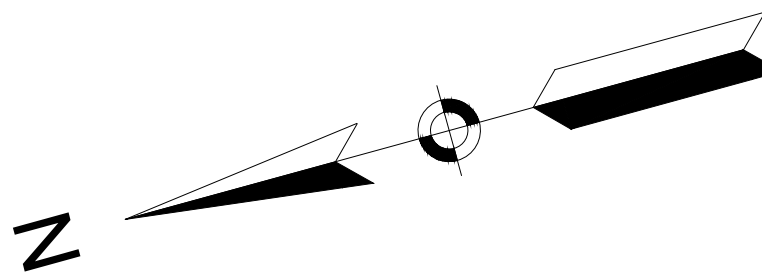
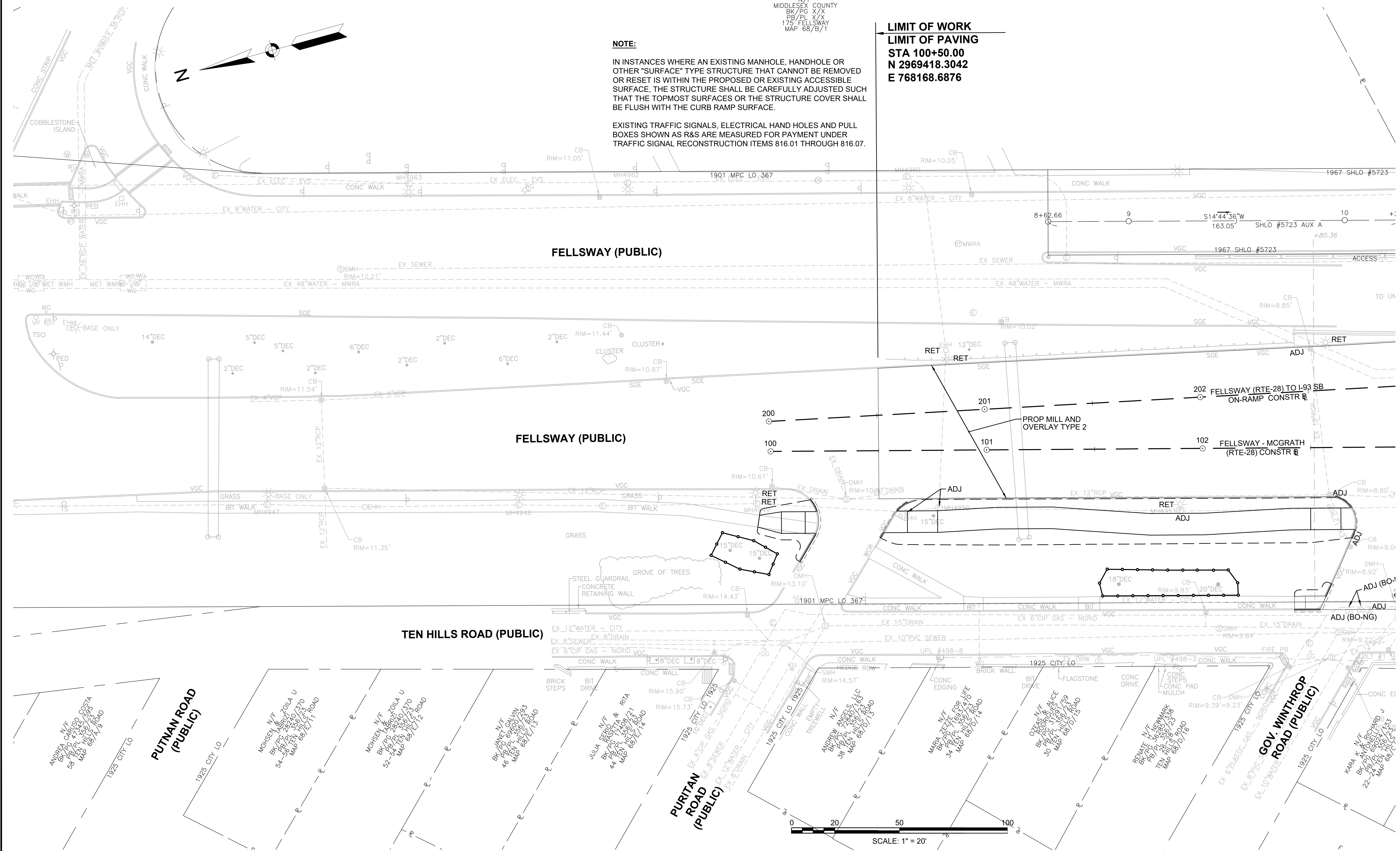
N/F  
MIDDLESEX COUNTY  
BK/PG X/X  
PB/PL X/X  
175 FELLSWAY  
MAP 68/B/1

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**

**NOTE:**

IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.



CONTINUED ON  
SHEET NO. 41



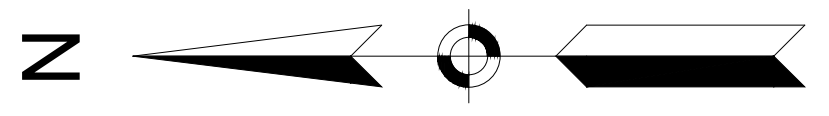


STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	41	205

PROJECT FILE NO. 608562

DRAINAGE AND UTILITY PLANS

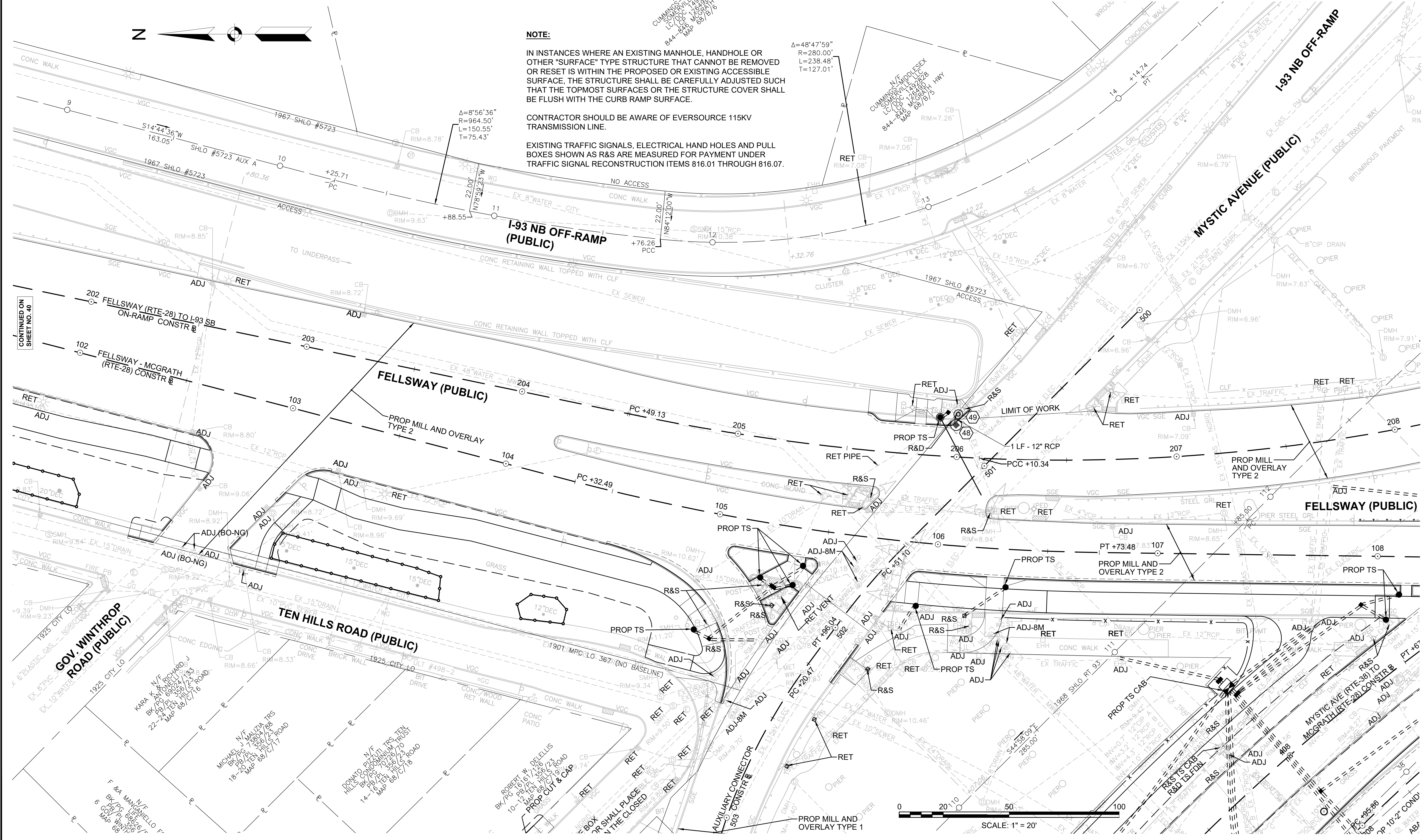
DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
48	CB	205+98.9 14.5 LT	8.46		(49) 5.00	WITH HOOD R&D EX CB
49	EX DMH	205+99.6 19.5 LT	9.53	(48) 4.90	(EX) INV	ADJ F&C



**NOTE:**  
IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

CONTRACTOR SHOULD BE AWARE OF EVERSOURCE 115KV TRANSMISSION LINE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.



CUMMINGS N/V  
SOMERVILLE, MA  
LIC # 000000000  
844-446-4466  
MAP 88/17/16 HWY

CONTINUED ON  
SHEET NO. 40

CONTINUED ON  
SHEET NO. 42

CONTINUED ON  
SHEET NO. 47

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	42	205

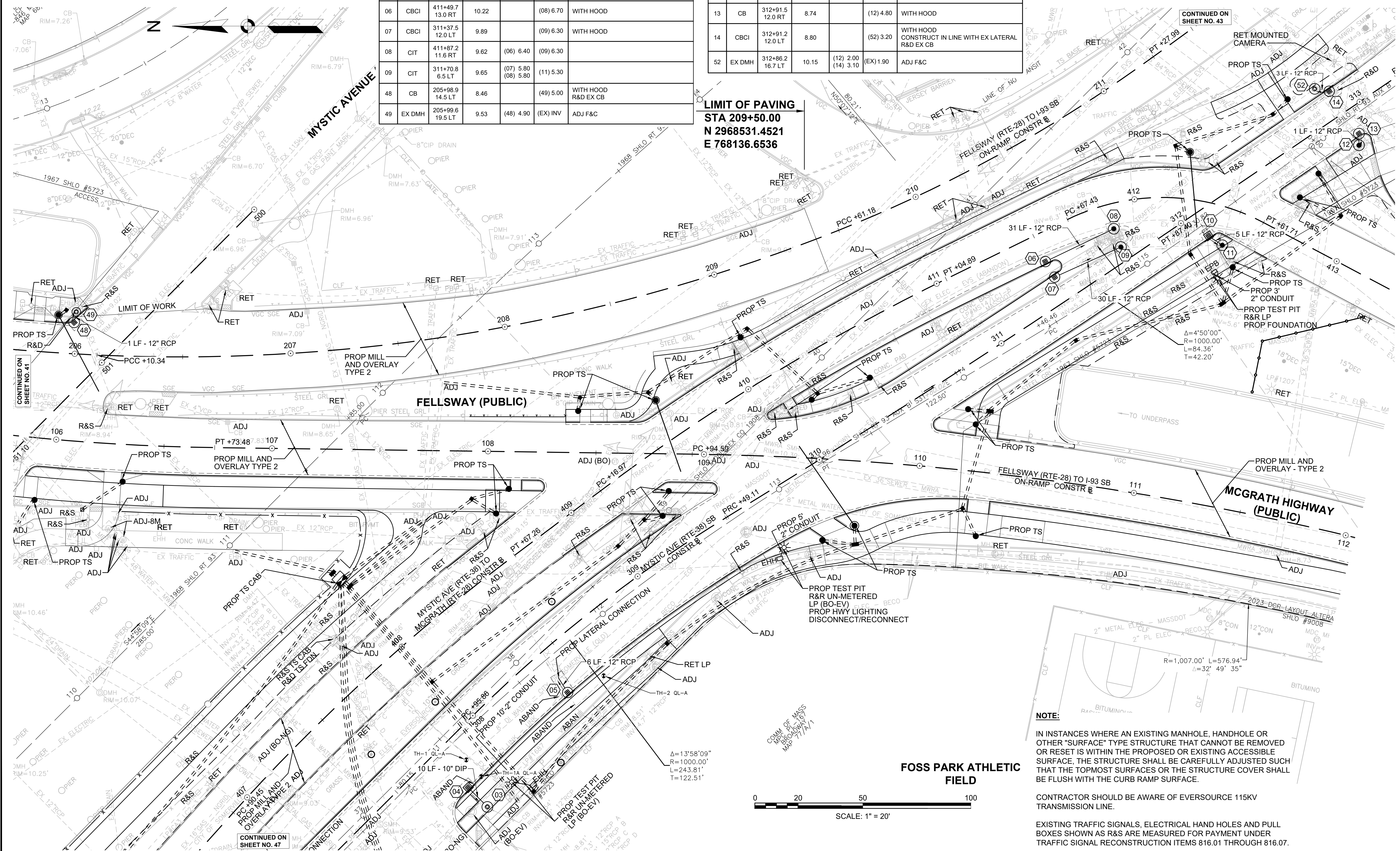
PROJECT FILE NO. 608562

DRAINAGE AND UTILITY PLANS

DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
03	EX CB	307+75.0 34.6 RT	9.68	(04) 6.30	(EX) 4.20	REBUILD EX CB WITH FLAT TOP. R&D F&G. PROP F&C. RETAIN SUMP.
04	GICI	307+75.0 22.0 RT	9.04		(03) 6.40	
05	CBCI	308+40.2 22.0 RT	8.81		(EX) 4.70	WITH HOOD CONSTRUCT IN LINE WITH EX LATERAL
06	CBCI	411+49.7 13.0 RT	10.22		(08) 6.70	WITH HOOD
07	CBCI	311+37.5 12.0 LT	9.89		(09) 6.30	WITH HOOD
08	CIT	411+87.2 11.6 RT	9.62	(06) 6.40	(09) 6.30	
09	CIT	311+70.8 6.5 LT	9.65	(07) 5.80 (08) 5.80	(11) 5.30	
48	CB	205+98.9 14.5 LT	8.46		(49) 5.00	WITH HOOD R&D EX CB
49	EX DMH	205+99.6 19.5 LT	9.53	(48) 4.90	(EX) INV	ADJ F&C

DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
10	GI	312+07.3 12.0 RT	9.60		(11) 7.10	
11	CIT	312+10.1 19.2 RT	10.38	(10) 7.00 (09) 5.70	(EX) 5.60	
12	CIT	312+88.5 16.4 RT	9.37	(16) 2.70 (13) 4.75	(52) 2.60	
13	CB	312+91.5 12.0 RT	8.74		(12) 4.80	WITH HOOD
14	CBCI	312+91.2 12.0 LT	8.80		(52) 3.20	WITH HOOD CONSTRUCT IN LINE WITH EX LATERAL R&D EX CB
52	EX DMH	312+86.2 16.7 LT	10.15	(12) 2.00 (14) 3.10	(EX) 1.90	ADJ F&C

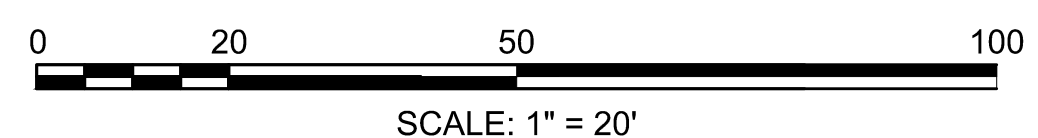
**LIMIT OF PAVING**  
STA 209+50.00  
N 2968531.4521  
E 768136.6536



**NOTE:**  
IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

CONTRACTOR SHOULD BE AWARE OF EVERSOURCE 115KV TRANSMISSION LINE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.



DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
06	CBCI	411+49.7 13.0 RT	10.22		(08) 6.70	WITH HOOD
07	CBCI	311+37.5 12.0 LT	9.89		(09) 6.30	WITH HOOD
08	CIT	411+87.2 11.6 RT	9.62	(06) 6.40	(09) 6.30	
09	CIT	311+70.8 6.5 LT	9.65	(07) 5.80 (08) 5.80	(11) 5.30	
10	GICI	312+07.3 12.0 RT	9.60		(11) 7.10	
11	CIT	312+10.1 19.2 RT	10.38	(10) 7.00 (09) 5.70	(EX) 5.60	
12	CIT	312+88.5 16.4 RT	9.37	(16) 2.70 (13) 4.75	(52) 2.60	
13	CB	312+91.5 12.0 RT	8.74		(12) 4.80	WITH HOOD
14	CBCI	312+91.2 12.0 LT	8.80		(52) 3.20	WITH HOOD CONSTRUCT IN LINE WITH EX LATERAL R&D EX CB
15	GICI	313+29.8 22.4 RT	8.30		(16) 5.80	R&D EX CB
16	EX DMH	313+20.0 29.5 RT	9.15	(17) 5.80 (15) 5.10	(12) 3.90	ADJ F&C
17	GICI	313+15.0 51.3 RT	8.08		(16) 6.00	SHALLOW GI R&D EX CB
18	EX CB	413+62.0 52.4 LT	8.65	(EX) 3.60	(EX) 2.60	REMOD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C.

**NOTE:**

IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.

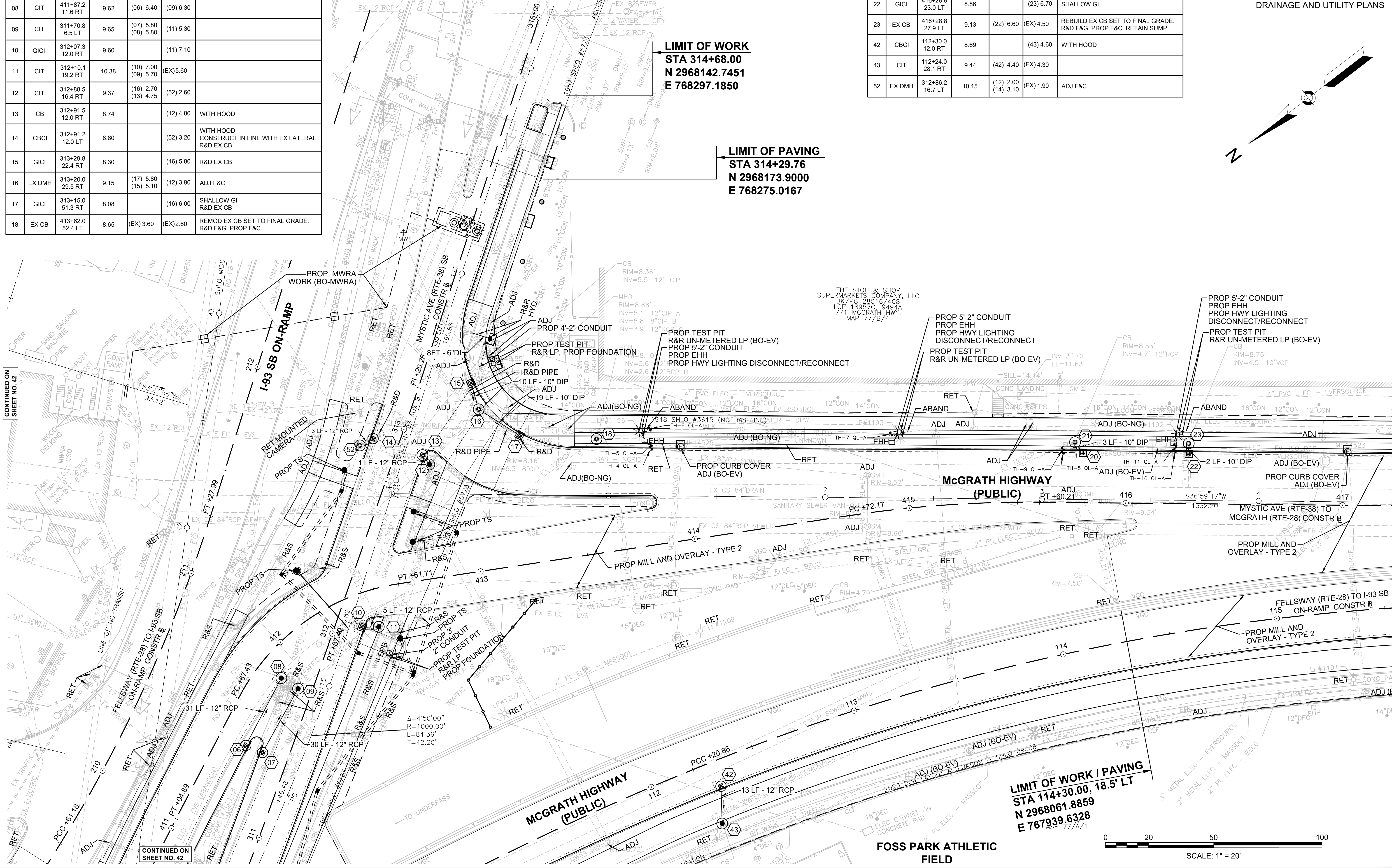
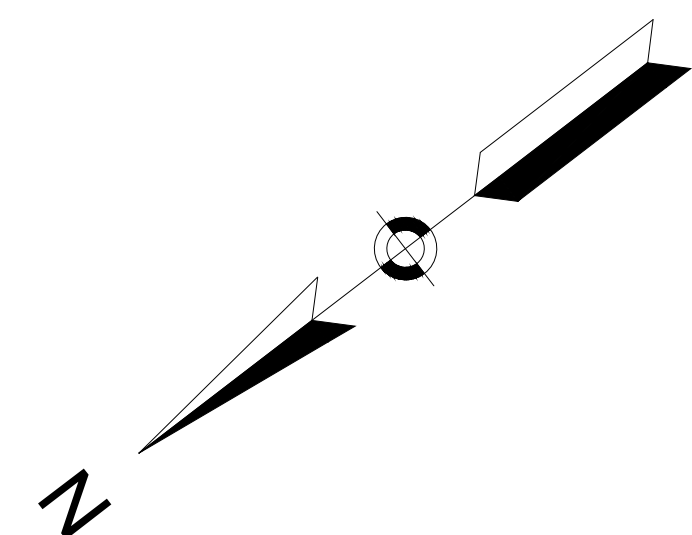
DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
20	GICI	415+79.9 23.0 LT	8.60		(21) 6.50	SHALLOW GI
21	EX CB	415+76.3 27.9 LT	9.08	(20) 6.40	(EX) 4.70	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
22	GICI	416+28.8 23.0 LT	8.86		(23) 6.70	SHALLOW GI
23	EX CB	416+28.8 27.9 LT	9.13	(22) 6.60	(EX) 4.50	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
42	CBCI	112+30.0 12.0 RT	8.69		(43) 4.60	WITH HOOD
43	CIT	112+24.0 28.1 RT	9.44	(42) 4.40	(EX) 4.30	
52	EX DMH	312+86.2 16.7 LT	10.15	(12) 2.00 (14) 3.10	(EX) 1.90	ADJ F&C

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

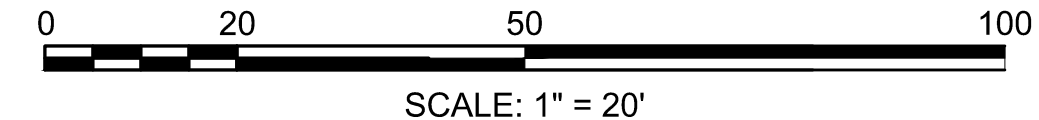
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	43	205

PROJECT FILE NO. 608562

DRAINAGE AND UTILITY PLANS



**LIMIT OF WORK / PAVING**  
**STA 114+30.00, 18.5' LT**  
**N 2968061.8859**  
**E 767939.6328**



CONTINUED ON SHEET NO. 42

CONTINUED ON SHEET NO. 44

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	44	205
PROJECT FILE NO. 608562			

DRAINAGE AND UTILITY PLANS

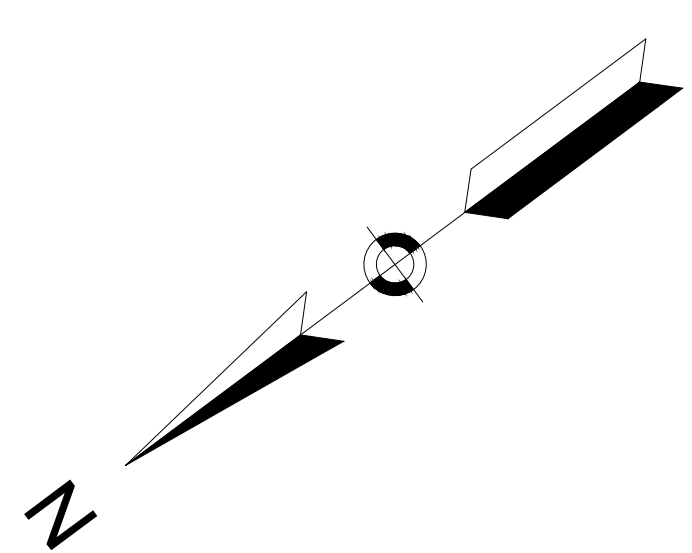
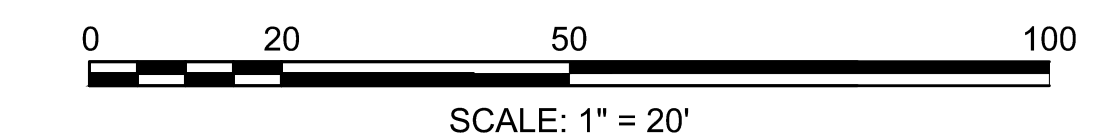
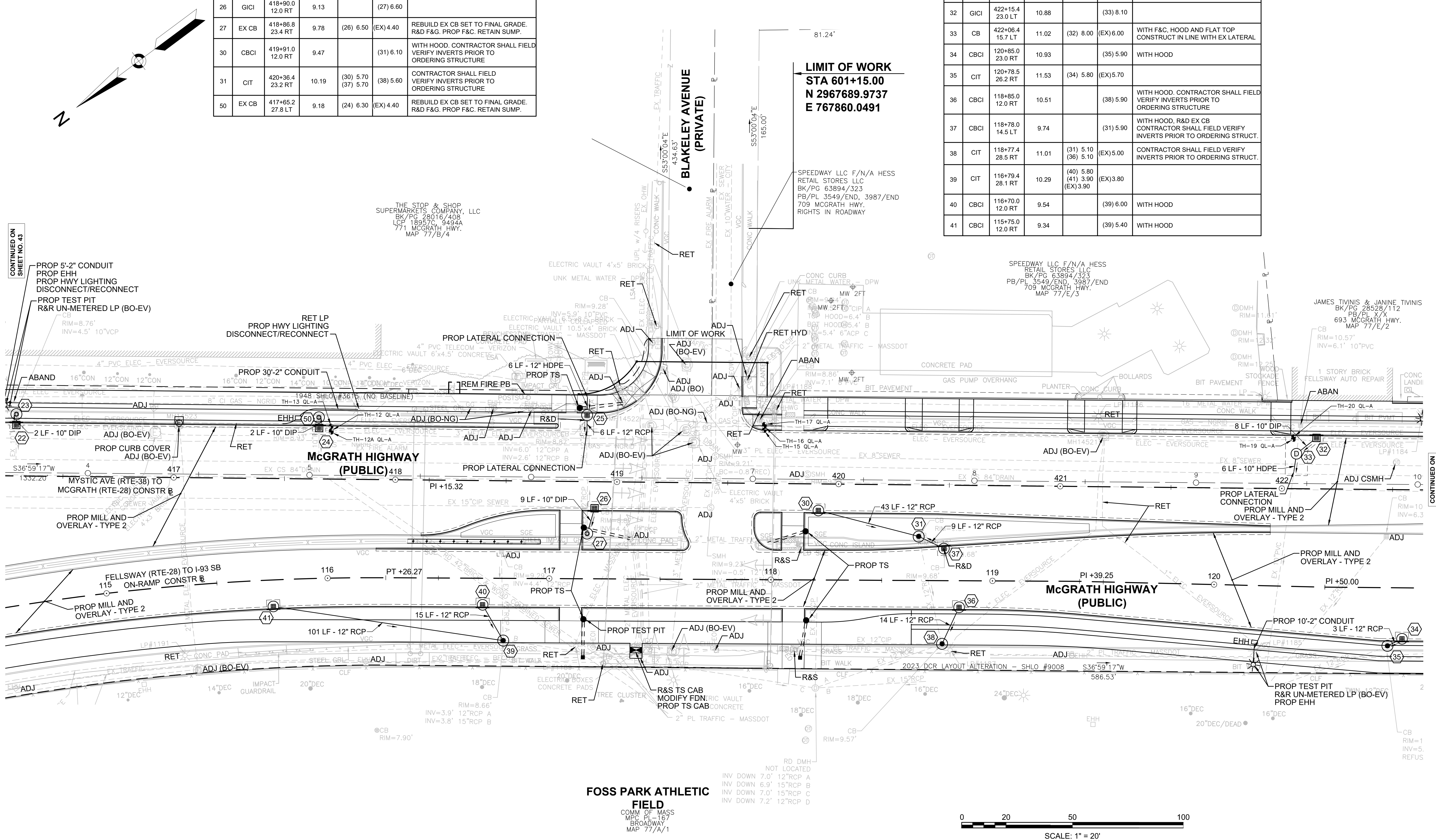
DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
22	GICI	416+28.8 23.0 LT	8.86		(23) 6.70	SHALLOW GI
23	EX CB	416+28.8 27.9 LT	9.13	(22) 6.60	(EX) 4.50	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
24	GICI	417+65.4 23.0 LT	8.95		(50) 6.40	
25	CB	418+86.2 30.0 LT	8.69	(EX) 6.00	(EX) 2.60	WITH HOOD R&D EX CB
26	GICI	418+90.0 12.0 RT	9.13		(27) 6.60	
27	EX CB	418+86.8 23.4 RT	9.78	(26) 6.50	(EX) 4.40	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
30	CBCI	419+91.0 12.0 RT	9.47		(31) 6.10	WITH HOOD. CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING STRUCTURE
31	CIT	420+36.4 23.2 RT	10.19	(30) 5.70 (37) 5.70	(38) 5.60	CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING STRUCTURE
50	EX CB	417+65.2 27.8 LT	9.18	(24) 6.30	(EX) 4.40	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.

NOTE:

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EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.

DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
32	GICI	422+15.4 23.0 LT	10.88		(33) 8.10	
33	CB	422+06.4 15.7 LT	11.02	(32) 8.00	(EX) 6.00	WITH F&C, HOOD AND FLAT TOP CONSTRUCT IN LINE WITH EX LATERAL
34	CBCI	120+85.0 23.0 RT	10.93		(35) 5.90	WITH HOOD
35	CIT	120+78.5 26.2 RT	11.53	(34) 5.80	(EX) 5.70	
36	CBCI	118+85.0 12.0 RT	10.51		(38) 5.90	WITH HOOD. CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING STRUCTURE
37	CBCI	118+78.0 14.5 LT	9.74		(31) 5.90	WITH HOOD, R&D EX CB CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING STRUCT.
38	CIT	118+77.4 28.5 RT	11.01	(31) 5.10 (36) 5.10	(EX) 5.00	CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING STRUCT.
39	CIT	116+79.4 28.1 RT	10.29	(40) 5.80 (41) 3.90 (EX) 3.90	(EX) 3.80	
40	CBCI	116+70.0 12.0 RT	9.54		(39) 6.00	WITH HOOD
41	CBCI	115+75.0 12.0 RT	9.34		(39) 5.40	WITH HOOD



CONTINUED ON SHEET NO. 43

CONTINUED ON SHEET NO. 45

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	45	205

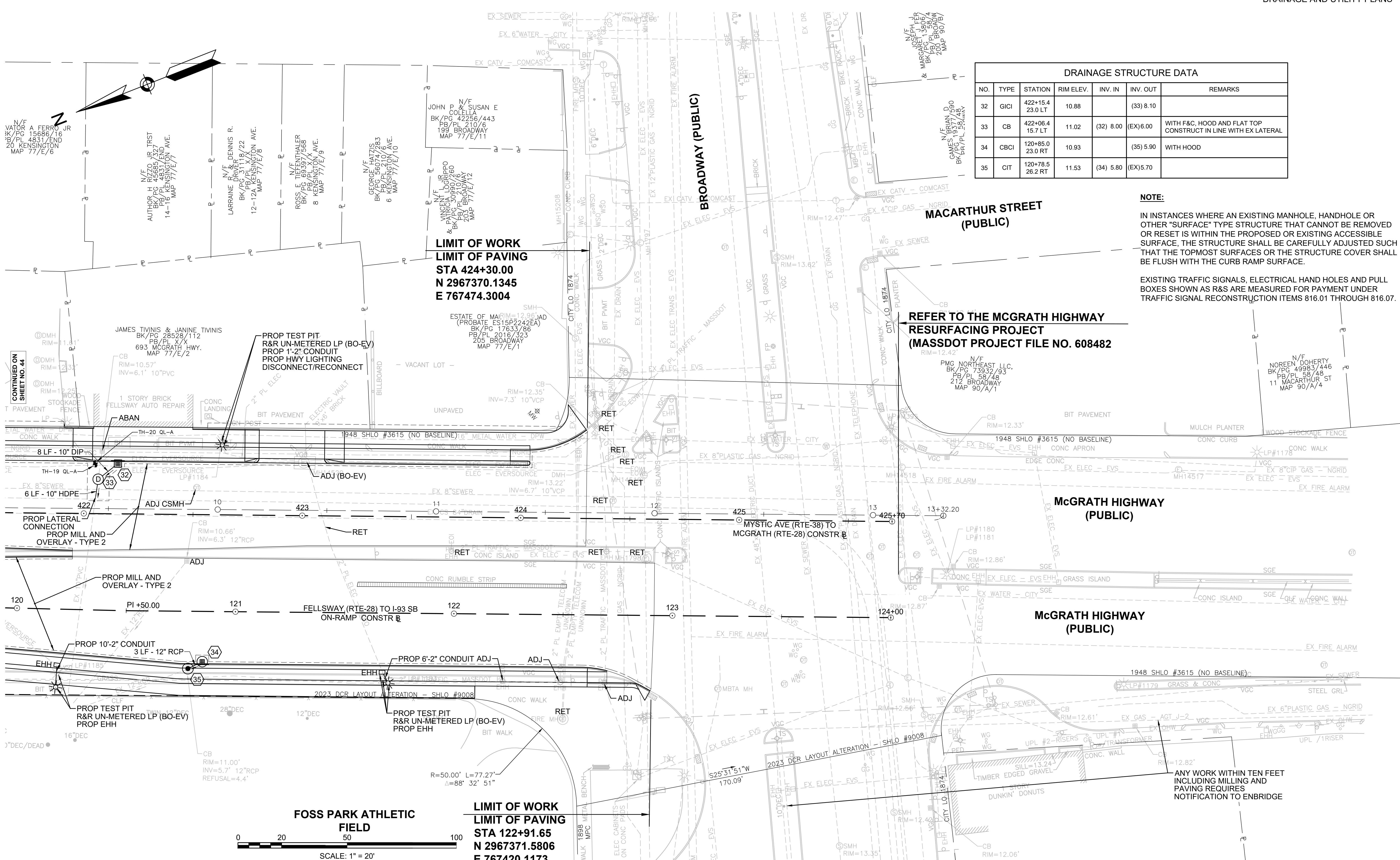
PROJECT FILE NO. 608562

DRAINAGE AND UTILITY PLANS

DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
32	GICI	422+15.4 23.0 LT	10.88		(33) 8.10	
33	CB	422+06.4 15.7 LT	11.02	(32) 8.00	(EX) 6.00	WITH F&C HOOD AND FLAT TOP CONSTRUCT IN LINE WITH EX LATERAL
34	CBCI	120+85.0 23.0 RT	10.93		(35) 5.90	WITH HOOD
35	CIT	120+78.5 26.2 RT	11.53	(34) 5.80	(EX) 5.70	

**NOTE:**  
IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.



N/F VATOR A FERRO JR  
BK/PG 15686/16  
PB/PL 4831/END  
20 KENSINGTON  
MAP 77/E/6

N/F H RIZZO JR TRST  
BK/PG 48985/END  
14-16 KENSINGTON AVE.  
MAP 77/E/7

N/F DENNIS R.  
BK/PG 31118/22  
12-12 KENSINGTON AVE.  
MAP 77/E/8

N/F ROSS LE TIENTHALER  
BK/PG 81337/368  
8 KENSINGTON AVE.  
MAP 77/E/9

N/F GEORGE HATZIS  
BK/PG 21076/6  
6 KENSINGTON AVE.  
MAP 77/E/10

N/F JOHN P & SUSAN E  
COLELLA  
BK/PG 42256/443  
PB/PL 210/6  
199 BROADWAY  
MAP 77/E/11

N/F VINCENT LORREPO  
& PATRICIA LOREPO  
BK/PG 30910/60  
203 BROADWAY  
MAP 77/E/12

**LIMIT OF WORK  
LIMIT OF PAVING  
STA 424+30.00  
N 2967370.1345  
E 767474.3004**

**BROADWAY (PUBLIC)**

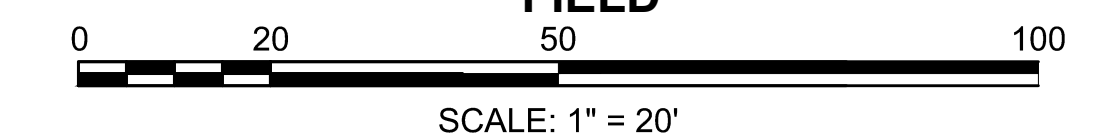
**MACARTHUR STREET  
(PUBLIC)**

**REFER TO THE MCGRATH HIGHWAY  
RESURFACING PROJECT  
(MASSDOT PROJECT FILE NO. 608482)**

**McGRATH HIGHWAY  
(PUBLIC)**

**McGRATH HIGHWAY  
(PUBLIC)**

**FOSS PARK ATHLETIC  
FIELD**



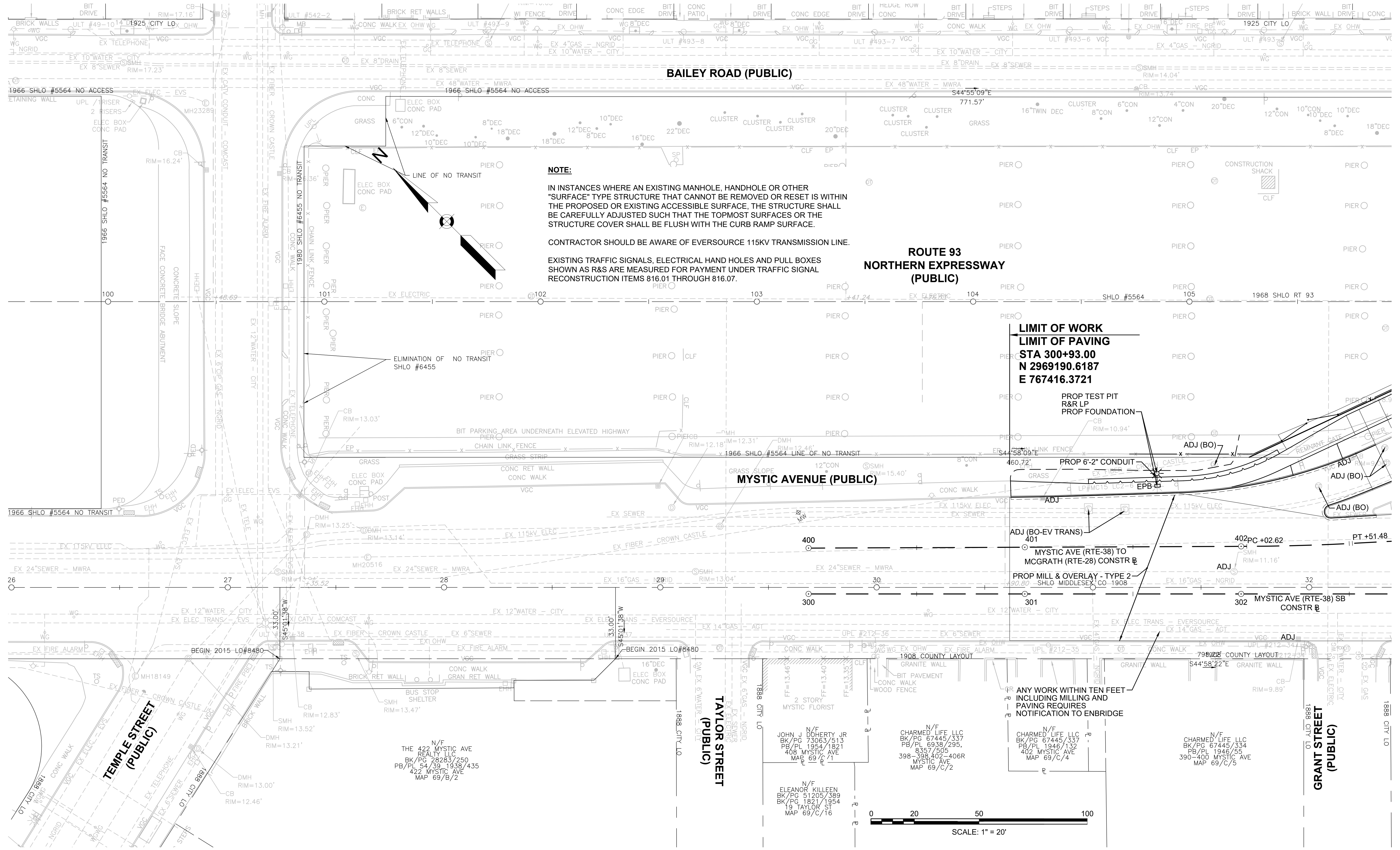
**LIMIT OF WORK  
LIMIT OF PAVING  
STA 122+91.65  
N 2967371.5806  
E 767420.1173**

ANY WORK WITHIN TEN FEET  
INCLUDING MILLING AND  
PAVING REQUIRES  
NOTIFICATION TO ENBRIDGE

CONTINUED ON  
SHEET NO. 44

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	46	205
PROJECT FILE NO. 608562			

**DRAINAGE AND UTILITY PLANS**



CONTINUED ON  
 SHEET NO. 47

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	47	205
PROJECT FILE NO. 608562			

**NOTE:**

IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING ACCESSIBLE SURFACE, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

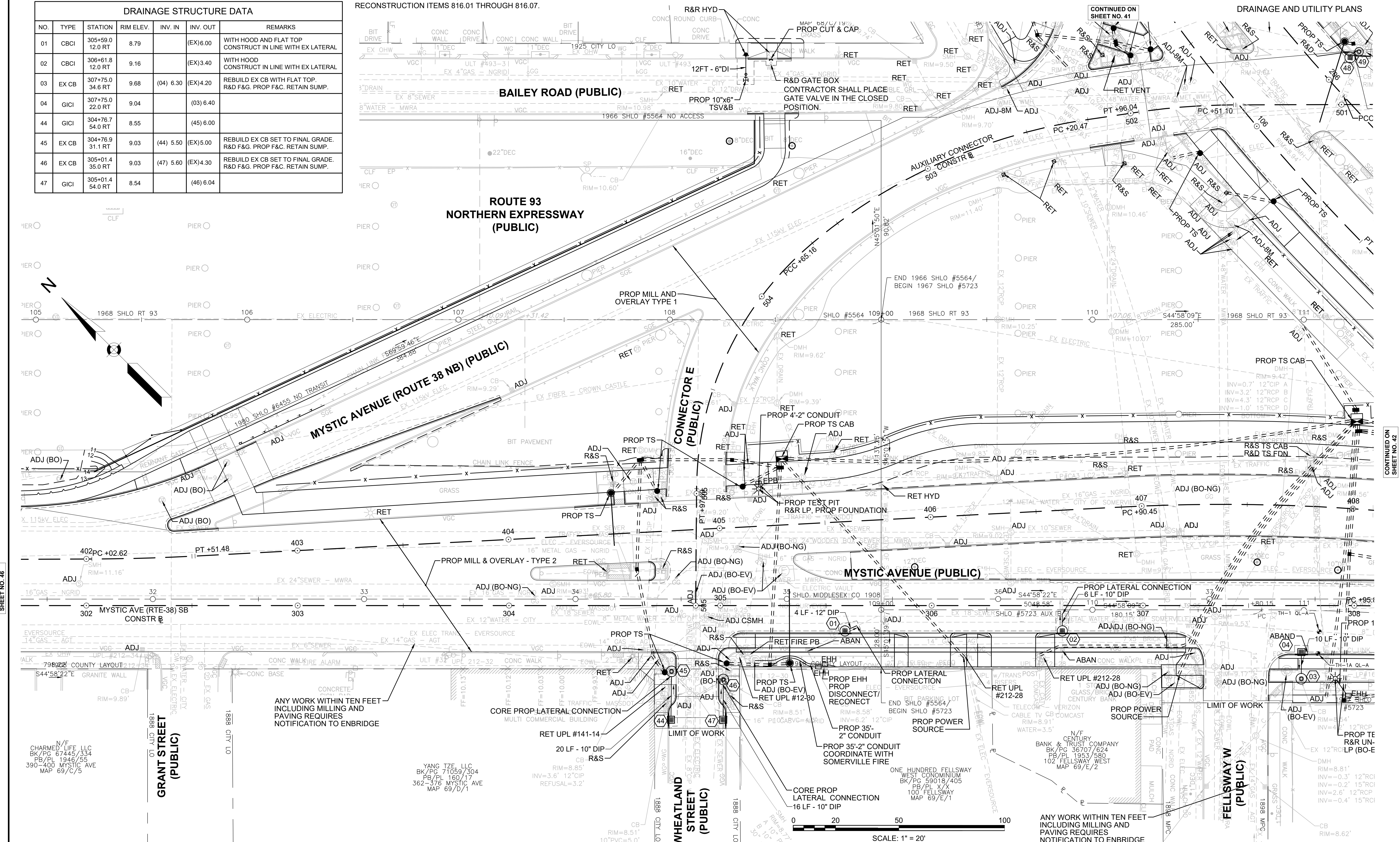
CONTRACTOR SHOULD BE AWARE OF EVERSOURCE 115KV TRANSMISSION LINE.

EXISTING TRAFFIC SIGNALS, ELECTRICAL HAND HOLES AND PULL BOXES SHOWN AS R&S ARE MEASURED FOR PAYMENT UNDER TRAFFIC SIGNAL RECONSTRUCTION ITEMS 816.01 THROUGH 816.07.

**DRAINAGE STRUCTURE DATA**

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
01	CBCI	305+59.0 12.0 RT	8.79		(EX)6.00	WITH HOOD AND FLAT TOP CONSTRUCT IN LINE WITH EX LATERAL
02	CBCI	306+61.8 12.0 RT	9.16		(EX)3.40	WITH HOOD CONSTRUCT IN LINE WITH EX LATERAL
03	EX CB	307+75.0 34.6 RT	9.68	(04) 6.30	(EX)4.20	REBUILD EX CB WITH FLAT TOP. R&D F&G. PROP F&C. RETAIN SUMP.
04	GICI	307+75.0 22.0 RT	9.04		(03) 6.40	
44	GICI	304+76.7 54.0 RT	8.55		(45) 6.00	
45	EX CB	304+76.9 31.1 RT	9.03	(44) 5.50	(EX)5.00	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
46	EX CB	305+01.4 35.0 RT	9.03	(47) 5.60	(EX)4.30	REBUILD EX CB SET TO FINAL GRADE. R&D F&G. PROP F&C. RETAIN SUMP.
47	GICI	305+01.4 54.0 RT	8.54		(46) 6.04	

**DRAINAGE AND UTILITY PLANS**



CONTINUED ON SHEET NO. 46

CONTINUED ON SHEET NO. 42

N/F  
CHARMED LIFE LLC  
BK/PG 67445/334  
PB/PL 1946/55  
390-400 MYSTIC AVE  
MAP 69/C/5

YANG TZE, LLC  
BK/PG 71059/304  
PB/PL 160/17  
362-376 MYSTIC AVE  
MAP 69/D/1

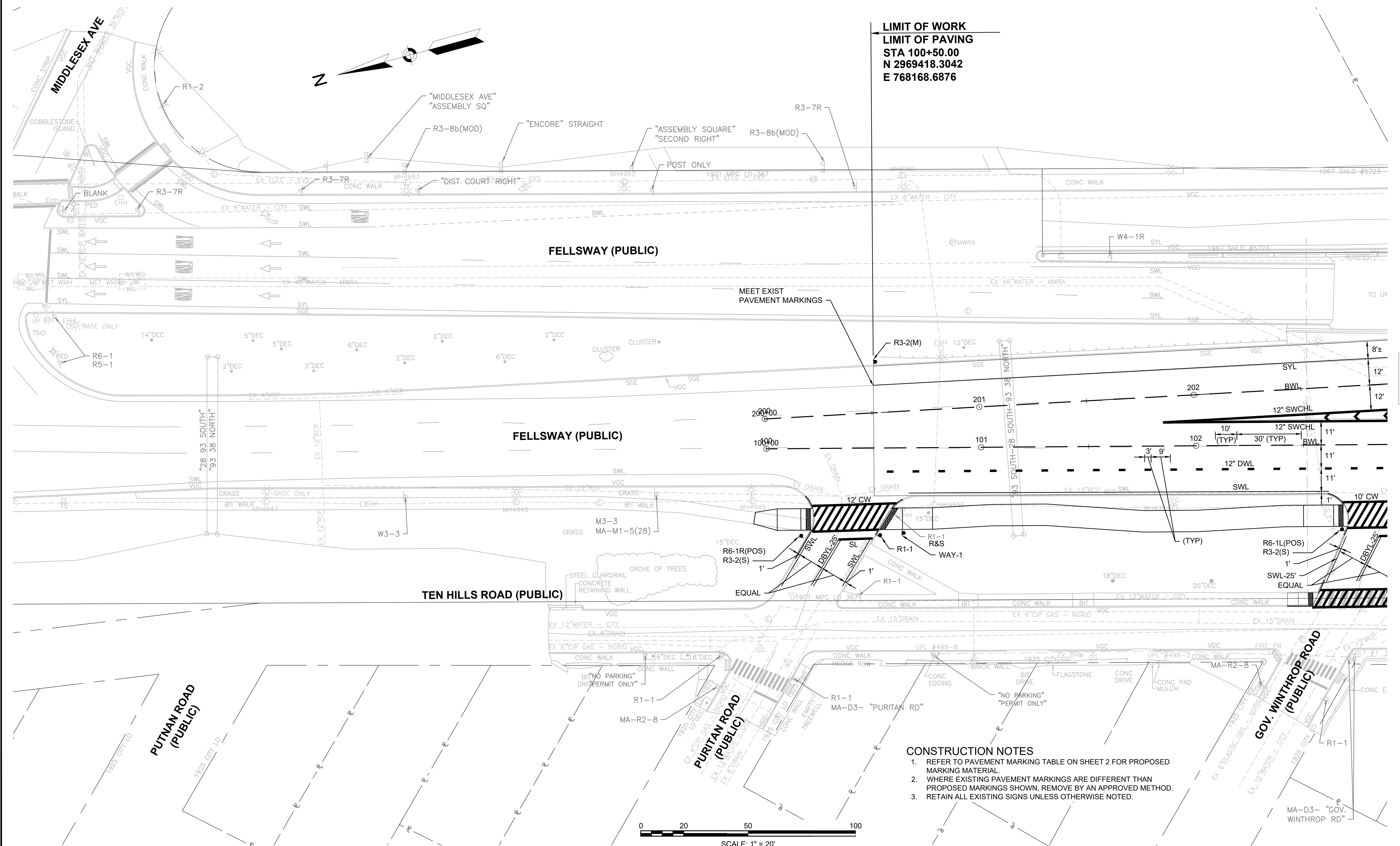
ANY WORK WITHIN TEN FEET  
INCLUDING MILLING AND  
PAVING REQUIRES  
NOTIFICATION TO ENBRIDGE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	48	205

PROJECT FILE NO. 608562

TRAFFIC SIGN & PAVEMENT MARKINGS

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**



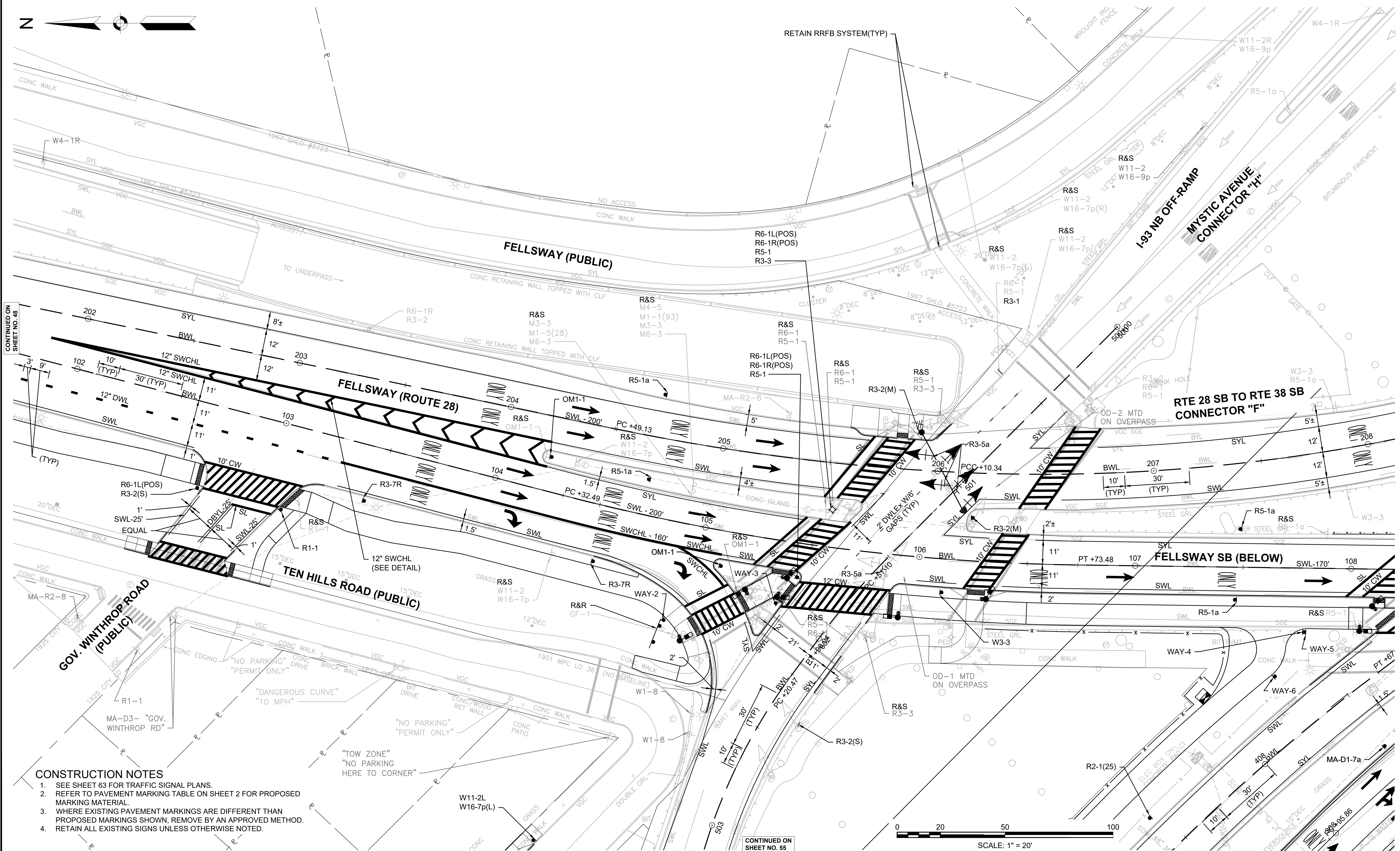
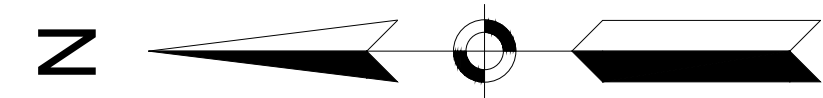
- CONSTRUCTION NOTES**
1. REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON  
 SHEET NO. 49



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	49	205

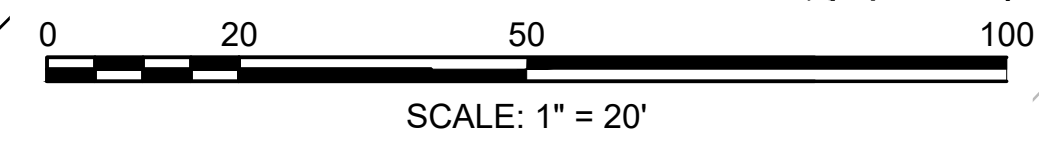
PROJECT FILE NO. 608562



CONTINUED ON SHEET NO. 48

CONTINUED ON SHEET NO. 50

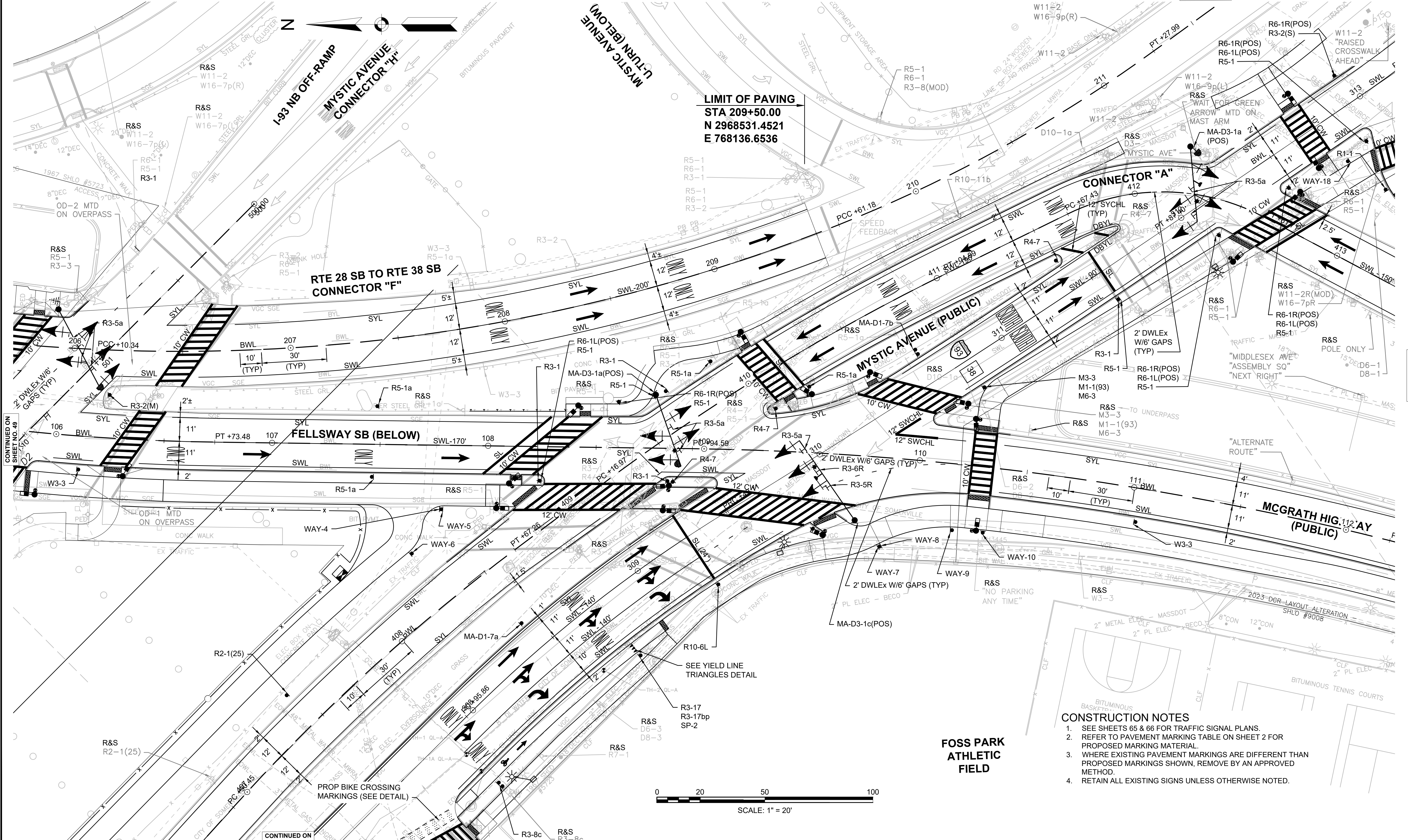
- CONSTRUCTION NOTES**
- SEE SHEET 63 FOR TRAFFIC SIGNAL PLANS.
  - REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON SHEET NO. 55

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	50	205
PROJECT FILE NO. 608562			

CONTINUED ON SHEET NO. 51 TRAFFIC SIGN & PAVEMENT MARKINGS



**LIMIT OF PAVING**  
 STA 209+50.00  
 N 2968531.4521  
 E 768136.6536

- CONSTRUCTION NOTES**
1. SEE SHEETS 65 & 66 FOR TRAFFIC SIGNAL PLANS.
  2. REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  3. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

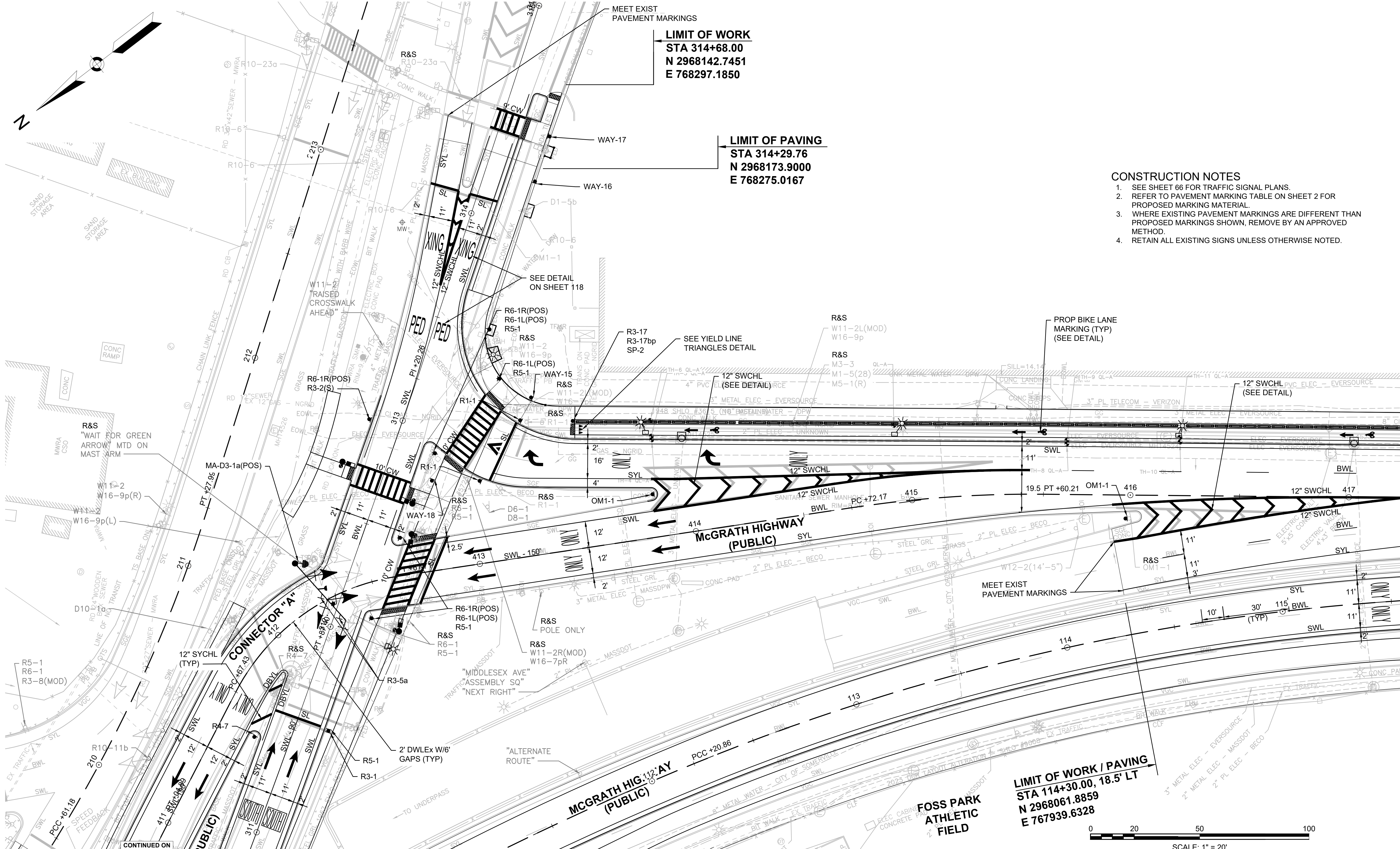
CONTINUED ON SHEET NO. 49

CONTINUED ON SHEET NO. 51

CONTINUED ON SHEET NO. 55

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	51	205

PROJECT FILE NO. 608562

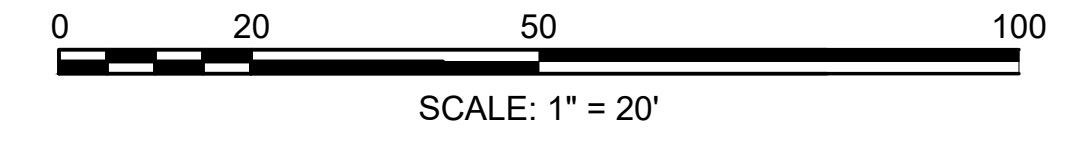


**LIMIT OF WORK**  
 STA 314+68.00  
 N 2968142.7451  
 E 768297.1850

**LIMIT OF PAVING**  
 STA 314+29.76  
 N 2968173.9000  
 E 768275.0167

- CONSTRUCTION NOTES**
- SEE SHEET 66 FOR TRAFFIC SIGNAL PLANS.
  - REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

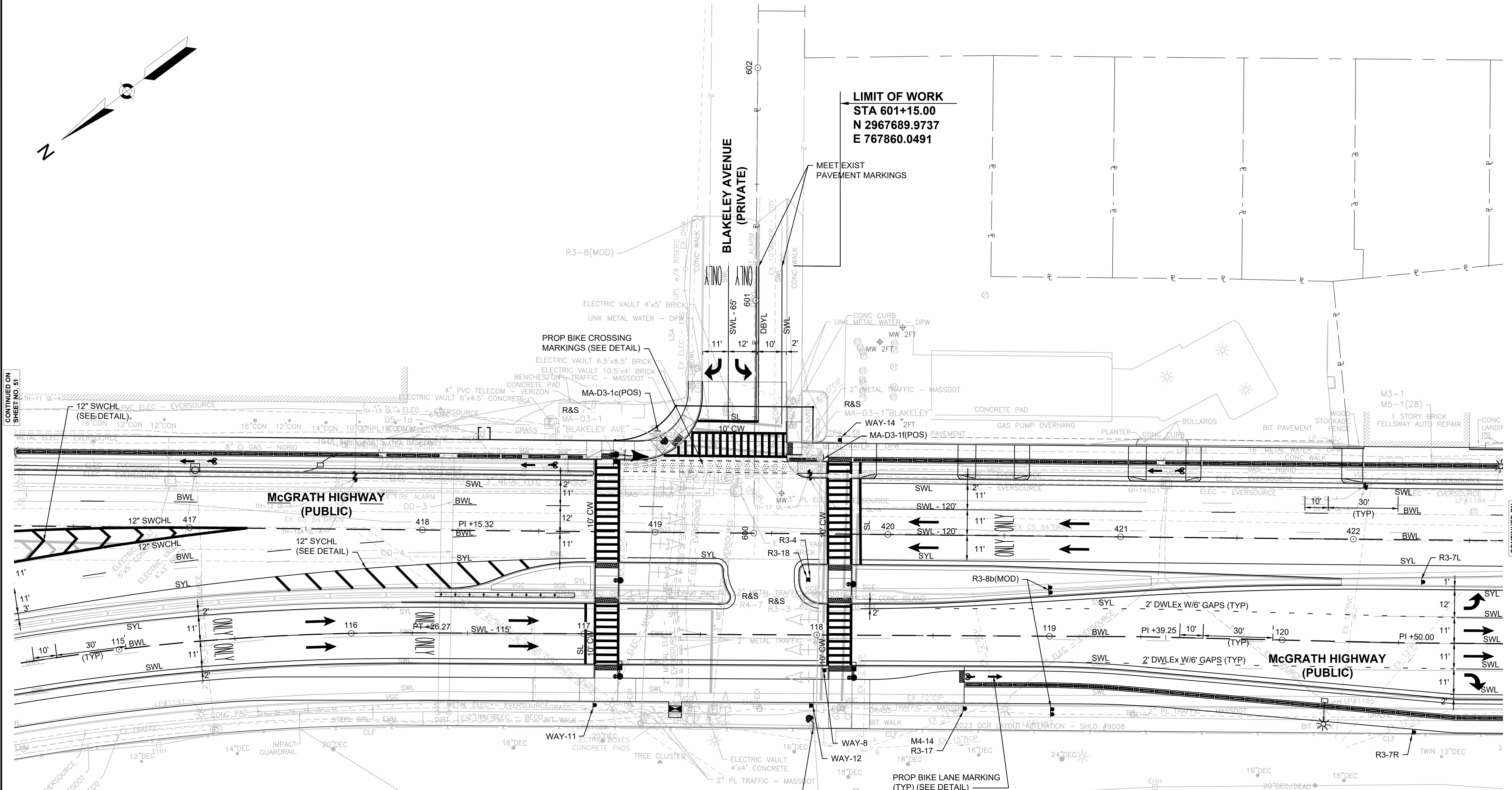
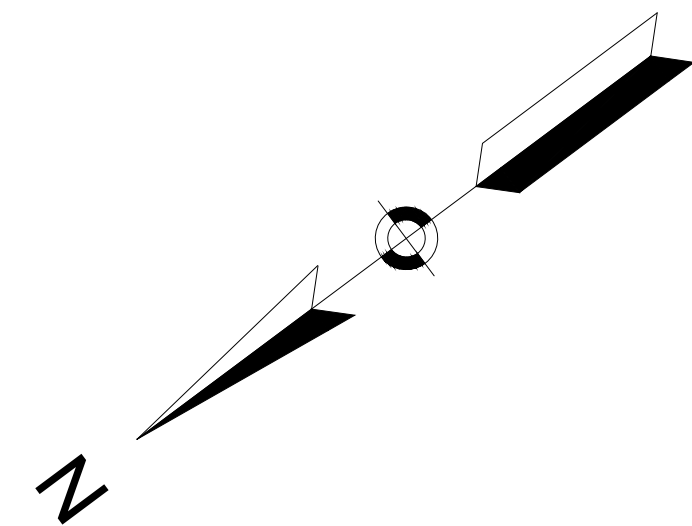
**LIMIT OF WORK / PAVING**  
 STA 114+30.00, 18.5' LT  
 N 2968061.8859  
 E 767939.6328



CONTINUED ON SHEET NO. 50

CONTINUED ON SHEET NO. 52

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	52	205
PROJECT FILE NO. 608562			

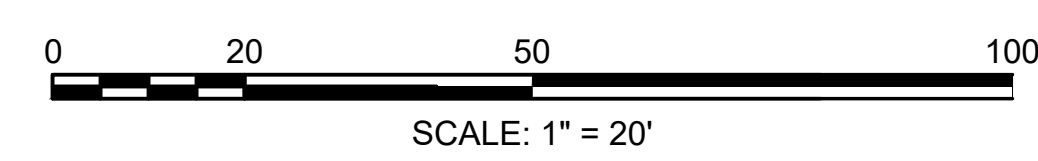


CONTINUED ON  
 SHEET NO. 51

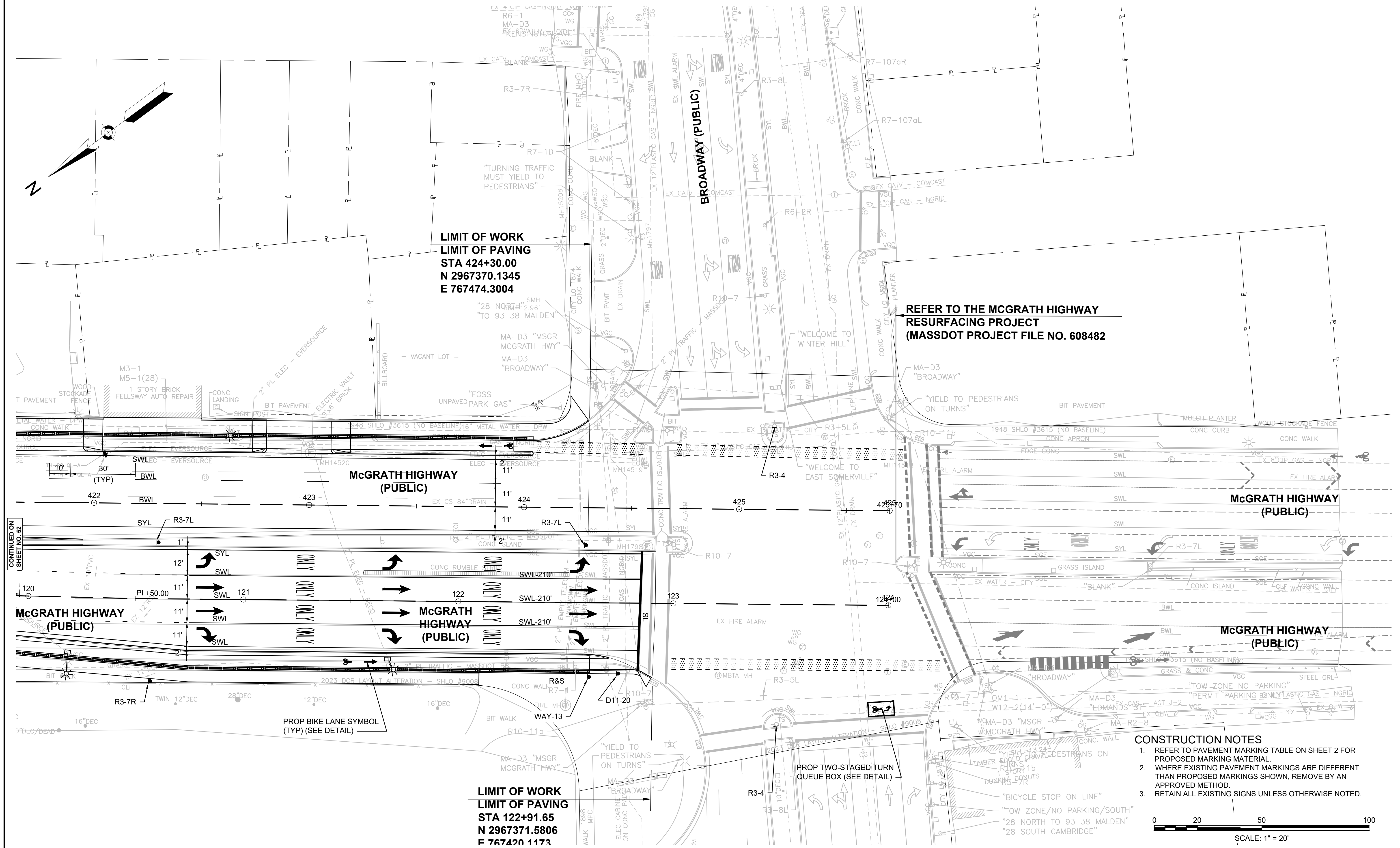
CONTINUED ON  
 SHEET NO. 53

**CONSTRUCTION NOTES**

1. SEE SHEET 71 FOR TRAFFIC SIGNAL PLANS.
2. REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
3. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	53	205
PROJECT FILE NO. 608562			

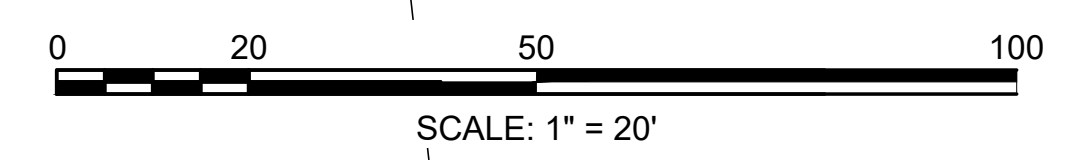


**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 424+30.00**  
**N 2967370.1345**  
**E 767474.3004**

**REFER TO THE MCGRATH HIGHWAY**  
**RESURFACING PROJECT**  
**(MASSDOT PROJECT FILE NO. 608482)**

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 122+91.65**  
**N 2967371.5806**  
**F 767420 1173**

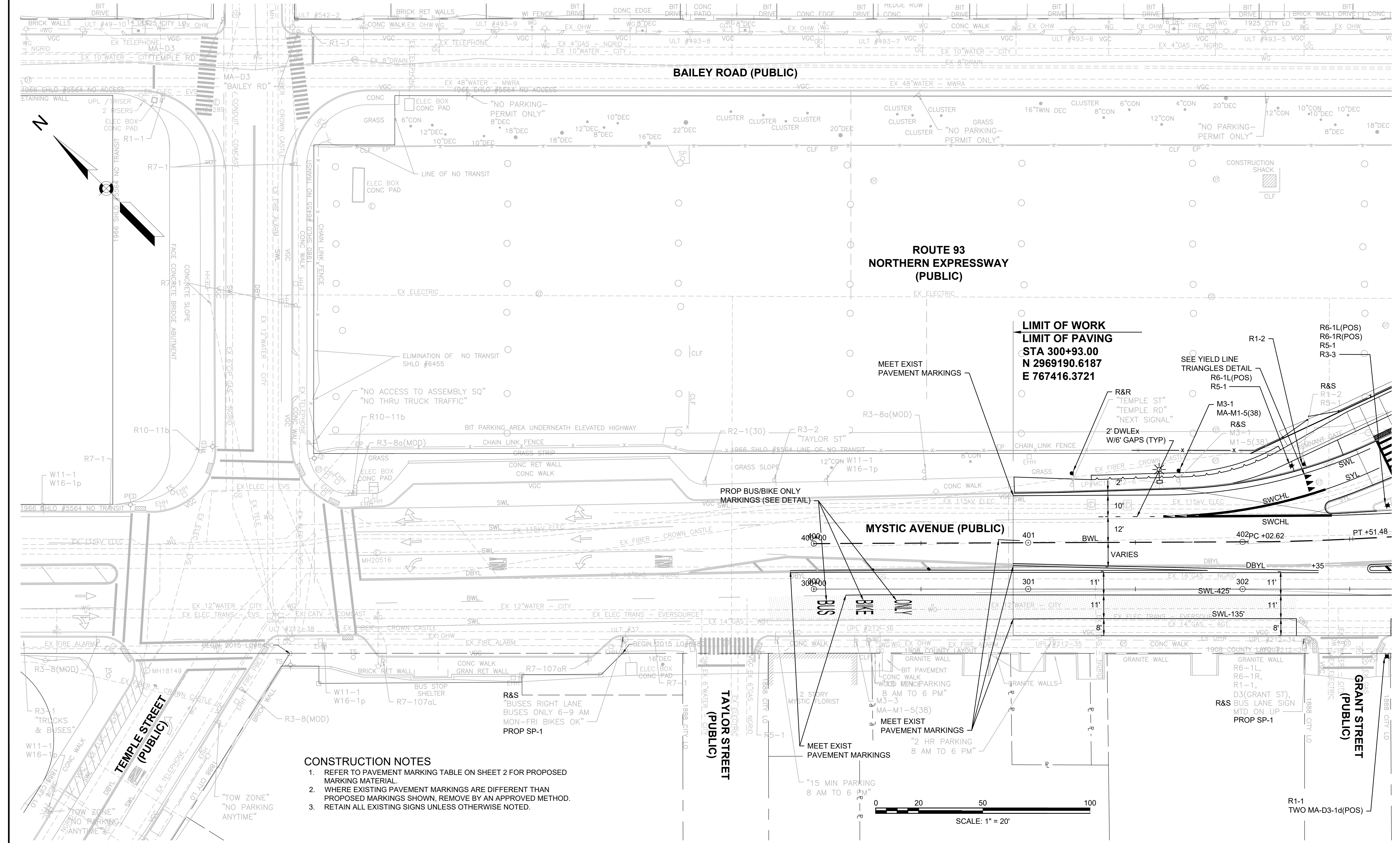
- CONSTRUCTION NOTES**
1. REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON  
SHEET NO. 52

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HS1/HS(VUS)-003S(762)	54	205
PROJECT FILE NO. 608562			

TRAFFIC SIGN & PAVEMENT MARKINGS



- CONSTRUCTION NOTES**
- REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
  - WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

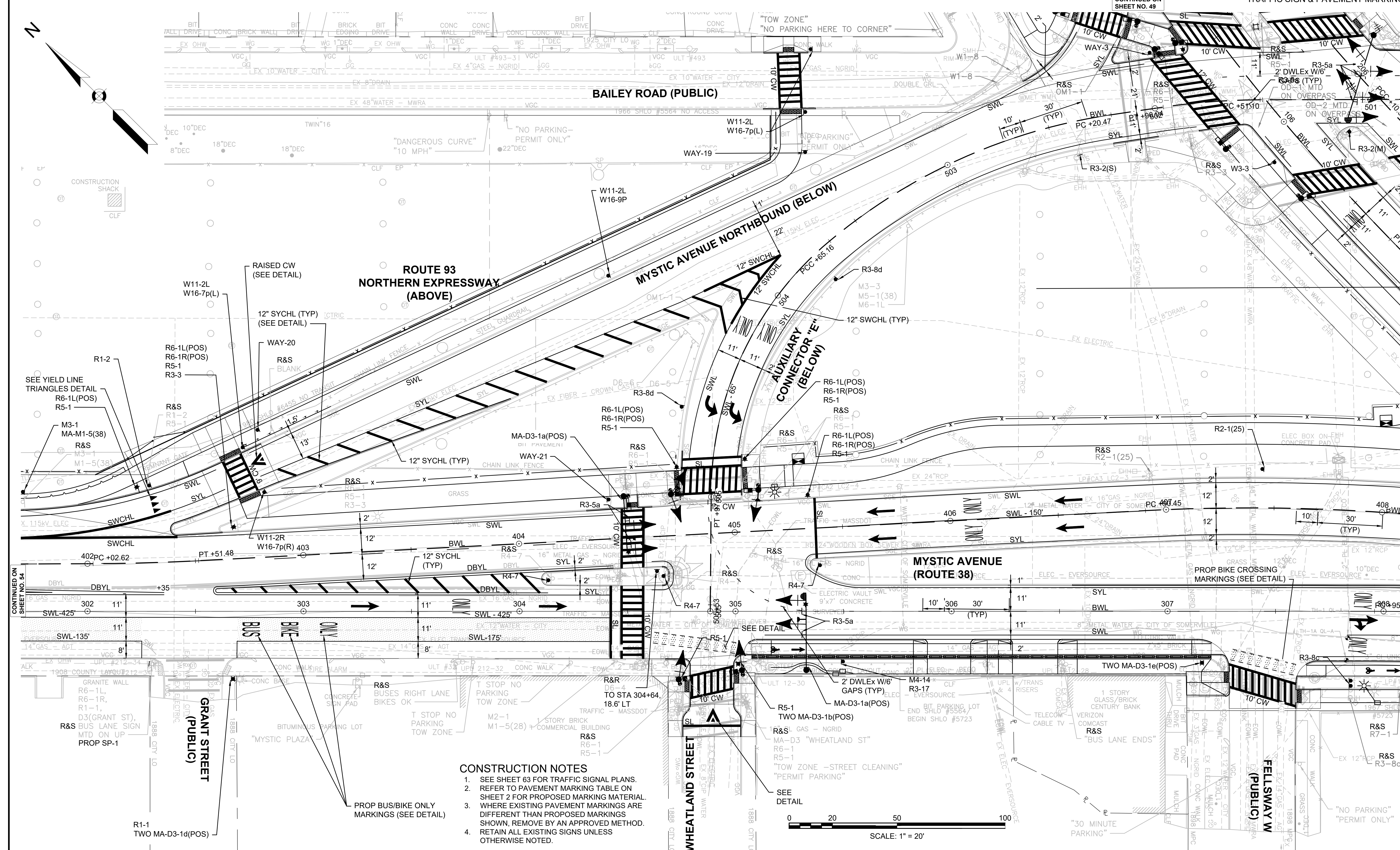
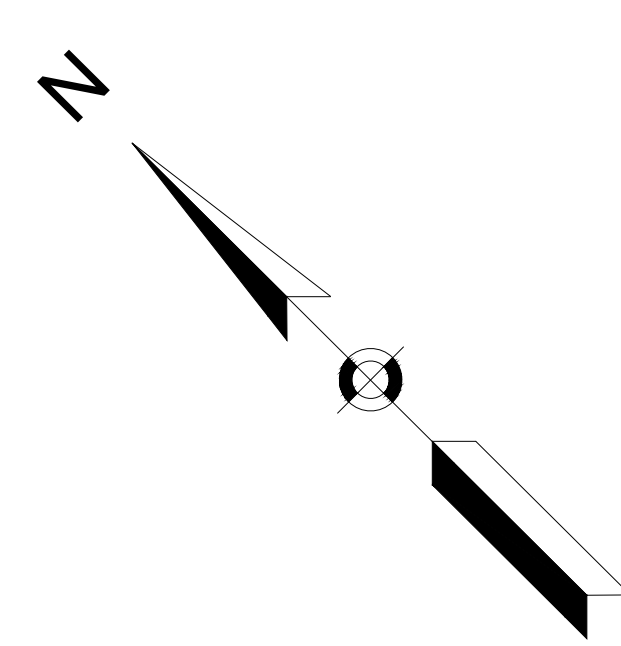
**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 300+93.00**  
**N 2969190.6187**  
**E 767416.3721**

CONTINUED ON  
 SHEET NO. 55

608562\_HDT(S)G.DWG Plotted on 15-Jul-2024 3:44 PM

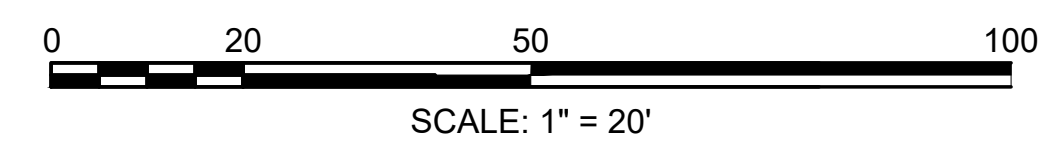
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	55	205
PROJECT FILE NO. 608562			

TRAFFIC SIGN & PAVEMENT MARKINGS



CONSTRUCTION NOTES

1. SEE SHEET 63 FOR TRAFFIC SIGNAL PLANS.
2. REFER TO PAVEMENT MARKING TABLE ON SHEET 2 FOR PROPOSED MARKING MATERIAL.
3. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
4. SEE DETAIL



CONTINUED ON SHEET NO. 54

CONTINUED ON SHEET NO. 49

CONTINUED ON SHEET NO. 50

608562\_HDT(S)G.DWG Plotted on 15-Jul-2024 3:44 PM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	56	205
PROJECT FILE NO.		608562	

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R1-1	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			5	RED	WHITE	WHITE	P5-5	5.18	25.90
R1-2	36"X36"X36"						1	WHITE	RED	WHITE	P5-1	3.90	3.90
R2-1(25)	24"	30"					1	WHITE	BLACK	BLACK	P5-1	5.00	5.00
R3-1	36"	36"					5	WHITE	RED/BLACK	BLACK	P5-2 1 MTD ON EXIST P5 POST 2 MTD W/OTHERS	9.00	45.00
R3-2(S)	30"	30"					4	WHITE	RED/BLACK	BLACK	P5-3 1 MTD ON TS POST	6.25	25.00
R3-2(M)	36"	36"					3	WHITE	RED/BLACK	BLACK	P5-2 1 MTD ON TS POLE	9.00	27.00
R3-3	36"	36"					2	WHITE	BLACK	BLACK	1 MTD ON TS POST 1 MTD W/OTHERS	9.00	18.00
R3-4	24"	24"					3	WHITE	RED/BLACK	BLACK	P5-1 2 MTD ON TS POST	4.00	12.00
R3-5a	30"	36"					14	WHITE	BLACK	BLACK	14 MOUNTED OVERHEAD ON MAST ARM	7.50	105.00
R3-5R	30"	36"					1	WHITE	BLACK	BLACK	1 MOUNTED OVERHEAD ON MAST ARM	7.50	7.50
R3-6R	30"	36"					1	WHITE	BLACK	BLACK	1 MOUNTED OVERHEAD ON MAST ARM	7.50	7.50
R3-7L	30"	30"					2	WHITE	BLACK	BLACK	P5-2	6.25	12.50
R3-7R	30"	30"					3	WHITE	BLACK	BLACK	P5-3	6.25	18.75
R3-8b(MOD)	60"	30"					2	WHITE	BLACK	BLACK	DOUBLE P5 (2)	12.50	25.00
R3-8c	48"	30"					1	WHITE	BLACK	BLACK	DOUBLE P5 (1)	10.00	10.00
R3-8d	30"	30"					2	WHITE	BLACK	BLACK	P5-2	6.25	12.50
R3-17	30"	24"					4	WHITE	BLACK	BLACK	P5-4	5.00	20.00
R3-17bp	30"	12"					2	WHITE	BLACK	BLACK	2 MTD W/ OTHERS	2.50	5.00
R3-18	36"	36"					1	WHITE	RED/BLACK	BLACK	1 MTD W/ OTHERS	9.00	9.00

TRAFFIC SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R4-7	24"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			6	WHITE	BLACK	BLACK	P5-6	5.00	30.00
R5-1	36"	36"					17	WHITE	RED/WHITE	-	P5-14 3 MTD ON TS POST/POLE	9.00	153.00
R5-1a	36"	24"					6	WHITE	RED/WHITE	-	P5-6	6.00	36.00
R6-1L(POS)	36"	12"					13	BLACK	WHITE	WHITE	1 MTD ON TS POST 12 MTD W/OTHERS	3.00	39.00
R6-1R(POS)	36"	12"					12	BLACK	WHITE	WHITE	1 MTD ON TS POST 11 MTD W/OTHERS	3.00	36.00
R10-3e(L)	9"	15"					19	WHITE	WHITE/BLACK/ORANGE	BLACK	19 MTD ON TS POST/POLE	PAID UNDER ITEMS 816.02 816.03, 816.04	
R10-3e(R)	9"	15"					11	WHITE	WHITE/BLACK/ORANGE	BLACK	11 MTD ON TS POST/POLE	PAID UNDER ITEMS 816.02 816.03, 816.04	
R10-3e(D)	9"	15"					2	WHITE	WHITE/BLACK/ORANGE	BLACK	2 MTD ON TS POST	PAID UNDER ITEMS 816.02 816.03, 816.04	
R10-6L	24"	36"					1	WHITE	BLACK	BLACK	P5-1	6.00	6.00
R10-10b	12"	18"					3	WHITE	BLACK	BLACK	3 MTD ON TS POST/POLE	1.50	4.50
OM1-1	24"	24"					4	YELLOW	YELLOW CLUSTER	---	P5-4	4.00	16.00
W3-3	30"	30"					2	YELLOW	BLACK	BLACK	P5-2	6.25	12.50

NOTES:  
 1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.  
 2. CERTAIN SIGNS WITH MULTIPLE DIMENSIONS SIZES WILL HAVE SIGN CODES FOLLOWED BY (M) OR (S) INDICATING WHERE THE SIGNS ARE TO BE INSTALLED. (M) INDICATES A MEDIUM SIGN SIZE AND (S) INDICATES A SMALL SIGN SIZE. THIS FORMAT IS ALSO NOTED ON THE PLAN SHEETS.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	57	205
PROJECT FILE NO.		608562	

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
W11-2L	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			4	FLUOR-ESCENT YELLOW /GREEN	BLACK	BLACK	P5-4	6.25	25.00
W11-2R	30"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	FLUOR-ESCENT YELLOW /GREEN	BLACK	BLACK	P5-1	6.25	6.25
W16-7p(L)	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			3	FLOUR-ESCENT YELLOW /GREEN	BLACK	BLACK	3 MTD W/W11-2	2.00	6.00
W16-7p(R)	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	FLOUR-ESCENT YELLOW /GREEN	BLACK	BLACK	1 MTD W/W11-2	2.00	2.00
W16-9p	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	FLOUR-ESCENT YELLOW /GREEN	BLACK	BLACK	1 MTD W/W11-2	2.00	2.00
M1-1(93)	24"	24"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	RED /BLUE	WHITE	WHITE	P5-1	4.00	4.00
MA-M1-5(38)	24"	24"		AS PER MASSDOT STANDARD			1	WHITE	BLACK	BLACK	P5-1	4.00	4.00
M3-1	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	WHITE	BLACK	BLACK	1 MTD W/OTHERS	2.00	2.00
M3-3	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	BLUE	WHITE	WHITE	1 MTD W/OTHERS	2.00	2.00
M4-14	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	2.00	4.00
M6-3	21"	15"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	BLUE	WHITE	WHITE	1 MTD W/OTHERS	2.19	2.19
MA-D1-7a	66"	114"		7"C/6"C 7"C/6"C	4" 4"	8"x18"@90°	1	GREEN	WHITE	WHITE	2 - W6x12 STEEL BEAMS	PAID UNDER ITEM 829.07	
				18" 8"C 8"C	4" 4" 2" 2"								
				18"7"C/6"C	4" 4"	8"x18"@0°							

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
MA-D1-7b	66"	60"		7"C/6"C 18" 8"C 8"C	4" 3" 4" 4"		1	GREEN	WHITE	WHITE	2 - S5x10 STEEL BEAMS	PAID UNDER ITEM 829.07	
MA-D3-1a (POS)	36"	30"		8"D @ 85% 8"D @ 85%	4" 6" 4"	N/A	4	GREEN	WHITE	WHITE	4 MTD ON TS POLE	PAID UNDER ITEM 874	
MA-D3-1b (POS)	48"	12"		6"D/4"D @85% 3"	3" 3"	N/A	2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1c (POS)	48"	30"		8"D @ 85% 8"D @ 85%	4" 6" 4"	N/A	2	GREEN	WHITE	WHITE	2 MTD ON TS POST/POLE	PAID UNDER ITEM 874	
MA-D3-1d (POS)	36"	12"		6"D/4"D @85% 3"	3" 3"	N/A	2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	PAID UNDER ITEM 874	
MA-D3-1e (POS)	48"	12"		6"D/4"D @85% 3.25"	2.75" 3.25"	N/A	2	GREEN	WHITE	WHITE	P5-1	PAID UNDER ITEM 874	
MA-D3-1f (POS)	48"	30"		8"D @ 85% 8"D @ 85%	4" 6" 4"	N/A	2	GREEN	WHITE	WHITE	2 MTD ON TS POLE	PAID UNDER ITEM 874	
D11-20	12"	18"		AS PER FHWA "INTERIM APPROVAL IA-20", AS AMENDED			1	GREEN	WHITE	WHITE	P5-1	1.50	1.50
SP-1	30"	30"		3"D 3"D 3"D 3"D	2.5" 2" 2.5"/1" 2" 1"/0.5"/1.5" 2"	6"	2	BLACK / WHITE	WHITE / BLACK	BLACK	2 MTD ON UP	6.25	12.50
SP-2	30"	18"		4"B 4"B	3.5" 3" 3.5"	N/A	2	WHITE	BLACK	BLACK	2 MTD W/OTHERS	3.75	7.50

NOTES:  
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.

**SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	58	205
PROJECT FILE NO.		608562	

**TRAFFIC SIGN SUMMARY**

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
WAY-1	24"	24"		2"D 2"D 2"D 2"D	3" 2" 2" 2" 3"	2"x3"@ 90°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-2	24"	24"		2"D 2"D 2"D 2"D	2.5" 2" 2" 2" 1.35"/.3"/1.35" 2.5"	2"x3"@ 90° 3"x2"@ 180°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-3	24"	18"		2"D 2"D 2"D	2.425" 2" 2.425"/.3"/2.425" 2.425"	2"x3"@ 90° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	3.00	3.00
WAY-4	24"	18"		2"D 2"D 2"D	2" 2" 2" 2"	2"x3"@ 90°	1	GREEN	WHITE	WHITE	P5-1	3.00	3.00
WAY-5	18"	12"		2"D 2"D	3" 2" 3"	2"x3"@ 90°	1	GREEN	WHITE	WHITE	1 MTD W/ WAY-4	1.50	1.50
WAY-6	24"	24"		2"D 2"D 2"D 2"D	2.5" 1.35"/.3"/1.35" 2" 2" 2" 2.5"	3"x2"@ 180° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-7	24"	30"		2"D 2"D 2"D 2"D 2"D	1.5" 2" 2" 2" 2" 1.35"/.3"/1.35" 2" 2" 1.5"	2"x3"@ 90° 3"x2"@ 180°	1	GREEN	WHITE	WHITE	P5-1	5.00	5.00
WAY-8	18"	12"		2"D 2"D	3" 2" 3"	3"x2"@ 0°	2	GREEN	WHITE	WHITE	P5-1 1 MTD W/ WAY-7	1.50	3.00





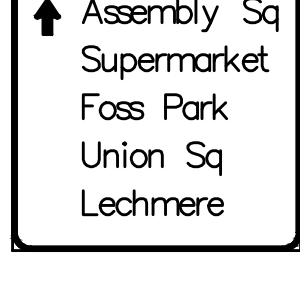
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
WAY-9	24"	6"		2"D	2" 2"	3"x2"@ 180°	1	GREEN	WHITE	WHITE	P5-1	1.00	1.00
WAY-10	24"	24"		2"D 2"D 2"D 2"D	1.5" 2.35"/.3"/1.35" 2" 2" 1.35"/.3"/1.35" 1.5"	2"x3"@ 90° 3"x2"@ 180° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-11	24"	18"		2"D 2"D 2"D	2.425" 2" 2.425"/.3"/2.425" 2.425"	2"x3"@ 90° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	3.00	3.00
WAY-12	24"	6"		2"D	2" 2"	3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	1.00	1.00
WAY-13	30"	18"		2"D 2"D 2"D	1" 2" 1.35"/.3"/1.35" 1.35"/.3"/1.35" 1"	2"x3"@ 90° 3"x2"@ 180° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	3.75	3.75
WAY-14	24"	24"		2"D 2"D 2"D 2"D	1.5" 2.35"/.3"/1.35" 2" 2" 1.35"/.3"/1.35" 1.5"	2"x3"@ 90° 3"x2"@ 180° 3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-15	24"	6"		2"D	2" 2"	3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	1.00	1.00
WAY-16	24"	12"		2"D 2"D	2" 2.35"/.3"/1.35" 2"	2"x3"@ 90° 3"x2"@ 180°	1	GREEN	WHITE	WHITE	P5-1	2.00	2.00

NOTES:  
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.

**SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	59	205
PROJECT FILE NO.		608562	

**TRAFFIC SIGN SUMMARY**

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
WAY-17	24"	18"		2"D 2"D 2"D 2"D	2" 2" 2" 2"	3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	3.00	3.00
WAY-18	24"	24"		2"D 2"D 2"D 2"D 2"D	3" 2" 2" 2" 3"	2"x3"@ 90°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-19	24"	18"		2"D 2"D 2"D 2"D	2" 2" 2" 2"	3"x2"@ 0°	1	GREEN	WHITE	WHITE	P5-1	3.00	3.00
WAY-20	24"	24"		2"D 2"D 2"D 2"D 2"D	3" 2" 2" 2" 3"	3"x2"@ 180°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00
WAY-21	24"	24"		2"D 2"D 2"D 2"D 2"D	3" 2" 2" 2" 3"	2"x3"@ 90°	1	GREEN	WHITE	WHITE	P5-1	4.00	4.00

NOTES:  
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	60	205
PROJECT FILE NO.		608562	

TRAFFIC SIGN SUMMARY

EXISTING TRAFFIC SIGN SUMMARY			
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT
	WIDTH	HEIGHT	
RET D5-1a			TO ASSEMBLY SQUARE
RET D5-1b			TO ASSEMBLY SQUARE
RET D6-1			NORTH 93 38 MEDFORD CONCORD NH
R&S D6-2			SOUTH 93 38 SULLIVAN SQ BOSTON
R&S D6-3			SOUTH 93 38 SULLIVAN SQ BOSTON

EXISTING TRAFFIC SIGN SUMMARY			
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT
	WIDTH	HEIGHT	
RET D6-5			SOUTH 93 38 SULLIVAN SQ BOSTON
RET D6-6			NORTH 93 38 MEDFORD CONCORD NH
RET D8-1			SOUTH 93 BOSTON
R&S D8-2			28 SOUTH SOMERVILLE
R&S D8-3			28 SOUTH SOMERVILLE

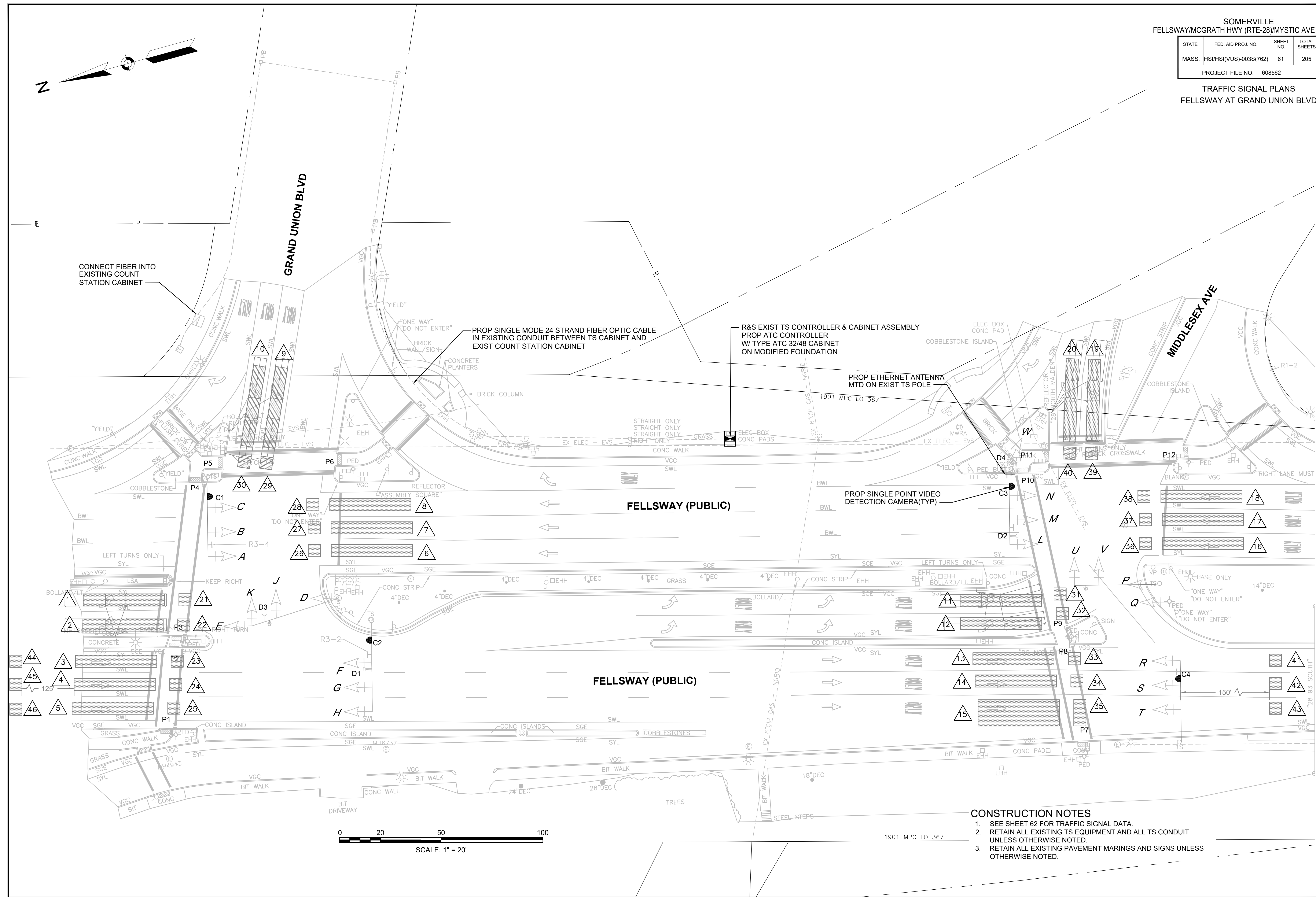
EXISTING TRAFFIC SIGN SUMMARY			
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT
	WIDTH	HEIGHT	
RET OD-1			28 SOUTH McGrath Hwy Somerville
RET OD-2			93 SOUTH Boston
RET OD-3			93 38 Medford Boston
RET OD-4			28 NORTH Malden

R&R D6-4			TO 28 SOUTH MCGRATH HWY SOMERVILLE
R&R GF-1			NORTH NORTH 93 38 Medford Concord NH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	61	205

PROJECT FILE NO. 608562

TRAFFIC SIGNAL PLANS  
 FELLSWAY AT GRAND UNION BLVD



SCALE: 1" = 20'

- CONSTRUCTION NOTES**
- SEE SHEET 62 FOR TRAFFIC SIGNAL DATA.
  - RETAIN ALL EXISTING TS EQUIPMENT AND ALL TS CONDUIT UNLESS OTHERWISE NOTED.
  - RETAIN ALL EXISTING PAVEMENT MARKINGS AND SIGNS UNLESS OTHERWISE NOTED.

Table with 4 columns: STATE, FED AID PROJ. NO., SHEET NO., TOTAL SHEETS. Values include MASS, HSI/HSI(VUS)-003S(762), 62, 205.

PROJECT FILE NO. 608562  
TRAFFIC SIGNAL PLANS  
FELLSWAY AT GRAND UNION BLVD

SEQUENCE & TIMING NOTES:

- 1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

EXISTING SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (COORDINATED)

Table showing signal timing and phases for various approaches (FELLSWAY, GRAND UNION, PEDESTRIAN) across four phases (Ø1, Ø2, Ø3, Ø4).

TIMING IN SECONDS

Table detailing timing parameters: MINIMUM GREEN (INITIAL), PASSAGE TIME (VEHICLE), MAXIMUM 1, MAXIMUM 2, YELLOW CLEARANCE, RED CLEARANCE, PEDESTRIAN INTERVAL.

CONFLICT FLASH OPERATION ONLY

Table for DETECTOR MEMORY and RECALL settings, including NON-LOCK and OFF options.

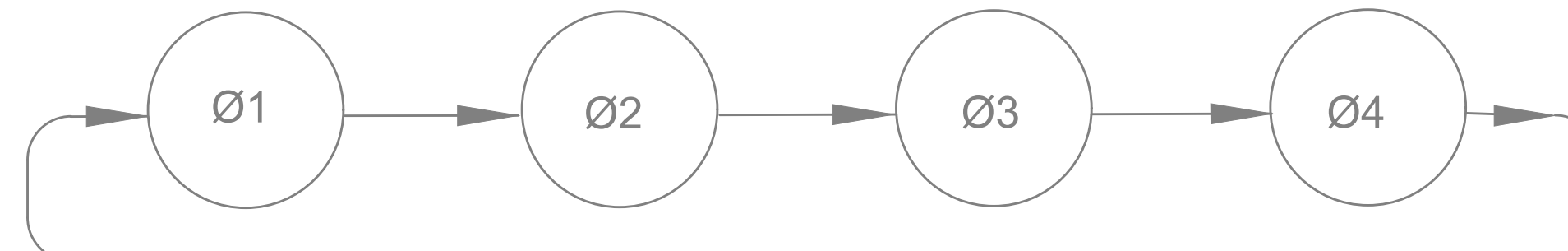
COORDINATION DATA

Table for COORDINATION PHASE SPLIT TIMES, showing TIMING PLAN, CYCLE, OFFSET, and COORD Ø for 21 ALL 5AM-10PM.

NOTES:

- 1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
2. \* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
3. OL = OVERLAP
4. Y = YIELD CONTROL
5. MAXIMUM 1 = NORMAL OPERATION
6. MAXIMUM 2 = NOT USED
7. Ø1 ON SHALL OMIT Ø3 & Ø4; Ø3 OR Ø4 CHECK SHALL CALL Ø2.
8. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
9. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.
10. NO FDW THRU YELLOW

EXISTING PREFERENTIAL PHASE SEQUENCE



\* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION

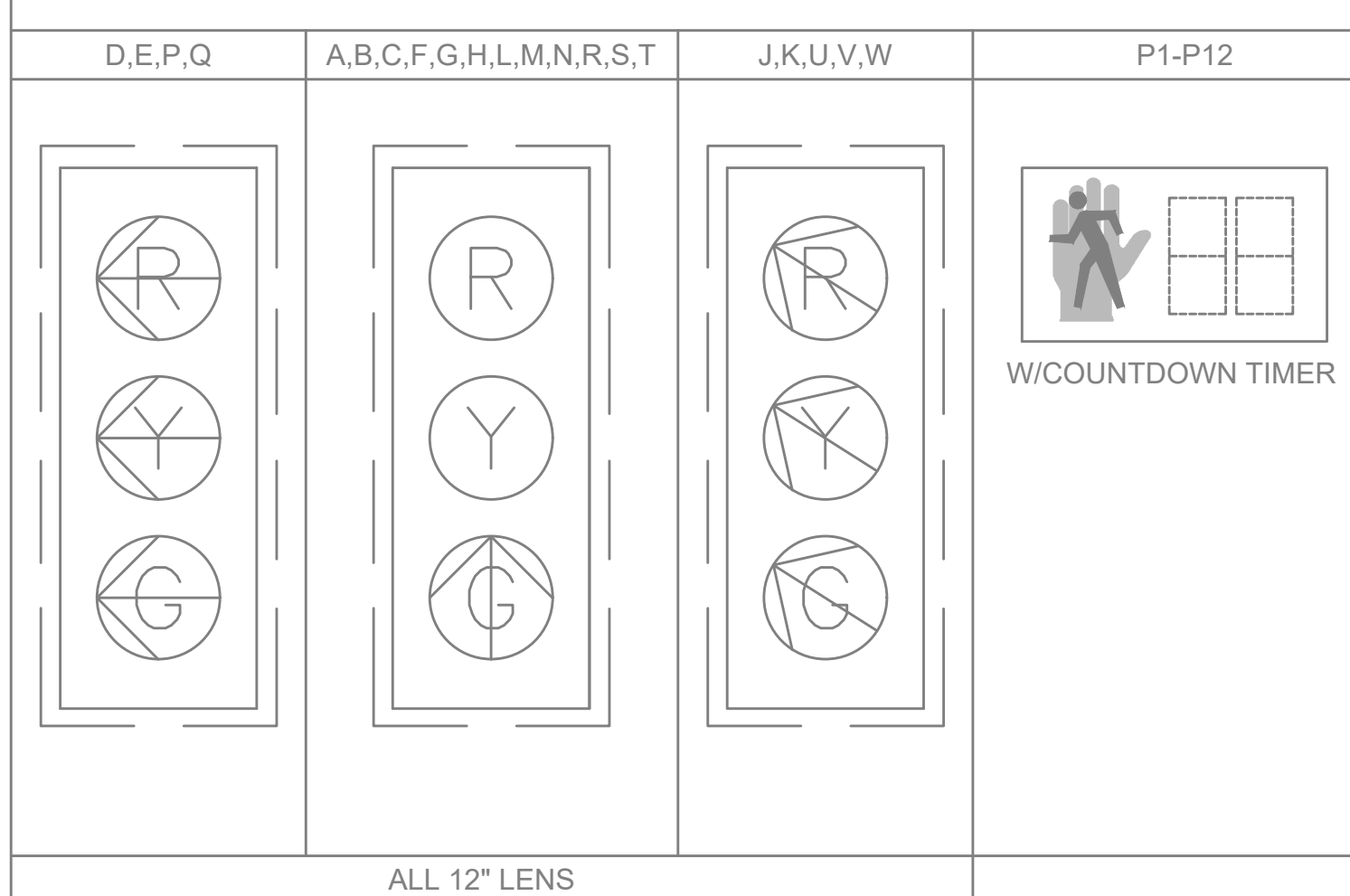
EXIST PRE-EMPTION PHASING & PRIORITY

Table detailing detector and priority information for pre-emption, including detector & priority, pre-empt phase assignment, movement, and vehicle phase assignment.

PROP/ EXIST EMERGENCY VEHICLE PRE-EMPTION OPERATION

- 1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ACTIVE.
6. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION AND ADAPTIVE CONTROL.

EXISTING SIGNAL HEAD DATA



PROPOSED DETECTION DATA

Table listing proposed detection data for various zones, including approach/lane, camera, delay, call phase, and adaptive control.

PROPOSED DETECTION DATA (CONT.)

Continuation of proposed detection data table, listing additional zones and their associated parameters.

NOTES:

- 1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING PROPOSED DETECTION ZONES AS SHOWN ON THE PLANS, AND ADJUSTING/READJUSTING DETECTION ZONES IN THE PRESENCE OF THE ENGINEER.
3. DETECTION ZONES SHALL RECORD VOLUME AND OCCUPANCY.

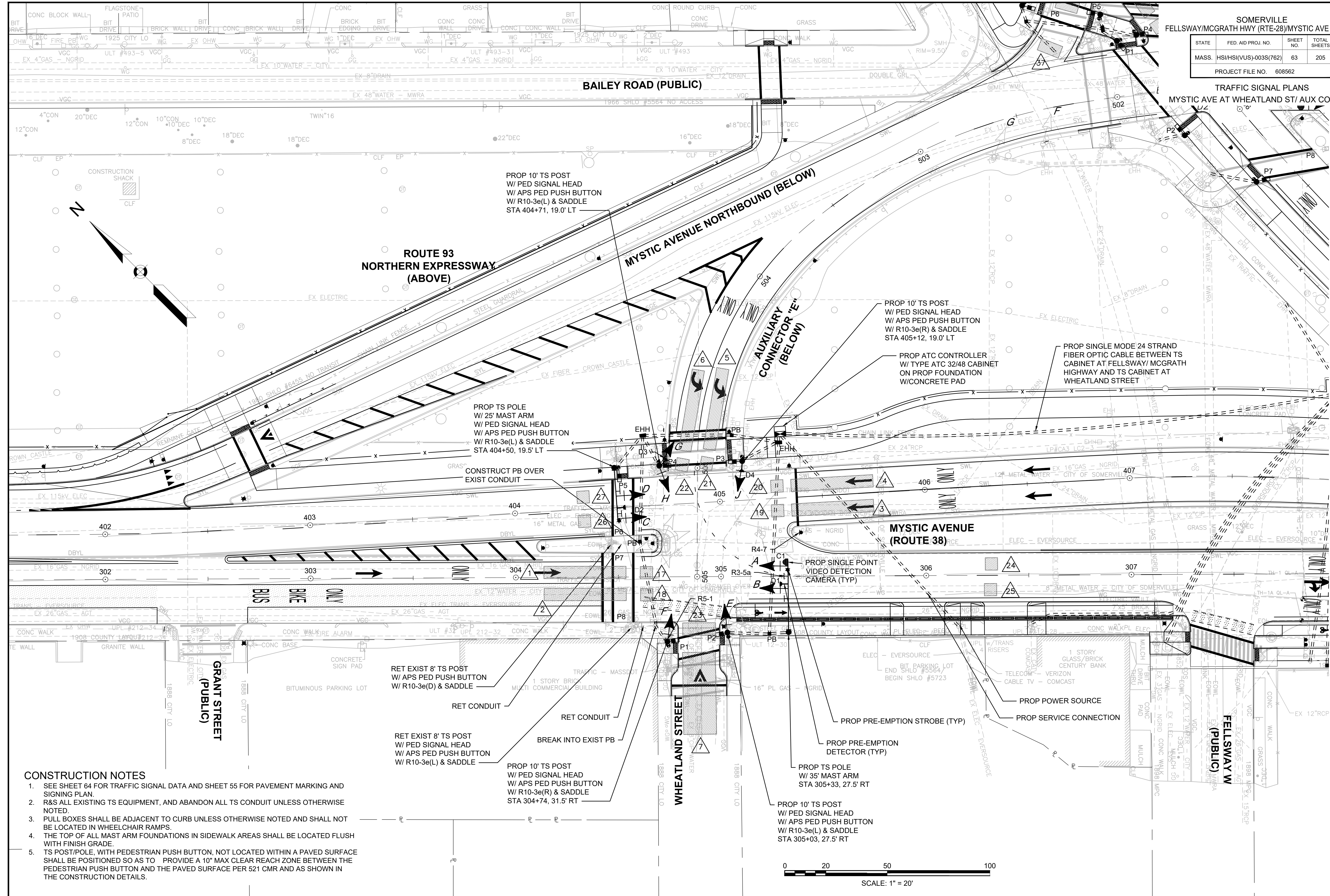
LIST OF MAJOR ITEMS REQUIRED

Table listing major items required for the project, including pay item, quantity, and description of equipment and materials.

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HS(VUS)-003S(762)	63	205
PROJECT FILE NO. 608562			

TRAFFIC SIGNAL PLANS  
MYSTIC AVE AT WHEATLAND ST/ AUX CONN "E"



**CONSTRUCTION NOTES**

- SEE SHEET 64 FOR TRAFFIC SIGNAL DATA AND SHEET 55 FOR PAVEMENT MARKING AND SIGNING PLAN.
- R&S ALL EXISTING TS EQUIPMENT, AND ABANDON ALL TS CONDUIT UNLESS OTHERWISE NOTED.
- PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMP.
- THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
- TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

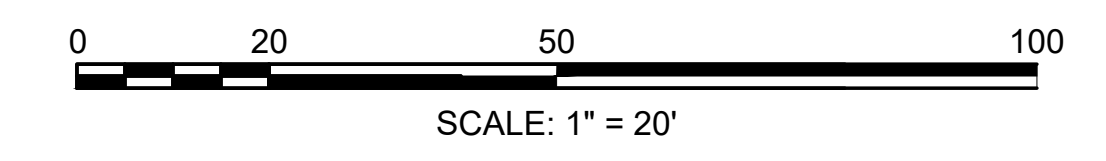


Table with 4 columns: STATE, FED. AID PROJ. NO., SHEET NO., TOTAL SHEETS. Row 1: MASS., HSI/HSI(VUS)-003S(762), 64, 205. PROJECT FILE NO. 608562

TRAFFIC SIGNAL PLANS  
MYSTIC AVE AT WHEATLAND ST/ AUX CONN "E"

SEQUENCE & TIMING NOTES:

- 1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

PROP EMERGENCY VEHICLE PRE-EMPTION OPERATION

- 1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ACTIVE.
6. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION AND ADAPTIVE CONTROL.

PROP PRE-EMPTION PHASING & PRIORITY

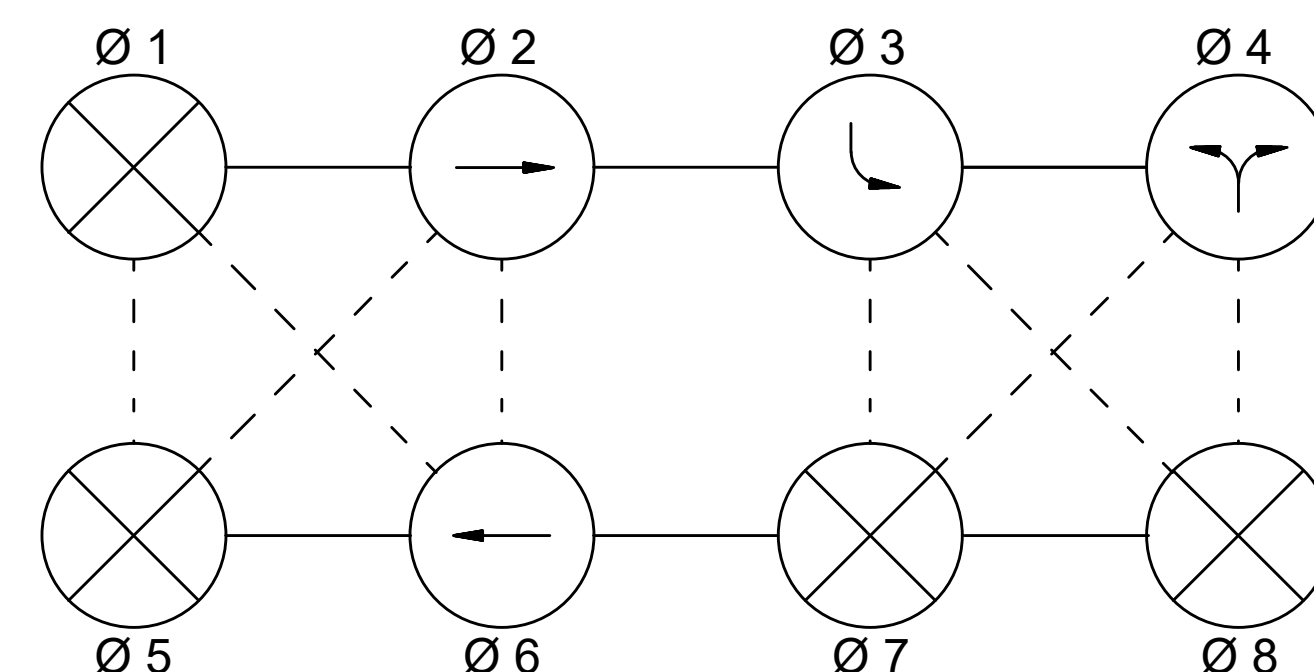
Table with 4 columns: DETECTOR & PRIORITY, PRE-EMPT PHASE ASSIGNMENT, MOVEMENT, VEHICLE PHASE ASSIGNMENT. Rows for D1-D4.

SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (COORDINATED)

Main timing and sequence table with columns for phase numbers (ø1-ø9) and various signal phases like DW, W/FDW, FR, Y, R, G.

- NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
2. \* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
3. MAXIMUM 1 = NORMAL OPERATION
4. MAXIMUM 2 = NOT USED
5. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
6. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.

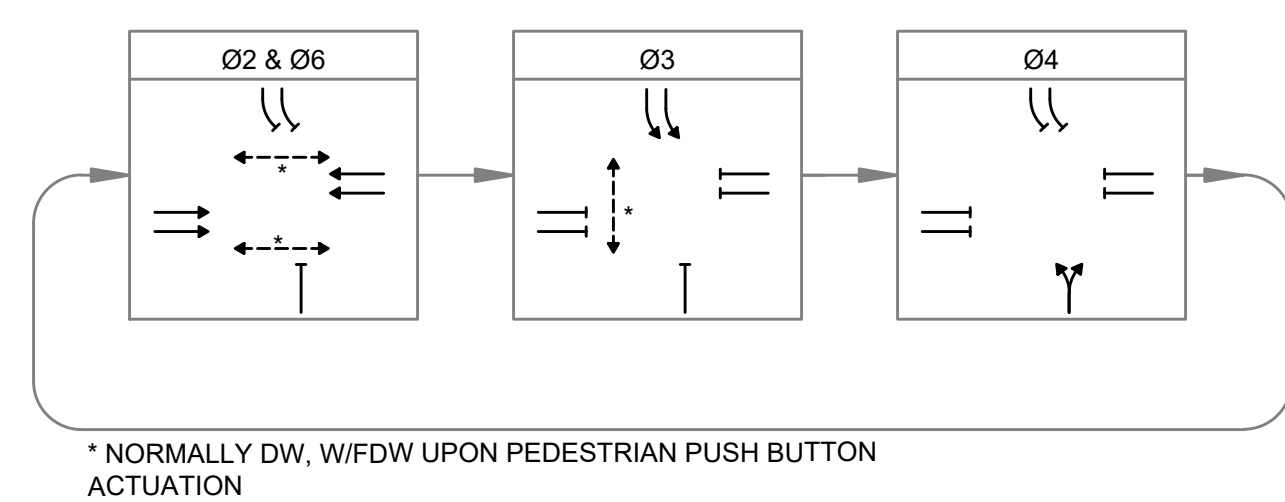
PROPOSED NEMA DUAL RING PHASING NOTES



NOTES:

- 1. PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.
5. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
6. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
7. FLASHING OPERATION IS FOR EMERGENCY ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY.
8. PEDESTRIAN PHASE UPON PUSHBUTTON ACTIVATION ONLY.
9. FLASHING DON'T WALK TO END AT THE END OF GREEN OF CONCURRENT VEHICULAR PHASE.

PROP PREFERENTIAL PHASE SEQUENCE



\* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION

PROPOSED DETECTION DATA

Table with 6 columns: DETECTION ZONE, APPROACH/LANE, CAMERA, DELAY /EXT, CALL PHASE, ADAPTIVE CONTROL. Lists detection zones 1 through 27.

- NOTES:
1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING PROPOSED DETECTION ZONES AS SHOWN ON THE PLANS, AND ADJUSTING/READJUSTING DETECTION ZONES IN THE PRESENCE OF THE ENGINEER.
3. DETECTION ZONES SHALL RECORD VOLUME AND OCCUPANCY.

EXIST/PROP SIGNAL HEAD DATA

Table showing signal head data for different lens types (12", 16") and configurations (A,B,C,D; H,J; E,F,G; P1-P5; P6-P8).

- NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
2. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"x3" NON-LOUVERED BACKPLATES.
3. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
4. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
5. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

PEER TO PEER SYSTEM OPERATION

- 1. THE TRAFFIC SIGNAL CONTROLLER AT MYSTIC AVE/ AUX CONN "E"/ WHEATLAND ST SHALL BE CONFIGURED WITH PEER TO PEER SIGNAL OPERATION TO OPERATE WITH THE TRAFFIC SIGNAL CONTROLLER AT FELLSWAY/ MYSTIC AVE- CONN "H" / MCGRATH HWY.
2. PEER TO PEER PROGRAM INSTALLED IN EACH OF THE TWO CONTROLLERS SHALL BE CONFIGURED IN SUCH A WAY AS TO RESULT IN THE SIMULTANEOUS START OF THE YELLOW INTERVAL FOR AUX CONN "E" (Ø3) AT MYSTIC AVE/ AUX CONN "E"/ WHEATLAND ST WITH START OF THE YELLOW INTERVAL FOR MYSTIC AVE EB (Ø10) AT FELLSWAY/ MYSTIC AVE - CONN "H"/ MCGRATH HWY.
3. THE START OF THE YELLOW INTERVAL FOR MYSTIC AVE EB (Ø10) AT FELLSWAY/ MYSTIC AVE- CONN "H"/ MCGRATH HWY SHALL RELEASE THE CONTROLLER TO START THE YELLOW INTERVAL AT MYSTIC AVE/ AUX CONN "E"/ WHEATLAND ST (Ø3).
4. THE PEER TO PEER SYSTEM SHALL BE PROGRAMMED TO RELEASE THE HOLD ON Ø3 AT MYSTIC AVE/ AUX CONN "E"/ WHEATLAND ST AFTER XX SECONDS UNDER THE CONDITION THAT THERE IS NO CALL ON Ø10 AT FELLSWAY/ MYSTIC AVE - CONN "H"/ MCGRATH HWY.

LIST OF MAJOR ITEMS REQUIRED

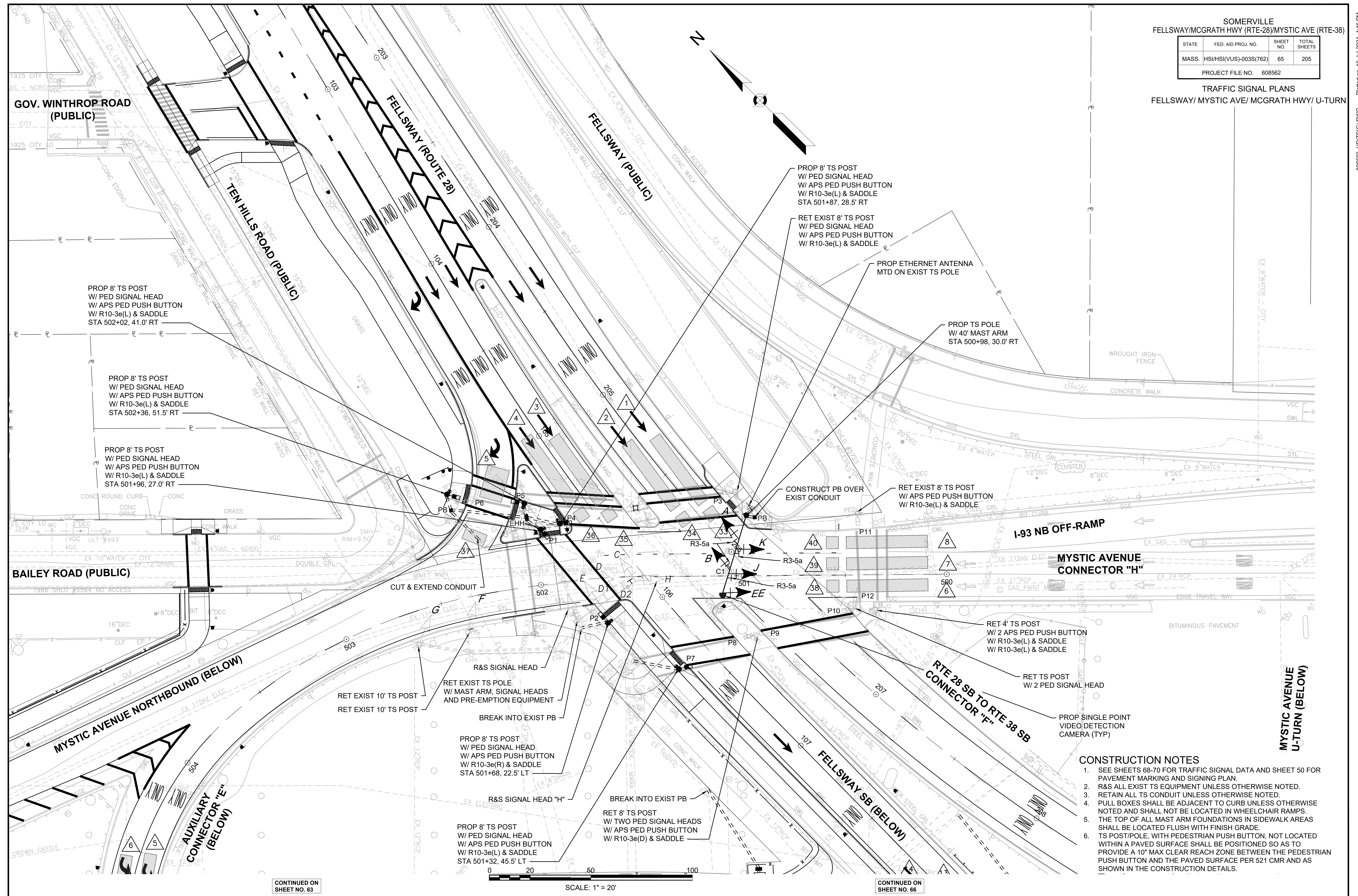
Table with 3 columns: PAY ITEM, QUANTITY, DESCRIPTION. Lists items like ATC controller, video detection system, signal heads, pedestrian signal heads, etc.

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/VUS-003S(762)	65	205

PROJECT FILE NO. 608562



- CONSTRUCTION NOTES**
- SEE SHEETS 68-70 FOR TRAFFIC SIGNAL DATA AND SHEET 50 FOR PAVEMENT MARKING AND SIGNING PLAN.
  - R&S ALL EXIST TS EQUIPMENT UNLESS OTHERWISE NOTED.
  - RETAIN ALL TS CONDUIT UNLESS OTHERWISE NOTED.
  - PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
  - THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
  - TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10' MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

CONTINUED ON SHEET NO. 63

SCALE: 1" = 20'

CONTINUED ON SHEET NO. 66

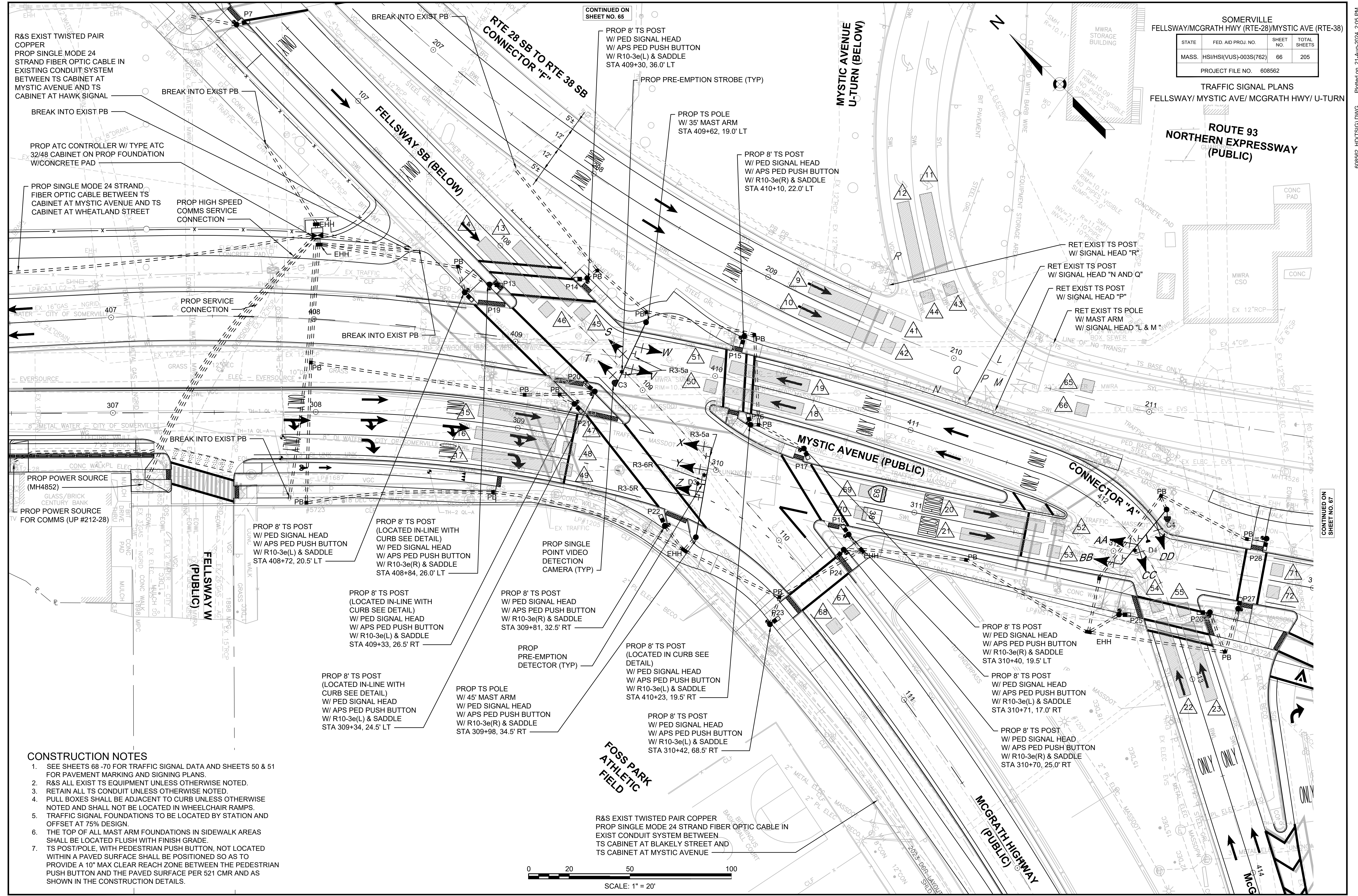
SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	66	205

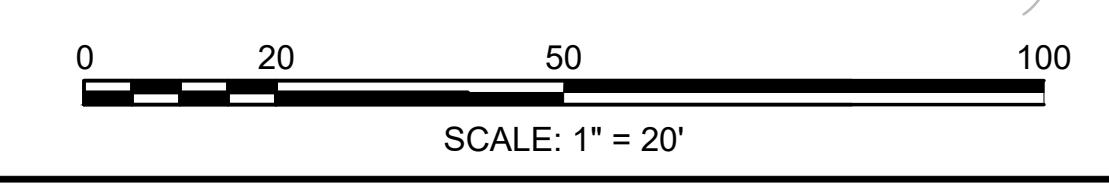
PROJECT FILE NO. 608562

TRAFFIC SIGNAL PLANS  
FELLSWAY/MYSTIC AVE/ MCGRATH HWY/ U-TURN

ROUTE 93  
NORTHERN EXPRESSWAY  
(PUBLIC)



- CONSTRUCTION NOTES**
- SEE SHEETS 68-70 FOR TRAFFIC SIGNAL DATA AND SHEETS 50 & 51 FOR PAVEMENT MARKING AND SIGNING PLANS.
  - R&S ALL EXIST TS EQUIPMENT UNLESS OTHERWISE NOTED.
  - RETAIN ALL TS CONDUIT UNLESS OTHERWISE NOTED.
  - PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
  - TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET AT 75% DESIGN.
  - THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
  - TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

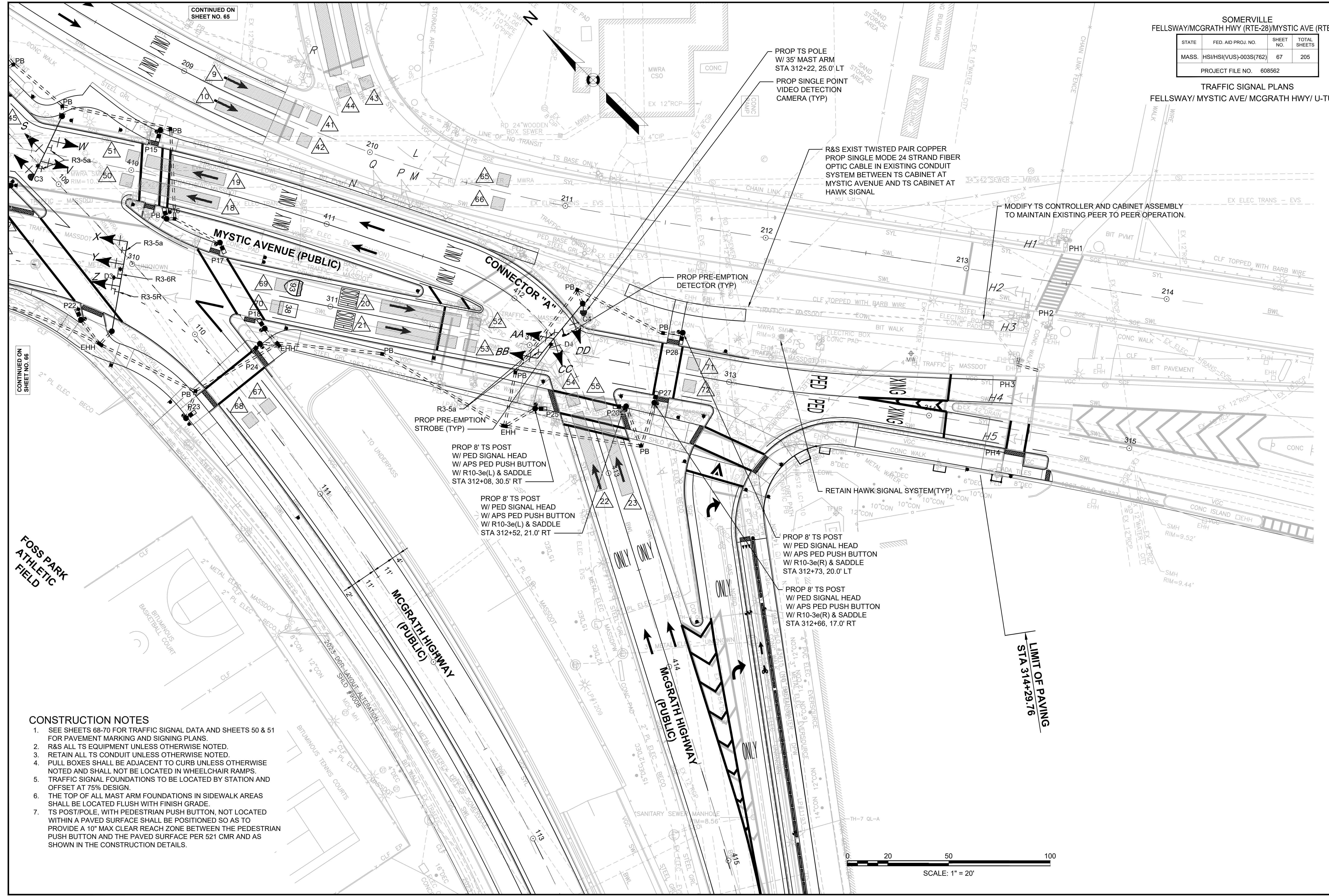


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CONTINUED ON SHEET NO. 67

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	67	205

PROJECT FILE NO. 608562



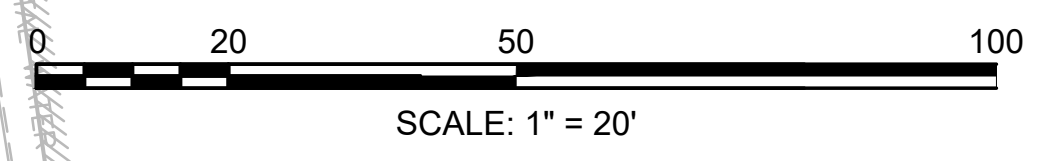
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CONTINUED ON SHEET NO. 65

**FOSS PARK ATHLETIC FIELD**

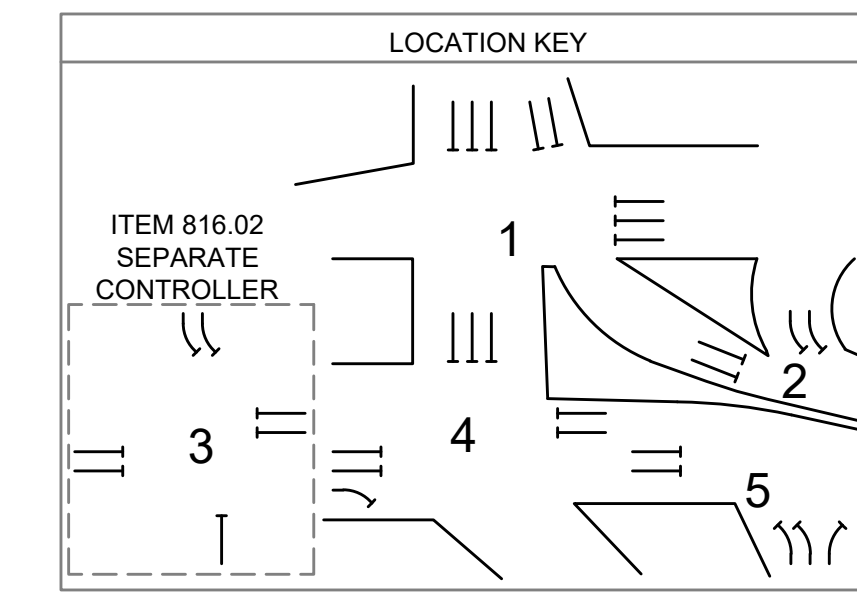
**CONSTRUCTION NOTES**

- SEE SHEETS 68-70 FOR TRAFFIC SIGNAL DATA AND SHEETS 50 & 51 FOR PAVEMENT MARKING AND SIGNING PLANS.
- R&S ALL TS EQUIPMENT UNLESS OTHERWISE NOTED.
- RETAIN ALL TS CONDUIT UNLESS OTHERWISE NOTED.
- PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
- TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET AT 75% DESIGN.
- THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
- TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.



STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	68	205
PROJECT FILE NO. 608562			

TRAFFIC SIGNAL PLANS  
FELLSWAY/ MYSTIC AVE/ MCGRATH HWY/ U-TURN



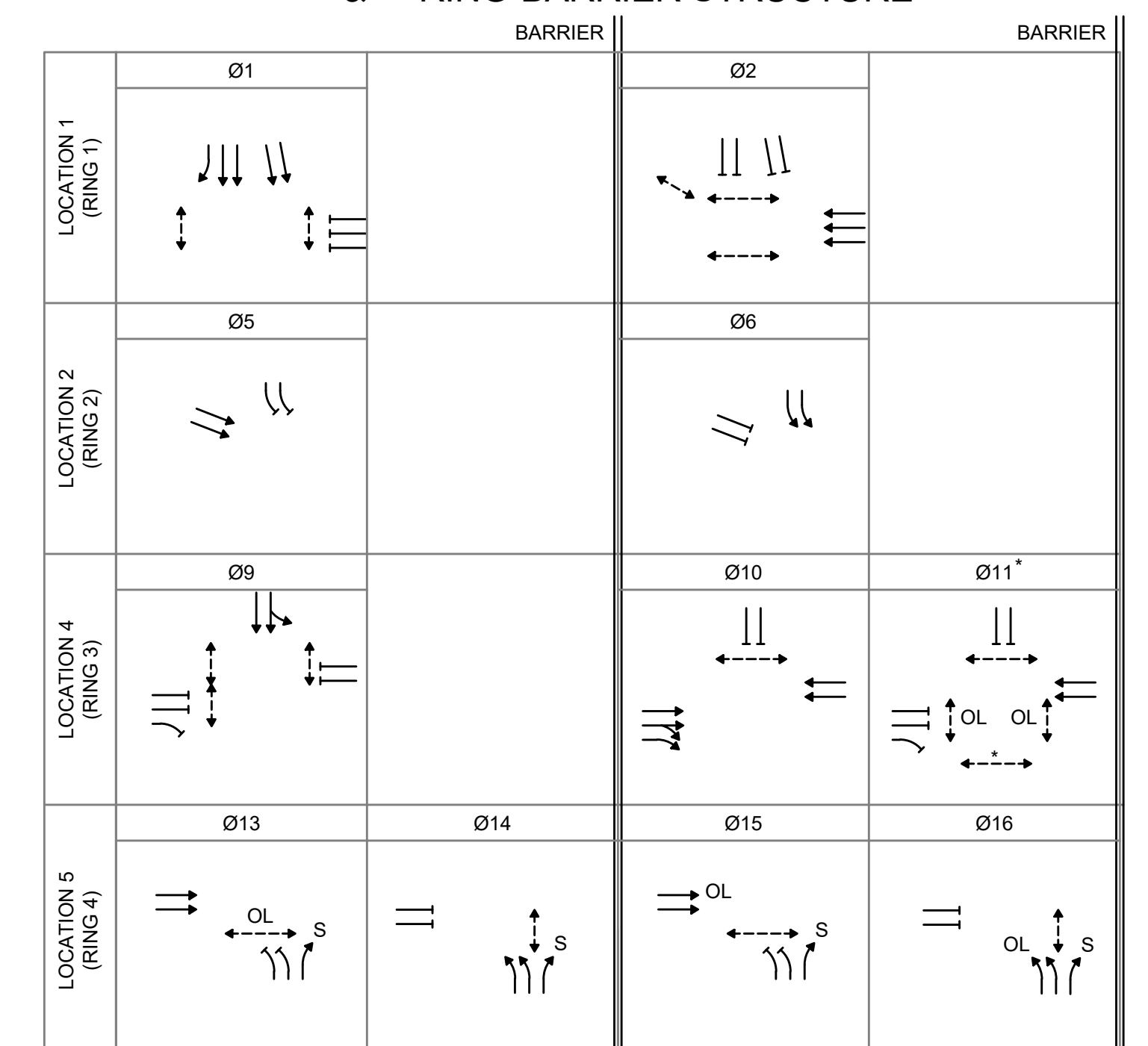
ITEM 816.02 SEPARATE CONTROLLER

- PEER-TO-PEER OPERATION NOTES:
- THE TRAFFIC SIGNAL CONTROLLER SHALL BE SUPPLIED AND INSTALLED WITH A PEER-TO-PEER COMMUNICATIONS AND CONTROL SYSTEM, WHICH SHALL ALLOW FOR CONTROLLERS TO SHARE INFORMATION WITH ONE ANOTHER AND PROVIDE CONDITIONAL CONTROL STRATEGIES, INDEPENDENT OF A CENTRAL MANAGEMENT SYSTEM. PEER-TO-PEER AND CONTROLLER LOGIC PROCESSOR PARAMETERS SHALL BE PRE-PROGRAMMED BY THE CONTRACTOR. THIS INCLUDES, BUT NOT LIMITED TO, PEER NUMBER, LABEL, PEER IP ADDRESS, UDP PORT, PUBLISHER/SUBSCRIBER SETTINGS, TIMEOUT, AND ALL CONDITIONAL LOGIC CONTROL STATEMENT SETTINGS REQUIRED TO SUPPORT THE SIGNAL OPERATION AS DEFINED ON THE TRAFFIC PLAN. ALL SETTINGS SHALL BE DOCUMENTED AND INCLUDED WITH THE REQUIRED DATABASE DOCUMENTATION SUPPLIED WITH EACH CABINET.
  - THE PEER-TO-PEER SYSTEM SHALL ONLY ALLOW Ø2 TO BE SERVICED AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH AT THE START OF Ø6 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/U-TURN. THE RELEASE CONTROL SHALL BE USER-PROGRAMMABLE AND INITIALLY SET AT 3 SECONDS AT THE START OF Ø6 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/U-TURN. DURING WHICH TIME THE PEDESTRIAN CALL IS ALLOWED TO BE SERVICED. ANY Ø2 PEDESTRIAN CALL AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH RECEIVED AFTER THE 3 SECOND RELEASE CONTROL SIGNAL SHALL BE HELD UNTIL THE NEXT START OF Ø6 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/U-TURN.
  - DURING AN ACTIVE PRE-EMPTION EVENT AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/U-TURN, Ø2 SHALL BE OMITTED AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH UNTIL THE PRE-EMPTION EVENT IS FINISHED.
  - THE CONTROLLER SHALL HAVE A FRONT PANEL, REAL TIME STATUS SCREEN THAT SHALL ALLOW THE USER TO MONITOR AND DETERMINE THAT THE REQUIRED PEER-TO-PEER OPERATION IS ACTIVE AND FULLY OPERATIONAL.

SEQUENCE & TIMING NOTES:

- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

PREFERENTIAL PHASE SEQUENCE & RING-BARRIER STRUCTURE



SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (COORDINATED)

APPROACH	DIRECTION	HOUSING	LOCATION 1 (RING 1)				LOCATION 2 (RING 2)				LOCATION 4 (RING 3)				LOCATION 5 (RING 4)				FLASH										
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17	18	19	20	21	22	23	24		
LOCATION 1																													
FELLSWAY	SB	A,B,C,D,E	Y	R	R	R																							FY
FELLSWAY	SB	F,G		Y	R	R	R																						FY
MYSTIC AVE/CONN "H"	WB	J,K,EE	R	R	R	Y	R																						FR
PEDESTRIAN	NB-SB	P1,P2,P11,P12	W/FDW	DW	DW	DW	DW																						OUT
PEDESTRIAN	EB-WB	P13,P14,P9,P10	DW	DW	DW	W/FDW	DW																						OUT
LOCATION 2																													
CONNECTOR "F"	SB	L,M,N					Y	R			R	R	R																FY
MYSTIC AVE U-TURN	WB	P,Q,R					R	R	R		Y	R																	FR
LOCATION 4																													
FELLSWAY	SB	S																											FY
FELLSWAY	SB	T																											FY
MYSTIC AVE CONN "A"	WB	V,W																											FR
MYSTIC AVE	EB	X																											
MYSTIC AVE	EB	Y																											
MYSTIC AVE	EB	Z																											
PEDESTRIAN	NB-SB	P15-P16,P19-P20																											OUT
PEDESTRIAN	NB-SB	P21,P22																											OUT
PEDESTRIAN	EB-WB	P17,P18																											OUT
PEDESTRIAN	NB-SB	P23,P24																											OUT
PEDESTRIAN	NB-SB	P13,P14																											OUT
LOCATION 5																													
MYSTIC AVE	EB	AA,BB																											FY
MCGRATH HWY	NB	CC,DD																											FR
PEDESTRIAN	EB-WB	P25,P26																											OUT
PEDESTRIAN	NB-SB	P27,P28																											OUT

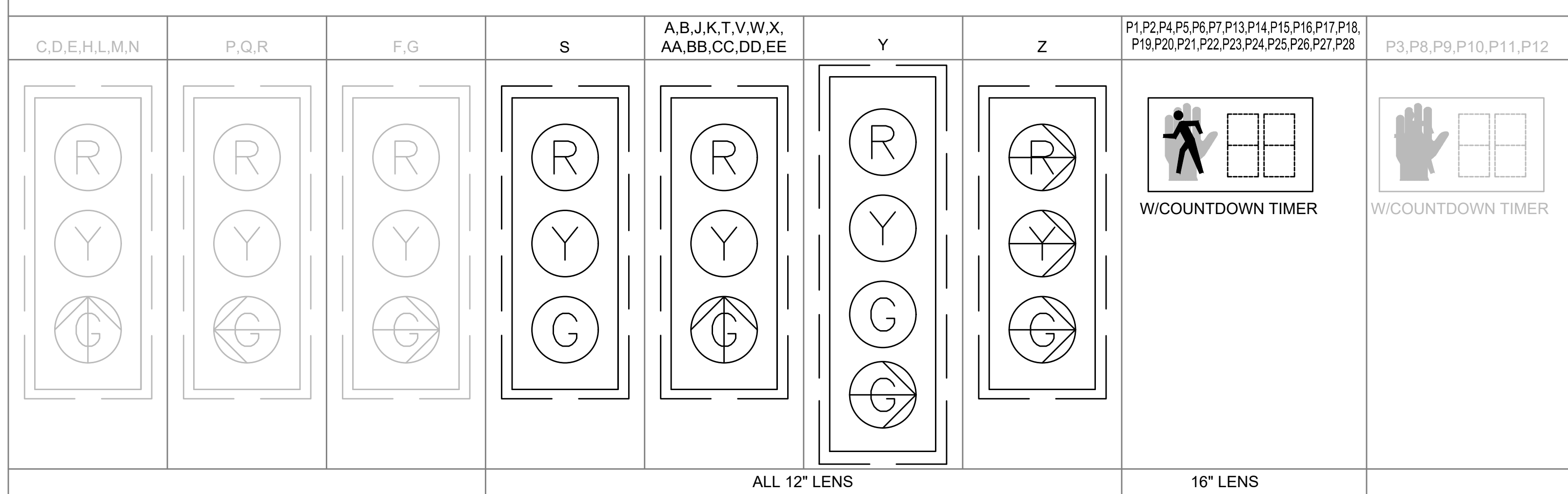
	TIMING IN SECONDS																												CONFLICT FLASH OPERATION ONLY		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	19	20	21	22		23	24
MINIMUM GREEN (INITIAL)	10			6			10			6			10			6			6			6			6			6			
PASSAGE TIME (VEHICLE)	2			2			2			2			2			2			2			2			2			2			
MAXIMUM 1	50			40			50			40			50			20			15			30			15			10			
MAXIMUM 2	-			-			-			-			-			-			-			-			-			-			
YELLOW CLEARANCE		4		3.5			4			3			4			3.5			3.5			3.5			3.5			3.5			
RED CLEARANCE			6		2.5			1			2.5			4		2			3			3			3.5			3			
PEDESTRIAN WALK	7			7			-			-			7			7			7			7			7			7			
PEDESTRIAN CLEARANCE	10			21			-			-			11			7			10			15			8			15			

	NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK															
DETECTOR MEMORY	NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK				NON-LOCK							
RECALL	OFF				OFF				OFF				OFF				MIN				OFF				OFF				MIN				OFF				OFF				OFF			

COORDINATION DATA			COORDINATION PHASE SPLIT TIMES											
TIMING PLAN	CYCLE	OFFSET	Ø1	Ø2	Ø5	Ø6	Ø9	Ø10	Ø11(PED/BIKE)	Ø13	Ø14	Ø15	Ø16	
1/1/1 M-F 6AM-10AM	120	44	65	55	65	55	65	34	21	46	19	25	30	
2/1/1 M-F 3PM-7PM	100	0	54	46	54	46	54	25	21	37	17	16	30	
MODE								COORD Ø						

- NOTES:
- AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
  - \* UPON PEDESTRIAN PUSH BUTTON ACTUATION
  - OL = OVERLAP
  - MAXIMUM 1 = NORMAL OPERATION
  - MAXIMUM 2 = NOT USED
  - STOP AND GO OPERATION FOR 24 HOURS PER DAY.
  - FLASHING OPERATION FOR EMERGENCY ONLY.
  - DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.
  - S = STOP

EXIST/PROP SIGNAL HEAD DATA



- SIGNAL HEAD DATA NOTES:
- ALL PROP SIGNAL HEADS SHALL BE RIGID MOUNTED.
  - ALL PROP SIGNAL HEADS SHALL BE EQUIPPED WITH 5 1/2\"/>

**PROPOSED DETECTION DATA**

DETECTION ZONE	APPROACH/LANE	CAMERA	DELAY /EXT	CALL PHASE	ADAPTIVE CONTROL
1	FELLSWAY SB LEFT SPLIT THRU LANE (LEFT)	C1	0	Ø1	-
2	FELLSWAY SB LEFT SPLIT THRU LANE (RIGHT)	C1	0	Ø1	-
3	FELLSWAY SB RIGHT SPLIT THRU LANE (LEFT)	C1	0	Ø1	-
4	FELLSWAY SB RIGHT SPLIT THRU LANE (RIGHT)	C1	0	Ø1	-
5	FELLSWAY SB RIGHT-TURN LANE	C1	0	Ø1	-
6	MYSTIC AVE NB THRU LANE (LEFT)	C1	0	Ø2	-
7	MYSTIC AVE NB THRU LANE (CENTER)	C1	0	Ø2	-
8	MYSTIC AVE NB THRU LANE (RIGHT)	C1	0	Ø2	-
9	CONNECTOR "F" THRU LANE (LEFT)	C2	0	Ø5	-
10	CONNECTOR "F" THRU LANE (RIGHT)	C2	0	Ø5	-
11	MYSTIC AVE U-TURN LEFT LANE (LEFT)	C2	0	Ø6	-
12	MYSTIC AVE U-TURN LEFT LANE (RIGHT)	C2	0	Ø6	-
13	FELLSWAY SB LEFT/THRU LANE	C3	0	Ø9	-
14	FELLSWAY SB THRU LANE	C3	0	Ø9	-
15	MYSTIC AVE SB THRU LANE	C3	0	Ø10	-
16	MYSTIC AVE SB THRU/RIGHT LANE	C3	0	Ø10	-
17	MYSTIC AVE SB RIGHT-TURN LANE	C3	0	Ø10	-
18	MYSTIC AVE NB THRU LANE (LEFT)	C3	0	Ø10	-
19	MYSTIC AVE NB THRU LANE (RIGHT)	C3	0	Ø10	-
20	MYSTIC AVE SB THRU LANE (LEFT)	C4	0	Ø13	-
21	MYSTIC AVE SB THRU LANE (RIGHT)	C4	0	Ø13	-
22	MCGRATH HWY LEFT LANE (LEFT)	C4	0	Ø14	-
23	MCGRATH HWY LEFT LANE (RIGHT)	C4	0	Ø14	-

**PROPOSED DETECTION DATA (CONT)**

DETECTION ZONE	APPROACH/LANE	CAMERA	DELAY /EXT	CALL PHASE	ADAPTIVE CONTROL
33	FELLSWAY SB LEFT SPLIT THRU LANE (LEFT)	C1	0	-	Ø1
34	FELLSWAY SB LEFT SPLIT THRU LANE (RIGHT)	C1	0	-	Ø1
35	FELLSWAY SB RIGHT SPLIT THRU LANE (LEFT)	C1	0	-	Ø1
36	FELLSWAY SB RIGHT SPLIT THRU LANE	C1	0	-	Ø1
37	FELLSWAY SB RIGHT-TURN LANE	C1	0	-	Ø1
38	MYSTIC AVE NB THRU LANE (LEFT)	C1	0	-	Ø2
39	MYSTIC AVE NB THRU LANE (CENTER)	C1	0	-	Ø2
40	MYSTIC AVE NB THRU LANE (RIGHT)	C1	0	-	Ø2
41	CONNECTOR "F" THRU LANE (LEFT)	C2	0	-	Ø5
42	CONNECTOR "F" THRU LANE (RIGHT)	C2	0	-	Ø5
43	MYSTIC AVE U-TURN LEFT LANE (LEFT)	C2	0	-	Ø6
44	MYSTIC AVE U-TURN LEFT LANE (RIGHT)	C2	0	-	Ø6
45	FELLSWAY SB LEFT/THRU LANE	C3	0	-	Ø9
46	FELLSWAY SB THRU LANE	C3	0	-	Ø9
47	MYSTIC AVE SB THRU LANE	C3	0	-	Ø10
48	MYSTIC AVE SB THRU/RIGHT LANE	C3	0	-	Ø10
49	MYSTIC AVE SB RIGHT-TURN LANE	C3	0	-	Ø10
50	MYSTIC AVE NB THRU LANE (LEFT)	C3	0	-	Ø10
51	MYSTIC AVE NB THRU LANE (RIGHT)	C3	0	-	Ø10
52	MYSTIC AVE SB THRU LANE (LEFT)	C4	0	-	Ø13
53	MYSTIC AVE SB THRU LANE (RIGHT)	C4	0	-	Ø13
54	MCGRATH HWY LEFT LANE (LEFT)	C4	0	-	Ø14
55	MCGRATH HWY LEFT LANE (RIGHT)	C4	0	-	Ø14
65	U-TURN / CONN F DEPARTURE (LEFT)	C2	0	-	SYSTEM
66	U-TURN / CONN F DEPARTURE (RIGHT)	C2	0	-	SYSTEM
67	MCGRATH HWY SB DEPARTURE (LEFT)	C3	0	-	SYSTEM
68	MCGRATH HWY SB DEPARTURE	C3	0	-	SYSTEM
69	MYSTIC AVE SB DEPARTURE (LEFT)	C4	0	-	SYSTEM
70	MYSTIC AVE SB DEPARTURE (RIGHT)	C4	0	-	SYSTEM
71	MYSTIC AVE SB AT CONN "A" DEPARTURE (LEFT)	C4	0	-	SYSTEM
72	MYSTIC AVE SB AT CONN "A" DEPARTURE (RIGHT)	C4	0	-	SYSTEM

**PROPOSED PRE-EMPTION PHASING & PRIORITY**

DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGNMENT	MOVEMENT	VEHICLE PHASE ASSIGNMENT	HOLD DURATION
D1, D2	1		Ø1, Ø5, Ø9, Ø13	7 SECONDS
D3	2		Ø10, Ø13	7 SECONDS
D4	3		Ø10, Ø14	7 SECONDS

**EMERGENCY VEHICLE PRE-EMPTION OPERATION**

- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
- PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
- IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
- NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
- PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ACTIVE.
- EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION AND ADAPTIVE CONTROL.

**SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	69	205
PROJECT FILE NO. 608562			

**TRAFFIC SIGNAL PLANS  
FELLSWAY/ MYSTIC AVE/ MCGRATH HWY/ U-TURN**

**LIST OF MAJOR ITEMS REQUIRED**

FELLSWAY/MYSTIC AVENUE/MCGRATH HIGHWAY/U-TURN

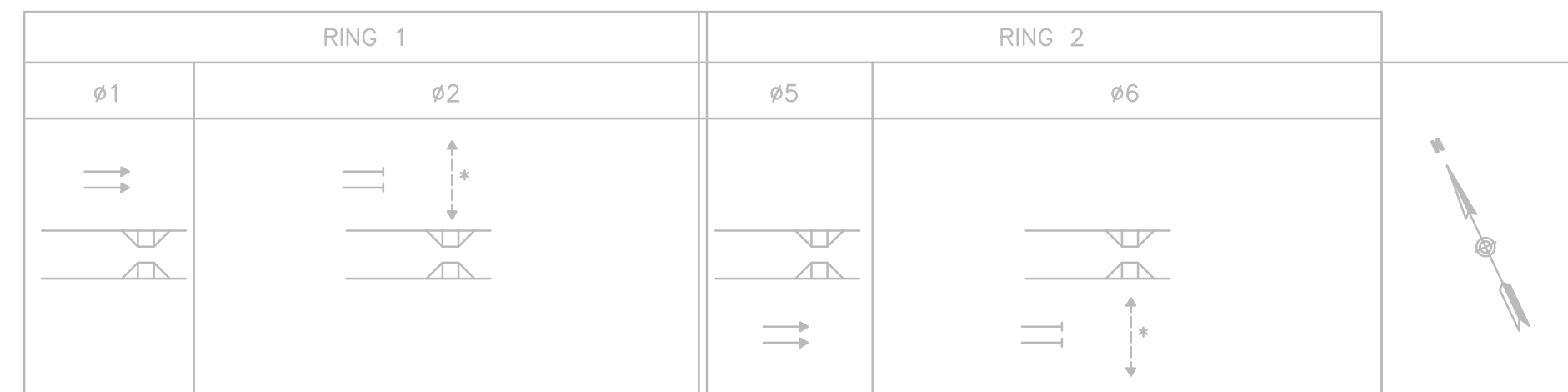
PAY ITEM	QUANTITY	DESCRIPTION
	1	ATC CONTROLLER W/ TYPE ATC 32/48 CABINET WITH INTERNAL ADAPTIVE CONTROL BY CYCLE/SPLIT/OFFSET ON MODIFIED FOUNDATION AND CONCRETE PAD (SEE NOTE 1)
	1	ADAPTIVE OPERATION ELEMENTS (HARDWARE/SOFTWARE) W/LICENSE
	1	MODIFY TS CONTROLLER AND CABINET ASSEMBLY AT CONNECTOR "F" AND MYSTIC AVE NORTHBOUND TO MAINTAIN EXISTING PEER TO PEER OPERATION. (SEE SHEET 70)
	1	ETHERNET SWITCH
	1	SINGLE POINT VIDEO DETECTION SYSTEM (4 CAMERAS, VDP & CABLES)
	1	TSP LICENSE
	2	TS 35' MAST ARM TYPE 2, STEEL, INCL. FOUNDATION
	1	TS 40' MAST ARM TYPE 2, STEEL, INCL. FOUNDATION
	1	TS 45' MAST ARM TYPE 2, STEEL, INCL. FOUNDATION
	22	TS POST 8' STANDARD INCL. FOUNDATION
	15	SIGNAL HEAD, 3-SECTION, 12" LENSES
	1	SIGNAL HEAD, 4 SECTION, 12" LENSES
	22	PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER
	14	PEDESTRIAN PUSH BUTTON W/R10-3e(L) AND SIGN SADDLE
	8	PEDESTRIAN PUSH BUTTON W/R10-3e(R) AND SIGN SADDLE
	2	EMERGENCY PRE-EMPTION OPTICAL DETECTORS & DETECTOR CABLE
	1	EMERGENCY PRE-EMPTION 4 CHANNEL PHASE SELECTOR
	1	EMERGENCY PRE-EMPTION SYSTEM CHASSIS
	3	EMERGENCY PRE-EMPTION STROBE (WHITE LENS)
	1	SERVICE CONNECTION (UNDERGROUND)
	1	FIBER OPTIC PATCH PANEL
	1	FIBER OPTIC ETHERNET SWITCH, 8-PAIR
	1	HIGH SPEED COMMUNICATIONS CONVERTER & ROUTER
	1	WIRELESS COMMUNICATION SYSTEM (1 ANTENNA, 1 ETHERNET RADIO UNIT INTERFACE TO DSL CONNECTION & CABLES)
804.3	2080±	3" CONDUIT, SCHEDULE 80, TYPE NM
811.22	6	13"x24" ELECTRIC HANDHOLE-SD2.022
811.31	18	PULL BOX-12"x12"
813.792	1320±	SINGLE MODE 24 STRAND FIBER OPTIC CABLE

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

**NOTE:**

- THE TWO RACKS SUPPLIED WITH THE CABINET SHALL SUPPORT THE FIRST 48 INPUT CHANNELS. INPUT CHANNELS 49 TO 120 SHALL BE SUPPORTED BY THE SIUs WHICH ARE INTERNAL TO THE VIDEO DETECTION SYSTEM.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	70	205
PROJECT FILE NO. 608562			



SEQUENCE AND TIMING FOR PRE-TIMED CONTROL (PEER-TO-PEER OPERATION)

APPROACH	DIRECTION	HOUSING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	FLASH
CONNECTOR "F"	SB	H1,H2,H3	DARK	FY	Y	R	R	FR	FR								FY
PEDESTRIAN X-ING NORTH	EB-WB	PH1-PH2	DW	DW	DW	DW	W	FDW	DW								OUT
MYSTIC AVE	SB	H4,H5								DARK	FY	Y	R	R	FR	FR	FY
PEDESTRIAN X-ING SOUTH	EB-WB	PH3-PH4								DW	DW	DW	DW	W	FDW	DW	OUT
McGRATH HIGHWAY	NB	BLANKOUT SIGN								OFF	OFF	OFF	OFF	ON	ON	OFF	OFF

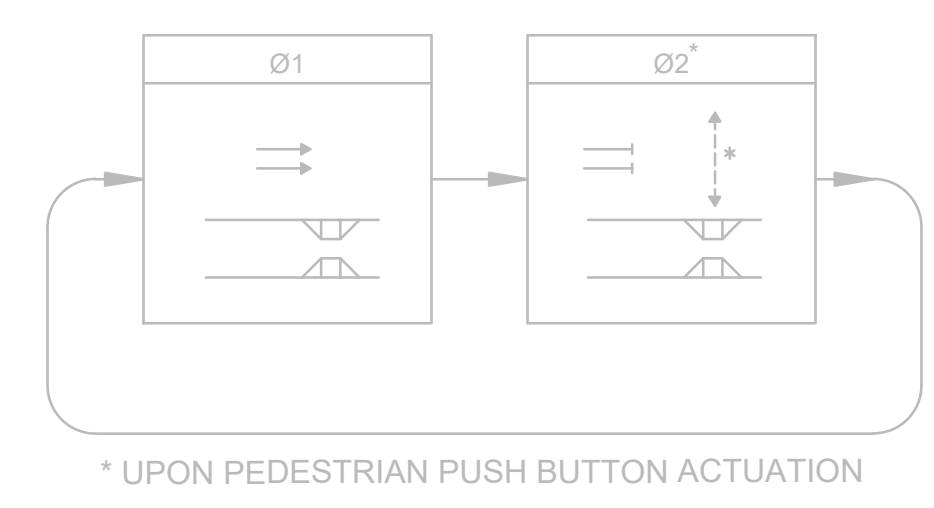
	TIMING IN SECONDS																
MINIMUM TIME	40	4								40	4						CONFLICT FLASH OPERATION ONLY
PASSAGE TIME (VEHICLE)	-	-								-	-						
MAXIMUM 1	40	4								40	4						
MAXIMUM 2	40	4								40	4						
STEADY YELLOW INTERVAL			4									3.5					
STEADY RED INTERVAL				1									1				
PEDESTRIAN WALK INTERVAL					5									5			
PEDESTRIAN CLEARANCE INTERVAL							7	4							9	4	
DETECTOR MEMORY	-									-							
RECALL	MAX									MAX							

- NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
  2. \* UPON PEDESTRIAN PUSH BUTTON ACTUATION
  3. FR = ALTERNATING FLASHING RED
  4. MAXIMUM 1 = NORMAL OPERATION
  5. MAXIMUM 2 = NOT USED
  6. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
  7. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.
  8. SERVICING OF ø2 SHALL BE CONDITIONALLY CONTROLLED BY PEER-TO-PEER OPERATION FOR EMERGENCY PRE-EMPTION ONLY.
  9. SERVICING OF ø6 SHALL NOT BE CONTROLLED BY PEER-TO-PEER OPERATION.
  10. RING 1 AND RING 2 SHALL OPERATE INDEPENDENTLY.

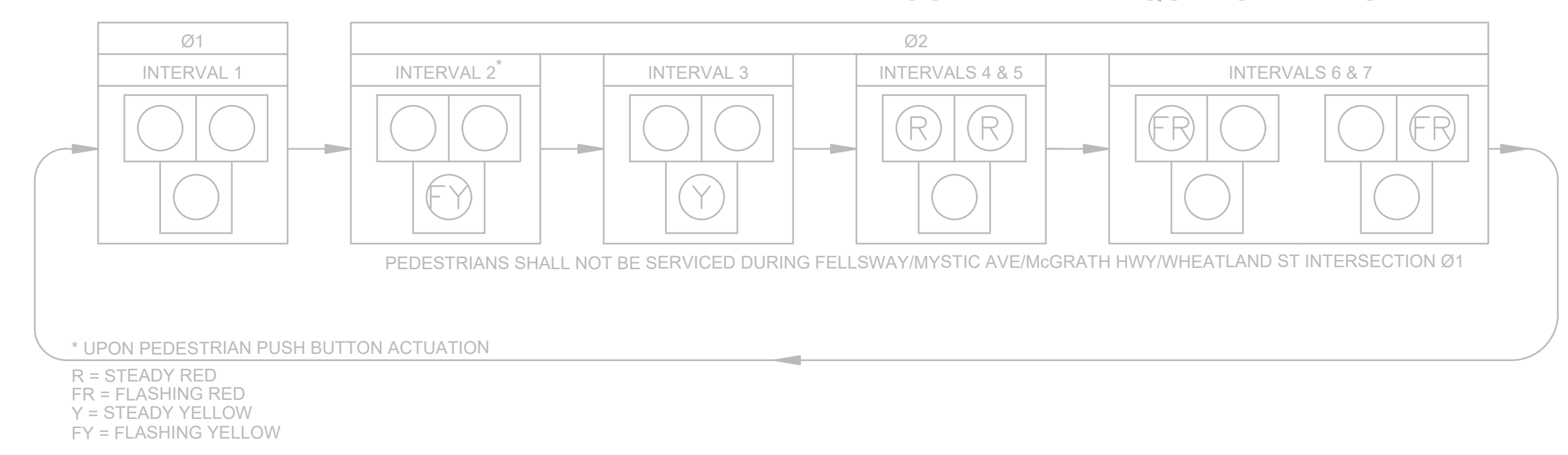
- SEQUENCE & TIMING NOTES:
1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
  2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
  3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
  4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

- EXIST PEER-TO-PEER OPERATION NOTES:
1. THE TRAFFIC SIGNAL CONTROLLER SHALL BE SUPPLIED AND INSTALLED WITH A PEER-TO-PEER COMMUNICATIONS AND CONTROL SYSTEM WHICH SHALL ALLOW FOR CONTROLLERS TO SHARE INFORMATION WITH ONE ANOTHER AND PROVIDE CONDITIONAL CONTROL STRATEGIES, INDEPENDENT OF A CENTRAL MANAGEMENT SYSTEM. PEER-TO-PEER AND CONTROLLER LOGIC PROCESSOR PARAMETERS SHALL BE PRE-PROGRAMMED BY THE CONTRACTOR. THIS INCLUDES, BUT NOT LIMITED TO, PEER NUMBER, LABEL, PEER IP ADDRESS, UDP PORT, PUBLISHER/SUBSCRIBER SETTINGS, TIMEOUT, AND ALL CONDITIONAL LOGIC CONTROL STATEMENT SETTINGS REQUIRED TO SUPPORT THE SIGNAL OPERATION AS DEFINED ON THE TRAFFIC PLAN. ALL SETTINGS SHALL BE DOCUMENTED AND INCLUDED WITH THE REQUIRED DATABASE DOCUMENTATION SUPPLIED WITH EACH CABINET.
  2. THE PEER-TO-PEER SYSTEM SHALL ONLY ALLOW ø2 TO BE SERVICED AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH AT THE START OF ø3 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/WHEATLAND ST/U-TURN. THE RELEASE CONTROL SHALL BE USER PROGRAMMABLE AND INITIALLY SET AT 3 SECONDS AT THE START OF ø3 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/WHEATLAND ST/U-TURN. DURING WHICH TIME THE PEDESTRIAN CALL IS ALLOWED TO BE SERVICED. ANY ø2 PEDESTRIAN CALL AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH RECEIVED AFTER THE 3 SECOND RELEASE CONTROL SIGNAL SHALL BE HELD UNTIL THE NEXT START OF ø3 AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/WHEATLAND ST/U-TURN. REMOVE SYSTEM LOGIC AND ALLOW HYBRID PEDESTRIAN BEACON TO OPERATE INDEPENDENTLY FROM FELLSWAY/MYSTIC AVE/MCGRATH HWY/WHEATLAND ST/ U-TURN SIGNAL. PEER TO PEER CONNECTION TO BE MAINTAINED FOR EMERGENCY PRE-EMPTION ONLY.
  3. DURING AN ACTIVE PRE-EMPTION EVENT AT FELLSWAY/MYSTIC AVE/MCGRATH HWY/WHEATLAND ST/U-TURN, ø2 SHALL BE OMITTED AT CONNECTOR "F"/PEDESTRIAN CROSSING NORTH UNTIL THE PRE-EMPTION EVENT IS FINISHED.
  4. THE CONTROLLER SHALL HAVE A FRONT PANEL, REAL TIME STATUS SCREEN THAT SHALL ALLOW THE USER TO MONITOR AND DETERMINE THAT THE REQUIRED PEER-TO-PEER OPERATION IS ACTIVE AND FULLY OPERATIONAL.

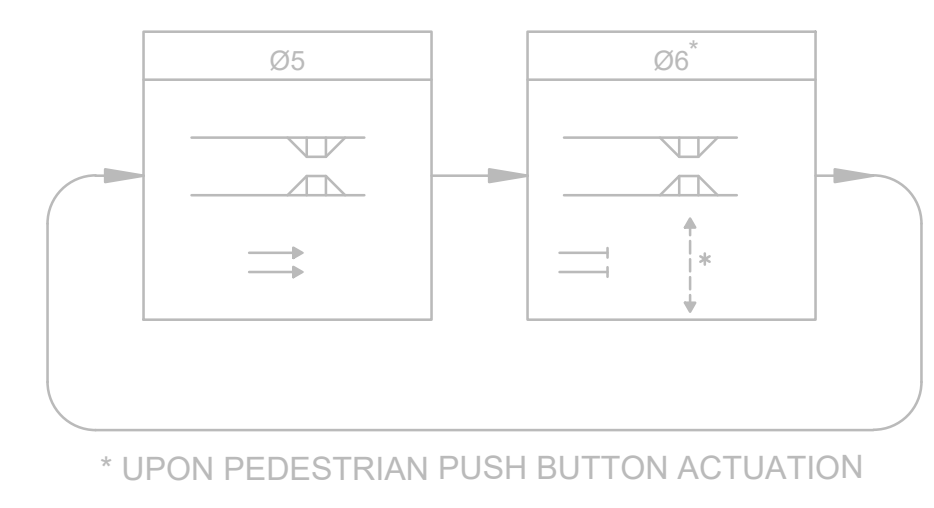
EXIST PREFERENTIAL PHASE SEQUENCE - RING 1



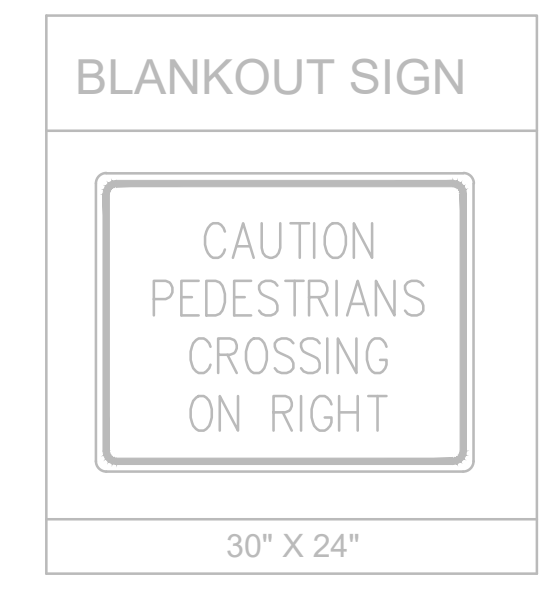
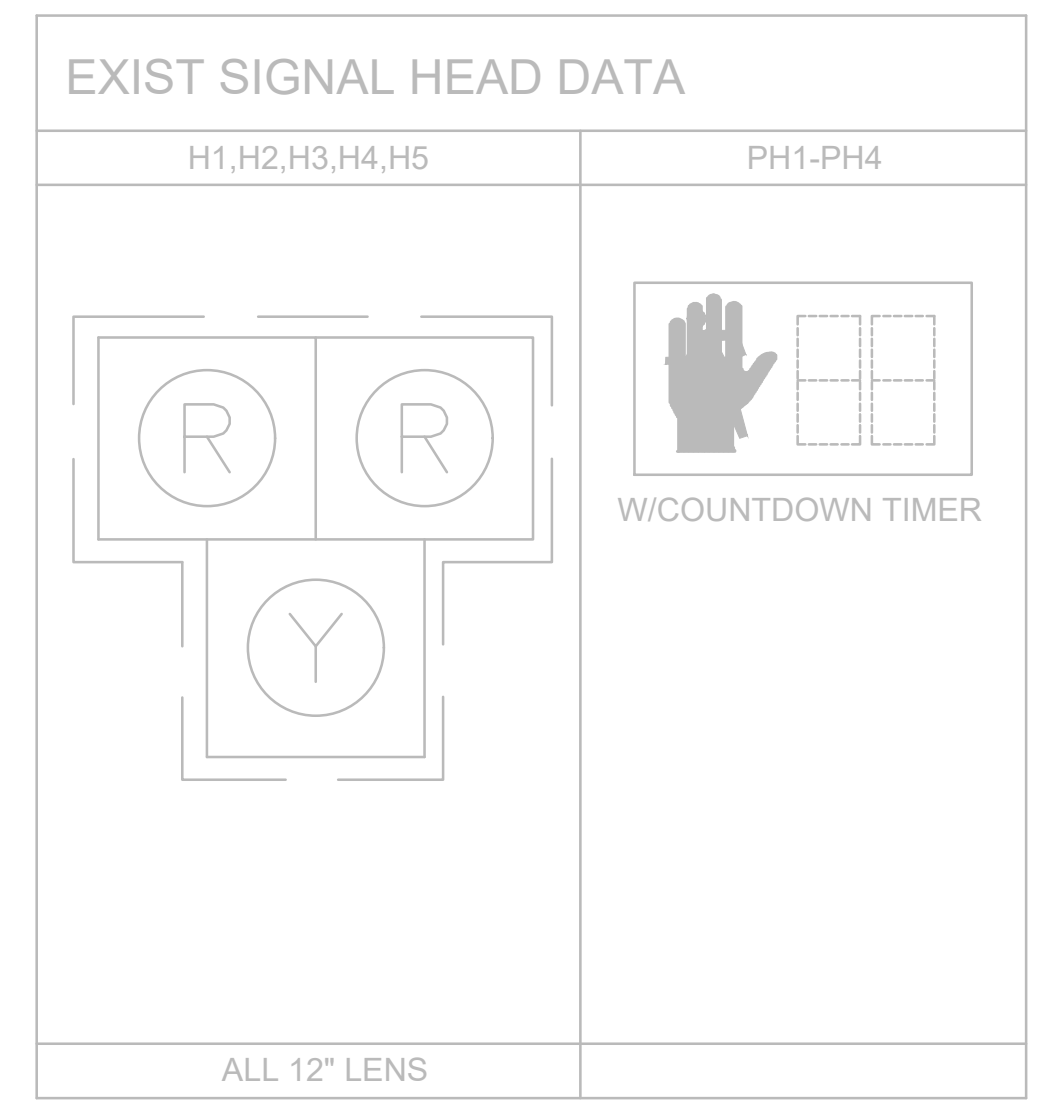
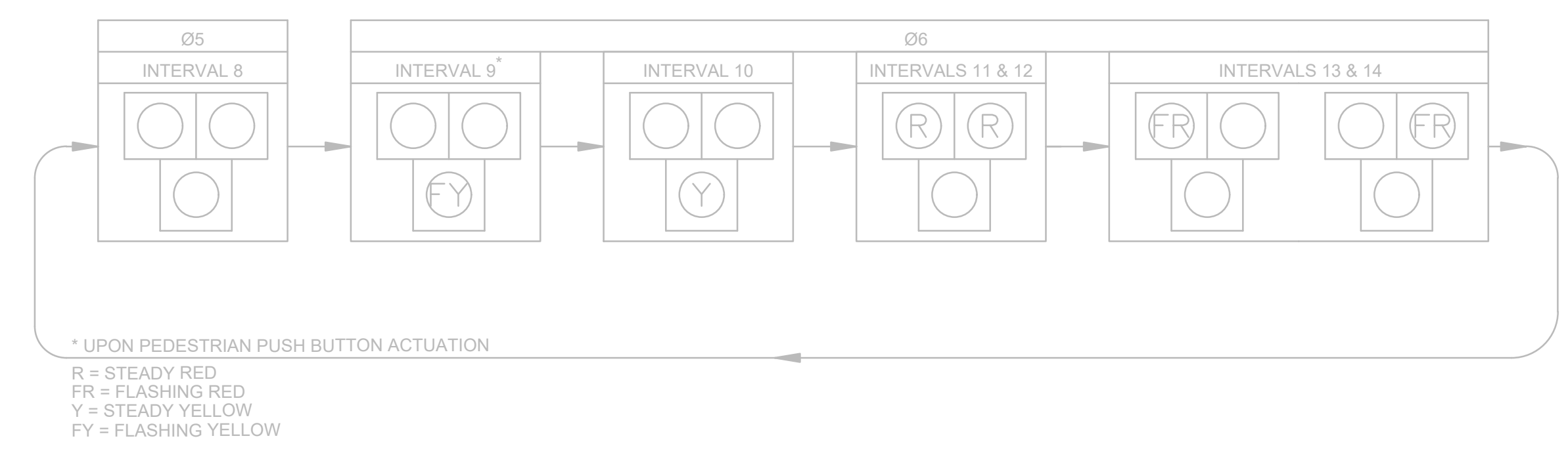
EXIST HYBRID PEDESTRIAN BEACON PHASE SEQUENCE - RING 1



PREFERENTIAL PHASE SEQUENCE - RING 2



HYBRID PEDESTRIAN BEACON PHASE SEQUENCE - RING 2



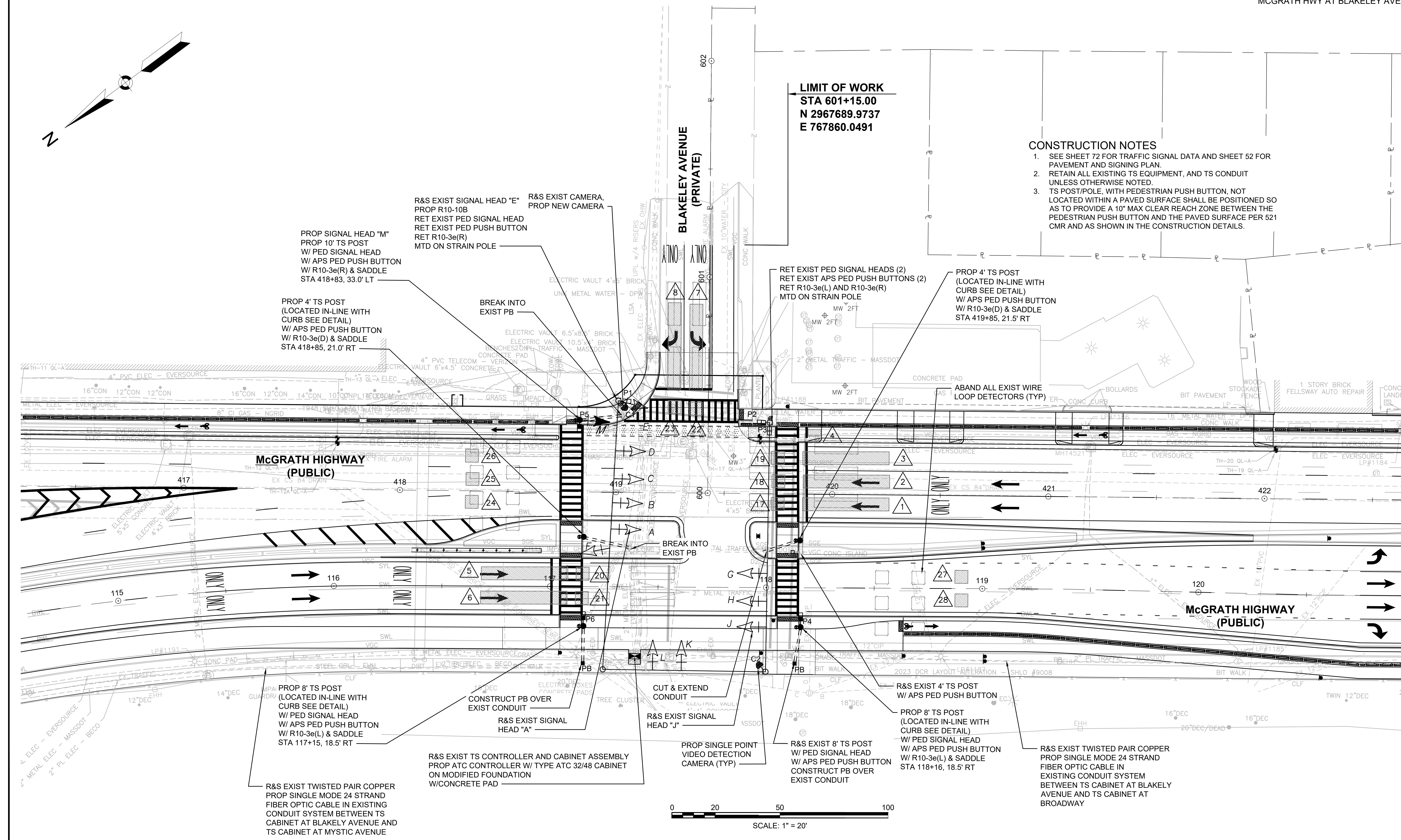
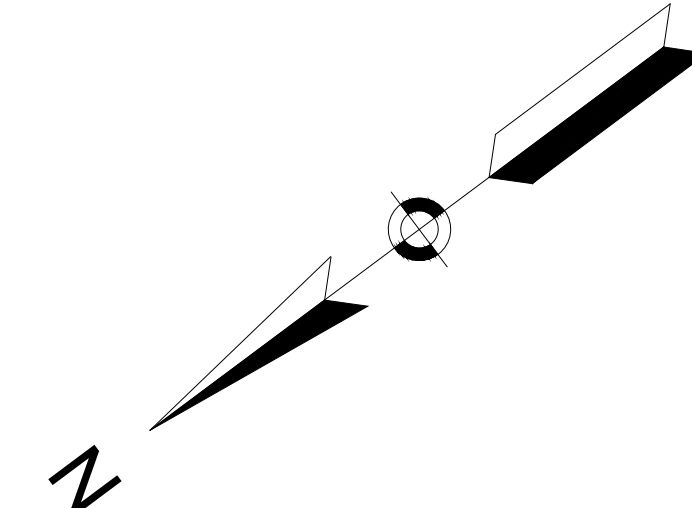
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	71	205
PROJECT FILE NO. 608562			

TRAFFIC SIGNAL PLANS  
 MCGRATH HWY AT BLAKELEY AVE

CONSTRUCTION NOTES

- SEE SHEET 72 FOR TRAFFIC SIGNAL DATA AND SHEET 52 FOR PAVEMENT AND SIGNING PLAN.
- RETAIN ALL EXISTING TS EQUIPMENT, AND TS CONDUIT UNLESS OTHERWISE NOTED.
- TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

**LIMIT OF WORK**  
 STA 601+15.00  
 N 2967689.9737  
 E 767860.0491



R&S EXIST SIGNAL HEAD "E"  
 PROP R10-10B  
 RET EXIST PED SIGNAL HEAD  
 RET EXIST PED PUSH BUTTON  
 RET R10-3e(R)  
 MTD ON STRAIN POLE

R&S EXIST CAMERA,  
 PROP NEW CAMERA

PROP SIGNAL HEAD "M"  
 PROP 10' TS POST  
 W/ PED SIGNAL HEAD  
 W/ APS PED PUSH BUTTON  
 W/ R10-3e(R) & SADDLE  
 STA 418+83, 33.0' LT

PROP 4' TS POST  
 (LOCATED IN-LINE WITH  
 CURB SEE DETAIL)  
 W/ APS PED PUSH BUTTON  
 W/ R10-3e(D) & SADDLE  
 STA 418+85, 21.0' RT

BREAK INTO  
 EXIST PB

RET EXIST PED SIGNAL HEADS (2)  
 RET EXIST APS PED PUSH BUTTONS (2)  
 RET R10-3e(L) AND R10-3e(R)  
 MTD ON STRAIN POLE

PROP 4' TS POST  
 (LOCATED IN-LINE WITH  
 CURB SEE DETAIL)  
 W/ APS PED PUSH BUTTON  
 W/ R10-3e(D) & SADDLE  
 STA 419+85, 21.5' RT

ABAND ALL EXIST WIRE  
 LOOP DETECTORS (TYP)

PROP 8' TS POST  
 (LOCATED IN-LINE WITH  
 CURB SEE DETAIL)  
 W/ PED SIGNAL HEAD  
 W/ APS PED PUSH BUTTON  
 W/ R10-3e(L) & SADDLE  
 STA 117+15, 18.5' RT

R&S EXIST TWISTED PAIR COPPER  
 PROP SINGLE MODE 24 STRAND  
 FIBER OPTIC CABLE IN EXISTING  
 CONDUIT SYSTEM BETWEEN TS  
 CABINET AT BLAKELY AVENUE AND  
 TS CABINET AT MYSTIC AVENUE

R&S EXIST TS CONTROLLER AND CABINET ASSEMBLY  
 PROP ATC CONTROLLER W/ TYPE ATC 32/48 CABINET  
 ON MODIFIED FOUNDATION  
 W/CONCRETE PAD

CUT & EXTEND  
 CONDUIT

R&S EXIST SIGNAL  
 HEAD "J"

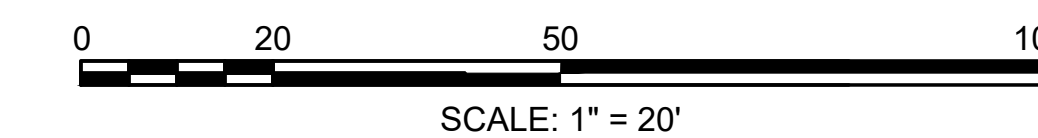
PROP SINGLE POINT  
 VIDEO DETECTION  
 CAMERA (TYP)

R&S EXIST 8' TS POST  
 W/ PED SIGNAL HEAD  
 W/ APS PED PUSH BUTTON  
 CONSTRUCT PB OVER  
 EXIST CONDUIT

R&S EXIST 4' TS POST  
 W/ APS PED PUSH BUTTON

PROP 8' TS POST  
 (LOCATED IN-LINE WITH  
 CURB SEE DETAIL)  
 W/ PED SIGNAL HEAD  
 W/ APS PED PUSH BUTTON  
 W/ R10-3e(L) & SADDLE  
 STA 118+16, 18.5' RT

R&S EXIST TWISTED PAIR COPPER  
 PROP SINGLE MODE 24 STRAND  
 FIBER OPTIC CABLE IN  
 EXISTING CONDUIT SYSTEM  
 BETWEEN TS CABINET AT BLAKELY  
 AVENUE AND TS CABINET AT  
 BROADWAY



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	72	205
PROJECT FILE NO. 608562			

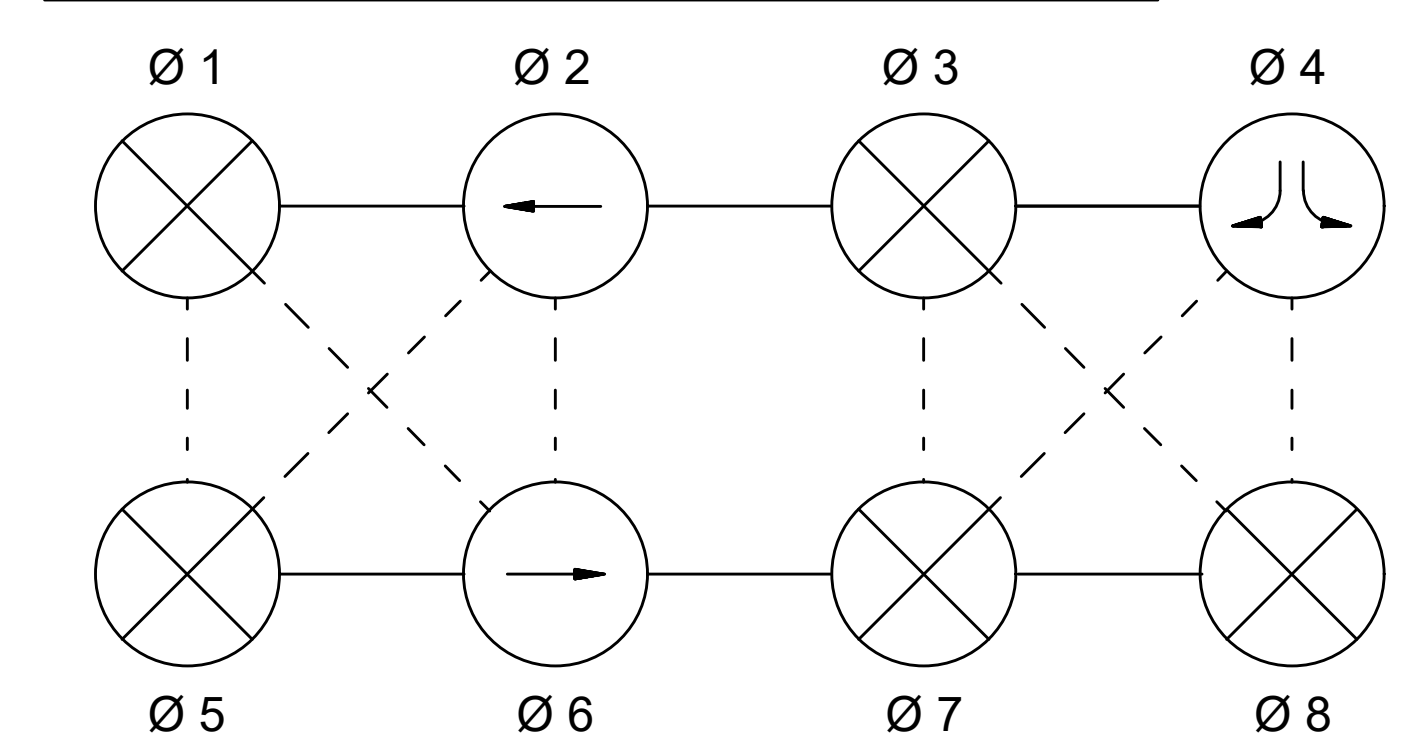
TRAFFIC SIGNAL PLANS  
MCGRATH HWY AT BLAKELEY AVE

PROPOSED DETECTION DATA

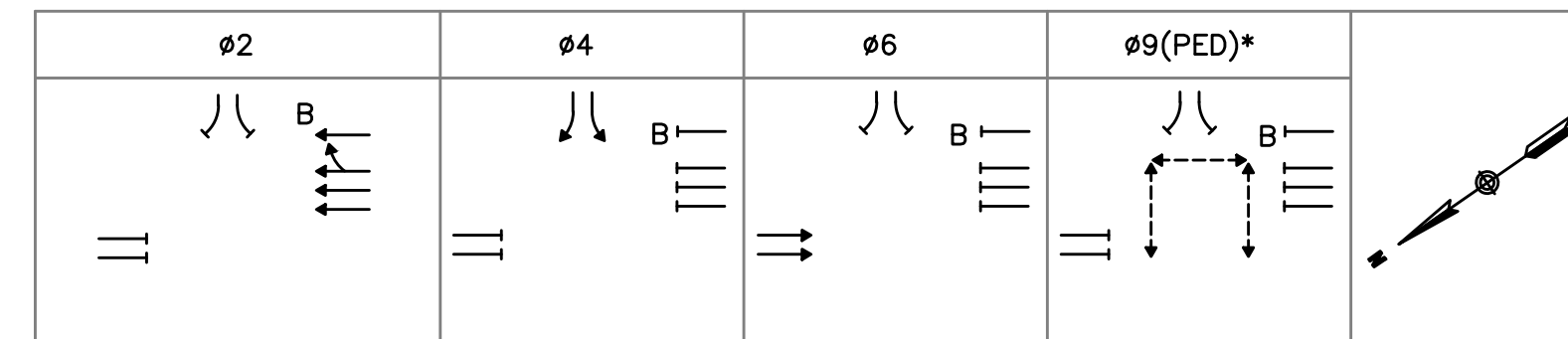
DETECTION ZONE	APPROACH/LANE	CAMERA	DELAY /EXT	CALL PHASE	ADAPTIVE CONTROL
1	MCGRATH NB THRU LANE (LEFT)	C1	0	Ø2	-
2	MCGRATH NB THRU LANE (CENTER)	C1	0	Ø2	-
3	MCGRATH NB THRU/RIGHT LANE	C1	0	Ø2	-
4	MCGRATH NB BIKE LANE	C1	0	Ø2	-
5	MCGRATH SB THRU LANE (LEFT)	C2	0	Ø6	-
6	MCGRATH SB THRU LANE (RIGHT)	C2	0	Ø6	-
7	BLAKELEY WB LEFT-TURN LANE	C2	0	Ø4	-
8	BLAKELEY WB RIGHT-TURN LANE	C1	0	Ø4	-
17	MCGRATH NB THRU LANE (LEFT)	C1	0	-	Ø2
18	MCGRATH NB THRU LANE (CENTER)	C1	0	-	Ø2
19	MCGRATH NB THRU/RIGHT LANE	C1	0	-	Ø2
20	MCGRATH SB THRU LANE (LEFT)	C2	0	-	Ø6
21	MCGRATH SB THRU LANE (RIGHT)	C2	0	-	Ø6
22	BLAKELEY WB LEFT-TURN LANE	C2	0	-	Ø4
23	BLAKELEY WB RIGHT-TURN LANE	C1	0	-	Ø4
24	MCGRATH NB DEPARTURE LANE (LEFT)	C1	0	-	SYSTEM
25	MCGRATH NB DEPARTURE LANE (MIDDLE)	C1	0	-	SYSTEM
26	MCGRATH NB DEPARTURE LANE (RIGHT)	C1	0	-	SYSTEM
27	MCGRATH SB DEPARTURE LANE (LEFT)	C2	0	-	SYSTEM
28	MCGRATH SB DEPARTURE LANE (RIGHT)	C2	0	-	SYSTEM

- NOTES:
1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING PROPOSED DETECTION ZONES AS SHOWN ON THE PLANS, AND ADJUSTING/RE-ADJUSTING DETECTION ZONES IN THE PRESENCE OF THE ENGINEER.
  3. DETECTION ZONES SHALL RECORD VOLUME AND OCCUPANCY.

PROPOSED NEMA DUAL RING PHASING NOTES



- NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
  2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
  3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
  4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.
  5. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
  6. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
  7. FLASHING OPERATION IS FOR EMERGENCY ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY.
  8. PEDESTRIAN PHASE UPON PUSHBUTTON ACTIVATION ONLY.
  9. FLASHING DON'T WALK TO END AT THE END OF GREEN OF CONCURRENT VEHICULAR PHASE.



SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (COORDINATED)

APPROACH	DIRECTION	HOUSING	1	2	3	4	5	6	7	8	9	10	11	12	13	FLASH
MCGRATH HIGHWAY	NB	B,C	R	G	Y	R	R	R	R	R	R	R	R	R	R	FY
MCGRATH HIGHWAY	NB	D	R	G	Y	R	R	R	R	R	R	R	R	R	R	FY
MCGRATH HIGHWAY (BIKE)	NB	M	G	G	Y	R	R	R	R	R	R	R	R	R	R	FY
MCGRATH HIGHWAY	SB	F,G,H	R	R	R	R	R	R	R	R	Y	R	R	R	R	FY
BLAKELEY AVE	WB	K,L	R	R	R	R	G	Y	R	R	R	R	R	R	R	FR
PEDESTRIAN X-ING	ALL	P1-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W/FDW	DW	DW	OUT

TIMING IN SECONDS

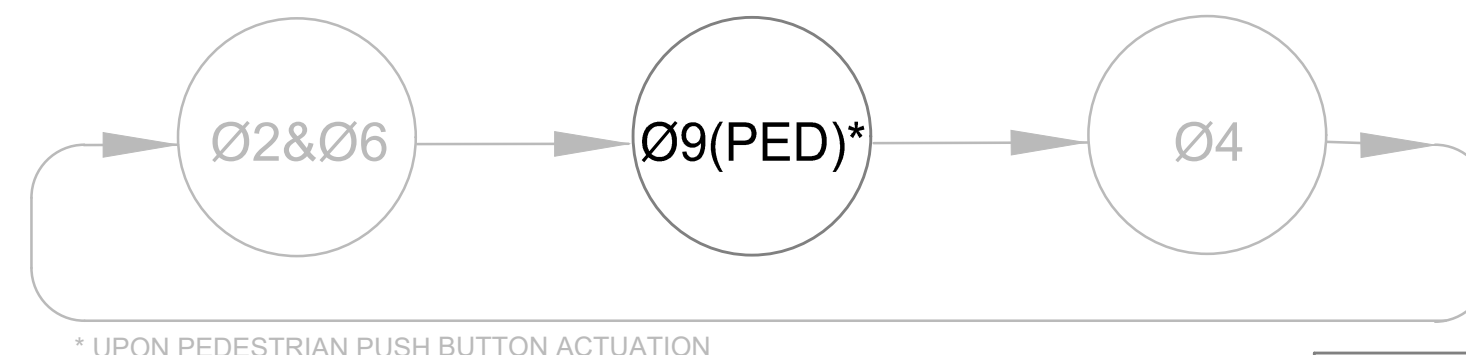
MINIMUM GREEN (INITIAL)	10			6		10										
PASSAGE TIME (VEHICLE)	2			2		2										
MAXIMUM 1	50			20		50										
MAXIMUM 2	-			-		-										
YELLOW CLEARANCE			4.5		3			4.5					1			
RED CLEARANCE				1		4						1		3		
PEDESTRIAN WALK													7			
PEDESTRIAN CLEARANCE													26			
BICYCLE LEADING INTERVAL		4														

CONFLICT FLASH OPERATION ONLY

COORDINATION DATA			COORDINATION PHASE SPLIT TIMES			
TIMING PLAN	CYCLE	OFFSET	Ø2	Ø4	Ø6	Ø9
1/1/1 M-F 6AM-10AM	120	32	60	23	60	37
2/1/1 M-F 3PM-7PM	100	0	48	15	48	37

- NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
  2. \* UPON PEDESTRIAN PUSH BUTTON ACTUATION
  3. MAXIMUM 1 = NORMAL OPERATION
  4. MAXIMUM 2 = NOT USED
  5. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
  6. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.
  7. B = BIKE

EXISTING/PROPOSED PREFERENTIAL PHASE SEQUENCE



- SIGNAL HEAD DATA NOTES:
1. ALL PROP SIGNAL HEADS SHALL BE RIGID MOUNTED.
  2. ALL PROP SIGNAL HEADS SHALL BE EQUIPPED WITH 5/8" NON-LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
  3. ALL PROP SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
  4. ALL PROP SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

EXIST/PROP SIGNAL HEAD DATA

M	←B,C,F,G,H,→	D,←K,L	P1-P4	P4-P6
	R&S A & J	R&S E	R&S P4 W/COUNTDOWN TIMER	R&S P4 W/COUNTDOWN TIMER
8" LENS	ALL 12" LENS		16" LENS	16" LENS

LIST OF MAJOR ITEMS REQUIRED

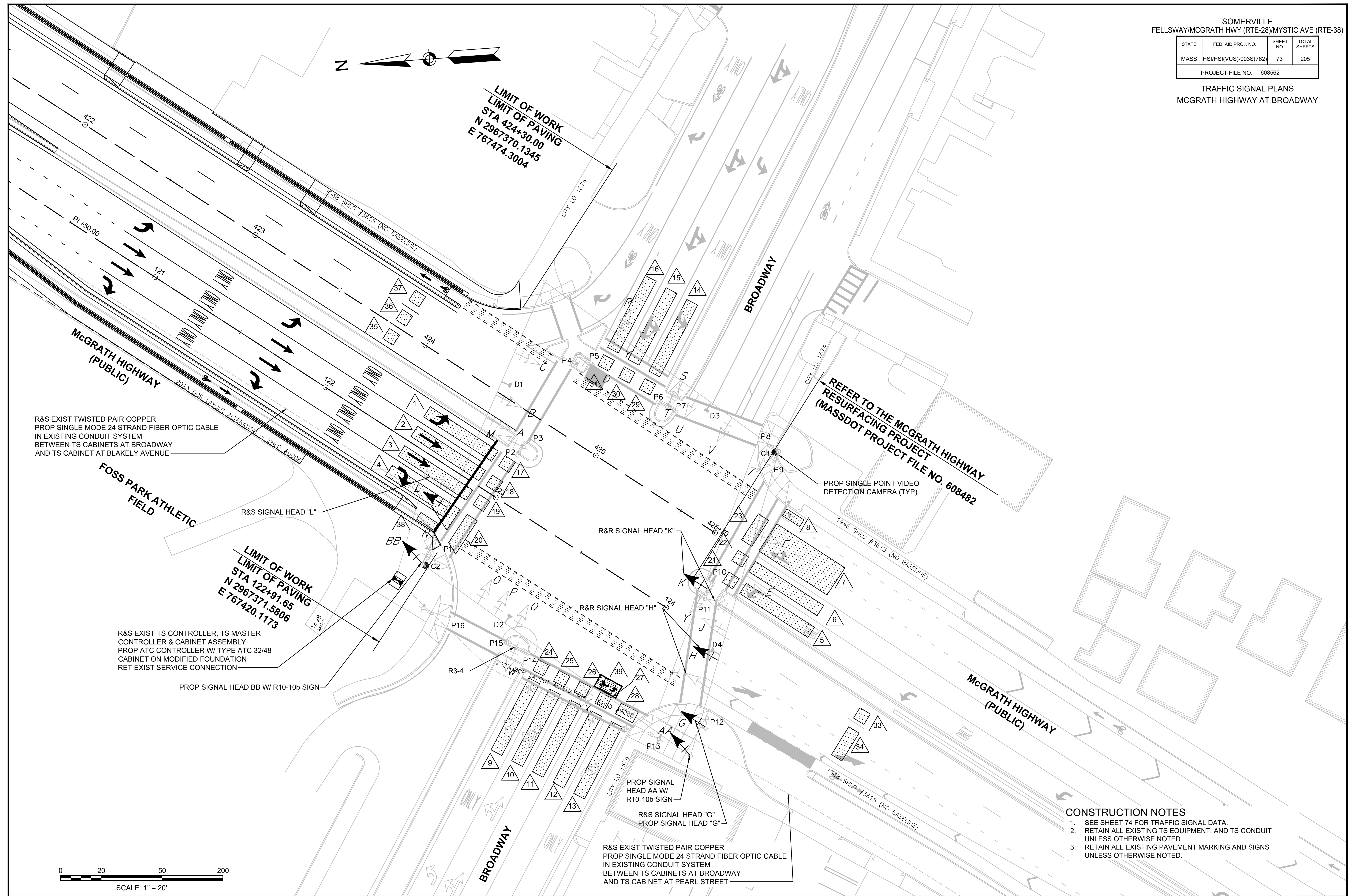
PAY ITEM	QUANTITY	DESCRIPTION
	1	ATC CONTROLLER W/TYPED ATC 32/48 CABINET WITH INTERNAL ADAPTIVE CONTROL BY CYCLE/SPLIT/OFFSET ON MODIFIED FOUNDATION W/CONCRETE PAD
	1	SIGNAL HEAD, 3-SECTION, 8" LENSES
	1	EMERGENCY PRE-EMPTION 4 CHANNEL PHASE SELECTOR
	1	EMERGENCY PRE-EMPTION SYSTEM CHASSIS
	2	TS POST 4" STANDARD INCL. FOUNDATION
	2	TS POST 8" STANDARD INCL. FOUNDATION
	1	TS POST 10" STANDARD INCL. FOUNDATION
816.04	1	TSP LICENSE
	1	ADAPTIVE OPERATION ELEMENTS (HARDWARE/SOFTWARE) W/LICENSE
	1	FIBER OPTIC PATCH PANEL
	1	FIBER OPTIC ETHERNET SWITCH, 8-PAIRS
	3	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER
	2	APS PEDESTRIAN PUSH BUTTON W/ R10-3e(L) AND SADDLE
	1	APS PEDESTRIAN PUSH BUTTON W/ R10-3e(R) AND SADDLE
	2	APS PEDESTRIAN PUSH BUTTON W/ R10-3e(D) AND SADDLE
	1	SINGLE POINT VIDEO DETECTION SYSTEM (2 CAMERAS, VDP & CABLES)
804.3	90±	3" CONDUIT, SCHEDULE 80, TYPE NM
811.31	2	PULL BOX-12"x12"
813.792	510±	SINGLE MODE 24 STRAND FIBER OPTIC CABLE

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	73	205
PROJECT FILE NO. 608562			

TRAFFIC SIGNAL PLANS  
 MCGRATH HIGHWAY AT BROADWAY



R&S EXIST TWISTED PAIR COPPER  
 PROP SINGLE MODE 24 STRAND FIBER OPTIC CABLE  
 IN EXISTING CONDUIT SYSTEM  
 BETWEEN TS CABINETS AT BROADWAY  
 AND TS CABINET AT BLAKELY AVENUE

R&S EXIST TS CONTROLLER, TS MASTER  
 CONTROLLER & CABINET ASSEMBLY  
 PROP ATC CONTROLLER W/ TYPE ATC 32/48  
 CABINET ON MODIFIED FOUNDATION  
 RET EXIST SERVICE CONNECTION

R&S EXIST TWISTED PAIR COPPER  
 PROP SINGLE MODE 24 STRAND FIBER OPTIC CABLE  
 IN EXISTING CONDUIT SYSTEM  
 BETWEEN TS CABINETS AT BROADWAY  
 AND TS CABINET AT PEARL STREET

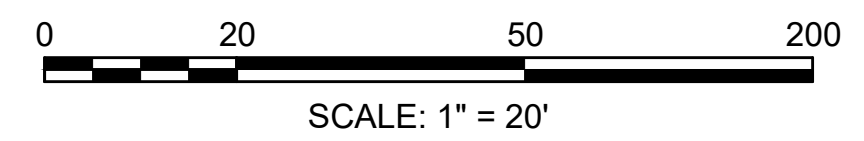


Table with 4 columns: STATE, FED AID PROJ NO, SHEET NO, TOTAL SHEETS. Values: MASS, HSI/HSI(VUS)-003S(762), 74, 205. Project File No: 608562

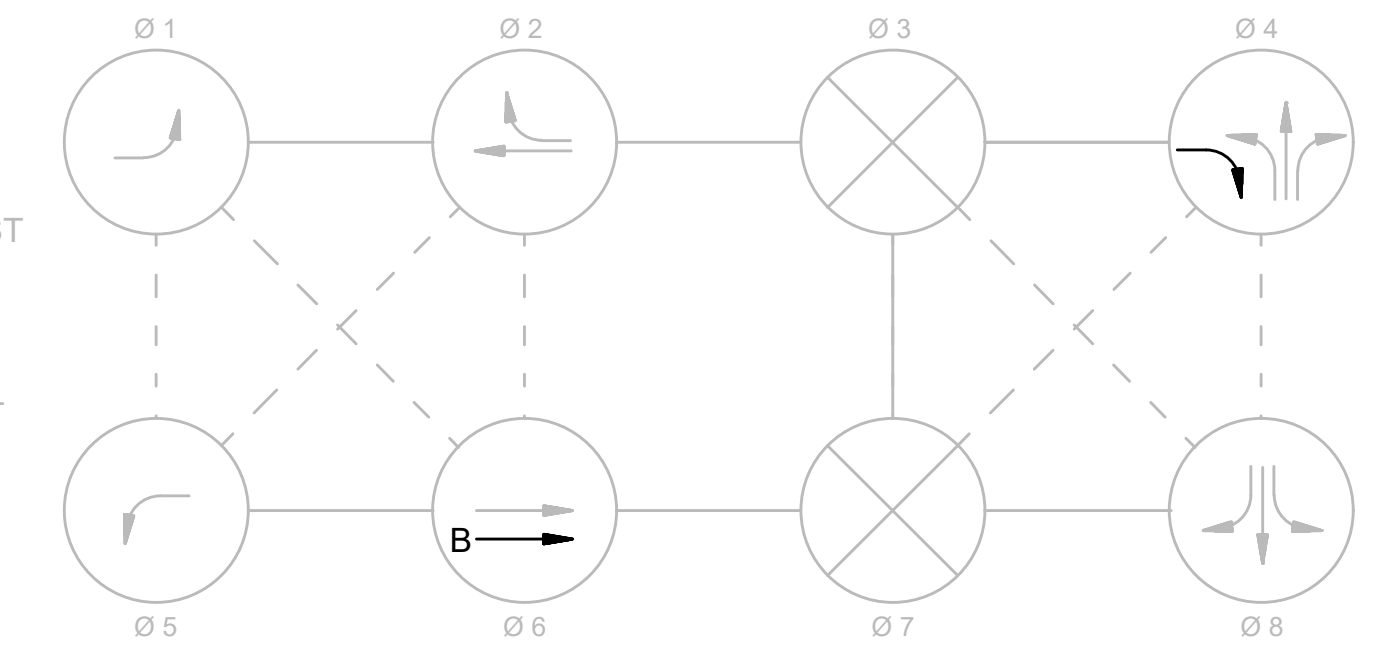
TRAFFIC SIGNAL PLANS  
MCGRATH HIGHWAY AT BROADWAY

PROPOSED DETECTION DATA table with columns: DETECTION ZONE, APPROACH/LANE, CAMERA, DELAY /EXT, CALL PHASE, ADAPTIVE CONTROL. Lists 20 detection zones for various lanes and movements.

PROPOSED DETECTION DATA table with columns: DETECTION ZONE, APPROACH/LANE, CAMERA, DELAY /EXT, CALL PHASE, ADAPTIVE CONTROL. Lists 39 detection zones including pedestrian and bicycle movements.

NOTES: 1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY. 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING PROPOSED DETECTION ZONES AS SHOWN ON THE PLANS, AND ADJUSTING/READJUSTING DETECTION ZONES IN THE PRESENCE OF THE ENGINEER. 3. DETECTION ZONES SHALL RECORD VOLUME AND OCCUPANCY.

EXISTING/PROPOSED NEMA DUAL RING PHASING NOTES



NOTES: 1. PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY. 2. PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY. 3. THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS. 4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED. 5. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES. 6. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERRED PHASE SEQUENCE. 7. FLASHING OPERATION IS FOR EMERGENCY ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY. 8. PEDESTRIAN PHASE UPON PUSHBUTTON ACTIVATION ONLY. 9. FLASHING DON'T WALK TO END AT THE END OF GREEN OF CONCURRENT VEHICULAR PHASE.

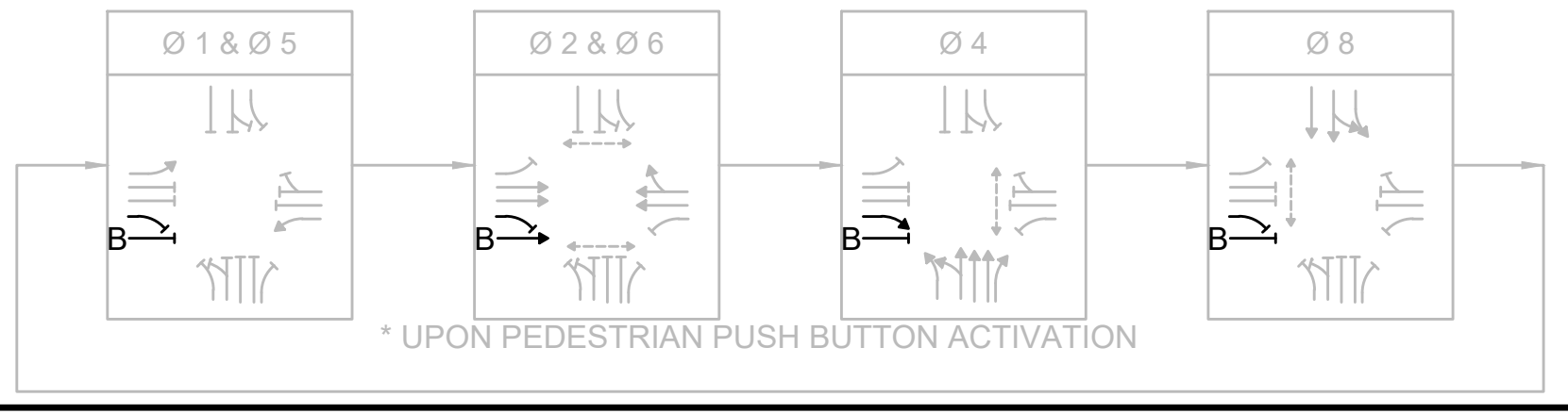
EXISTING/PROPOSED SEQUENCE AND TIMING FOR ACTUATED-COORDINATED CONTROL table. Columns include STREET, DIRECTION, HOUSINGS, and 29 timing slots for different phases. Includes pedestrian and bicycle movement details.

EXISTING EMERGENCY VEHICLE PRE-EMPTION SCHEDULE

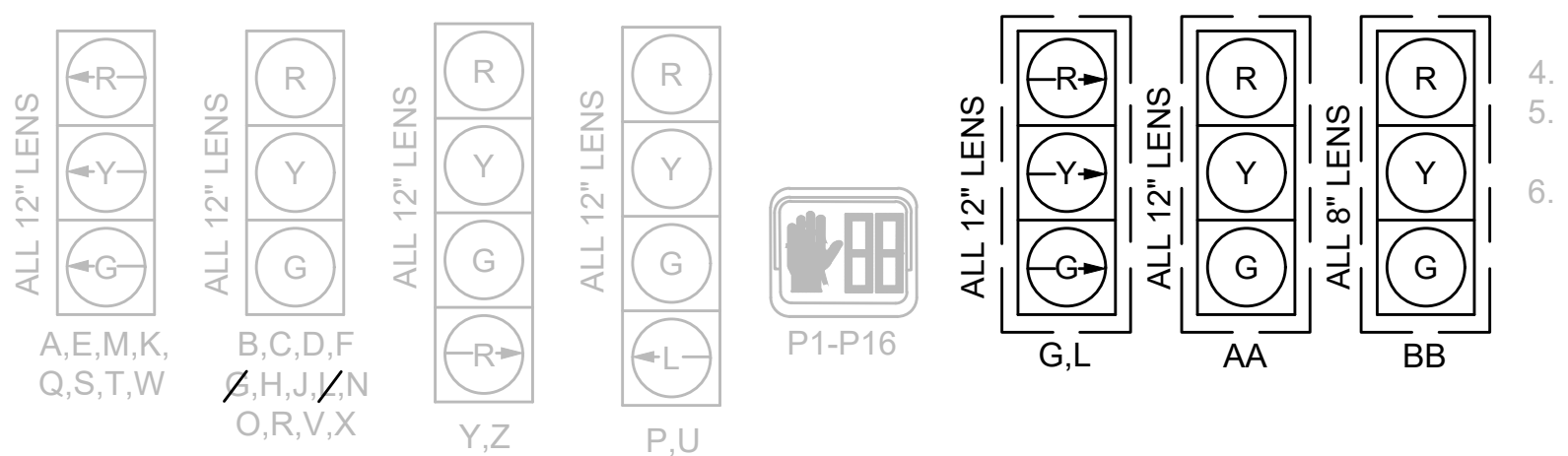
Table with columns: APPROACH, DETECTOR, PRE-EMPTION PHASE, NEXT PHASE CALLED. Shows schedule for Northbound, Westbound, Eastbound, and Southbound.

EMERGENCY VEHICLE PRE-EMPTION OPERATION NOTES: 1. EMERGENCY VEHICLE PRE-EMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. 2. PRE-EMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS. 3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. 4. PRE-EMPTION MINIMUM GREENS SHALL BE TEN SECONDS. 5. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PRE-EMPTION DEMAND. 6. ACTUAL TIMING FOR PRE-EMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

EXISTING/PROPOSED PREFERRED PHASE SEQUENCE



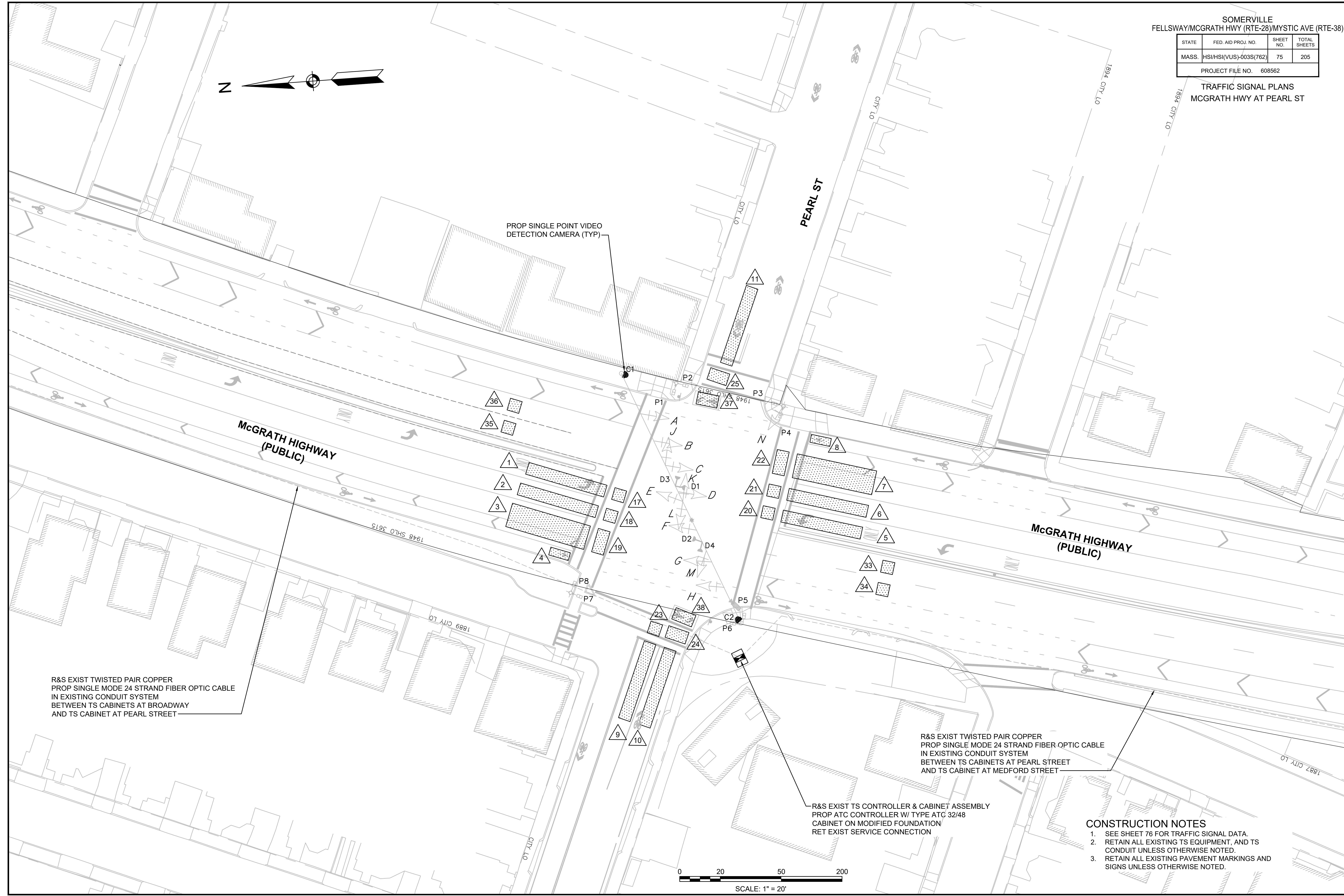
EXISTING/PROPOSED SIGNAL IDENTIFICATION



NOTES: 1. ALL PROPOSED SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± NON- LOUVERED BACKPLATES. ALL PROPOSED BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER. 2. ALL PROPOSED SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS. 3. ALL PROPOSED SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	75	205
PROJECT FILE NO. 608562			

TRAFFIC SIGNAL PLANS  
MCGRATH HWY AT PEARL ST

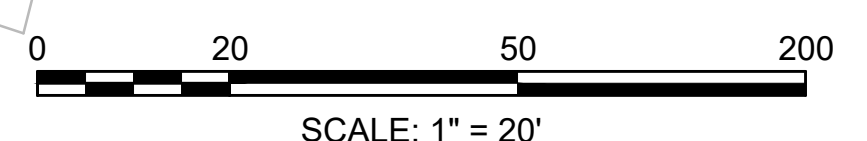


R&S EXIST TWISTED PAIR COPPER  
PROP SINGLE MODE 24 STRAND FIBER OPTIC CABLE  
IN EXISTING CONDUIT SYSTEM  
BETWEEN TS CABINETS AT BROADWAY  
AND TS CABINET AT PEARL STREET

R&S EXIST TWISTED PAIR COPPER  
PROP SINGLE MODE 24 STRAND FIBER OPTIC CABLE  
IN EXISTING CONDUIT SYSTEM  
BETWEEN TS CABINETS AT PEARL STREET  
AND TS CABINET AT MEDFORD STREET

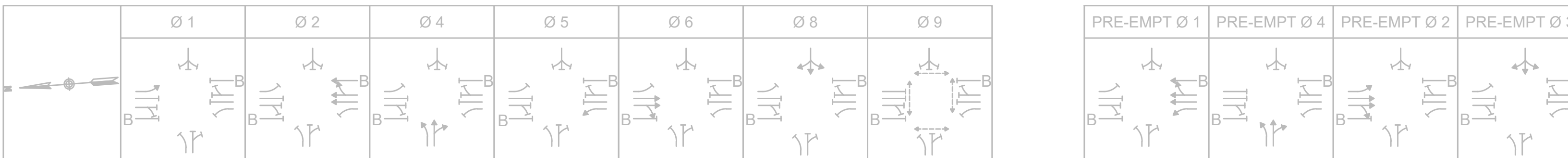
R&S EXIST TS CONTROLLER & CABINET ASSEMBLY  
PROP ATC CONTROLLER W/ TYPE ATC 32/48  
CABINET ON MODIFIED FOUNDATION/  
RET EXIST SERVICE CONNECTION

- CONSTRUCTION NOTES**
- SEE SHEET 76 FOR TRAFFIC SIGNAL DATA.
  - RETAIN ALL EXISTING TS EQUIPMENT, AND TS CONDUIT UNLESS OTHERWISE NOTED.
  - RETAIN ALL EXISTING PAVEMENT MARKINGS AND SIGNS UNLESS OTHERWISE NOTED.



STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	76	205
PROJECT FILE NO. 608562			

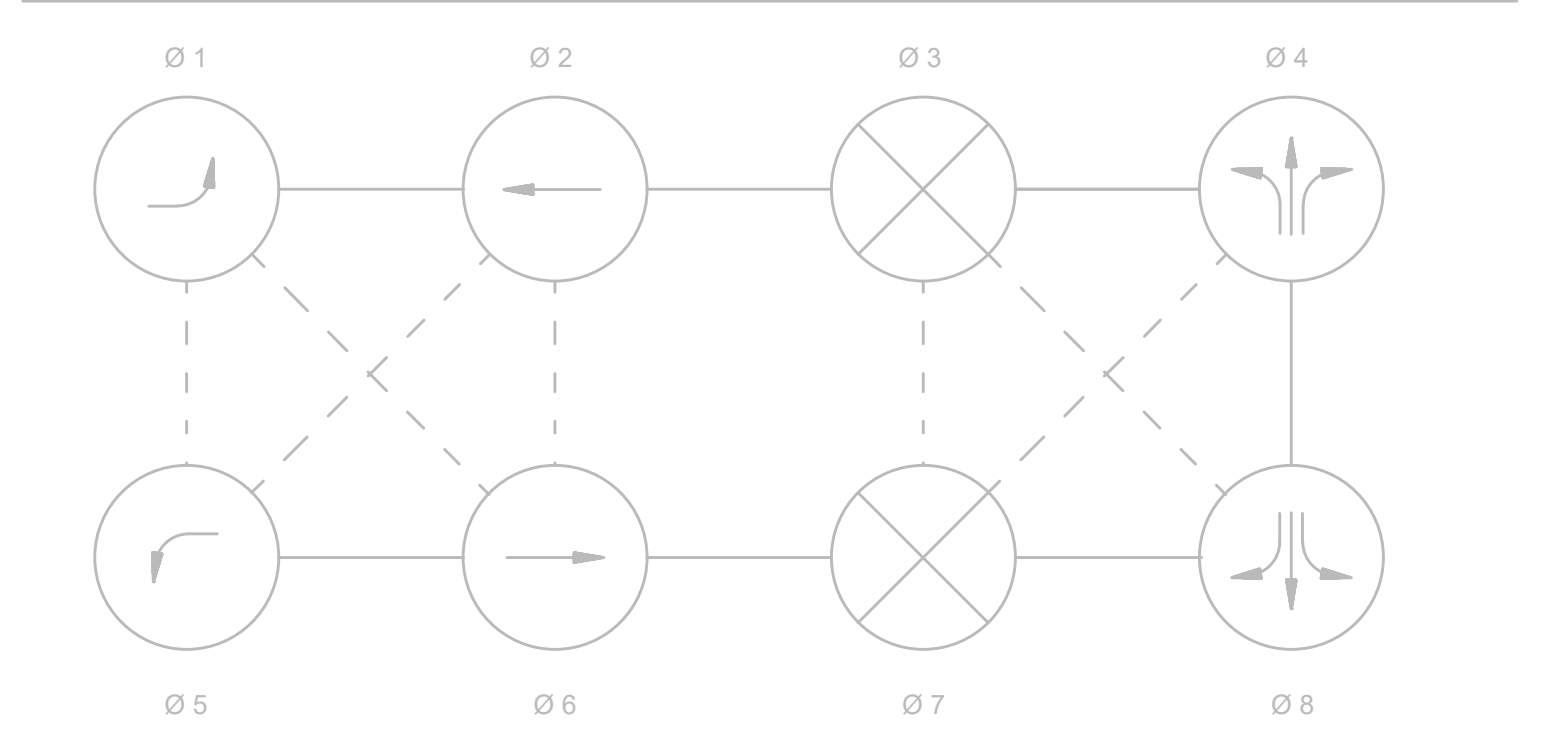
TRAFFIC SIGNAL PLANS  
MCGRATH HWY AT PEARL ST



STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	FLASH OP	22	23	24	25	26	27	28	29	30	31	32	33							
MCGRATH HIGHWAY	NB LT	D	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL					
MCGRATH HIGHWAY	NB TH	B,C	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	G	Y	R	R	R	R	R	R	R	R	R	R	R	R					
MCGRATH HIGHWAY	SB TH	F,G	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	FY	R	R	R	R	R	R	G	Y	R	R	R	R	R	R					
MCGRATH HIGHWAY	SB LT	E	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL					
MCGRATH HIGHWAY - BIKE	NB TH	A	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	G	Y	R	R	R	R	R	R	R	R	R	R	R	R					
MCGRATH HIGHWAY - BIKE	SB TH	H	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	FR	R	R	R	R	R	G	Y	R	R	R	R	R	R	R					
PEARL STREET	EB LT	L	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	R	R	R	G	Y	R	R	R	R	R	R	R	R	R					
PEARL STREET	EB TH/RT	M,N	R	R	R	R	R	R	G/GR	Y/YR	R	R	R	R	R	R	R	R	R	R	R	R	R	FR	R	R	R	G/GR	Y/YR	R	R	R	R	R	R	R	R	R					
PEARL STREET	WB	J,K	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	FR	R	R	R	R	R	R	R	R	R	R	G	Y	R						
PEDESTRIAN	EB-WB	P1-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW					
PEDESTRIAN	EB-WB	P4-P5	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW				
PEDESTRIAN	NB-SB	P2-P3	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW				
PEDESTRIAN	NB-SB	P7-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW				
TIMING IN SECONDS																																											
MINIMUM GREEN (INITIAL)			4.0			4.0			4.0			4.0			4.0			4.0			4.0			4.0																			
PASSAGE TIME (VEHICLE)			2.0		2.0			2.0			2.0			2.0			2.0			2.0			2.0																				
MAXIMUM 1			5.0		47.0			22.0			6.0			47.0			22.0			6.0			47.0																				
MAXIMUM 2			6.0		49.0			22.0			9.0			49.0			22.0			9.0			49.0																				
YELLOW CLEARANCE				4.0			4.0			4.0			4.0			4.0			4.0			4.0																					
RED CLEARANCE					2.0			2.0			2.0			2.0			2.0			2.0			2.0																				
BIKE YELLOW CLEARANCE						3.0				3.0					3.0								3.0																				
BIKE RED CLEARANCE							5.0				5.0					5.0							5.0																				
WALK (W)																																											
PEDESTRIAN CLEARANCE																																				21.0	1.0						
RECALL			NONE			MAX			NONE			NONE			MAX			NONE			NONE																						
MEMORY			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK																						
COORDINATION DATA			Ø1		Ø2		Ø4		Ø5		Ø6		Ø8		Ø9																												
COORDINATION DATA			Ø1		Ø2		Ø4		Ø5		Ø6		Ø8		Ø9																												
TIMING PLAN	CYCLE	OFFSET	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC																											
TP1 ALL OTHER TIMES	120	31	12	53	28	14	31	51	28	27																																	
TP2 M-F (6:00AM-10:00AM)	120	25	12	53	28	10	55	28	27																																		
TP3 M-F (3:00PM-7:00PM)	120	70	10	55	28	15	50	28	27																																		

- NOTES:
- PEDESTRIAN PHASING PROVIDED UPON PEDESTRIAN ACTUATION.
  - AUTOMATIC FLASHING OPERATION PER M.U.T.C.D.
  - B = BICYCLE MOVEMENT
  - SIGNAL TO OPERATE USING NEMA DUAL RING PHASING.
  - IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
  - THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE, OR ANY COMBINATION OF NON-CONFLICTING PHASES.
  - IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH PREFERENTIAL PHASING SEQUENCE.
  - TRAFFIC SIGNAL COORDINATION WITH ADJACENT INTERSECTIONS WILL BE COORDINATED WITH MASSDOT, THE CITY OF SOMERVILLE, AND ACTIVE CONSTRUCTION PROJECTS, INCLUDING BUT NOT LIMITED TO THE GREEN LINE EXTENSION.
  - MAXIMUM 1 DURING FREE OPERATION.
  - MAXIMUM 2 DURING COORDINATED OPERATION.
  - B = BIKE

EXISTING NEMA DUAL RING PHASING NOTES

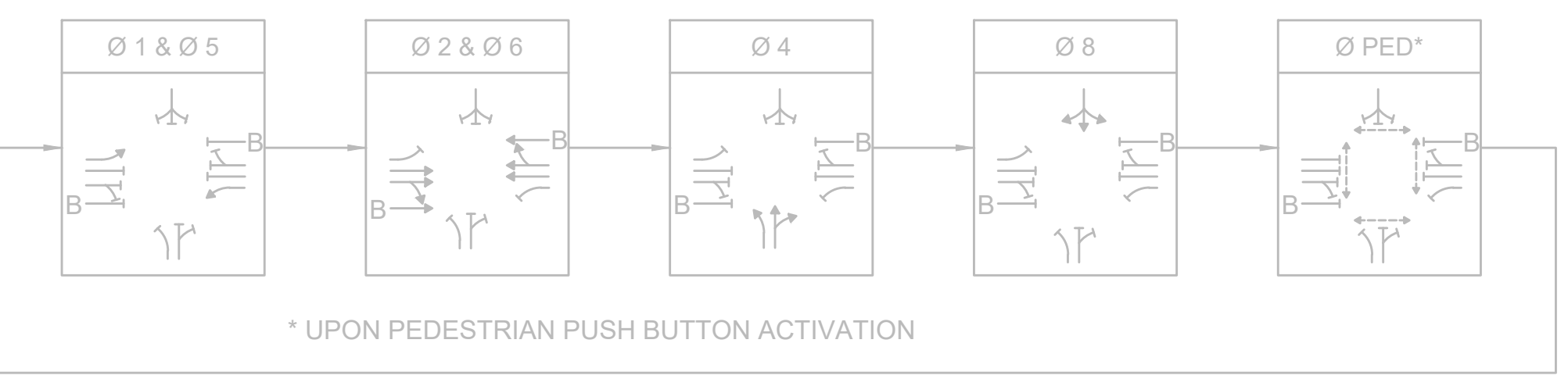


- NOTES:
- PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
  - PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
  - THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
  - IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.
  - THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
  - IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASING SEQUENCE.
  - FLASHING OPERATION IS FOR EMERGENCY ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY.
  - PEDESTRIAN PHASE UPON PUSHBUTTON ACTIVATION ONLY.
  - FLASHING DON'T WALK TO END AT THE END OF GREEN OF CONCURRENT VEHICULAR PHASE.

EXISTING SIGNAL IDENTIFICATION



EXISTING PREFERENTIAL PHASE SEQUENCE



EXISTING EMERGENCY VEHICLE PRE-EMPTION SCHEDULE

APPROACH	DETECTOR	PRE-EMPTION PHASE	NEXT PHASE CALLED
EASTBOUND	D4	Ø 4	Ø 2 & Ø 6
NORTHBOUND	D1	Ø 2	Ø 8
SOUTHBOUND	D2	Ø 6	Ø 4
WESTBOUND	D3	Ø 8	Ø 2 & Ø 6

- EMERGENCY VEHICLE PRE-EMPTION OPERATION NOTES:
- EMERGENCY VEHICLE PRE-EMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
  - PRE-EMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
  - IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PRE-EMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
  - PRE-EMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
  - NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PRE-EMPTION DEMAND.
  - ACTUAL TIMING FOR PRE-EMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

PROPOSED DETECTION DATA

DETECTION ZONE	APPROACH/LANE	CAMERA	DELAY /EXT	CALL PHASE	ADAPTIVE CONTROL
1	ROUTE 28 SB LEFT-TURN LANE	C2	0	Ø1	-
2	ROUTE 28 SB THRU LANE (LEFT)	C2	0	Ø6	-
3	ROUTE 28 SB THRU-RIGHT LANE	C2	0	Ø6	-
4	ROUTE 28 SB BIKE LANE	C2	0	Ø6	-
5	ROUTE 28 NB LEFT-TURN LANE	C1	0	Ø5	-
6	ROUTE 28 NB THRU LANE (LEFT)	C1	0	Ø2	-
7	ROUTE 28 NB THRU-RIGHT LANE	C1	0	Ø2	-
8	ROUTE 28 NB BIKE LANE	C1	0	Ø2	-
9	PEARL ST EB LEFT/THRU LANE	C2	0	Ø4	-
10	PEARL ST EB RIGHT-TURN LANE	C2	0	Ø4	-
11	PEARL ST WB LANE	C2	0	Ø8	-
17	ROUTE 28 SB LEFT-TURN LANE	C2	0	-	Ø1
18	ROUTE 28 SB THRU LANE (LEFT)	C2	0	-	Ø6
19	ROUTE 28 SB THRU-RIGHT LANE	C2	0	-	Ø6
20	ROUTE 28 NB LEFT-TURN LANE	C1	0	-	Ø5
21	ROUTE 28 NB THRU LANE (LEFT)	C1	0	-	Ø2
22	ROUTE 28 NB THRU-RIGHT LANE	C1	0	-	Ø2
23	PEARL ST EB LEFT/THRU LANE	C2	0	-	Ø4
24	PEARL ST EB RIGHT-TURN LANE	C2	0	-	Ø4
25	PEARL ST WB LANE	C2	0	-	Ø8
33	ROUTE 28 SB DEPARTURE (LEFT)	C2	0	-	SYSTEM
34	ROUTE 28 SB DEPARTURE (RIGHT)	C2	0	-	SYSTEM
35	ROUTE 28 NB DEPARTURE (LEFT)	C1	0	-	SYSTEM
36	ROUTE 28 NB DEPARTURE (RIGHT)	C1	0	-	SYSTEM
37	ROUTE 28 NB TWO-STAGE TURN BIKE BOX	C1	0	-	SYSTEM
38	ROUTE 28 SB TWO-STAGE TURN BIKE BOX	C2	0	-	SYSTEM

- NOTES:
- DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING PROPOSED DETECTION ZONES AS SHOWN ON THE PLANS, AND ADJUSTING/READJUSTING DETECTION ZONES IN THE PRESENCE OF THE ENGINEER.
  - DETECTION ZONES SHALL RECORD VOLUME AND OCCUPANCY.

PROPOSED LIST OF MAJOR ITEMS REQUIRED  
MCGRATH HIGHWAY AT PEARL STREET

PAY ITEM	QUANTITY	DESCRIPTION
816.06	1	ATC CONTROLLER W/TYPE ATC 32/48 CABINET WITH INTERNAL ADAPTIVE CONTROL BY CYCLE/SPLIT/OFFSET ON MODIFIED FOUNDATION
	1	EMERGENCY PRE-EMPTION 4 CHANNEL PHASE SELECTOR
	1	EMERGENCY PRE-EMPTION SYSTEM CHASIS
	1	ADAPTIVE OPERATION ELEMENTS (HARDWARE/SOFTWARE) WITH LICENSE
	1	TSP LICENSE
	1	FIBER OPTIC PATCH PANEL
	1	FIBER OPTIC ETHERNET SWITCH, 8-PAIRS
	1	SINGLE POINT VIDEO DETECTION SYSTEM (2 CAMERAS, VDP & CABLES)
	1	SINGLE MODE 24 STRAND FIBER OPTIC CABLE
813.792	1100±	SINGLE MODE 24 STRAND FIBER OPTIC CABLE

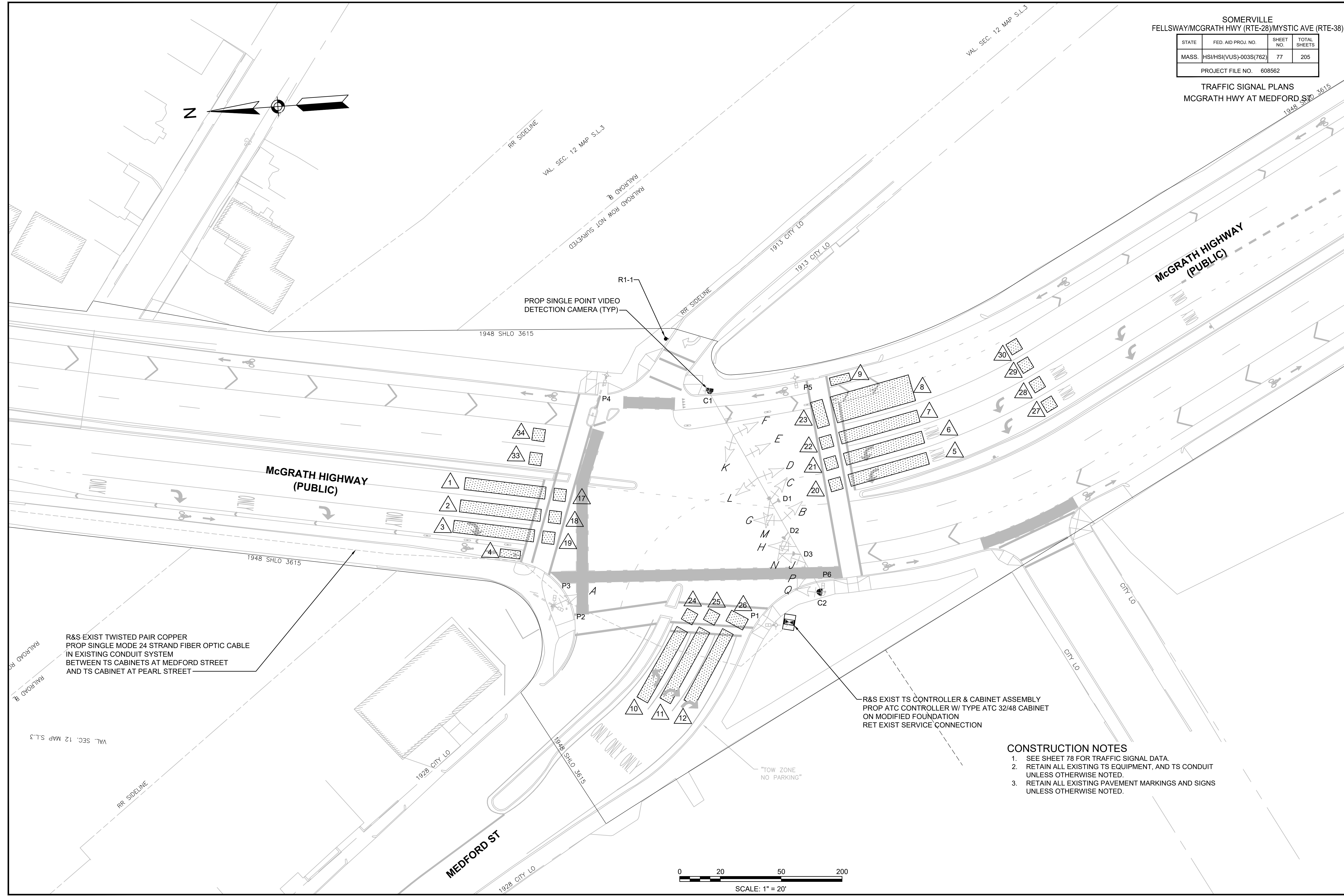
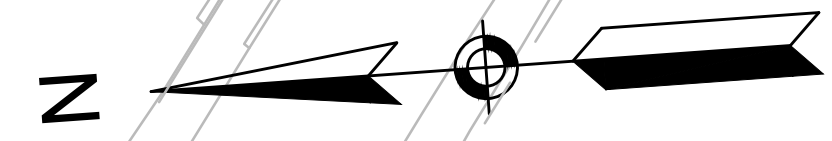
PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	77	205

PROJECT FILE NO. 608562

TRAFFIC SIGNAL PLANS  
 MCGRATH HWY AT MEDFORD ST



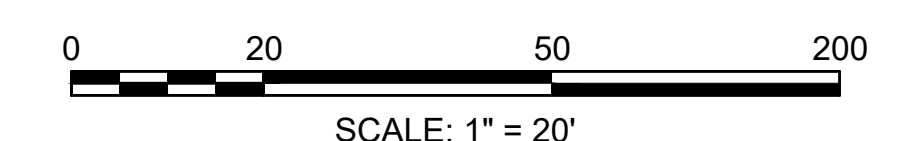
R1-1  
 PROP SINGLE POINT VIDEO  
 DETECTION CAMERA (TYP)

R&S EXIST TWISTED PAIR COPPER  
 PROP SINGLE MODE 24 STRAND FIBER OPTIC CABLE  
 IN EXISTING CONDUIT SYSTEM  
 BETWEEN TS CABINETS AT MEDFORD STREET  
 AND TS CABINET AT PEARL STREET

R&S EXIST TS CONTROLLER & CABINET ASSEMBLY  
 PROP ATC CONTROLLER W/ TYPE ATC 32/48 CABINET  
 ON MODIFIED FOUNDATION  
 RET EXIST SERVICE CONNECTION

**CONSTRUCTION NOTES**

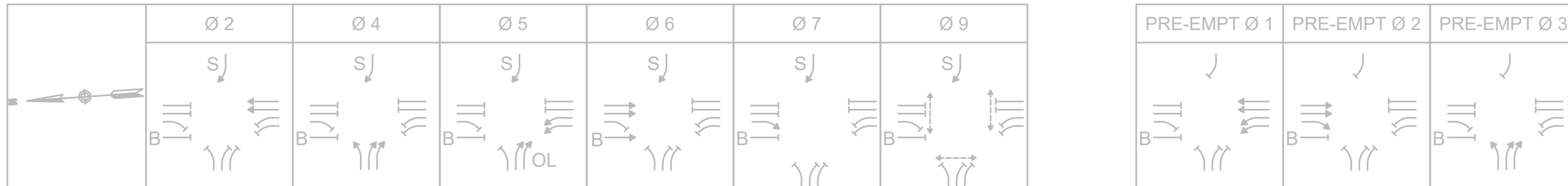
1. SEE SHEET 78 FOR TRAFFIC SIGNAL DATA.
2. RETAIN ALL EXISTING TS EQUIPMENT, AND TS CONDUIT UNLESS OTHERWISE NOTED.
3. RETAIN ALL EXISTING PAVEMENT MARKINGS AND SIGNS UNLESS OTHERWISE NOTED.



SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	78	205
PROJECT FILE NO. 608662			

TRAFFIC SIGNAL PLANS  
MCGRATH HWY AT MEDFORD ST



PROPOSED DETECTION DATA

DETECTION ZONE	APPROACH/LANE	CAMERA	DELAY /EXT	CALL PHASE	ADAPTIVE CONTROL
1	ROUTE 28 SB THRU LANE (LEFT)	C2	0	Ø6	-
2	ROUTE 28 SB THRU LANE (RIGHT)	C2	0	Ø6	-
3	ROUTE 28 SB RIGHT-TURN LANE	C2	0	Ø7	-
4	ROUTE 28 SB BIKE LANE	C2	0	Ø6	-
5	ROUTE 28 NB LEFT-TURN LANE (LEFT)	C1	0	Ø5	-
6	ROUTE 28 NB LEFT-TURN LANE (RIGHT)	C1	0	Ø5	-
7	ROUTE 28 NB THRU LANE (LEFT)	C1	0	Ø2	-
8	ROUTE 28 NB THRU LANE (RIGHT)	C1	0	Ø2	-
9	ROUTE 28 NB BIKE LANE	C1	0	Ø2	-
10	MEDFORD ST EB LEFT-TURN LANE	C2	0	Ø4	-
11	MEDFORD ST EB RIGHT-TURN LANE (LEFT)	C2	0	Ø4	-
12	MEDFORD ST EB RIGHT-TURN LANE (RIGHT)	C2	0	Ø4	-
17	ROUTE 28 SB THRU LANE (LEFT)	C2	0	-	Ø6
18	ROUTE 28 SB THRU LANE (RIGHT)	C2	0	-	Ø6
19	ROUTE 28 SB RIGHT-TURN LANE	C2	0	-	Ø7
20	ROUTE 28 NB LEFT-TURN LANE (LEFT)	C1	0	-	Ø5
21	ROUTE 28 NB LEFT-TURN LANE (RIGHT)	C1	0	-	Ø5
22	ROUTE 28 NB THRU LANE (LEFT)	C1	0	-	Ø2
23	ROUTE 28 NB THRU LANE (RIGHT)	C1	0	-	Ø2
24	MEDFORD ST EB LEFT-TURN LANE	C2	0	-	Ø4
25	MEDFORD ST EB RIGHT-TURN LANE (LEFT)	C2	0	-	Ø4
26	MEDFORD ST EB RIGHT-TURN LANE (RIGHT)	C2	0	-	Ø4
27	ROUTE 28 NB LEFT-TURN LANE (LEFT)	C1	0	-	SYSTEM
28	ROUTE 28 NB LEFT-TURN LANE (RIGHT)	C1	0	-	SYSTEM
29	ROUTE 28 NB THRU LANE (LEFT)	C1	0	-	SYSTEM
30	ROUTE 28 NB THRU LANE (RIGHT)	C1	0	-	SYSTEM
33	ROUTE 28 NB DEPARTURE (LEFT)	C1	0	-	COUNTING
34	ROUTE 28 NB DEPARTURE (RIGHT)	C1	0	-	COUNTING

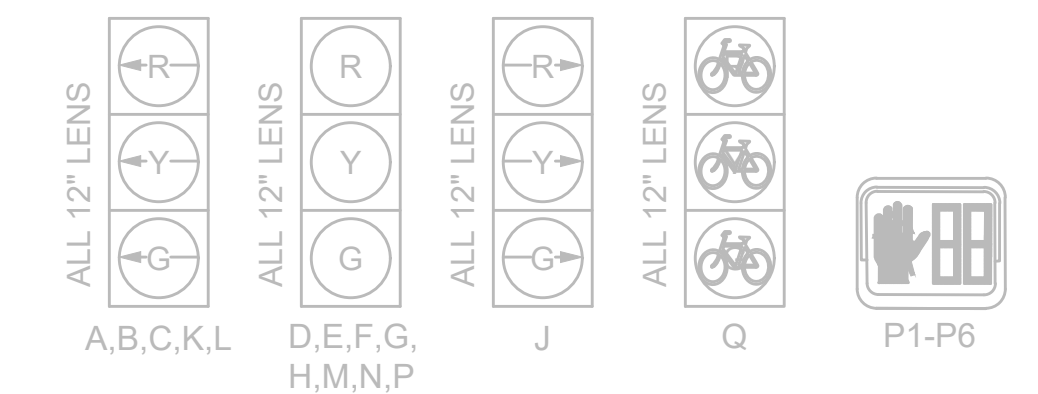
EXISTING SEQUENCE AND TIMING FOR ACTUATED-COORDINATED CONTROL

STREET	DIRECTION	HOUSINGS	PHASES																FLASH OP	EMERGENCY ONLY								
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17	18	19	20	21	22	23	24	25
MCGRATH HIGHWAY	NB LT	A,B,C	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL	GL	YL	RL	RL	RL	RL	RL	RL
MCGRATH HIGHWAY	NB TH	D,E,F	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	G	Y	R	R	R	R	R	R
MCGRATH HIGHWAY	SB TH	G,H	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY	R	R	R	G	Y	R	R	R
MCGRATH HIGHWAY	SB RT	J	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	FRR	RR	RR	RR	GR	YR	RR	RR	RR
MCGRATH HIGHWAY - BIKE	SB TH	Q	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	FR	R	R	R	R	R	R	R	R
MEDFORD STREET	EB LT	K,L	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL	RL	RL	RL	RL	RL	GL	YL	RL	
MEDFORD STREET	EB RT	M,N,P	R	R	R	G	Y	R	G	Y	R	R	R	R	R	R	R	R	FR	R	R	R	R	R	G	Y	R	
PEDESTRIAN	EB-WB	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	
PEDESTRIAN	EB-WB	P5-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	
PEDESTRIAN	NB-SB	P1,P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT	DW	DW	DW	DW	DW	DW	DW	DW	

NOTES:

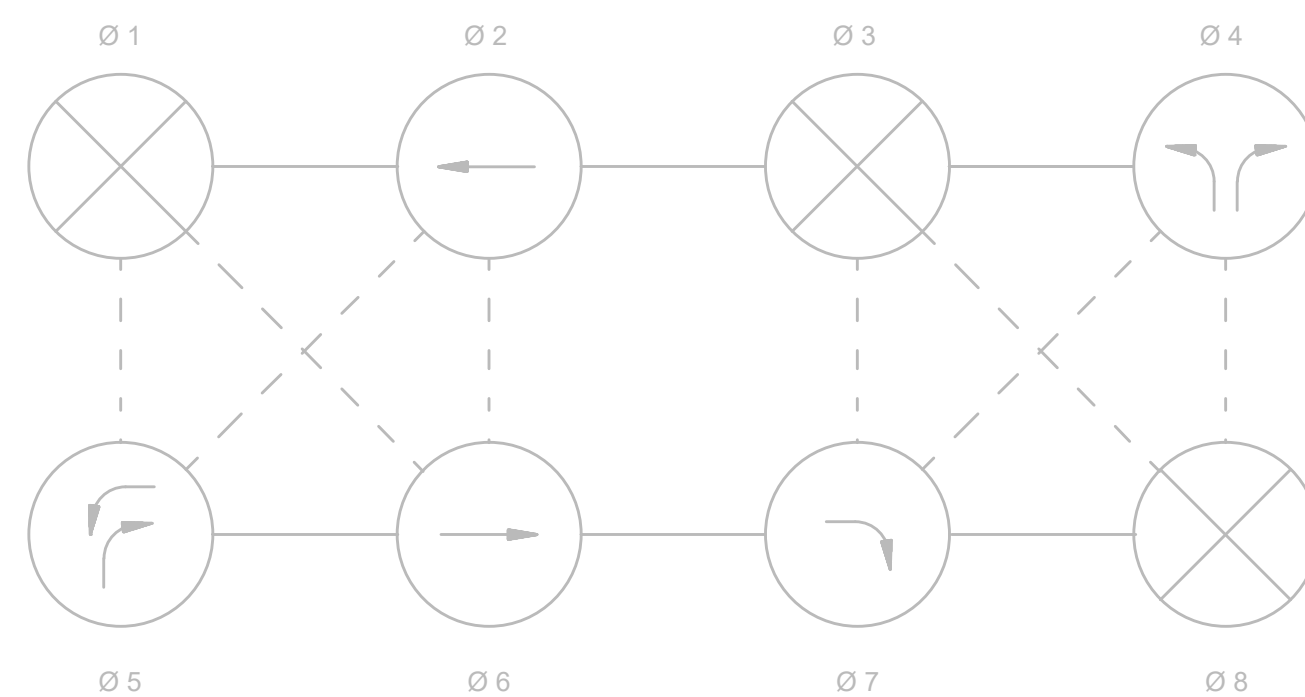
- PEDESTRIAN PHASING PROVIDED UPON PEDESTRIAN ACTUATION.
- AUTOMATIC FLASHING OPERATION PER M.U.T.C.D.
- OL = OVERLAP, S = STOP CONTROL
- SIGNAL TO OPERATE USING NEMA DUAL RING PHASING.
- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE, OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH PREFERENTIAL PHASING SEQUENCE.
- TRAFFIC SIGNAL COORDINATION WITH ADJACENT INTERSECTIONS WILL BE COORDINATED WITH MASSDOT, THE CITY OF SOMERVILLE, AND ACTIVE CONSTRUCTION PROJECTS, INCLUDING BUT NOT LIMITED TO THE GREEN LINE EXTENSION.
- MAXIMUM 1 DURING FREE OPERATION.
- MAXIMUM 2 DURING COORDINATED OPERATION.
- B = BIKE

EXISTING SIGNAL IDENTIFICATION



- NOTES:
- ALL PROPOSED SIGNALS SHALL HAVE CUT AWAY VISORS.
  - ALL PROPOSED SIGNAL FACES SHALL HAVE 5" NON-LOUVERED BACKPLATES WITH 3" YELLOW RETROREFLECTIVE BORDERS.

NEMA DUAL RING PHASING NOTES



NOTES:

- PHASES ASSOCIATED BY A SOLID LINE SHALL NOT OPERATE CONCURRENTLY.
- PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY.
- THROUGH MOVEMENTS MAY INCLUDE RIGHT TURNS.
- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT SHALL NOT CHANGE DURING THE CHANGE INTERVAL(S) UNLESS OTHERWISE NOTED.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- FLASHING OPERATION IS FOR EMERGENCY ONLY. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS DAILY.
- PEDESTRIAN PHASE UPON PUSHBUTTON ACTIVATION ONLY.
- FLASHING DON'T WALK TO END AT THE END OF GREEN OF CONCURRENT VEHICULAR PHASE.

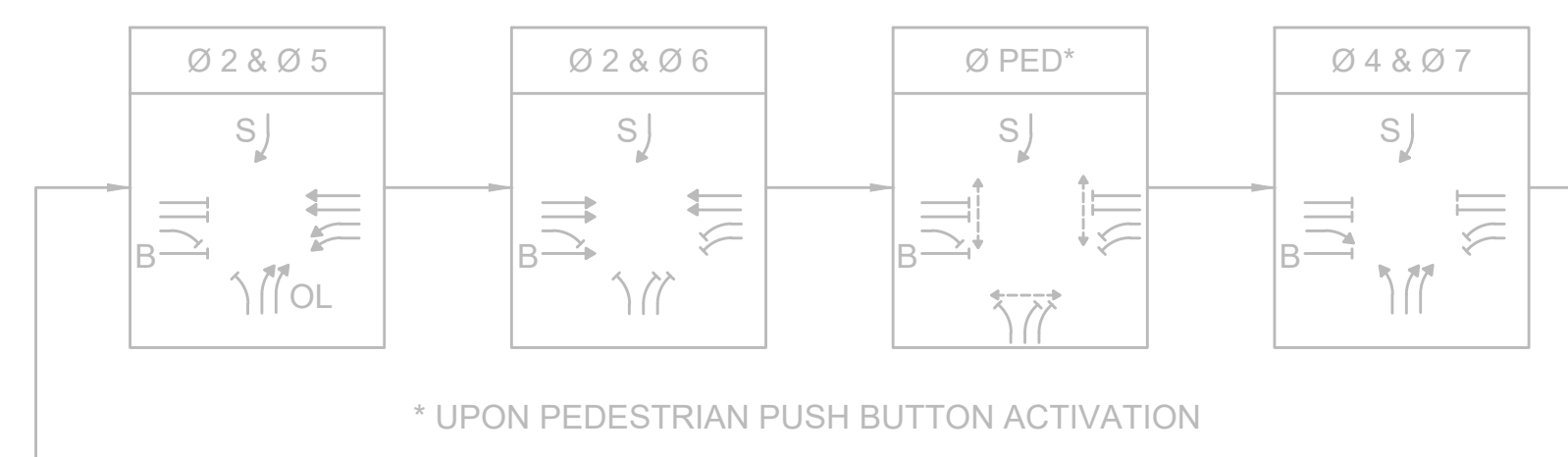
EXISTING EMERGENCY VEHICLE PRE-EMPTION SCHEDULE

APPROACH	DETECTOR	PRE-EMPTION PHASE	NEXT PHASE CALLED
EASTBOUND	D3	Ø 4	Ø 2 & Ø 5
NORTHBOUND	D1	Ø 2	Ø 2 & Ø 6
SOUTHBOUND	D2	Ø 6	Ø 2 & Ø 6

EMERGENCY VEHICLE PRE-EMPTION OPERATION NOTES:

- EMERGENCY VEHICLE PRE-EMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
- PRE-EMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
- IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAN TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PRE-EMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
- PRE-EMPTION MINIMUM GREENS SHALL BE TEN SECONDS.
- NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PRE-EMPTION DEMAND.
- ACTUAL TIMING FOR PRE-EMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

EXISTING PREFERENTIAL PHASE SEQUENCE



PROPOSED LIST OF MAJOR ITEMS REQUIRED

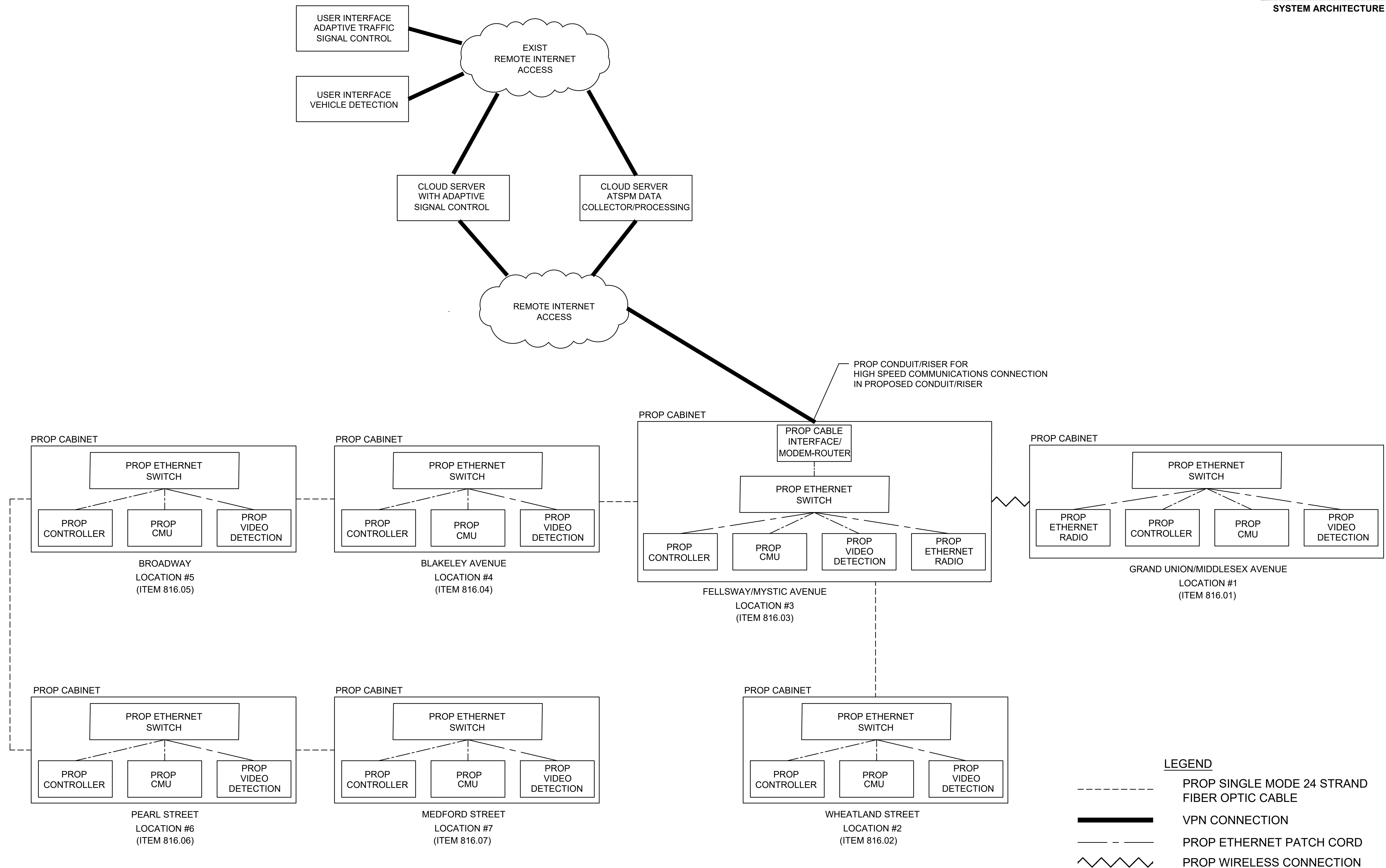
MCGRATH HIGHWAY AT MEDFORD STREET		
PAY ITEM	QUANTITY	DESCRIPTION
816.07	1	ATC CONTROLLER W/TYPE ATC 32/48 CABINET WITH INTERNAL ADAPTIVE CONTROL BY CYCLE/SPLIT/OFFSET ON MODIFIED FOUNDATION
	1	EMERGENCY PRE-EMPTION 4 CHANNEL PHASE SELECTOR
	1	EMERGENCY PRE-EMPTION SYSTEM CHASIS
	1	ADAPTIVE OPERATION ELEMENTS (HARDWARE/SOFTWARE) WITH LICENSE
	1	TSP LICENSE
	1	FIBER OPTIC PATCH PANEL
	1	FIBER OPTIC ETHERNET SWITCH, 8-PAIRS
	1	SINGLE POINT VIDEO DETECTION SYSTEM (2 CAMERAS, VDP & CABLES)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	79	205

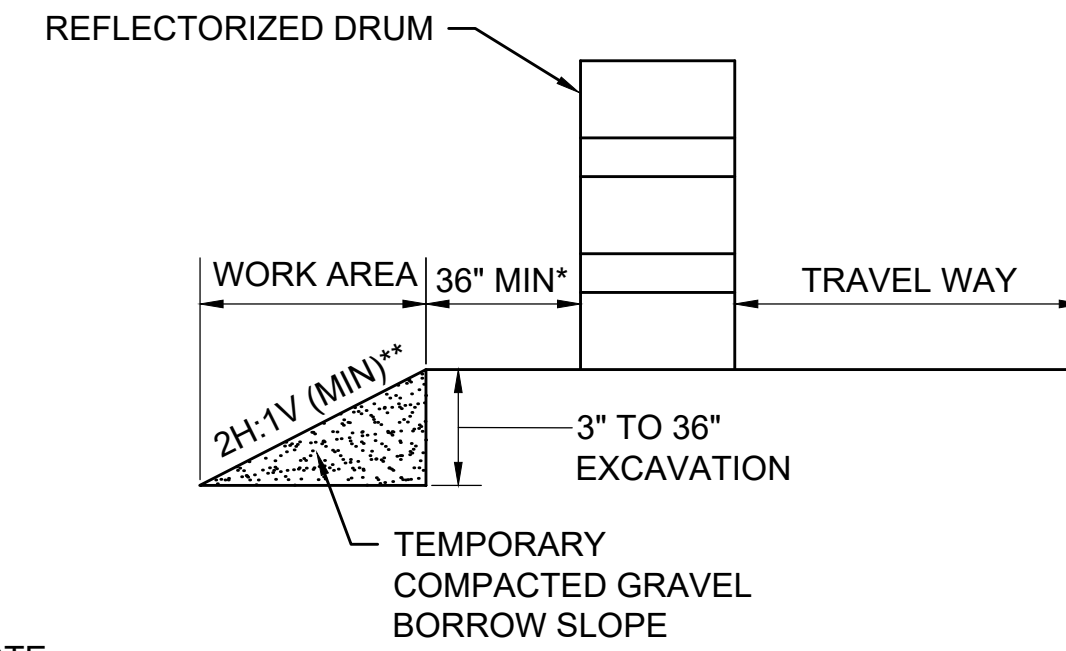
PROJECT FILE NO. 608562  
**SYSTEM ARCHITECTURE PLAN**

### ADAPTIVE TRAFFIC CONTROL SYSTEM - MCGRATH HIGHWAY (ROUTE 28)



**GENERAL NOTES**

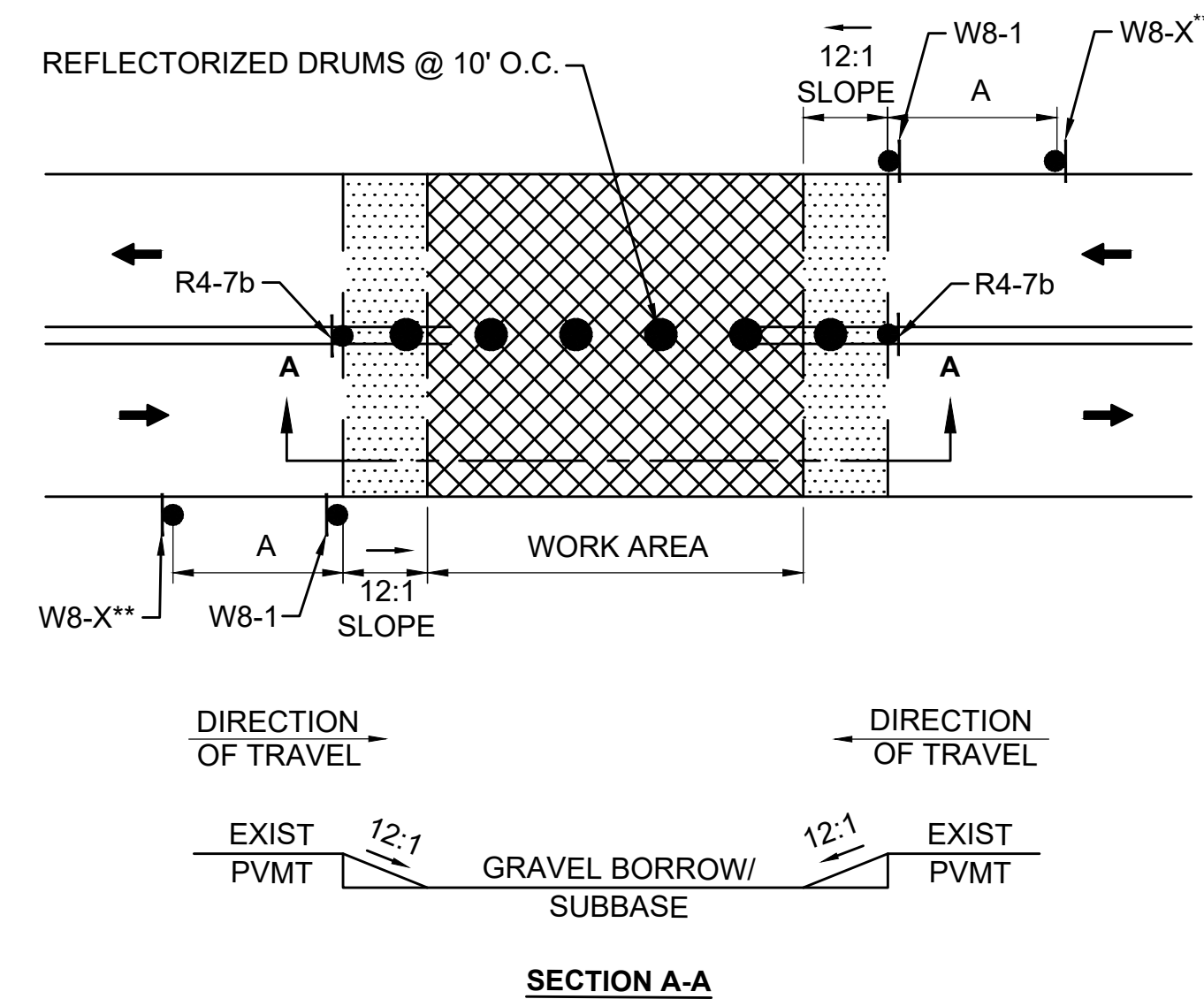
- ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- WORK HOURS SHALL BE AS REQUIRED BY MASSDOT DISTRICT 4. NO WORK THAT WILL DISRUPT TRAVEL ON THE EXISTING ROADWAYS (LANE CLOSURES, LANE SHIFTS, TRENCHING, ETC.) SHALL BE DONE FROM 6:00AM TO 9:00AM AND FROM 3:00PM TO 6:00PM. NO WORK SHALL BE DONE ON THIS CONTRACT ON SATURDAYS, SUNDAYS OR HOLIDAYS OR ON THE DAY BEFORE OR THE DAY AFTER A LONG WEEKEND WHICH INVOLVES A HOLIDAY WITHOUT PRIOR APPROVAL BY THE ENGINEER. NIGHT WORK MAY BE ALLOWED FOR SELECT CONSTRUCTION ACTIVITIES (UTILITY CONNECTIONS, MILLING, PAVING, PAVEMENT MARKING INSTALLATION, ETC.) AS APPROVED BY THE ENGINEER, MASSDOT AND THE CITY OF SOMERVILLE. ALL EQUIPMENT AND PERSONNEL MUST BE REMOVED FROM THE ROADWAY PRIOR TO 5:00 AM. THE CONTRACTOR MAY REQUEST ADDITIONAL WORK HOURS INCLUDING NIGHTS THROUGH THE MASSDOT DISTRICT HIGHWAY DIRECTOR.
- NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY THE DAY BEFORE, AFTER OR ON A STATE RECOGNIZED HOLIDAY UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
- ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE FIRST 10 DRUMS ON TAPERS SHALL BE REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AND SHALL BE OPERATING, AT A MINIMUM, BETWEEN DUSK AND DAWN, WHEN TAPER IS DEPLOYED.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
- FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES.
- CONTRACTOR SHALL STAGE WORK SUCH THAT A DROP-OFF OF NO MORE THAN 3" AT THE END OF EACH WORK DAY EXISTS WITHIN THE CLEAR ZONE AT ANY TIME AND ENSURE DROP-OFF IS MITIGATED WITHOUT BARRIER PER NOTE 11.
- CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:  
 4' IF POSTED SPEED IS LESS THAN 35 MPH  
 8' IF POSTED SPEED IS 35 MPH  
 15' IF POSTED SPEED IS 40 MPH
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN. CONTRACTOR SHALL MAINTAIN A MINIMUM SIDEWALK HORIZONTAL CLEAR WIDTH OF 36" AT ALL TIMES.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD. SIGNS SHALL NOT BE MOUNTED TO OR LEANED AGAINST DRUMS OR CONES.
- W21-7 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF AREAS WHERE UTILITY CASTINGS HAVE BEEN RAISED IN ADVANCE OF PAVING OPERATIONS OR AS REQUESTED BY THE ENGINEER.
- W8-15 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF PAVEMENT MILLING AREAS OR AS REQUESTED BY THE ENGINEER.
- W20-1c, MA-R2-10a OR MA-R2-10e SIGNS SHOWN ON ADVANCE SIGN SCHEMATIC ON SHEET 111 MAY BE USED IN LIEU OF THOSE SIGNS SHOWN ON TYPICAL DETAILS ON THE TEMPORARY TRAFFIC CONTROL PLANS IF MINIMUM SIGN SPACING IS MET.
- CONTRACTOR SHALL SECURE WORK AREAS BY APPROPRIATE MEANS, TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
- THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC.
- NIGHTTIME WORK SHALL REQUIRE PRIOR APPROVAL FROM MASSDOT.
- ILLUMINATION REQUIRED FOR NIGHTTIME WORK APPROVED BY THE ENGINEER SHALL BE DIFFUSED OR ANTI-GLARE LIGHTING AND IN ACCORDANCE WITH MASSDOT STANDARDS.
- CONTRACTOR SHALL PROVIDE 4 PORTABLE CHANGE MESSAGE SIGN (PCMS) A MINIMUM OF 14 DAYS PRIOR TO AND POST START OF CONSTRUCTION. PCMS LOCATION TO BE DETERMINED AT 75% SUBMITTAL.



- NOTE:**
- CONTRACTOR SHALL INSTALL W8-9 SIGN ON ALL ROADWAYS 350 FEET IN ADVANCE OF THE START OF DROP-OFF CONDITION.
  - \*OFFSET MAY BE REDUCED TO 24" WIDTH IF FLATTER SLOPE OF 4H:1V CAN BE PROVIDED.
  - \*\*FLATTER SLOPE (4H:1V OR GREATER) SHALL BE USED, IF SPACE IS AVAILABLE AN NO SITE CONSTRAINTS EXISTS.

**TYPICAL ROADWAY DROP-OFF PROTECTION**

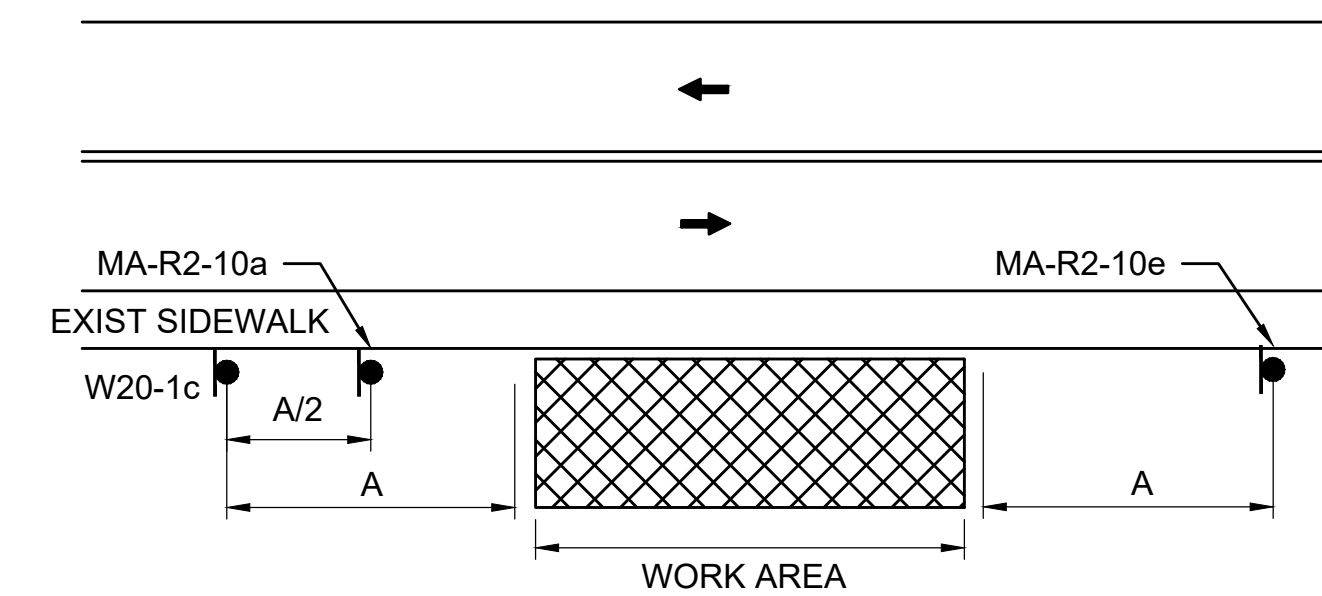
SCALE: NTS DWG: TTCP1f DATE: FEB 2022



- NOTES:**
- SQUARE OFF THE FULL WIDTH OF THE ROADWAY AT THE END OF WORK DAY.
  - \*\* CONTRACTOR SHALL INSTALL W8-1 AT LIMIT OF EXCAVATION AND A W8-3, W8-8, OR W8-15 SIGN, AS APPROPRIATE, ON ALL ROADWAYS IN ADVANCE OF THE TRANSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  - R4-7b SIGNS AND DRUMS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

**TEMPORARY PAVEMENT TRANSITION**

SCALE: NTS DWG: TTCP1g DATE: FEB 2022



**OFF ROADWAY - RIGHT**

SCALE: NTS

SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	80	205
PROJECT FILE NO. 608562			

**TEMPORARY TRAFFIC CONTROL PLANS  
GENERAL NOTES AND LEGEND**

LEGEND	
	POLICE OFFICER
	TRAFFIC SIGNAL
	REFLECTORIZED DRUM
	REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS (SEE NOTE 7)
	TEMPORARY CONSTRUCTION SIGN
	TRAFFIC CONE
	TYPE III BARRICADE
	ARROW BOARD (AB) (RIGHT OR LEFT)
	ARROW BOARD (AB) (DOUBLE)
	ARROW BOARD (AB) (CAUTION)
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRANSITION/BUFFER AREAS
	TRAFFIC FLOW
	PEDESTRIAN ROUTE
	CONSTRUCTION FENCE
	TEMPORARY PEDESTRIAN BARRICADE
NTS	NOT TO SCALE
TMA	TRUCK MOUNTED ATTENUATOR
TTCP	TEMPORARY TRAFFIC CONTROL PLANS

**ADVANCE SIGN SPACING**

ROADWAY	DISTANCE BETWEEN SIGNS (FEET)		
	A	B	C
FELLSWAY	500	500	500
MCGRATH HWY MYSTIC AVE	350	350	350
ALL OTHER ROADWAYS	100	100	100

**BUFFER SPACING**

SPEED (MPH)	DISTANCE (FEET)
15	80
20	115
25	155
30	200
35	250
40	305

**LANE TAPER LENGTH FORMULAS**

L= TAPER LENGTH IN FEET

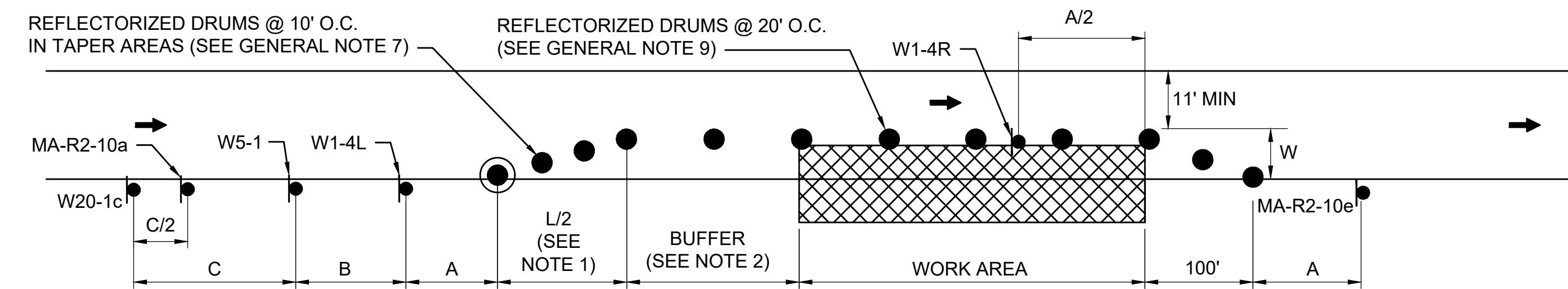
W= WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET

S= POSTED SPEED LIMIT IN MPH

POSTED SPEED
40 MPH OR LESS
$L = \frac{WS^2}{60}$



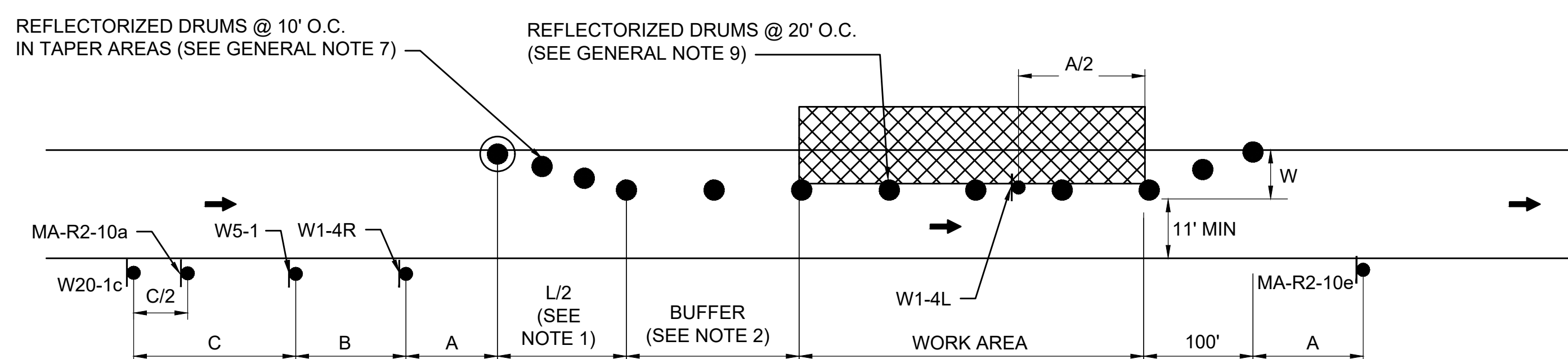
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	81	205
PROJECT FILE NO. 608562			



- NOTES:
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. SEE BUFFER SPACING CHART ON SHEET 80.
  3. SEE ADVANCE SIGN SPACING TABLE ON SHEET 80.

**TYPICAL ONE-WAY STREET LANE SHIFT-LEFT**

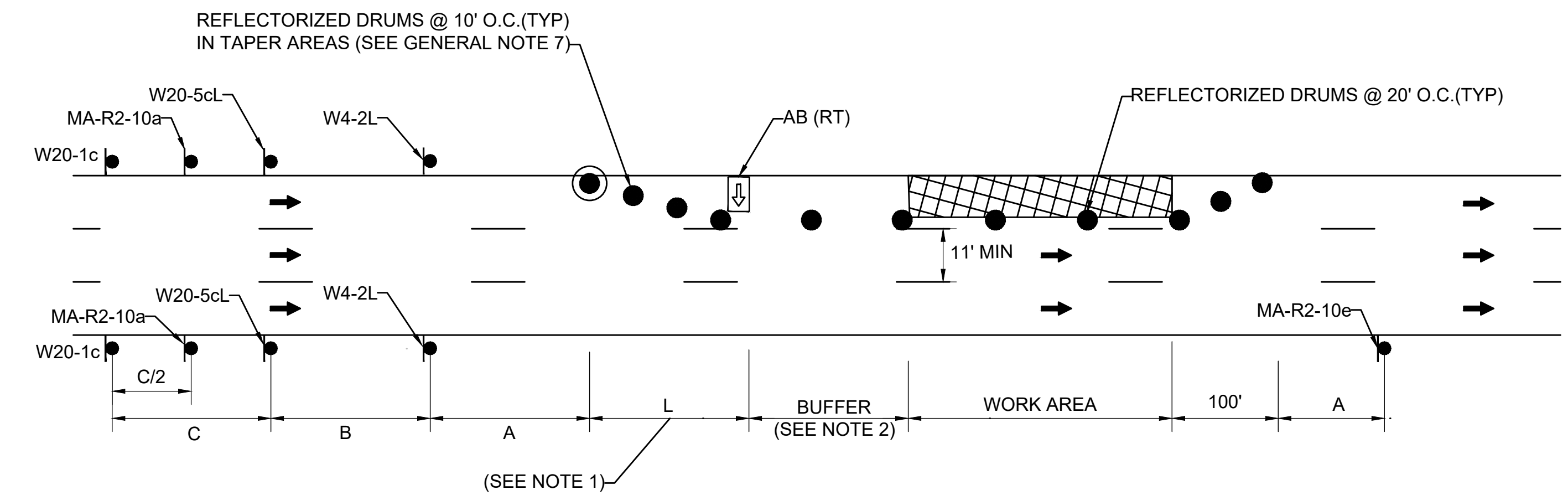
SCALE: NTS



- NOTES:
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. SEE BUFFER SPACING CHART ON SHEET 80.
  3. SEE ADVANCE SIGN SPACING TABLE ON SHEET 80.

**TYPICAL ONE-WAY STREET LANE SHIFT-RIGHT**

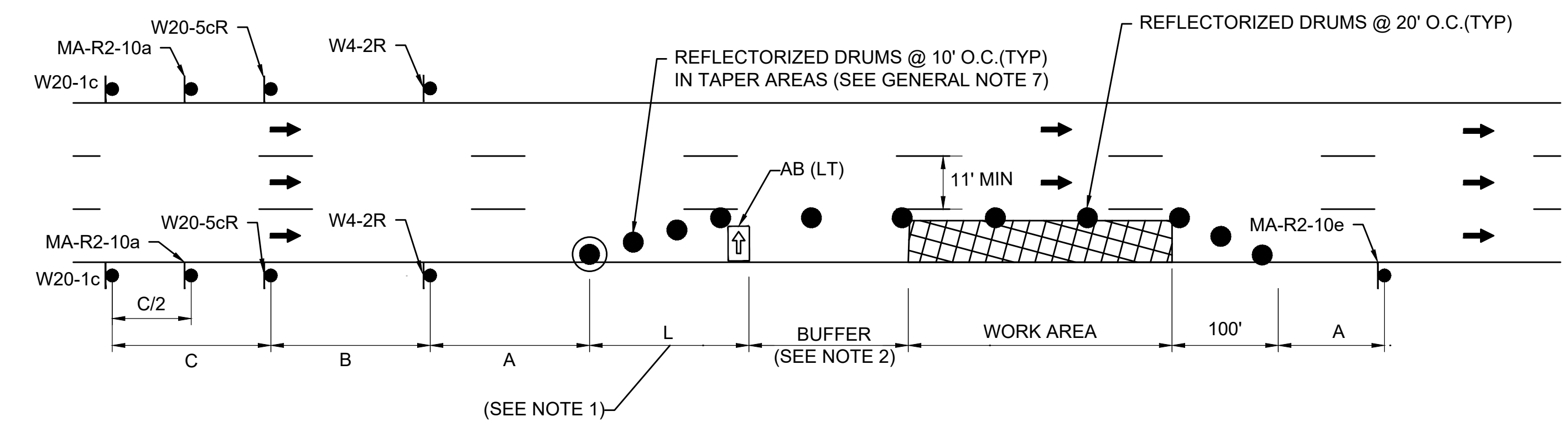
SCALE: NTS



- NOTES:
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. SEE BUFFER SPACING CHART ON SHEET 80.
  3. SEE ADVANCE SIGN SPACING TABLE ON SHEET 80.
  4. NUMBER OF EXIST TRAVEL LANES MAY VARY. THIS DETAIL WILL APPLY FOR TWO OR THREE LANE ROADWAY SECTION.

**TYPICAL ONE LANE CLOSURE - LEFT**

SCALE: NTS

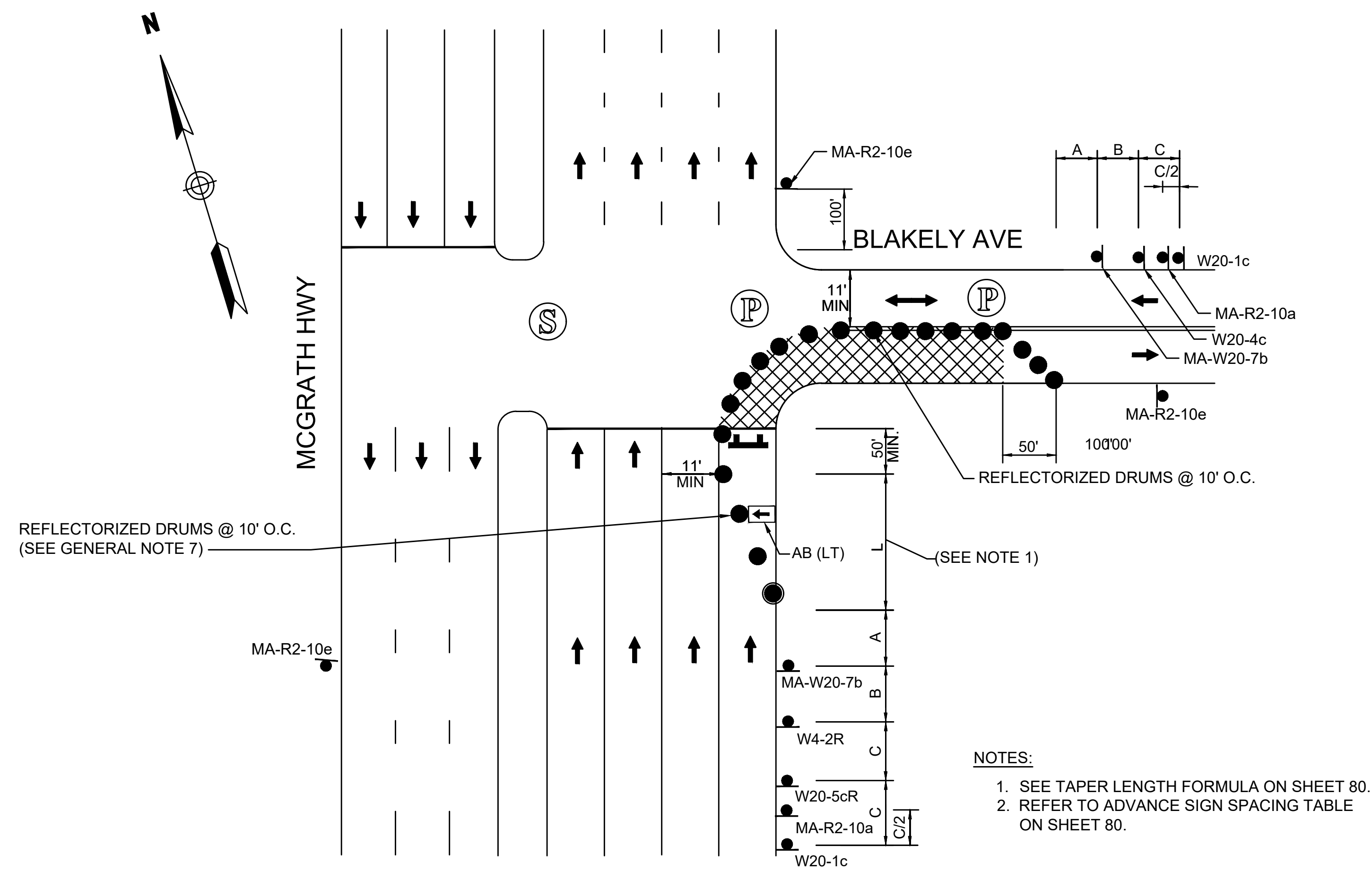


- NOTES:
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. SEE BUFFER SPACING CHART ON SHEET 80.
  3. SEE ADVANCE SIGN SPACING TABLE ON SHEET 80.
  4. NUMBER OF EXIST TRAVEL LANES MAY VARY. THIS DETAIL WILL APPLY FOR TWO OR THREE LANE ROADWAY SECTION.

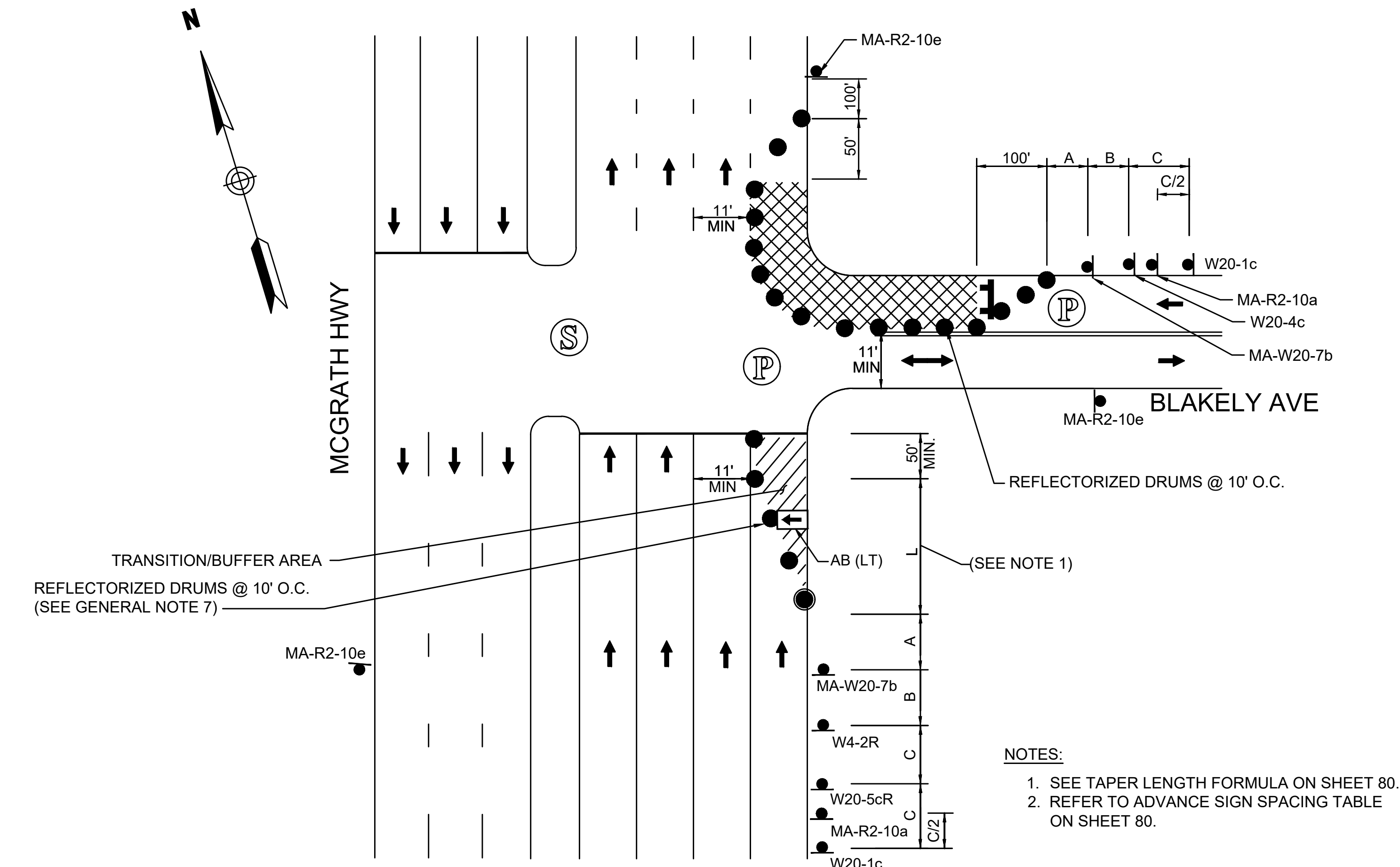
**TYPICAL ONE LANE CLOSURE - RIGHT**

SCALE: NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	82	205
PROJECT FILE NO. 608562			



**WORK ON THE NEAR SIDE OF INTERSECTION WITH MULTILANE APPROACH**  
 SCALE: NTS

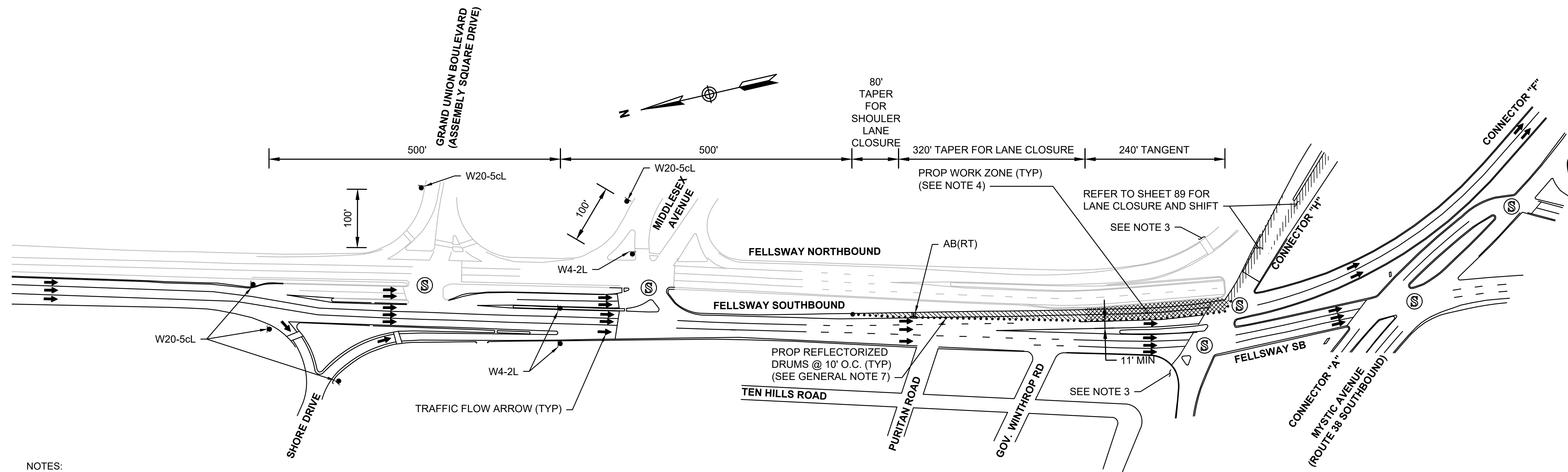


**WORK ON THE FAR SIDE OF INTERSECTION WITH MULTILANE APPROACH**  
 SCALE: NTS

- NOTES:**
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 80.

- NOTES:**
1. SEE TAPER LENGTH FORMULA ON SHEET 80.
  2. REFER TO ADVANCE SIGN SPACING TABLE ON SHEET 80.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	83	205
PROJECT FILE NO. 608562			



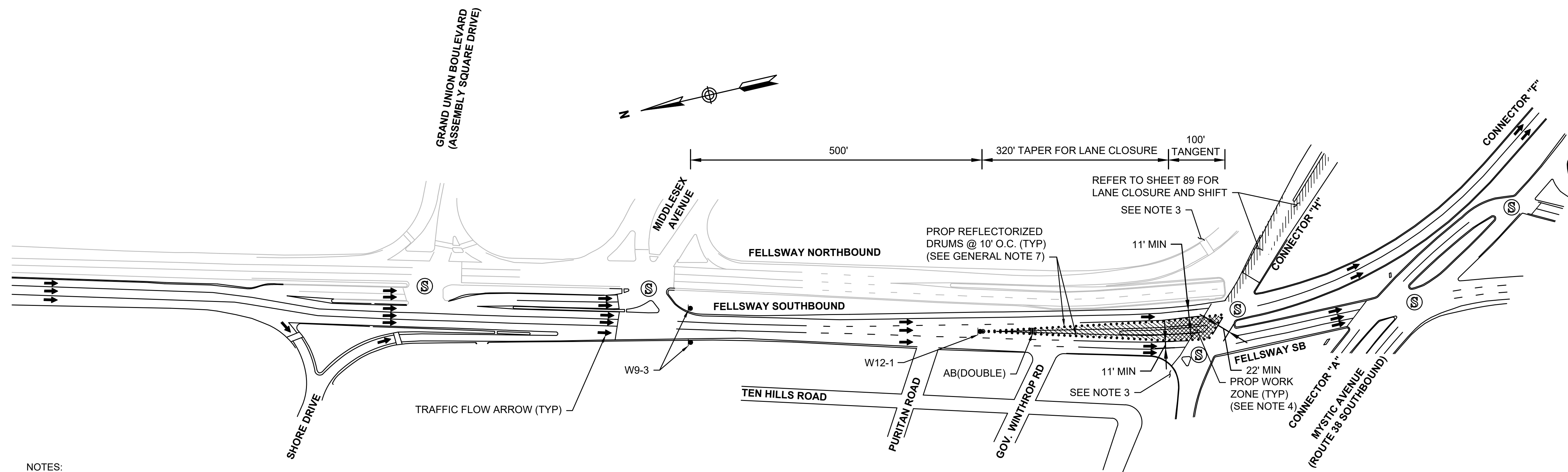
- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. REFER TO PEDESTRIAN DETOUR ON SHEET 105.
  4. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**TAPER CALCULATION**  
 FELLSWAY SOUTHBOUND

LANE CLOSURE	SHOULDER LANE CLOSURE
W = 12'	W = 9'
S = 40 MPH	S = 40 MPH
$L = \frac{WS^2}{60} = 320'$	$L = \frac{WS^2}{60} = 240'$
	L/3 = 80' MIN

**LEFT LANE CLOSURE - FELLSWAY SB - CONNECTOR F**

SCALE: N.T.S.



- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. REFER TO PEDESTRIAN BYPASS DETAILS ON SHEET 105 FOR PEDESTRIAN DETOUR.
  4. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

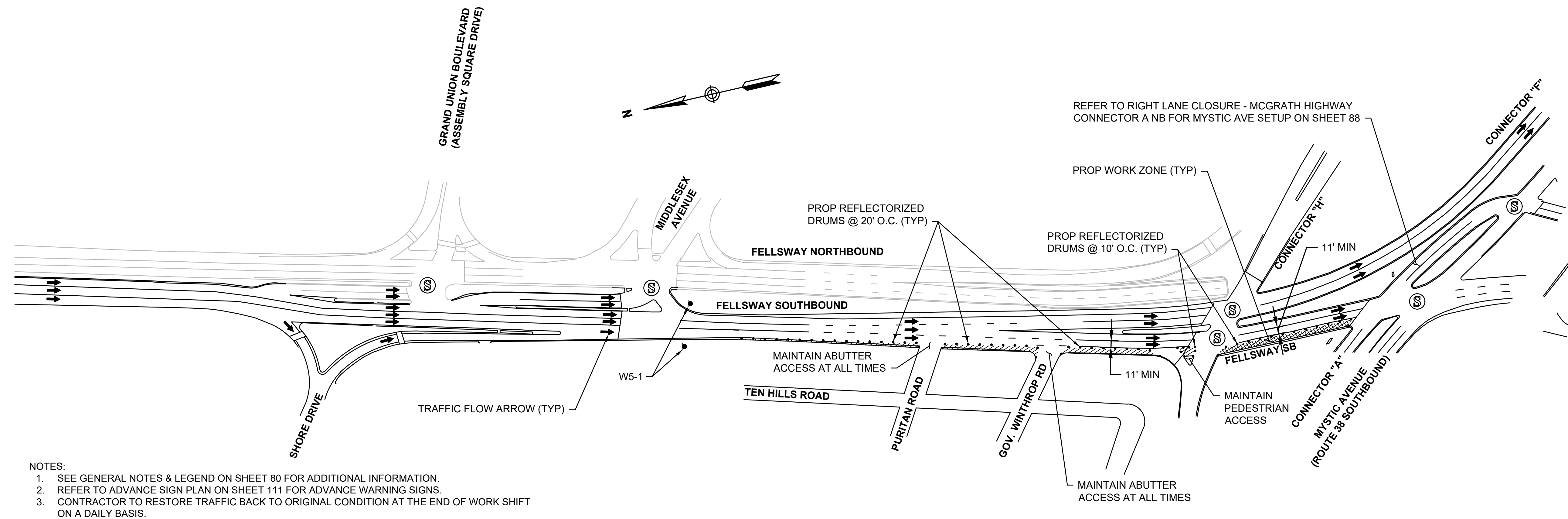
**TAPER CALCULATION**  
 FELLSWAY SOUTHBOUND

LANE SHIFT
W = 12'
S = 40 MPH
$L = \frac{WS^2}{60} = 320'$
L/2 = 83' MIN

**CENTER LANE CLOSURE - FELLSWAY SB - CONNECTOR F**

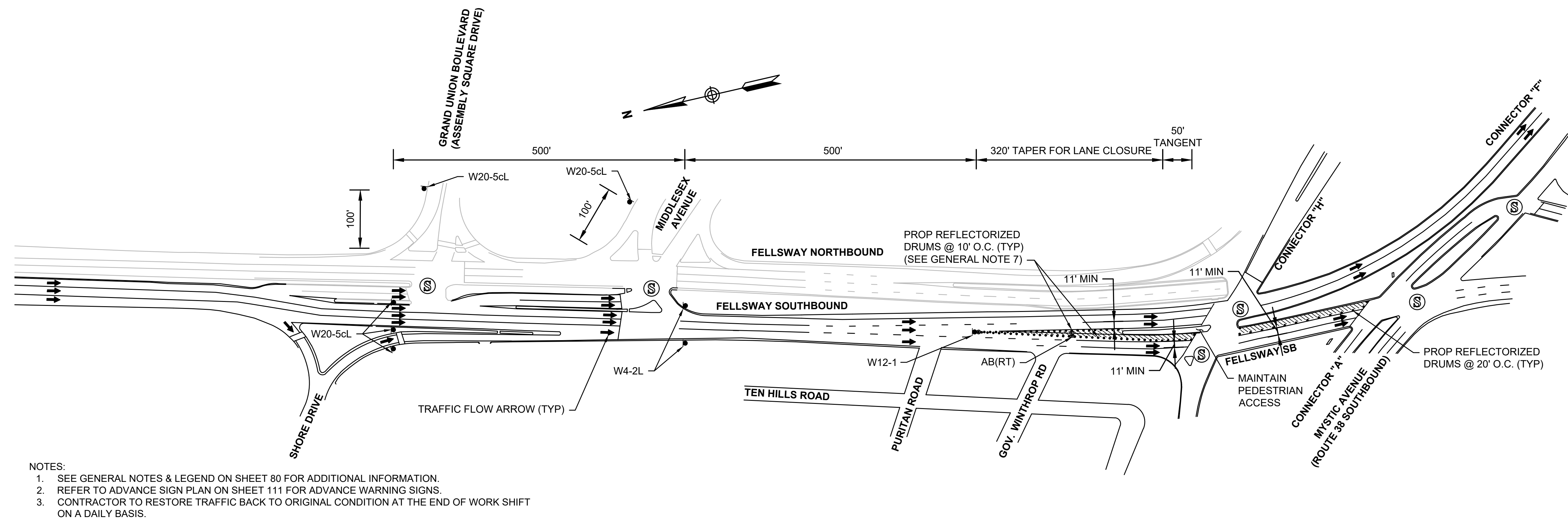
SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	84	205
PROJECT FILE NO. 608562			



**RIGHT LANE CLOSURE - FELLSWAY SB**

SCALE: N.T.S.

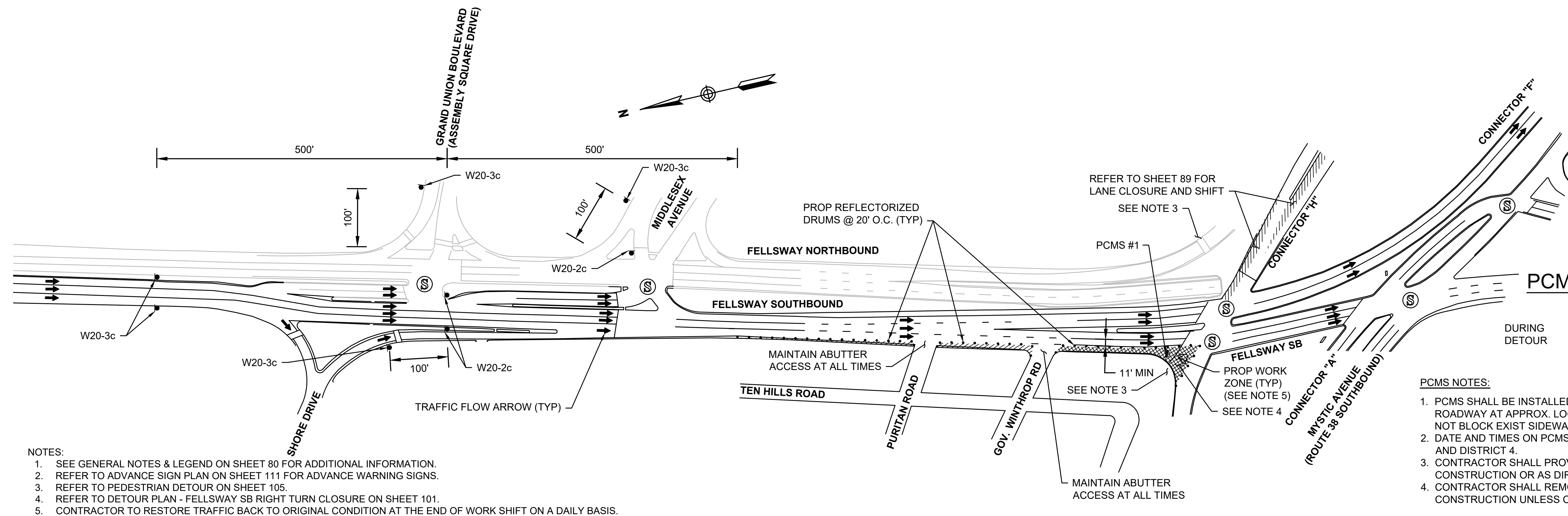


**LEFT LANE CLOSURE - FELLSWAY SB**

SCALE: N.T.S.

TAPER CALCULATION	
FELLSWAY SOUTHBOUND	
LANE SHIFT	
W =	12'
S =	40 MPH
L =	$\frac{WS^2}{60} = 320'$
L/2 =	83' MIN

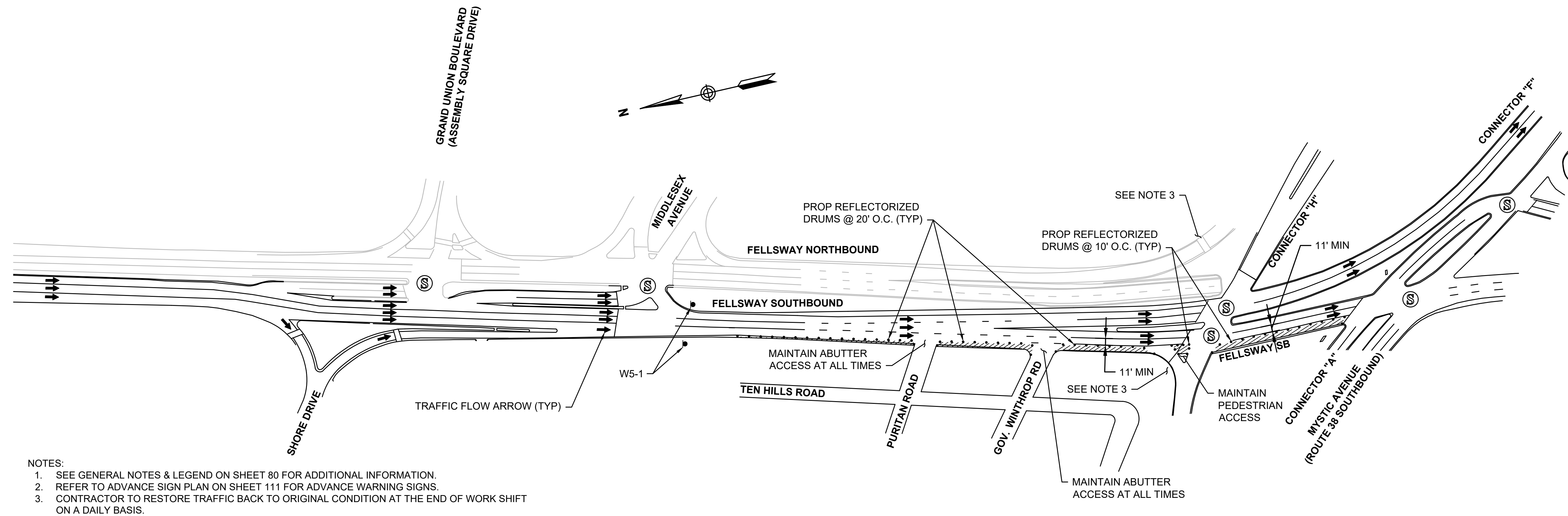
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	85	205
PROJECT FILE NO. 608562			



- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. REFER TO PEDESTRIAN DETOUR ON SHEET 105.
  4. REFER TO DETOUR PLAN - FELLSWAY SB RIGHT TURN CLOSURE ON SHEET 101.
  5. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**RIGHT TURN LANE CLOSURE - FELLSWAY SB**

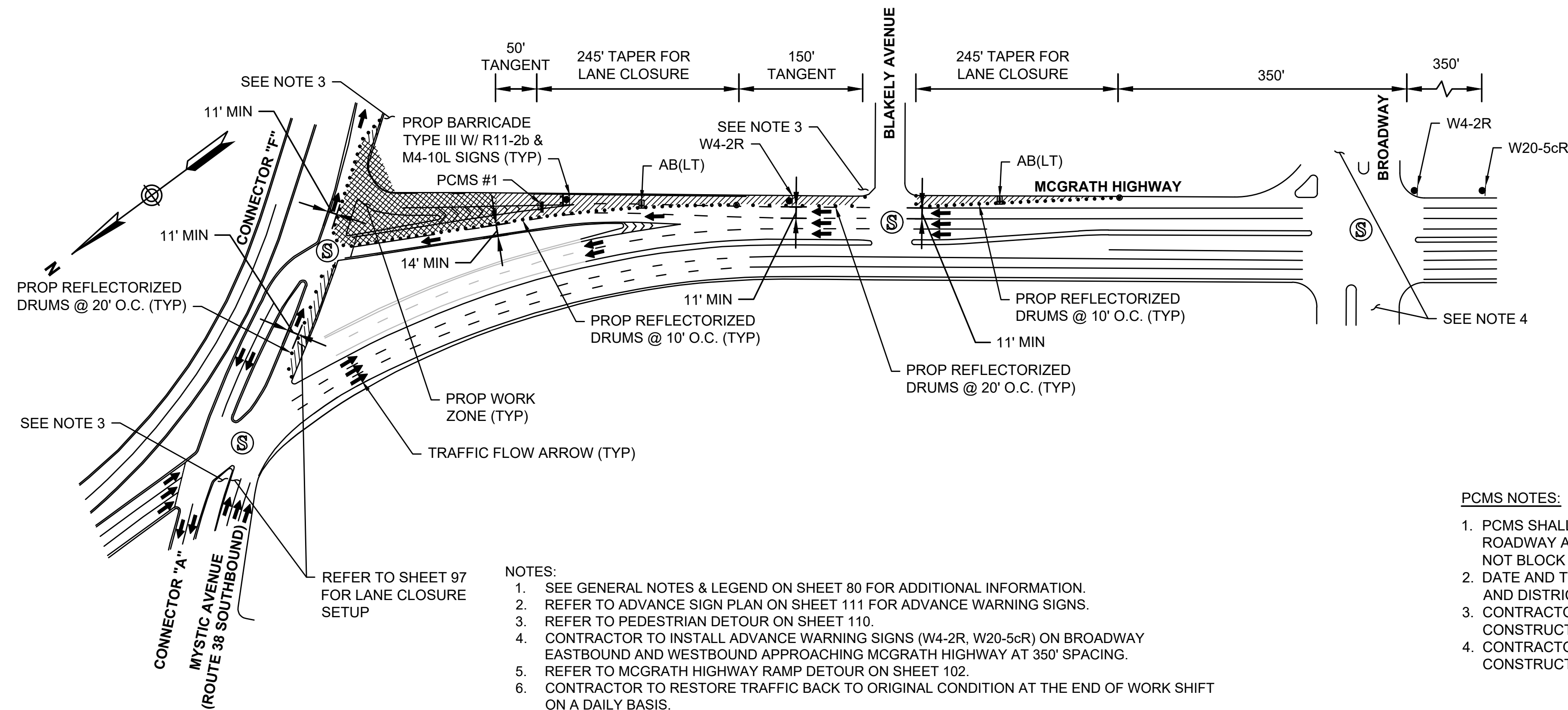
SCALE: N.T.S.



**RIGHT LANE CLOSURE - FELLSWAY SB**

SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	86	205
PROJECT FILE NO. 608562			



TAPER CALCULATION	
McGRATH HIGHWAY	
LANE CLOSURE	
W = 12'	
S = 35 MPH	
$L = \frac{WS^2}{60} = 245'$	

**PCMS #1 MESSAGE TEXT**

DURING CONSTRUCTION

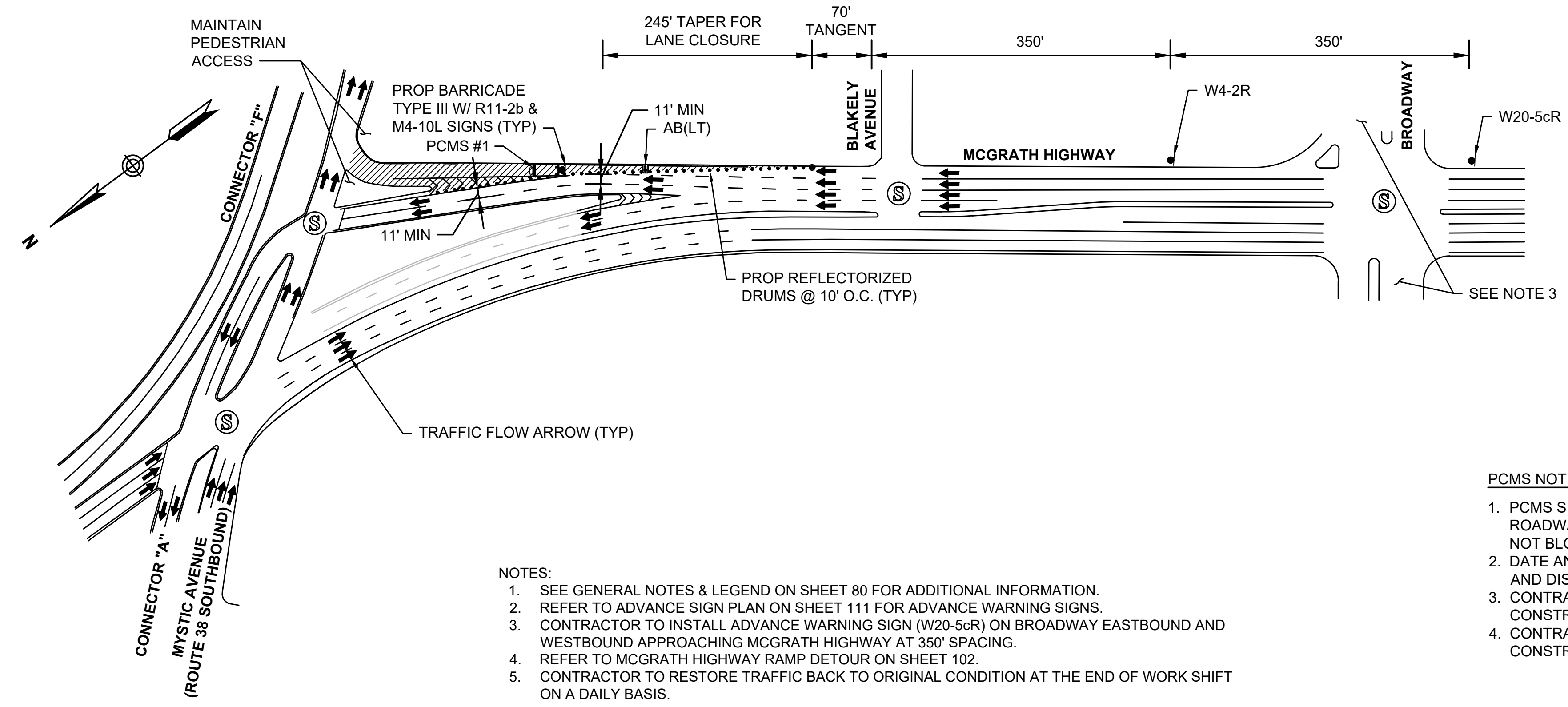
RAMP TO 93/ 38 S CLOSED	FOLLOW DETOUR
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- PCMS NOTES:**
1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY MASSDOT. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
  2. DATE AND TIMES ON PCMS MESSAGING SHALL BE COORDINATED WITH MASSDOT HOC AND DISTRICT 4.
  3. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION OR AS DIRECTED BY MASSDOT.
  4. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

- NOTES:**
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. REFER TO PEDESTRIAN DETOUR ON SHEET 110.
  4. CONTRACTOR TO INSTALL ADVANCE WARNING SIGNS (W4-2R, W20-5cR) ON BROADWAY EASTBOUND AND WESTBOUND APPROACHING MCGRATH HIGHWAY AT 350' SPACING.
  5. REFER TO MCGRATH HIGHWAY RAMP DETOUR ON SHEET 102.
  6. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**RIGHT LANE & RIGHT TURN LANE CLOSURE - MCGRATH HIGHWAY CONNECTOR A NB**

SCALE: N.T.S.



TAPER CALCULATION	
McGRATH HIGHWAY	
LANE CLOSURE	
W = 12'	
S = 35 MPH	
$L = \frac{WS^2}{60} = 245'$	

**PCMS #1 MESSAGE TEXT**

DURING CONSTRUCTION

RAMP TO 93/ 38 S CLOSED	FOLLOW DETOUR
-------------------------------	------------------

- PCMS NOTES:**
1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY MASSDOT. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
  2. DATE AND TIMES ON PCMS MESSAGING SHALL BE COORDINATED WITH MASSDOT HOC AND DISTRICT 4.
  3. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION OR AS DIRECTED BY MASSDOT.
  4. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

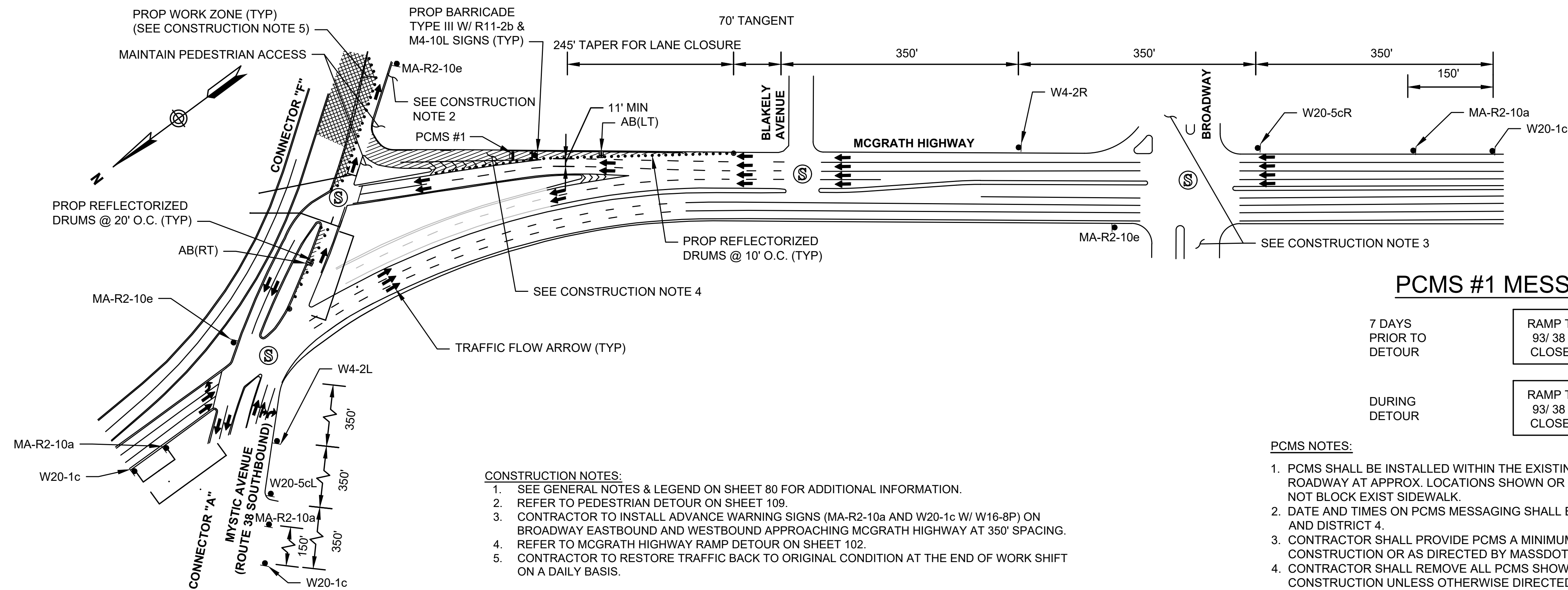
- NOTES:**
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. CONTRACTOR TO INSTALL ADVANCE WARNING SIGN (W20-5cR) ON BROADWAY EASTBOUND AND WESTBOUND APPROACHING MCGRATH HIGHWAY AT 350' SPACING.
  4. REFER TO MCGRATH HIGHWAY RAMP DETOUR ON SHEET 102.
  5. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**RIGHT TURN LANE CLOSURE - MCGRATH HIGHWAY CONNECTOR A NB**

SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	87	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 SITE SPECIFIC DETAILS - 5 OF 6



- CONSTRUCTION NOTES:**
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 109.
  - CONTRACTOR TO INSTALL ADVANCE WARNING SIGNS (MA-R2-10a AND W20-1c W/ W16-8P) ON BROADWAY EASTBOUND AND WESTBOUND APPROACHING MCGRATH HIGHWAY AT 350' SPACING.
  - REFER TO MCGRATH HIGHWAY RAMP DETOUR ON SHEET 102.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**PCMS #1 MESSAGE TEXT**

7 DAYS PRIOR TO DETOUR

DURING DETOUR

RAMP TO 93/ 38 S CLOSING	DAY DATE TIME
RAMP TO 93/ 38 S CLOSED	FOLLOW DETOUR

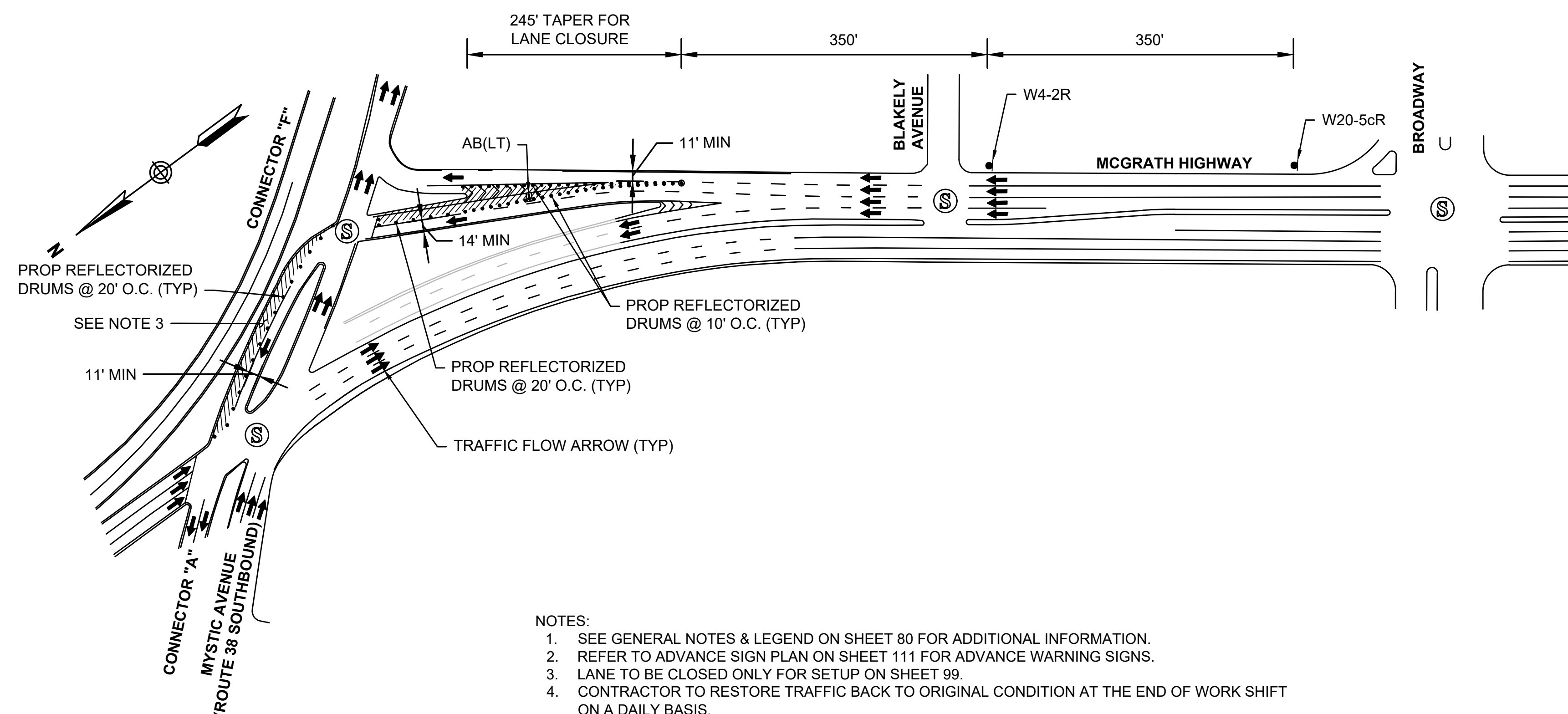
- PCMS NOTES:**
- PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY MASSDOT. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
  - DATE AND TIMES ON PCMS MESSAGING SHALL BE COORDINATED WITH MASSDOT HOC AND DISTRICT 4.
  - CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION OR AS DIRECTED BY MASSDOT.
  - CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

**TAPER CALCULATION**  
 McGRATH HIGHWAY

LANE CLOSURE
W = 12'
S = 35 MPH
$L = \frac{WS^2}{60} = 245'$

**MYSTIC AVENUE SB - LEFT LANE CLOSURE**  
 SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	88	205
PROJECT FILE NO. 608562			

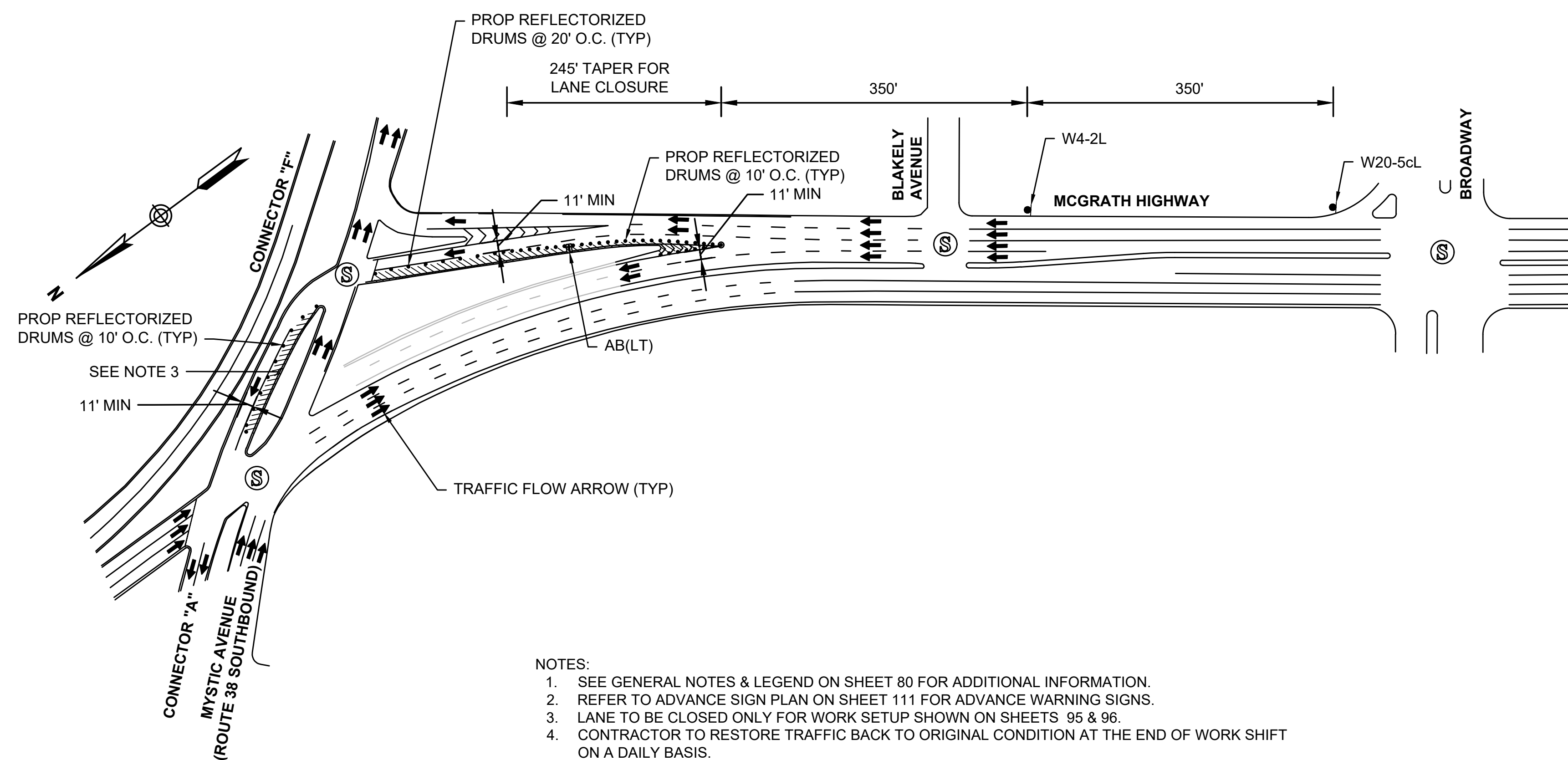


TAPER CALCULATION	
McGRATH HIGHWAY	
LANE CLOSURE	
W = 12'	
S = 35 MPH	
L = $\frac{WS^2}{60} = 245'$	

- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. LANE TO BE CLOSED ONLY FOR SETUP ON SHEET 99.
  4. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**RIGHT LANE CLOSURE - MCGRATH HIGHWAY CONNECTOR A NB**

SCALE: N.T.S.



TAPER CALCULATION	
McGRATH HIGHWAY	
LANE CLOSURE	
W = 12'	
S = 35 MPH	
L = $\frac{WS^2}{60} = 245'$	

- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  3. LANE TO BE CLOSED ONLY FOR WORK SETUP SHOWN ON SHEETS 95 & 96.
  4. CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

**LEFT LANE CLOSURE - MCGRATH HIGHWAY CONNECTOR A NB**

SCALE: N.T.S.



STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	89	205
PROJECT FILE NO. 608562			

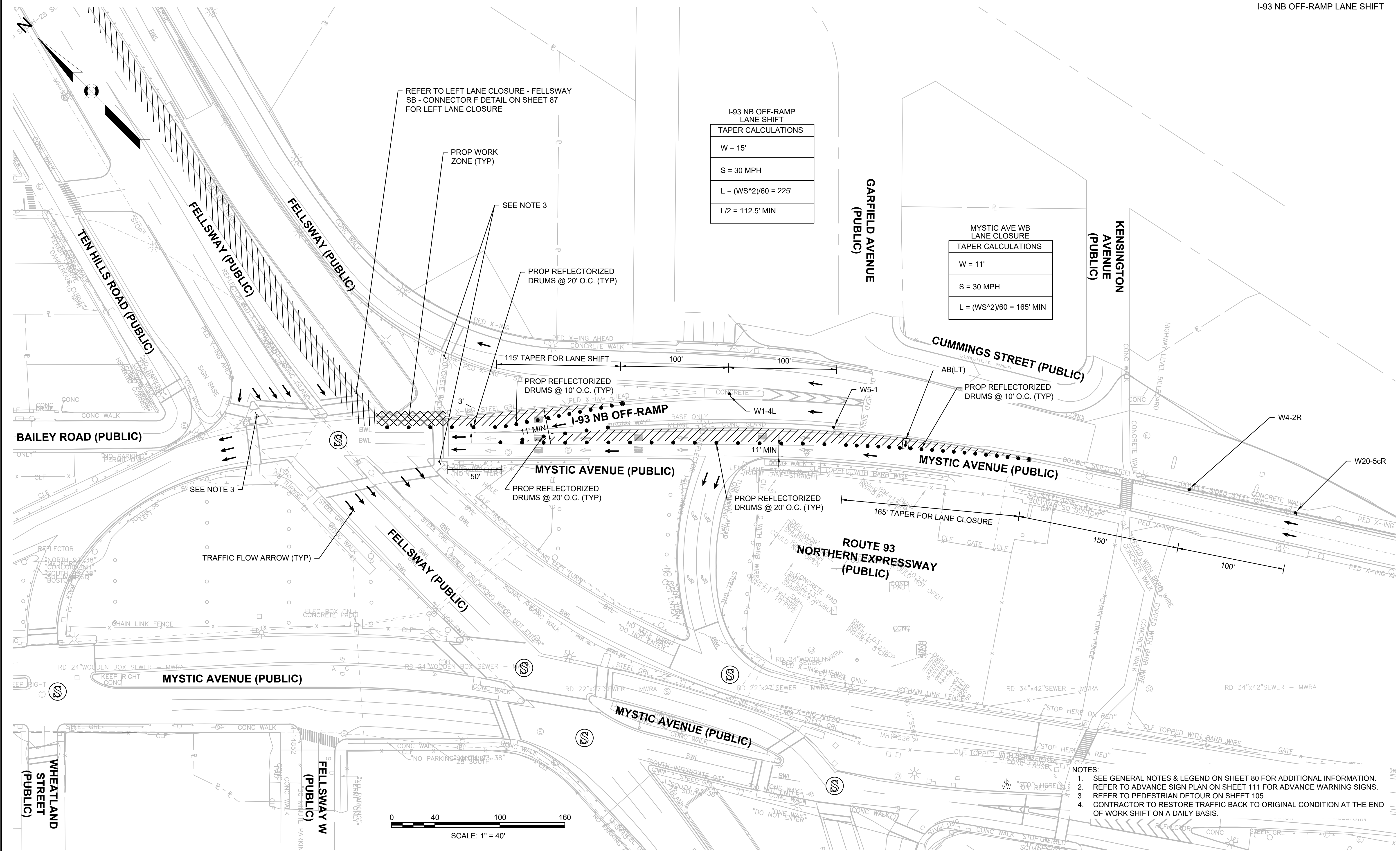
TEMPORARY TRAFFIC CONTROL PLANS  
 I-93 NB OFF-RAMP LANE SHIFT

I-93 NB OFF-RAMP LANE SHIFT

TAPER CALCULATIONS
W = 15'
S = 30 MPH
$L = (WS^2)/60 = 225'$
L/2 = 112.5' MIN

MYSTIC AVE WB LANE CLOSURE

TAPER CALCULATIONS
W = 11'
S = 30 MPH
$L = (WS^2)/60 = 165'$ MIN

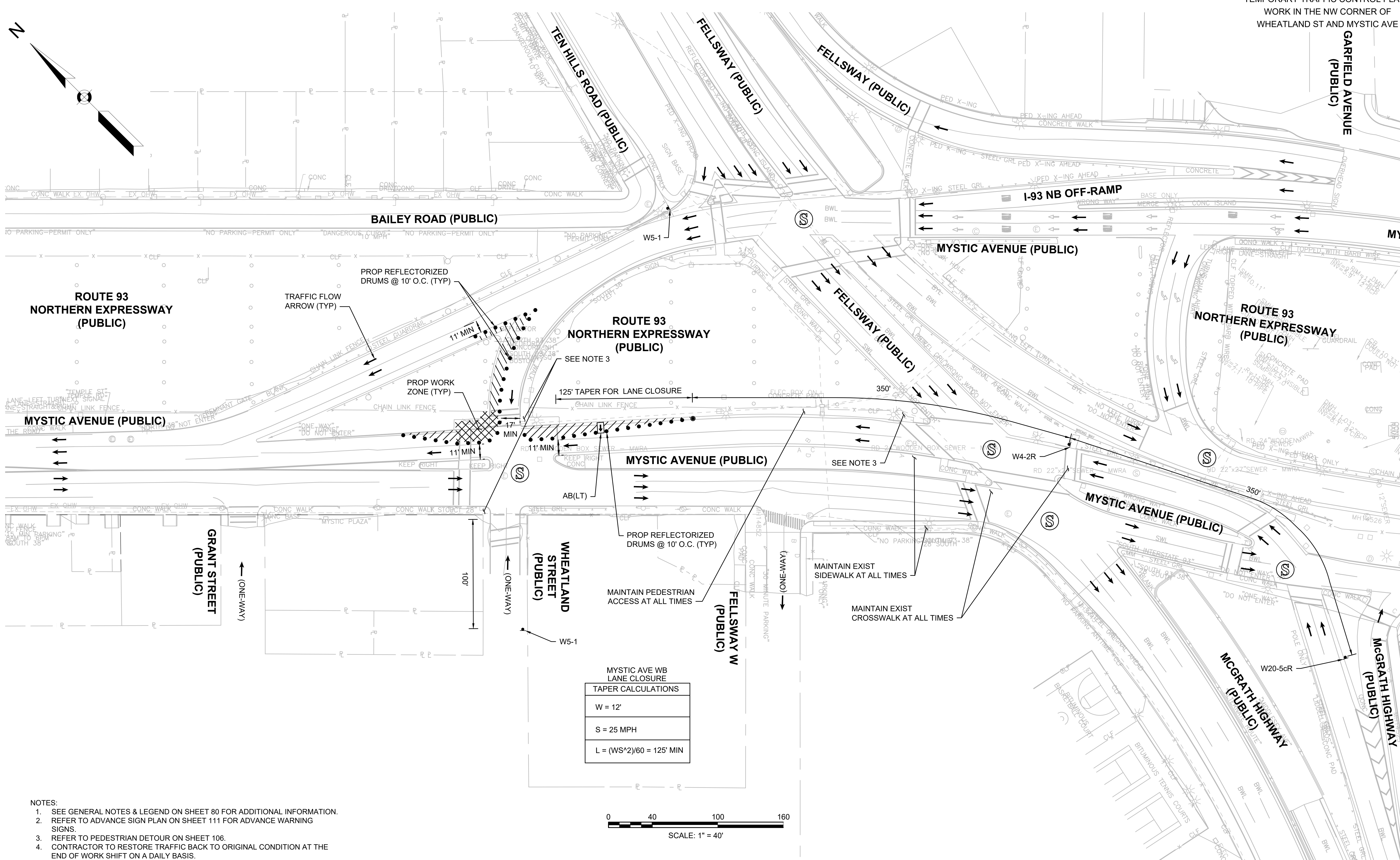
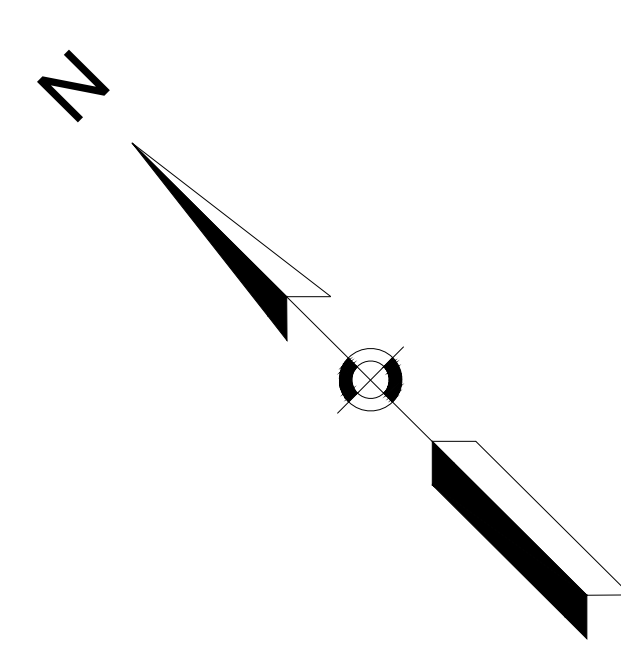


- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 105.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(76Z)	90	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE NW CORNER OF  
 WHEATLAND ST AND MYSTIC AVE

GARFIELD AVENUE  
 (PUBLIC)



MYSTIC AVE WB  
 LANE CLOSURE

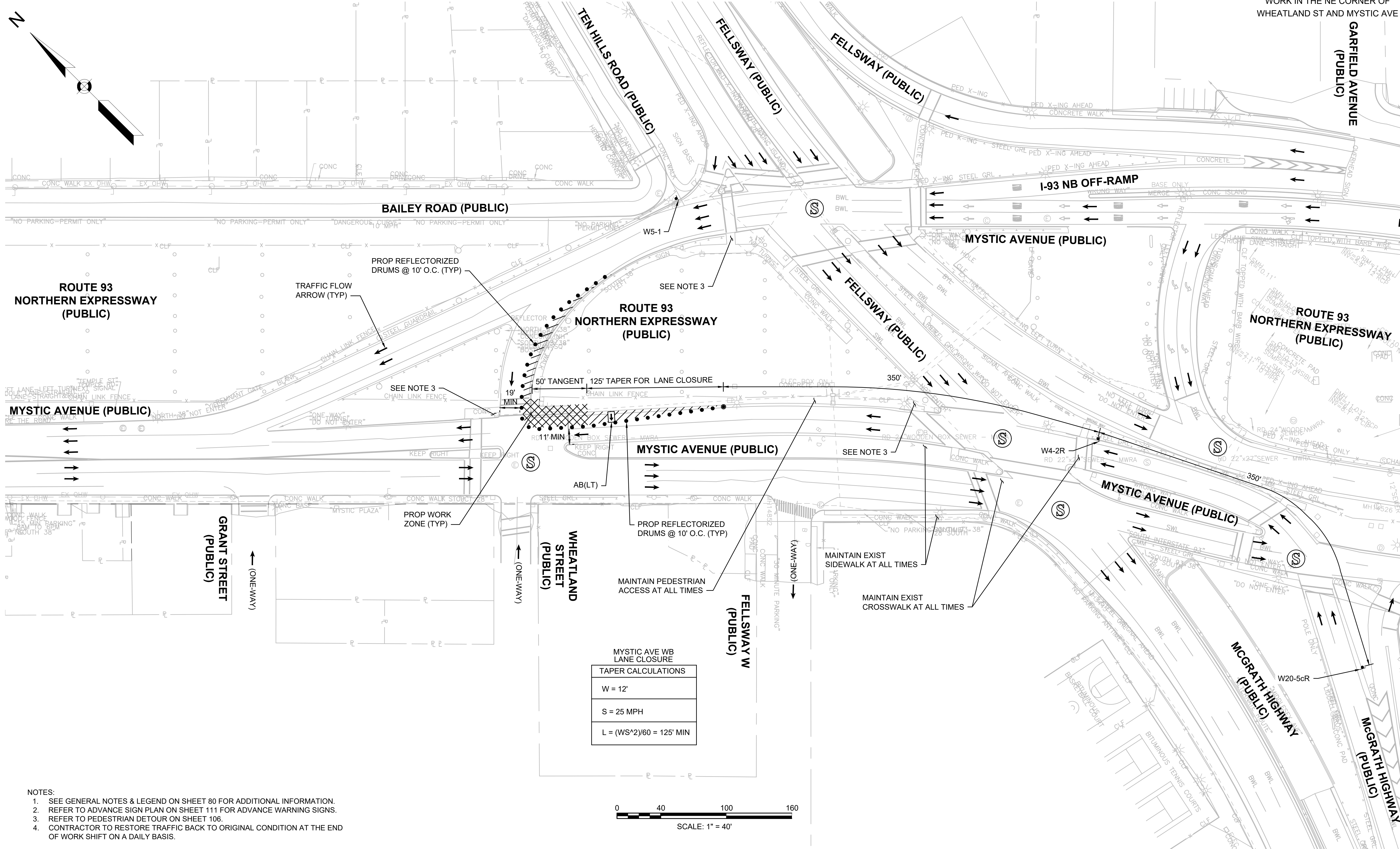
TAPER CALCULATIONS
W = 12'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 125' MIN

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 106.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	91	205
PROJECT FILE NO. 608562			

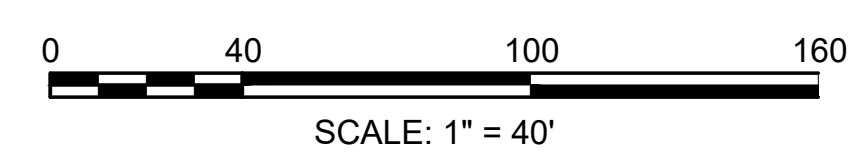
TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE NE CORNER OF  
 WHEATLAND ST AND MYSTIC AVE

608562\_HDTTTP\_MYSTIC\_WHEATLAND\_NE.DWG Plotted on 15-Jul-2024 5:25 PM



MYSTIC AVE WB  
 LANE CLOSURE  
 TAPER CALCULATIONS

W = 12'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 125' MIN

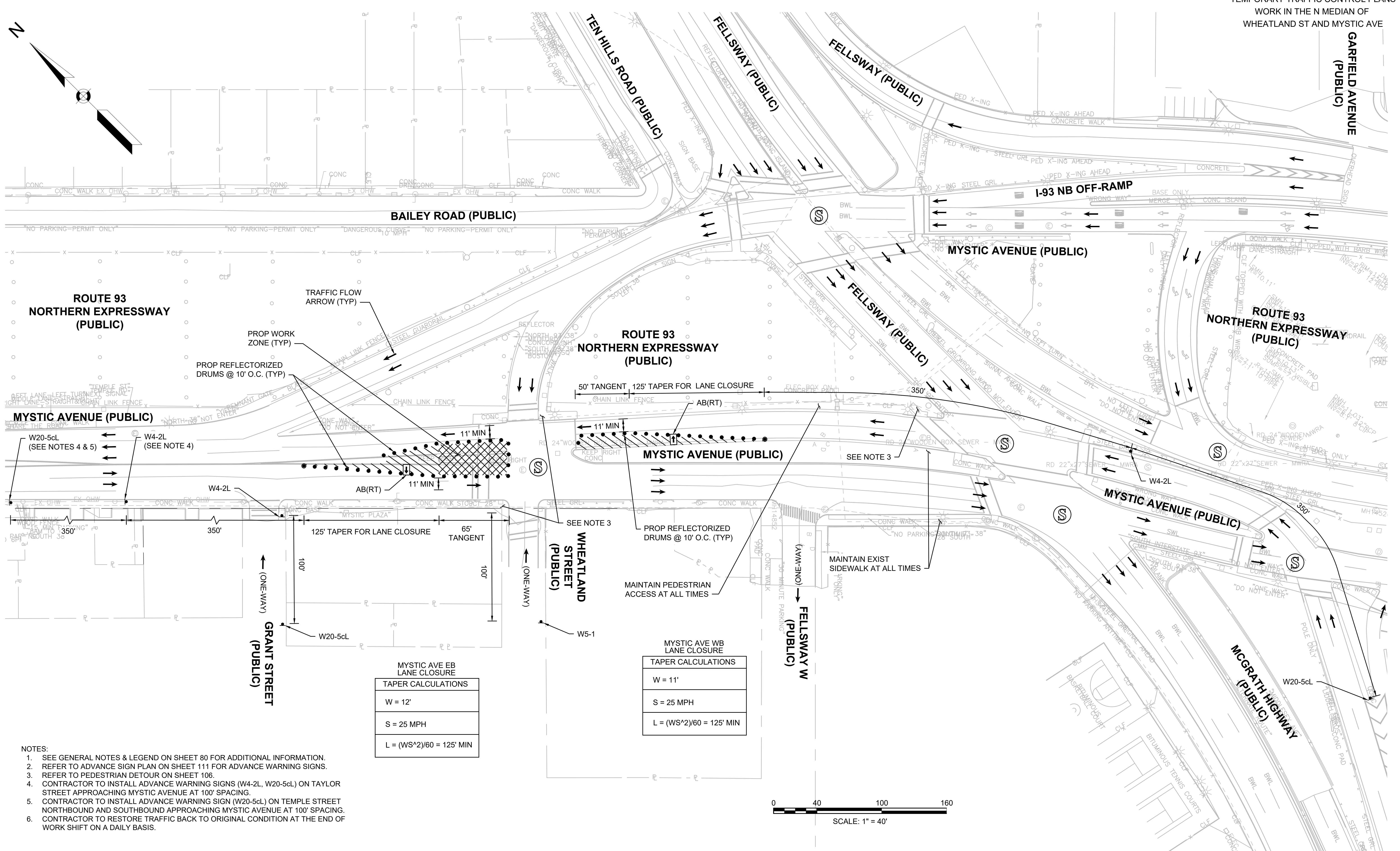
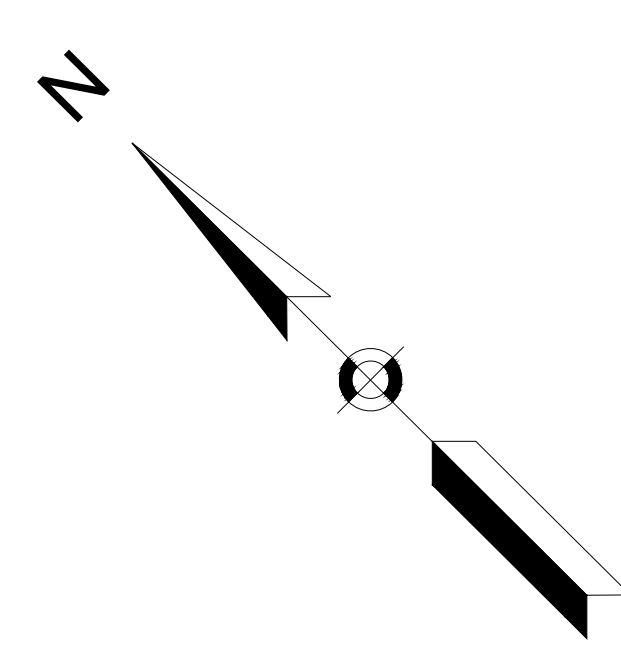


- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 106.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	92	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE N MEDIAN OF  
 WHEATLAND ST AND MYSTIC AVE

GARFIELD AVENUE  
 (PUBLIC)



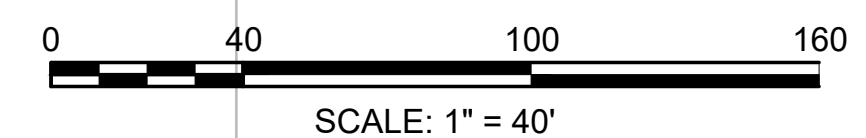
MYSTIC AVE EB LANE CLOSURE

TAPER CALCULATIONS
W = 12'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 125' MIN

MYSTIC AVE WB LANE CLOSURE

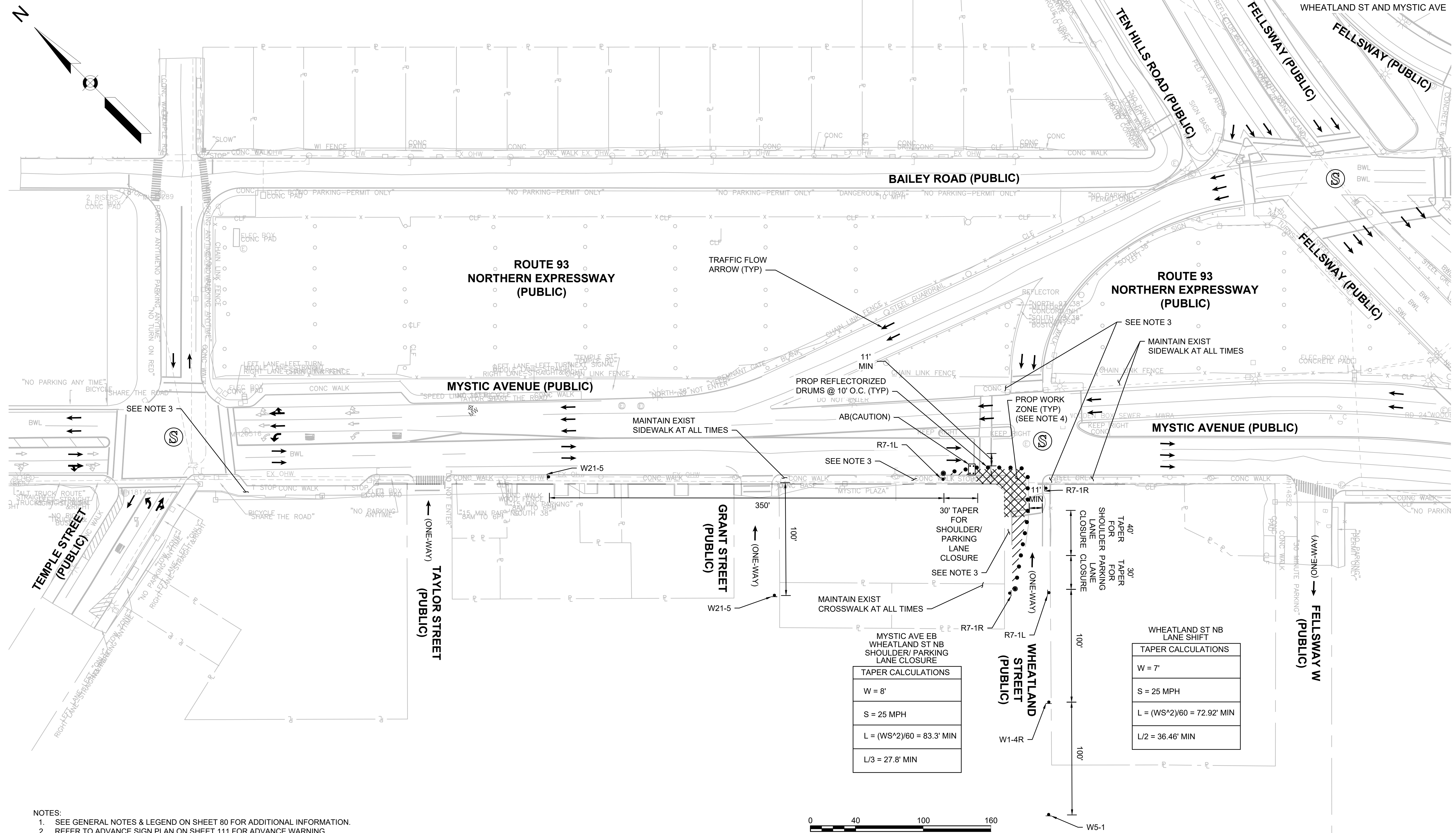
TAPER CALCULATIONS
W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 125' MIN

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 106.
  - CONTRACTOR TO INSTALL ADVANCE WARNING SIGNS (W4-2L, W20-5cL) ON TAYLOR STREET APPROACHING MYSTIC AVENUE AT 100' SPACING.
  - CONTRACTOR TO INSTALL ADVANCE WARNING SIGN (W20-5cL) ON TEMPLE STREET NORTHBOUND AND SOUTHBOUND APPROACHING MYSTIC AVENUE AT 100' SPACING.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	93	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
WORK IN THE SW CORNER OF  
WHEATLAND ST AND MYSTIC AVE



- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 106.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

WHEATLAND ST EB  
WHEATLAND ST NB  
SHOULDER/ PARKING  
LANE CLOSURE

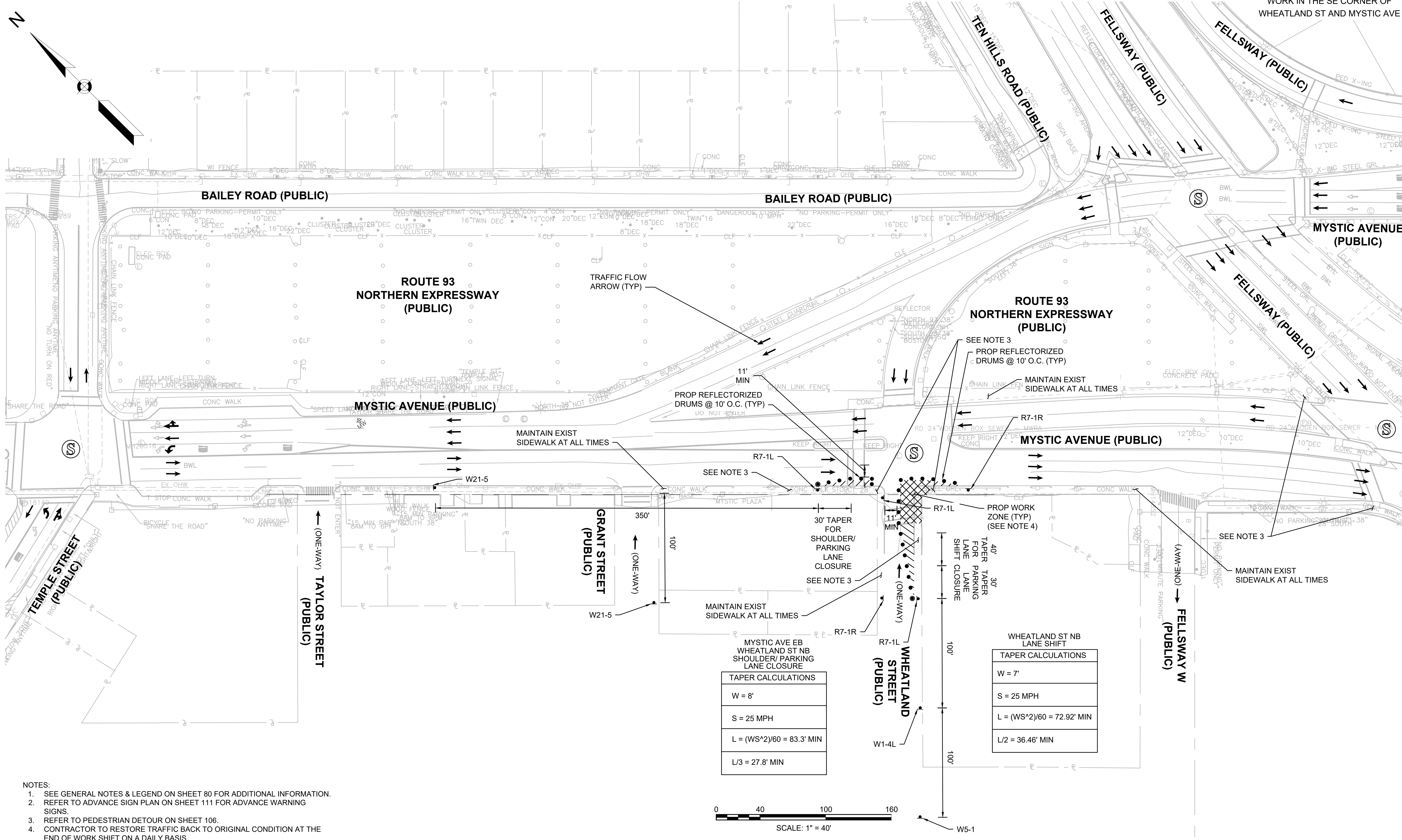
TAPER CALCULATIONS
W = 8'
S = 25 MPH
L = (WS^2)/60 = 83.3' MIN
L/3 = 27.8' MIN

WHEATLAND ST NB  
LANE SHIFT

TAPER CALCULATIONS
W = 7'
S = 25 MPH
L = (WS^2)/60 = 72.92' MIN
L/2 = 36.46' MIN

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	94	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
WORK IN THE SE CORNER OF  
WHEATLAND ST AND MYSTIC AVE

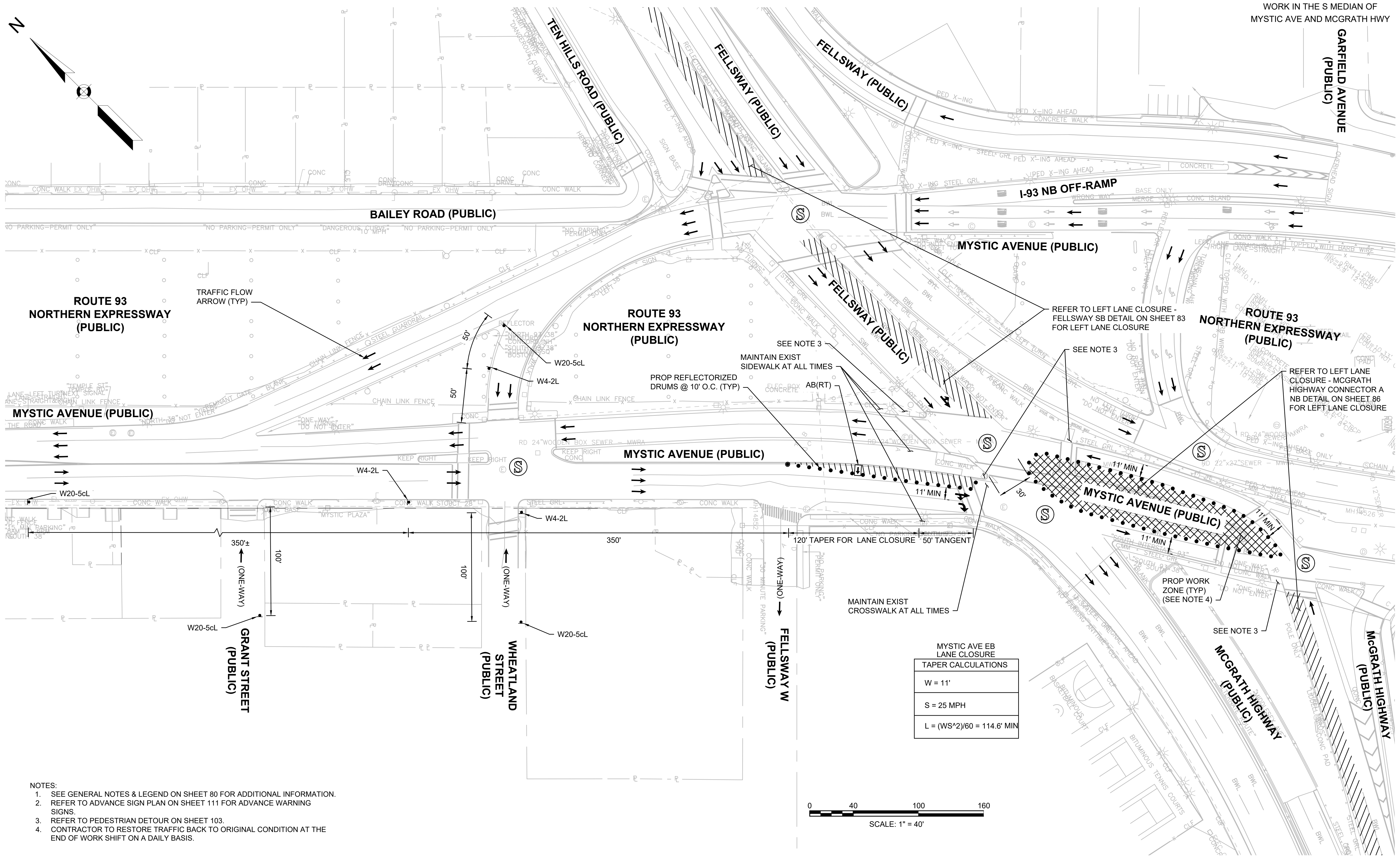
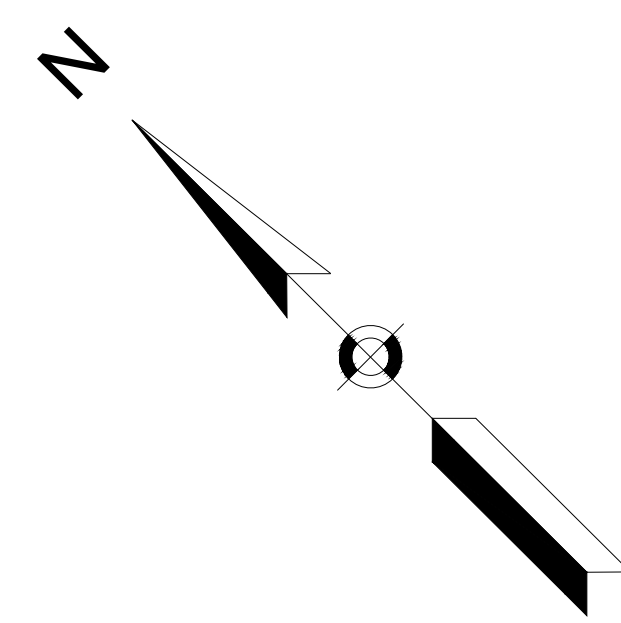


- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 106.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	95	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE S MEDIAN OF  
 MYSTIC AVE AND MCGRATH HWY

GARFIELD AVENUE  
 (PUBLIC)



MYSTIC AVE EB  
 LANE CLOSURE  
 TAPER CALCULATIONS

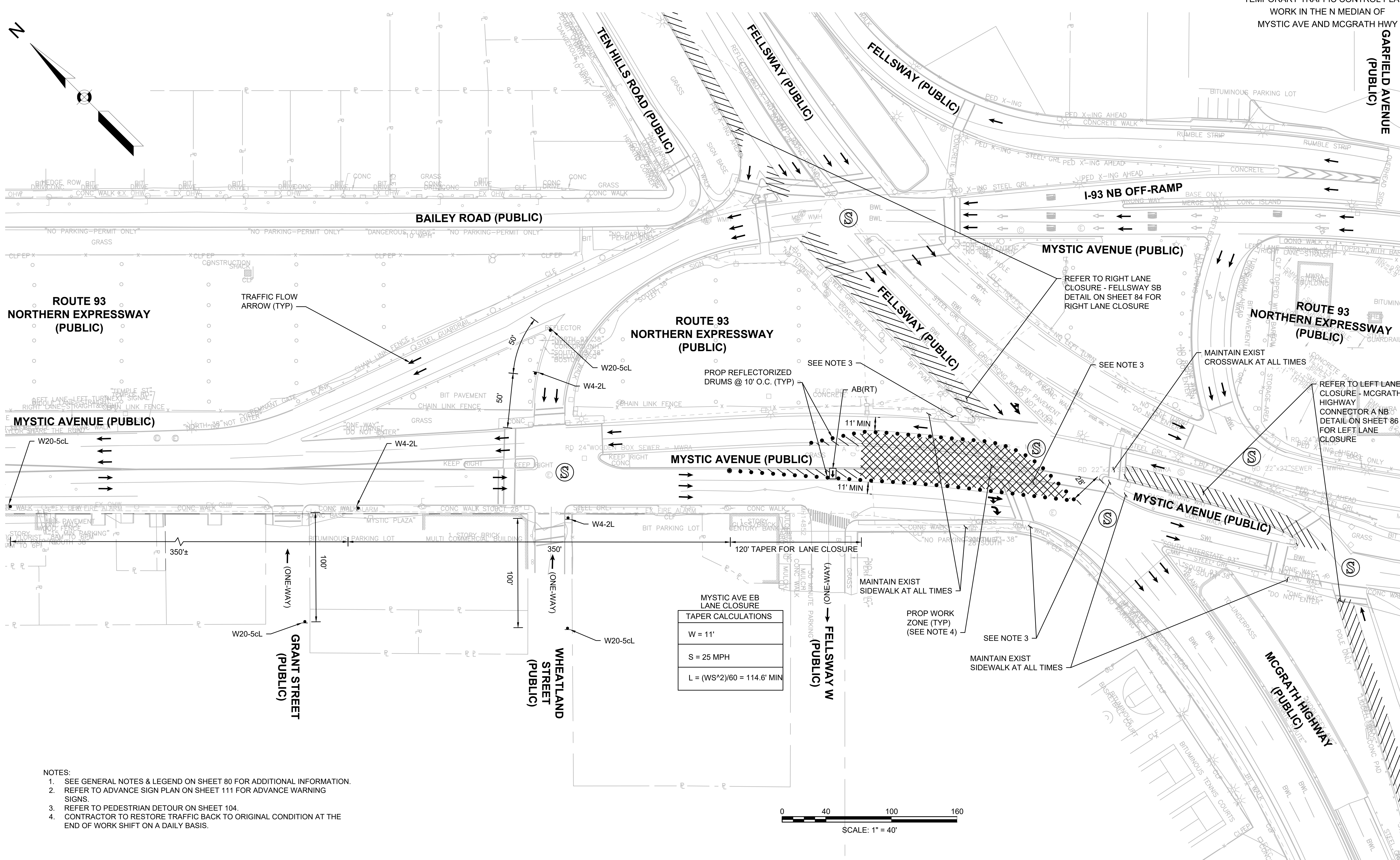
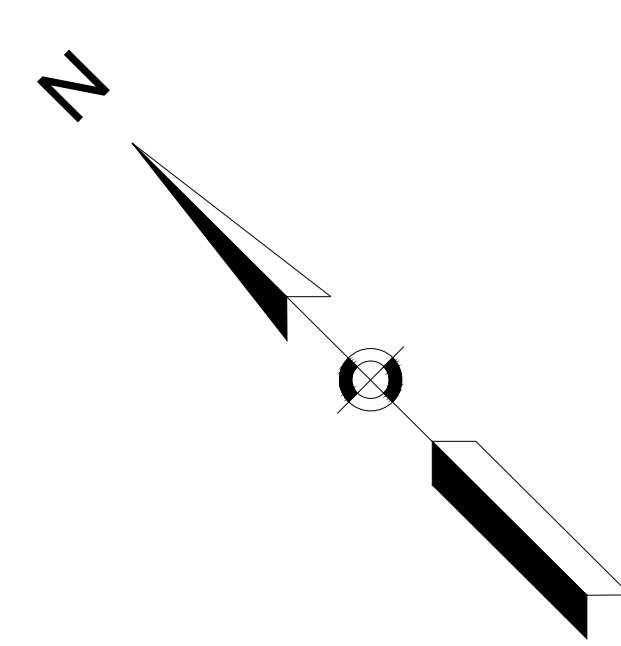
W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 114.6' MIN

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 103.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	96	205
PROJECT FILE NO. 608562			

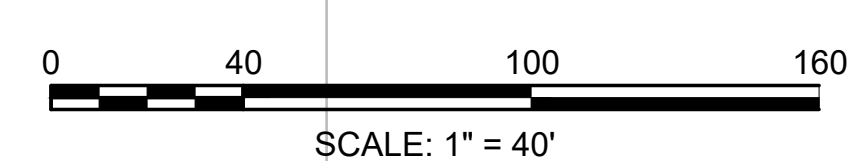
TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE N MEDIAN OF  
 MYSTIC AVE AND MCGRATH HWY

GARFIELD AVENUE  
 (PUBLIC)



MYSTIC AVE EB LANE CLOSURE

TAPER CALCULATIONS
W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 114.6' MIN

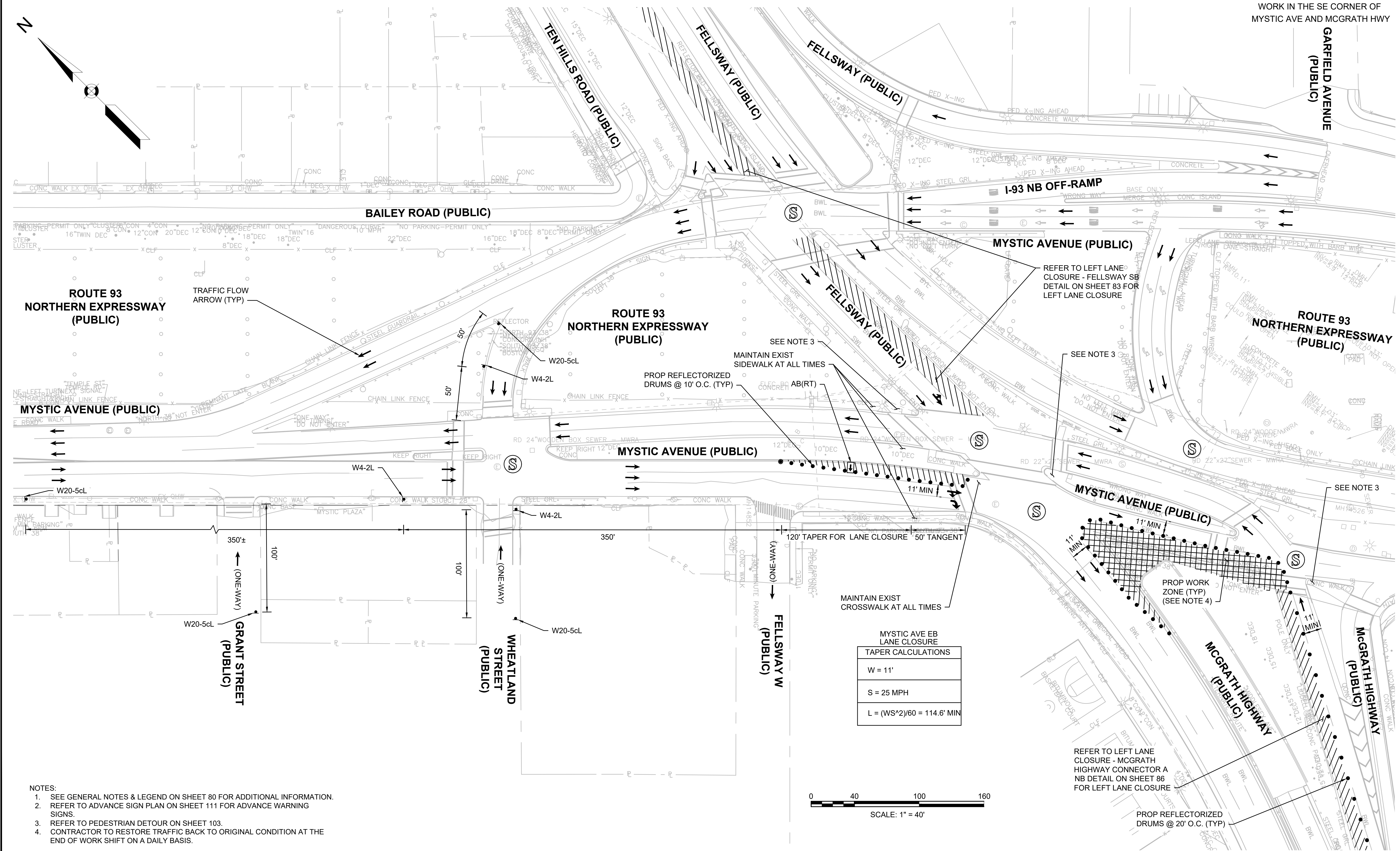


- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 104.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	97	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE SE CORNER OF  
 MYSTIC AVE AND MCGRATH HWY



REFER TO LEFT LANE CLOSURE - FELLSWAY SB DETAIL ON SHEET 83 FOR LEFT LANE CLOSURE

SEE NOTE 3

SEE NOTE 3

SEE NOTE 3

MAINTAIN EXIST CROSSWALK AT ALL TIMES

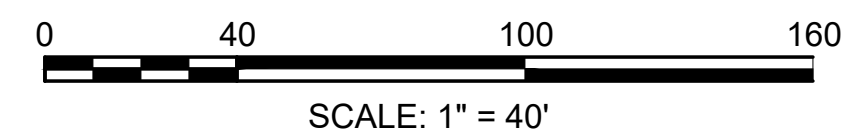
MYSTIC AVE EB LANE CLOSURE  
 TAPER CALCULATIONS

W = 11'
S = 25 MPH
$L = (WS^2)/60 = 114.6'$ MIN

REFER TO LEFT LANE CLOSURE - MCGRATH HIGHWAY CONNECTOR A NB DETAIL ON SHEET 86 FOR LEFT LANE CLOSURE

PROP REFLECTORIZED DRUMS @ 20' O.C. (TYP)

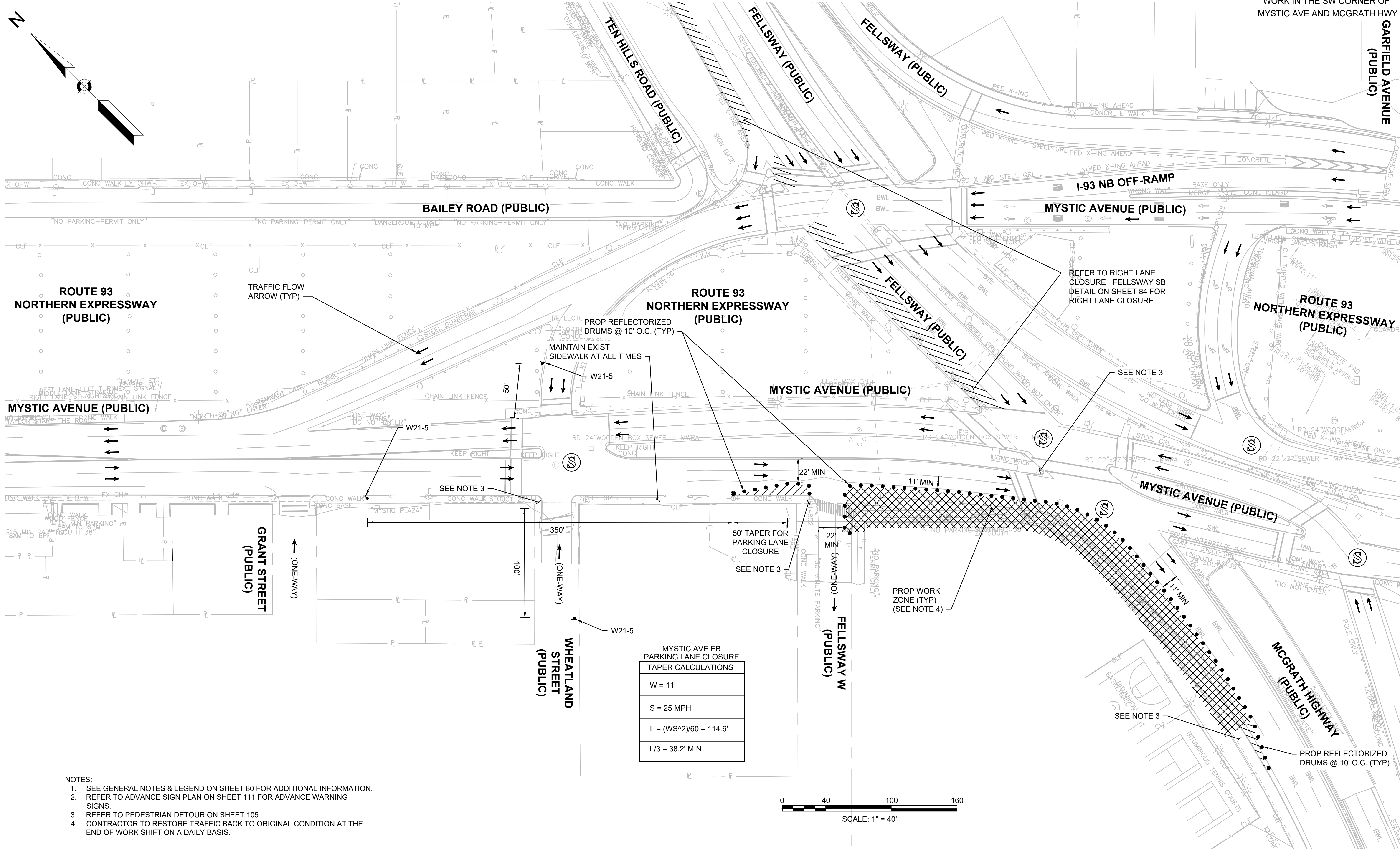
- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 103.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	98	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 WORK IN THE SW CORNER OF  
 MYSTIC AVE AND MCGRATH HWY

GARFIELD AVENUE  
 (PUBLIC)

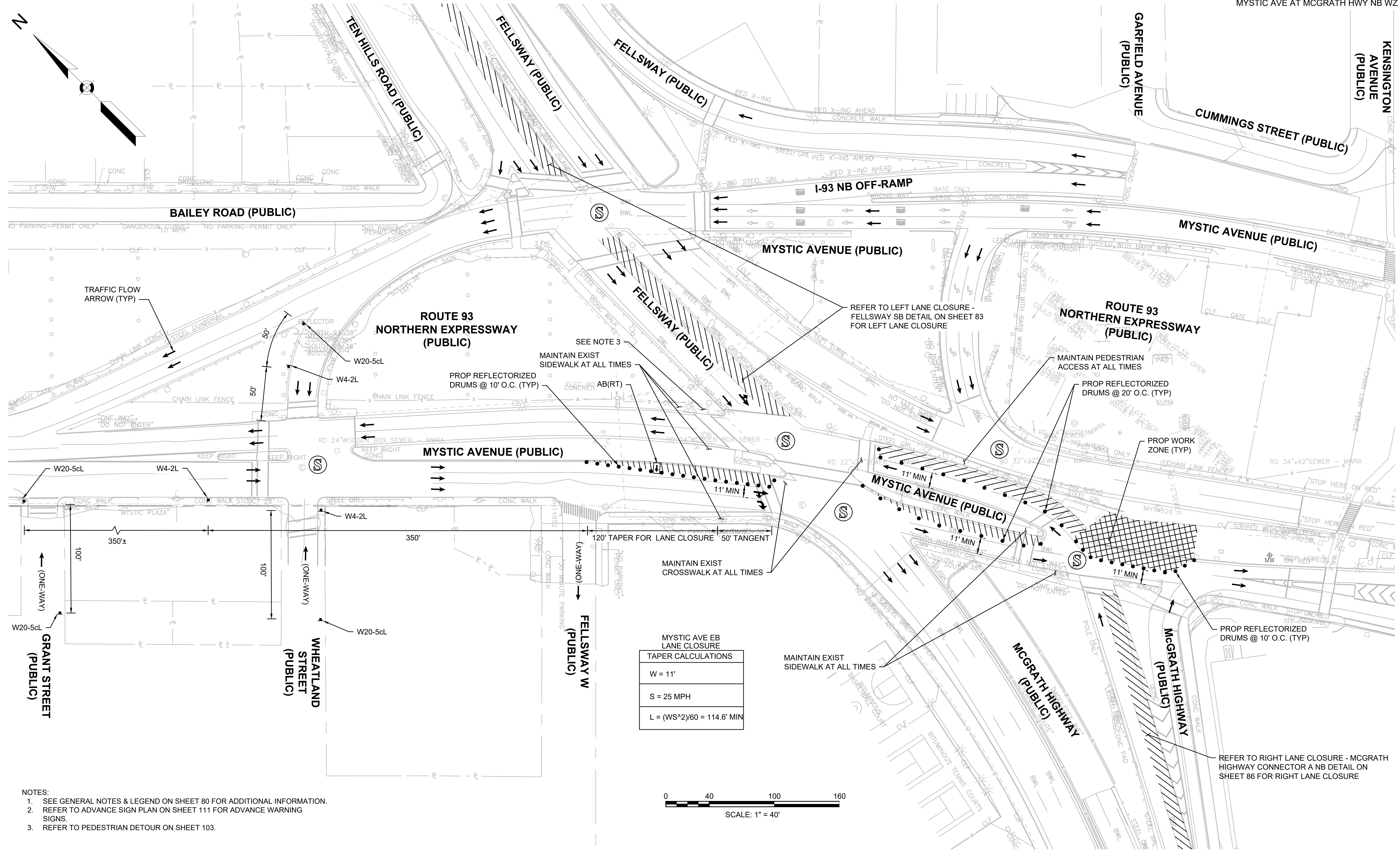


MYSTIC AVE EB  
 PARKING LANE CLOSURE  
 TAPER CALCULATIONS

W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 114.6'
L/3 = 38.2' MIN

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 105.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	99	205
PROJECT FILE NO. 608562			



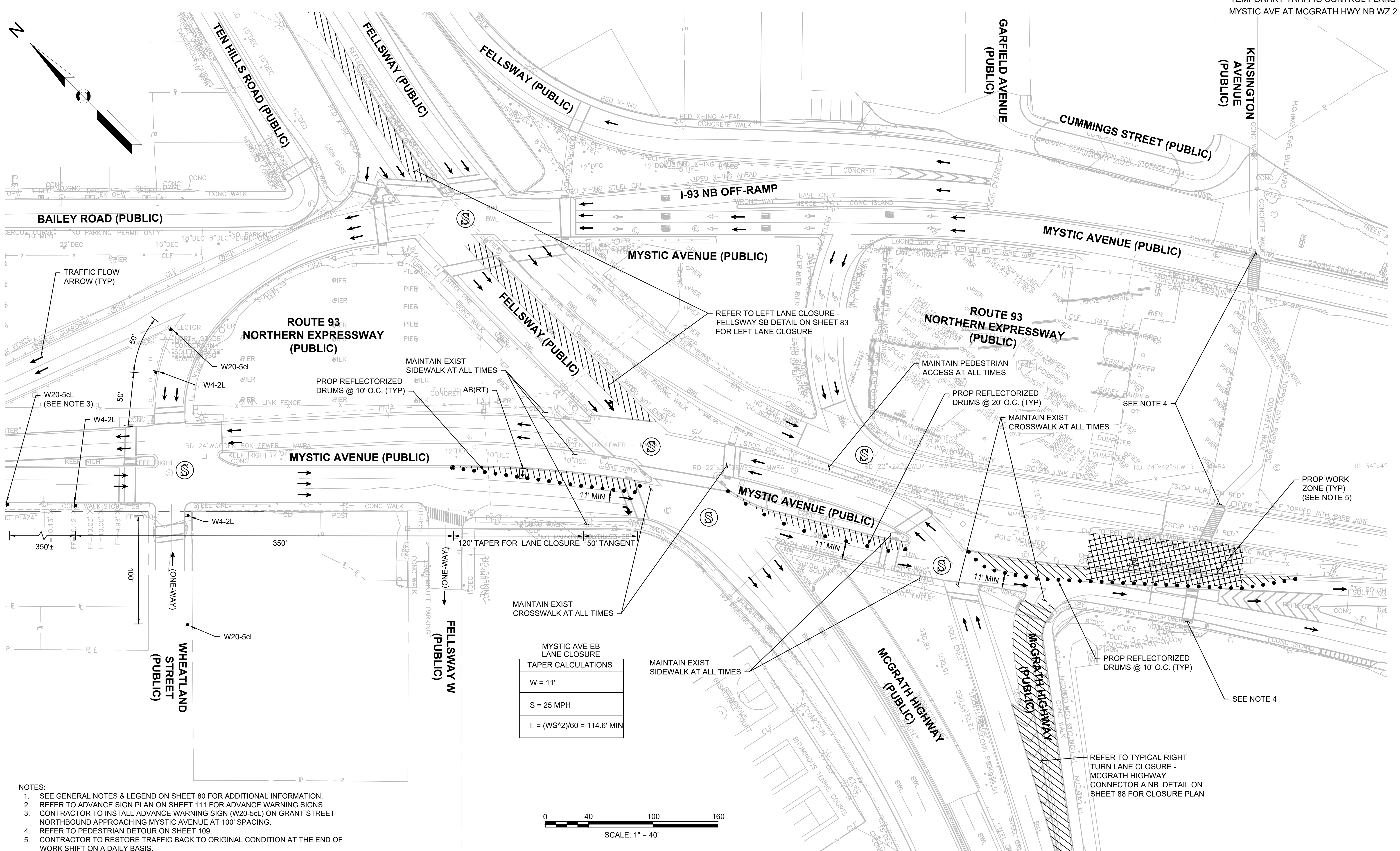
MYSTIC AVE EB LANE CLOSURE

TAPER CALCULATIONS
W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 114.6' MIN

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 103.

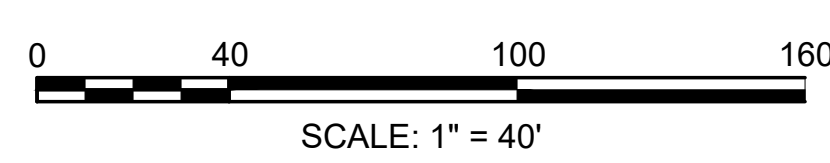
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	100	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 MYSTIC AVE AT MCGRATH HWY NB WZ 2



MYSTIC AVE EB  
 LANE CLOSURE  
 TAPER CALCULATIONS

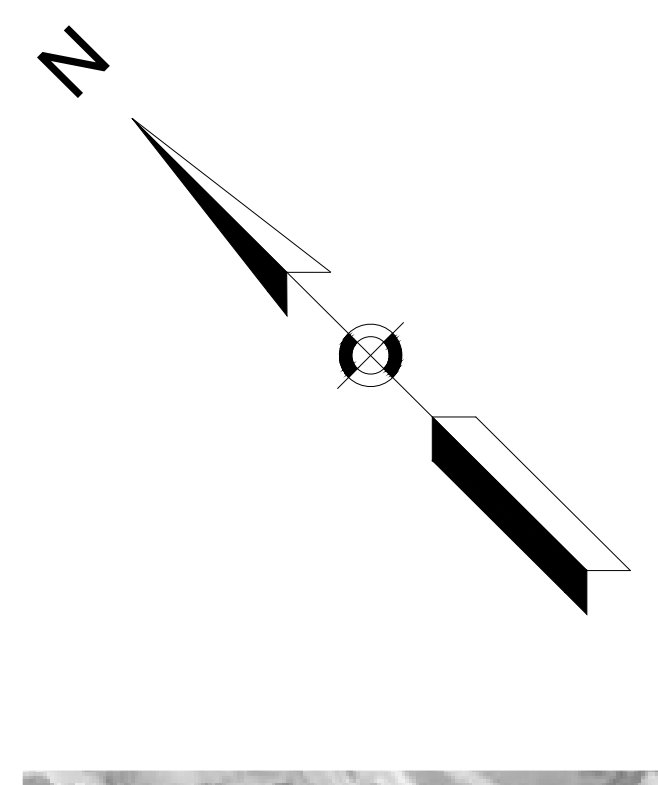
W = 11'
S = 25 MPH
L = (WS <sup>2</sup> )/60 = 114.6' MIN



- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO ADVANCE SIGN PLAN ON SHEET 111 FOR ADVANCE WARNING SIGNS.
  - CONTRACTOR TO INSTALL ADVANCE WARNING SIGN (W20-5cL) ON GRANT STREET NORTHBOUND APPROACHING MYSTIC AVENUE AT 100' SPACING.
  - REFER TO PEDESTRIAN DETOUR ON SHEET 109.
  - CONTRACTOR TO RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	101	205
PROJECT FILE NO. 608562			

DETOUR PLAN  
 FELLSWAY SB RIGHT TURN CLOSURE

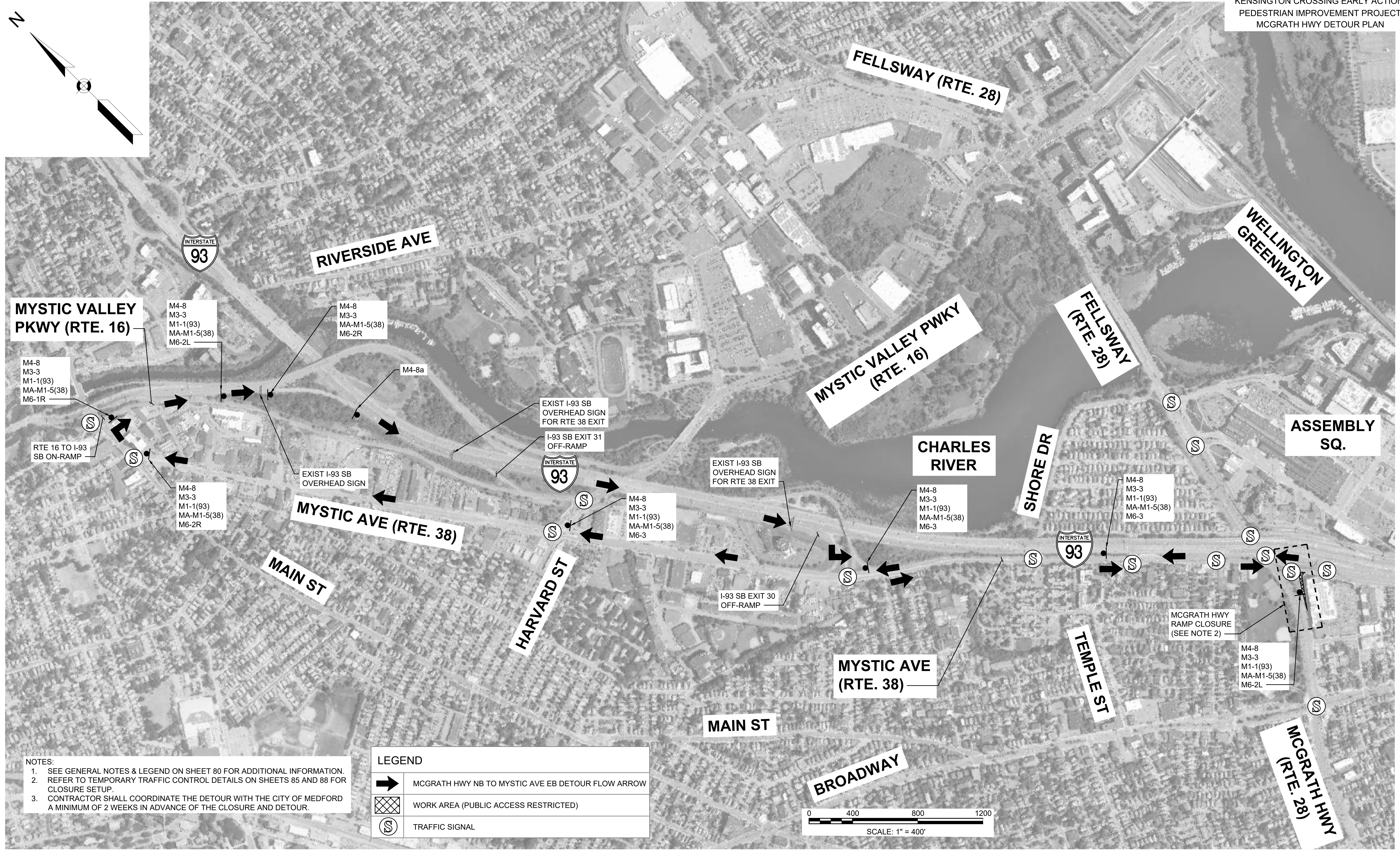
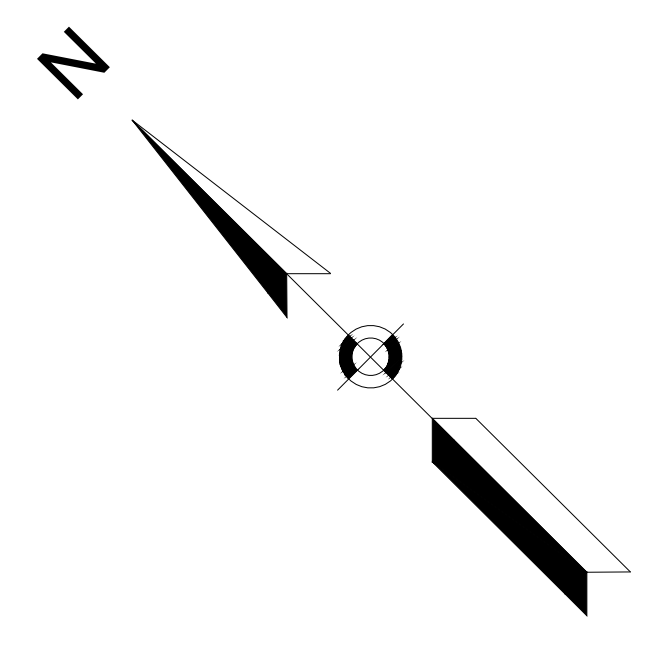


LEGEND	
	FELLSWAY SB TO MYSTIC AVE WB DETOUR FLOW ARROW
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRAFFIC SIGNAL

- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - REFER TO TYPICAL RIGHT TURN LANE CLOSURE - FELLSWAY SB DETAIL ON SHEET 84 FOR CLOSURE PLAN.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	102	205
PROJECT FILE NO. 608562			

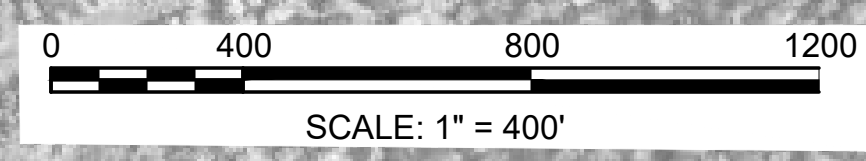
TEMPORARY TRAFFIC CONTROL PLANS  
 KENSINGTON CROSSING EARLY ACTION  
 PEDESTRIAN IMPROVEMENT PROJECT  
 MCGRATH HWY DETOUR PLAN



- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION. REFER TO TEMPORARY TRAFFIC CONTROL DETAILS ON SHEETS 85 AND 88 FOR CLOSURE SETUP.
  - CONTRACTOR SHALL COORDINATE THE DETOUR WITH THE CITY OF MEDFORD A MINIMUM OF 2 WEEKS IN ADVANCE OF THE CLOSURE AND DETOUR.

LEGEND

	MCGRATH HWY NB TO MYSTIC AVE EB DETOUR FLOW ARROW
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRAFFIC SIGNAL



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	103	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 INTERIM SIDEWALK IMPROVEMENTS  
 PEDESTRIAN IMPROVEMENT PROJECT  
 PEDESTRIAN DETOUR - 1 OF 5



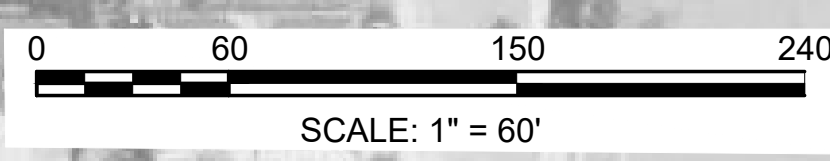
- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 - 82.
  - IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	104	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 INTERIM SIDEWALK IMPROVEMENTS  
 PEDESTRIAN IMPROVEMENT PROJECT  
 PEDESTRIAN DETOUR - 2 OF 4



- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 - 82.
  3. IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.



608562\_H01(TCP\_PED\_DETOUR\_2).DWG Plotted on 15-Jul-2024 5:34 PM



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	105	205

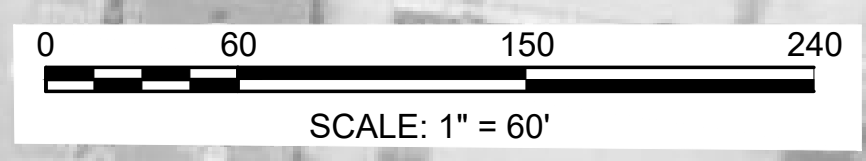
PROJECT FILE NO. 608562

TEMPORARY TRAFFIC CONTROL PLANS  
 INTERIM SIDEWALK IMPROVEMENTS  
 PEDESTRIAN IMPROVEMENT PROJECT  
 PEDESTRIAN DETOUR - 3 OF 4



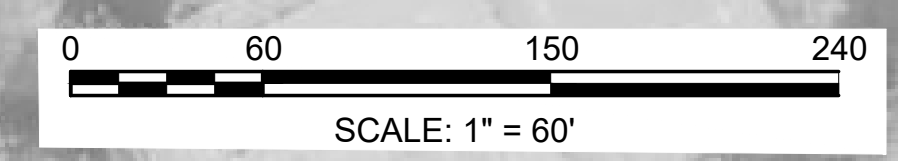
**NOTES:**

- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
- FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 - 82.
- IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.





NOTES:  
 1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.  
 2. FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 - 82.  
 3. IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	107	205

PROJECT FILE NO. 608562

TEMPORARY TRAFFIC CONTROL PLANS  
 BLAKELEY AVENUE EARLY ACTION  
 MCGRATH HWY NB PCR CONSTRUCTION



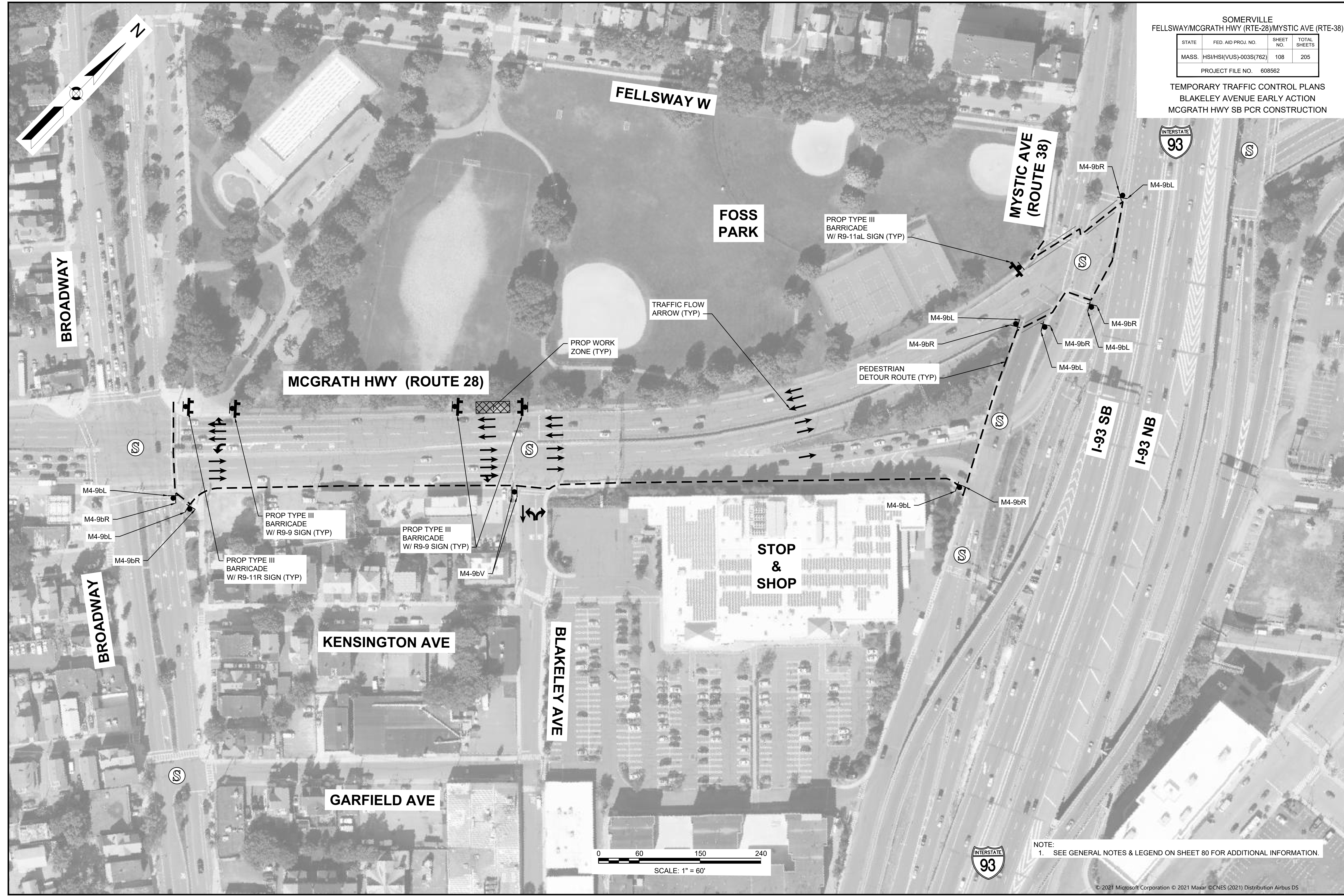
NOTE:  
 1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	108	205

PROJECT FILE NO. 608562

TEMPORARY TRAFFIC CONTROL PLANS  
 BLAKELEY AVENUE EARLY ACTION  
 MCGRATH HWY SB PCR CONSTRUCTION



NOTE:  
 1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	109	205

PROJECT FILE NO. 608562

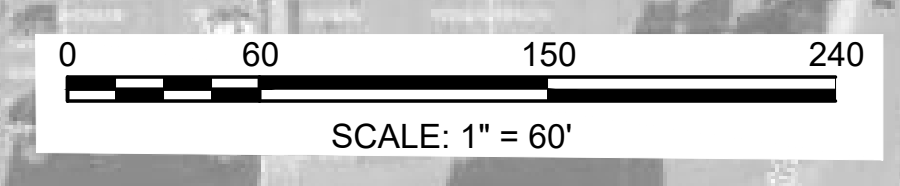
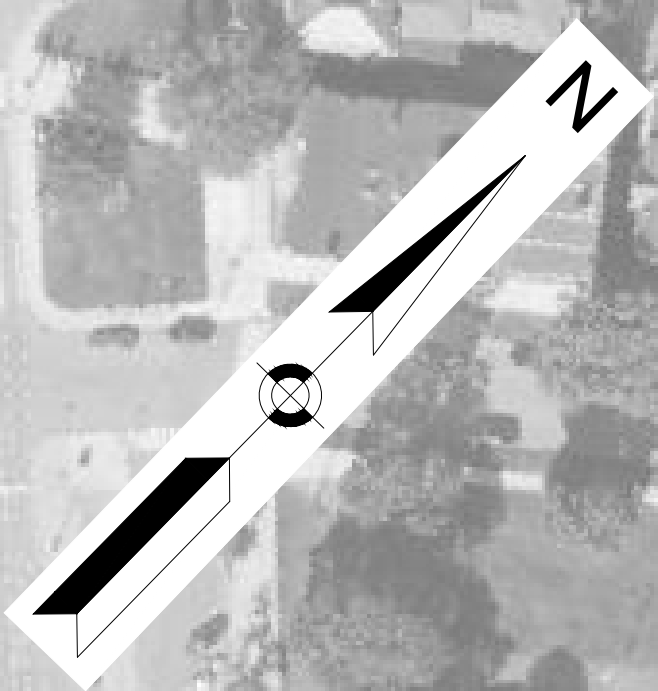
TEMPORARY TRAFFIC CONTROL PLANS  
 KENSINGTON CROSSING EARLY ACTION  
 PEDESTRIAN IMPROVEMENT PROJECT  
 MYSTIC AVE PEDESTRIAN NORTH DETOUR



- NOTES:
1. SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  2. FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 & 82.
  3. IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	110	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 KENSINGTON CROSSING EARLY ACTION  
 PEDESTRIAN IMPROVEMENT PROJECT  
 MYSTIC AVE PEDESTRIAN SOUTH DETOUR

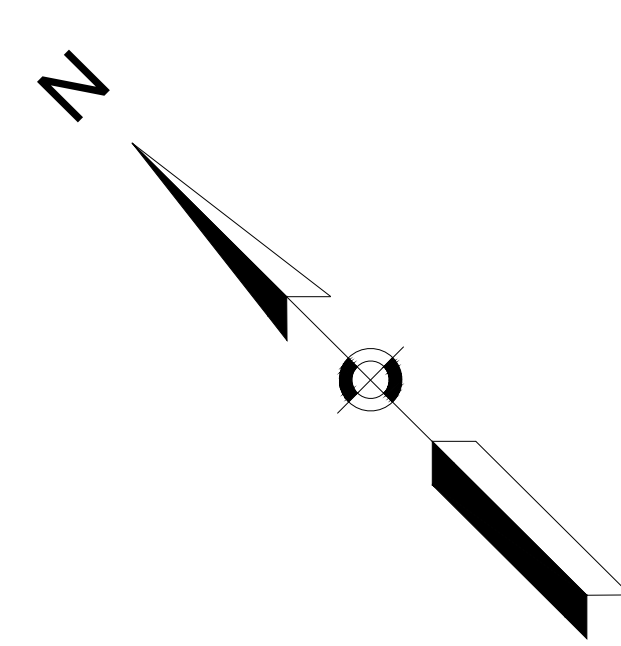
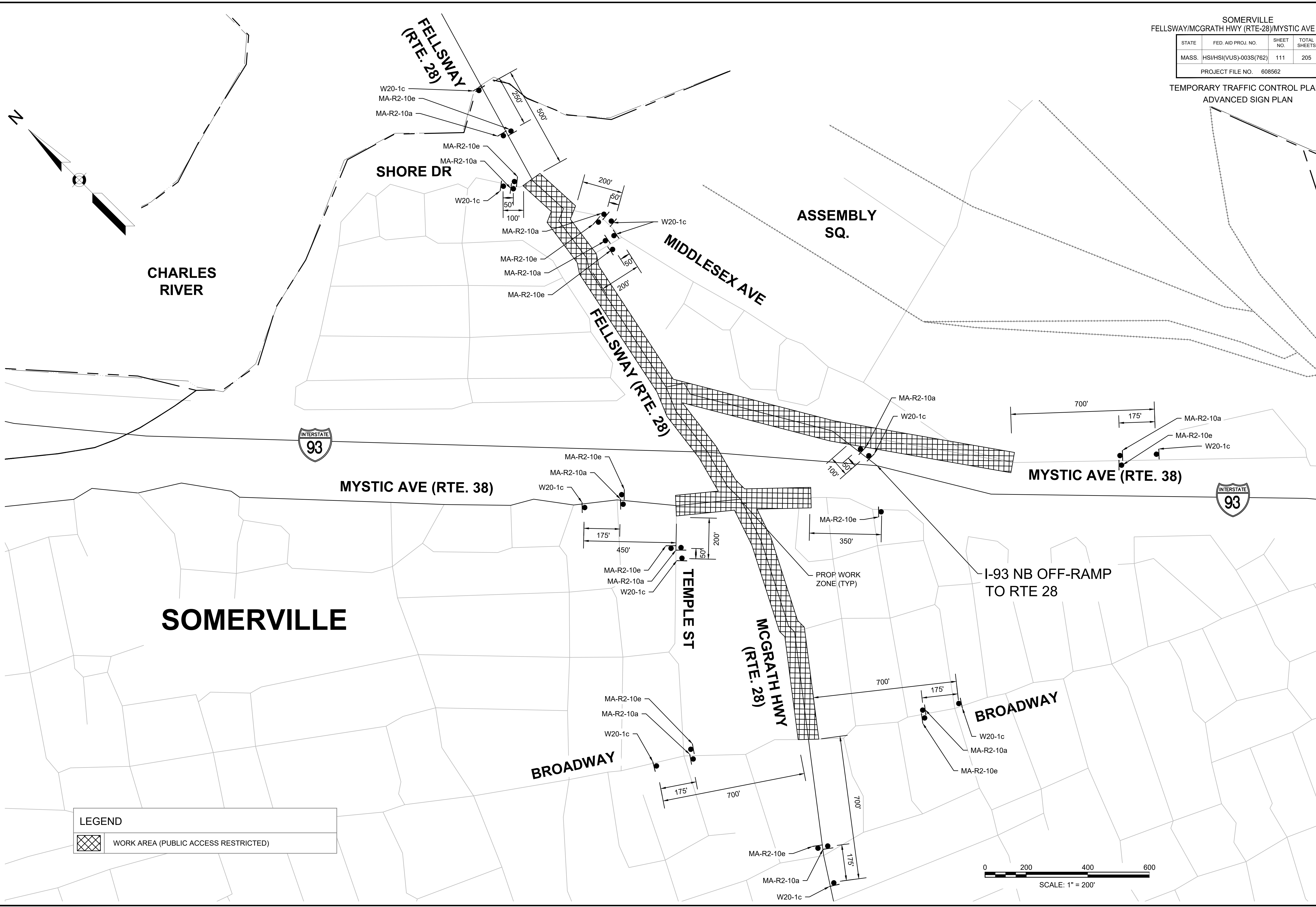


- NOTES:
- SEE GENERAL NOTES & LEGEND ON SHEET 80 FOR ADDITIONAL INFORMATION.
  - FOR ROADWAY WORK ZONE SETUP, REFER TO TYPICAL DETAILS ON SHEETS 81 & 82.
  - IF THE CONTRACTOR DEVIATES FROM THE PEDESTRIAN CONTROL PLAN SHOWN THEN SUBMIT REVISED DRAWINGS FOR MASSDOT REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS IN ADVANCE OF START OF WORK.

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

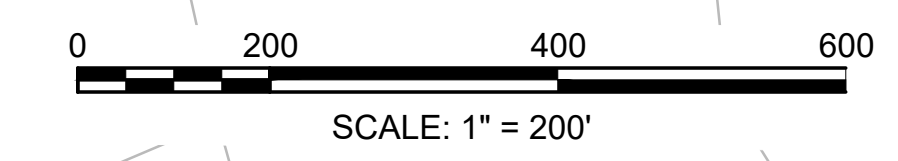
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	111	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
 ADVANCED SIGN PLAN



**LEGEND**

	WORK AREA (PUBLIC ACCESS RESTRICTED)
--	--------------------------------------



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	112	205
PROJECT FILE NO. 608562			

TEMPORARY TRAFFIC CONTROL PLANS  
SIGN SUMMARY - 1 OF 2

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR			UNIT AREA (S.F.)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER	
MA-R2-10a	48"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK	12.00
MA-R2-10e	36"	48"		AS PER MASSDOT STANDARD			WHITE FLUOR-ESCENT ORANGE WHITE	BLACK	BLACK	12.00
R4-7b	24"	30"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			WHITE	BLACK	BLACK	5.00
R7-1L	12"	18"					WHITE	RED	RED	1.50
R7-1R	12"	18"					WHITE	RED	RED	1.50
R9-9	24"	12"					WHITE	BLACK	BLACK	2.00
R9-11aL	24"	12"					WHITE	BLACK	BLACK	2.00
R9-11aR	24"	12"					WHITE	BLACK	BLACK	2.00
R9-11L	24"	18"					WHITE	BLACK	BLACK	3.00
R9-11R	24"	18"					WHITE	BLACK	BLACK	3.00
R11-2b	48"	30"					WHITE	BLACK	BLACK	10.00
W1-4L	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W1-4R	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W4-2L	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W4-2R	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W5-1	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W8-1	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W8-3	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W8-8	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED)




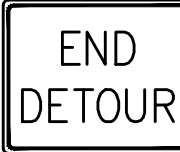



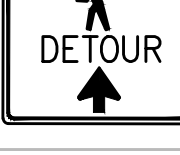


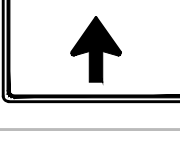


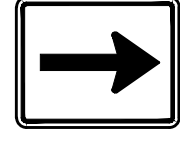




IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR			UNIT AREA (S.F.)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER	
W8-9	36"	36"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W8-15	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W9-3	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W12-1	30"	30"					FLUOR-ESCENT ORANGE	BLACK	BLACK	6.25
W16-8P	18"	8"					FLUOR-ESCENT ORANGE	BLACK	BLACK	1.00
W20-1c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W20-2c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W20-3c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W20-4c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W20-5cL	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W20-5cR	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
MA-W20-7b	36"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W21-5	36"	36"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
W21-7	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
MA-W30-8L	36"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00
MA-W30-8R	36"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00

NOTES:

- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MassDOT STANDARD SIGNS BOOK, AS AMENDED.
- ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.



TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR			UNIT AREA (S.F.)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER	
M1-1(93)	24"	24"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			RED/BLUE	WHITE	WHITE	4.00
MA-M1-5(38)	24"	24"		AS PER MASSDOT STANDARD			WHITE	BLACK	BLACK	4.00
M3-3	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUORESCENT ORANGE	BLACK	BLACK	2.00
M4-8a	24"	18"					FLUORESCENT ORANGE	BLACK	BLACK	3.00
M4-9bL	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9bSR	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9bR	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9bV	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9AL	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9L	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-9V	30"	24"					FLUORESCENT ORANGE	BLACK	BLACK	5.00
M4-8	24"	12"					FLUORESCENT ORANGE	BLACK	BLACK	2.00
M4-10L	48"	18"					FLUORESCENT ORANGE	BLACK	---	6.00
M6-1R	21"	15"					FLUORESCENT ORANGE	BLACK	BLACK	2.19
M6-2L	21"	15"					FLUORESCENT ORANGE	BLACK	BLACK	2.19
M6-2R	21"	15"					FLUORESCENT ORANGE	BLACK	BLACK	2.19
M6-3	21"	15"					FLUORESCENT ORANGE	BLACK	BLACK	2.19
W16-8P	30"	8"					FLUORESCENT ORANGE	BLACK	BLACK	2.19

NOTES:

- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MassDOT STANDARD SIGNS BOOK, AS AMENDED.
- ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

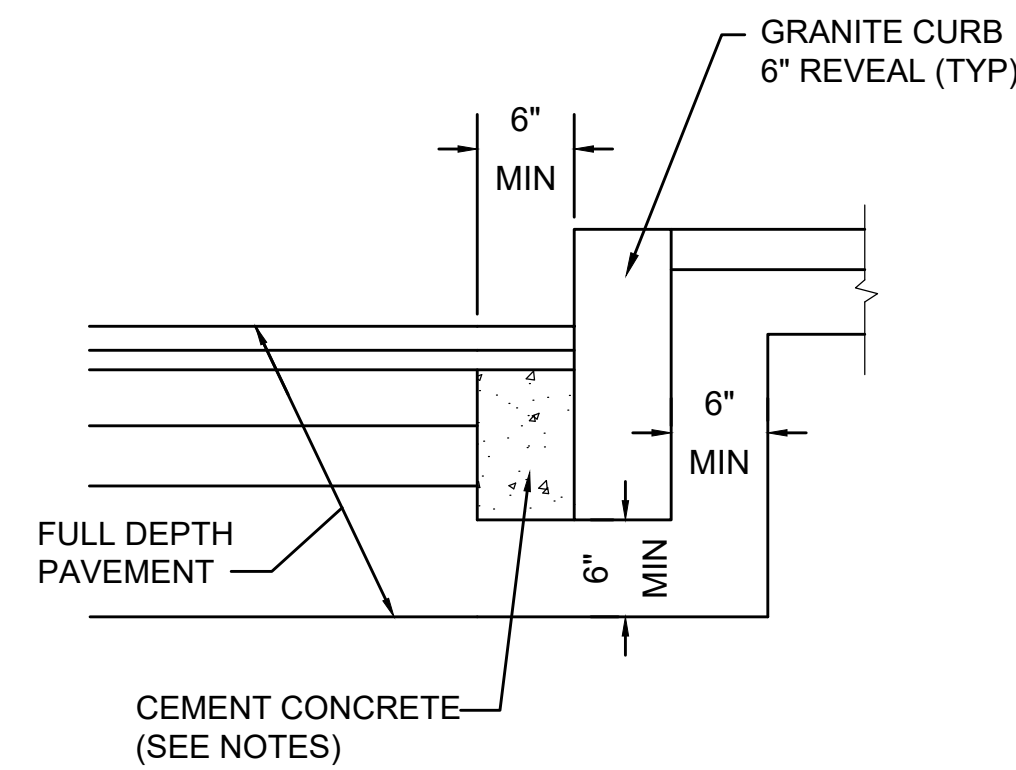
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	113	205

PROJECT FILE NO. 608562

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	114	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS

608562\_HD(DET).DWG Plotted on 16-Jul-2024 5:52 PM

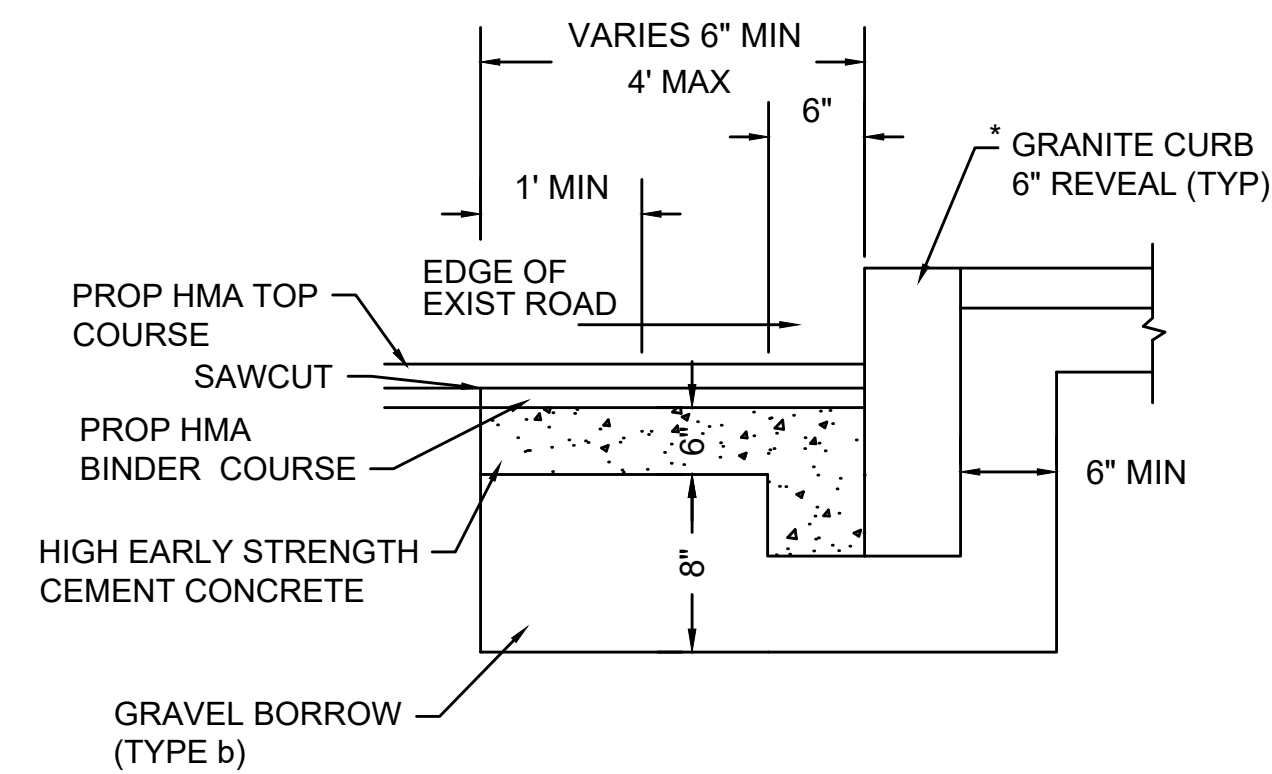


NOTES:

1. TO BE PLACED IF CURB IS INSTALLED AFTER HOT MIX ASPHALT.
2. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

**GRANITE CURB IN FULL DEPTH PAVEMENT**

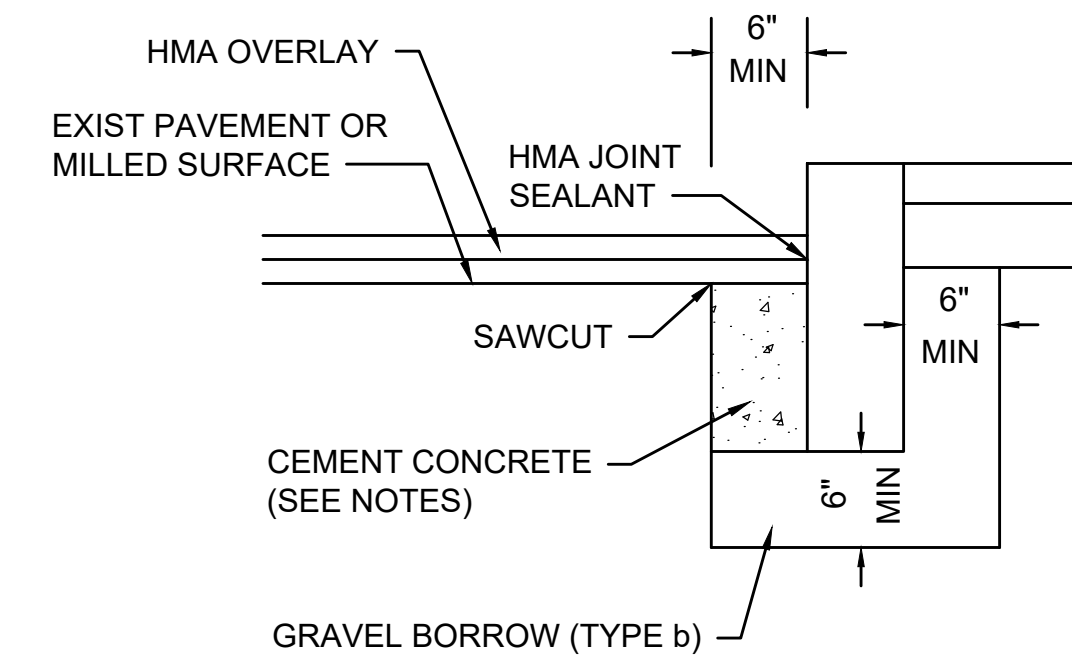
SCALE: N.T.S. DWG: CURB-05 DATE: MARCH 2013



\* 6" OF HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.

**GRANITE CURB IN FULL DEPTH PAVEMENT LESS THAN 4' WIDE**

SCALE: N.T.S. DWG: CURB-06 DATE: FEB. 2013

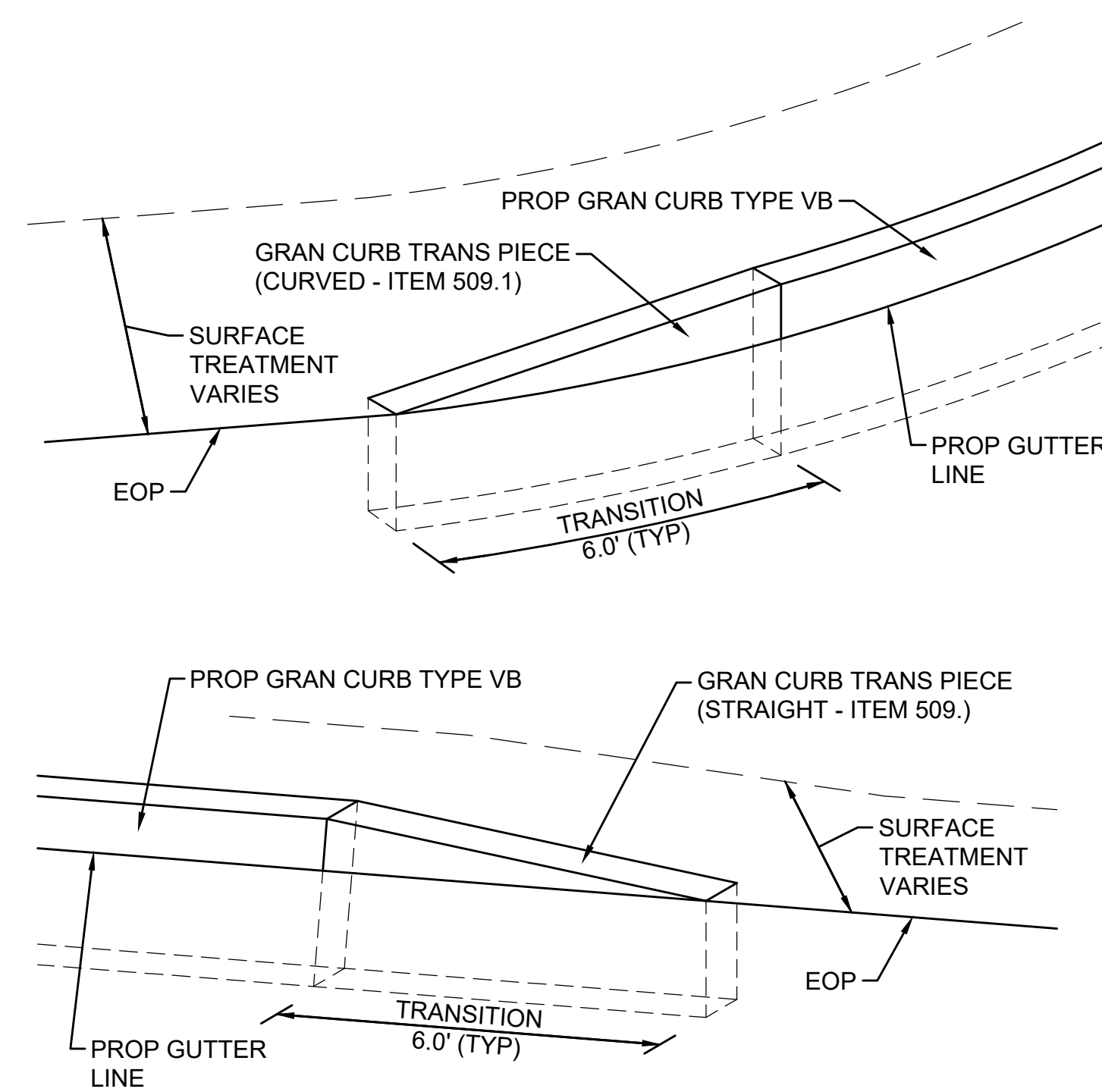


NOTES:

1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
2. SAWCUT 6" FROM CURB LINE AND REMOVE EXISTING PAVEMENT AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

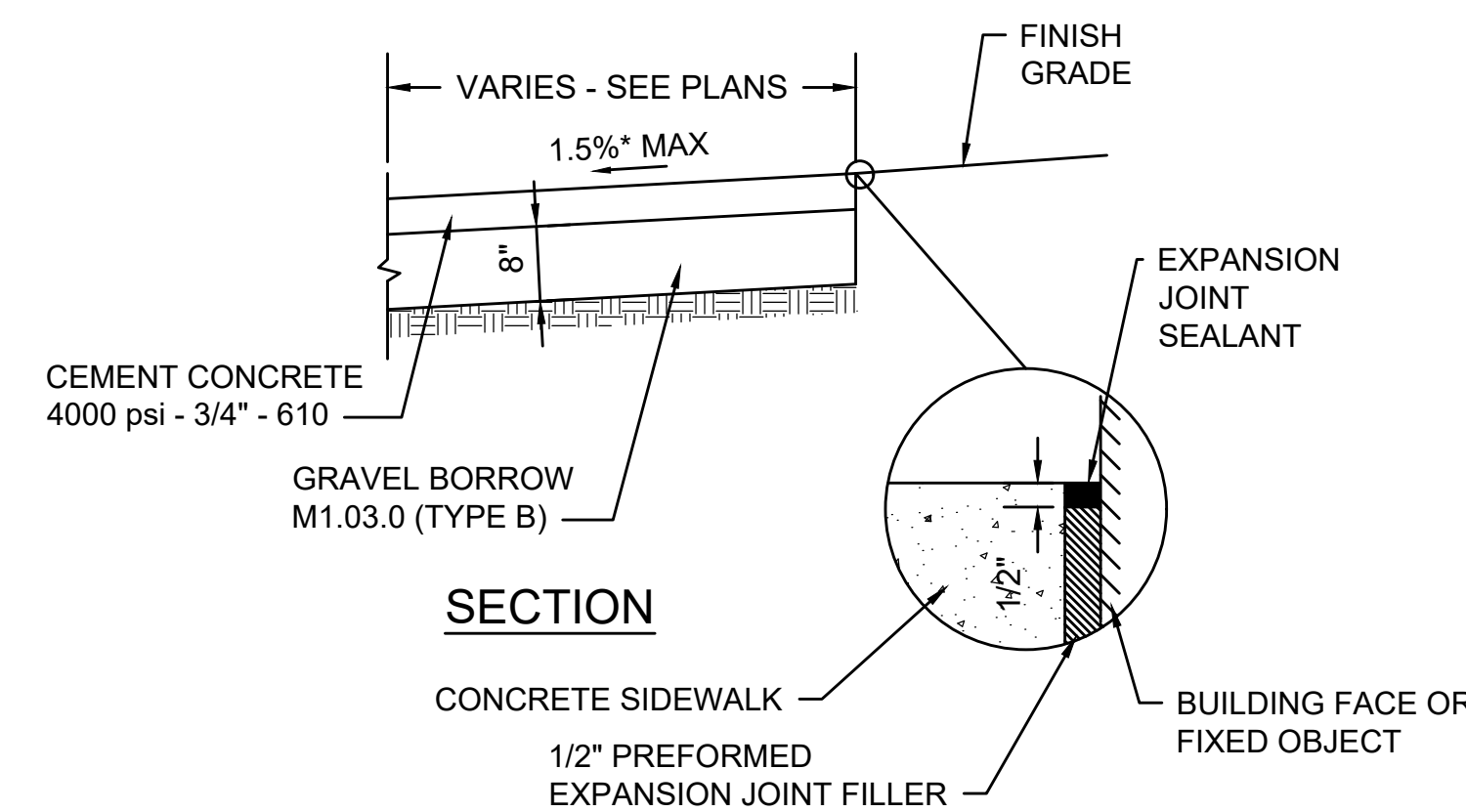
**GRANITE CURB IN EXISTING PAVEMENT - WITH OVERLAY**

SCALE: N.T.S. DWG: CURB-04 DATE: MARCH 2013



**GRANITE CURB TRANSITION PIECE**

SCALE: NTS

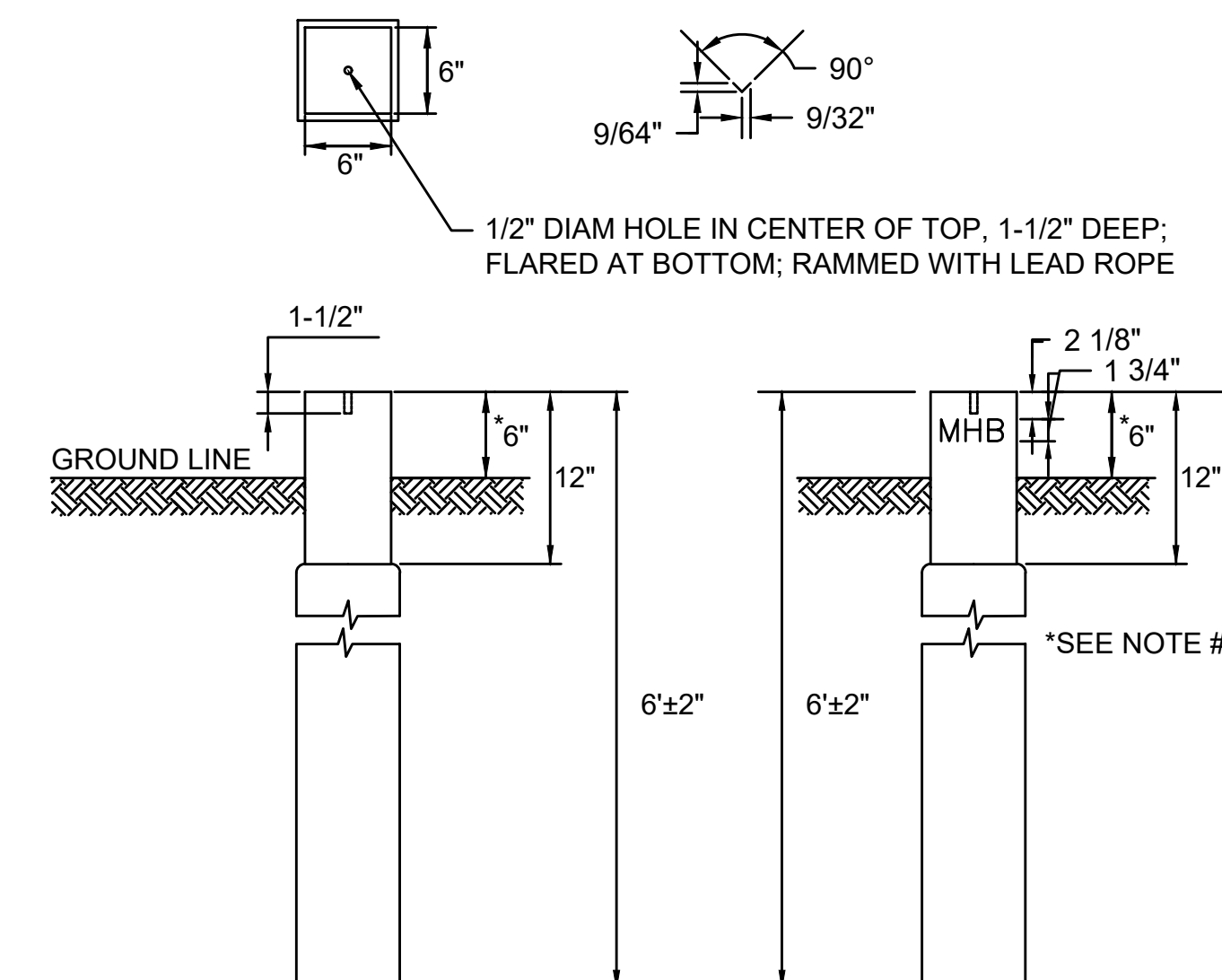


NOTES:

1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER
2. PROVIDE TOOLED DUMMY JOINTS AT MAX 5' O.C.
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB
4. \* TOLERANCE FOR CONSTRUCTION ±0.5%

**CEMENT CONCRETE SIDEWALK**

SCALE: NTS



BOUND NOTES:

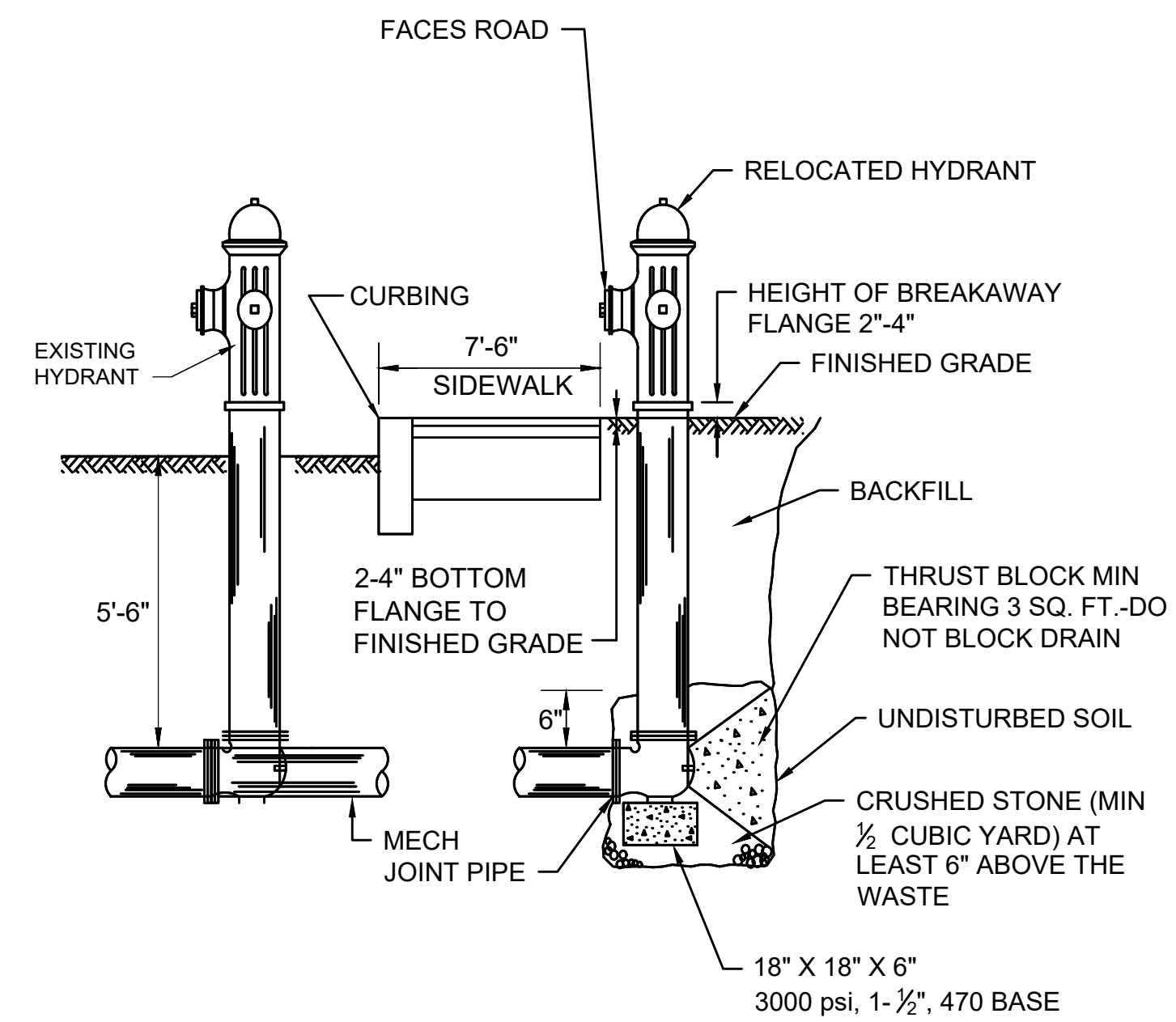
1. FOR DESCRIPTIONS, MATERIALS AND CONSTRUCTION METHODS SEE SPECIFICATIONS.
2. TOP AND TOP 12 INCHES ON THREE SIDES TO BE POINTED. TOP 12 INCHES ON FACE TO BE HAMMER DRESSED.
3. PER SECTION 710.60 OF THE STANDARD SPECIFICATIONS, BOUNDS IN LAWNS WILL BE INSTALLED 2" BELOW FINISHED GRADE; BOUNDS IN SIDEWALKS AND DRIVES WILL BE INSTALLED FLUSH. AT OTHER LOCATIONS BOUNDS WILL BE INSTALLED 6" ABOVE THE GROUND SURFACE.

**GRANITE BOUND**

SCALE: NTS

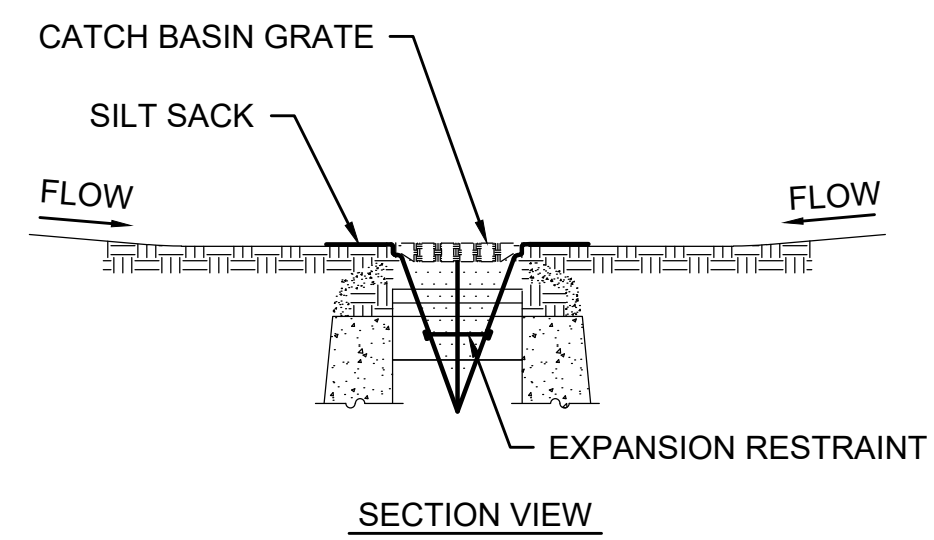
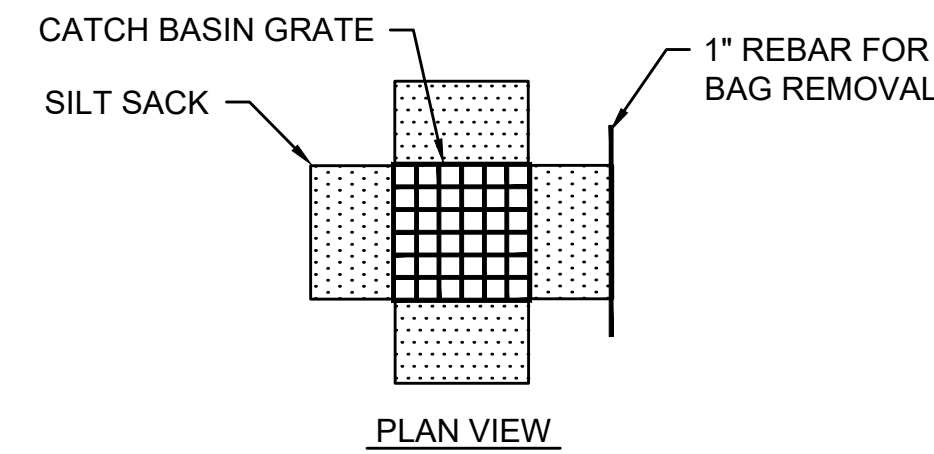
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	115	205
PROJECT FILE NO.		608562	

**CONSTRUCTION DETAILS**



**HYDRANT RELOCATION**

SCALE: N.T.S.



**NOTES:**

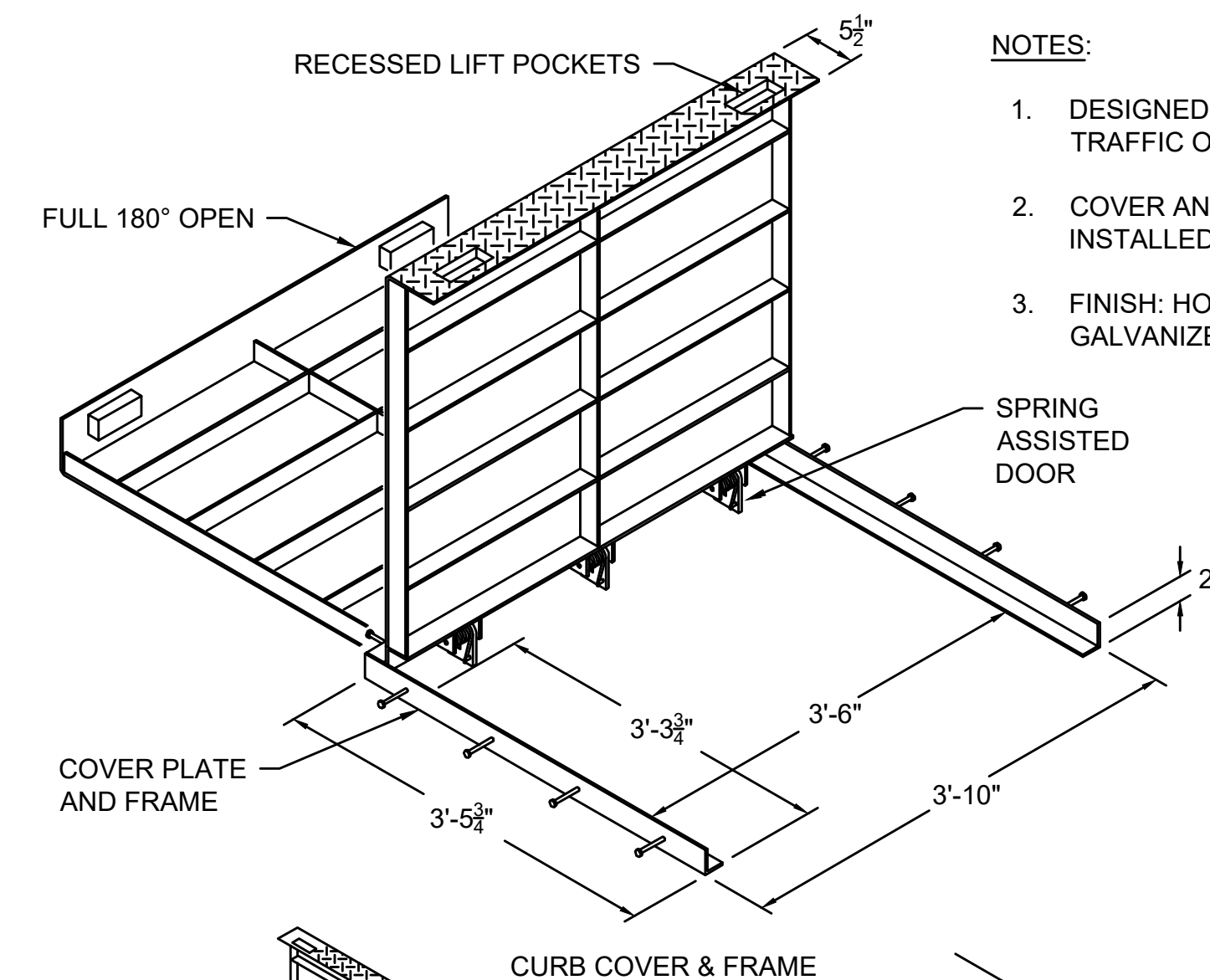
1. INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. REMOVE AFTER BINDER COURSE PAVING IS COMPLETE AND A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED

**INLET PROTECTION - SILT SACK IN CATCH BASIN**

SCALE: N.T.S.

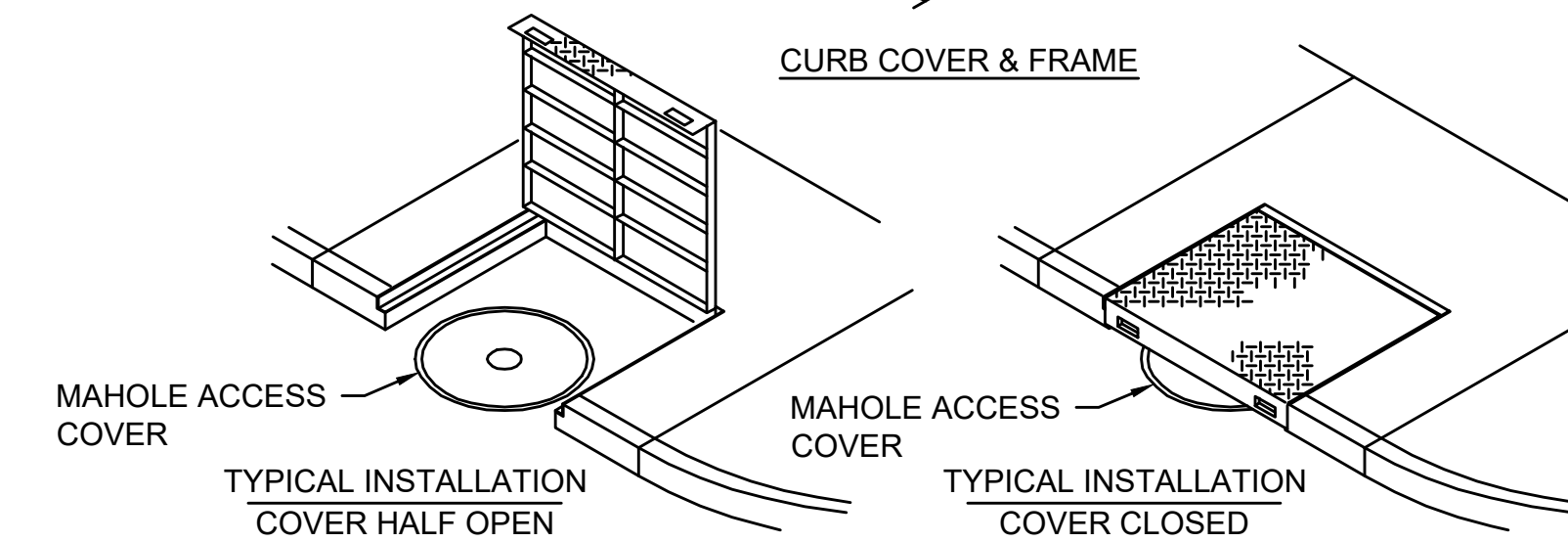
DWG: EV-03

DATE: MARCH 2013



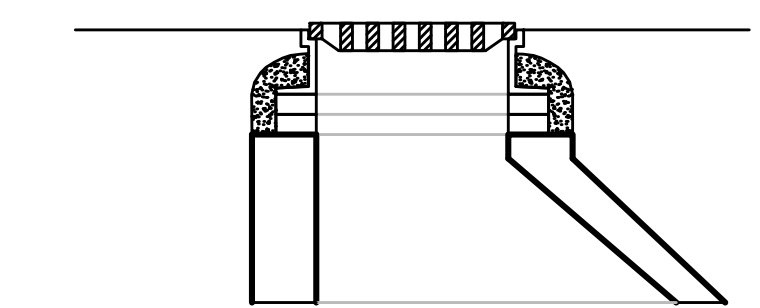
**NOTES:**

1. DESIGNED FOR PEDESTRIAN TRAFFIC ONLY
2. COVER AND FRAME TO BE INSTALLED AS ONE UNIT
3. FINISH: HOT-DIPPED GALVANIZED

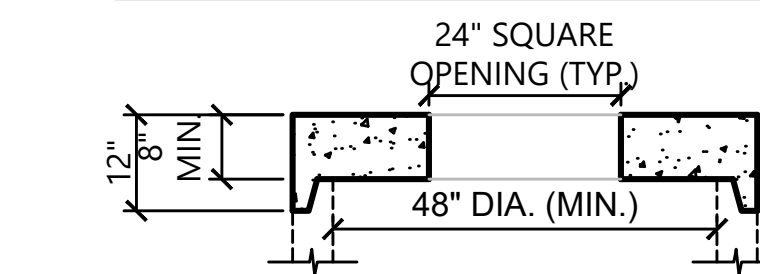


**GALVANIZED STEEL CURB COVER AND FRAME**

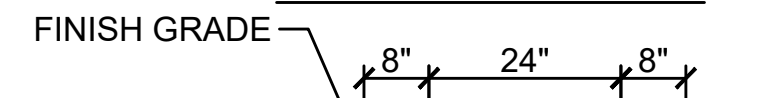
SCALE: NTS



**ALTERNATE ECCENTRIC CONE SECTION**

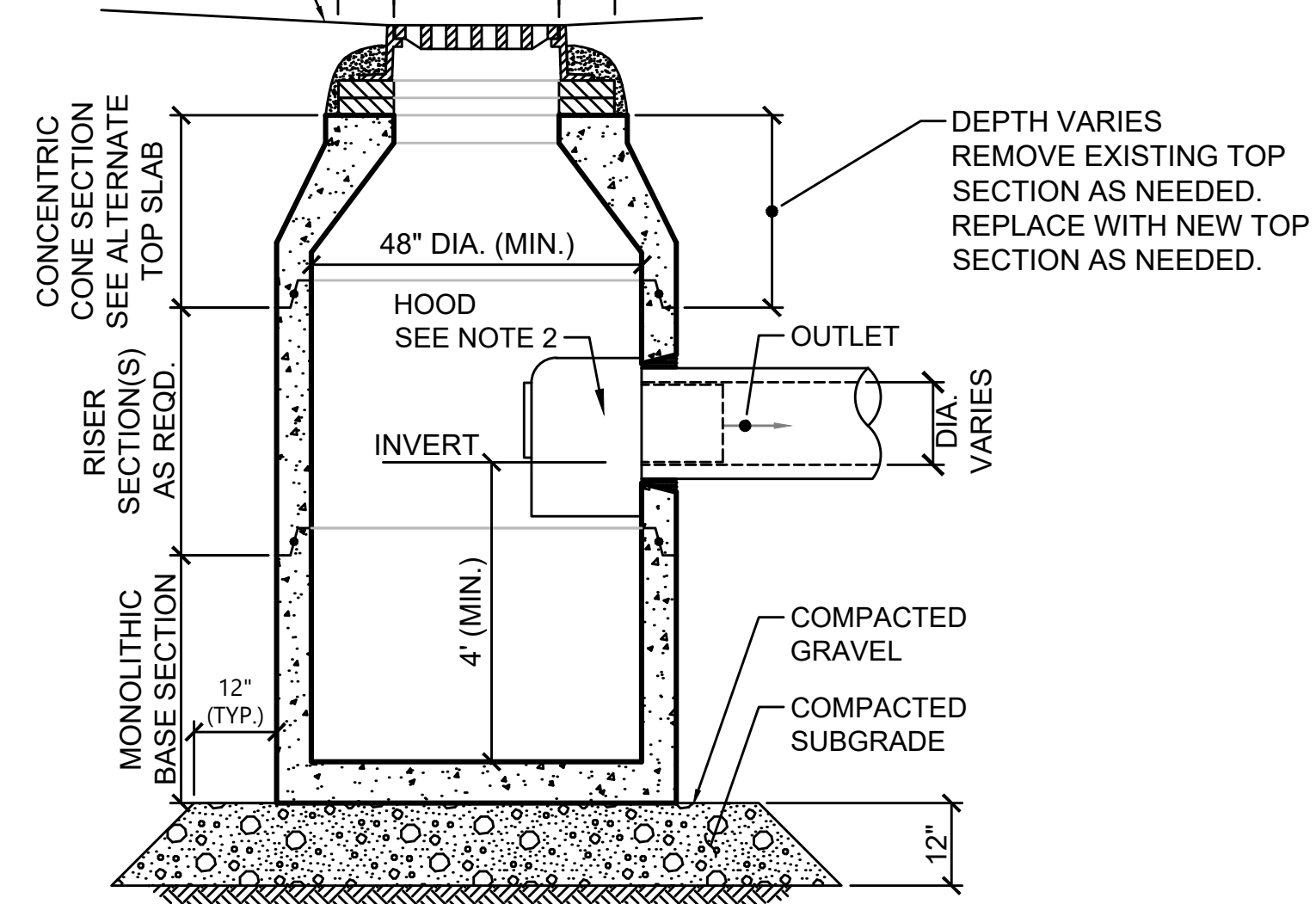


**ALTERNATE TOP SLAB**



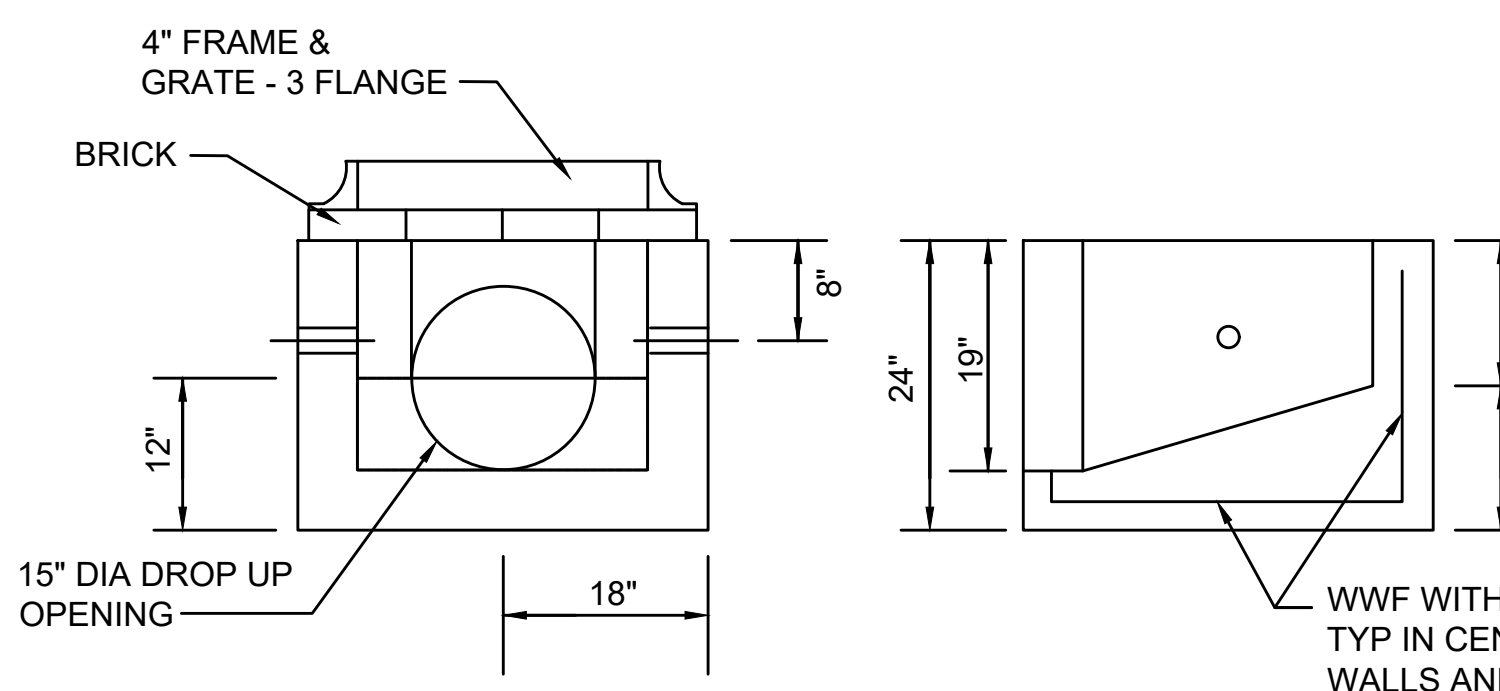
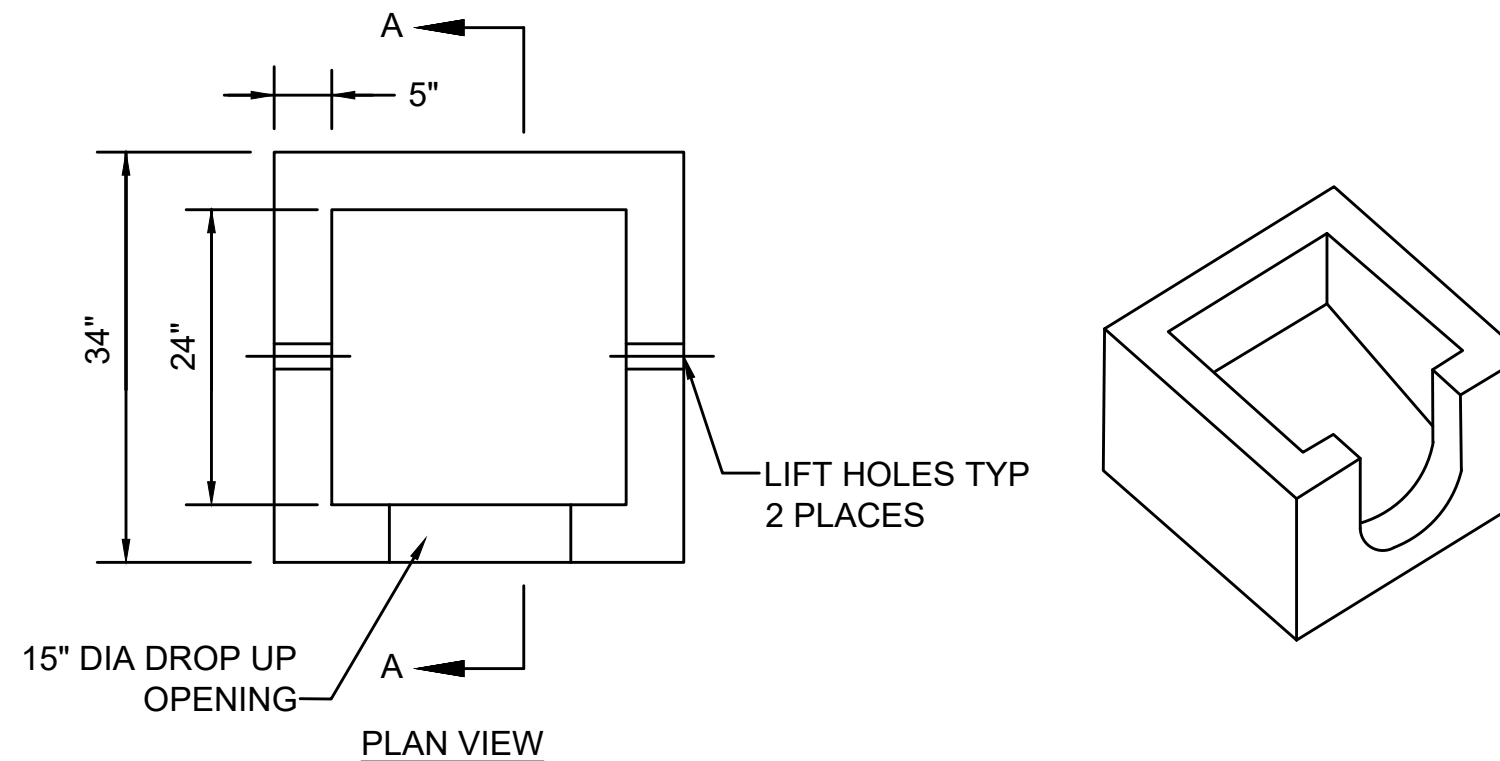
**NOTES:**

1. BASED ON ACTUAL FIELD CONDITIONS; THE CONTRACTOR SHALL DETERMINE WHICH STYLE OF THE SECTION SHOULD BE USED.
2. HOODS TO BE INSTALLED IN ALL CATCH BASINS LOCATED WITHIN TOWN LAYOUT



**CATCH BASIN**

SCALE: N.T.S.

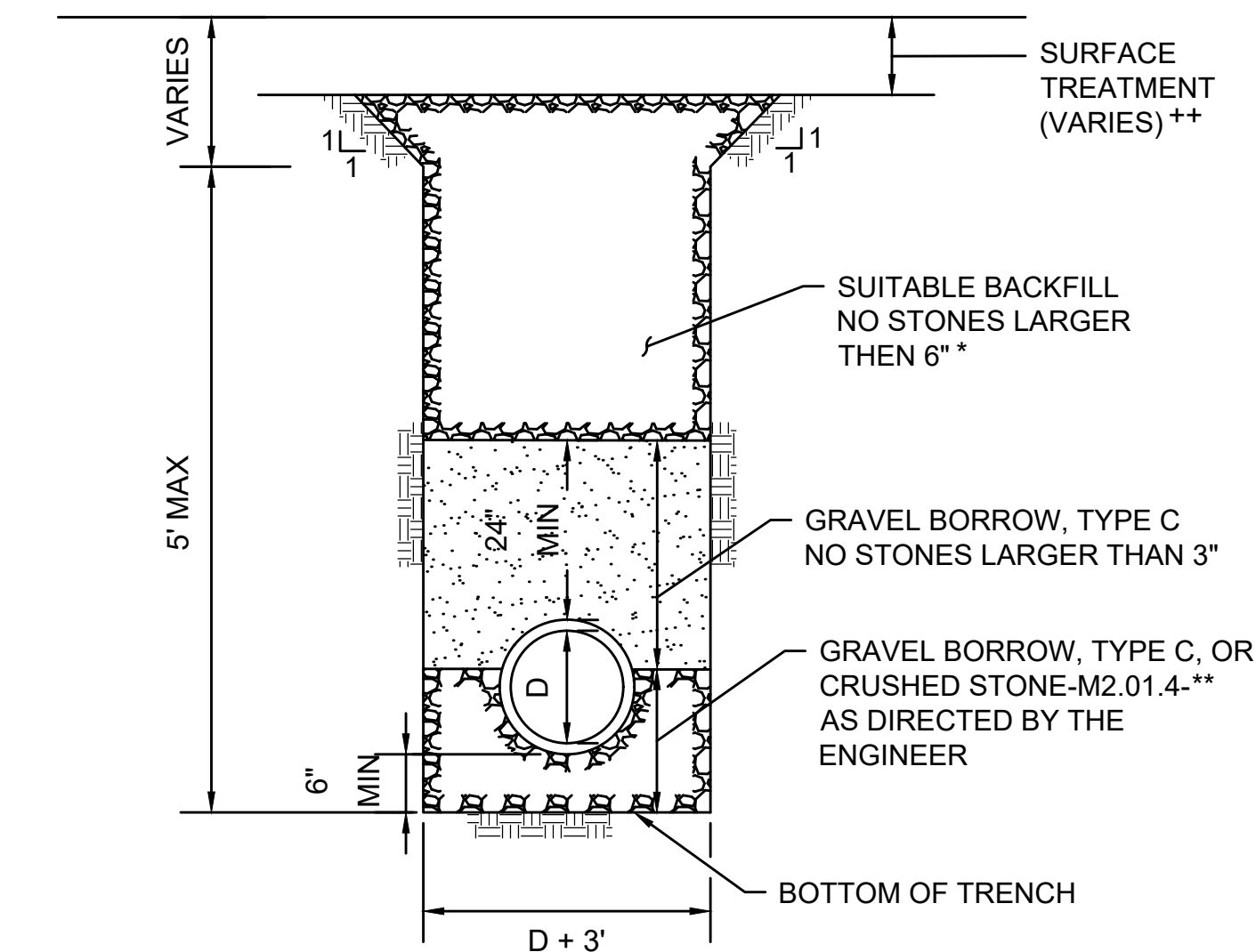


**NOTES:**

1. DESIGNED FOR AASHTO HS25-44 LOADING.
2. CONCRETE STRENGTH  $f_c=4000$  PSI
3. REINFORCING STEEL: ASTM A185 (wwf)  $f_y=60,000$  PSI

**GUTTER INLET - SPECIAL**

SCALE: N.T.S.



**\*\* MINIMUM REQUIREMENTS:**

IN ROADWAY: MATCH EXISTING ROADWAY PAVEMENT DEPTHS (ITEM 451)  
OTHER PAVEMENT LOCATIONS: 2.5" MIN (ITEM 451)

\* CONTROLLED DENSITY FILL TO BE USED ONLY WHEN CONVENTIONAL METHODS ARE UNUSUALLY DIFFICULT AS DETERMINED BY THE ENGINEER DUE TO OBSTRUCTIONS.

\*\* CRUSHED STONE TO BE USED DURING WET CONDITIONS AS DIRECTED BY THE ENGINEER.

**TRENCH DETAIL**

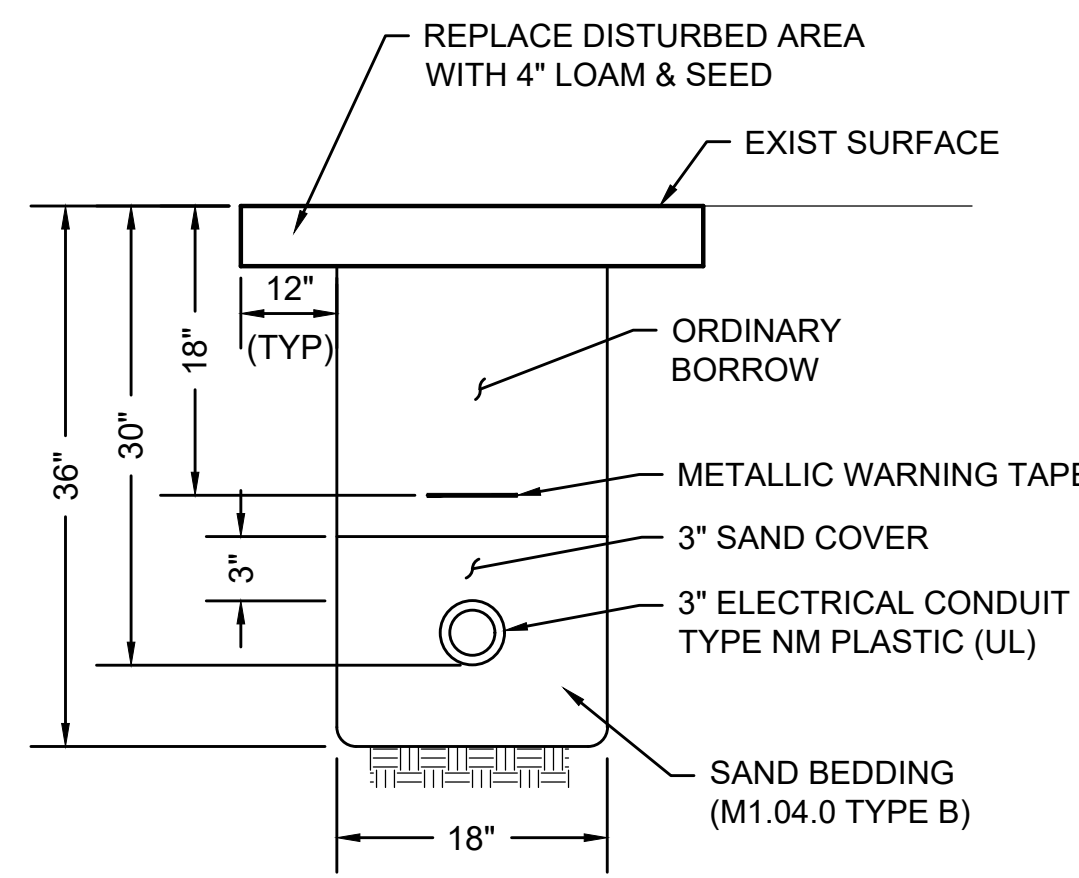
SCALE: NTS

DWG: TRENCH-05

DATE: MARCH 2013

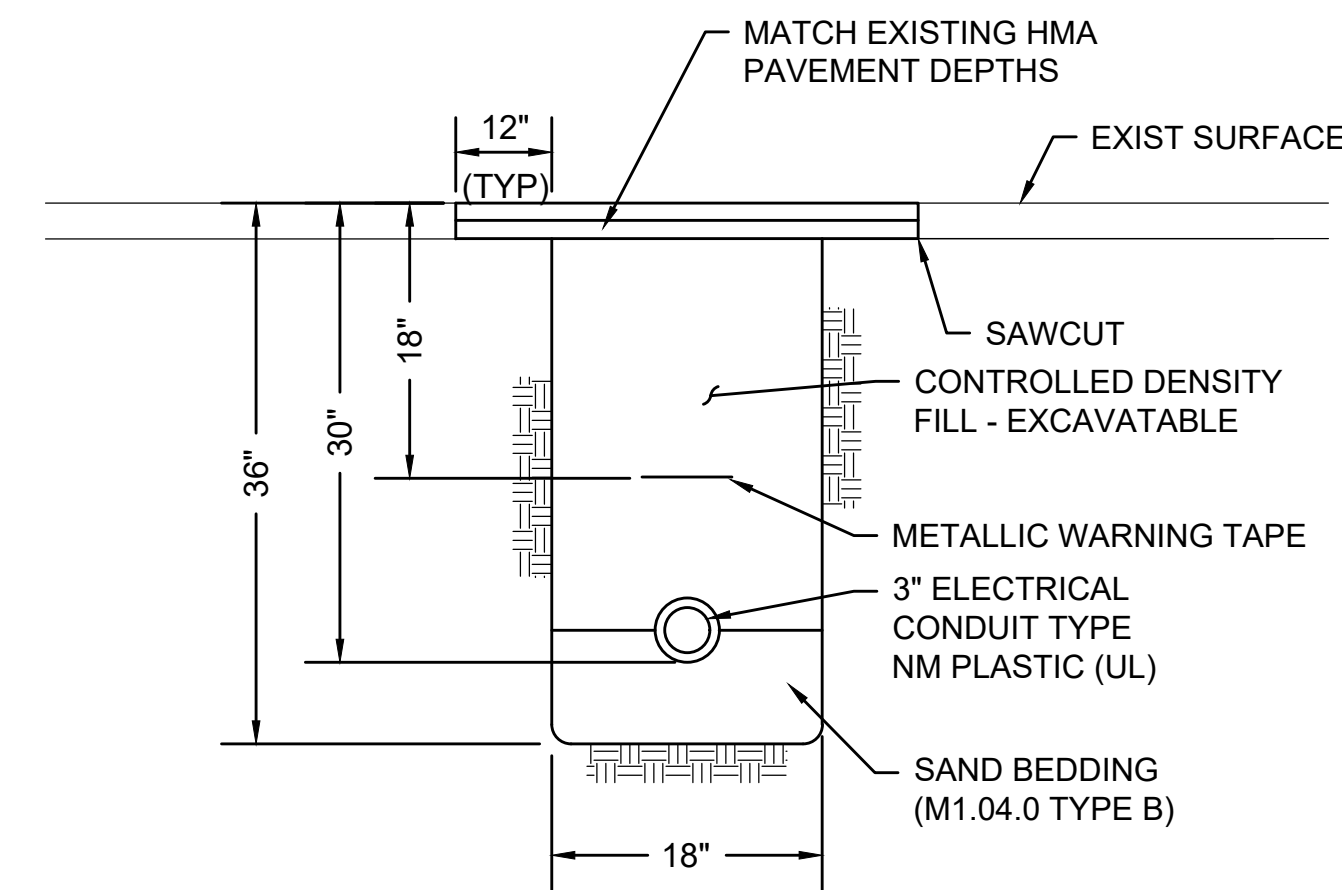
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	116	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS



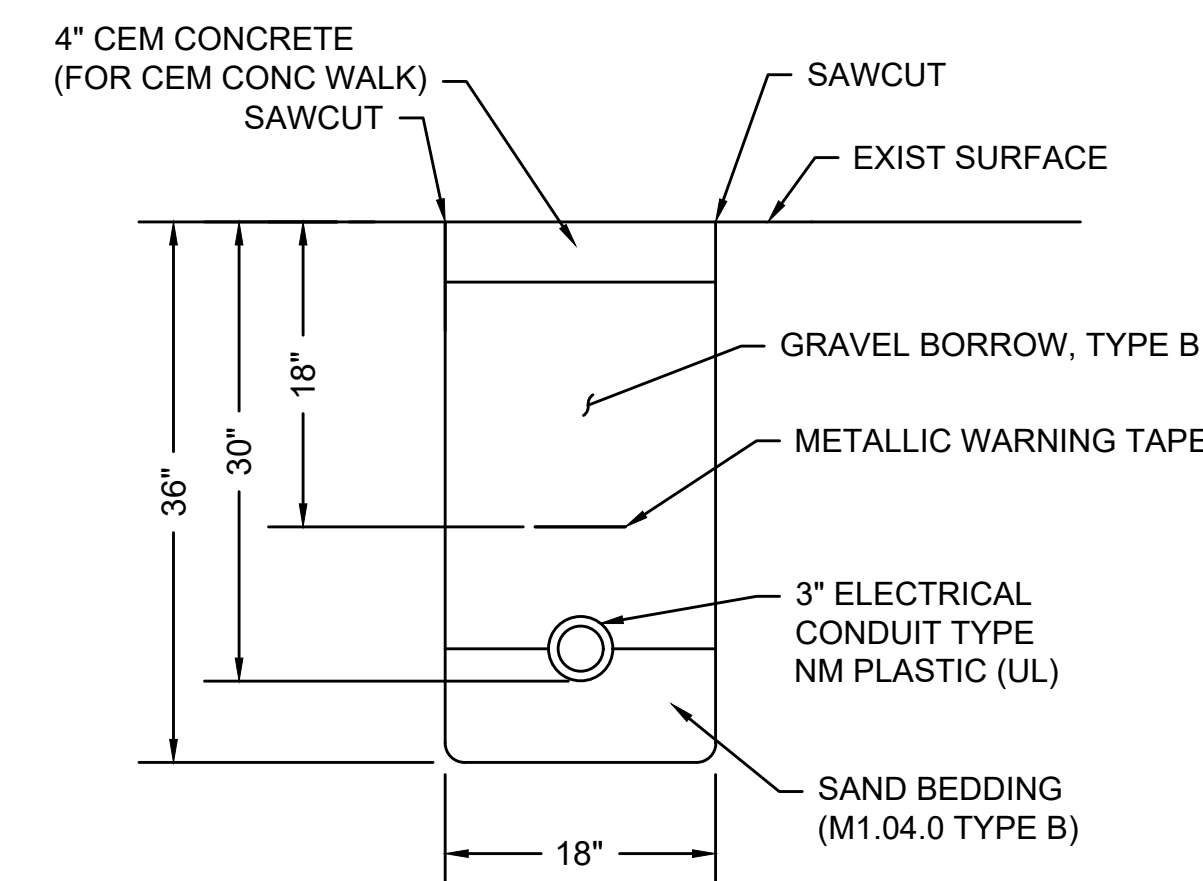
CONDUIT IN GRASS

SCALE: N.T.S.



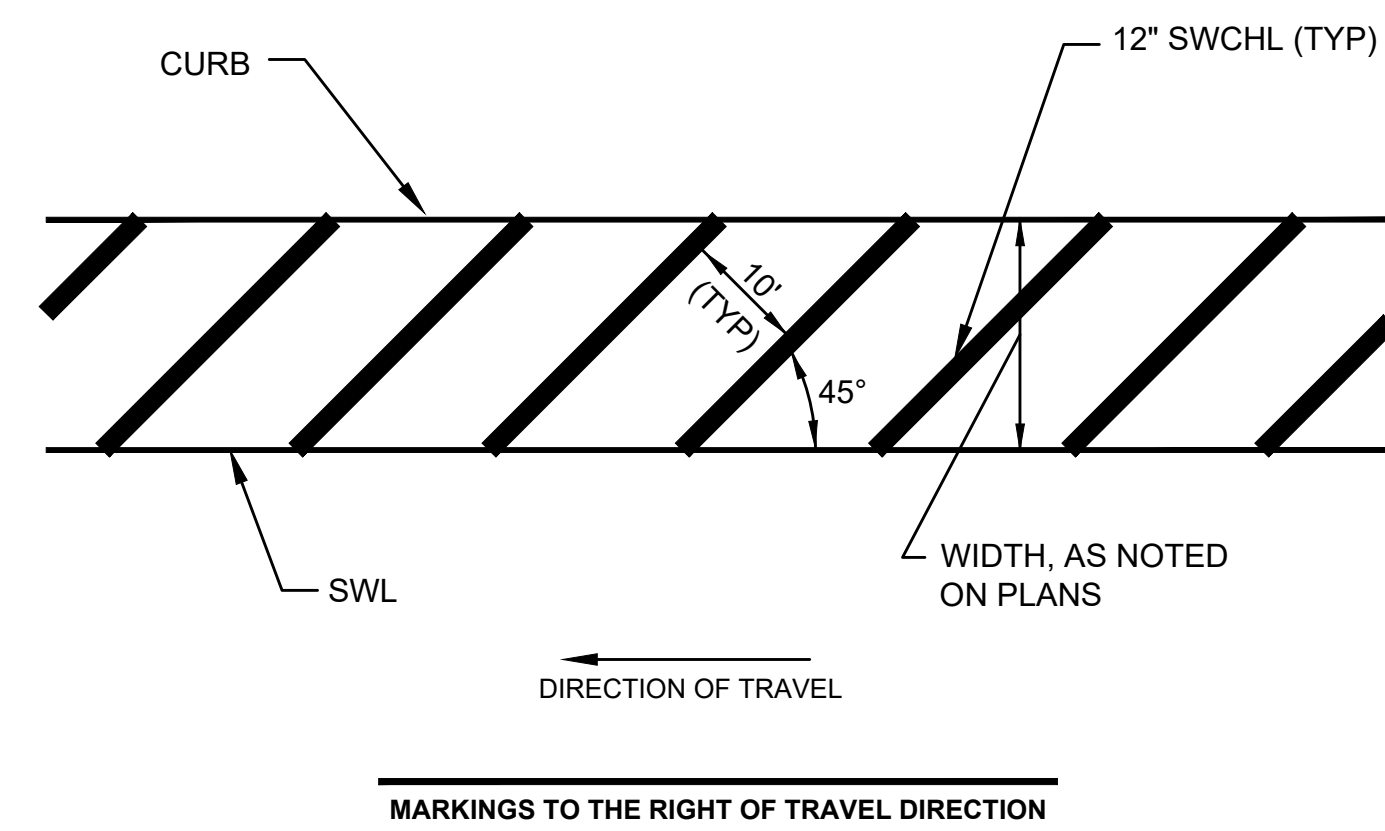
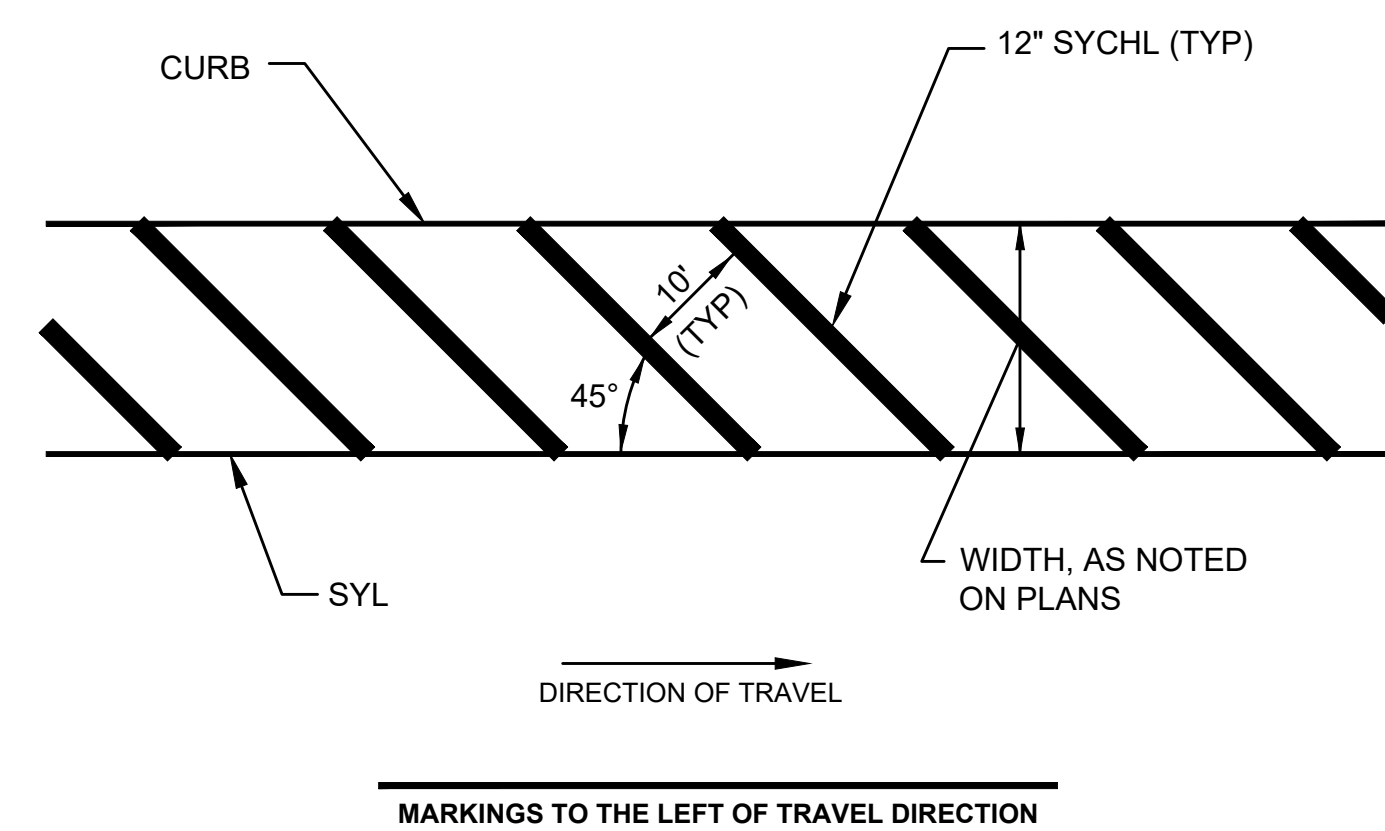
CONDUIT CROSSING ROADWAY/DRIVEWAY

SCALE: N.T.S.



CONDUIT IN SIDEWALK

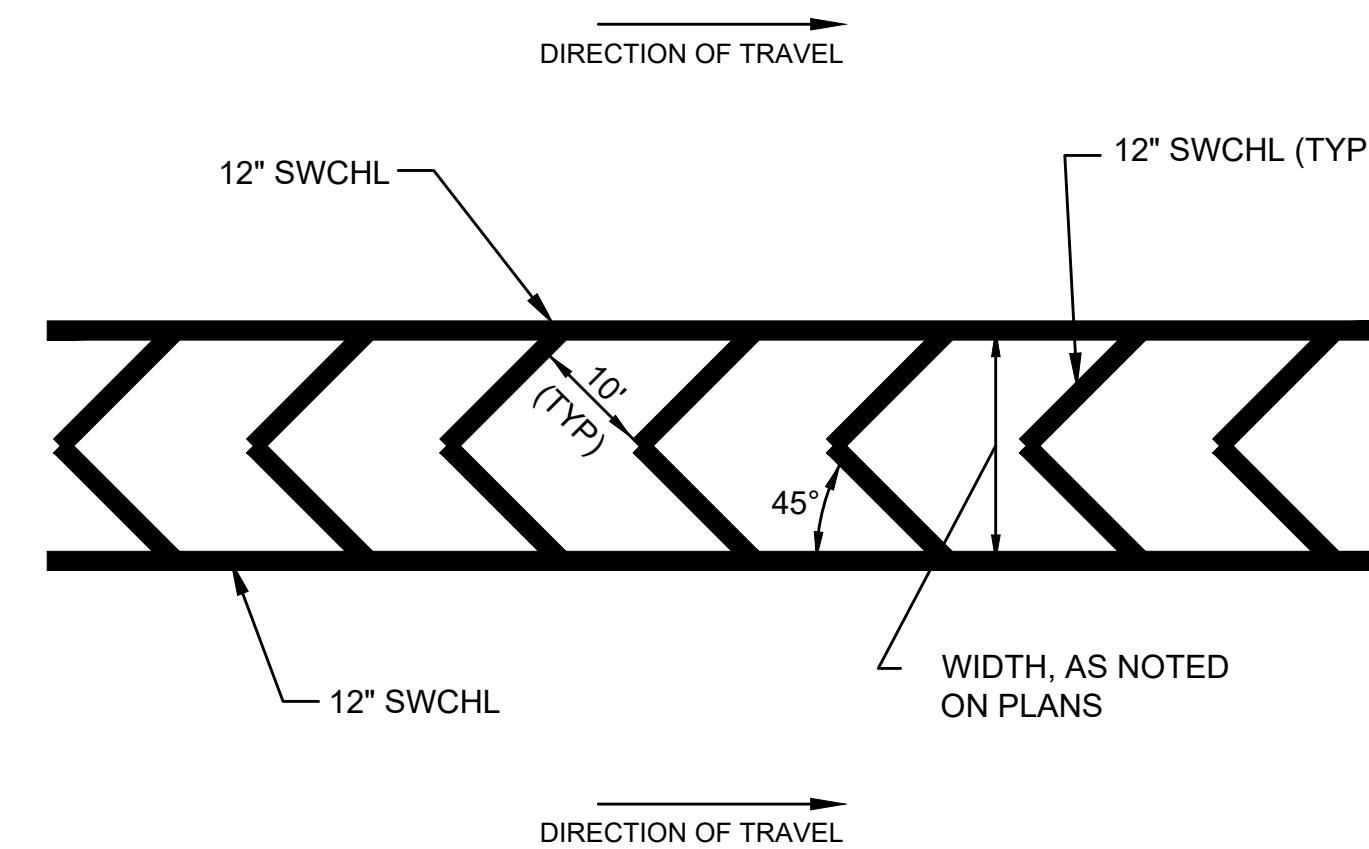
SCALE: N.T.S. DWG: TRENCH-03 DATE: MARCH 2013



- NOTES:
- ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (e.g. TWO - 6" LINES) WILL BE ACCEPTED.
  - ALL PAVEMENT MARKINGS SHALL BE WET REFLECTORIZED RECESSED THERMOPLASTIC.

CHANNELIZED MARKINGS - EDGE OF ROADWAY FOR ROADWAYS 40MPH OR LESS

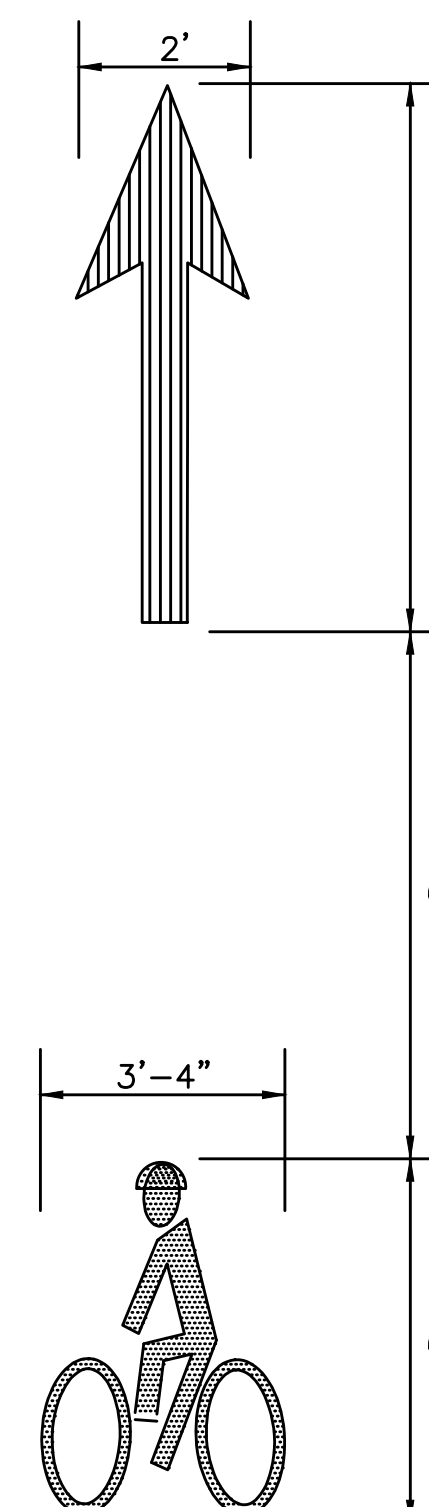
SCALE: N.T.S. DWG: PM-15 DATE: OCT 2015



- NOTES:
- ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (e.g. TWO - 6" LINES) WILL BE ACCEPTED.
  - ALL PAVEMENT MARKINGS SHALL BE WET REFLECTORIZED RECESSED THERMOPLASTIC.

CHANNELIZED MARKINGS - MEDIAN FOR ROADWAYS 40MPH OR LESS

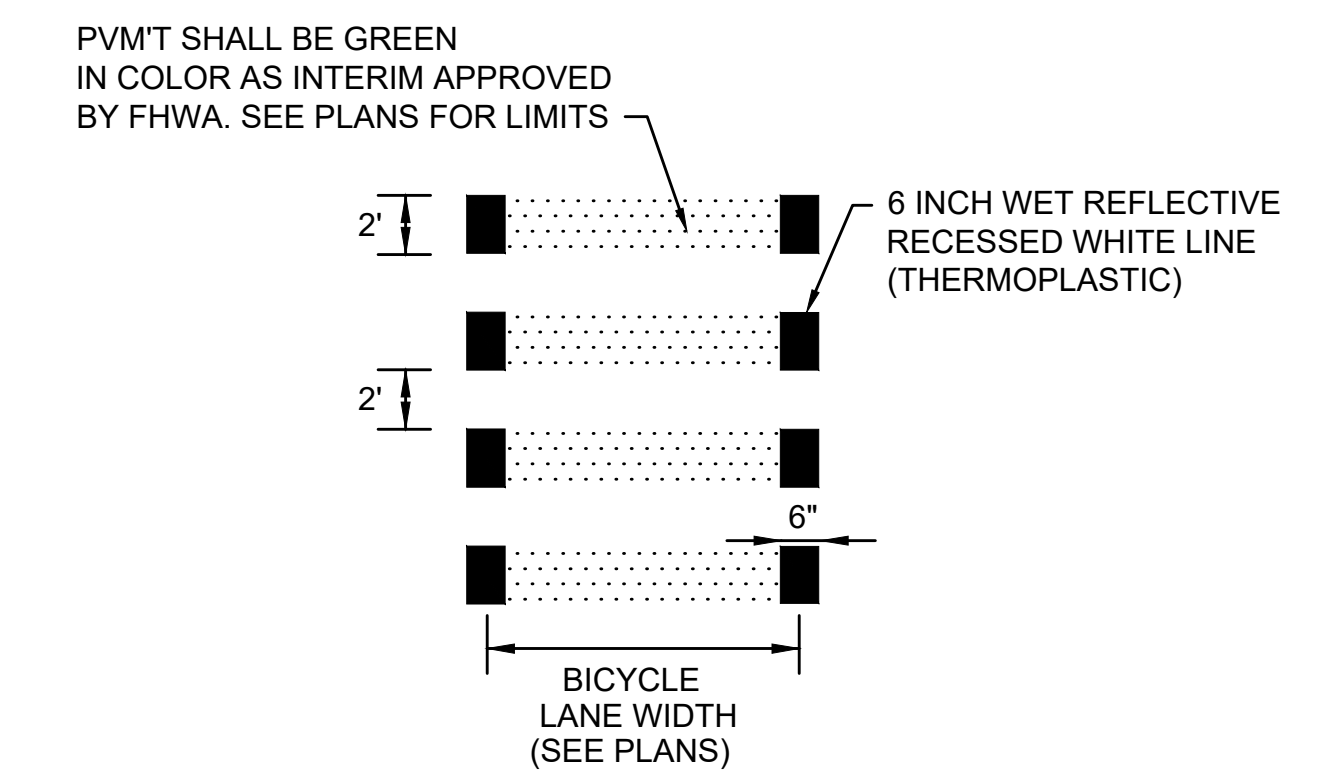
SCALE: N.T.S. DWG: PM-11 DATE: OCT 2015



- NOTES:
- SEE MUTCD FIGURE 9C-3B FOR MORE INFORMATION.
  - BIKE LANE MARKINGS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.

BIKE LANE PAVEMENT MARKINGS

SCALE: N.T.S. DWG: PM-11 DATE: NOV 2015



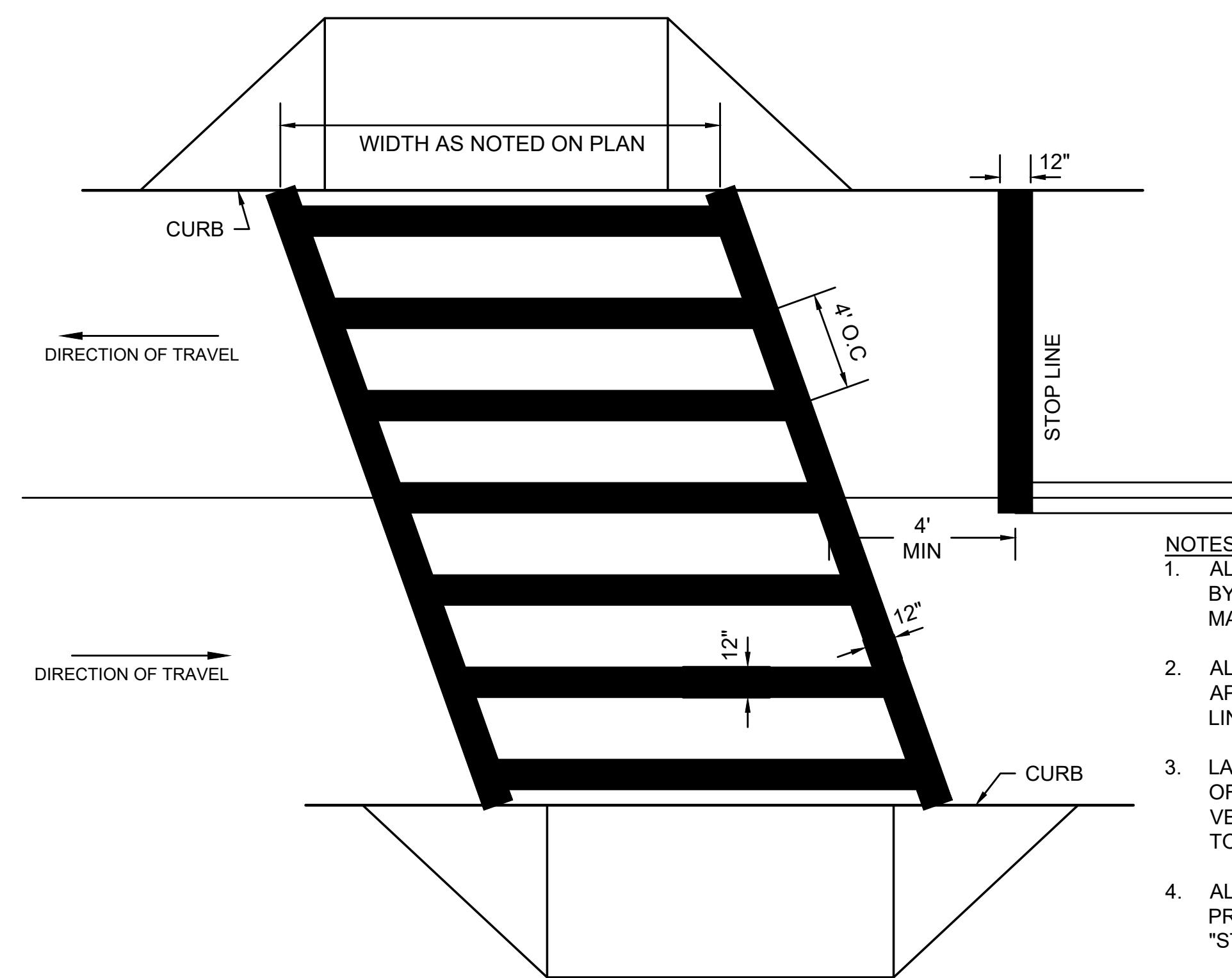
- NOTE:
- SEE ITEM 864.08 FOR COLORED BICYCLE LANES.

BICYCLE CROSSING

SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	117	205
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CONSTRUCTION DETAILS



NOTES:

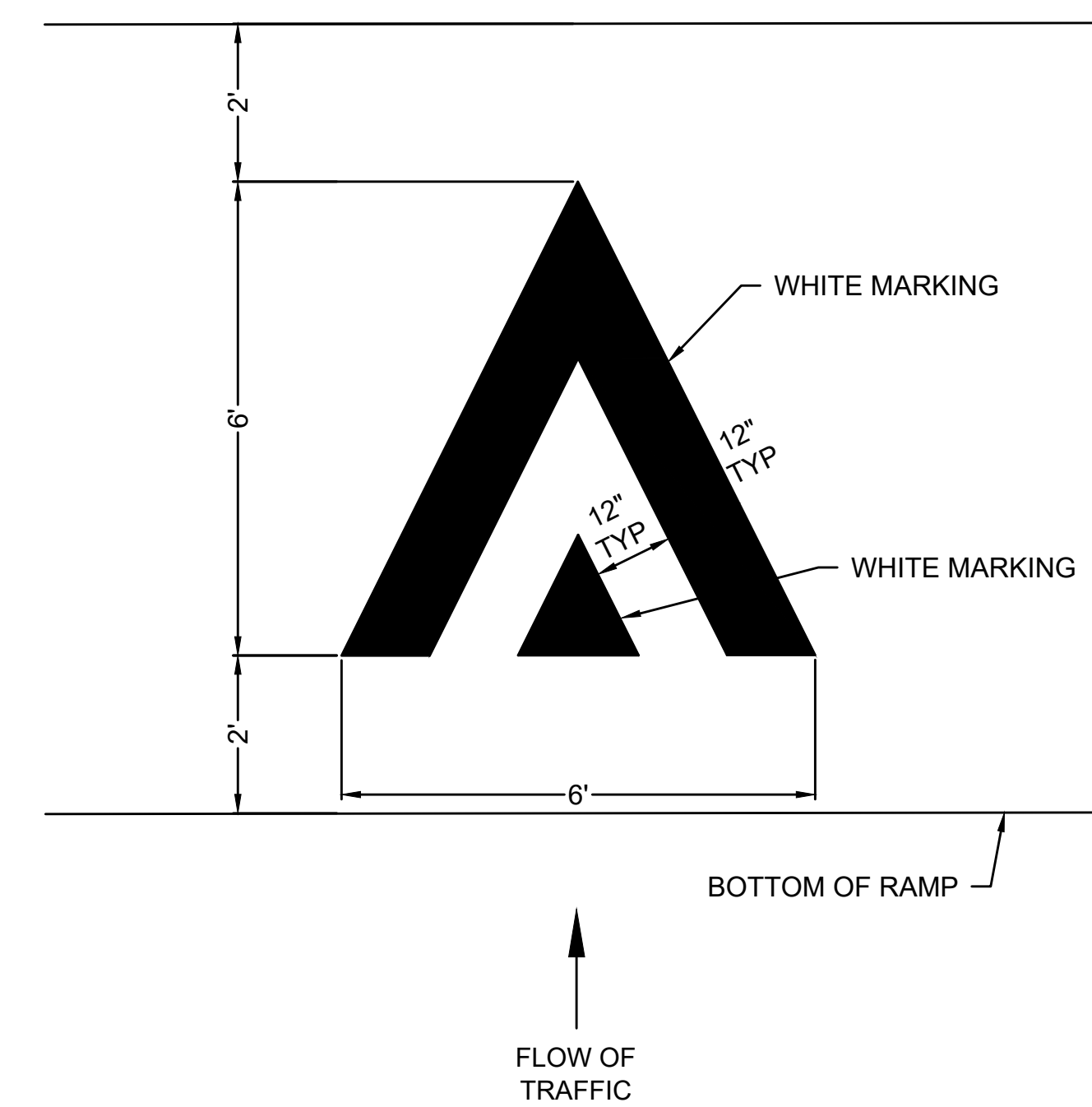
1. ALL EXISTING CROSSWALK MARKINGS SHALL BE FULLY ERADICATED BY APPROVED METHOD PRIOR TO THE APPLICATION OF PROPOSED MARKINGS.
2. ALL REFLECTIVE RECESSED 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
3. LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION OF THERMOPLASTIC.
4. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR TRANSPORTATION AND BRIDGES".

LADDER-STYLE CROSSWALK - 12" WIDE LINES

SCALE: N.T.S.

DWG: PM-27

DATE: MAY 2017



NOTES:

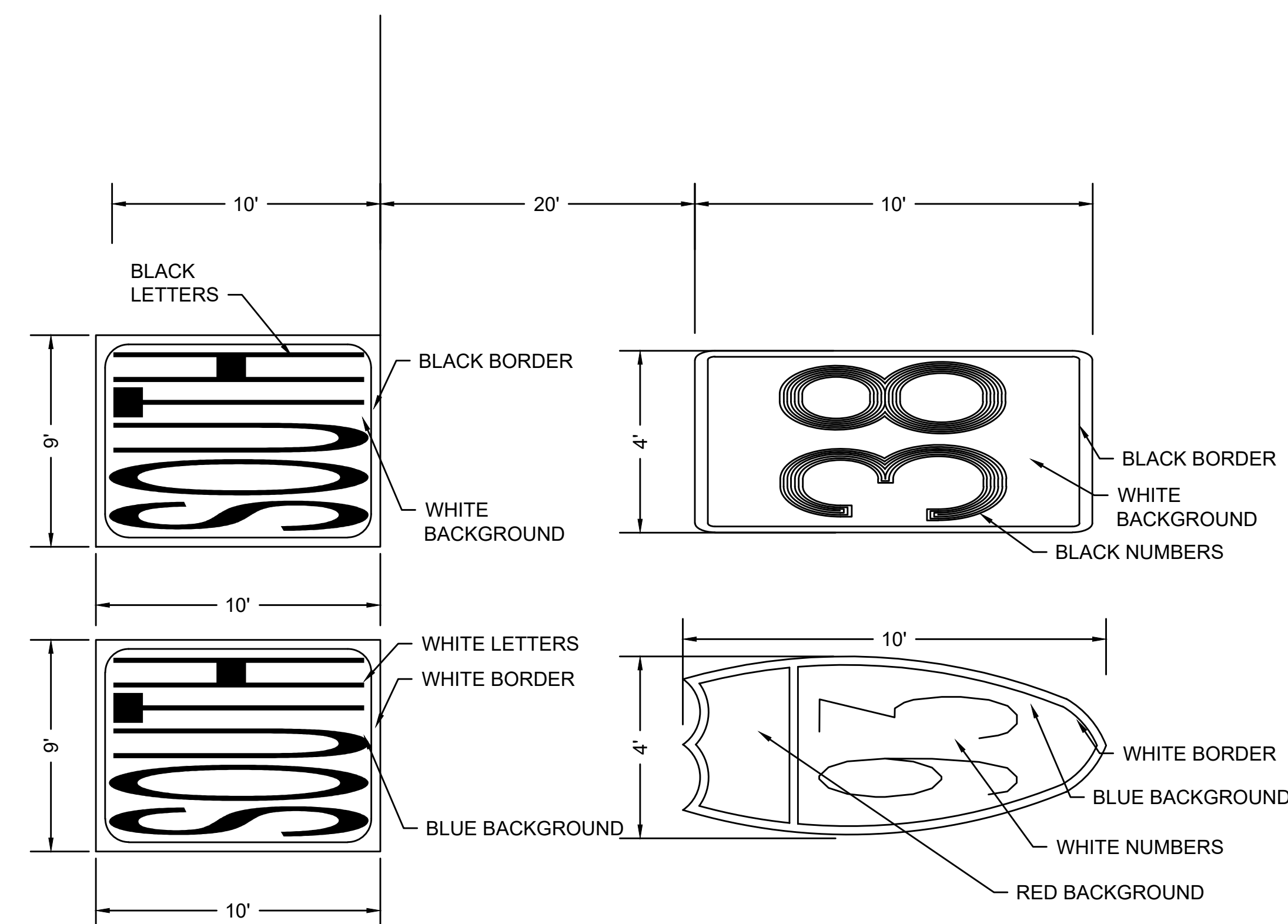
1. SEE MUTCD FIGURE 3B-29 FOR MORE INFORMATION.
2. RAISED CROSSWALK MARKING SHALL BE REFLECTIVE PREFORMED THERMOPLASTIC.
3. MARKINGS TO BE LOCATED IN CENTER OF TRAVEL LANE. SEE SIGNAGE AND MARKING PLANS FOR LOCATIONS.

RAISED CROSSWALK MARKINGS

SCALE: N.T.S.

DWG: PM-37

DATE: JUNE 2019



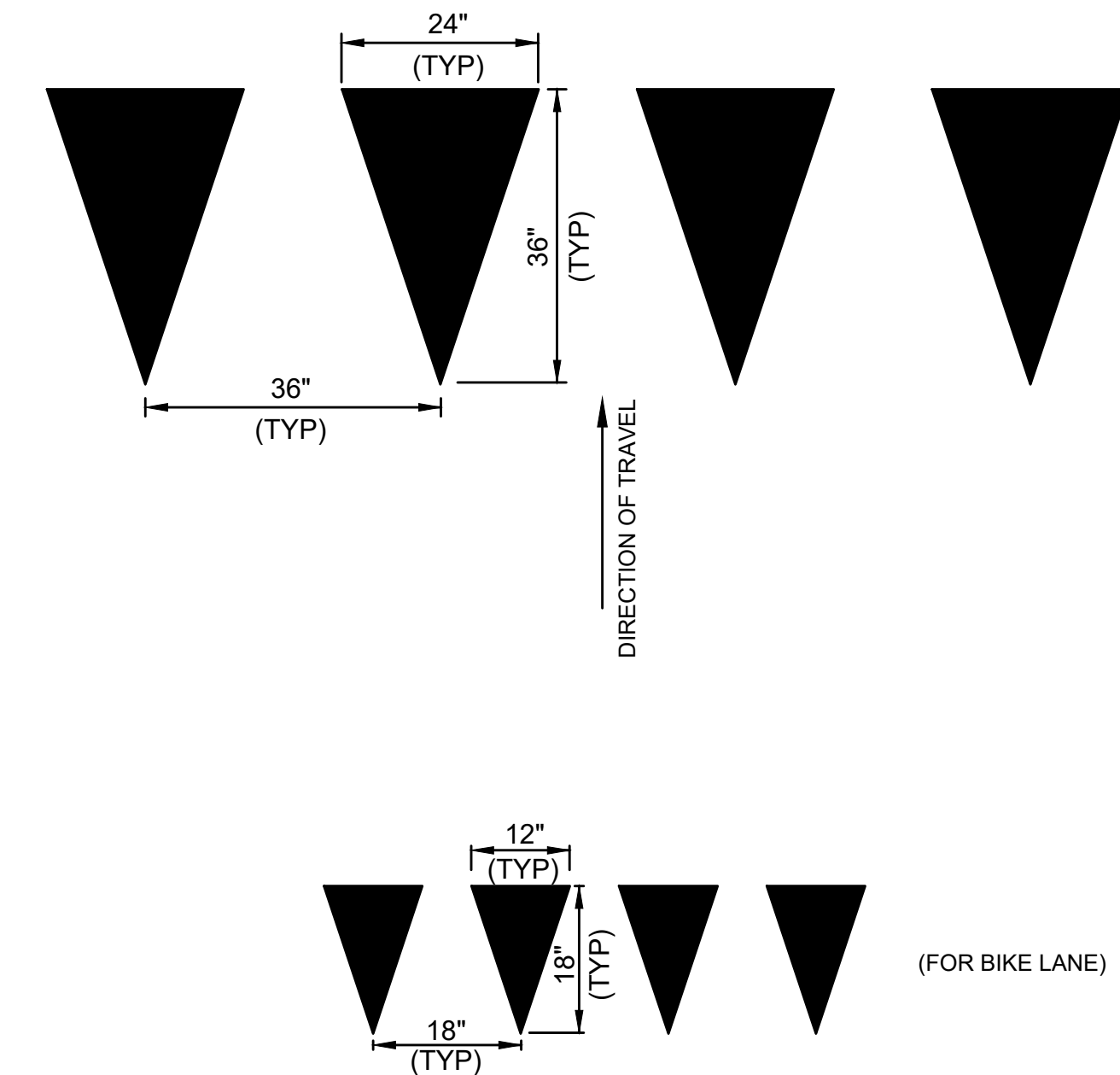
NOTES:

1. REFER TO LATEST EDITION OF STANDARD HIGHWAY SIGNS AND MARKINGS BOOK FOR ADDITIONAL INFORMATION ON ELONGATED SHIELDS AND LETTERING.
2. MARKINGS SHALL BE CENTERED WITHIN APPLICABLE TRAVEL LANE.
3. MARKINGS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC. SEE SPECIAL PROVISIONS FOR ADDITIONAL DETAIL.

PAVEMENT MARKING SHIELDS

SCALE: N.T.S.

DATE: DECEMBER 2016

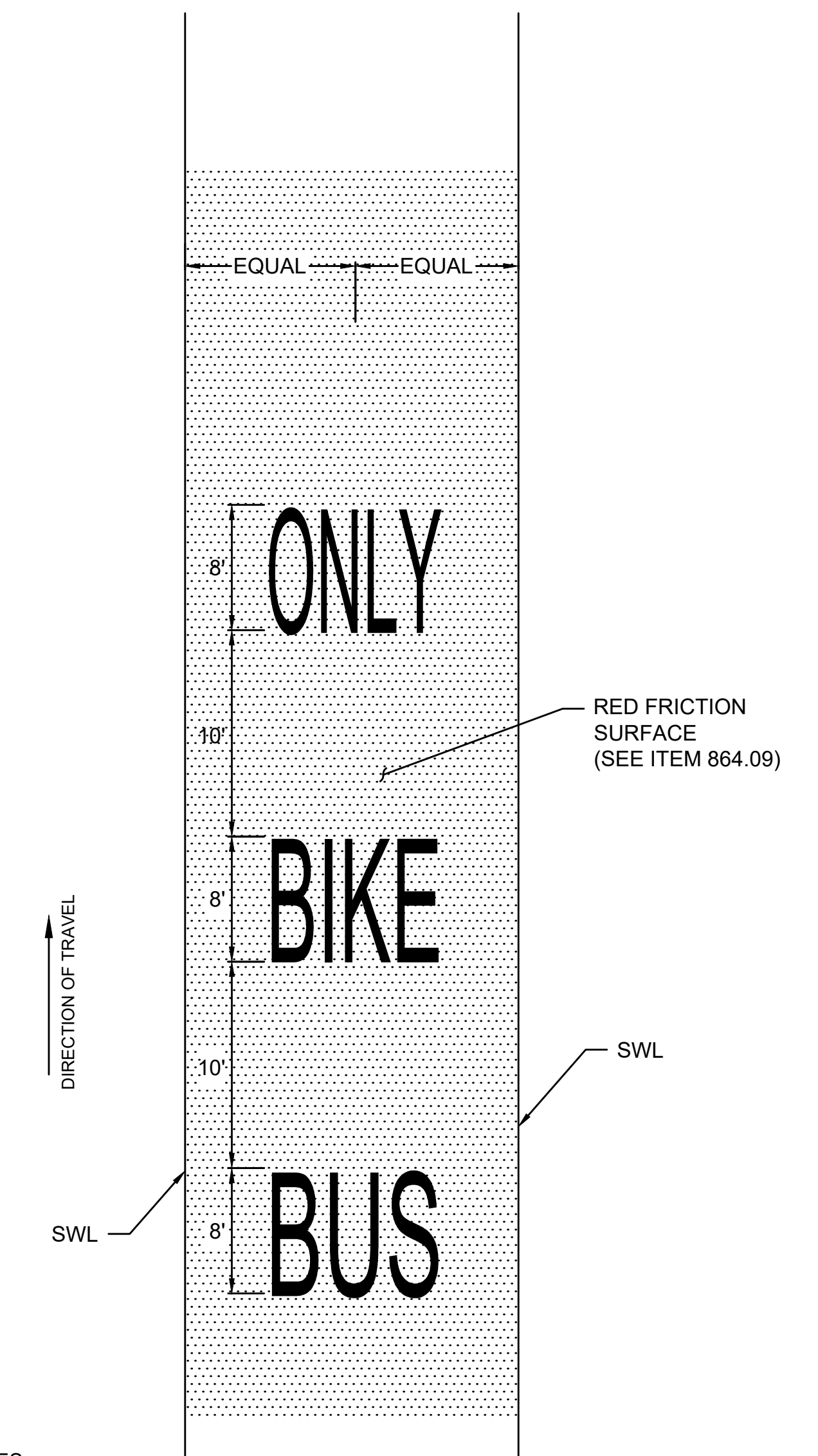


NOTES:

1. YIELD LINES SHALL CONSIST OF A ROW OF SOLID WHITE TRIANGLES.
2. YIELD LINES SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.

YIELD LINE TRIANGLES

SCALE: N.T.S.



NOTES:

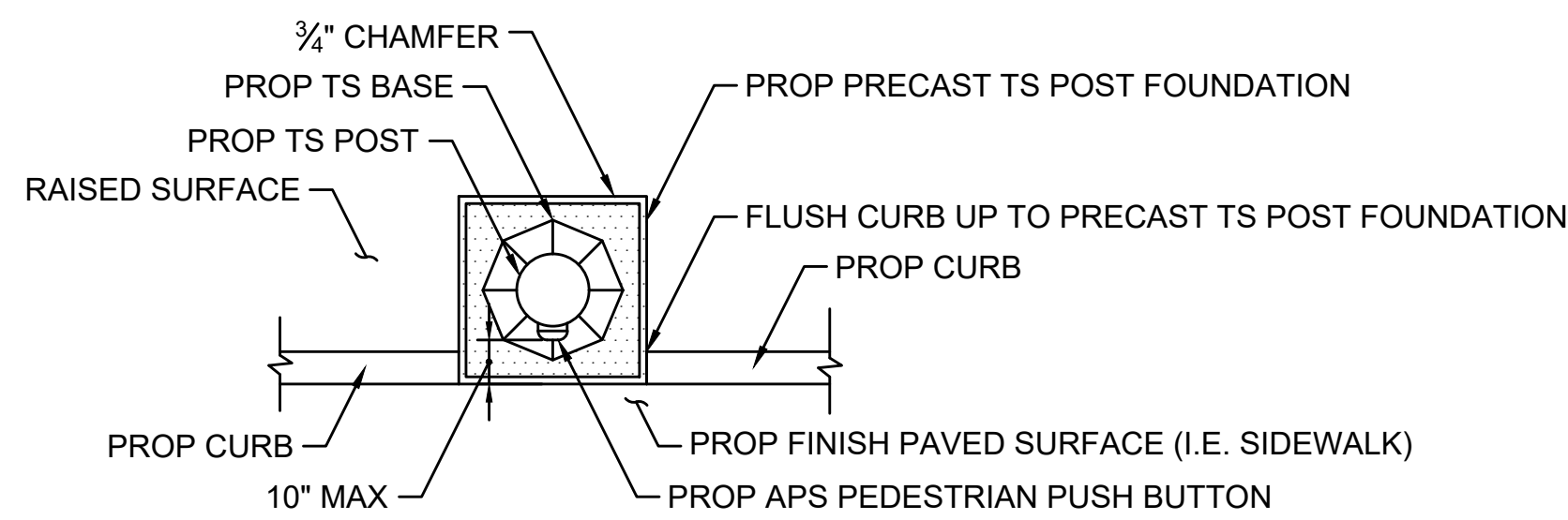
1. PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
2. ALL PAVEMENT MARKING LEGENDS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.

TEMP SHARED BUS-BIKE LANE MARKINGS

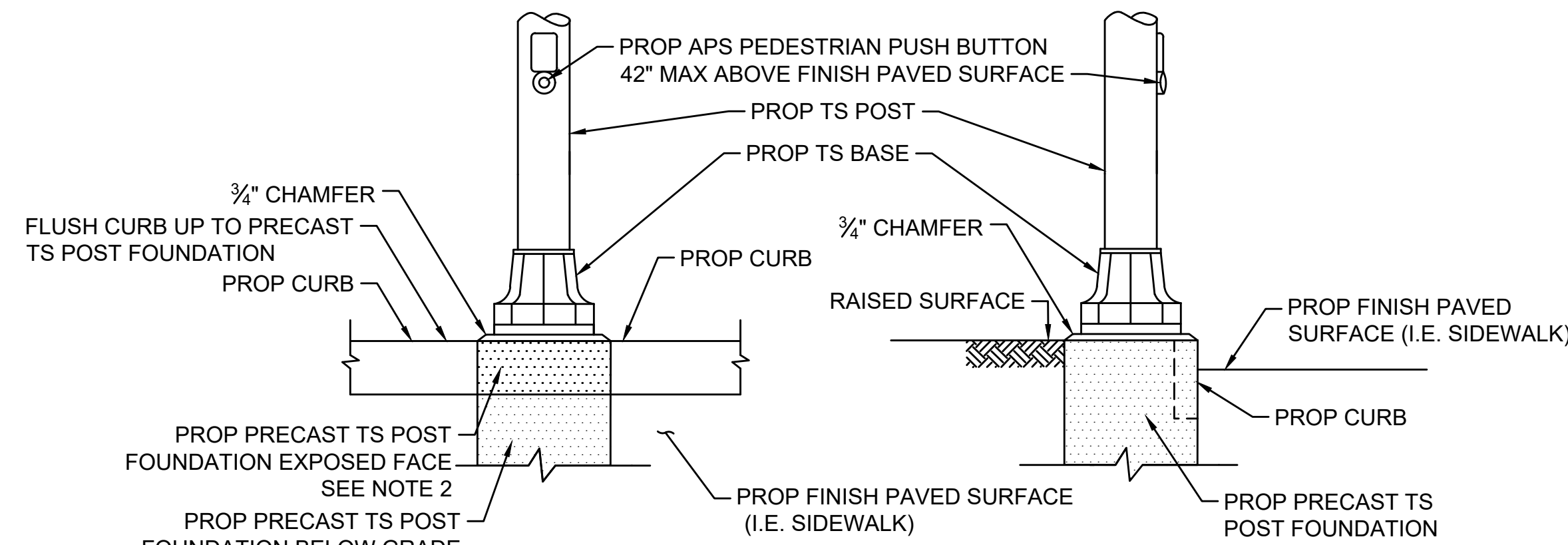
SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	118	205
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CONSTRUCTION DETAILS



TOP VIEW



FRONT VIEW

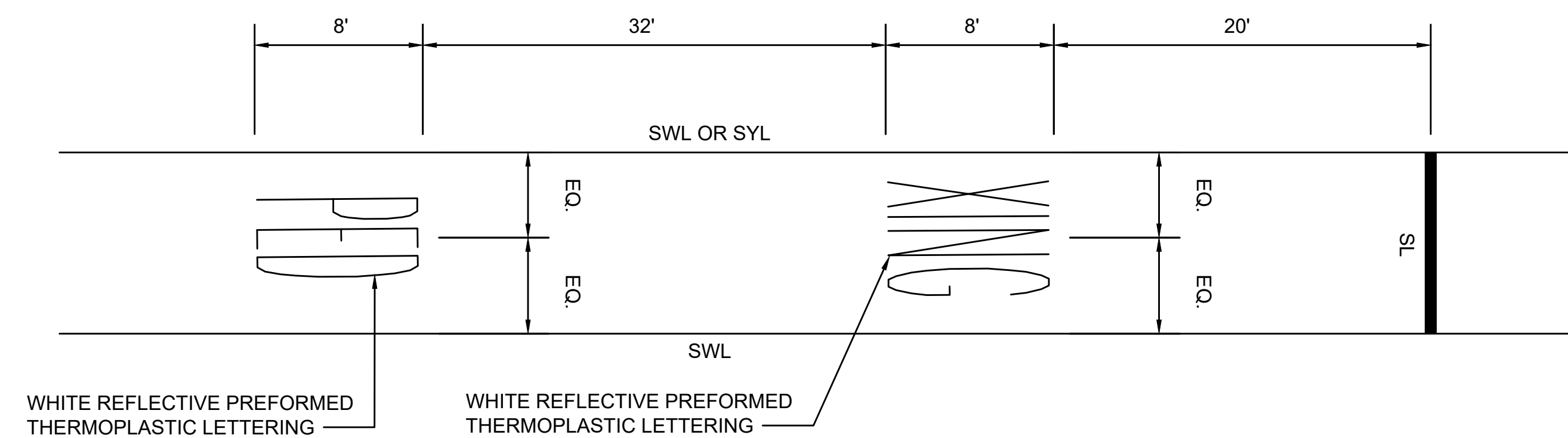
SIDE VIEW

NOTES:

- SEE DETAIL SD3-031 IN THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AS AMENDED FOR DIMENSIONS AND CONCRETE MIXTURE.
- THE EXPOSED FACE OF THE PRECAST TS POST FOUNDATION SHALL BE SOLID AND HAVE NO CONDUIT OPENINGS.

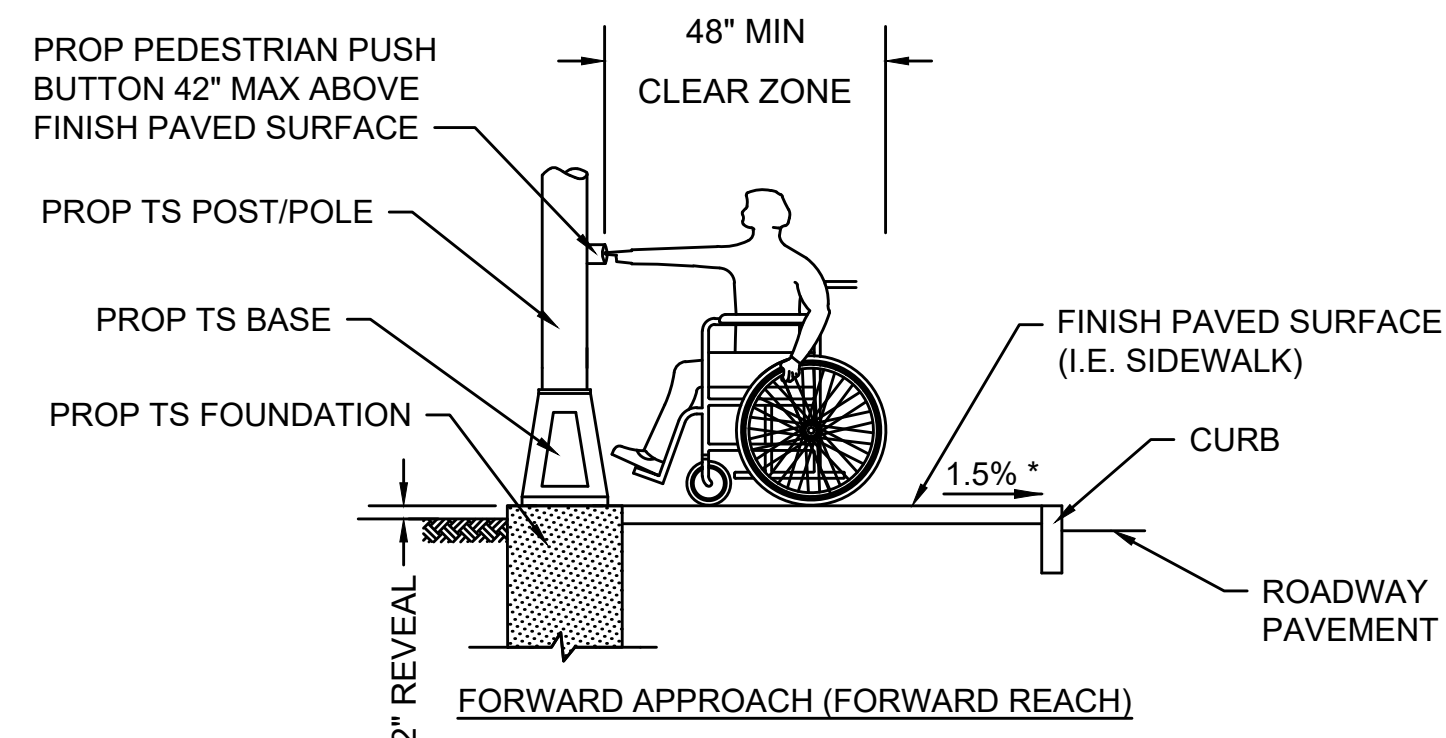
TRAFFIC SIGNAL POST (LOCATED IN CURB)

SCALE: N.T.S.



PEDESTRIAN CROSSING MARKING

SCALE: N.T.S.

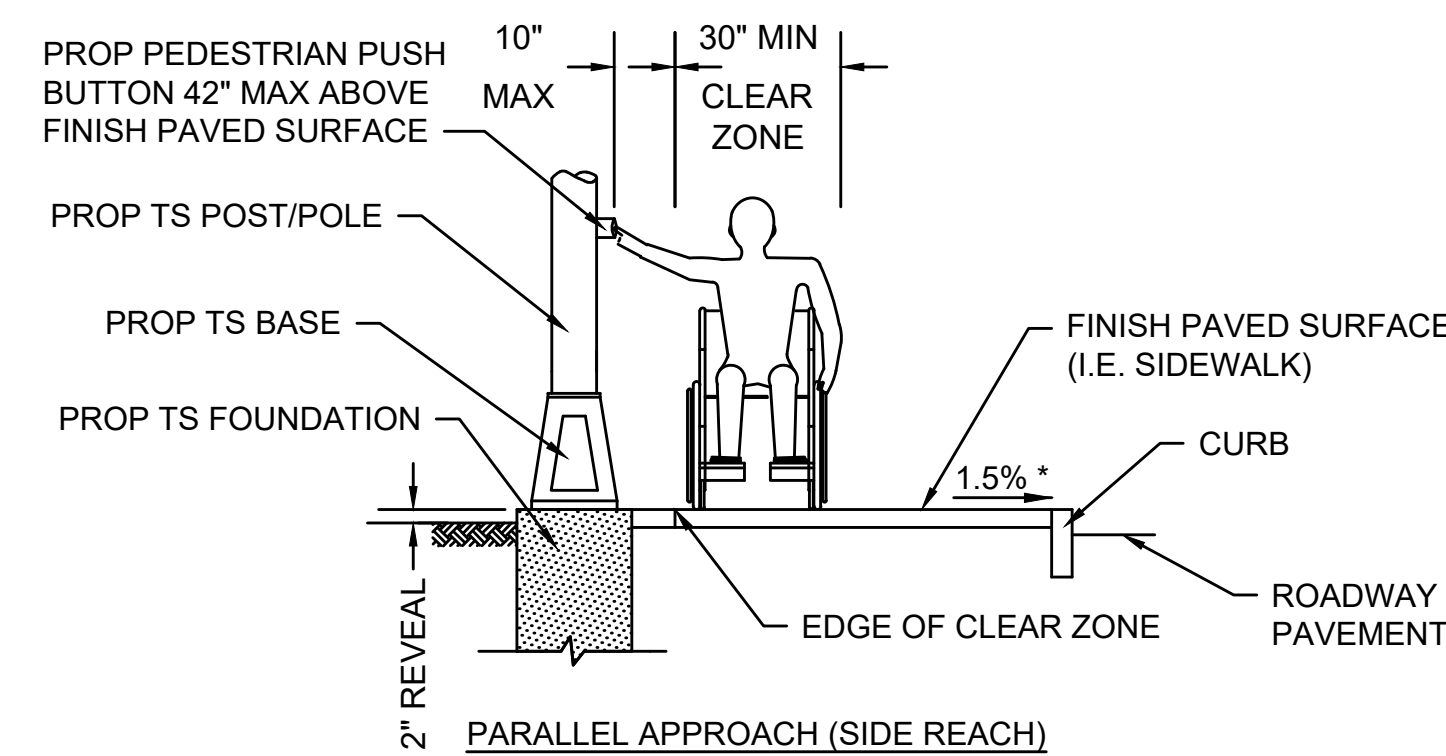


FORWARD APPROACH (FORWARD REACH)

NOTE:

A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA, COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.

- WHERE A FORWARD APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.
- WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10") HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.

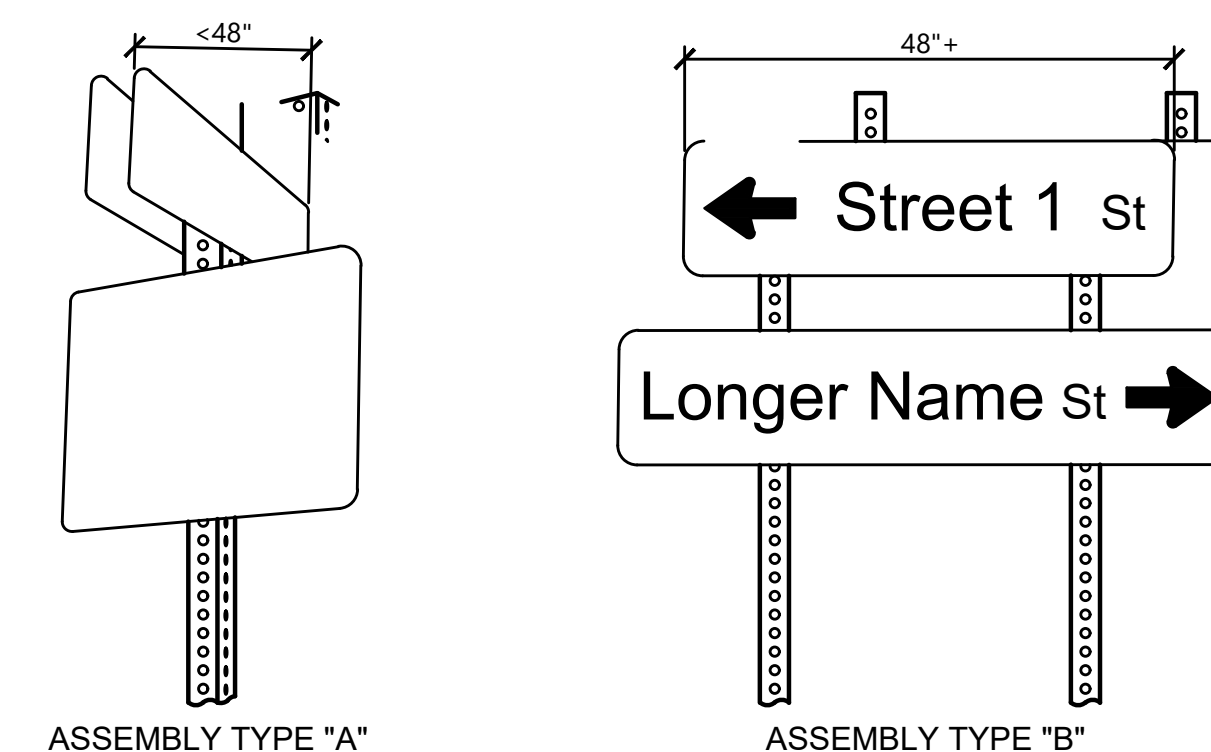


PARALLEL APPROACH (SIDE REACH)

\* TOLERANCE FOR CONSTRUCTION ±0.5%

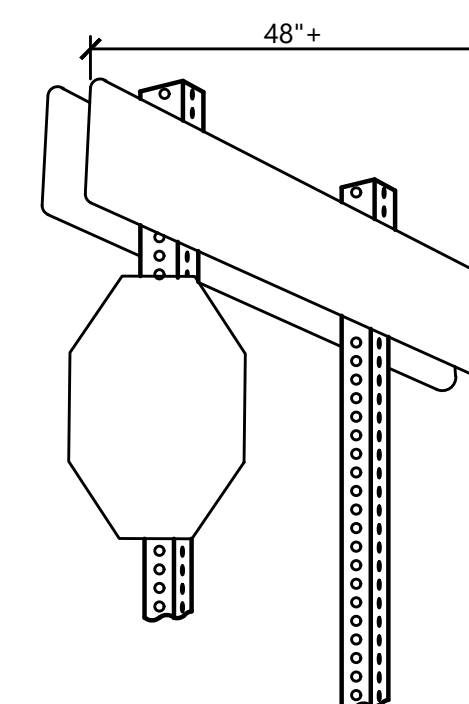
PEDESTRIAN PUSH BUTTON CLEAR ZONE

SCALE: N.T.S.



ASSEMBLY TYPE "A"

ASSEMBLY TYPE "B"



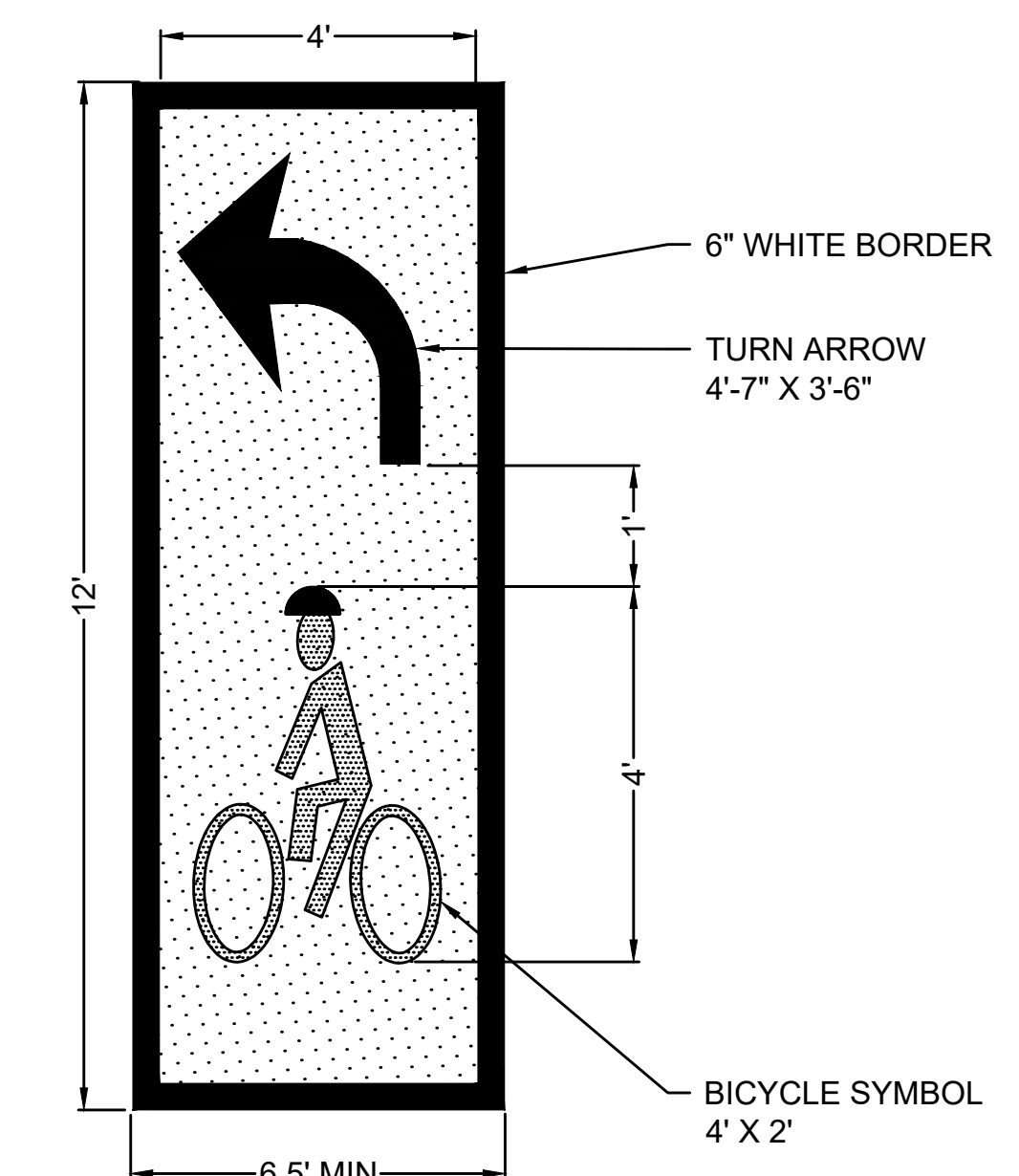
ASSEMBLY TYPE "C"

NOTES:

- SIGN PANELS SUCH AS R6-1 (ONE-WAY) AND STREET NAME SIGNS LESS THAN 48" TO BE MOUNTED IN PAIRS TO A SINGLE POST.
- SIGN PANELS 48" OR LONGER TO BE MOUNTED ON TWO POSTS.
- SIGNS TO BE MOUNTED 5" MIN ABOVE FINISHED GRADE IN NON-TRAVERSABLE AREAS AND 7" MIN ABOVE FINISHED GRADE IN SIDEWALK AREAS.

MULTIPLE D3-1 SIGN MOUNTING DETAIL

SCALE: N.T.S.



NOTES:

- LEGEND MARKINGS SHALL BE PREFORMED REFLECTORIZED THERMOPLASTIC.
- BORDER SHALL BE WET REFLECTIVE RECESSED THERMOPLASTIC.
- PAVEMENT SHALL BE PAINTED GREEN IN COLOR AS INTERIM APPROVED BY FHWA. SEE PLANS FOR LIMITS OF PAINTED LANES.

TWO-STAGE TURN QUEUE BOX

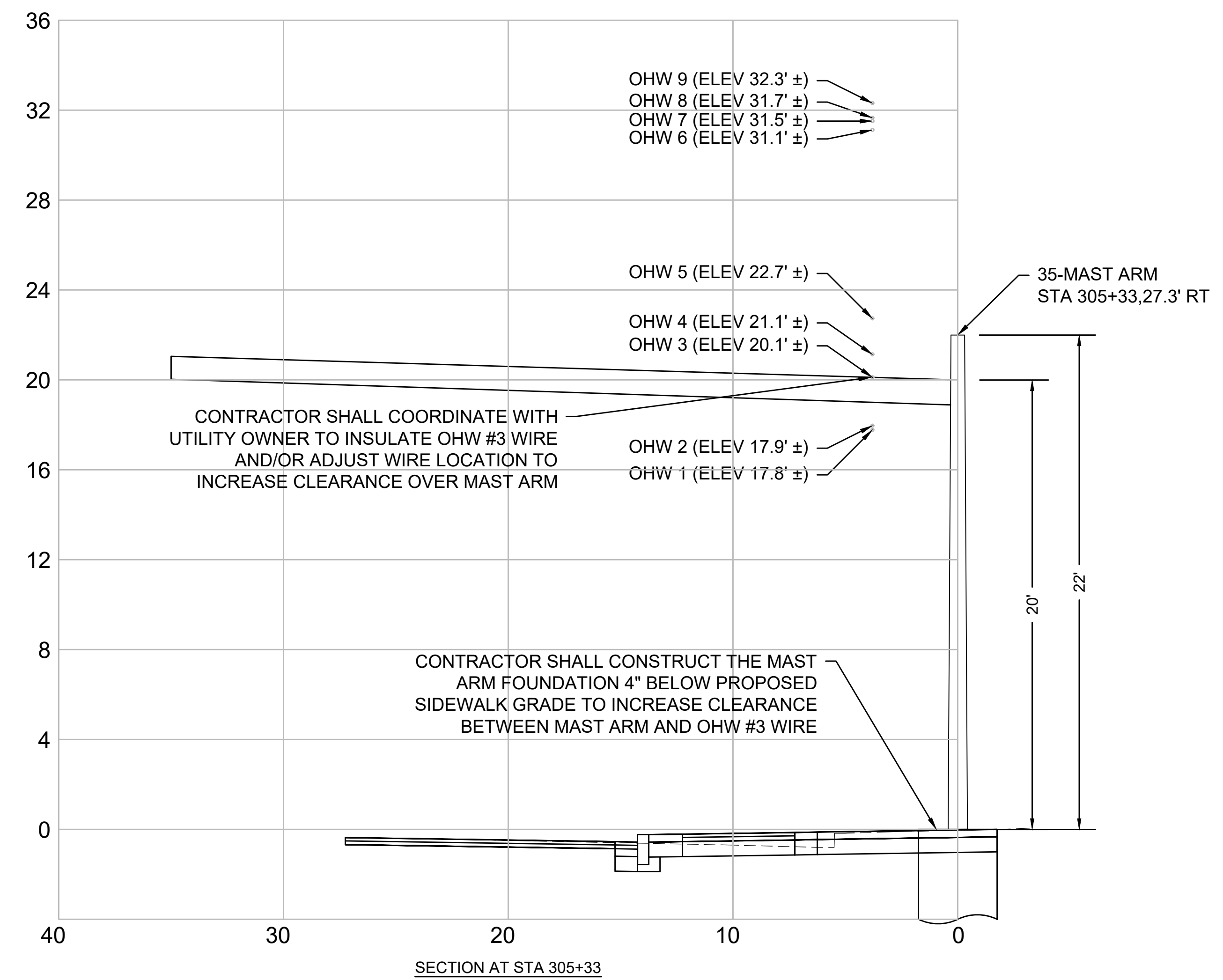
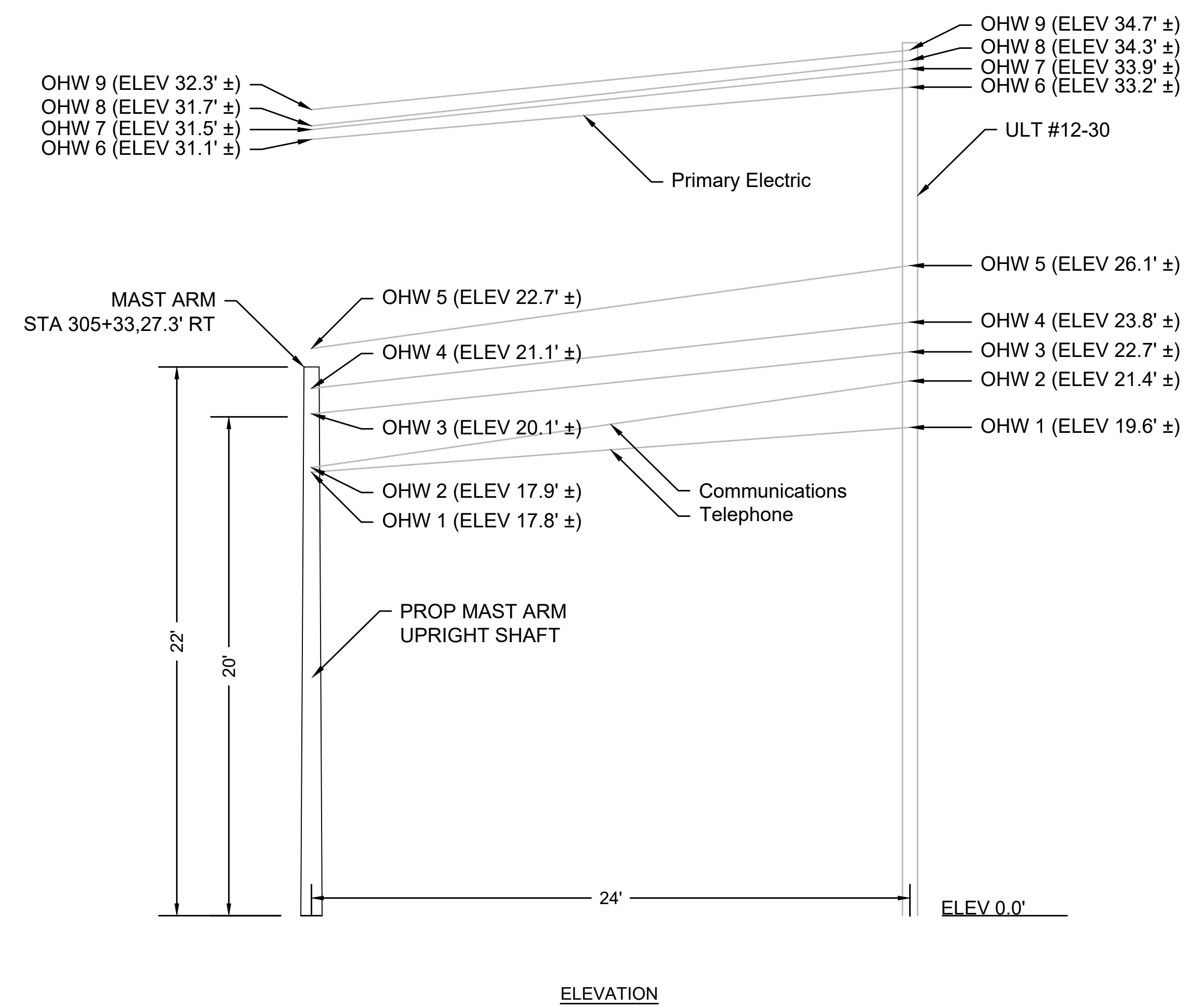
SCALE: N.T.S.

DWG: PM-25

DATE: NOV 2016

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	119	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS

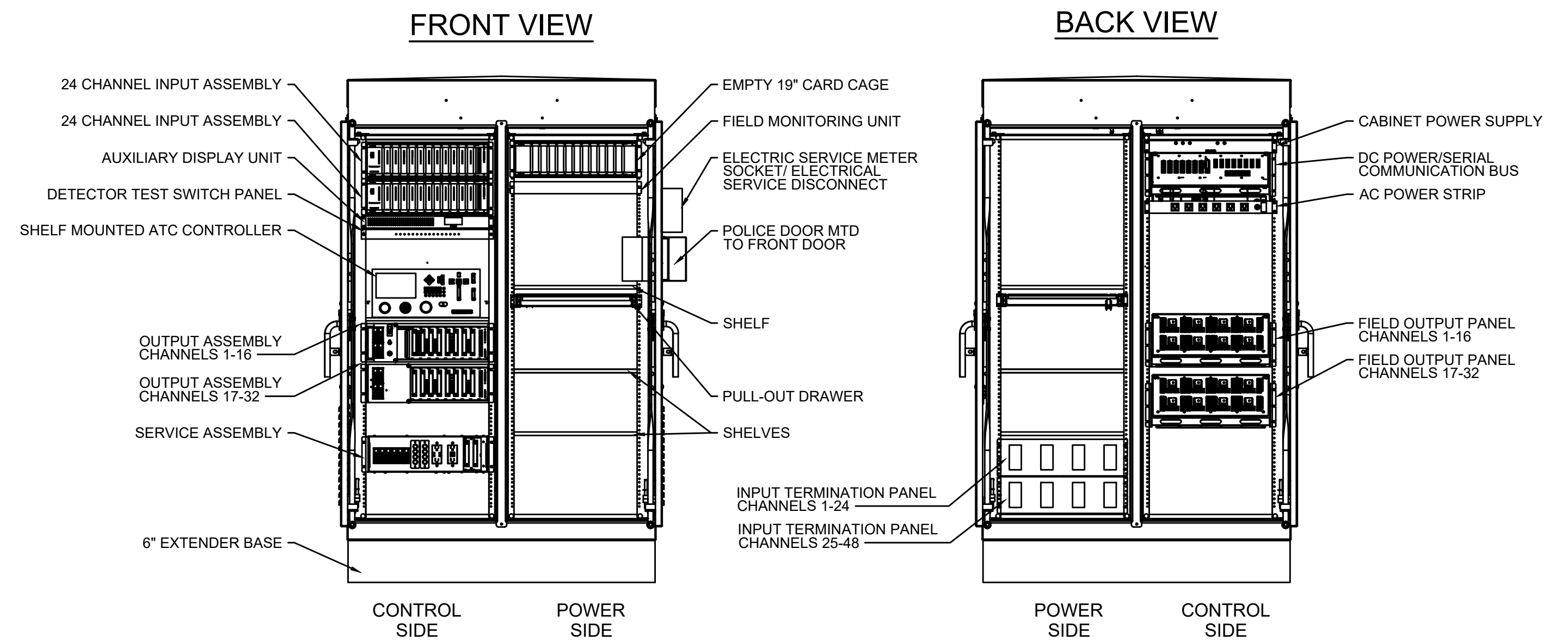


OVERHEAD WIRE CLEARANCE DETAIL AT 35-FT MAST ARM, MYSTIC AVE SB STA 305+33, RT

SCALE: N.T.S.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	120	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS



NOTES:

- DRAWING SHOWN IS A SCHEMATIC REPRESENTATION OF THE ATC CABINET DEPICTING THE RELATIVE LOCATION OF VARIOUS IN-CABINET DEVICES AND SUBASSEMBLIES. THE EXACT SIZE OF VARIOUS ELEMENTS MAY VARY PER MANUFACTURER.
- INPUT TERMINATION PANEL SHOWN IS FOR VIDEO BASED INPUTS.
- DRAWING DEPICTS TWO INPUT PANELS AND TWO OUTPUT PANELS. THIS QUANTITY MAY BE REDUCED DEPENDING ON APPLICATION. SEE SPECIAL PROVISIONS FOR NUMBER OF PANELS TO BE SUPPLIED.
- FAN AND THERMOSTAT SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR.
- LED LIGHT STRIPS SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR AND ON THE UNDERSIDE OF THE LOWER SHELF.
- THE SIZE OF THE METER SOCKET WILL VARY BASED ON THE LOCAL ELECTRIC UTILITY COMPANY REQUIREMENT.
- THE METER SHALL BE INSTALLED SUCH THAT THE BOTTOM OF THE METER IS AT LEAST 48 INCHES ABOVE FINAL GRADE.
- THE LOAD SIDE CABLE SHALL BE ROUTED THROUGH THE INTERIOR OF THE CABINET SUCH THAT IT DOES NOT BLOCK OR ENTER INTO AVAILABLE RACK SPACE. THE CABLE SHALL BE ROUTED BETWEEN THE EDGE OF THE RACK SYSTEM AND THE CABINET SIDE WALL, ALONG THE BOTTOM OF THE CABINET AND BELOW THE BOTTOM OPENING OF THE DOORS.

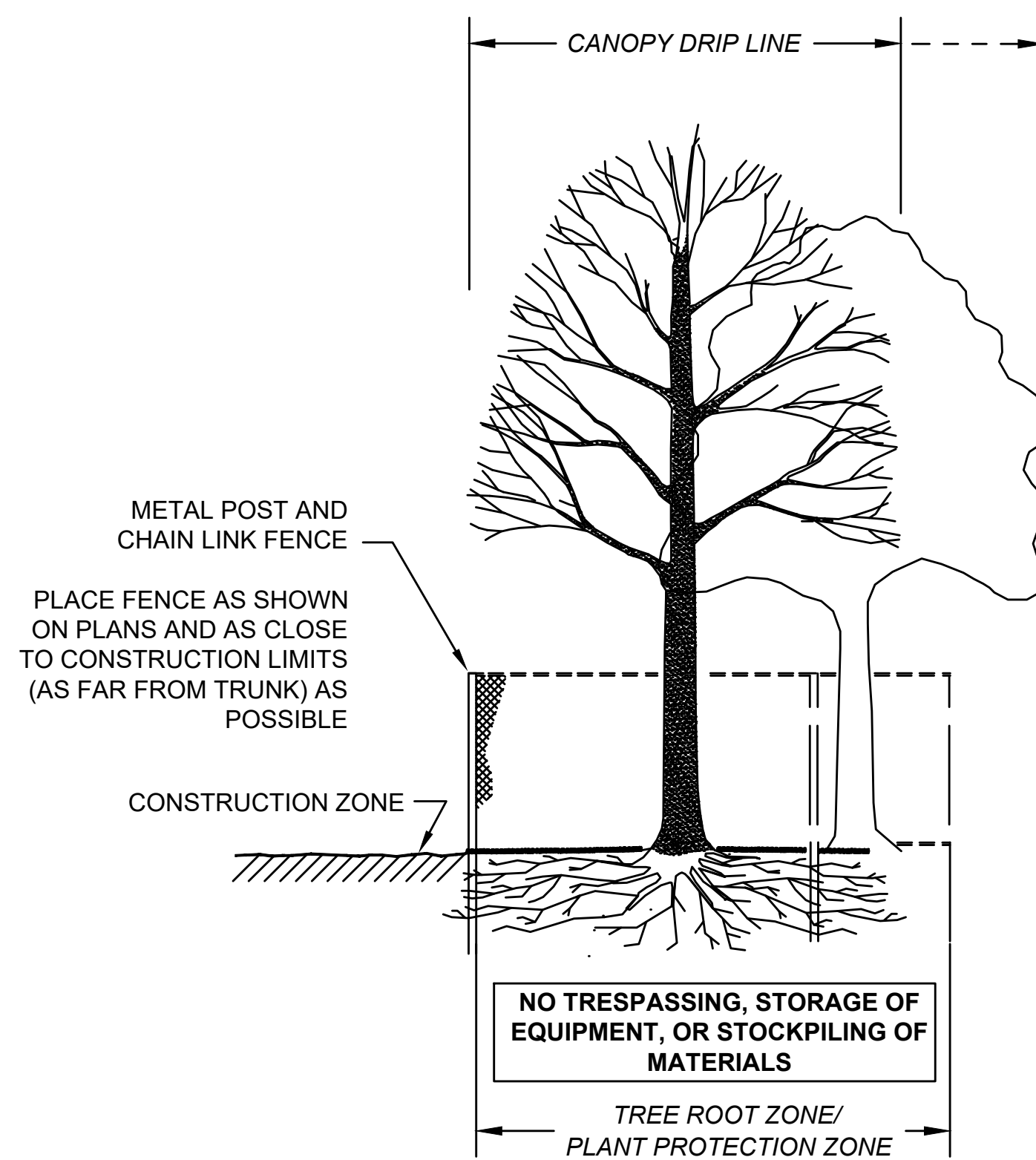
NOMINAL TERMINAL PANEL SIZE  
 PER 24 INPUT RACK:  
 LOOP = 6U HIGH (10.5")  
 VIDEO = 3U HIGH (6.25")

MassDOT 32/48 ATC CABINET - FOUR DOOR

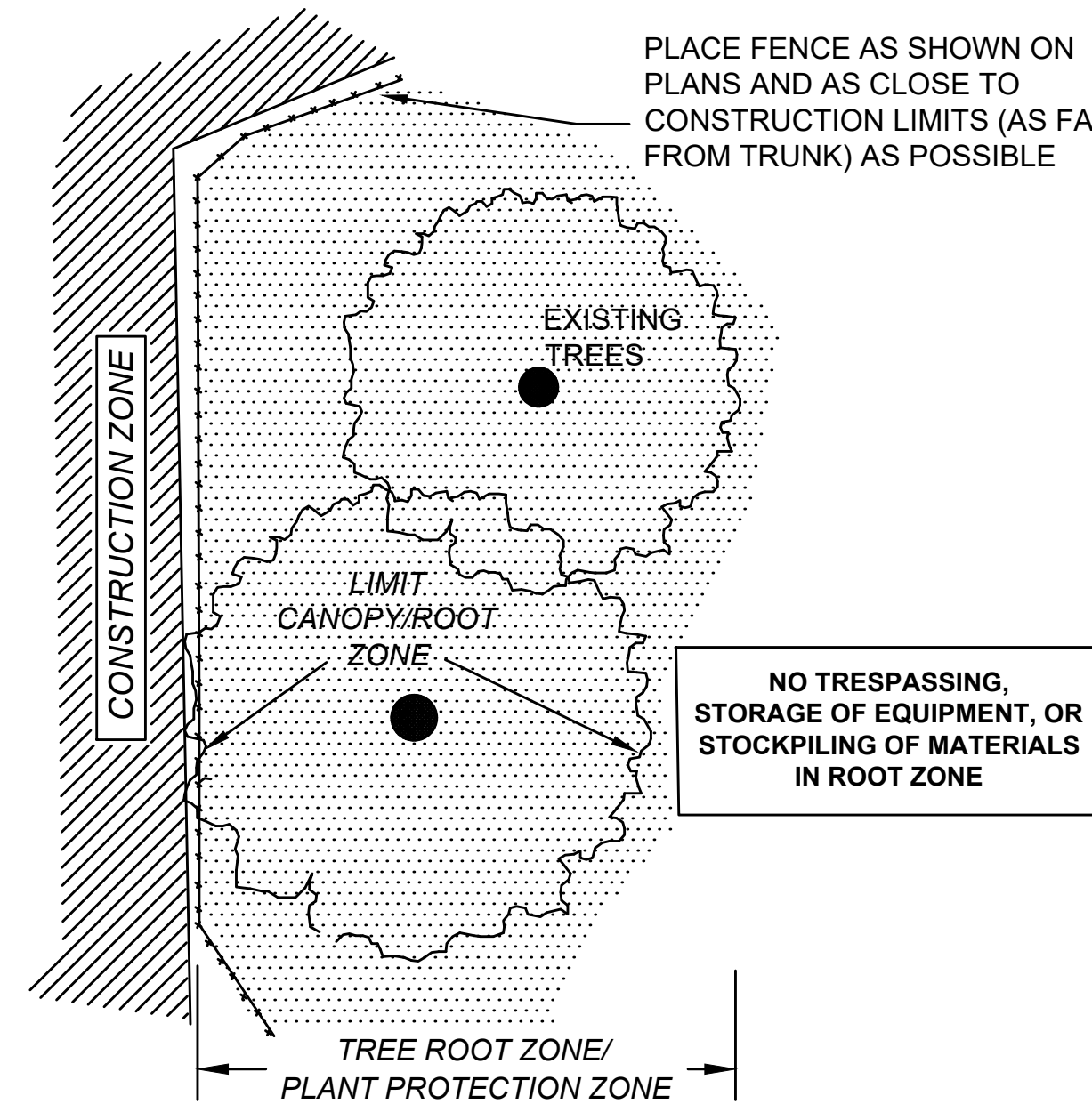
SCALE: N.T.S.

DWG: PM-44

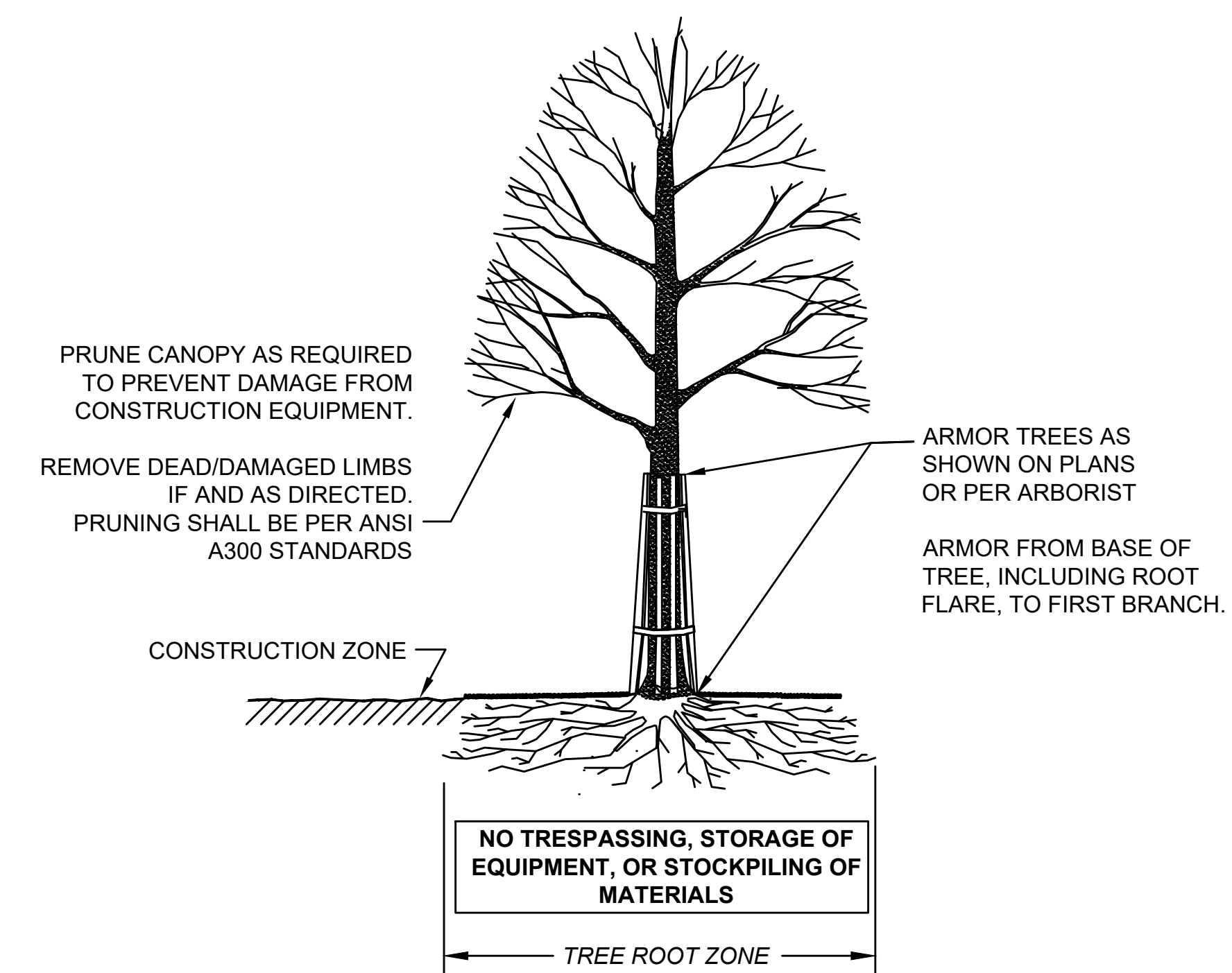
DATE: APRIL 2022



SECTION - FENCE PROTECTION OF ROOT ZONE



PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION TRUNK

TREE PROTECTION ROOT ZONE

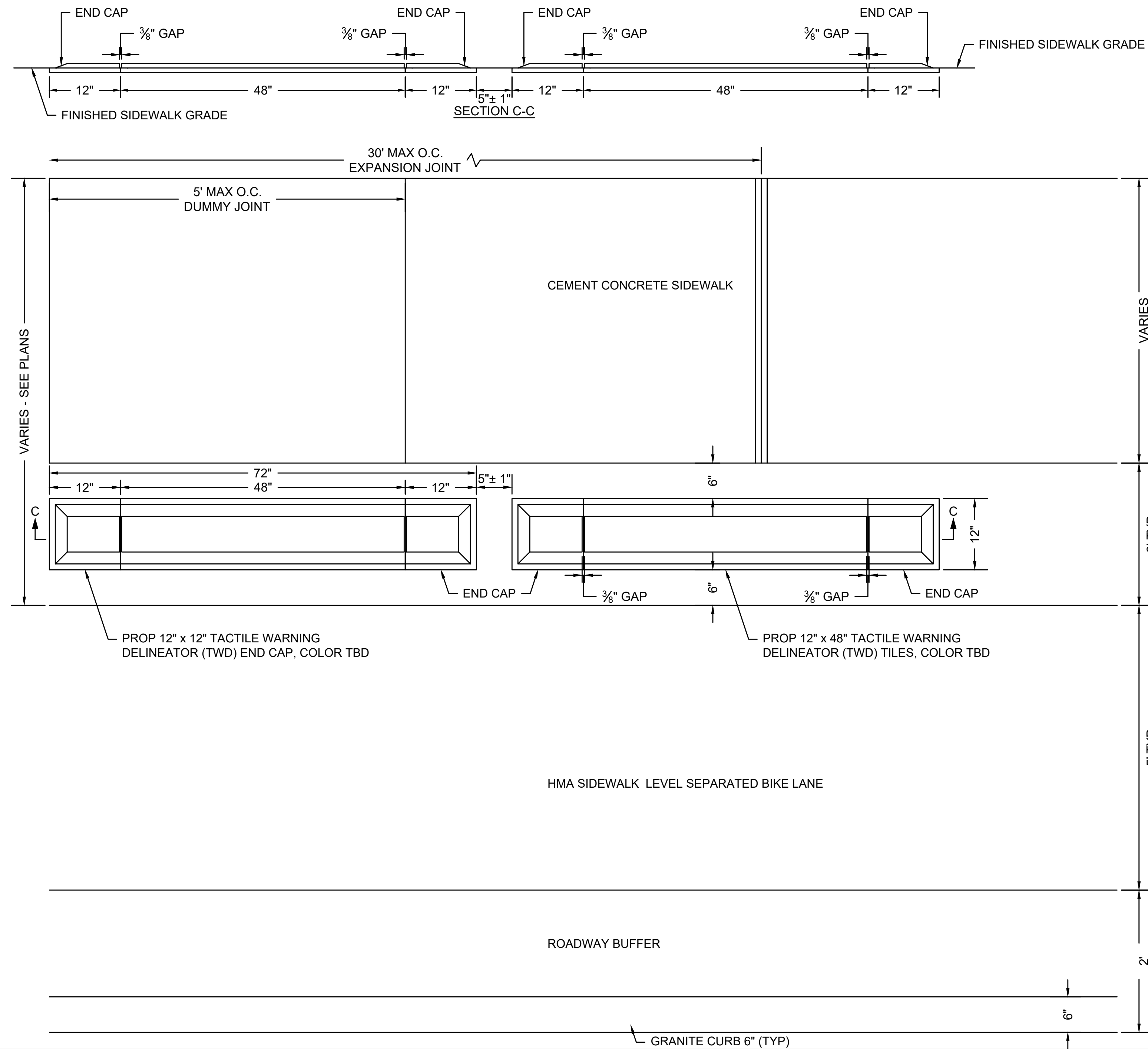
NOT TO SCALE





STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	122	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS



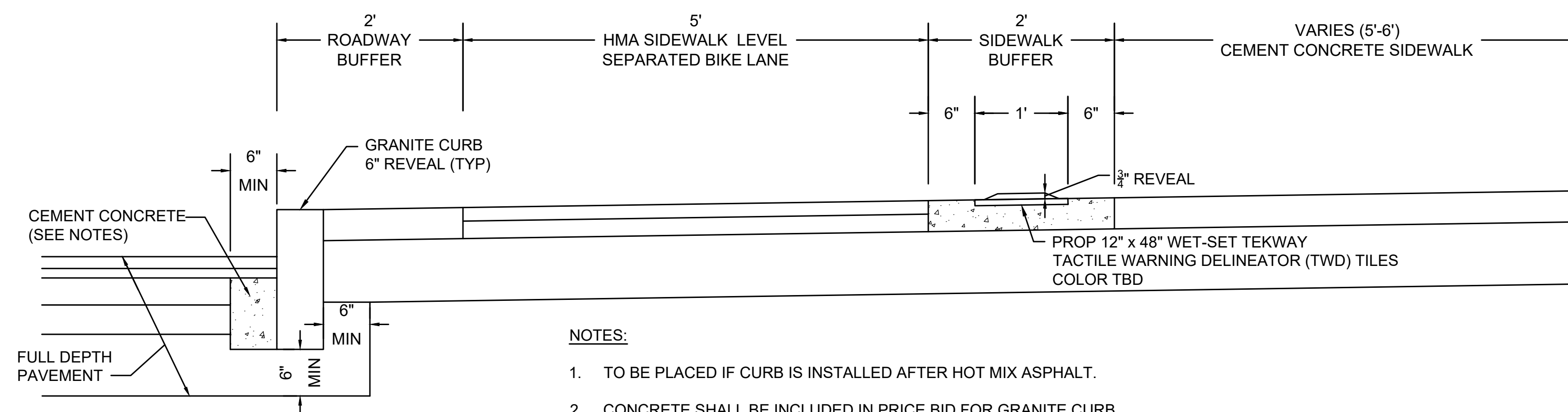
**SIDEWALK BUFFER - TEKWAY TACTILE WARNING DELINEATOR (TWD) TRAPEZOID**

SCALE: NTS



**LIGHT POLE PLACEMENT**

NTS



**NOTES:**

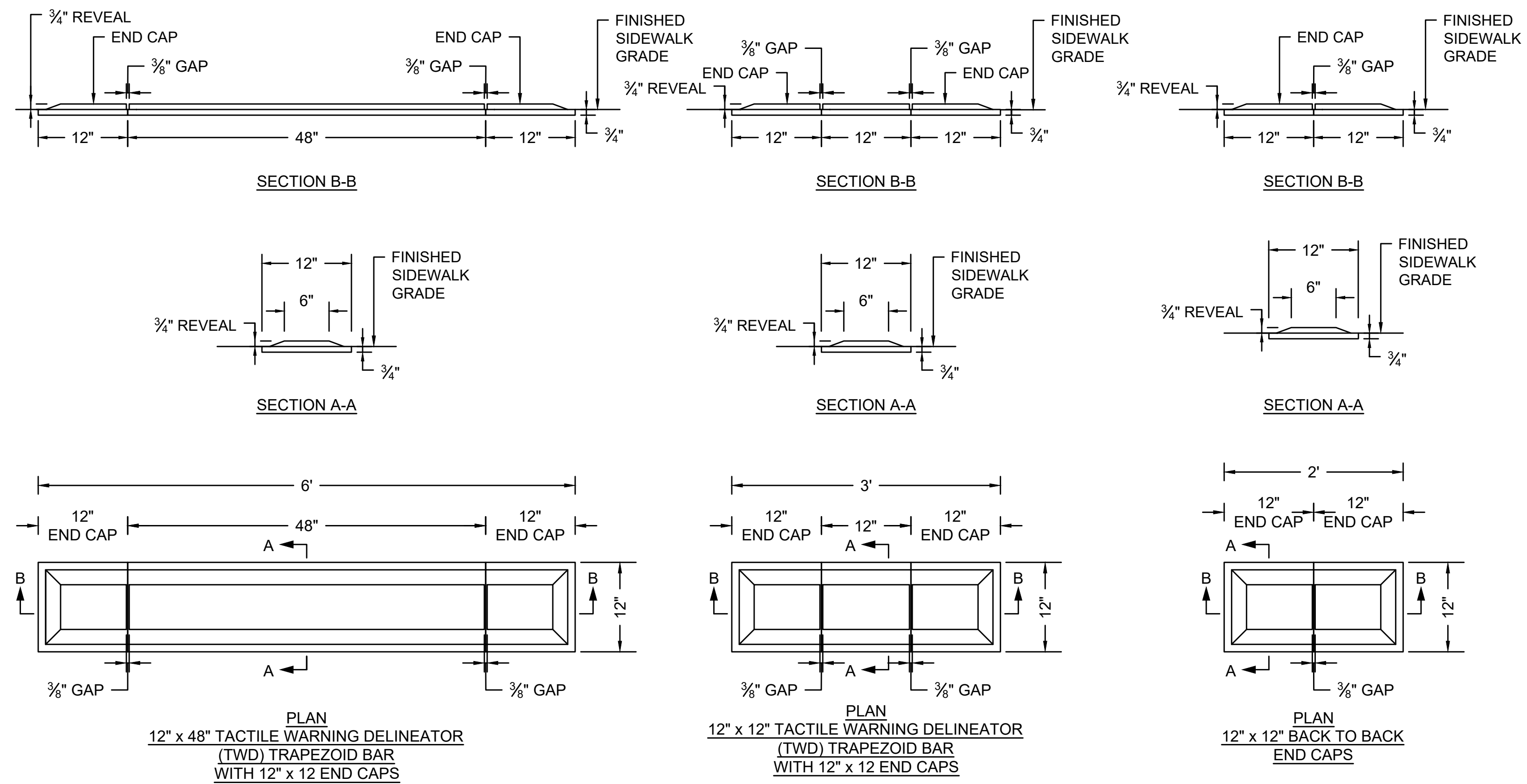
1. TO BE PLACED IF CURB IS INSTALLED AFTER HOT MIX ASPHALT.
2. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

**SIDEWALK BUFFER - SCHEMATIC SECTION**

SCALE: NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	123	205
PROJECT FILE NO.		608562	

CONSTRUCTION DETAILS



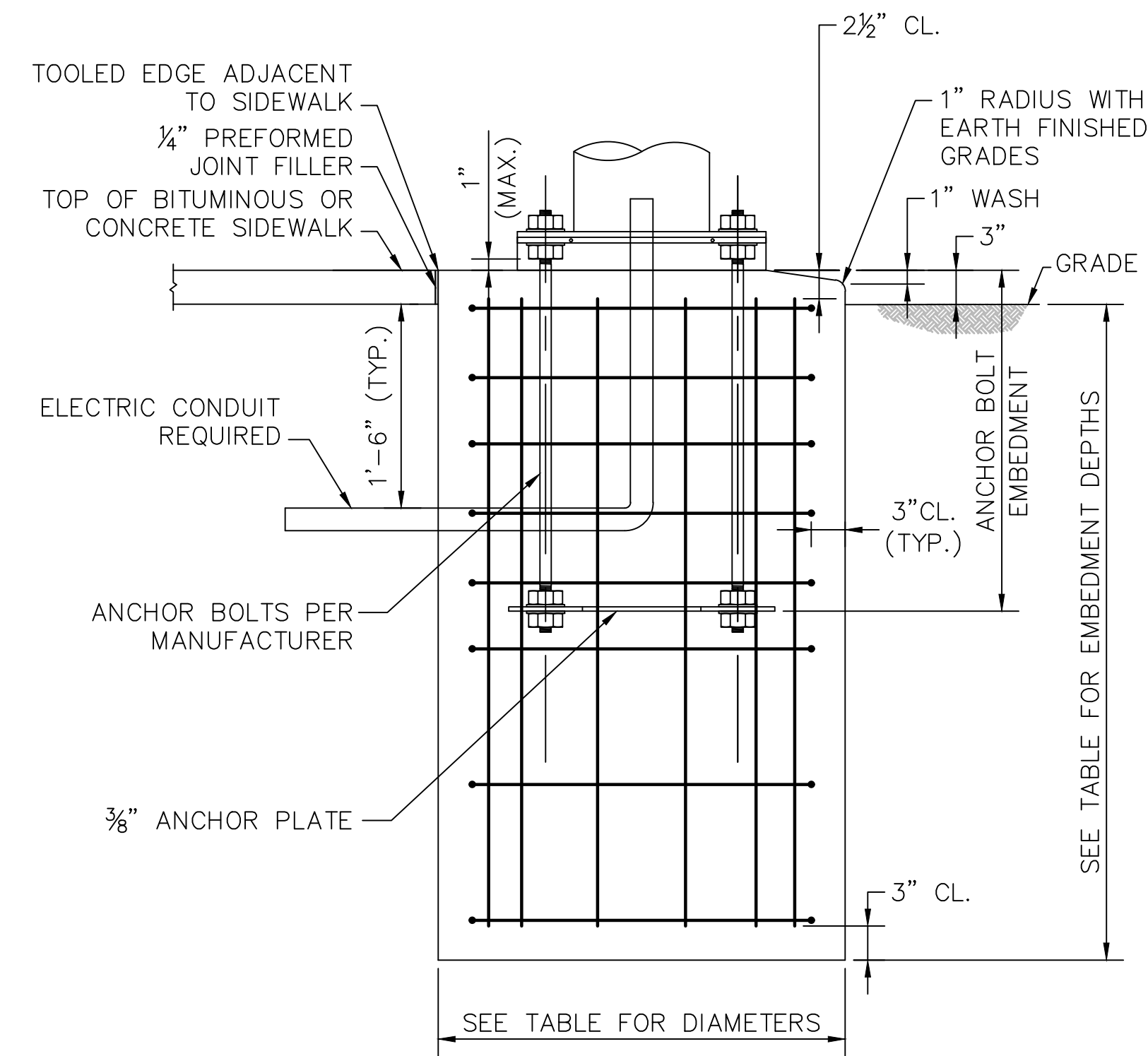
NOTES:

- 5" ± 1" GAP BETWEEN EACH END CAP MUST BE PROVIDED FOR DRAINAGE.
- WHERE DIMENSIONALLY REQUIRED AND APPROVED BY THE ENGINEER, 12" x 12" (TWD) TRAPEZOID BARS CAN BE USED BY CONTRACTOR.

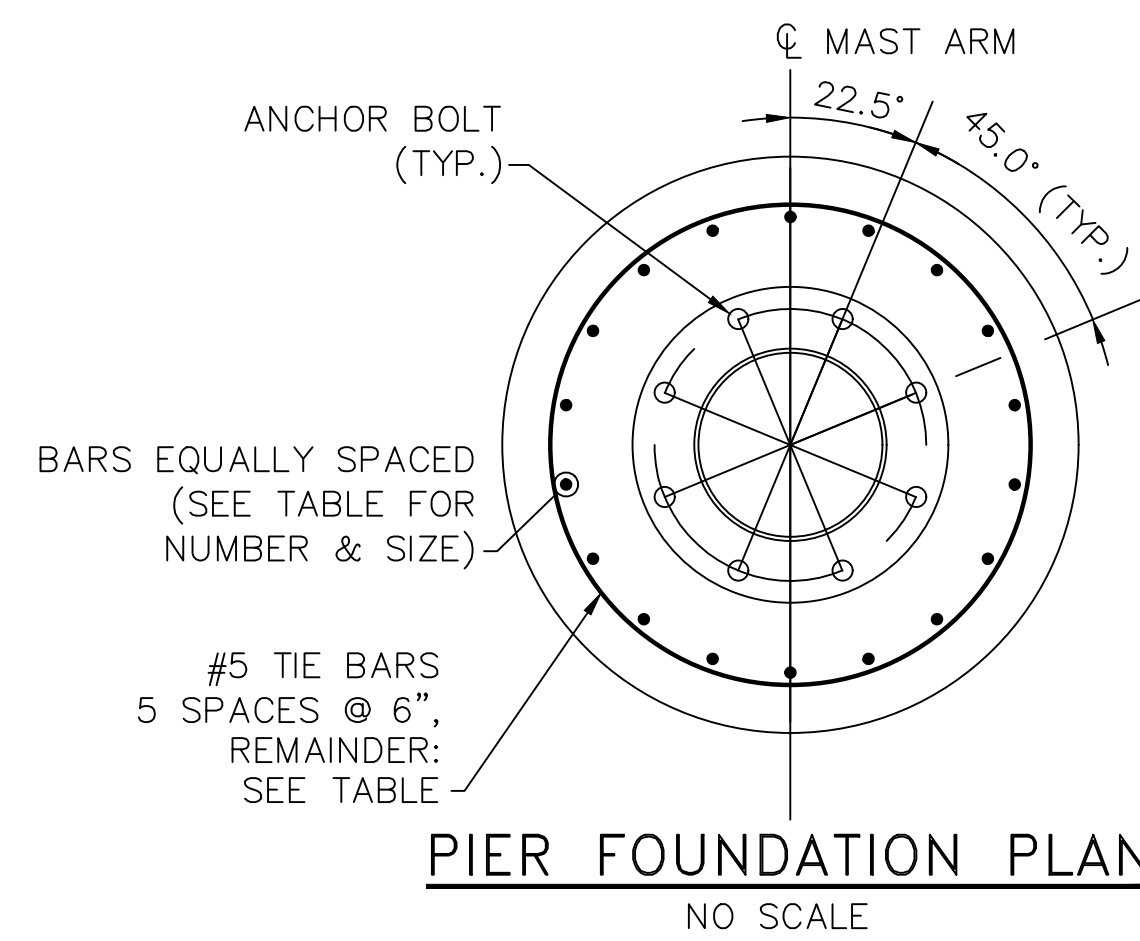
**TEKWAY TACTILE WARNING DELINEATOR (TWD) TRAPEZOID CONFIGURATIONS**

SCALE: NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	124	205
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PIER FOUNDATION DETAIL  
NO SCALE



PIER FOUNDATION PLAN  
NO SCALE

MAST ARM FOUNDATION								
MAST ARM	STATION	OFFSET	BORING	SOIL TYPE	DIAMETER	DEPTH	VERT. BARS	TIE BARS
25' MAST ARM	404+50	19.5' LT	B-1A	STIFF CLAY	3'-6"	11'-0"	18-#8	#5 @ 12"
35' MAST ARM	305+33	27.5' RT	B-2 <sub>1</sub>	SOFT TO MEDIUM CLAY	3'-6"	14'-0"	18-#8	#5 @ 8"
40' MAST ARM	500+98	30.0' RT	B-3	WET LOOSE SAND	3'-6"	17'-0"	18-#8	#5 @ 8"
45' MAST ARM	309+98	34.5' RT	B-4	WET LOOSE SAND	4'-0"	18'-6"	18-#9	#5 @ 6"
35' MAST ARM	312+22	25.0' LT	B-5	WET LOOSE SAND	3'-6"	22'-0"	18-#8	#5 @ 8"
35' MAST ARM	409+62	19.0' LT	B-6	WET LOOSE SAND	3'-6"	17'-0"	18-#8	#5 @ 8"

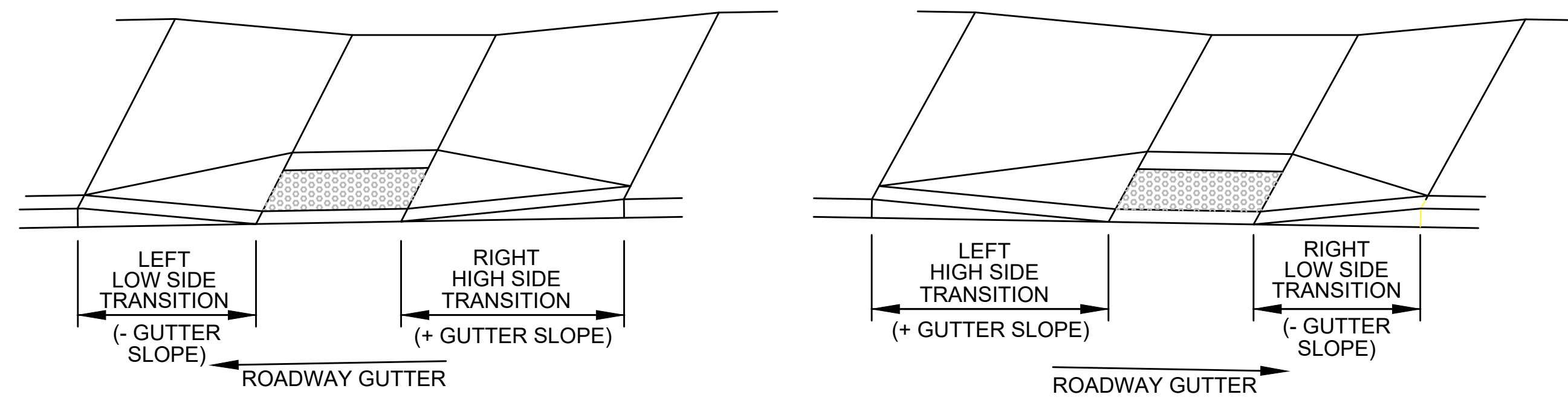
1. SUBSURFACE DATA NOT AVAILABLE AT BORING B-2 AT DEPTHS GREATER THAN 6- FEET. IF AN ORGANIC SOIL LAYER IS ENCOUNTERED DURING INSTALLATION OF THE DRILLED SHAFT, THE DEPTH OF THE SHAFT SHOULD BE INCREASED THE SAME THICKNESS AS THE ORGANIC SOIL LAYER, UP TO 2'-0". THE DRILLED SHAFT SHALL NOT BEAR DIRECTLY ON ORGANIC LAYER. NOTIFY THE ENGINEER IF AN ORGANIC SOIL LAYER IS ENCOUNTERED.

NOTES:

- FOUNDATIONS SHALL BE 4000 PSI, 565 MASSDOT APPROVED MIX DESIGN.
- FOUNDATIONS SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATIONS ITEM 945 - DRILLED SHAFTS
- REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
- ANCHOR BOLTS SHALL BE SET BY TEMPLATE.
- PROVIDE FOR ELECTRICAL CONDUIT.
- EXCAVATION SHALL BE BY THE AUGER METHOD TO THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATIONS WITHOUT DISTURBING THE SOIL AROUND AND BELOW THE PROPOSED FOUNDATION BOTTOM. ALTERNATE METHODS OF EXCAVATION MAY BE SUBMITTED TO MASSDOT FOR APPROVAL IF THEY MEET THE REQUIREMENTS LISTED IN NOTES 7, 8, AND 9.
- THE EARTH WALLS OF THE FOUNDATION SHALL BE ADEQUATELY AND SECURELY PROTECTED AT ALL TIMES AGAINST CAVE-INS, DISPLACEMENT OF THE SURROUNDING EARTH AND FOR THE EXCLUSION OF GROUND WATER. THIS MAY BE DONE BY THE USE OF STEEL CYLINDER LINERS OR CASINGS THAT ARE APPROVED BY MASSDOT. IF LINERS ARE USED THEY MAY BE RECLAIMED PROVIDED THAT THEY ARE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING A SUFFICIENT HEAD OF CONCRETE WITHIN THE LINER TO PREVENT REDUCTION IN THE FOUNDATION DIAMETER AND TO PREVENT EXTRANEIOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.
- IF THE SOIL IS DISTURBED OR REMOVED BEYOND THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATION, IT SHALL BE REPLACED WITH CONCRETE. ANY ADDITIONAL COST FOR THE CONCRETE SHALL BE PAID FOR BY THE CONTRACTOR.
- SPECIAL CARE SHOULD BE GIVEN TO AREAS WHERE WET SOIL IS ENCOUNTERED, TO INSURE THAT THE PREAUGERED HOLE DOES NOT COLLAPSE. THIS MAY REQUIRE THE USE OF STEEL CYLINDER LINERS OR CASINGS TO HOLD THE SOIL IN PLACE UNTIL READY FOR CONCRETE PLACEMENT, UPON APPROVAL FROM THE MASSDOT. THE STEEL CYLINDERS OR CASINGS SHALL BE WITHDRAWN AS THE FOUNDATION CONCRETE IS PLACED.
- IF LEDGE OR UNSUITABLE SOIL IS ENCOUNTERED (i.e. ONE WHICH DOES NOT APPLY TO THE DESIGN TABLES SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE PROVIDED BY THE DESIGN ENGINEER. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT FOUNDATION DIAMETER IS AT LEAST 17.5" GREATER THAN BOLT CIRCLE DIAMETER FOR ALL STRUCTURES
- IN ORDER TO CREATE A FLUSH SURFACE, CONTRACTOR SHALL REFER TO THE FINAL ELEVATIONS SHOWN ON THE DESIGN PLANS WHEN INSTALLING FOUNDATIONS IMMEDIATELY ADJACENT TO OR WITHIN A SIDEWALK AREA.

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MA	HSI/HSI(VUS)-003S(762)	125	205
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PEDESTRIAN CURB RAMP DETAILS

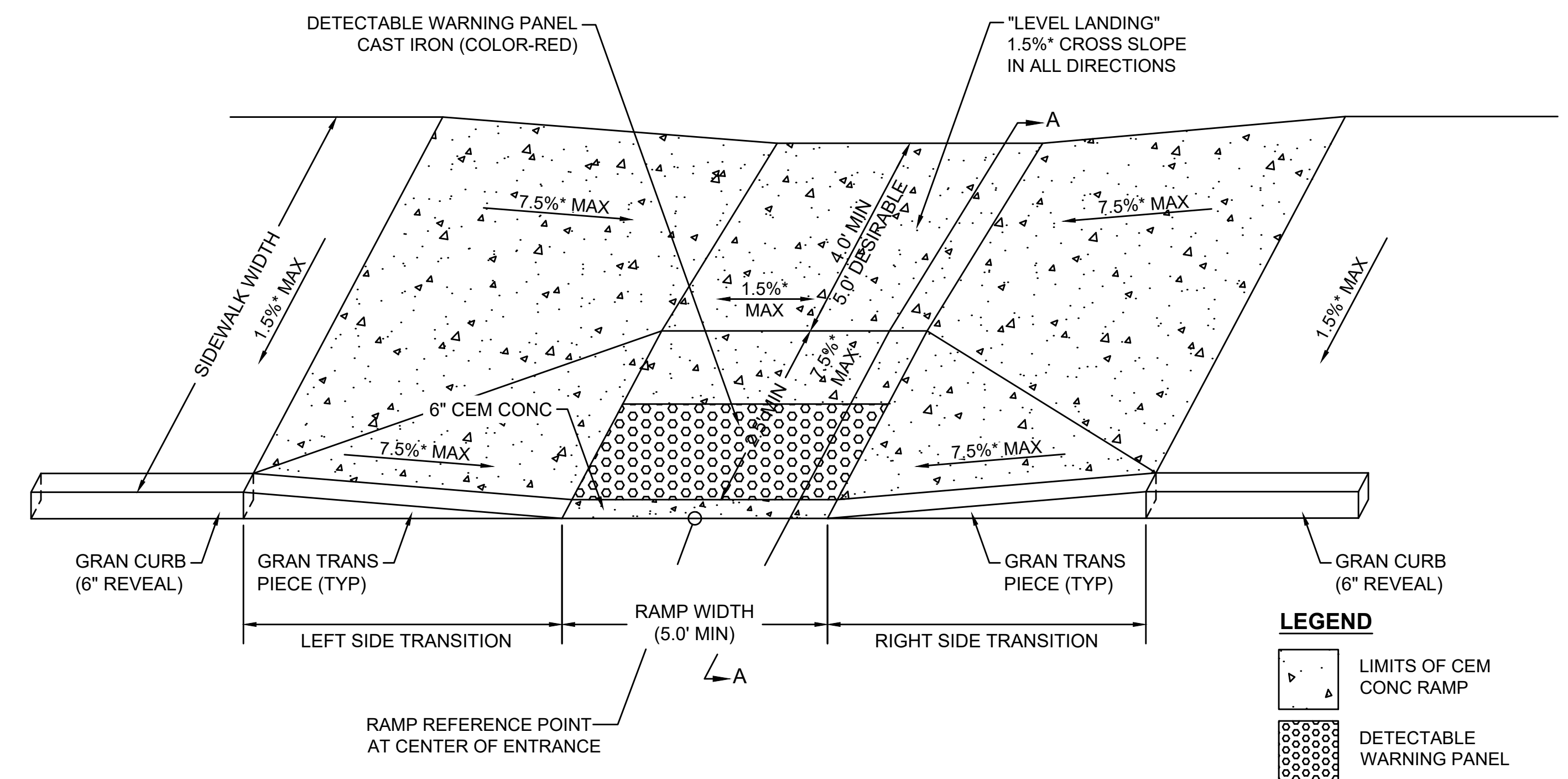
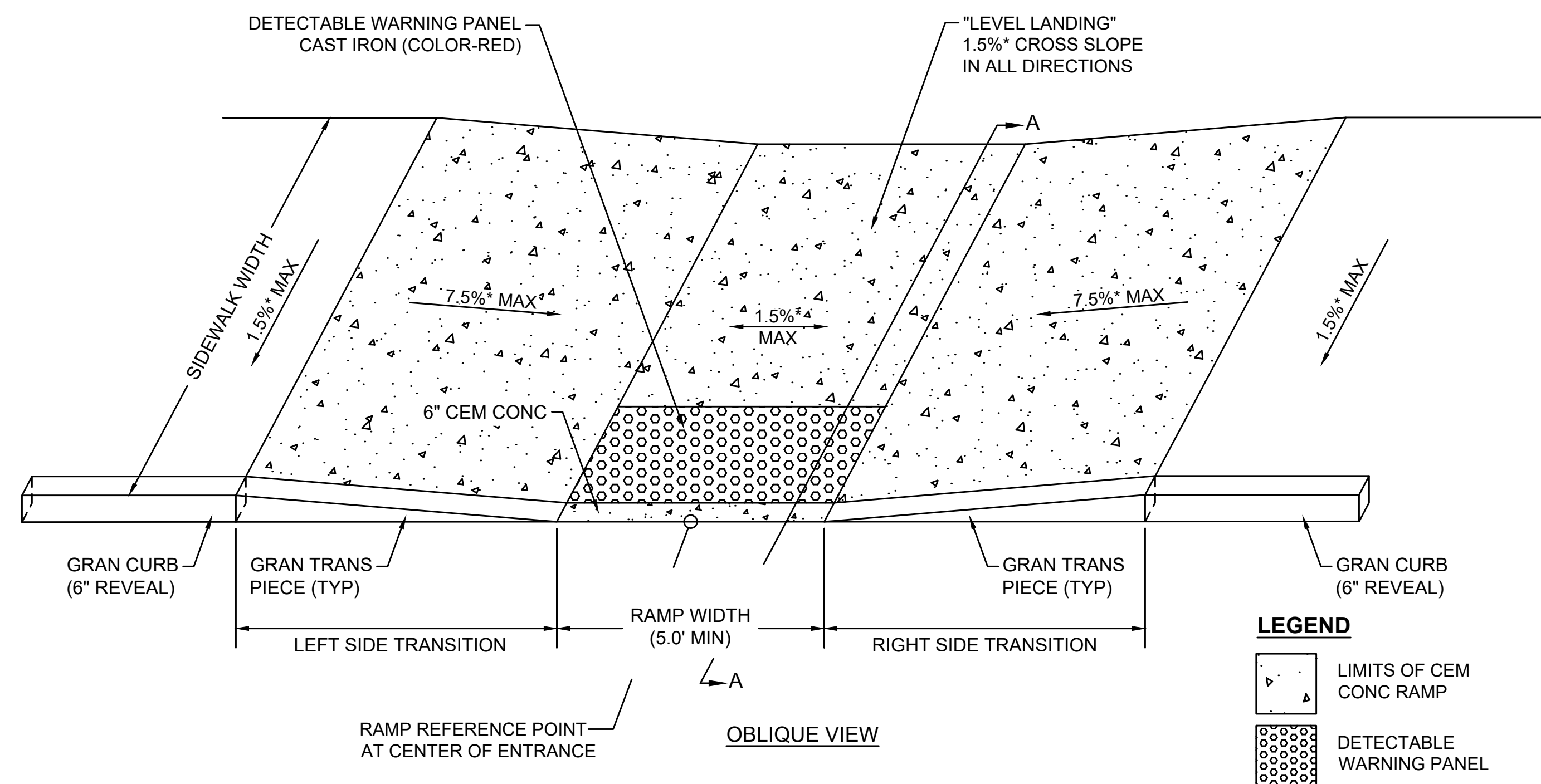
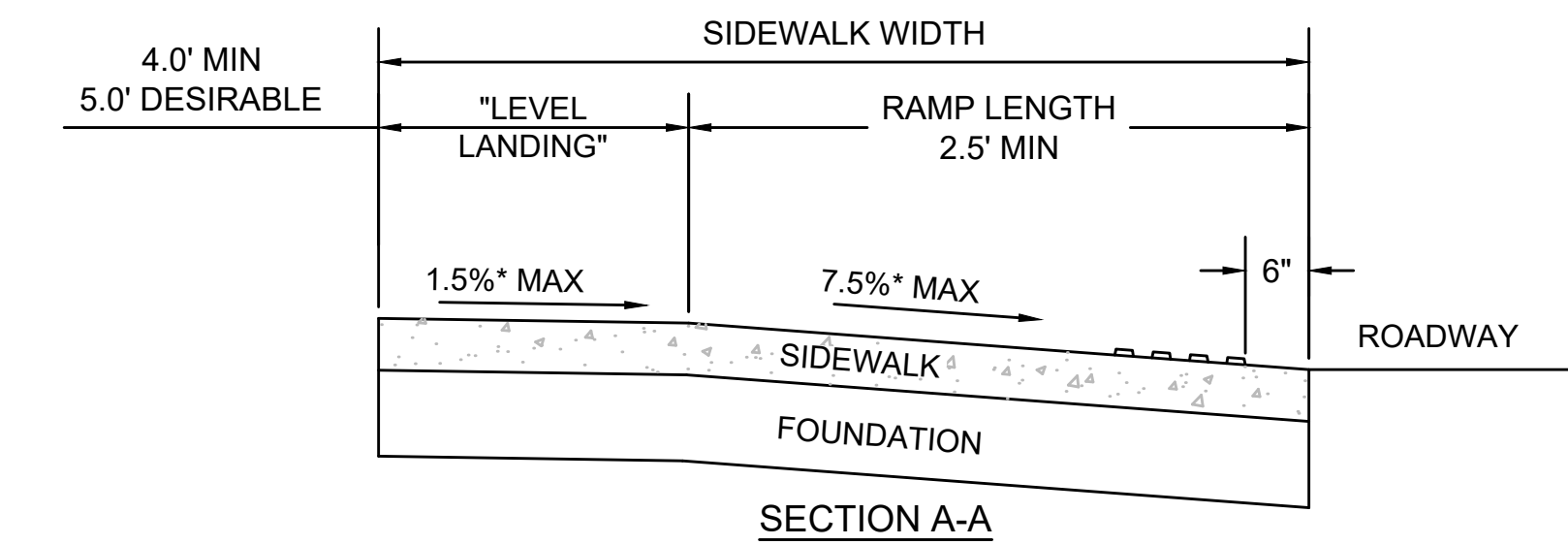
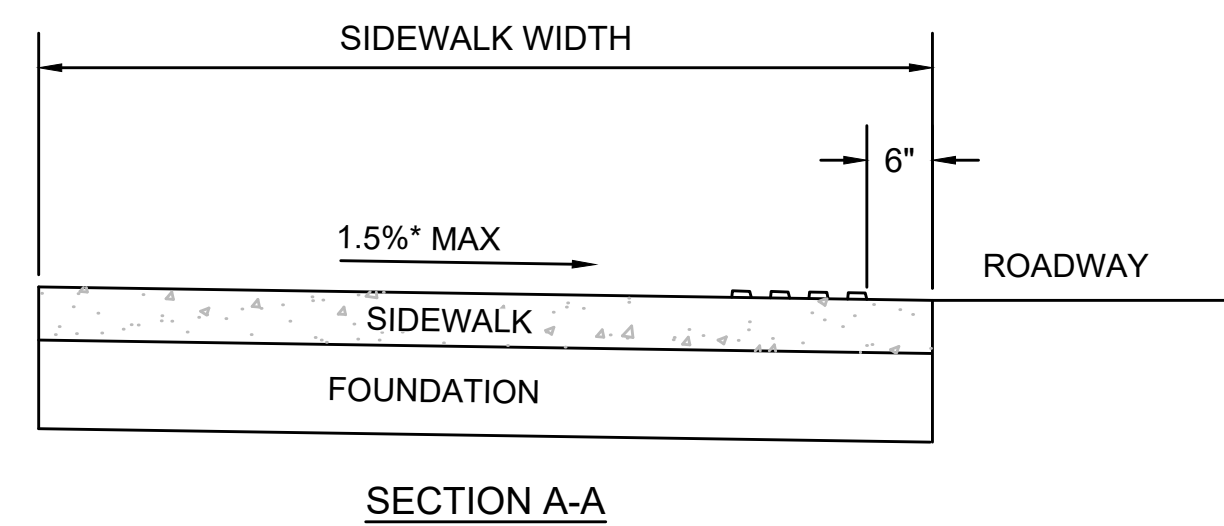


ROADWAY GUTTER SLOPES EXPLANATORY DIAGRAM FOR PEDESTRIAN CURB RAMP DATA CHARTS

SCALE: N.T.S.

PEDESTRIAN CURB RAMP DATA - IN SIDEWALK LESS THAN 6.50'										
NO.	LOCATION (REFERENCE POINT)	RAMP WIDTH	SIDEWALK WIDTH	OPENING ELEVATION	ROADWAY GUTTER	LEFT SIDE		RIGHT SIDE		NOTES
						REVEAL	TRANS	REVEAL	TRANS	
FELLSWAY-McGRATH (RTE-28)										
4	105+04.4, 44.7' RT	10.0'	10.0'	10.67	0.67%	6"	9.00'	6"	6.50'	SEE CONSTRUCTION DETAIL SHEET 133
12	108+44.8, 14.0' LT	5.0'	6.0'	9.74	0.65%	6"	6.50'	6"	7.67'	SEE CONSTRUCTION DETAIL SHEET 135
MYSTIC AVE (RTE-38)										
19	310+38.4, 13.5' LT	5.0'	5.5'	10.86	0.50%	6"	6.50'	6"	7.67'	NO RIGHT WING. SEE CONSTRUCTION DETAIL SHEET 137
27	313+20.3, 36.3' RT	10.0'	6.0'	8.62	1.00%	6"	10.7'	6"	9.7'	AT RAISED CROSSING. SEE CONSTRUCTION DETAIL SHEET 138
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)										
21	410+07.7, 14.0' LT	5.0'	6.0'	11.37	1.40%	6"	6.50'	6"	9.00'	SEE CONSTRUCTION DETAIL SHEET 137

PEDESTRIAN CURB RAMP DATA - 6.50' TO 12.50' WIDTH												
NO.	LOCATION (REFERENCE POINT)	RAMP WIDTH	RAMP LENGTH	SIDEWALK WIDTH	LEVEL LANDING	OPENING ELEVATION	ROADWAY GUTTER	LEFT SIDE		RIGHT SIDE		NOTES
								REVEAL	TRANS	REVEAL	TRANS	
FELLSWAY(RTE-28) TO I-93 SB ON-RAMP												
51	205+82.5, 14.0' LT	5.0'	6.3' AT CENTER	11.5' AT CENTER	5.0'	8.78	1.80%	6"	9.00'	6"	6.50'	SEE CONSTRUCTION DETAIL SHEET 133
MYSTIC AVE (RTE-38)												
49	307+28.8, 30.5' RT	5.0'	13.0' AT CENTER	20.0' AT CENTER	7.0'	9.04	0.60%	3"	4.50'	3"	6.50'	SEE CONSTRUCTION DETAIL SHEET 146
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)												
33	418+79.2, 31.0' LT	5.0'	4.0' AT CENTER	6.0'	4.0'	9.00	0.60%	6"	3.50'	6"	9.00'	SEE CONSTRUCTION DETAIL SHEET 141
34	419+10.5, 38.2' LT	5.0'	3.3' AT CENTER	6.9'	4.0'	8.96	1.60%	6"	6.50'	6"	9.00'	SEE CONSTRUCTION DETAIL SHEET 141
AUXILIARY CONNECTOR E (BAILEY ROAD)												
47	503+33.5, 81.5' RT	5.0'	7.6' AT CENTER	7.6'	4.0'	10.29	1.25%	6"	9.00'	6"	6.50'	SEE CONSTRUCTION DETAIL SHEET 145



\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP IN SIDEWALK LESS THAN 6.50'

SCALE: NTS MassDOT STANDARD DETAIL REFERENCE: E 107.2.1

\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP - 6.50' TO 12.50' WIDTH

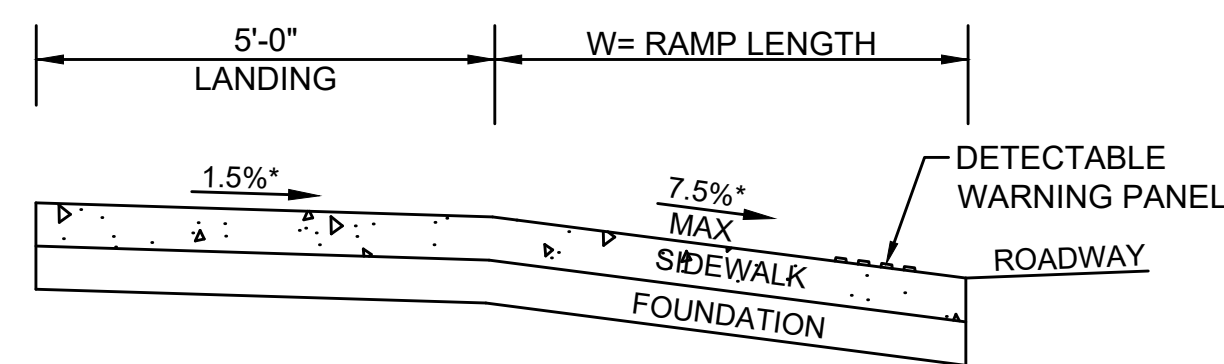
SCALE: NTS MassDOT STANDARD DETAIL REFERENCE: E 107.2.1

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	126	205
PROJECT FILE NO.		608562	

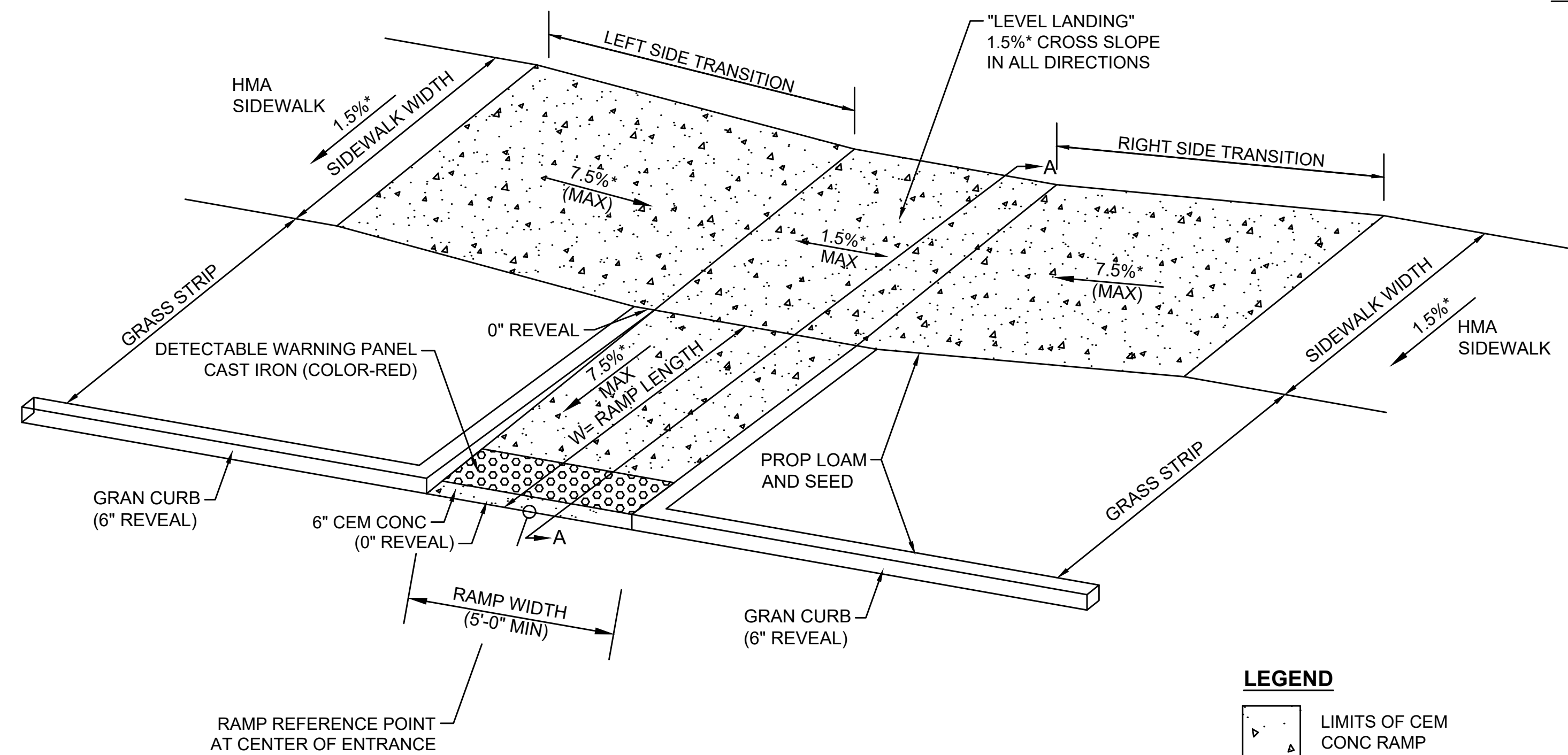
PEDESTRIAN CURB RAMP DETAILS

PEDESTRIAN CURB RAMP DATA - WITH LANDSCAPING STRIP										
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			SIDEWALK WIDTH	W RAMP LENGTH	NOTES
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS			
FELLSWAY-McGRATH (RTE-28)										
16	110+29.1, 13.0' RT	-0.50%	6"	7.67'	0.50%	6"	6.50'	10.0'	6.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 136
17	109+29.2, 16.3' LT	0.87%	4"	6.50'	-0.87%	4"	6.50'	10.0'	6.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 136
30	117+09.7, 13.0' RT	0.30%	6"	7.67'	-0.30%	6"	6.50'	10.0'	6.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 140
39	118+09.8, 13.0' RT	0.67%	6"	7.67'	-0.67%	6"	6.50'	10.0'	6.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 142
MYSTIC AVE (RTE-38)										
15	309+85.7, 25.2' RT	0.88%	6"	7.67'	-0.88%	6"	6.5'	10.0'	6.5' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 136
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)										
44	404+53.4, 13.8' LT	0.30%	6"	7.67'	-0.30%	6"	14.3'	10.0'	6.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 145

PEDESTRIAN CURB RAMP AT RAISED CROSSWALK OPTION 1											
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			SIDEWALK WIDTH	RAMP WIDTH	NOTES	
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS				
MYSTIC AVE (RTE-38)											
27	313+20.3, 36.3' RT	4.70%	6"	9.70'	1.70%	6"	10.0'	10.0'	10.0'	SEE CONSTRUCTION DETAIL SHEET 138	
28	314+44.7, 10.0' RT	4.50%	6"	10.0'	5.00%	6"	10.0'	10.0'	10.0'	SEE CONSTRUCTION DETAIL SHEET 139	
42	304+79.4, 34.9' RT	5.00%	6"	10.0'	5.00%	6"	4.7'	10.4'	5.0'	SEE CONSTRUCTION DETAIL SHEET 144	
43	304+99.1, 30.8' RT	3.00%	3"	7.9'	5.00%	6"	10.0'	10.6'	5.0'	SEE CONSTRUCTION DETAIL SHEET 144	
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)											
40	402+69.2, 46.8' LT	3.00%	6"	10.0'	5.00%	6"	10.0'	10.0'	10.0'	SEE CONSTRUCTION DETAIL SHEET 144	



SECTION A-A



OBLIQUE VIEW

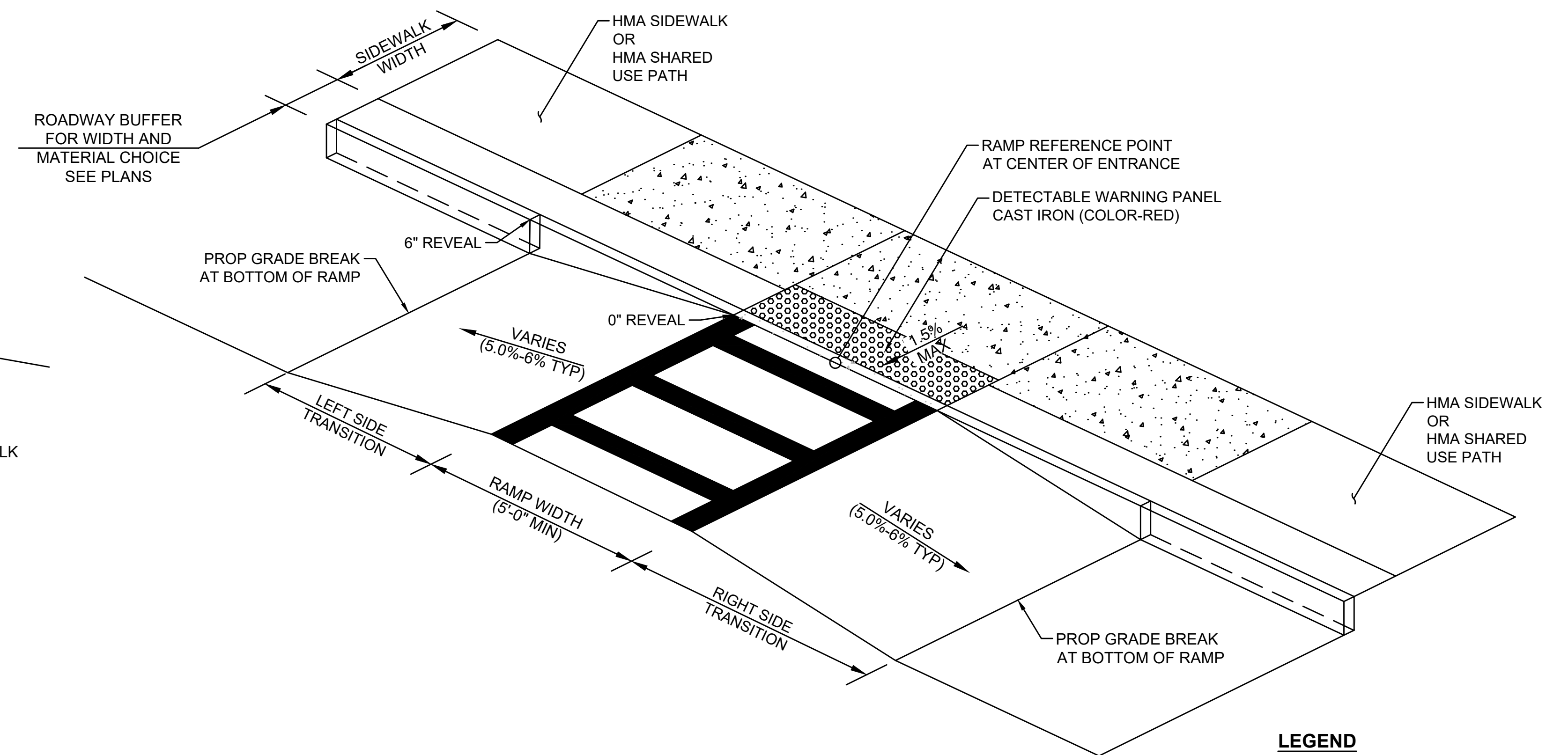
LEGEND

- LIMITS OF CEM CONC RAMP
- DETECTABLE WARNING PANEL

\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP WITH LANDSCAPING STRIP

SCALE: NTS



LEGEND

- LIMITS OF CEM CONC RAMP
- DETECTABLE WARNING PANEL

\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP AT RAISED CROSSWALK OPTION 1

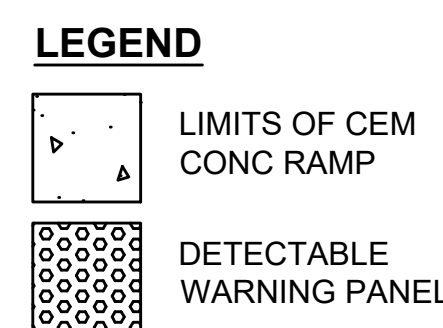
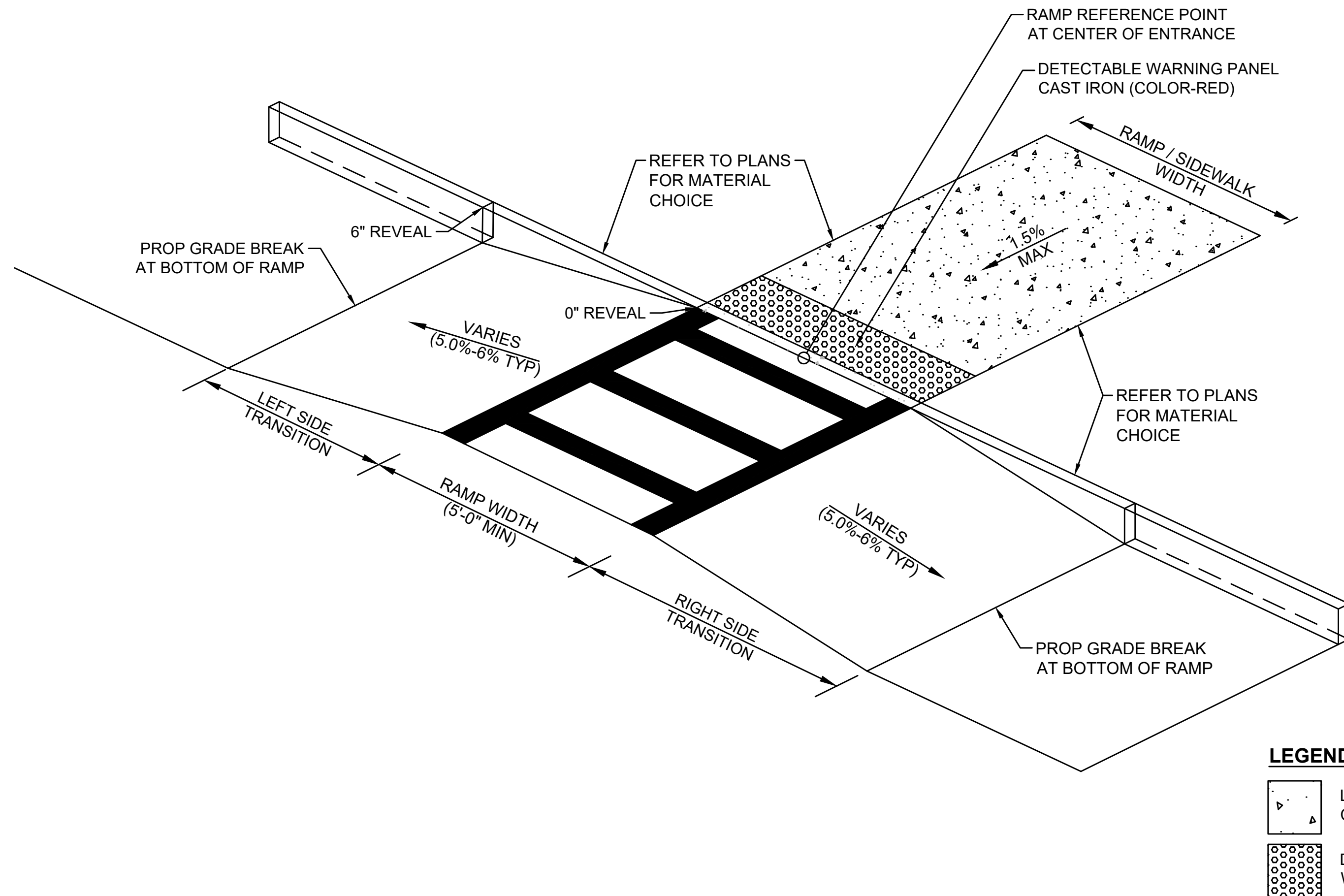
SCALE: NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	127	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 1											
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			RAMP WIDTH	W RAMP LENGTH	L LEVEL LANDING LENGTH	NOTES
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS				
FELLSWAY-McGRATH (RTE-28)											
52	100+21.9, 33.0' RT	4.65%	6"	15.0'	-2.90%	6"	6.5'	10.0'	11.0' AT CENTER	6.1' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 131
1	100+54.9, 33.0' RT	-5.25%	6"	6.0'	5.25%	3"	3.0'	10.0'	14.0' AT CENTER	8.2' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 131
2	102+70.7, 33.0' RT	0.70%	3"	4.2'	-0.70%	6"	9.0'	10.0'	14.0' AT CENTER	6.9' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 131
3	108+09.3, 33.0' RT	1.70%	6"	6.5'	-1.70%	6"	6.0'	10.0'	14.0' AT CENTER	8.5' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 132
10	108+13.2, 13.0' RT	0.90%	6"	7.67'	-0.95%	6"	6.5'	5.0'	5.0' AT CENTER	10.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 135
MYSTIC AVE (RTE-38)											
22	312+18.4, 25.1' RT	-0.65%	6"	6.5'	0.65%	5"	5.7'	10.0'	8.0' AT CENTER	10.9' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 138
23	312+50.7, 26.7' RT	0.35%	6"	5.0'	-0.35%	6"	6.5'	10.0'	8.3' AT CENTER	7.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 138
25	312+69.4, 13.0' LT	0.46%	6"	6.5'	-0.74%	6"	6.5'	5.0'	12.5' AT CENTER	5.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 138
29	314+65.2, 19.8' RT	0.20%	6"	N/A	-0.20%	6"	N/A	5.0'	10.0' AT CENTER	5.7' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 139
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)											
11	408+88.1, 15.7' LT	-0.80%	6"	6.0'	0.80%	6"	7.5'	10.0'	14.2' AT CENTER	6.5' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 135
45	404+76.6, 25.0' LT	-1.50%	3"	3.5'	1.50%	6"	9.0'	10.0'	14.3' AT CENTER	6.5' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 145
46	405+04.5, 24.8' LT	-1.10%	6"	6.0'	1.30%	3"	3.9'	10.0'	11.8' AT CENTER	8.2' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 145
AUXILIARY CONNECTOR E											
48	503+44.3, 59.7' RT	-0.65%	6"	6.50'	0.85%	6"	7.67'	10.0'	11.5' AT CENTER	5.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 145

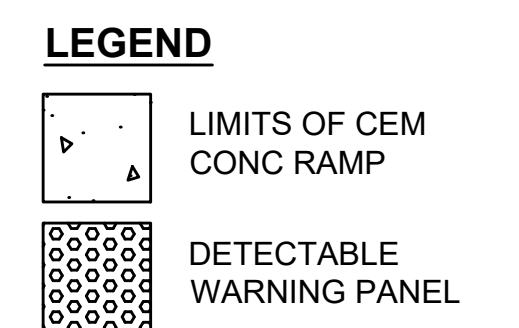
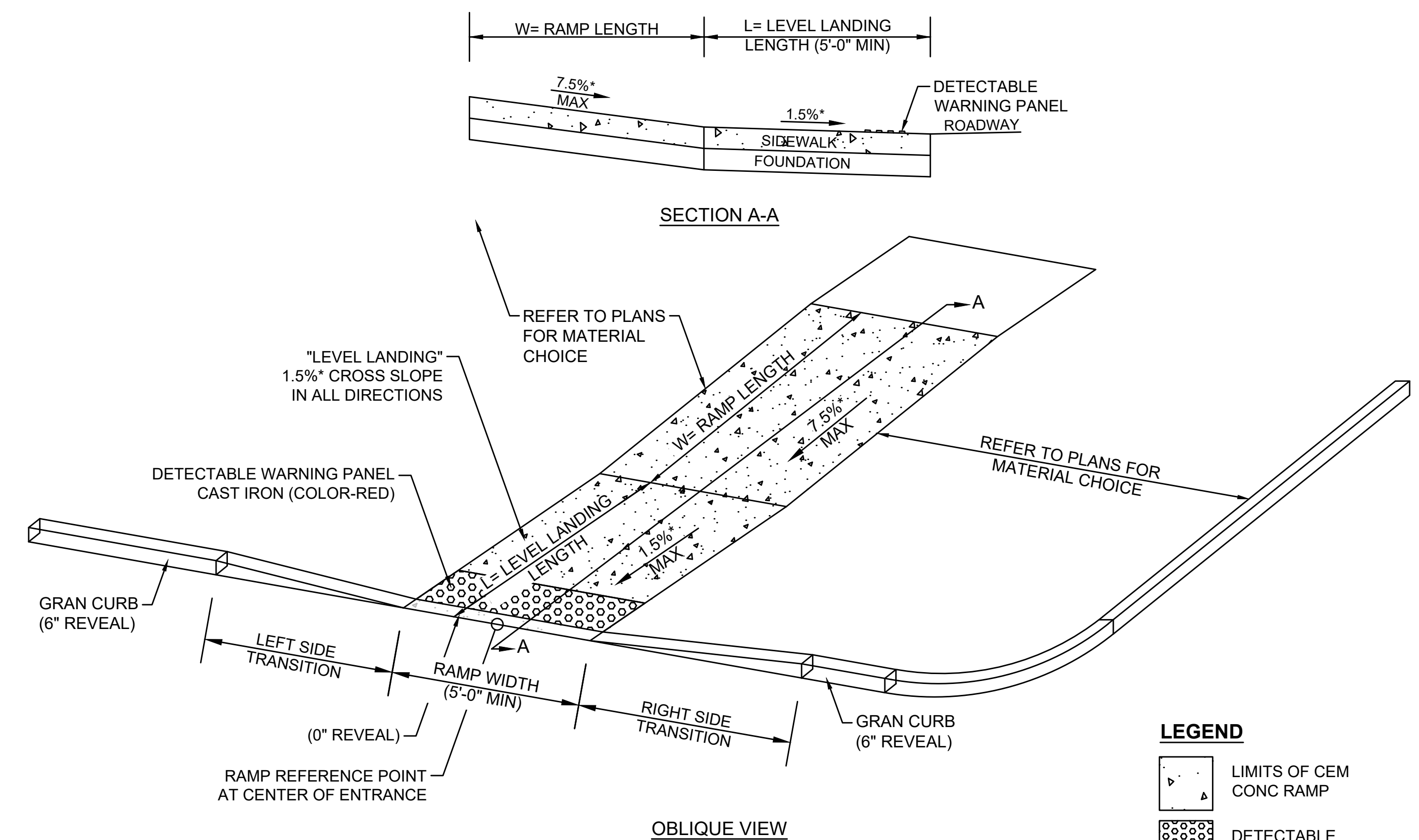
PEDESTRIAN CURB RAMP AT RAISED CROSSWALK OPTION 2										
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			SIDEWALK WIDTH	RAMP WIDTH	NOTES
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS			
MYSTIC AVE (RTE-38)										
26	312+90.4, 28.7' RT	3.00%	6"	15.0'	3.50%	6"	13.0'	10.0'	10.0'	SEE CONSTRUCTION DETAIL SHEET 138
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)										
41	402+76.3, 29.6' LT	5.00%	6"	10.0'	3.00%	6"	10.0'	10.0'	10.0'	SEE CONSTRUCTION DETAIL SHEET 144



\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP AT RAISED CROSSWALK OPTION 2

SCALE: NTS



\*TOLERANCE FOR CONSTRUCTION ±0.5%

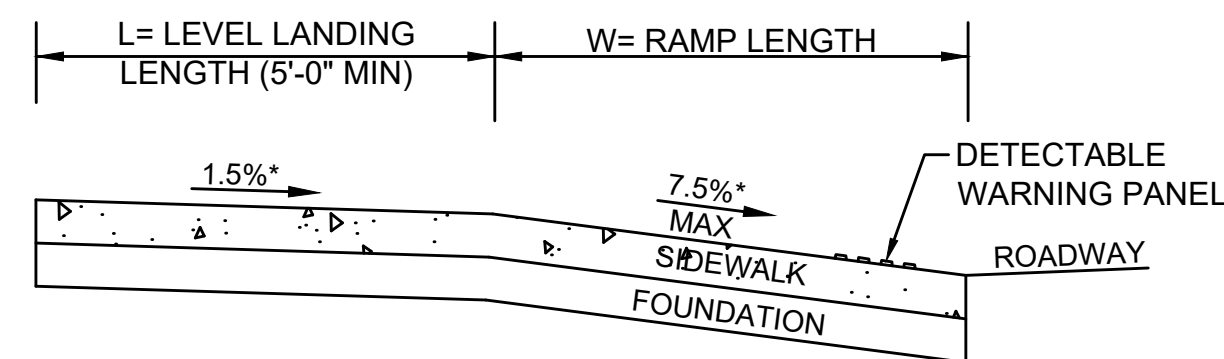
PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 1

SCALE: NTS

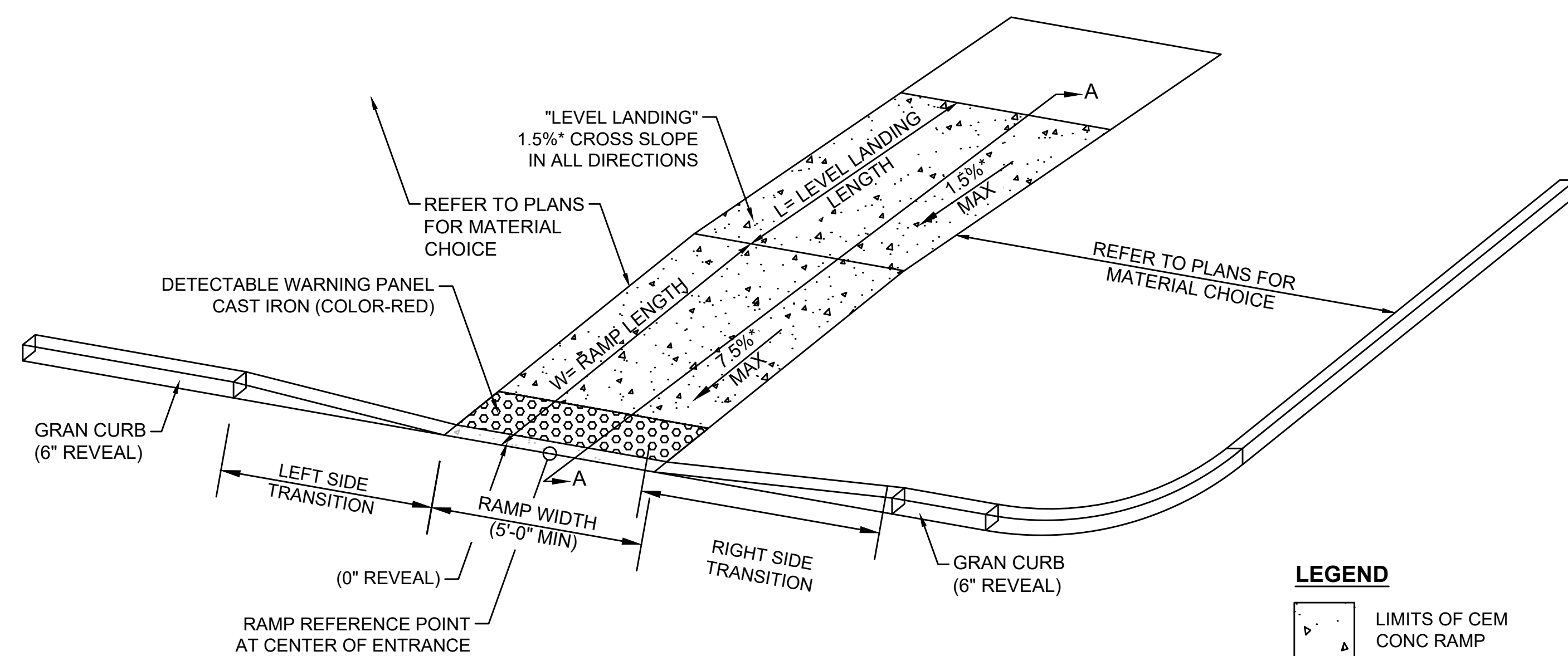
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	128	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 2											
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			RAMP WIDTH	W RAMP LENGTH	L LEVEL LANDING LENGTH	NOTES
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS				
FELLSWAY-McGRATH (RTE-28)											
9	106+27.1, 13.0' RT	-0.65%	6"	15.0'	0.65%	6"	6.0'	10.0'	9.2' AT CENTER	30.3' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 134
53	102+55.3, 71.9' RT	-0.55%	6"	7.0'	1.23%	6"	6.5'	6.2'	8.2' AT CENTER	5.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 132
54	102+89.9, 72.0' RT	1.23%	6"	6.5'	-0.95%	3"	4.0'	6.2'	11.7' AT CENTER	5.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 132
MYSTIC AVE (RTE-38)											
24	312+69.4, 13.0' RT	-0.60%	6"	6.50'	0.60%	6"	7.67'	10.0'	9.6' AT CENTER	10.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 138
50	307+59.4, 39.3' RT	0.55%	3"	3.25'	-0.30%	6"	2.7'	6.0'	6.4' AT CENTER	5.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 146
AUXILIARY CONNECTOR E											
8	501+68.6, 12.0' LT	-0.70%	6"	6.5'	0.70%	6"	7.67'	10.0'	5.0' AT CENTER	10.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 134



SECTION A-A



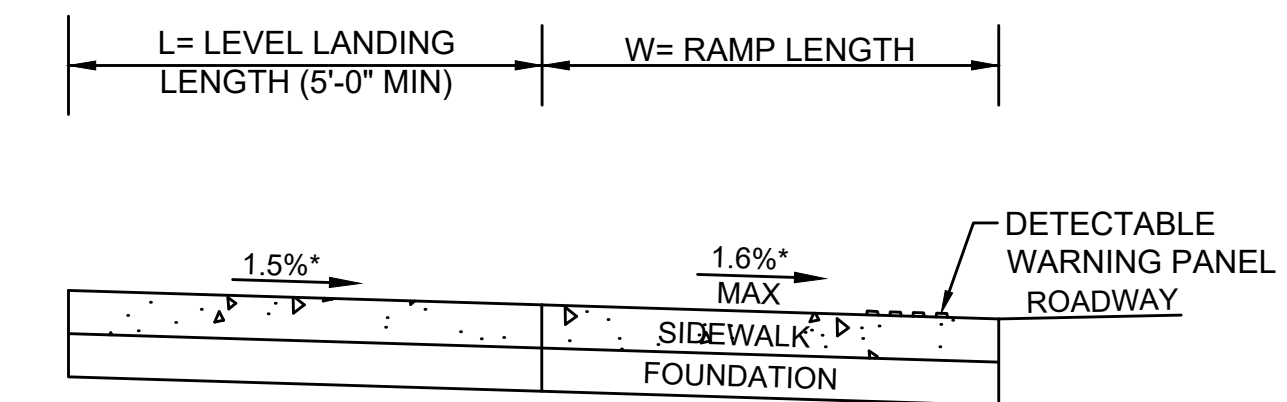
OBLIQUE VIEW

\*TOLERANCE FOR CONSTRUCTION ±0.5%

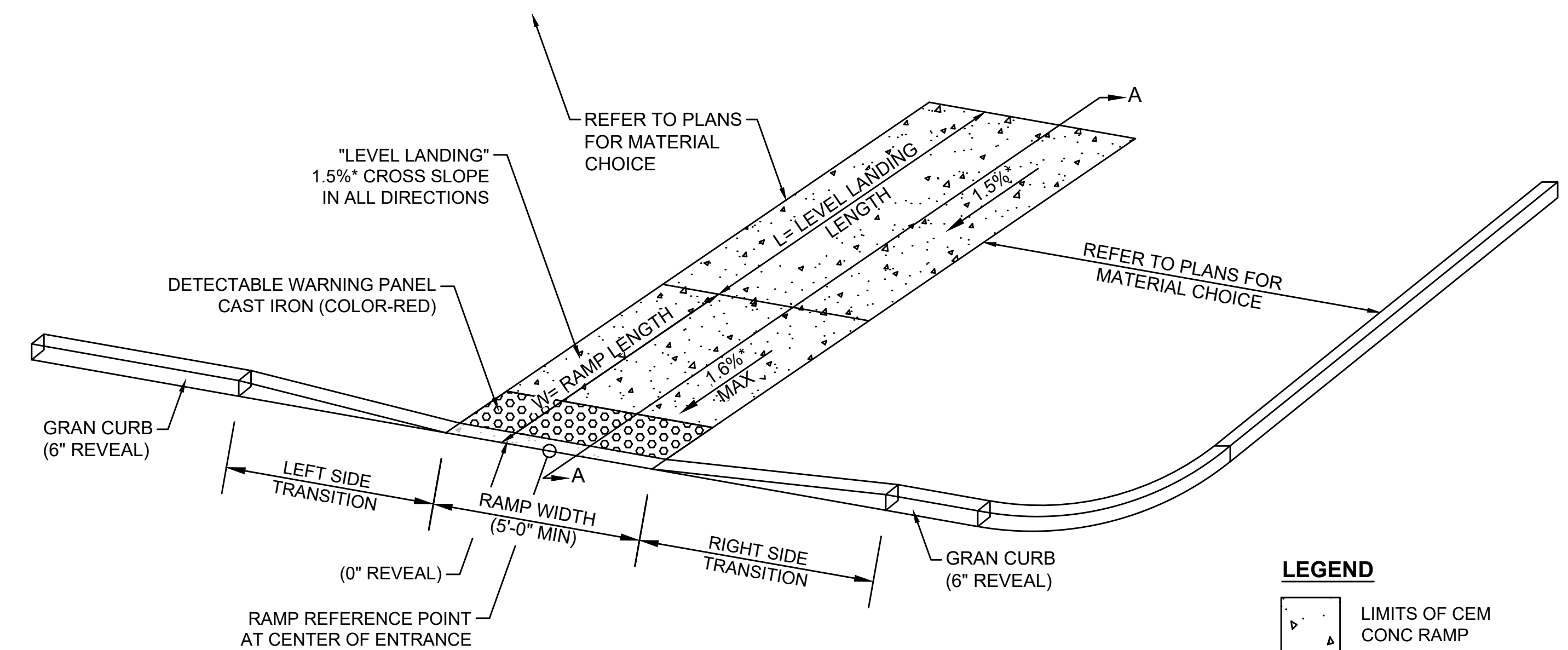
PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 2

SCALE: NTS

PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 3											
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			RAMP WIDTH	W RAMP LENGTH	L LEVEL LANDING LENGTH	NOTES
		ROADWAY GUTTER	REVEAL	TRANS	ROADWAY GUTTER	REVEAL	TRANS				
MYSTIC AVE (RTE-38)											
18	310+60.7, 13.0' RT	-0.80%	6"	6.5'	0.80%	3"	1.7'	5.0'	15.3' AT CENTER	10.0' AT CENTER	SEE CONSTRUCTION DETAIL SHEET 136



SECTION A-A



OBLIQUE VIEW

\*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP - SINGLE DIRECTION OPTION 3

SCALE: NTS

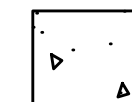
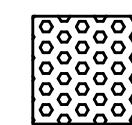


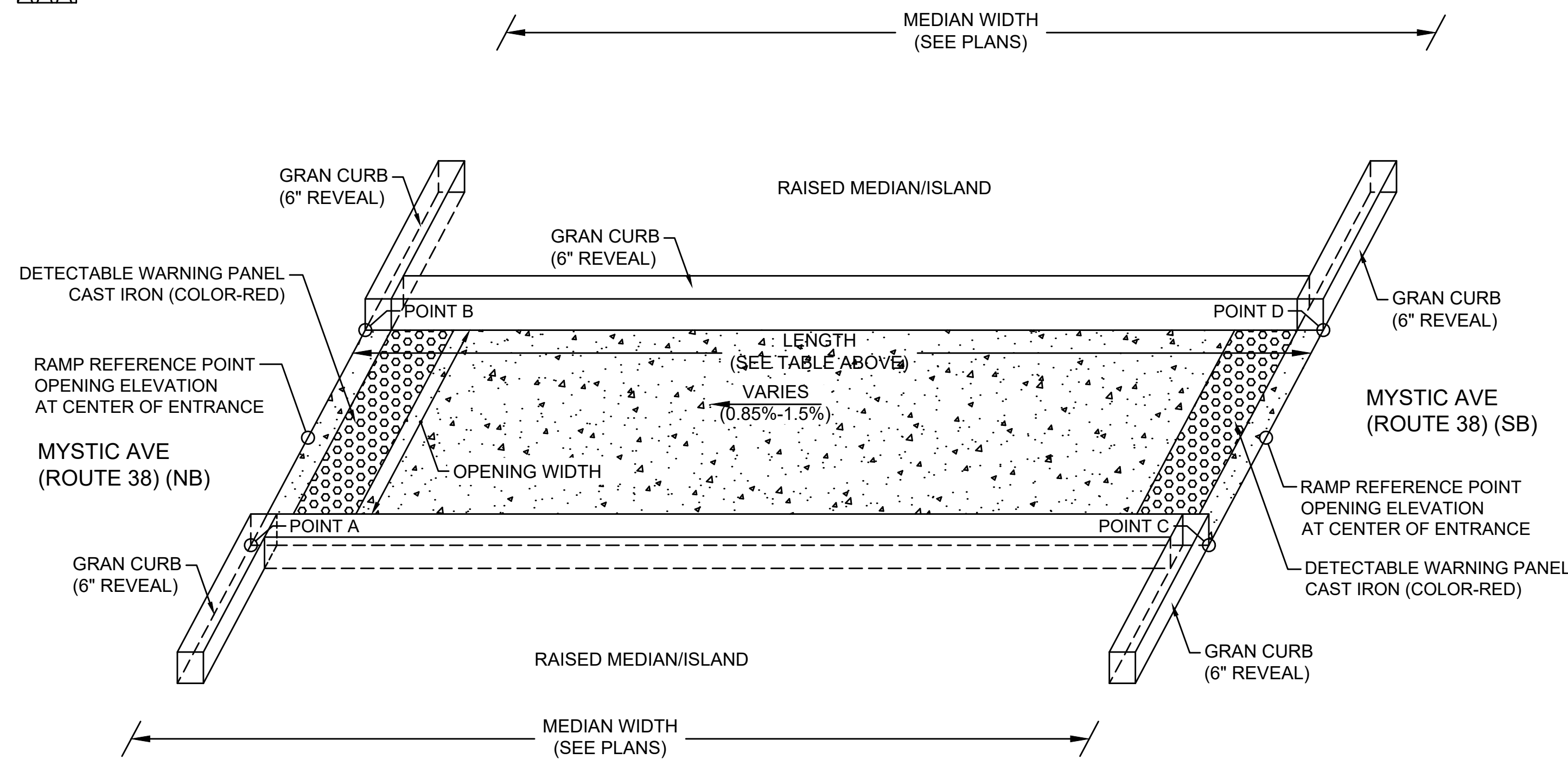
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	129	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

PEDESTRIAN CURB RAMP DATA - MEDIAN CUT THROUGH											
NO.	LOCATION (REF POINT)	OPENING WIDTH	ROADWAY GUTTER	OPENING ELEVATION AT CENTER	ELEVATION				LENGTH		NOTES
					POINT A	POINT B	POINT C	POINT D	FROM A TO C	FROM B TO D	
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)											
13	409+27.1, 14.5' RT	16.9'	±1.89%	9.57	9.40	9.72	-	-	26.8'	-	SEE CONSTRUCTION DETAIL SHEET 135
MYSTIC AVE (RTE-38)											
14	309+41.9, 12.0' LT	18.1'	±0.87%	9.90	-	-	9.80	9.96	-	28.4'	SEE CONSTRUCTION DETAIL SHEET 135

LEGEND

-  LIMITS OF CEM CONC RAMP
-  DETECTABLE WARNING PANEL



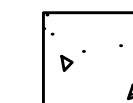
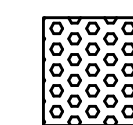
\*TOLERANCE FOR CONSTRUCTION ±0.5%

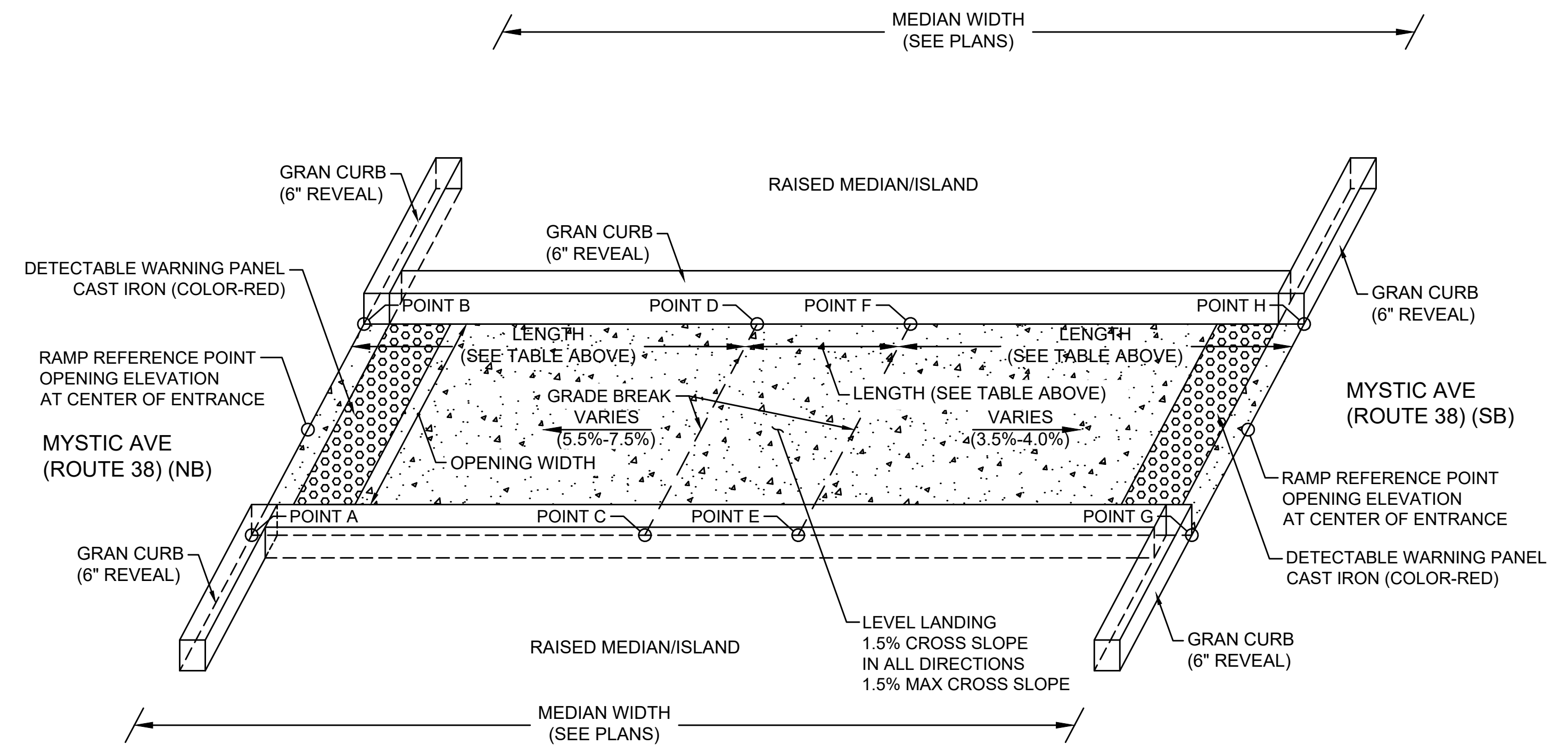
**MEDIAN CUT - THROUGH**

SCALE: NTS

PEDESTRIAN CURB RAMP DATA - MEDIAN CUT THROUGH WITH LEVEL LANDING IN MIDDLE																		
NO.	LOCATION (REF POINT)	OPENING WIDTH	ROADWAY GUTTER	OPENING ELEVATION AT CENTER	ELEVATION								LENGTH				NOTES	
					POINT A	POINT B	POINT C	POINT D	POINT E	POINT F	POINT G	POINT H	FROM A TO C	FROM B TO D	LEVEL LANDING	FROM E TO G		FROM F TO H
FELLSWAY-McGRATH (RTE-28)																		
31	117+09.7, 13.0' LT	10.0'	±0.15%	9.35	9.04	9.08	9.49	9.51	9.57	9.61	-	-	-	-	5.0'	6.9'	6.9'	SEE CONSTRUCTION DETAIL SHEET 140
38	118+09.8, 13.4' LT	10.0'	±0.40%	9.58	-	-	9.72	9.77	9.80	9.85	9.56	9.60	-	-	5.0'	6.0'	6.0'	SEE CONSTRUCTION DETAIL SHEET 140
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)																		
32	418+79.4, 13.0' RT	10.0'	±0.40%	9.05	-	-	9.49	9.51	9.57	9.61	9.34	9.36	6.0'	6.0'	5.0'	-	-	SEE CONSTRUCTION DETAIL SHEET 141
37	419+79.6, 13.0' RT	10.0'	±0.50%	9.42	9.39	9.44	9.72	9.77	9.80	9.85	-	-	6.0'	6.0'	5.0'	-	-	SEE CONSTRUCTION DETAIL SHEET 141

LEGEND

-  LIMITS OF CEM CONC RAMP
-  DETECTABLE WARNING PANEL



\*TOLERANCE FOR CONSTRUCTION ±0.5%

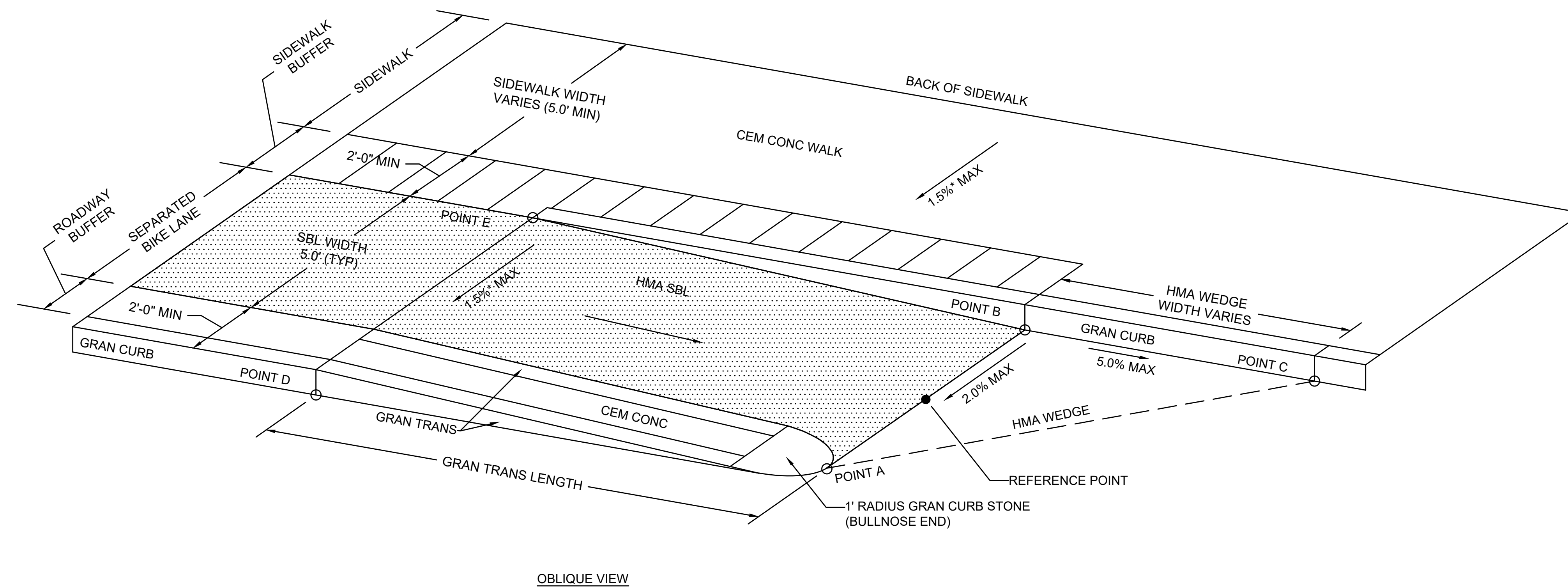
**MEDIAN CUT - THROUGH WITH LEVEL LANDING IN MIDDLE**

SCALE: NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	130	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

NO.	LOCATION (REF POINT)	RAMP WIDTH	ROADWAY GUTTER	TRANS LENGTH	ELEVATION						NOTES
					POINT A	POINT B	POINT C	POINT D (BOTTOM OF CURB)	POINT D (TOP OF CURB)	POINT E	
FELLSWAY-McGRATH (RTE-28)											
01	122+78.8, 28.5' RT	5.0'	-1.25%	9.0'	12.83	12.91	13.12	12.73	13.23	13.33	SEE CONSTRUCTION DETAIL SHEET 142
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)											
02	418+73.3, 28.5' LT	5.0'	0.36%	11.0'	8.97	9.06	-	8.98	9.31	9.42	SEE CONSTRUCTION DETAIL SHEET 141
03	419+57.8, 28.5' LT	5.0'	0.91%	14.0'	8.89	8.98	8.96	9.07	-	9.42	SEE CONSTRUCTION DETAIL SHEET 141
04	424+03.9, 28.5' LT	5.0'	-1.33%	9.0'	12.07	12.16	-	11.98	12.31	12.42	SEE CONSTRUCTION DETAIL SHEET 143
MYSTIC AVE (RTE-38)											
05	305+04.3, 17.5' RT	5.0'	0.30%	9.0'	8.84	8.97	8.75	8.88	9.13	9.24	SEE CONSTRUCTION DETAIL SHEET 144
06	307+24.5, 17.5' RT	5.0'	0.30%	14.0'	9.16	9.24	9.10	9.16	9.41	9.51	SEE CONSTRUCTION DETAIL SHEET 146
07	307+61.1, 27.5' RT	5.0'	-1.50%	9.0'	8.89	8.94	8.87	9.01	9.25	9.37	SEE CONSTRUCTION DETAIL SHEET 146



\*TOLERANCE FOR CONSTRUCTION ±0.5%

**SEPARATED BIKE LANE TRANSITION**

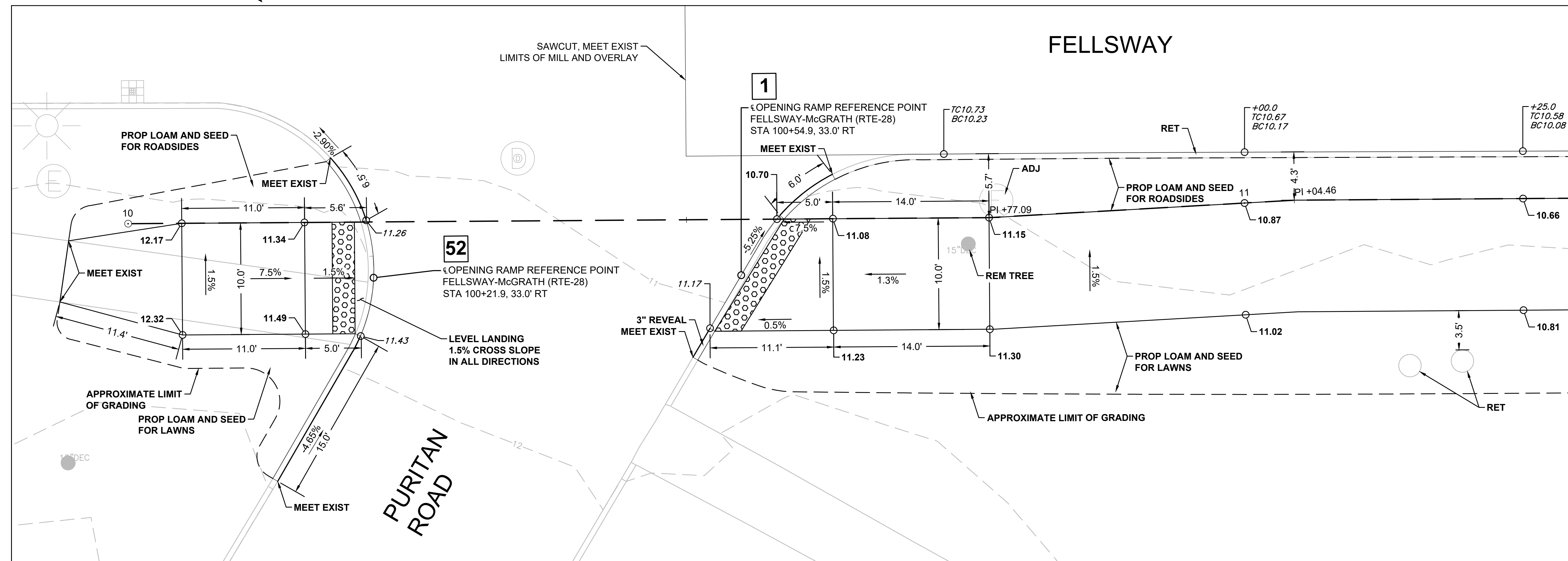
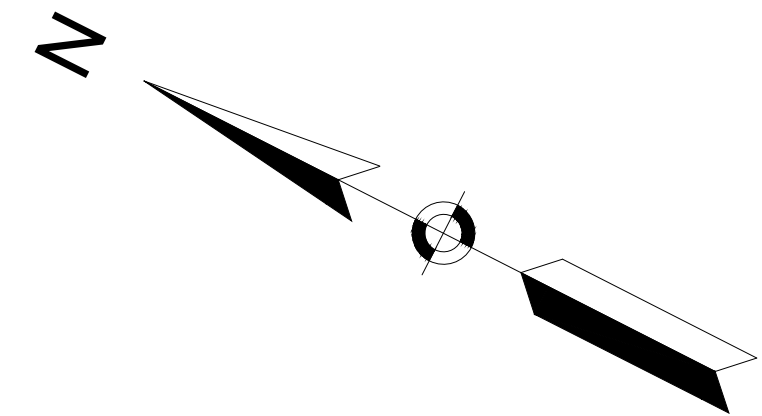
SCALE: NTS

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

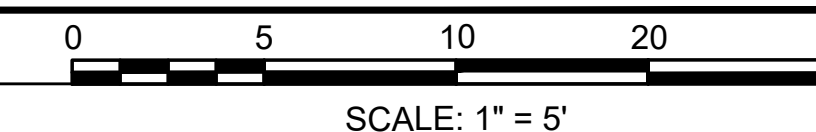
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	131	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

608562\_HDWCR.DWG Plotted on 16-Jul-2024 6:03 PM

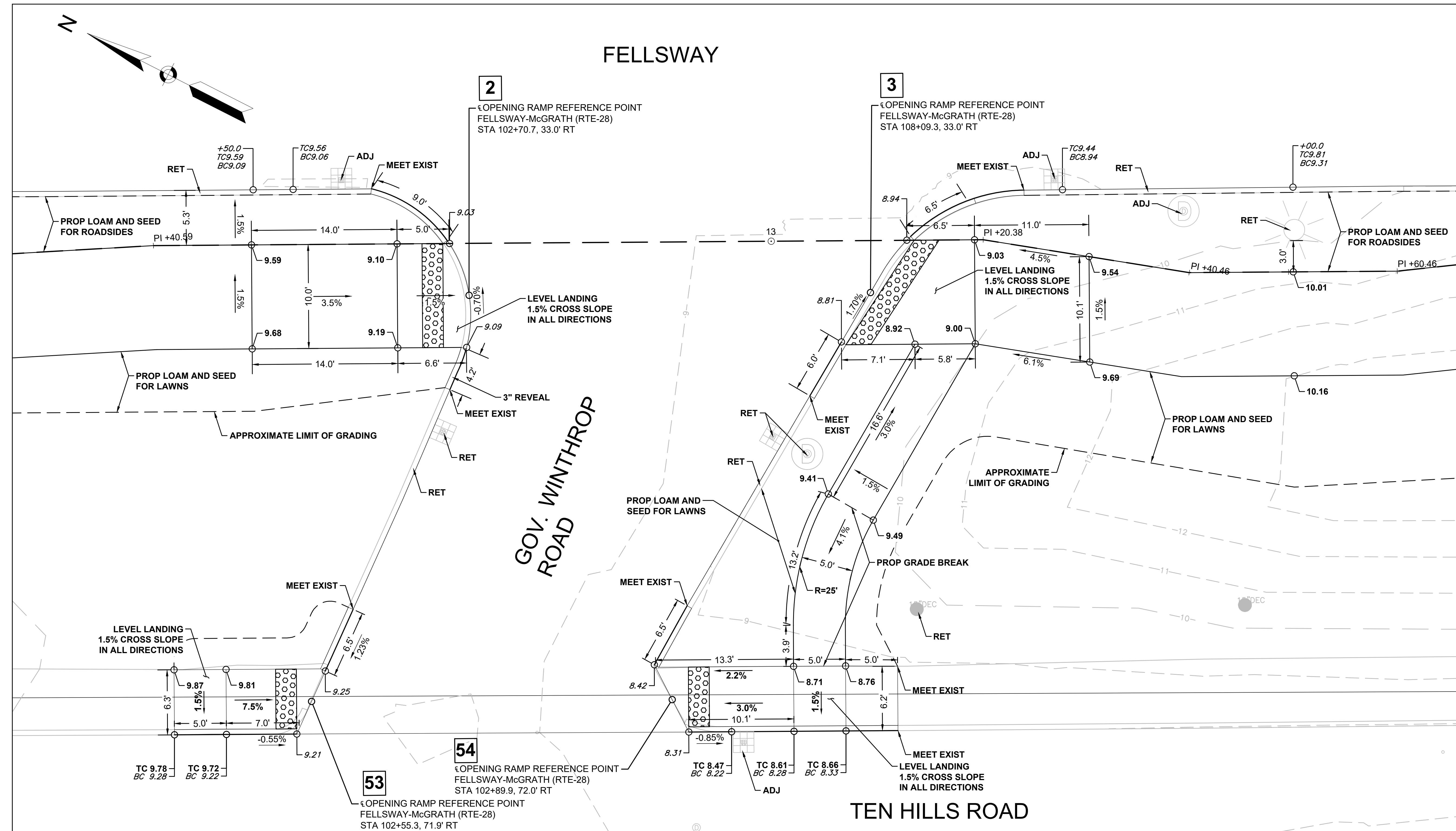


**PEDESTRIAN CURB RAMPS #1 AND #2**  
 SCALE: 1" = 5'



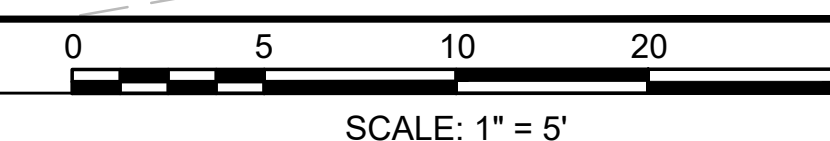
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	132	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



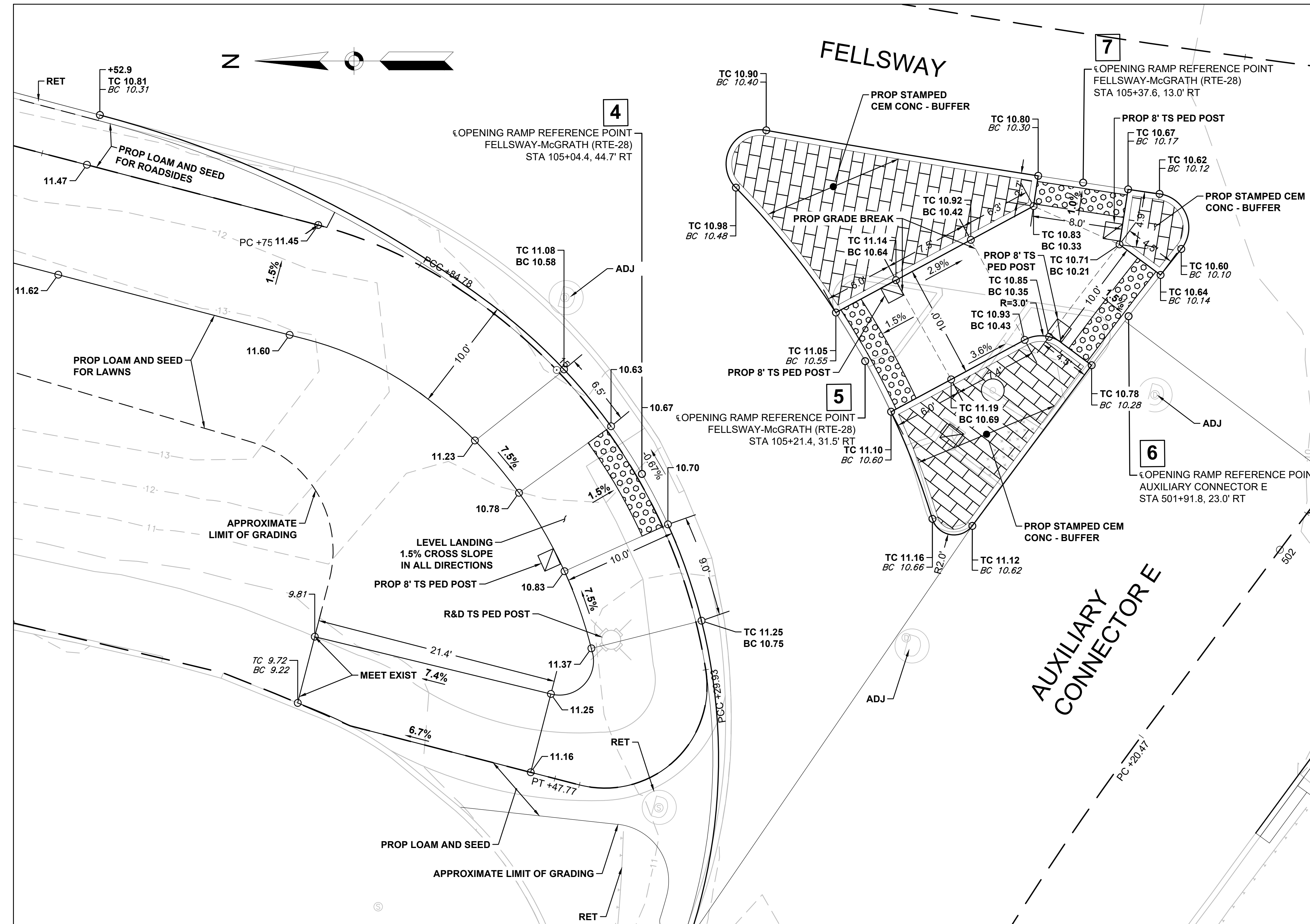
PEDESTRIAN CURB RAMP #2, #3, #53 AND #54

SCALE: 1" = 5'



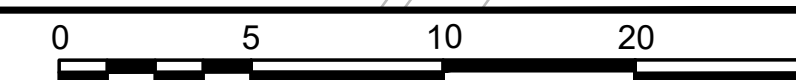
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	133	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



PEDESTRIAN CURB RAMPS #4, #5, #6 AND #7

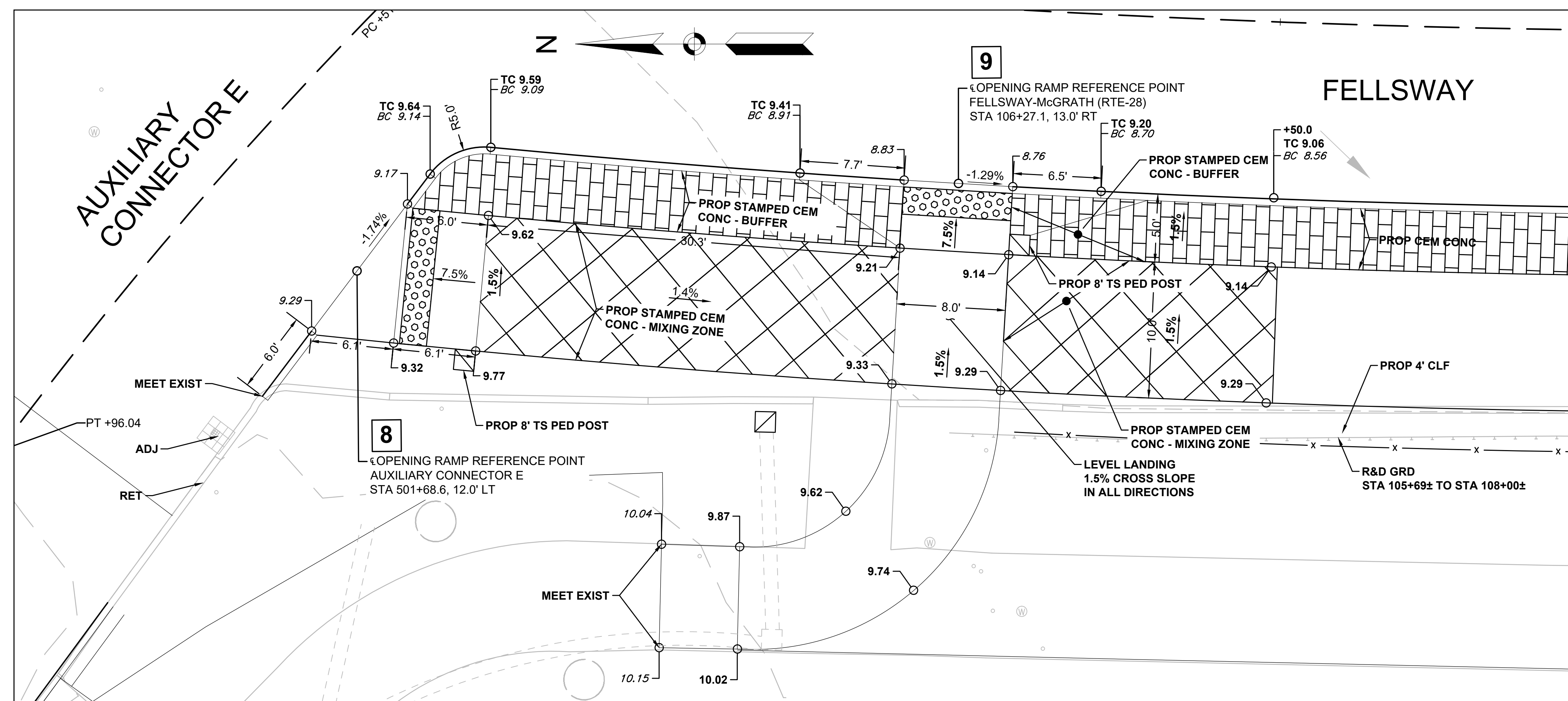
SCALE: 1" = 5'



SCALE: 1" = 5'

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	134	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



PEDESTRIAN CURB RAMPS #8 AND #9

SCALE: 1" = 5'

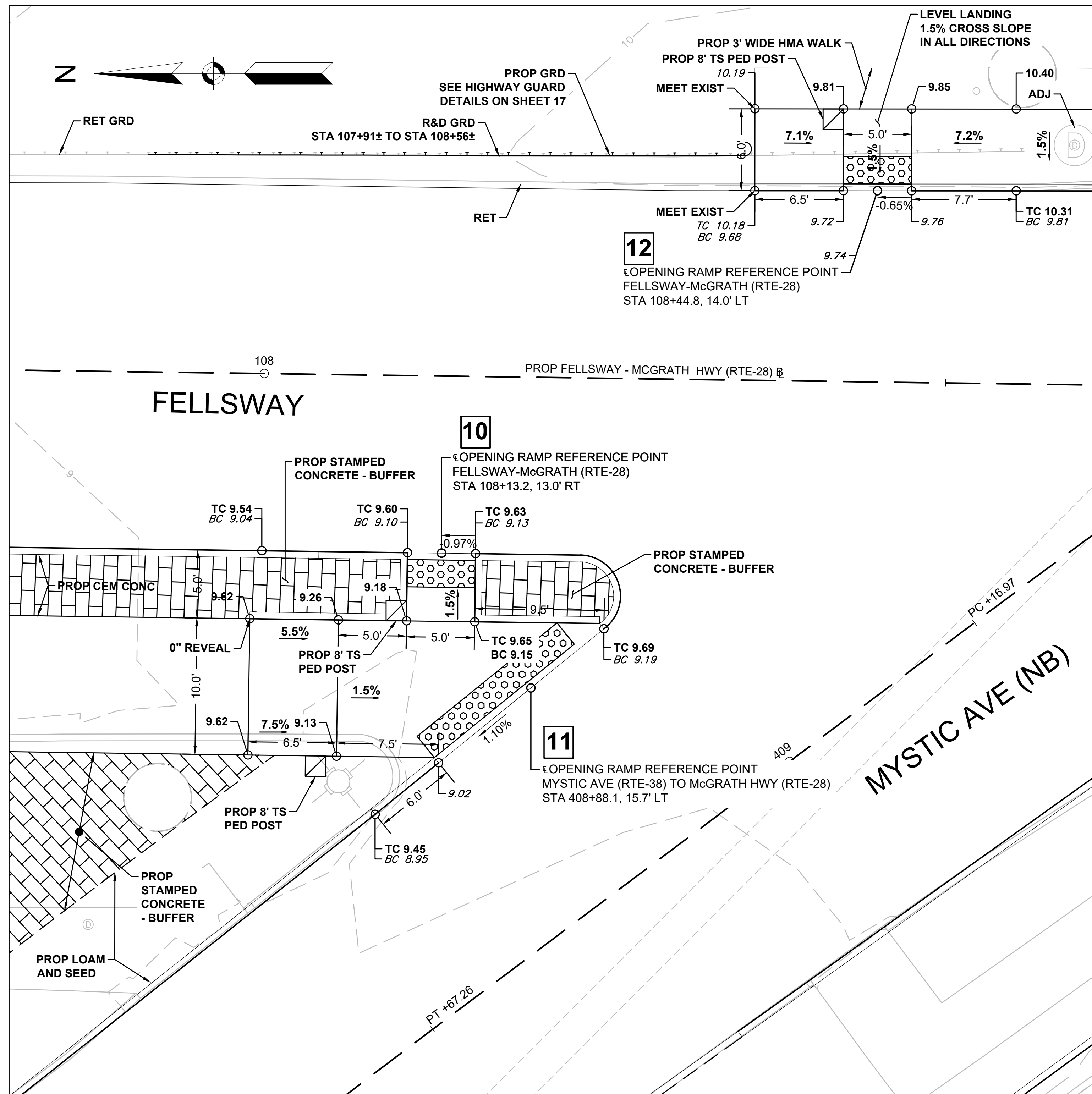


SCALE: 1" = 5'

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

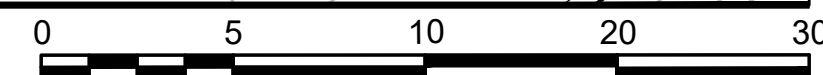
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	135	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

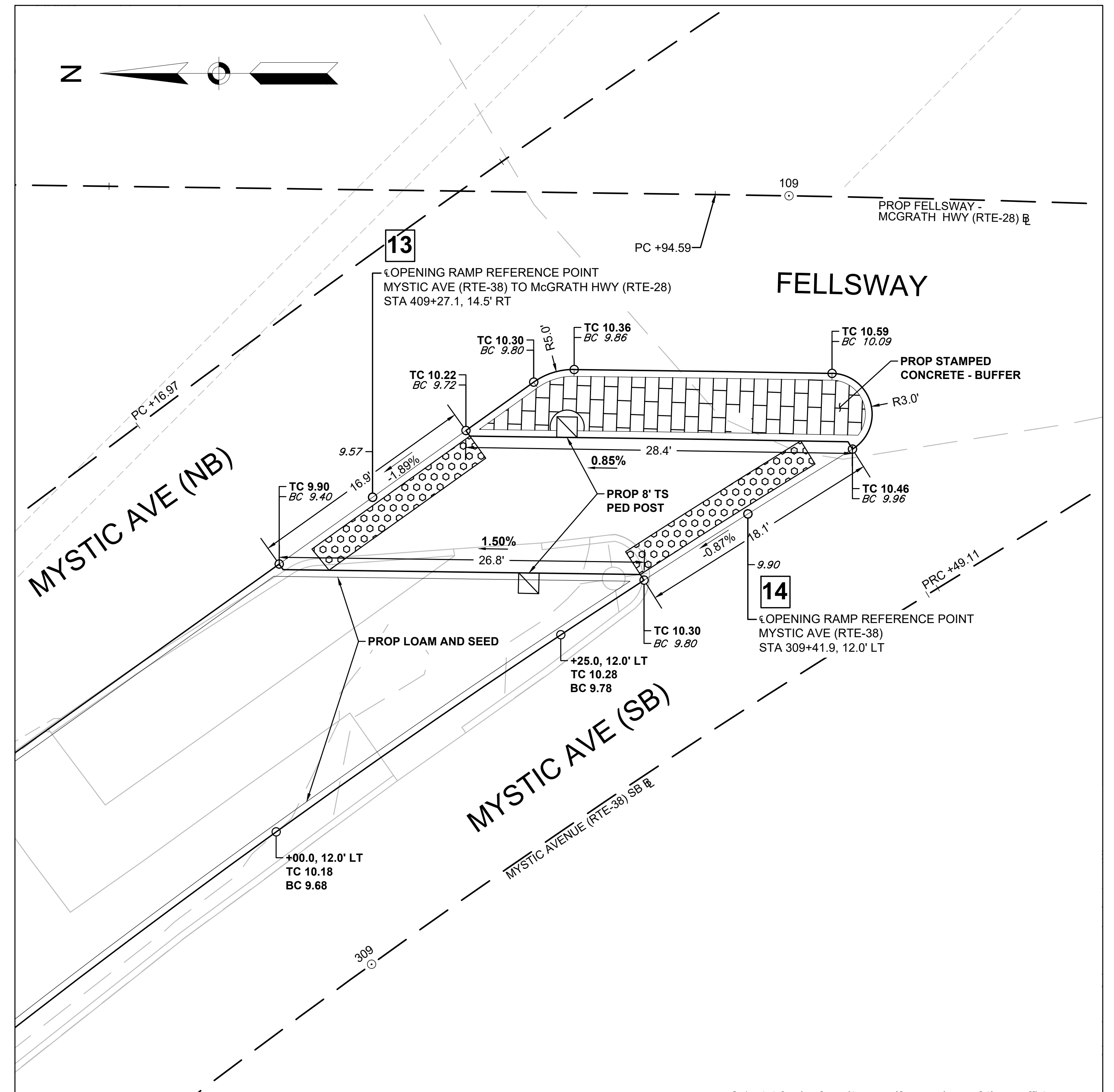


PEDESTRIAN CURB RAMPS #10, #11 AND #12

SCALE: 1" = 5'

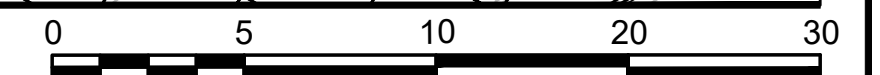


SCALE: 1" = 5'



PEDESTRIAN CURB RAMPS #13 AND #14

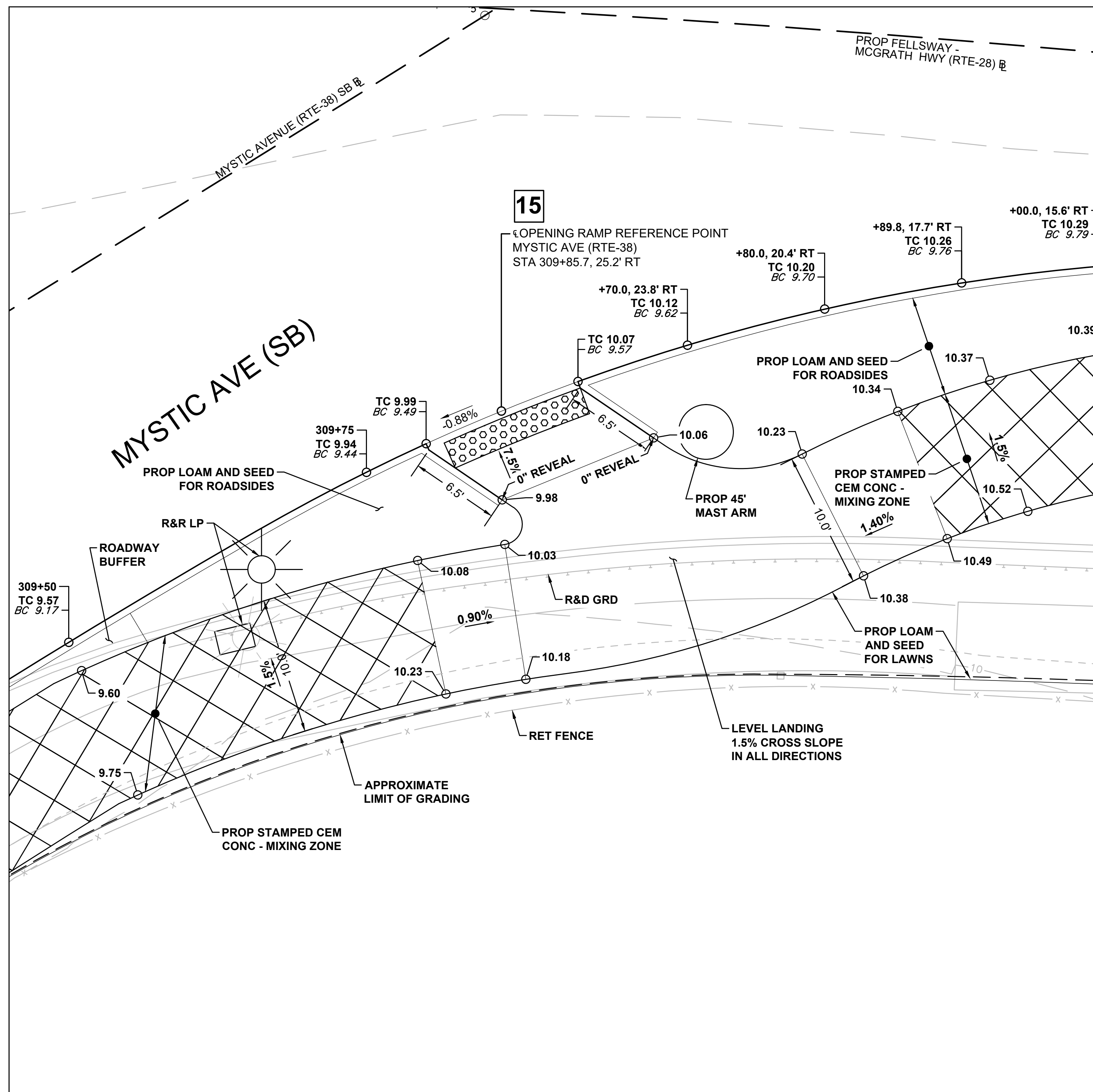
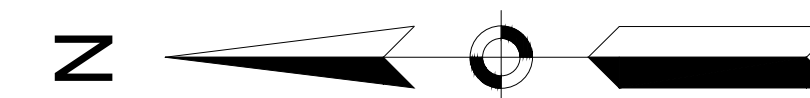
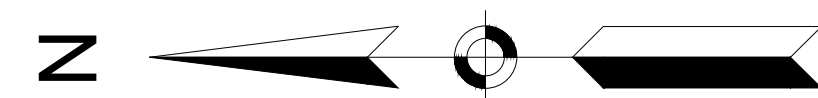
SCALE: 1" = 5'



SCALE: 1" = 5'

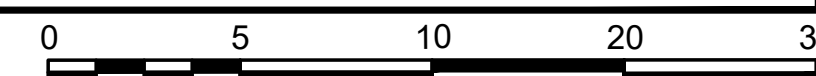
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	136	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

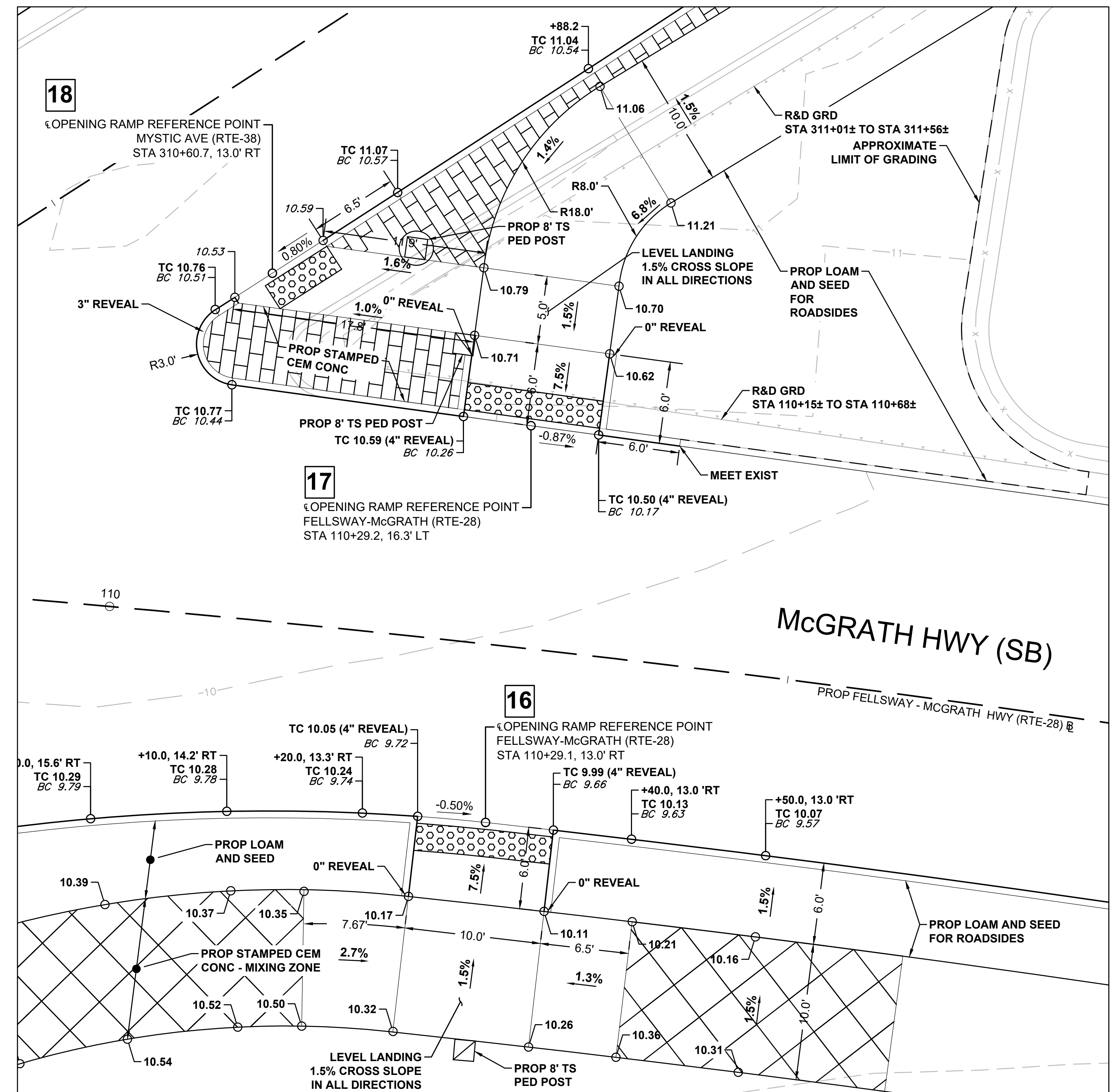


PEDESTRIAN CURB RAMPS #15

SCALE: 1" = 5'

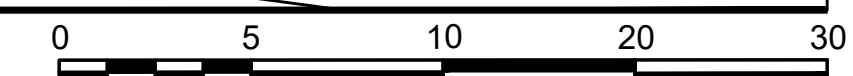


SCALE: 1" = 5'



PEDESTRIAN CURB RAMPS #16, #17 AND #18

SCALE: 1" = 5'

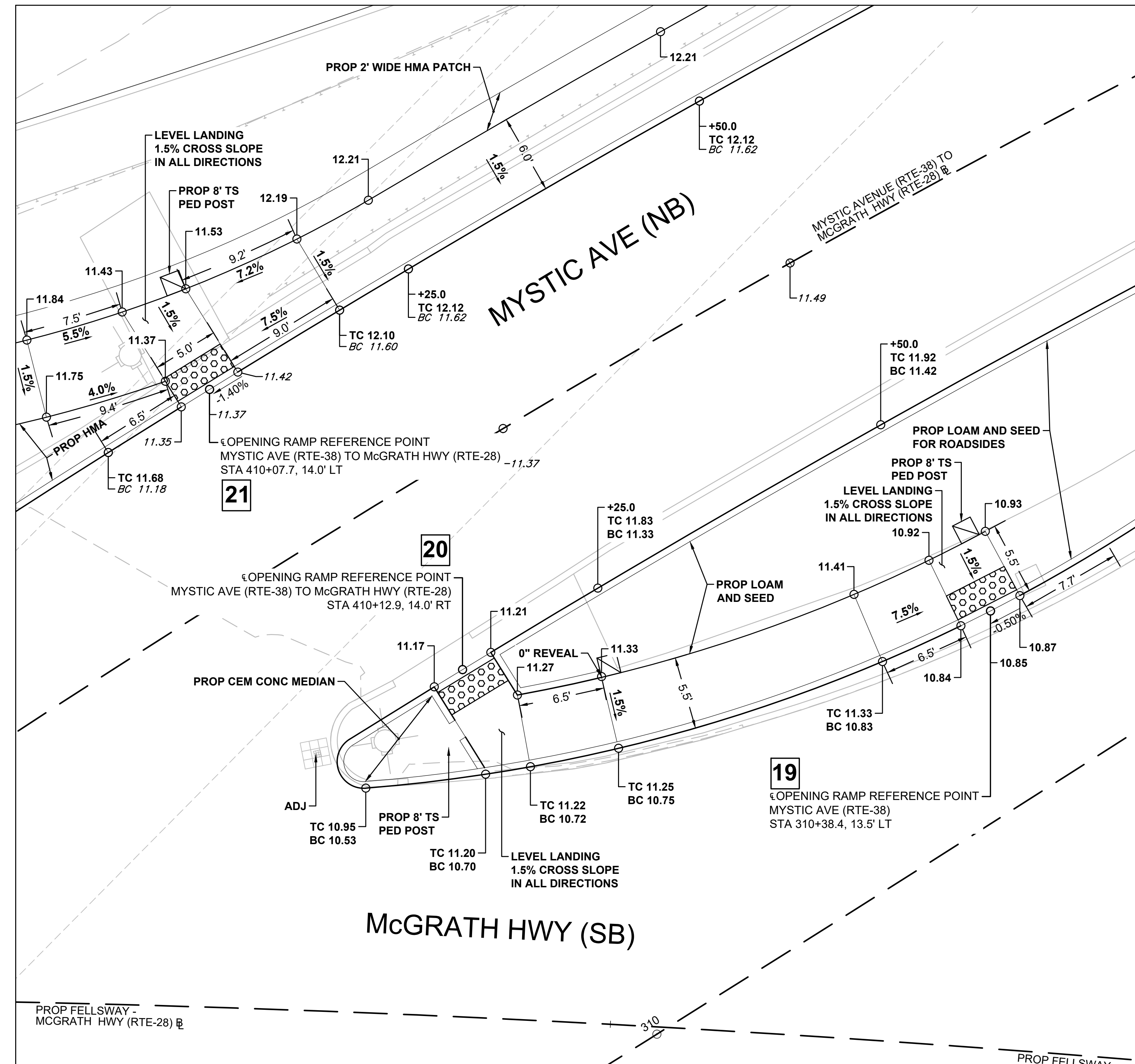
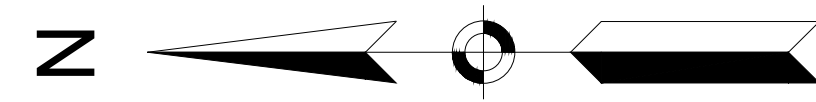


SCALE: 1" = 5'



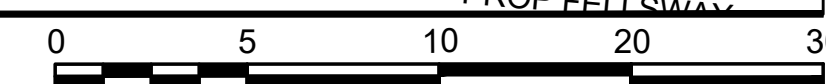
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	137	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS

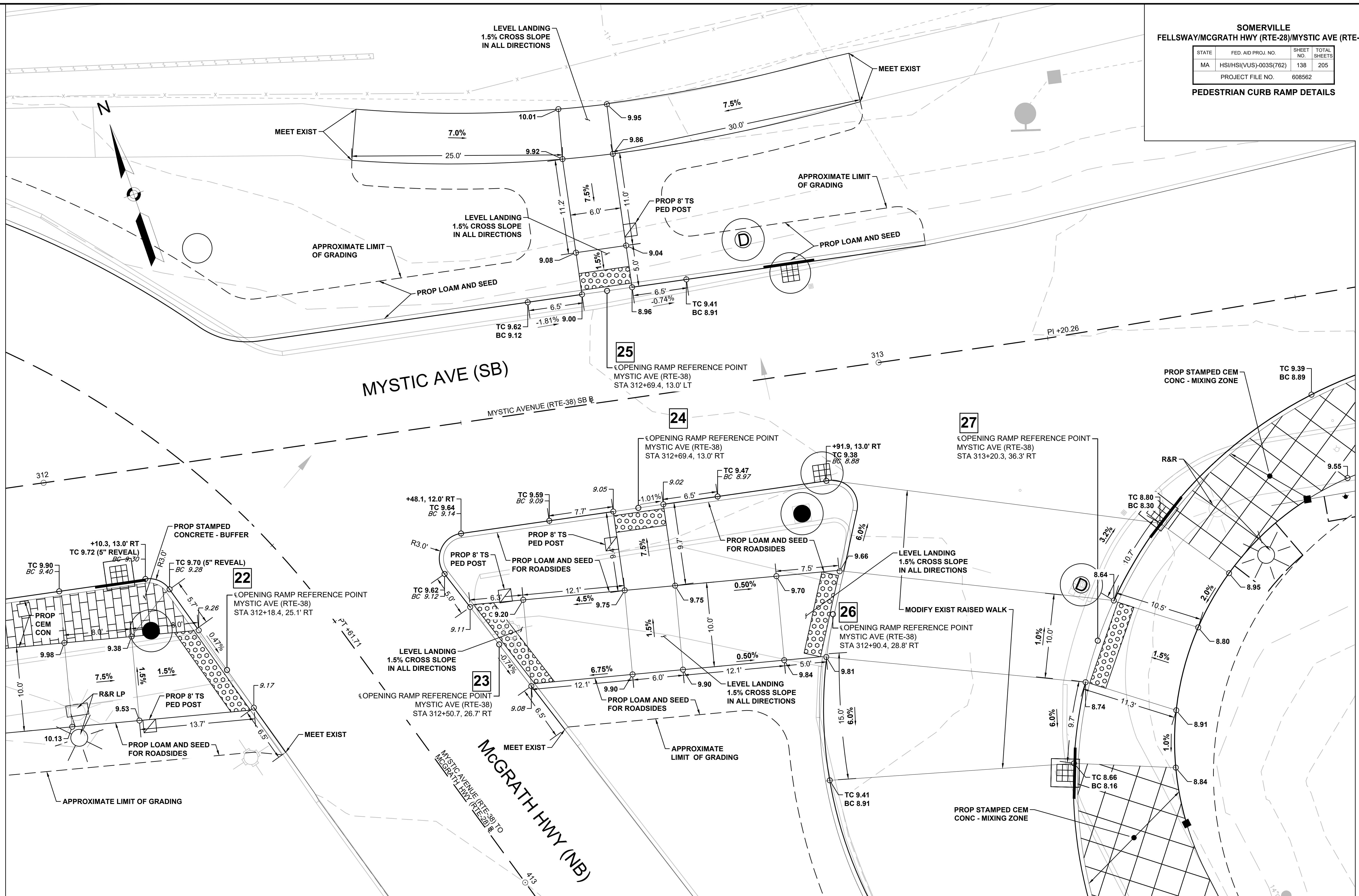


PEDESTRIAN CURB RAMPS #19, #20 AND #21

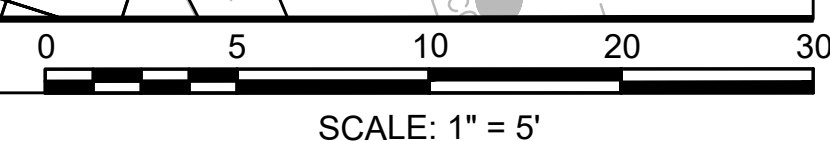
SCALE: 1" = 5'



SCALE: 1" = 5'



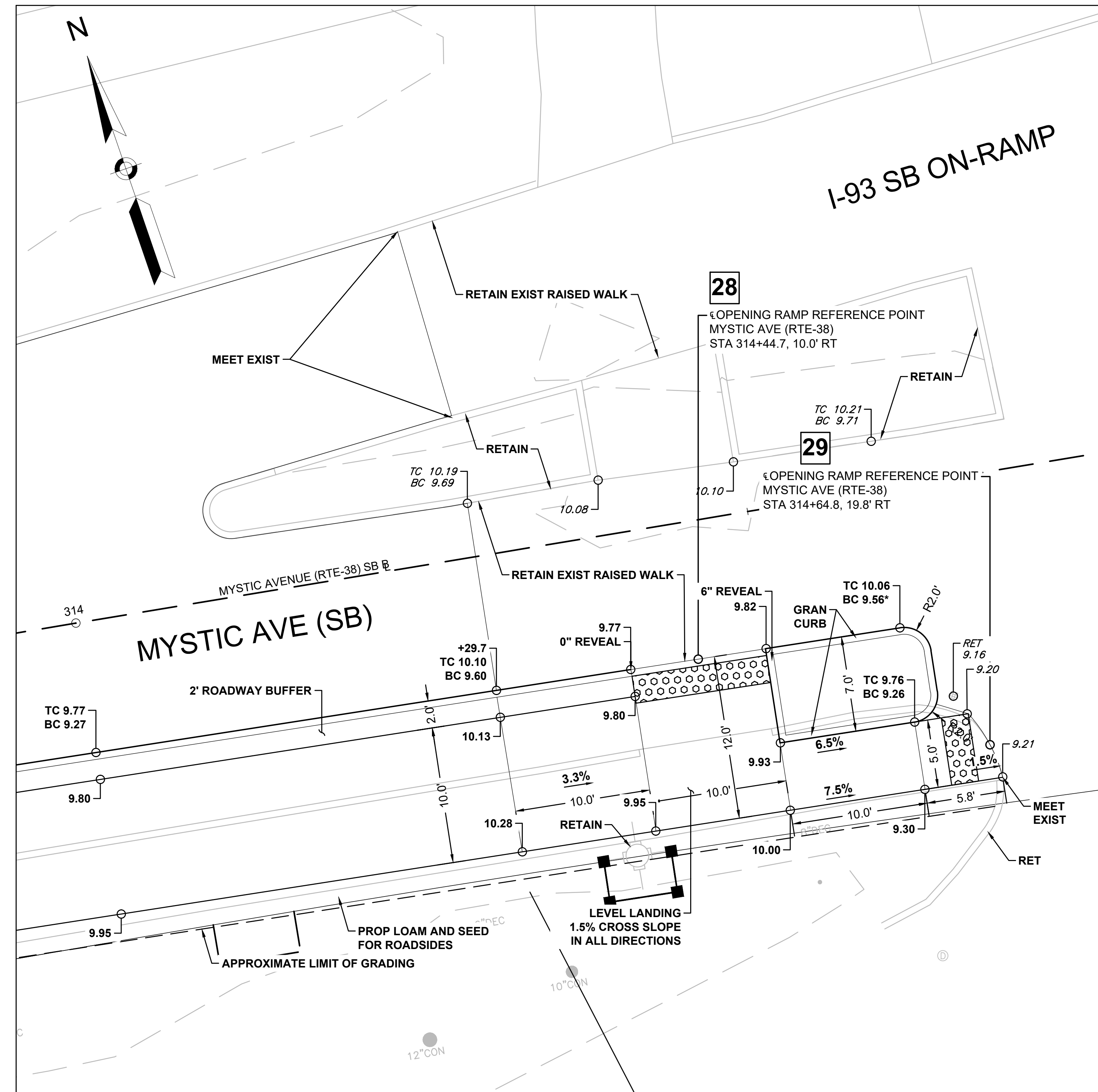
**PEDESTRIAN CURB RAMPS #22, #23, #24, #25, #26 AND #27**  
 SCALE: 1" = 5'



SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

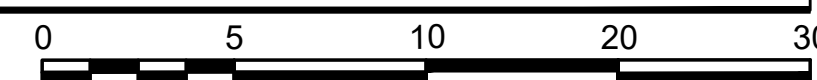
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	139	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



PEDESTRIAN CURB RAMPS #28 AND #29

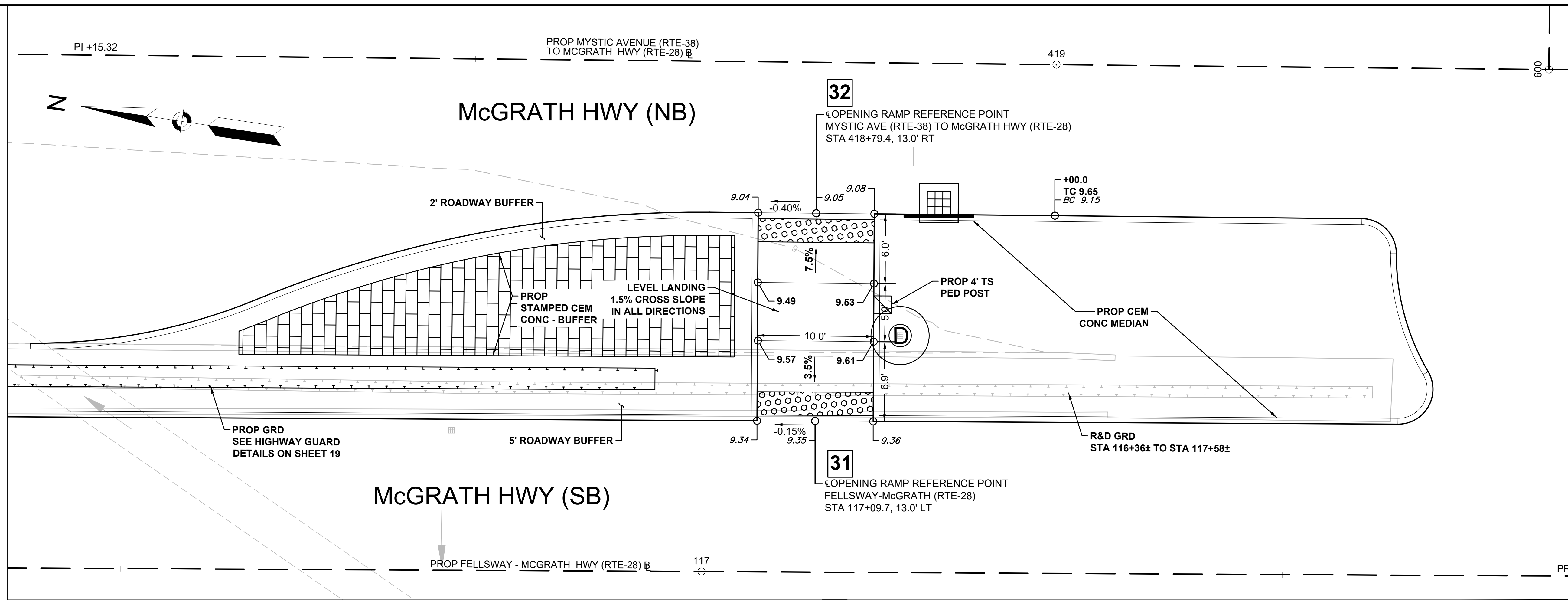
SCALE: 1" = 5'



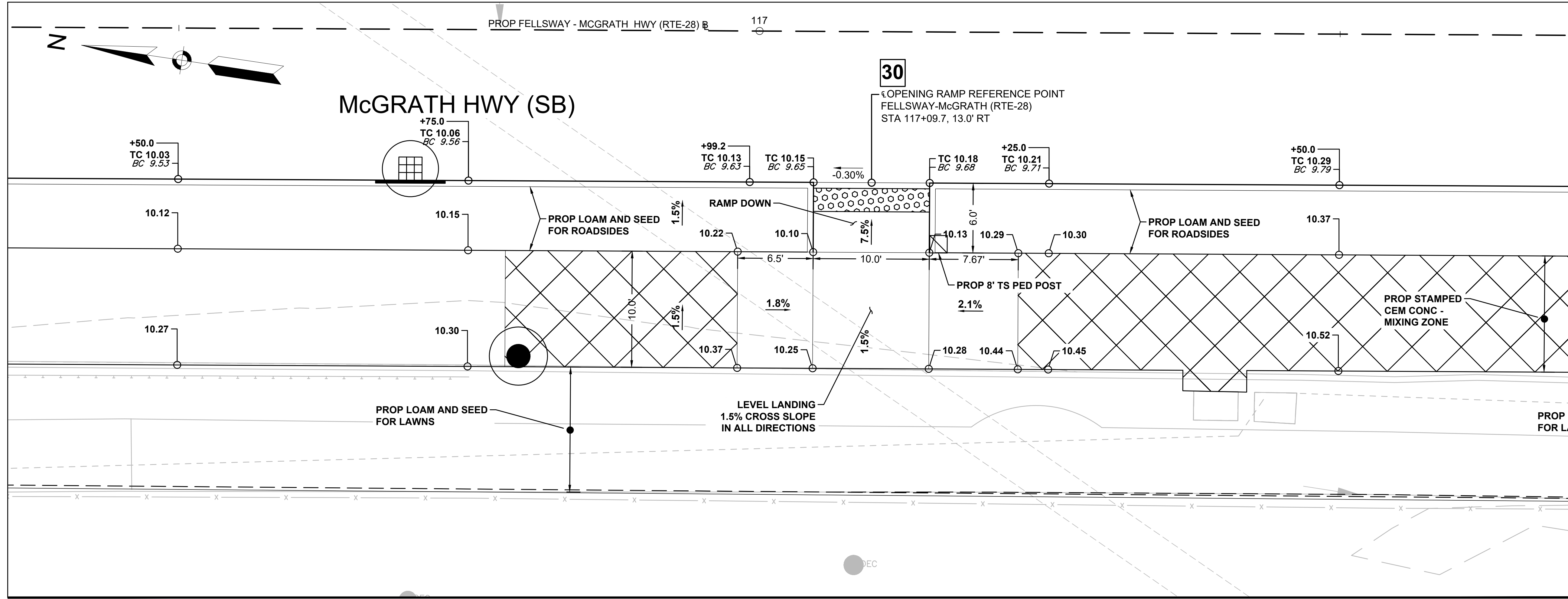
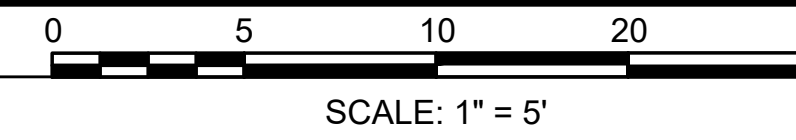
SCALE: 1" = 5'

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	140	205
PROJECT FILE NO.		608562	

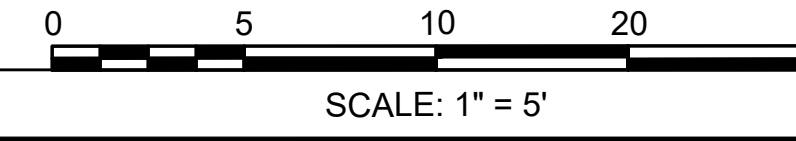
PEDESTRIAN CURB RAMP DETAILS



PEDESTRIAN CURB RAMPS #31 & #32  
 SCALE: 1" = 5'

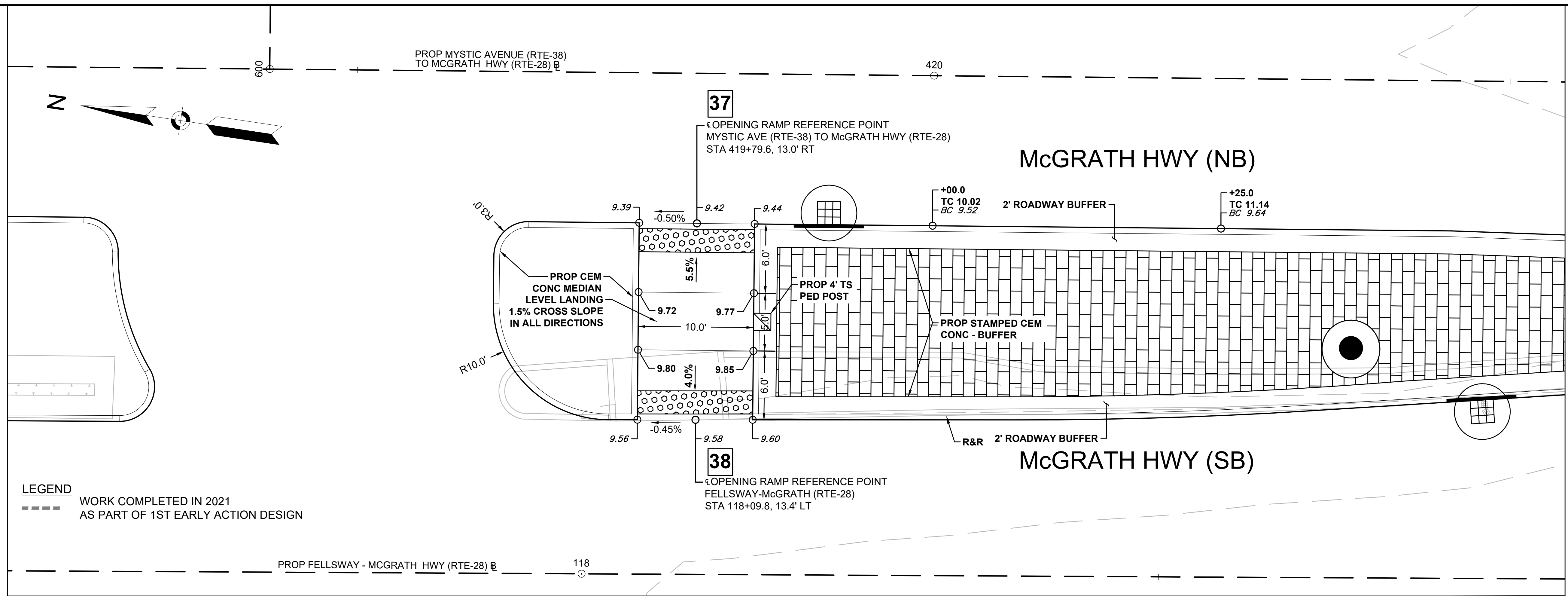


PEDESTRIAN CURB RAMPS #30  
 SCALE: 1" = 5'



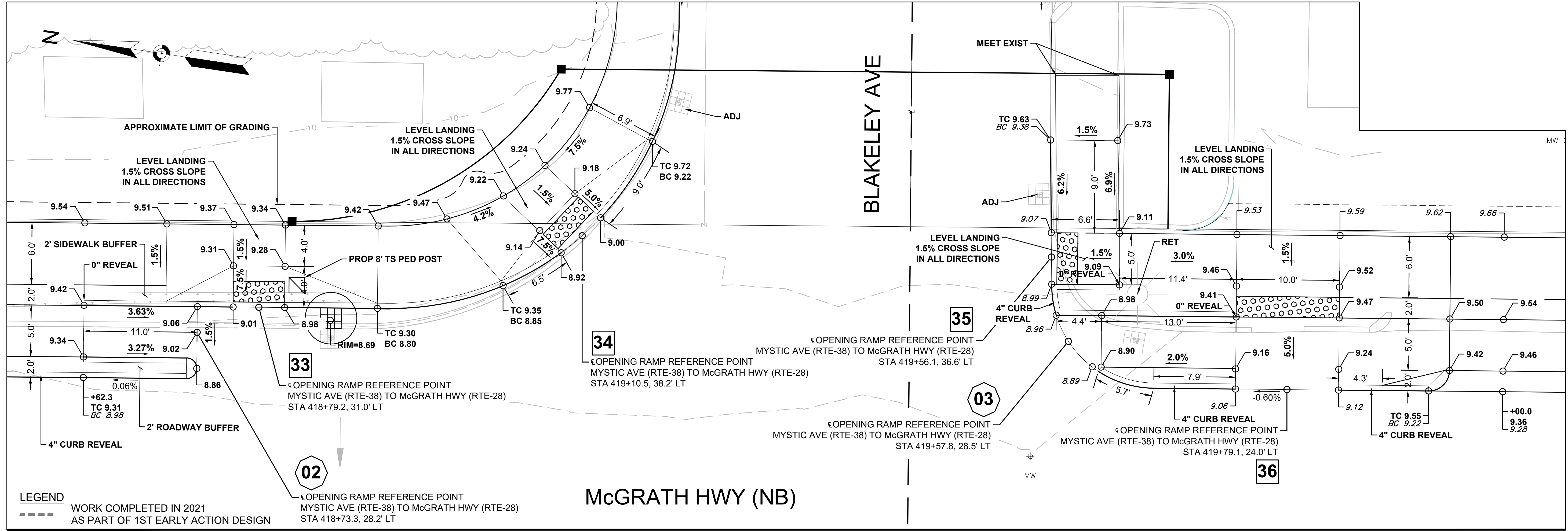
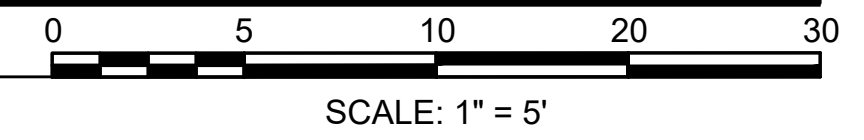
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	141	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



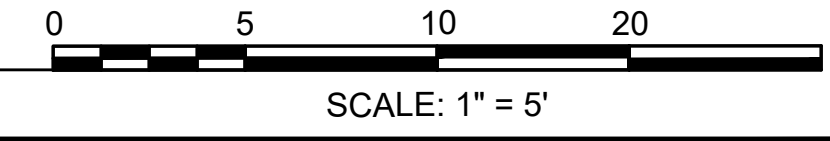
LEGEND  
----- WORK COMPLETED IN 2021  
AS PART OF 1ST EARLY ACTION DESIGN

PEDESTRIAN CURB RAMPS #37 AND #38  
SCALE: 1" = 5'



LEGEND  
----- WORK COMPLETED IN 2021  
AS PART OF 1ST EARLY ACTION DESIGN

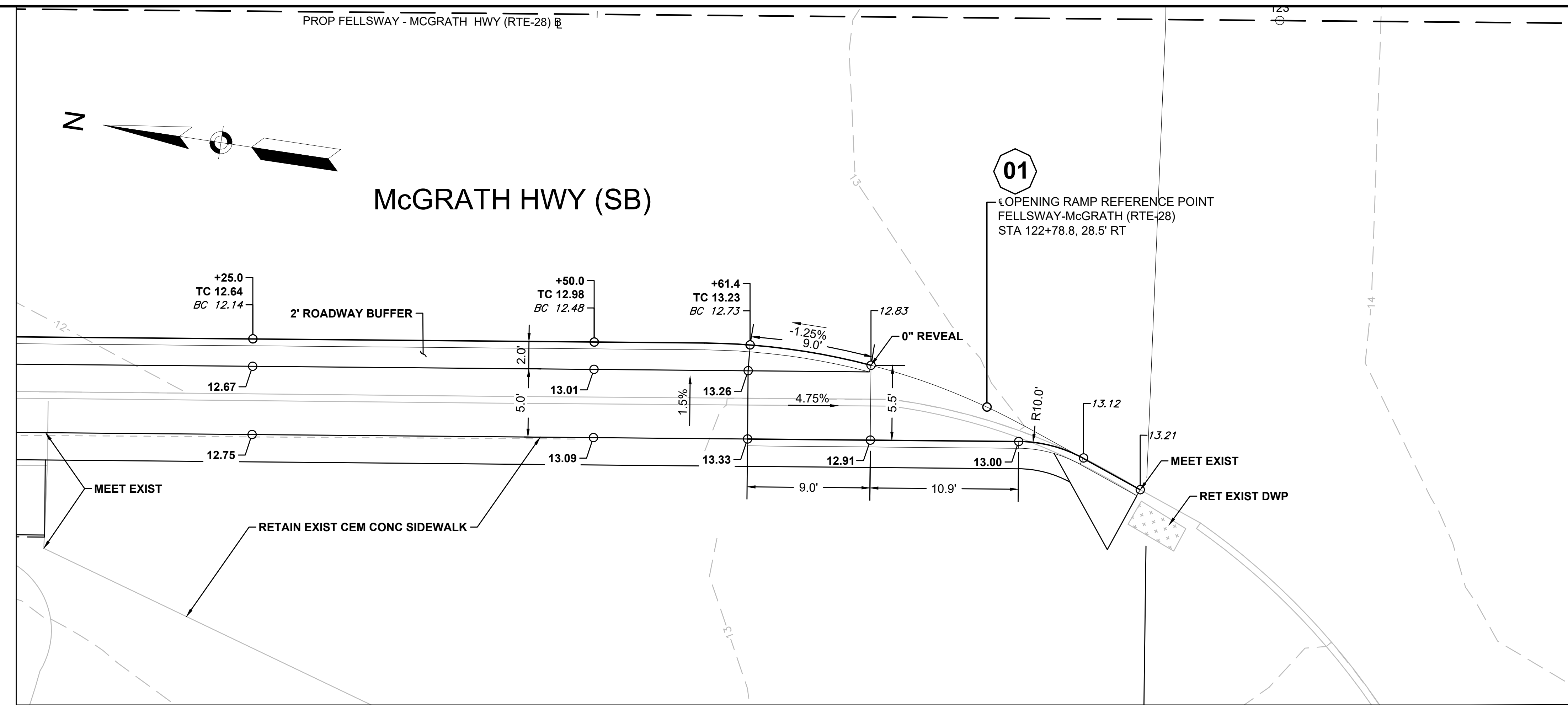
PEDESTRIAN CURB RAMPS #33, #34, #35 AND #36 / SEPARATED BIKE LANE TRANSITION #2 AND #3  
SCALE: 1" = 5'



SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	142	205
PROJECT FILE NO.		608562	

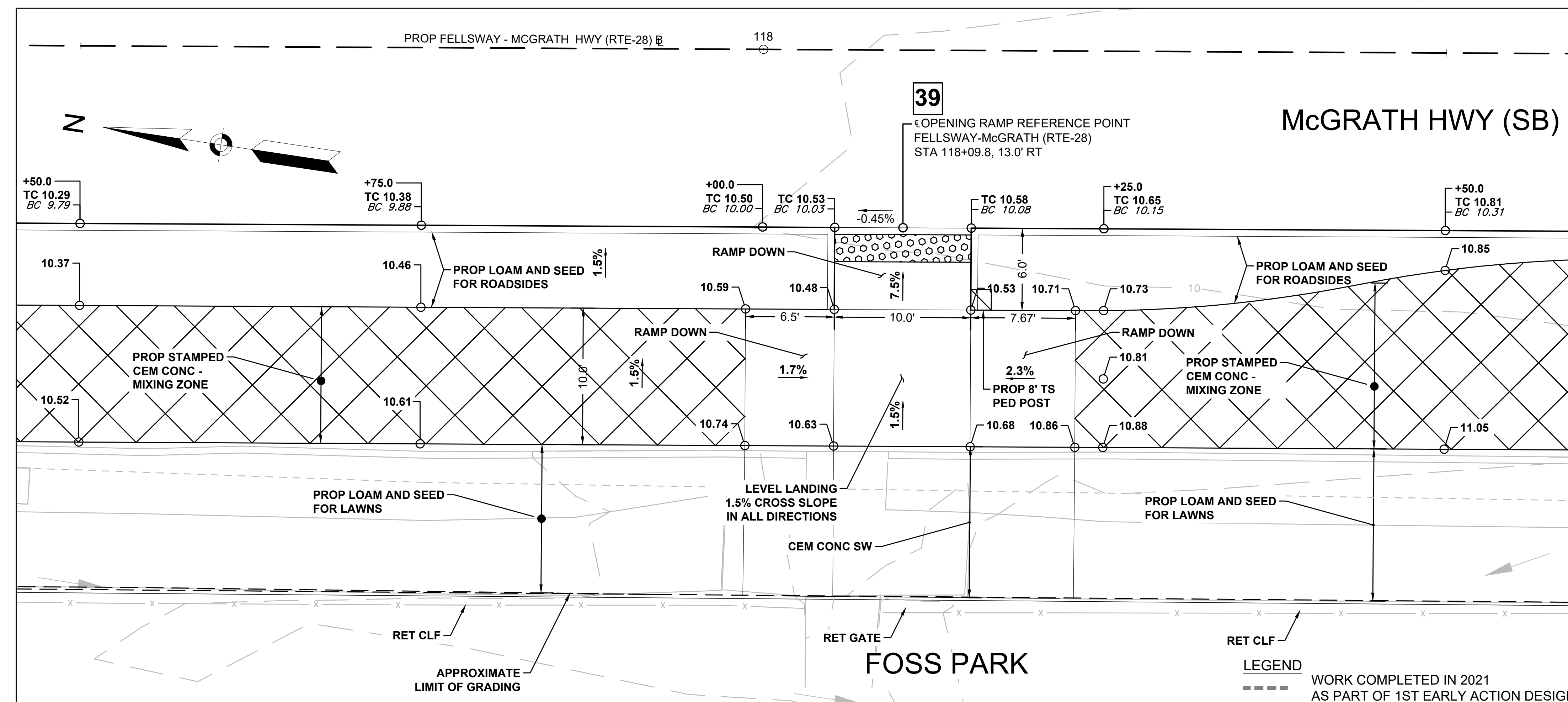
PEDESTRIAN CURB RAMP DETAILS



SEPARATED BIKE LANE TRANSITION #1

SCALE: 1" = 5'

SCALE: 1" = 5'



PEDESTRIAN CURB RAMPS #39

SCALE: 1" = 5'

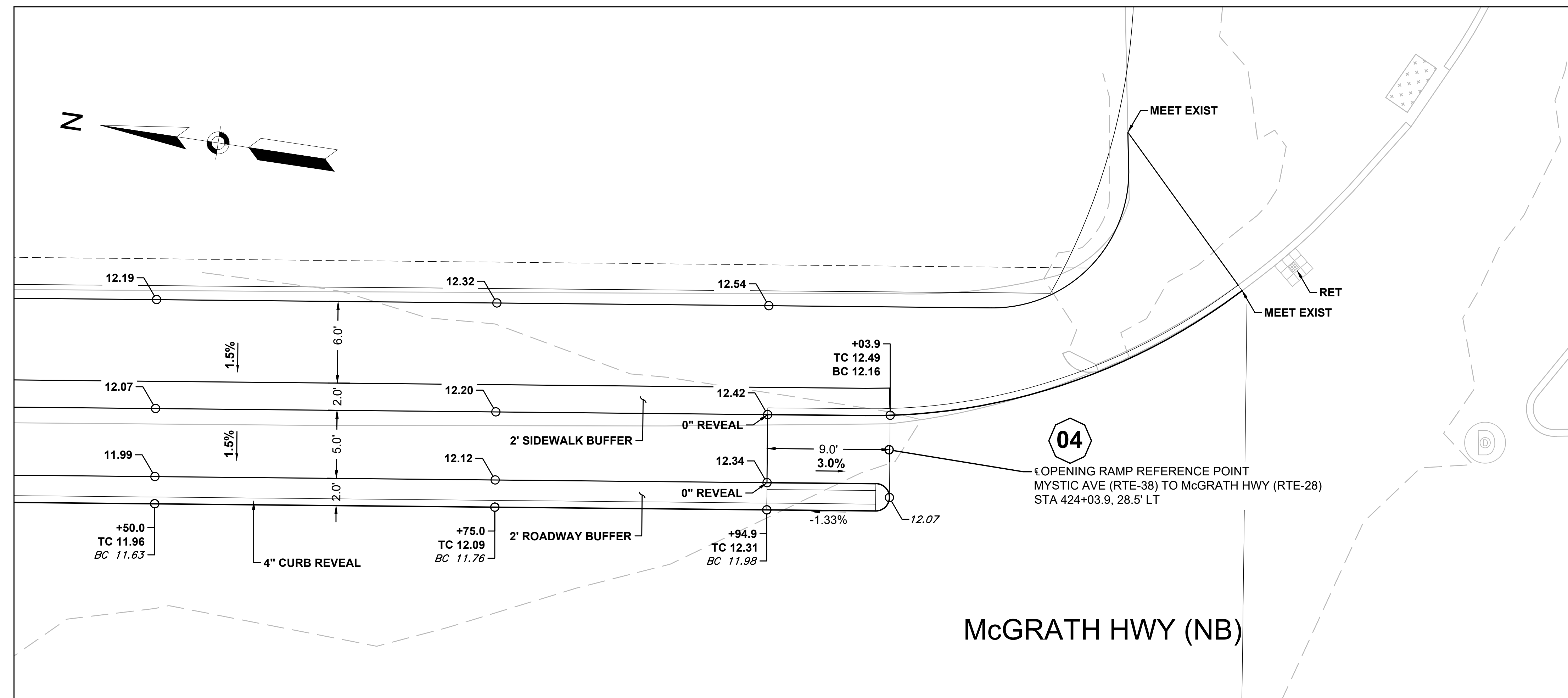
SCALE: 1" = 5'

LEGEND  
--- WORK COMPLETED IN 2021  
--- AS PART OF 1ST EARLY ACTION DESIGN

SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	143	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



SEPARATED BIKE LANE TRANSITION #4

SCALE: 1" = 5'

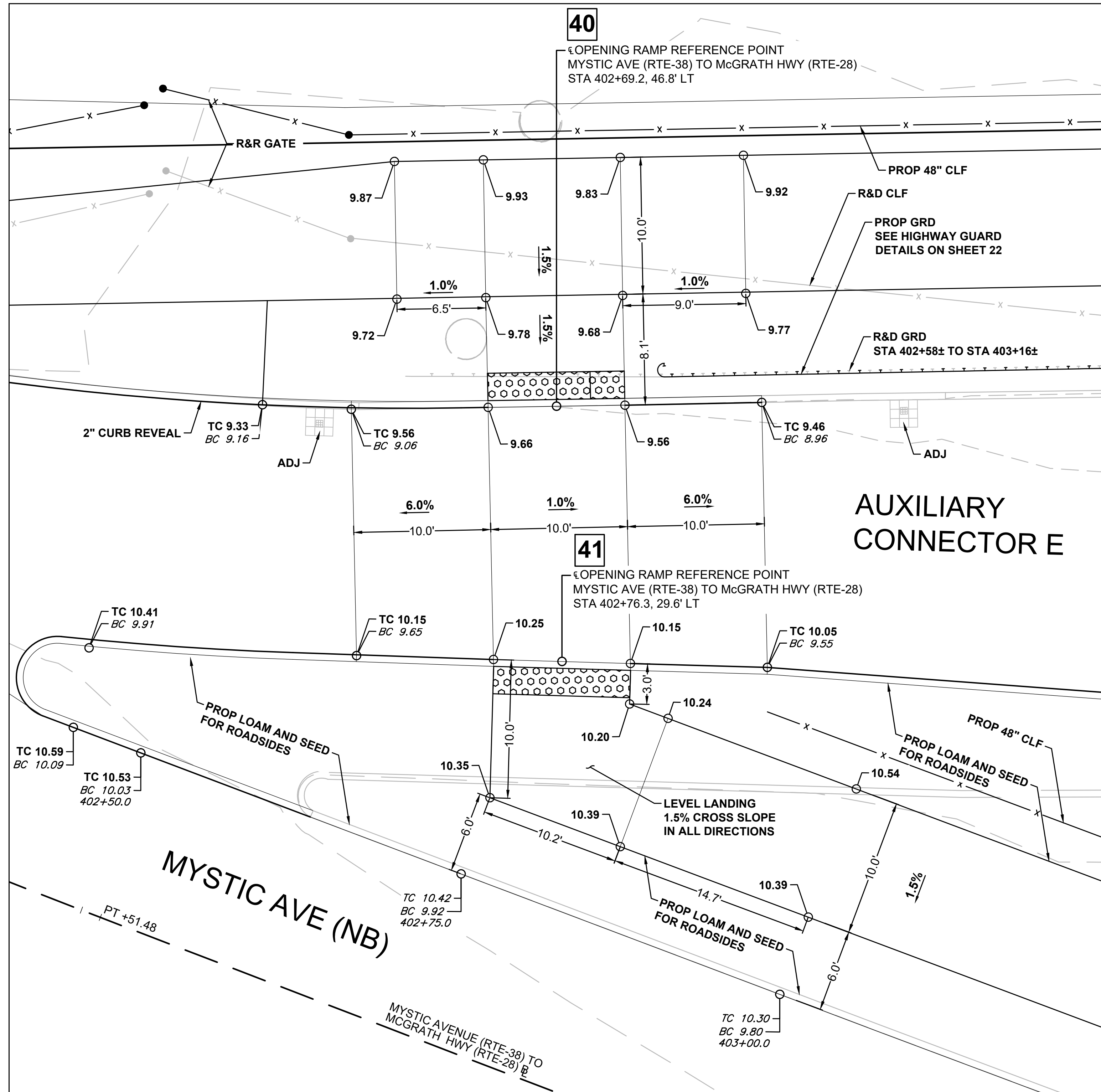
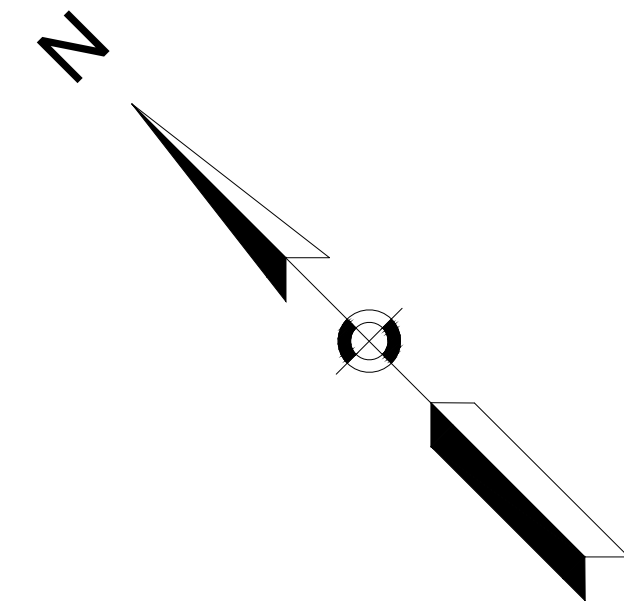
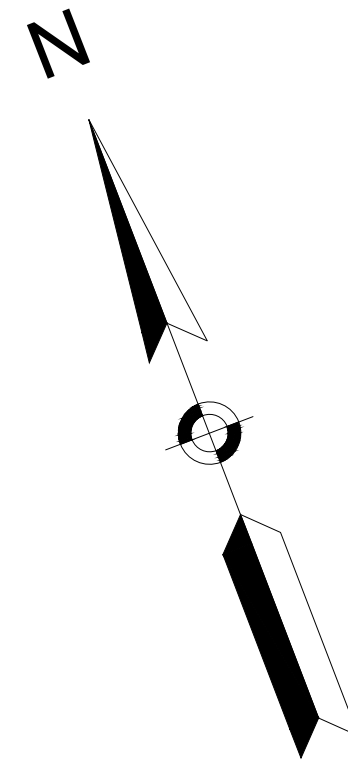


SCALE: 1" = 5'

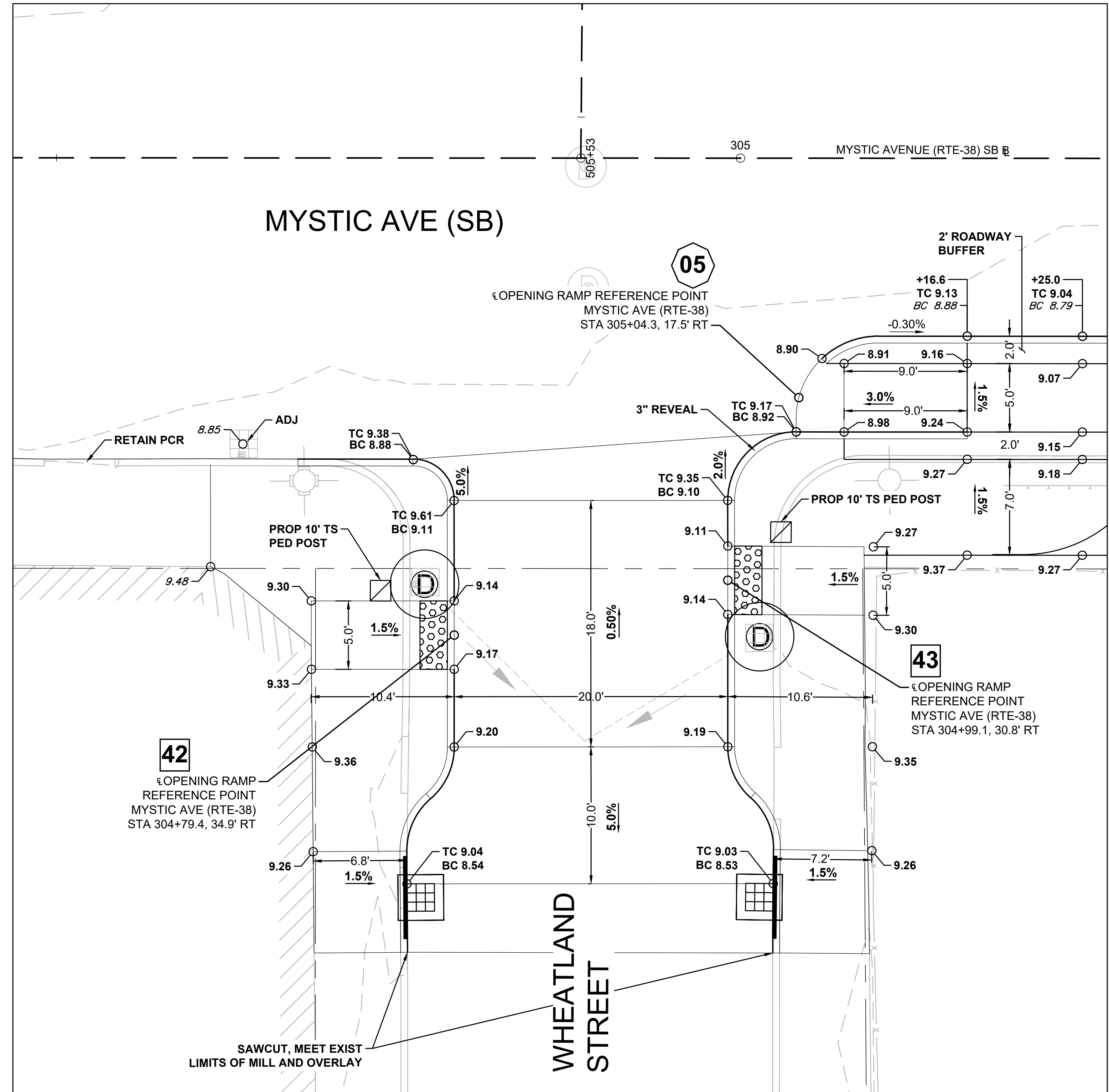
SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	144	205
PROJECT FILE NO.		608562	

PEDESTRIAN CURB RAMP DETAILS



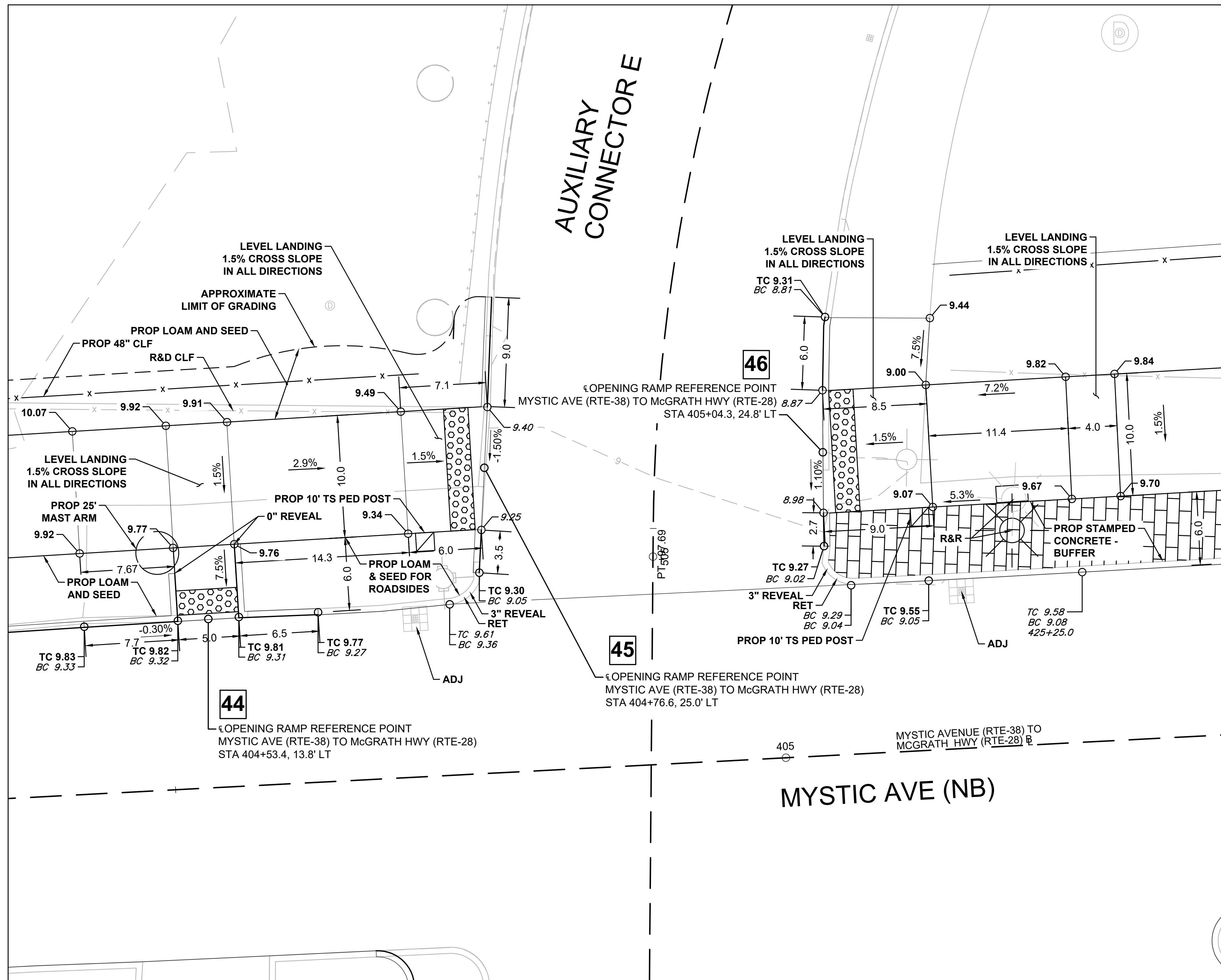
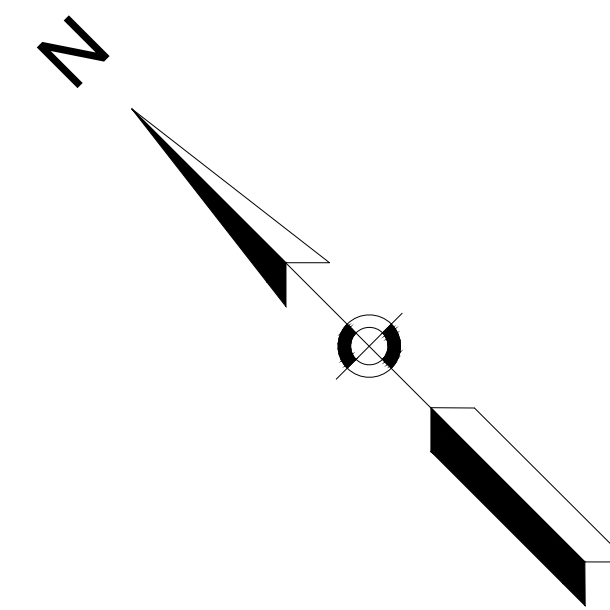
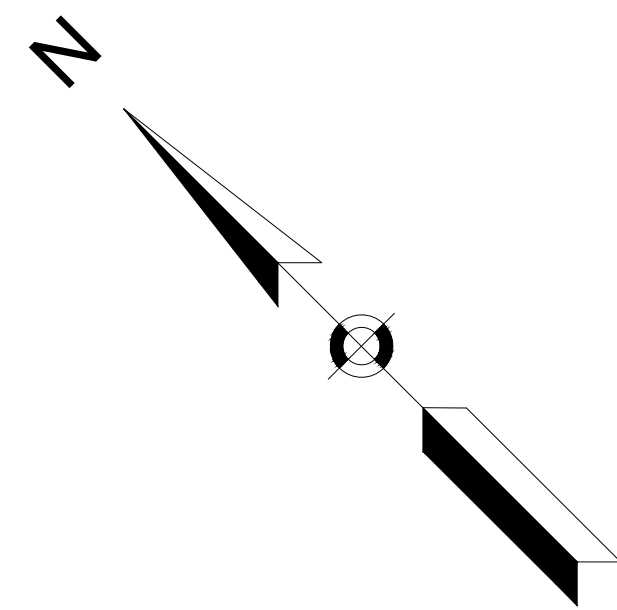
**PEDESTRIAN CURB RAMPS #40 AND #41**  
SCALE: 1" = 5'



**PEDESTRIAN CURB RAMPS #42 AND #43 / SEPARATED BIKE LANE TRANSITION #5**  
SCALE: 1" = 5'

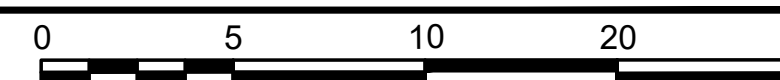


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	145	205
PROJECT FILE NO.		608562	

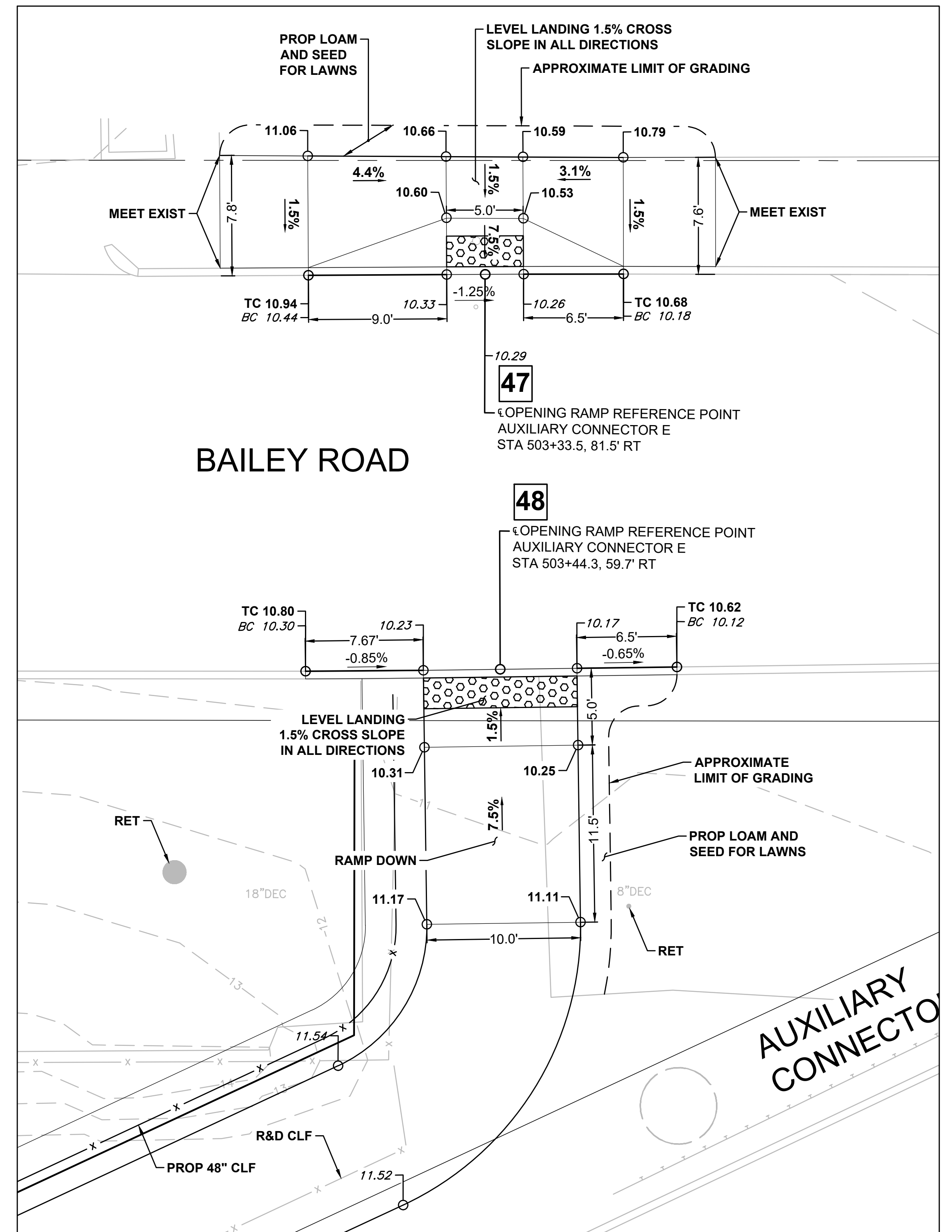


PEDESTRIAN CURB RAMPS #44, #45 AND #46

SCALE: 1" = 5'

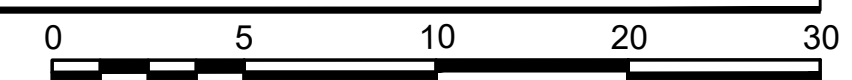


SCALE: 1" = 5'



PEDESTRIAN CURB RAMPS #47 AND #48

SCALE: 1" = 5'

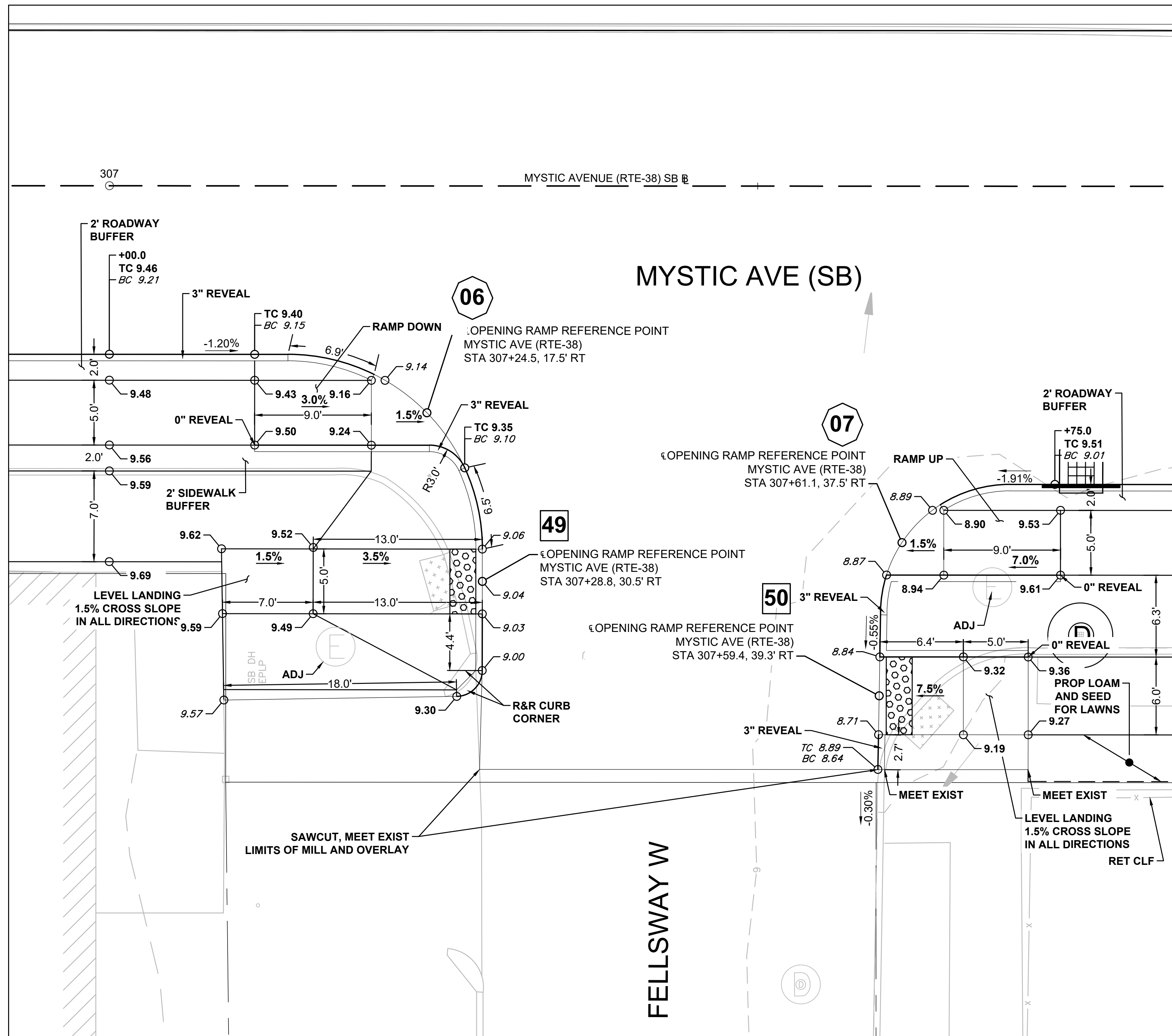
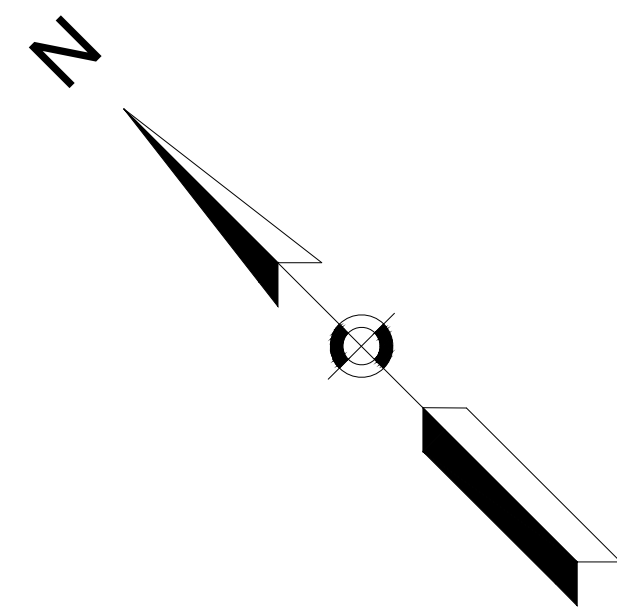


SCALE: 1" = 5'

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	146	205
PROJECT FILE NO.		608562	

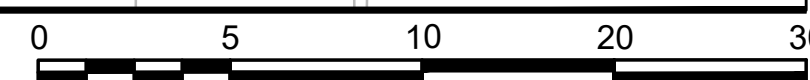
PEDESTRIAN CURB RAMP DETAILS

608562\_HDWCRJ.DWG Plotted on 16-Jul-2024 6:08 PM

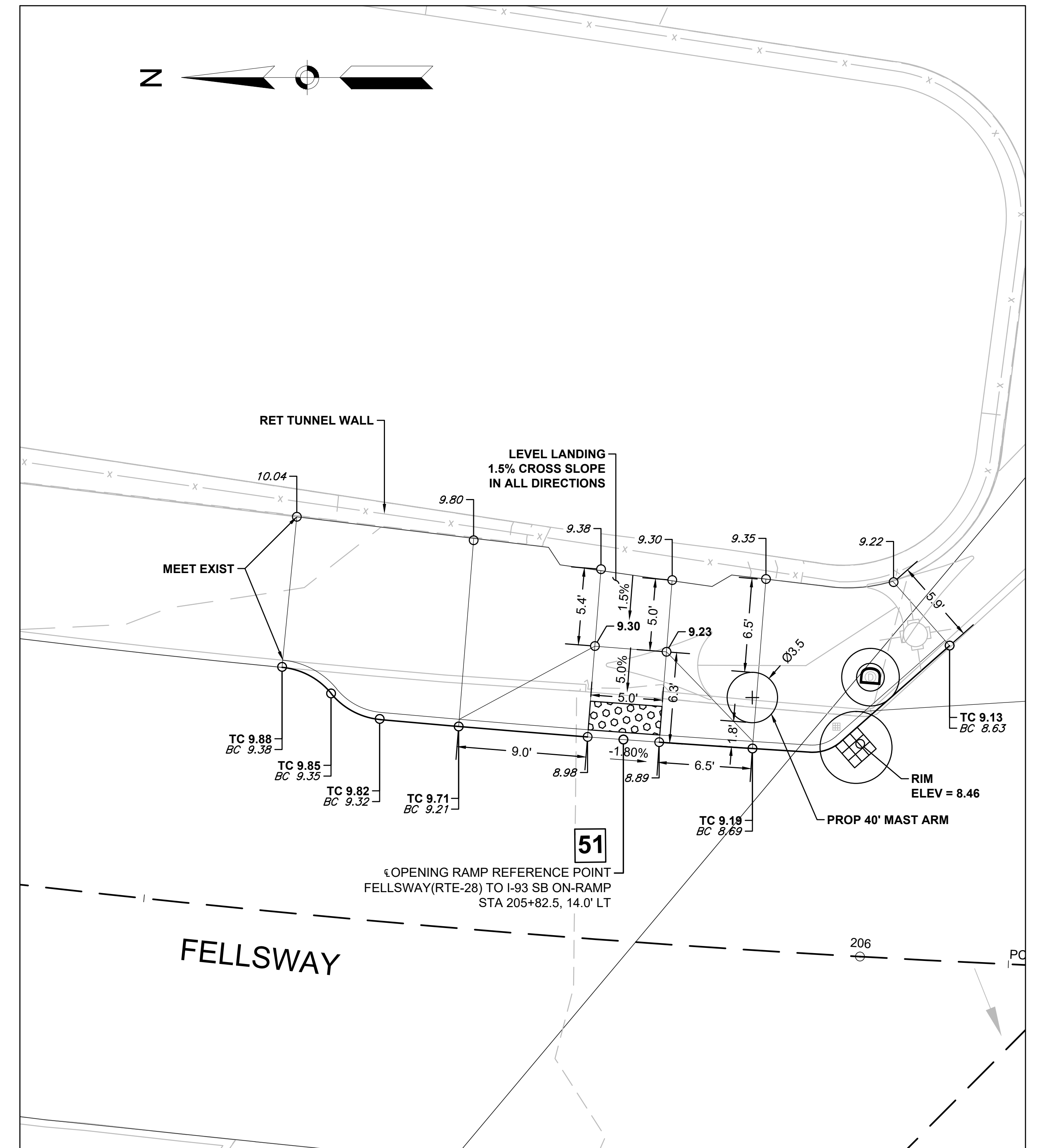


PEDESTRIAN CURB RAMPS #49 AND #50 / SEPARATED BIKE LANE TRANSITION #6 AND #7

SCALE: 1" = 5'

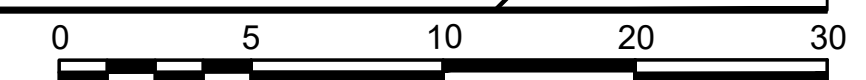


SCALE: 1" = 5'

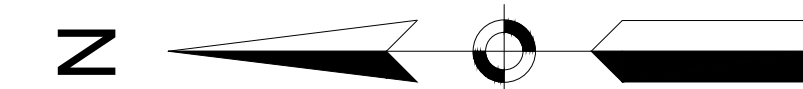


PEDESTRIAN CURB RAMP #51

SCALE: 1" = 5'



SCALE: 1" = 5'

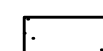
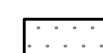


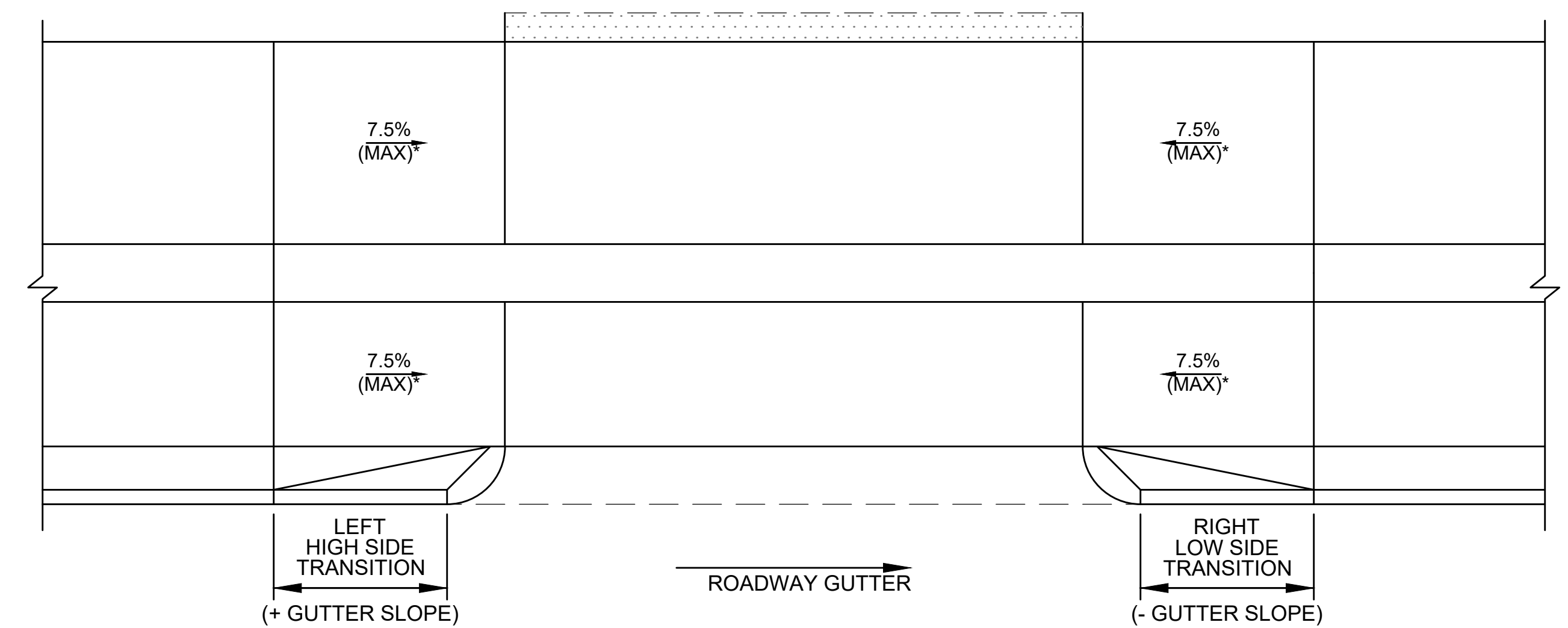
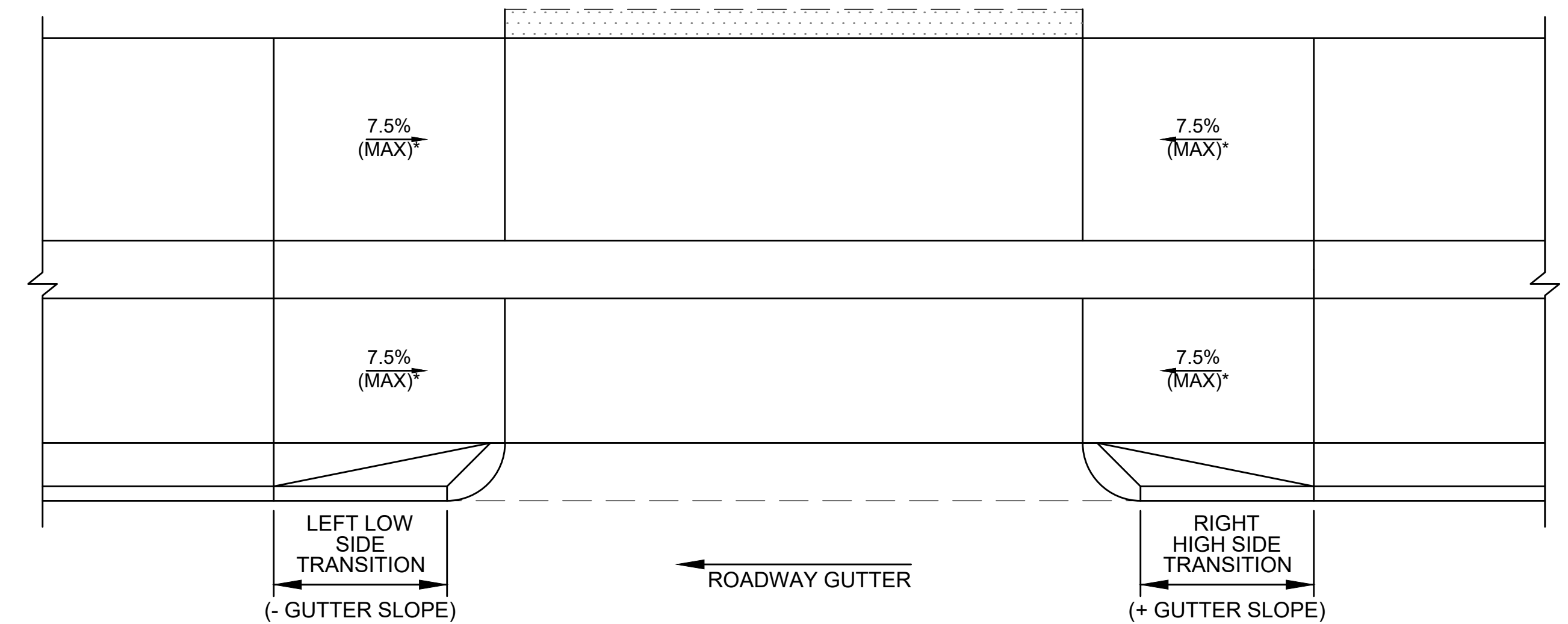
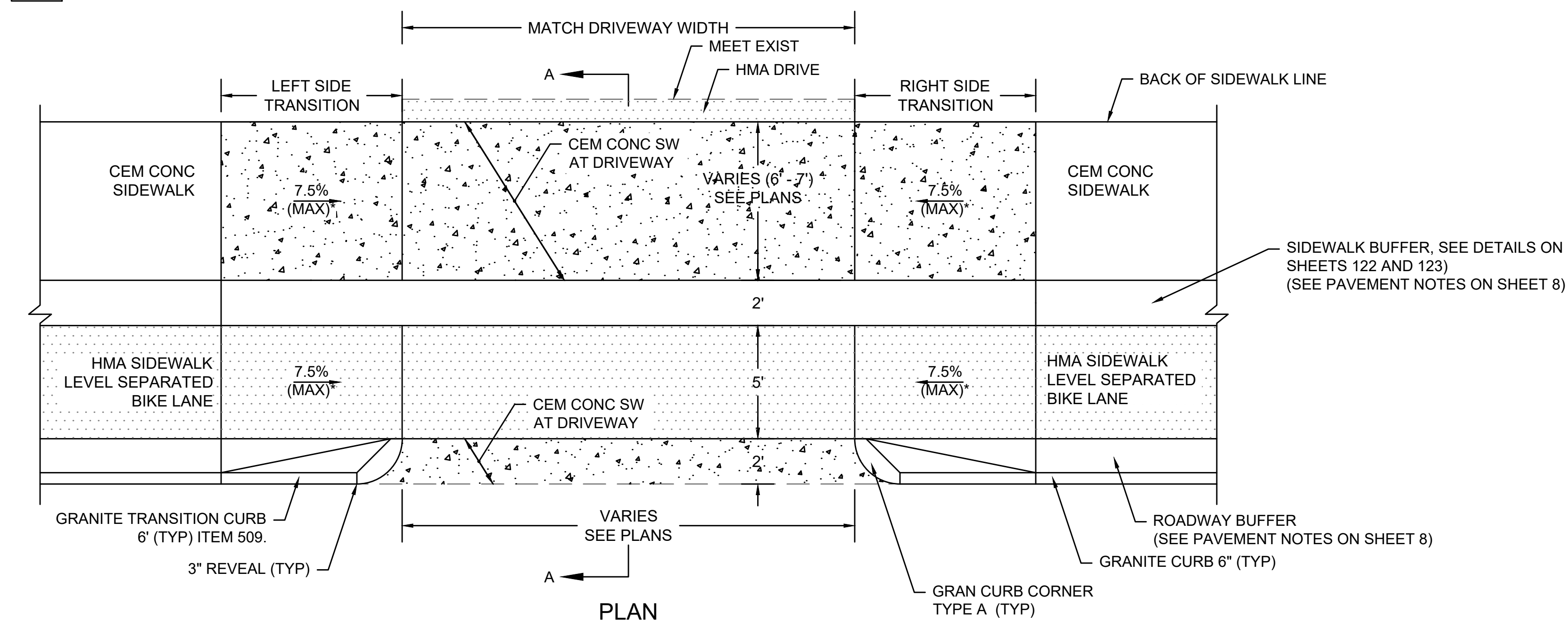
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	147	205
PROJECT FILE NO.		608562	

DRIVEWAY DETAILS

DRIVEWAY TRANSITION CHART										
NO.	LOCATION (REFERENCE POINT)	LEFT SIDE			RIGHT SIDE			DRIVEWAY WIDTH	SIDEWALK WIDTH	BIKE LANE WIDTH
		ROADWAY GUTTER	REVEAL	TRANSITION LENGTH	ROADWAY GUTTER	REVEAL	TRANSITION LENGTH			
MYSTIC AVE (RTE-38) TO McGRATH HWY (RTE-28)										
①	420+12.3, 24.0' LT	-0.91%	4"	6.50'	0.91%	4"	7.67'	35.0'	6.0'	5.0'
②	420+81.8, 24.0' LT	-0.70%	4"	6.50'	0.70%	4"	7.67'	42.5'	6.0'	5.0'
③	421+64.5, 24.0' LT	-0.63%	4"	6.50'	0.63%	4"	7.67'	60.5'	6.0'	5.0'
④	422+94.9, 24.0' LT	-1.80%	4"	6.50'	1.80%	4"	9.00'	30.0'	6.0'	5.0'
MYSTIC AVE (RTE-38)										
⑤	305+98.9, 13.0' RT	0.62%	4"	7.67'	-0.62%	4"	6.50'	20.0'	7.0'	5.0'
⑥	306+38.7, 13.0' RT	0.20%	4"	9.00'	-0.20%	4"	6.50'	21.0'	7.0'	5.0'

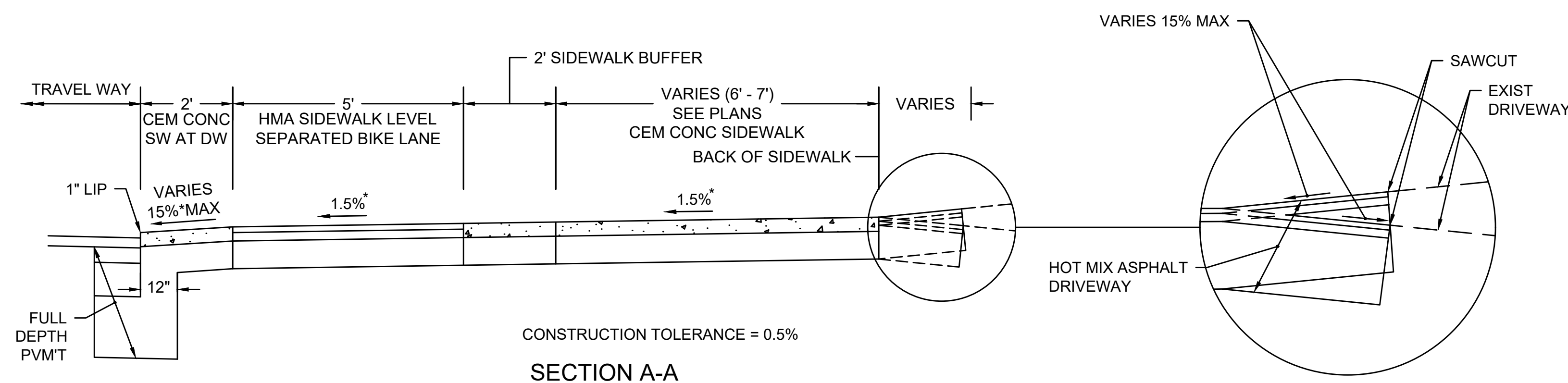
LEGEND

-  LIMITS OF CEMENT CONCRETE DRIVEWAY
-  LIMITS OF HOT MIX ASPHALT



ROADWAY GUTTER SLOPES EXPLANATORY DIAGRAM FOR DRIVEWAY DATA CHARTS

SCALE: N.T.S.



\* CONSTRUCTION TOLERANCE = 0.5%

DRIVEWAY WITH ROADWAY BUFFER, HMA SIDEWALK LEVEL SEPARATED BIKE LANE, SIDEWALK BUFFER, SIDEWALK AND GRANITE CURB CORNER

SCALE: N.T.S.

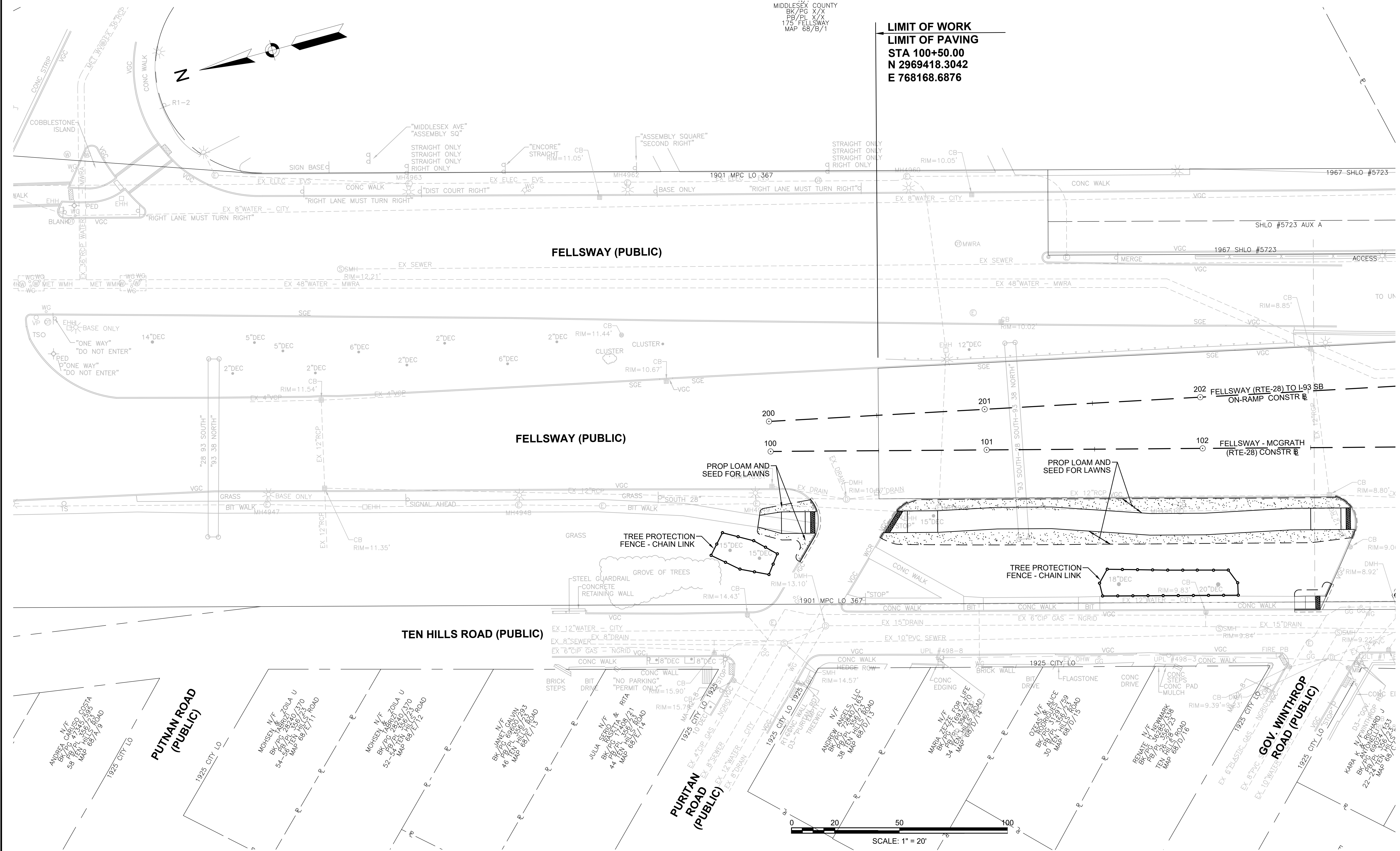
STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	148	205

PROJECT FILE NO. 608562

LANDSCAPE PLANS

MIDDLESEX COUNTY  
 BK/PG X/X  
 PB/PL X/X  
 175 FELLSWAY  
 MAP 68/B/1

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 100+50.00**  
**N 2969418.3042**  
**E 768168.6876**

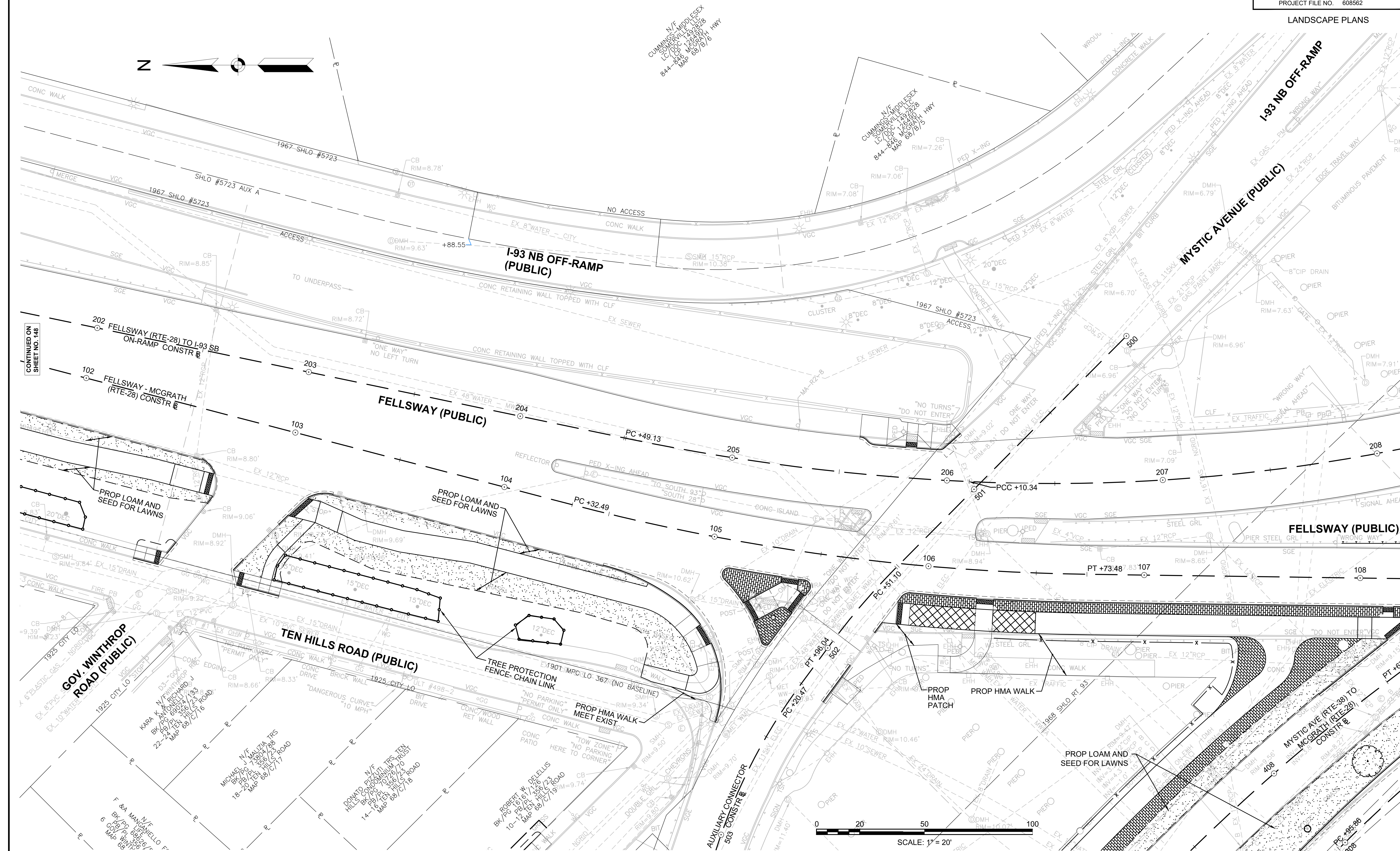


CONTINUED ON  
 SHEET NO. 149

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	149	205

PROJECT FILE NO. 608562

LANDSCAPE PLANS



N/V  
 CUMMINGS-MIDDLESEX  
 844-446-2400  
 Map 88/17/16

N/V  
 CUMMINGS-MIDDLESEX  
 844-446-2400  
 Map 88/17/16

CONTINUED ON  
 SHEET NO. 148

CONTINUED ON  
 SHEET NO. 150

CONTINUED ON  
 SHEET NO. 155

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	150	205

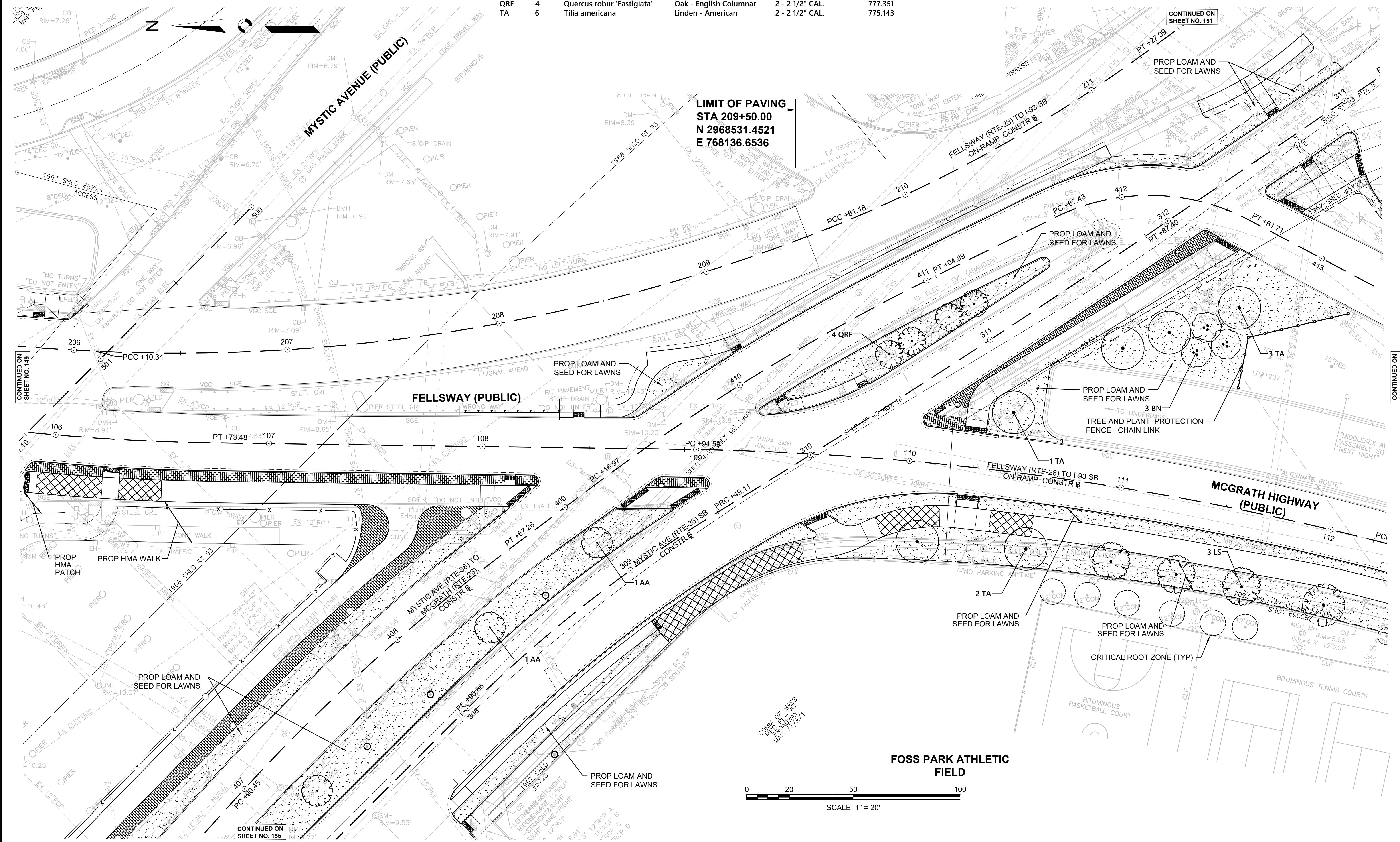
PROJECT FILE NO. 608562

LANDSCAPE PLANS

PLANT SCHEDULE SHEET 3

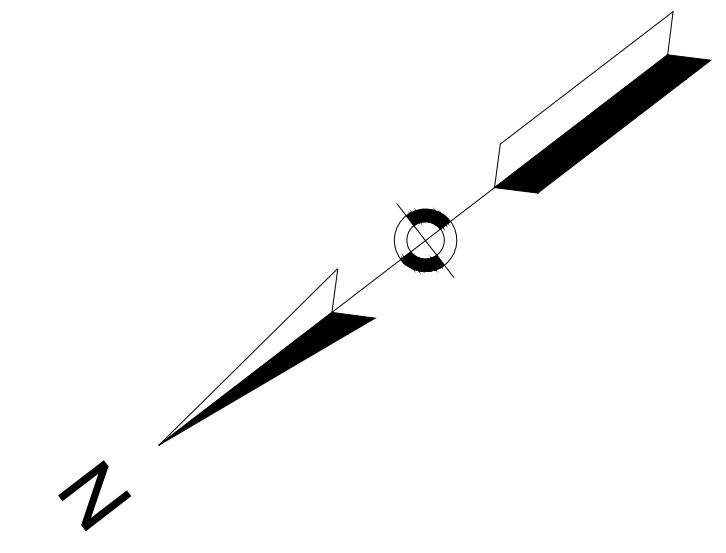
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
AA	2	Acer x fremanii 'Armstrong'	Maple - Red - Armstrong	2 1/2 - 3" CAL.	776.525
BN	3	Betula nigra 'Heritage'	Birch - Heritage Clump	8 - 10' HT., CLUMP	778.161
LS	3	Liquidambar styraciflua	Sweetgum - Fruitless	2 - 2 1/2" CAL.	777.673
QRF	4	Quercus robur 'Fastigiata'	Oak - English Columnar	2 - 2 1/2" CAL.	777.351
TA	6	Tilia americana	Linden - American	2 - 2 1/2" CAL.	775.143

**LIMIT OF PAVING**  
 STA 209+50.00  
 N 2968531.4521  
 E 768136.6536



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	151	205

PROJECT FILE NO. 608562  
 LANDSCAPE PLANS

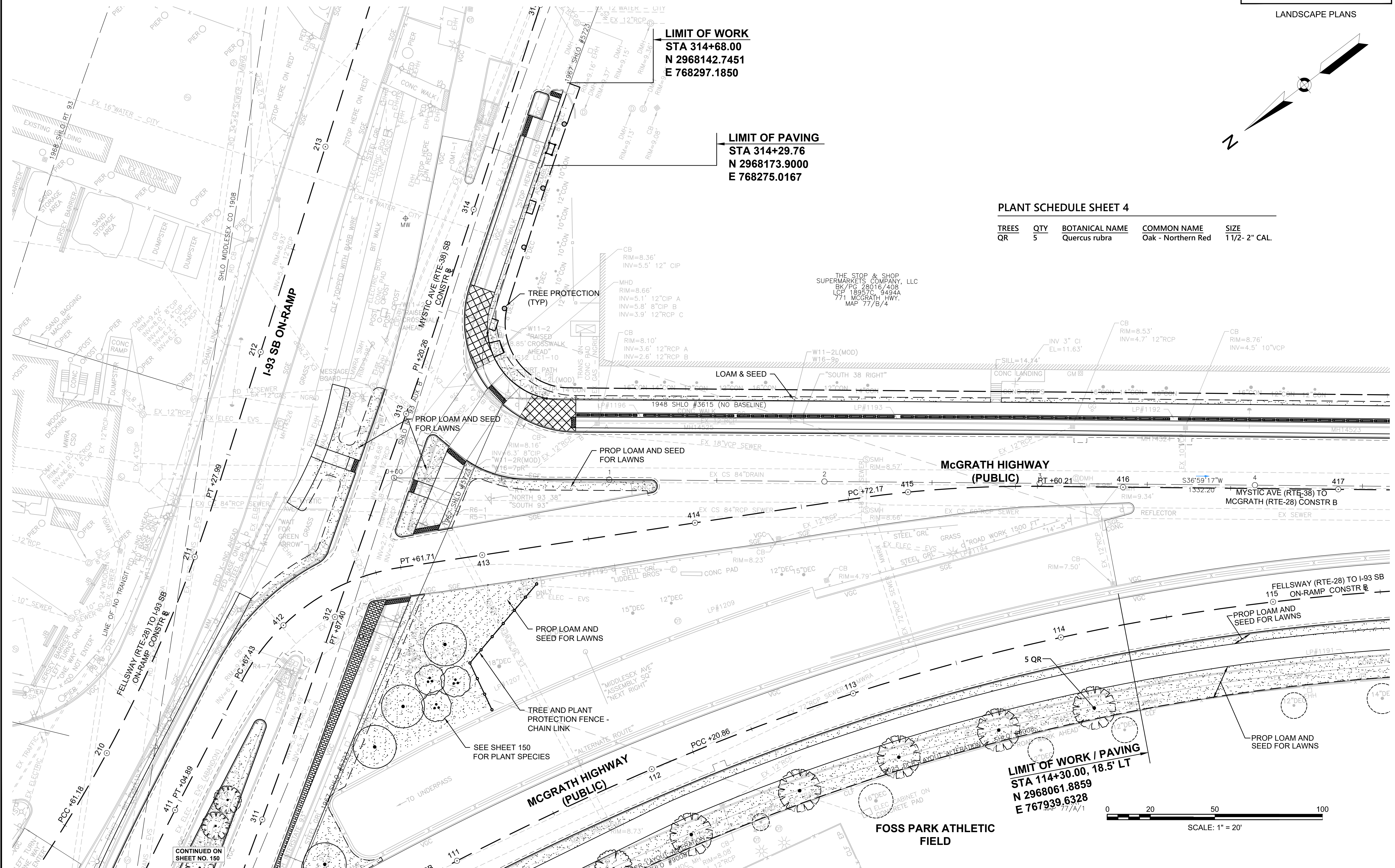


**LIMIT OF WORK**  
 STA 314+68.00  
 N 2968142.7451  
 E 768297.1850

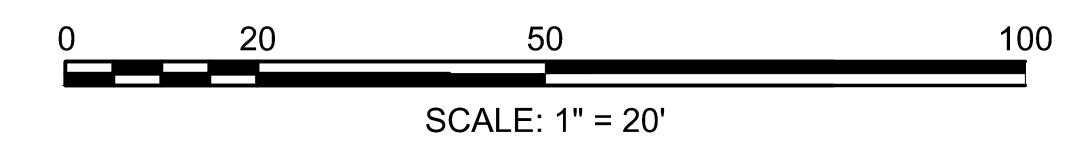
**LIMIT OF PAVING**  
 STA 314+29.76  
 N 2968173.9000  
 E 768275.0167

**PLANT SCHEDULE SHEET 4**

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
QR	5	Quercus rubra	Oak - Northern Red	1 1/2 - 2" CAL.



**LIMIT OF WORK / PAVING**  
 STA 114+30.00, 18.5' LT  
 N 2968061.8859  
 E 767939.6328



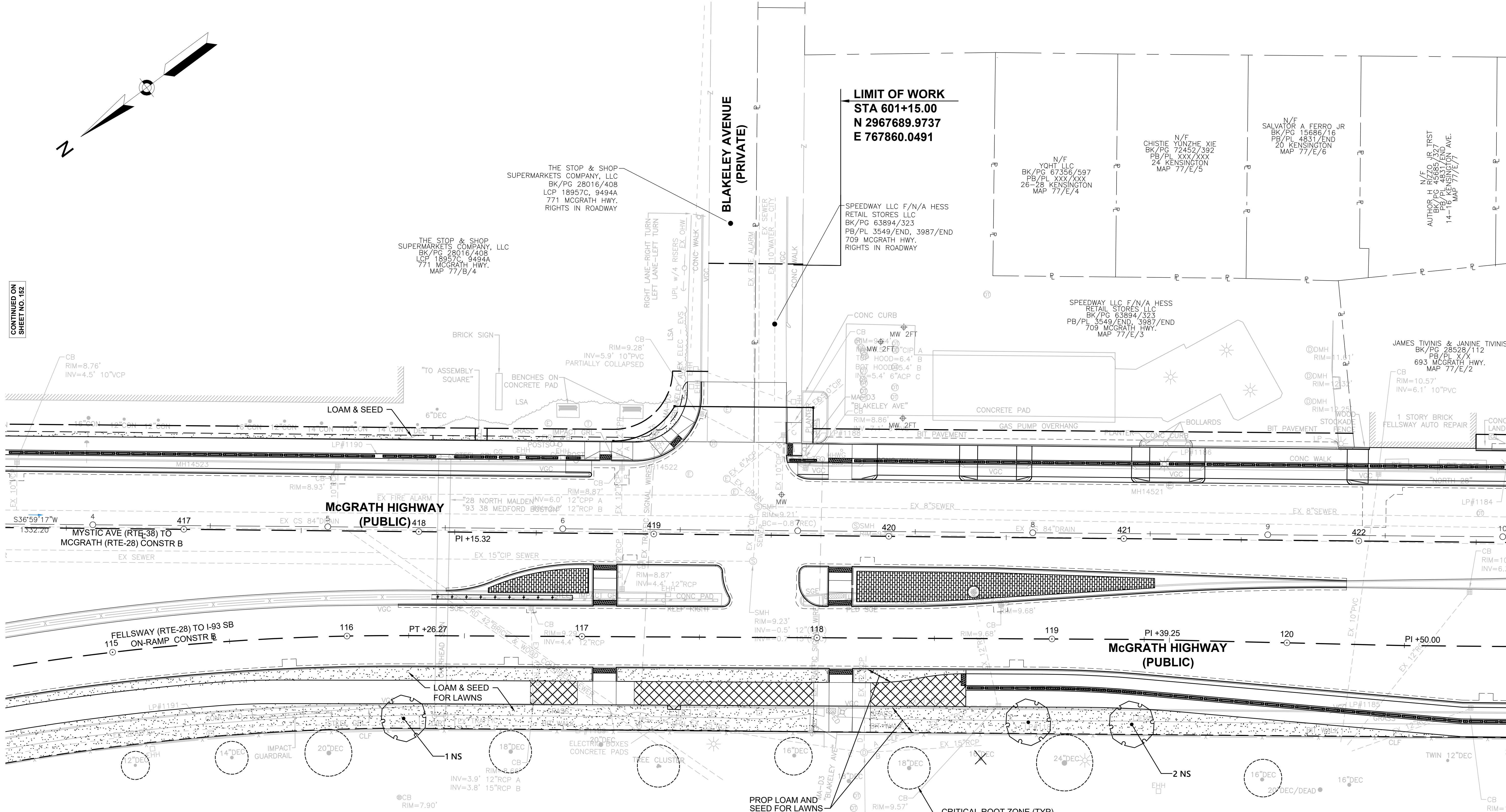
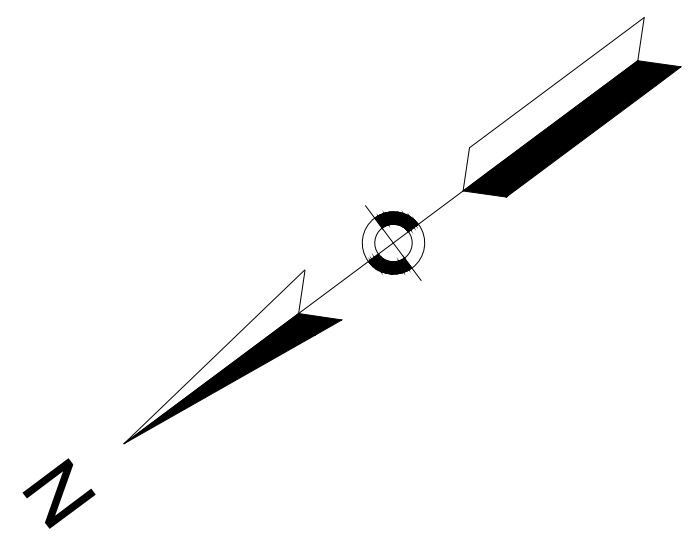
CONTINUED ON  
 SHEET NO. 150

CONTINUED ON  
 SHEET NO. 152

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	152	205

PROJECT FILE NO. 608562

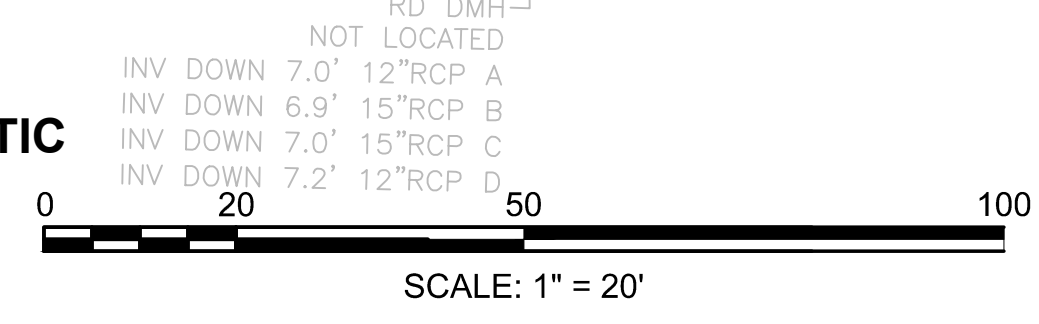
LANDSCAPE PLANS



CONTINUED ON  
 SHEET NO. 152

CONTINUED ON  
 SHEET NO. 153

**FOSS PARK ATHLETIC FIELD**  
 COMM OF MASS  
 MFC PL-157  
 BROADWAY  
 MAP 77/A/1



**PLANT SCHEDULE SHEET 5**

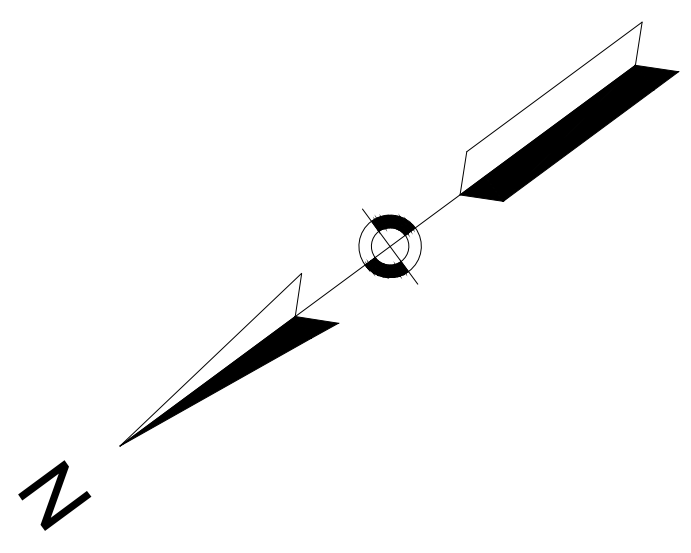
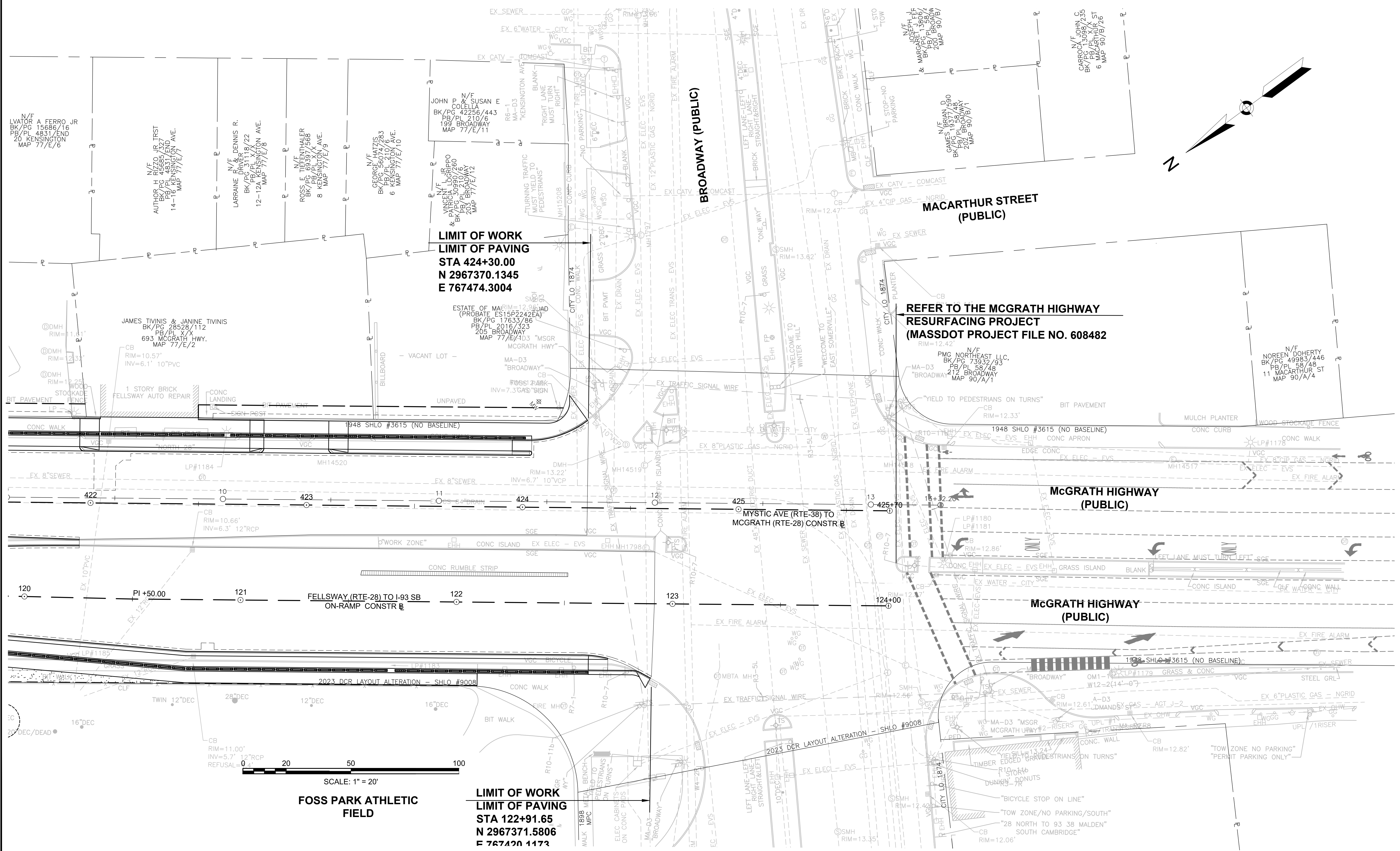
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
NS	3	Nyssa sylvatica	Tupelo - Black	2 - 2 1/2" CAL.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	153	205

PROJECT FILE NO. 608562

LANDSCAPE PLANS

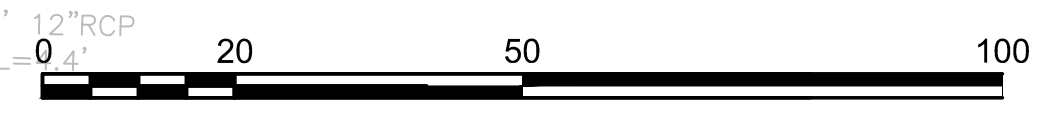


**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 424+30.00**  
**N 2967370.1345**  
**E 767474.3004**

**REFER TO THE MCGRATH HIGHWAY**  
**RESURFACING PROJECT**  
**(MASSDOT PROJECT FILE NO. 608482)**

**LIMIT OF WORK**  
**LIMIT OF PAVING**  
**STA 122+91.65**  
**N 2967371.5806**  
**E 767470.1173**

**FOSS PARK ATHLETIC**  
**FIELD**

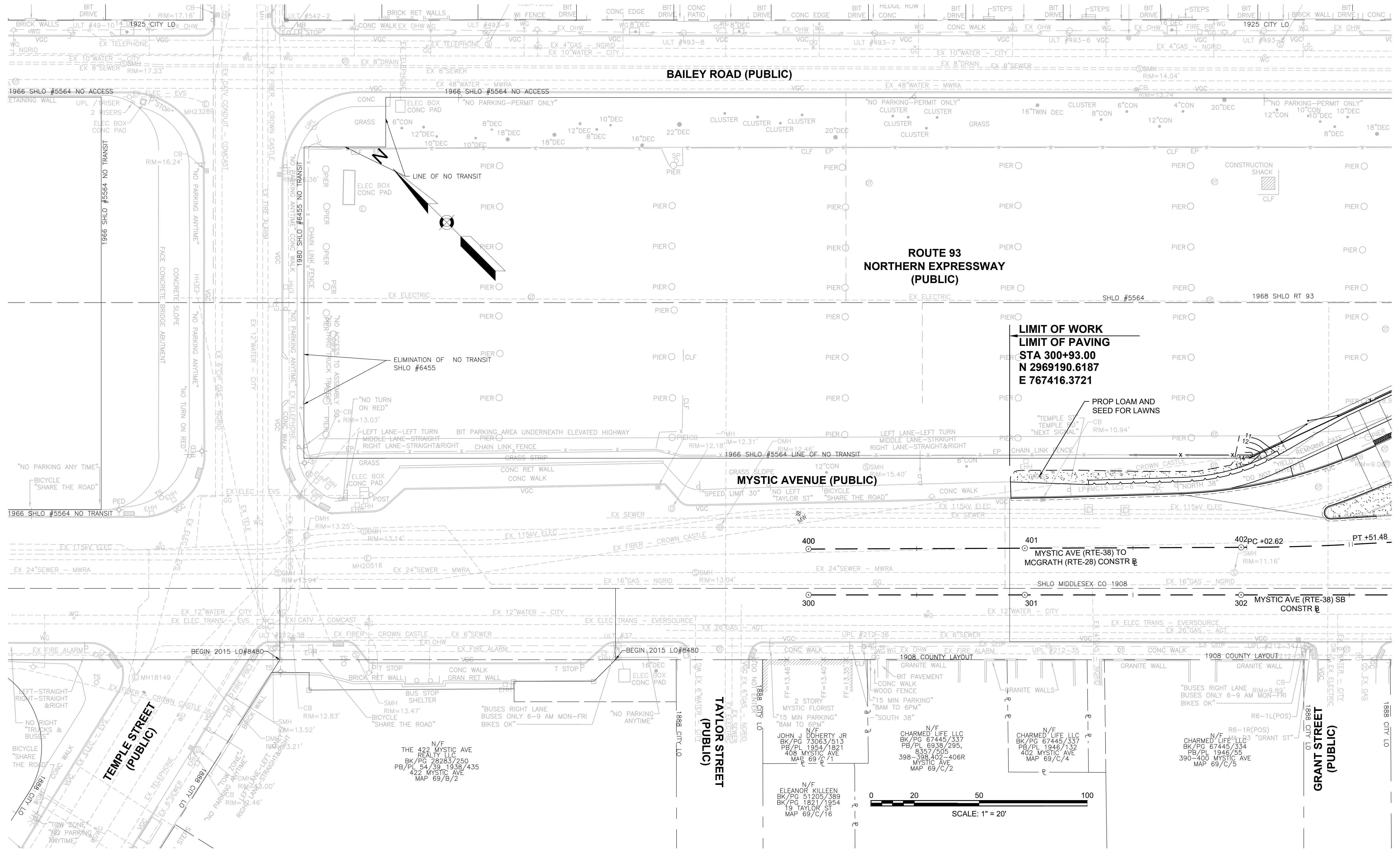


CONTINUED ON SHEET NO. 152

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	154	205

PROJECT FILE NO. 608562

LANDSCAPE PLANS

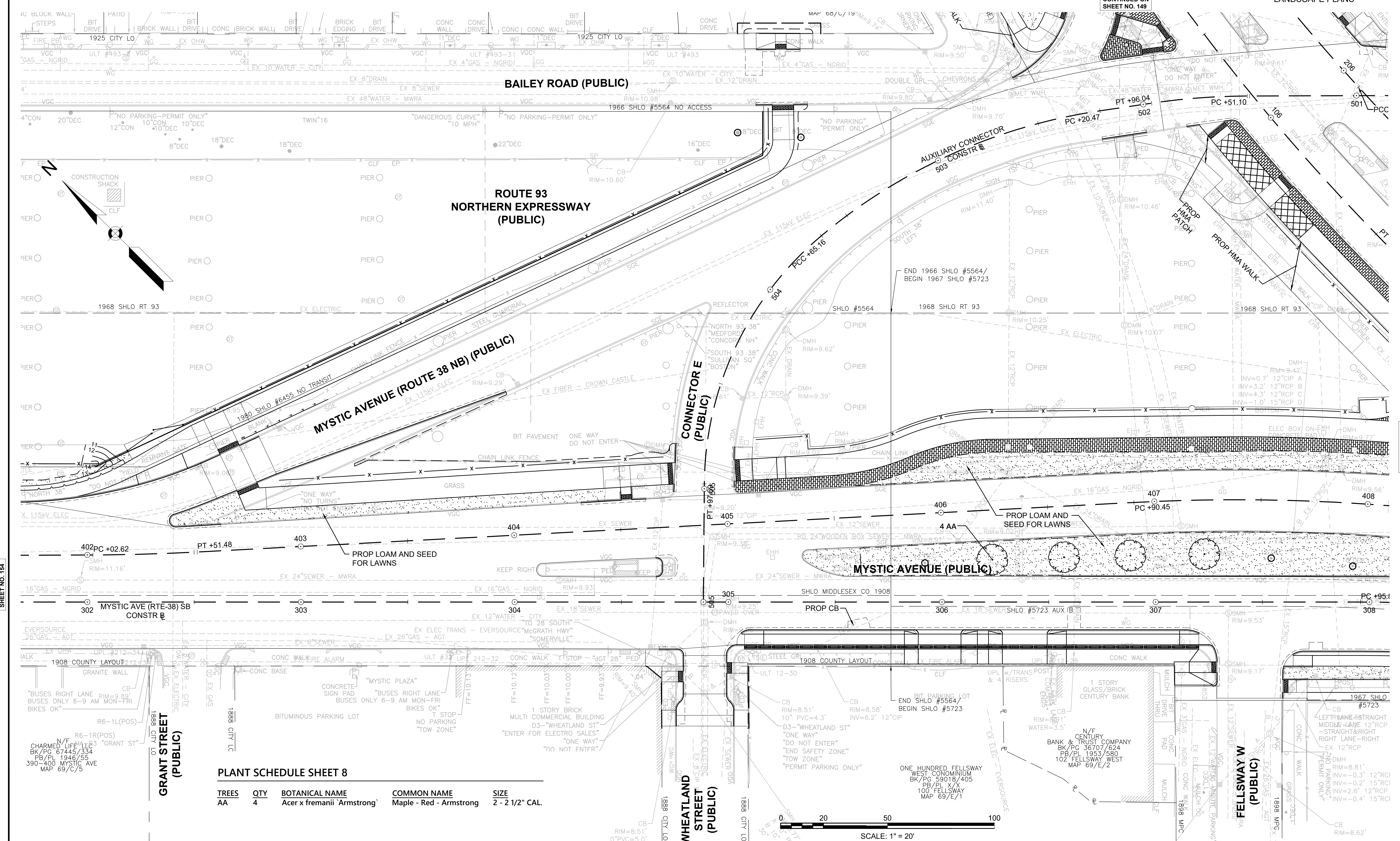


CONTINUED ON  
 SHEET NO. 155

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	155	205

PROJECT FILE NO. 608562

LANDSCAPE PLANS



PLANT SCHEDULE SHEET 8

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AA	4	Acer x fremanii 'Armstrong'	Maple - Red - Armstrong	2 - 2 1/2" CAL.

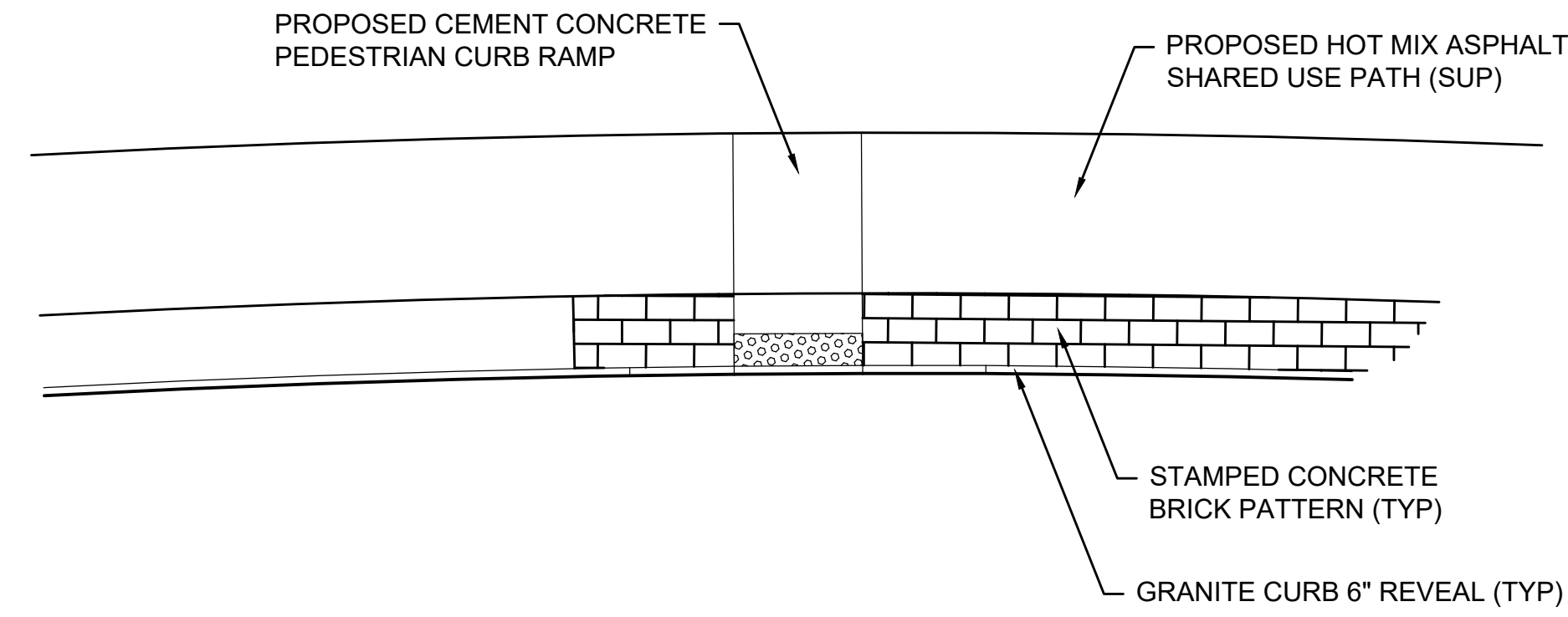
CONTINUED ON SHEET NO. 154

CONTINUED ON SHEET NO. 150

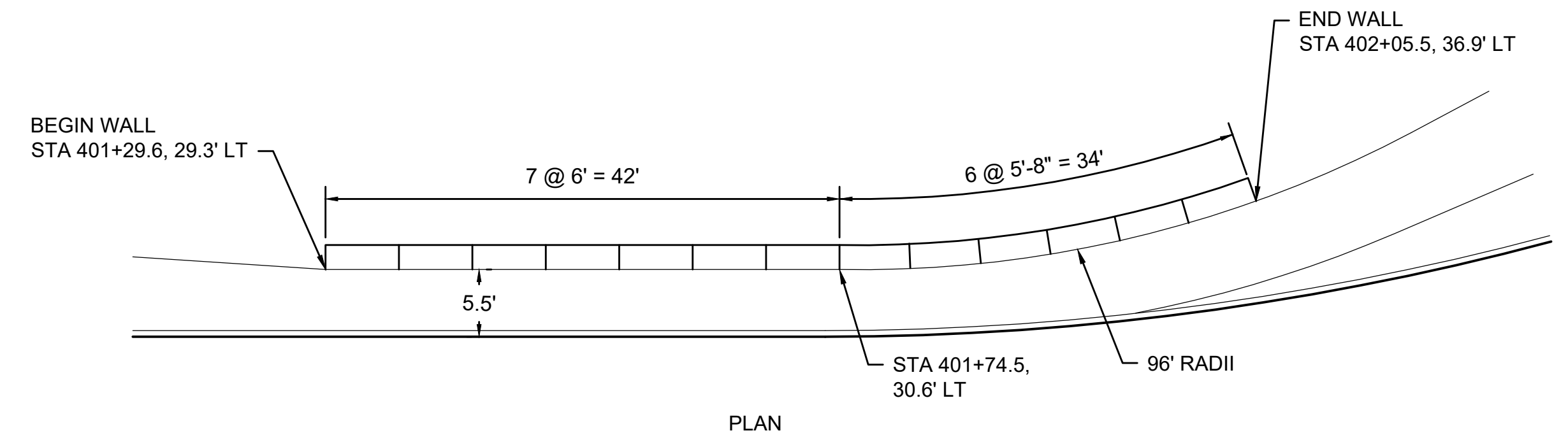
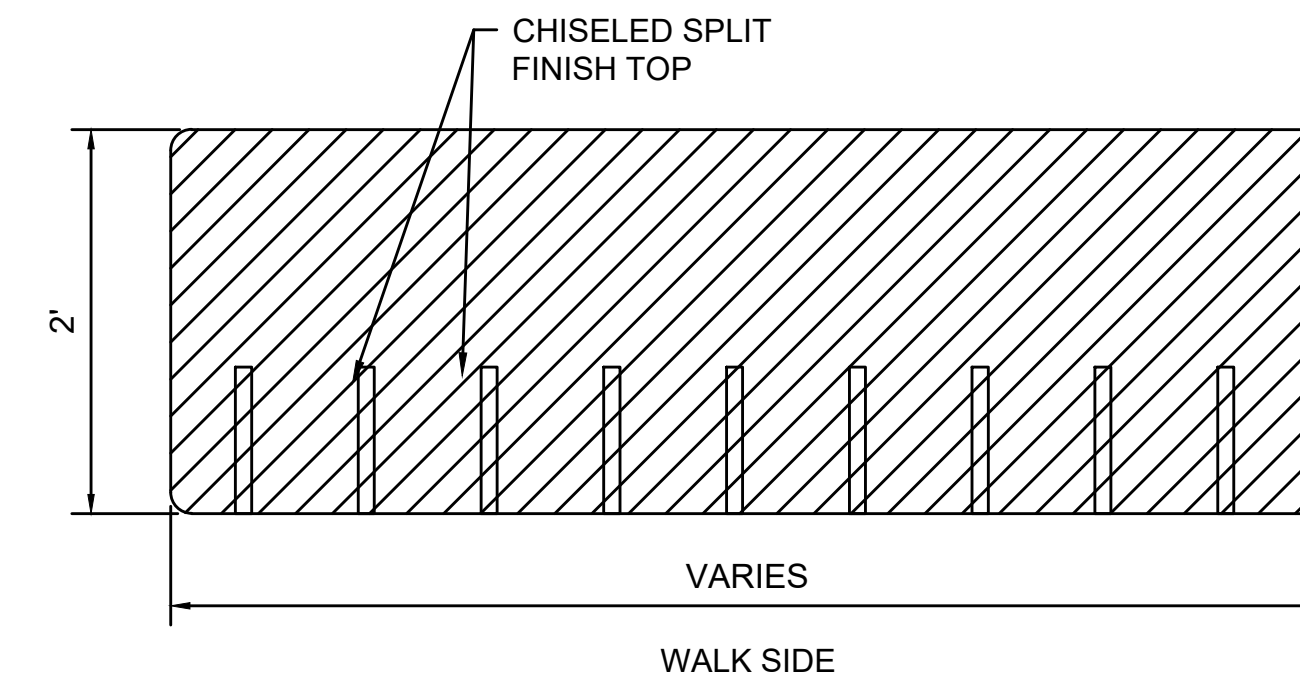
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/HSI(VUS)-003S(762)	156	205
PROJECT FILE NO.		608562	

LANDSCAPE DETAILS

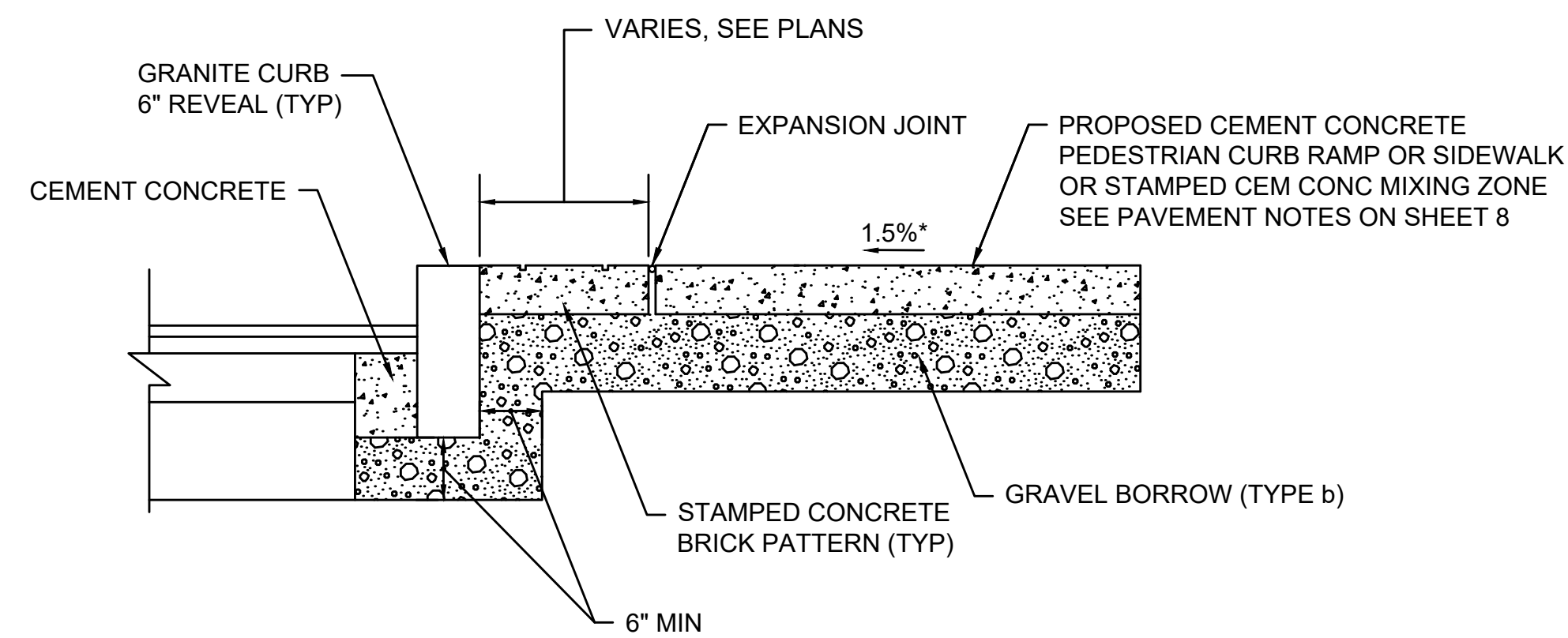
608562\_HDU(A-DET).DWG Plotted on 16-Jul-2024 6:16 PM



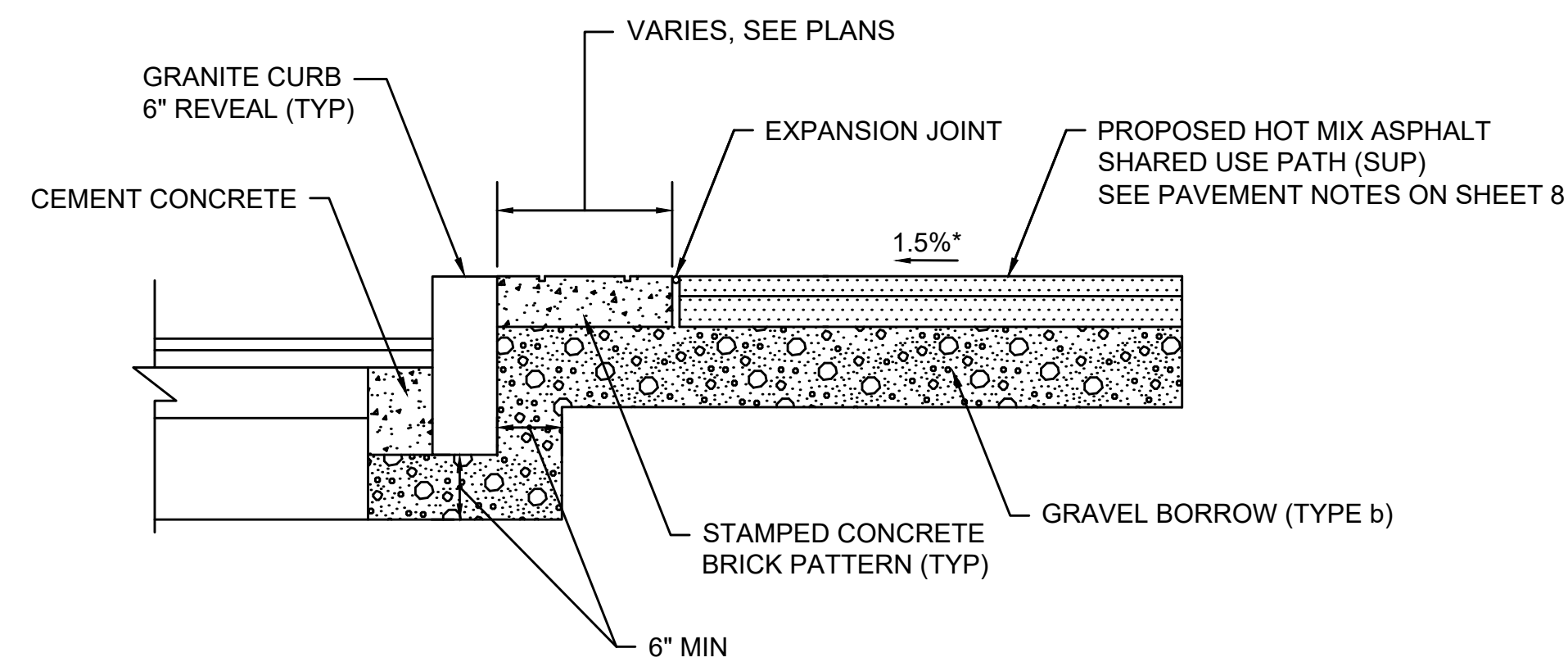
PLAN VIEW



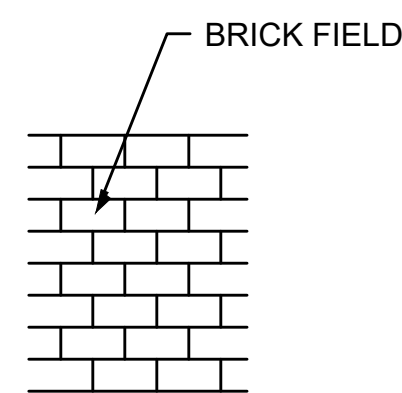
PLAN



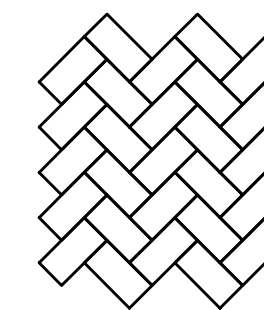
SECTION VIEW



SECTION VIEW

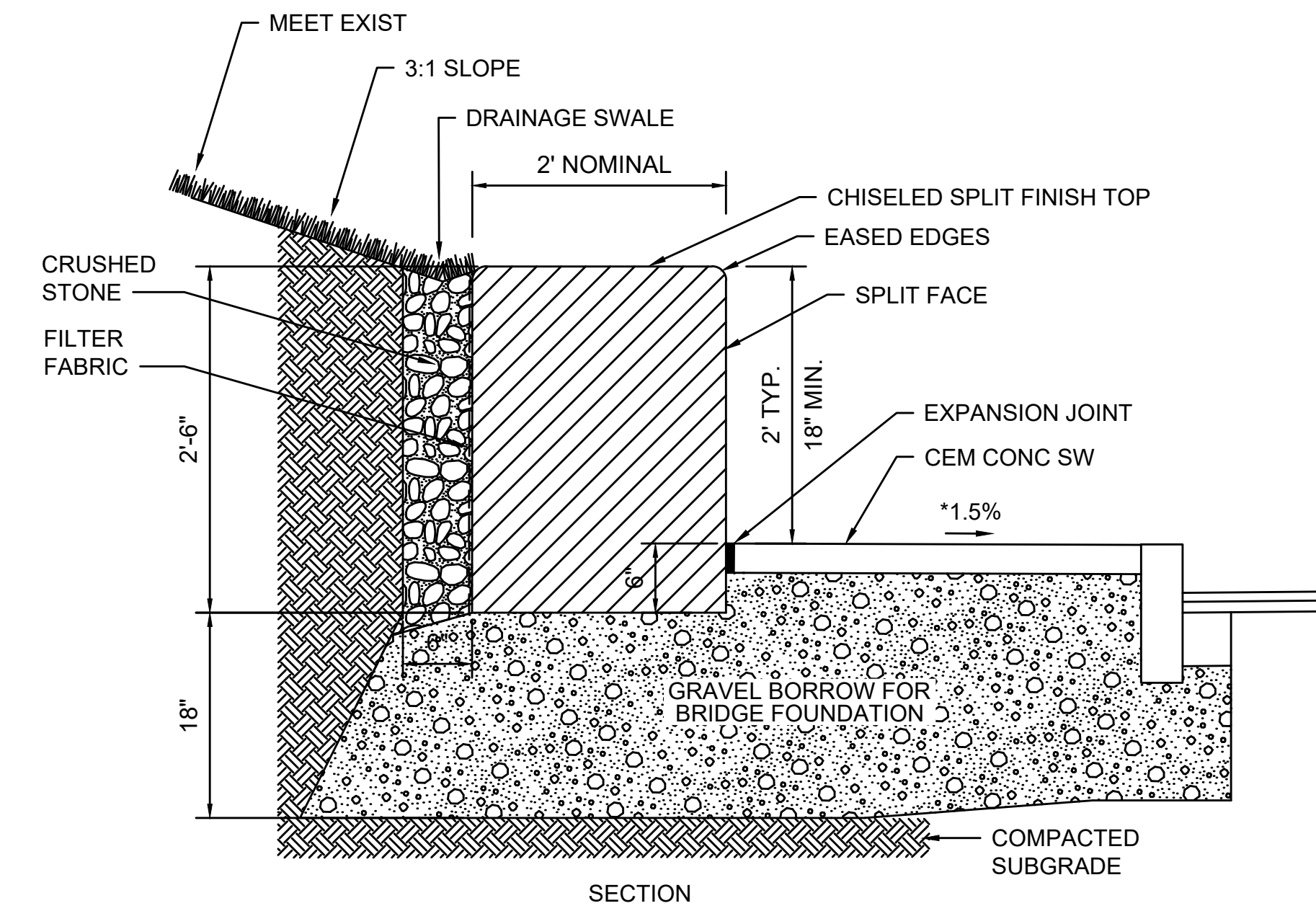


RUNNING BOND



HERRINGBONE PATTERN

NOTE: REFER TO THE CONSTRUCTION PLANS FOR ORIENTATION OF THE PATTERN



SECTION

NOTES:

1. GRANITE TO BE OLD BERKSHIRE GRAY. SAMPLE TO BE PROVIDED FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT.
2. MINIMUM LENGTH OF BLOCK 3-FT.

STAMPED CONCRETE ACCENT STRIP

SCALE: N.T.S.

SOURCE: VHB

1/16  
REV LD\_812

BRICK PATTERN

SCALE: N.T.S.

SOURCE: VHB

1/16  
REV LD\_814

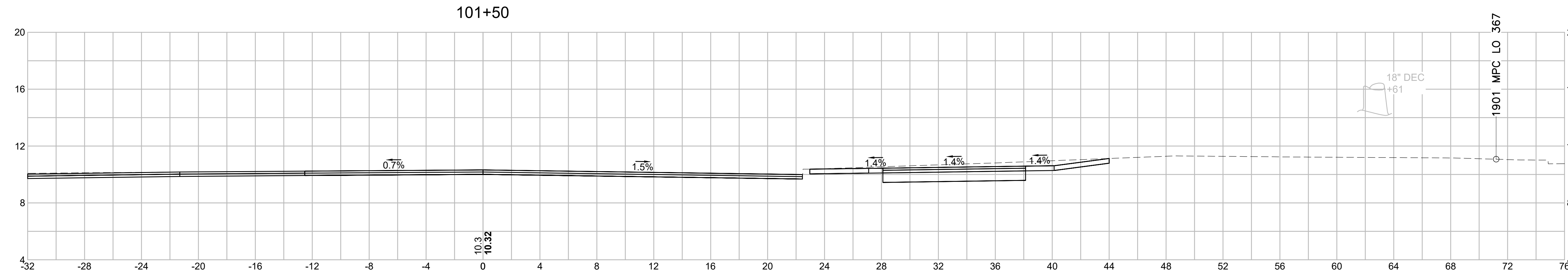
QUARRY FACE BLOCK WALL DETAIL AND LAYOUT

SCALE: NTS

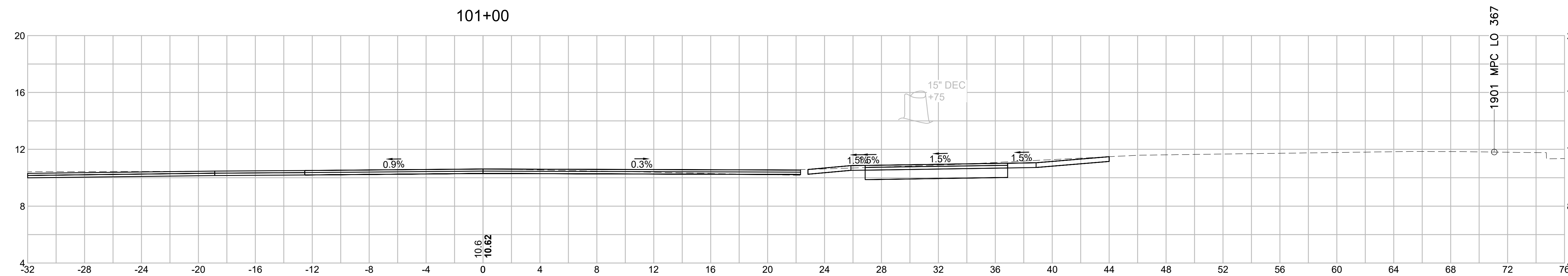
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	157	205
PROJECT FILE NO. 608562			

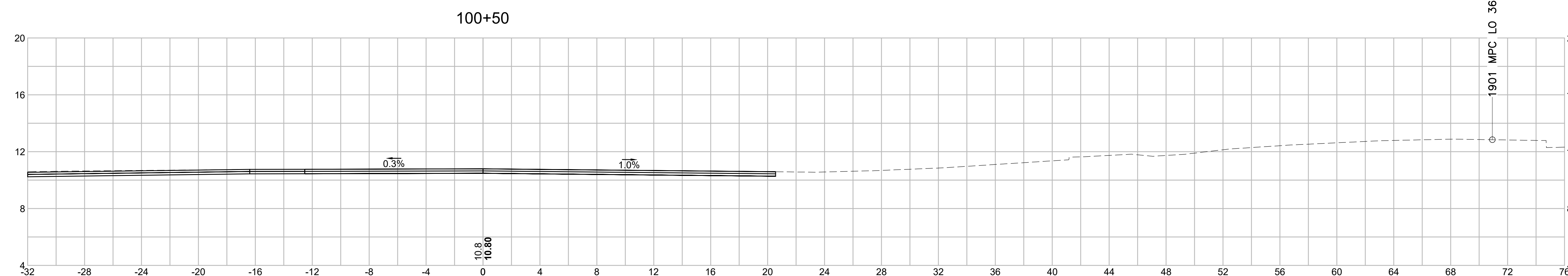
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



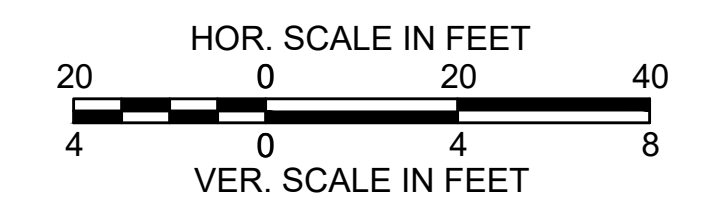
Material(s) at Station 101+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	17.3	28.6
FILL	0.0	0.0



Material(s) at Station 101+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.5	12.5
FILL	0.0	0.0



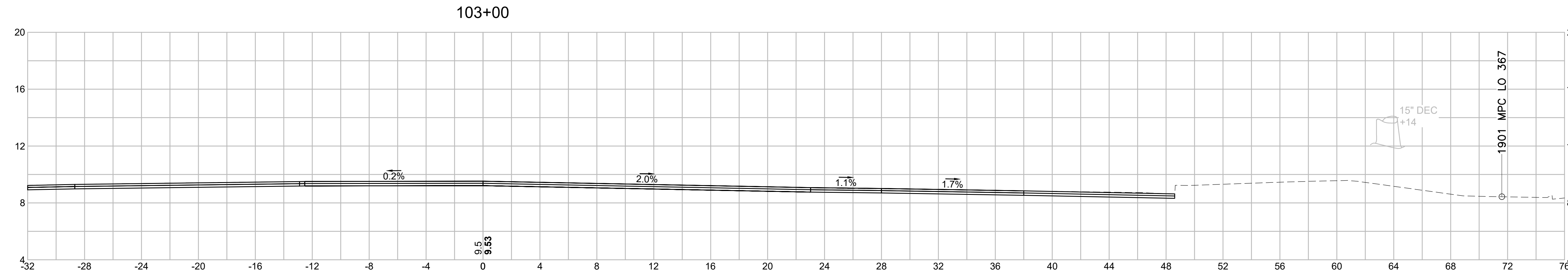
Material(s) at Station 100+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



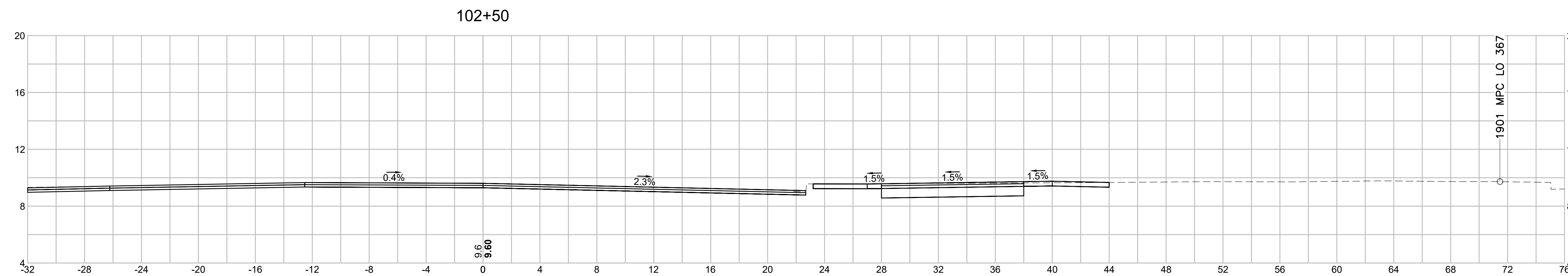
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	158	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



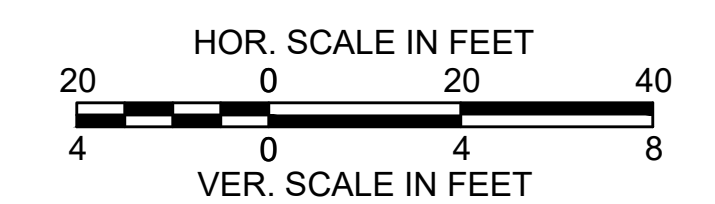
Material(s) at Station 103+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



Material(s) at Station 102+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	12.8	24.5
FILL	0.0	0.0



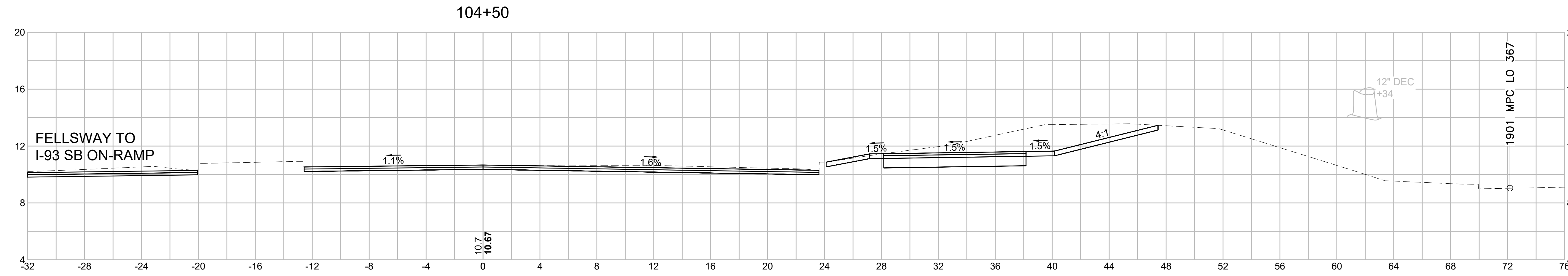
Material(s) at Station 102+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.7	28.7
FILL	0.0	0.0



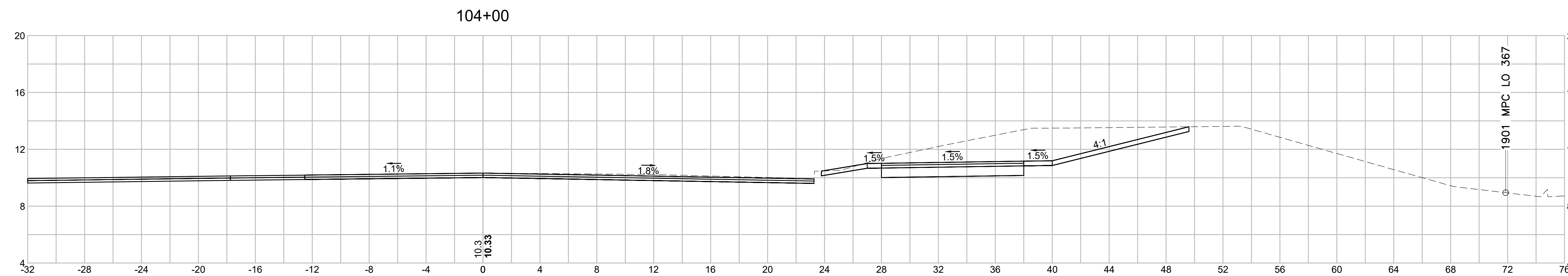
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	159	205
PROJECT FILE NO. 608562			

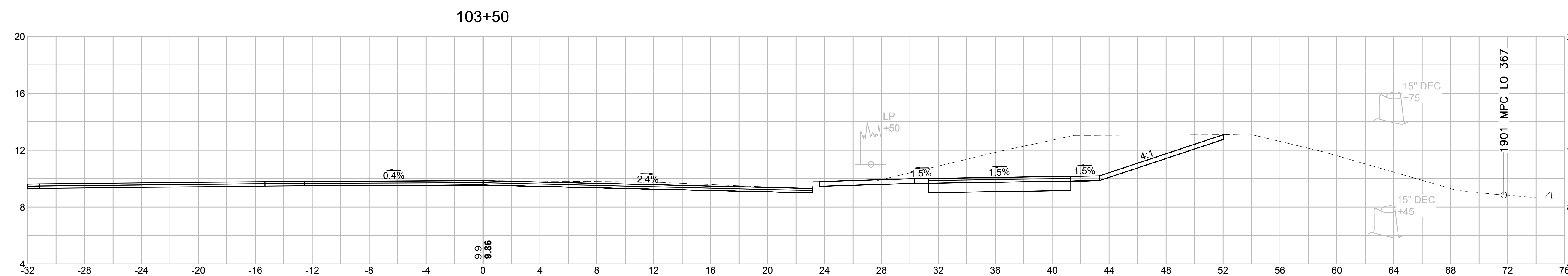
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



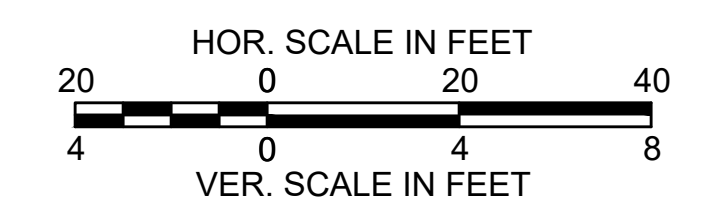
Material(s) at Station 104+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	31.9	70.1
FILL	0.0	0.0



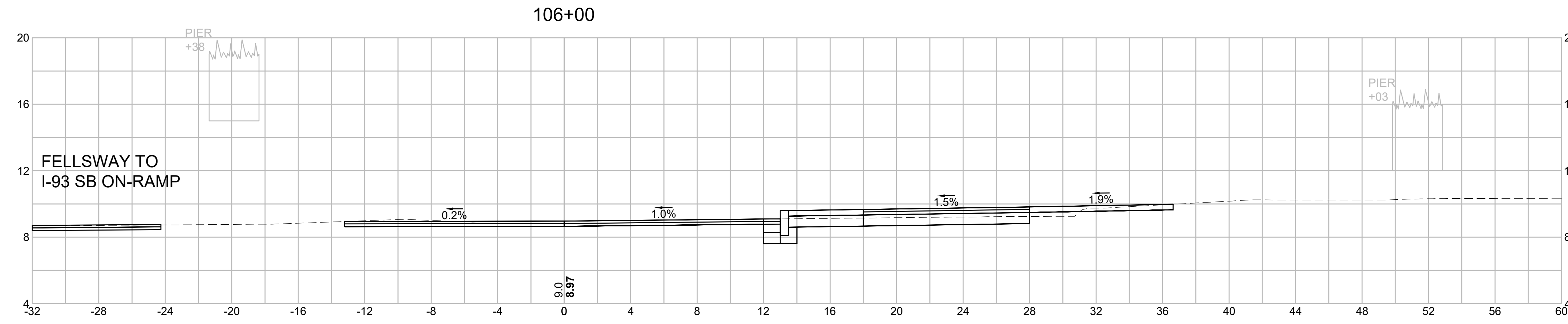
Material(s) at Station 104+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	43.8	89.8
FILL	0.0	0.0



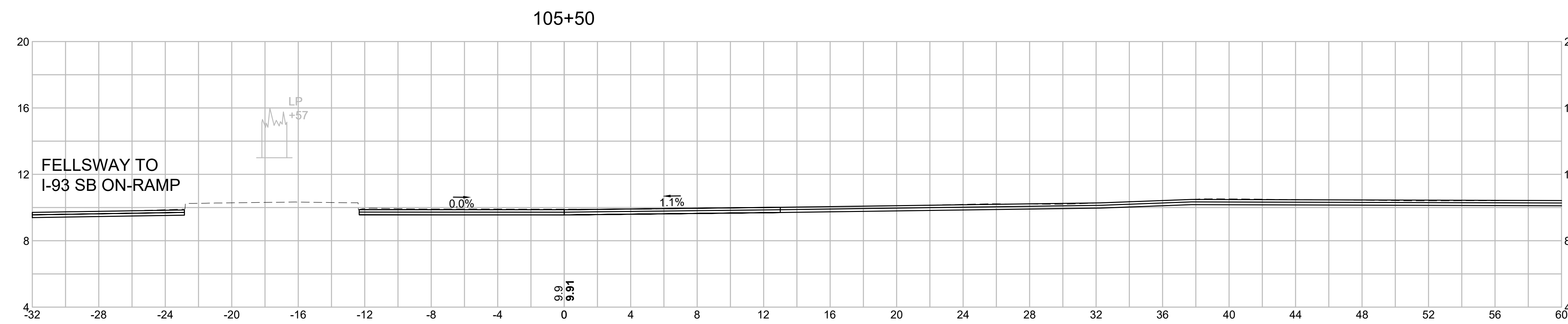
Material(s) at Station 103+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	53.2	52.1
FILL	0.0	0.0



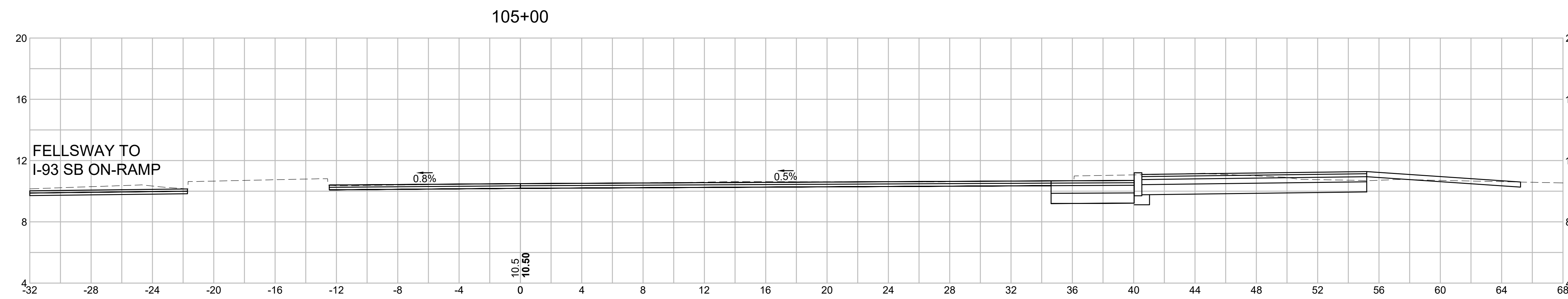
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	160	205
PROJECT FILE NO. 608562			



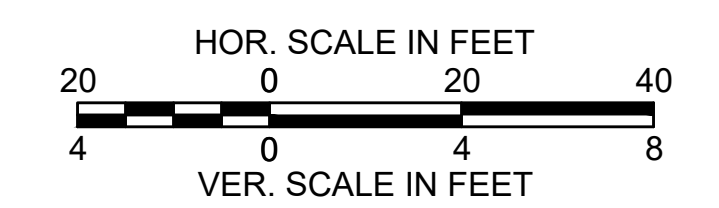
Material(s) at Station 106+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	10.9	10.1
FILL	0.7	0.7



Material(s) at Station 105+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



Material(s) at Station 105+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	23.0	50.8
FILL	0.0	0.0

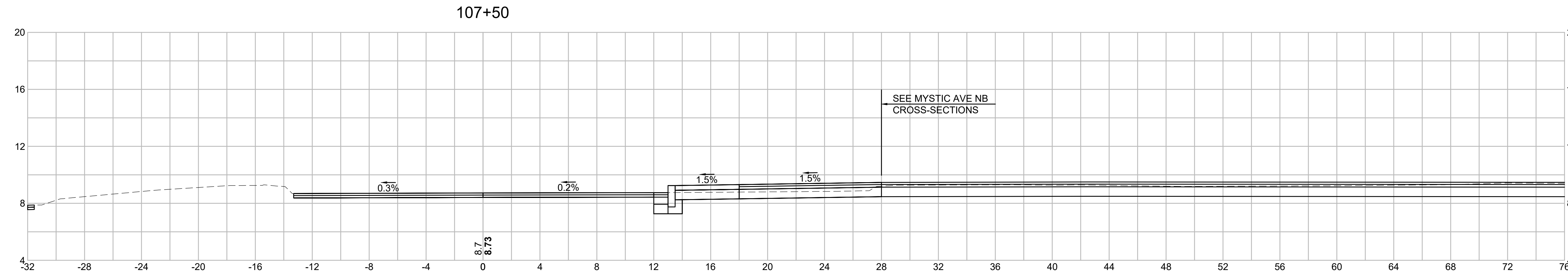




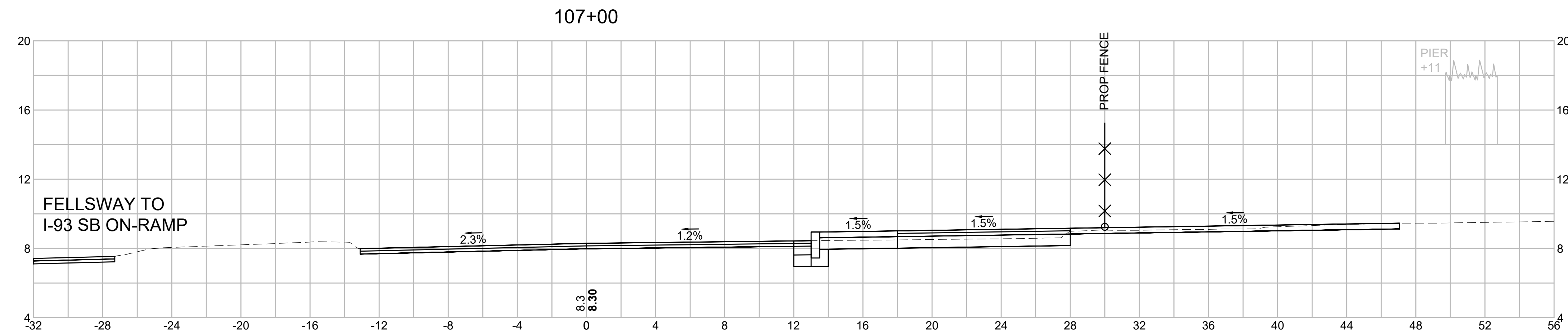
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	161	205
PROJECT FILE NO. 608562			

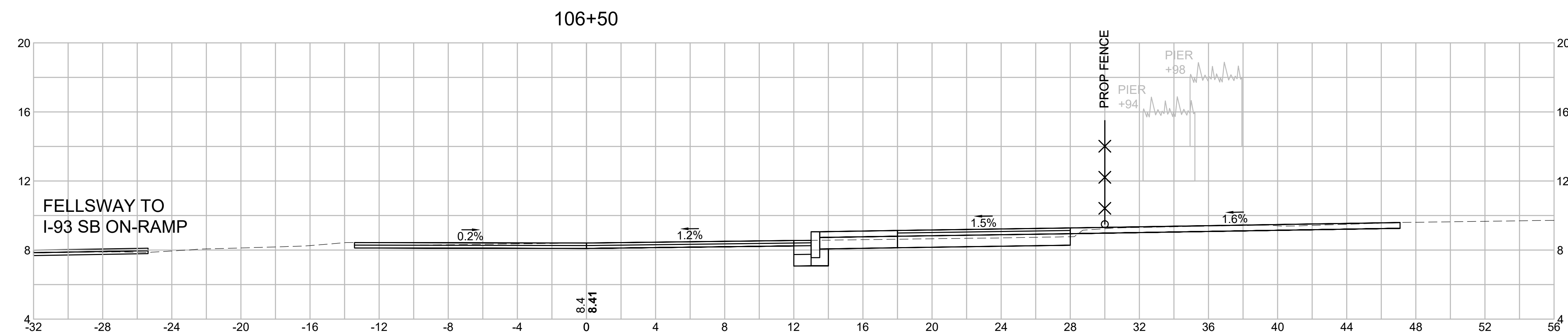
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



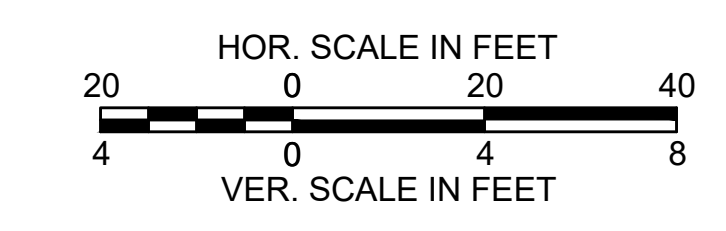
Material(s) at Station 107+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	51.7	60.5
FILL	0.0	0.0



Material(s) at Station 107+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.7	26.9
FILL	0.0	0.1



Material(s) at Station 106+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.3	24.3
FILL	0.1	0.7

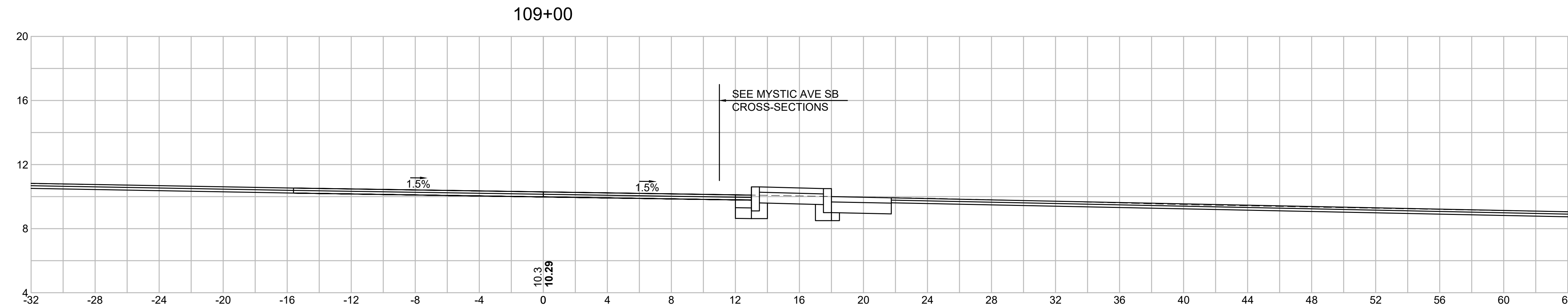


SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

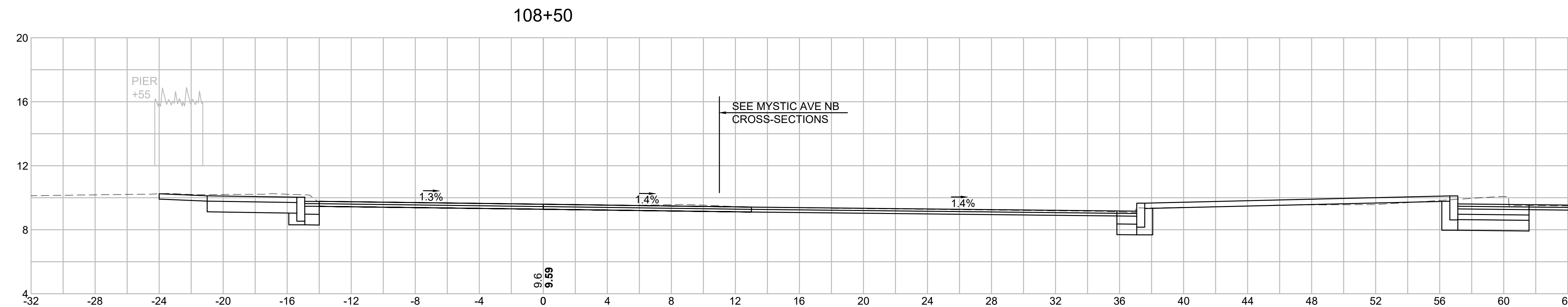
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	162	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)

608562\_HDXSEC\_FELLSWAY\_MCGRATH\_HWY.DWG Plotted on 15-Jul-2024 6:38 PM



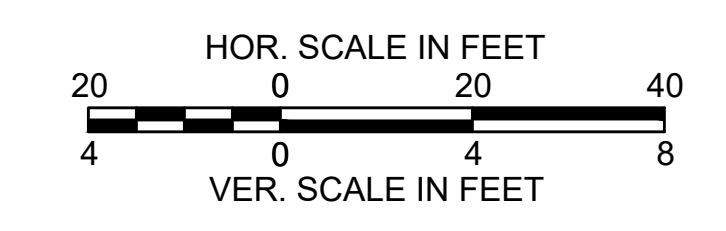
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



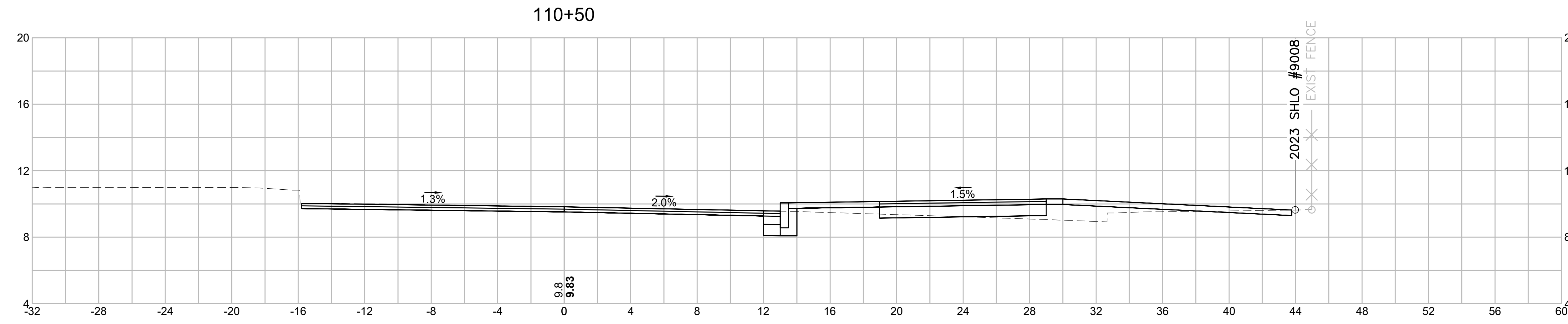
Material Name	Area (sf)	Volume (cy)
CUT	10.4	21.1
FILL	0.0	0.0



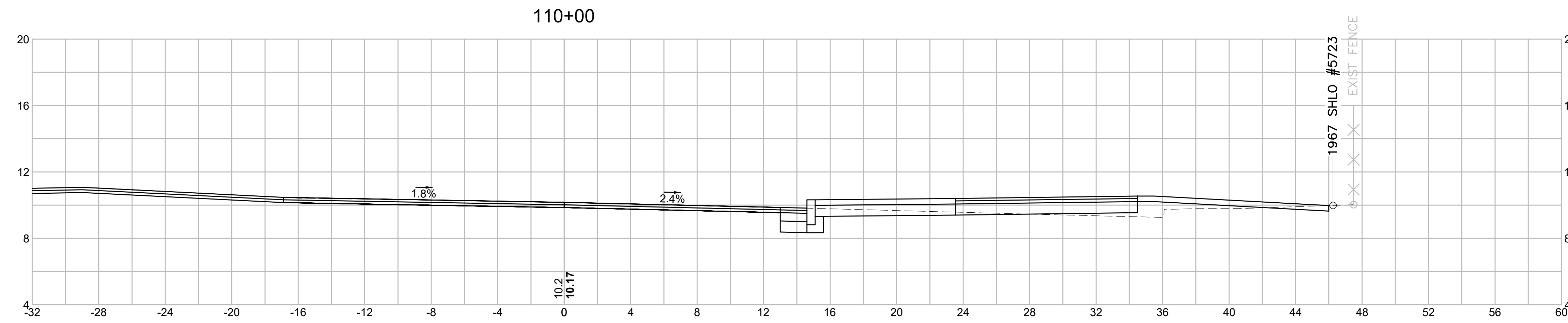
Material Name	Area (sf)	Volume (cy)
CUT	12.4	11.5
FILL	0.0	0.0



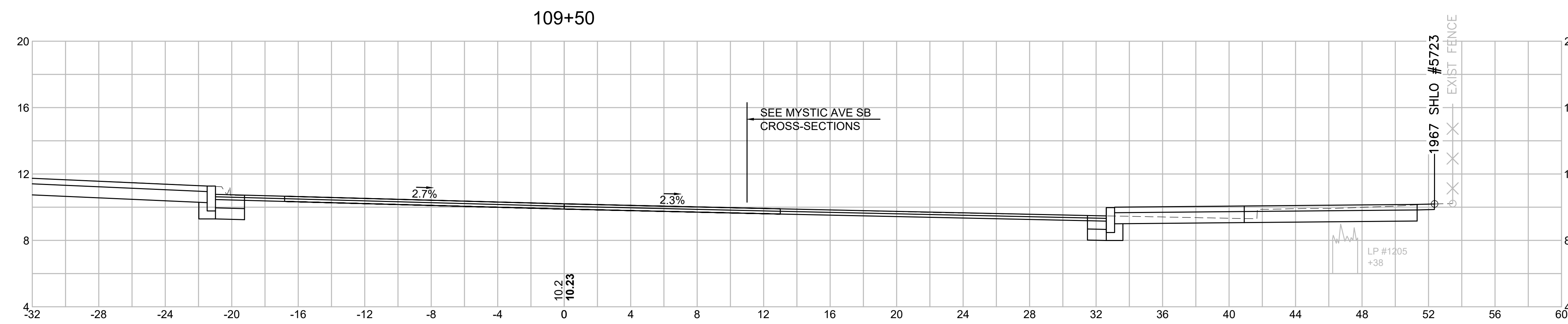
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	163	205
PROJECT FILE NO. 608562			



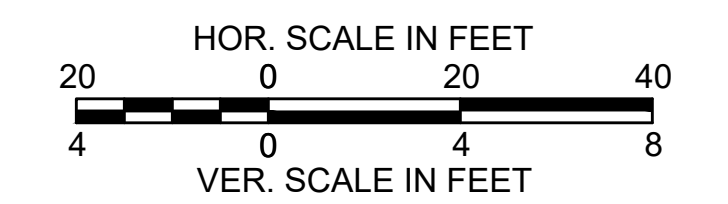
Material(s) at Station 110+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	3.6	5.4
FILL	6.7	9.3



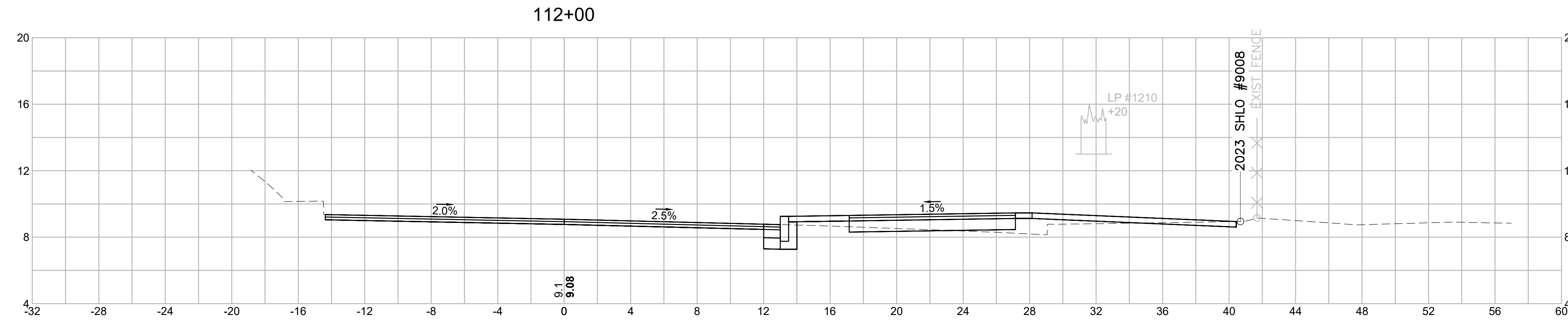
Material(s) at Station 110+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	2.3	11.5
FILL	3.4	5.0



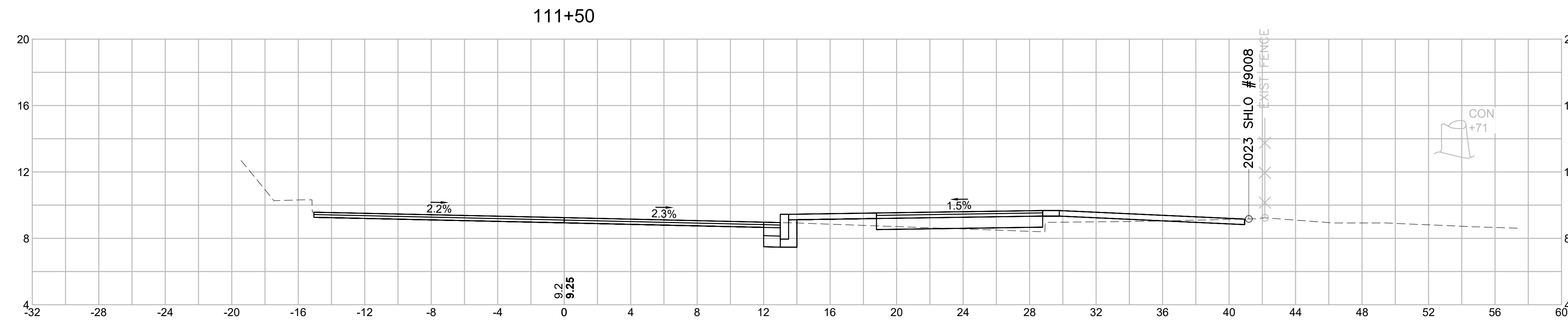
Material(s) at Station 109+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	29.6	27.4
FILL	2.0	1.8



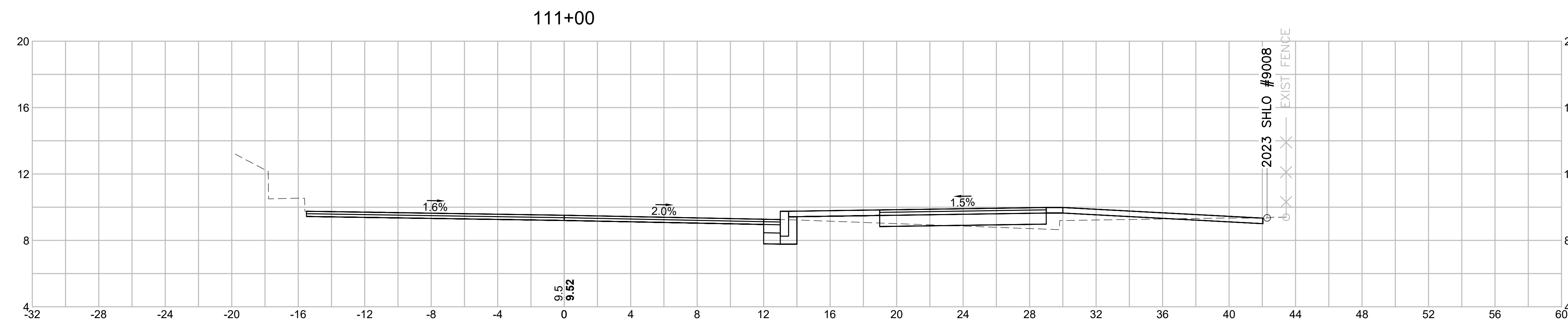
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	164	205
PROJECT FILE NO. 608562			



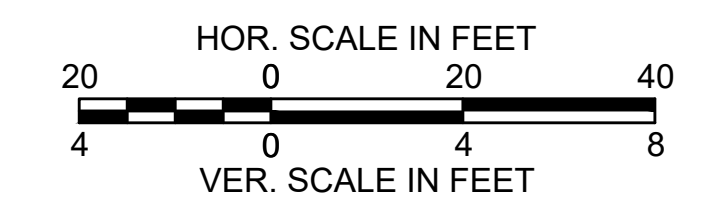
Material(s) at Station 112+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.2	7.3
FILL	4.0	7.5



Material(s) at Station 111+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	3.7	6.1
FILL	4.1	8.5

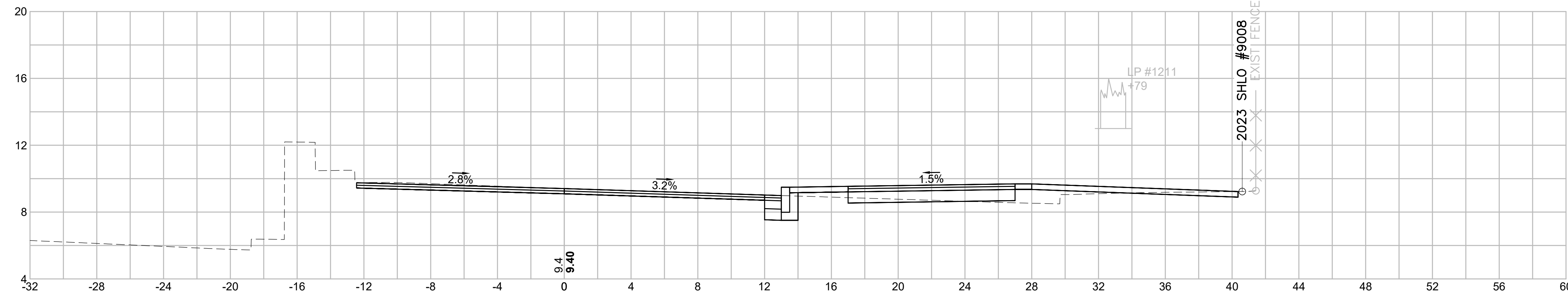


Material(s) at Station 111+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	2.9	6.0
FILL	5.1	10.9



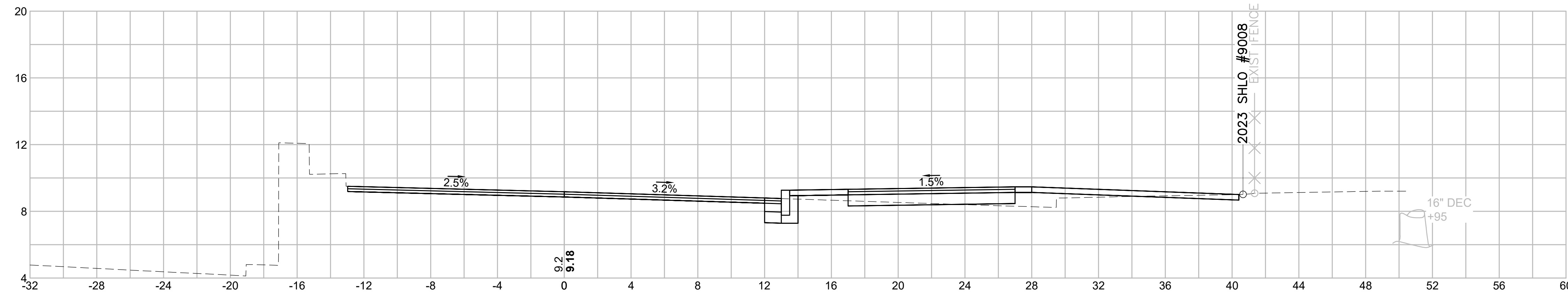
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	165	205
PROJECT FILE NO. 608562			

113+50



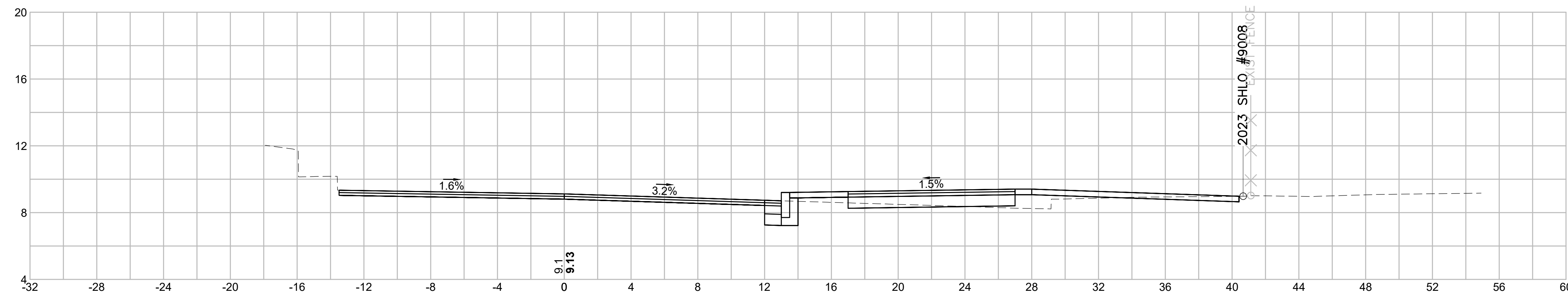
Material(s) at Station 113+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.1	7.3
FILL	3.7	7.1

113+00

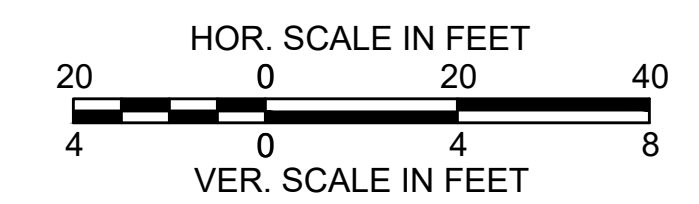


Material(s) at Station 113+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	3.8	7.7
FILL	3.9	6.7

112+50



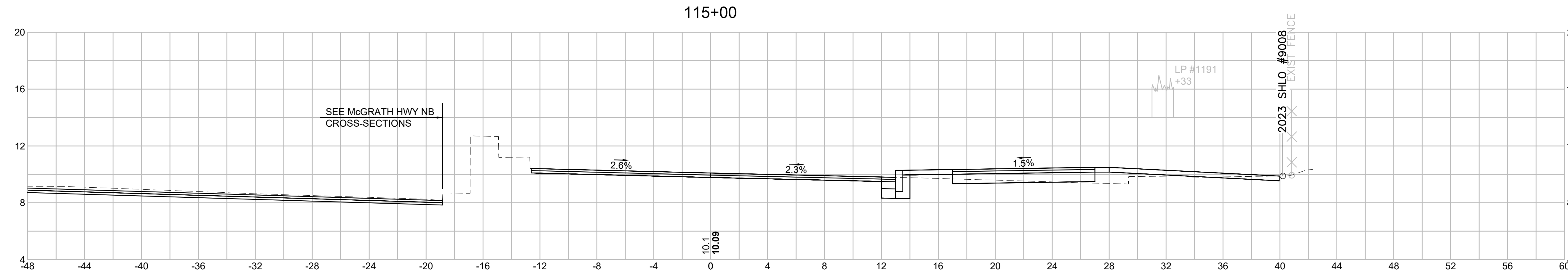
Material(s) at Station 112+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.5	8.0
FILL	3.3	6.7



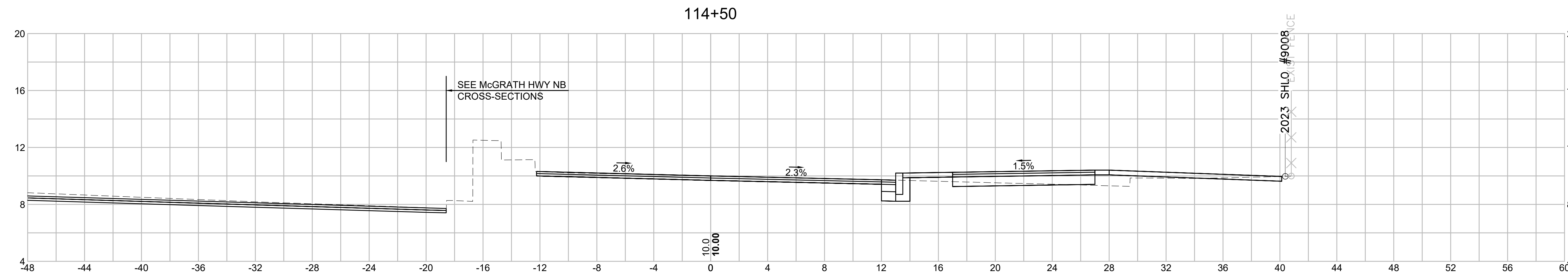
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	166	205
PROJECT FILE NO. 608562			

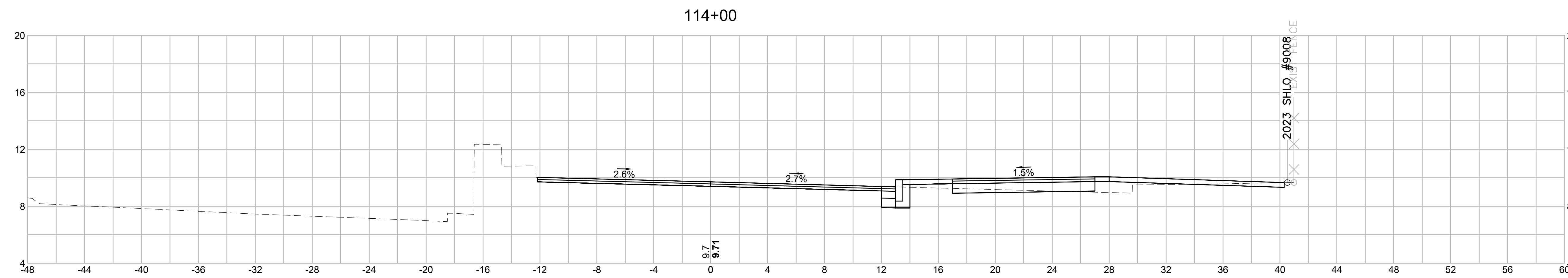
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



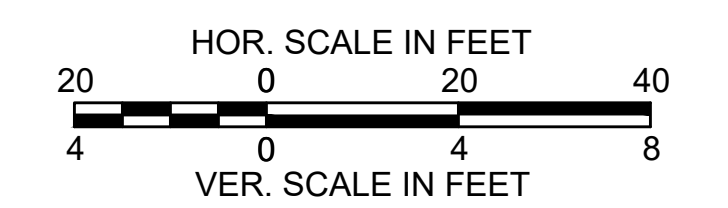
Material(s) at Station 115+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.7	8.0
FILL	3.5	6.2



Material(s) at Station 114+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	3.9	7.9
FILL	3.1	5.9



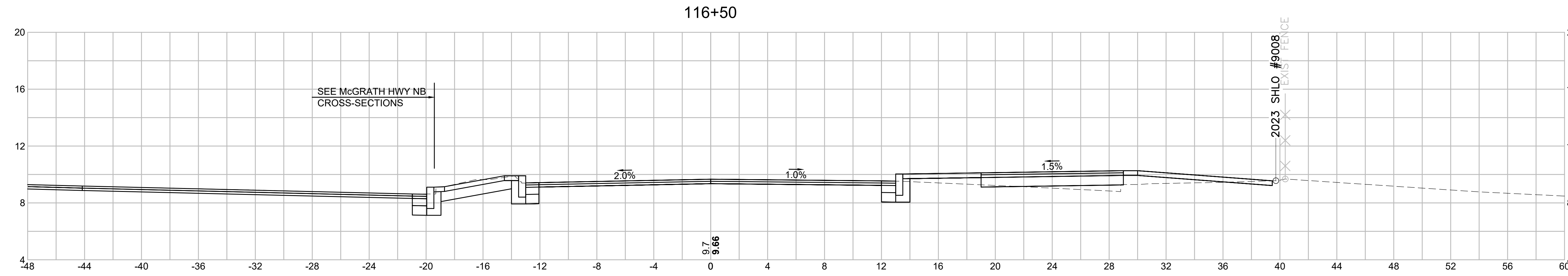
Material(s) at Station 114+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.6	8.0
FILL	3.3	6.5



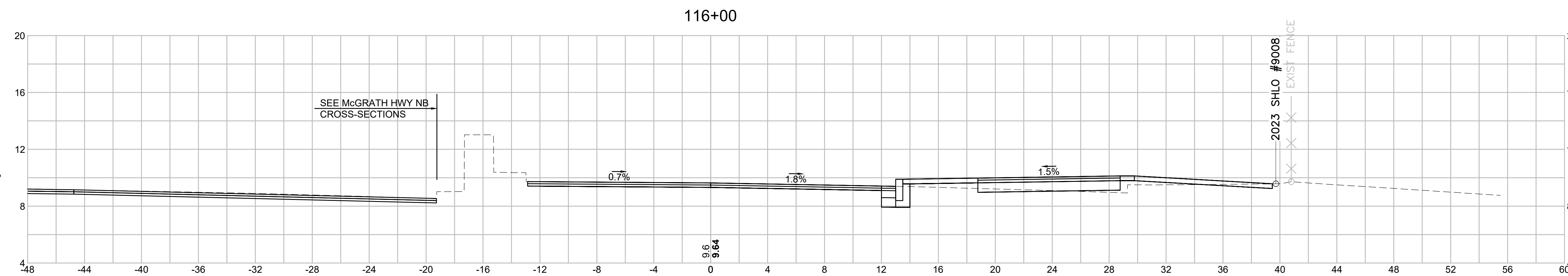
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	167	205
PROJECT FILE NO. 608562			

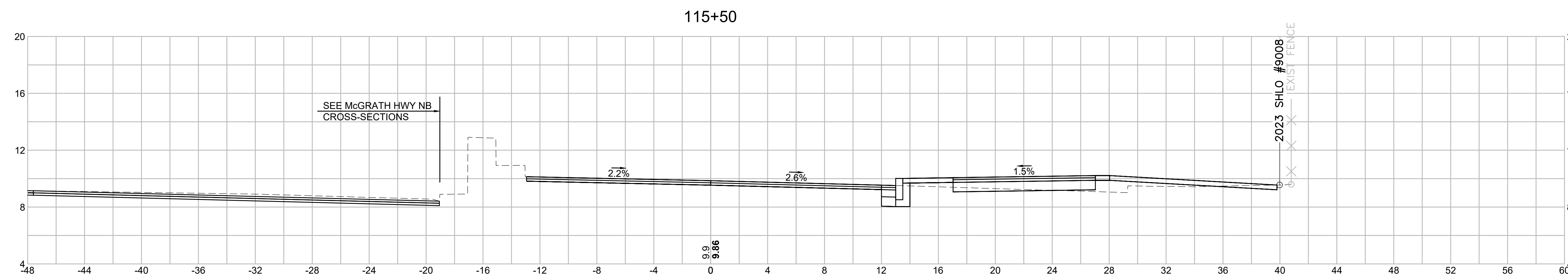
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



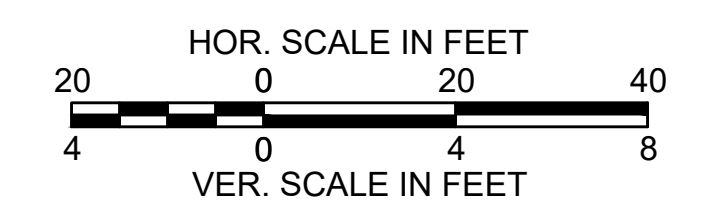
Material(s) at Station 116+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.4	16.3
FILL	6.1	8.6



Material(s) at Station 116+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.2	7.8
FILL	3.1	6.6



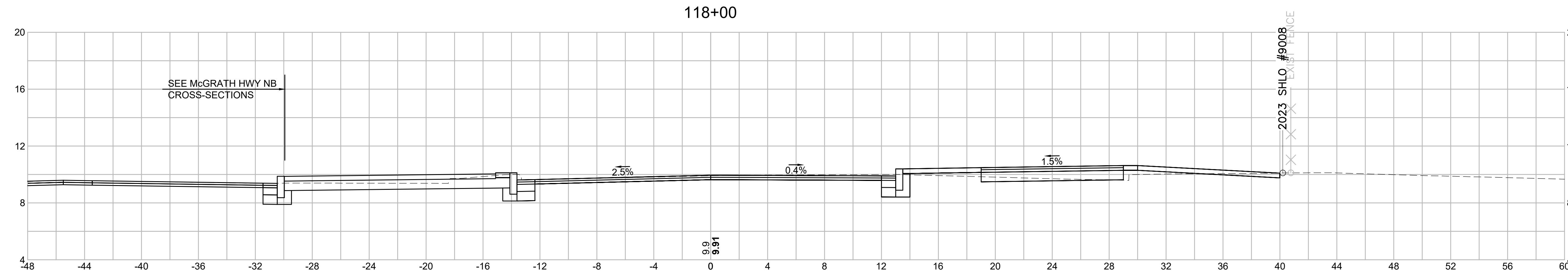
Material(s) at Station 115+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	4.2	8.2
FILL	4.0	7.0



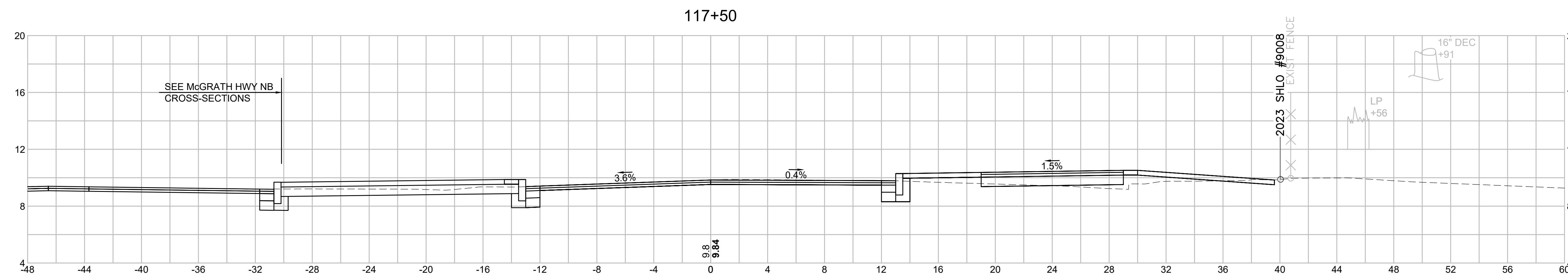
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	168	205
PROJECT FILE NO. 608562			

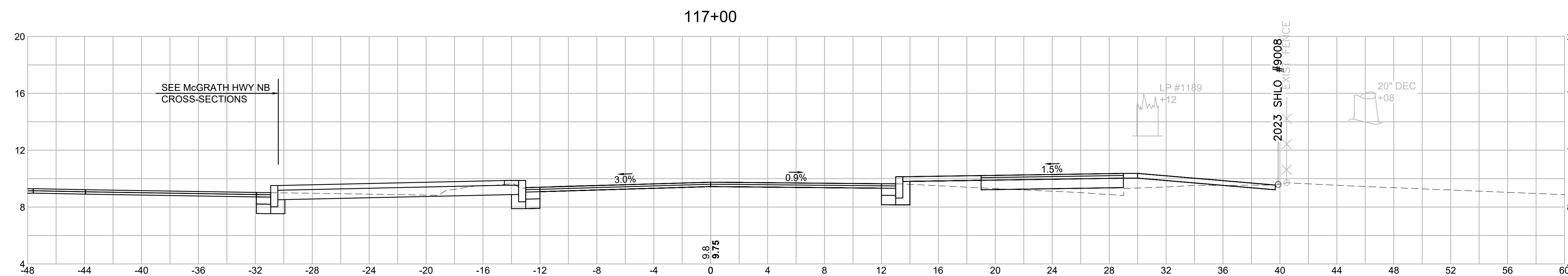
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



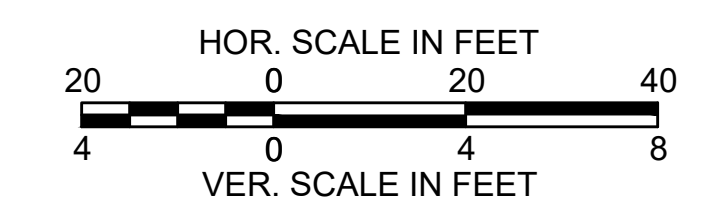
Material(s) at Station 118+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	20.4	33.1
FILL	2.1	6.4



Material(s) at Station 117+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.4	27.3
FILL	4.8	10.5



Material(s) at Station 117+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.1	25.5
FILL	6.6	11.7

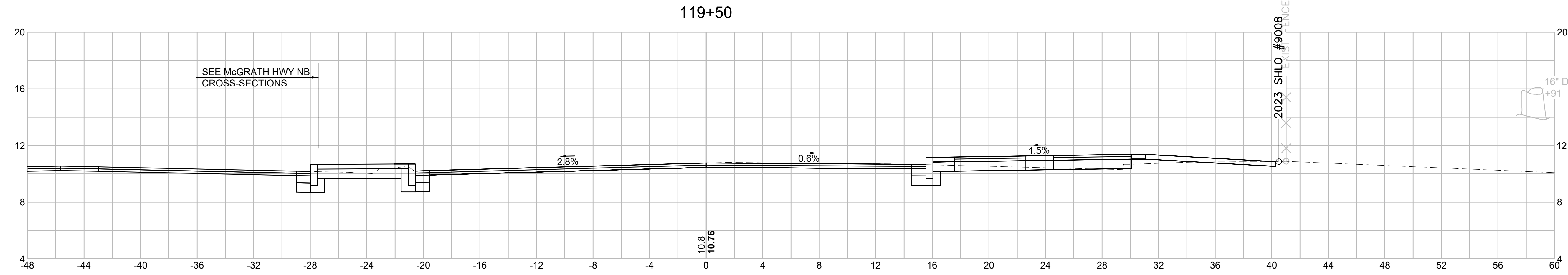




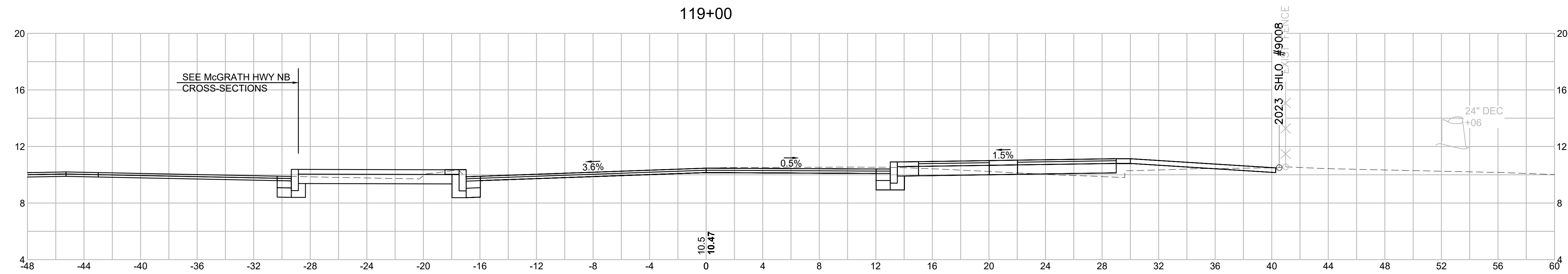
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	169	205
PROJECT FILE NO. 608562			

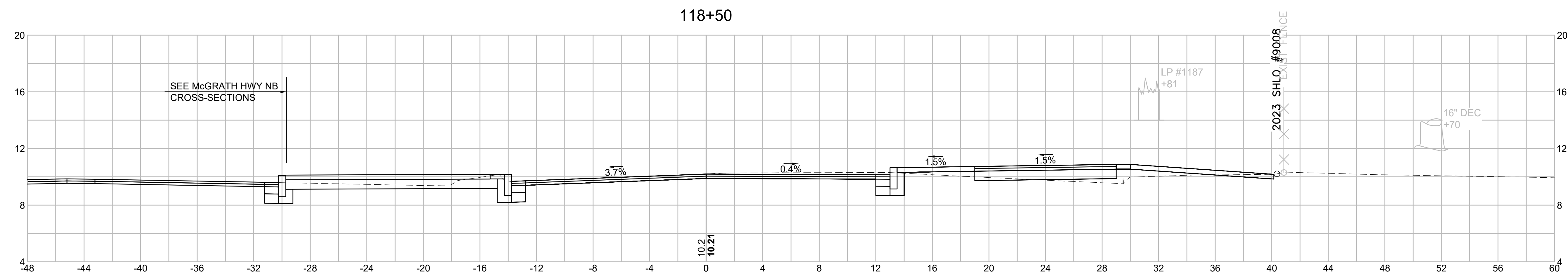
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



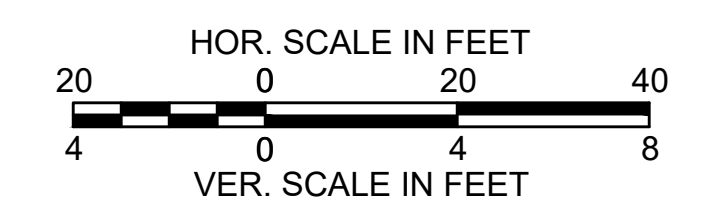
Material(s) at Station 119+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.9	29.4
FILL	1.0	3.8



Material(s) at Station 119+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	17.9	31.9
FILL	3.1	7.2



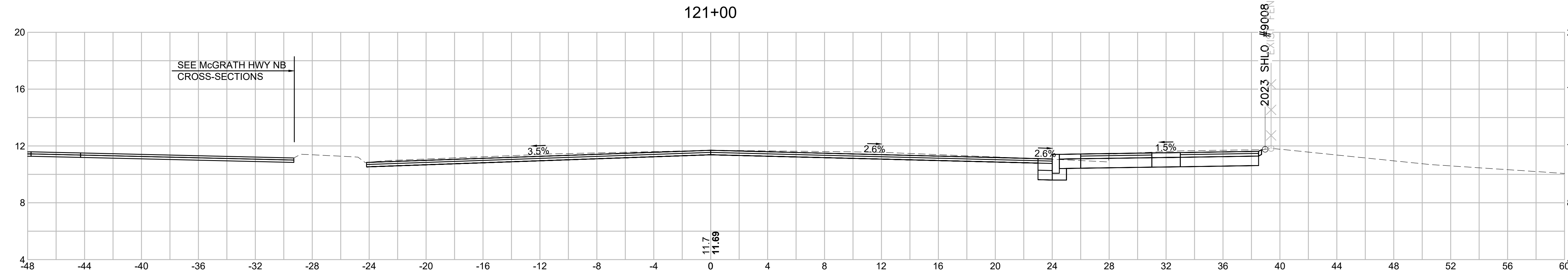
Material(s) at Station 118+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.6	34.3
FILL	4.6	6.2



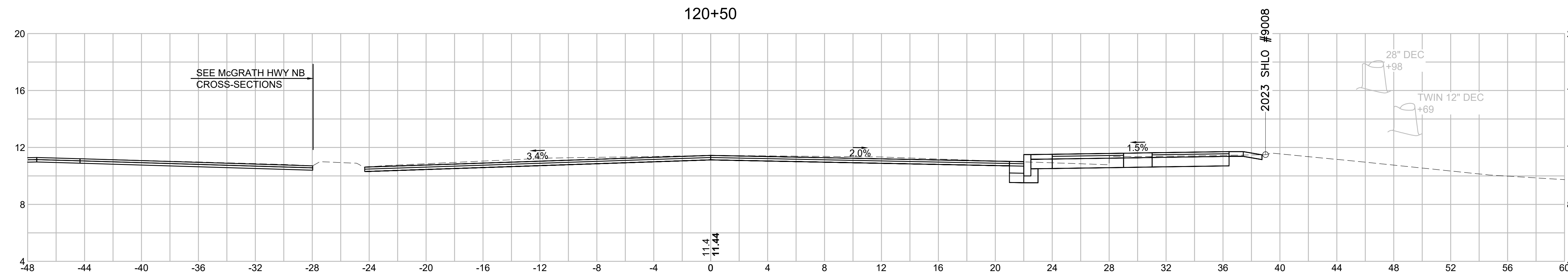
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	170	205
PROJECT FILE NO. 608562			

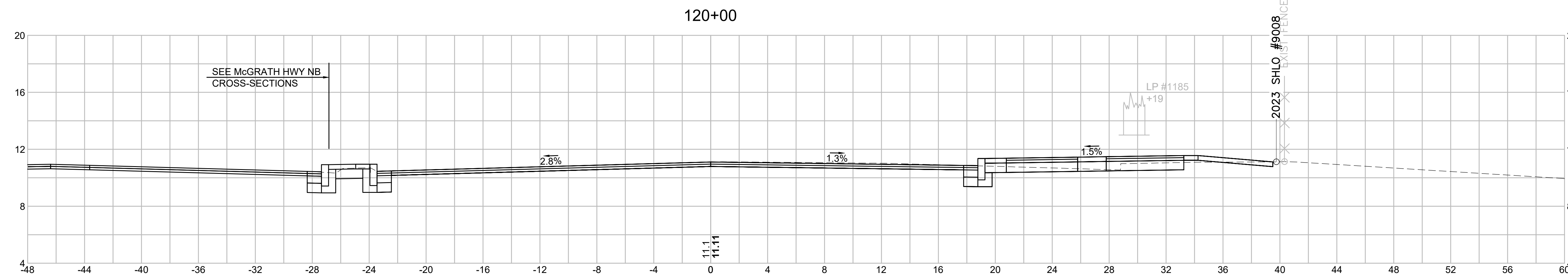
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



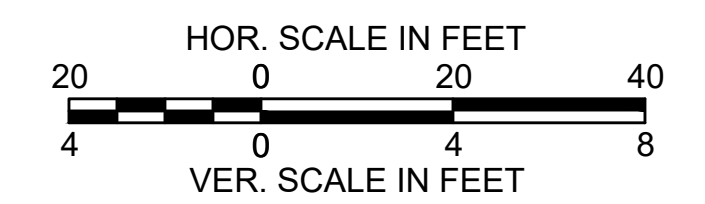
Material(s) at Station 121+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.2	25.4
FILL	0.0	0.0



Material(s) at Station 120+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.3	23.4
FILL	0.0	0.2



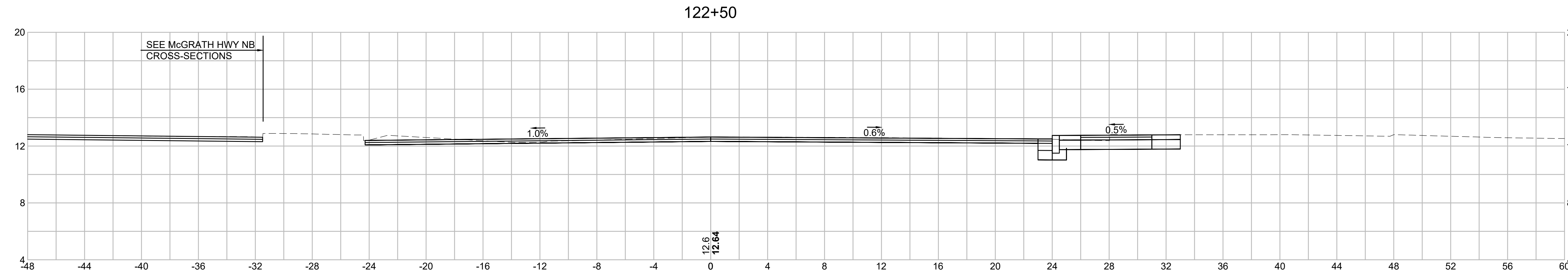
Material(s) at Station 120+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.0	25.8
FILL	0.3	1.2



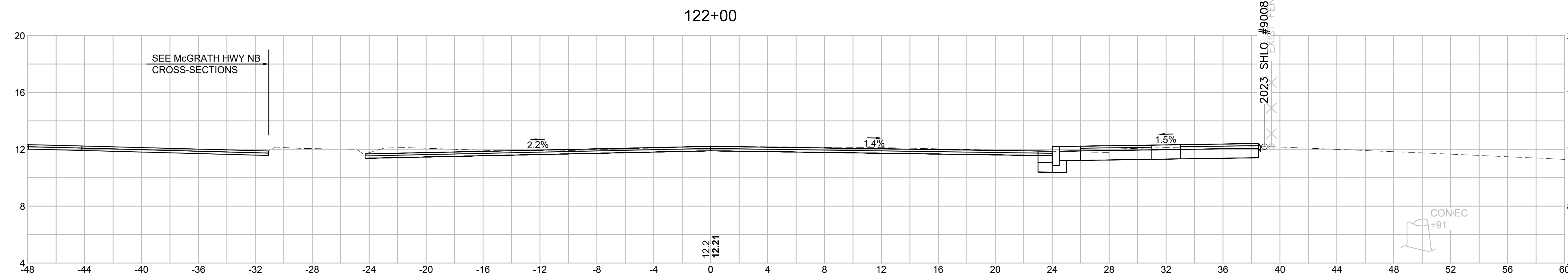
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	171	205
PROJECT FILE NO. 608562			

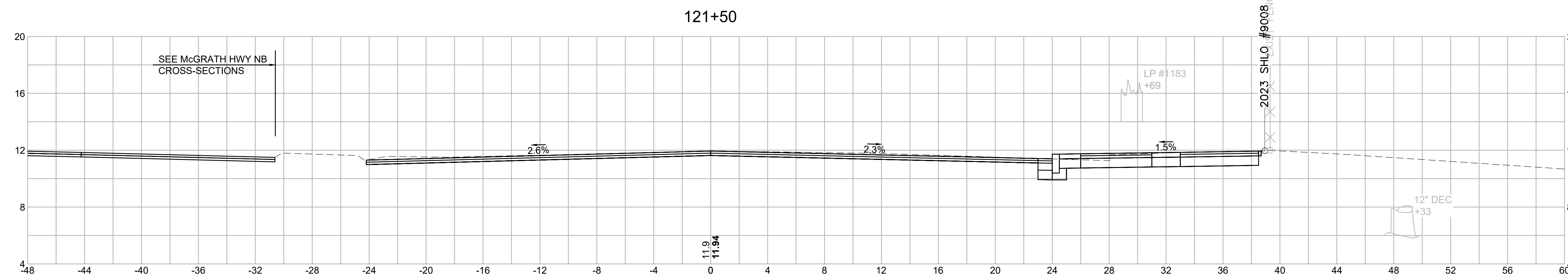
CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)



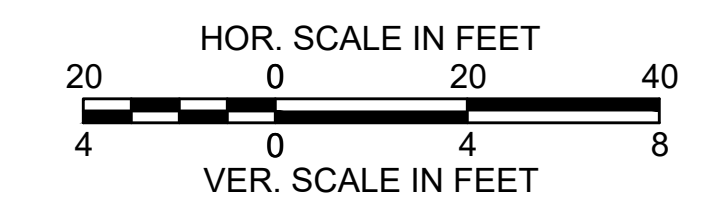
Material(s) at Station 122+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	9.9	21.4
FILL	0.0	0.0



Material(s) at Station 122+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.1	26.1
FILL	0.0	0.0



Material(s) at Station 121+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.1	28.9
FILL	0.0	0.0



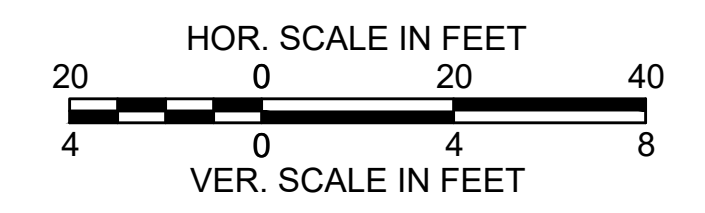
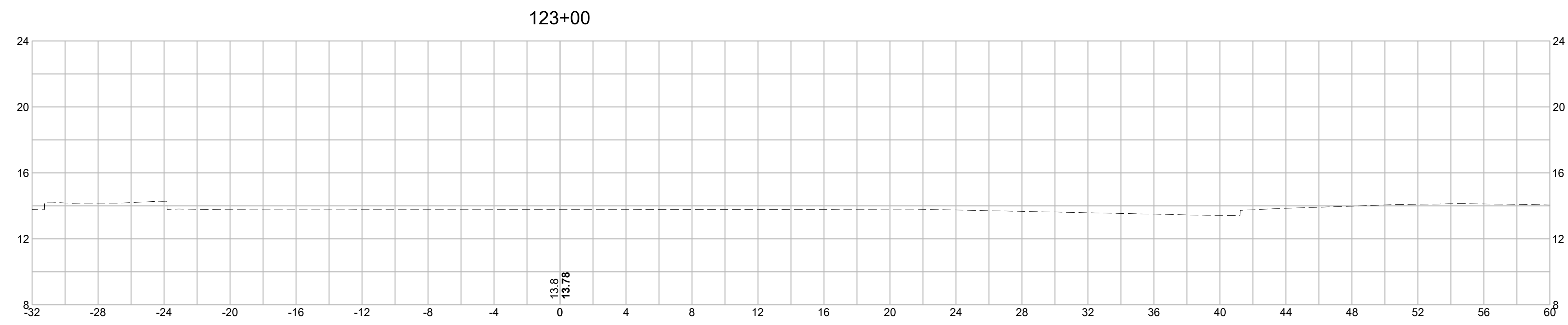
SOMERVILLE  
FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	172	205

PROJECT FILE NO. 608562

CROSS SECTIONS - (FELLSWAY-MCGRATH HWY SB)

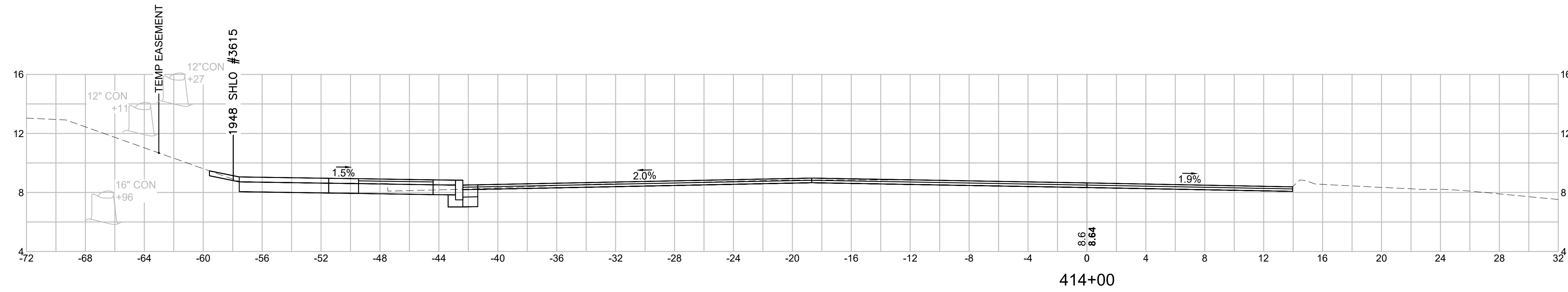
608562\_HDXSEC0\_FELLSWAY\_MCGRATH\_HWY.DWG Plotted on 15-Jul-2024 6:38 PM



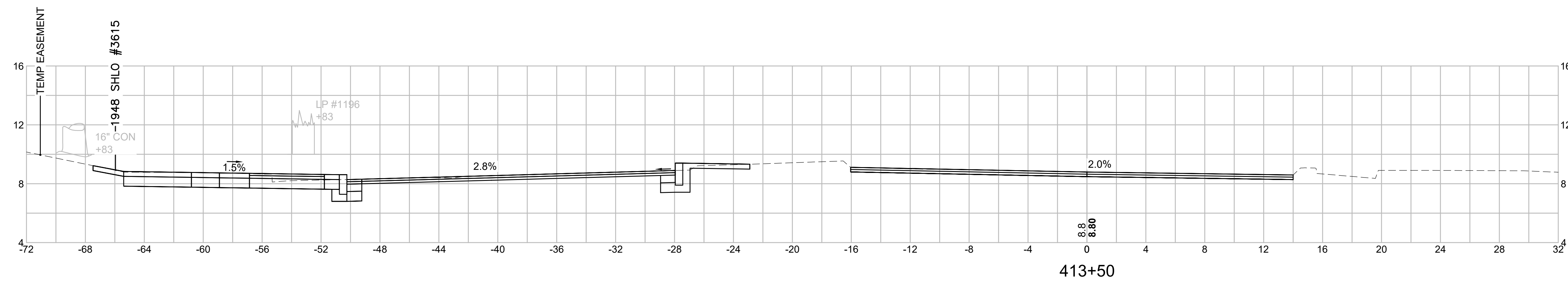
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	173	205
PROJECT FILE NO. 608562			

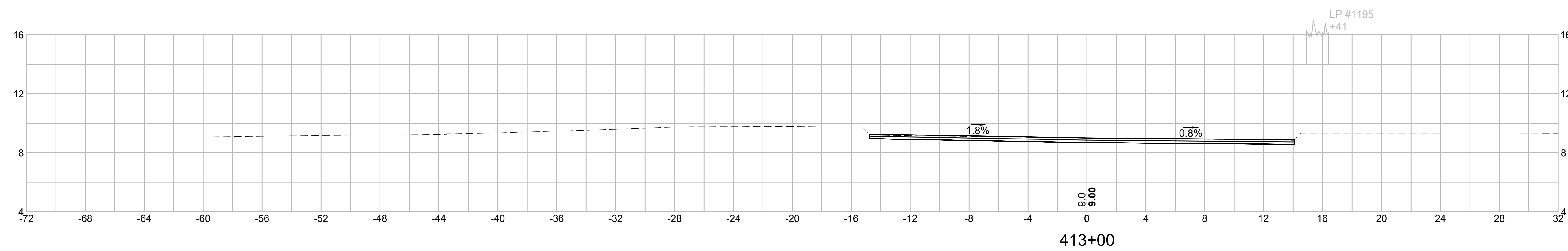
CROSS SECTIONS - (MCGRATH HWY NB)



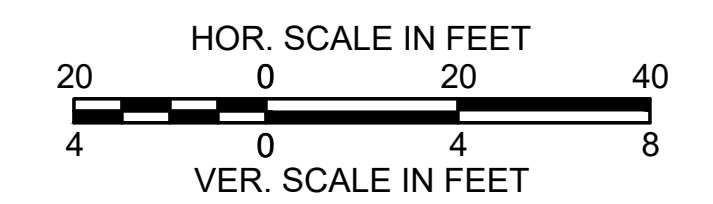
Material(s) at Station 414+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.4	28.5
FILL	0.0	0.0



Material(s) at Station 413+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.4	14.3
FILL	0.0	0.0



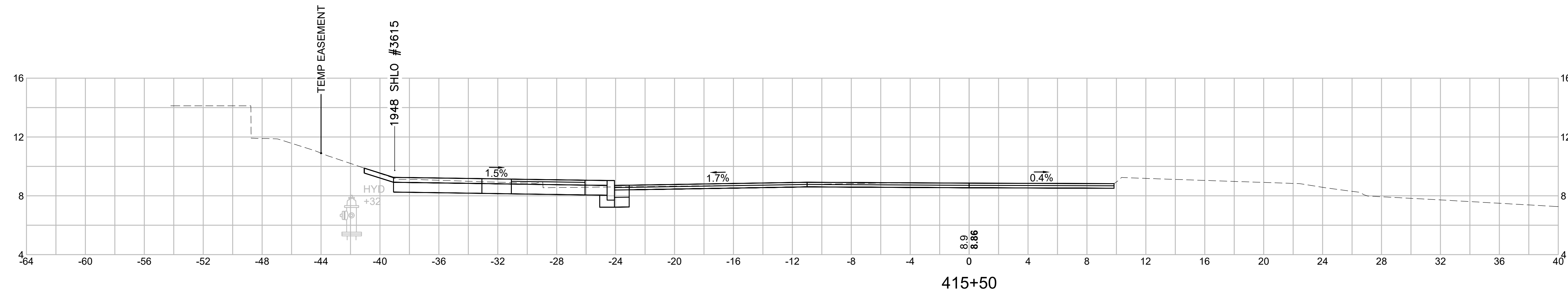
Material(s) at Station 413+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

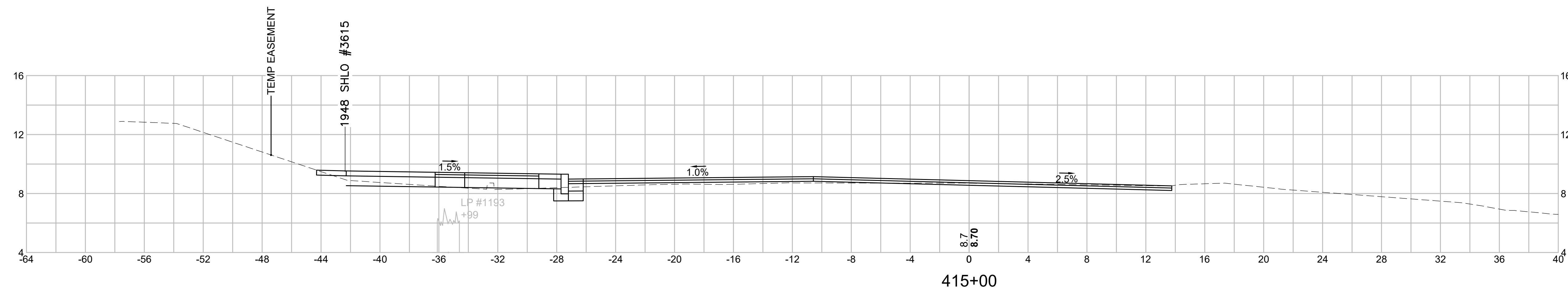
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	174	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MCGRATH HWY NB)

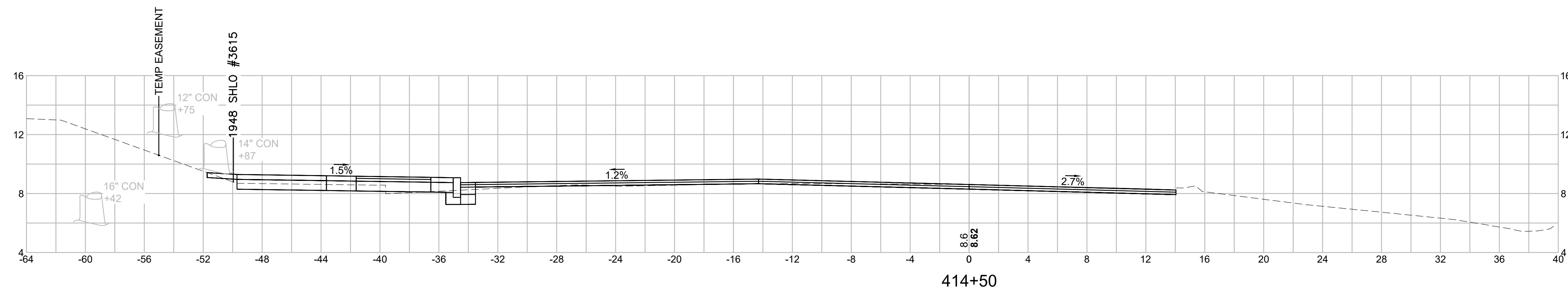


Material(s) at Station 415+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.3	25.7
FILL	0.0	0.0

0.5%

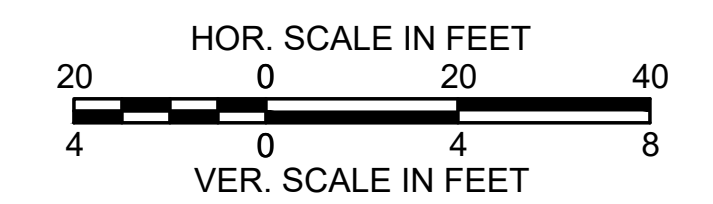


Material(s) at Station 415+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	12.4	24.7
FILL	0.0	0.0



Material(s) at Station 414+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.3	27.5
FILL	0.0	0.0

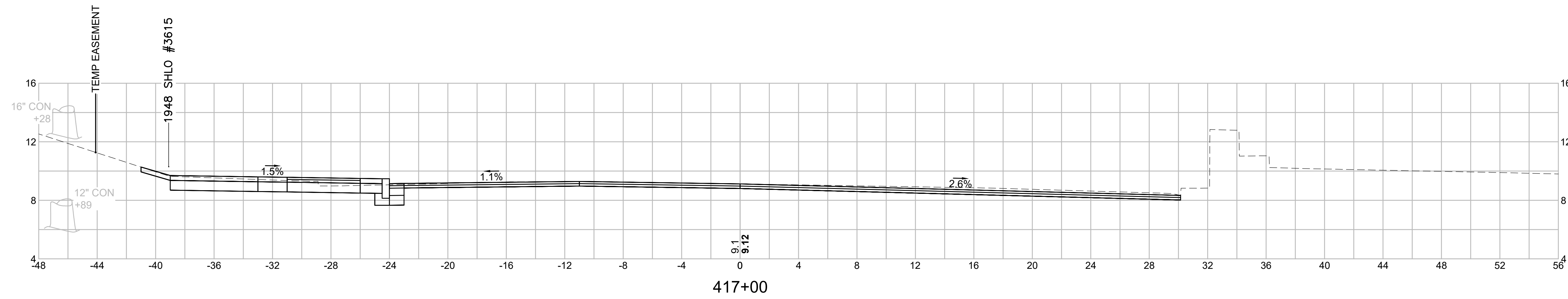
2.5%



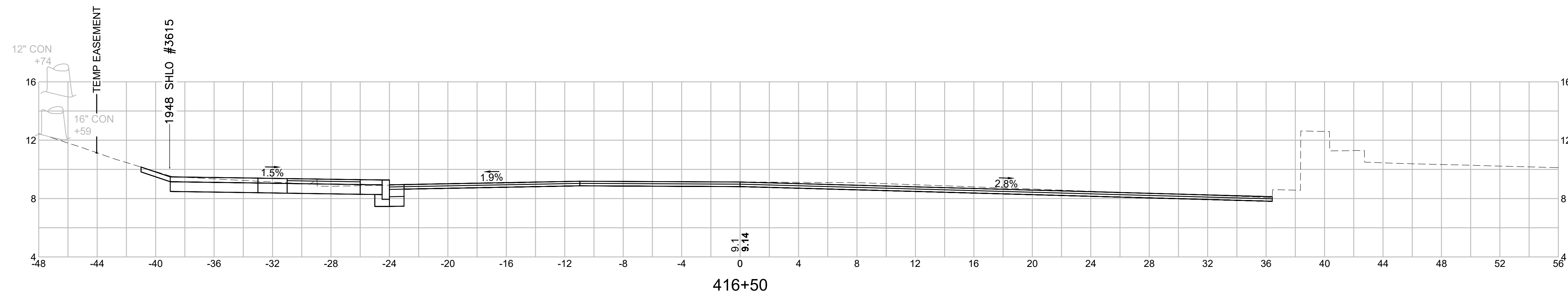
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	175	205
PROJECT FILE NO. 608562			

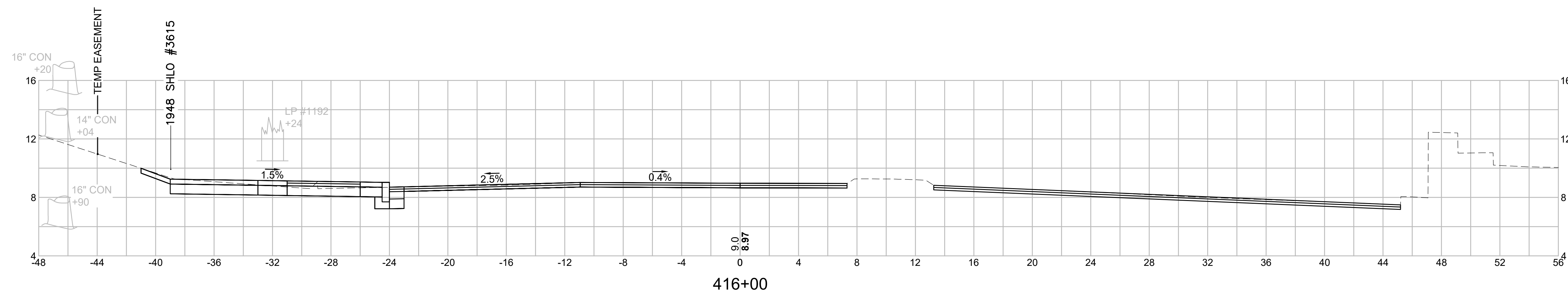
CROSS SECTIONS - (MCGRATH HWY NB)



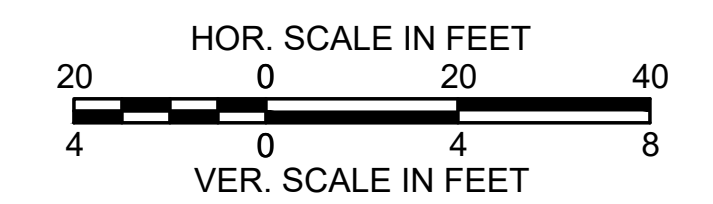
Material(s) at Station 417+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.8	27.1
FILL	0.0	0.0



Material(s) at Station 416+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.5	26.1
FILL	0.0	0.0



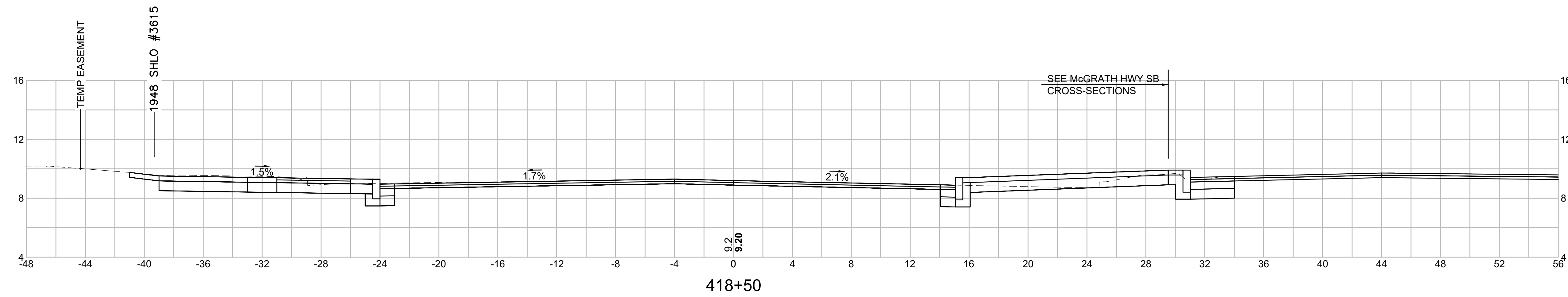
Material(s) at Station 416+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.8	26.9
FILL	0.0	0.0



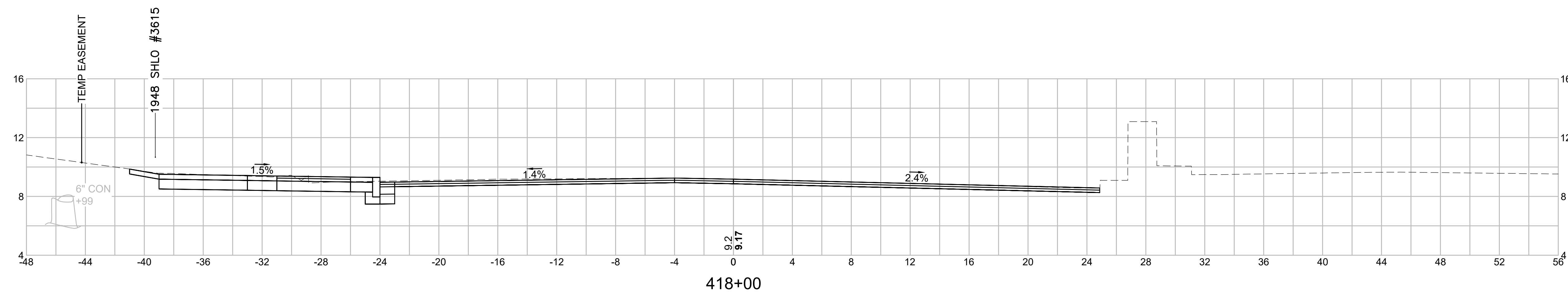
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	176	205
PROJECT FILE NO. 608562			

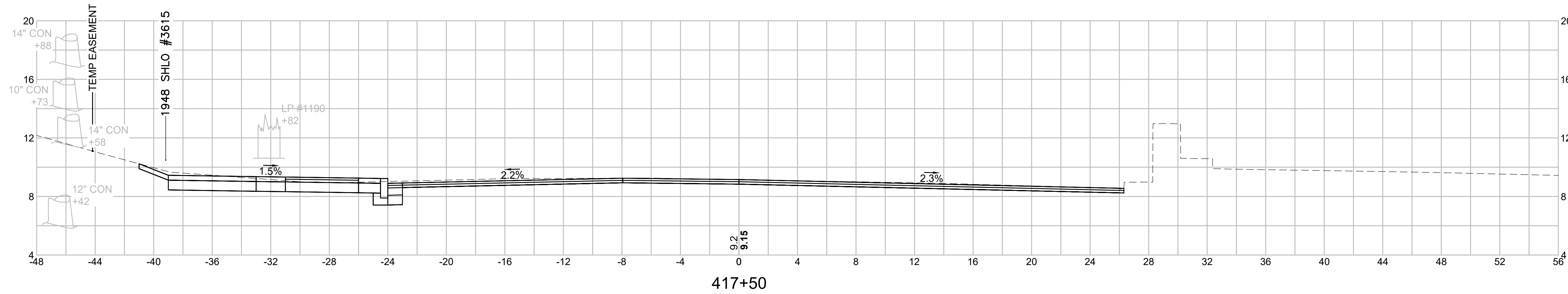
CROSS SECTIONS - (MCGRATH HWY NB)



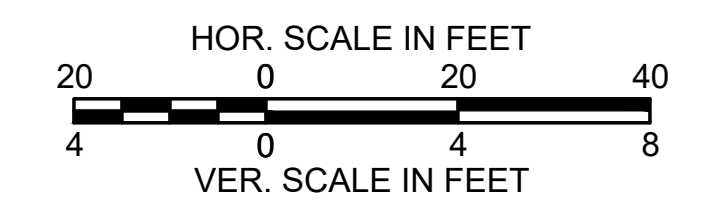
Material(s) at Station 418+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	23.7	35.8
FILL	1.1	1.0



Material(s) at Station 418+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.0	26.8
FILL	0.0	0.0



Material(s) at Station 417+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.9	26.5
FILL	0.0	0.0

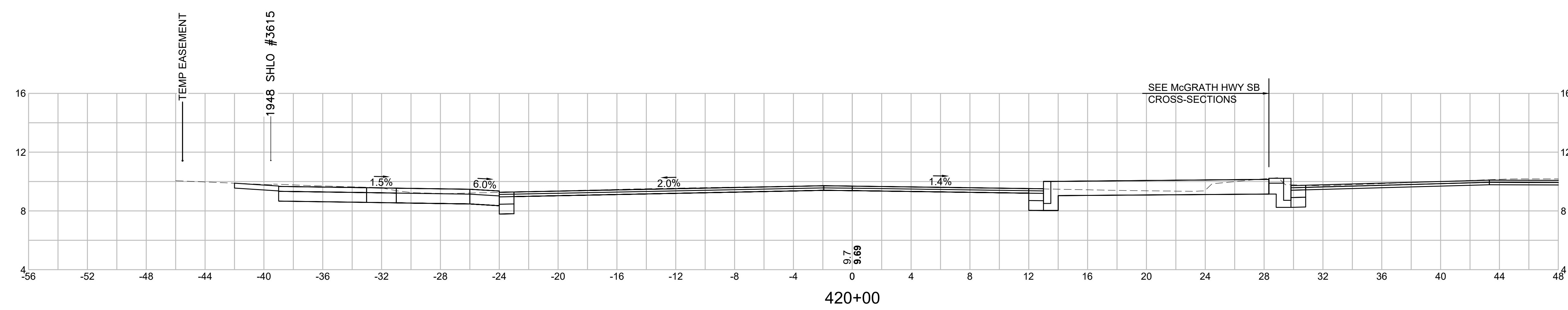




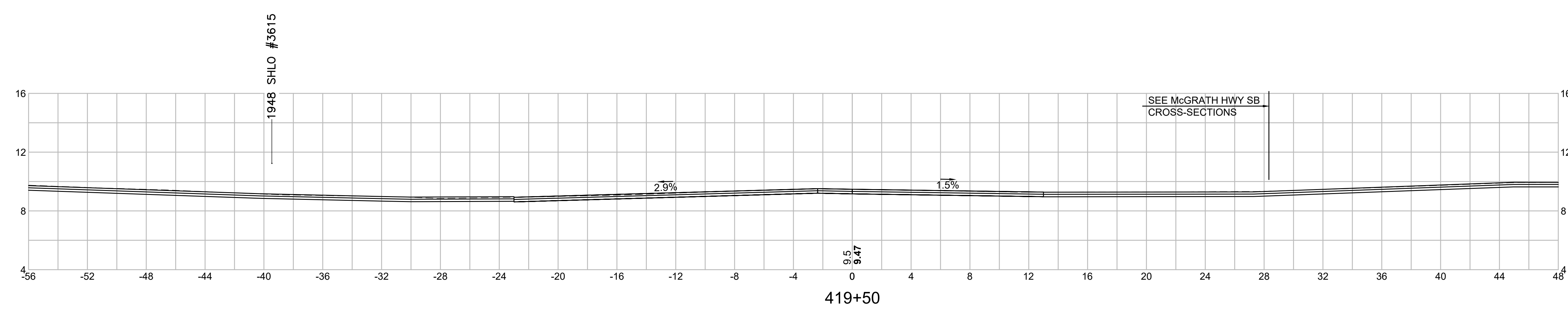
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	177	205
PROJECT FILE NO. 608562			

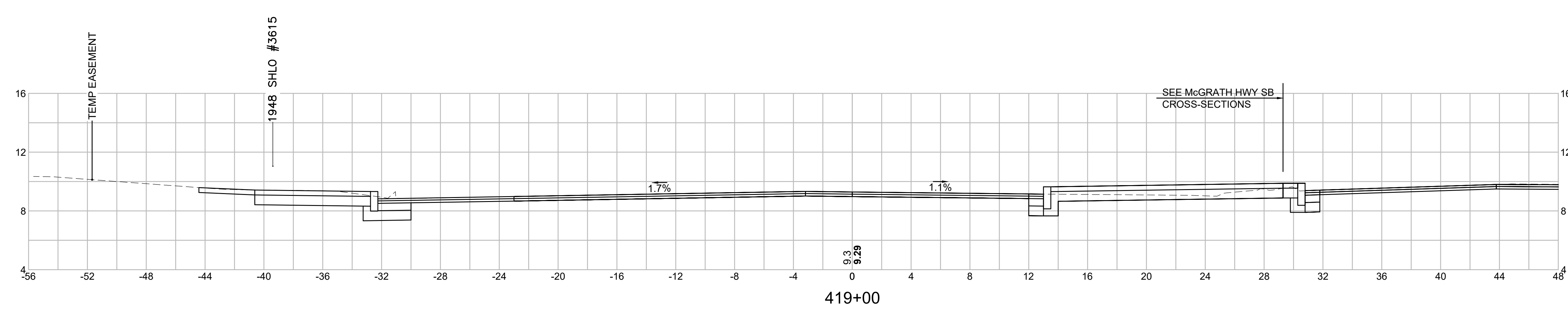
CROSS SECTIONS - (MCGRATH HWY NB)



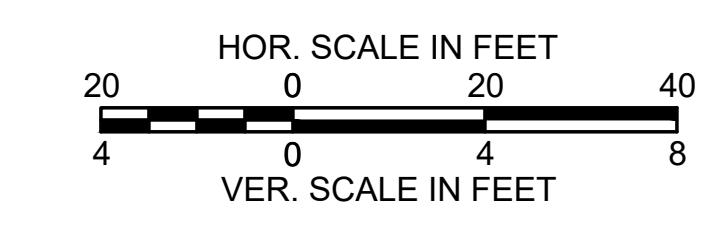
Material(s) at Station 420+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	22.7	21.0
FILL	0.7	0.6



Material(s) at Station 419+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	23.4
FILL	0.0	0.0



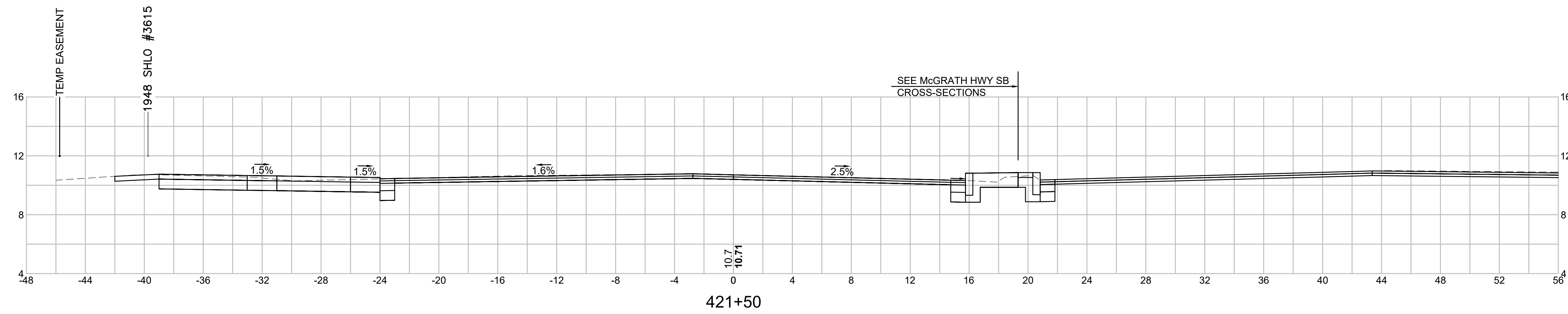
Material(s) at Station 419+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	25.3	45.4
FILL	0.0	1.0



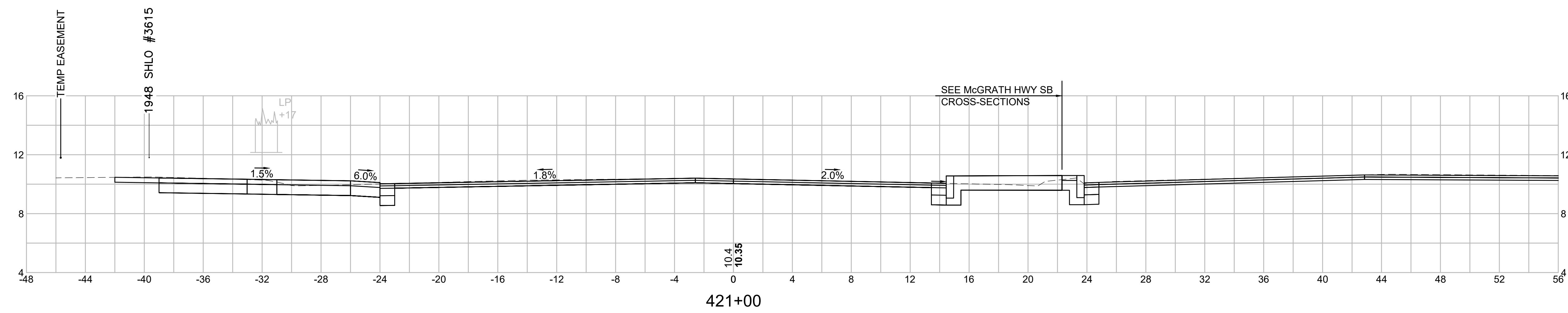
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	178	205
PROJECT FILE NO. 608562			

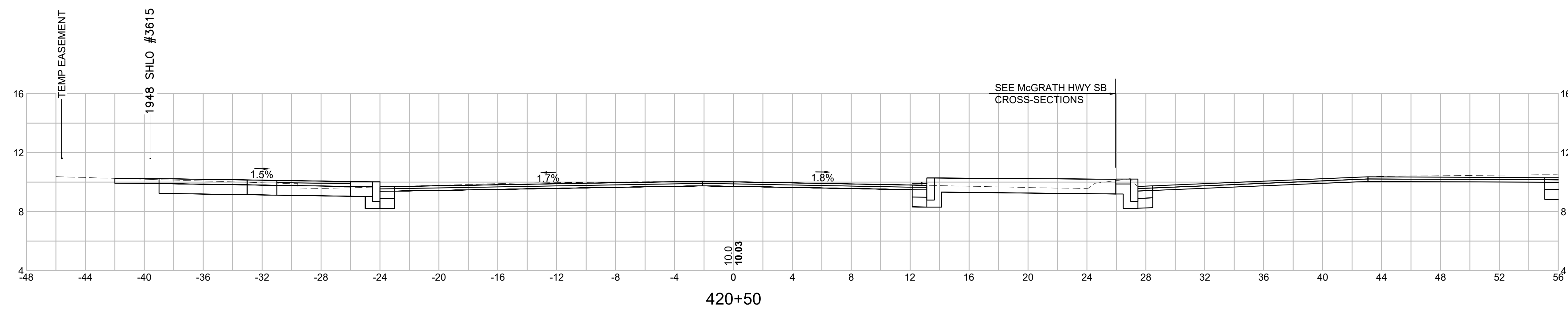
CROSS SECTIONS - (MCGRATH HWY NB)



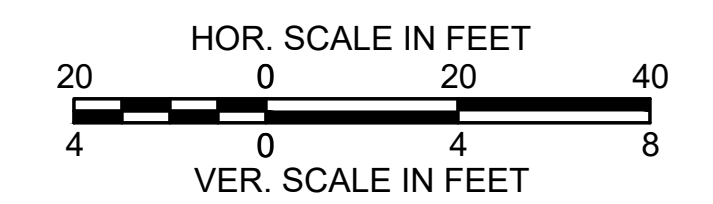
Material(s) at Station 421+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	20.9	40.2
FILL	0.0	0.0



Material(s) at Station 421+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	22.5	44.0
FILL	0.0	0.0



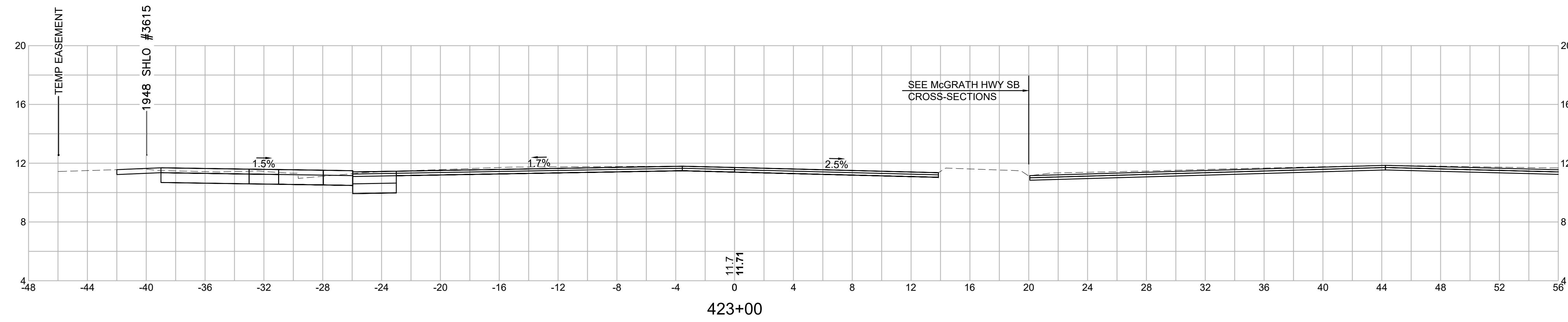
Material(s) at Station 420+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	25.0	44.2
FILL	0.0	0.6



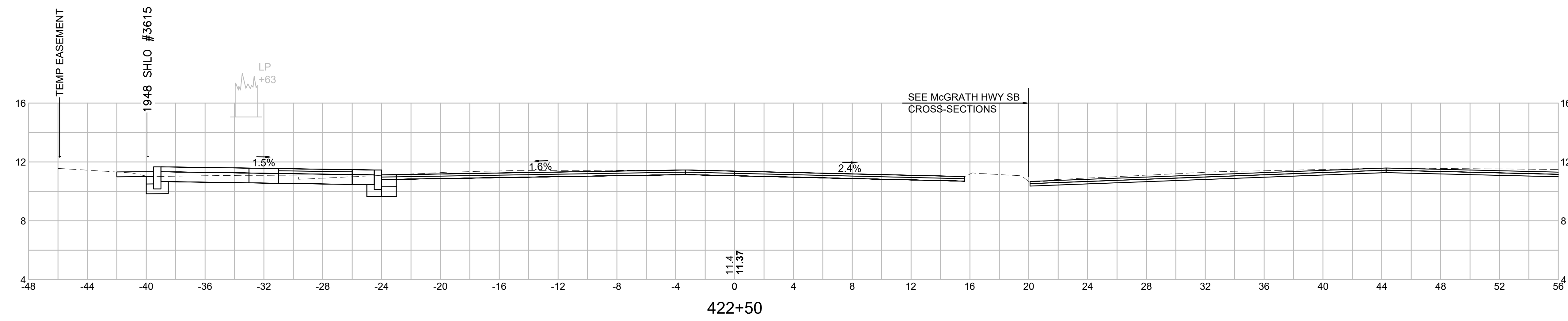
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	179	205
PROJECT FILE NO. 608562			

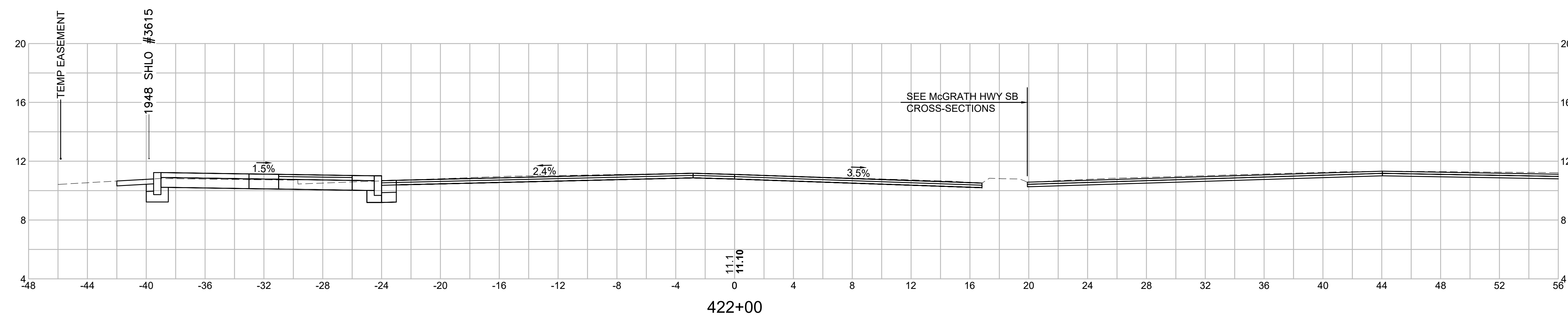
CROSS SECTIONS - (MCGRATH HWY NB)



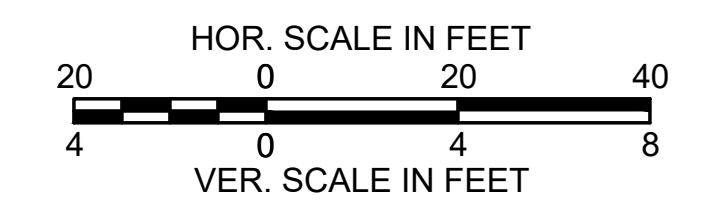
Material(s) at Station 423+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.1	21.7
FILL	0.0	0.0



Material(s) at Station 422+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	9.3	18.7
FILL	0.0	0.0



Material(s) at Station 422+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	10.9	29.4
FILL	0.0	0.0

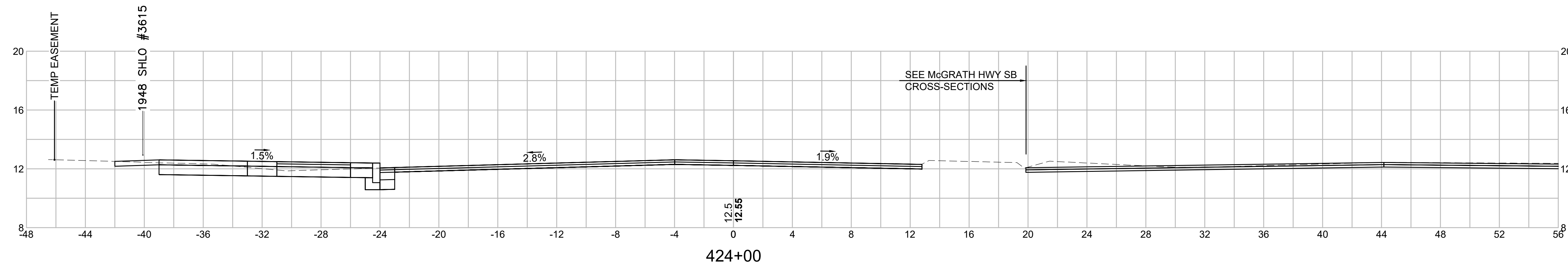
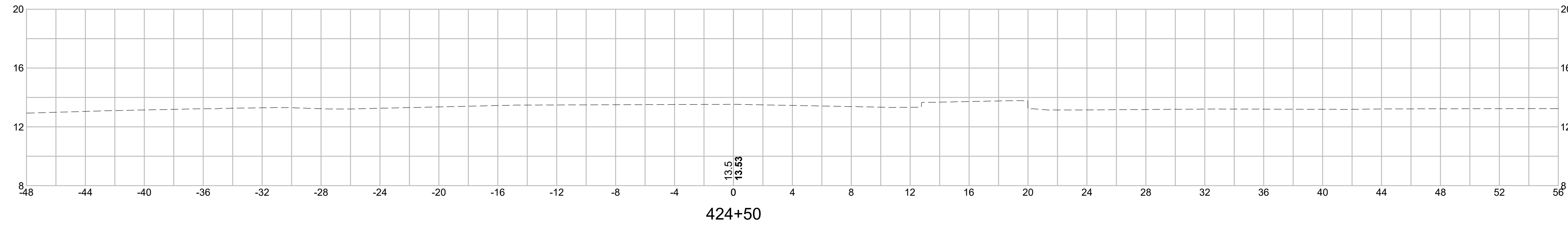


SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

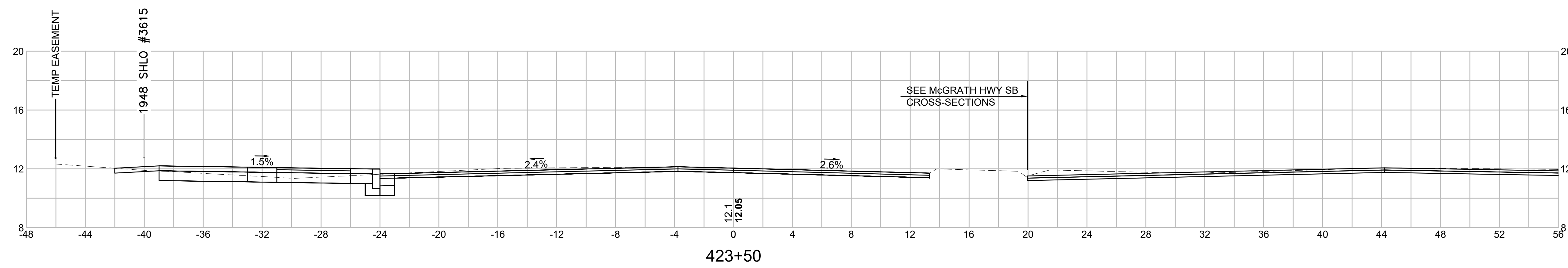
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	180	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MCGRATH HWY NB)

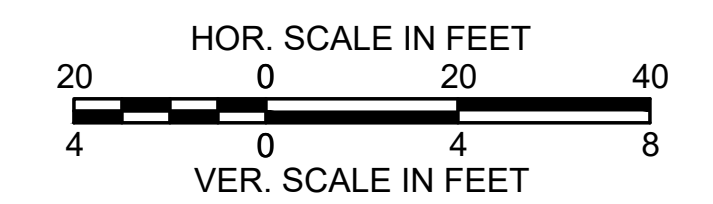
608562\_HDXSEC\_MCGRATH\_HWY\_NB.DWG Plotted on 15-Jul-2024 6:43 PM



Material(s) at Station 424+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.4	19.2
FILL	0.0	0.0



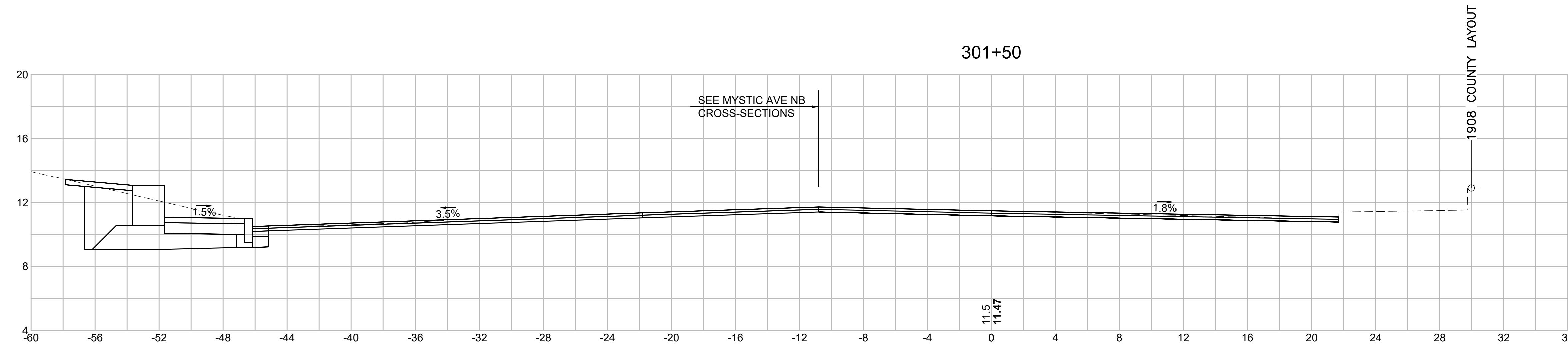
Material(s) at Station 423+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	9.3	21.7
FILL	0.0	0.0



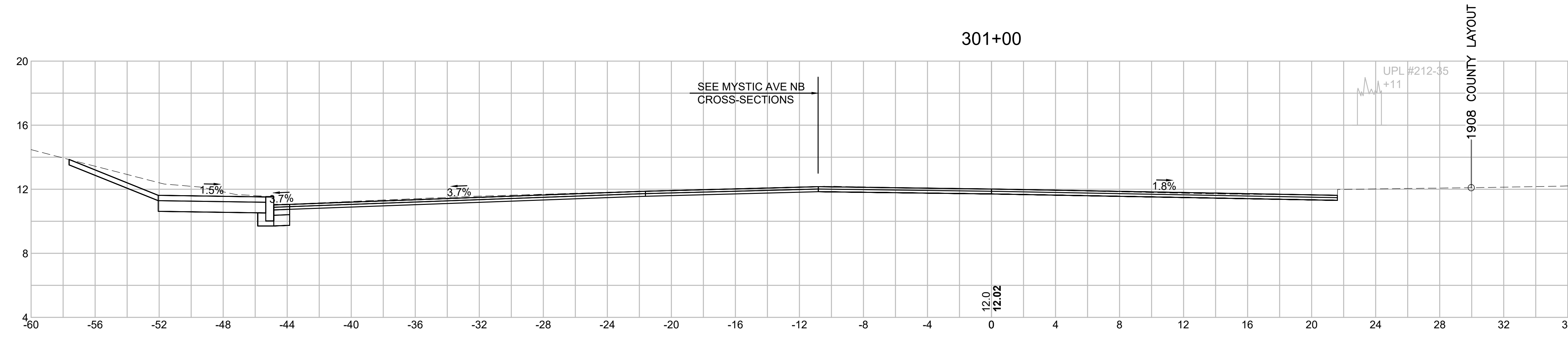
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	181	205
PROJECT FILE NO. 608562			

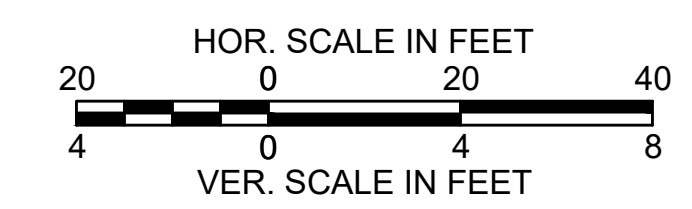
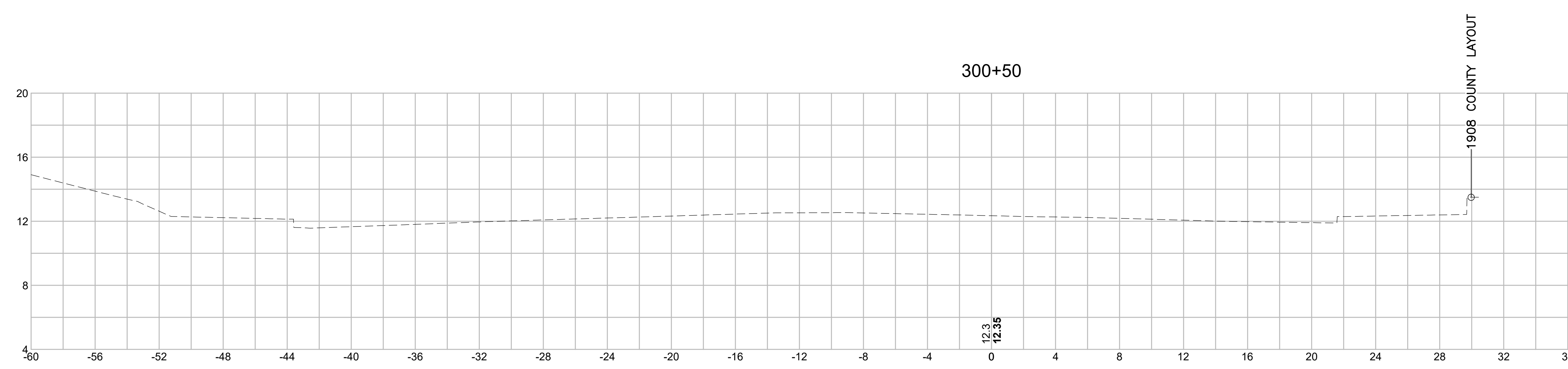
CROSS SECTIONS - (MYSTIC AVENUE SB)



Material(s) at Station 301+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



Material(s) at Station 301+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0

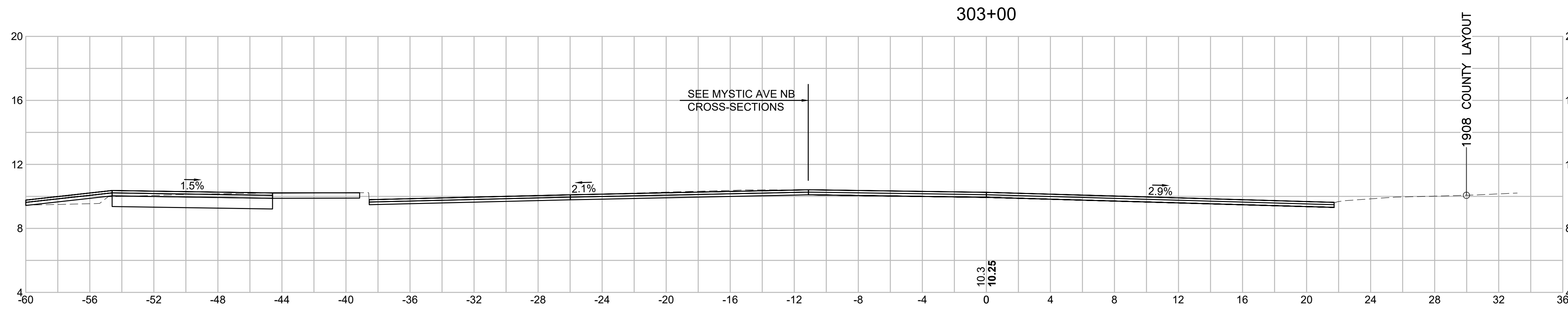


SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

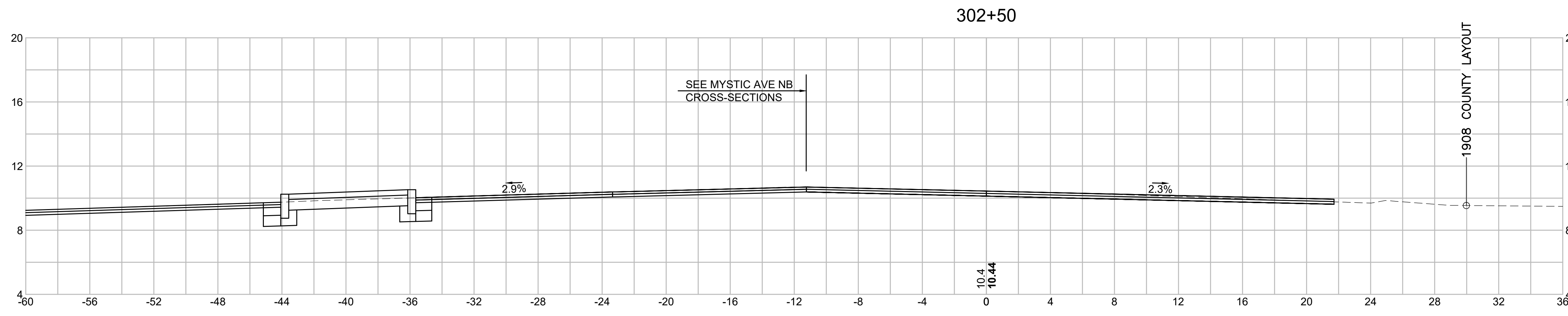
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	182	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE SB)

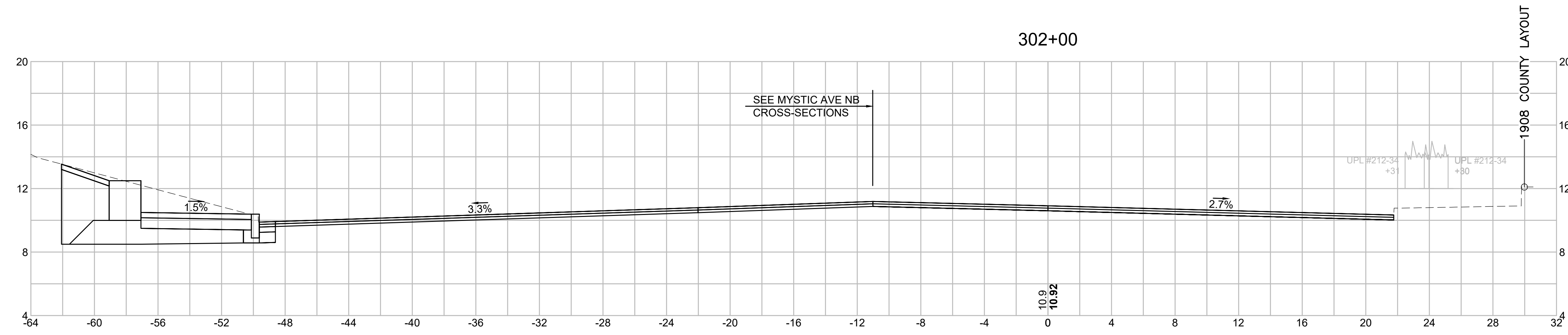
608562\_HR(X)SEC\_MYSTIC\_AVE\_SB.DWG Plotted on 15-Jul-2024 6:48 PM



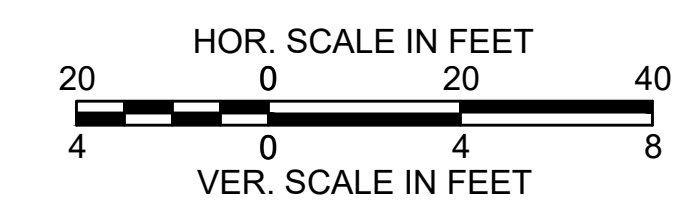
Material(s) at Station 303+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



Material(s) at Station 302+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0

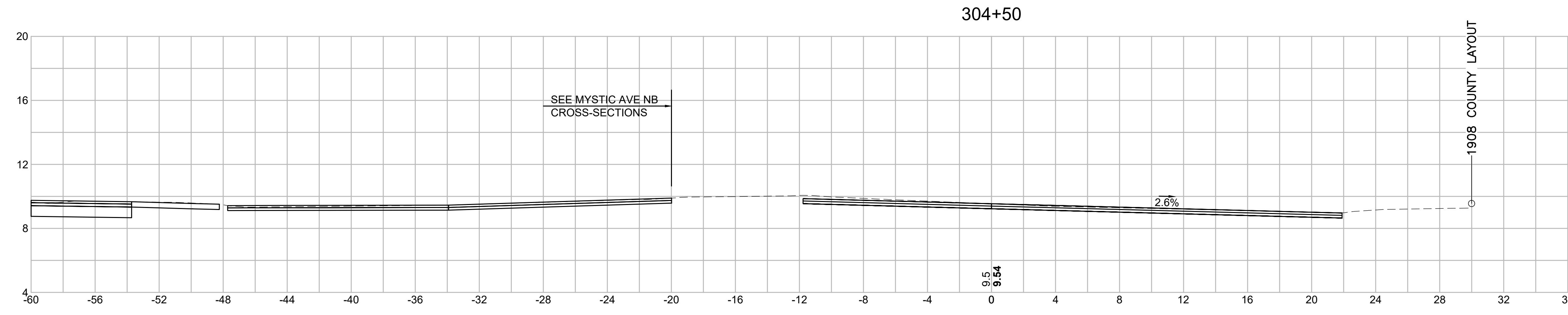


Material(s) at Station 302+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0

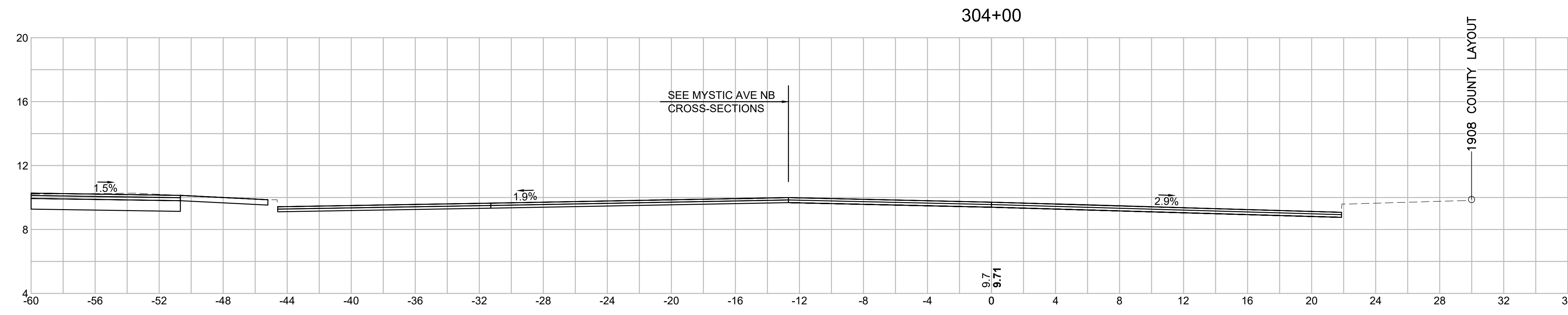


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	183	205
PROJECT FILE NO. 608562			

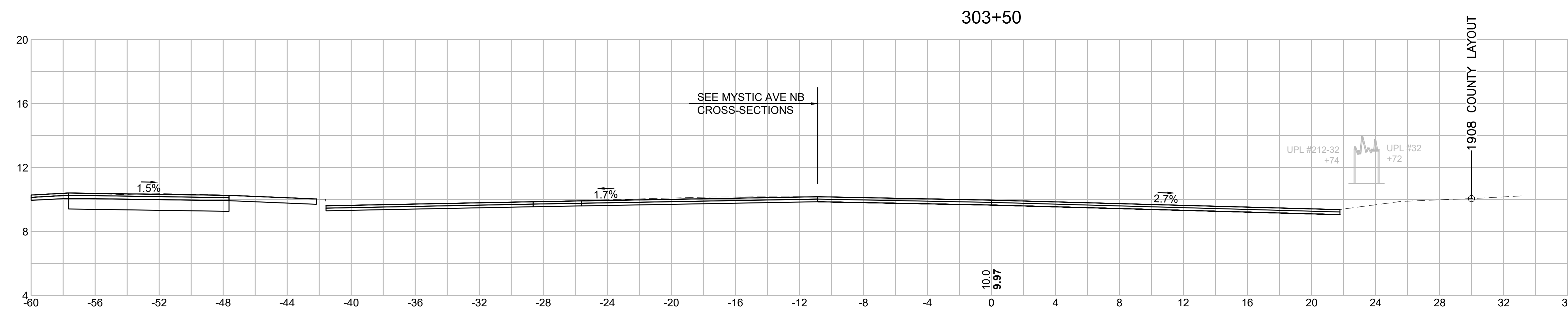
CROSS SECTIONS - (MYSTIC AVENUE SB)



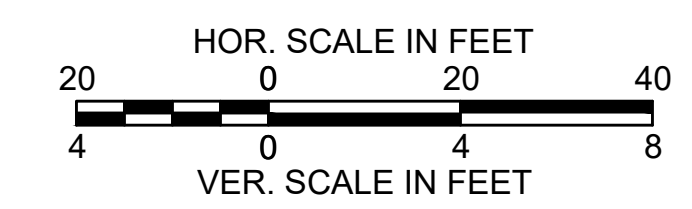
Material(s) at Station 304+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



Material(s) at Station 304+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



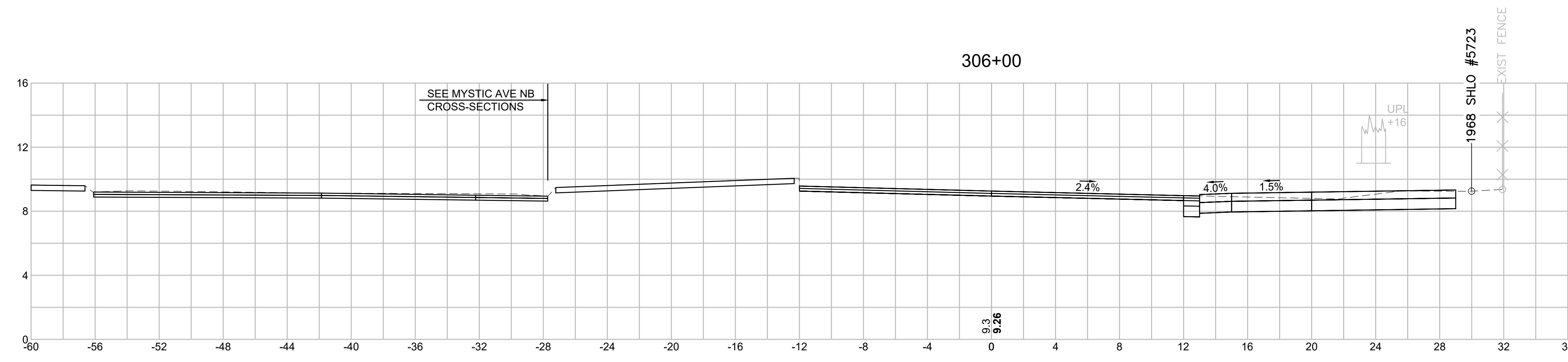
Material(s) at Station 303+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



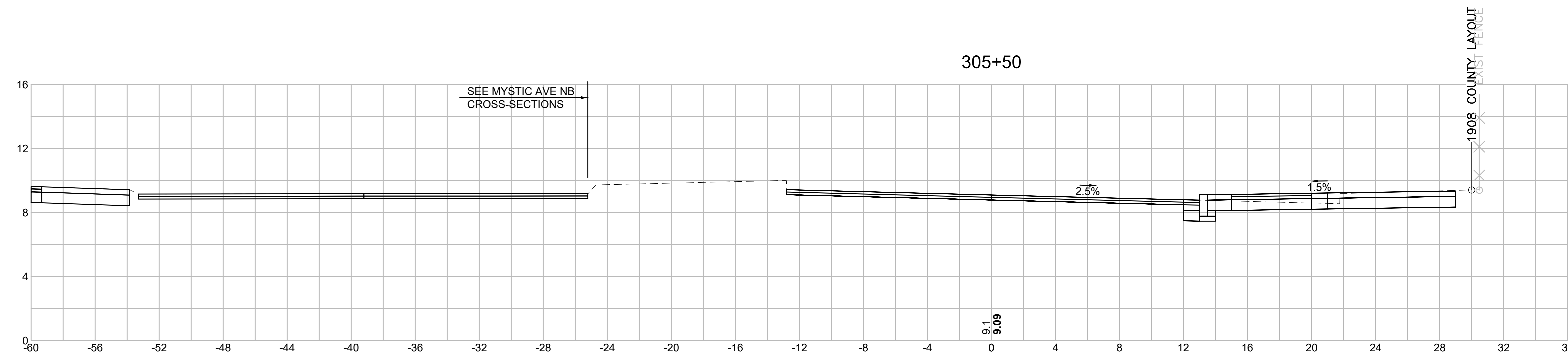
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	184	205
PROJECT FILE NO. 608562			

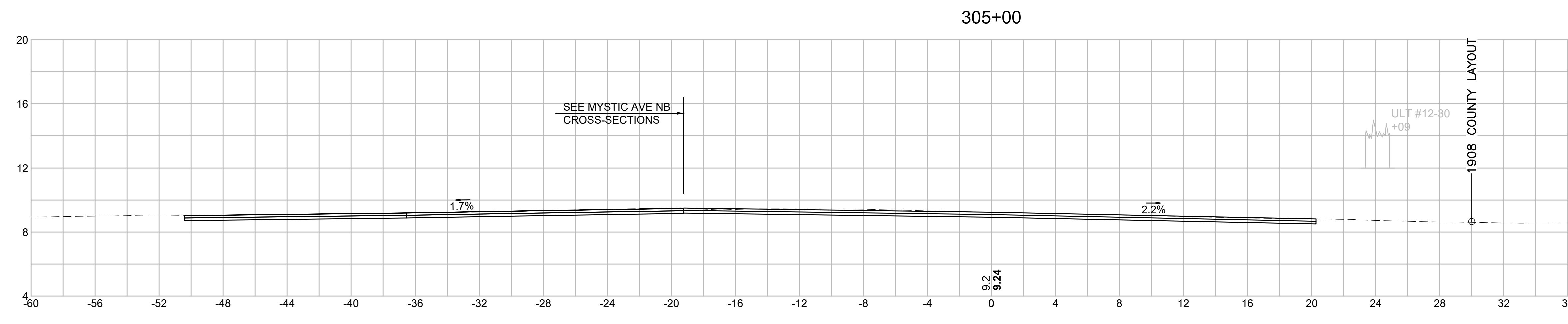
CROSS SECTIONS - (MYSTIC AVENUE SB)



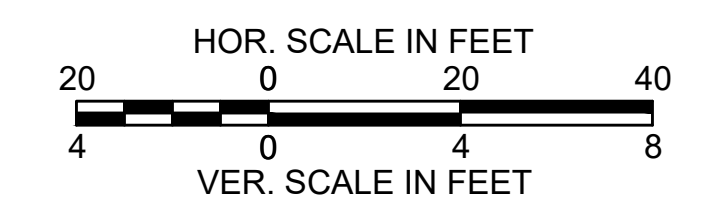
Material(s) at Station 306+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.4	27.2
FILL	0.0	0.0



Material(s) at Station 305+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	13.0	12.0
FILL	0.0	0.0



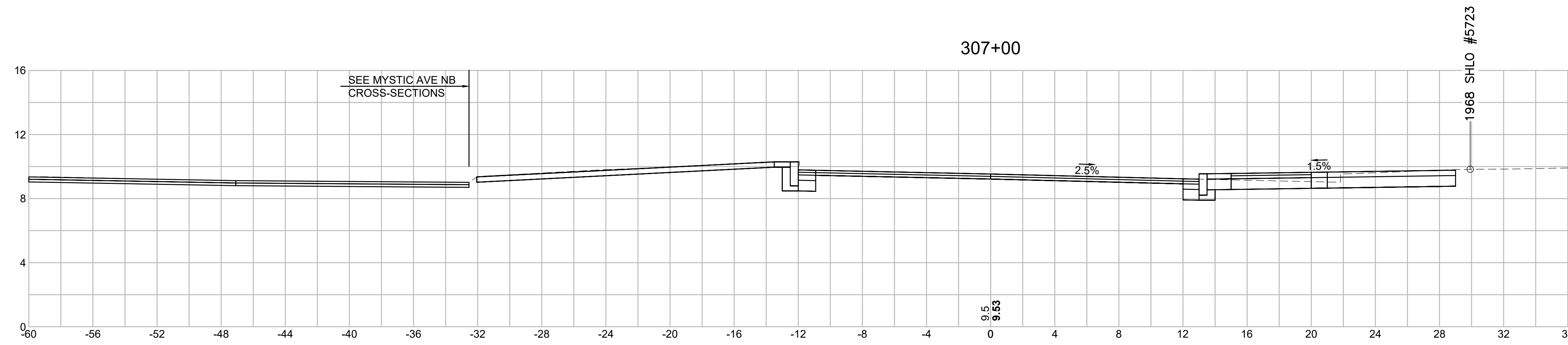
Material(s) at Station 305+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



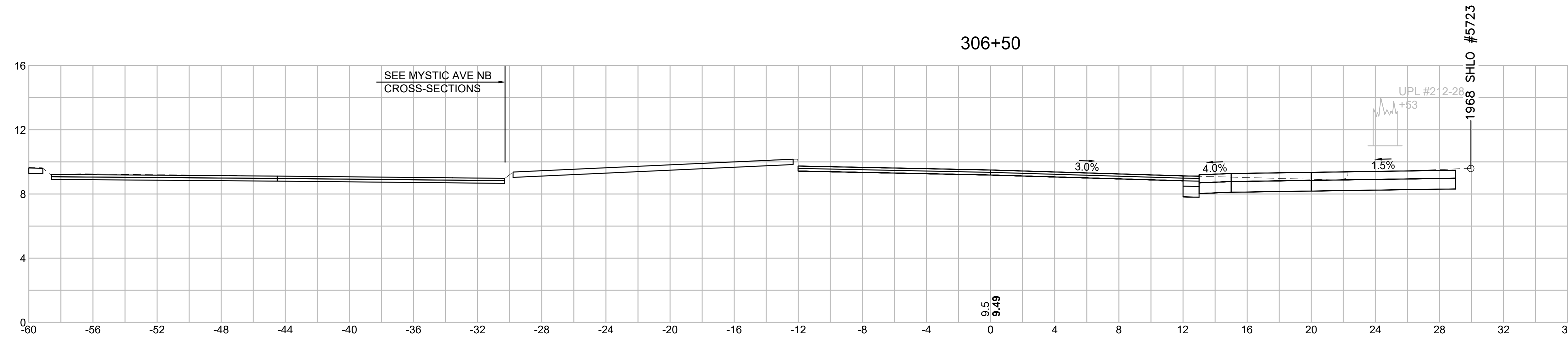


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	185	205
PROJECT FILE NO. 608562			

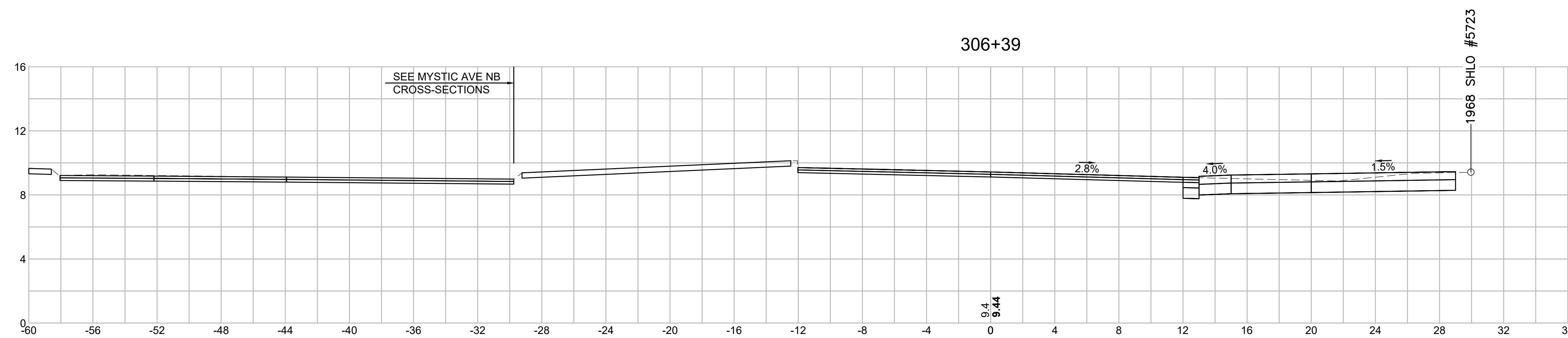
CROSS SECTIONS - (MYSTIC AVENUE SB)



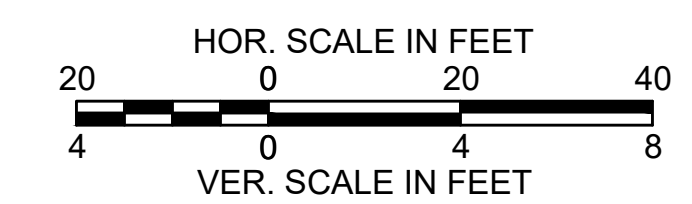
Material(s) at Station 307+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.7	31.4
FILL	0.0	0.0



Material(s) at Station 306+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	17.1	6.7
FILL	0.0	0.0

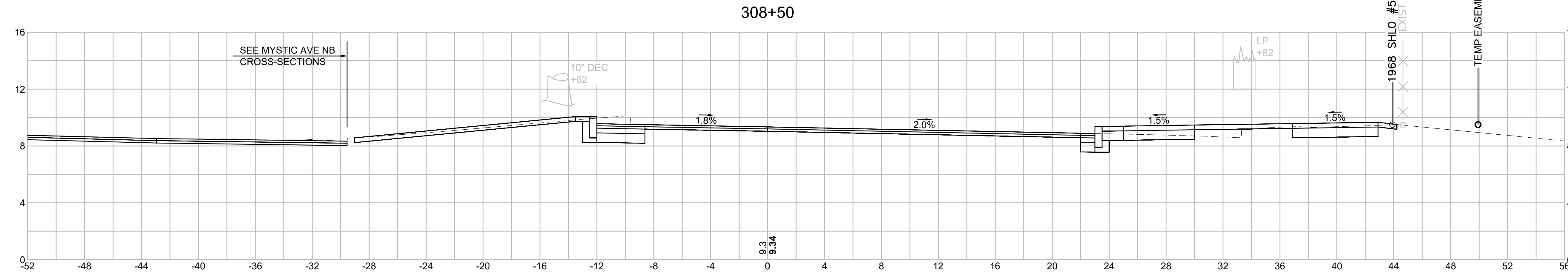


Material(s) at Station 306+39.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.0	23.4
FILL	0.0	0.0



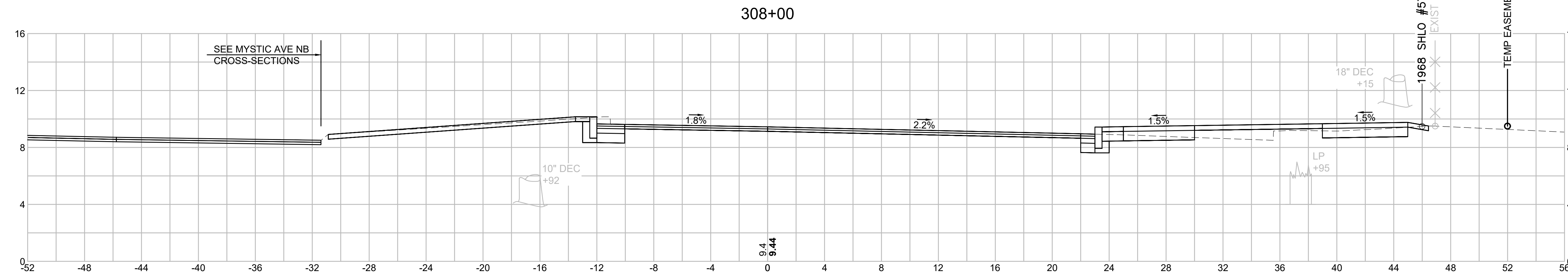
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	186	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE SB)



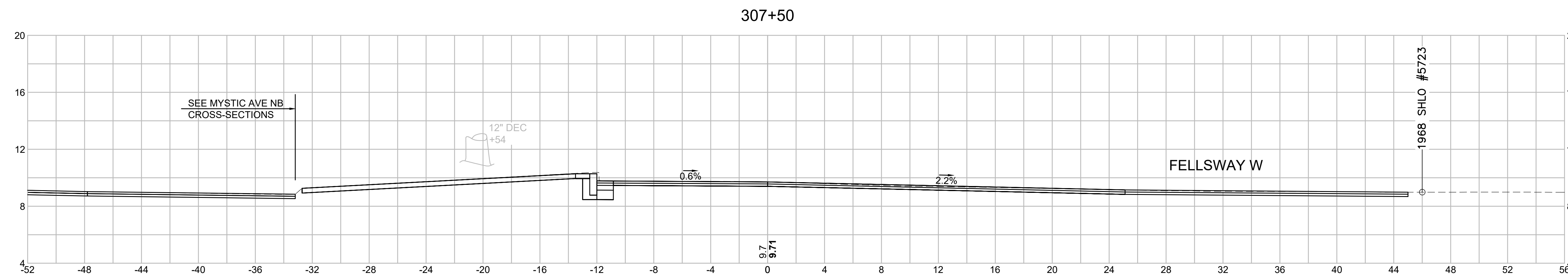
Material(s) at Station 308+50.00

Material Name	Area (sf)	Volume (cy)
CUT	16.2	26.8
FILL	1.7	5.3



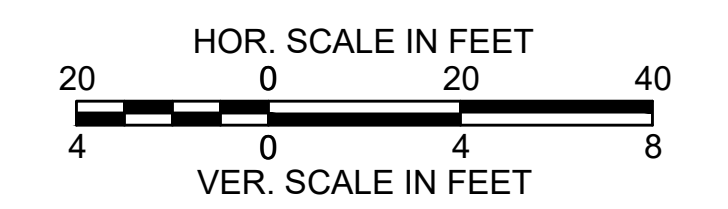
Material(s) at Station 308+00.00

Material Name	Area (sf)	Volume (cy)
CUT	12.7	15.2
FILL	4.0	3.7



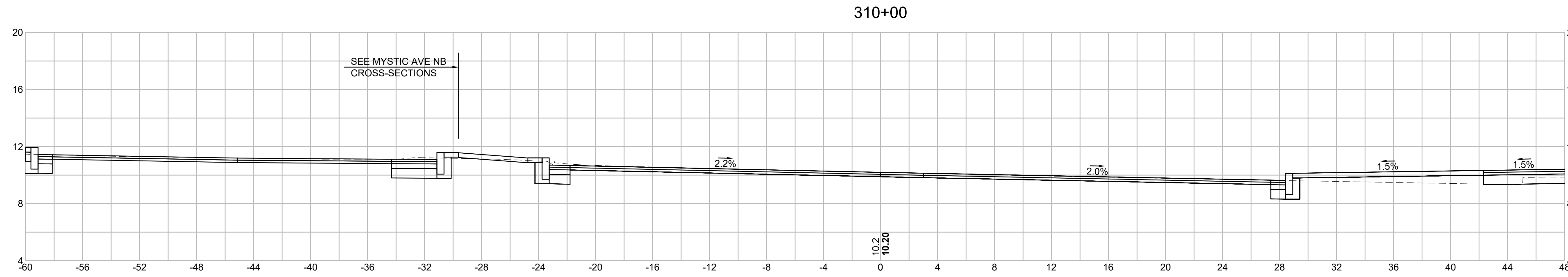
Material(s) at Station 307+50.00

Material Name	Area (sf)	Volume (cy)
CUT	3.7	18.9
FILL	0.0	0.0

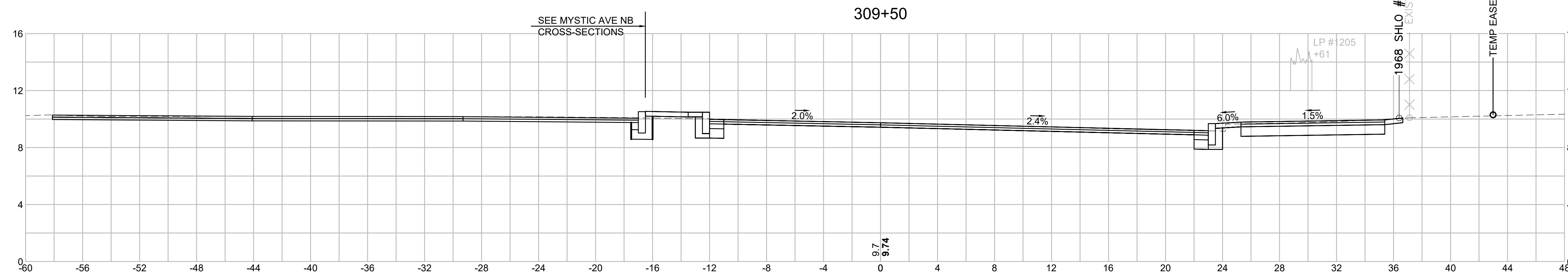


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	187	205
PROJECT FILE NO. 608562			

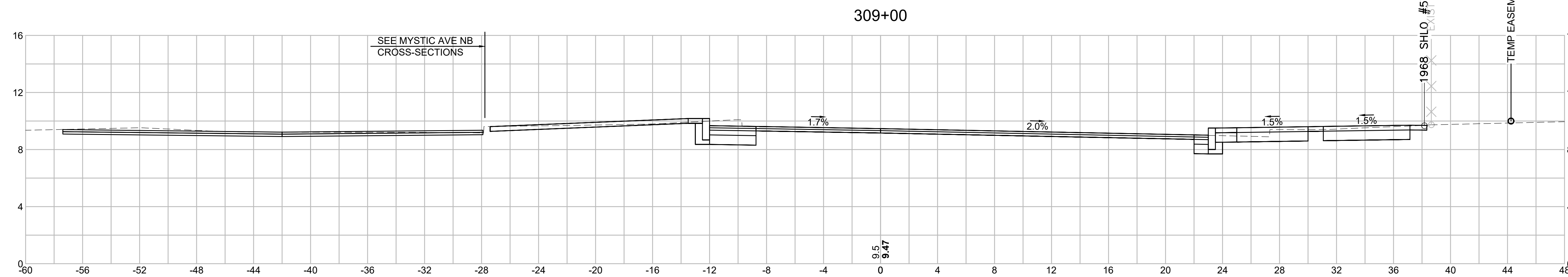
CROSS SECTIONS - (MYSTIC AVENUE SB)



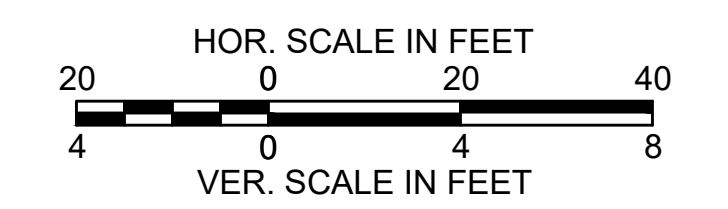
Material(s) at Station 310+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	8.5	22.2
FILL	5.2	4.9



Material(s) at Station 309+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	15.5	29.8
FILL	0.0	0.0



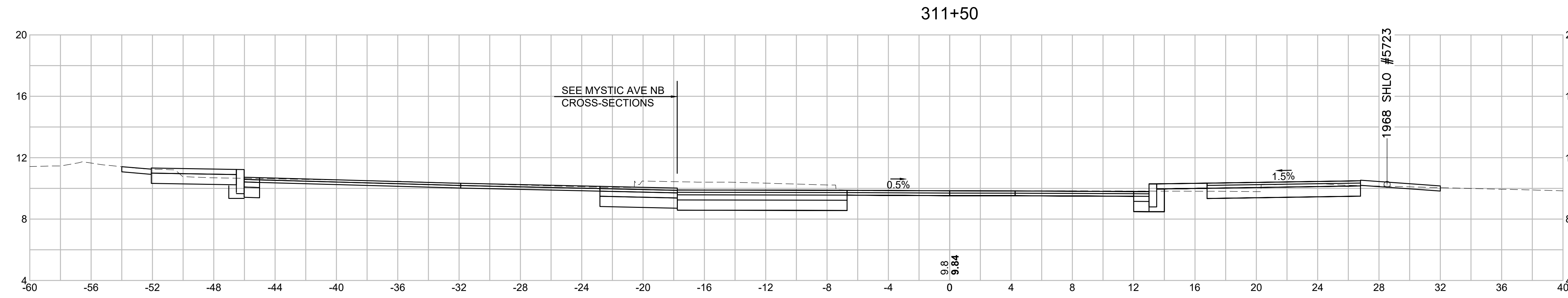
Material(s) at Station 309+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.7	30.5
FILL	0.0	1.6



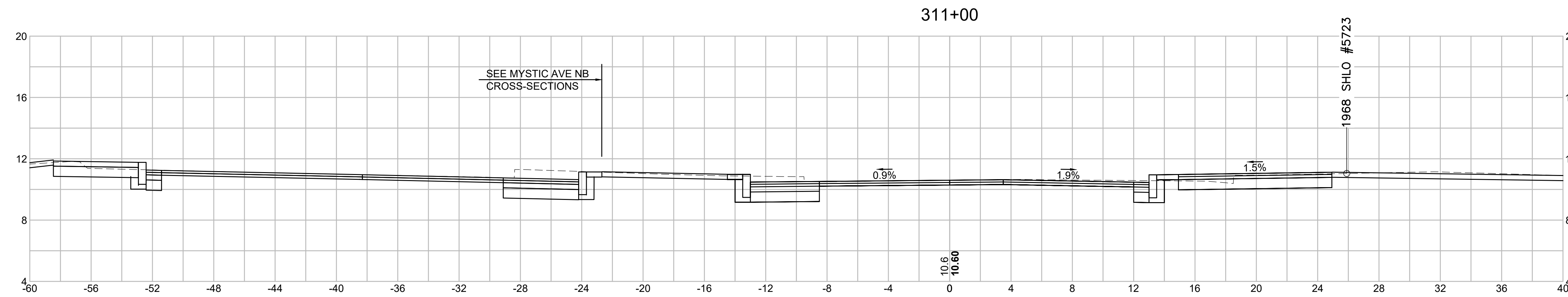
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	188	205
PROJECT FILE NO. 608562			

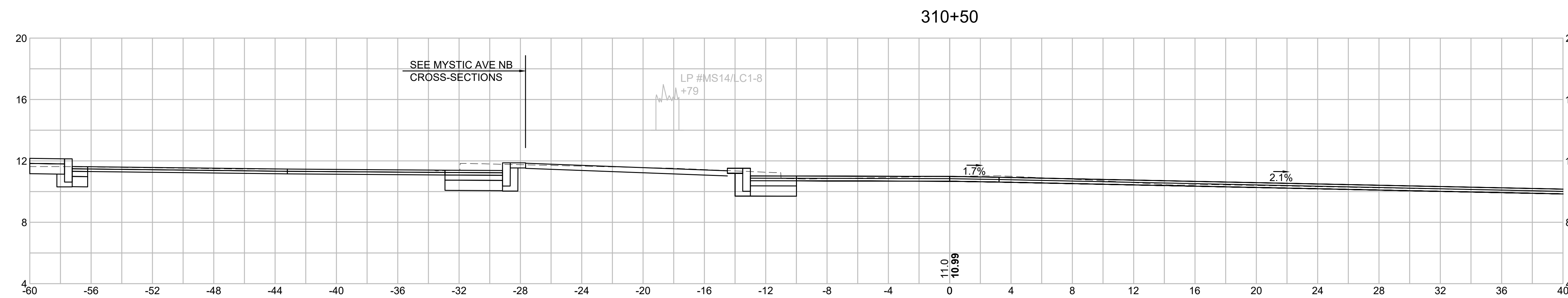
CROSS SECTIONS - (MYSTIC AVENUE SB)



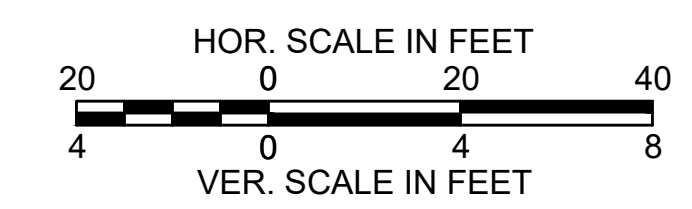
Material(s) at Station 311+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	42.1	56.8
FILL	0.6	0.6



Material(s) at Station 311+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	19.2	24.0
FILL	2.0	1.0



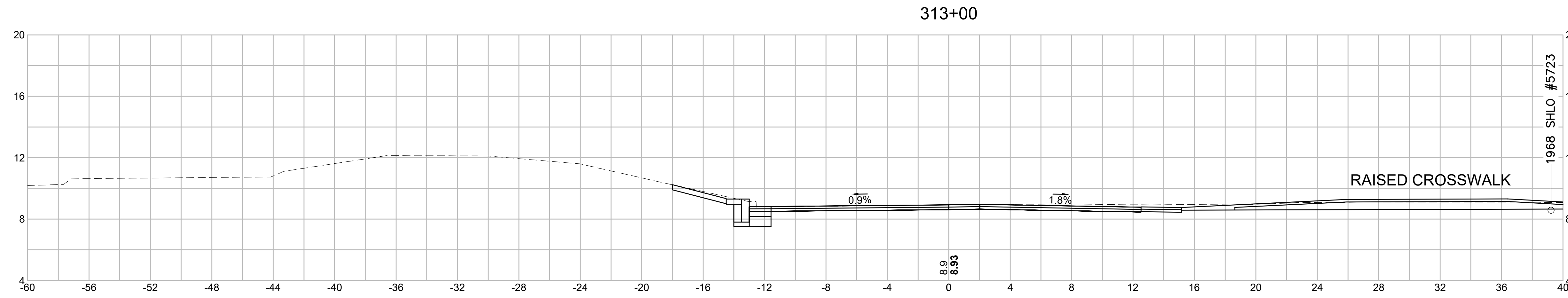
Material(s) at Station 310+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	6.7	7.6
FILL	0.0	0.0



SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

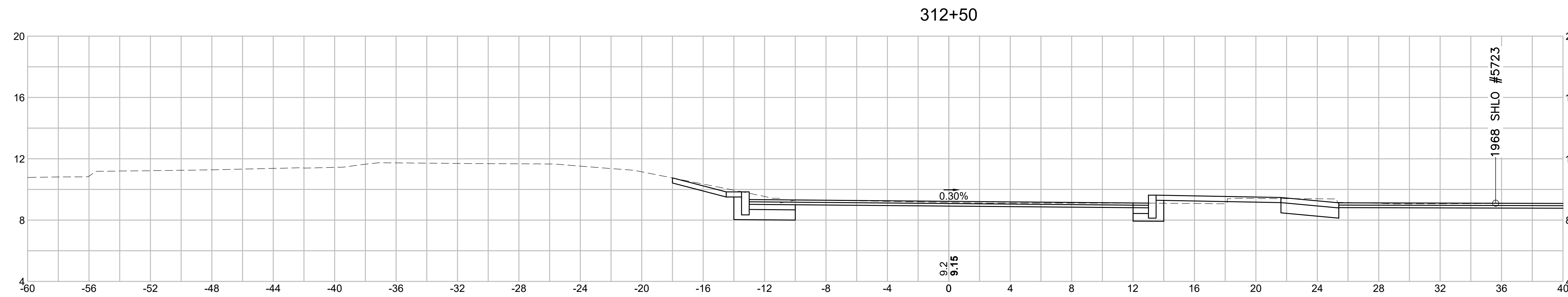
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	189	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE SB)



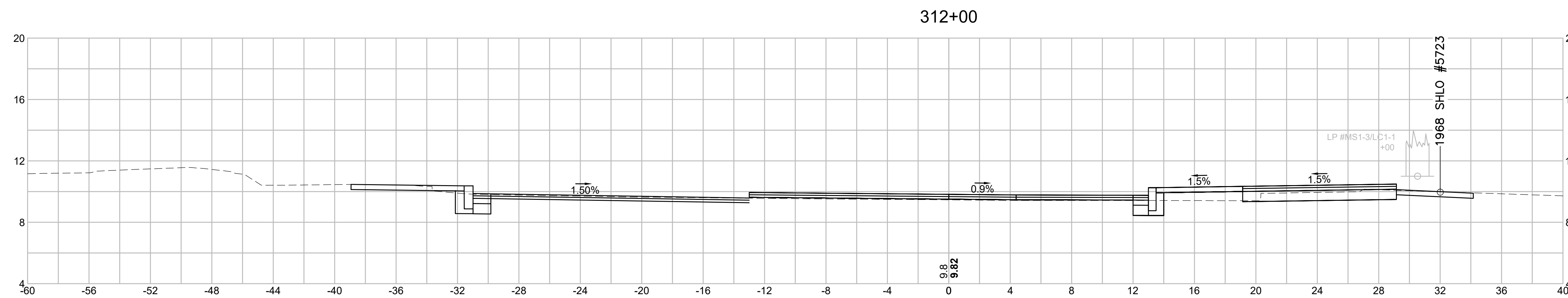
Material(s) at Station 313+00.00

Material Name	Area (sf)	Volume (cy)
CUT	5.3	18.1
FILL	0.0	0.0



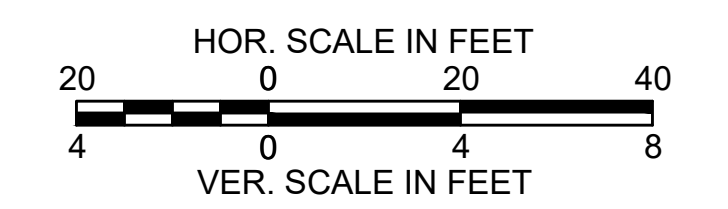
Material(s) at Station 312+50.00

Material Name	Area (sf)	Volume (cy)
CUT	14.2	30.4
FILL	0.0	0.0



Material(s) at Station 312+00.00

Material Name	Area (sf)	Volume (cy)
CUT	18.6	31.4
FILL	0.4	0.9



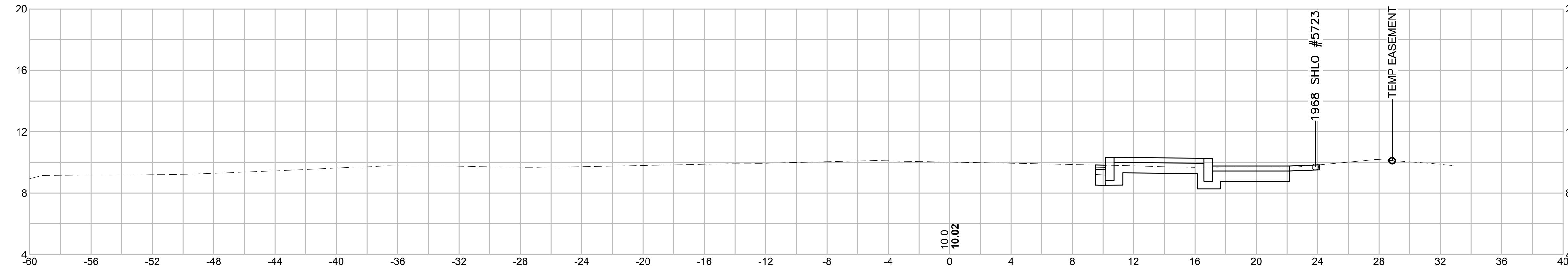
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	190	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE SB)

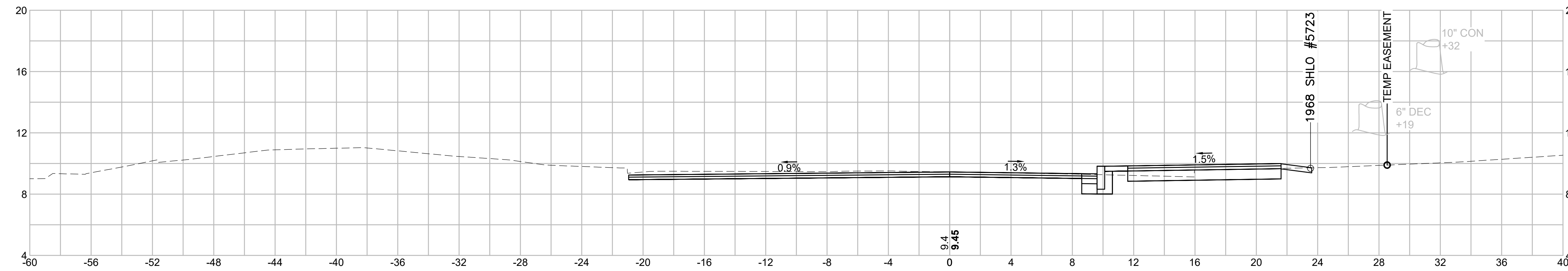
608562\_HR(XSEC)\_MYSTIC\_AVE\_SB.DWG Plotted on 15-Jul-2024 6:50 PM

314+50



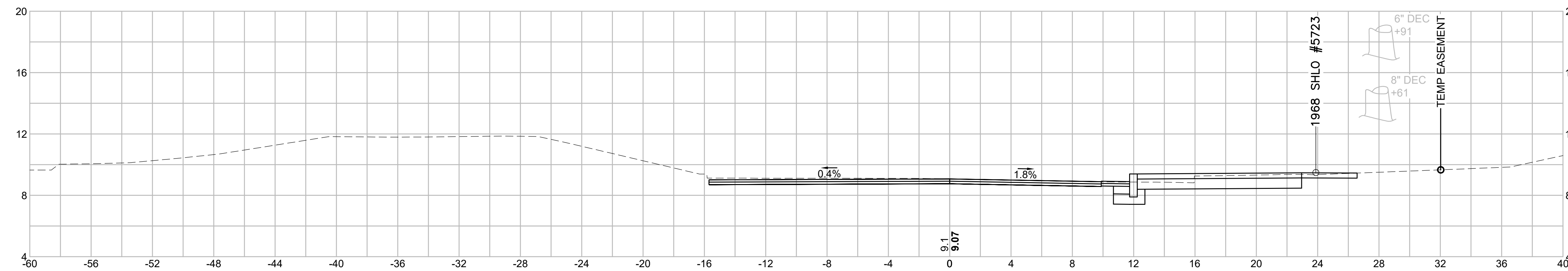
Material(s) at Station 314+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.2	17.9
FILL	0.0	0.0

314+00

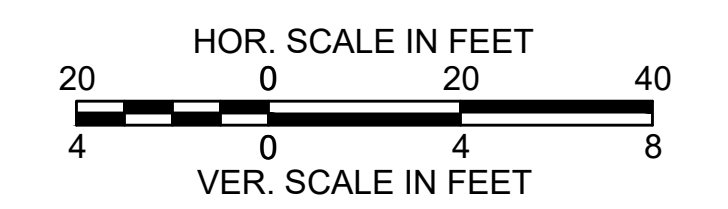


Material(s) at Station 314+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	8.1	18.1
FILL	0.0	0.0

313+50

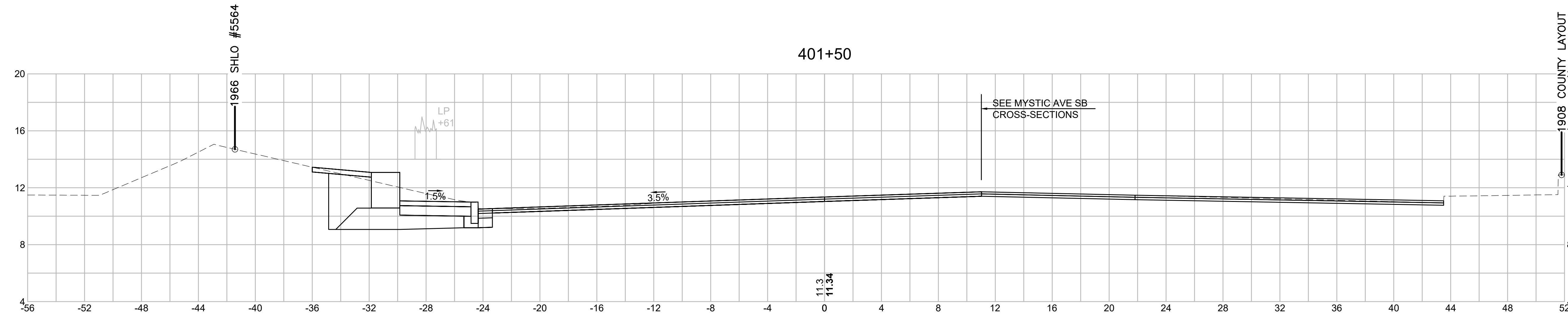


Material(s) at Station 313+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.4	15.5
FILL	0.0	0.0



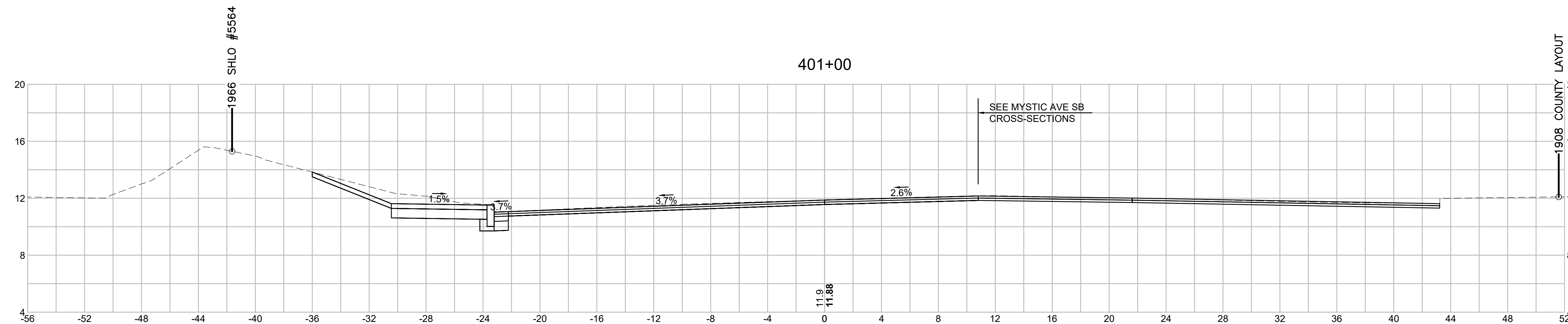
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	191	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE NB)



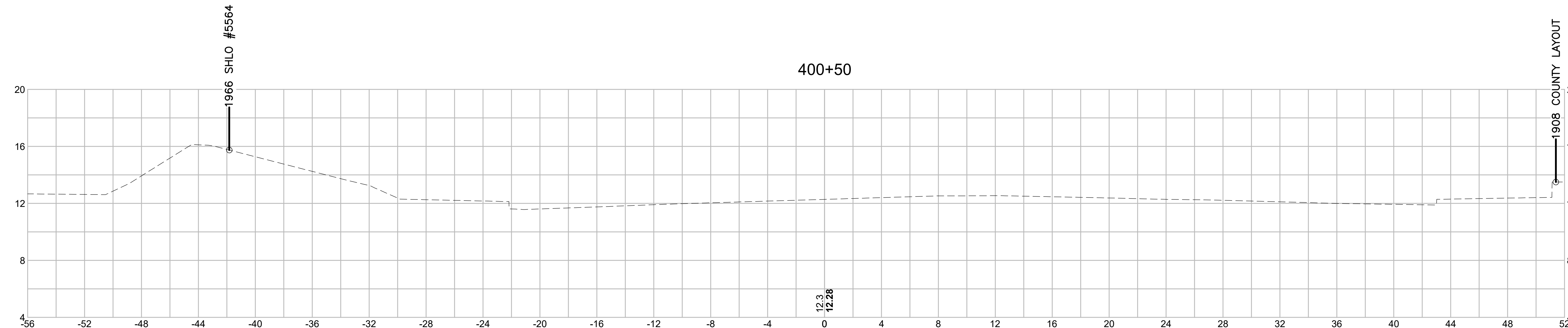
Material(s) at Station 401+50.00

Material Name	Area (sf)	Volume (cy)
CUT	31.8	44.3
FILL	0.2	0.2



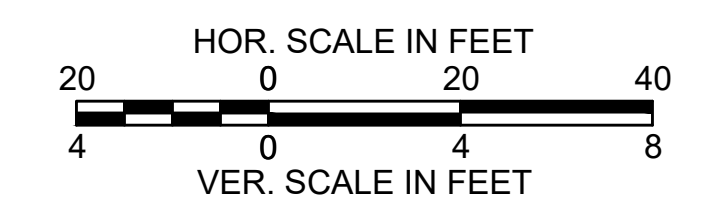
Material(s) at Station 401+00.00

Material Name	Area (sf)	Volume (cy)
CUT	16.0	4.1
FILL	0.0	0.0



Material(s) at Station 400+50.00

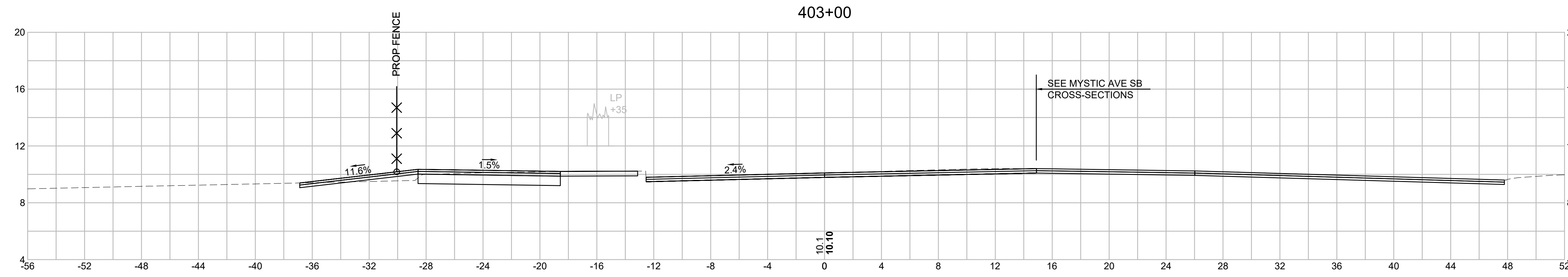
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0



SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

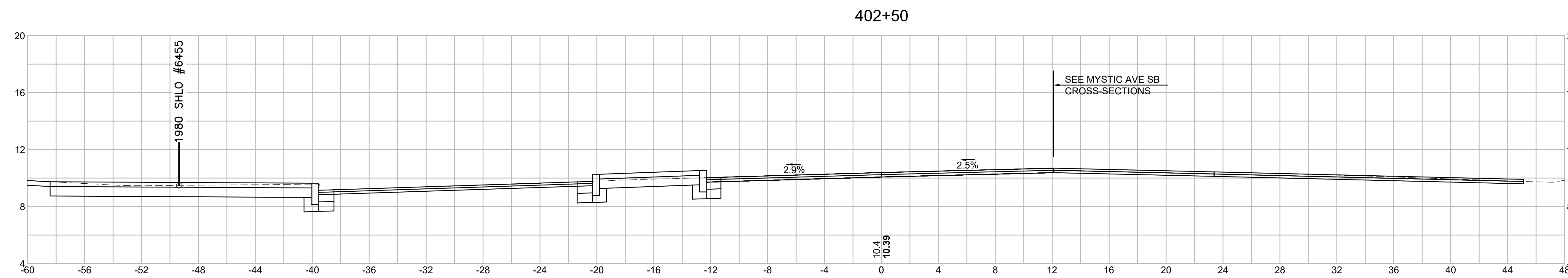
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	192	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE NB)



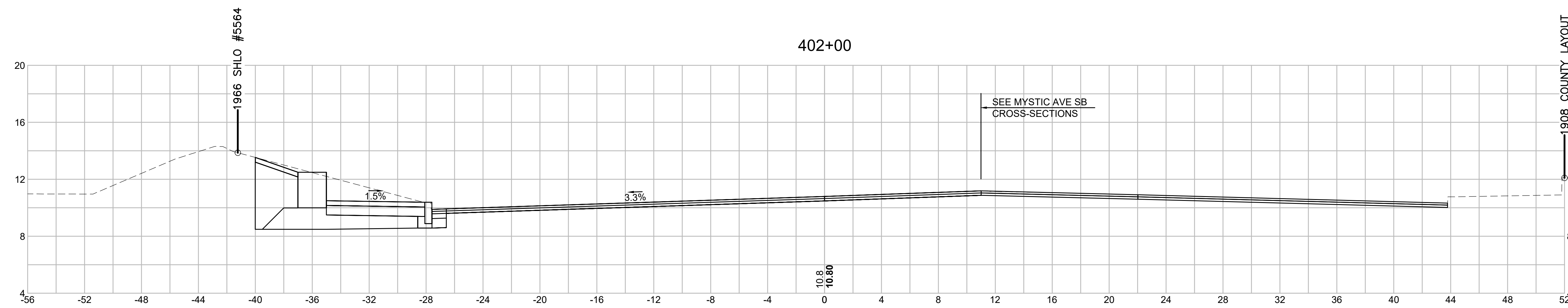
Material(s) at Station 403+00.00

Material Name	Area (sf)	Volume (cy)
CUT	8.8	8.2
FILL	1.0	1.0



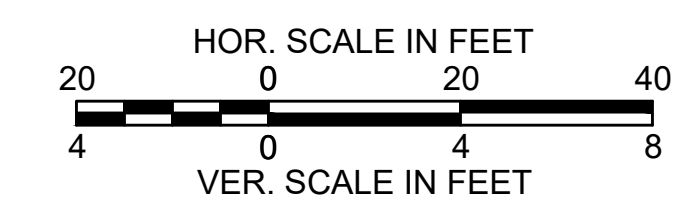
Material(s) at Station 402+50.00

Material Name	Area (sf)	Volume (cy)
CUT	28.3	66.1
FILL	0.0	0.0



Material(s) at Station 402+00.00

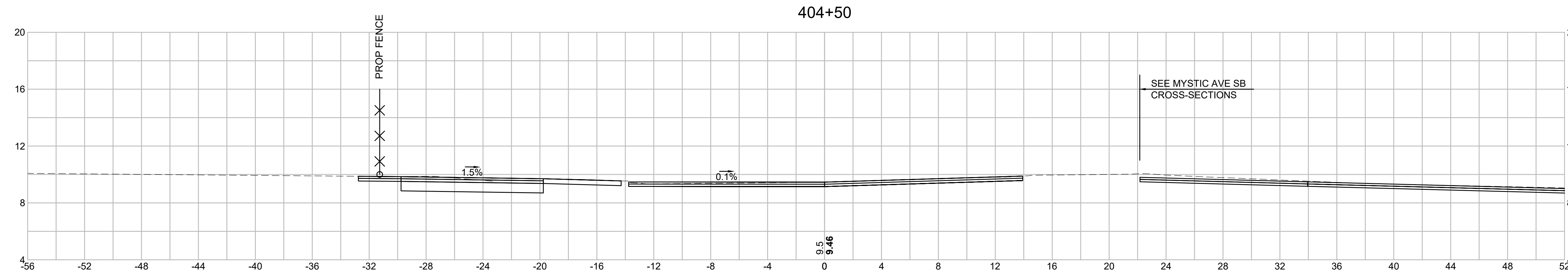
Material Name	Area (sf)	Volume (cy)
CUT	43.1	69.4
FILL	0.0	0.2



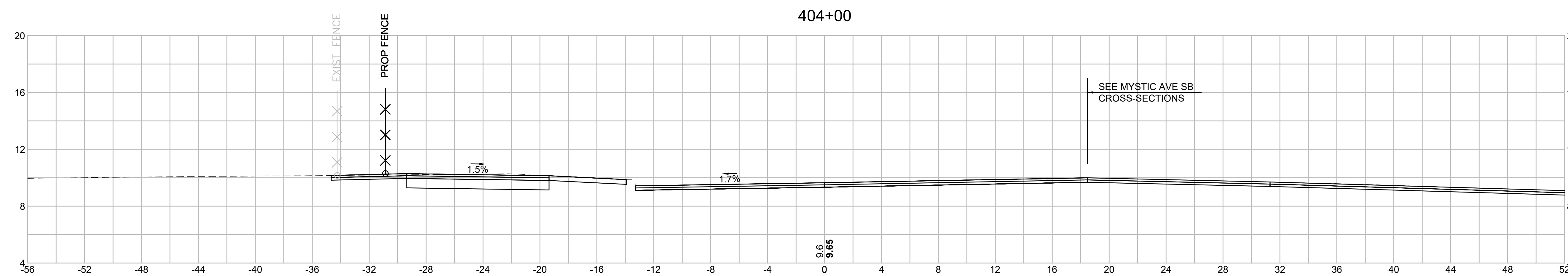


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	193	205
PROJECT FILE NO. 608562			

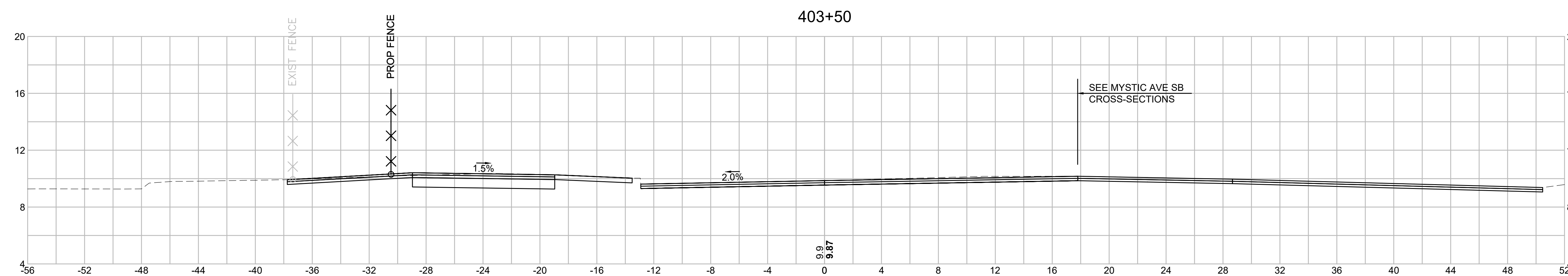
CROSS SECTIONS - (MYSTIC AVENUE NB)



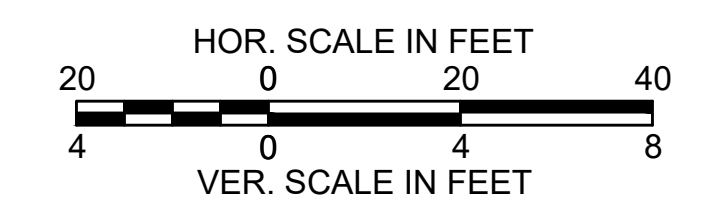
Material(s) at Station 404+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	10.8	20.8
FILL	0.0	0.0



Material(s) at Station 404+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.8	21.8
FILL	0.0	0.0



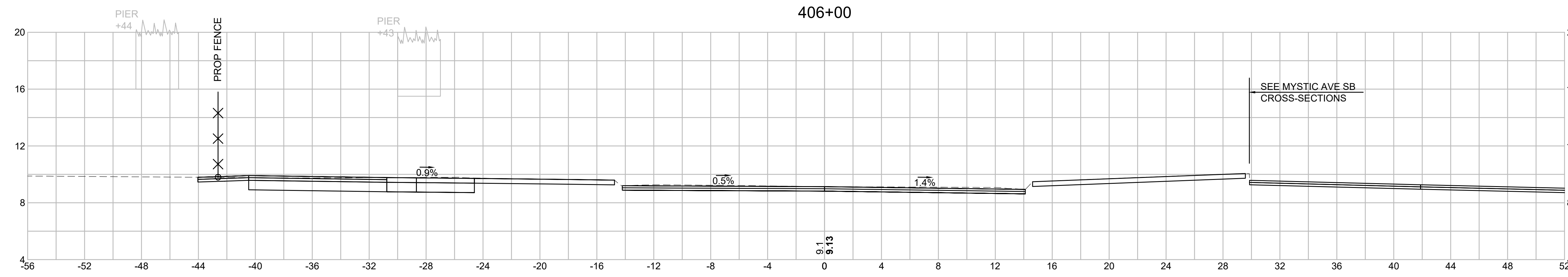
Material(s) at Station 403+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	11.7	19.0
FILL	0.0	1.0



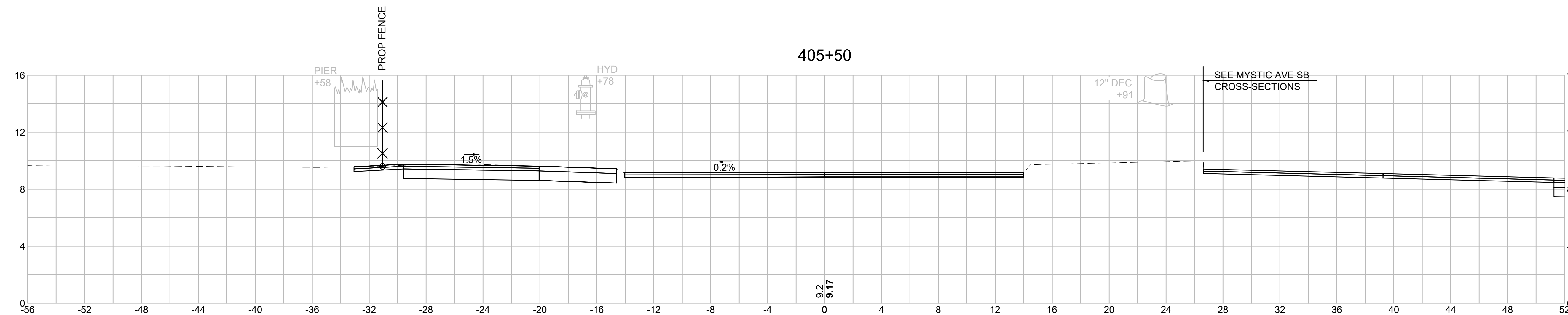
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	194	205
PROJECT FILE NO. 608562			

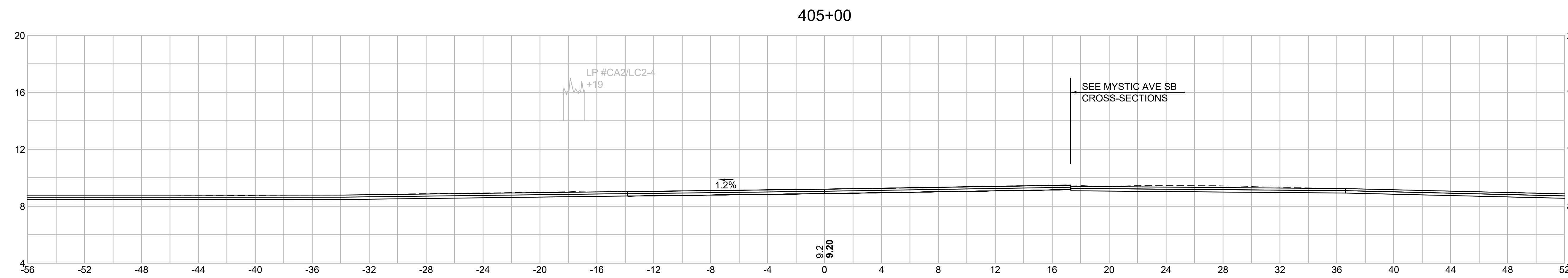
CROSS SECTIONS - (MYSTIC AVENUE NB)



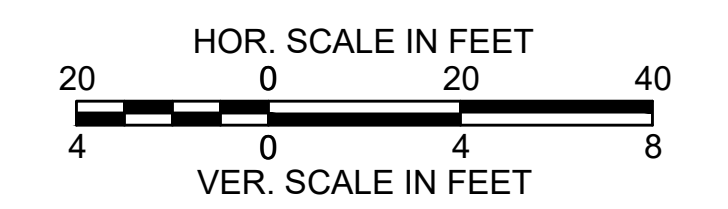
Material(s) at Station 406+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	19.3	32.9
FILL	0.0	0.0



Material(s) at Station 405+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.2	15.0
FILL	0.0	0.0

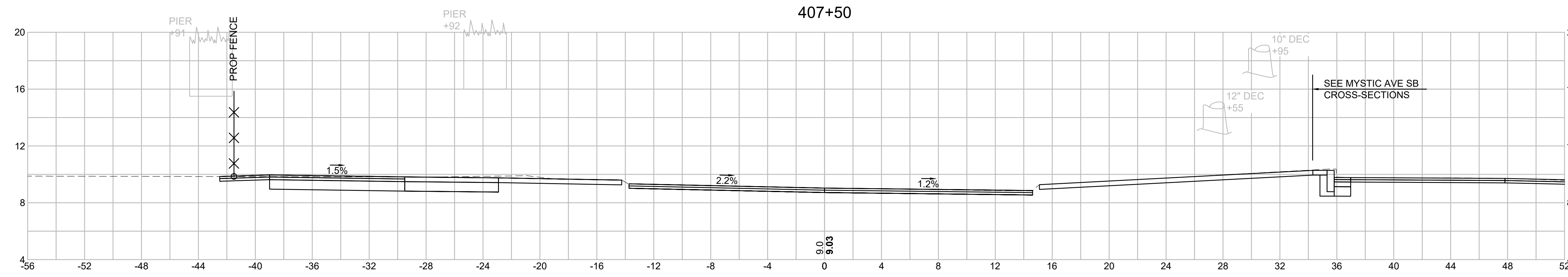


Material(s) at Station 405+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	10.0
FILL	0.0	0.0



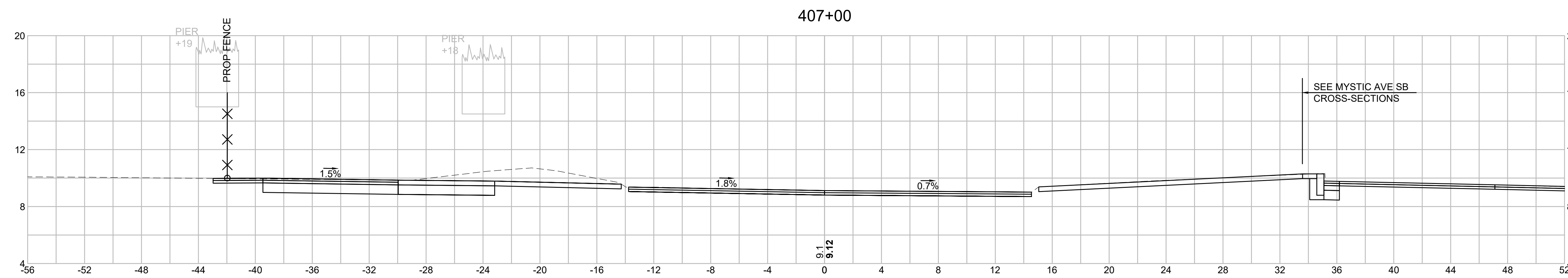
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	195	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE NB)



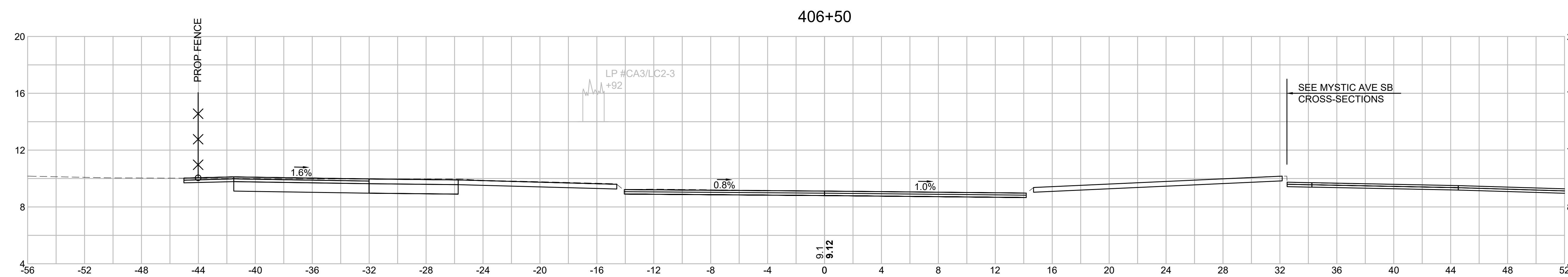
Material(s) at Station 407+50.00

Material Name	Area (sf)	Volume (cy)
CUT	20.0	45.2
FILL	0.0	0.0



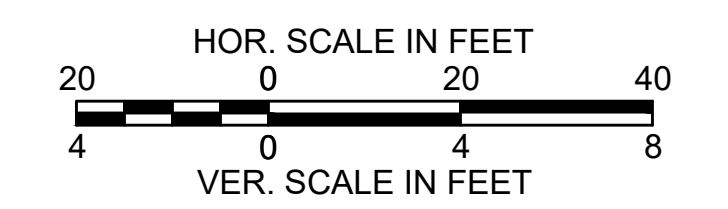
Material(s) at Station 407+00.00

Material Name	Area (sf)	Volume (cy)
CUT	28.8	45.5
FILL	0.0	0.0



Material(s) at Station 406+50.00

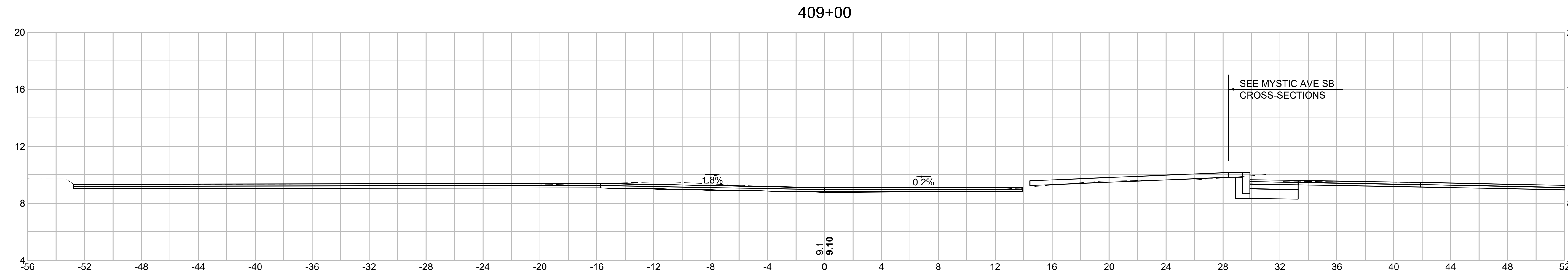
Material Name	Area (sf)	Volume (cy)
CUT	20.4	36.7
FILL	0.0	0.0



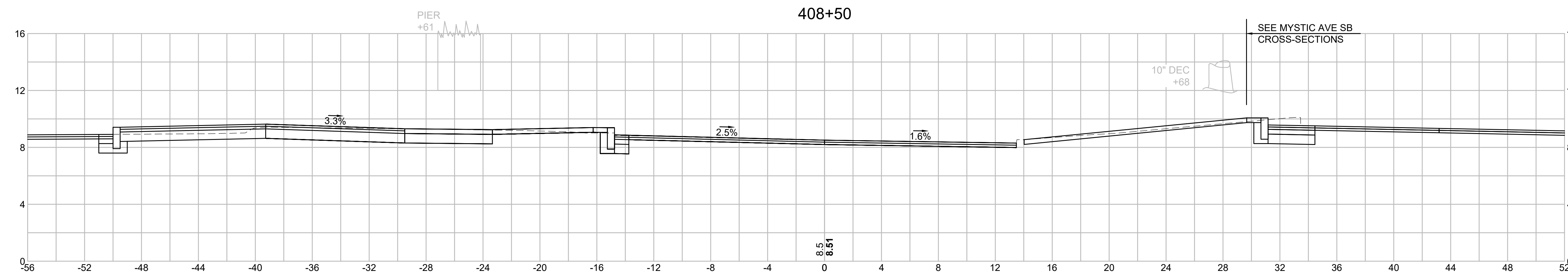
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	196	205
PROJECT FILE NO. 608562			

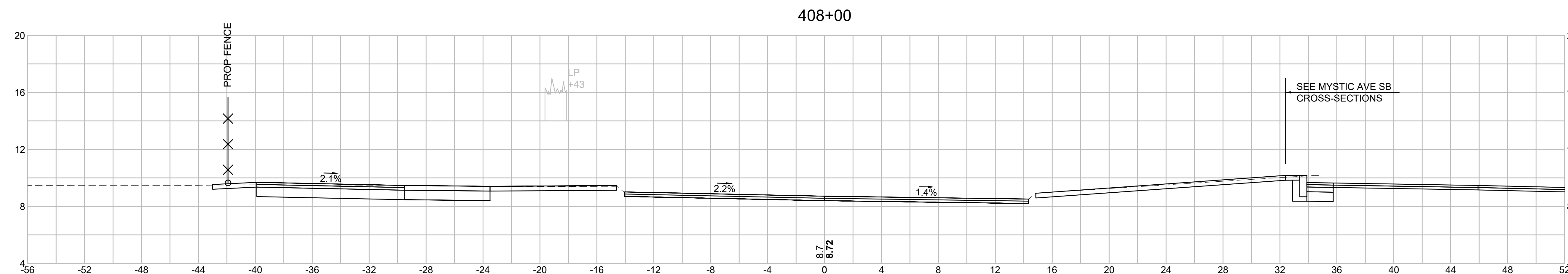
CROSS SECTIONS - (MYSTIC AVENUE NB)



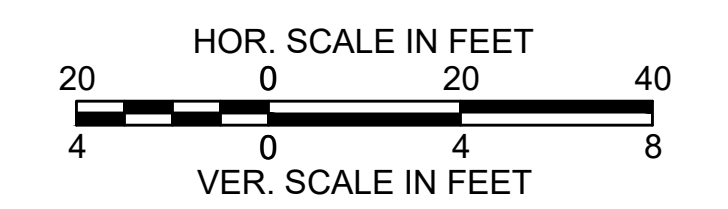
Material(s) at Station 409+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	28.3
FILL	0.0	0.0



Material(s) at Station 408+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	30.6	45.4
FILL	0.1	0.0



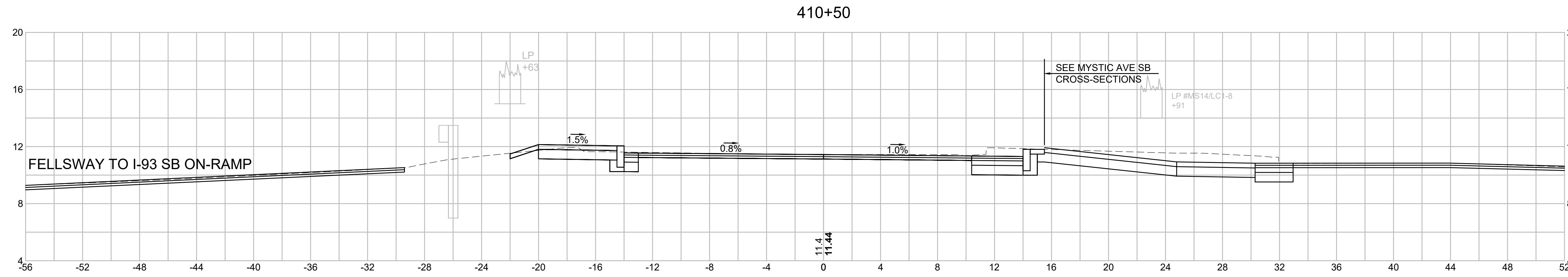
Material(s) at Station 408+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	18.4	35.6
FILL	0.0	0.0



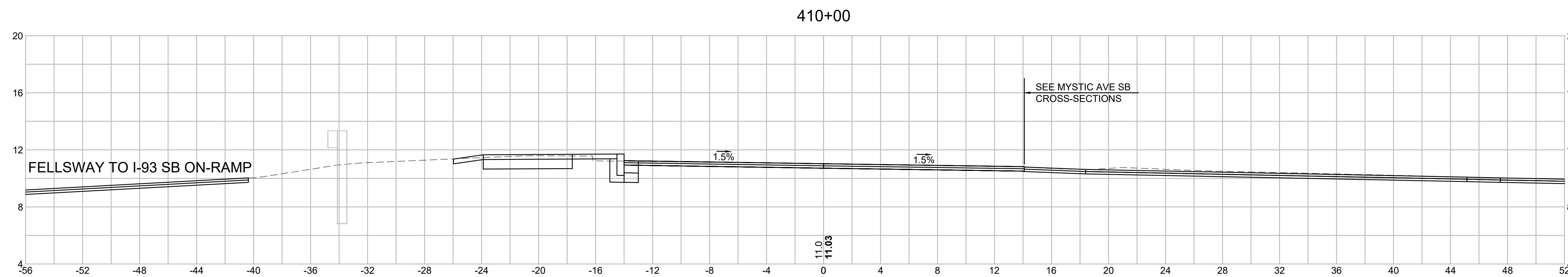
SOMERVILLE  
 FELLSWAY/MCGRATH HWY (RTE-28)/MYSTIC AVE (RTE-38)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	197	205
PROJECT FILE NO. 608562			

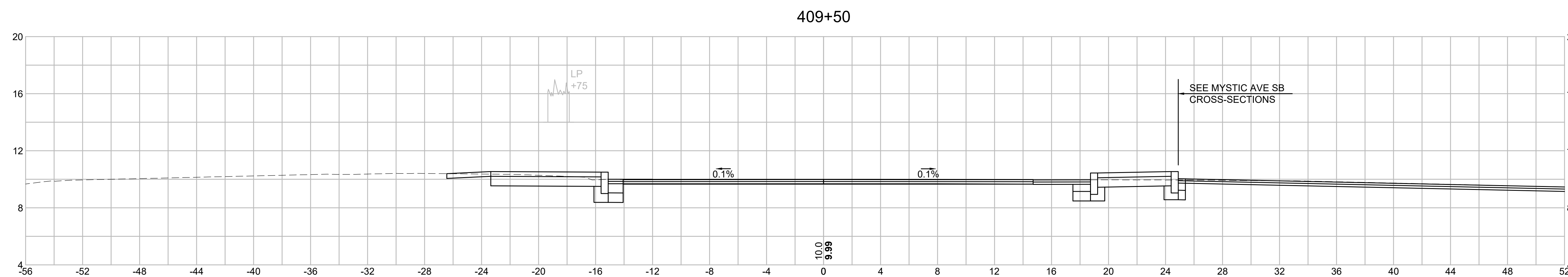
CROSS SECTIONS - (MYSTIC AVENUE NB)



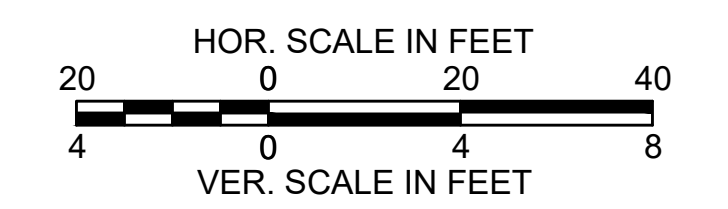
Material(s) at Station 410+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.2	19.0
FILL	0.0	0.0



Material(s) at Station 410+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	6.3	21.2
FILL	0.0	0.0

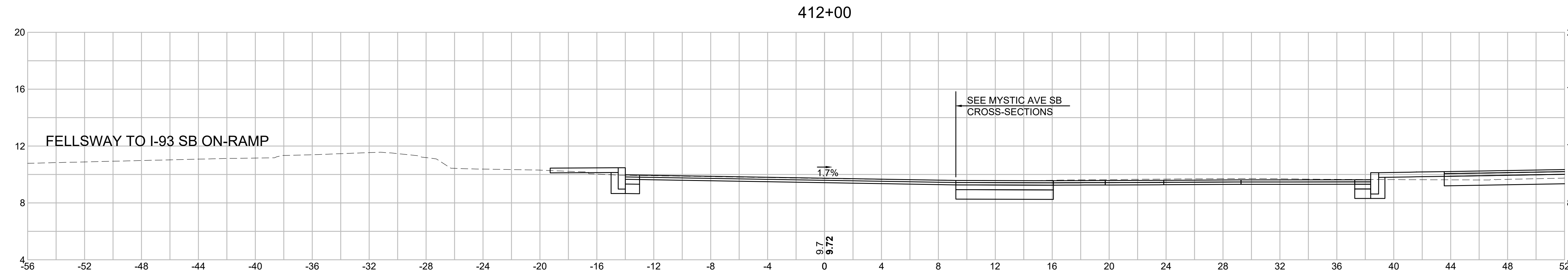


Material(s) at Station 409+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	16.6	15.4
FILL	0.0	0.0



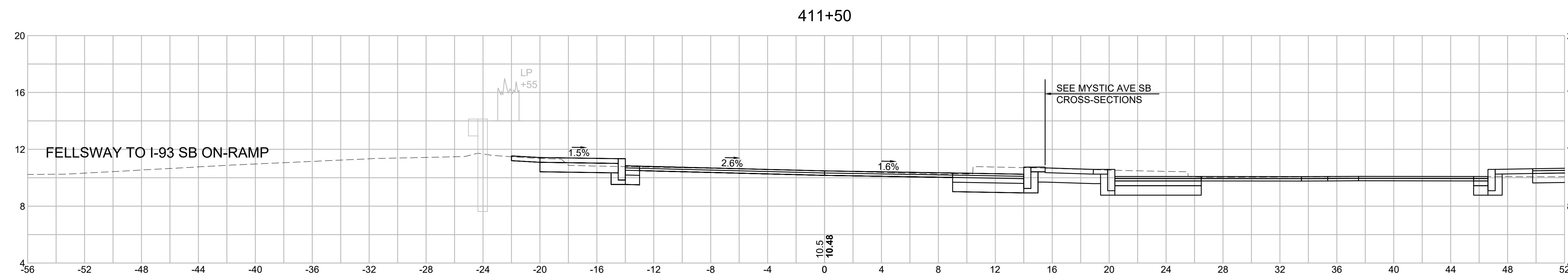
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	198	205
PROJECT FILE NO. 608562			

CROSS SECTIONS - (MYSTIC AVENUE NB)



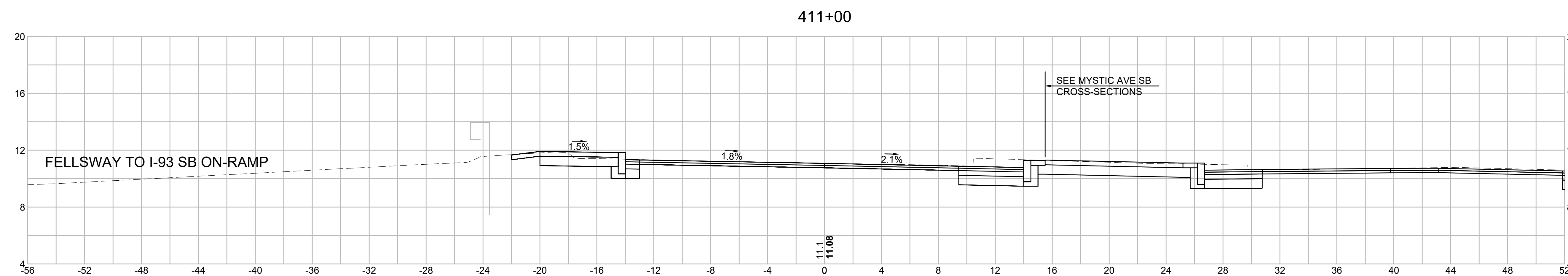
Material(s) at Station 412+00.00

Material Name	Area (sf)	Volume (cy)
CUT	12.7	26.8
FILL	0.8	1.2



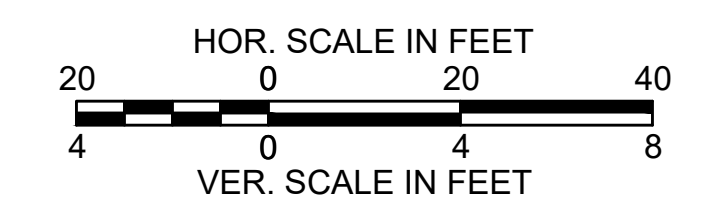
Material(s) at Station 411+50.00

Material Name	Area (sf)	Volume (cy)
CUT	17.1	31.2
FILL	0.4	0.5



Material(s) at Station 411+00.00

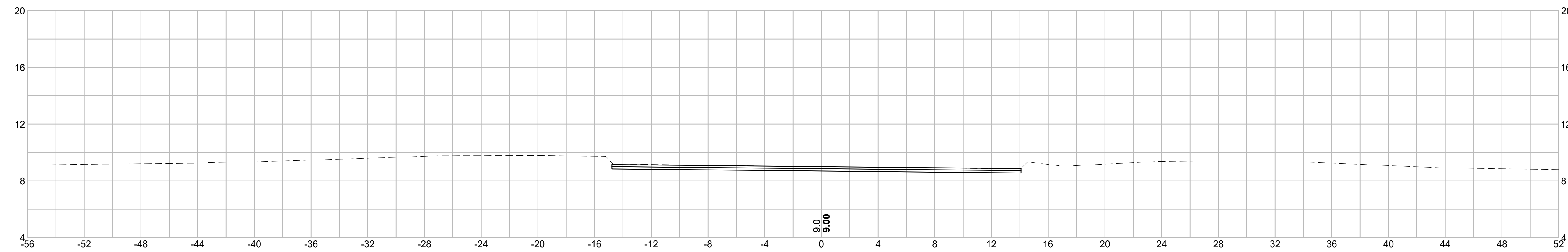
Material Name	Area (sf)	Volume (cy)
CUT	16.6	28.5
FILL	0.1	0.1



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	199	205
PROJECT FILE NO. 608562			

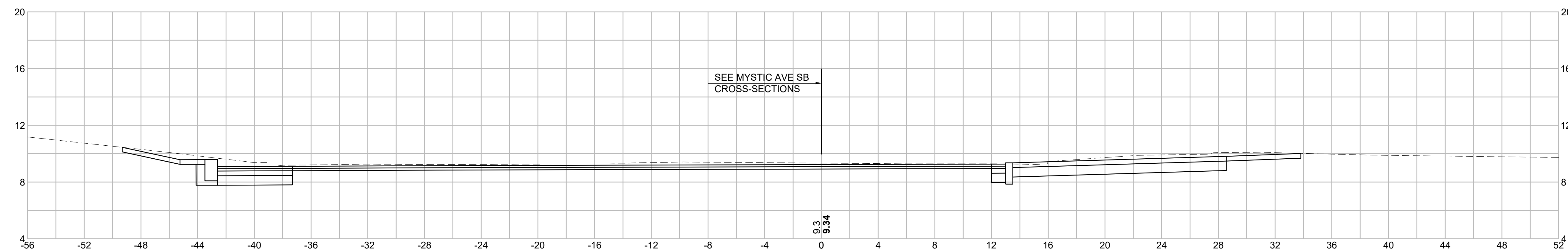
CROSS SECTIONS - (MYSTIC AVENUE NB)

413+00

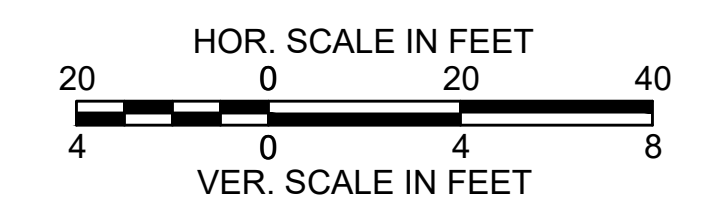


Material(s) at Station 413+00.00		
Material Name	Area (sf)	Volume (cy)
CUT	0.0	0.0
FILL	0.0	0.0

412+50

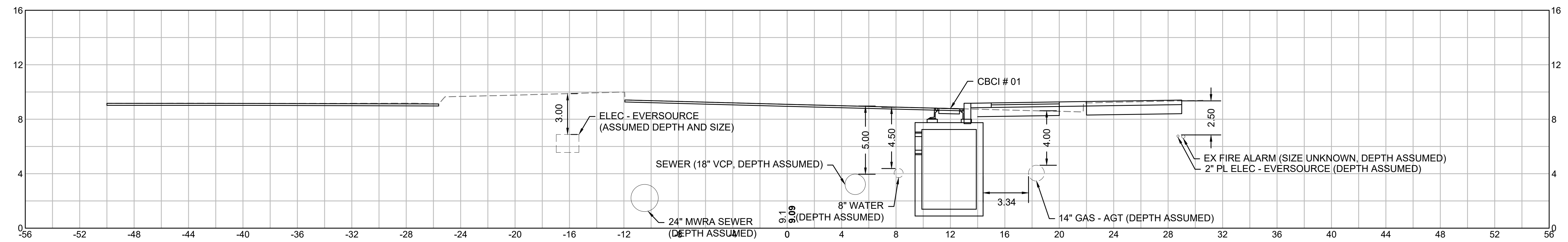


Material(s) at Station 412+50.00		
Material Name	Area (sf)	Volume (cy)
CUT	14.3	25.0
FILL	0.0	0.8



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HS(VUS)-003S(762)	200	205
PROJECT FILE NO. 608562			

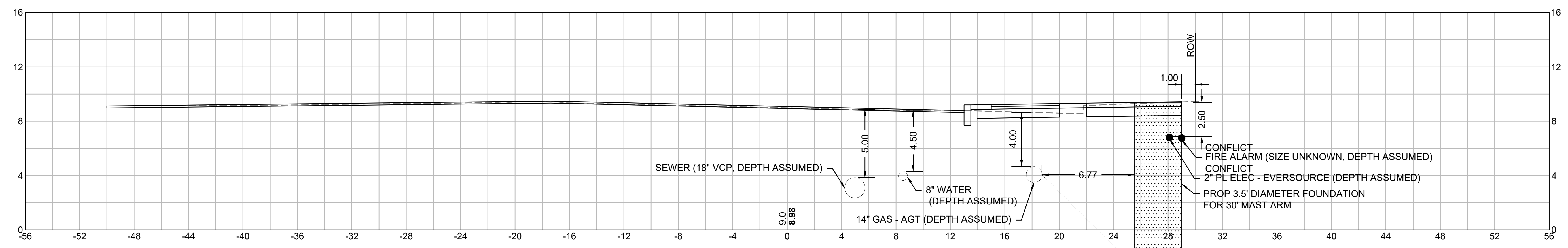
ISOLATED UTILITY CROSS SECTIONS



305+59

**MYSTIC AVENUE - CONSTRUCTION BASELINE**

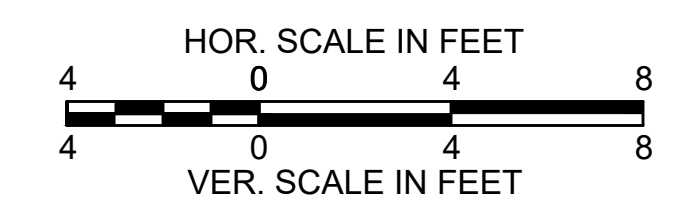
REFER TO DRAINAGE AND UTILITY PLAN SHEET 47.  
 NO SUE TEST PIT ASSOCIATED WITH THIS SECTION.



305+32.79

**MYSTIC AVENUE - CONSTRUCTION BASELINE**

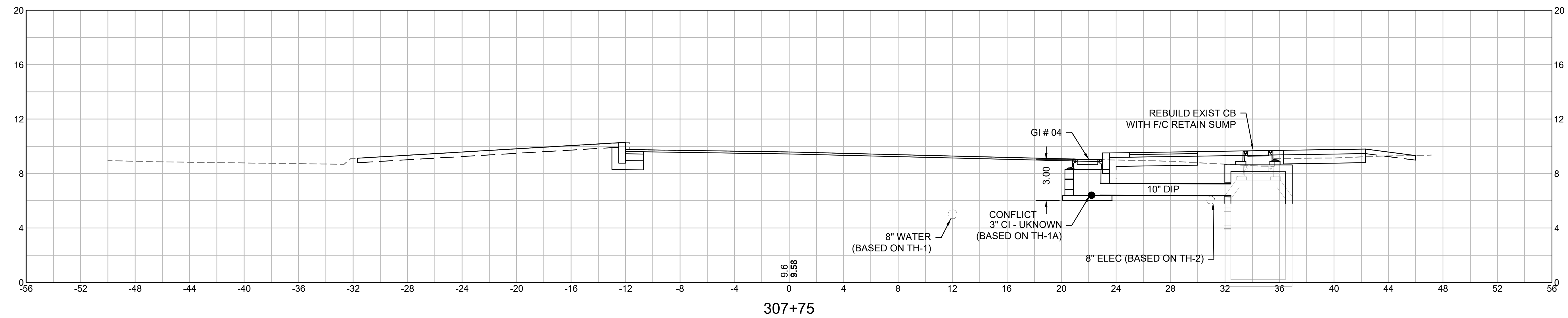
REFER TO DRAINAGE AND UTILITY PLAN SHEET 47.  
 NO SUE TEST PIT ASSOCIATED WITH THIS SECTION.





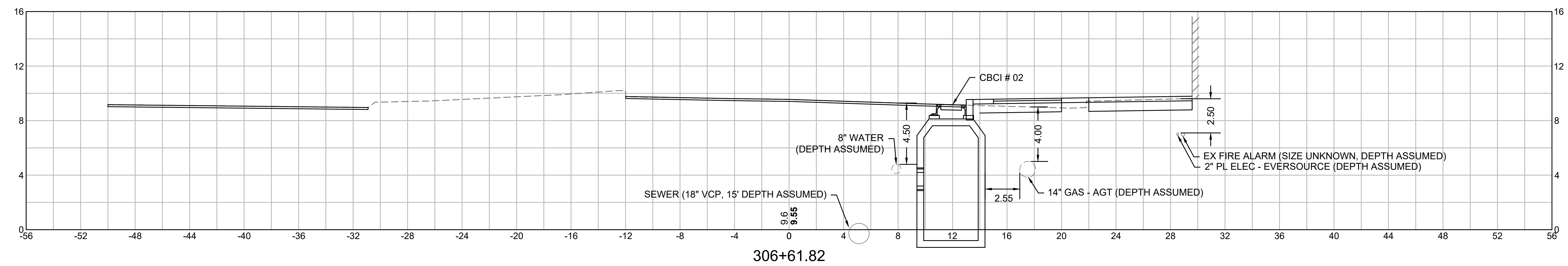
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	201	205
PROJECT FILE NO. 608562			

ISOLATED UTILITY CROSS SECTIONS



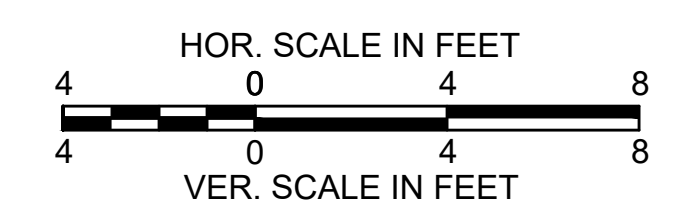
**MYSTIC AVENUE - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 42.  
 REFER TO SUE TEST HOLE #1, 1A AND 2.



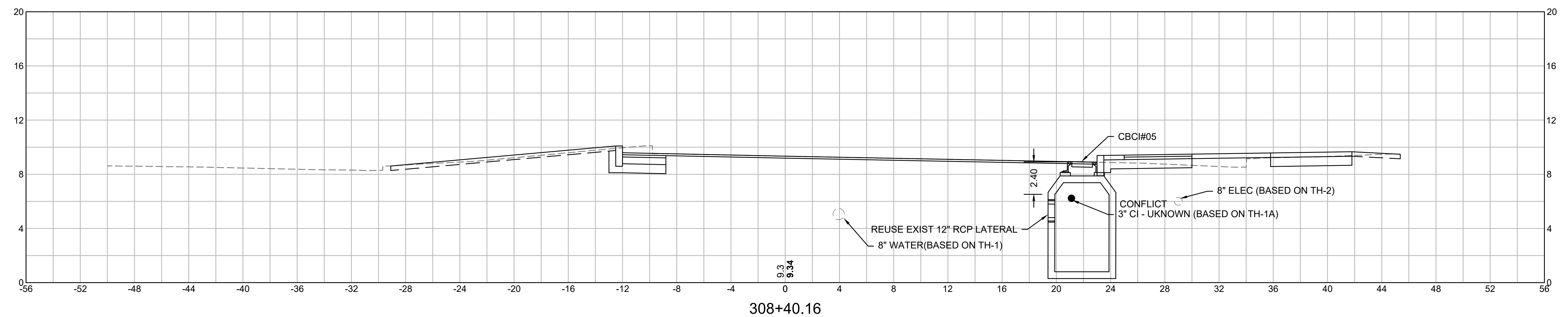
**MYSTIC AVENUE - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 47.  
 NO SUE TEST PIT ASSOCIATED WITH THIS SECTION.



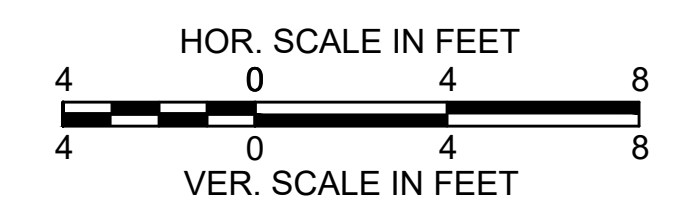
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	202	205
PROJECT FILE NO. 608562			

ISOLATED UTILITY CROSS SECTIONS



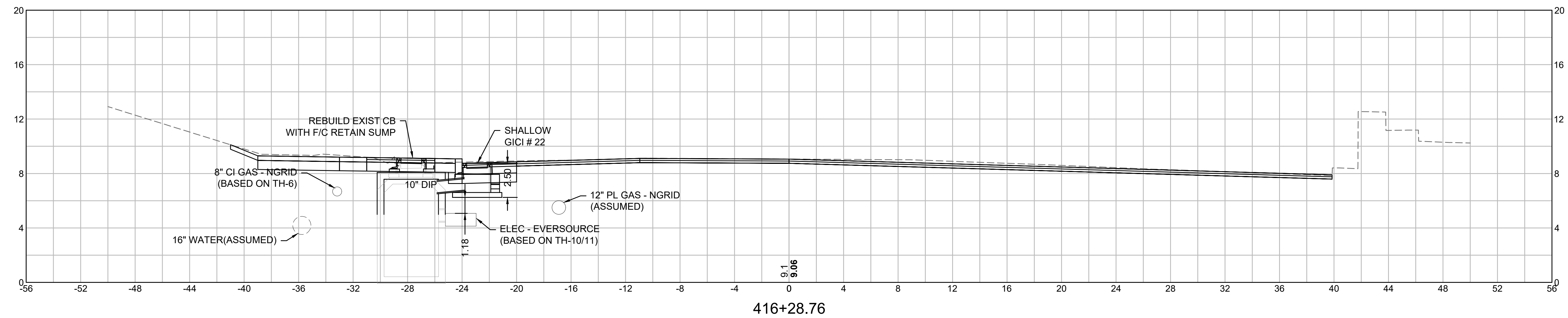
**MYSTIC AVENUE - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 42.  
 REFER TO SUE TEST HOLE #1, 1A AND 2.



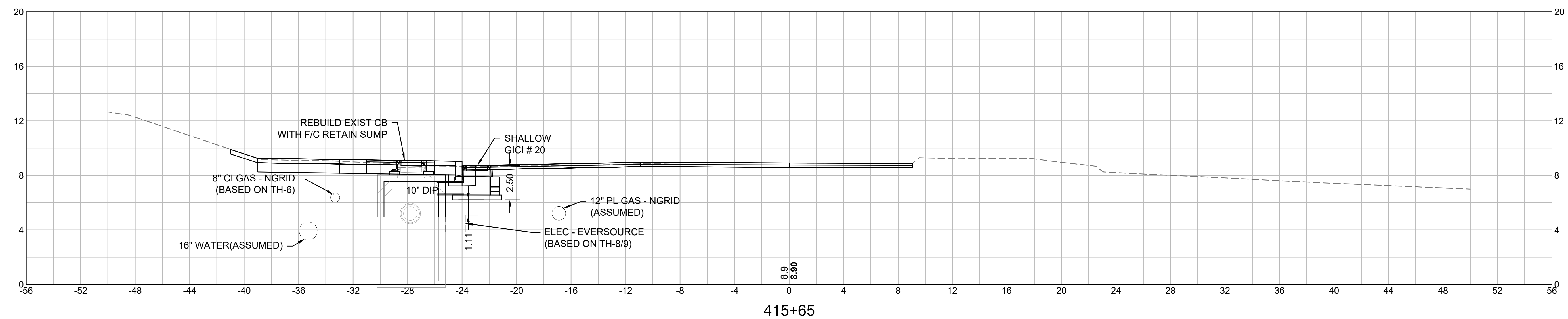
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	203	205
PROJECT FILE NO. 608562			

ISOLATED UTILITY CROSS SECTIONS



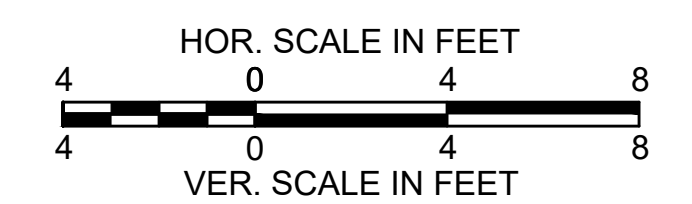
**MCGRATH HWY - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 43.  
 REFER TO SUE TEST HOLE #6, 8, AND 9.



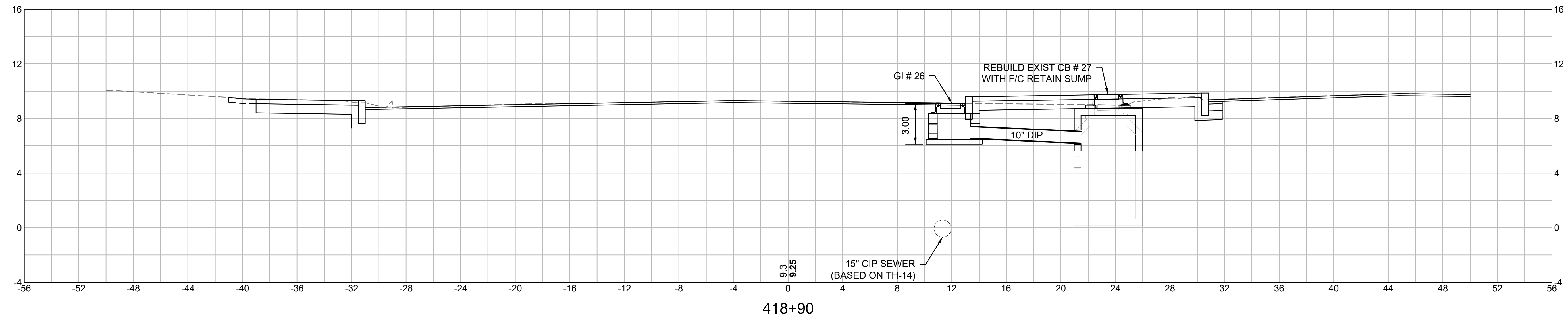
**MCGRATH HWY - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 43.  
 REFER TO SUE TEST HOLE #6, 8, AND 9.



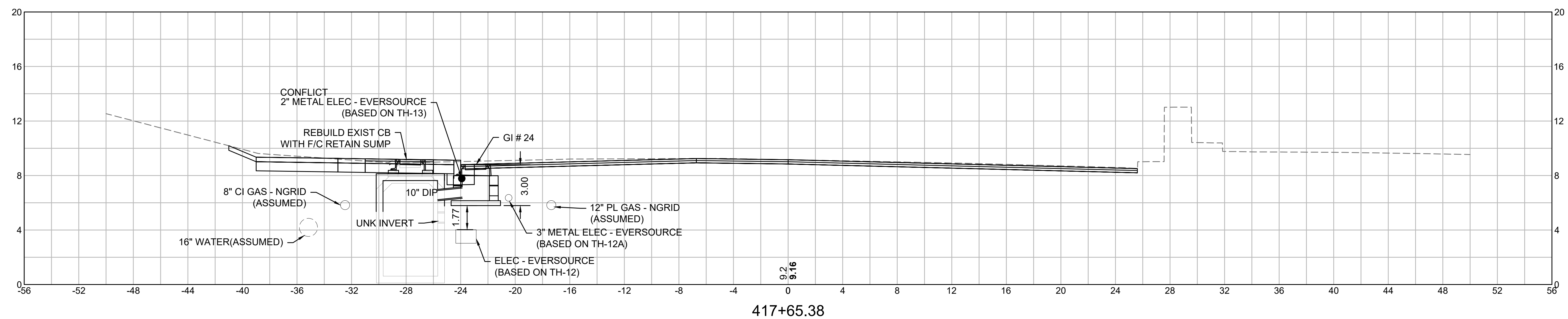
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	204	205
PROJECT FILE NO. 608562			

ISOLATED UTILITY CROSS SECTIONS



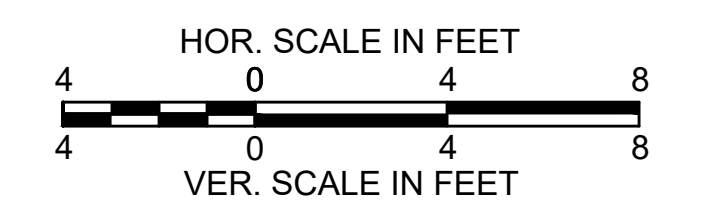
**MCGRATH HWY - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 44.  
 REFER TO SUE TEST HOLE #14.



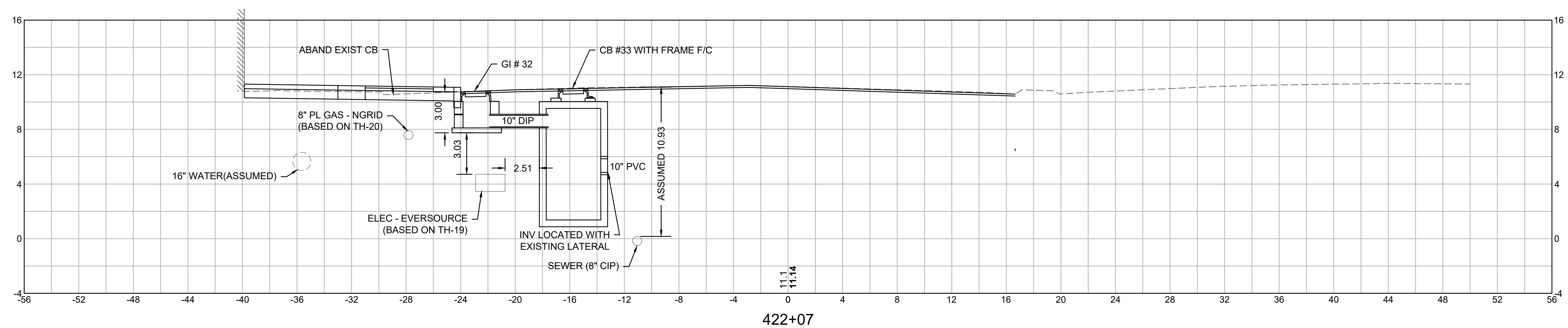
**MCGRATH HWY - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 44.  
 REFER TO SUE TEST HOLE #12, 12A, AND 13.



STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HSI/HSI(VUS)-003S(762)	205	205
PROJECT FILE NO. 608562			

ISOLATED UTILITY CROSS SECTIONS



**MCGRATH HWY - CONSTRUCTION BASELINE**

REFER TO DRAINAGE AND UTILITY PLAN SHEET 44.  
 REFER TO SUE TEST HOLE #19 AND 20.

