

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	1	60
PROJECT FILE NO. 606255			
TITLE SHEET & INDEX			

CONSTRUCTION OF INTERSTATE 93 SUPERSTRUCTURE REPLACEMENT OVER SALEM STREET (ROUTE 60) EASTBOUND BRIDGE NO. M-12-027 (3B6)

IN THE CITY OF MEDFORD MIDDLESEX COUNTY

FEDERAL AID PROJECT NO.
BRI-093-1 (524)
STP 093-1

THE 1988 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES; THE SUPPLEMENTAL SPECIFICATIONS DATED FEBRUARY 25, 2010; THE STANDARD SPECIAL PROVISIONS DATED APRIL 8, 2011; THE 2010 CONSTRUCTION STANDARDS; THE 2003 EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AS AMENDED; THE 2006 PROJECT DEVELOPMENT AND DESIGN GUIDE; THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (TRAFFIC SIGNS AND SUPPORTS ONLY), AS AMENDED; THE 1968 "STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING", AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AS AMENDED, WILL GOVERN.

INDEX

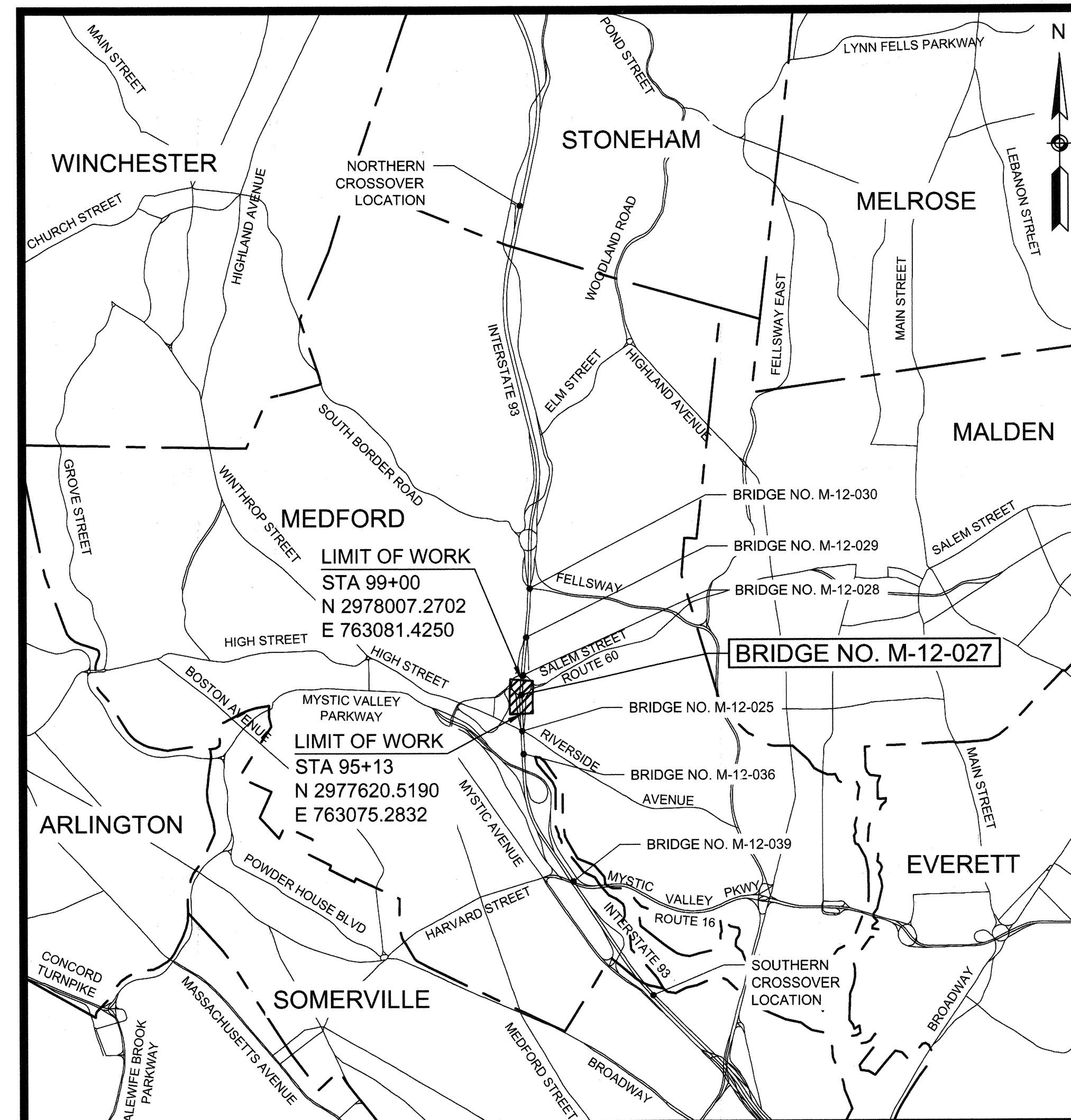
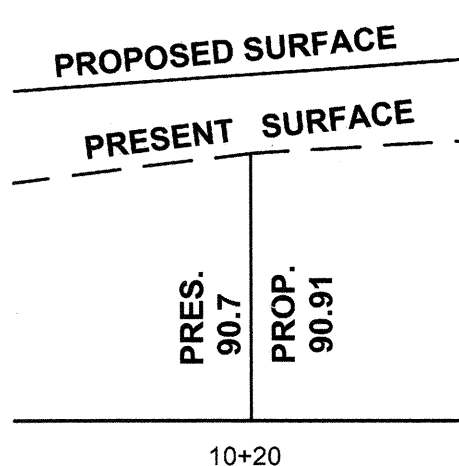
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DESIGN DESIGNATION

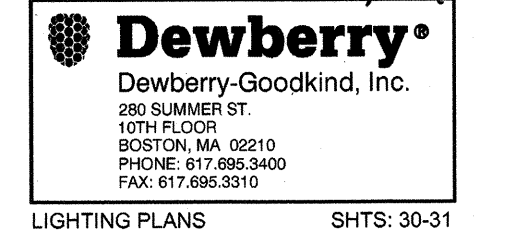
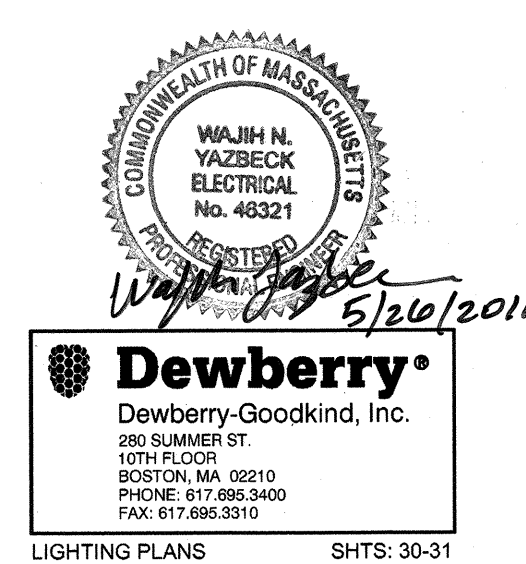
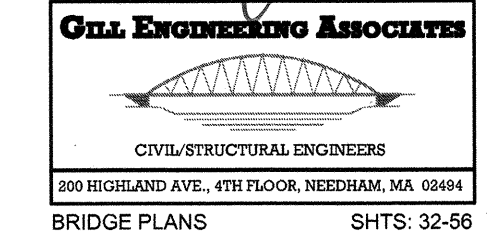
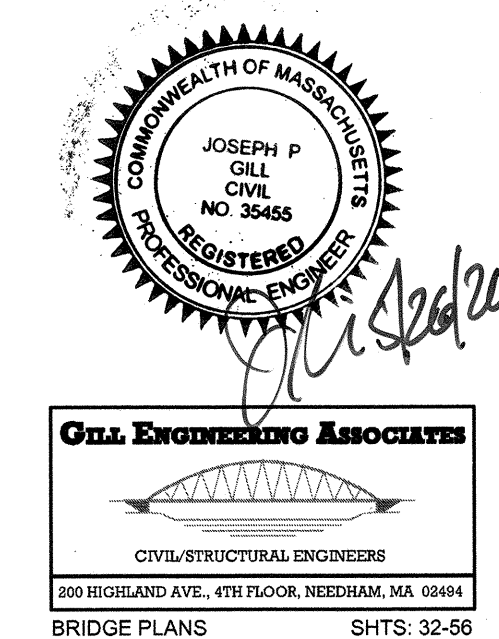
DESIGN SPEED	I-93 65 MPH
ADT (2010)	178,300
ADT (2030)	187,400
K	7%
D	50%
T (PEAK HOUR)	1%
T (AVERAGE DAY)	3%
DHV (2030)	12,320
DDHV (2030)	6,160
FUNCTIONAL CLASS	INTERSTATE

CONVENTIONAL SIGNS

COUNTY, CITY, OR TOWN BOUNDARY	-----
COUNTY, CITY, OR TOWN SIDE LINE	-----
FENCE LINE	-----
BASE LINE OR SURVEY LINE	S36°04'20"W 2+00
RIGHT OF WAY LINE	53.578
CULVERT	=====
RETAINING WALL	=====
GUARD RAIL	-----
STONE WALL	-----
TREE LINE	-----
POLE	○



LENGTH OF PROJECT = 387 FEET = 0.07 MILES



RECOMMENDED FOR APPROVAL

CHIEF ENGINEER _____ DATE _____

APPROVED

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

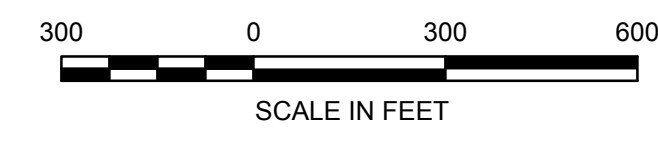
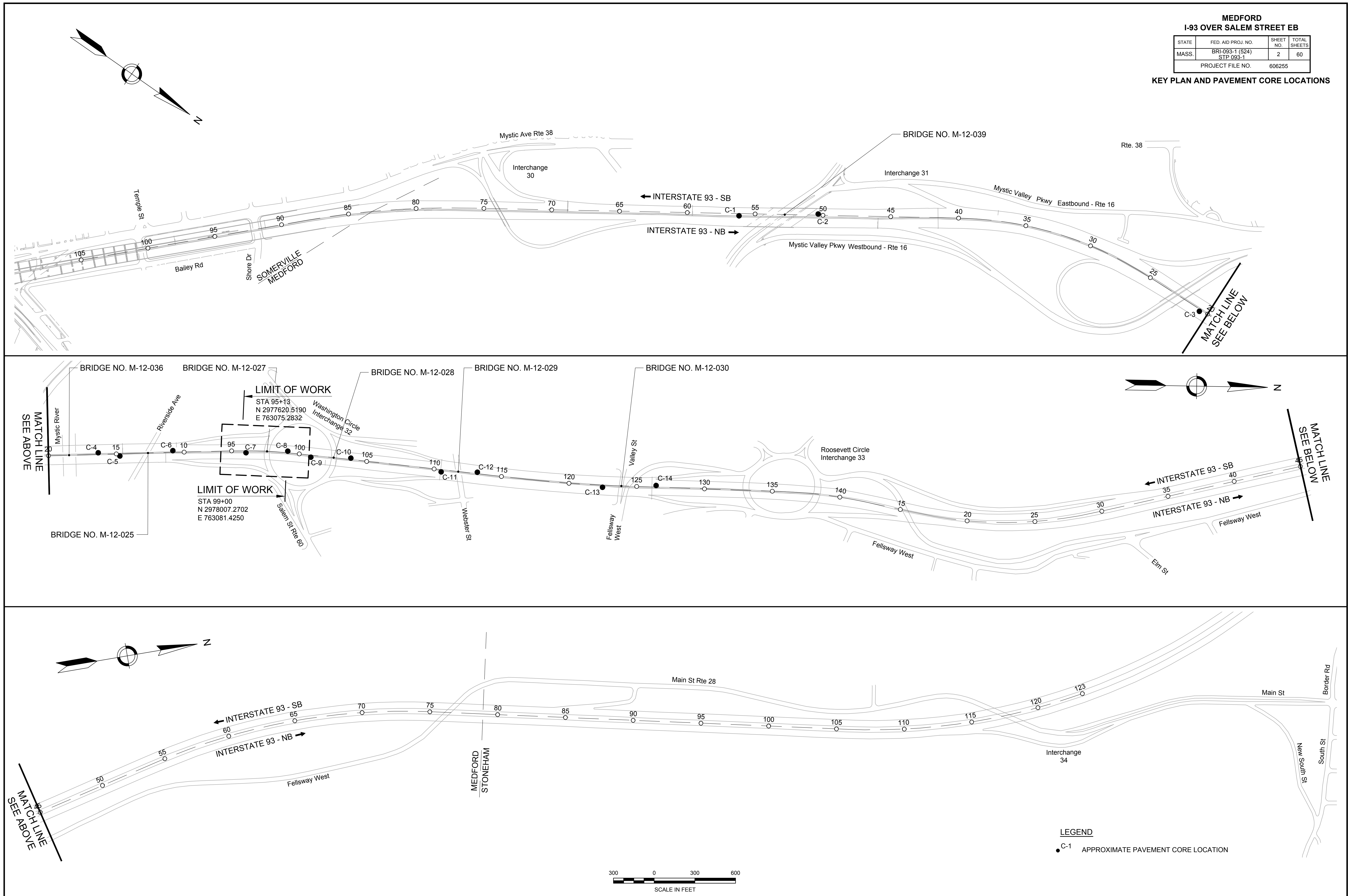
DIVISION ADMINISTRATOR _____ DATE _____

HIGHWAY ADMINISTRATOR _____ DATE _____

**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	2	60
PROJECT FILE NO.		606255	

KEY PLAN AND PAVEMENT CORE LOCATIONS



LEGEND
● C-1 APPROXIMATE PAVEMENT CORE LOCATION

**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	3	60
PROJECT FILE NO.		606255	

PAVEMENT CORE DATA

PAVEMENT CORE DATA

BRIDGE NUMBER	CORE ID	STATION	CORE LENGTH	LAYER	DEPTH RANGE (INCHES)	DESCRIPTION
M-12-039, NORTHBOUND	C1	56+10	15'	A	0-1	SURFACE COURSE - FINER AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$.
				B	1-3	SURFACE/INTERMEDIATE COURSE - FINE TO MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$.
				C	3-7	INTERMEDIATE COURSE - MID-SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$, BREAK AT BOTTOM OF LAYER.
				D	7-13	BASE COURSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1"$, LARGER PERCENTAGE OF GRAVEL THAN C.
				E	13-15	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).
M-12-039, SOUTHBOUND	C2	50+10	15'	A	0-4	SURFACE COURSE - FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, BREAK AT BOTTOM OF LAYER.
				B	4-8	INTERMEDIATE COURSE - MID-SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$, BREAK AT BOTTOM OF LAYER.
				C	8-11	INTERMEDIATE COURSE - MID-SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1/2"$.
				D	11-15	BASE COURSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1"$.
M-12-036, NORTHBOUND	C3	20+60	13'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$.
				B	1-3	SURFACE/INTERMEDIATE COURSE - FINE TO MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$.
				C	3-7	INTERMEDIATE COURSE - MID-SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1"$.
				D	7-8	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$.
				E	8-10	INTERMEDIATE COURSE - MID-SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				F	10-11	INTERMEDIATE COURSE - FINE TO MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$.
				G	11-13	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).
M-12-036, SOUTHBOUND	C4	16+40	12'	A	0-2	SURFACE COURSE - TOP FINER AGGREGATE: GRAINS TYPICALLY $\leq 3/4"$.
				B	2-5	SURFACE COURSE - TOP FINER AGGREGATE: GRAINS TYPICALLY $\leq 3/4"$, GRAVEL CONTENT LESS THAN IN A.
				C	5-9	SURFACE COURSE - TOP FINER AGGREGATE LAYER: GRAINS TYPICALLY $\leq 3/8"$.
				D	9-12	BASE COURSE - COARSE AGGREGATE LAYER: GRAIN SIZE TYPICALLY $\leq 1"$.
M-12-025, NORTHBOUND	C5	14+90	10'	A	0-3	SURFACE COURSE - TOP FINER AGGREGATE: GRAINS TYPICALLY $\leq 3/8"$.
				B	3-6	SURFACE COURSE - TOP FINER AGGREGATE: GRAINS TYPICALLY $\leq 3/4"$, GRAVEL CONTENT LESS THAN IN A.
				C	6-8	SURFACE COURSE - TOP FINER AGGREGATE LAYER: GRAINS TYPICALLY $\leq 3/8"$.
				D	8-10	BASE COURSE - COARSE AGGREGATE LAYER: GRAIN SIZE TYPICALLY $\leq 1"$.
				NM		SUB-BASE OBSERVED IN BOTTOM OF HOLE BUT NOT RECOVERED, COARSE GRAVEL.
M-12-025, SOUTHBOUND	C6	90+60	11'	A	0-5.5	SURFACE COURSE - TOP FINER AGGREGATE: GRAINS TYPICALLY $\leq 3/4"$, BREAK AT 2 INCHES.
				B	5.5-6.5	SURFACE COURSE - TOP FINER AGGREGATE LAYER: GRAINS TYPICALLY $\leq 3/8"$.
				C	6.5-11	BASE COURSE - COARSE AGGREGATE LAYER: GRAIN SIZE TYPICALLY $\leq 1"$.
				NM		~3 INCHES OF SUB-BASE OBSERVED IN BOTTOM OF HOLE BUT NOT RECOVERED, COARSE GRAVEL.
M-12-027, NORTHBOUND	C7	97+90	12'	A	0-1.5	SURFACE COURSE - TOP FINER AGGREGATE LAYER: GRAINS TYPICALLY $\leq 3/8"$.
				B	1.5-2.5	SURFACE/INTERMEDIATE COURSE - FINE TO MID-SIZE AGGREGATE LAYER: GRAINS TYPICALLY $\leq 1/2"$.
				C	2.5-7	BASE COURSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				D	7-12	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).
M-12-027, SOUTHBOUND	C8	99+10	9'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, POROUS.
				B	1-6	SURFACE/INTERMEDIATE COURSE - FINE TO MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$.
				C	6-9	BASE COURSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				NM		~1 INCHES OF SUB-BASE OBSERVED IN BOTTOM OF HOLE BUT NOT RECOVERED, COARSE GRAVEL.
M-12-028, NORTHBOUND	C9	100+90	11'	A	0-2.5	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, POROUS.
				B	2.5-6	INTERMEDIATE COARSE - MID SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				C	6-9.5	BASE COARSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1/2"$.
				D	9.5-11	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).
M-12-028, SOUTHBOUND	C10	104+20	9'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, POROUS.
				B	1-9	INTERMEDIATE COARSE - MID SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$, BREAK AT 8", FLAT SURFACE.
M-12-029, NORTHBOUND	C11	110+50	9'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$.
				B	1-9	INTERMEDIATE COARSE - MID SIZE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				NM		~2 INCHES OF SUB-BASE OBSERVED IN BOTTOM OF HOLE BUT NOT RECOVERED, COARSE GRAVEL.
M-12-029, SOUTHBOUND	C12	113+10	11'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, POROUS.
				B	1-4	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 3/4"$.
				C	4-6.5	BASE COARSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 1"$.
				D	6.5-8	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$, POROUS.
				E	8-10	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$, GRAVEL CONTENT LESS THAN D.
				F	10-11	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).
M-12-030, NORTHBOUND	C13	122+50	10'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 3/8"$.
				B	1-3	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAIN SIZE $\leq 1/2"$.
				C	3-10	BASE COARSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				NM		~2 INCHES OF SUB-BASE OBSERVED IN BOTTOM OF HOLE BUT NOT RECOVERED, COARSE GRAVEL.
M-12-030, SOUTHBOUND	C14	126+40	12'	A	0-1	SURFACE COURSE - TOP FINER AGGREGATE, GRAINS TYPICALLY $\leq 1/2"$, POROUS.
				B	1-3	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAIN SIZE $\leq 1/2"$.
				C	3-5	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAIN SIZE $\leq 1/2"$, MORE GRAVEL THAN IN B.
				D	5-7	BASE COARSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				E	7-8.5	INTERMEDIATE COARSE - MID-SIZE AGGREGATE, GRAIN SIZE $\leq 1/2"$.
				F	8.5-10	BASE COARSE - COARSE AGGREGATE, GRAIN SIZE TYPICALLY $\leq 3/4"$.
				G	10-12	GRAVEL SUB-BASE LAYER - COARSE ANGULAR GRAVEL $\leq 2 1/2"$, (RHYOLITE).

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ABBREVIATIONS

AADT	ANNUAL AVERAGE DAILY TRAFFIC	F	FILL	NIC	NOT IN CONTRACT		
AASHTO	AMERICAN ASSOCIATION OF HIGHWAY AND TRANSPORTATION OFFICIALS	FA	FIRE ALARM, FEDERAL AID	NO	NUMBER		
ABAN	ABANDON	F&C	FRAME AND COVER	NTS	NOT TO SCALE		
ABUT	ABUTMENT	FDN	FOUNDATION				
ACCOMP	ASPHALT COATED CORRUGATED METAL PIPE	FED	FEDERAL	OGFC	OPEN GRADED FRICTION COURSE	TP	TURNING POINT
ADJ	ADJUST	F&G	FRAME AND GRATE	OW	OBSERVATION WELL	TRANS	TRANSITION
ADT	AVERAGE DAILY TRAFFIC	FH	FIRE HYDRANT			TRWY	TRAVELED WAY
ALM	ALARM	FHWA	FEDERAL HIGHWAY ADMINISTRATION	PB	PULL BOX	TS	TRAFFIC SIGNAL
ALT	ALTERNATE, ALTERNATIVE	FIN	FINISH	PC	POINT OF CURVATURE	TSC	TRAFFIC SIGNAL CONDUIT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	FL	FLOW LINE	PCC	POINT OF COMPOUND CURVATURE	TV	TELEVISION (CABLE)
APPR	APPROACH	FLDSTN	FIELDSTONE	PGL	PROFILE GRADE LINE	TVMH	TELEVISION MANHOLE (CABLE)
APPROX	APPROXIMATE	FLR	FLOOR	PI	POINT OF INTERSECTION	TYP	TYPICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	FS	FIRE SIGNAL	PKG	PARKING		
AUX	AUXILIARY	FT	FOOT, FEET	PL OR P	PROPERTY LINE	UD	UNDERDRAIN OR SUBDRAIN
AVE	AVENUE			PM	PARKING METER	UP	UTILITY POLE
		G	GAS	POC	POINT ON CURVE	USGS	U.S. GEOLOGICAL SURVEY
BAR	BARRIER	GAL	GALLON	POT	POINT ON TANGENT	UTIL	UTILITIES
B&B	BALLED AND BURLAPPED	GALV	GALVANIZED	PRC	POINT OF REVERSE CURVATURE		
BD	BOUND	GAR	GARAGE	PROJ	PROJECT	V	DESIGN SPEED
BIT	BITUMINOUS	GD	GROUND	PROP	PROPOSED	VAR	VARIABLE, VARIABLE
BL OR B	BASELINE	GDRL	GUARD RAIL	PSB	PLANTABLE SOIL BORROW	VC	VERTICAL CURVE
BLDG	BUILDING	GG	GAS GATE	PSI	POUNDS PER SQUARE INCH	VCP	VITRIFIED CLAY PIPE
BM	BENCH MARK, BEAM	GI	GUTTER INLET	PT	POINT OF TANGENCY, POINT	VERT	VERTICAL
BO	BY OTHERS	GIP	GALVANIZED IRON PIPE	PVC	POINT OF VERTICAL CURVATURE		
BOD	BOTTOM OF DITCH	GM	GAS METER	PVI	POINT OF VERTICAL INTERSECTION	W	WEST
BOT	BOTTOM	GRAN	GRANITE	PVMT	PAVEMENT	WB	WESTBOUND
BR	BRIDGE	GRAV	GRAVEL	PVT	POINT OF VERTICAL TANGENCY	WCR	WHEELCHAIR RAMP
BRG	BEARING	GV	GAS VALVE	PWW	PAVED WATERWAY	WD	WOOD
BRK	BRICK					WDTH	WIDTH
		HDW	HEADWALL	QTY	QUANTITY	WE	WATER ELEVATION
C	CUT	HGL	HYDRAULIC GRADE LINE			WG	WATER GATE
CB	CATCH BASIN	HH	HANDHOLE	R	RADIUS, ROCK EXCAVATION	WIP	WROUGHT IRON PIPE
CBCI	CATCH BASIN WITH CURB INLET	HMA	HOT MIX ASPHALT	RAIL	RAILING	WM	WATER METER, WATER MAIN
CCM	CEMENT CONCRETE MASONRY	HO	HOUSE	RAD	RADIUS	WMH	WATER MANHOLE
CEM	CEMENT	HOR	HORIZONTAL	RC	REINFORCED CONCRETE	WV	WATER VALVE
CF	CUBIC FEET	HOV	HIGH OCCUPANCY VEHICLE	RCB	REINFORCED CONCRETE BOX CULVERT		
CFS	CUBIC FEET PER SECOND	HP	HIGH POINT	RCP	REINFORCED CONCRETE PIPE	X-SECT	CROSS-SECTION
CI	CAST IRON, CURB INLET	HES	HIGH EARLY STRENGTH	RD	ROAD	YD	YARD
CIP	CAST IRON PIPE	HS	HIGH SERVICE WATER	R&D	REMOVE AND DISCARD	YR	YEAR
CIP CONC	CAST IN PLACE CONCRETE	HWY	HIGHWAY	RDWY	ROADWAY		
CIP(CL)	CAST IRON PIPE (CEMENT LINED)	HWY GD	HIGHWAY GUARD	REFL	REFLECTORIZED		
CL	CENTERLINE	HYD	HYDRANT	REINF	REINFORCE, REINFORCING		
CLF	CHAIN LINK FENCE			RELOC	RELOCATE(D), RELOCATION		
CLL	CLEARING LIMIT LINE	IN	INCH	REM	REMOVE		
CLP	CEMENT LINED PIPE	INV	INVERT	REMOD	REMODEL		
CLR	CLEAR, CLEARANCE	IP	IRON PIPE	REQD	REQUIRED	R	STEADY CIRCULAR RED
CMB	CONCRETE MEDIAN BARRIER	IR	IRON	RET	RETAIN, RETAINING	Y	STEADY CIRCULAR YELLOW
CMP	CORRUGATED METAL PIPE	IT	INTERSECTION OF SLOPES OR PROFILE GRADE LINES	RET WALL	RETAINING WALL	G	STEADY CIRCULAR GREEN
CO	CLEANOUT, COUNTRY	JCT	JUNCTION	REV	REVISION, REVISED	FR	FLASHING CIRCULAR RED
COL	COLUMN			ROW	RIGHT-OF-WAY	FY	FLASHING CIRCULAR YELLOW
CONC	CONCRETE	K	RATE OF VERTICAL CURVATURE, RATIO OF DESIGN	RR	RAILROAD	RLA	STEADY RED LEFT ARROW
COND	CONDUIT		HOURLY VOLUME TO AVERAGE DAILY TRAFFIC	R&R	REMOVE AND RESET	YLA	STEADY YELLOW LEFT ARROW
CONST	CONSTRUCT, CONSTRUCTION	L	LENGTH OF CURVE	RS	RAILROAD SIGNAL	GLA	STEADY GREEN LEFT ARROW
CONT	CONTINUE(D), CONTINUATION	LAT	LATERAL	R&S	REMOVE AND STACK	RRA	STEADY RED RIGHT ARROW
CS	COMBINED SEWER	LB	LEACHING BASIN	RT	RIGHT	YRA	STEADY YELLOW RIGHT ARROW
CSJT	CONSTRUCTION JOINT	LB(S)	POUND(S)	RTE	ROUTE	GRA	STEADY GREEN RIGHT ARROW
CSMH	COMBINED SEWER MANHOLE	LDSCP	LANDSCAPING			W	STEADY WALK
CTR	CENTER	LF	LINEAR FEET	S	SOUTH, SLOPE, SIGN	FDW	FLASHING DON'T WALK
CULV	CULVERT	LP	LOW POINT, LIGHT POLE	SAN	SANITARY	DW	STEADY DON'T WALK
CY	CUBIC YARD	LS	LOW SERVICE WATER	SB	STONE BOUND, SPECIAL BORROW, SOUTHBOUND	ØA	TRAFFIC SIGNAL PHASE
		LT	LEFT	SD	STORM DRAIN, SUBDRAIN	BWLL	6 IN BROKEN WHITE LANE LINE (10 FT LENGTH, 30 FT GAP)
Δ	DELTA ANGLE (CENTRAL ANGLE OF HORIZONTAL CURVE)			SDMH	STORM DRAINAGE MANHOLE	DWL	DOTTED WHITE LINE (3 FT LENGTH, 9 FT GAP)
D	DIRECTIONAL PERCENTAGE OF DESIGN HOURLY VOLUME	M	MUCK EXCAVATION	SE	SUPERELEVATION	DYCL	DOUBLE YELLOW CENTER LINE
DIA	DIAMETER	m	METER	SEC	SECTION	DYL	DOTTED YELLOW LINE (2 FT LENGTH, 4 FT GAP)
DA	DRAINAGE AREA	MASS	MASSACHUSETTS	SF	SQUARE FEET		
DDHV	DIRECTIONAL DESIGN HOURLY VOLUME	MAX	MAXIMUM	SH	SHEET	SWCHL	8 IN SOLID WHITE CHANNELIZING LINE
DEPT	DEPARTMENT	MB	MAILBOX	SHLD	SHOULDER	SWEL	6 IN SOLID WHITE EDGE LINE
DET	DETAIL	MBTA	MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	SHLL	STATE HIGHWAY LAYOUT LINE	SWGL	12 IN SOLID WHITE GORE LINE
DHV	DESIGN HOURLY VOLUME	MDC	METROPOLITAN DISTRICT COMMISSION	SHLO	STATE HIGHWAY LAYOUT	SWLL	SOLID WHITE LANE LINE
DI	DROP INLET	MED	MEDIAN	SK	SKREW	SYEL	6 IN SOLID YELLOW EDGE LINE
DIM	DIMENSION	MH	MANHOLE	SL	STOP LINE, SURVEY LINE	WTL	WHITE TRANSVERSE LINE
DIP(L)	DUCTILE IRON PIPE (LINED)	MHB	MASSACHUSETTS HIGHWAY BOUND	SPEC(S)	SPECIFICATION(S)	YTL	YELLOW TRANSVERSE LINE
DR	DRIVE, DRAIN	MHD	MASSACHUSETTS HIGHWAY DEPARTMENT	SS	SANITARY SEWER	CW	12 IN CROSSWALK
		MHW	MEAN HIGH WATER	SSD	STOPPING SIGHT DISTANCE	LN	LANE
E	EAST, EXTERNAL	MIN	MINIMUM	SSMH	SANITARY SEWER MANHOLE	SL	12 IN WHITE STOP LINE
EA	EACH	MISC	MISCELLANEOUS	ST	STREET		
EB	ELECTRICAL BOX, EASTBOUND	MLW	MEAN LOW WATER	STA	STATION		
EHH	ELECTRIC HANDHOLE	mm	MILLIMETER	STD	STANDARD		
ELEV	ELEVATION	MOD	MODIFIED	STMH	STEAM MANHOLE		
ELEC	ELECTRICAL	MPH	MILES PER HOUR	STR	STRUCTURE, STRUCTURAL	BE	BURIED END
EMB	EMBANKMENT	MSL	MEAN SEA LEVEL	STY	STORY	FE	FLARED END
EMH	ELECTRIC MANHOLE	MTA	MASSACHUSETTS TURNPIKE AUTHORITY	SURF	SURFACE, SURFACING	LE	LEADING END
ENT	ENTRANCE	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	SW	SIDEWALK	TB	TRANSITION BEAM W-BEAM TO THREE BEAM
EOP	EDGE OF PAVEMENT	MWRA	MASSACHUSETTS WATER RESOURCES AUTHORITY	SY	SQUARE YARD	TE	TRAILING END
EQ	EQUAL					TS	TERMINAL SECTION
EST	ESTIMATE	N	NORTH	T	PERCENTAGE OF TRUCKS, TON, TANGENT LENGTH OF CURVE		
EXC	EXCAVATION	N/A	NOT APPLICABLE	TAN	TANGENT		
EXIST	EXISTING	NAD	NORTH AMERICAN DATUM	TCB	TRAFFIC CONTROL BOX		
EXJT	EXPANSION JOINT	NAVJ	NORTH AMERICAN VERTICAL DATUM	TEL	TELEPHONE		
EXPWY	EXPRESSWAY	NB	NORTHBOUND	TEMP	TEMPORARY		
EXP	EXPANSION	NC	NORMAL CROWN	TMH	TELEPHONE MANHOLE		
EXT	EXTERIOR, EXTERNAL	NET	NEW ENGLAND TELEPHONE	TOPO	TOPOGRAPHY		
		NGVD	NATIONAL GEODETIC VERTICAL DATUM				

TRAFFIC ABBREVIATIONS

HIGHWAY GUARD ABBREVIATIONS

**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	5	60
PROJECT FILE NO.		606255	

LEGEND AND GENERAL NOTES

LEGEND

EXISTING

GRAN. CURB

□ BND

□ CB

□ CBCI

○ WMH

○ DMH

○ SMH

○ TMH

○ EMH

○ GG

○ WG

○ Hyd.

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- EDGE OF PAVEMENT
- GRANITE CURB
- BOUND (TYPE NOTED)
- PROPERTY LINE
- CONSTRUCTION BASELINE
- CATCH BASIN
- CATCH BASIN CURB INLET
- WATER MANHOLE
- DRAINAGE MANHOLE
- SEWER MANHOLE
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- ELECTRIC HAND HOLE
- GAS GATE
- WATER GATE
- HYDRANT
- UTILITY POLE, TELEPHONE, POWER
- GUY POLE
- LIGHT POLE
- DRAINAGE PIPE (LENGTH, SIZE & TYPE OF MATERIAL)
- SEWER LINE (LENGTH, SIZE & TYPE OF MATERIAL)
- WATER MAIN (NOTE SIZE)
- TELEPHONE CONDUIT (NAME OF UTILITY)
- ELECTRIC CONDUIT (NAME OF UTILITY)
- GAS MAIN (NOTE SIZE)
- BALANCED STONE WALL
- RETAINING WALL
- STEEL BEAM GUARD RAIL
- TEMPORARY CONC BARRIER
- MOVEABLE CONC BARRIER
- SIGN AND POST
- FIRE ALARM BOX
- TREE
- HEDGE
- FENCE
- TRAFFIC SIGNAL CONDUIT
- WHEELCHAIR RAMP
- BORING
- TEST PIT
- VEHICULAR SIGNAL HEAD AND POST
- PEDESTRIAN WALK-DON'T WALK SIGNAL
- PEDESTRIAN PUSH BUTTON ASSEMBLY
- TRAFFIC CONTROLLER AND CABINET
- INDUCTION LOOP DETECTOR
- 12" X 12" PULL BOX
- OPTICAL DETECTOR
- PREEMPTION CONFIRMATION BEACON
- FIBER ROLL

GENERAL NOTES

1. THE PROJECT BASE MAPPING SHOWN WAS PREPARED FROM FIELD SURVEY PERFORMED BY SURVEYING AND MAPPING CONSULTANTS, IN 2010. ACCURACY IS NOT GUARANTEED. THE LOCATIONS OF EXISTING STRUCTURES SUCH AS SEWERS, DRAINS, WATER MAINS AND OTHER UTILITIES ARE ONLY APPROXIMATE AND THE ENGINEER DOES NOT GUARANTEE THEIR NUMBER OR LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES BEFORE EXCAVATING.
2. WHERE THE NEW CONSTRUCTION COINCIDES WITH PRESENT TRAVELED WAYS, THE CONTRACTOR SHALL PERFORM HIS WORK IN A MANNER ACCEPTABLE TO THE ENGINEER SO THAT INTERFERENCE TO BUSINESS CONCERNS AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND FROM ABUTTING PROPERTIES AT ALL TIMES AT NO ADDITIONAL COST.
3. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO VERIFY LOCATIONS OF EXISTING UTILITIES AS INDICATED OR AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE UTILITY COMPANIES DOING WORK IN THE SAME AREA. THE CONTRACTOR SHALL ALLOW THE UTILITY COMPANIES AND THEIR REPRESENTATIVES TO INSTALL THEIR SYSTEMS WITHIN CITY OWNED STREETS AND EASEMENTS.
5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO EXISTING LABELED SEWER MANHOLE OR DRAINAGE MANHOLE COVERS SHOWN ON THE PLANS AS THEY MAY NOT ACCURATELY REPRESENT THE UNDERGROUND SERVICE. PRIOR TO ANY WORK THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF AN EXISTING COVER NOT ACCURATELY REPRESENTING THE SERVICE BELOW.
6. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.
7. REFER TO THE PROJECT STORMWATER POLLUTION PREVENTION PLAN FOR PROTECTION OF EXISTING DRAINAGE FACILITIES.
8. FINAL LOCATION OF TRAFFIC SIGNS AND SUPPORTS SHALL BE AS SHOWN ON THE TEMPORARY TRAFFIC CONTROL PLANS AND CONSTRUCTION PLANS AND MAY IF NECESSARY, AT DISCRETION OF THE ENGINEER, BE MODIFIED IN THE FIELD AS APPROPRIATE.
9. DETAILS FOR SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH MASSDOT STANDARD DRAWINGS.
10. DAMAGE OF PROPERTY BEYOND THE WORK LIMITS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, SUBJECT TO THE APPROVAL OF THE ENGINEER AND ACCEPTANCE OF THE PROPERTY OWNER.
11. ALL NON-PRECAST CEMENT CONCRETE USED ON THIS PROJECT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI OR AS OTHERWISE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
12. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AT HIS OWN EXPENSE IF NOT OTHERWISE SPECIFIED, OUTSIDE OF THE PROJECT LIMITS.
13. THE LOCATIONS OF PROPOSED PIPELINES, STRUCTURES AND UTILITY RELOCATIONS MAY BE MODIFIED TO SUIT FIELD CONDITIONS AT THE DISCRETION OF THE ENGINEER. OFFSETS TO CATCH BASINS ARE TO THE CENTER OF THE GRATE AT FACE OF CURB.
14. IF THE CONTRACTOR DAMAGES UTILITY SERVICES, HE SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL IMMEDIATELY REPLACE OR REPAIR, UNLESS INDICATED OTHERWISE BY THE RESPECTIVE UTILITY OWNER.
15. RIM ELEVATIONS MAY BE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER. ELEVATIONS ON CATCH BASINS ARE REFERENCED TO THE CENTER OF GRATE AT FACE OF CURB.

16. SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH MASSDOT REQUIREMENTS, THE 2003 MUTCD AND THE SPECIAL PROVISIONS.
17. EXISTING CURB (GRANITE AND CONCRETE) IN GOOD CONDITION SHALL BE RESET. NEW CURB SHALL BE USED ONLY AFTER ALL EXISTING CURB HAS BEEN RESET.
18. THE CONTRACTOR SHALL NOTIFY DIGSAFE PRIOR TO THE START OF ANY WORK ON THE PROJECT. IN ADDITION, THE CONTRACTOR SHALL SAFELY AND ACCURATELY DETERMINE THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES ON THE SITE PRIOR TO THE START OF WORK.
19. REMOVE AND REPLACE DRAINAGE AND UTILITY CASTINGS WITHIN THE LIMITS OF WORK WITH HOOK-LOCK CASTINGS IF NOT ALREADY EQUIPPED.

SURVEY NOTES

SURVEYING AND MAPPING CONSULTANTS (SMC)
325 WOOD ROAD, SUITE 109
BRAintree, MA 02184

1. THE UTILITY INFORMATION SHOWN IS COMPILED BASED ON FIELD SURVEY INFORMATION AND RECORD INFORMATION. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM RECORD PLANS AND ARE APPROXIMATE ONLY. LOCATIONS OF UNDERGROUND STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. THE PROPER UTILITY ENGINEERING DEPARTMENT/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233 SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.
2. HORIZONTAL COORDINATES REFER TO NORTH AMERICAN DATUM OF 1983 (NAD 83).
3. ELEVATION REFERS TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

**MEDFORD
I-93 OVER SALEM STREET EB**

SHEET NO.	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS. 093-1	BRI-093-1 (524) STP 093-1	6	60
PROJECT FILE NO. 606255			

TYPICAL SECTIONS

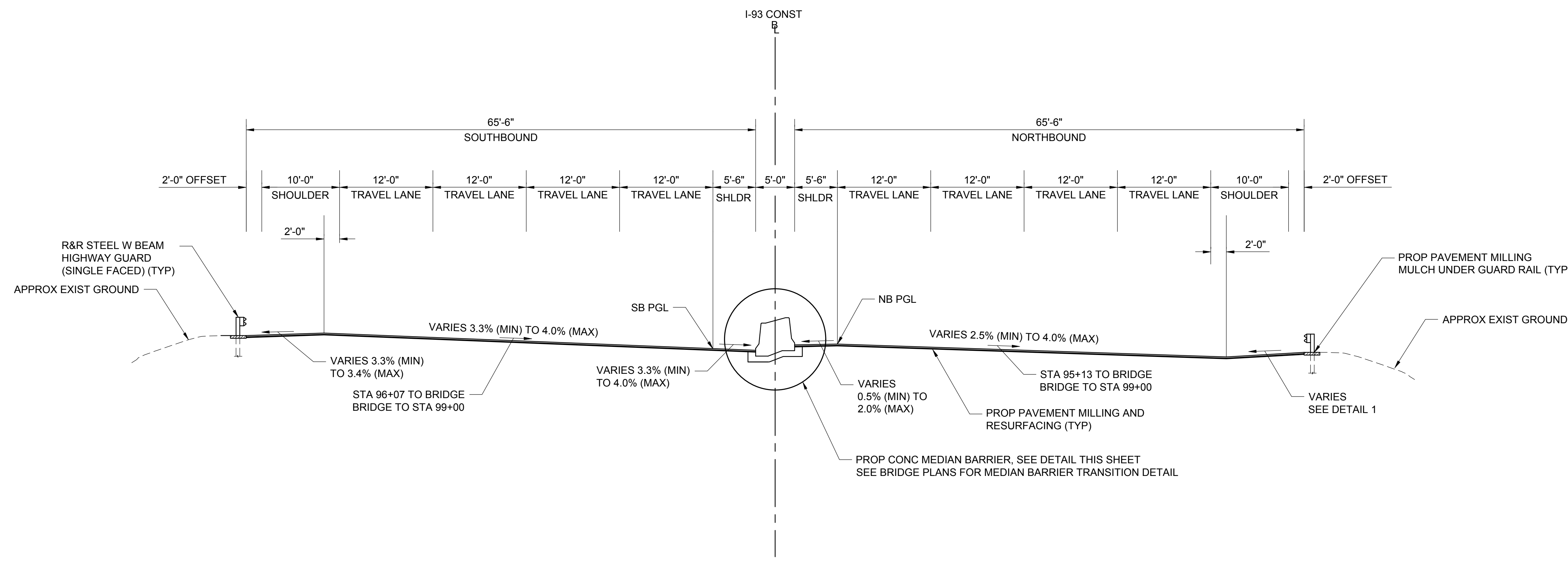
PAVEMENT NOTES

PROPOSED PAVEMENT MILLING AND RESURFACING:

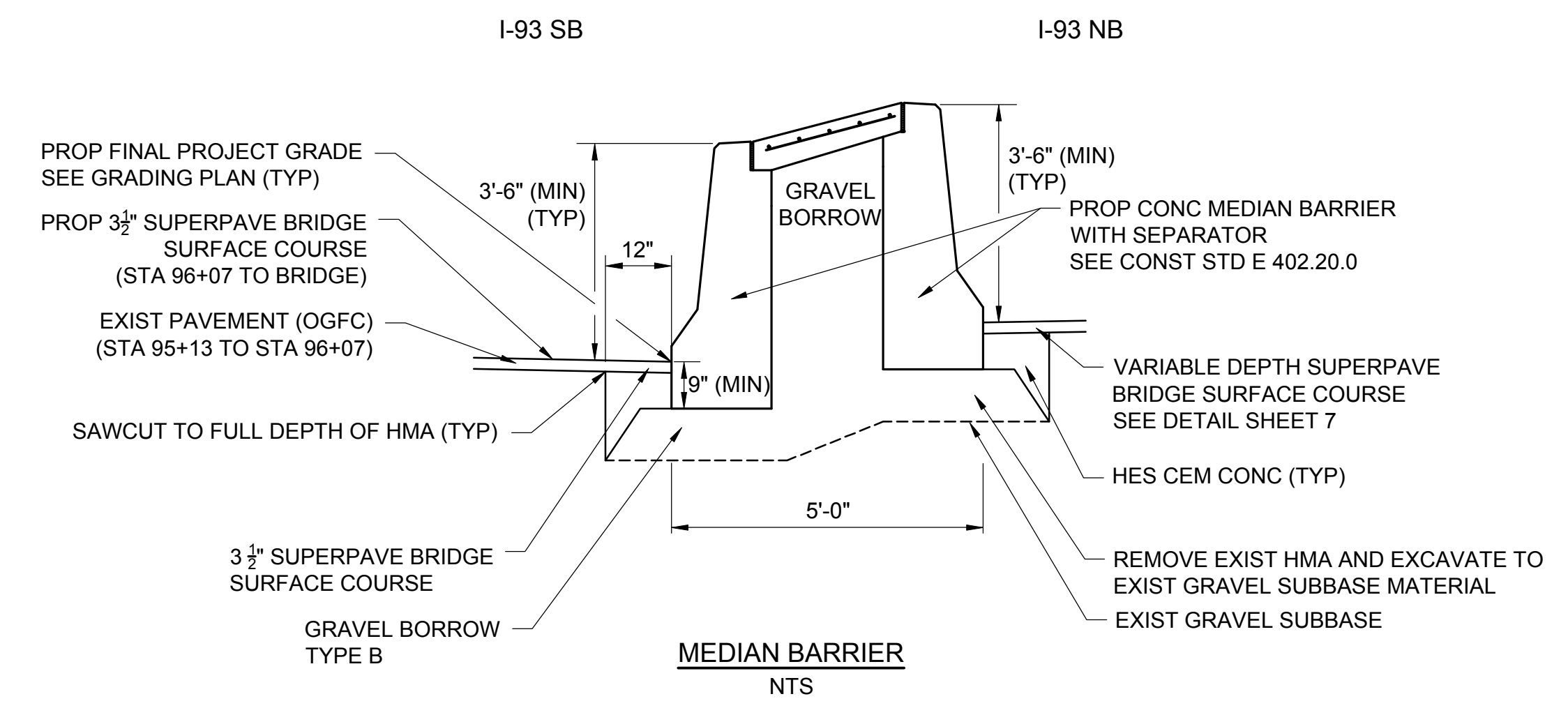
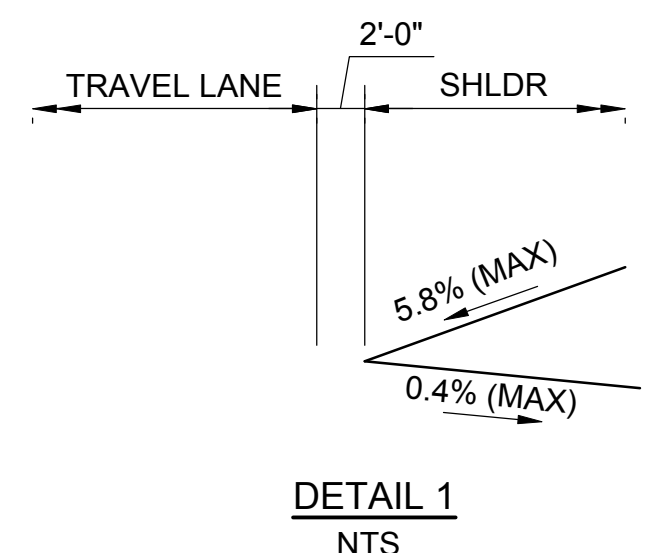
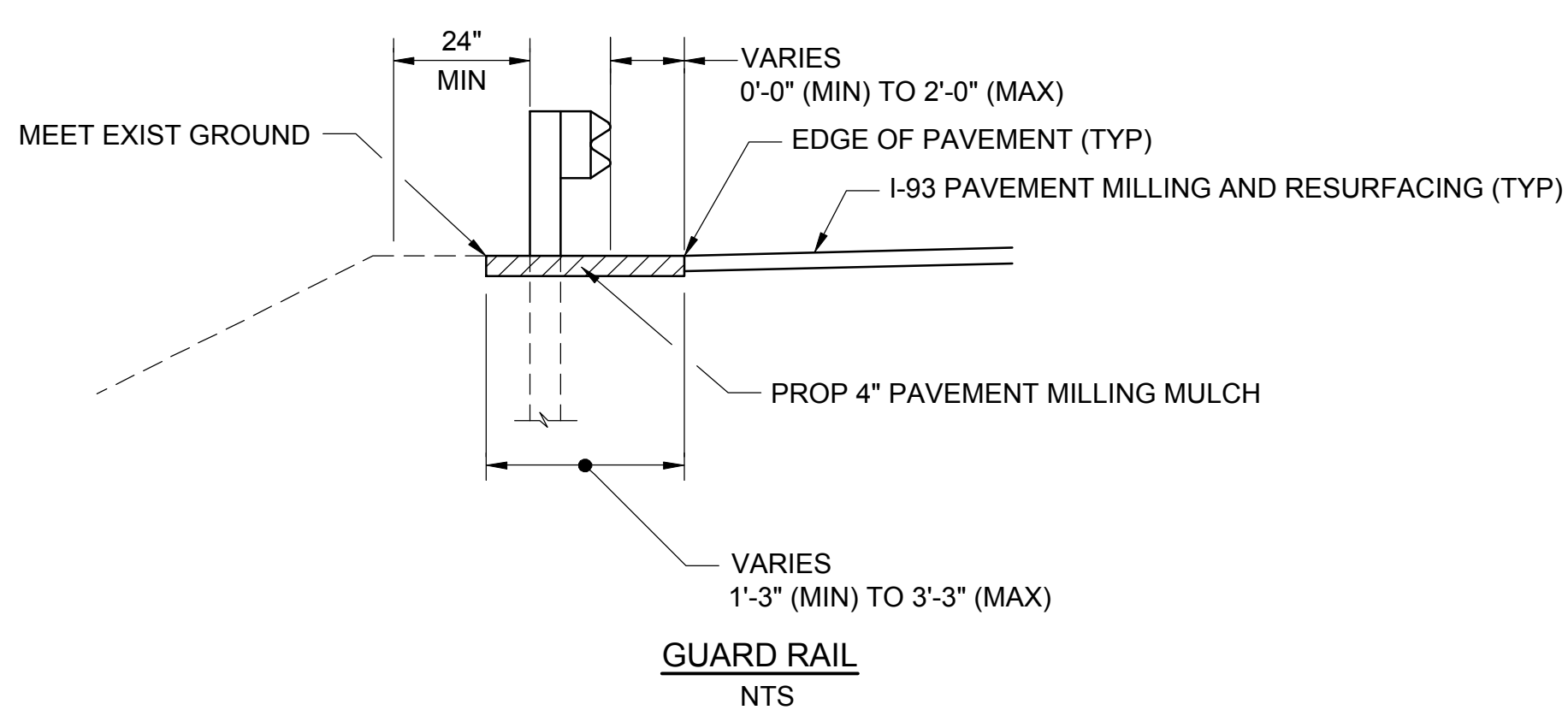
- I-93**
- *SURFACE: 3 1/2" SUPERPAVE BRIDGE SURFACE COURSE (SSC-B-12.5) PLACED IN 2 LAYERS, 1 1/2" TOP AND 2" BOTTOM
 - LEVELING AND PAVEMENT MILLING VARIABLE DEPTH
 - LEVELING COURSES SHALL BE PLACED IN 3 1/2" (MAX) COURSES.
 - LEVELING COURSES FROM 1 1/2" TO 2" SHALL BE SUPERPAVE INTERMEDIATE COURSE (SIC-12.5) AND LEVELING COURSES FROM 2" TO 3 1/2" SHALL BE SUPERPAVE INTERMEDIATE COURSE (SIC-19.0).
 - LEVELING COURSES SHALL BE A MINIMUM THICKNESS OF THREE TIMES THE NOMINAL MAX AGGREGATE SIZE FOR THE SUPERPAVE HMA MIXTURE
 - ASPHALT EMULSION FOR TACK COAT APPLIED AT A RATE OF 0.07 GAL/SY FOR MILLED SURFACES AND 0.05 GAL/SY FOR UNMILLED SURFACES
 - ESTIMATED DESIGN TRAFFIC IS 18 MILLION 18-KIP ESALS. THE PERFORMANCE GRADE ASPHALT SHALL BE PG64-28.

PROPOSED FULL DEPTH PAVEMENT:

- I-93 - LIMITED LOCATIONS**
- *SURFACE: 3 1/2" SUPERPAVE BRIDGE SURFACE COURSE PLACED IN 2 LAYERS, 1 1/2" TOP AND 2" BOTTOM
 - INTERMEDIATE: 4 1/2" HAND PLACED AND COMPACTED HOT MIX ASPHALT INTERMEDIATE COURSE-BINDER PLACED IN TWO EQUAL LAYERS
 - BASE: 4" HAND PLACED AND COMPACTED HOT MIX ASPHALT BASE COURSE PLACED IN ONE LAYER
 - SUBBASE: 12" GRAVEL BORROW (TYPE B)
24" SPECIAL BORROW
- * DEPTH OF SURFACE MATERIAL MAY VARY. SEE PROP PAVEMENT DETAILS ON SHEET 7.

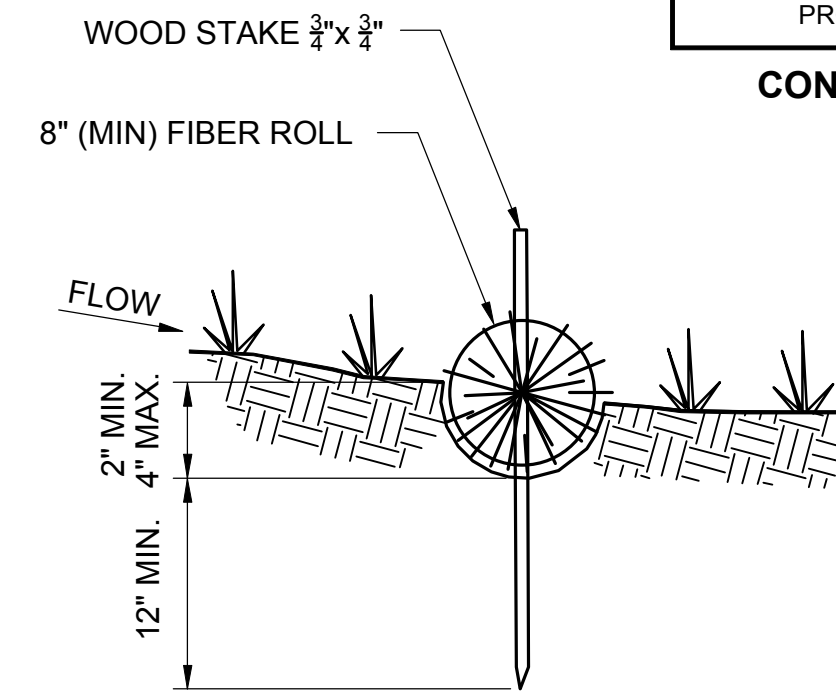
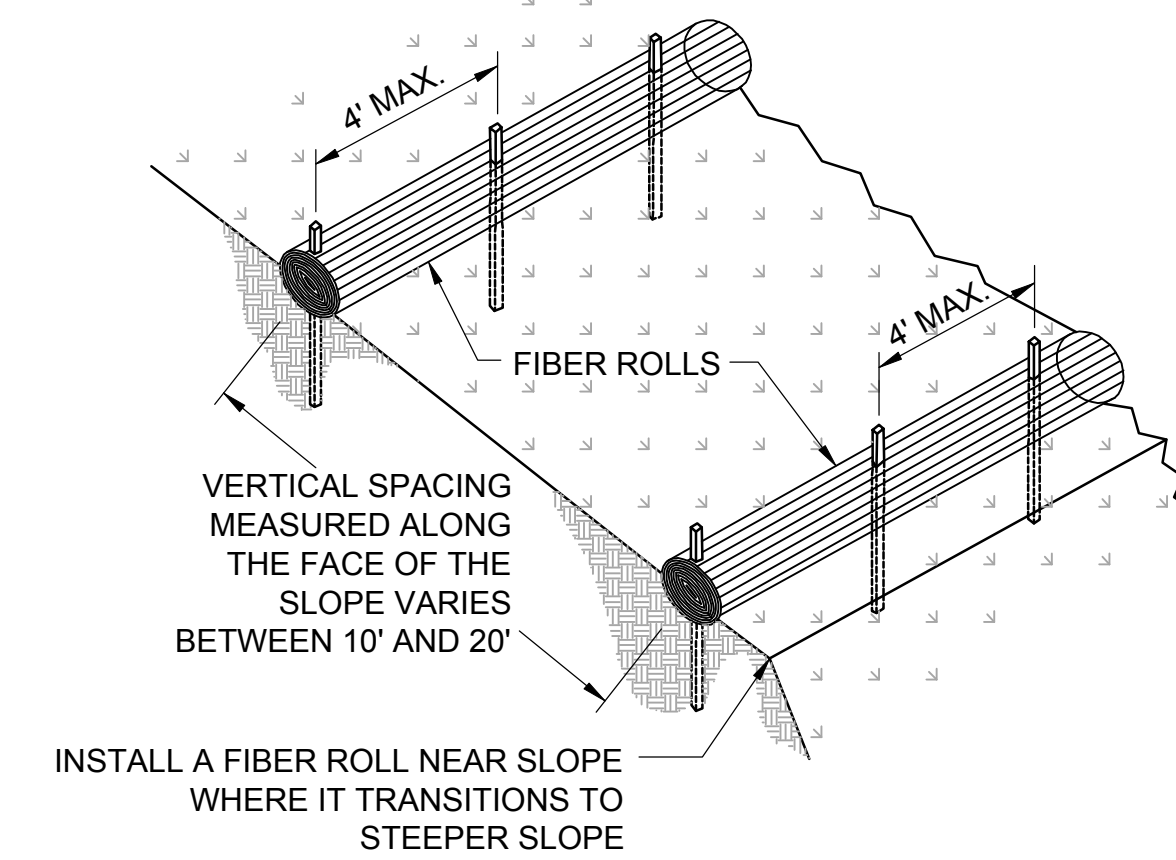
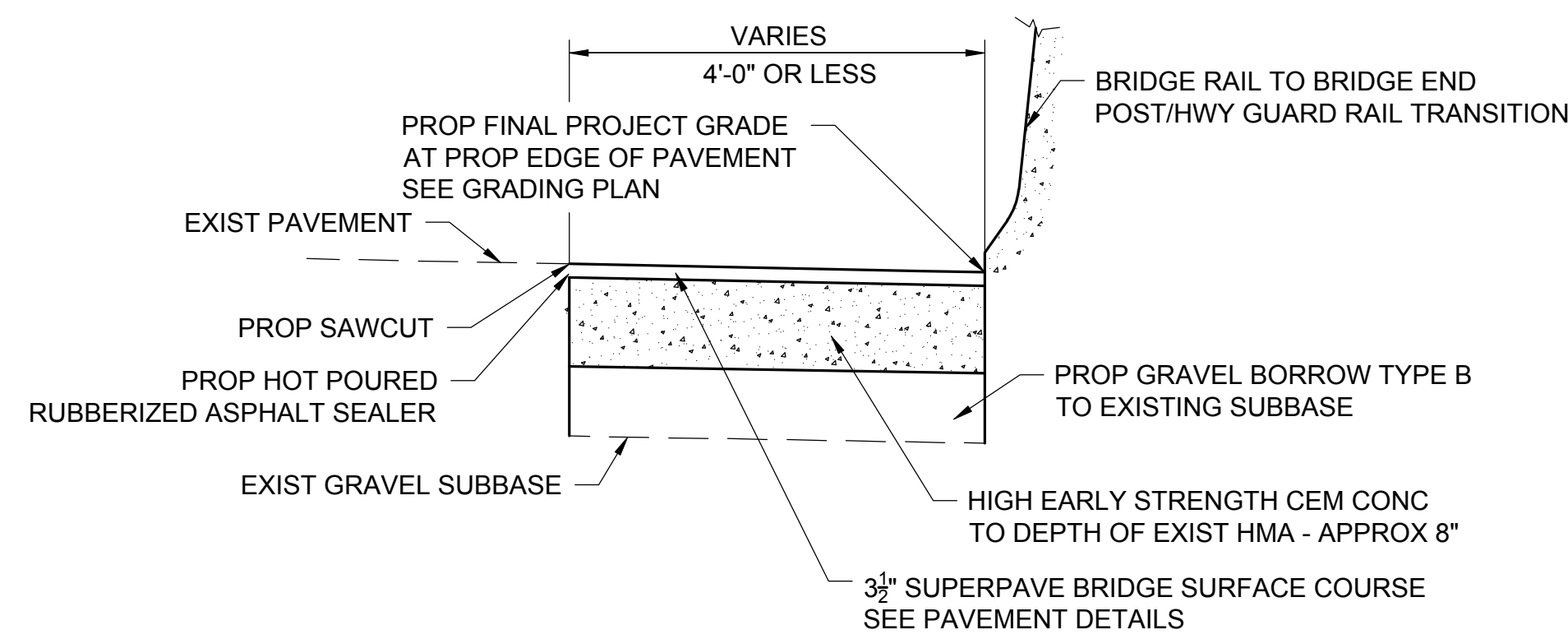
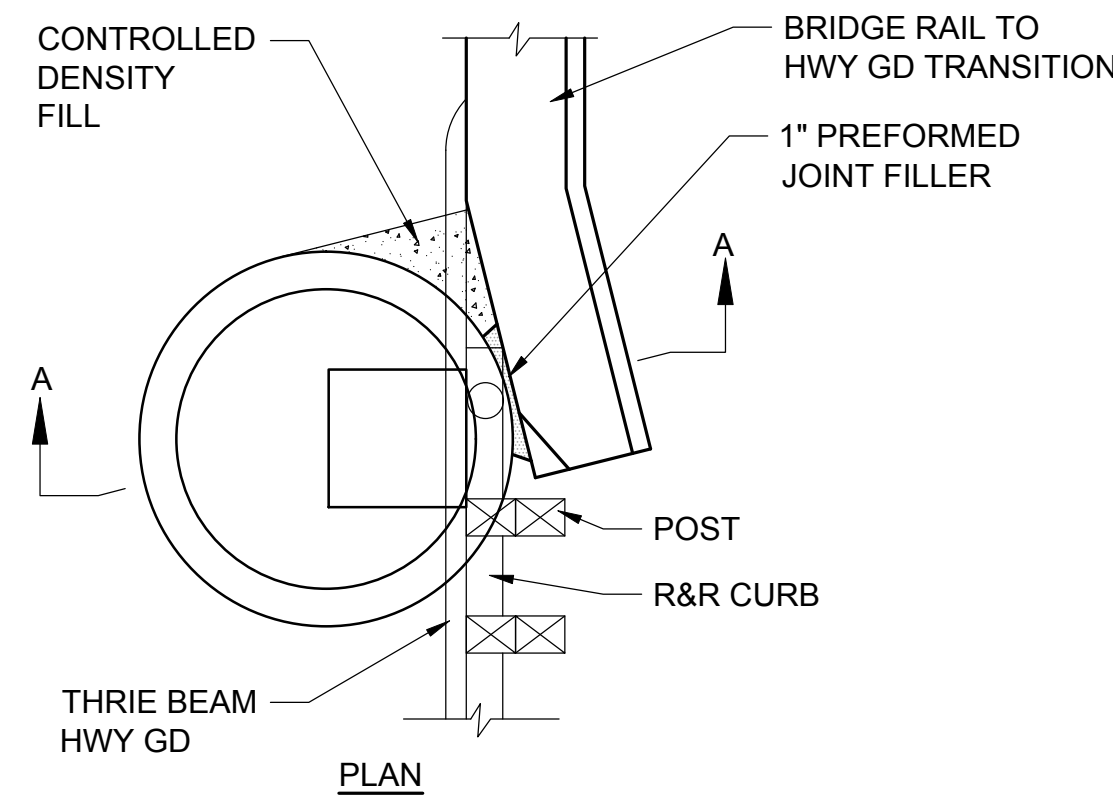


**TYPICAL SECTION
INTERSTATE 93
STA 95+13± TO BRIDGE
BRIDGE TO STA 99+00±
NTS**



MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	7	60
PROJECT FILE NO.		606255	

CONSTRUCTION DETAILS

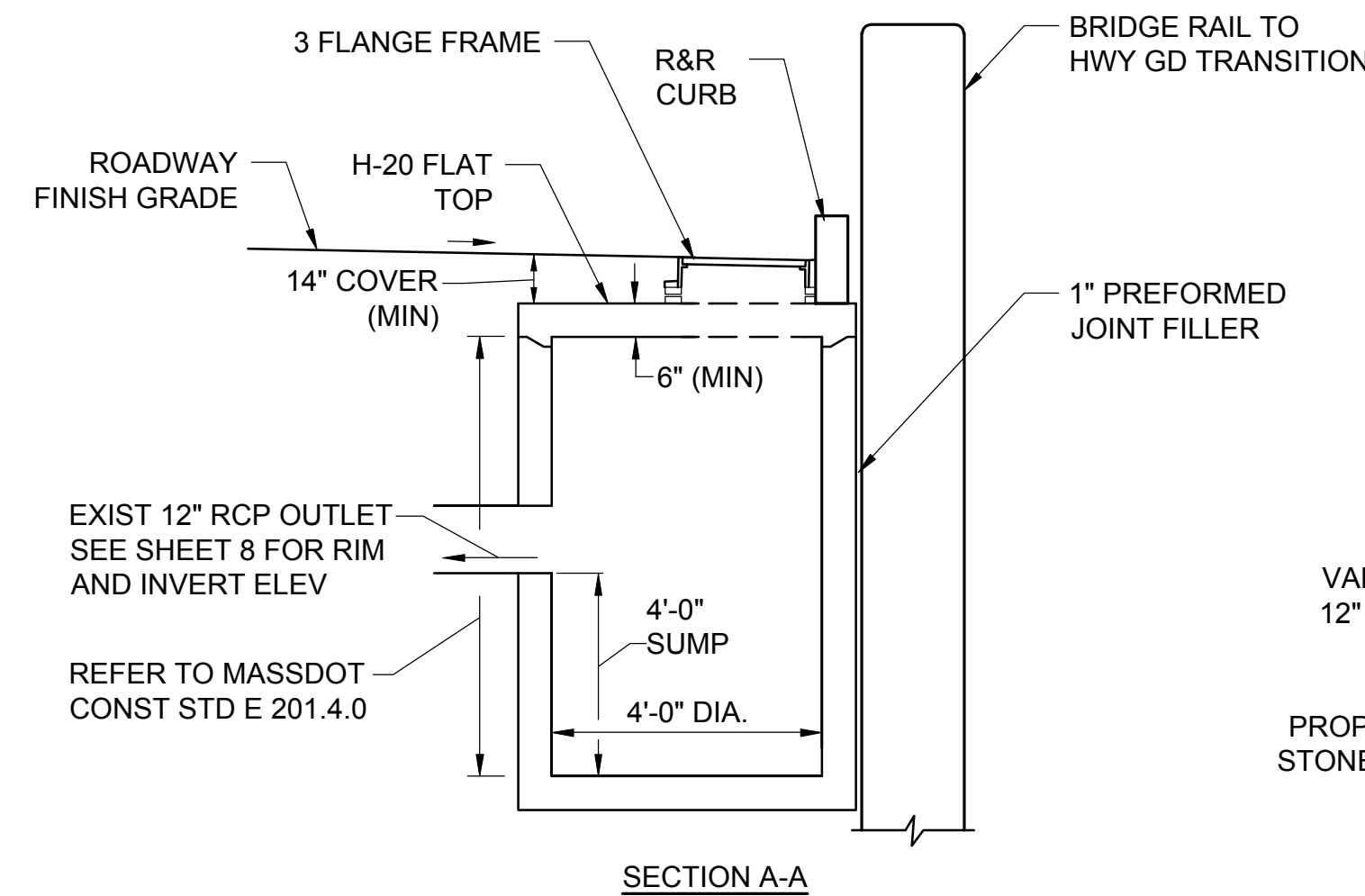


TYPICAL FIBER ROLL SLOPE INSTALLATION

ENTRENCHMENT DETAIL

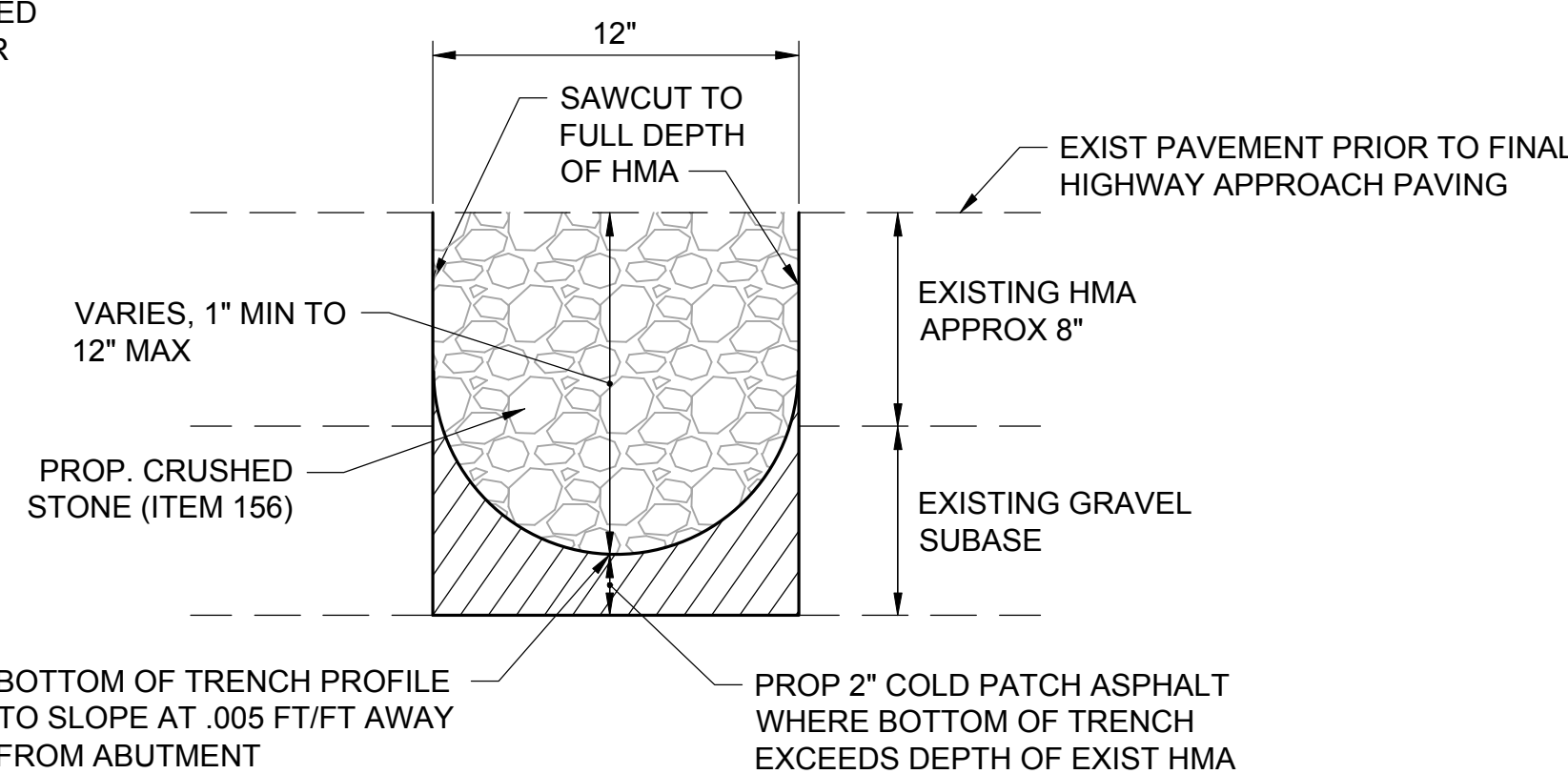
NOTES:

1. PREFABRICATED ROLL TO CONSIST OF WOOD EXCELSIOR, RICE, WHEAT STRAW OR COCONUT FIBERS.
2. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2"-4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
3. WOOD STAKES (24" MIN. IN LENGTH) SHALL BE SPACED 4' MAXIMUM ON CENTER.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 3/4 OF ROLL HEIGHT



CATCH BASIN AT BRIDGE RAIL TO HIGHWAY GUARD TRANSITION

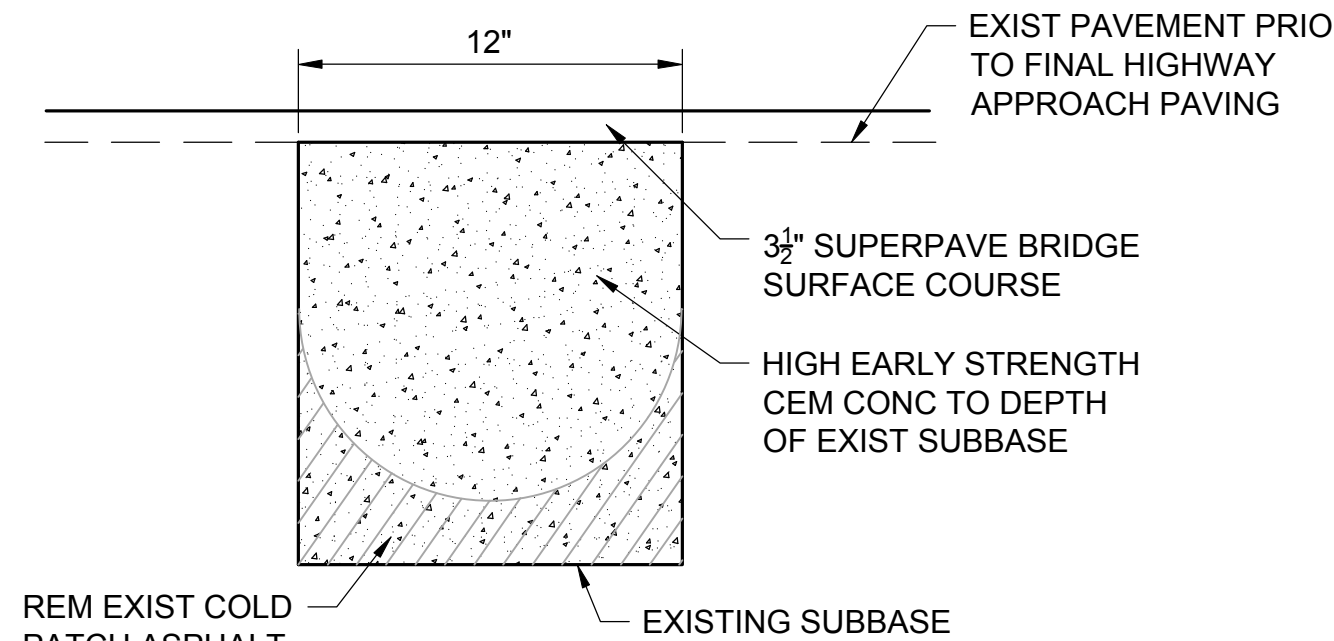
NTS



- NOTES:
1. INTERIM STORMWATER TRENCH SHALL BE LOCATED BEHIND THE TEMP CONC BARRIER.

PROP INTERIM STORMWATER RELIEF TRENCH

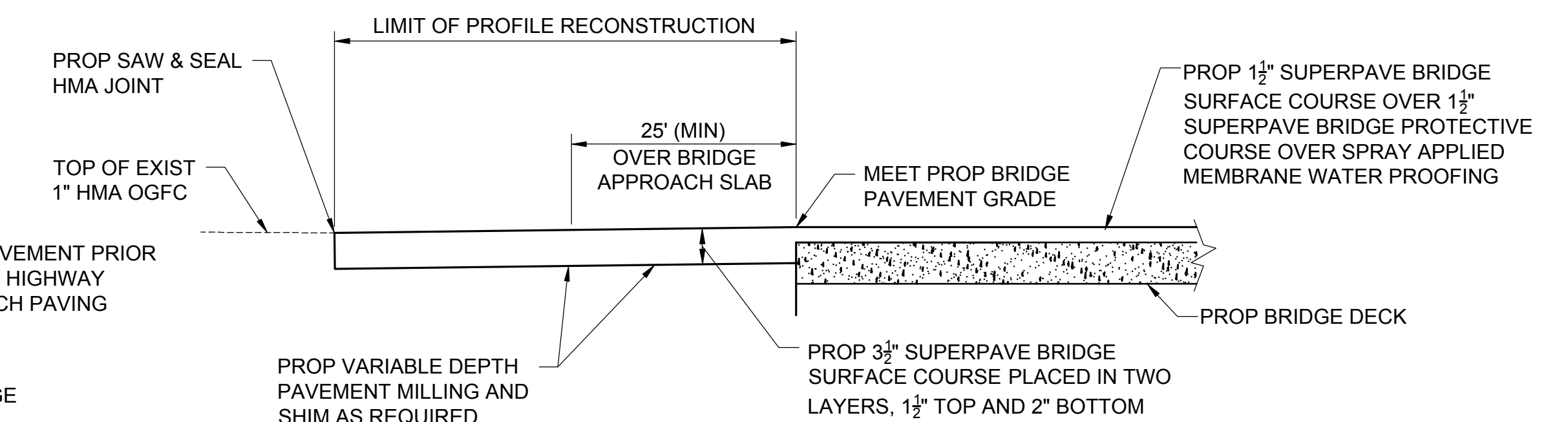
NTS



- NOTES:
1. PAVEMENT RECONSTRUCTION SHALL BE COMPLETED PRIOR TO REMOVING TEMP CONC BARRIER.

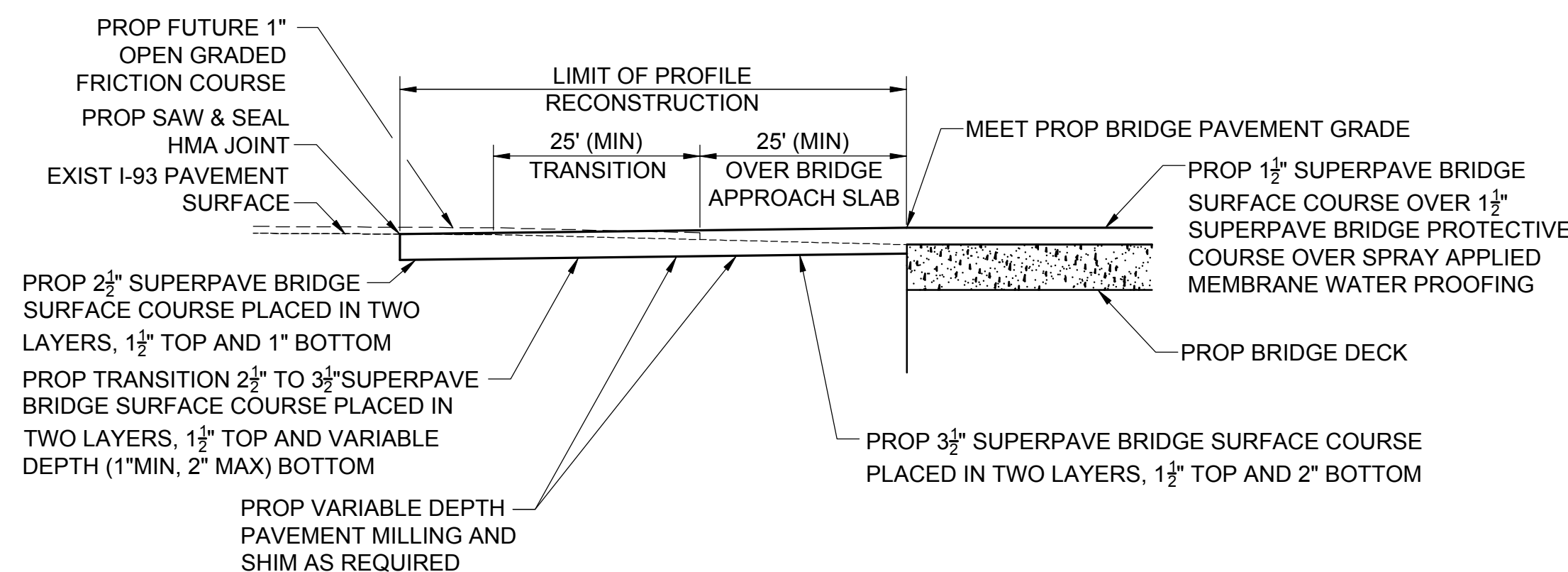
PAVEMENT RECONSTRUCTION AT INTERIM STORMWATER RELIEF TRENCH

NTS



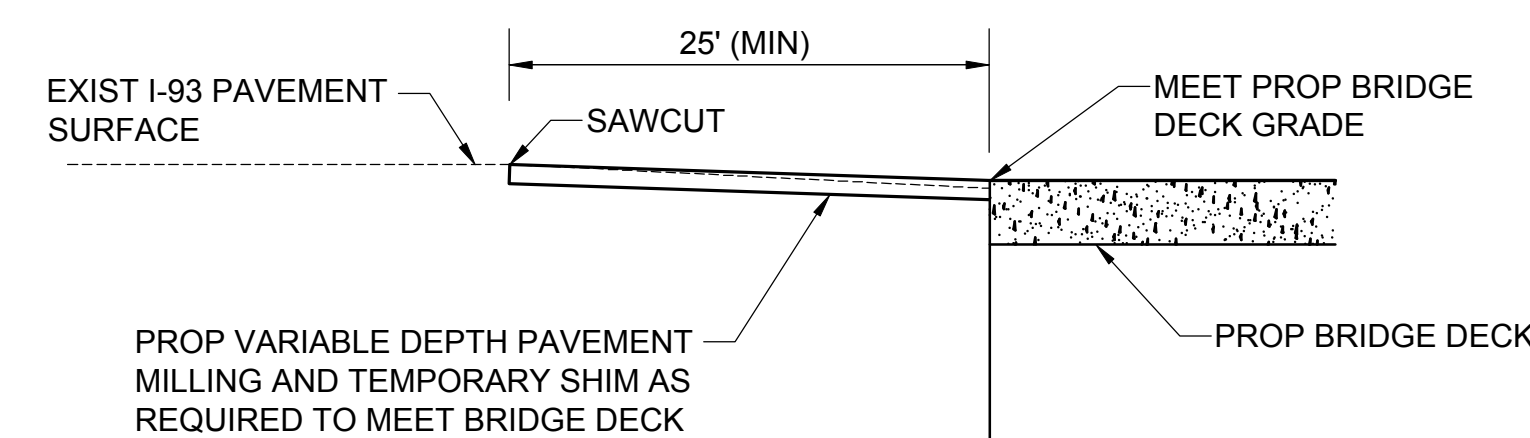
PROP PAVEMENT TRANSITION AT BRIDGE I-93 SOUTHBOUND

NTS



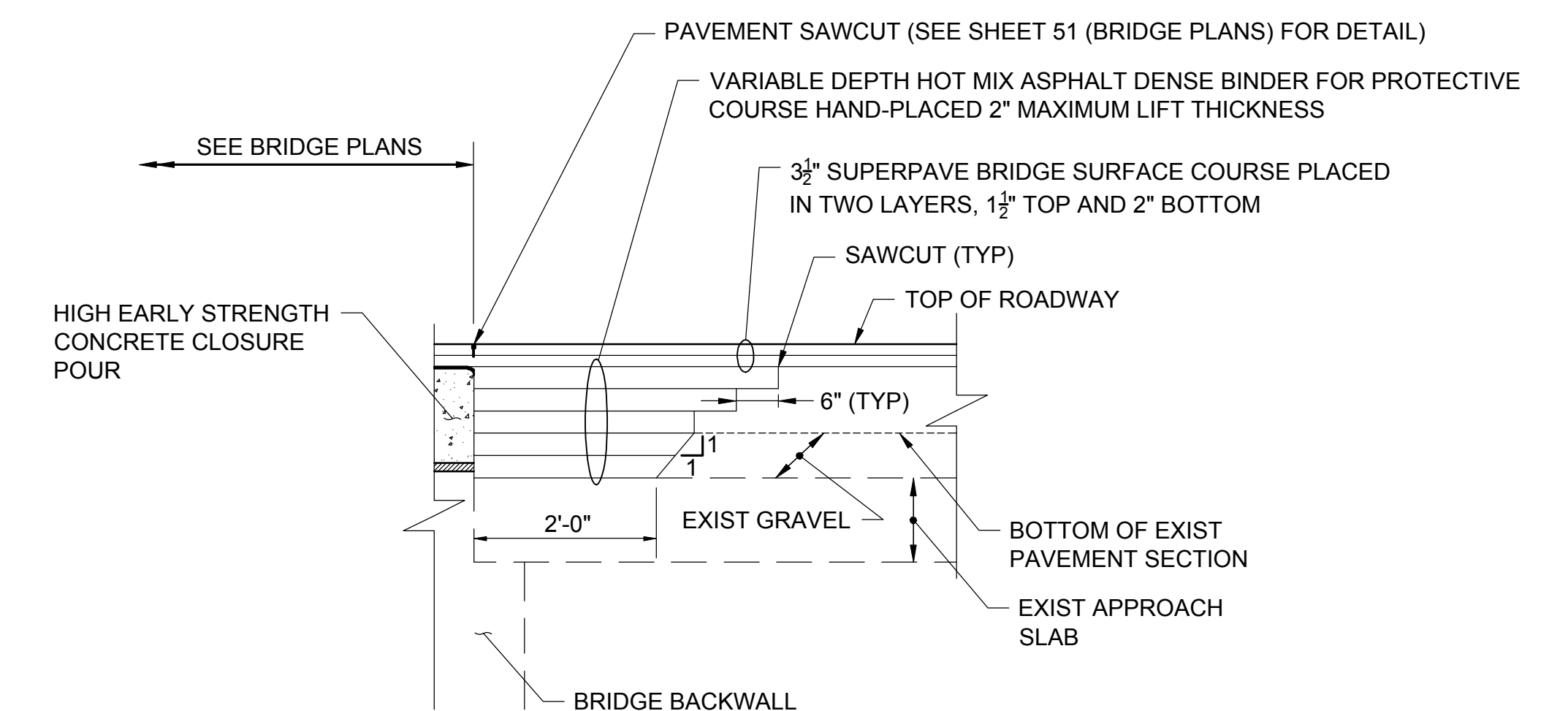
PROP PAVEMENT AT BRIDGE PRIOR TO I-93 NORTHBOUND OPEN GRADED FRICTION COURSE PAVING

NTS



PROP PAVEMENT AT BRIDGE PRIOR TO BRIDGE DECK PAVING

NTS



TYPICAL PAVEMENT DETAIL AT ABUTMENT WITH PAVEMENT SAWCUT

NTS

HIGHWAY GUARD DETAILS

NORTHBOUND
 STA 95+13.00 RT TO STA 96+32.19 RT
 STA 96+32.19 RT TO STA 96+38.44 RT
 STA 96+38.44 RT TO BRIDGE RT
 BRIDGE RT TO STA 98+73.75 RT
 STA 98+73.75 RT TO STA 98+80.00 RT
 STA 98+80.00 RT TO STA 98+94.52 RT

R&R STEEL W BEAM HIGHWAY GUARD (SINGLE FACED) (AS REQUIRED FOR CONNECTION TO EXISTING GUARD RAIL)
 STEEL HIGHWAY GUARD TRANSITION BEAM
 BRIDGE RAIL TO HIGHWAY GUARD RAIL TRANSITION
 BRIDGE RAIL TO HIGHWAY GUARD RAIL TRANSITION
 BRIDGE RAIL TO HIGHWAY GUARD RAIL TRANSITION
 STEEL HIGHWAY GUARD TRANSITION BEAM
 R&R STEEL W BEAM HIGHWAY GUARD (SINGLE FACED) (AS REQUIRED FOR CONNECTION TO EXISTING GUARD RAIL)

SOUTHBOUND
 STA 96+07.00 LT TO STA 96+42.36 LT
 STA 96+42.36 LT TO STA 96+48.61 LT
 STA 96+48.61 LT TO BRIDGE LT
 BRIDGE LT TO STA 98+76.05 LT
 STA 98+76.05 LT TO STA 98+82.30 LT
 STA 98+82.30 LT TO STA 99+00.00 LT

R&R STEEL W BEAM HIGHWAY GUARD (SINGLE FACED) (AS REQUIRED FOR CONNECTION TO EXISTING GUARD RAIL)
 STEEL HIGHWAY GUARD TRANSITION BEAM
 BRIDGE RAIL TO HIGHWAY GUARD RAIL TRANSITION
 BRIDGE RAIL TO HIGHWAY GUARD RAIL TRANSITION
 STEEL HIGHWAY GUARD TRANSITION BEAM
 R&R STEEL W BEAM HIGHWAY GUARD (SINGLE FACED) (AS REQUIRED FOR CONNECTION TO EXISTING GUARD RAIL)

TRAFFIC SIGNAL CONDUIT

NONE

WATER SUPPLY ALTERATIONS

NONE

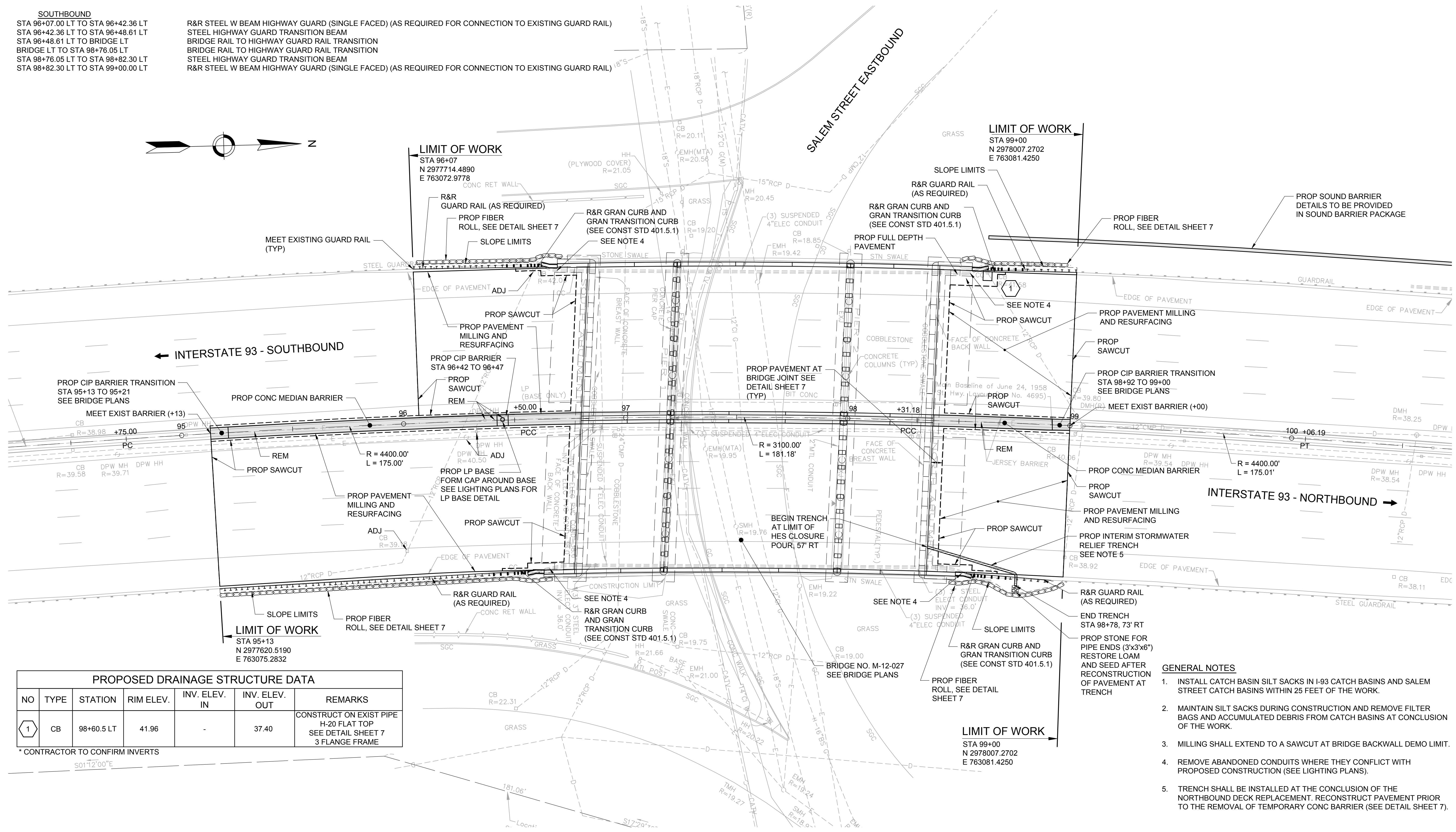
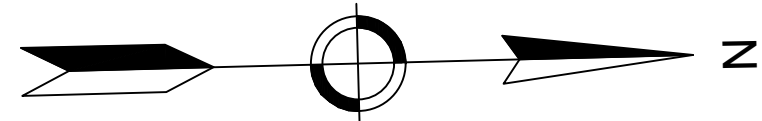
DRAINAGE DETAILS

SEE BELOW

LIGHTING DETAILS

SEE LIGHTING PLANS

MEDFORD			
I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	8	60
PROJECT FILE NO.		606255	
CONSTRUCTION PLAN			



NO	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
1	CB	98+60.5 LT	41.96	-	37.40	CONSTRUCT ON EXIST PIPE H-20 FLAT TOP SEE DETAIL SHEET 7 3 FLANGE FRAME

* CONTRACTOR TO CONFIRM INVERTS

GENERAL NOTES

1. INSTALL CATCH BASIN SILT SACKS IN I-93 CATCH BASINS AND SALEM STREET CATCH BASINS WITHIN 25 FEET OF THE WORK.
2. MAINTAIN SILT SACKS DURING CONSTRUCTION AND REMOVE FILTER BAGS AND ACCUMULATED DEBRIS FROM CATCH BASINS AT CONCLUSION OF THE WORK.
3. MILLING SHALL EXTEND TO A SAWCUT AT BRIDGE BACKWALL DEMO LIMIT.
4. REMOVE ABANDONED CONDUITS WHERE THEY CONFLICT WITH PROPOSED CONSTRUCTION (SEE LIGHTING PLANS).
5. TRENCH SHALL BE INSTALLED AT THE CONCLUSION OF THE NORTHBOUND DECK REPLACEMENT. RECONSTRUCT PAVEMENT PRIOR TO THE REMOVAL OF TEMPORARY CONC BARRIER (SEE DETAIL SHEET 7).



FOR PROFILE: SEE SHEET NO. 9 & 10

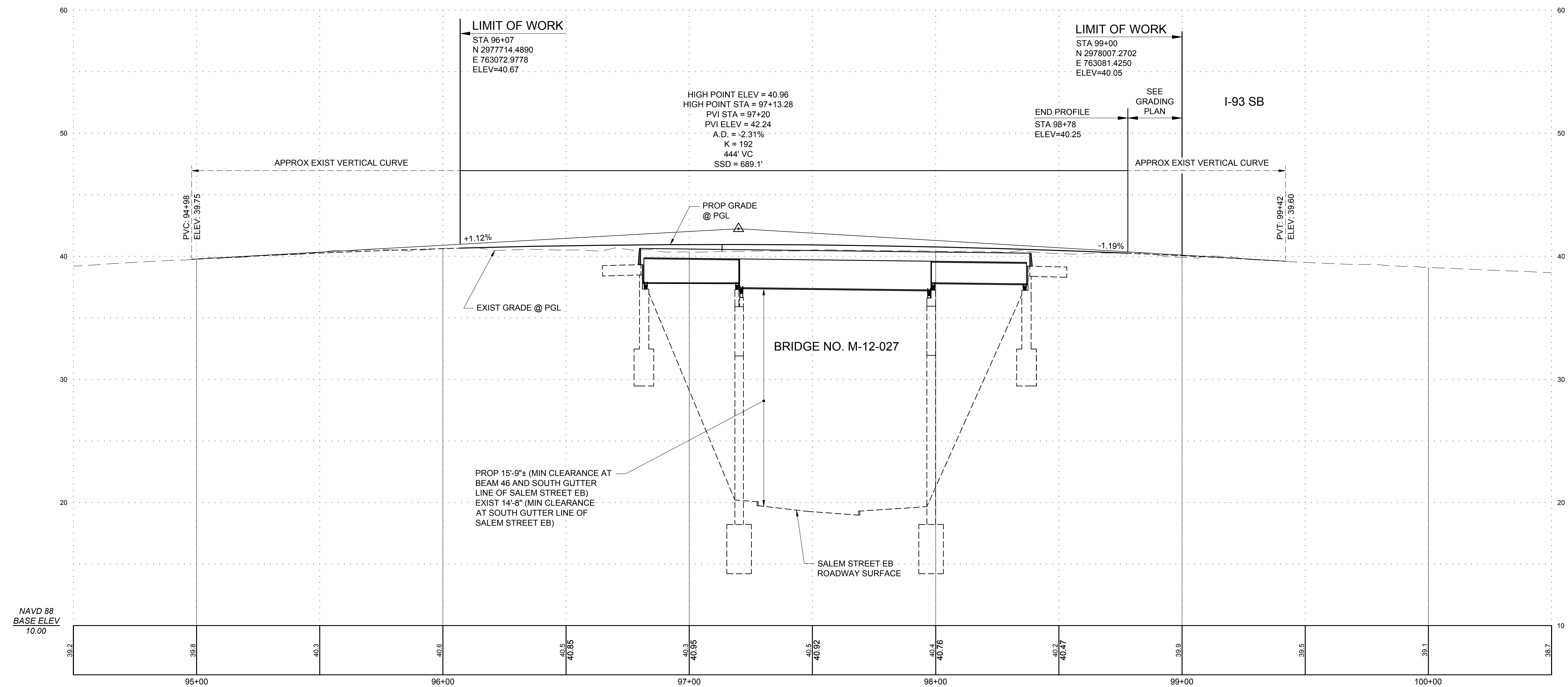
MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	10	60
PROJECT FILE NO.		606255	

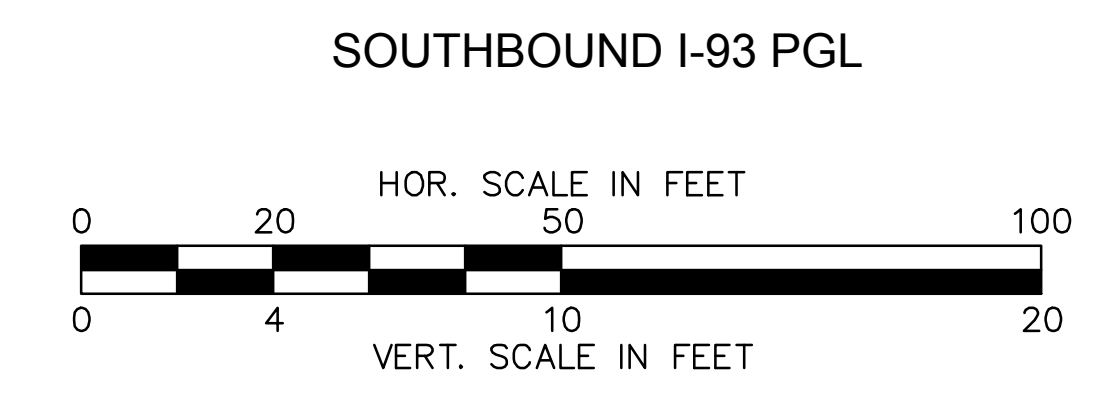
PROFILE
SHEET 2 OF 2

NOTE

THE PROFILE GRADES AT THE BRIDGE AND APPROACHES WILL MEET THE DESIGN VERTICAL CURVE VALUES AS SHOWN ON THE DRAWING. THE PROPOSED WORK AREA PROFILE GRADES WILL MEET THE EXISTING PROFILE GRADES AT THE TWO LOCATIONS AS SHOWN ON THE PLAN. NO WORK IS PROPOSED OUTSIDE THIS WORK AREA AS THE INTENT OF THE PROJECT IS TO REPLACE THE I93 BRIDGE DECKS AND REQUIRED ROADWAY APPROACH GRADING. THE SURFACE IRREGULARITIES OUTSIDE THE WORK AREA ARE BEYOND THE SCOPE OF WORK AND ARE A REPRESENTATION OF THE REVISED ROADWAY PROFILE THROUGH VARIOUS RESURFACING PROJECTS AND MAINTENANCE PROJECTS.



BENCHMARK STATION # 35 - PK NAIL SET ELEV=19.65 STA 97+96.48, 27.54' LT	BENCHMARK STATION # 38 - PK NAIL SET ELEV=20.61 STA 97+23.75, 30.00' LT
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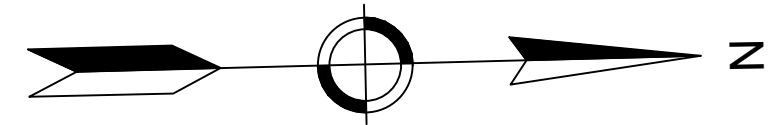


FOR CONSTRUCTION PLAN: SEE SHEET NO. 8

MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	11	60
PROJECT FILE NO. 606255			

GRADING AND CURB TIE PLAN

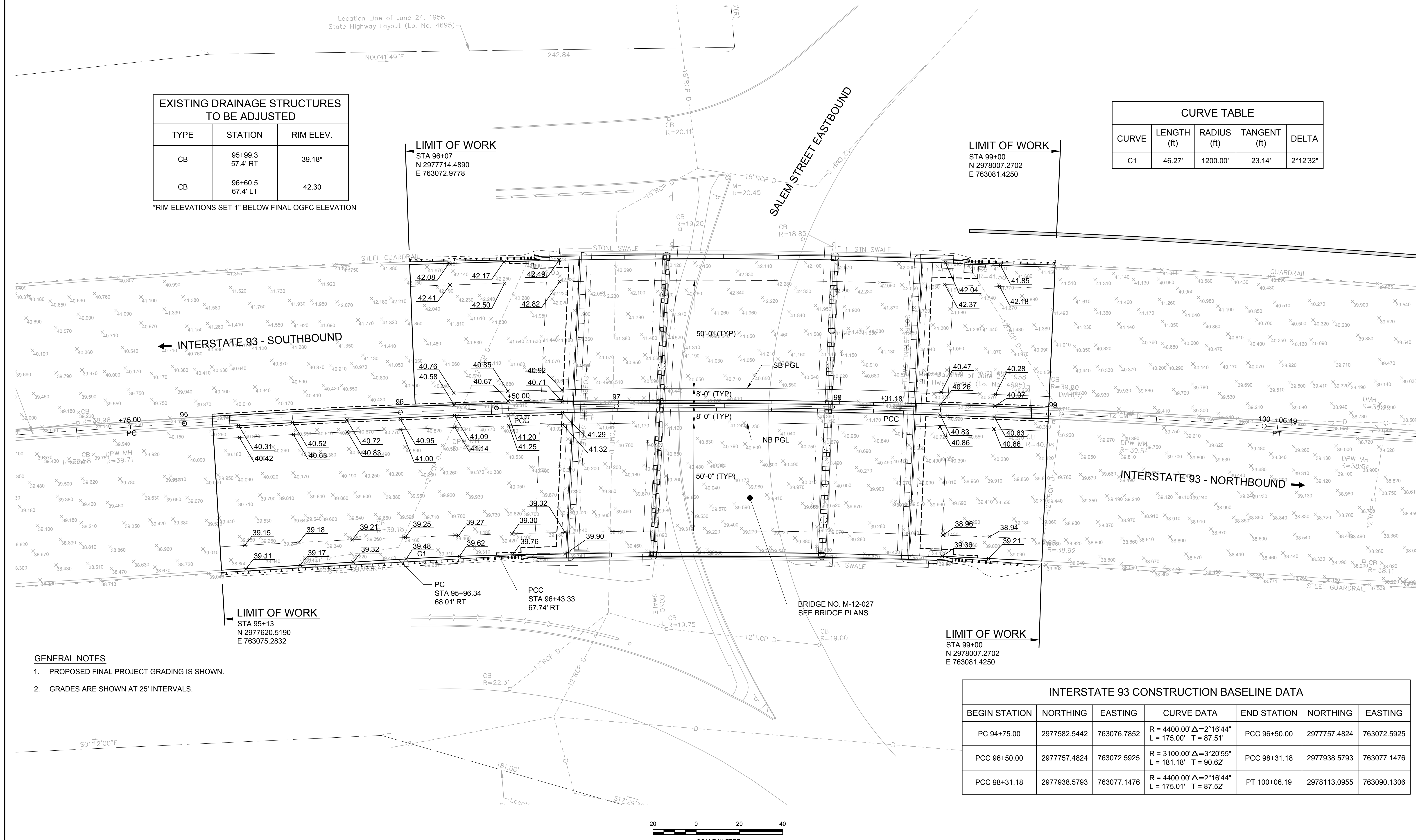


Location Line of June 24, 1958
State Highway Layout (Lo. No. 4695)

TYPE	STATION	RIM ELEV.
CB	95+99.3 57.4' RT	39.18*
CB	96+60.5 67.4' LT	42.30

*RIM ELEVATIONS SET 1" BELOW FINAL OGFC ELEVATION

CURVE	LENGTH (ft)	RADIUS (ft)	TANGENT (ft)	DELTA
C1	46.27'	1200.00'	23.14'	2°12'32"



GENERAL NOTES

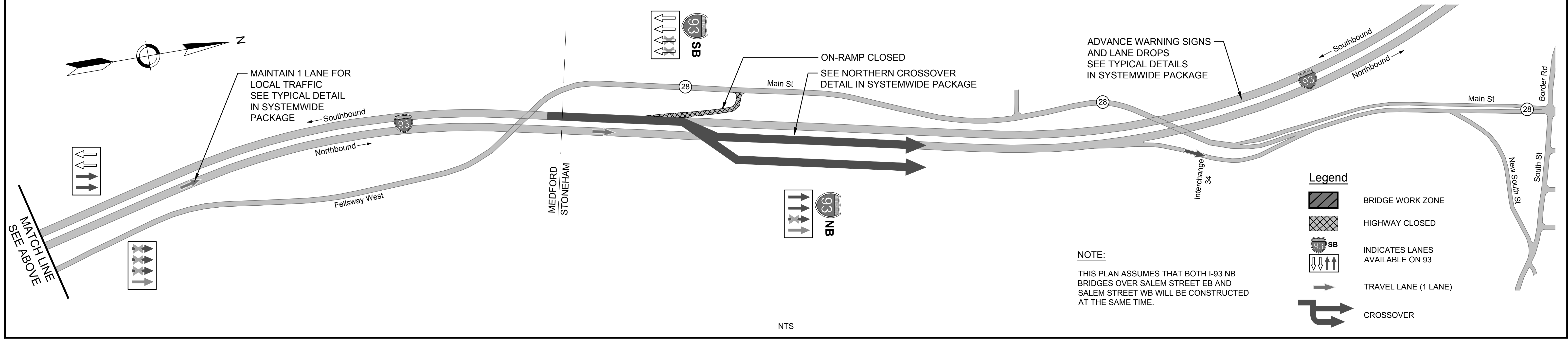
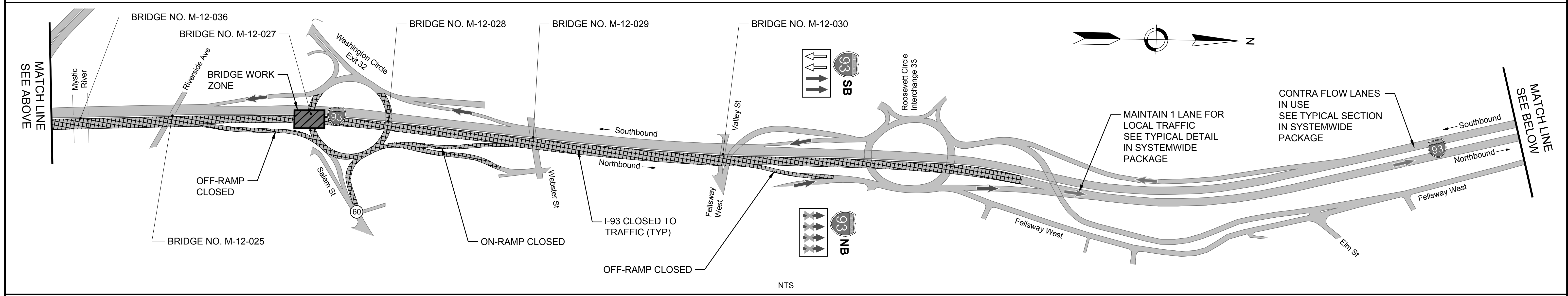
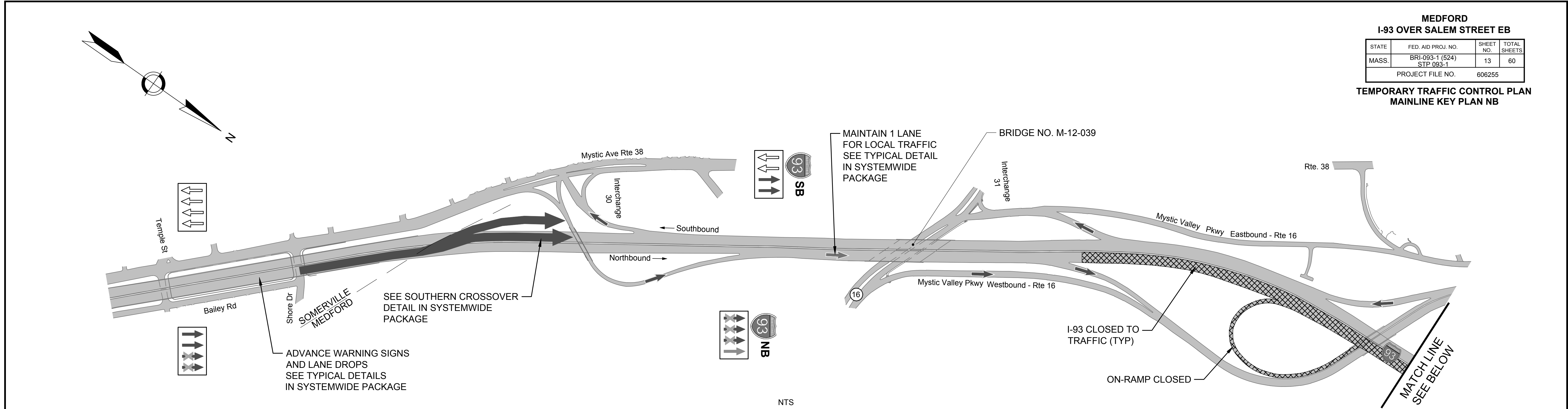
1. PROPOSED FINAL PROJECT GRADING IS SHOWN.
2. GRADES ARE SHOWN AT 25' INTERVALS.

BEGIN STATION	NORTHING	EASTING	CURVE DATA	END STATION	NORTHING	EASTING
PC 94+75.00	2977582.5442	763076.7852	R = 4400.00' Δ = 2°16'44" L = 175.00' T = 87.51'	PCC 96+50.00	2977757.4824	763072.5925
PCC 96+50.00	2977757.4824	763072.5925	R = 3100.00' Δ = 3°20'55" L = 181.18' T = 90.62'	PCC 98+31.18	2977938.5793	763077.1476
PCC 98+31.18	2977938.5793	763077.1476	R = 4400.00' Δ = 2°16'44" L = 175.01' T = 87.52'	PT 100+06.19	2978113.0955	763090.1306



MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	13	60
PROJECT FILE NO.		606255	

**TEMPORARY TRAFFIC CONTROL PLAN
MAINLINE KEY PLAN NB**



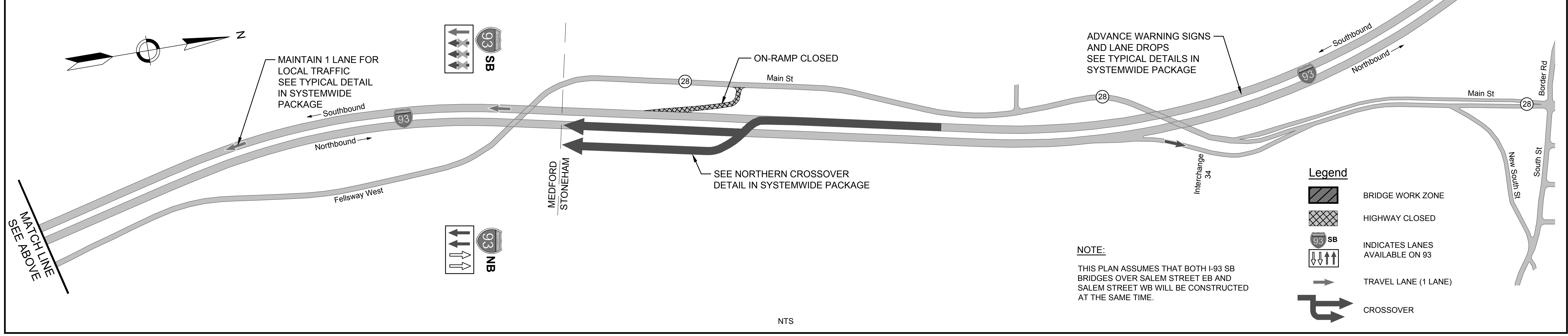
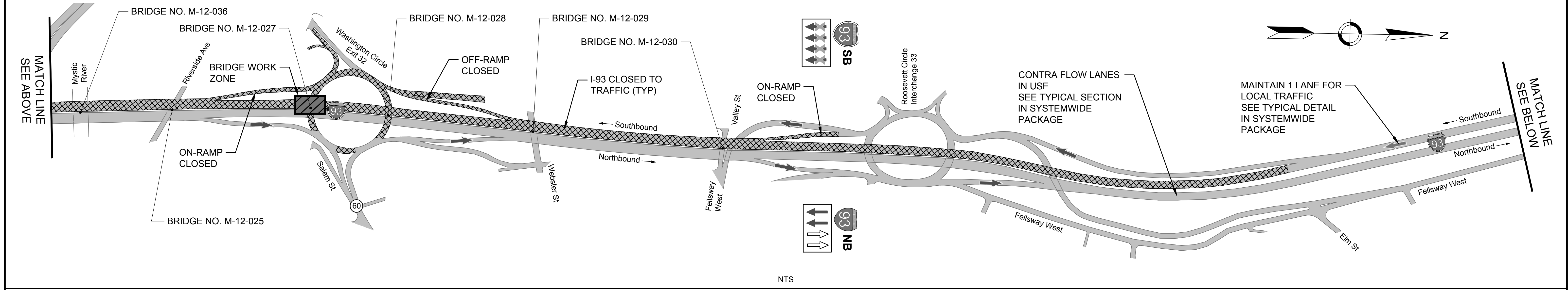
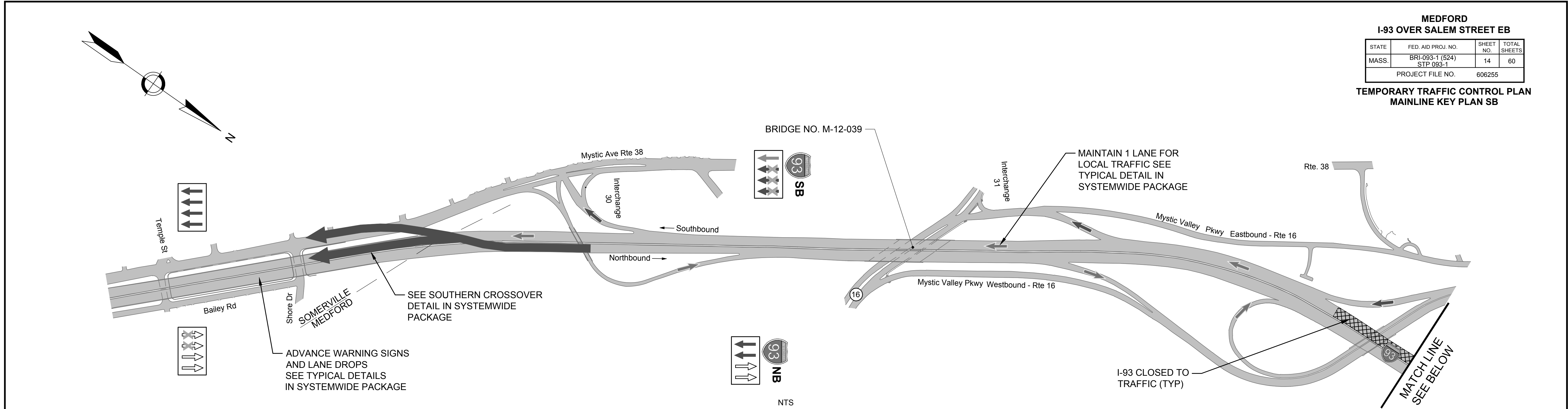
Legend

- BRIDGE WORK ZONE
- HIGHWAY CLOSED
- INDICATES LANES AVAILABLE ON 93
- TRAVEL LANE (1 LANE)
- CROSSOVER

NOTE:
THIS PLAN ASSUMES THAT BOTH I-93 NB BRIDGES OVER SALEM STREET EB AND SALEM STREET WB WILL BE CONSTRUCTED AT THE SAME TIME.

MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	14	60
PROJECT FILE NO.		606255	

**TEMPORARY TRAFFIC CONTROL PLAN
MAINLINE KEY PLAN SB**



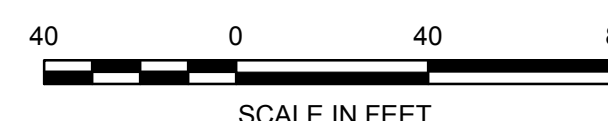
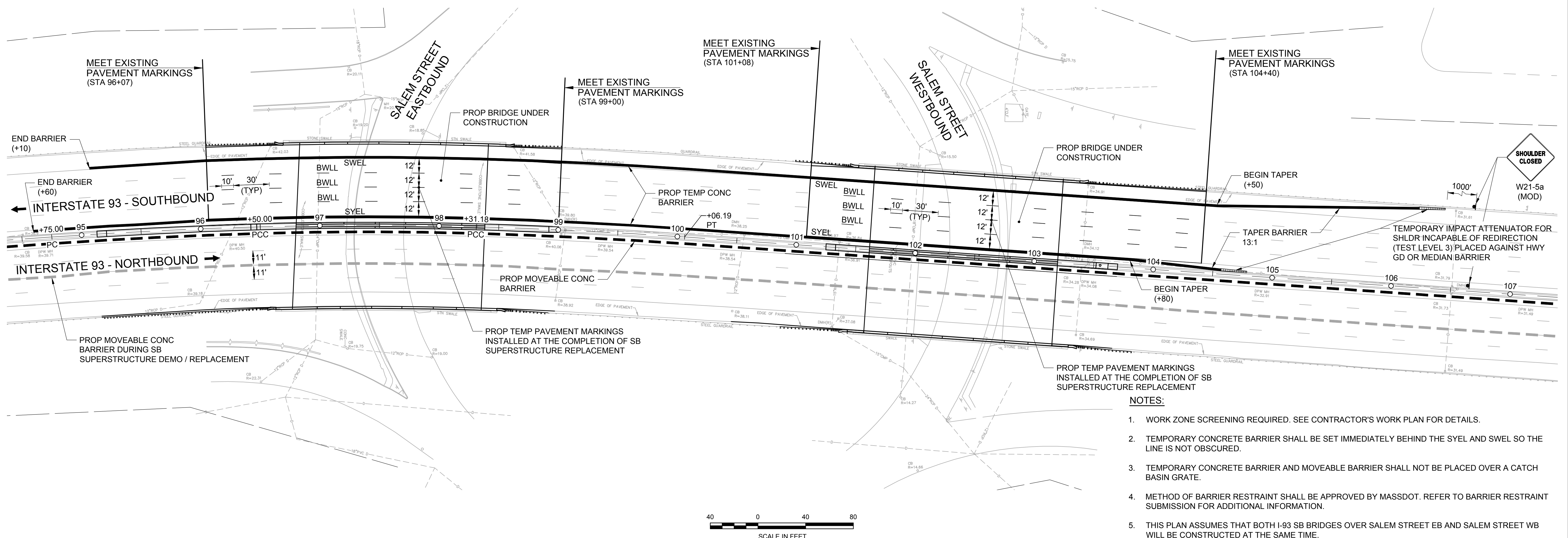
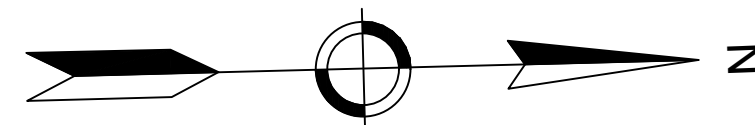
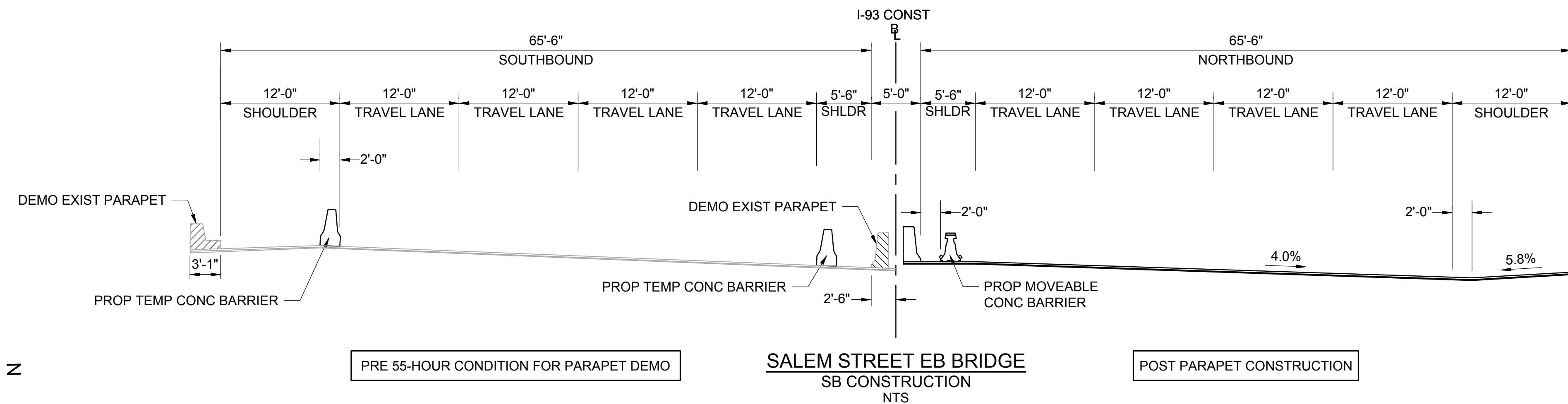
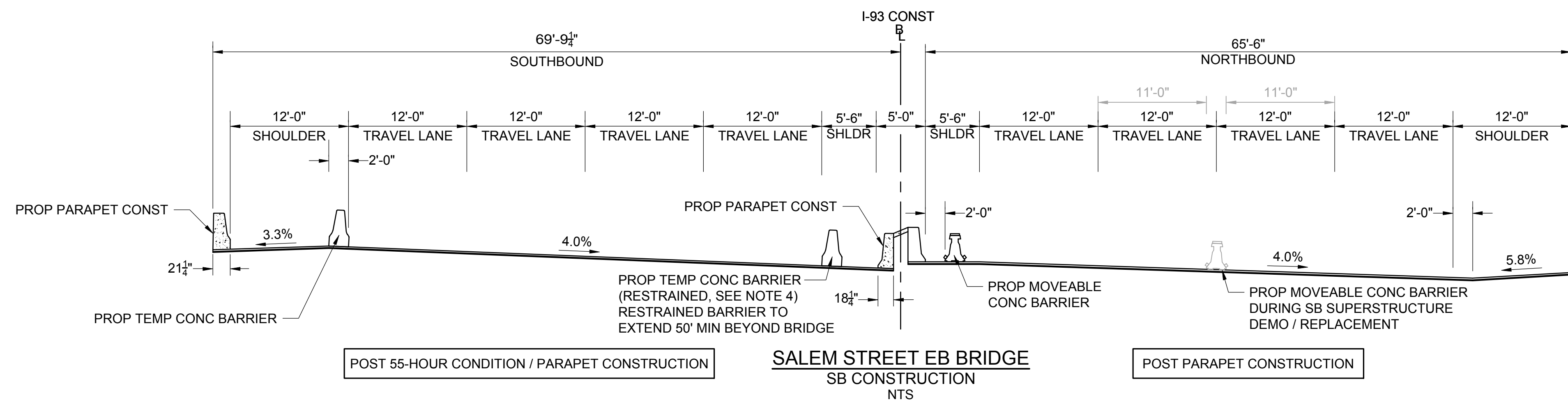
Legend

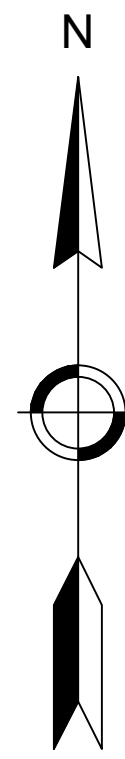
- BRIDGE WORK ZONE
- HIGHWAY CLOSED
- INDICATES LANES AVAILABLE ON 93
- TRAVEL LANE (1 LANE)
- CROSSOVER

NOTE:
THIS PLAN ASSUMES THAT BOTH I-93 SB BRIDGES OVER SALEM STREET EB AND SALEM STREET WB WILL BE CONSTRUCTED AT THE SAME TIME.

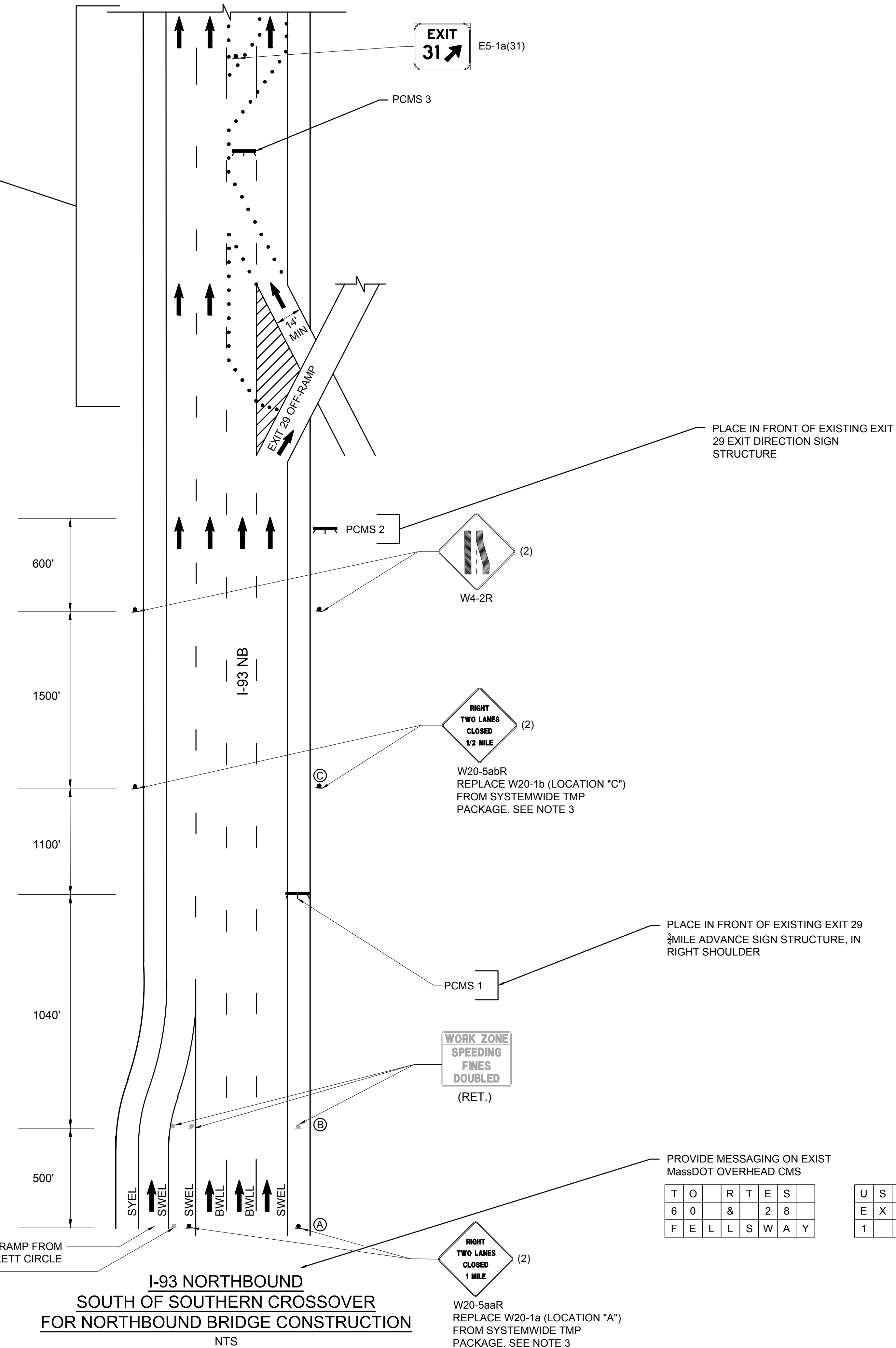
MEDFORD			
I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524)	16	60
PROJECT FILE NO. 606255			

**TEMPORARY TRAFFIC CONTROL PLAN
BRIDGE BARRIER DETAIL SB**





FOR LANE DROP SETUPS AND CONTINUATION, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.



PCMS 1

T	O	R	T	E	S
6	0	&	2	8	
F	E	L	L	S	W

U	S	E			
E	X	I	T	2	9
3	/	4	M	I	L

PCMS 2

T	O	R	T	E	S
6	0	&	2	8	
F	E	L	L	S	W

E	X	I	T		
H	E	R	E		
-	-	>	-	-	>

PCMS 3

R	T	E	1	6	
M	Y	S	T	I	C
V	L	Y	P	K	W

E	X	I	T		
H	E	R	E		
-	-	>	-	-	>

LEGEND

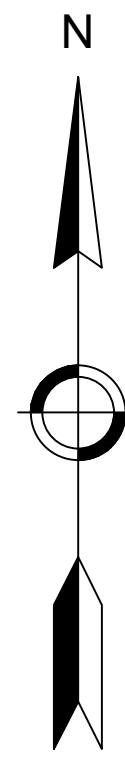
- REFLECTORIZED DRUM
- ☐ PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ➔ PROPOSED TRAFFIC FLOW
- ⊗ WORK ZONE
- ⊗ SIGN LOCATION REFERENCE TO SYSTEMWIDE ADVANCE SIGN PLAN
- ▲ SIGN

NOTES:

- FOR I-93 SOUTHBOUND TRAFFIC CONTROL DURING NORTHBOUND BRIDGE CLOSURE, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
- PCMS UNITS SHALL BE PLACED OUTSIDE THE CLEAR ZONE OR PROTECTED BY BARRIER AS NECESSARY.
- AT BEGINNING OF WEEKEND WORK, REPLACE SIGNS "A" AND "C" FROM ADVANCE SIGN PLAN IN SYSTEMWIDE TMP PACKAGE WITH W20-5aaR AND W20-5abR SIGNS AS SHOWN. AT END OF WEEKEND WORK, RESTORE SIGNS "A" AND "C" AS SHOWN IN SYSTEMWIDE TMP PACKAGE.

T	O	R	T	E	S
6	0	&	2	8	
F	E	L	L	S	W

U	S	E			
E	X	I	T	2	9
1	M	I	L	E	



MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	18	60
PROJECT FILE NO.		606255	

TEMPORARY TRAFFIC CONTROL PLAN
MAINLINE ADVANCE SIGNS SB

PCMS 1

T	O				
F	E	L	L	S	W
&	R	T	E		6

U	S	E	T	E	M	P
E	X	I	T			
1	1	/	2		M	I

PCMS 2

T	O	R	T	E	S
3	8	&	1	6	

U	S	E	T	E	M	P
E	X	I	T			
1	M	I	L	E		

PCMS 3

E	X	I	T	S		
3	3	T	O		3	0
C	L	O	S	E	D	

U	S	E	T	E	M	P
E	X	I	T			
1	/	2		M	I	L

PCMS 4

T	O	R	T	6	0
3	8	&	1	6	
F	E	L	L	S	W

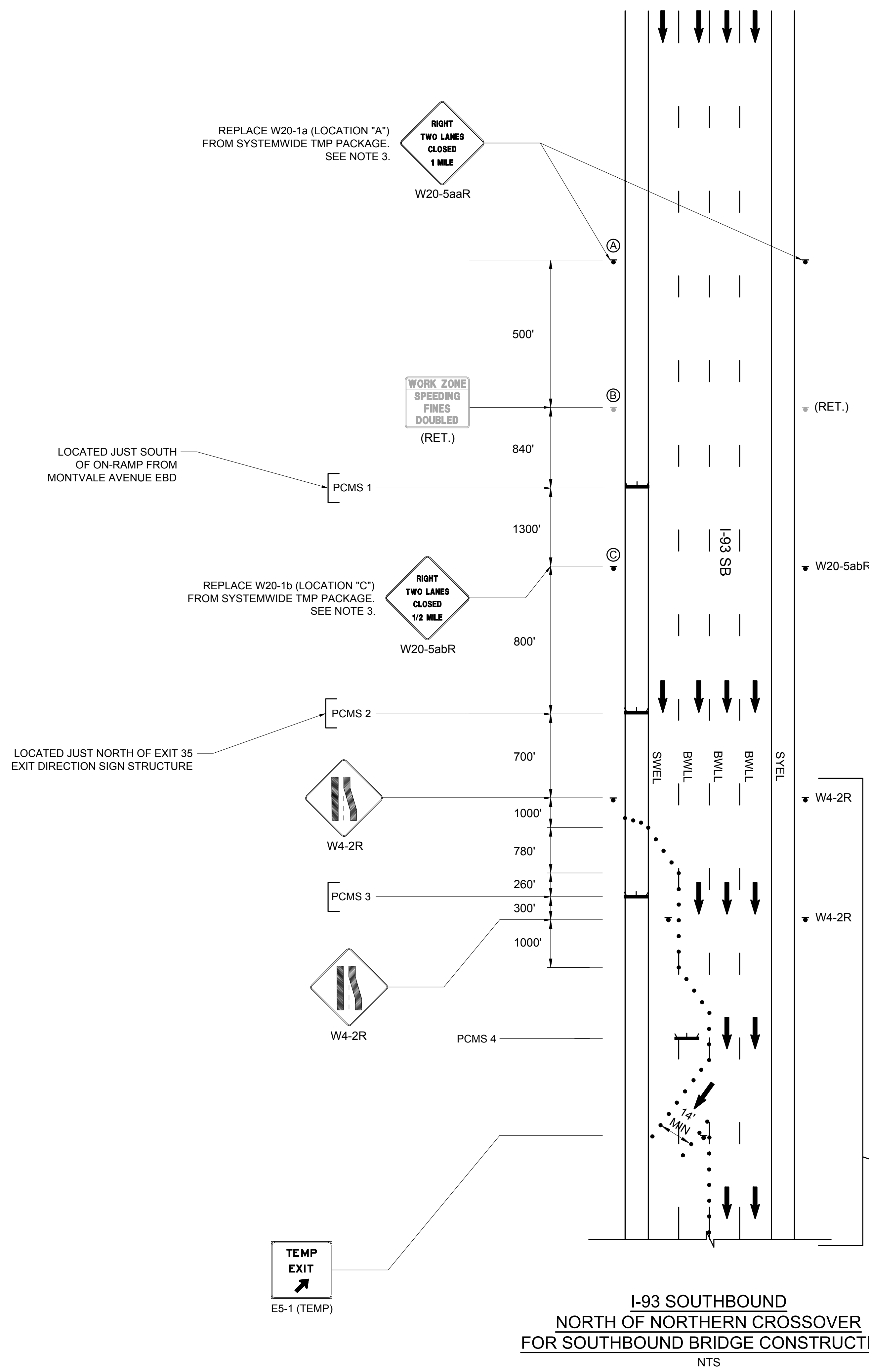
E	X	I	T			
H	E	R	E			
-	-	>	-	-	>	

LEGEND

- REFLECTORIZED DRUM
- ▬ PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ➔ PROPOSED TRAFFIC FLOW
- ⊗ WORK ZONE
- ⊗ SIGN LOCATION REFERENCE TO SYSTEMWIDE ADVANCE SIGN PLAN
- ▼ SIGN

NOTES:

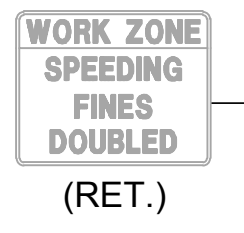
1. FOR I-93 NORTHBOUND TRAFFIC CONTROL DURING SOUTHBOUND BRIDGE CLOSURE, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
2. PCMS UNITS SHALL BE PLACED OUTSIDE THE CLEAR ZONE OR PROTECTED BY BARRIER AS NECESSARY.
3. AT BEGINNING OF WEEKEND WORK, REPLACE SIGNS "A" AND "C" FROM ADVANCE SIGN PLAN IN SYSTEMWIDE TMP PACKAGE WITH W20-5aaR AND W20-5abR SIGNS AS SHOWN. AT END OF WEEKEND WORK, RESTORE SIGNS "A" AND "C" AS SHOWN IN SYSTEMWIDE TMP PACKAGE.



REPLACE W20-1a (LOCATION "A") FROM SYSTEMWIDE TMP PACKAGE. SEE NOTE 3.

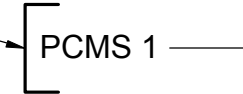


W20-5aaR



(RET.)

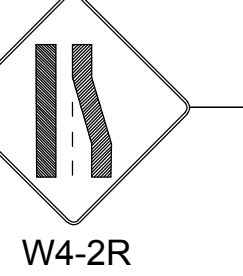
LOCATED JUST SOUTH OF ON-RAMP FROM MONTVALE AVENUE EBD



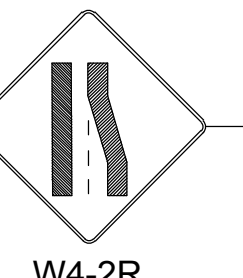
W20-5abR

REPLACE W20-1b (LOCATION "C") FROM SYSTEMWIDE TMP PACKAGE. SEE NOTE 3.

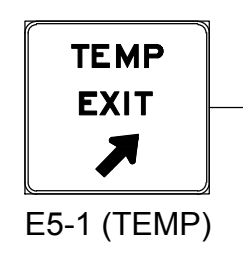
LOCATED JUST NORTH OF EXIT 35 EXIT DIRECTION SIGN STRUCTURE



W4-2R



W4-2R



E5-1 (TEMP)

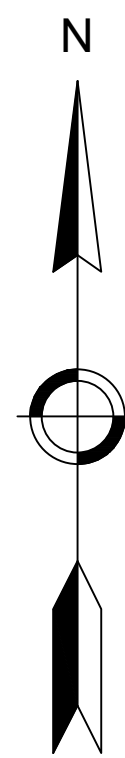
FOR LANE DROP SETUPS AND CONTINUATION, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE

I-93 SOUTHBOUND
NORTH OF NORTHERN CROSSOVER
FOR SOUTHBOUND BRIDGE CONSTRUCTION
NTS

MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	20	60
PROJECT FILE NO.		606255	

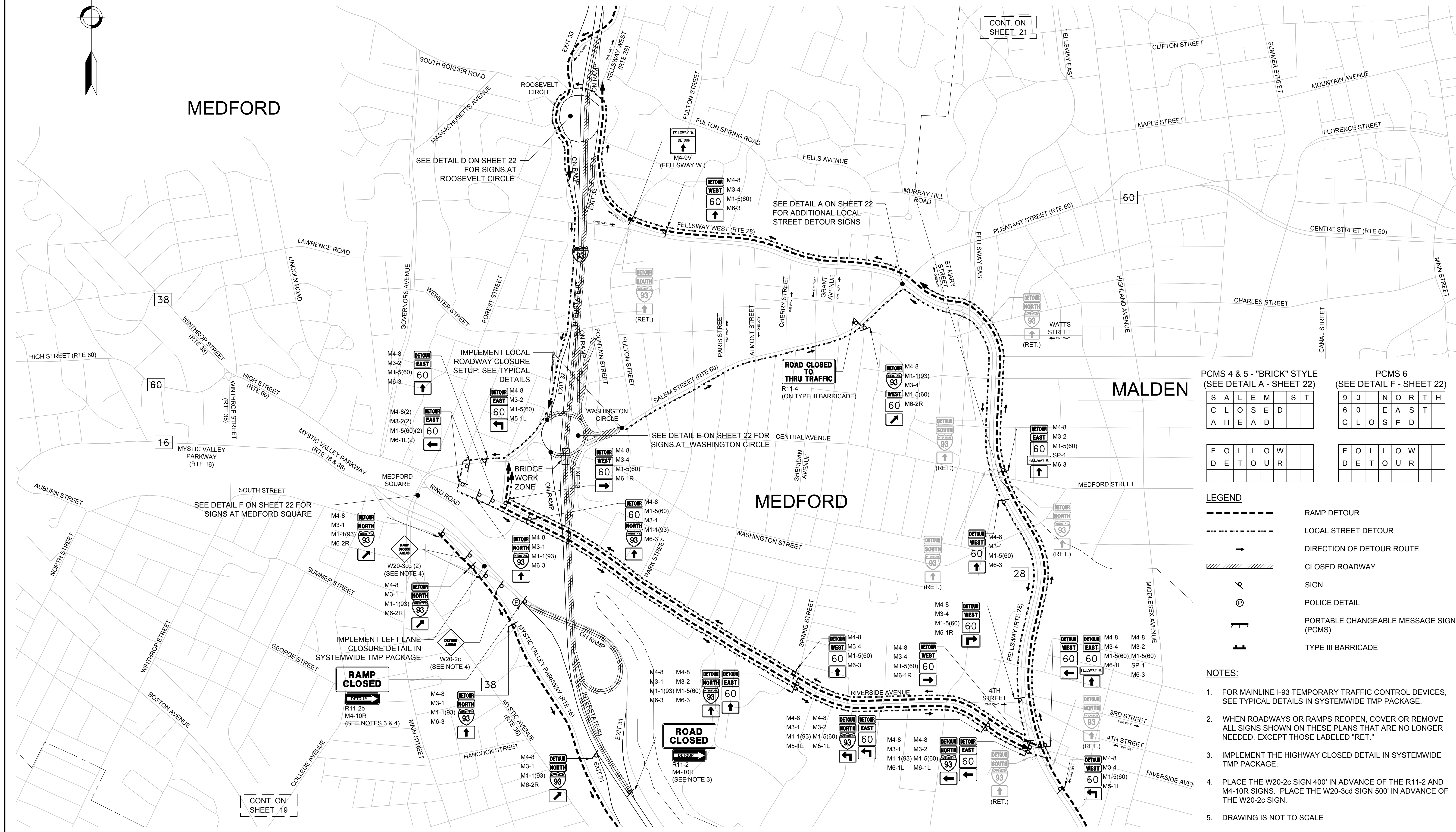
TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOURS NB
SHEET 2 OF 4



MEDFORD

MALDEN

MEDFORD



PCMS 4 & 5 - "BRICK" STYLE
(SEE DETAIL A - SHEET 22)

S	A	L	E	M	S	T
C	L	O	S	E	D	
A	H	E	A	D		

PCMS 6
(SEE DETAIL F - SHEET 22)

9	3	N	O	R	T	H
6	0	E	A	S	T	
C	L	O	S	E	D	

F	O	L	L	O	
D	E	T	O	U	R

F	O	L	L	O	
D	E	T	O	U	R

LEGEND

- RAMP DETOUR
- LOCAL STREET DETOUR
- DIRECTION OF DETOUR ROUTE
- CLOSED ROADWAY
- SIGN
- POLICE DETAIL
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- TYPE III BARRICADE

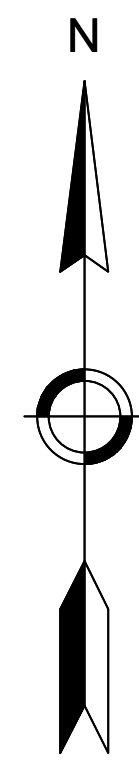
NOTES:

1. FOR MAINLINE I-93 TEMPORARY TRAFFIC CONTROL DEVICES, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
2. WHEN ROADWAYS OR RAMPS REOPEN, COVER OR REMOVE ALL SIGNS SHOWN ON THESE PLANS THAT ARE NO LONGER NEEDED, EXCEPT THOSE LABELED "RET."
3. IMPLEMENT THE HIGHWAY CLOSED DETAIL IN SYSTEMWIDE TMP PACKAGE.
4. PLACE THE W20-2c SIGN 400' IN ADVANCE OF THE R11-2 AND M4-10R SIGNS. PLACE THE W20-3cd SIGN 500' IN ADVANCE OF THE W20-2c SIGN.
5. DRAWING IS NOT TO SCALE

**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	21	60
PROJECT FILE NO.		606255	

**TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOURS NB**
SHEET 3 OF 4



WINCHESTER

STONEHAM

MEDFORD

MELROSE

MALDEN

LEGEND

	RAMP DETOUR
	LOCAL STREET DETOUR
	DIRECTION OF DETOUR ROUTE
	CLOSED ROADWAY
	SIGN
	POLICE DETAIL
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	TYPE III BARRICADE

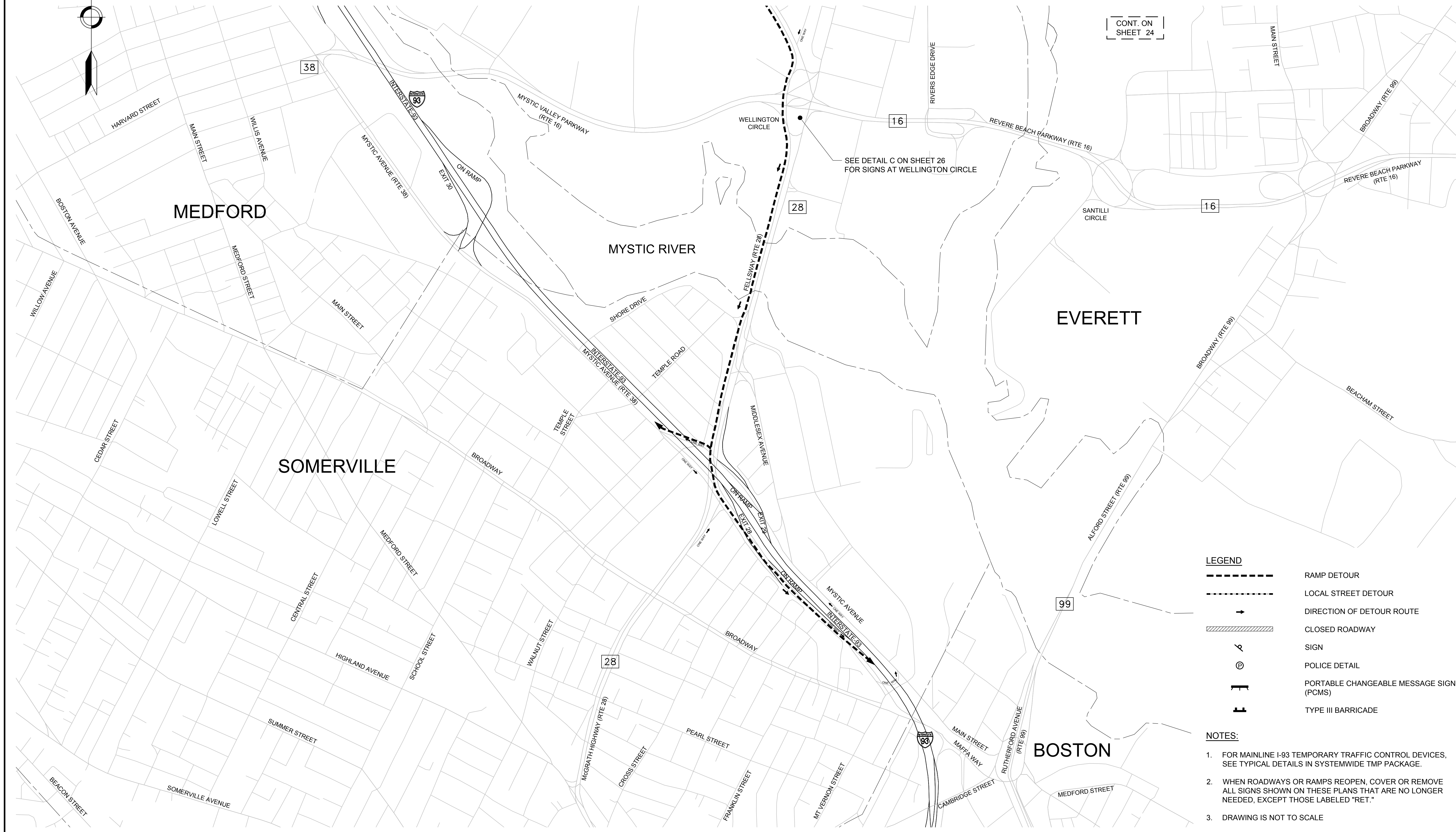
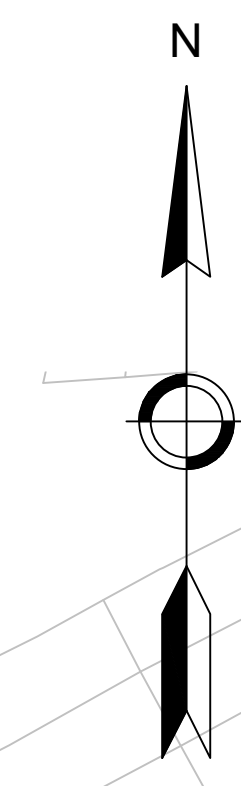
- NOTES:**
- FOR MAINLINE I-93 TEMPORARY TRAFFIC CONTROL DEVICES, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
 - WHEN ROADWAYS OR RAMP REOPEN, COVER OR REMOVE ALL SIGNS SHOWN ON THESE PLANS THAT ARE NO LONGER NEEDED, EXCEPT THOSE LABELED "RET."
 - SIGNS SHALL BE DISPLAYED WHEN RAMP IS CLOSED AND COVERED WHEN THE RAMP IS REOPENED. SIGNS ARE INSTALLED AS PART OF THE FELLSWAY DETOUR UNDER THE SYSTEMWIDE TMP PACKAGE.
 - DRAWING IS NOT TO SCALE



MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	23	60
PROJECT FILE NO.		606255	

TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOURS SB
 SHEET 1 OF 4



CONT. ON SHEET 24

SEE DETAIL C ON SHEET 26 FOR SIGNS AT WELLINGTON CIRCLE

- LEGEND**
- RAMP DETOUR
 - LOCAL STREET DETOUR
 - DIRECTION OF DETOUR ROUTE
 - CLOSED ROADWAY
 - SIGN
 - POLICE DETAIL
 - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
 - TYPE III BARRICADE

- NOTES:**
1. FOR MAINLINE I-93 TEMPORARY TRAFFIC CONTROL DEVICES, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
 2. WHEN ROADWAYS OR RAMP REOPEN, COVER OR REMOVE ALL SIGNS SHOWN ON THESE PLANS THAT ARE NO LONGER NEEDED, EXCEPT THOSE LABELED "RET."
 3. DRAWING IS NOT TO SCALE

MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	24	60
PROJECT FILE NO.		606255	

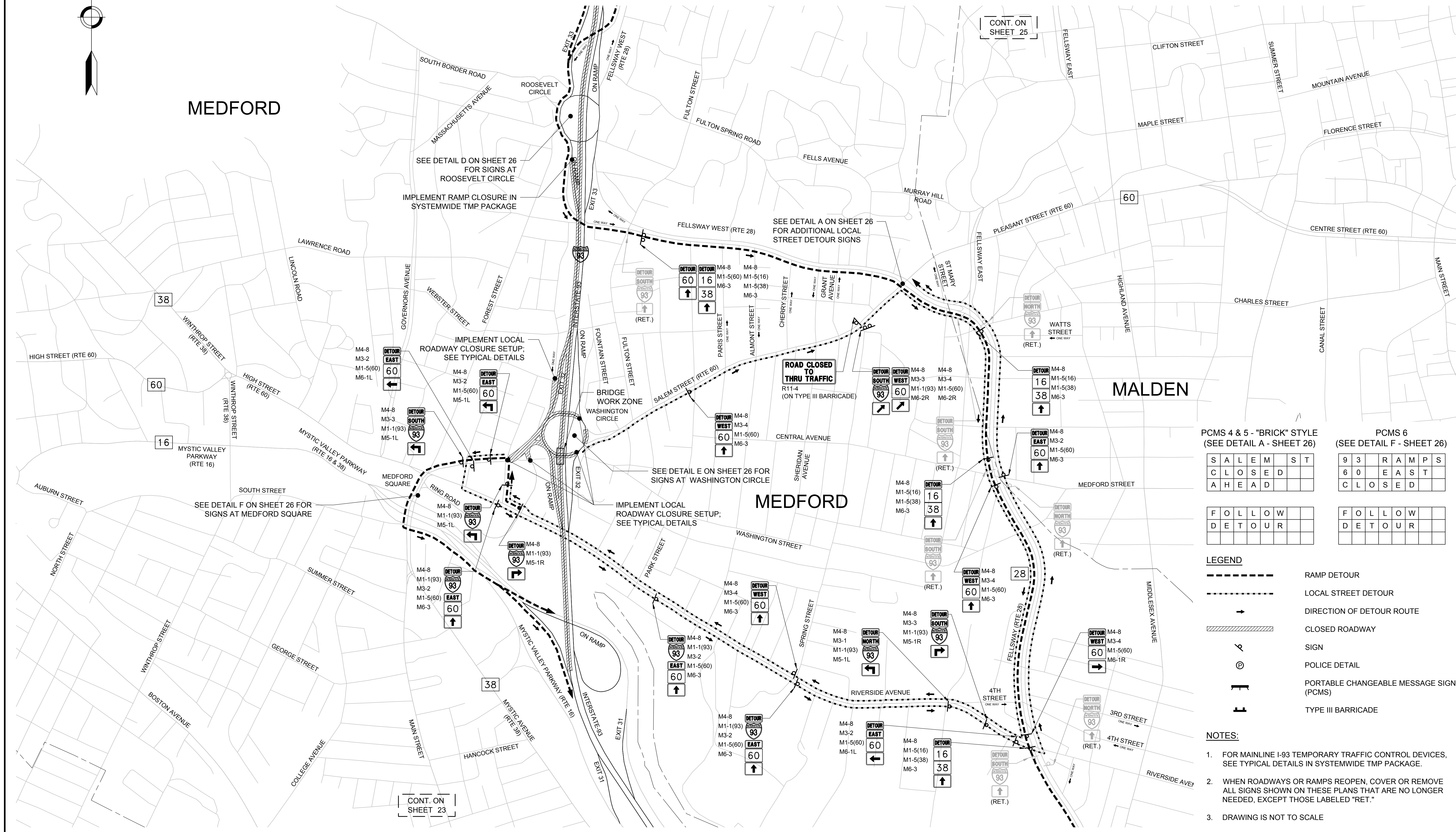
**TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOURS SB**
SHEET 2 OF 4



MEDFORD

MALDEN

MEDFORD



SEE DETAIL D ON SHEET 26
FOR SIGNS AT
ROOSEVELT CIRCLE
IMPLEMENT RAMP CLOSURE IN
SYSTEMWIDE TMP PACKAGE

SEE DETAIL A ON SHEET 26
FOR ADDITIONAL LOCAL
STREET DETOUR SIGNS

IMPLEMENT LOCAL
ROADWAY CLOSURE SETUP;
SEE TYPICAL DETAILS

SEE DETAIL E ON SHEET 26 FOR
SIGNS AT WASHINGTON CIRCLE

SEE DETAIL F ON SHEET 26 FOR
SIGNS AT MEDFORD SQUARE

CONT. ON
SHEET 23

CONT. ON
SHEET 25

PCMS 4 & 5 - "BRICK" STYLE
(SEE DETAIL A - SHEET 26)

S	A	L	E	M	S	T
C	L	O	S	E	D	
A	H	E	A	D		

PCMS 6
(SEE DETAIL F - SHEET 26)

9	3	R	A	M	P	S
6	0	E	A	S	T	
C	L	O	S	E	D	

FOLLOW
D E T O U R

FOLLOW
D E T O U R

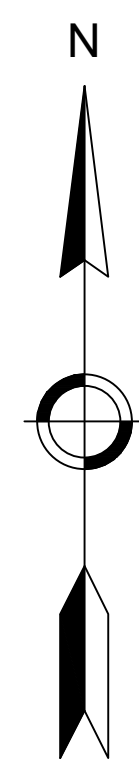
- LEGEND**
- RAMP DETOUR
 - LOCAL STREET DETOUR
 - DIRECTION OF DETOUR ROUTE
 - CLOSED ROADWAY
 - SIGN
 - POLICE DETAIL
 - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
 - TYPE III BARRICADE

- NOTES:**
- FOR MAINLINE I-93 TEMPORARY TRAFFIC CONTROL DEVICES, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
 - WHEN ROADWAYS OR RAMPS REOPEN, COVER OR REMOVE ALL SIGNS SHOWN ON THESE PLANS THAT ARE NO LONGER NEEDED, EXCEPT THOSE LABELED "RET."
 - DRAWING IS NOT TO SCALE

**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	25	60
PROJECT FILE NO.		606255	

**TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOURS SB**
SHEET 3 OF 4



WINCHESTER

STONEHAM

MEDFORD

MELROSE

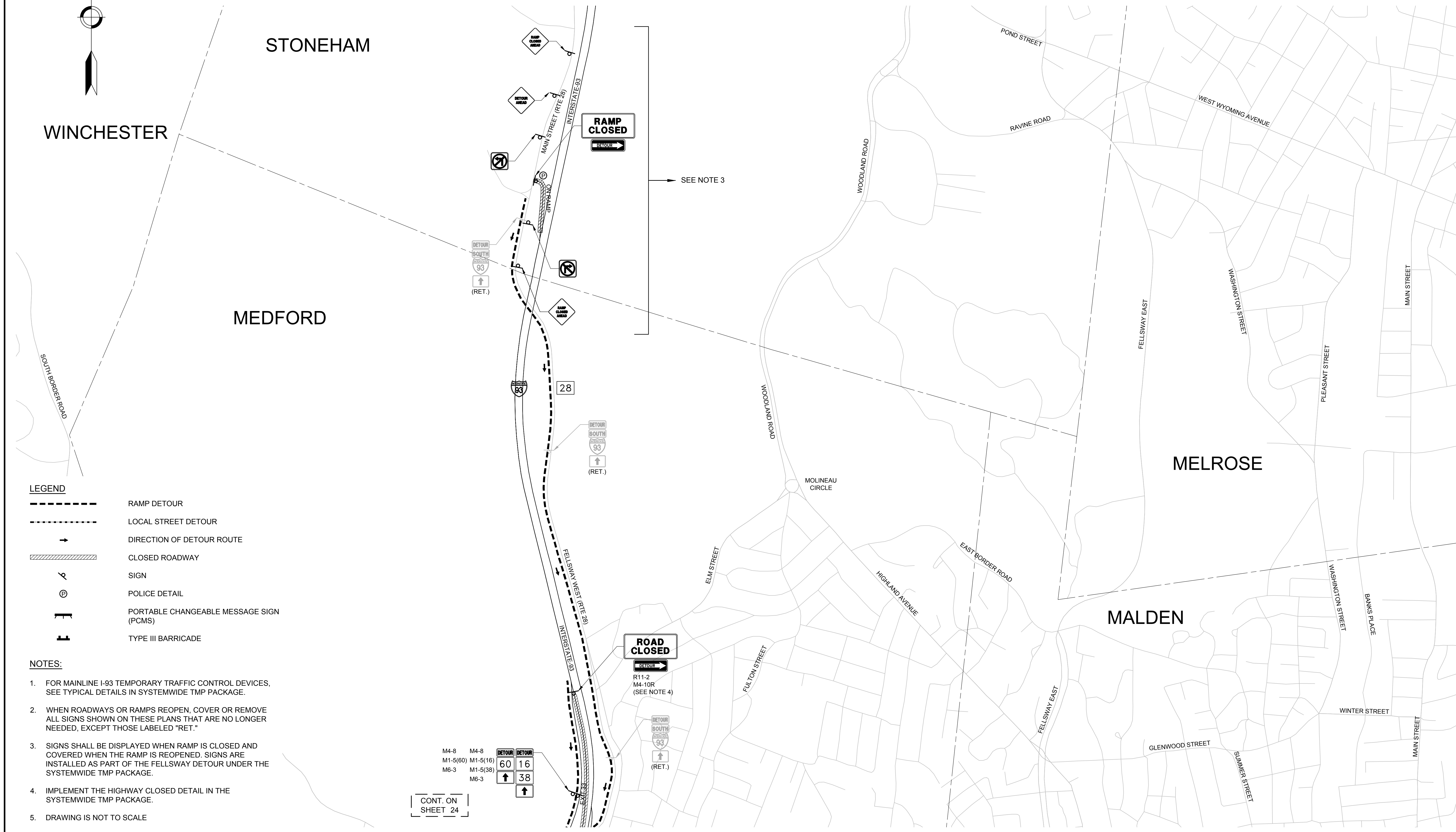
MALDEN

- LEGEND**
- RAMP DETOUR
 - LOCAL STREET DETOUR
 - DIRECTION OF DETOUR ROUTE
 - CLOSED ROADWAY
 - SIGN
 - POLICE DETAIL
 - PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
 - TYPE III BARRICADE

- NOTES:**
- FOR MAINLINE I-93 TEMPORARY TRAFFIC CONTROL DEVICES, SEE TYPICAL DETAILS IN SYSTEMWIDE TMP PACKAGE.
 - WHEN ROADWAYS OR RAMPS REOPEN, COVER OR REMOVE ALL SIGNS SHOWN ON THESE PLANS THAT ARE NO LONGER NEEDED, EXCEPT THOSE LABELED "RET."
 - SIGNS SHALL BE DISPLAYED WHEN RAMP IS CLOSED AND COVERED WHEN THE RAMP IS REOPENED. SIGNS ARE INSTALLED AS PART OF THE FELLSWAY DETOUR UNDER THE SYSTEMWIDE TMP PACKAGE.
 - IMPLEMENT THE HIGHWAY CLOSED DETAIL IN THE SYSTEMWIDE TMP PACKAGE.
 - DRAWING IS NOT TO SCALE

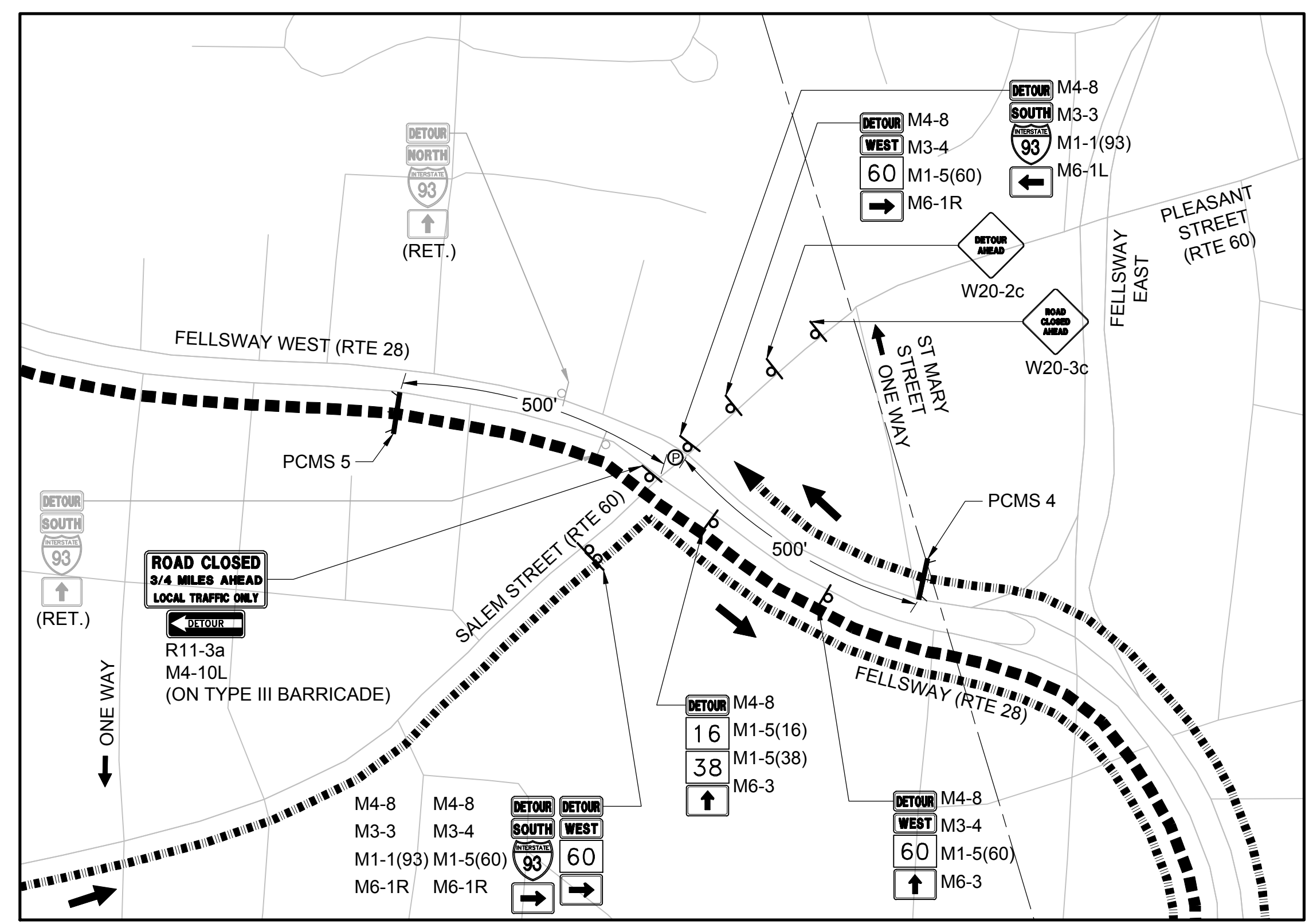
CONT. ON SHEET 24

M4-8	M4-8	DETOUR	DETOUR
M1-5(60)	M1-5(16)	60	16
M6-3	M1-5(38)	↑	38
M6-3		↑	



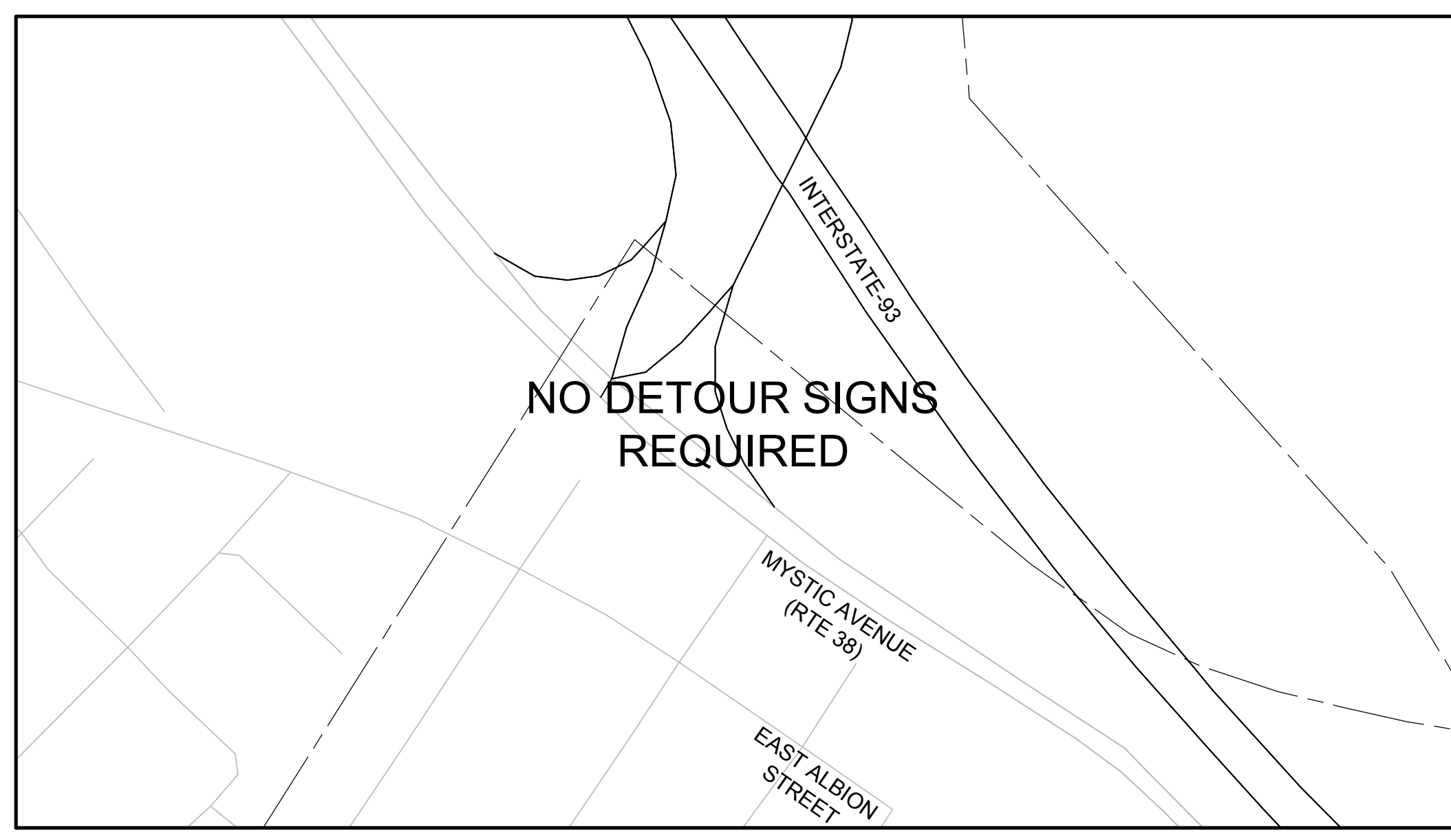
MEDFORD			
I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524)	26	60
	STP 093-1		
PROJECT FILE NO.		606255	

TEMPORARY TRAFFIC CONTROL PLAN
LOCAL ROAD DETOUR DETAILS SB
 SHEET 4 OF 4

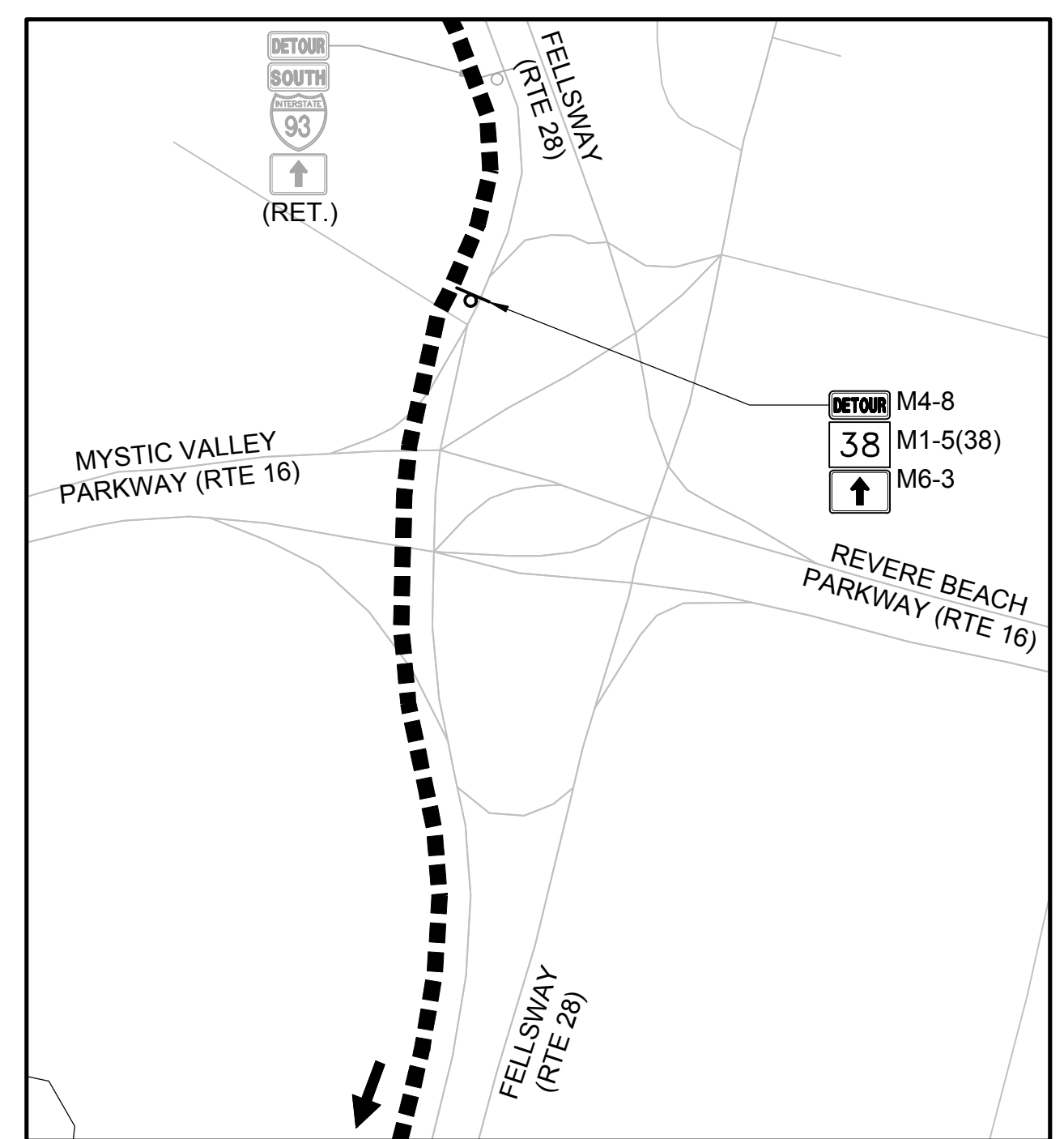


NOTE: SEE SHEET 24 FOR MESSAGE ON PCMS 4 AND PCMS 5

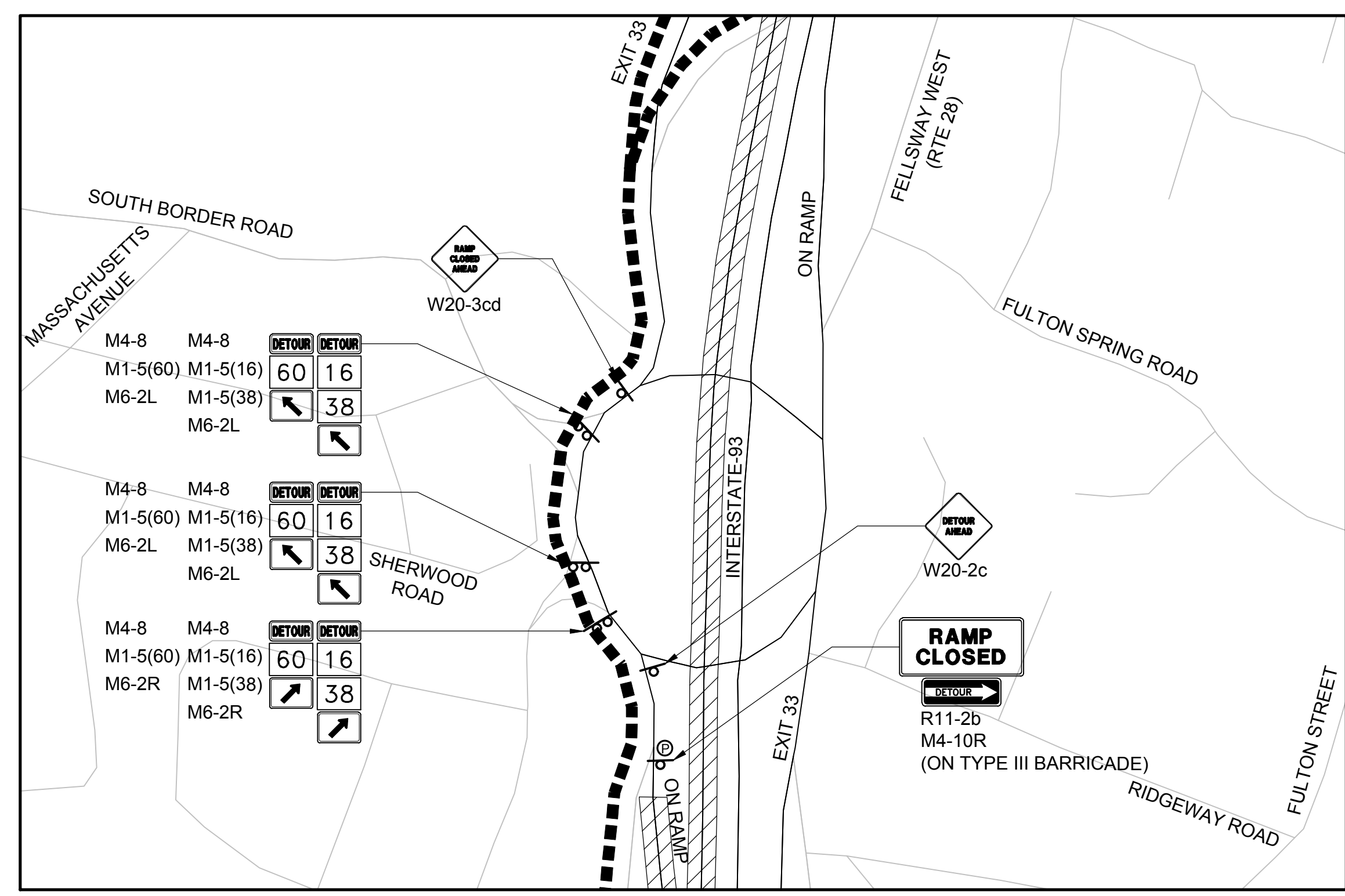
DETAIL A
LOCAL STREET DETOUR SIGNS - SALEM STREET (ROUTE 60) / FELLSWAY
 NTS



DETAIL B
MYSTIC AVENUE - INTERCHANGE 30
 NTS

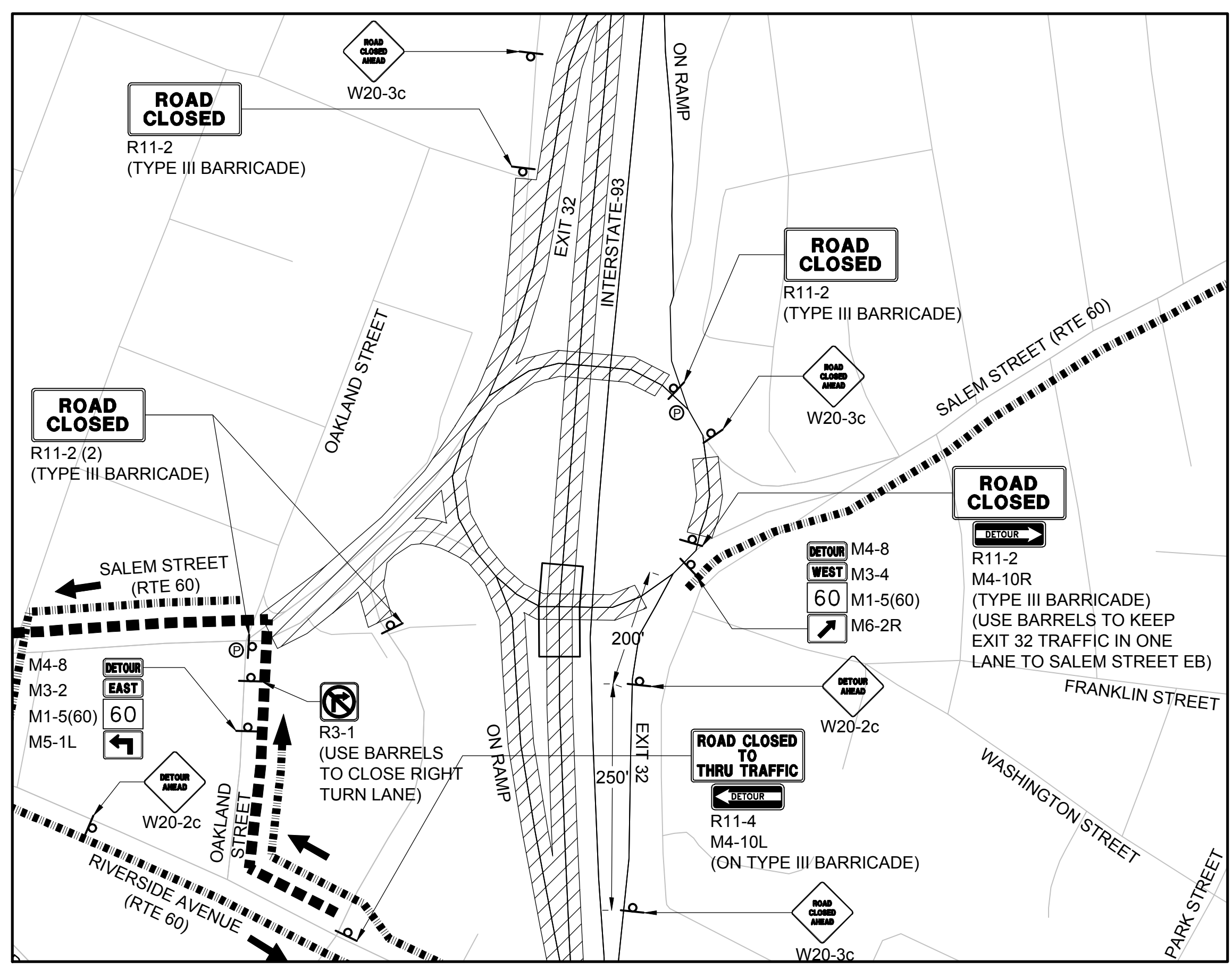


DETAIL C
WELLINGTON CIRCLE
 NTS



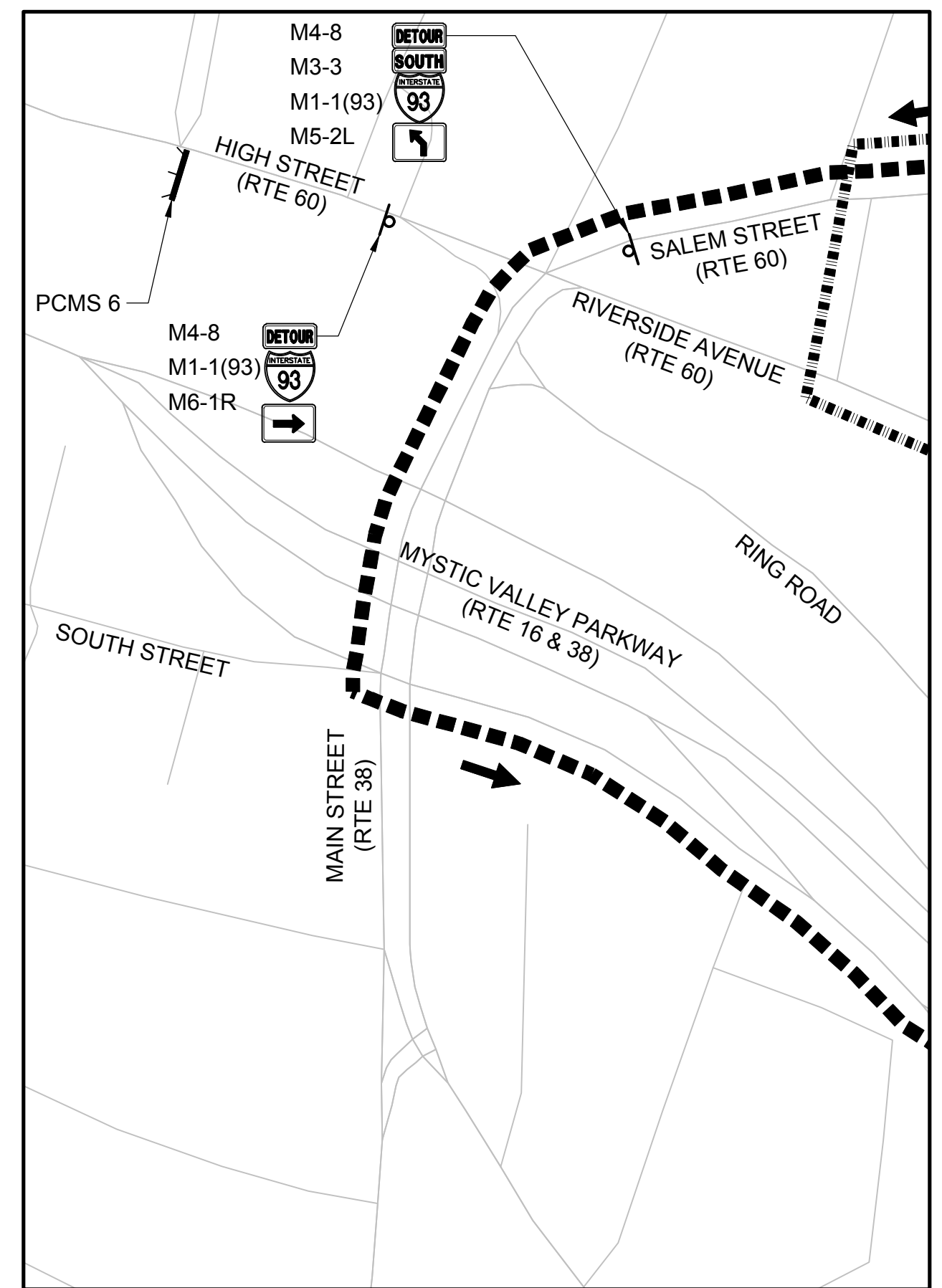
NOTE: SEE SHEET 24 FOR MESSAGE ON PCMS 4

DETAIL D
ROOSEVELT CIRCLE DETOUR SIGNS
 NTS



NOTES: ACCESS TO CITY HALL PARKING LOT VIA SALEM STREET (ROUTE 60) TO BE CLOSED DURING SOUTHBOUND BRIDGE CONSTRUCTION. IMPLEMENT TWO-WAY TRAFFIC UNDER POLICE CONTROL ON CLIPPERSHIP DRIVE BETWEEN RIVERSIDE AVENUE AND SALEM STREET.

DETAIL E
WASHINGTON CIRCLE DETOUR SIGNS
 NTS



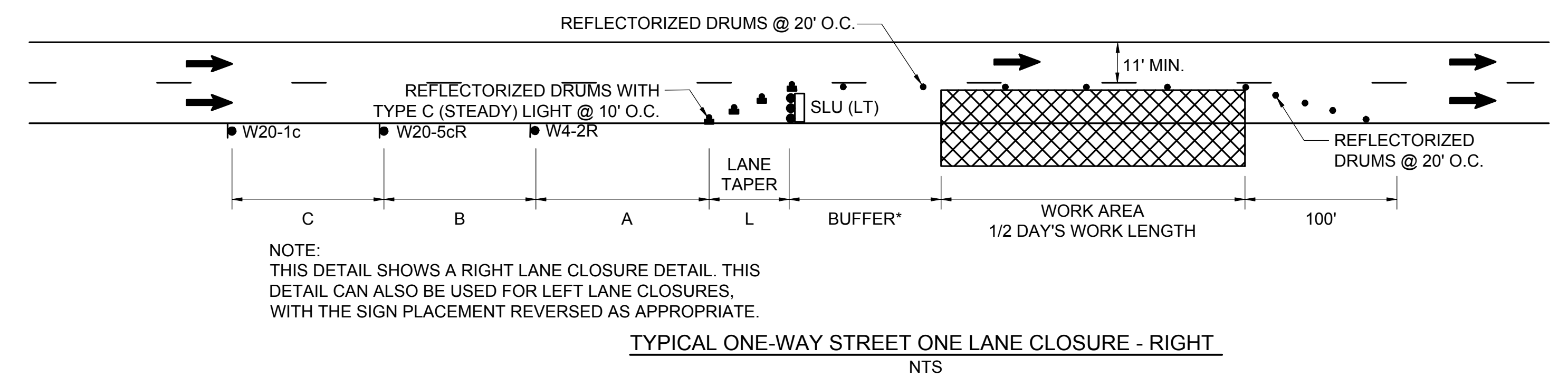
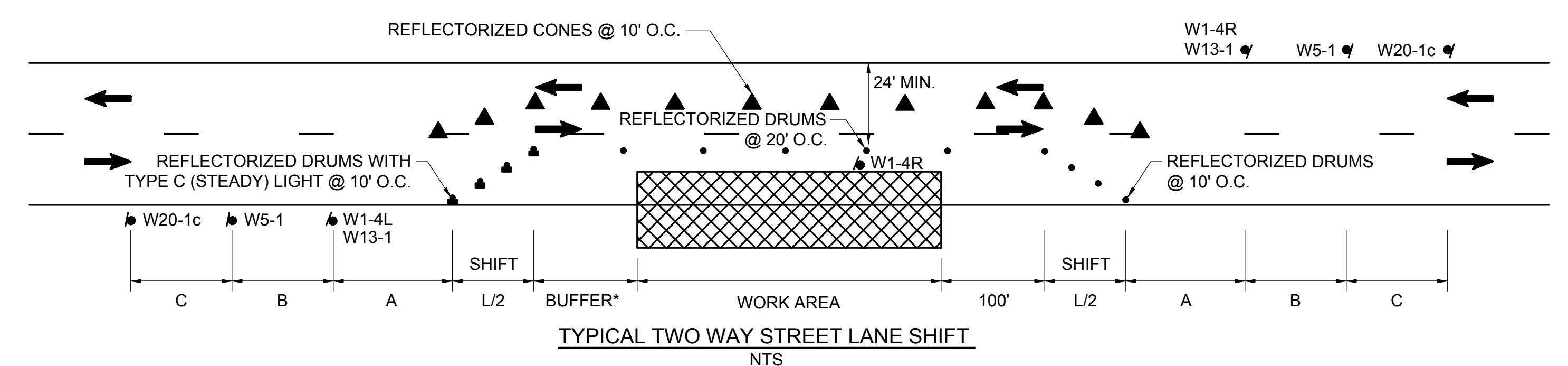
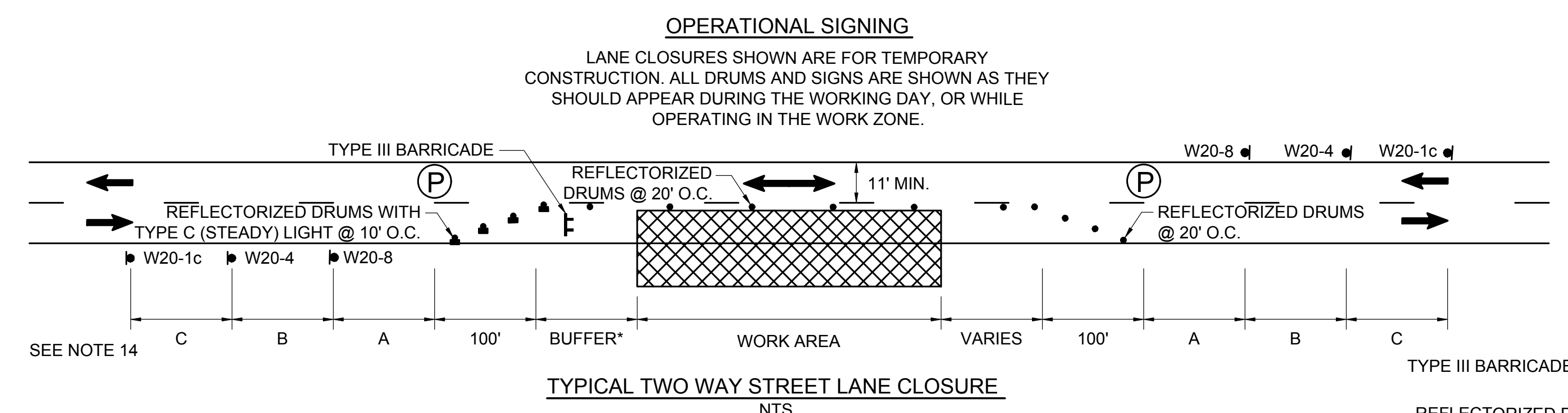
DETAIL F
MEDFORD SQUARE
 NTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	27	60
PROJECT FILE NO.		606255	

**TEMPORARY TRAFFIC CONTROL PLAN
TYPICAL DETAILS**

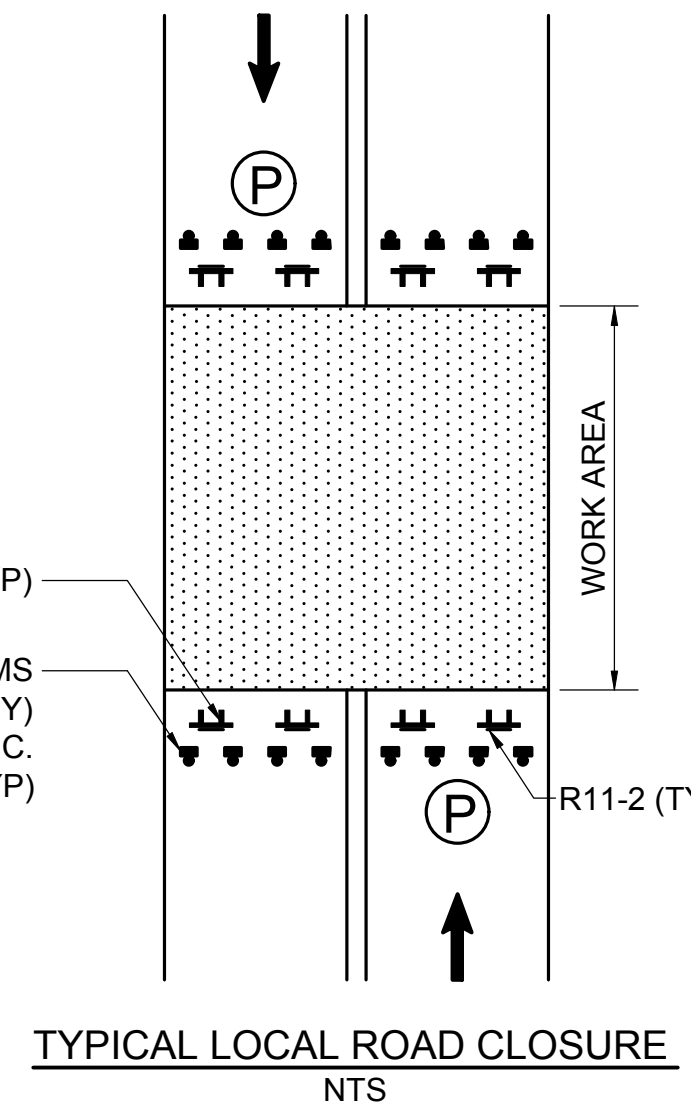
KEY

- REFLECTORIZED DRUM
- ▲ 36" REFLECTORIZED CONE
- Ⓟ CONSTRUCTION SIGN
- ▩ TEMPORARY IMPACT ATTENUATOR
- ▬ TYPE III BARRICADES
- ➔ PROPOSED TRAFFIC FLOW
- Ⓟ REFLECTORIZED DRUM WITH TYPE C (STEADY) LIGHT
- Ⓟ SPECIAL LIGHTING UNIT (SLU)
- Ⓟ PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- ▩ WORK ZONE
- ▩ MOVEABLE IMPACT ATTENUATOR
- Ⓟ POLICE OFFICER / FLAGGER
- ▬ MOVEABLE PRECAST CONCRETE BARRIER
- Ⓟ MOVEABLE BARRIER TRANSFER MACHINE



NOTE:
THIS DETAIL SHOWS A RIGHT LANE CLOSURE DETAIL. THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.

* BUFFER LENGTHS SHALL BE CONSISTENT WITH STOPPING SIGHT DISTANCE FOR DESIGN SPEED OF ROADWAY, IF PRACTICAL. BUFFER LENGTHS SHALL BE 100 FEET MINIMUM.



STOPPING SIGHT DISTANCE

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

TYPE OF TAPER

TYPE OF TAPER	TAPER LENGTH (L)
LANE TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST L/2
SHOULDER TAPER	AT LEAST L/3
DOWNSTREAM TAPER	100 FT PER LANE

DESIGN SPEED = 30 MPH (SALEM ST)

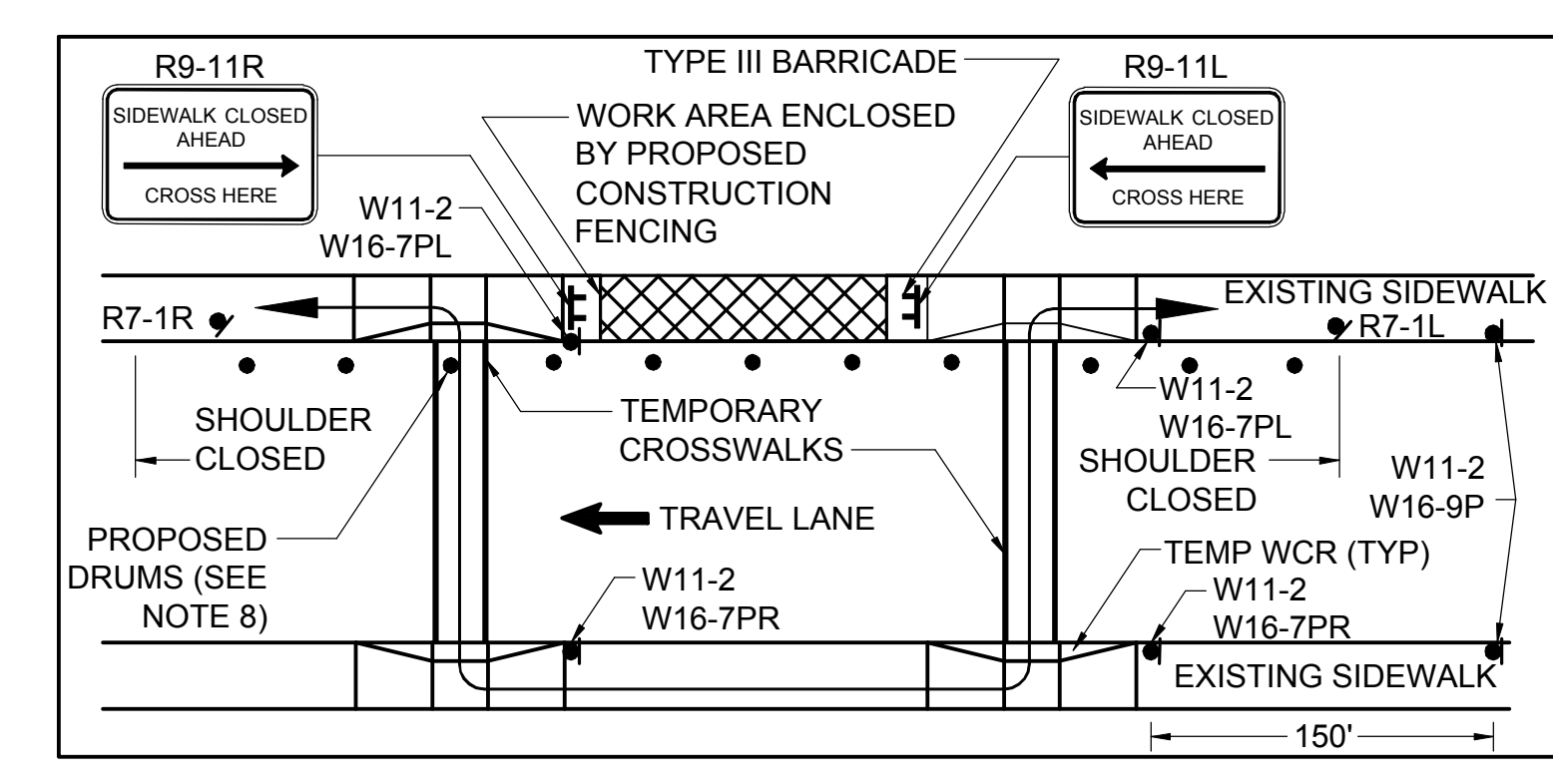
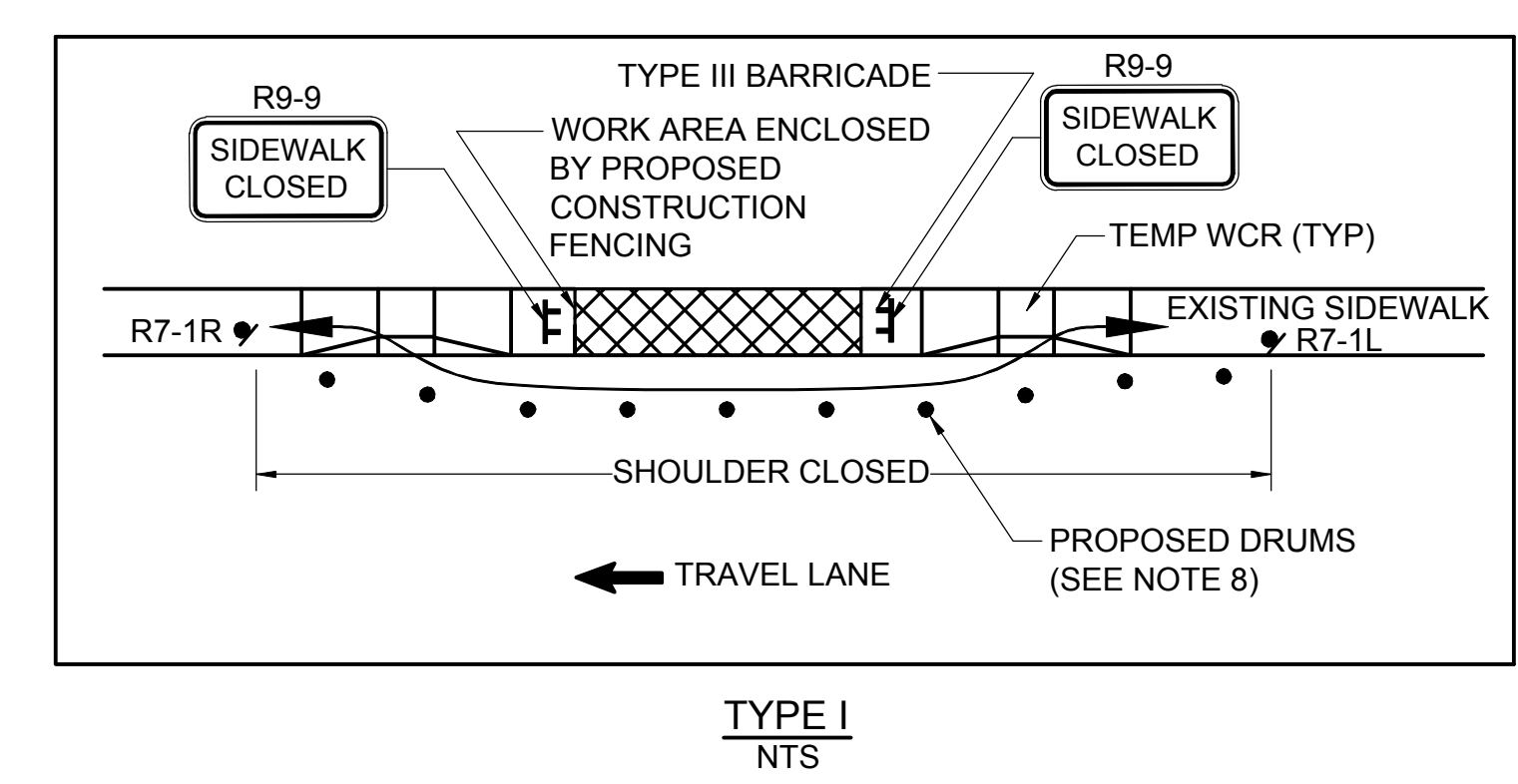
DESIGN SPEED	TAPER LENGTH (L) FEET
40 MPH OR LESS	L=WS ² /60
45 MPH OR MORE	L=WS
LANE TAPER	L = WS ² /60 = 12(30) ² /60 = 180'
SHIFTING TAPER	L/2 = 180'/2 = 90'
SHOULDER TAPER	L/3 = (3(30) ² /60)/3 = 15'

SUGGESTED ADVANCED WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (FT)		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS	350	350	350
MOST OTHER ROADWAYS	500	500	500
FREEWAYS AND EXPRESSWAYS	1,000	1,500	2,640

PEDESTRIAN BYPASS NOTES

- ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE RESIDENT ENGINEER.
- CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
- DIRECTION OF PEDESTRIAN TRAVEL.
- IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE RESIDENT ENGINEER.
- R7 AND R9 SERIES SIGNS DEPICTED SHALL BE REVERSED FOR TRAVEL IN OPPOSITE DIRECTION OF THAT SHOWN.
- PROPOSED TEMPORARY CROSSWALKS SHALL BE 12" WIDE SURFACE APPLIED TAPE OR PAINT AS DIRECTED BY THE RESIDENT ENGINEER.
- TEMPORARY PEDESTRIAN PATHWAYS SHALL BE MAINTAINED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG), MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) REQUIREMENTS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



PEDESTRIAN BYPASS
TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AND AS DIRECTED BY THE RESIDENT ENGINEER.

GENERAL NOTES:

- ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED.
- ALL DRUMS SHALL BE SET AT 20' ON CENTER MAX. ON LOCAL ROADWAY AND 50' ON CENTER MAX ON I-93 UNLESS OTHERWISE NOTED OR ADJUSTED BY THE RESIDENT ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. 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.
- GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
- EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORK HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 1:4 SLOPE.
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED AT ANY TIME DURING CONSTRUCTION.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
- ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS DIRECTED BY THE RESIDENT ENGINEER.
- 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 MAY CLOSE ONE LANE ON I-93 (NB AND/OR SB) FROM 8 PM TO 5 AM MONDAY THROUGH FRIDAY, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
- CONTRACTOR MAY CLOSE TWO LANES ON I-93 (NB AND/OR SB) FROM 9 PM TO 5 AM MONDAY THROUGH FRIDAY, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
- W20-8 SIGNS SHALL BE REPLACED BY W20-7a SIGNS WHEN FLAGGERS ARE USED IN LIEU OF POLICE OFFICER DETAILS.
- ALL IMPACT ATTENUATORS ON I-93 SHALL BE DESIGNED TO MEET THE CRITERIA FOR TEST LEVEL 3 OF NCHRP 350.
- ALL IMPACT ATTENUATORS ON LOCAL ROADWAYS SHALL BE DESIGNED TO MEET THE CRITERIA FOR TEST LEVEL 2 OF NCHRP 350.
- ALL TEMPORARY MARKINGS SHALL BE WATER-BORNE PAINT OR APPROVED TAPE.
- ALL TRAFFIC CONTROL DEVICES ON TAPERS AND AT ROADWAY/RAMP CLOSURE LOCATIONS SHALL BE REFLECTORIZED DRUMS WITH TYPE C (STEADY) LIGHTS.
- ALL REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- REFER TO MOVEABLE PRECAST CONCRETE BARRIER SPECIFICATIONS 853.3 AND 853.31 FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL HAVE MOVEABLE IMPACT ATTENUATORS (1 PER CLOSED LANE) IN ADVANCE OF THE WORK AREA FOR ALL TEMPORARY WORK ZONES OR AS DIRECTED BY THE RESIDENT ENGINEER.
- PROVIDE CLEAR ZONE AROUND THE MOVEABLE IMPACT ATTENUATOR DEVICE AS REQUIRED BY THE MANUFACTURER.
- A POLICE DETAIL IS REQUIRED FOR EACH CLOSED LANE ON I-93 IN ACCORDANCE WITH MASSDOT STANDARDS.
- BLUNT ENDS OF BARRIER SHALL BE PROTECTED AT ALL TIMES IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE.
- ILLUMINATION REQUIRED FOR NIGHTTIME WORK TO A MINIMUM OF EXISTING LIGHTING LEVELS.
- ADVANCED WORK ZONE SIGNS (W20-1 SERIES AND R2-10a) ARE INCLUDED ON THE ADVANCED SIGN SETUP DETAIL. SEE ADVANCED SIGN PLAN IN SYSTEMWIDE PACKAGE.
- LOCAL ROADWAY MAY BE CLOSED AND DETOURED BEGINNING 6:00 PM ON FRIDAY ONLY AND SHALL BE OPEN AS SOON AS PRACTICAL BUT NO LATER THAN 5:00 AM MONDAY.

SIGN SUMMARY TABLE

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR			NUMBER OF SIGNS REQUIRED
	WIDTH	HEIGHT		BACKGROUND	LEGEND	BORDER	
R3-1	24"	24"		WHITE	RED/BLACK	BLACK	1
R7-1L	12"	18"		WHITE	RED	RED	2
R7-1R	12"	18"		WHITE	RED	RED	2
R9-9	30"	18"		WHITE	BLACK	BLACK	2
R9-11L	48"	24"		WHITE	BLACK	BLACK	1
R9-11R	48"	24"		WHITE	BLACK	BLACK	1
R11-2	48"	30"		WHITE	BLACK	BLACK	14
R11-2b	48"	30"		WHITE	BLACK	BLACK	1
R11-3a	60"	30"		WHITE	BLACK	BLACK	1
R11-4	60"	30"		WHITE	BLACK	BLACK	2
W1-4L	30"	30"		ORANGE	BLACK	BLACK	1
W1-4R	30"	30"		ORANGE	BLACK	BLACK	2
W4-2R (LOCAL ROAD)	36"	36"		ORANGE	BLACK	BLACK	1
W4-2R (INTERSTATE)	48"	48"		ORANGE	BLACK	BLACK	4
W5-1	36"	36"		ORANGE	BLACK	BLACK	2
W11-2	30"	30"		ORANGE	BLACK	BLACK	5
W13-1 *	24"	36"		ORANGE	BLACK	BLACK	2
W16-7pL	24"	12"		ORANGE	BLACK	BLACK	2
W16-7pR	24"	12"		ORANGE	BLACK	BLACK	2
W16-9p	24"	12"		ORANGE	BLACK	BLACK	1
W20-1a	48"	48"		ORANGE	BLACK	BLACK	2
W20-1c (LOCAL ROAD)	36"	36"		ORANGE	BLACK	BLACK	5
W20-2c	36"	36"		ORANGE	BLACK	BLACK	6

* SPEED CATEGORY, IF NECESSARY, TO BE DETERMINED BY MASSDOT

SIGN SUMMARY TABLE - CONTINUED

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR			NUMBER OF SIGNS REQUIRED
	WIDTH	HEIGHT		BACKGROUND	LEGEND	BORDER	
W20-3c	36"	36"		ORANGE	BLACK	BLACK	4
W20-3cd	36"	36"		ORANGE	BLACK	BLACK	4
W20-4	36"	36"		ORANGE	BLACK	BLACK	2
W20-5aaR	48"	48"		ORANGE	BLACK	BLACK	2
W20-5abR	48"	48"		ORANGE	BLACK	BLACK	2
W20-5cR	36"	36"		ORANGE	BLACK	BLACK	1
W20-8	36"	36"		ORANGE	BLACK	BLACK	2
W21-5a (MOD)	48"	48"		ORANGE	BLACK	BLACK	2
M1-1 (93)	24"	24"		RED/BLUE	WHITE	WHITE	33
M1-5 (16)	24"	24"		WHITE	BLACK	BLACK	9
M1-5 (38)	24"	24"		WHITE	BLACK	BLACK	10
M1-5 (60)	24"	24"		WHITE	BLACK	BLACK	34
M3-1	24"	12"		BLUE	WHITE	WHITE	25
M3-2	24"	12"		WHITE	BLACK	BLACK	10
M3-3	24"	12"		BLUE	WHITE	WHITE	7
M3-4	24"	12"		WHITE	BLACK	BLACK	18
M4-8	24"	12"		ORANGE	BLACK	BLACK	60
M4-9V (FELLSWAY W)	36"	36"		ORANGE	BLACK	BLACK	2
M4-10L	48"	18"		ORANGE	BLACK	BLACK	2
M4-10R	48"	18"		ORANGE	BLACK	BLACK	3
M5-1L	21"	15"		WHITE	BLACK	BLACK	7
M5-1R	21"	15"		WHITE	BLACK	BLACK	3


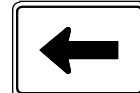
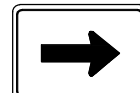


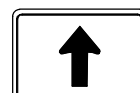




MEDFORD I-93 OVER SALEM STREET EB			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	28	60
PROJECT FILE NO.		606255	

TEMPORARY TRAFFIC CONTROL PLAN
SIGN SUMMARY
SHEET 1 OF 2

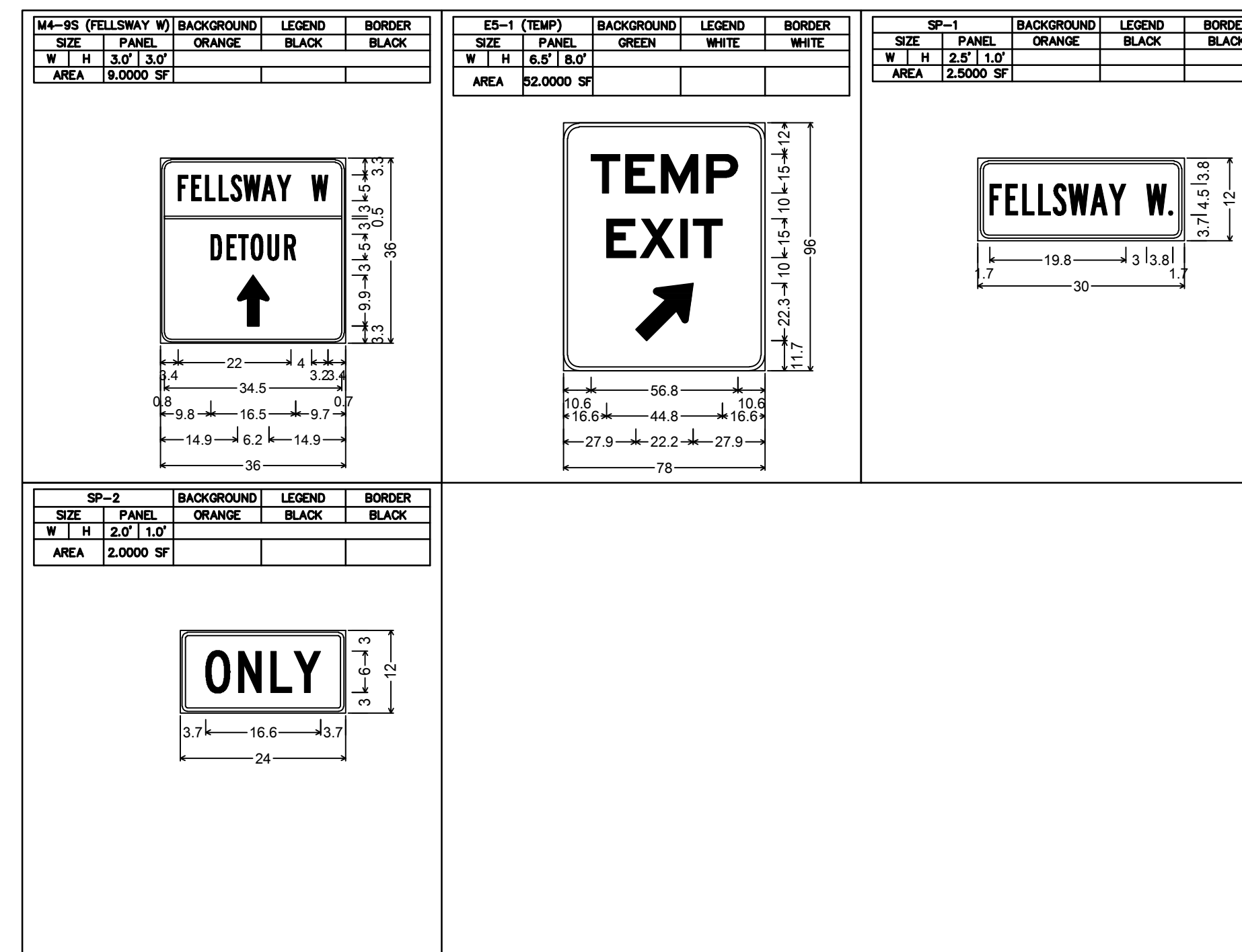
NOTE:

- SIGN LEGEND, LAYOUT AND SIZE SHALL COMPLY WITH MassDOT STANDARDS AND THE 2003 MUTCD (AS AMENDED).

SIGN SUMMARY TABLE - CONTINUED

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	COLOR			NUMBER OF SIGNS REQUIRED
	WIDTH	HEIGHT		BACKGROUND	LEGEND	BORDER	
M5-2L	21"	15"		WHITE	BLACK	BLACK	1
M6-1L	21"	15"		WHITE	BLACK	BLACK	8
M6-1R	21"	15"		WHITE	BLACK	BLACK	6
M6-2L	21"	15"		WHITE	BLACK	BLACK	7
M6-2R	21"	15"		WHITE	BLACK	BLACK	8
M6-3	21"	15"		WHITE	BLACK	BLACK	22
E5-1a (31)	78"	60"		GREEN	WHITE	WHITE	1
E5-1 (TEMP)	78"	96"		GREEN	WHITE	WHITE	1
SP-1	30"	12"		ORANGE	BLACK	BLACK	7
SP-2	24"	12"		WHITE	BLACK	BLACK	5

SIGN DIMENSION DETAILS

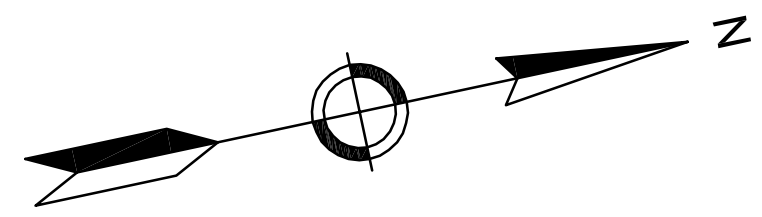


MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524)	29	60
PROJECT FILE NO.		606255	

TEMPORARY TRAFFIC CONTROL PLAN
SIGN SUMMARY
SHEET 2 OF 2

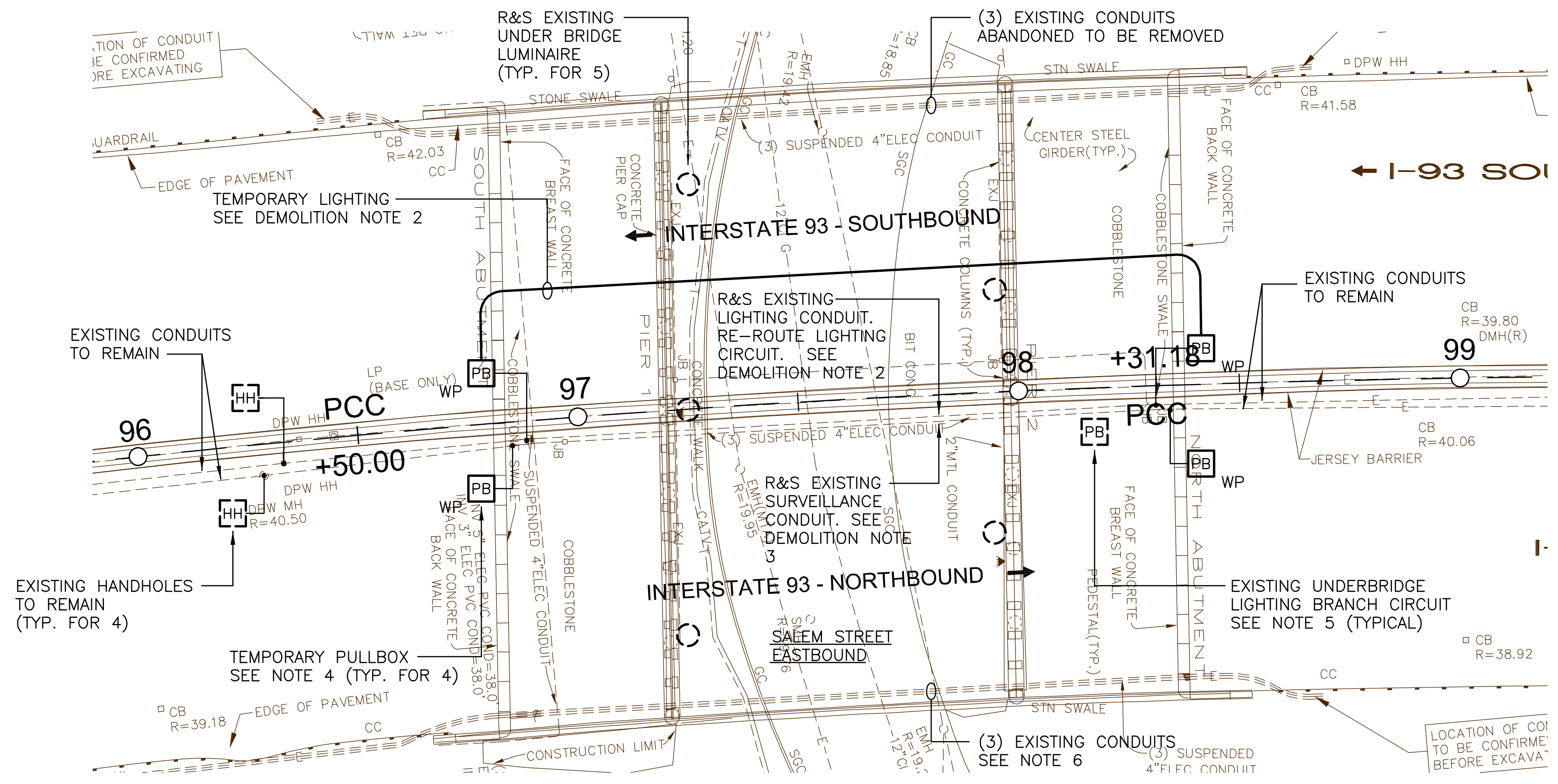
NOTE:
 1. SIGN LEGEND, LAYOUT AND SIZE SHALL COMPLY WITH MassDOT STANDARDS AND THE 2003 MUTCD (AS AMENDED).



MEDFORD
I-93 OVER SALEM STREET EB

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (624) STP-093-1	30	60
PROJECT FILE NO. 606255			

LIGHTING PLANS
DEMOLITION AND TEMPORARY
SHEET 1 OF 2



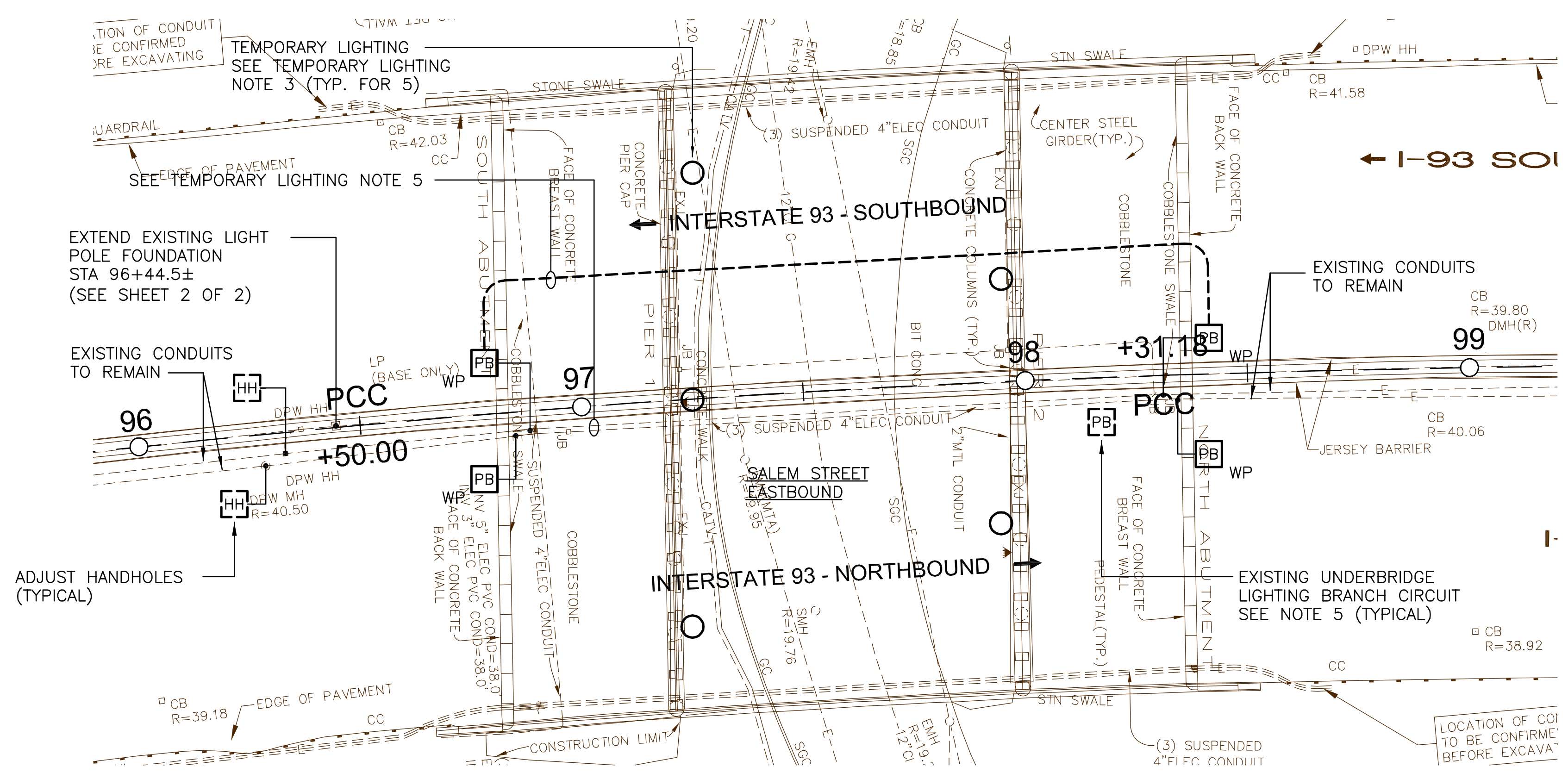
1 DEMOLITION PLAN
SCALE: 1" = 20' - 0"

DEMOLITION NOTES:

1. IDENTIFY, MAINTAIN AND PROTECT ALL EXISTING CONDUITS AND PULLBOXES BELOW DECK TO REMAIN ACTIVE DURING DEMOLITION. SYSTEMS MAY INCLUDE HIGH MAST LIGHTING, SURVEILLANCE, MISCELLANEOUS CONDUITS, PULLBOXES AND INTEGRAL CABLES. RELOCATE PRIOR TO INTERRUPTION AND REMOVAL OF SERVICES. COORDINATE WITH PHASING OF SUPERSTRUCTURE REMOVAL PRIOR TO ANY ELECTRICAL DEMOLITION WORK.
2. EXISTING LIGHTING CONDUIT ROUTED BELOW NORTHBOUND SHOULDER SHALL BE RELOCATED TO TEMPORARY LOCATION. EXISTING CONDUIT TO BE REMOVED AND STACKED.
3. EXISTING EMPTY SURVEILLANCE CONDUIT LOCATED BELOW NORTHBOUND SHOULDER TO BE REMOVED AND STACKED.
4. PROVIDE NEW PULLBOXES ON FACE OF BRIDGE SUPPORTS WHERE CONDUITS BECOME EXPOSED AND ARE ACCESSIBLE TO INTERCEPT.
5. REMOVE ALL UNDERBRIDGE BRANCH CIRCUIT CONDUITS AND WIRING.
6. EXISTING ABANDONED CONDUITS TO BE REMOVED (3 ON SB SIDE, 2 ON NB SIDE). (1) ACTIVE CONDUIT AND INTEGRAL CABLES (NB SIDE) SHALL BE RELOCATED AND REMAIN ACTIVE TO MAKE WAY FOR DEMOLITION WORK. UPON COMPLETION OF NB AND SB DECK REPLACEMENT, RESTORE TO PRE-CONSTRUCTION CONDITIONS. ACTIVE CONDUIT IS LOCATED WITHIN THE SAFETY WALKWAY, COORDINATE EXACT LOCATION IN THE FIELD AND DIG SAFE PRIOR TO EXCAVATION.

ABBREVIATIONS:

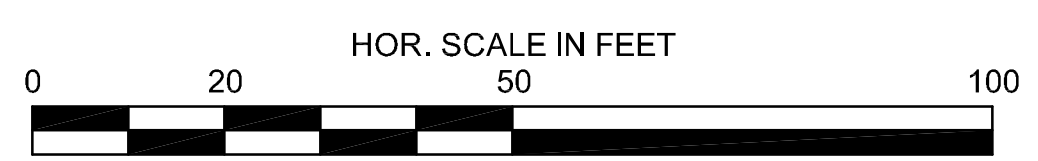
- R&S REMOVED AND STACKED
- R&D REMOVE AND DISPOSE



2 TEMPORARY LIGHTING PLAN
SCALE: 1" = 20' - 0"

TEMPORARY LIGHTING NOTES:

1. PROVIDE NEW TEMPORARY LUMINAIRES BELOW DECK, CONNECT TO EXISTING LIGHTING BRANCH CIRCUITS.
2. AFTER COMPLETION OF THE NEW DECK, RE-INSTALL TEMPORARY LUMINAIRES IN SAME LOCATIONS CONNECTED TO EXISTING BRANCH CIRCUITS AND CONTROLS.
3. NEW TEMPORARY LUMINAIRES SHALL BE SIMILAR TO LITHONIA LIGHTING #TFA-250S-TA-277-SF-TFAGW-FCRA COMPLETE WITH LAMPS AND MOUNTING HARDWARE TO UNDER DECK GIRDER SUPPORTS AS PER MANUFACTURER'S RECOMMENDATIONS. FIX BEAM ANGLE IN DIRECTION OF PATH OF DRIVING LANE TO AVOID DIRECT GLARE.
4. UPON COMPLETION OF NB AND SB DECK REPLACEMENT, RE-INSTALL STOCKPILED LUMINAIRES AND APPURTENANCES TO PRE-CONSTRUCTION CONDITIONS. REMOVE AND DISPOSE OF ALL TEMPORARY LUMINAIRES, CABLES AND CONDUITS. RESTORE I-93 MAINLINE LIGHTING CONDUIT AND CABLES AND SURVEILLANCE CONDUIT TO PRE-CONSTRUCTION CONDITIONS. PROVIDE CONDUITS AND WIRING AS REQUIRED, MATCH EXISTING.
5. INTERCEPT EXISTING UNDERBRIDGE LIGHTING BRANCH CIRCUIT AND EXTEND TO NEW TEMPORARY UNDERBRIDGE LIGHTS, COORDINATE EXACT LOCATION OF JUNCTION POINT IN THE FIELD. PROVIDE CONDUITS AND WIRING AS REQUIRED, MATCH EXISTING.
6. SEE SHEET 2 OF 2 FOR DETAILS OF I-93 MEDIAN LIGHT POLE FOUNDATION WORK.

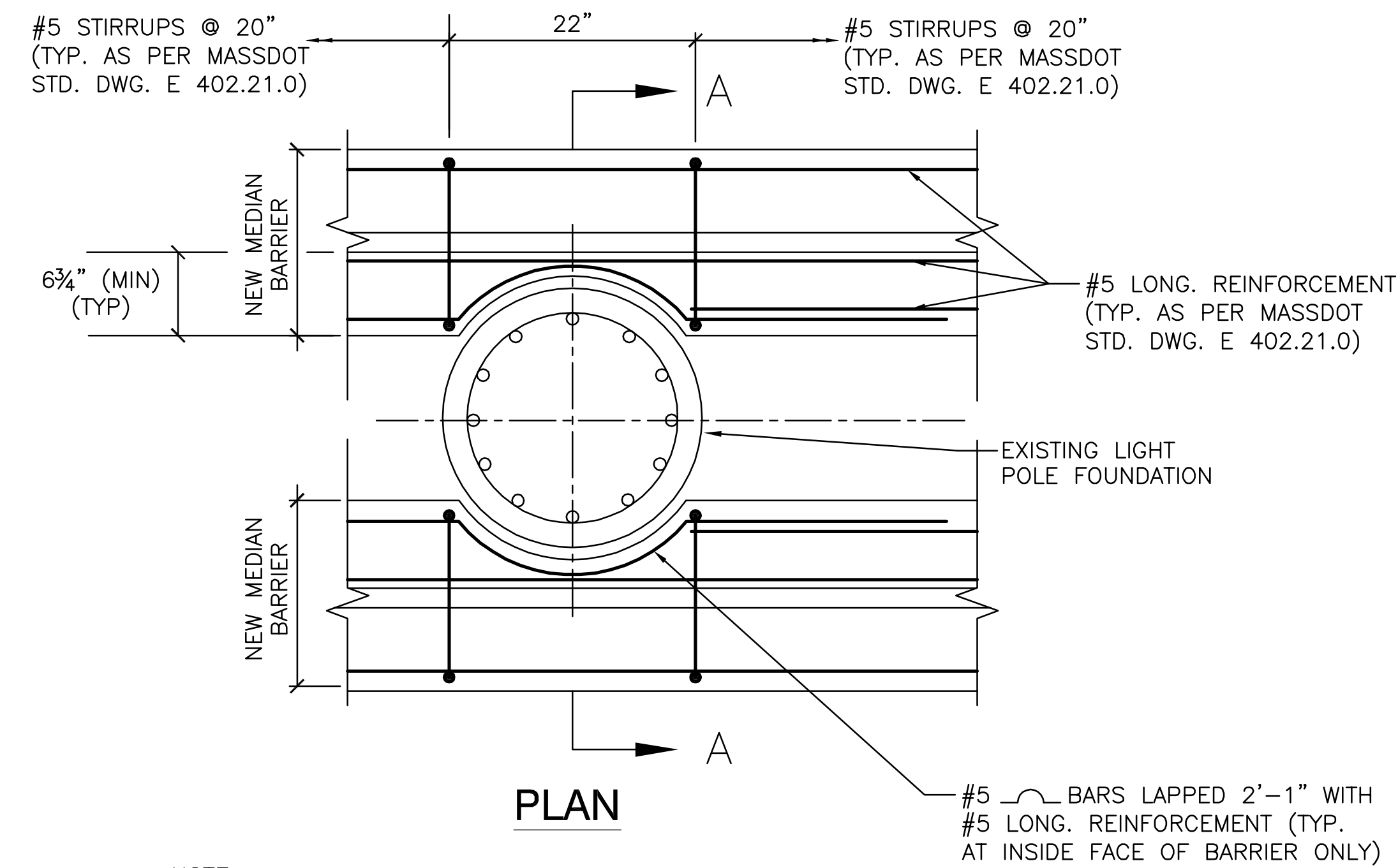


SALEM STREET (RTE. 60) EB
UNDER DECK PART PLAN, BRIDGE NO. M-12-027

**MEDFORD
I-93 OVER SALEM STREET EB**

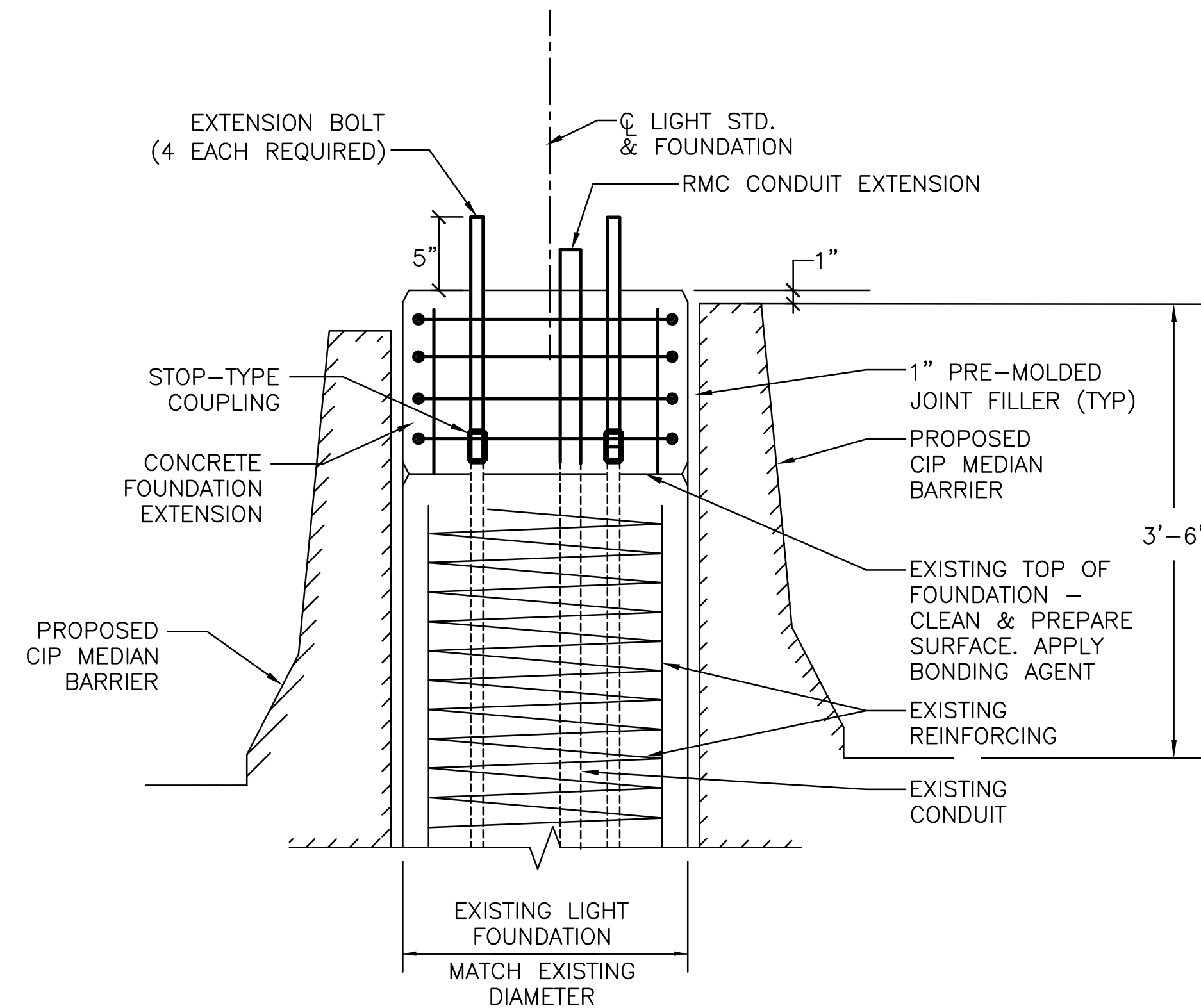
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (624) STP-093-1	31	60
PROJECT FILE NO.		606255	

**LIGHTING PLANS
DETAILS
SHEET 2 OF 2**



PLAN

NOTE:
BARRIER TO BE NARROWED AT LIGHT POLE FOUNDATION
FOR ALL LOCATIONS WHERE TOTAL MEDIAN WIDTH IS
LESS THAN 5'-6".



SECTION A-A

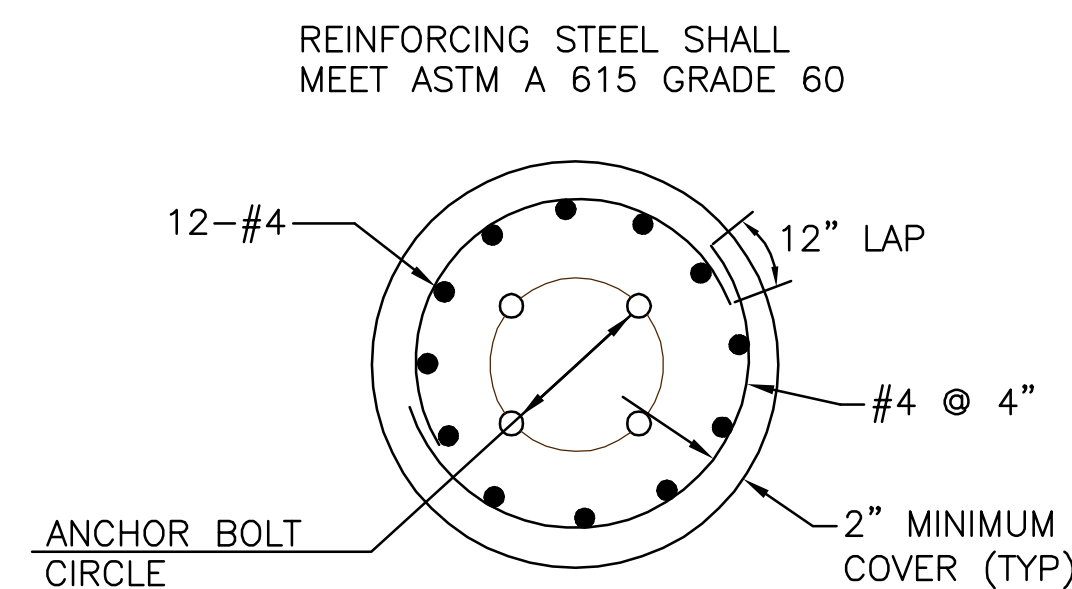
NOTES:

1. REMOVE BOND INHIBITING MATERIAL (DIRT, GREASE, LOOSELY BONDED AGGREGATE) FROM TOP SURFACE OF LIGHT POLE FOUNDATION BY MECHANICAL MEANS AND AIR BLAST METHODS. CHECK THE CONCRETE SURFACE AFTER CLEANING TO ENSURE THAT SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.
2. INSTALL STOP-TYPE COUPLERS AND ANCHOR BOLT EXTENSIONS ENSURING POSITIVE CONTACT AT STOP. COUPLERS SHALL HAVE MINIMUM $F_y = 50$ KSI. MINIMUM LENGTH OF THREADS ENGAGED EQUAL TO 1.25 X BOLT DIAMETER. ANCHOR BOLT EXTENSIONS SHALL BE SET PLUMB. PLACE REINFORCING AND EXTEND CONDUIT (MATCH EXISTING CONDUIT DIAMETER).
3. WET CONCRETE SO THAT SUBSTRATE IS SATURATED SURFACE DRY WITH NO STANDING WATER.
4. APPLY BONDING AGENT TO EXISTING CONCRETE SURFACE AND REINFORCING STEEL PER MANUFACTURER'S SPECIFICATIONS.
5. FORM AND CAST NEW CONCRETE WITH 4000 PSI, 3/8", 660 CEMENT CONCRETE MASONRY.
6. ALL COUPLERS AND ANCHOR BOLT EXTENSIONS SHALL CONFORM TO BUY AMERICA PROVISIONS AND SHALL BE SUPPLIED BY ONE OF THE FOLLOWING MANUFACTURERS:

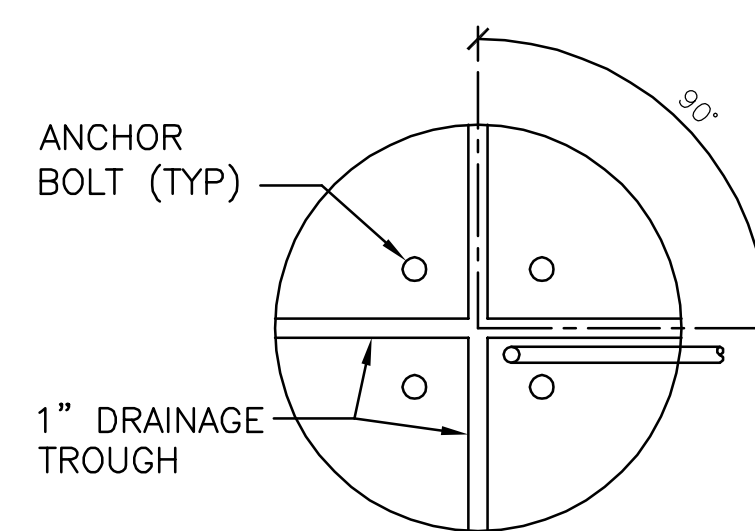
PORTLAND BOLT AND MANUFACTURING COMPANY, INC. 3441 NEW GUAM ST., PORTLAND, OR 97210

HAYDON BOLTS, INC 1181 UNITY STREET PHILADELPHIA, PA 19124

FASTENAL 2001 THEURER BLVD., WINONA, MN 55987



REINFORCEMENT DETAIL



DRAINAGE TROUGH DETAIL

1 LIGHT POLE FOUNDATION DETAILS
SCALE: NOT TO SCALE

**SALEM STREET (RTE. 60) EB
DETAILS, BRIDGE NO. M-12-027**

GENERAL NOTES

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	33	60
PROJECT FILE NO.		606255	

GENERAL NOTES

DESIGN

IN ACCORDANCE WITH THE 2010 SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS WITH CURRENT INTERIMS FOR HL-93 LOADING.

SURVEY AND BENCH MARK

ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. EXISTING CONDITIONS INFORMATION TAKEN FROM SURVEY PERFORMED BY: SMC SURVEYING AND MAPPING CONSULTANTS, 325 WOOD ROAD, SUITE 109, BRAINTREE, MA 02184.

DATE OF SURVEY: NOVEMBER 2010

BENCH MARKS:

STATION #35 PKNAIL N 2977905.11 E 763047.94 EL= 19.65 SET IN SIDEWALK UNDER BRIDGE
STATION #37 PKNAIL N 2977827.82 E 763102.39 EL= 20.67 SET IN SIDEWALK UNDER BRIDGE

THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING BEAM SEAT ELEVATIONS CONTAINED IN THESE PLANS AS PART OF THE CONSTRUCTION OF THE NEW BEAM SEATS.

PLANS

PLANS FOR EXISTING BRIDGE MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

TRAFFIC

BRIDGE M-12-027 (3B6) PROPOSED SUPERSTRUCTURE REPLACEMENT SHALL BE CONSTRUCTED IN 2 STAGES. TRAFFIC MANAGEMENT SHALL BE IN ACCORDANCE WITH THE APPROVED TEMPORARY TRAFFIC CONTROL PLAN.

EXISTING CONDITIONS

DIMENSIONS SHOWN ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE AND NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

DATE

TO BE PLACED ON THE INSIDE FACE OF THE NORTHWEST AND SOUTHEAST INDEPENDENT HIGHWAY GUARDRAIL TRANSITIONS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF THE CONTRACT COMPLETION AS OF THE DATE THE FIRST END POST IS CONSTRUCTED. ALL END POSTS SHALL FEATURE THE SAME DATE.

REINFORCEMENT

REINFORCING STEEL SHALL BE EPOXY COATED UNLESS NOTED AS "BLACK BAR" AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60 (ASTM A615). ALL CONTACT LAP SPLICES SHALL BE AASHTO CLASS C, UNLESS LAP LENGTHS ARE NOTED ON THE PLANS OR LISTED AS FOLLOWS:

MODIFICATION CONDITION	#4 BARS	#5 BARS
1. NONE	21"	26"
2. 12 INCHES OF CONCRETE BELOW BAR	29"	36"
3. COATED BARS, COVER <3db, OR CLEAR SPACING < 6db	31"	39"
4. COATED BARS, ALL OTHER CASES	25"	31"
5. CONDITION 2 AND 3	35"	44"
6. CONDITION 2 AND 4	34"	43"

IF THE ABOVE BARS ARE SPACED 6 INCHES OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE.

DOWEL BAR SPLICERS

IF LAPPING REINFORCEMENT ACROSS STAGE CONSTRUCTION JOINTS IS NOT FEASIBLE, REINFORCING BARS SHALL BE MADE CONTINUOUS CONSTRUCTION JOINTS BY DOWEL BAR SPLICERS. DOWEL BAR SPLICERS SHALL HAVE THE SAME COATINGS AS THE REINFORCING BARS THEY ARE SPLICING.

CONCRETE MIXES

THE FOLLOWING CONCRETE MIXES ARE TO BE USED:

4000 PSI, 3/8 IN, 660 CEMENT CONCRETE: CONCRETE PEDESTALS; TRANSVERSE SHEAR KEYS; BEAM SEAT EXTENSIONS; SUBSTRUCTURE REPAIRS

4000 PSI, 3/4 IN, 610 CEMENT CONCRETE: PROPOSED WINGWALL CAPS

4000 PSI, 3/4 IN, 585 HP CEMENT CONCRETE: DECKZ

E SECTIONS ON MODULAR UNITS

5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE: CF-PL3 BARRIERS

4000 PSI, 1 1/2", 565 CEMENT CONCRETE : INDEPENDENT HIGHWAY GUARDRAIL TRANSITION BASES

HIGH EARLY STRENGTH CEMENT CONCRETE: CLOSURE POURS

DRILLING AND GROUTING DOWELS

IT IS ASSUMED THAT THE GROUT TO BE USED FOR DRILLING AND GROUTING DOWELS INTO THE EXISTING SUBSTRUCTURE AND WINGWALLS IS A CEMENTITIOUS GROUT LISTED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST. HILTI HIT-HY 150 MAX SD OR HILTI HIT-RE 500-SD ARE ACCEPTABLE STRUCTURAL EPOXY SUBSTITUTIONS CONSISTENT WITH THE REQUIREMENTS OF MASSDOT'S ENGINEERING DIRECTIVE E-10-001. THE DEPTH OF DRILLED HOLES SHALL REMAIN THE SAME AS SHOWN ON THESE PLANS, HOWEVER THE DIAMETER OF THE DRILLED HOLE SHALL BE 1/8" LARGER THAN THE BAR.

UTILITIES

THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE ALL EXISTING UTILITIES.

SCALES

SCALES AS NOTED ON PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. FOR 1/2 SIZE PRINTS DIVIDE SCALE BY TWO.

SEISMIC GROUND SHAKING HAZARD

SEISMIC GROUND SHAKING HAZARD IN ACCORDANCE WITH THE 2009 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN:

DESIGN SPECTRA:

As = 0.076
Sds = 0.154
Sd1 = 0.039

SITE CLASS = E

SEISMIC DESIGN CATEGORY (SDC) = A

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W UNLESS NOTED OTHERWISE HEREIN.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

ITEM	QUANTITY
ALTERATION TO BRIDGE STRUCTURE NO M-12-027	1 LS

SUGGESTED CONSTRUCTION SEQUENCE

WORK PRIOR TO WEEKEND CLOSURES:

- INSTALL TEMPORARY PRECAST CONCRETE BARRIER IN SHOULDERS ACROSS THE BRIDGE DECK, CREATING A SAFE WORK ZONE AT THE FASCIA AND MEDIAN.
- REMOVE FASCIA AND MEDIAN BARRIERS.
- REMOVE AND RECONSTRUCT PORTIONS OF WINGWALLS.
- RECONSTRUCT BEAM SEATS WHERE REQUIRED, SUPPORT AND ALTERATION OF THE EXISTING BEAMS MAY BE NECESSARY.
- DEMOLISH ALL EXISTING ABANDONED UTILITIES AND CONDUIT WHICH ARE TO BE REMOVED AND NOT PART OF THE PERMANENT STRUCTURE. PRIOR TO ANY OF THIS WORK COMMENCING ALL UTILITIES SHALL BE CLEARLY IDENTIFIED.
- PRIOR TO THE DEMOLITION OF THE NORTHBOUND ROADWAY TEMPORARILY RELOCATE THE UTILITIES TO BE RETAINED TO THE SOUTHBOUND STRUCTURE AND PROTECT THEM FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.
- REPAIR SUBSTRUCTURES, NOTE THAT MUCH OF THIS WORK CAN OCCUR AT ANYTIME DURING THE PROJECT.

WORK DURING THE WEEKEND CLOSURE:

- ESTABLISH TRAFFIC MANAGEMENT PLAN ON LOCAL STREET (IF APPLICABLE).
- MOBILIZE EQUIPMENT AND MATERIALS THAT ARE TO BE USED BELOW THE BRIDGE, INCLUDING TIMBER MATS, STEEL PLATES OR GRAVEL USED TO PROTECT THE EXISTING ROADWAY BELOW.
- ESTABLISH TRAFFIC MANAGEMENT PLAN ON I-93 AND DETOUR TRAFFIC OFF OF THE BRIDGE.
- DEMOLISH EXISTING DECK AND STEEL BEAM SUPERSTRUCTURE, TAKING CARE NOT TO DAMAGE ANY SUBSTRUCTURE ELEMENTS OR COMPONENTS THAT ARE TO REMAIN AND BE INCORPORATED INTO THE FINAL STRUCTURE.
- EXCAVATE DOWN TO APPROACH SLAB AT ABUTMENT JOINTS.
- PLACE MODULAR UNITS.
- FORM CLOSURE POUR AREAS.
- PLACE CLOSURE POUR CONCRETE IN BOTH LONGITUDINAL AND TRANSVERSE JOINTS.
- REMOVE FORMS AT END OF SLAB AT ABUTMENTS ONCE CONCRETE HAS SET.
- INSTALL TEMPORARY PRECAST CONCRETE BARRIERS IN SHOULDERS ACROSS THE BRIDGE DECK, CREATING A SAFE WORK ZONE AT THE FASCIA AND MEDIAN.
- DEMOBILIZE CONSTRUCTION EQUIPMENT, CLEAN UP AND PREPARE WORK ZONE FOR TRAFFIC.
- RE-ESTABLISH NORMAL TRAFFIC PATTERN AND OPEN BRIDGE TO TRAFFIC.

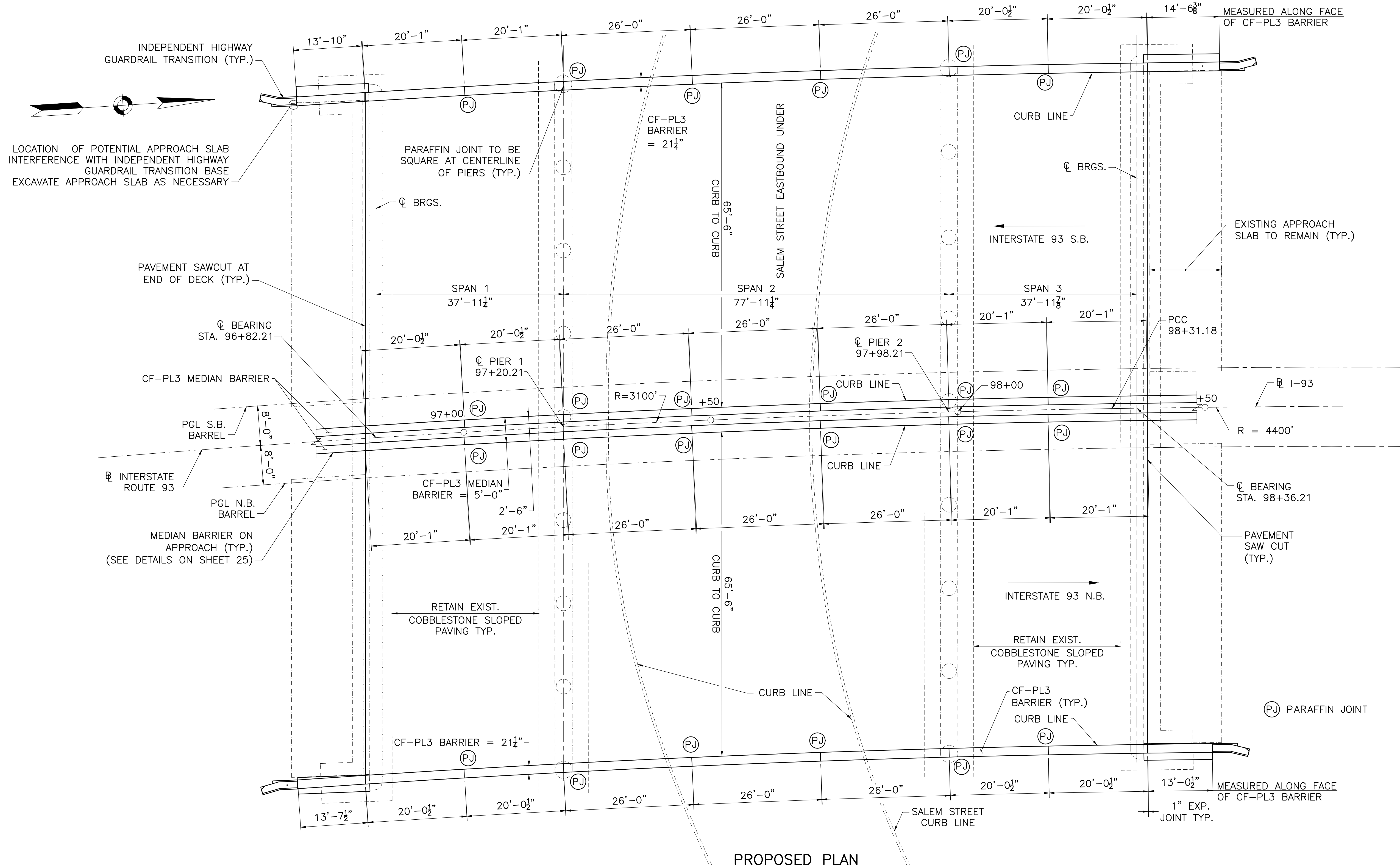
WORK AFTER WEEKEND CLOSURES:

- INSTALL BRIDGE BARRIERS AND MEDIAN AND FASCIA WITHIN WORK ZONE CREATED USING TEMPORARY PRECAST CONCRETE BARRIERS.
- COMPLETE WINGWALL MODIFICATIONS INCLUDING INDEPENDENT HIGHWAY GUARD TRANSITIONS.
- INSTALL CONCRETE TRANSVERSE SHEAR KEYS ON STRUCTURES.
- INSTALL MEMBRANE WATERPROOFING SYSTEM AND PAVEMENT OVERLAYS (USING NIGHTTIME LANE CLOSURES OR ON SUBSEQUENT WEEKENDS).
- INSTALL BRIDGE JOINTS AT ABUTMENTS.
- COMPLETE REPAIRS TO SUBSTRUCTURES.

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	34	60
PROJECT FILE NO. 606255			

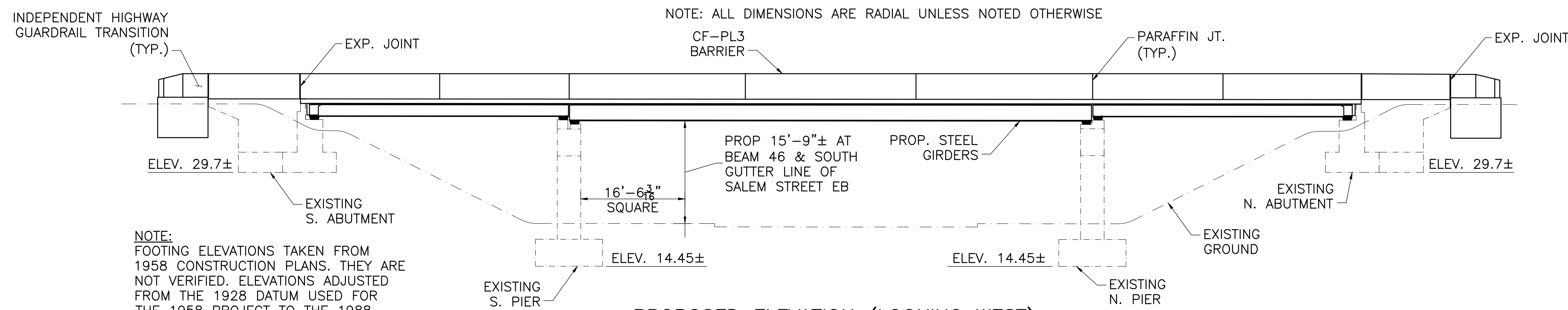
BRIDGE PLAN AND ELEVATION



PROPOSED PLAN

SCALE 1/32" = 1'-0"

NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE



PROPOSED ELEVATION (LOOKING WEST)

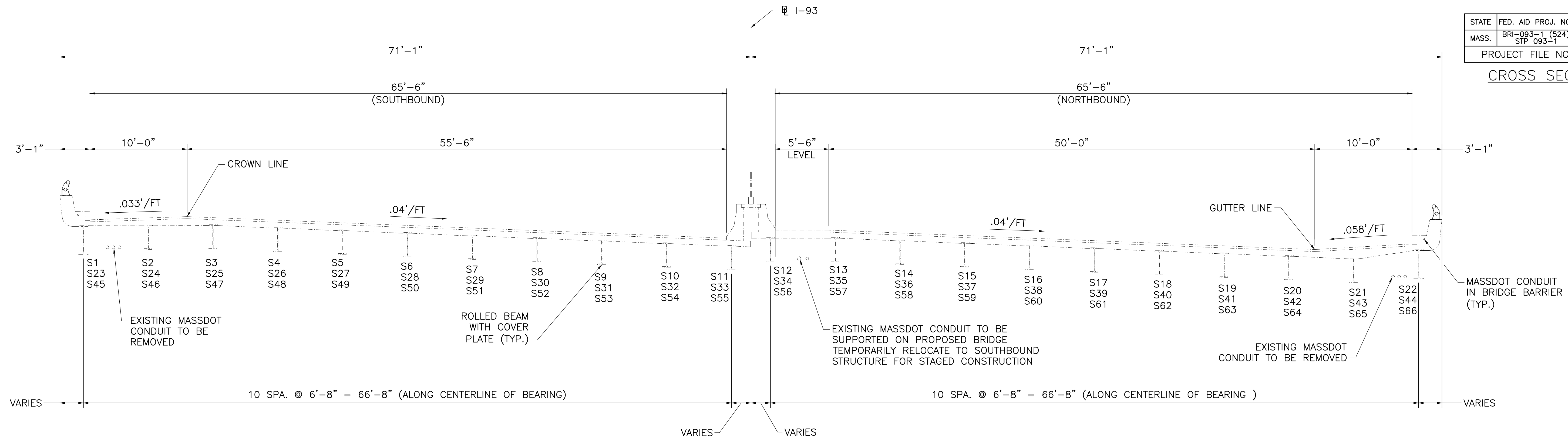
SCALE 1/32" = 1'-0"

NOTE: FOOTING ELEVATIONS TAKEN FROM 1958 CONSTRUCTION PLANS. THEY ARE NOT VERIFIED. ELEVATIONS ADJUSTED FROM THE 1928 DATUM USED FOR THE 1958 PROJECT TO THE 1988 DATUM USED FOR THE PROJECT.

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	35	60
PROJECT FILE NO. 606255			

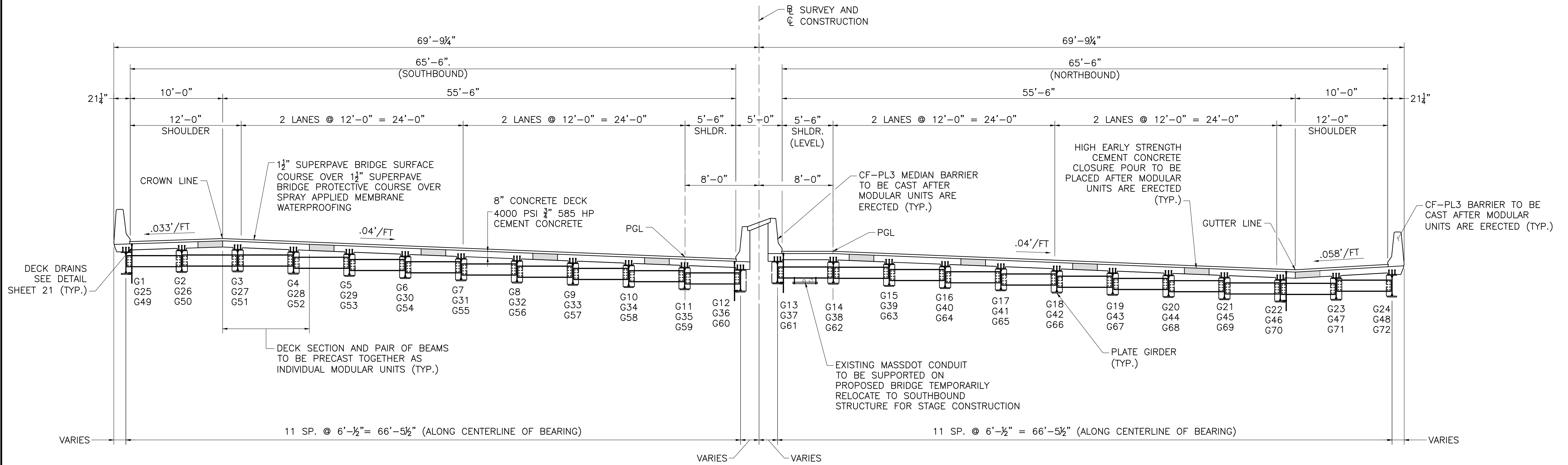
CROSS SECTIONS



EXISTING SECTION - LOOKING NORTH

SCALE: 3/16" = 1'-0"

NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE



PROPOSED SECTION - LOOKING NORTH

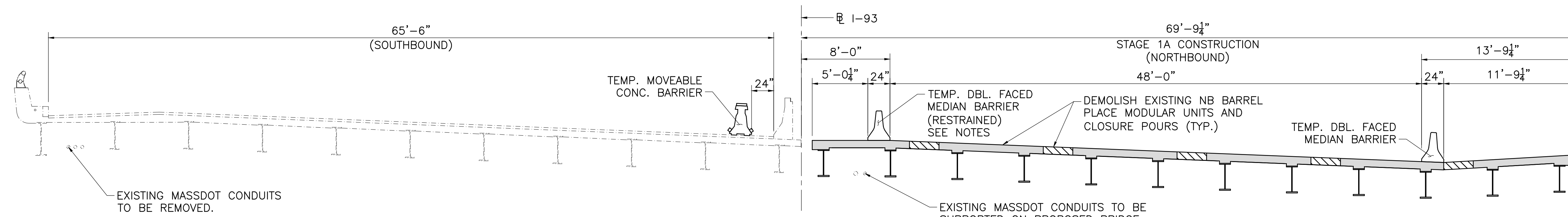
SCALE: 3/16" = 1'-0"

NOTE: ALL DIMENSIONS AND SLOPES ARE RADIAL UNLESS NOTED OTHERWISE

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	36	60
PROJECT FILE NO. 606255			

STAGE CONSTRUCTION



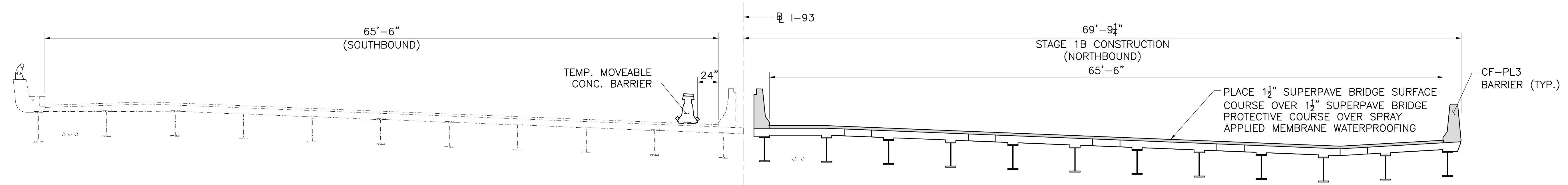
STAGE 1A CONSTRUCTION

SCALE: 3/8" = 1'-0"

NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE

NOTES:

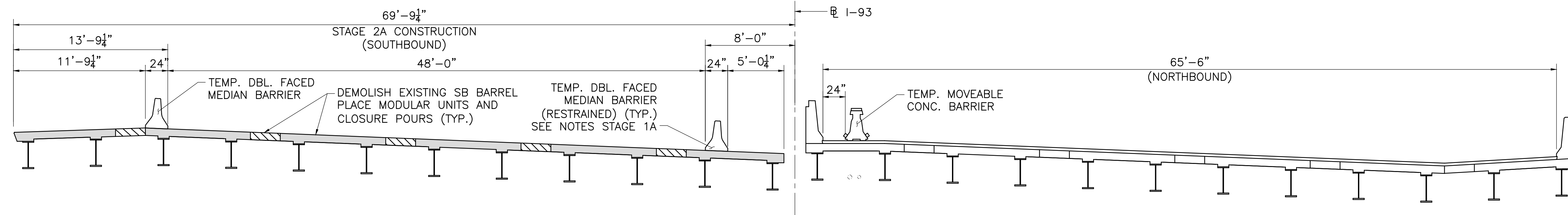
1. TEMPORARY BARRIER SHALL BE CAPABLE OF WITHSTANDING A TL-3 LEVEL CRASH TEST.
2. MAXIMUM DYNAMIC DEFLECTION SHALL BE LESS THAN OR EQUAL TO 26"
3. SHOP DRAWINGS FOR THE ACTUAL BARRIER TO BE UTILIZED SHALL BE SUBMITTED.



STAGE 1B CONSTRUCTION

SCALE: 3/8" = 1'-0"

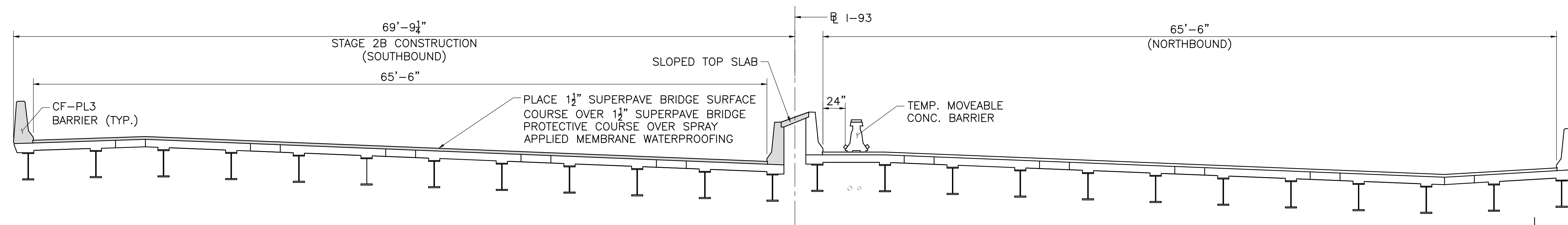
NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE



STAGE 2A CONSTRUCTION

SCALE: 3/8" = 1'-0"

NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE



STAGE 2B CONSTRUCTION

SCALE: 3/8" = 1'-0"

NOTE: ALL DIMENSIONS ARE RADIAL UNLESS NOTED OTHERWISE

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

		SOUTH ABUTMENT - BEAM SEAT ELEVATIONS																							
BEAM NO.	UNITS	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16	G17	G18	G19	G20	G21	G22	G23	G24
PROPOSED BOT OF BM	FT	39.78	39.98	40.05	39.80	39.56	39.32	39.08	38.84	38.59	38.35	38.11	37.87	38.50	38.50	38.26	38.02	37.77	37.53	37.29	37.05	36.81	36.57	36.75	37.10
EXISTING BEAM SEAT	FT	38.16	38.81	38.81	38.54	38.30	38.30	38.00	37.73	37.50	37.19	36.95	36.68	37.57	37.55	37.30	37.02	36.73	36.73	36.49	36.20	36.00	35.75	35.46	35.72
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BEARING HEIGHT	IN	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
PEDESTAL HEIGHT, DIM. Y	IN	15.11	9.69	10.51	10.85	10.83	7.92	8.62	8.96	8.82	9.64	9.63	9.95	6.91	7.14	7.19	7.65	8.23	5.32	5.30	5.88	5.37	5.47	11.18	12.25
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROP. BEAM SEAT ELEV.	FT	39.42	39.62	39.69	39.44	39.20	38.96	38.72	38.48	38.23	37.99	37.75	37.51	38.15	38.14	37.90	37.66	37.42	37.17	36.93	36.69	36.45	36.21	36.39	36.74

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	37	60
PROJECT FILE NO. 606255			

SOUTH ABUTMENT

TABLE NOTES:

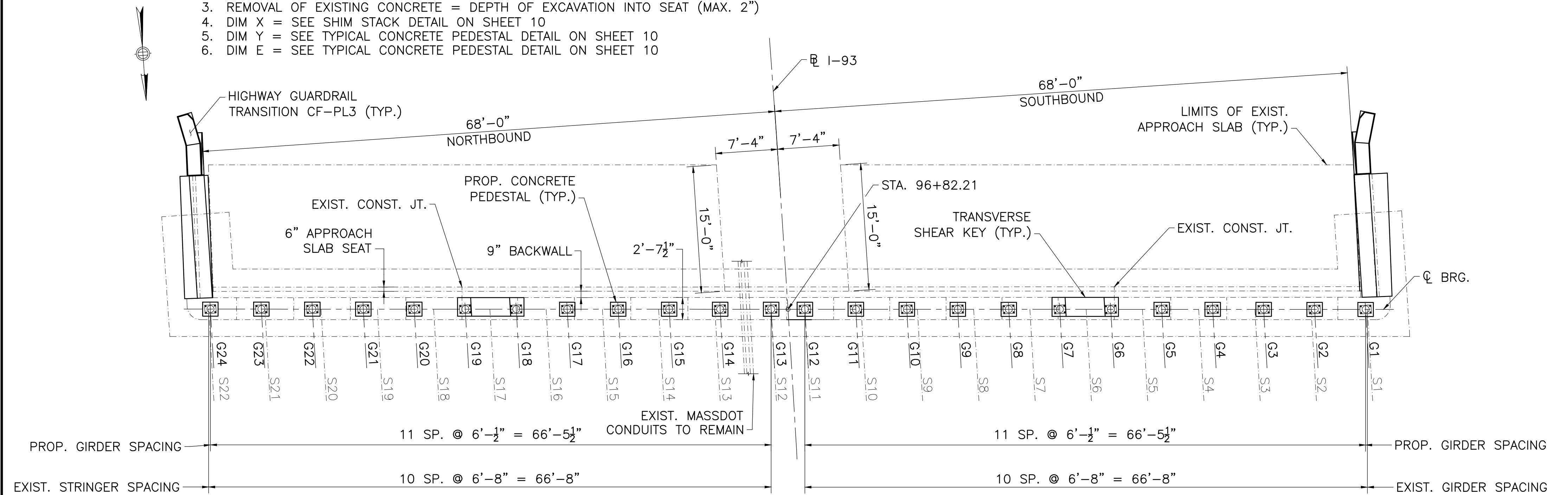
- SEE NOTES ON BEAM SEAT ELEVATIONS THIS SHEET.
- PEDESTAL HEIGHT = PEDESTAL DIMENSION ABOVE BEAM SEAT.
- REMOVAL OF EXISTING CONCRETE = DEPTH OF EXCAVATION INTO SEAT (MAX. 2")
- DIM X = SEE SHIM STACK DETAIL ON SHEET 10
- DIM Y = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10
- DIM E = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10

NOTES ON BEAM SEAT ELEVATIONS:

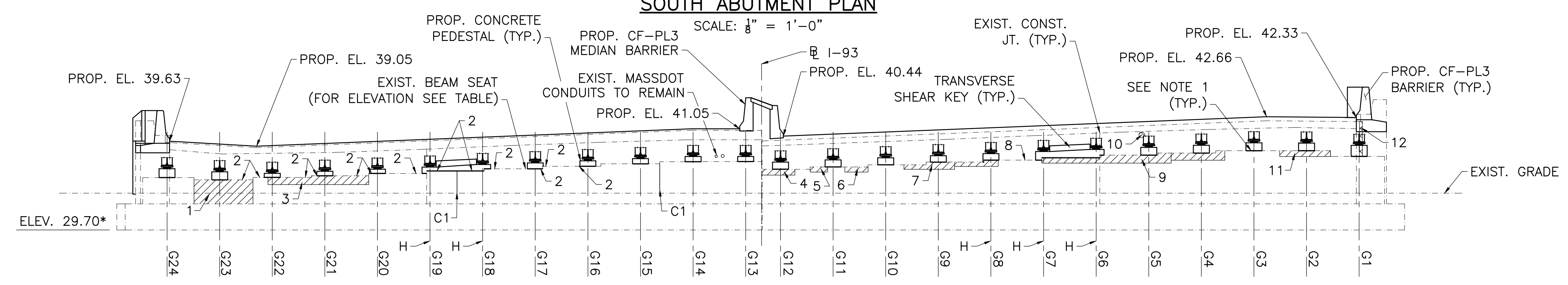
- CONCRETE PEDESTALS ARE BEING PROVIDED AT ALL BUT FOUR BEAM SEAT LOCATIONS FOR ALL SUBSTRUCTURE UNITS.
- BOTTOM OF BEAM ELEVATION PROVIDED TO ESTABLISH MODULAR UNIT GEOMETRY FOR DECK CASTING AND FOR SETTING MODULAR UNITS IN THE FIELD.
- EXISTING BEAM SEAT IS THE EXISTING ELEVATION AT THE CENTERLINE OF BEARING FOUND BY SURVEY.
- TOP OF PEDESTAL ELEVATION IS THE BOTTOM OF BEAM ELEVATION LESS THE PROPOSED BEARING THICKNESS, THE 1 1/2 INCH THICK SOLE PLATE (OR THE 1 INCH THICK SOLE PLATE AND THE TAPERED PLATE THICKNESS AT THE CENTERLINE OF BEARING) AND A 1/2 INCH THICK SHIM PLATE.
- GIRDERS ARE TO COME TO THE FIELD WITH SOLE PLATES WELDED TO THE BOTTOM FLANGE.
- ELASTOMERIC BEARINGS ARE TO BE SET DIRECTLY ON THE BEAM SEAT OR PEDESTAL CONCRETE AND SUFFICIENT SHIMS SHALL BE USED TO MAKE UP THE DIFFERENCE.
- DIM. X IS THE ANTICIPATED TOTAL THICKNESS OF SHIMS REQUIRED TO SET THE BEARING ON THE EXISTING SEAT AND PLACE THE BOTTOM OF BEAM SEAT AT THE PROPER ELEVATION. FIELD VERIFY PROPOSED BEAM SEAT ELEVATION AND ADJUST SHIM THICKNESS ACCORDINGLY. MINIMUM SHIM THICKNESS SHALL BE 1/8".

NOTES ON BEAMS SEAT CONSTRUCTION:

- CLEAN AND ROUGHEN EXISTING BEAM SEAT UNDER PEDESTALS AND SHEAR KEYS.
- H - DUE TO PROXIMITY OF EXISTING BEAM SEAT STEP, THE ELEVATION OF THE HIGHER BEAM SEAT WAS USED.
- S# - EXIST. STRINGER
- G# - PROP. GIRDER
- PROPOSED TOP OF DECK IS TOP OF DECK CONCRETE AT BACK FACE OF BACKWALL
- WHERE EXISTING PEDESTALS MUST BE REMOVED DUE TO INTERFERENCE WITH PROPOSED WORK:
 - EXISTING PEDESTALS TO BE REMOVED SHALL BE CUTOFF FLUSH TO THE TOP OF THE EXISTING BEAM SEAT.
 - REMAINING EXPOSED REINFORCEMENT AND ANCHOR BOLTS THAT ARE NOT BEING ENCASED BY ANY PROPOSED CONCRETE SHALL BE REPAIRED BY EXCAVATING DOWN AND CUTTING OFF THE VERTICAL STEEL EXTENDING INTO THE PEDESTAL A MINIMUM OF 2" BELOW THE TOP FACE OF EXISTING CONCRETE. THE EXCAVATED HOLE SHALL BE PATCHED USING CEMENTITIOUS MORTAR.
 - THE TOP SURFACE OF THE CONCRETE TO REMAIN BEYOND THE PROPOSED WORK SHALL BE MADE TROWEL SMOOTH BY APPLICATION OF A THIN LAYER OF CEMENTITIOUS MORTAR FOR PATCHING.

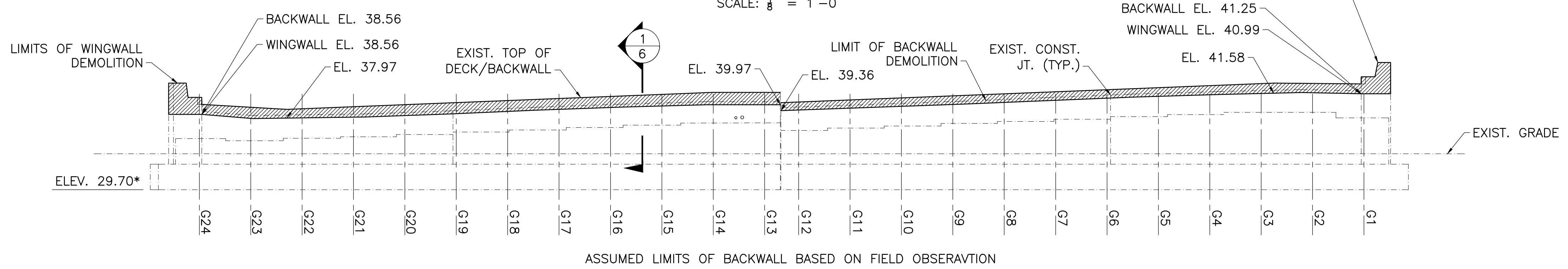


SOUTH ABUTMENT PLAN



PROPOSED ELEVATIONS ARE AT TOP OF DECK

SOUTH ABUTMENT ELEVATION



ASSUMED LIMITS OF BACKWALL BASED ON FIELD OBSERVATION

BACKWALL DEMO ELEVATION

LEGEND

BASED UPON FIELD SURVEY PERFORMED ON 3/1/11 THROUGH 3/3/11

- = SPALLED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = DELAMINATED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = CRACK
- ALL CRACKS ARE HAIRLINE (HL) X FULL HEIGHT (F.H.) UNLESS NOTED OTHERWISE
- C1 - 1/8" X F.H.

*FOOTING ELEVATIONS TAKEN FROM 1958 CONSTRUCTION PLANS AND HAVE NOT BEEN VERIFIED. ELEVATIONS HAVE BEEN ADJUSTED FROM THE 1920 DATUM USED FOR THE 1958 PROJECT TO THE 1988 DATUM USED FOR THIS PROJECT.

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

		SOUTH PIER 1 - BEAM SEAT ELEVATIONS																											
BEAM NO.	UNITS	G25	G26	G27	G28	G29	G30	G31	G32	G33	G34	G35	G36	G37	G38	G39	G40	G41	G42	G43	G44	G45	G46	G47	G48				
PROPOSED BOT OF BM	FT	39.11	39.31	39.38	39.14	38.90	38.66	38.42	38.18	37.94	37.69	37.45	37.21	37.85	37.85	37.61	37.37	37.13	36.89	36.64	36.40	36.16	35.92	36.11	36.46				
EXISTING BEAM SEAT	FT	37.23	37.12	37.00	36.89	36.78	36.67	36.56	36.44	36.33	36.22	36.11	36.00	35.93	35.81	35.70	35.58	35.47	35.36	35.24	35.13	35.02	34.90	34.79	34.68				
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50				
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50				
BEARING HEIGHT	IN	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25				
PEDESTAL HEIGHT, DIM. Y	IN	17.38	21.11	23.29	21.74	20.19	18.64	17.09	15.54	14.00	12.45	10.91	9.35	17.89	19.26	17.68	16.15	14.62	13.09	11.56	10.02	8.49	6.96	10.57	16.13				
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
PROP. BEAM SEAT ELEV.	FT	38.68	38.88	38.94	38.70	38.46	38.22	37.98	37.74	37.50	37.26	37.02	36.77	37.42	37.42	37.17	36.93	36.69	36.45	36.21	35.97	35.72	35.48	35.67	36.02				

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	38	60
PROJECT FILE NO. 606255			

SOUTH PIER

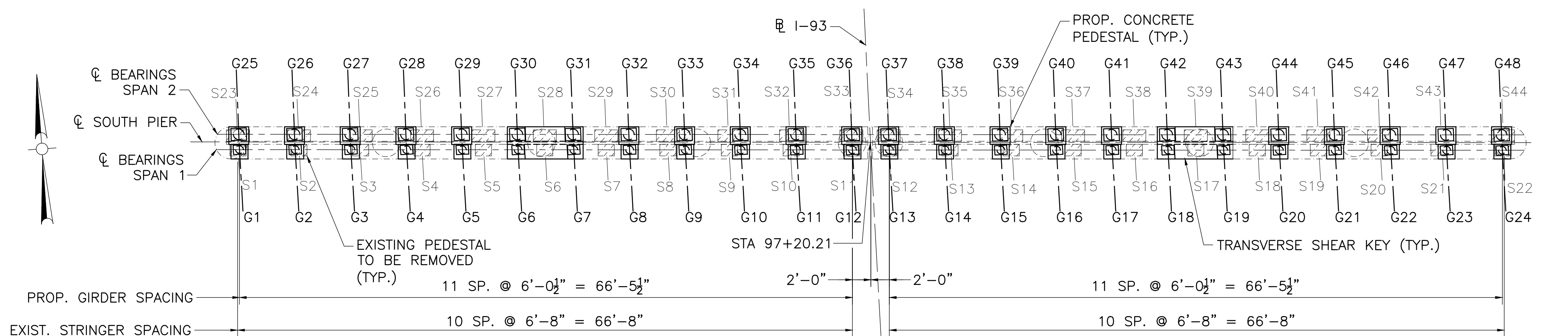
		SOUTH PIER 1 - BEAM SEAT ELEVATIONS																							
BEAM NO.	UNITS	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16	G17	G18	G19	G20	G21	G22	G23	G24
PROPOSED BOT OF BM	FT	39.79	39.99	40.06	39.82	39.58	39.34	39.10	38.86	38.62	38.37	38.14	37.89	38.53	38.53	38.29	38.05	37.80	37.56	37.32	37.08	36.84	36.60	36.79	37.13
EXISTING BEAM SEAT	FT	37.23	37.11	37.00	36.89	36.78	36.67	36.55	36.44	36.33	36.22	36.11	35.99	35.92	35.81	35.70	35.58	35.47	35.35	35.24	35.13	35.01	34.90	34.78	34.67
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BEARING HEIGHT	IN	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
PEDESTAL HEIGHT, DIM. Y	IN	26.50	30.23	32.41	30.86	29.31	27.76	26.21	24.66	23.12	21.57	20.03	18.47	26.98	28.35	26.78	25.25	23.72	22.19	20.67	19.14	17.61	16.08	19.69	25.25
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROP. BEAM SEAT ELEV.	FT	39.44	39.63	39.70	39.46	39.22	38.98	38.74	38.50	38.26	38.02	37.78	37.53	38.17	38.17	37.93	37.69	37.44	37.20	36.96	36.72	36.48	36.24	36.43	36.78

TABLE NOTES:

- SEE NOTES ON BEAM SEAT ELEVATIONS ON SHEET 6.
- PEDESTAL HEIGHT = PEDESTAL DIMENSION ABOVE BEAM SEAT.
- REMOVAL OF EXISTING CONCRETE = DEPTH OF EXCAVATION INTO SEAT (MAX. 2")
- DIM X = SEE SHIM STACK DETAIL ON SHEET 10
- DIM Y = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10
- DIM E = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10

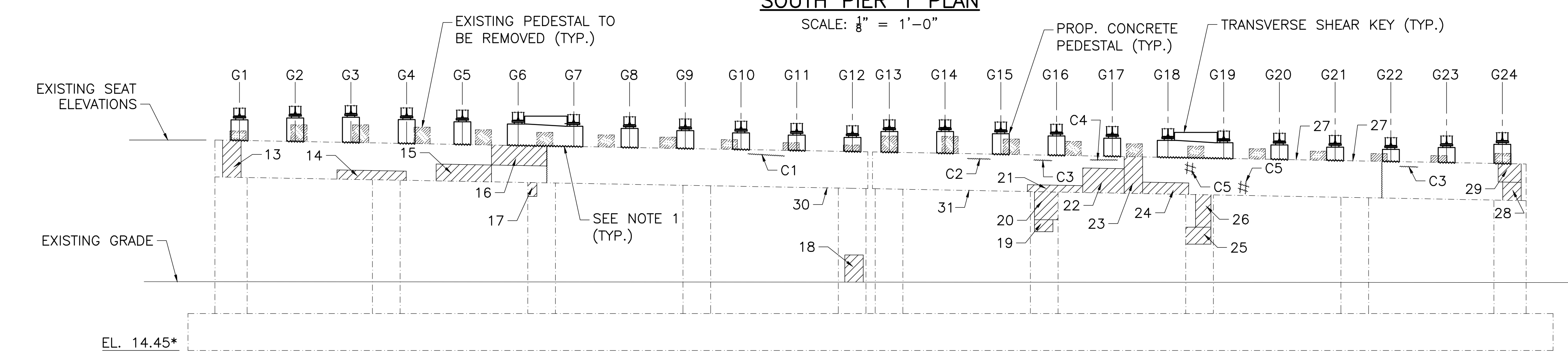
NOTES ON BEAMS SEAT CONSTRUCTION:

- CLEAN AND ROUGHEN EXISTING BEAM SEAT UNDER PEDESTALS AND SHEAR KEYS.
- S# - EXIST. STRINGER
- G# - PROP. GIRDER
- PROPOSED TOP OF DECK IS TOP OF DECK CONCRETE AT BACK FACE OF BACKWALL
- WHERE EXISTING PEDESTALS MUST BE REMOVED DUE TO INTERFERENCE WITH PROPOSED WORK:
 - EXISTING PEDESTALS TO BE REMOVED SHALL BE CUTOFF FLUSH TO THE TOP OF THE EXISTING BEAM SEAT.
 - REMAINING EXPOSED REINFORCEMENT AND ANCHOR BOLTS THAT ARE NOT BEING ENCASED BY ANY PROPOSED CONCRETE SHALL BE REPAIRED BY EXCAVATING DOWN AND CUTTING OFF THE VERTICAL STEEL EXTENDING INTO THE PEDESTAL A MINIMUM OF 2" BELOW THE TOP FACE OF EXISTING CONCRETE. THE EXCAVATED HOLE SHALL BE PATCHED USING CEMENTITIOUS MORTAR.
 - THE TOP SURFACE OF THE CONCRETE TO REMAIN BEYOND THE PROPOSED WORK SHALL BE MADE TROWEL SMOOTH BY APPLICATION OF A THIN LAYER OF CEMENTITIOUS MORTAR FOR PATCHING.



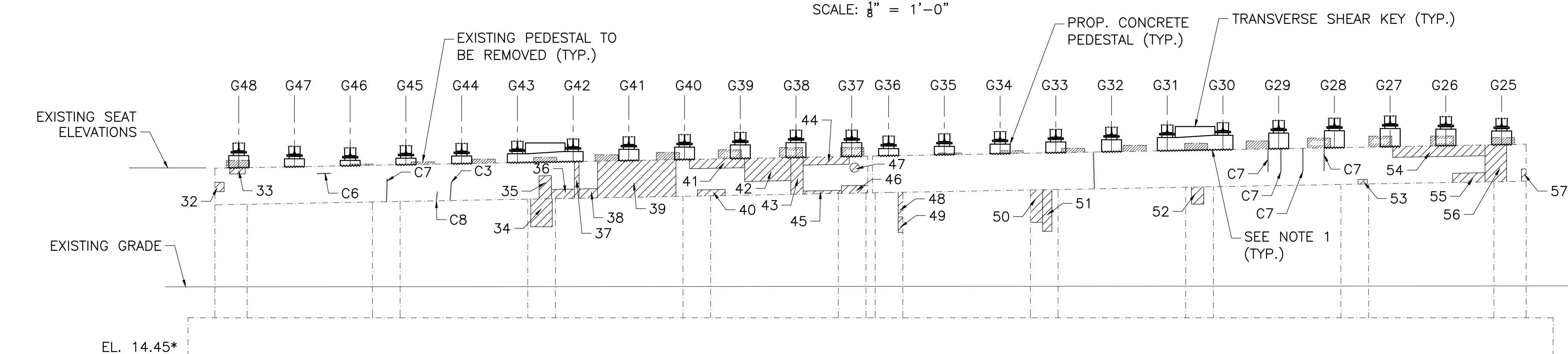
SOUTH PIER 1 PLAN

SCALE: 1/8" = 1'-0"



SOUTH PIER 1 ELEVATION (LOOKING NORTH)

SCALE: 1/8" = 1'-0"



SOUTH PIER 1 ELEVATION (LOOKING SOUTH)

SCALE: 1/8" = 1'-0"

LEGEND

BASED UPON FIELD SURVEY PERFORMED ON 3/1/11 THROUGH 3/3/11

- = SPALLED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = DELAMINATED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = CRACK

- ALL CRACKS ARE HAIRLINE (HL) X FULL HEIGHT (F.H.) UNLESS NOTED OTHERWISE.
- | | |
|-------------------|------------------|
| C1 - HL X 4'L | C5 - HL MAP CR'S |
| C2 - 1/4" X 2.5'L | C6 - HL X 1.5'L |
| C3 - HL X 2'L | C7 - HL X 2.5'L |
| C4 - HL X 3'L | C8 - HL X 1'L |

*FOOTING ELEVATIONS TAKEN FROM 1958 CONSTRUCTION PLANS AND HAVE NOT BEEN VERIFIED. ELEVATIONS HAVE BEEN ADJUSTED FROM THE 1920 DATUM USED FOR THE 1958 PROJECT TO THE 1988 DATUM USED FOR THIS PROJECT.

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

NORTH PIER 2 - BEAM SEAT ELEVATIONS

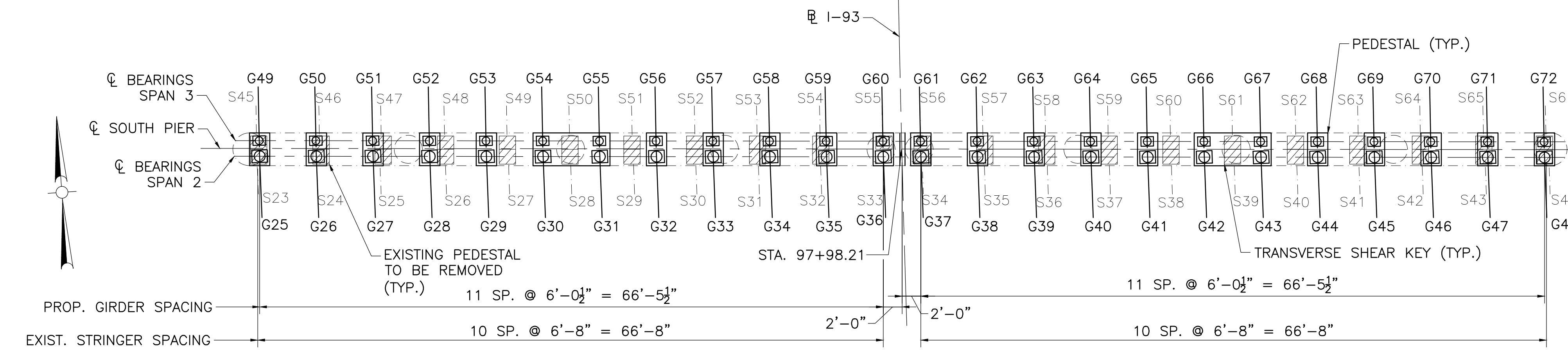
BEAM NO.	UNITS	G49	G50	G51	G52	G53	G54	G55	G56	G57	G58	G59	G60	G61	G62	G63	G64	G65	G66	G67	G68	G69	G70	G71	G72
PROPOSED BOT OF BM	FT	39.60	39.80	39.87	39.63	39.39	39.15	38.90	38.66	38.42	38.18	37.94	37.70	38.33	38.34	38.09	37.85	37.61	37.37	37.13	36.89	36.65	36.41	36.60	36.95
EXISTING BEAM SEAT	FT	37.25	37.14	37.03	36.92	36.81	36.70	36.59	36.48	36.37	36.26	36.15	36.04	35.94	35.83	35.71	35.60	35.48	35.37	35.25	35.14	35.02	34.90	34.79	34.67
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BEARING HEIGHT	IN	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
PEDESTAL HEIGHT, DIM. Y	IN	23.81	27.53	29.69	28.12	26.56	24.99	23.43	21.86	20.30	18.73	17.18	15.60	24.37	25.77	24.24	22.73	21.23	19.73	18.23	16.73	15.23	13.73	17.37	22.97
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROP. BEAM SEAT ELEV.	FT	39.24	39.44	39.51	39.27	39.03	38.79	38.55	38.30	38.06	37.82	37.58	37.34	37.98	37.98	37.73	37.49	37.25	37.01	36.77	36.53	36.29	36.05	36.24	36.59

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	39	60

PROJECT FILE NO. 606255

NORTH PIER

BEAM NO.	UNITS	G25	G26	G27	G28	G29	G30	G31	G32	G33	G34	G35	G36	G37	G38	G39	G40	G41	G42	G43	G44	G45	G46	G47	G48
PROPOSED BOT OF BM	FT	38.93	39.13	39.19	38.95	38.71	38.47	38.23	37.99	37.75	37.51	37.27	37.03	37.66	37.67	37.42	37.18	36.94	36.70	36.46	36.22	35.98	35.74	35.93	36.28
EXISTING BEAM SEAT	FT	37.25	37.14	37.03	36.92	36.81	36.70	36.59	36.48	36.37	36.26	36.15	36.04	35.95	35.83	35.72	35.60	35.49	35.37	35.26	35.14	35.02	34.91	34.79	34.68
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
BEARING HEIGHT	IN	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
PEDESTAL HEIGHT, DIM. Y	IN	14.80	18.52	20.68	19.12	17.55	15.99	14.42	12.86	11.29	9.73	8.18	6.60	15.35	16.74	15.20	13.70	12.20	10.70	9.20	7.70	6.20	4.71	8.35	13.94
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROP. BEAM SEAT ELEV.	FT	38.49	38.69	38.76	38.52	38.28	38.04	37.80	37.55	37.31	37.07	36.83	36.59	37.23	37.23	36.98	36.74	36.50	36.26	36.02	35.78	35.54	35.30	35.49	35.84



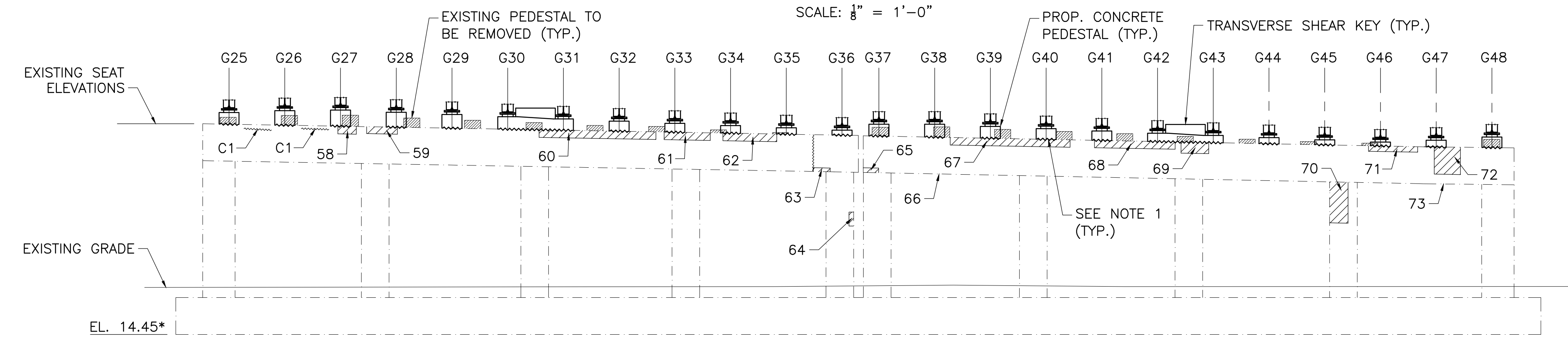
NORTH PIER 2 PLAN

TABLE NOTES:

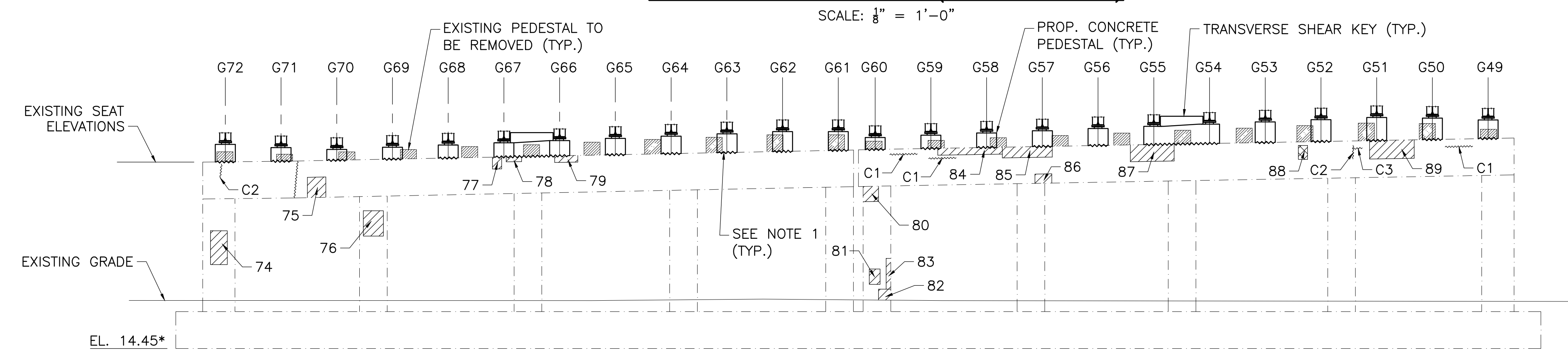
- SEE NOTES ON BEAM SEAT ELEVATIONS ON SHEET 6.
- PEDESTAL HEIGHT = PEDESTAL DIMENSION ABOVE BEAM SEAT.
- REMOVAL OF EXISTING CONCRETE = DEPTH OF EXCAVATION INTO SEAT (MAX. 2")
- DIM X = SEE SHIM STACK DETAIL ON SHEET 10
- DIM Y = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10
- DIM E = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10

NOTES ON BEAMS SEAT CONSTRUCTION:

- CLEAN AND ROUGHEN EXISTING BEAM SEAT UNDER PEDESTALS AND SHEAR KEYS.
- S# - EXIST. STRINGER
- G# - PROP. GIRDER
- PROPOSED TOP OF DECK IS TOP OF DECK CONCRETE AT BACK FACE OF BACKWALL
- WHERE EXISTING PEDESTALS MUST BE REMOVED DUE TO INTERFERENCE WITH PROPOSED WORK:
 - EXISTING PEDESTALS TO BE REMOVED SHALL BE CUTOFF FLUSH TO THE TOP OF THE EXISTING BEAM SEAT.
 - REMAINING EXPOSED REINFORCEMENT AND ANCHOR BOLTS THAT ARE NOT BEING ENCASED BY ANY PROPOSED CONCRETE SHALL BE REPAIRED BY EXCAVATING DOWN AND CUTTING OFF THE VERTICAL STEEL EXTENDING INTO THE PEDESTAL A MINIMUM OF 2" BELOW THE TOP FACE OF EXISTING CONCRETE. THE EXCAVATED HOLE SHALL BE PATCHED USING CEMENTITIOUS MORTAR.
 - THE TOP SURFACE OF THE CONCRETE TO REMAIN BEYOND THE PROPOSED WORK SHALL BE MADE TROWEL SMOOTH BY APPLICATION OF A THIN LAYER OF CEMENTITIOUS MORTAR FOR PATCHING.



NORTH PIER 2 ELEVATION (LOOKING NORTH)



NORTH PIER 2 ELEVATION (LOOKING SOUTH)

*FOOTING ELEVATIONS TAKEN FROM 1958 CONSTRUCTION PLANS AND HAVE NOT BEEN VERIFIED. ELEVATIONS HAVE BEEN ADJUSTED FROM THE 1920 DATUM USED FOR THE 1958 PROJECT TO THE 1988 DATUM USED FOR THIS PROJECT.

LEGEND BASED UPON FIELD SURVEY PERFORMED ON 3/1/11 THROUGH 3/3/11

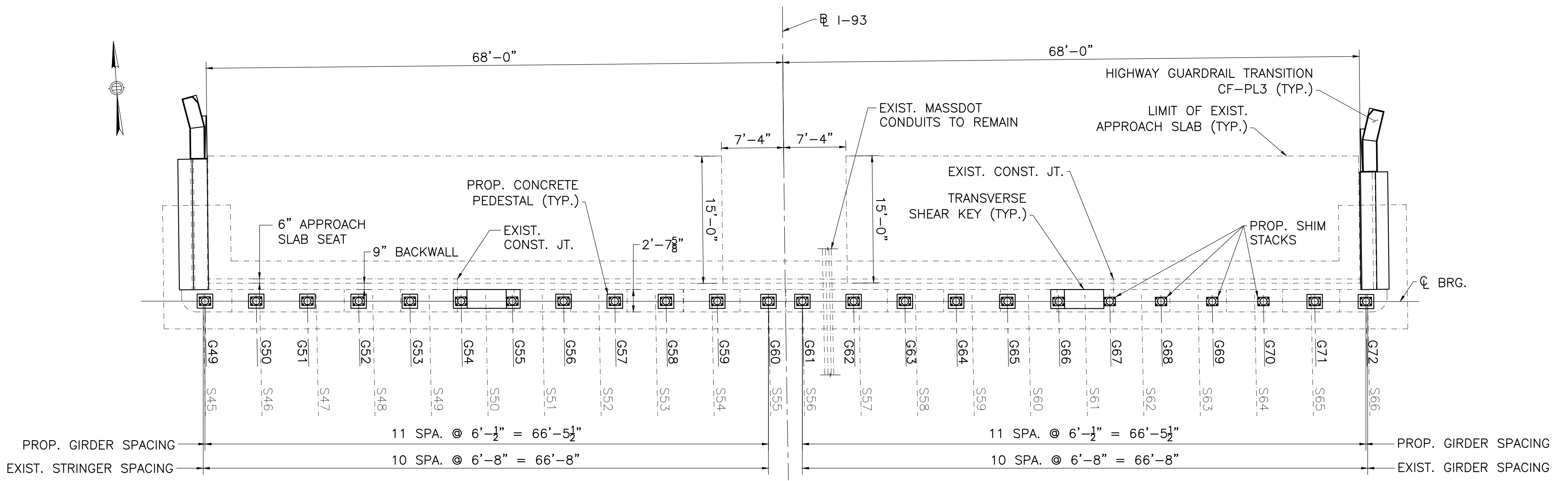
- = SPALLED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = DELAMINATED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = CRACK
ALL CRACKS ARE HAIRLINE (HL) X FULL HEIGHT (F.H.) UNLESS NOTED OTHERWISE
- C1 - HL X 3'L
- C2 - HL X 1.5'L
- C3 - HL X 1'L

DATE	DESCRIPTION
MAY 18, 2011	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

		NORTH ABUTMENT - BEAM SEAT ELEVATIONS																							
BEAM NO.	UNITS	G49	G50	G51	G52	G53	G54	G55	G56	G57	G58	G59	G60	G61	G62	G63	G64	G65	G66	G67*	G68	G69	G70	G71	G72
PROPOSED BOT OF BM	FT	39.40	39.60	39.67	39.43	39.19	38.94	38.70	38.46	38.22	37.98	37.74	37.50	38.13	38.13	37.88	37.64	37.40	37.16	36.92	36.68	36.44	36.20	36.38	36.73
EXISTING BEAM SEAT	FT	38.06	38.76	38.76	38.48	38.19	37.90	37.90	37.66	37.37	37.16	36.87	36.61	37.50	37.48	37.20	36.93	36.66	36.41	36.41	36.15	35.90	35.64	35.39	35.64
STEEL SOLE PLATES	IN	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
STEEL SHIM PLATES, DIM. X	IN	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	2.25	2.50	2.63	2.88	0.50	0.50
BEARING HEIGHT	IN	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
PEDESTAL HEIGHT, DIM. Y	IN	11.74	5.73	6.57	7.04	7.63	8.22	5.33	5.33	5.92	5.48	6.16	6.37	3.19	3.43	3.88	4.22	4.57	4.68	0.00	0.00	0.00	0.00	7.62	8.82
REMOVAL OF EXIST. CONC., DIM. E	IN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.57	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROP. BEAM SEAT ELEV.	FT	39.04	39.24	39.31	39.07	38.83	38.59	38.34	38.10	37.86	37.62	37.38	37.14	37.77	37.77	37.52	37.28	37.04	36.80	36.41	36.15	35.90	35.64	36.02	36.38

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	40	60
PROJECT FILE NO. 606255			

NORTH ABUTMENT



NORTH ABUTMENT PLAN

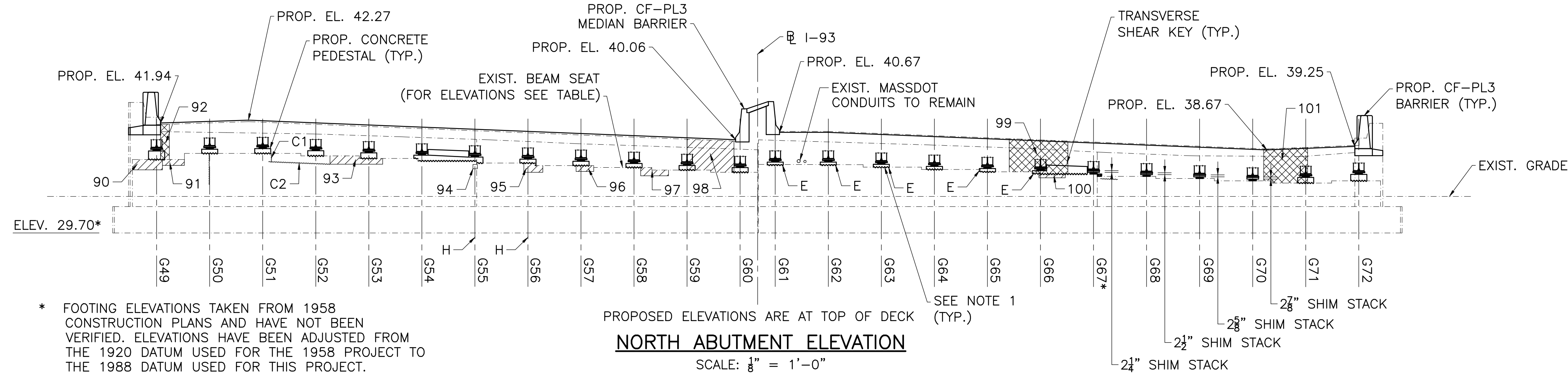
SCALE: 1/8" = 1'-0"

TABLE NOTES:

- SEE NOTES ON BEAM SEAT ELEVATIONS ON SHEET 6.
- PEDESTAL HEIGHT = PEDESTAL DIMENSION ABOVE BEAM SEAT.
- REMOVAL OF EXISTING CONCRETE = DEPTH OF EXCAVATION INTO SEAT (MAX. 2")
- DIM X = SEE SHIM STACK DETAIL ON SHEET 10
- DIM Y = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10
- DIM E = SEE TYPICAL CONCRETE PEDESTAL DETAIL ON SHEET 10
- G67* - EXISTING BEAM SEAT AT G32 TO BE MODIFIED AS SHOWN ON SHEET 10
- G65 & G66 - PARTIAL EXCAVATION OF ADJACENT STEP REQUIRED

NOTES ON BEAMS SEAT CONSTRUCTION:

- CLEAN AND ROUGHEN EXISTING BEAM SEAT UNDER PEDESTALS AND SHEAR KEYS.
- E - REMOVAL OF EXISTING CONCRETE, EXCAVATE BEAM SEAT TO PROVIDE MIN. 4" PEDESTAL.
- H - DUE TO PROXIMITY OF EXISTING BEAM SEAT STEP, THE ELEVATION OF THE HIGHER BEAM SEAT WAS USED.
- S# - EXIST. STRINGER
- G# - PROP. GIRDER
- PROPOSED TOP OF DECK IS TOP OF DECK CONCRETE AT BACK FACE OF BACKWALL
- WHERE EXISTING PEDESTALS MUST BE REMOVED DUE TO INTERFERENCE WITH PROPOSED WORK:
 - EXISTING PEDESTALS TO BE REMOVED SHALL BE CUTOFF FLUSH TO THE TOP OF THE EXISTING BEAM SEAT.
 - REMAINING EXPOSED REINFORCEMENT AND ANCHOR BOLTS THAT ARE NOT BEING ENCASED BY ANY PROPOSED CONCRETE SHALL BE REPAIRED BY EXCAVATING DOWN AND CUTTING OFF THE VERTICAL STEEL EXTENDING INTO THE PEDESTAL A MINIMUM OF 2" BELOW THE TOP FACE OF EXISTING CONCRETE. THE EXCAVATED HOLE SHALL BE PATCHED USING CEMENTITIOUS MORTAR.
 - THE TOP SURFACE OF THE CONCRETE TO REMAIN BEYOND THE PROPOSED WORK SHALL BE MADE TROWEL SMOOTH BY APPLICATION OF A THIN LAYER OF CEMENTITIOUS MORTAR FOR PATCHING.



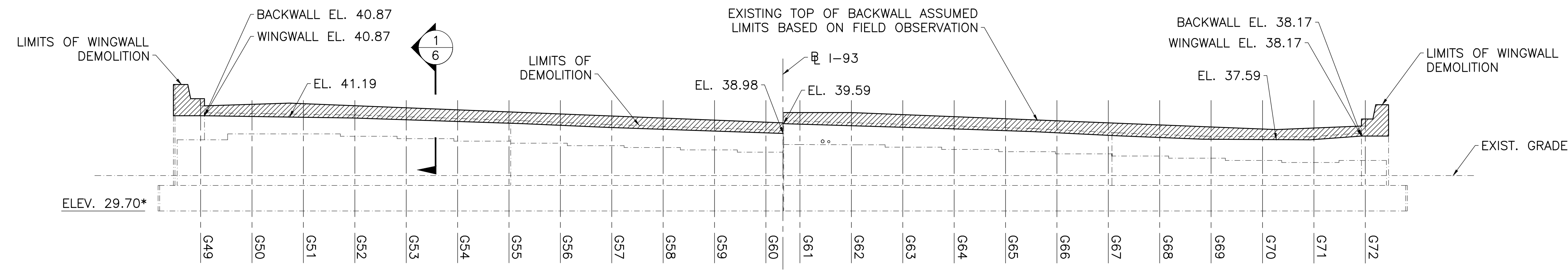
NORTH ABUTMENT ELEVATION

SCALE: 1/8" = 1'-0"

LEGEND

BASED UPON FIELD SURVEY PERFORMED ON 3/1/11 THROUGH 3/3/11

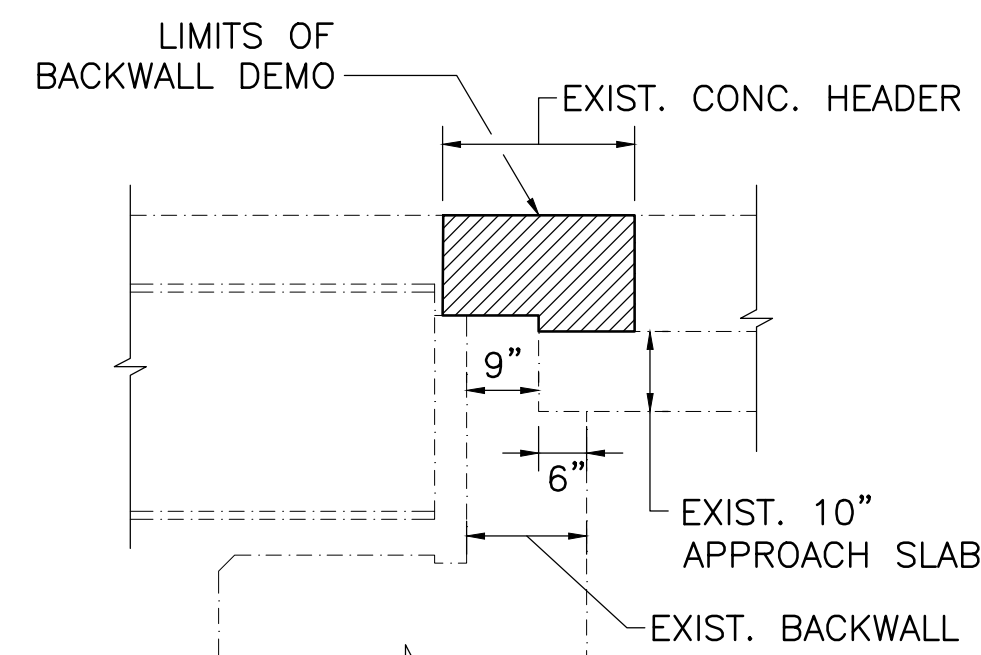
- = SPALLED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = DELAMINATED CONCRETE - SEE SHEET 13 FOR SIZE BY REFERENCE NUMBER
- = CRACK
- ALL CRACKS ARE HAIRLINE (HL) X FULL HEIGHT (F.H.) UNLESS NOTED OTHERWISE
- C1 - 1/4" X 1'L
- C2 - 3/8" X 7'L
- C3 - 3/8" X 2'L



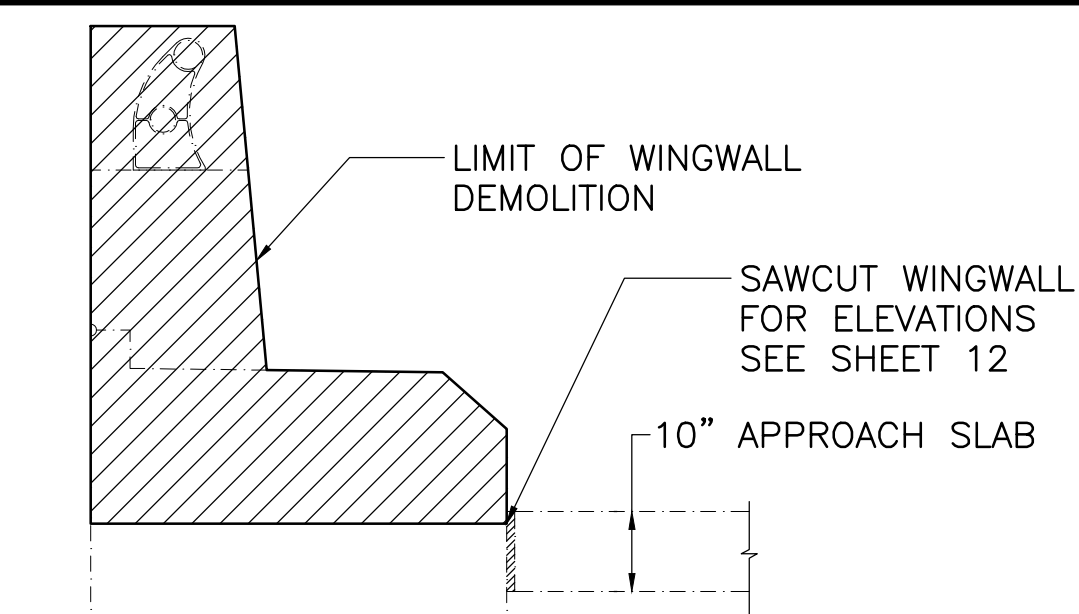
BACKWALL DEMO ELEVATION

SCALE: 1/8" = 1'-0"

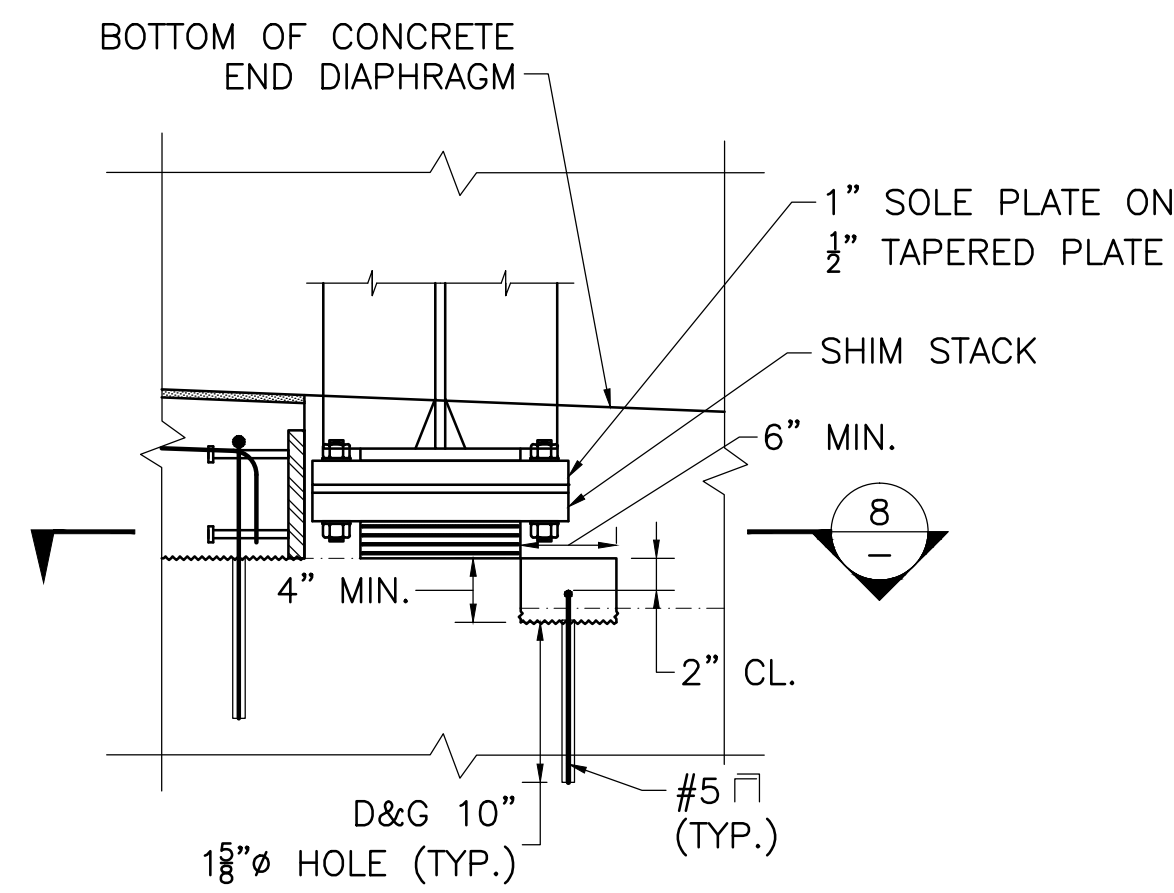
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



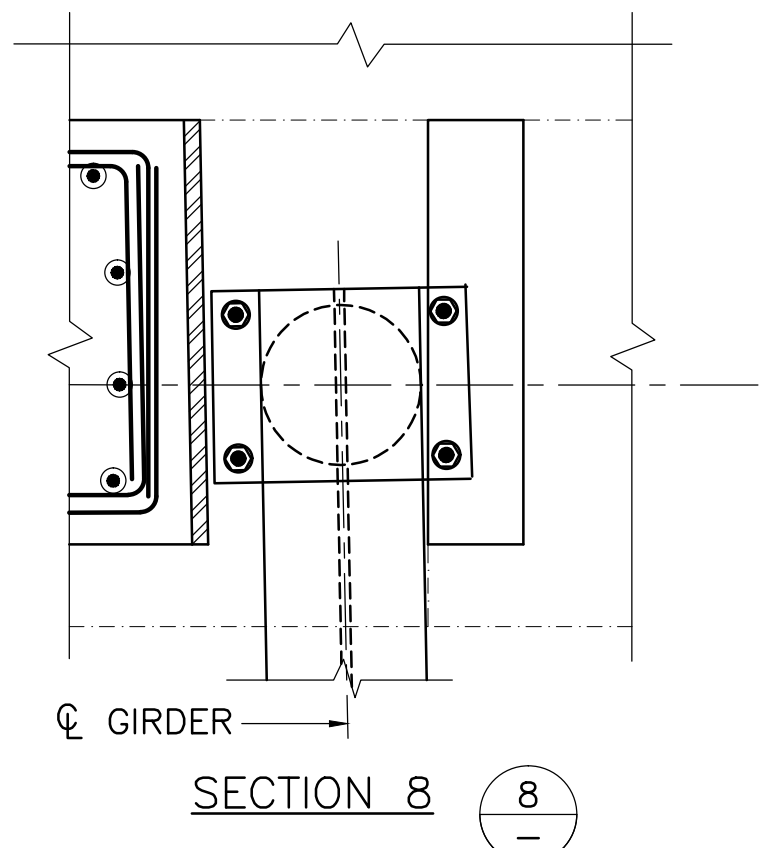
DEMO SECTION
SCALE: 1/2" = 1'-0"



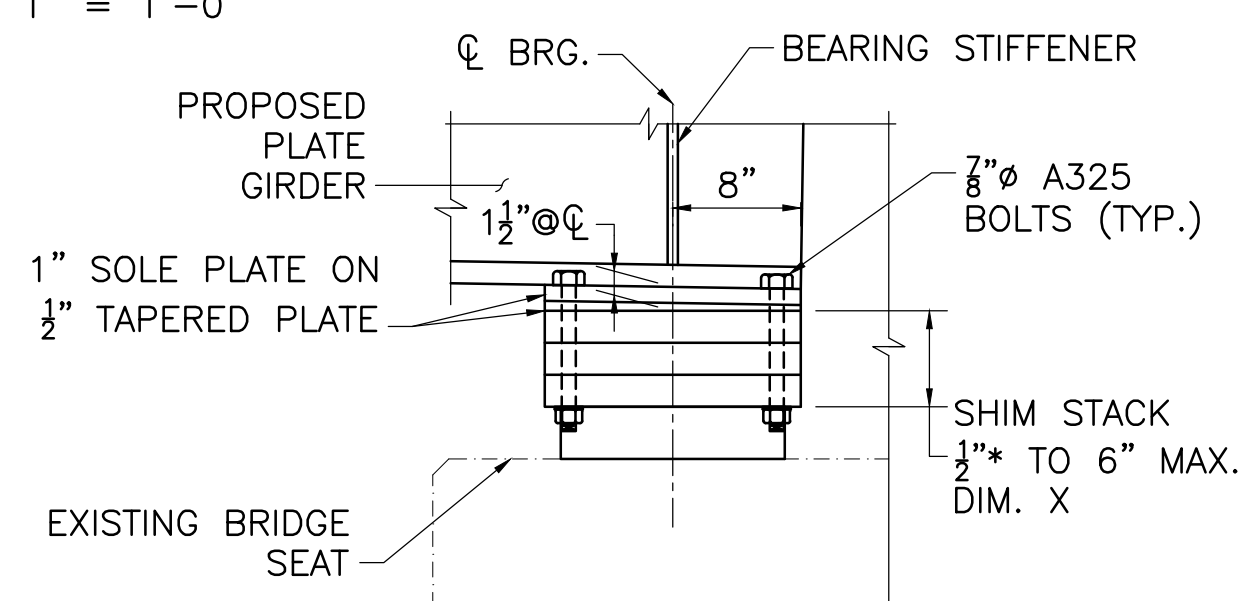
WINGWALL DEMO SECTION
SCALE: 1/2" = 1'-0"



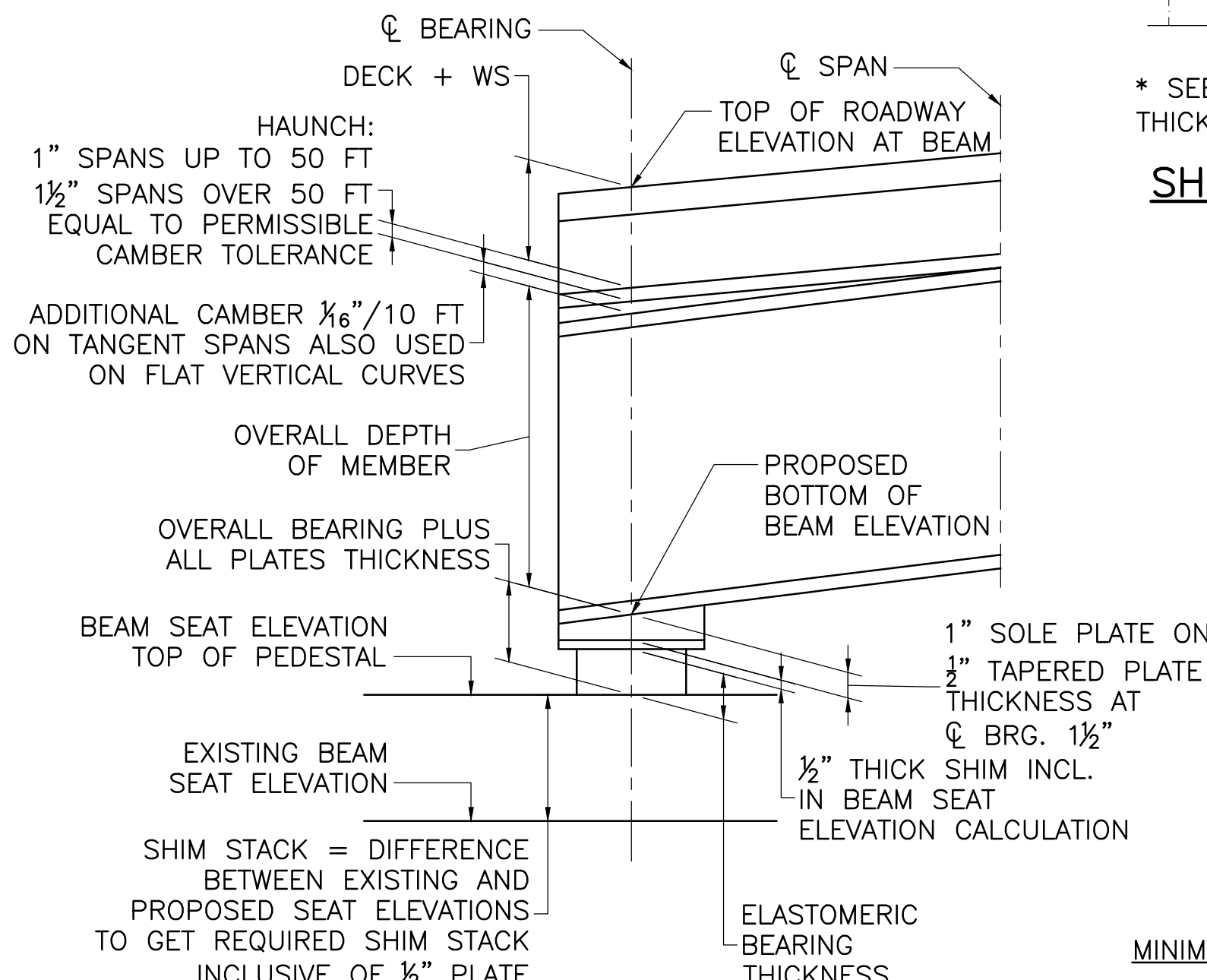
G67 BEAM SEAT MODIFICATION AT NORTH ABUTMENT DETAIL
SCALE: 1" = 1'-0"



SECTION 8

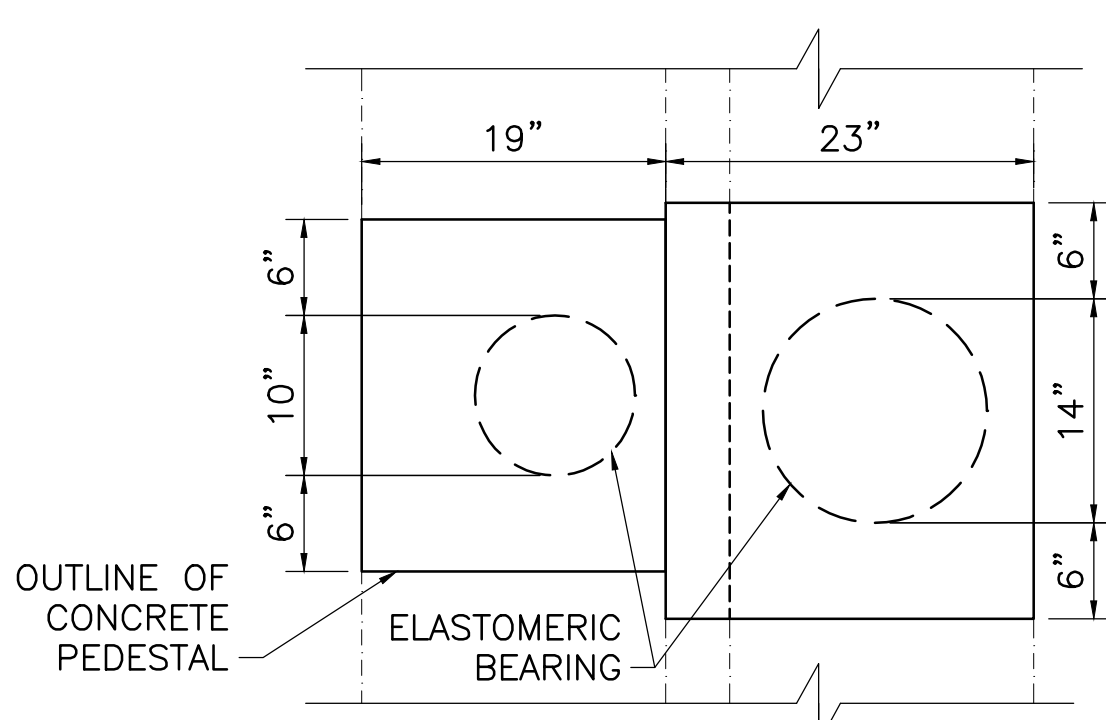


SHIM STACK DETAIL
SCALE: 1" = 1'-0"

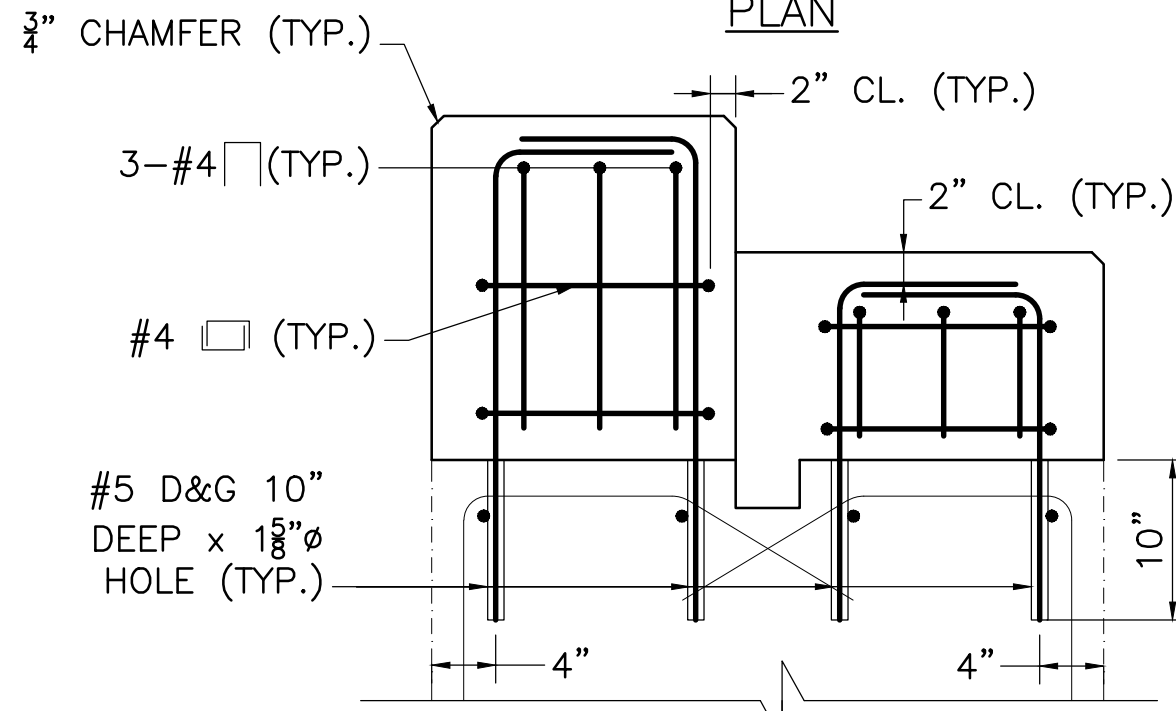


CALCULATION OF BEAM SEAT ELEVATIONS
NO SCALE

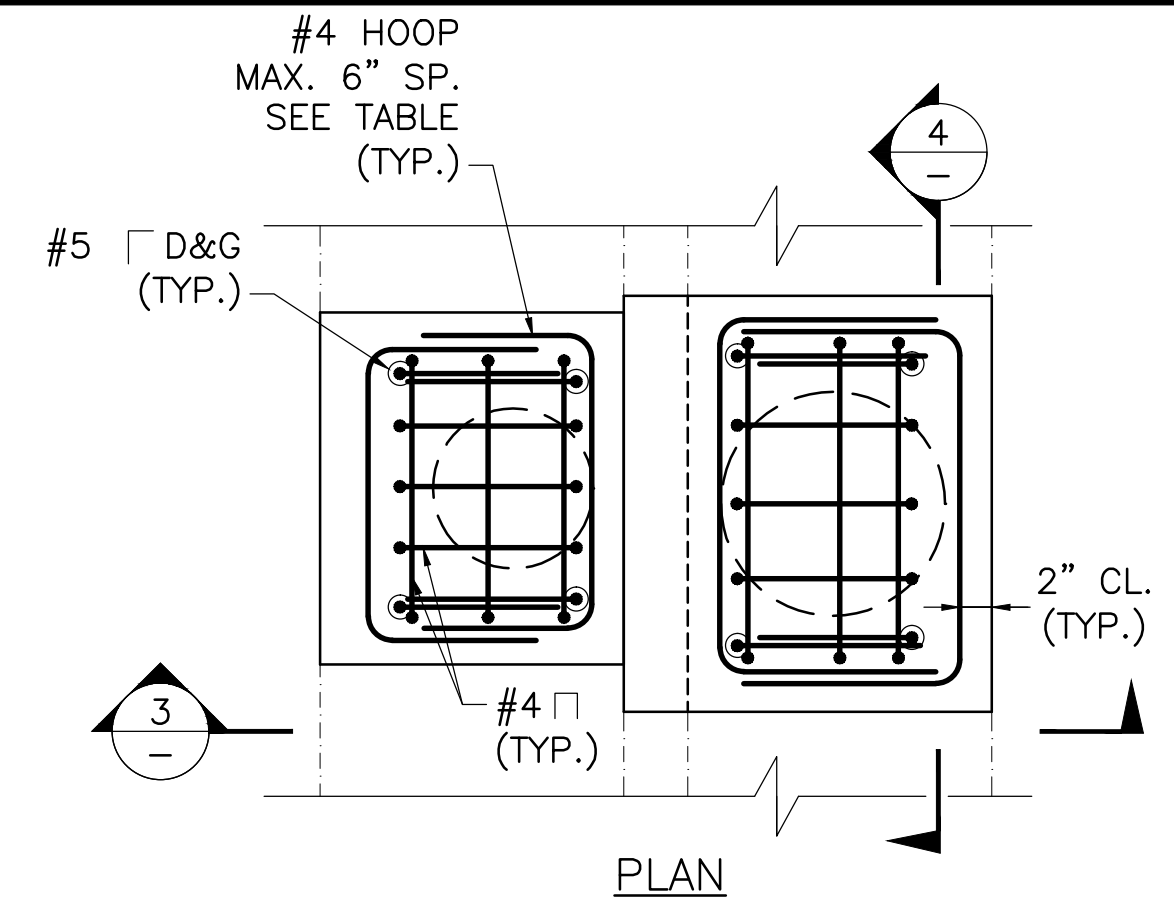
MINIMUM SHIM PLATE THICKNESS NOTE:
MINIMUM SHIM THICKNESS OF 1/8" IS ALLOWED IN THE EVENT THAT FIELD VERIFICATION OF THE NEW PEDESTALS REQUIRES LESS THAN THE TYPICAL 1/2" SHIM PLATE.



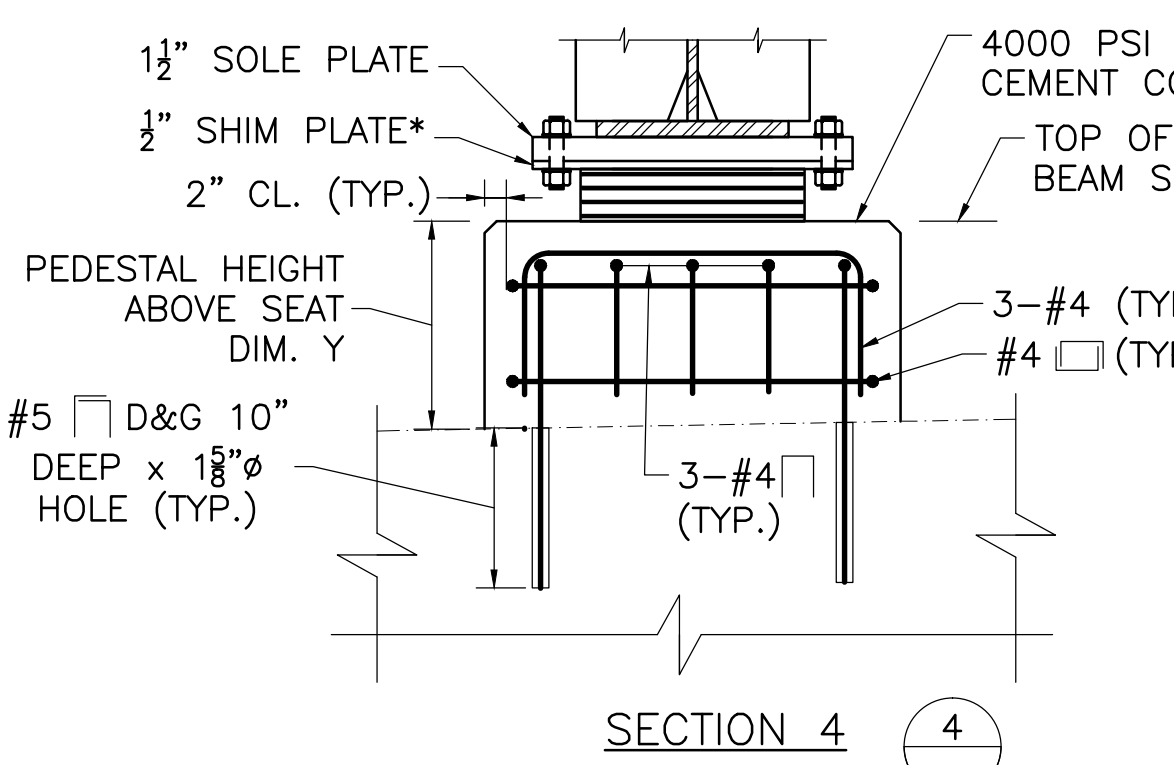
REINFORCEMENT NOT SHOWN FOR CLARITY PLAN



SECTION 3



PLAN



SECTION 4

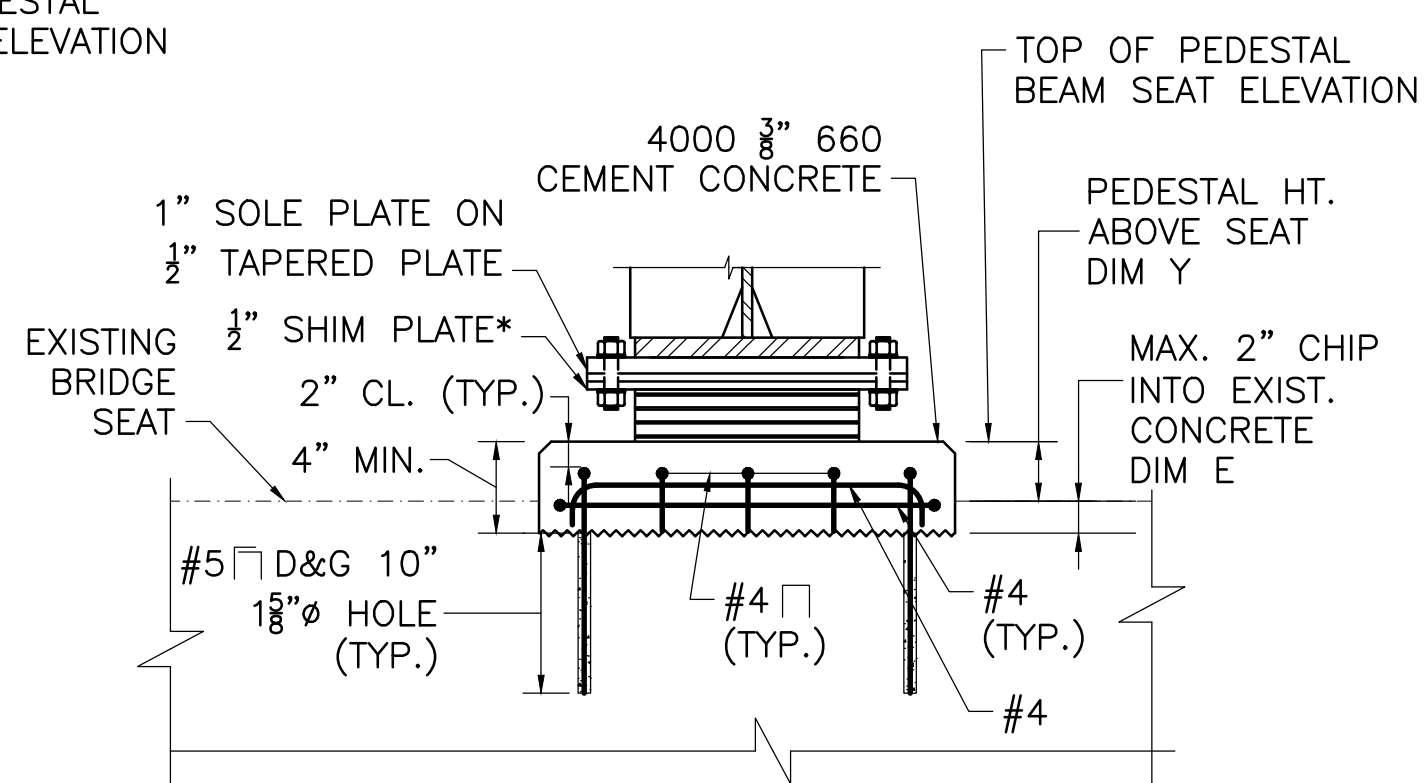
SOUTH PIER PEDESTAL DETAILS
SCALE: 1" = 1'-0"

* SEE MINIMUM SHIM PLATE THICKNESS NOTE (THIS SHEET)

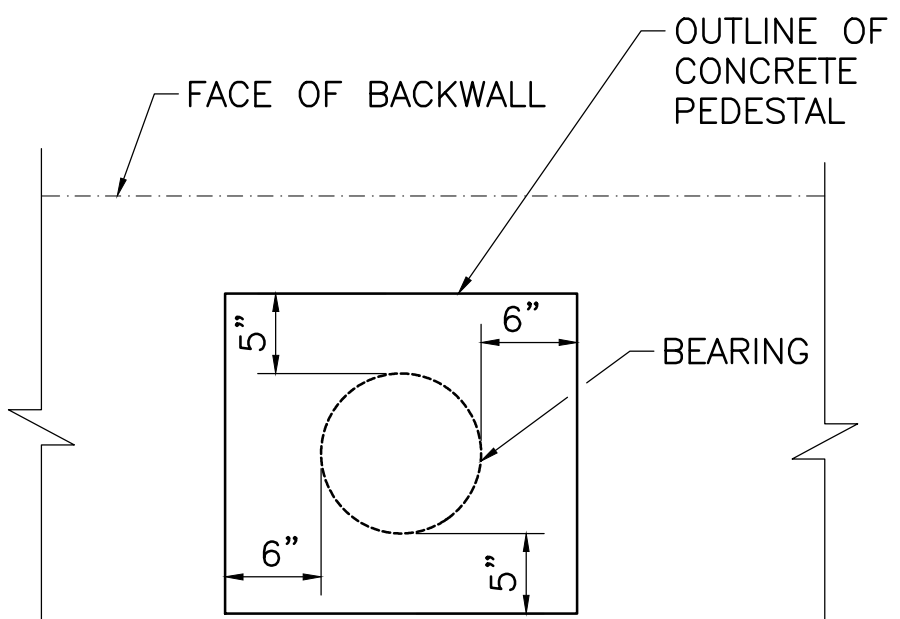
PEDESTAL HT. (IN.)	NO. OF #4 HOOPS
0-8	1
8-14	2
14-20	3
20-26	4
26-32	5
32-38	6

HOOPS SET AT MAX. 6" VERT. SPACING MIN. 1 1/2" CL. AROUND FOR CONCRETE PLACEMENT

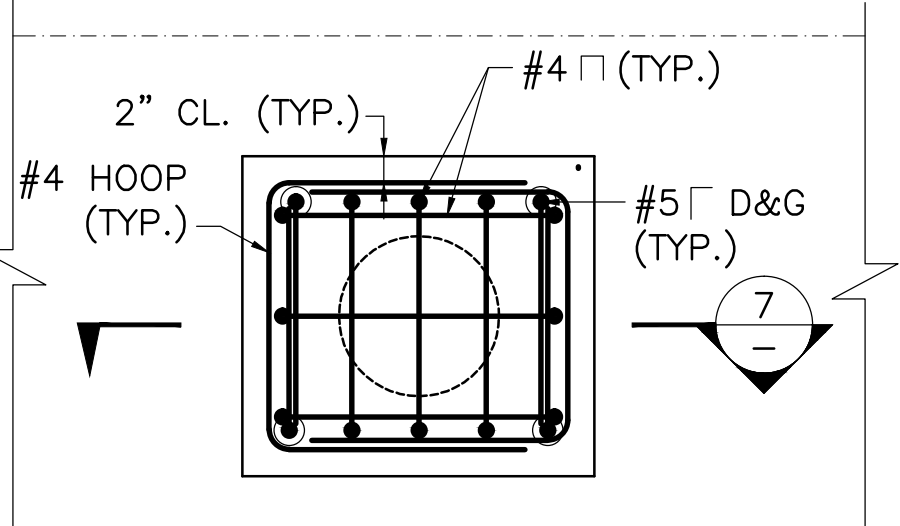
THE MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE PEDESTALS BEFORE DEAD AND LIVE LOAD MAY BE PERMITTED ON THE BRIDGE SHALL BE FOUND TO EXCEED:
FOR 14" DIAMETER BEARINGS f'c = 1584 PSI
FOR 10" DIAMETER BEARINGS f'c = 1908 PSI



SECTION 7

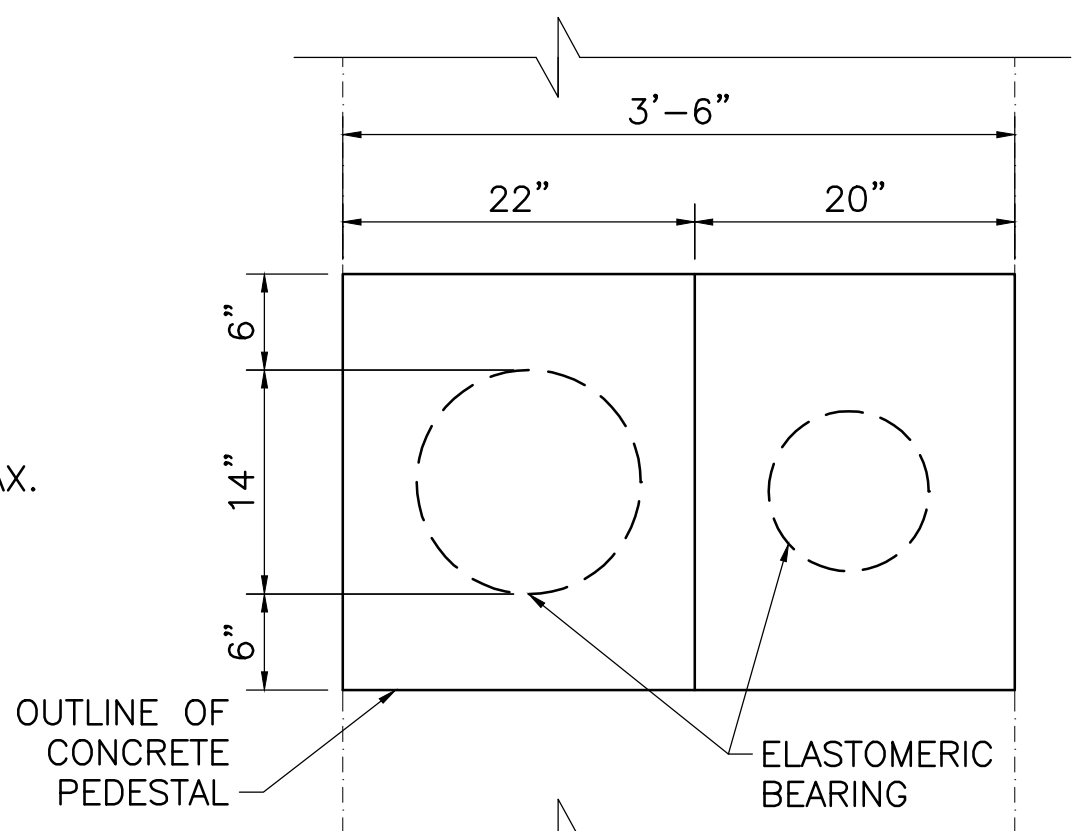


REINFORCEMENT NOT SHOWN FOR CLARITY PLAN

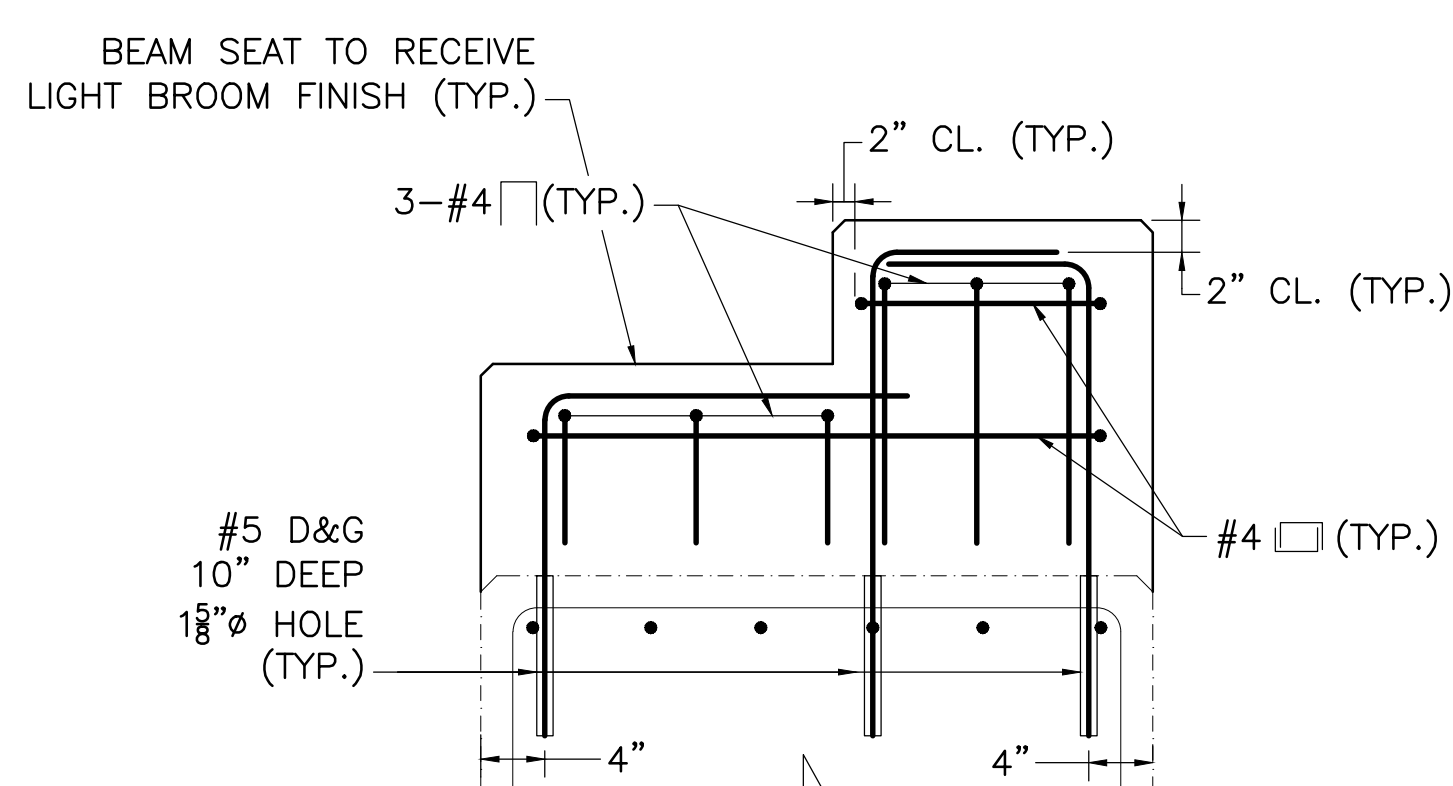


PLAN

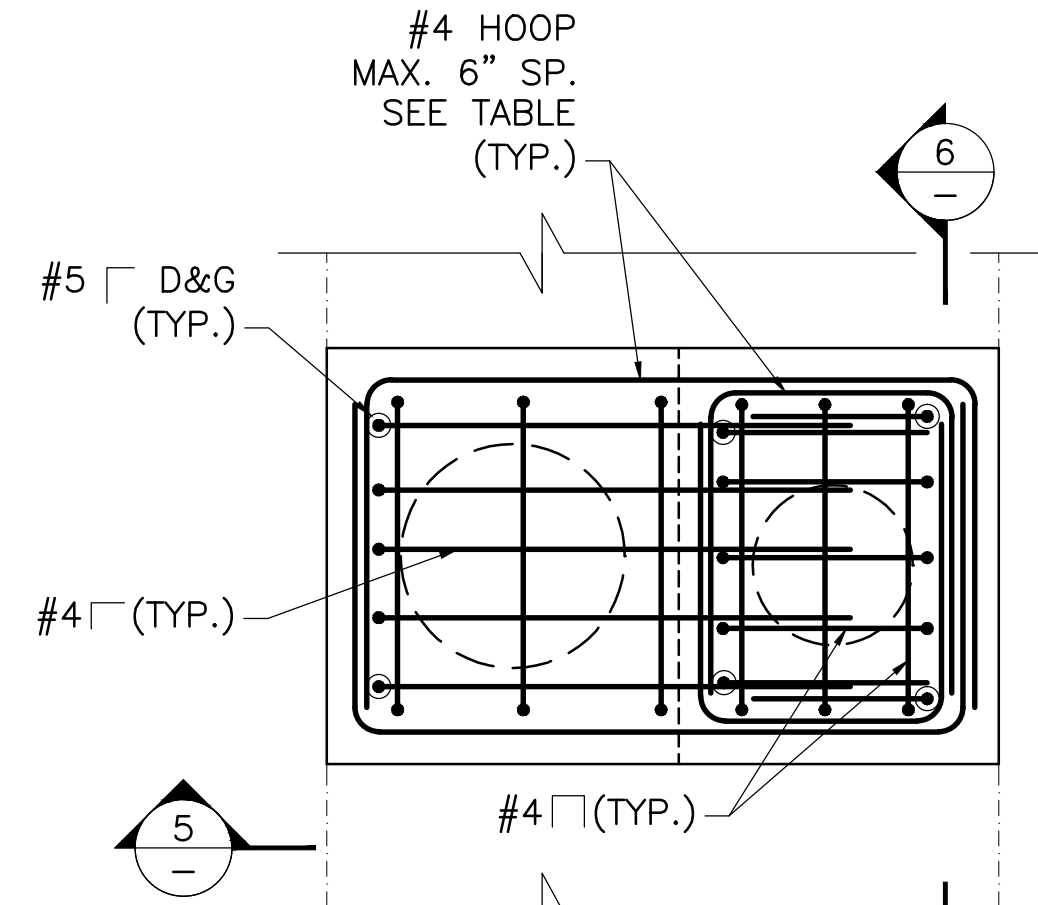
CONCRETE PEDESTAL AT ABUTMENTS
SCALE: 1" = 1'-0"



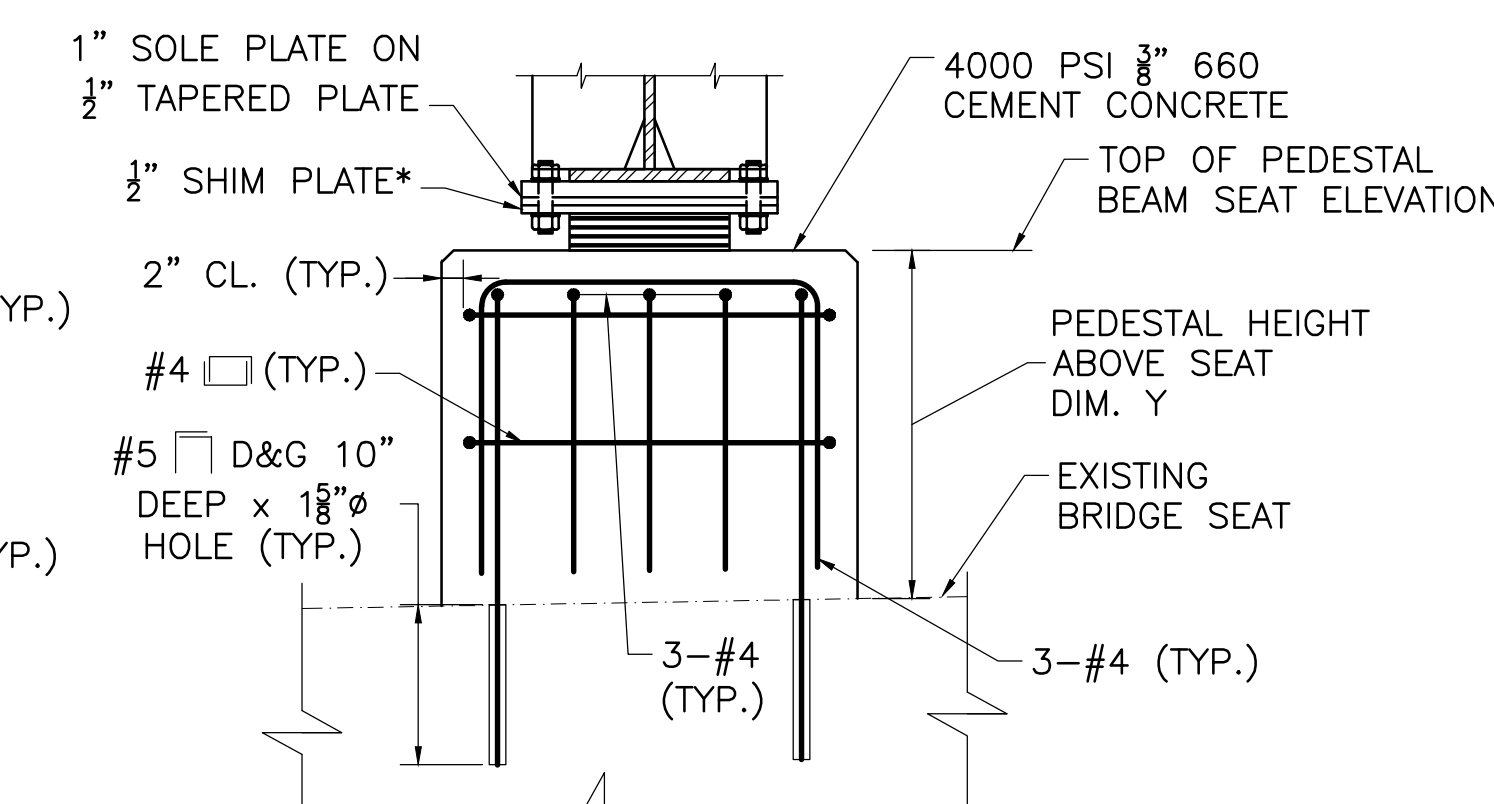
REINFORCEMENT NOT SHOWN FOR CLARITY PLAN



SECTION 5



PLAN



SECTION 6

NORTH PIER PEDESTAL DETAILS
SCALE: 1" = 1'-0"

SEE SHEET 2 FOR DRILLING AND GROUTING NOTES

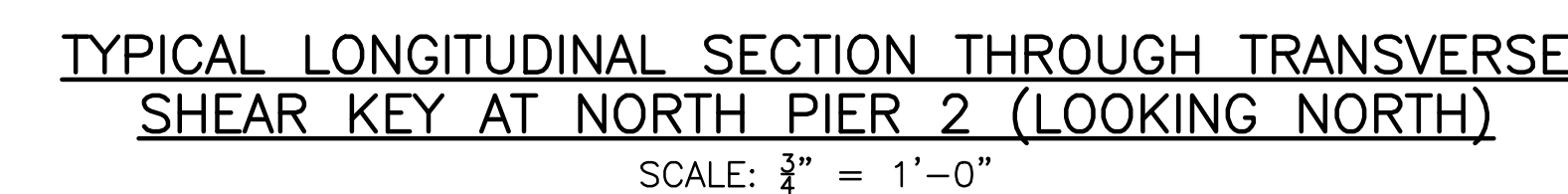
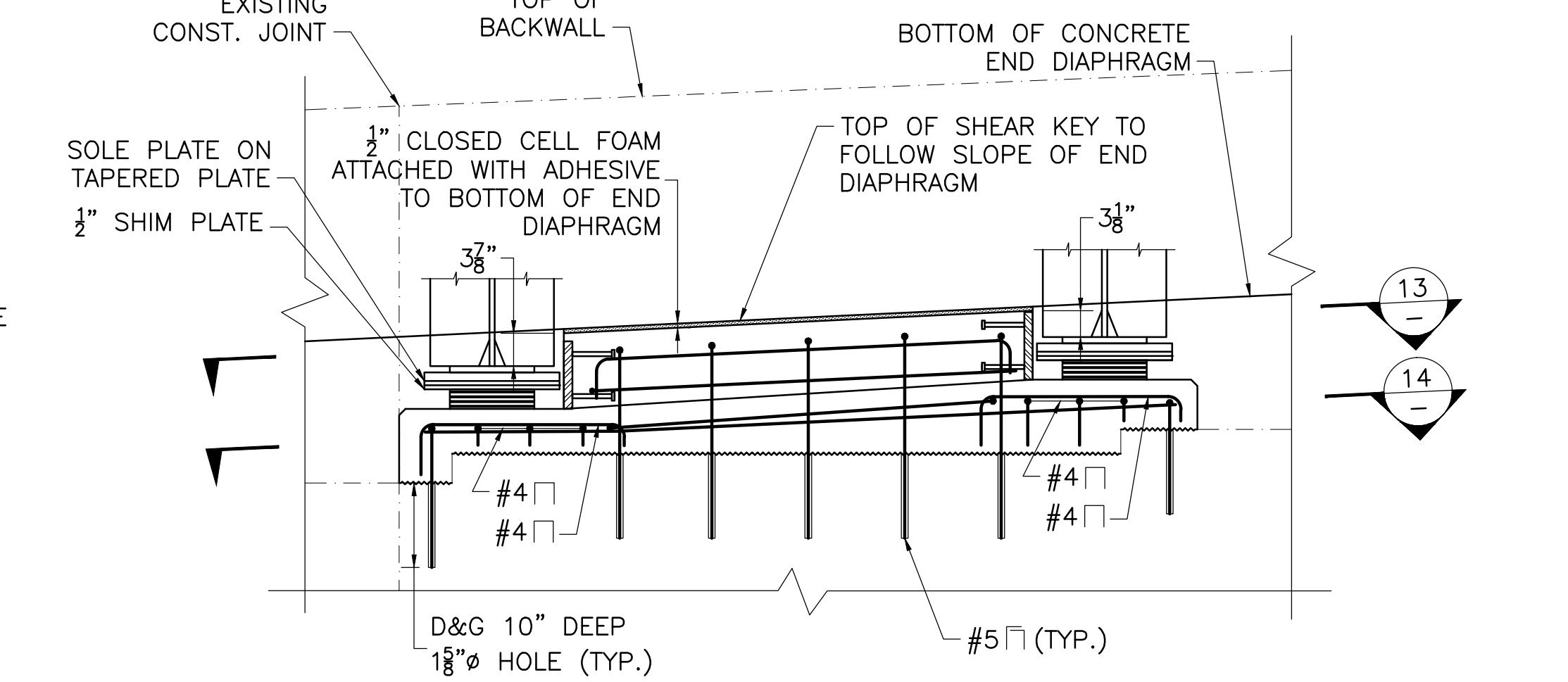
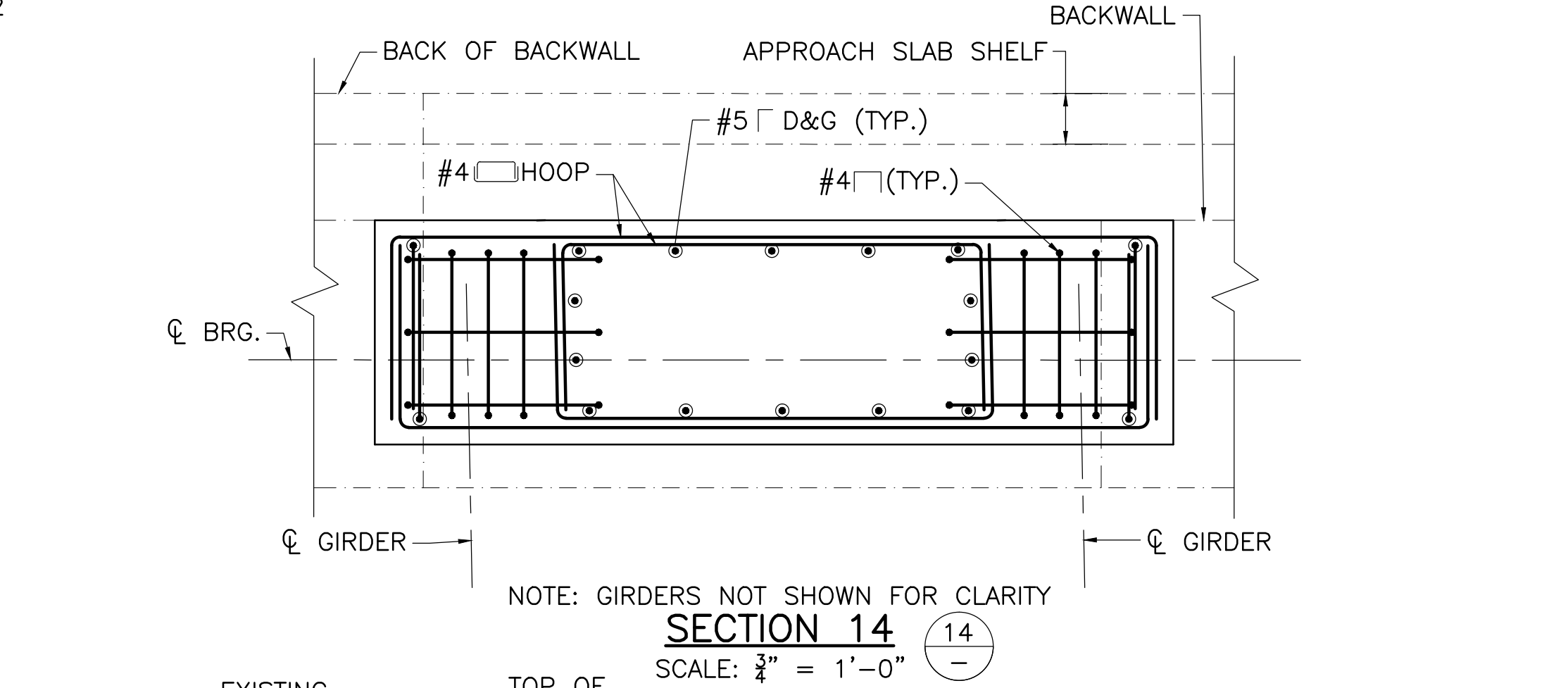
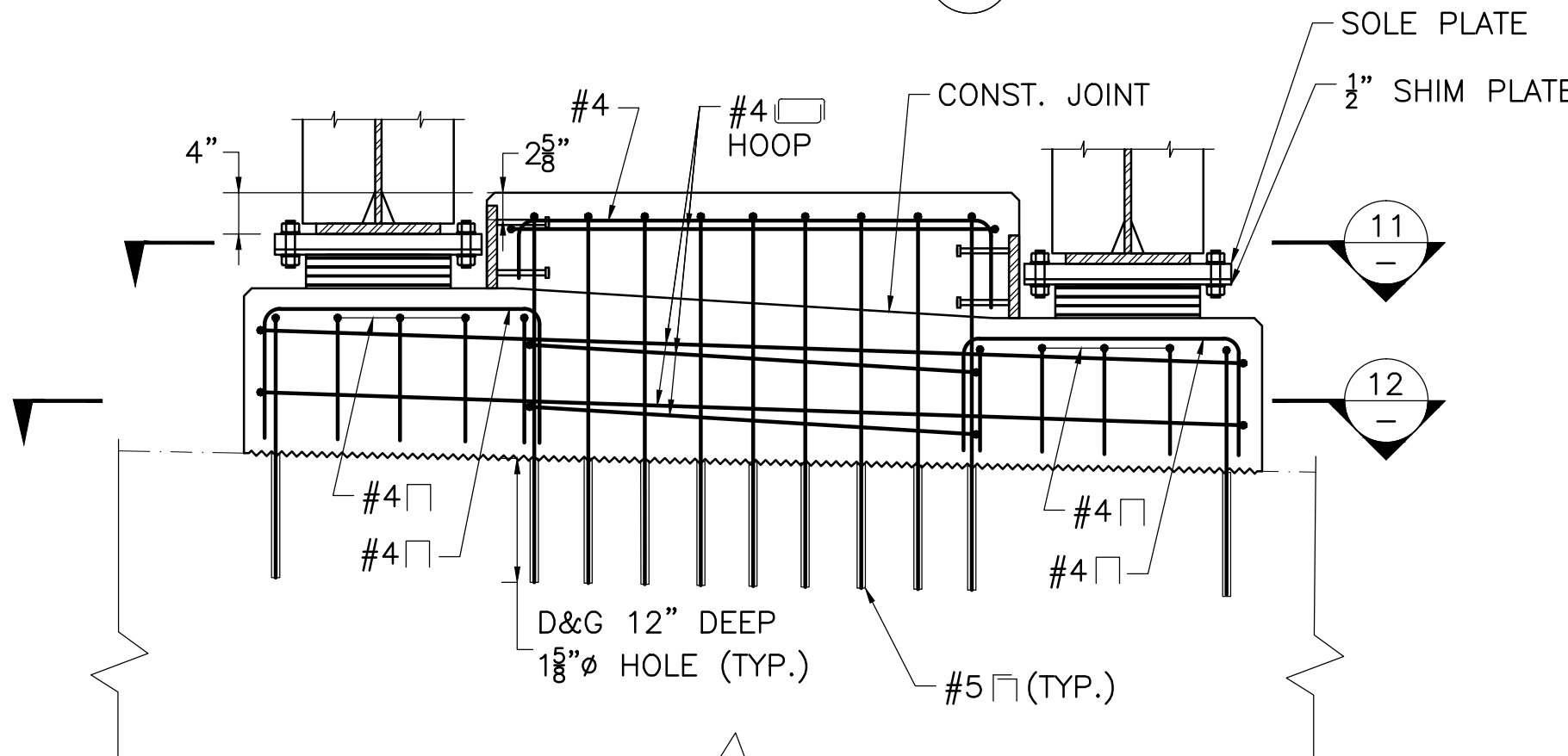
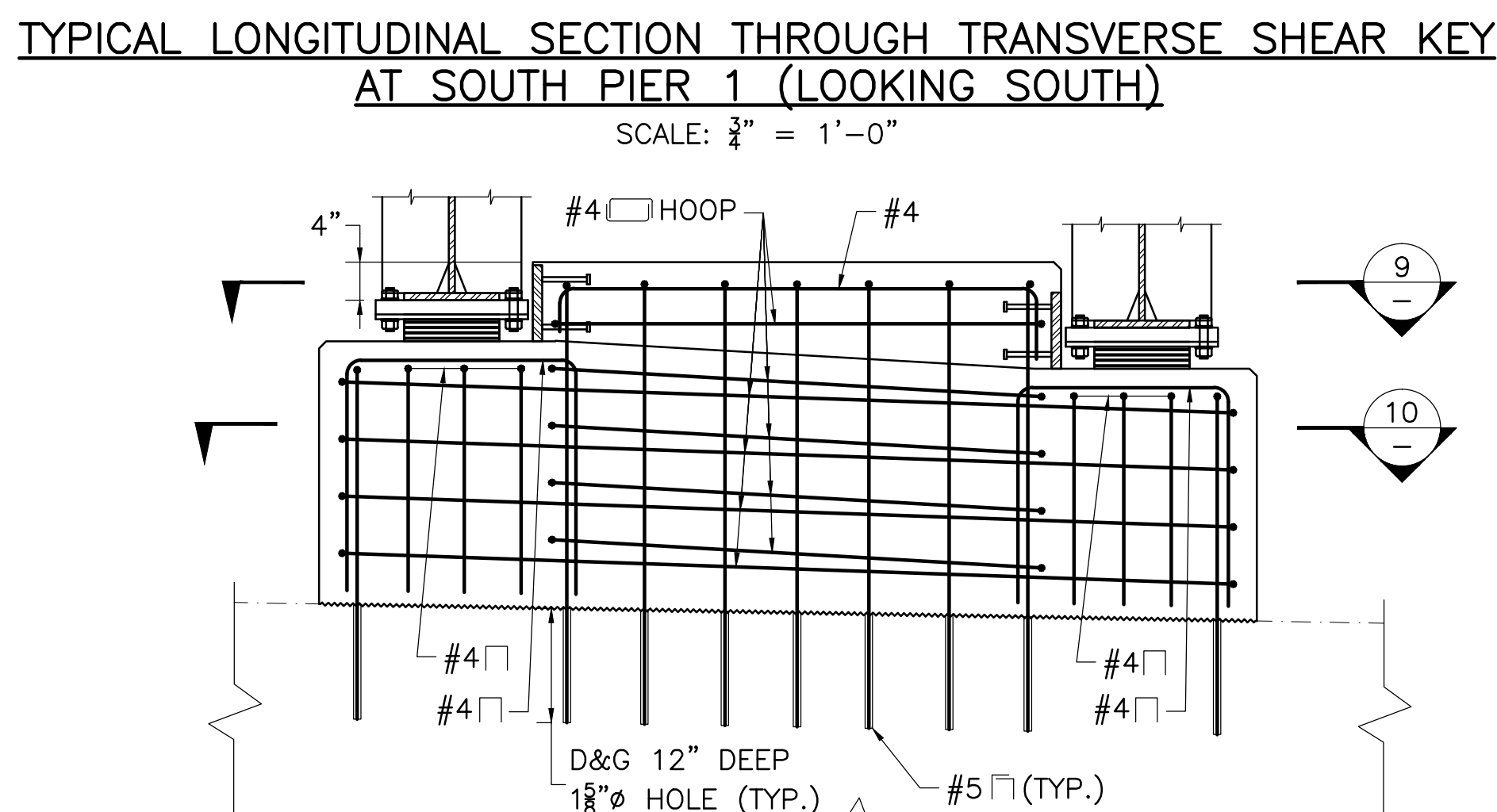
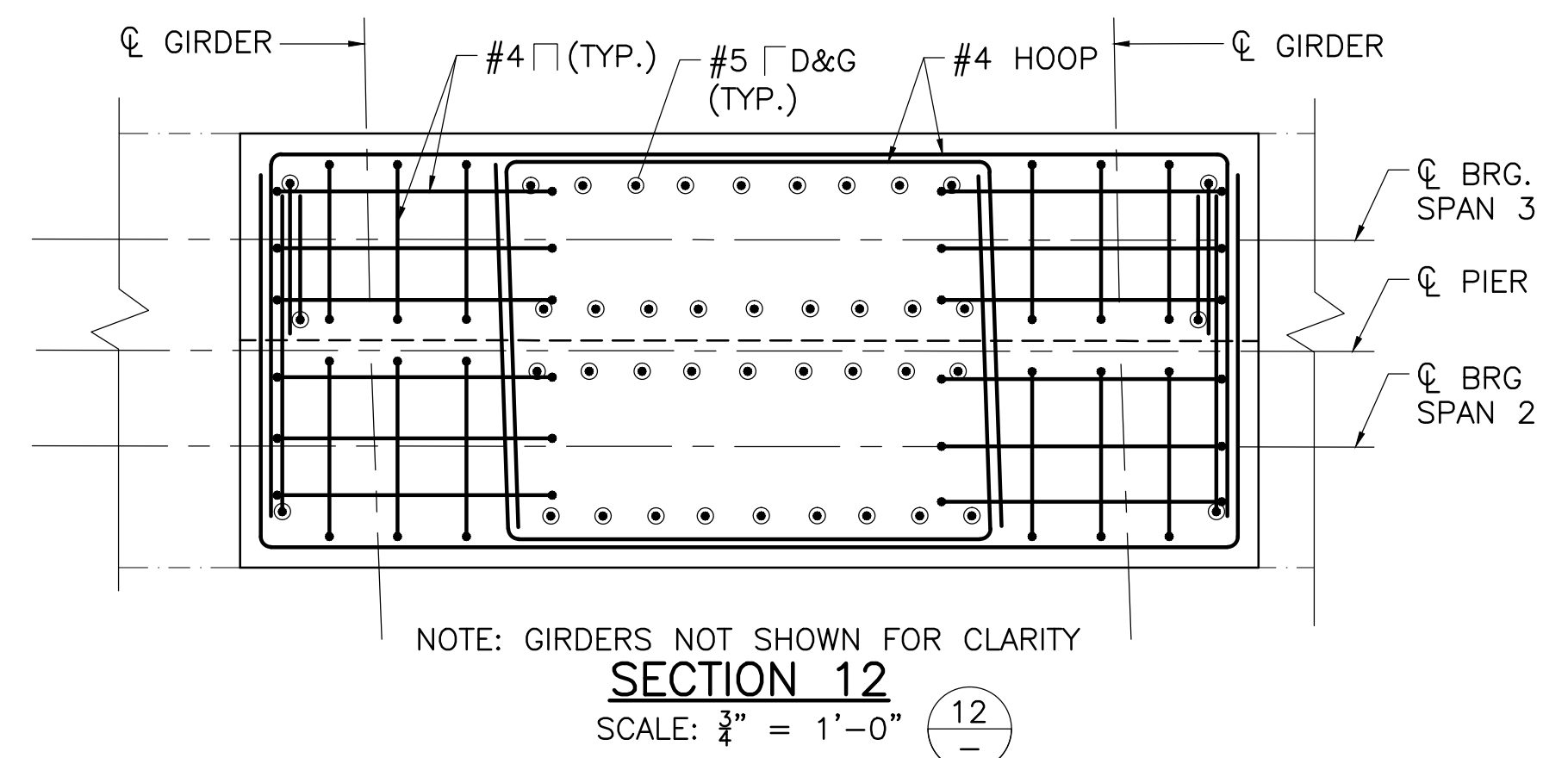
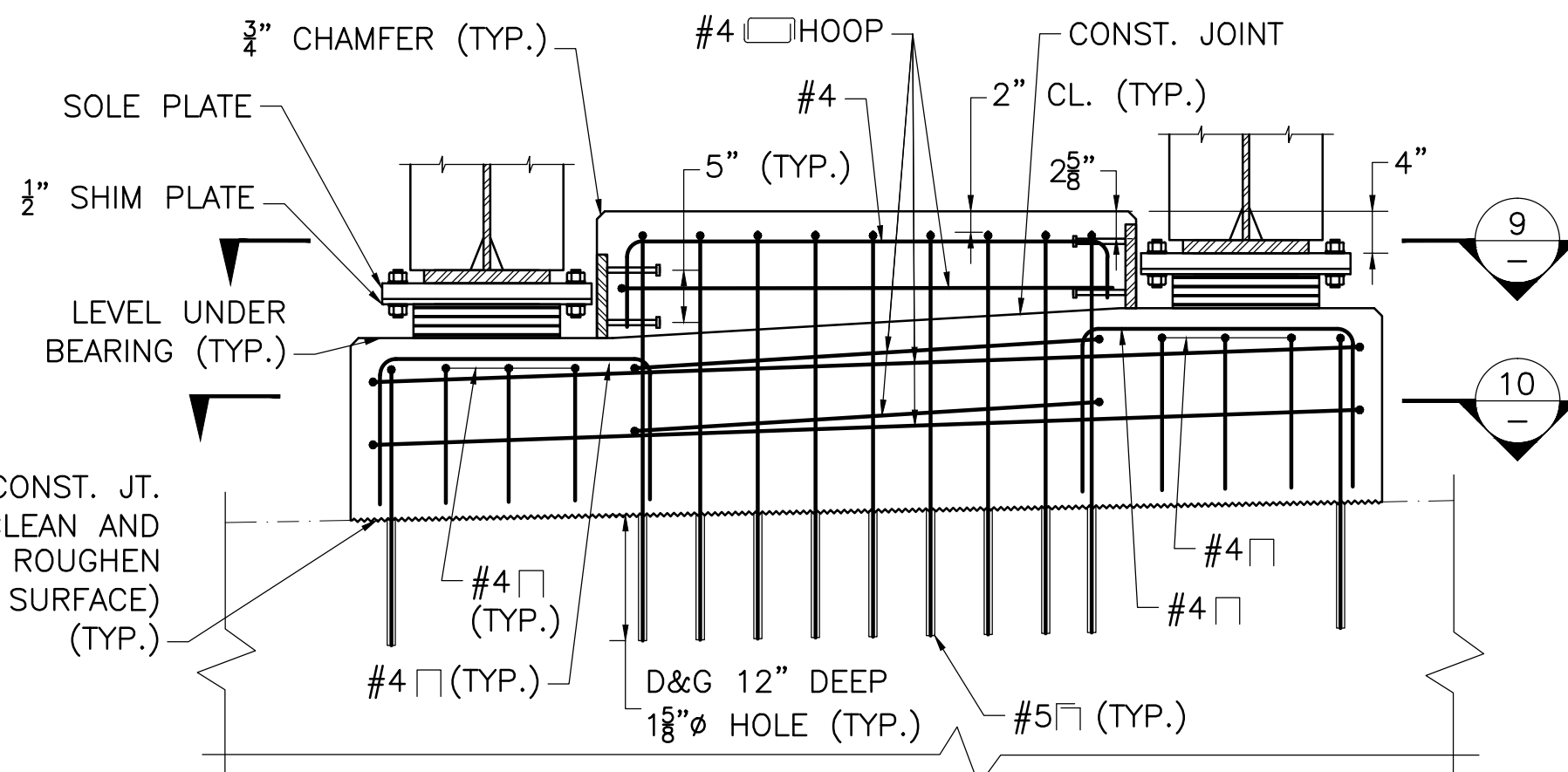
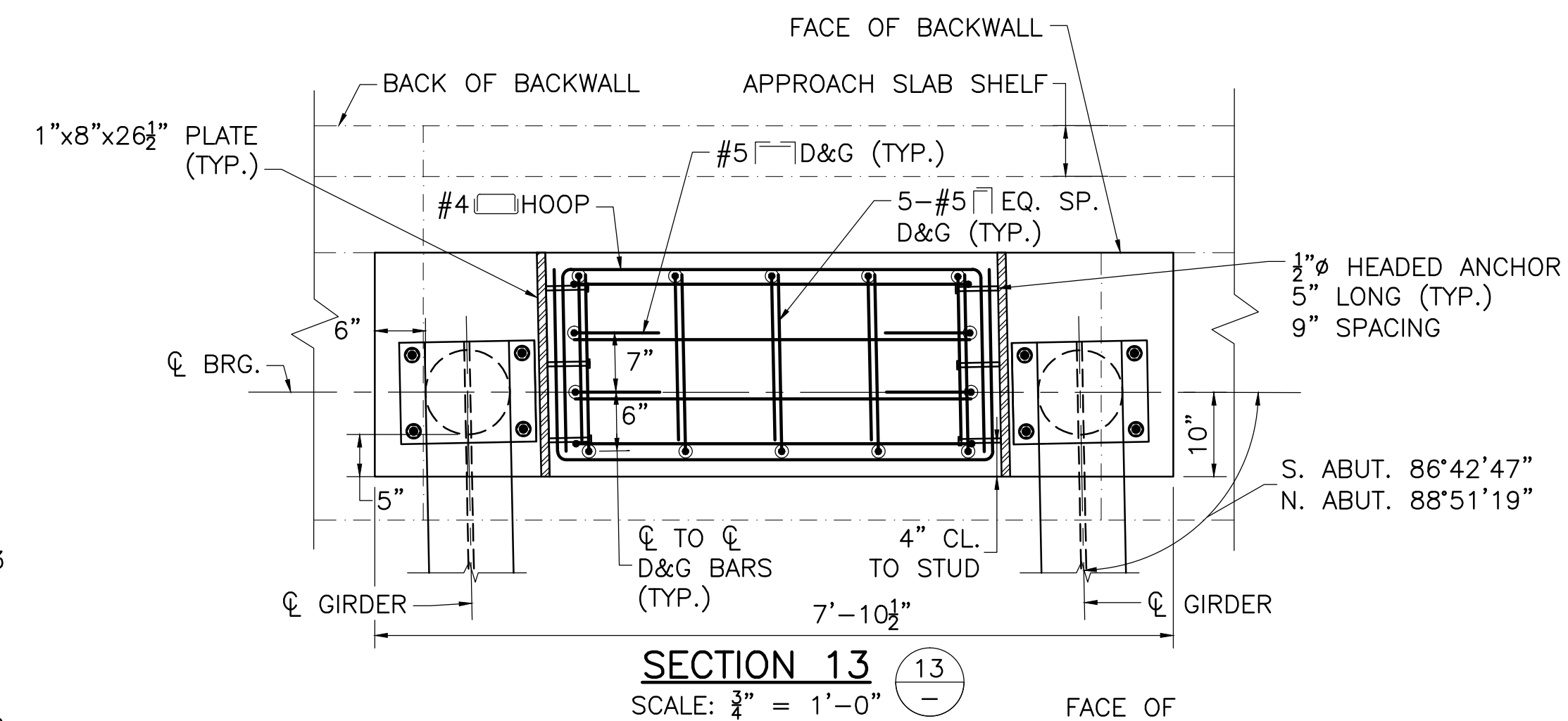
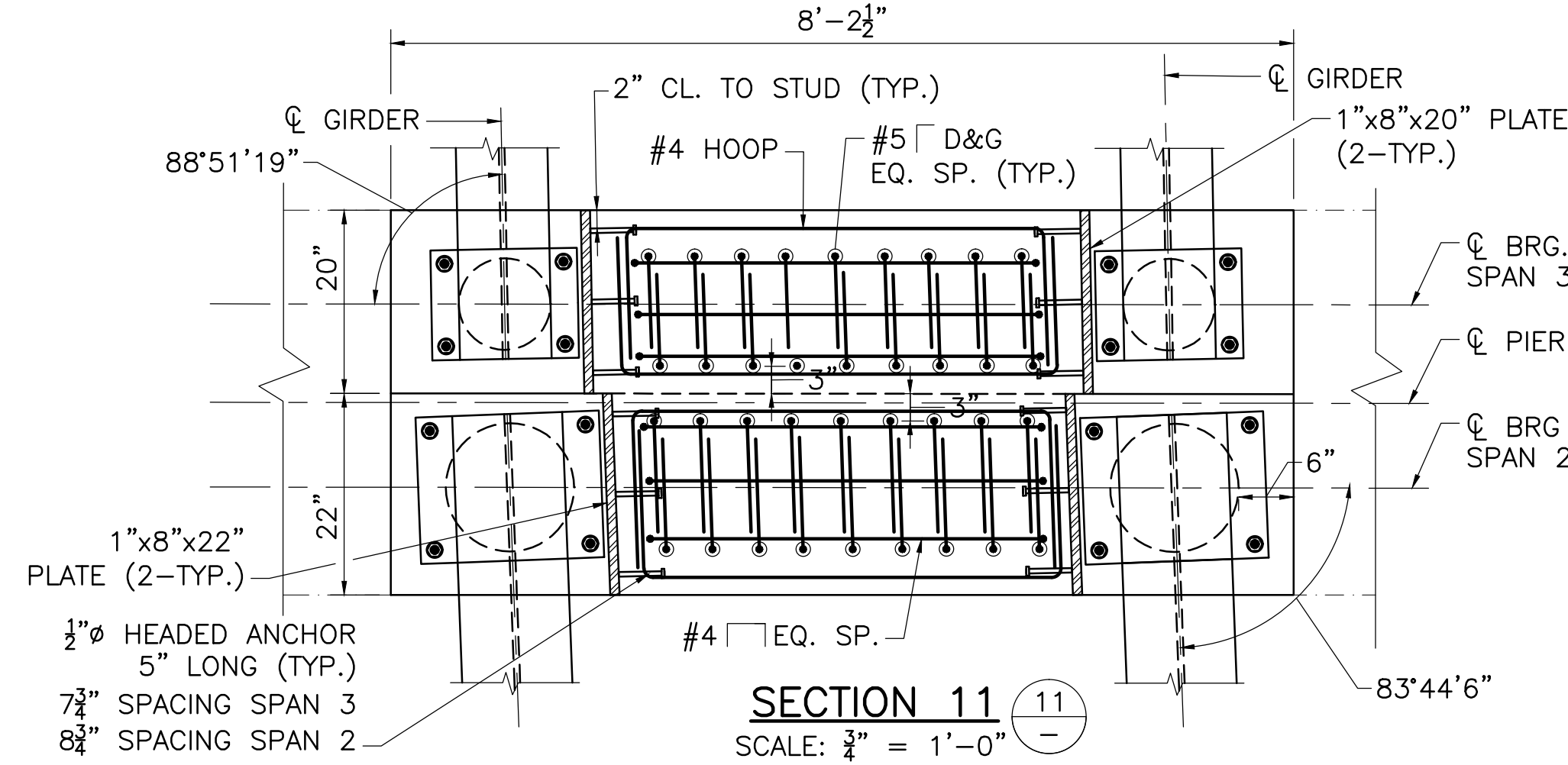
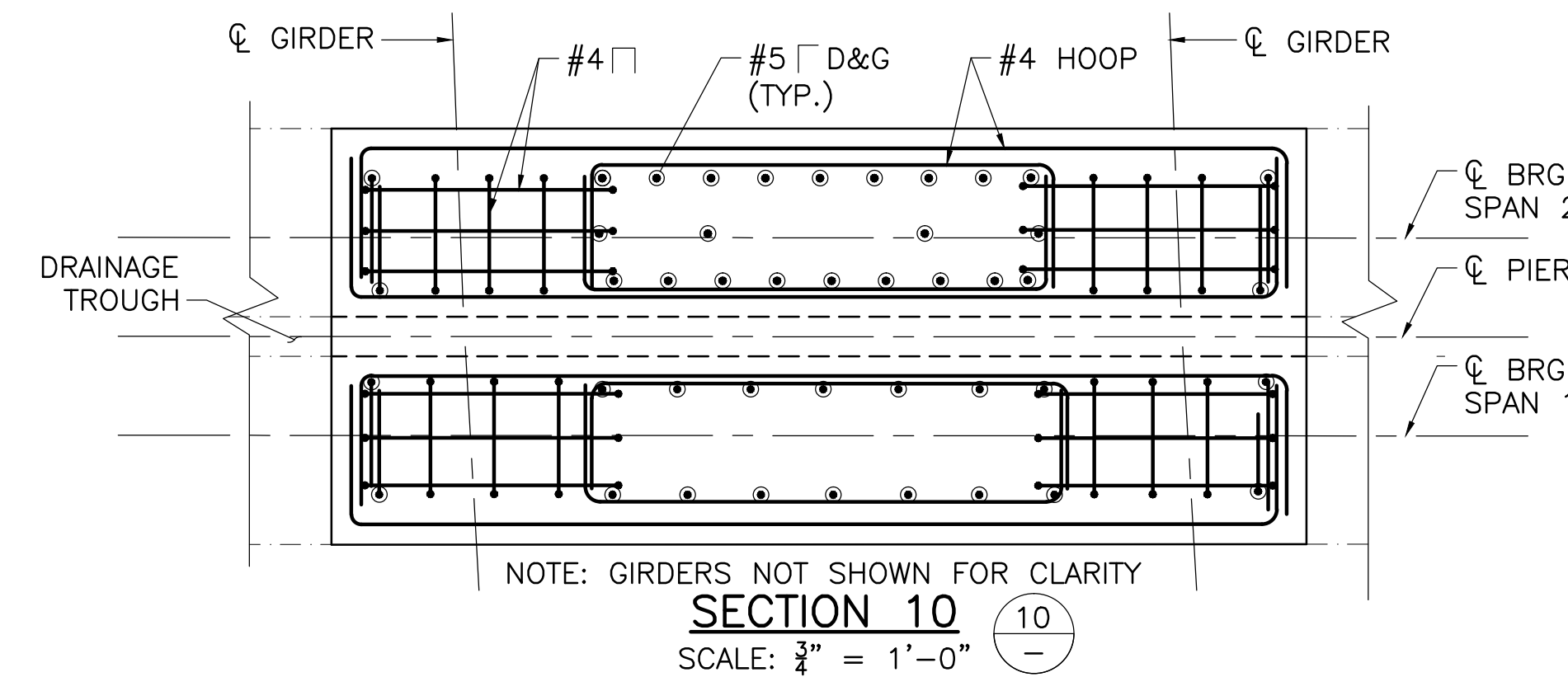
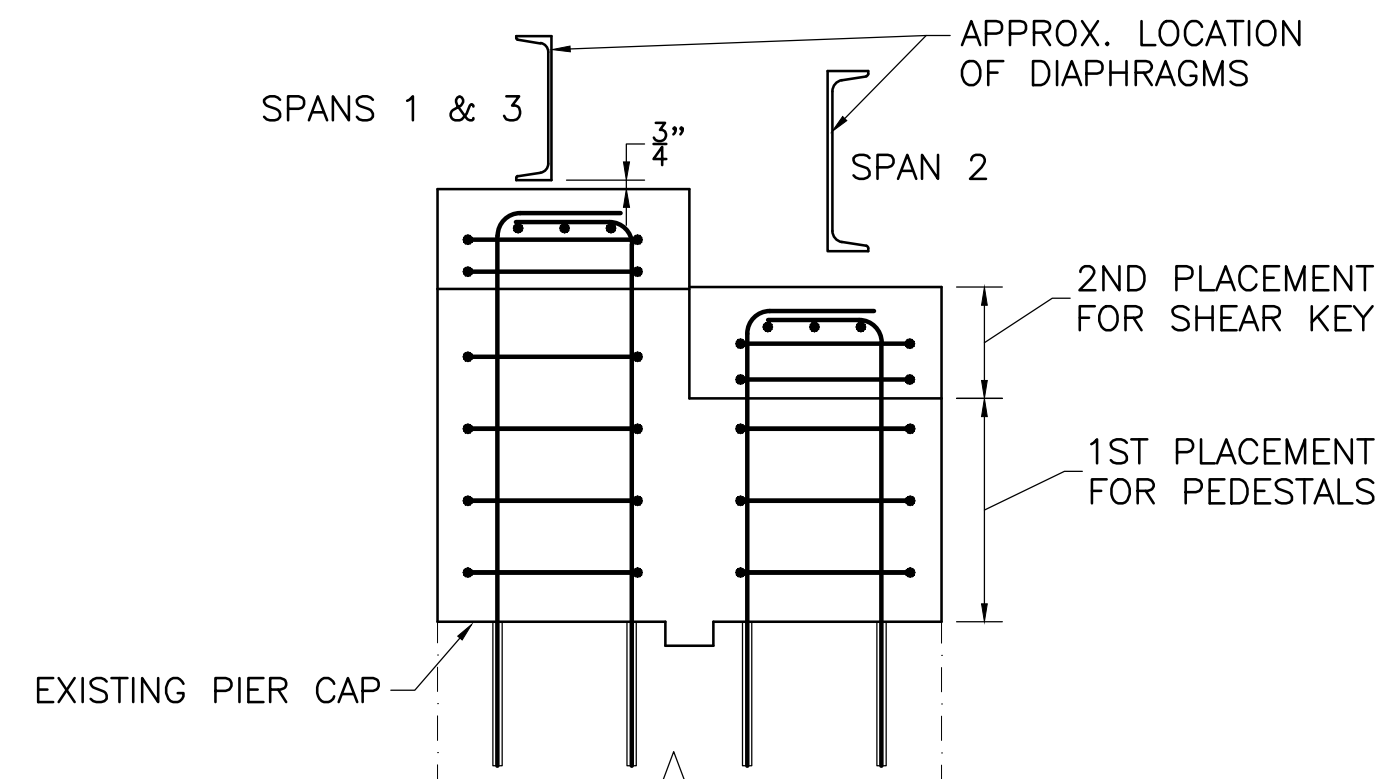
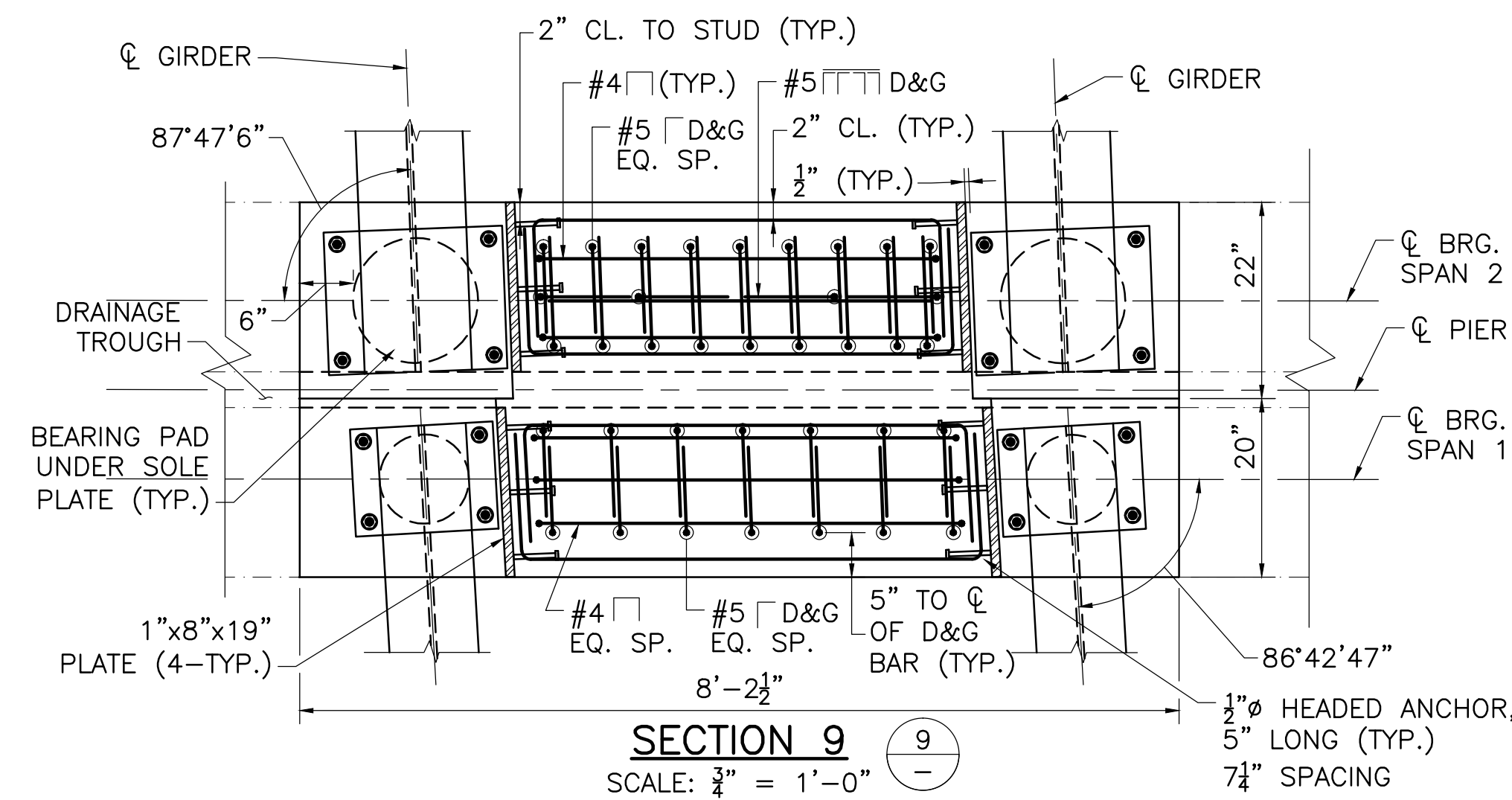
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	42	60
PROJECT FILE NO. 606255			

**SUBSTRUCTURE
DETAILS**

NOTES:

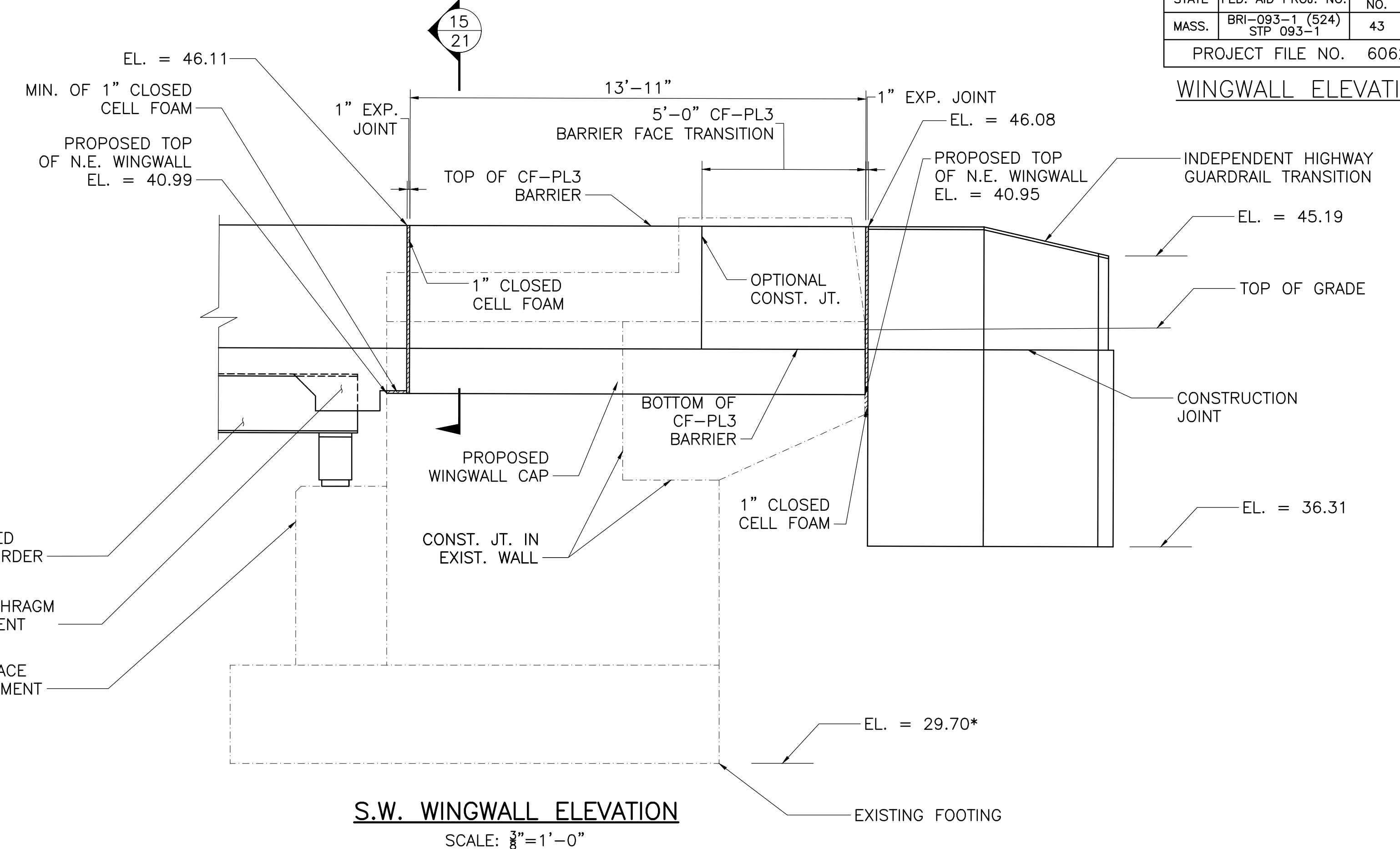
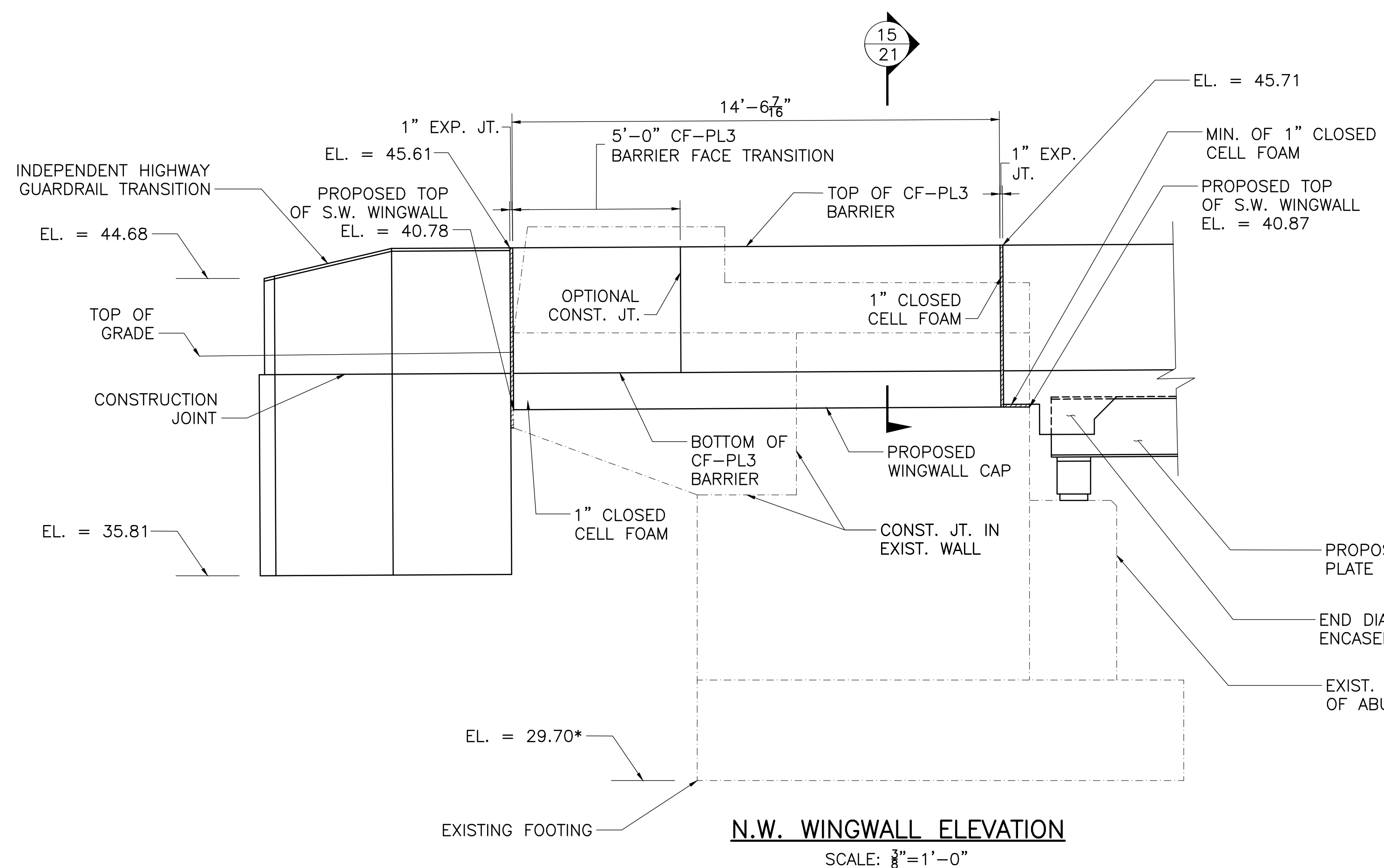
1. TRANSVERSE SHEAR KEY SHALL BE CAST AFTER MODULAR UNITS ARE INSTALLED.
2. TOP OF TRANSVERSE SHEAR KEY SHALL BE SCREEDED LEVEL AT PIERS.
3. SHEAR KEYS AND PEDESTALS TO BE 4000 PSI 3/8" 660 CEMENT CONCRETE.
4. SEE SHEET 2 FOR DRILLING AND GROUTING NOTES
5. STEEL PLATES EMBEDDED IN SHEAR KEY SHALL BE HOT-DIP GALVANIZED GRADE 36.



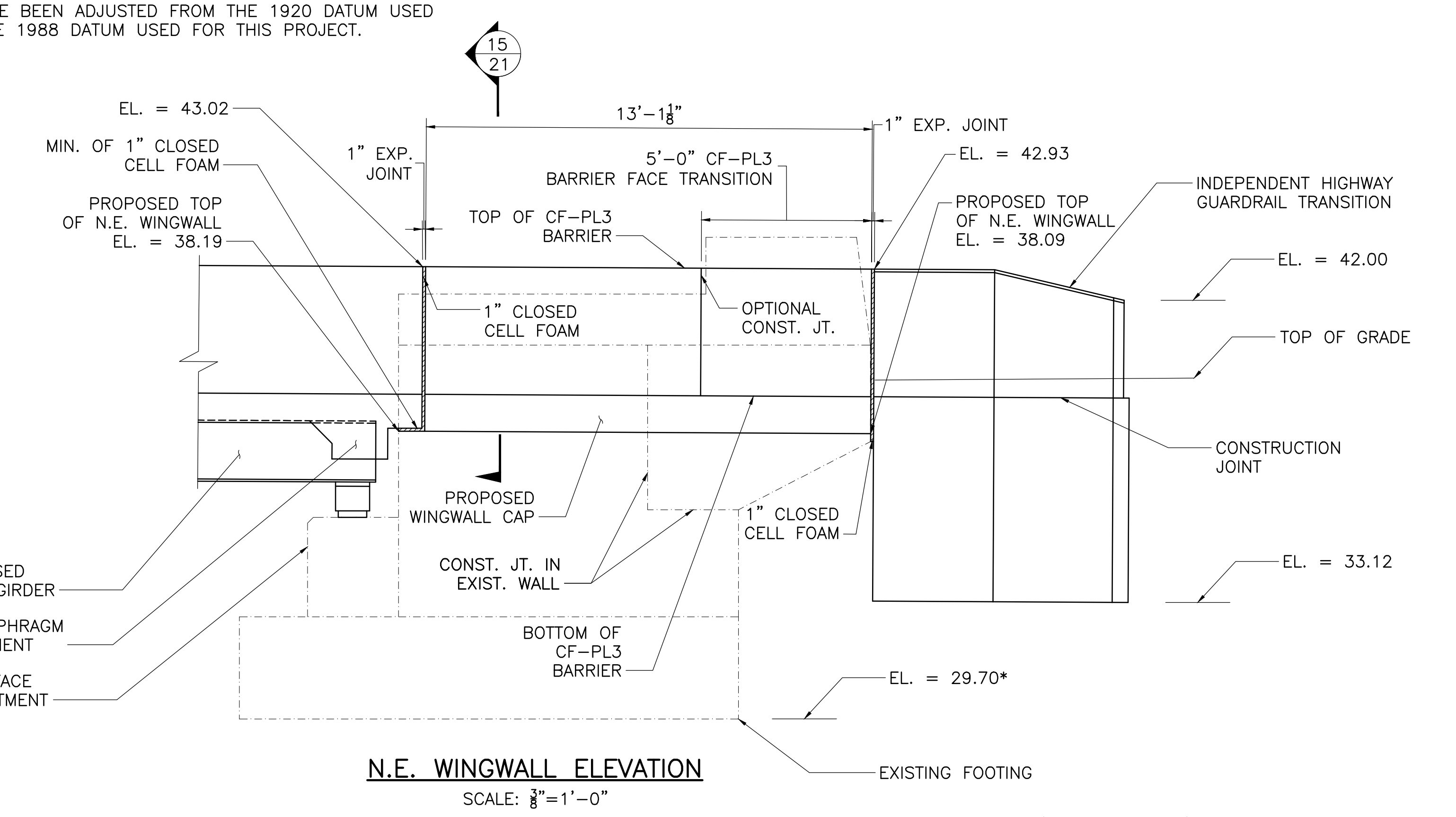
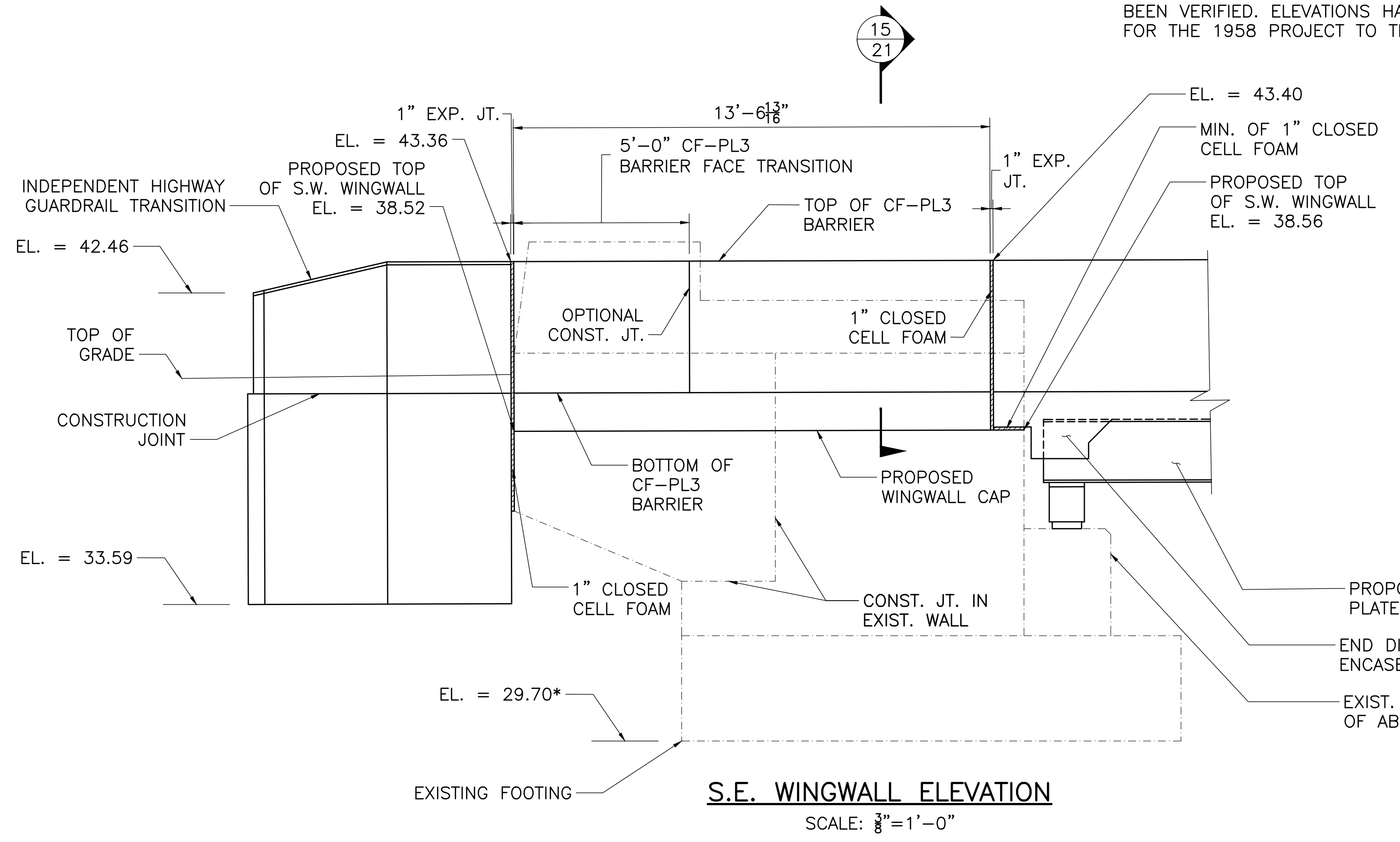
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	43	60
PROJECT FILE NO. 606255			

WINGWALL ELEVATIONS



*FOOTING ELEVATIONS TAKEN FROM 1958 CONSTRUCTION PLANS AND HAVE NOT BEEN VERIFIED. ELEVATIONS HAVE BEEN ADJUSTED FROM THE 1920 DATUM USED FOR THE 1958 PROJECT TO THE 1988 DATUM USED FOR THIS PROJECT.



MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

NOTED REPAIR LOCATIONS

S. ABUTMENT NOTES

1. FH x 6'-8"
2. 1/2" SCALING x FW x FD ON SEAT
3. VARIABLE HEIGHT x 11'-7"
4. 8" x 3'-9"
5. 7" x 2'
6. 7" x 2'-8"
7. VARIABLE HEIGHT x 10'-10"
8. 1" SCALING x FW x FD ON SEAT
9. VARIABLE HEIGHT x 21'
10. 1'-6"Ø SP.L
11. 8" x 5'-7"
12. FH x 8" SP.

S. PIER SOUTH FACE NOTES

13. FH x 2'
14. 1' x 7'-6"
15. 1'-10" x 6'
16. 2'-6" x 6'
17. 1'-6" x 1'
18. 3' x 2'
19. 1'-4" x 2'
20. 3' x 3'
21. 9" x 6'
22. 2'-8" x 4'-6"
23. FH x 2'
24. 1'-3" x 5'
25. 1'-10" x 2'-9"
26. 3'-6" x 1'-8"
27. TOP CAP ERODED 2' WIDE x FL
28. 2' x 2'
29. 2' x 2'-6"
30. 1"Ø SP. ON BOT.
31. FW x 2' DELAM. ON BOT.

S. PIER NORTH FACE NOTES

32. 1' x 1'
33. 8" x 1'-8"
34. 3' x 2'-4"
35. 2'-6" x 1'-4"
36. 1' x 2'-6"
37. FH x 6"
38. 1' x 2'
39. FH x 8'-6"
40. 8" x 3'
41. 1' x 6'
42. 2'-6" x 5'
43. FH x 1'-4"
44. 10" x 5'
45. 4" x 4'-2"
46. 10" x 3'
47. 1"Ø
48. 2'-8" x 2'
49. 1'-8" x 1'-6"
50. 3'-6" x 1'-4"
51. 4'-6" x 1'
52. 1'-10" x 1'-4"
53. 6" x 1'
54. 1'-2" x 10"
55. 1" x 3'-6"
56. FH x 2'-4"
57. 1'-4" x 6"

N. PIER SOUTH FACE NOTES

58. 10" x 2'
59. 9" x 3'-4"
60. 10" x 12'-8"
61. 10" x 5'
62. 10" x 5'-10"
63. 5" x 1'-10"
64. 1'-6" x 1'-6"
65. 6" x 1'-8"
66. 2'-2" x 1'-2" DELAM. ON BOT.
67. 10" x 13'
68. 10" x 8'-9"
69. 1'-3" x 3'
70. 4'-6" x 2'
71. 8" x 5'-4"
72. 3' x 2'-10"
73. 3' x 2' DELAM. ON BOT.

N. PIER NORTH FACE NOTES

74. 3'-8" x 1'-10"
75. 2'-2" x 2'
76. 2'-9" x 2'-2"
77. 1'-4" x 1'
78. 7" x 1'-8"
79. 9" x 2'-6"
80. 1'-8" x 1'-8"
81. 1'-8" x 1'-2"
82. 1'-4" x 1'-4"
83. 3'-4" x 1'-8"
84. 9" x 7"
85. 1'-2" x 5'-5"
86. 1' x 1'-10"
87. 1'-10" x 4'-9"
88. 1'-6" x 1'
89. 2' x 4'-10"

N. ABUTMENT NOTES

90. 1'-2" x 3'-6"
91. 8" x 2'-6"
92. FH x 1'
93. VARIABLE HEIGHT x 6'
94. 6" x 6" SP.
95. VARIABLE HEIGHT x 2'-2"
96. 8" x 2'
97. VARIABLE HEIGHT x 3'-2"
98. FH x 5'-4"
99. FH x 6'-8"
100. 5" x 3'
101. FH x 5'

SURFACE PREPARATION FOR CONCRETE REPAIRS

1. EXTENT, LOCATION AND TYPE OF ALL CONCRETE REPAIRS TO BE FIELD VERIFIED AND APPROVED BY THE ENGINEER AFTER CONTRACTOR HAS SOUNDED AND MARKED OUT ALL REPAIR AREAS. REPAIR CONFIGURATIONS SHOULD BE KEPT AS SIMPLE AS POSSIBLE, PREFERABLY WITH SQUARE CORNERS.
2. SAW CUT ALONG NEAT LINES AROUND REPAIR AREA PRIOR TO CONCRETE EXCAVATION. USE SAW CUT DEPTH OF 1/2" OR LESS AS REQUIRED TO AVOID CUTTING REINFORCING STEEL (REFER TO SPECIAL PROVISIONS)
3. REMOVE DETERIORATED AND DELAMINATED CONCRETE. UNDERCUT EXPOSED REINFORCING STEEL TO PROVIDE MINIMUM CLEARANCE AROUND BARS, REMOVE ADDITIONAL CONCRETE AS REQUIRED TO PROVIDE MINIMUM REQUIRED THICKNESS OF REPAIR MATERIAL.
4. IF REINFORCING STEEL IS EXPOSED THEN CLEAN BY MECHANICAL CLEANING AND THEN HIGH PRESSURE WASHING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. WHERE ACTIVE CORROSION HAS OCCURRED THAT WOULD INHIBIT BONDING, SANDBLAST STEEL TO WHITE METAL FINISH.
5. AFTER REMOVAL AND EDGE PREPARATIONS ARE COMPLETE, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS. CHECK THE CONCRETE SURFACES AFTER CLEANING TO ENSURE THAT SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE OR THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.

6. WET CONCRETE REPAIR AREA SO THAT SUBSTRATE IS SATURATED SURFACE DRY WITH NO STANDING WATER.

7. APPLY BONDING COMPOUND TO EXISTING CONCRETE AND REINFORCING STEEL PRIOR TO PLACEMENT OF 4000 PSI, 3/8 IN, 660 CEMENT CONCRETE REPAIR MATERIAL.

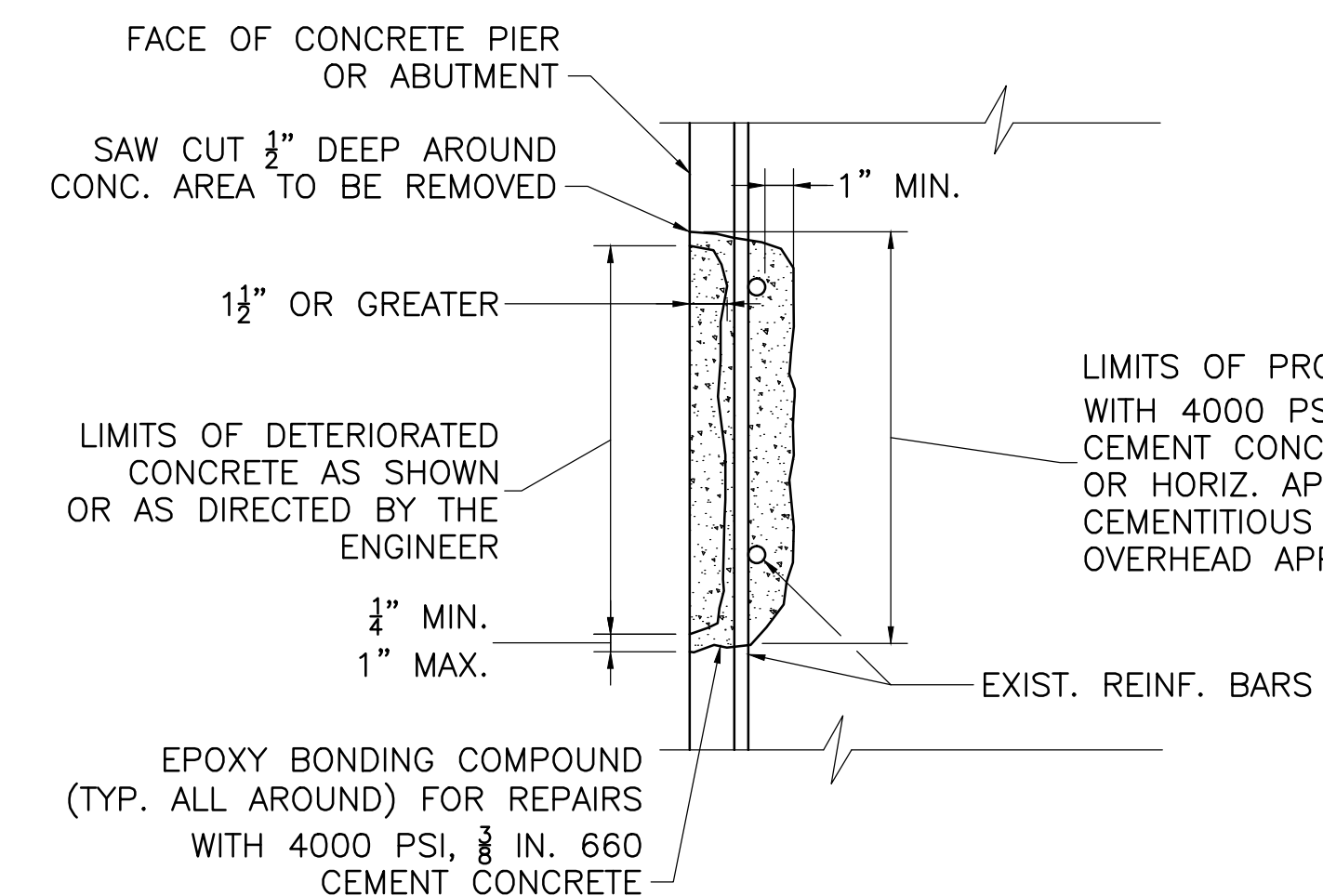
8. PLACE APPROPRIATE REPAIR MATERIAL FOR SPECIFIC REPAIR TYPE. PLACEMENT AND SUBSEQUENT CURING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE SPECIAL PROVISIONS.

SEQUENCE OF CONSTRUCTION FOR COLUMN REPAIRS WITHOUT TEMPORARY PIER SUPPORTS

1. REMOVE CONCRETE FROM FIRST PATCH AREA TO BE PATCHED ONLY, SEE ROUND COLUMN SECTION DETAIL
2. CLEAN EXISTING REINFORCING STEEL AND CONCRETE (NEWLY EXPOSED). MISSING OR DETERIORATED REINFORCING STEEL SHALL BE REPLACED AS DIRECTED BY THE ENGINEER (SEE CONCRETE REPAIR NOTES).
3. APPLY EPOXY BONDING COMPOUND TO ALL EXISTING REINFORCING STEEL AND CONCRETE (NEWLY EXPOSED) IMMEDIATELY PRIOR TO PLACING CONCRETE.
4. FORM AND PATCH SURFACE.
5. A MINIMUM OF 72 HOURS SHALL ELAPSE BETWEEN PLACING OF CONCRETE AND START OF NEXT PATCH.
6. REMOVE CONCRETE FROM SECOND PATCH AREA.
7. REPEAT STEPS 2 THRU 5.
8. REPAIR REMAINING SIDES IN A SIMILAR MANNER.
9. ALL WELDED WIRE FABRIC SHALL BE EPOXY COATED.
10. ALL CONCRETE SHALL BE 4000 PSI - 3/8 IN - 660 CEMENT CONCRETE.
11. ALL SURFACED SHALL BE RUBBED TO PRODUCE A SMOOTH FINISH.
12. THE CONTRACTOR MAY SUBMIT AN ALTERNATE PIER COLUMN REPAIR PROCEDURE SUBJECT TO APPROVAL BY THE ENGINEER WHEN TEMPORARY PIER SUPPORTS ARE UTILIZED DURING REPAIRS.

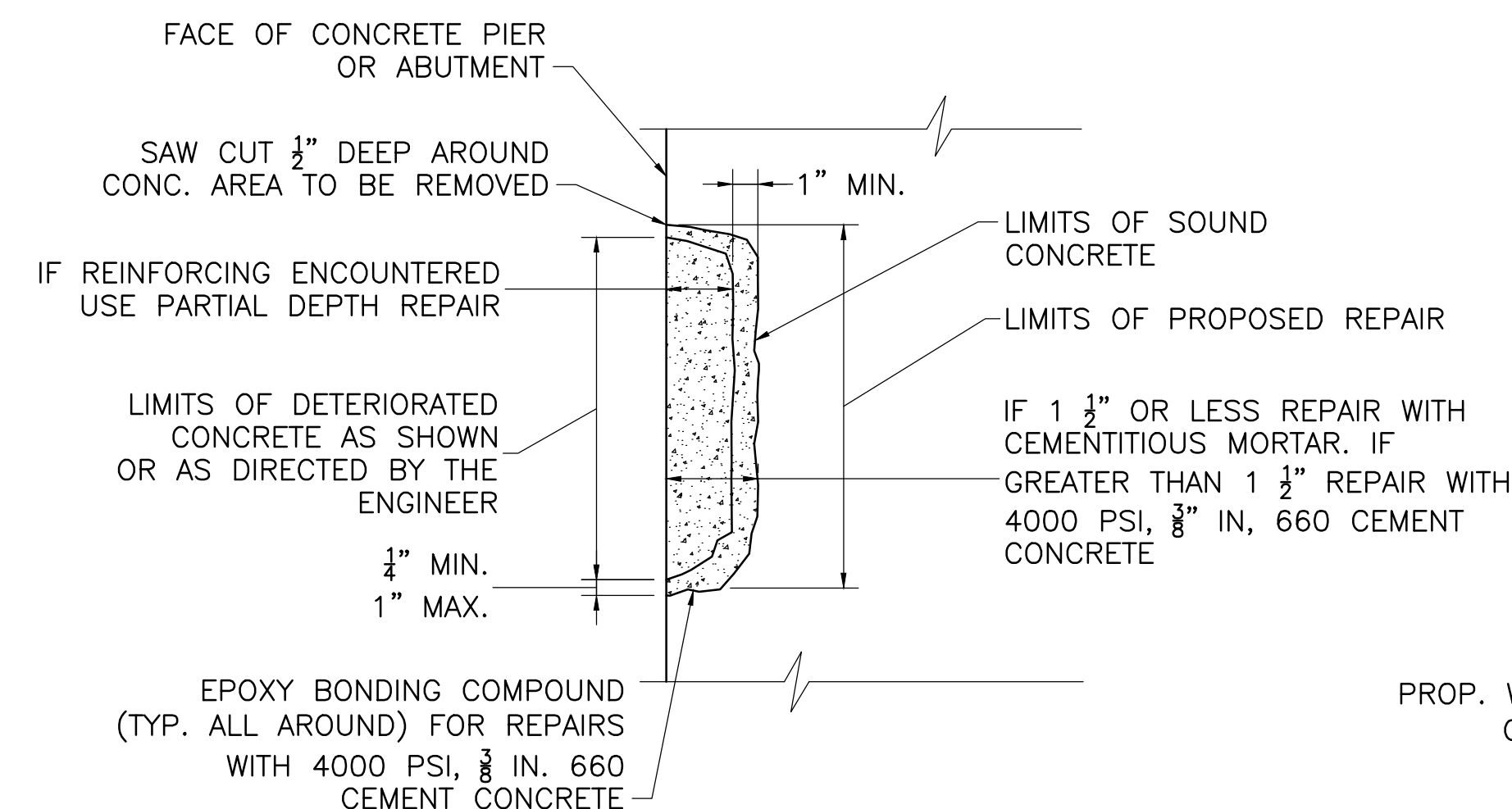
PIER CAP REPAIR NOTES

1. THE CONTRACTOR SHALL PHASE PIER CAP REPAIRS SUCH THAT NO MORE THAN 50% OF ANY TWO FACES OF THE PIER CAP SHALL BE REPAIRED AT ANY ONE TIME. THE CONTRACTOR SHALL PROVIDE A SHORING SYSTEM TO SUPPORT THE CAP DEAD LOAD AND LIVE LOADS IF MORE THAN 50% OF ANY TWO FACES ARE TO BE REPAIRED AT ANY ONE TIME OR IF SO DIRECTED BY THE ENGINEER.



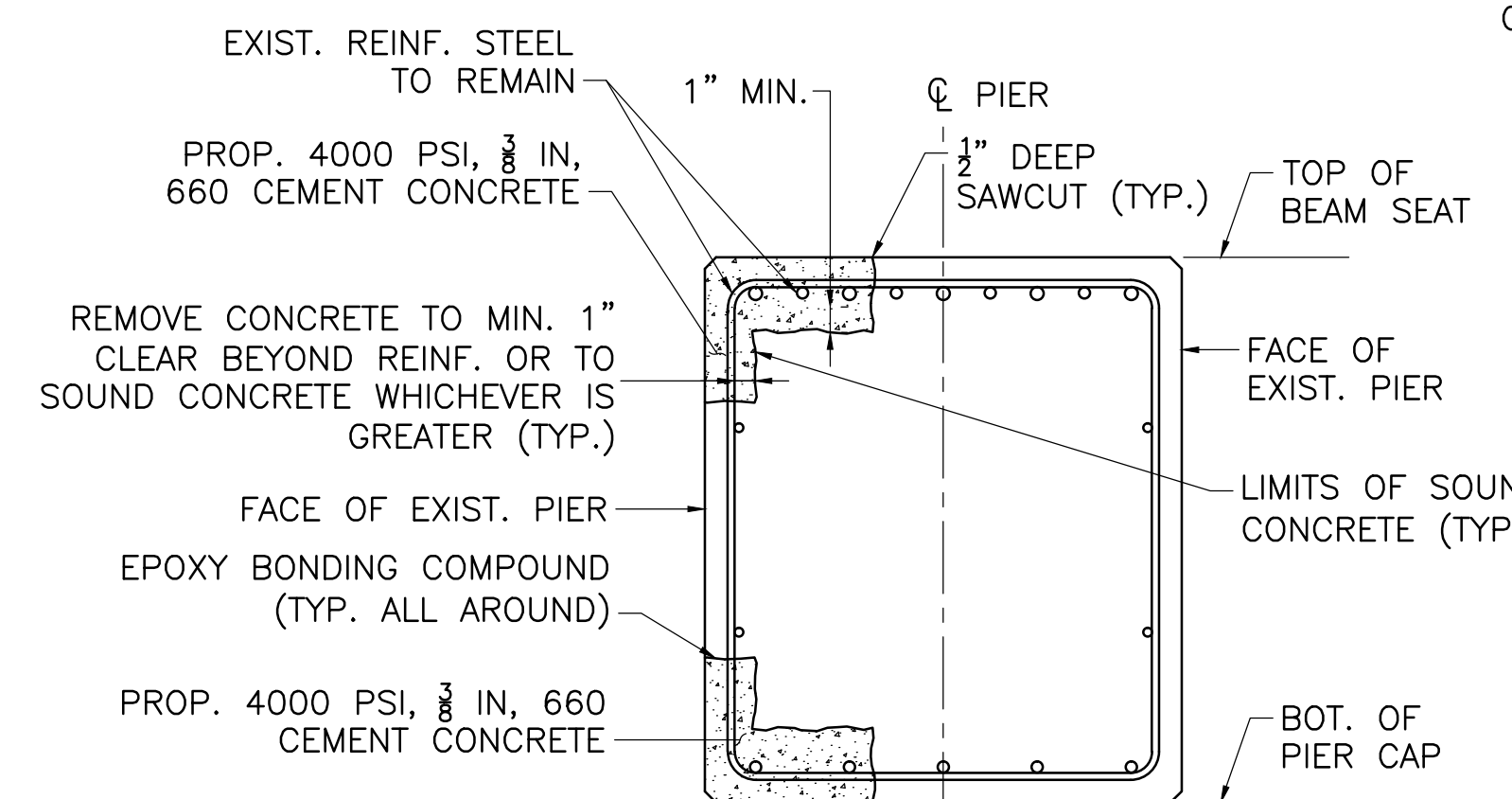
PARTIAL DEPTH REPAIR

SCALE: 1 1/2" = 1'-0"



SHALLOW DEPTH REPAIR DETAIL

SCALE: 1 1/2" = 1'-0"

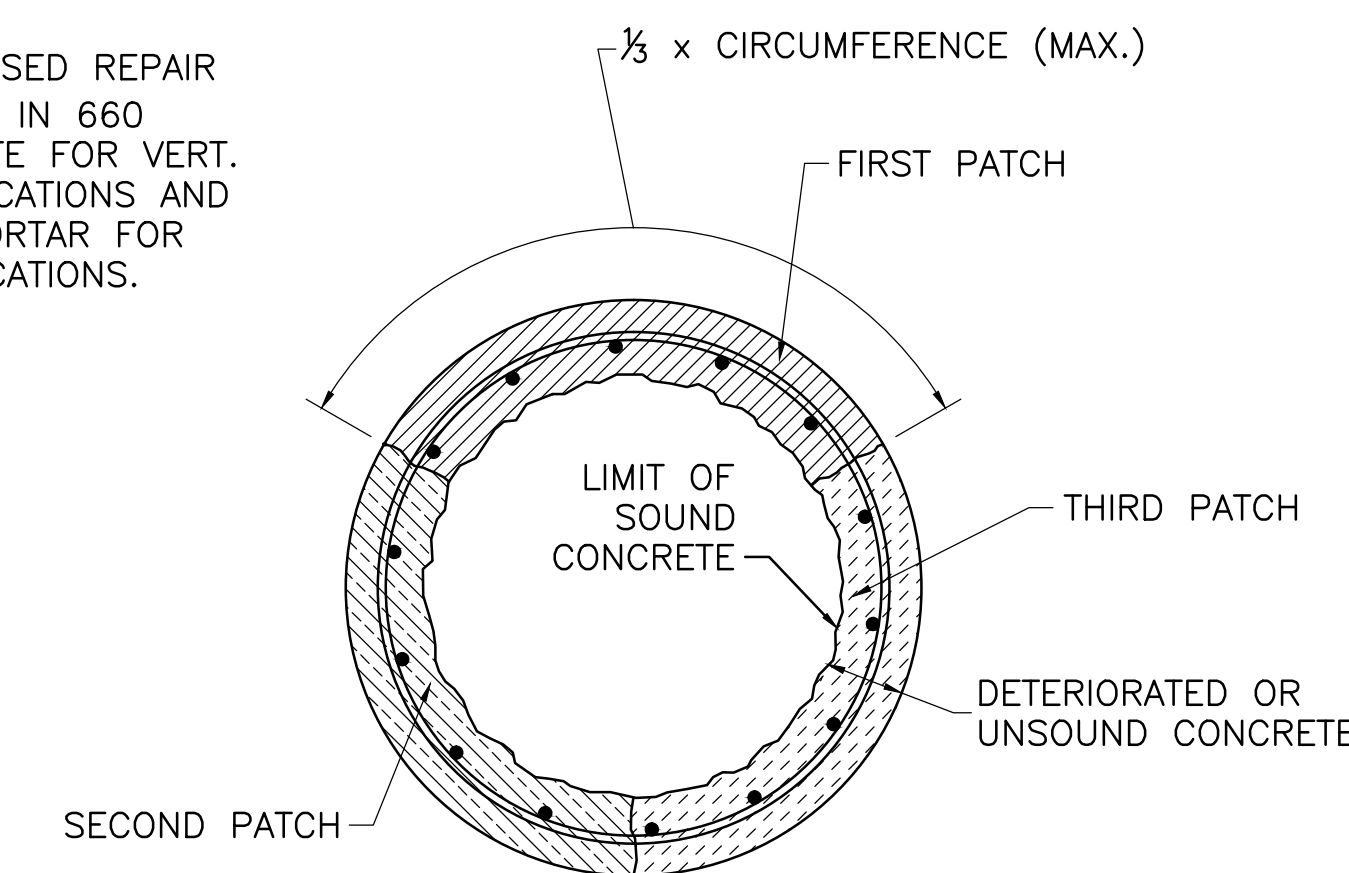


PIER CAP CONCRETE REPAIR DETAIL

SCALE: 3/4" = 1'-0"

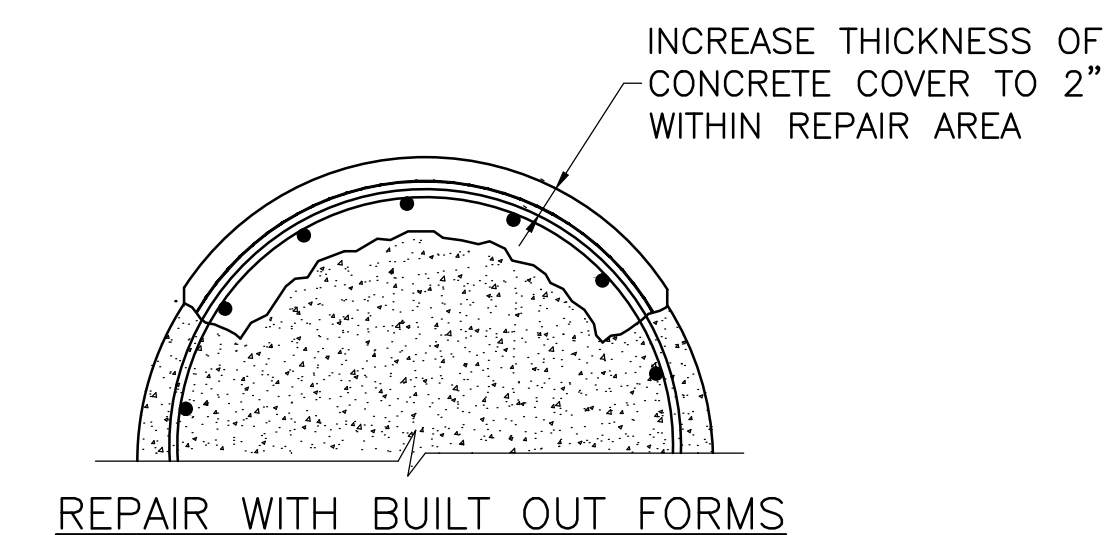
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	44	60

SUBSTRUCTURE REPAIR

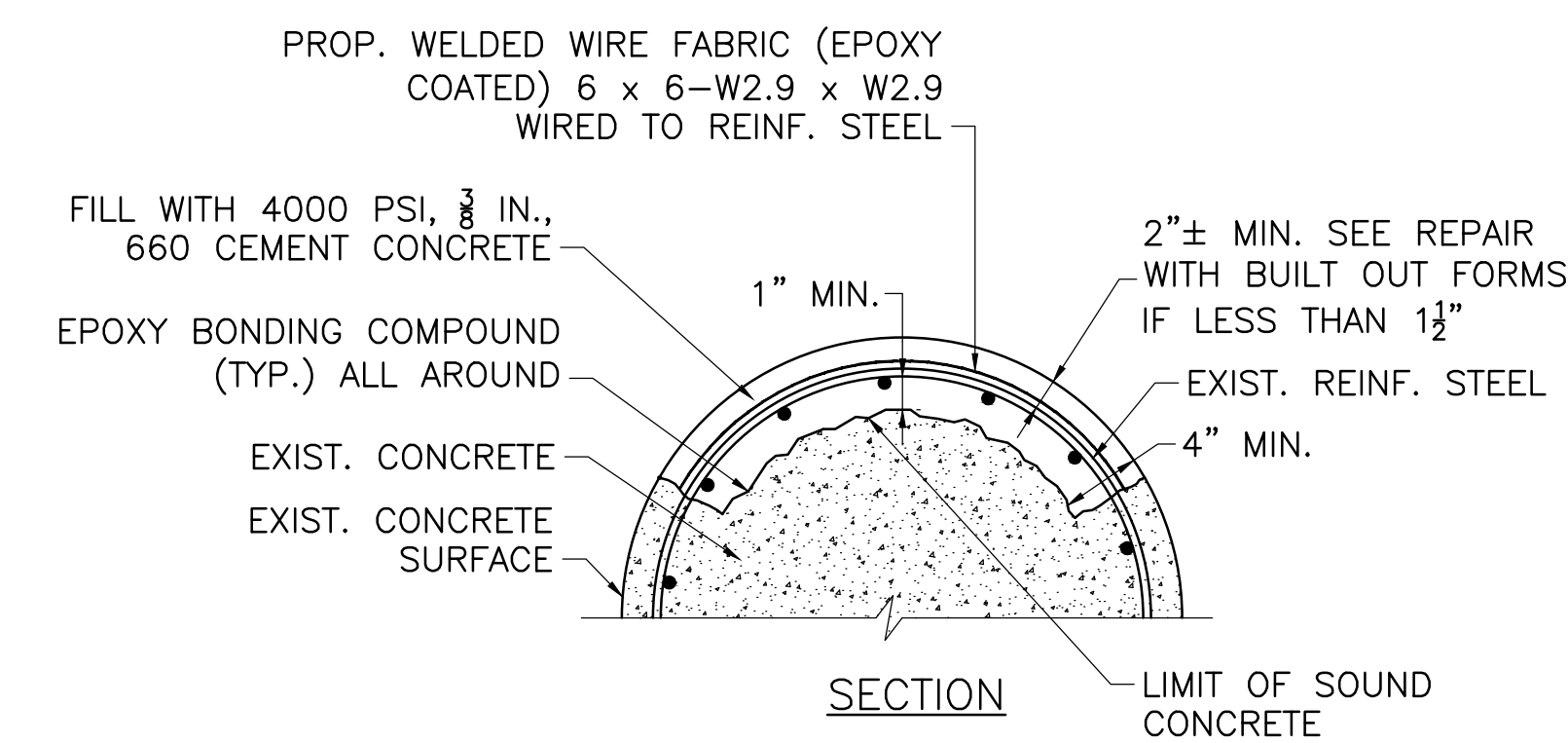


ROUND COLUMN SECTION

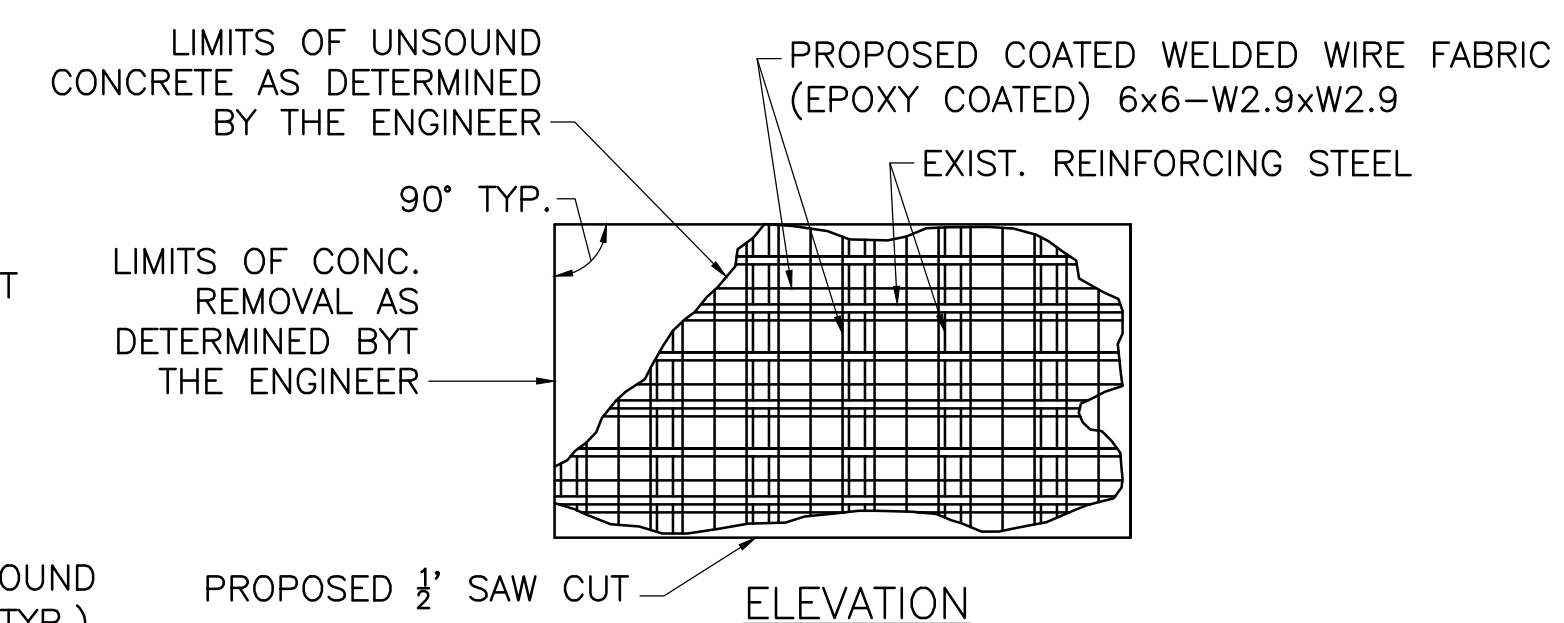
SCALE: 1" = 1'-0"



REPAIR WITH BUILT OUT FORMS



SECTION



DEEP PATCH COLUMN REPAIR

SCALE: 1" = 1'-0"

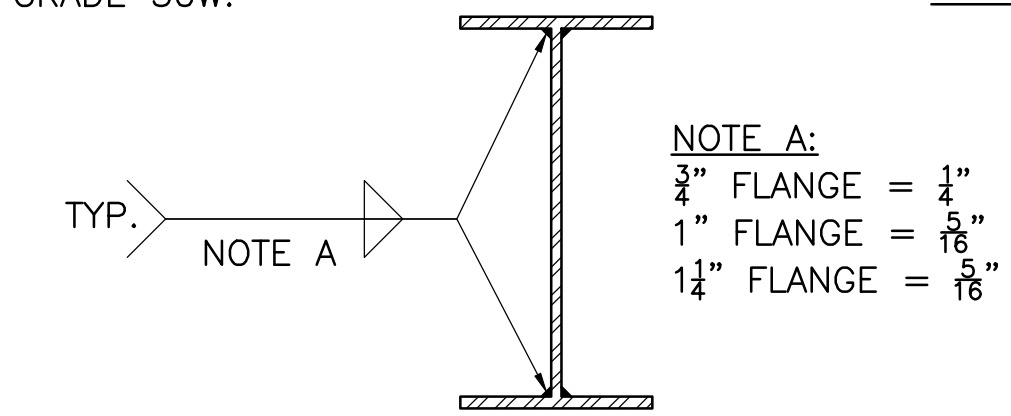
DATE	DESCRIPTION
MAY 18, 2011	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SP# 093-1	45	60
PROJECT FILE NO. 606255			

FRAMING PLAN
AND SHEAR STUD

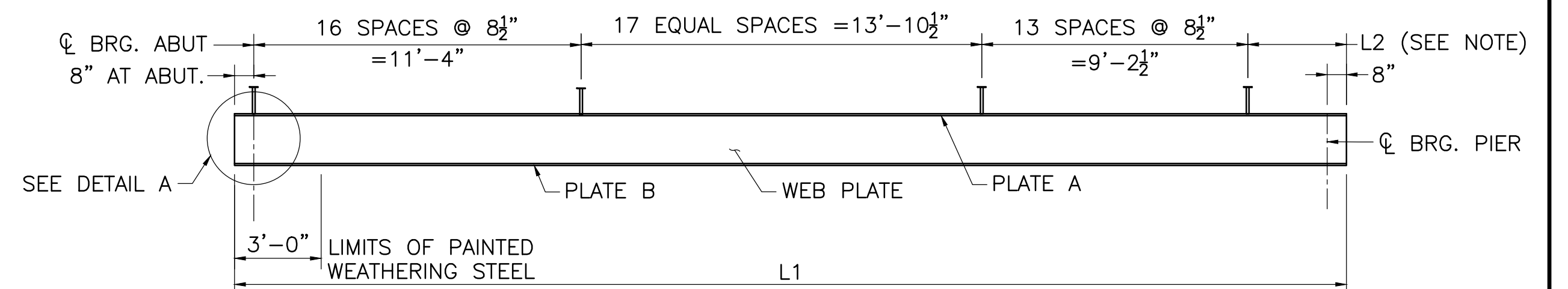
FRAMING PLAN NOTES:

- D1 = TYPICAL END DIAPHRAGM
D2,D4 = INTERMEDIATE DIAPHRAGM - MODULAR UNIT
D3,D5 = INTERMEDIATE DIAPHRAGM - CLOSURE POUR TYPE 1
D6 = INTERMEDIATE DIAPHRAGM - CLOSURE POUR TYPE 2
- U1 = TYPICAL UTILITY SUPPORT BETWEEN INTERMEDIATE DIAPHRAGMS
- SEE STEEL DETAILS FOR DIAPHRAGM AND UTILITY SUPPORT DETAILS.
- SEE PLATE GIRDER SCHEDULE FOR MAIN LOAD CARRYING MEMBERS.
- ALL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50W.



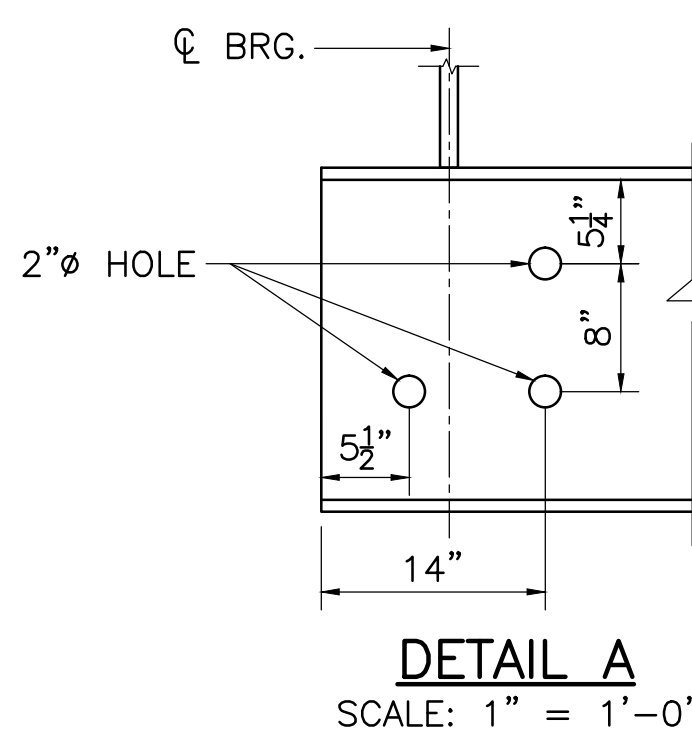
WEB TO FLANGE WELD DETAIL
SCALE: 1" = 1'-0"

PLATE GIRDER SCHEDULE							
SPAN NO.	GIRDER NUMBER	LENGTH C-C BEARINGS	LENGTH "L1"	LENGTH "L2"	FLANGE PLATES		WEB PLATE
					PLATE "A"	PLATE "B"	
1	G1, G24	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"
1	G2-G11, G14-G23	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"
1	G12, G13	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"
2	G25, G48	76'-4"	77'-8"	6'-6"	12" x 1"	12" x 1 1/4"	27" x 5/8"
2	G26-G35, G38-G47	76'-4"	77'-8"	6'-6"	12" x 1"	12" x 1 1/4"	27" x 5/8"
2	G36, G37	76'-4"	77'-8"	6'-6"	12" x 1"	12" x 1 1/4"	27" x 5/8"
3	G49, G72	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"
3	G50-G59, G62-G71	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"
3	G60, G61	37'-2"	38'-6"	3'-5"	10" x 3/4"	10" x 3/4"	20" x 5/8"

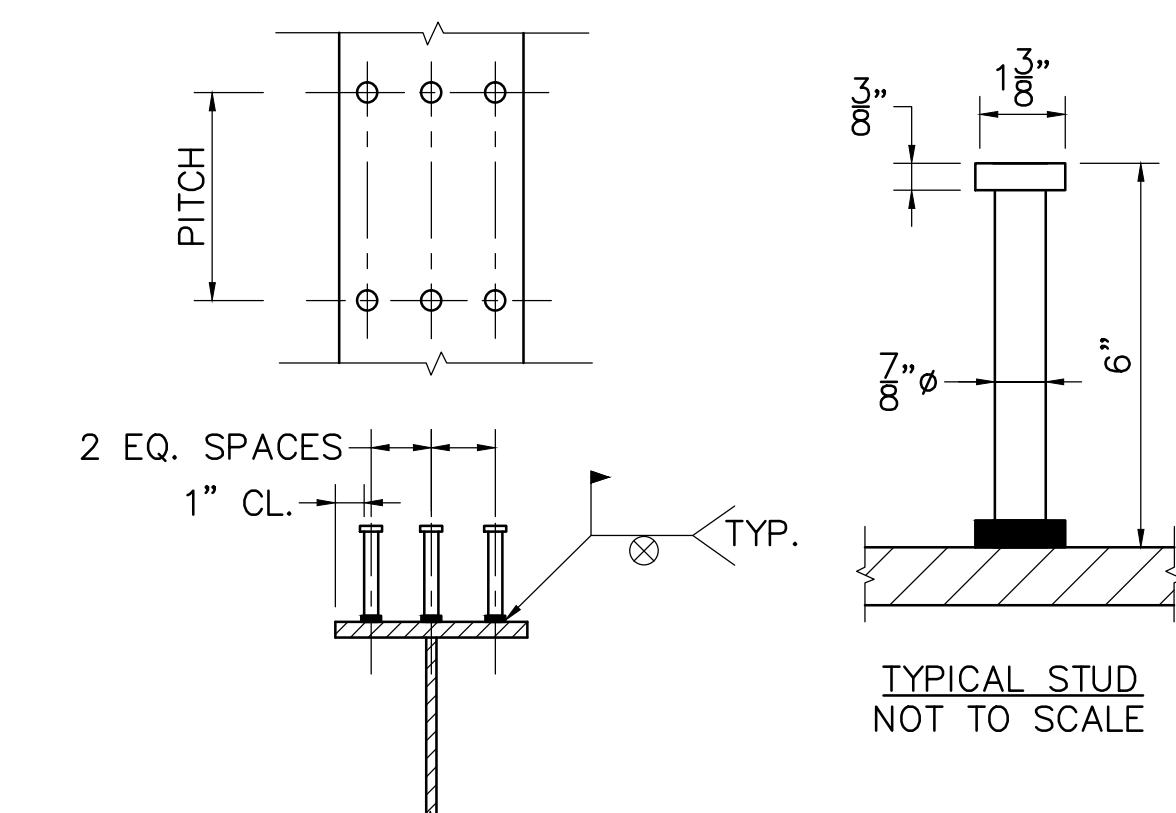


DIAPHRAGM CONNECTION PLATES NOT SHOWN
NOTE: SHEAR CONNECTORS TO BE OMITTED IN THIS REGION

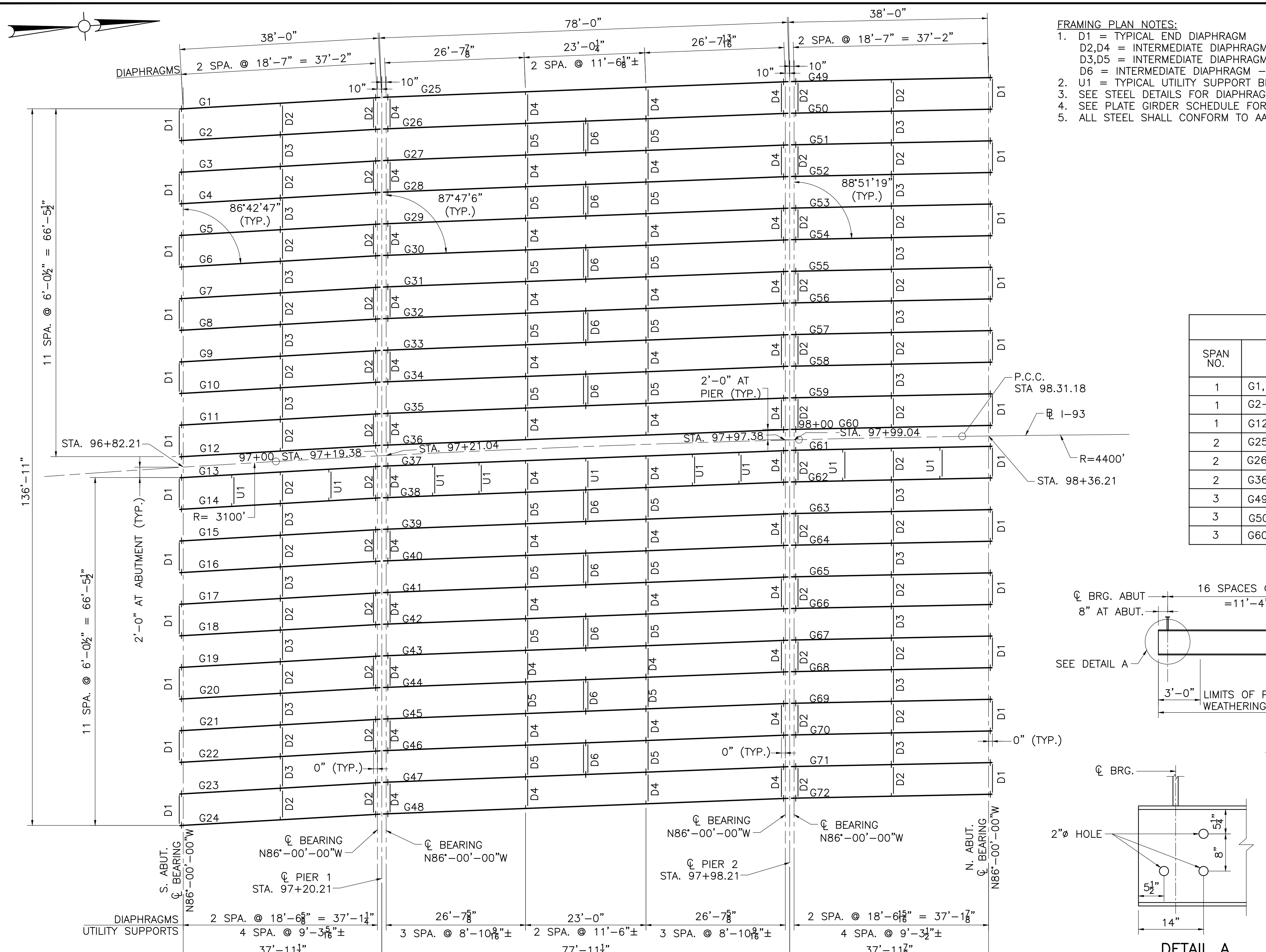
GIRDER ELEVATION (SPANS 1 & 3)
SCALE: 1/4" = 1'-0"



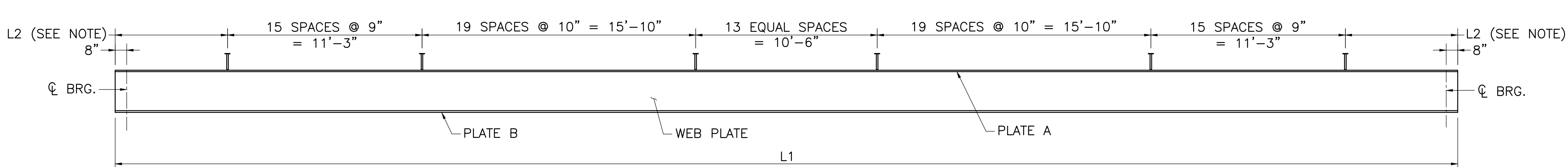
DETAIL A
SCALE: 1" = 1'-0"



SHEAR STUD CONNECTOR DETAILS
SCALE: 1" = 1'-0"



FRAMING PLAN
SCALE: 3/32" = 1'-0"

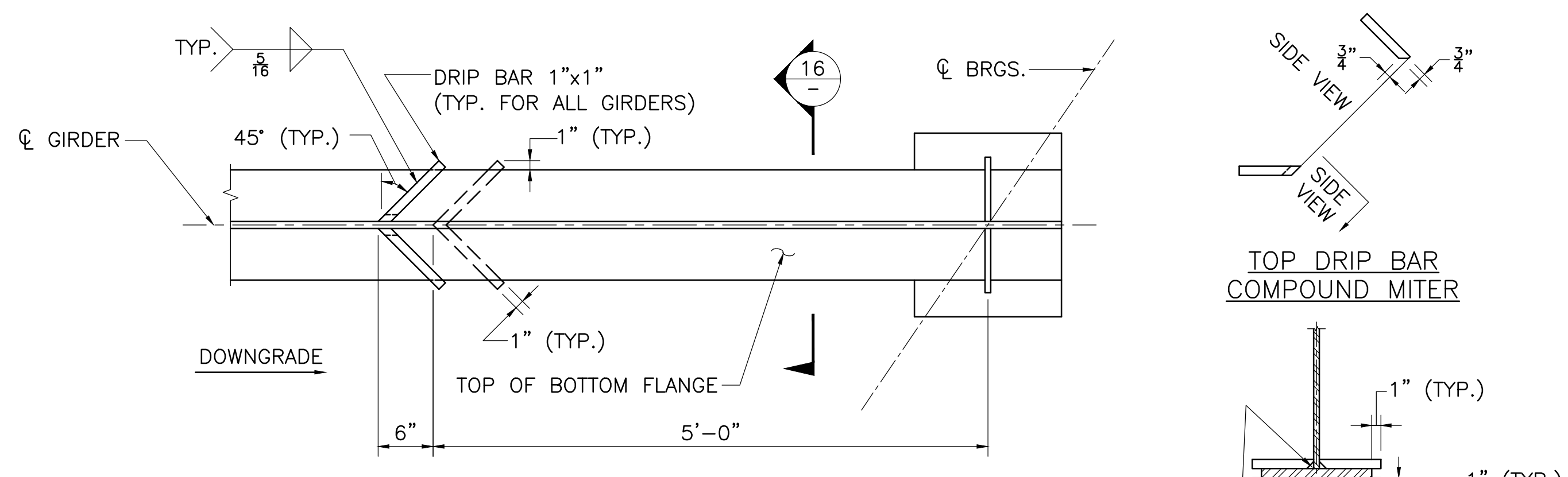


DIAPHRAGM CONNECTION PLATES NOT SHOWN
NOTE: SHEAR CONNECTORS TO BE OMITTED IN THIS REGION

GIRDER ELEVATION (SPAN 2)
SCALE: 1/4" = 1'-0"

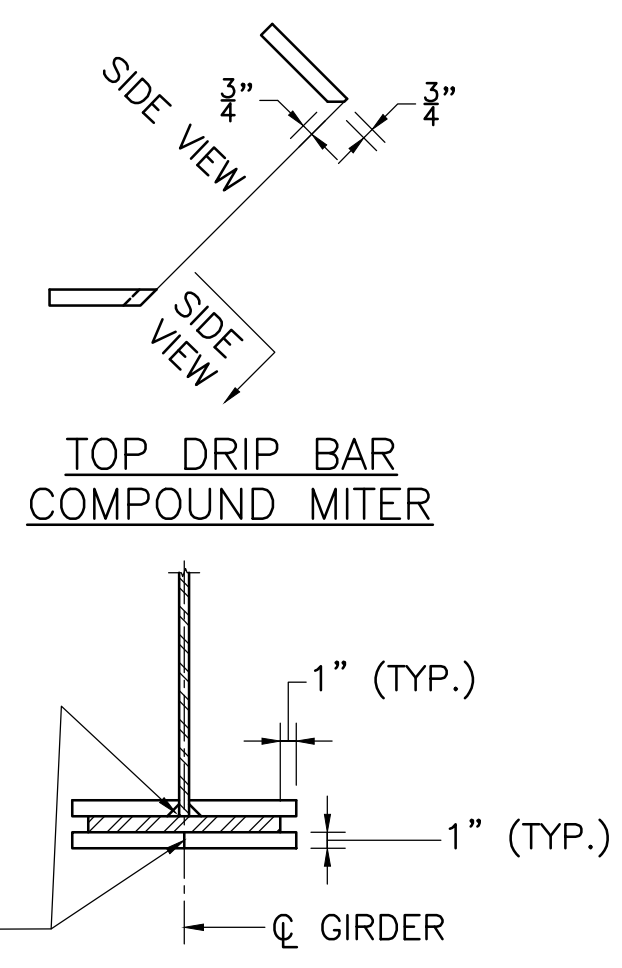
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STEEL DETAILS

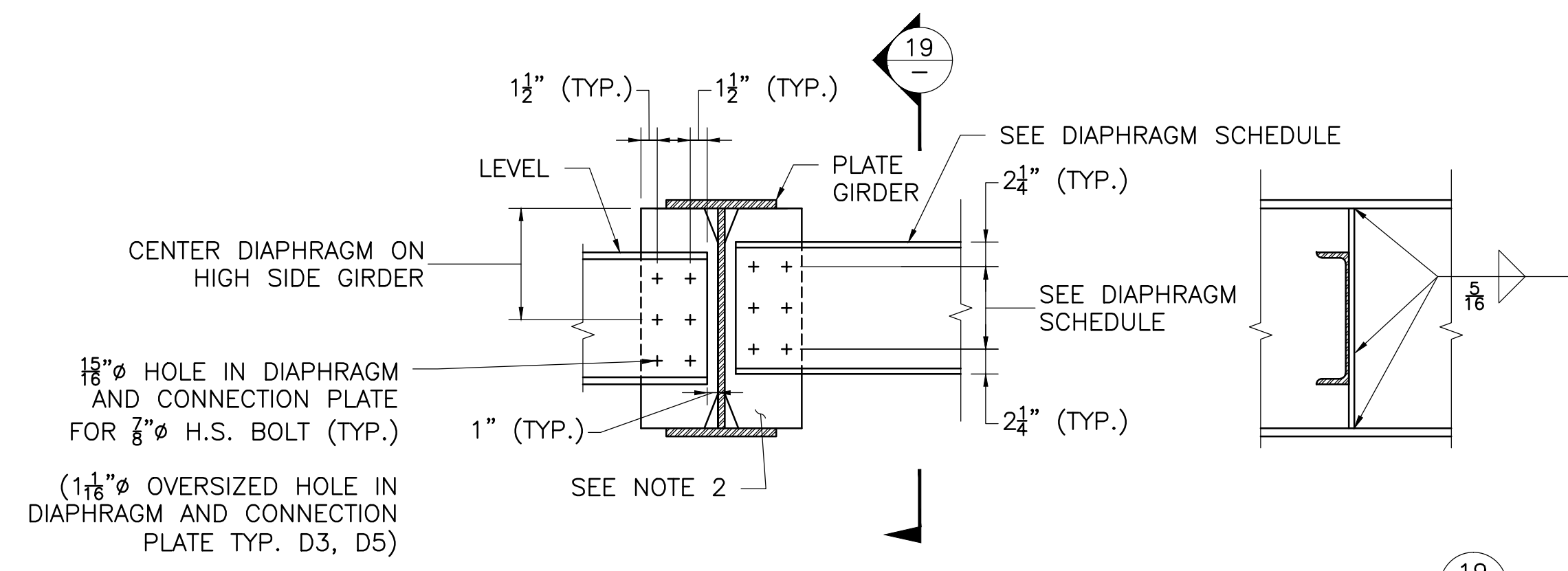


NOTE:
DRIP BARS SHALL BE LOCATED ON THE LOW END OF EACH SPAN FOR ALL GIRDERS

DRIP BAR DETAIL
SCALE: 1" = 1'-0"



SECTION 16
SCALE: 1" = 1'-0"



ELEVATION VIEW

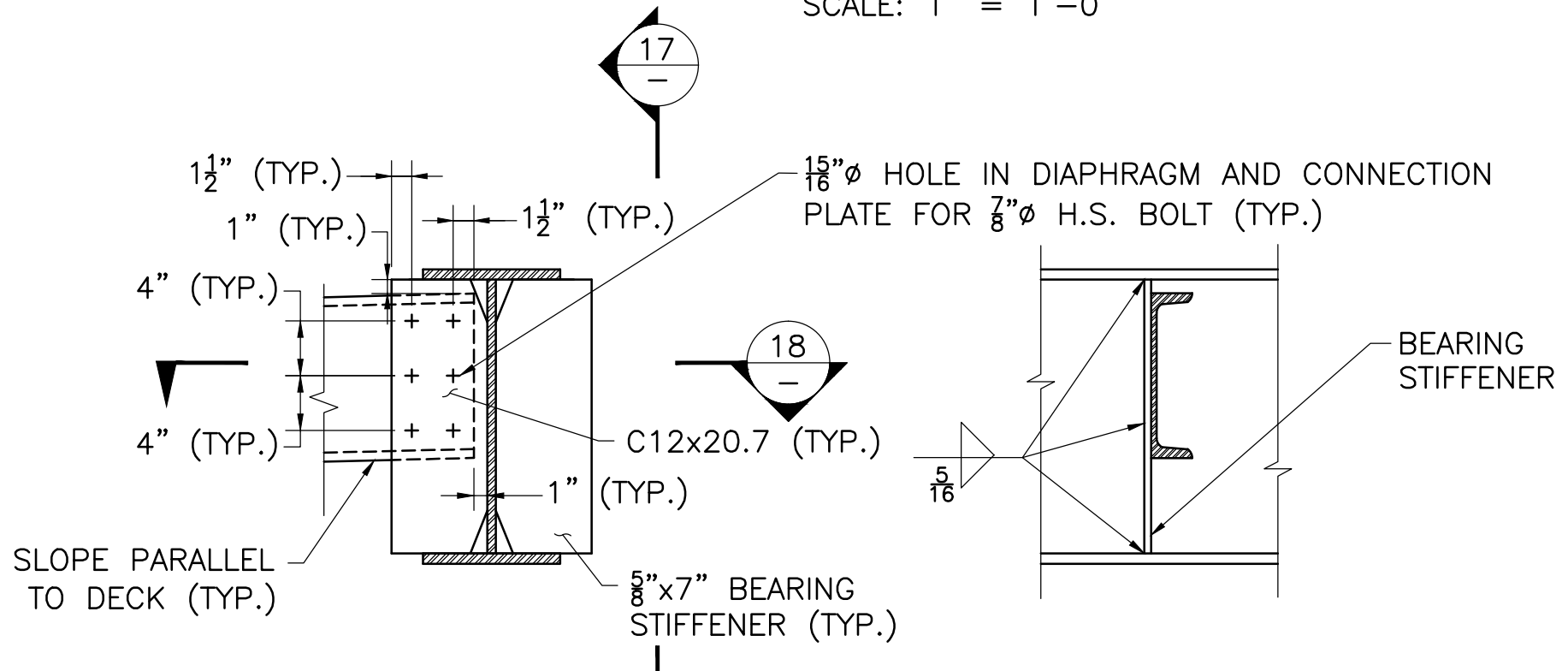
SECTION 19

NOTES
1. SEE CLIP DETAIL THIS SHEET
2. USE 7"x 5/8" BEARING STIFFENER AT CENTERLINE OF BEARINGS
USE 7"x 1/2" CONNECTION PLATE AT ALL OTHER LOCATIONS
3. BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH 5/16" FILLET WELDS BOTH SIDES OF PLATE.

DIAPHRAGM SCHEDULE			
DESIGNATION	DIAPHRAGM	# OF H.S. BOLTS/CONN.	BOLT SPACING
D2,D3	C12x20.7	6	2 SP. @ 3 3/4"
D4,D5	C15x33.9	8	3 SP. @ 3 1/2"

INTERMEDIATE DIAPHRAGM DETAILS

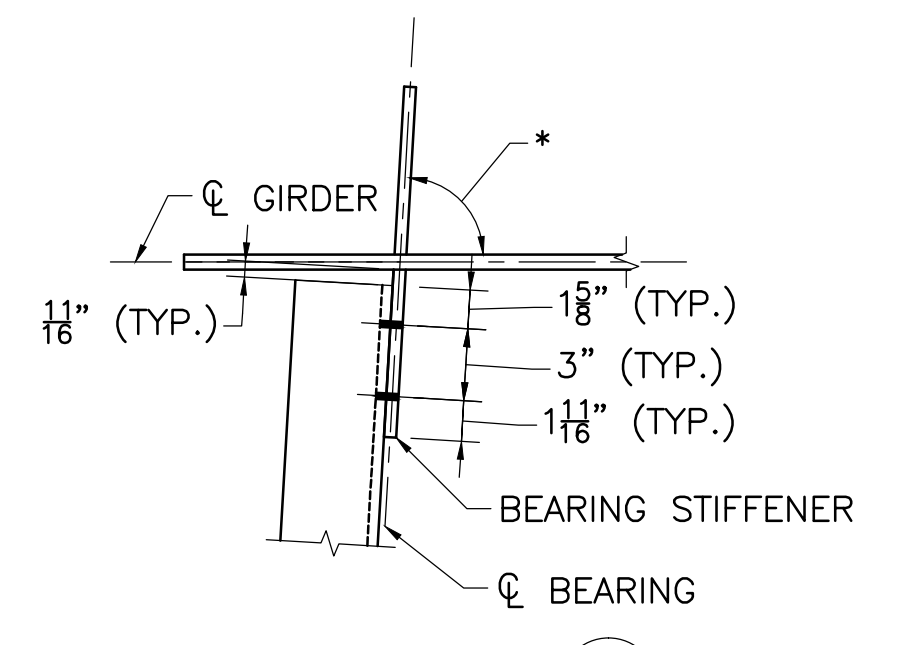
SCALE: 1" = 1'-0"
SHOWN AS D2 & D4 EXCEPT AS NOTED



ELEVATION VIEW
SCALE: 1" = 1'-0"

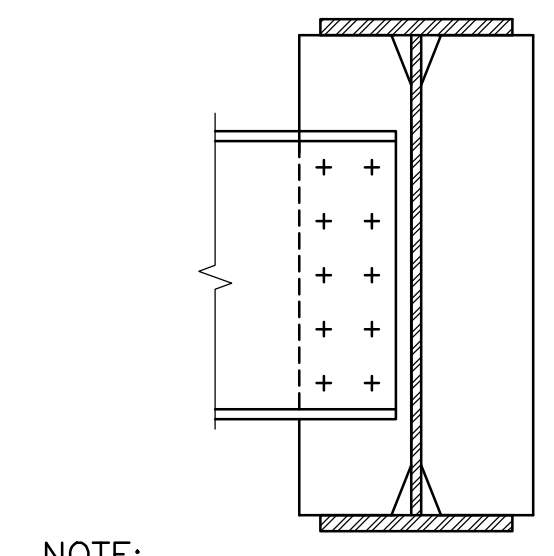
SECTION 17
SCALE: 1" = 1'-0"

NOTES
1. SEE CLIP DETAIL THIS SHEET
2. BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH 5/16" FILLET WELDS BOTH SIDES OF PLATE.



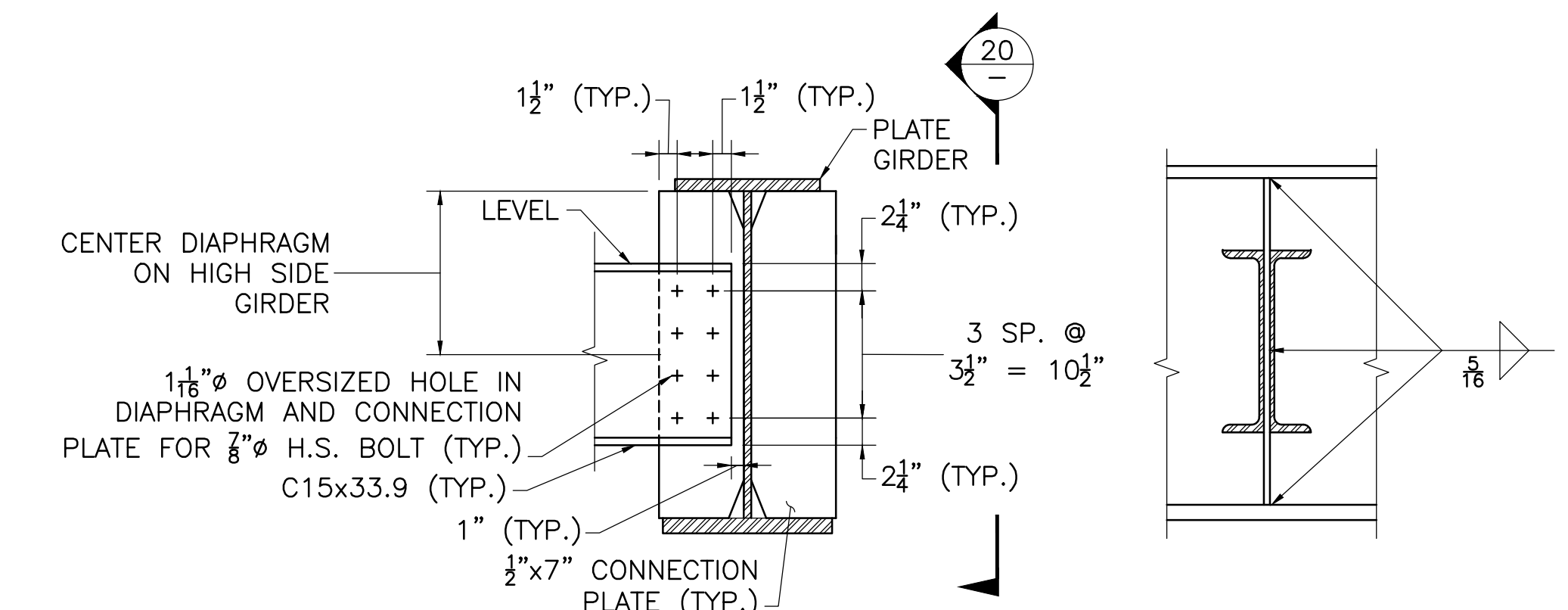
SECTION 18
SCALE: 1 1/2" = 1'-0"

* 86'42'47" (SPAN 1), 87'47'6" (SPAN 2), 88'51'19" (SPAN 3)



NOTE:
FOR DISCONTINUOUS DIAPHRAGM AT BEAM PROVIDE ADDITIONAL CONNECTOR PLATE OPPOSITE WEB EXCEPT AT FASCIA BEAMS

DISCONTINUOUS DIAPHRAGM CONNECTION
SCALE: 1" = 1'-0"

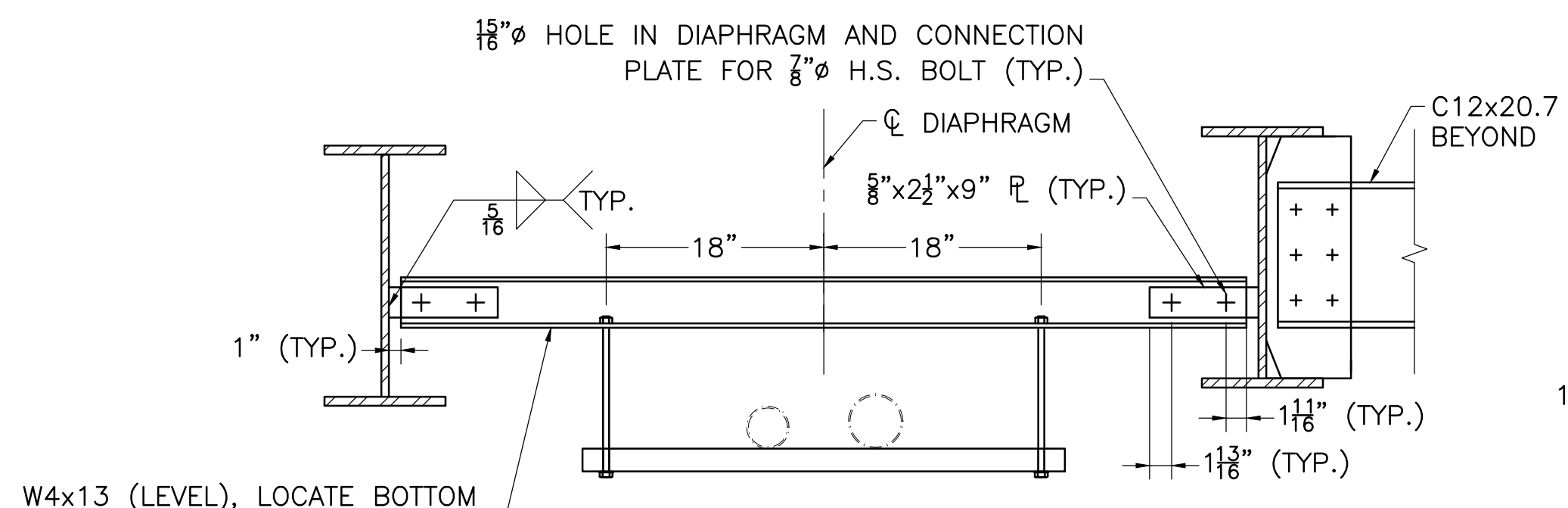


ELEVATION VIEW

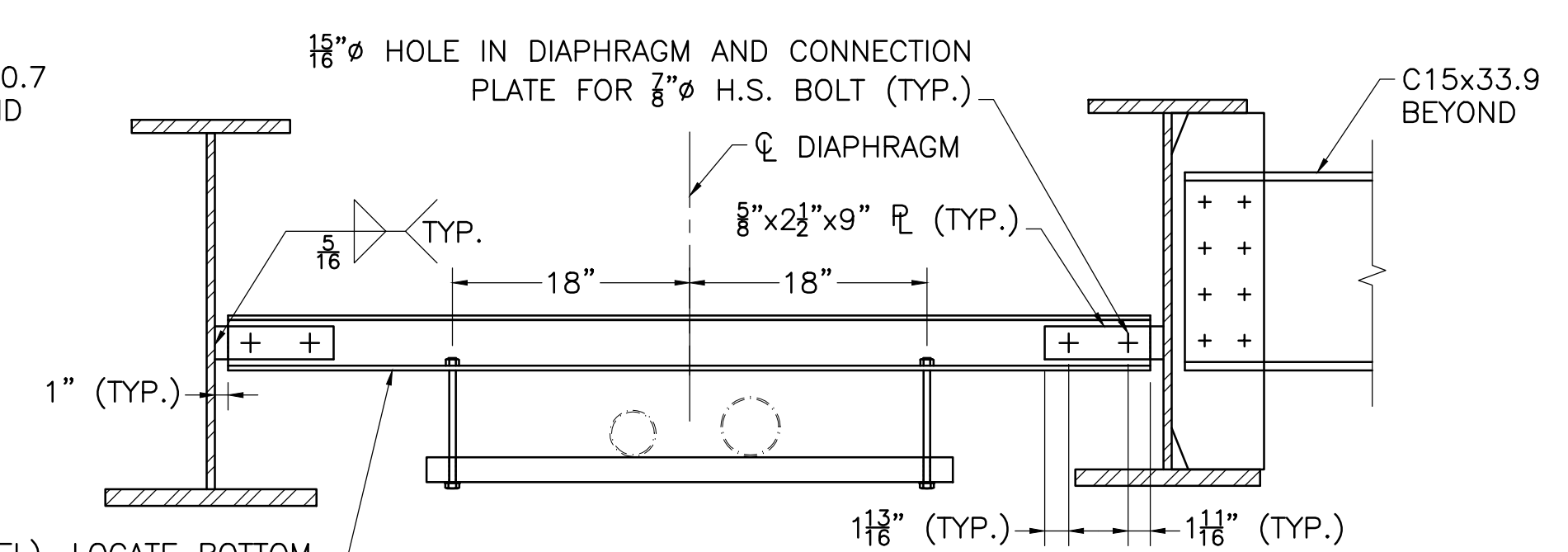
SECTION 20

SEE CLIP DETAIL THIS SHEET

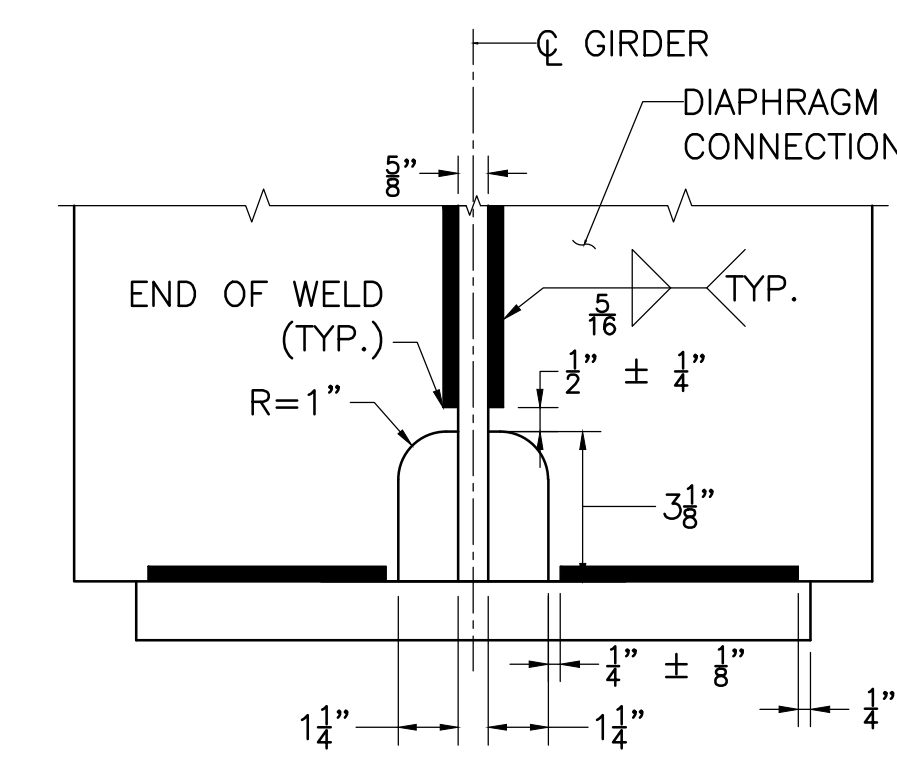
D6 INTERMEDIATE DIAPHRAGM DETAILS
SCALE: 1" = 1'-0"



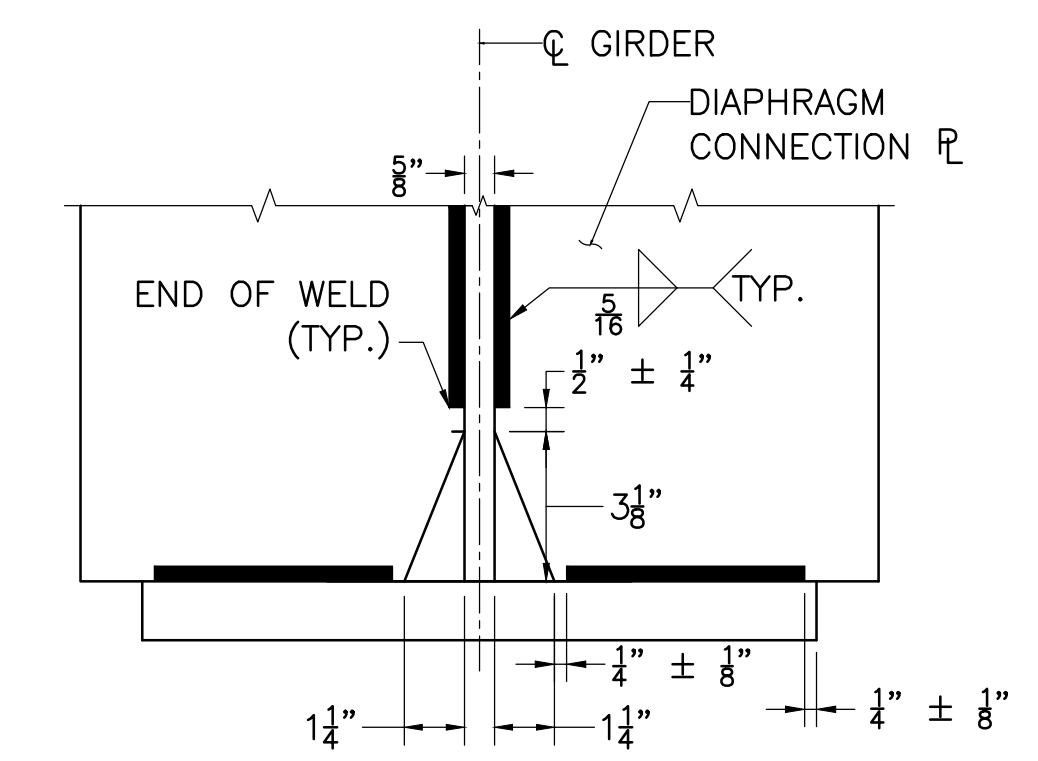
UTILITY DIAPHRAGM - U1
SPANS 1 & 3
SCALE: 1" = 1'-0"



UTILITY DIAPHRAGM - U1
SPAN 2
SCALE: 1" = 1'-0"

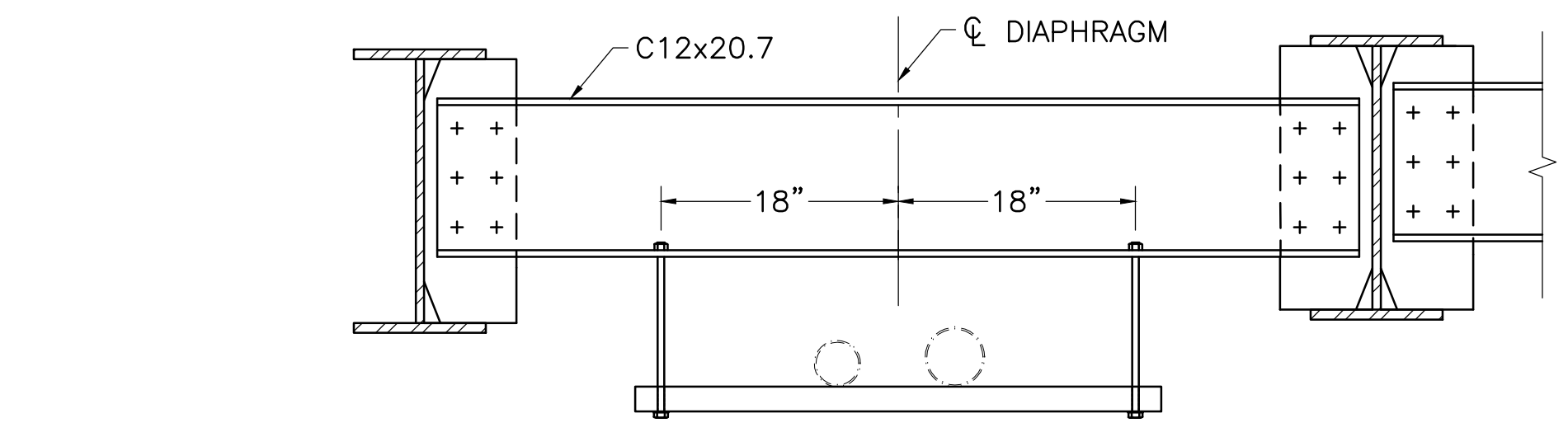


ALTERNATE COPE DETAIL
NOT TO SCALE

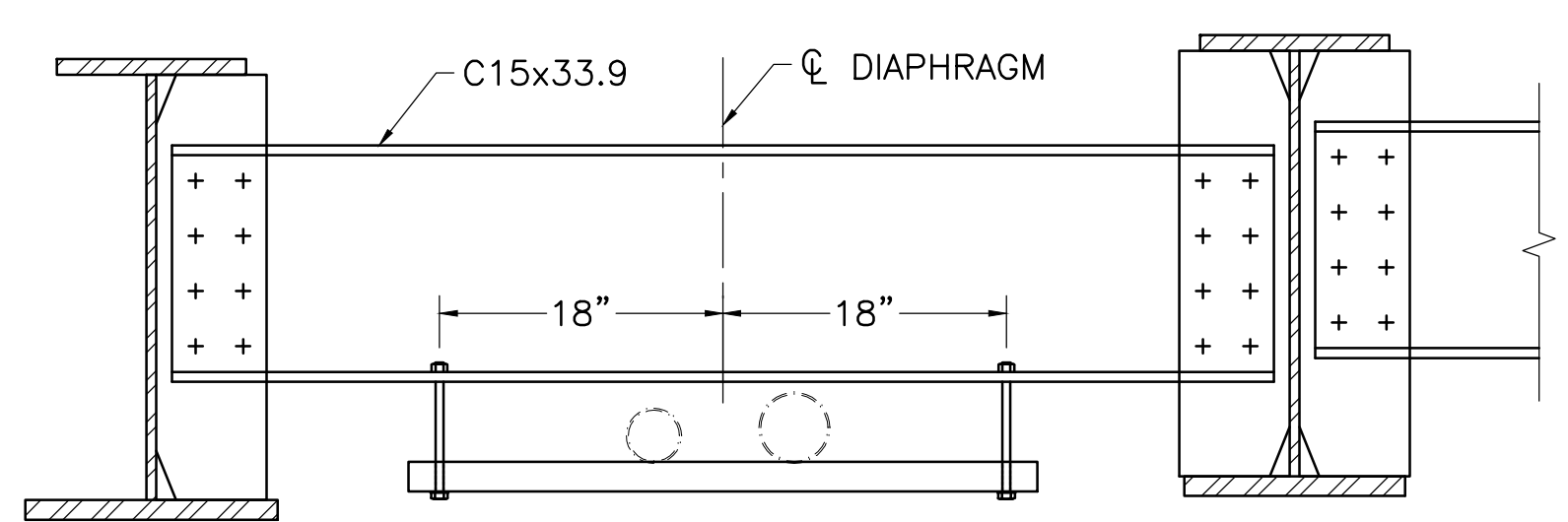


CLIP DETAIL
NOT TO SCALE

NOTE: ALTERNATE COPE DETAIL MAY BE SUBSTITUTED FOR THE CLIP DETAIL SHOWN. HOWEVER CLIP SHALL BE USED IF NECESSARY TO ENSURE MINIMUM REQUIRED EDGE DISTANCES FOR BOLTING.



DIAPHRAGM D2 AT UTILITY
SPANS 1 & 3
SCALE: 1" = 1'-0"



DIAPHRAGM D4 AT UTILITY
SPAN 2
SCALE: 1" = 1'-0"

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	47	60
PROJECT FILE NO. 606255			

CAMBER TABLES

NORTHBOUND AND SOUTHBOUND I-93

SPAN 1

BEAM NO.		CL BRG S ABUT	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL BRG PIER 1
1&24	STEEL DL DEFLECTION	0.0000	0.0250	0.0470	0.0640	0.0750	0.0790	0.0750	0.0640	0.0470	0.0250	0.0000
	CONC. DL DEFLECTION	0.0000	0.1130	0.2150	0.2940	0.3440	0.3610	0.3440	0.2940	0.2150	0.1140	0.0000
	S.D.L. DEFLECTION	0.0000	0.0350	0.0660	0.0920	0.1070	0.1120	0.1070	0.0920	0.0660	0.0350	0.0000
	VERTICAL CURVE	0.0000	0.0318	0.0606	0.0828	0.0969	0.1017	0.0969	0.0828	0.0606	0.0321	0.0000
	ADDITIONAL CAMBER	0.0000	0.0409	0.0778	0.1064	0.1245	0.1306	0.1245	0.1064	0.0778	0.0412	0.0000
	TOTAL CAMBER	0.0000	0.2457	0.4663	0.6392	0.7474	0.7843	0.7474	0.6392	0.4663	0.2474	0.0000
2-11 & 14-23	STEEL DL DEFLECTION	0.0000	0.0270	0.0510	0.0700	0.0820	0.0870	0.0820	0.0700	0.0510	0.0270	0.0000
	CONC. DL DEFLECTION	0.0000	0.1440	0.2730	0.3740	0.4380	0.4600	0.4380	0.3740	0.2730	0.1440	0.0000
	S.D.L. DEFLECTION	0.0000	0.0320	0.0600	0.0810	0.0950	0.1010	0.0950	0.0810	0.0600	0.0320	0.0000
	VERTICAL CURVE	0.0000	0.0318	0.0603	0.0827	0.0968	0.1017	0.0968	0.0827	0.0603	0.0318	0.0000
	ADDITIONAL CAMBER	0.0000	0.0409	0.0775	0.1062	0.1244	0.1306	0.1244	0.1062	0.0775	0.0409	0.0000
	TOTAL CAMBER	0.0000	0.2757	0.5219	0.7139	0.8362	0.8803	0.8362	0.7139	0.5219	0.2757	0.0000
12&13	STEEL DL DEFLECTION	0.0000	0.0250	0.0470	0.0640	0.0750	0.0790	0.0750	0.0640	0.0470	0.0250	0.0000
	CONC. DL DEFLECTION	0.0000	0.1040	0.1970	0.2700	0.3160	0.3320	0.3160	0.2700	0.1970	0.1040	0.0000
	S.D.L. DEFLECTION	0.0000	0.0410	0.0770	0.1050	0.1240	0.1310	0.1240	0.1050	0.0770	0.0410	0.0000
	VERTICAL CURVE	0.0000	0.0318	0.0603	0.0827	0.0968	0.1017	0.0968	0.0827	0.0603	0.0318	0.0000
	ADDITIONAL CAMBER	0.0000	0.0409	0.0775	0.1062	0.1243	0.1306	0.1243	0.1062	0.0775	0.0409	0.0000
	TOTAL CAMBER	0.0000	0.2428	0.4588	0.6279	0.7361	0.7743	0.7361	0.6279	0.4588	0.2428	0.0000

SPAN 2

BEAM NO.		CL BRG PIER 1	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL BRG PIER 2
25&48	STEEL DL DEFLECTION	0.0000	0.2150	0.4070	0.5570	0.6520	0.6850	0.6520	0.5570	0.4070	0.2150	0.0000
	CONC. DL DEFLECTION	0.0000	0.6550	1.2390	1.6960	1.9860	2.0860	1.9860	1.6960	1.2390	0.6550	0.0000
	S.D.L. DEFLECTION	0.0000	0.2500	0.4720	0.6460	0.7560	0.7940	0.7560	0.6460	0.4720	0.2500	0.0000
	VERTICAL CURVE	0.0000	0.1524	0.2883	0.3947	0.4622	0.4855	0.4622	0.3947	0.2883	0.1524	0.0000
	ADDITIONAL CAMBER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	TOTAL CAMBER	0.0000	1.2724	2.4063	3.2937	3.8562	4.0505	3.8562	3.2937	2.4063	1.2724	0.0000
26-35 & 38-47	STEEL DL DEFLECTION	0.0000	0.2280	0.4320	0.5910	0.6920	0.7270	0.6920	0.5910	0.4320	0.2280	0.0000
	CONC. DL DEFLECTION	0.0000	0.8310	1.5730	2.1530	2.5210	2.6480	2.5210	2.1530	1.5730	0.8310	0.0000
	S.D.L. DEFLECTION	0.0000	0.2240	0.4250	0.5850	0.6810	0.7140	0.6810	0.5810	0.4250	0.2240	0.0000
	VERTICAL CURVE	0.0000	0.1524	0.2884	0.3947	0.4622	0.4855	0.4622	0.3947	0.2884	0.1524	0.0000
	ADDITIONAL CAMBER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	TOTAL CAMBER	0.0000	1.4354	2.7184	3.7237	4.3562	4.5745	4.3562	3.7197	2.7184	1.4354	0.0000
36&37	STEEL DL DEFLECTION	0.0000	0.2150	0.4070	0.5570	0.6520	0.6850	0.6520	0.5570	0.4070	0.2150	0.0000
	CONC. DL DEFLECTION	0.0000	0.6000	1.1340	1.5530	1.8190	1.9100	1.8190	1.5530	1.1340	0.6000	0.0000
	S.D.L. DEFLECTION	0.0000	0.2890	0.5470	0.7480	0.8760	0.9200	0.8760	0.7480	0.5460	0.2890	0.0000
	VERTICAL CURVE	0.0000	0.1525	0.2882	0.3947	0.4623	0.4855	0.4623	0.3947	0.2882	0.1525	0.0000
	ADDITIONAL CAMBER	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	TOTAL CAMBER	0.0000	1.2565	2.3762	3.2527	3.8093	4.0005	3.8093	3.2527	2.3752	1.2565	0.0000

SPAN 3

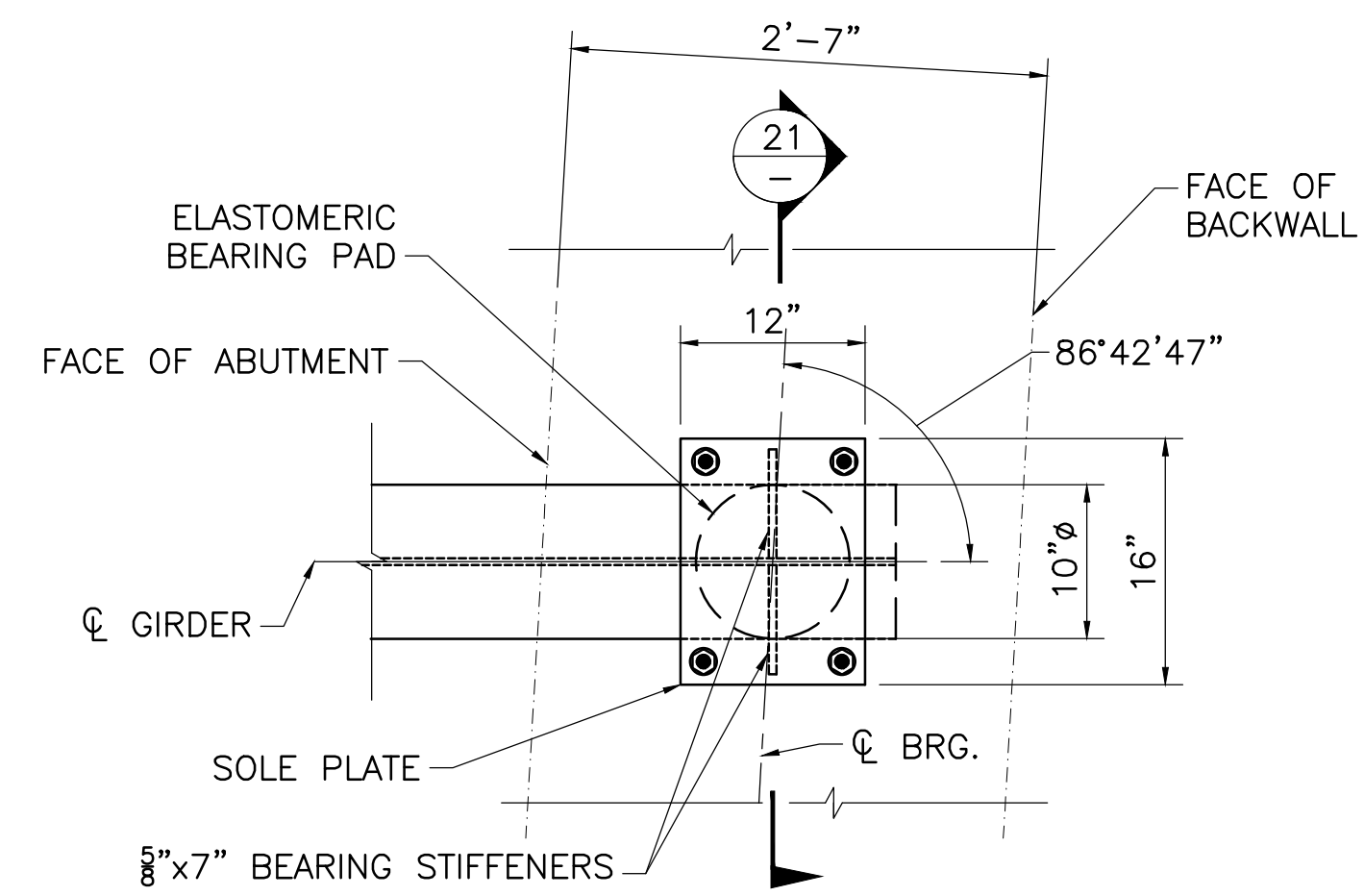
BEAM NO.		CL BRG PIER 2	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	CL BRG N ABUT
49&72	STEEL DL DEFLECTION	0.0000	0.0250	0.0470	0.0640	0.0750	0.0790	0.0750	0.0640	0.0470	0.0250	0.0000
	CONC. DL DEFLECTION	0.0000	0.1130	0.2150	0.2940	0.3440	0.3610	0.3440	0.2940	0.2150	0.1140	0.0000
	S.D.L. DEFLECTION	0.0000	0.0350	0.0660	0.0920	0.1070	0.1120	0.1070	0.0920	0.0660	0.0350	0.0000
	VERTICAL CURVE	0.0000	0.0360	0.0685	0.0937	0.1096	0.1150	0.1096	0.0937	0.0685	0.0363	0.0000
	ADDITIONAL CAMBER	0.0000	0.0367	0.0699	0.0955	0.1118	0.1173	0.1118	0.0955	0.0699	0.0370	0.0000
	TOTAL CAMBER	0.0000	0.2457	0.4663	0.6392	0.7474	0.7843	0.7474	0.6392	0.4663	0.2474	0.0000
50-59 & 62-71	STEEL DL DEFLECTION	0.0000	0.0270	0.0510	0.0700	0.0820	0.0870	0.0820	0.0700	0.0510	0.0270	0.0000
	CONC. DL DEFLECTION	0.0000	0.1440	0.2730	0.3740	0.4380	0.4600	0.4380	0.3740	0.2730	0.1440	0.0000
	S.D.L. DEFLECTION	0.0000	0.0320	0.0600	0.0810	0.0950	0.1010	0.0950	0.0810	0.0600	0.0320	0.0000
	VERTICAL CURVE	0.0000	0.0360	0.0682	0.0935	0.1095	0.1150	0.1095	0.0935	0.0682	0.0360	0.0000
	ADDITIONAL CAMBER	0.0000	0.0367	0.0696	0.0954	0.1117	0.1173	0.1117	0.0954	0.0696	0.0367	0.0000
	TOTAL CAMBER	0.0000	0.2757	0.5219	0.7139	0.8362	0.8803	0.8362	0.7139	0.5219	0.2757	0.0000
60&61	STEEL DL DEFLECTION	0.0000	0.0250	0.0470	0.0640	0.0750	0.0790	0.0750	0.0640	0.0470	0.0250	0.0000
	CONC. DL DEFLECTION	0.0000	0.1040	0.1970	0.2700	0.3160	0.3320	0.3160	0.2700	0.1970	0.1040	0.0000
	S.D.L. DEFLECTION	0.0000	0.0410	0.0770	0.1050	0.1240	0.1310	0.1240	0.1050	0.0770	0.0410	0.0000
	VERTICAL CURVE	0.0000	0.0360	0.0682	0.0935	0.1095	0.1150	0.1095	0.0935	0.0682	0.0360	0.0000
	ADDITIONAL CAMBER	0.0000	0.0367	0.0696	0.0954	0.1116	0.1173	0.1116	0.0954	0.0696	0.0367	0.0000
	TOTAL CAMBER	0.0000	0.2428	0.4588	0.6279	0.7361	0.7743	0.7361	0.6279	0.4588	0.2428	0.0000

CAMBER TABLES
ALL LISTED VALUES IN INCHES

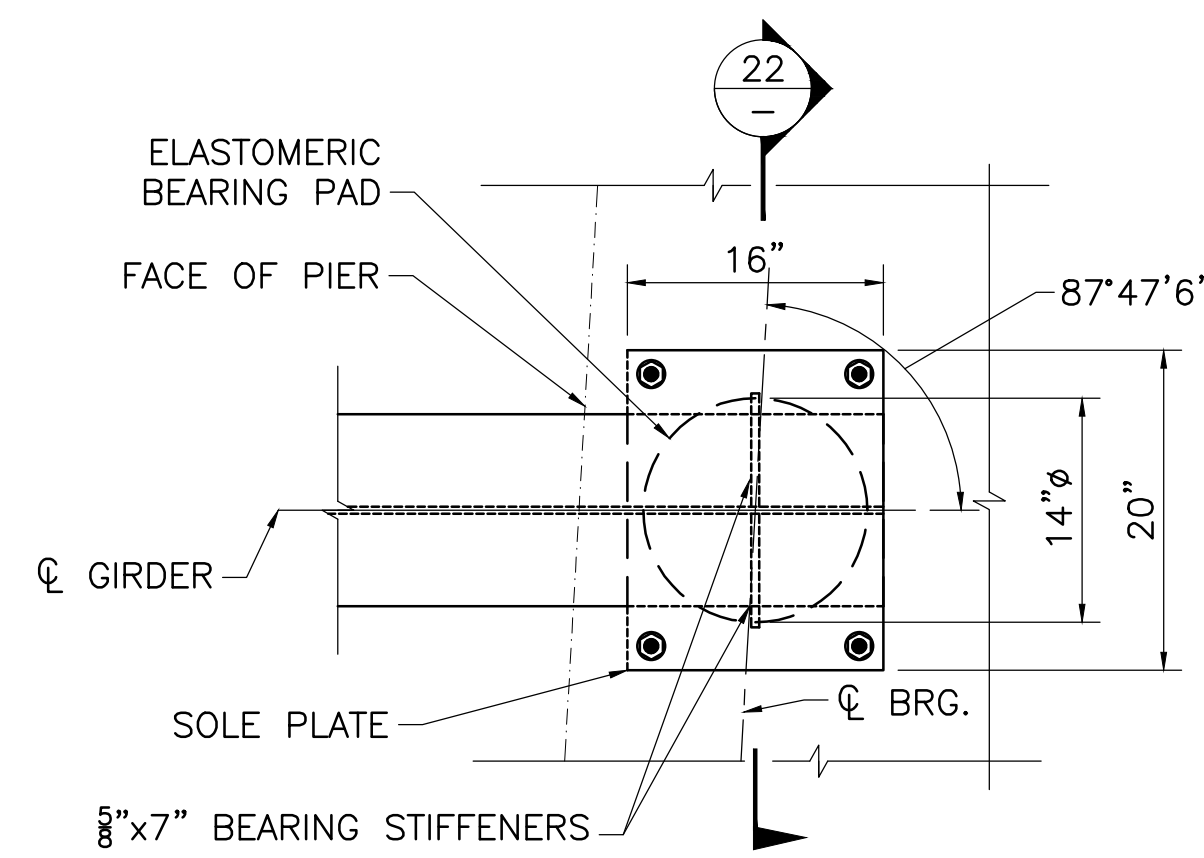
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	48	60
PROJECT FILE NO. 606255			

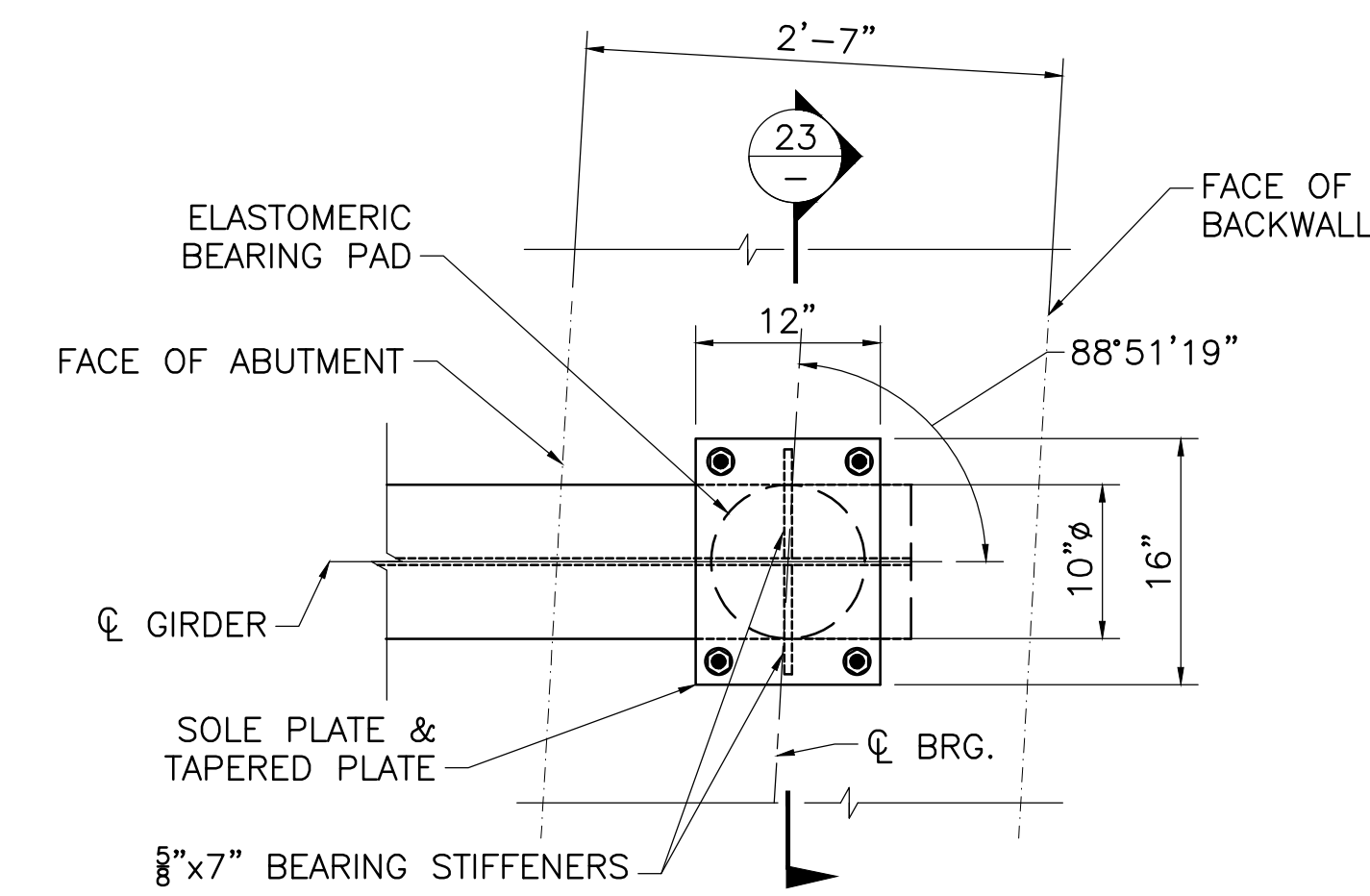
BEARING DETAILS



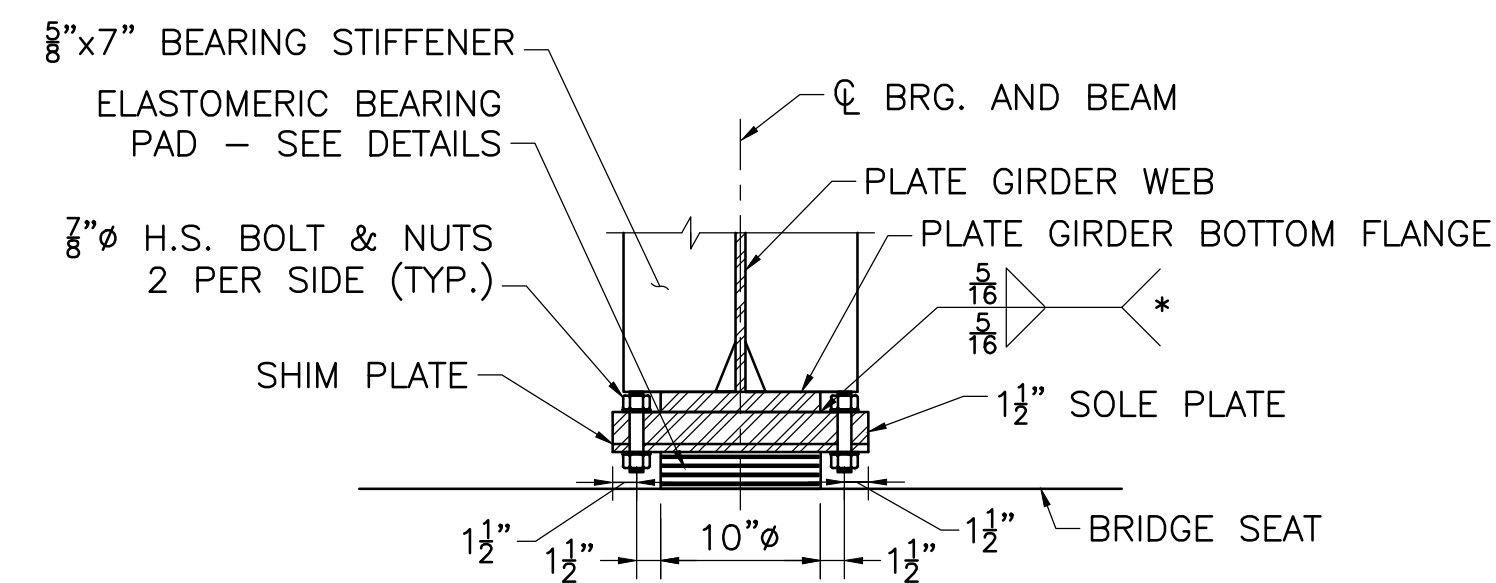
PLAN



PLAN

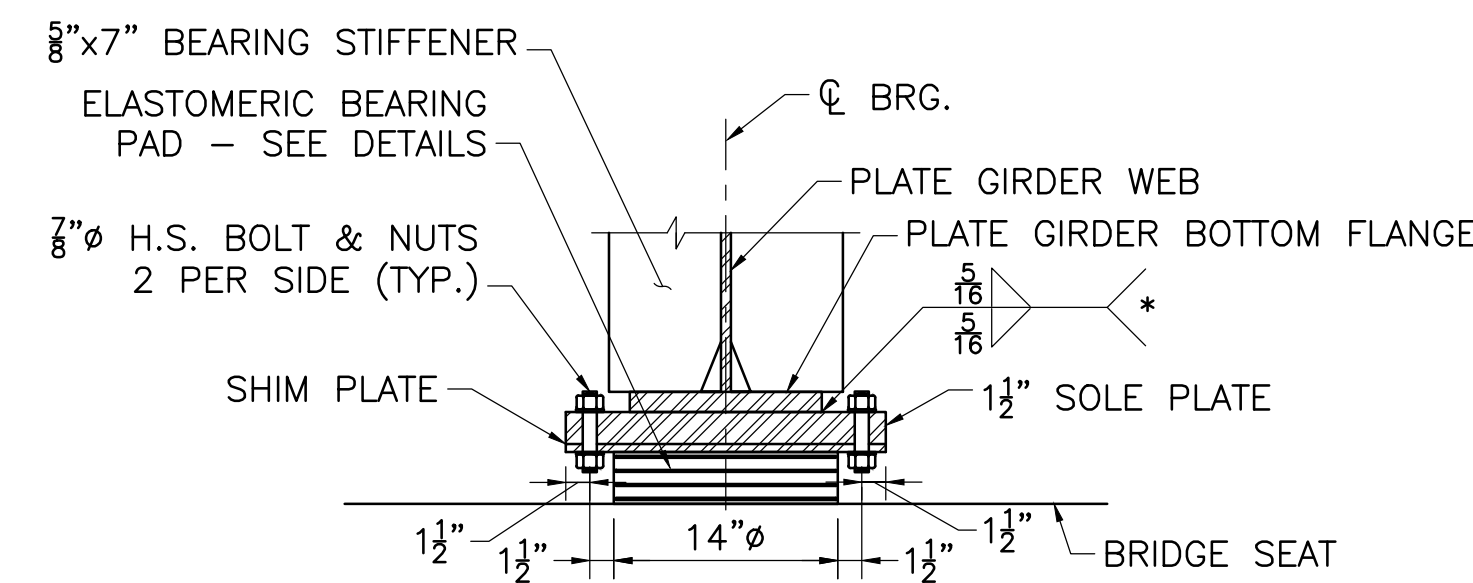


PLAN



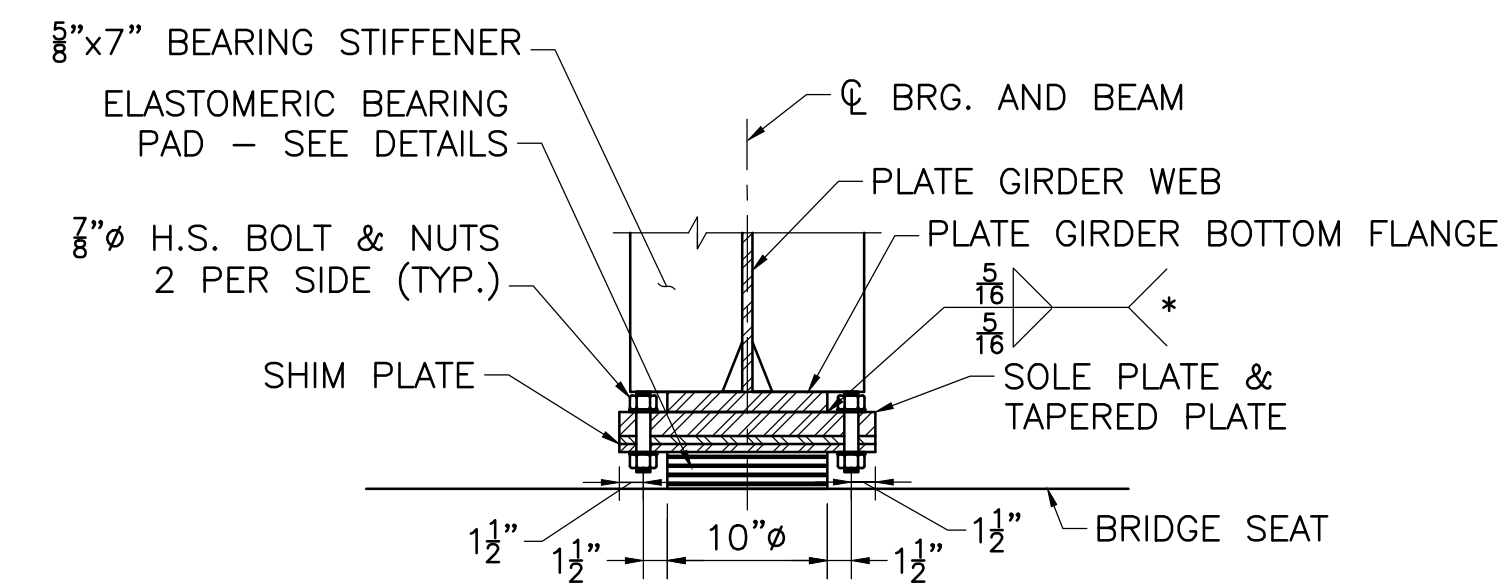
(* - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 21 (21)



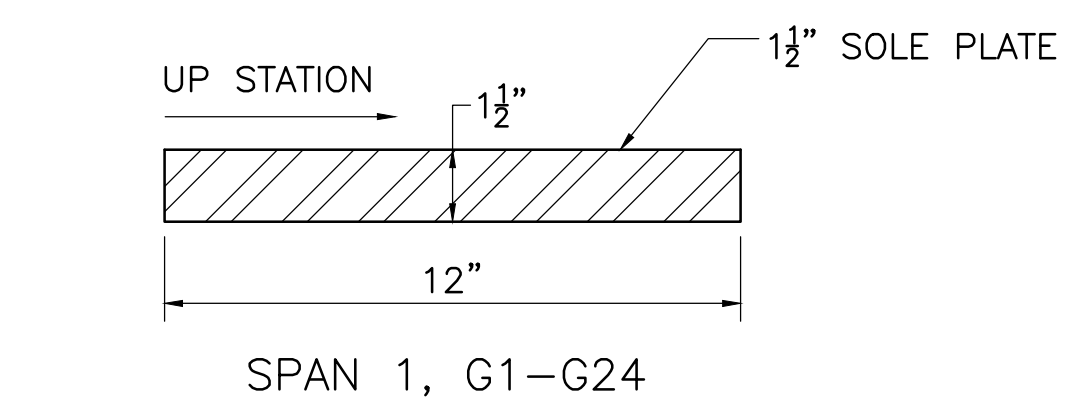
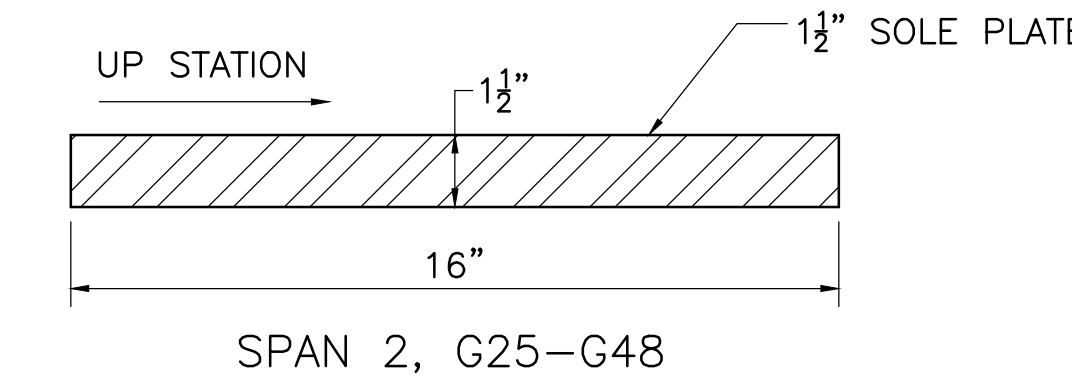
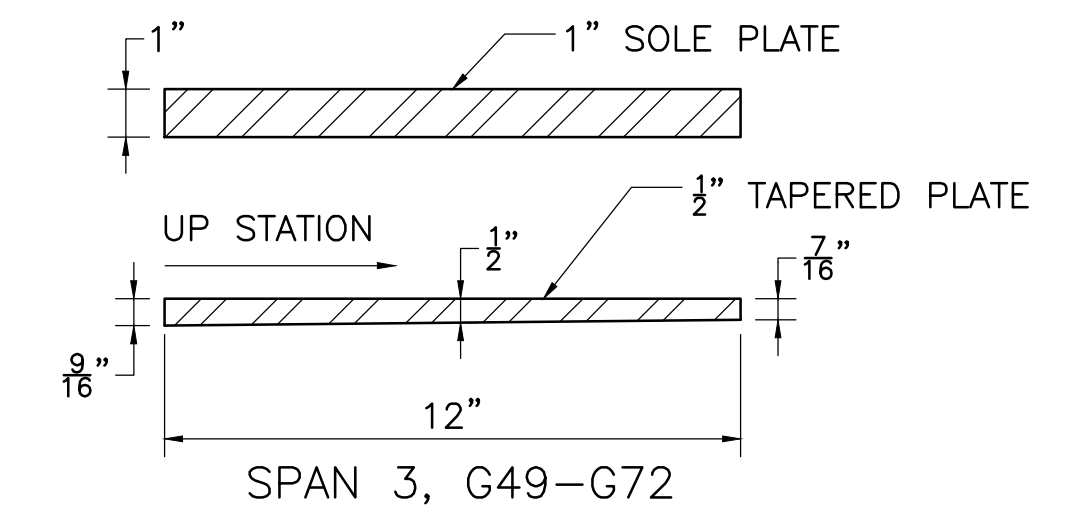
(* - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 22 (22)

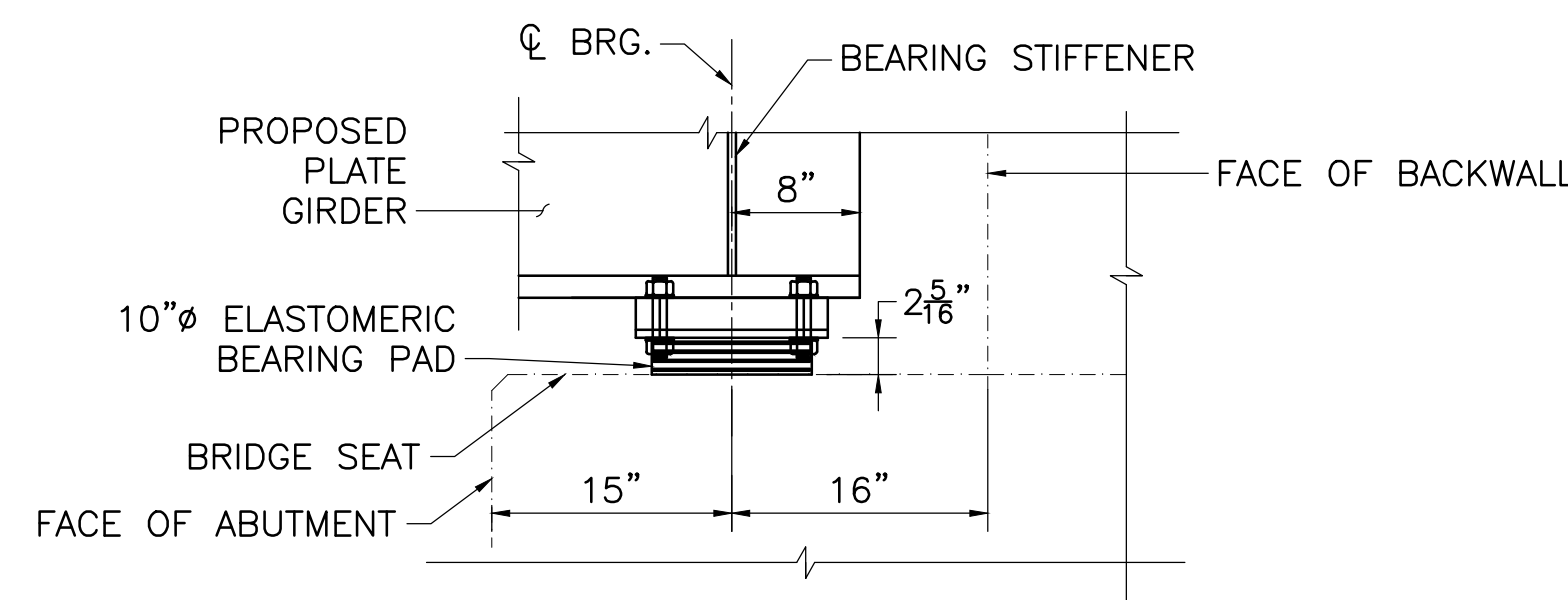


(* - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 23 (23)

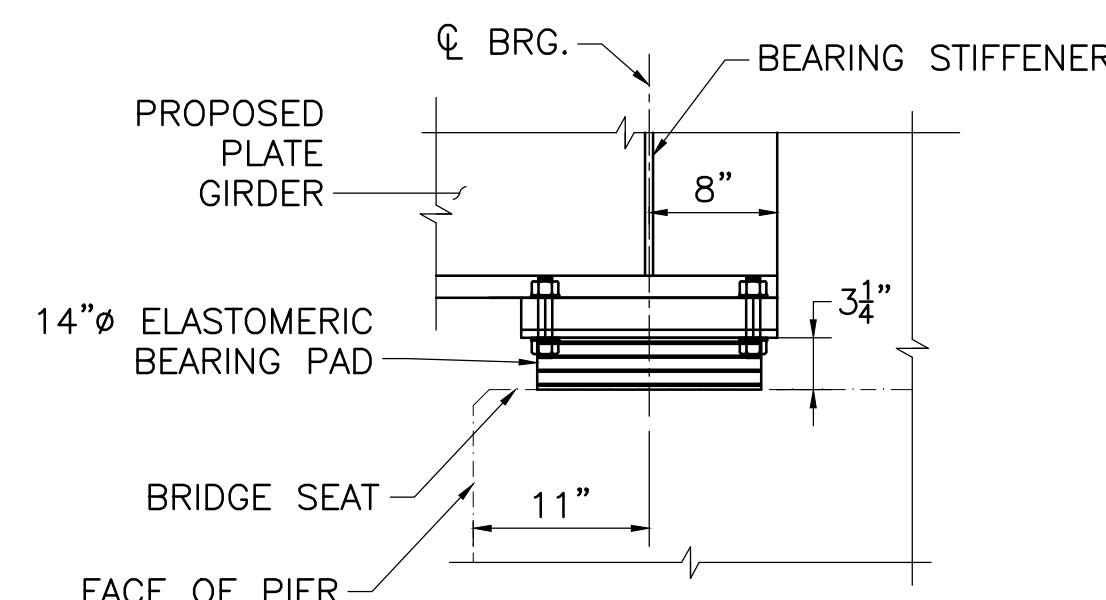


SOLE PLATE
SCALE: 3" = 1'-0"



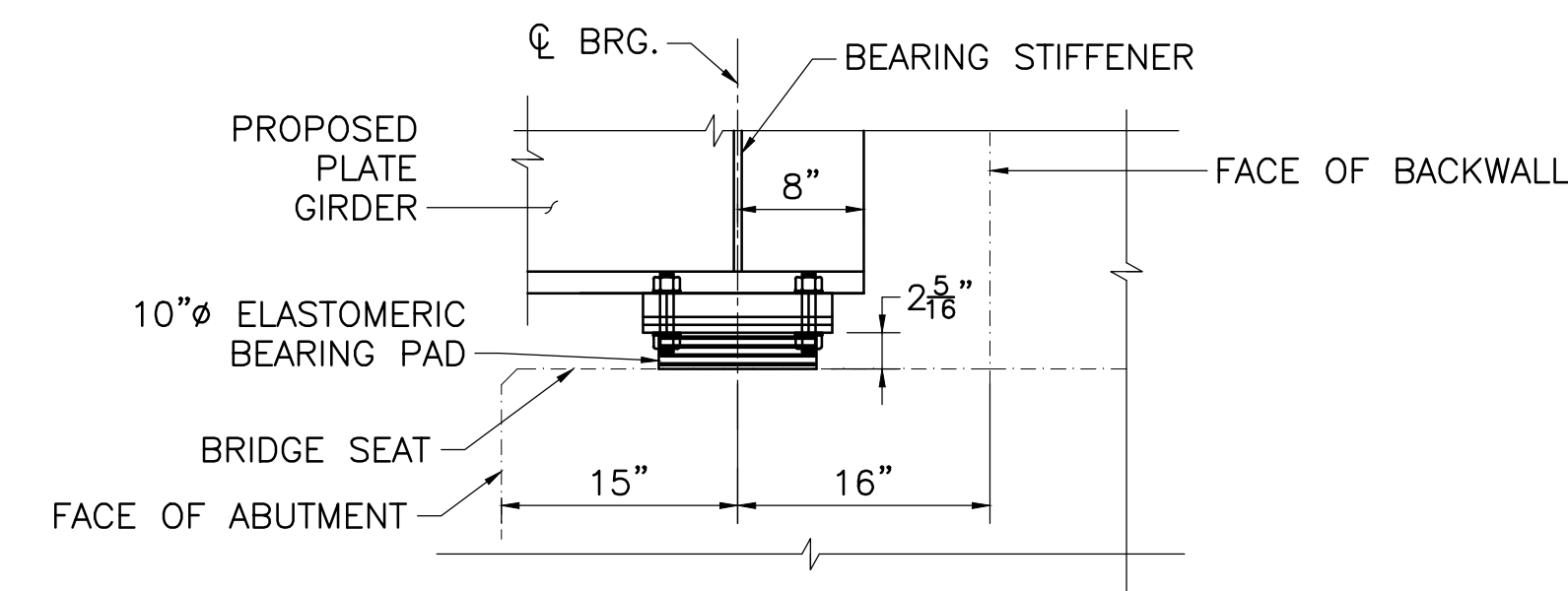
ELEVATION

SPAN 1
SCALE: 1" = 1'-0"



ELEVATION

SPAN 2
SCALE: 1" = 1'-0"

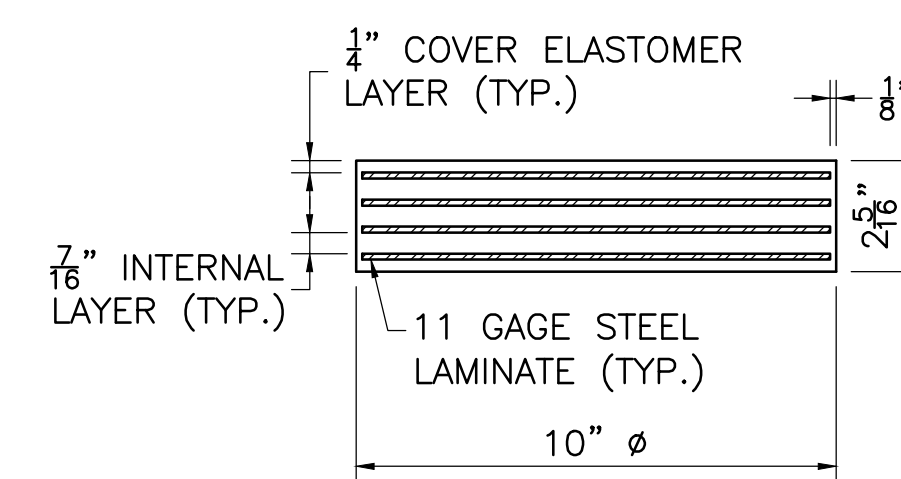


ELEVATION

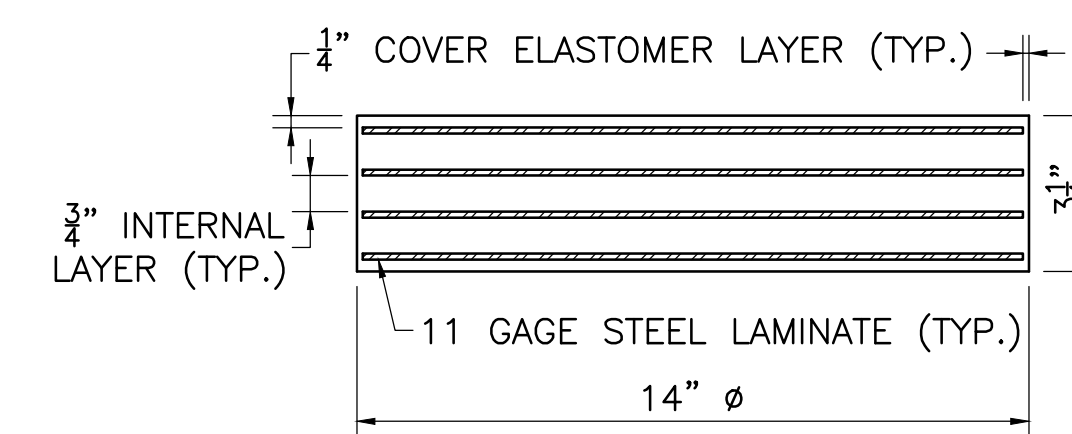
SPAN 3
SCALE: 1" = 1'-0"

BEARING NOTES:

- ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER.
- STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36
- THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 72 KIPS FOR SPANS 1&3, AND 106 KIPS FOR SPAN 2.
- THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 0.916 KSI FOR SPANS 1&3, AND 0.687 KSI FOR SPAN 2.
- ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.
- STEEL SOLE PLATE SHALL CONFORM TO AASHTO M270 GRADE 36 AND SHALL BE HOT-DIP GALVANIZED.
- CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING ERECTION.
- BEAMS SHALL BE ERECTED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 50°F AND 100°F.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A 1/2" DEEP DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER THE BEARING IS INSTALLED.



SPANS 1 & 3



SPAN 2

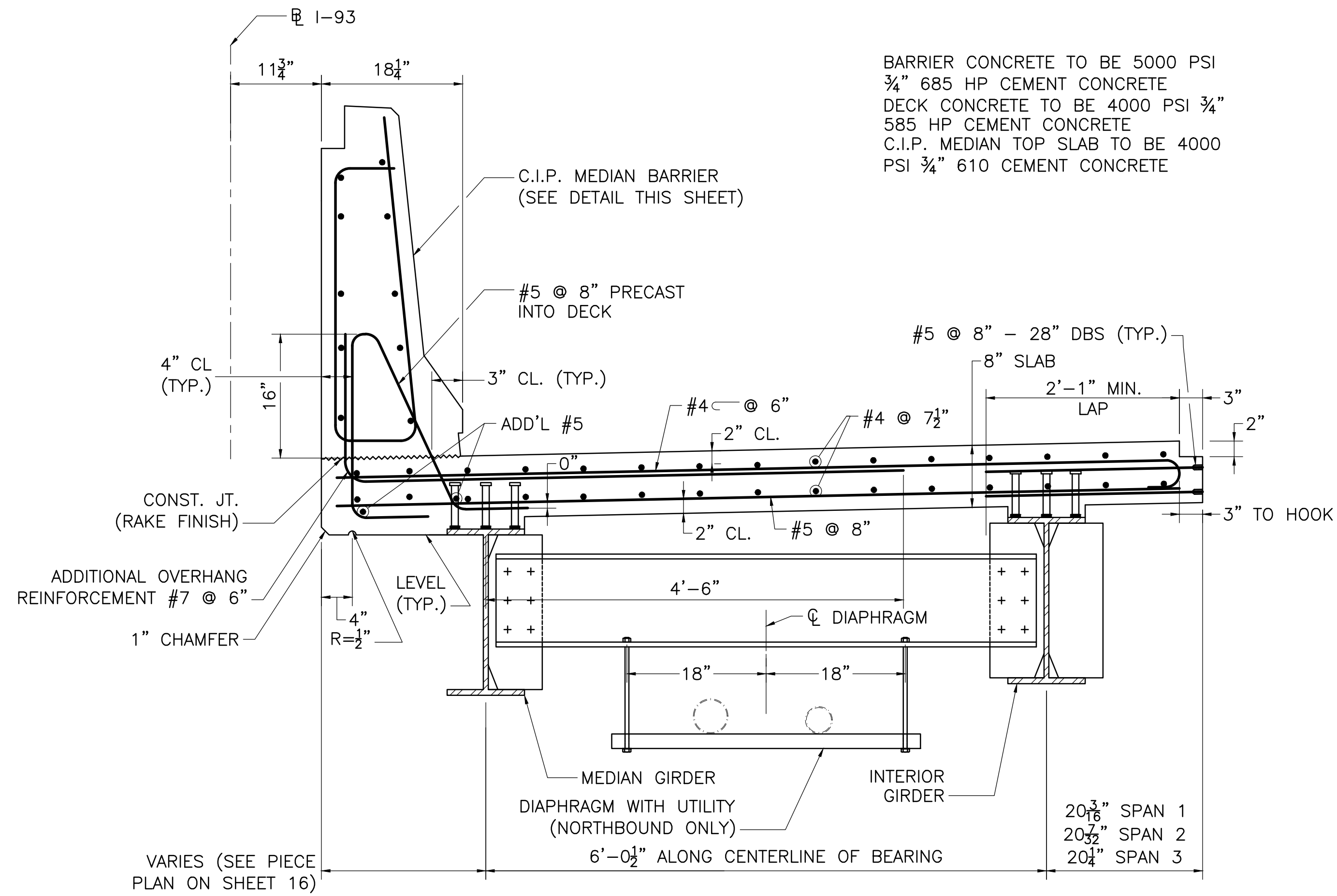
ELASTOMERIC BEARING PAD

SCALE 3" = 1'-0"

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	50	60
PROJECT FILE NO. 606255			

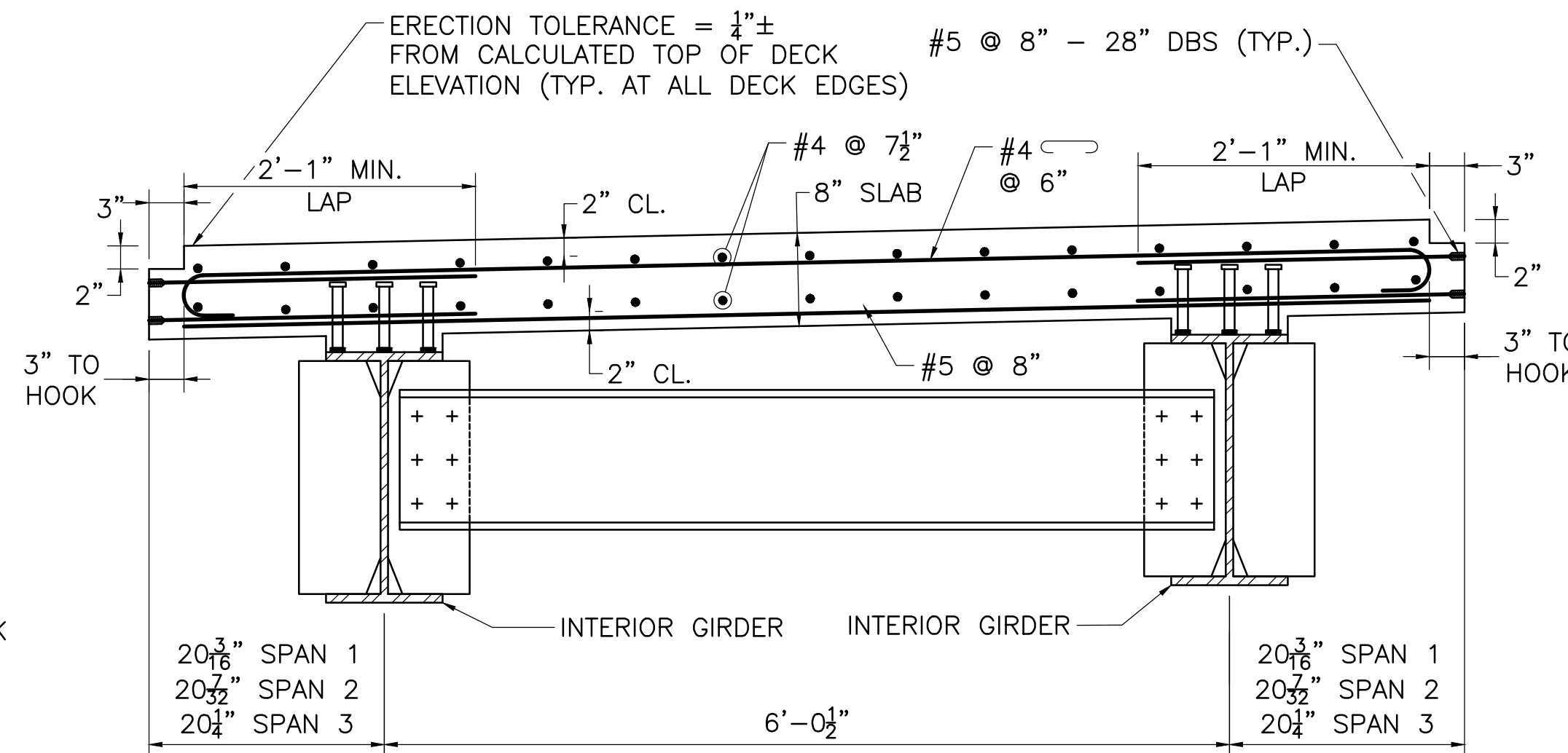
DECK DETAILS



NORTHBOUND SHOWN, SOUTHBOUND SIMILAR EXCEPT AS NOTED

MEDIAN MODULAR SECTION

SCALE: 1"=1'-0"



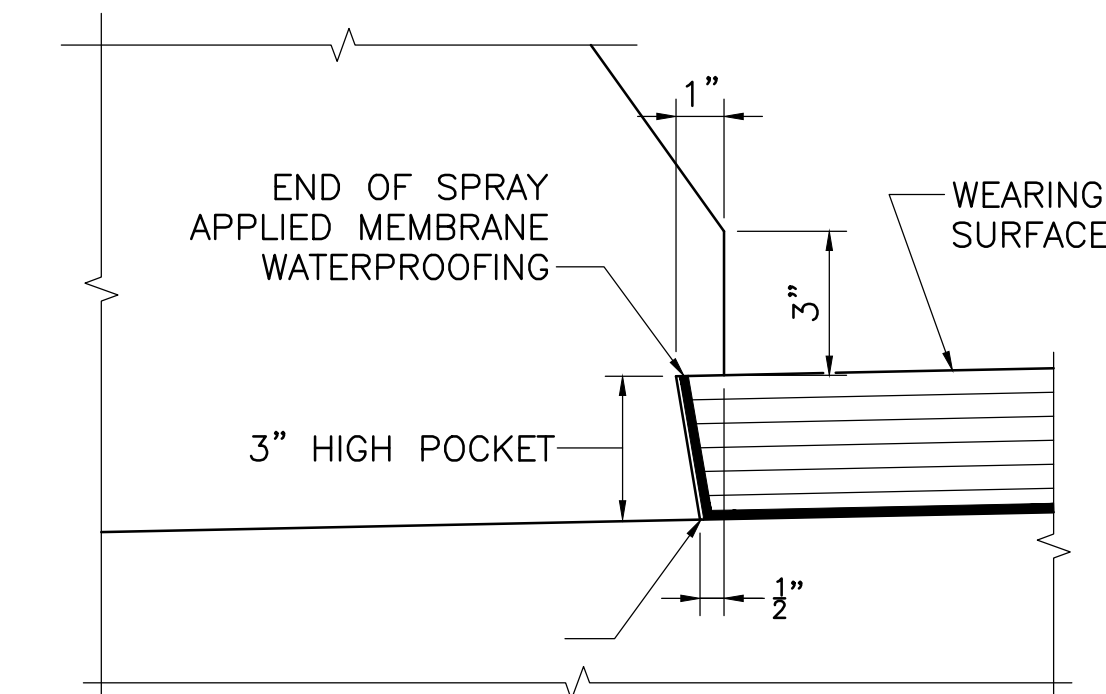
INTERIOR MODULAR SECTION

(LOOKING NORTH)

SCALE: 1"=1'-0"

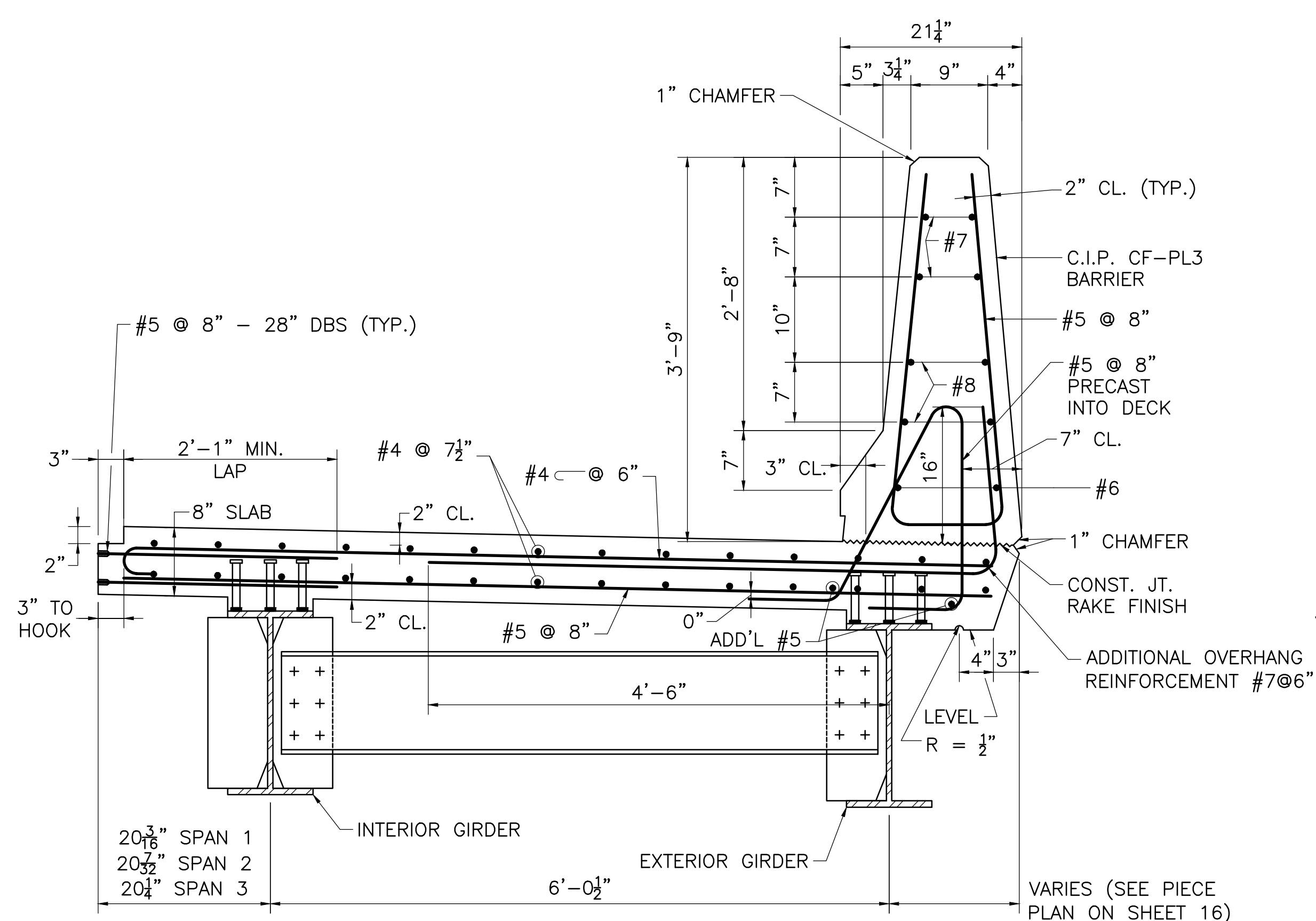
NOTES:

- ROADWAY DECK SLAB SHALL BE 4000 PSI, 3/4 IN, 585 HP CEMENT CONCRETE.
- LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE CL OF CONSTRUCTION. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE CL OF CONSTRUCTION.
- ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED
- THE FINISHED SURFACE OF BRIDGE DECK SHALL BE A MAG FLOAT FINISH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE MEMBRANE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.



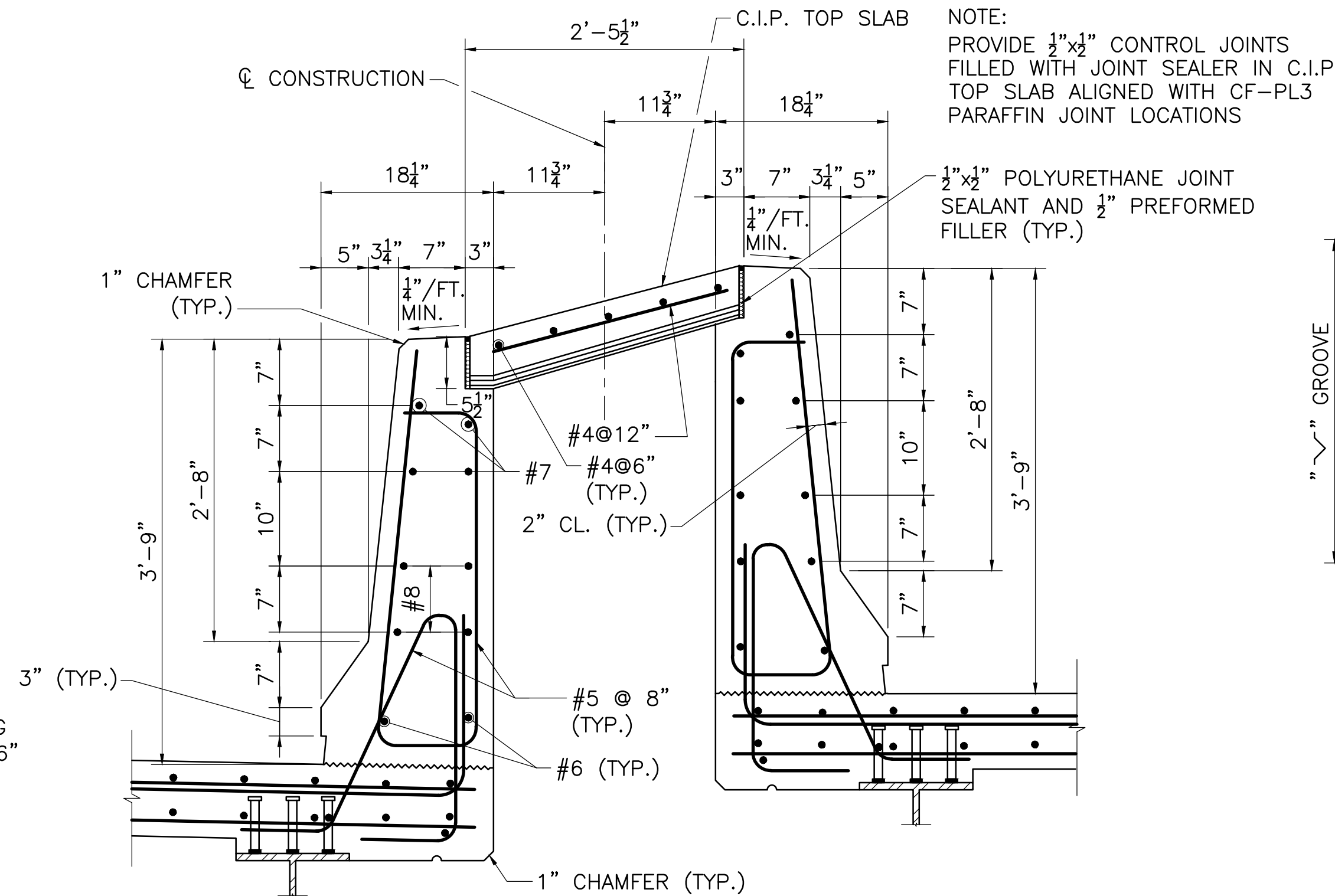
FACE OF CURB DETAILS

SCALE: 3" = 1'-0"



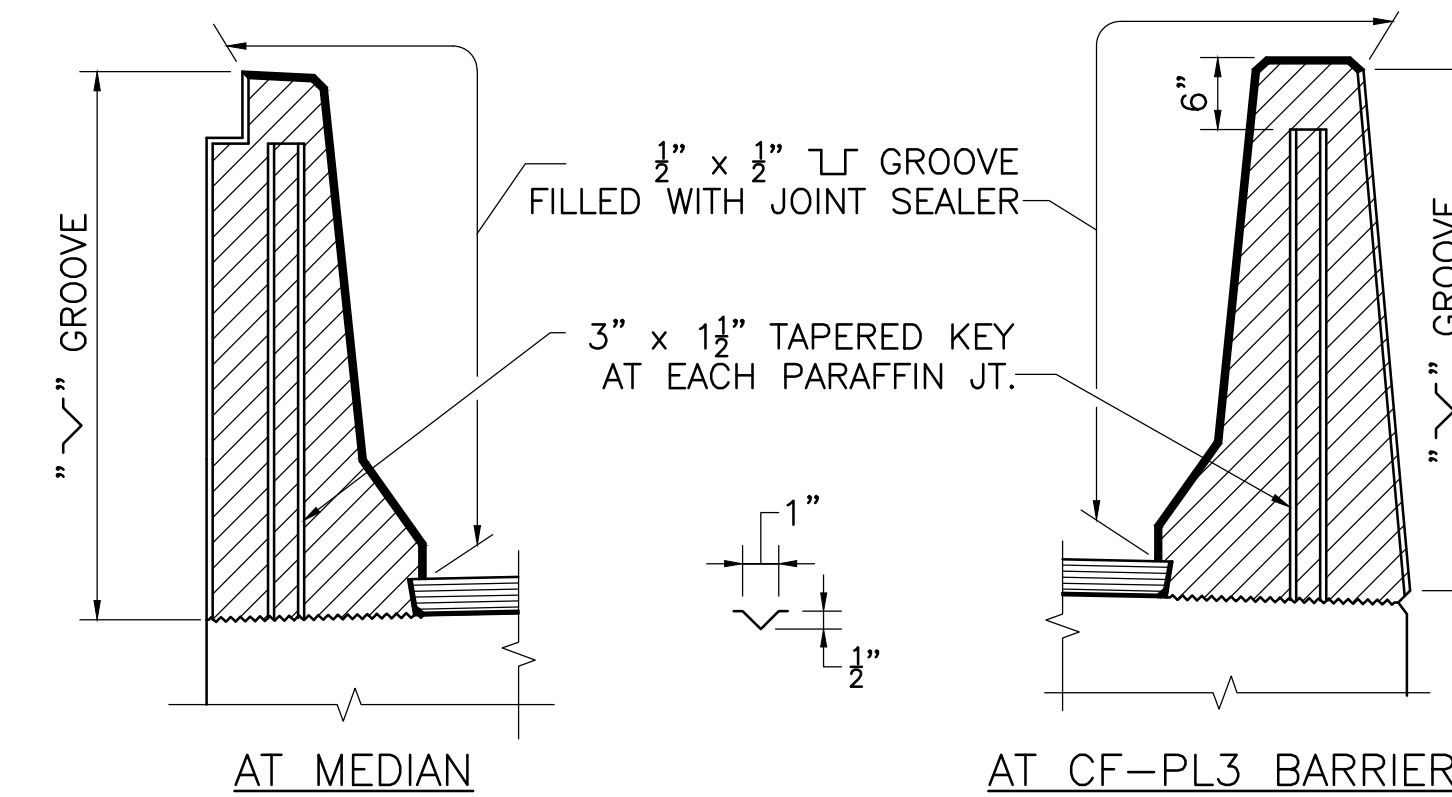
FASCIA MODULAR SECTION

SCALE: 1" = 1'-0"



MEDIAN BARRIER DETAIL

SCALE: 1"=1'-0"



AT MEDIAN

AT CF-PL3 BARRIERS

NOTES:

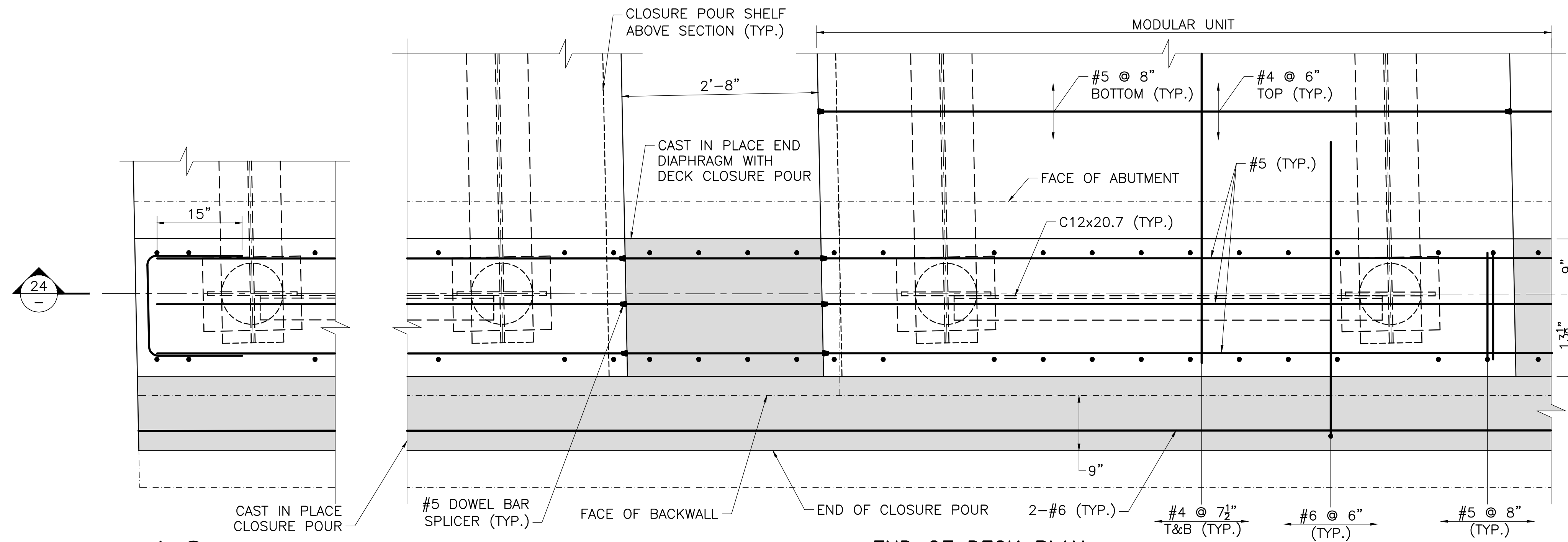
- ALL CONCRETE ABOVE SLAB SHALL BE POURED IN ALTERNATING SECTIONS WITH NOT LESS THAN 3 DAYS BETWEEN POURS.
- DO NOT CARRY LONGITUDINAL BARS THROUGH THE PARAFFIN JOINTS. END THE REINFORCEMENT 2" CLEAR OF JOINT.
- JOINT SHALL BE SQUARE TO FACE OF CURB.

PARAFFIN JOINT DETAILS

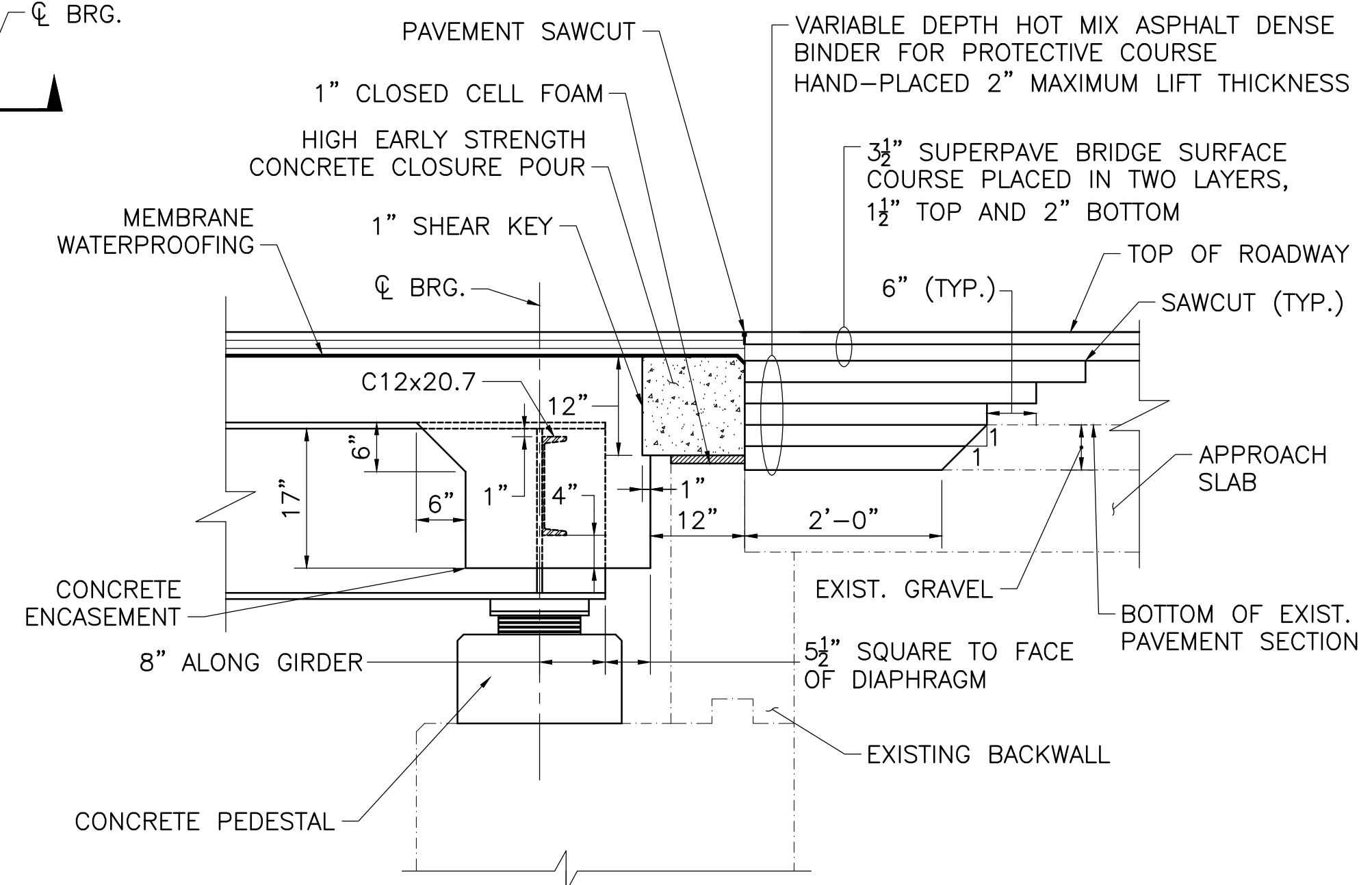
SCALE: 3/4" = 1'-0"

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

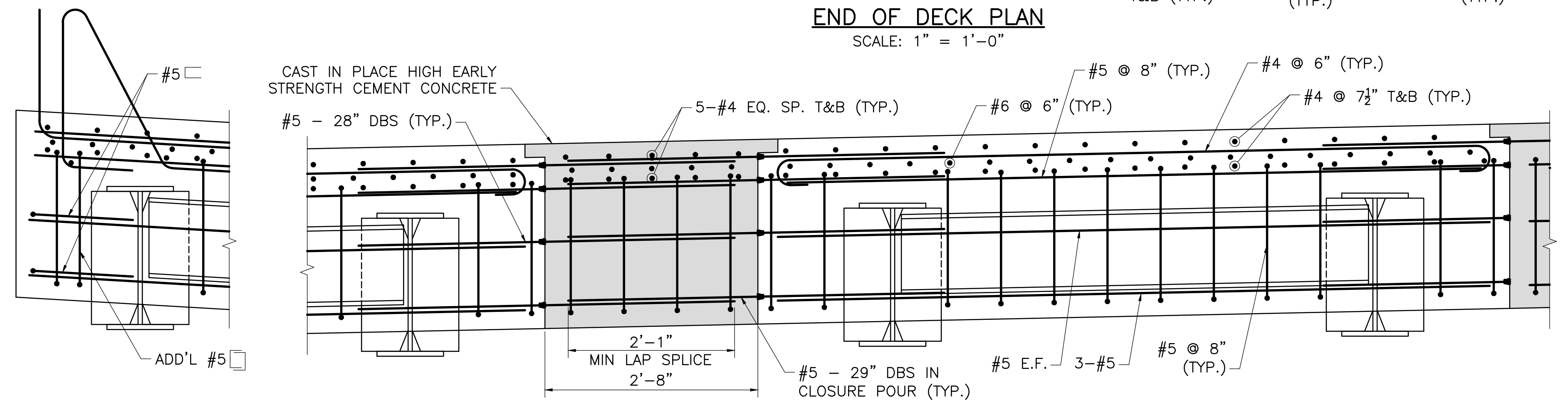
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	51	60
PROJECT FILE NO. 606255			
END OF DECK DETAILS			



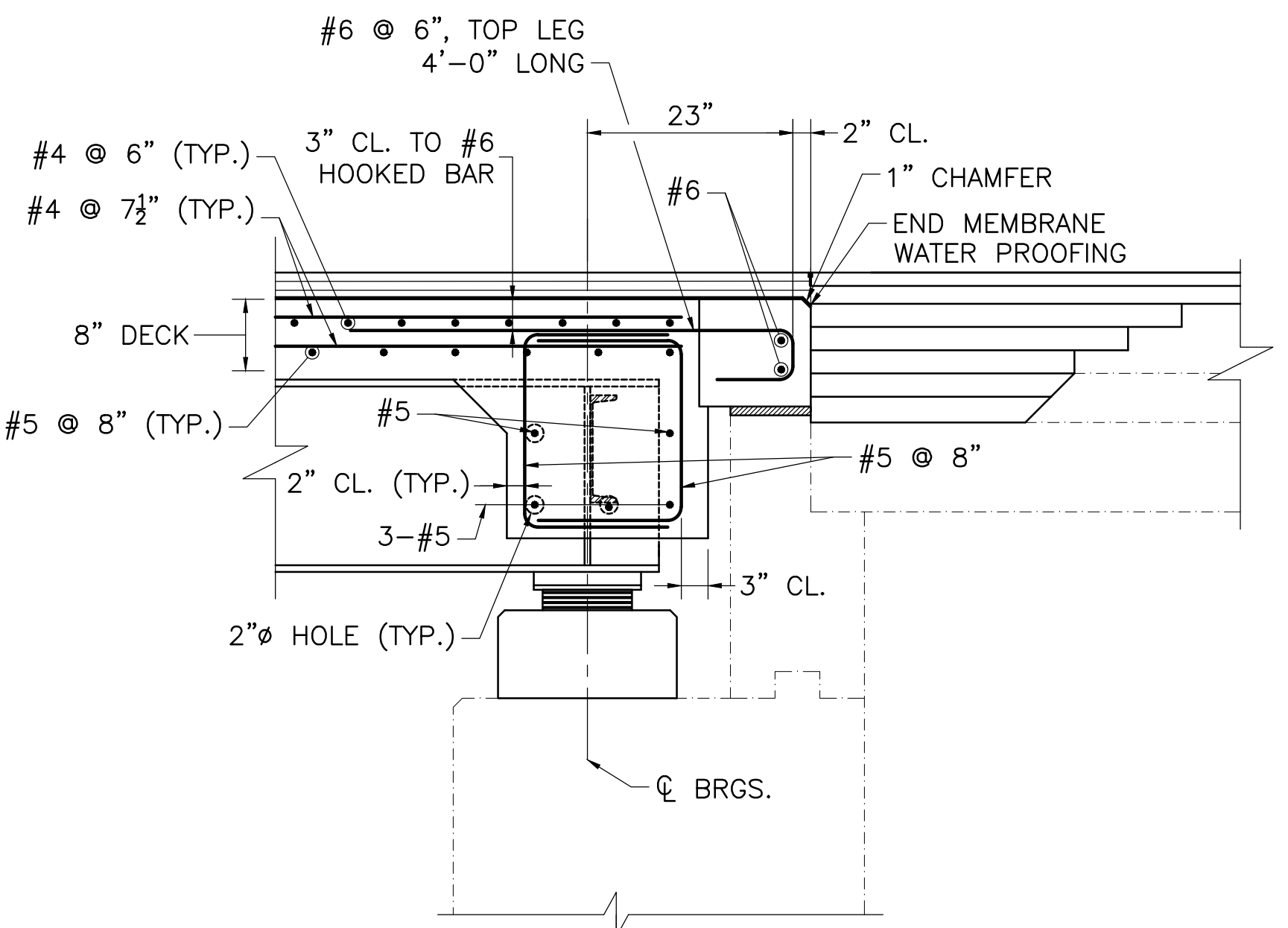
END OF DECK PLAN
SCALE: 1" = 1'-0"



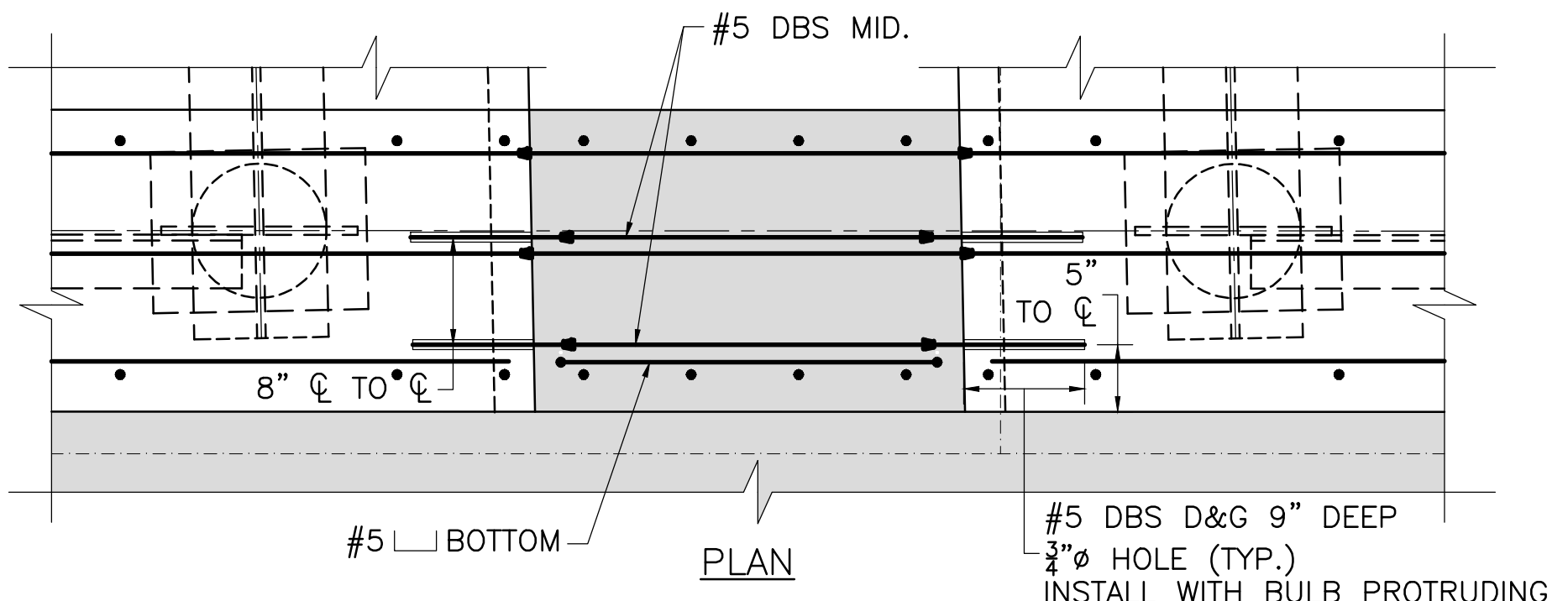
NOTE:
REINFORCEMENT NOT SHOWN FOR CLARITY
TYPICAL SECTION AT ABUTMENT
(SECTION TAKEN SQUARE TO ABUTMENT FACE)
SCALE: 3/4" = 1'-0"



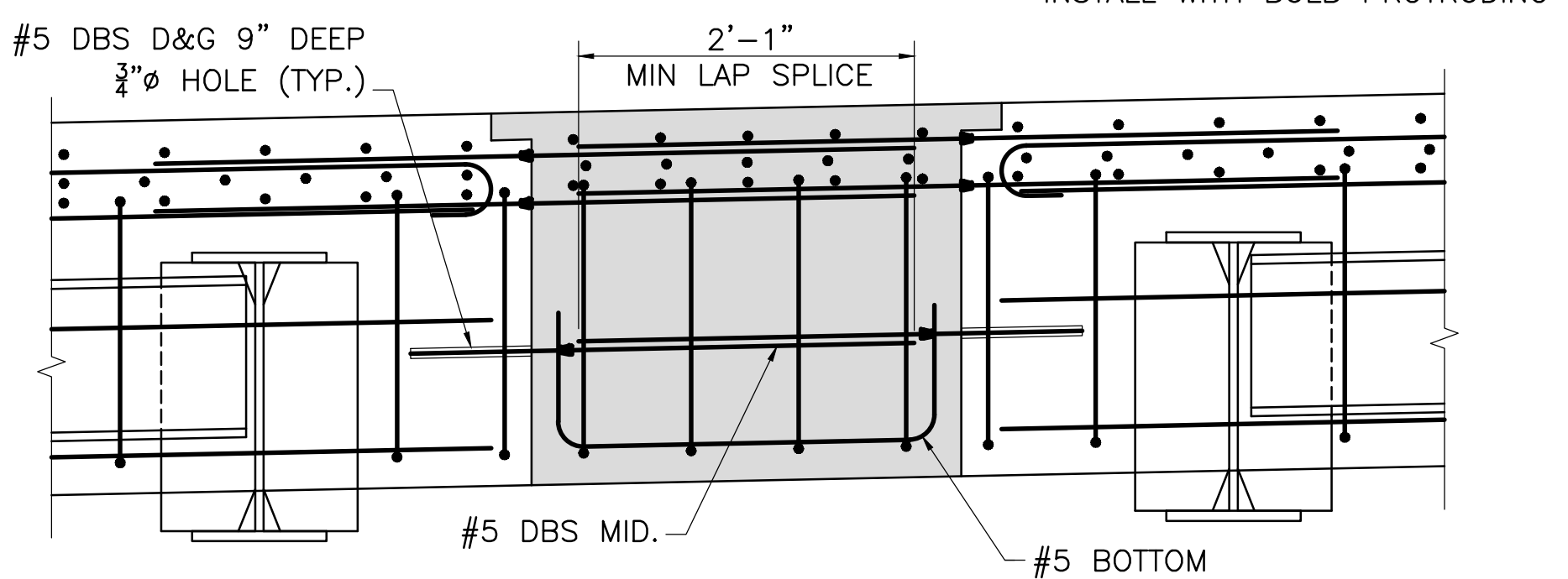
SOUTHBOUND CAST IN PLACE END DIAPHRAGM WITH CLOSURE POUR SECTION 24
SCALE: 1" = 1'-0"



TYPICAL SECTION AT ABUTMENT
(SECTION TAKEN SQUARE TO ABUTMENT FACE)
SCALE: 3/4" = 1'-0"

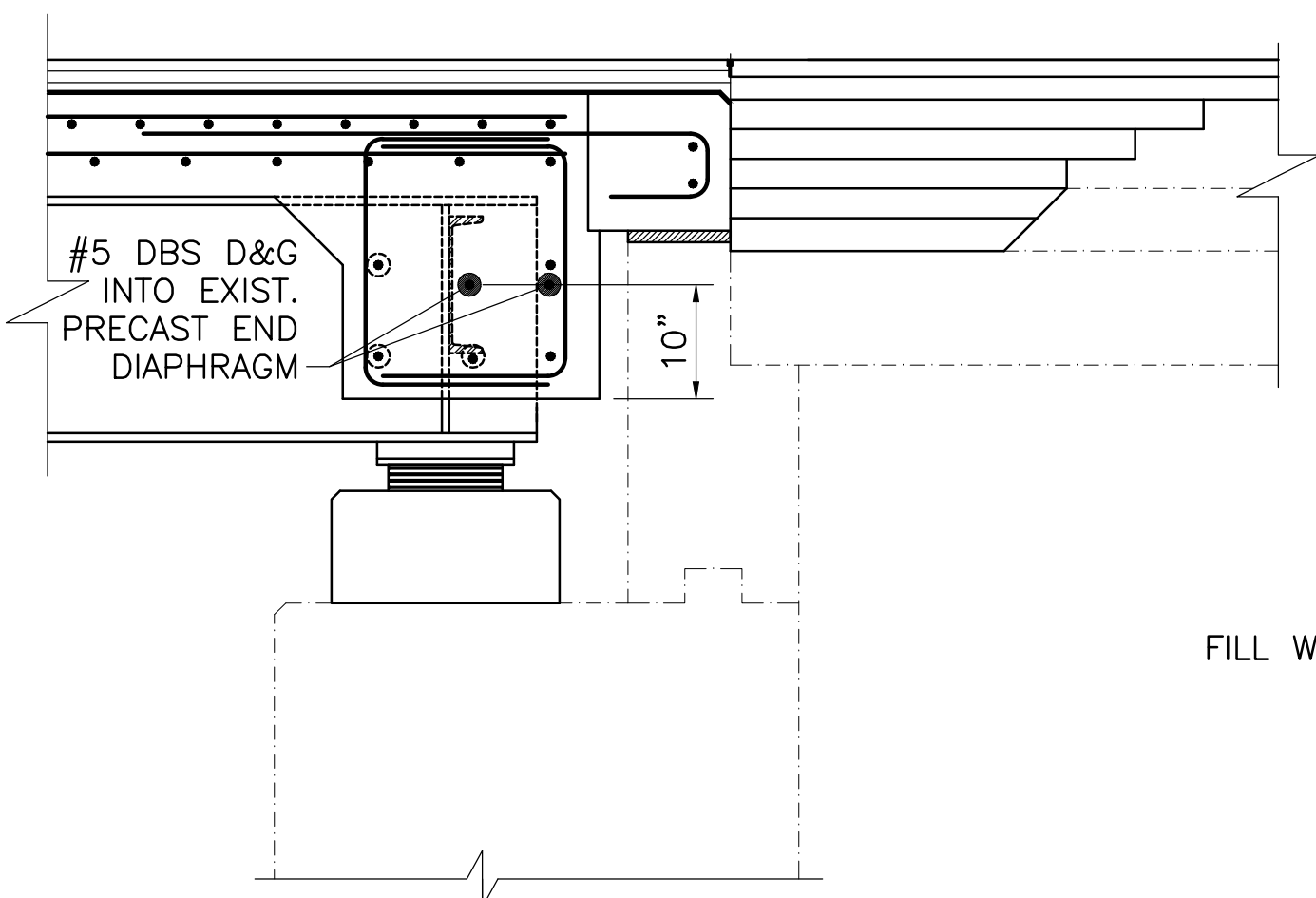


PLAN

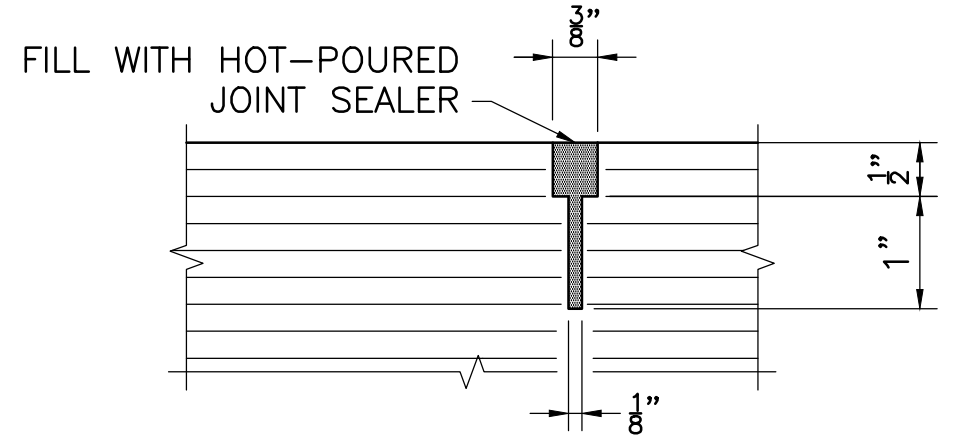


ELEVATION

NORTHBOUND CAST IN PLACE END DIAPHRAGM RETROFIT
(FOR REINFORCEMENT DETAILS NOT SHOWN SEE TYPICAL SOUTHBOUND DETAILS ABOVE)
SCALE: 1" = 1'-0"



NORTHBOUND CAST IN PLACE END DIAPHRAGM RETROFIT
(FOR REINFORCEMENT DETAILS NOT SHOWN SEE TYPICAL SECTION AT ABUTMENT)
SCALE: 3/4" = 1'-0"



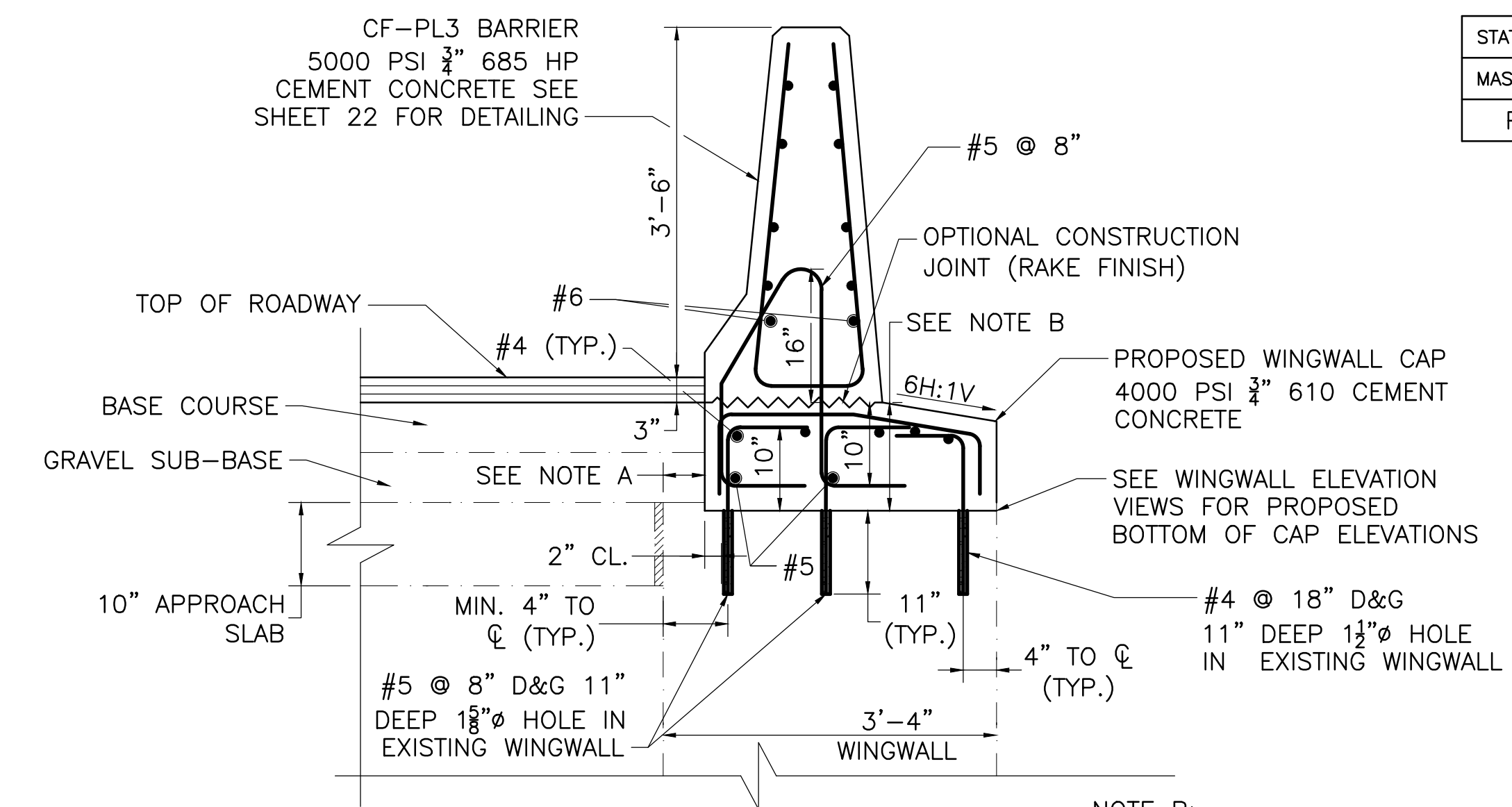
PAVEMENT SAWCUT DETAIL
NOT TO SCALE

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

BEAM NO.	CL BRG S ABUT	TOP OF FORM ELEVATIONS SPAN 1										CL BRG PIER 1	
		INCREASING STATIONS											
		0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	
G1	96+86.46	41.66	41.68	41.70	41.71	41.72	41.72	41.72	41.71	41.71	41.69	41.68	97+22.82
G2	96+86.09	41.86	41.88	41.90	41.91	41.92	41.93	41.93	41.92	41.91	41.90	41.88	97+22.52
G3	96+85.72	41.93	41.95	41.97	41.98	41.99	41.99	41.99	41.99	41.98	41.96	41.95	97+22.22
G4	96+85.35	41.69	41.71	41.73	41.74	41.75	41.75	41.75	41.75	41.74	41.72	41.71	97+21.92
G5	96+84.98	41.45	41.47	41.48	41.50	41.51	41.51	41.51	41.51	41.50	41.48	41.47	97+21.62
G6	96+84.61	41.21	41.23	41.24	41.26	41.27	41.27	41.27	41.26	41.25	41.24	41.22	97+21.32
G7	96+84.23	40.96	40.98	41.00	41.01	41.02	41.03	41.03	41.02	41.01	41.00	40.98	97+21.01
G8	96+83.85	40.72	40.74	40.76	40.77	40.78	40.79	40.79	40.78	40.77	40.76	40.74	97+20.70
G9	96+83.48	40.48	40.50	40.52	40.53	40.54	40.55	40.55	40.54	40.53	40.52	40.50	97+20.40
G10	96+83.10	40.24	40.26	40.28	40.29	40.30	40.30	40.30	40.30	40.29	40.28	40.26	97+20.10
G11	96+82.72	40.00	40.02	40.04	40.05	40.06	40.06	40.06	40.06	40.05	40.04	40.02	97+19.78
G12	96+82.34	39.75	39.77	39.79	39.80	39.81	39.81	39.81	39.81	39.80	39.79	39.78	97+19.48
G13	96+82.08	40.39	40.41	40.42	40.44	40.45	40.45	40.45	40.44	40.43	40.42	40.41	97+19.14
G14	96+81.69	40.39	40.41	40.43	40.44	40.45	40.46	40.46	40.45	40.44	40.43	40.42	97+18.44
G15	96+81.31	40.14	40.17	40.18	40.20	40.21	40.21	40.21	40.20	40.19	40.17	40.17	97+17.74
G16	96+80.92	39.90	39.92	39.94	39.96	39.97	39.97	39.97	39.96	39.95	39.93	39.93	97+17.04
G17	96+80.53	39.66	39.68	39.70	39.71	39.73	39.73	39.73	39.73	39.72	39.71	39.69	97+16.34
G18	96+80.14	39.42	39.44	39.46	39.47	39.48	39.49	39.49	39.49	39.48	39.46	39.45	97+15.63
G19	96+79.75	39.18	39.20	39.22	39.23	39.24	39.25	39.25	39.24	39.23	39.22	39.21	97+14.92
G20	96+79.36	38.93	38.96	38.97	38.99	39.00	39.01	39.01	39.00	38.99	38.98	38.97	97+14.20
G21	96+78.96	38.69	38.71	38.73	38.75	38.76	38.76	38.76	38.76	38.75	38.74	38.73	97+13.49
G22	96+78.56	38.45	38.47	38.49	38.51	38.52	38.52	38.52	38.51	38.50	38.48	38.47	97+12.77
G23	96+78.16	38.64	38.66	38.68	38.69	38.70	38.71	38.71	38.70	38.69	38.67	38.67	97+12.05
G24	96+77.76	38.99	39.00	39.02	39.04	39.04	39.05	39.05	39.04	39.03	39.02	39.02	97+11.32

BEAM NO.	CL BRG PIER 1	TOP OF FORM ELEVATIONS SPAN 2										CL BRG PIER 2	
		INCREASING STATIONS											
		0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	
G25	97+24.41	41.68	41.75	41.81	41.85	41.87	41.86	41.83	41.77	41.69	41.60	41.49	97+99.09
G26	97+24.12	41.88	41.96	42.03	42.08	42.10	42.10	42.07	42.01	41.92	41.81	41.69	97+98.95
G27	97+23.82	41.95	42.03	42.10	42.15	42.17	42.17	42.14	42.07	41.99	41.88	41.76	97+98.79
G28	97+23.52	41.71	41.79	41.86	41.91	41.93	41.93	41.90	41.83	41.75	41.64	41.52	97+98.64
G29	97+23.22	41.47	41.55	41.62	41.67	41.69	41.69	41.66	41.59	41.51	41.40	41.28	97+98.48
G30	97+22.93	41.22	41.31	41.38	41.43	41.45	41.45	41.42	41.35	41.27	41.16	41.04	97+98.33
G31	97+22.62	40.98	41.07	41.14	41.19	41.21	41.21	41.17	41.11	41.03	40.92	40.80	97+98.17
G32	97+22.32	40.74	40.82	40.90	40.95	40.97	40.97	40.93	40.87	40.78	40.68	40.56	97+98.01
G33	97+22.02	40.50	40.58	40.65	40.71	40.73	40.73	40.69	40.63	40.54	40.44	40.32	97+97.86
G34	97+21.71	40.26	40.34	40.41	40.46	40.49	40.49	40.45	40.39	40.30	40.20	40.08	97+97.70
G35	97+21.41	40.02	40.10	40.17	40.22	40.25	40.25	40.21	40.15	40.06	39.96	39.84	97+97.55
G36	97+21.10	39.78	39.85	39.91	39.95	39.97	39.96	39.93	39.87	39.80	39.70	39.60	97+97.39
G37	97+20.90	40.42	40.49	40.54	40.58	40.60	40.60	40.57	40.51	40.43	40.33	40.23	97+97.28
G38	97+20.59	40.42	40.50	40.57	40.62	40.65	40.64	40.61	40.55	40.46	40.35	40.23	97+97.12
G39	97+20.28	40.17	40.26	40.33	40.38	40.40	40.40	40.36	40.30	40.21	40.10	39.98	97+97.01
G40	97+19.97	39.93	40.01	40.09	40.14	40.16	40.16	40.12	40.06	39.97	39.86	39.74	97+96.80
G41	97+19.65	39.69	39.77	39.84	39.90	39.92	39.92	39.88	39.82	39.73	39.62	39.50	97+96.64
G42	97+19.34	39.45	39.53	39.60	39.65	39.68	39.68	39.64	39.58	39.49	39.38	39.26	97+96.48
G43	97+19.03	39.21	39.29	39.36	39.41	39.44	39.44	39.40	39.34	39.25	39.14	39.02	97+96.32
G44	97+18.71	38.97	39.05	39.12	39.17	39.20	39.19	39.16	39.10	39.01	38.90	38.78	97+96.15
G45	97+18.39	38.72	38.81	38.88	38.93	38.96	38.95	38.92	38.86	38.77	38.66	38.54	97+95.99
G46	97+18.08	38.48	38.57	38.64	38.69	38.72	38.71	38.68	38.62	38.53	38.42	38.30	97+95.82
G47	97+17.76	38.67	38.76	38.83	38.88	38.90	38.90	38.87	38.81	38.72	38.61	38.49	97+95.66
G48	97+17.44	39.02	39.09	39.15	39.20	39.22	39.21	39.18	39.12	39.04	38.95	38.84	97+95.49

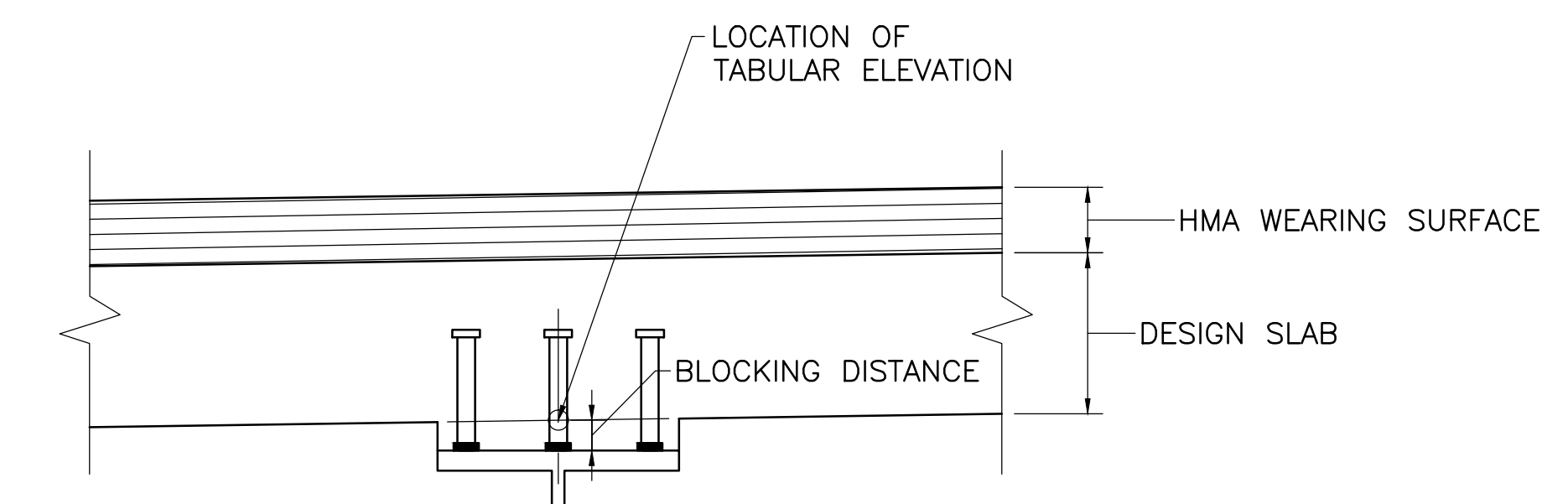
BEAM NO.	CL BRG PIER 2	TOP OF FORM ELEVATIONS SPAN 3										CL BRG N ABUT	
		INCREASING STATIONS											
		0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	
G49	98+00.74	41.48	41.48	41.47	41.46	41.45	41.43	41.41	41.38	41.35	41.32	41.28	98+37.14
G50	98+00.59	41.68	41.68	41.68	41.67	41.66	41.64	41.62	41.59	41.56	41.52	41.48	98+37.06
G51	98+00.44	41.75	41.75	41.75	41.74	41.73	41.71	41.69	41.66	41.63	41.59	41.55	98+36.98
G52	98+00.29	41.51	41.51	41.51	41.50	41.48	41.47	41.44	41.42	41.38	41.35	41.31	98+36.89
G53	98+00.14	41.27	41.27	41.26	41.26	41.24	41.23	41.20	41.18	41.14	41.11	41.07	98+36.81
G54	97+99.99	41.03	41.03	41.02	41.02	41.00	40.99	40.96	40.94	40.90	40.87	40.83	98+36.72
G55	97+99.83	40.79	40.79	40.78	40.78	40.76	40.75	40.72	40.70	40.66	40.63	40.59	98+36.63
G56	97+99.68	40.55	40.55	40.54	40.53	40.52	40.50	40.48	40.45	40.42	40.39	40.35	98+36.55
G57	97+99.53	40.31	40.31	40.30	40.29	40.28	40.26	40.24	40.21	40.18	40.15	40.11	98+36.47
G58	97+99.37	40.07	40.07	40.06	40.05	40.04	40.02	40.00	39.97	39.94	39.90	39.86	98+37.31
G59	97+99.22	39.83	39.83	39.82	39.81	39.80	39.78	39.76	39.73	39.70	39.67	39.63	98+36.29
G60	97+99.07	39.59	39.58	39.58	39.57	39.55	39.53	39.51	39.49	39.45	39.42	39.39	98+36.21
G61	97+98.96	40.22	40.21	40.21	40.20	40.18	40.16	40.14	40.11	40.08	40.05	40.01	98+36.15
G62	97+98.81	40.22	40.22	40.21	40.20	40.19	40.17	40.15	40.12	40.09	40.05	40.01	98+36.07
G63	97+98.40	39.98	39.97	39.97	39.96	39.95	39.93	39.91	39.88	39.84	39.81	39.77	98+35.73
G64	97+98.49	39.74	39.73	39.73	39.72	39.71	39.69	39.66	39.63	39.60	39.56	39.53	98+35.89
G65	97+98.33	39.50	39.49	39.49	39.48	39.46	39.45	39.42	39.39	39.36	39.32	39.28	98+35.81
G66	97+98.17	39.25	39.25	39.25	39.24	39.22	39.21	39.18	39.15	39.12	39.08	39.04	98+35.72
G67	97+98.01	39.01	39.01	39.01	39.00	38.98	38.97	38.94	38.91	38.88	38.84	38.80	98+35.63
G68	97+97.85	38.77	38.77	38.77	38.76	38.74	38.72	38.70	38.67	38.64	38.60	38.56	98+35.54
G69	97+97.70	38.53	38.53	38.52	38.52	38.50	38.48	38.46	38.43	38.40	38.36	38.32	98+35.46
G70	97+97.53	38.29	38.29	38.28	38.28	38.26	38.24	38.22	38.19	38.16	38.12	38.08	98+35.37
G71	97+97.37	38.48	38.48	38.47	38.46	38.45	38.43	38.41	38.38	38.35	38.31	38.27	98+35.28
G72	97+97.21	38.83	38.83	38.82	38.81	38.79	38.77	38.75	38.72	38.69	38.66	38.62	98+35.19



NOTE A:
IF THE PROPOSED LOCATION OF THE CURBLINE OVERHANGS THE APPROACH SLAB SIDE OF THE WINGWALL THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR EVALUATION FOR MODIFICATIONS TO THE WINGWALL CAP DETAILS
N.E. WINGWALL = 1 1/2"
S.E. WINGWALL = 1 1/8" MIN., 5 1/8" MAX.

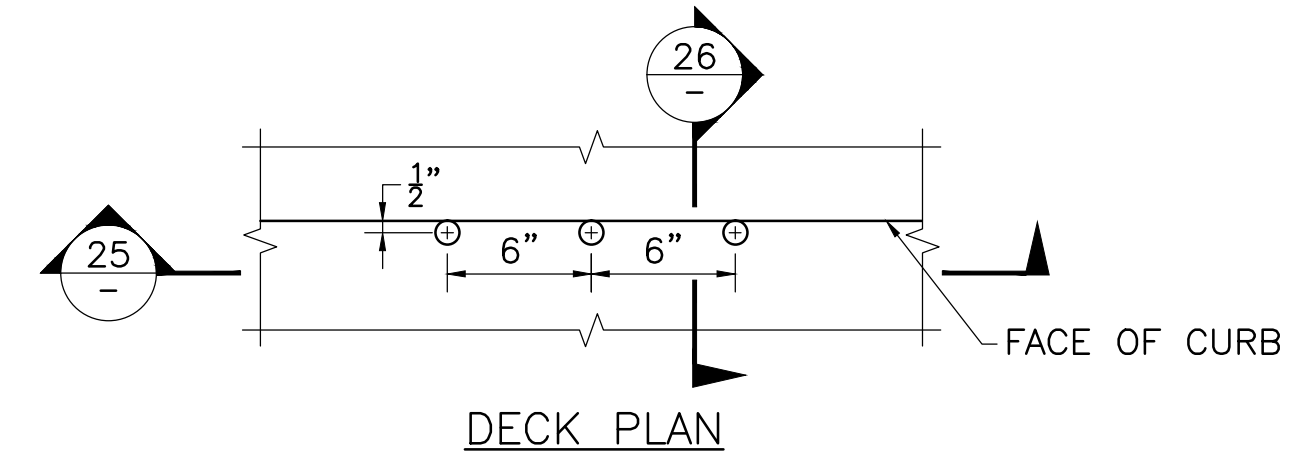
NOTE B:
N.E. WINGWALL = 13"
S.E. WINGWALL = 13"
N.W. WINGWALL = 13"
S.W. WINGWALL = 16 1/2"

WINGWALL SECTION (15/12)
SCALE: 3/4" = 1'-0"

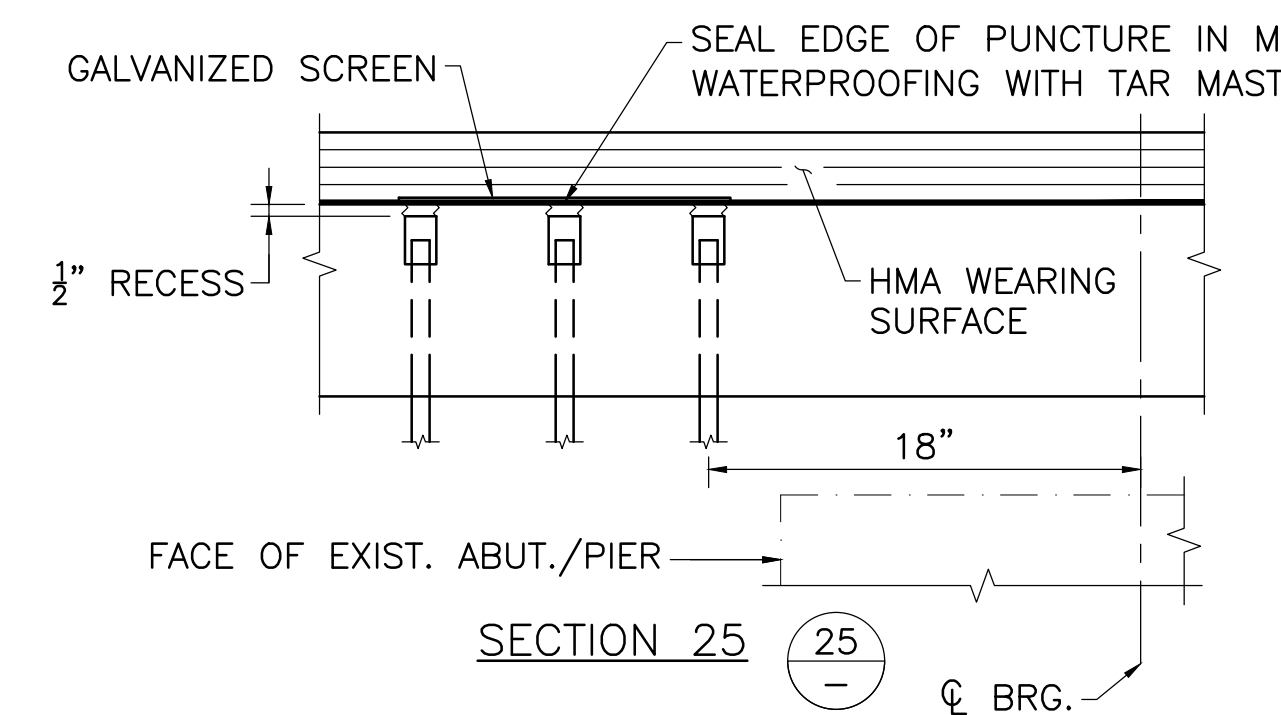


NOTES:
AFTER THE BEAMS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE BEAMS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF BEAM TO THE BOTTOM OF THE SLAB AT CENTER LINE OF BEAM.

HAUNCH DETAIL



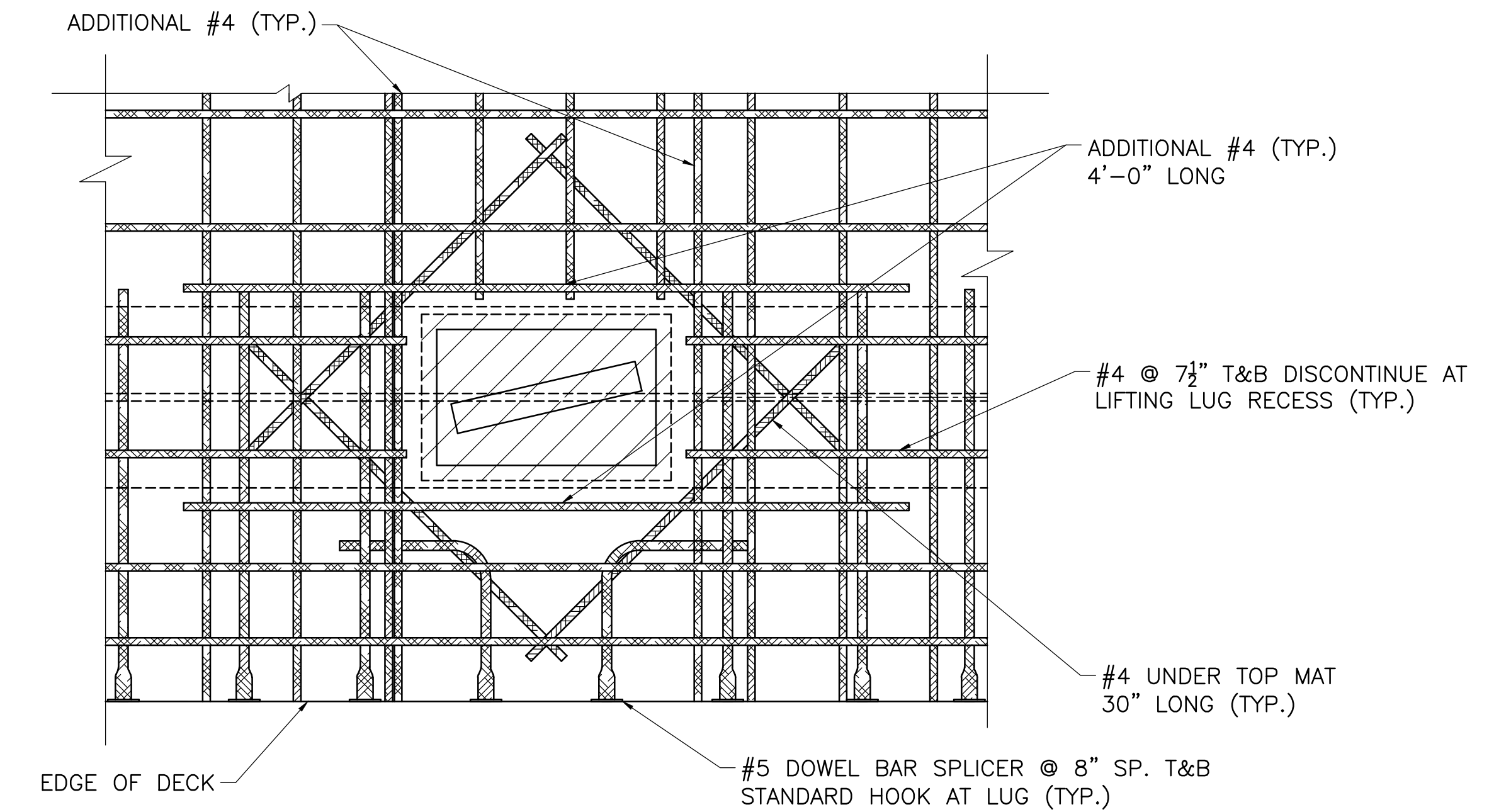
DECK PLAN



SECTION 25 (25)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	53	60
PROJECT FILE NO. 606255			

DECK DETAILS



NOTE:
TYPICAL MODULAR UNIT SHOWN. ADJUST DECK OVERHANG AND BARRIER REINFORCEMENT SIMILARLY AT FASCIA AND MEDIAN UNITS.

BOTTOM REINFORCEMENT NOT SHOWN FOR CLARITY BUT SHALL BE TREATED SIMILARLY

REINFORCEMENT AT LIFTING LUG PLAN

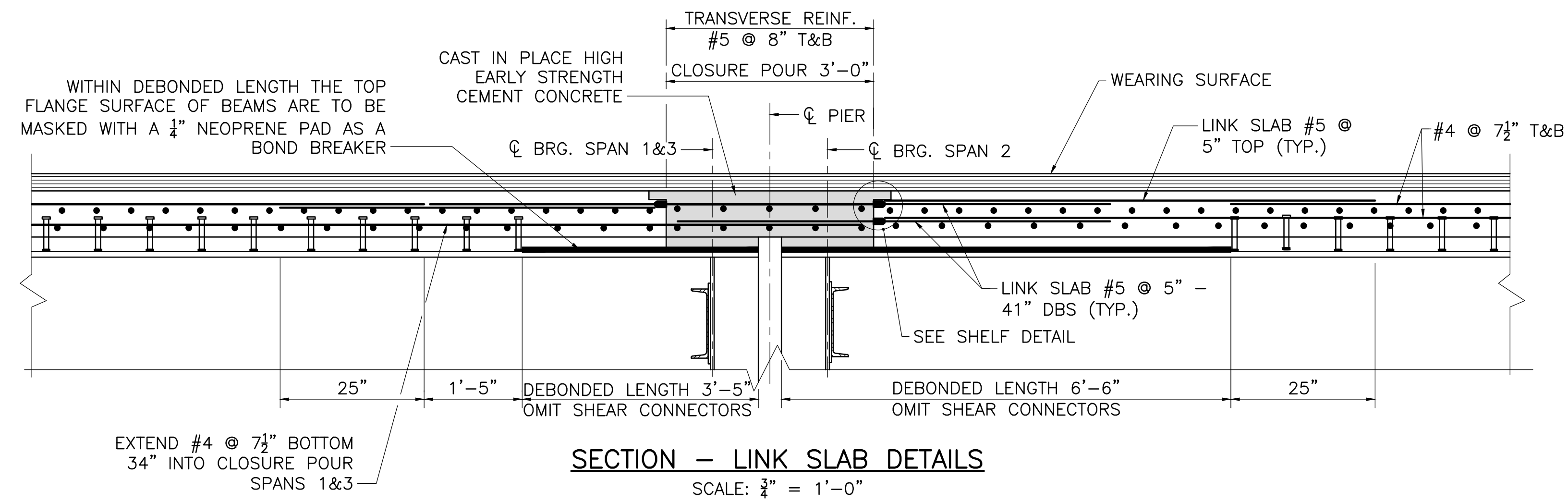
SCALE: 1/2" = 1'-0"

RECESS AT LIFTING LUG PLAN

SCALE: 1/2" = 1'-0"

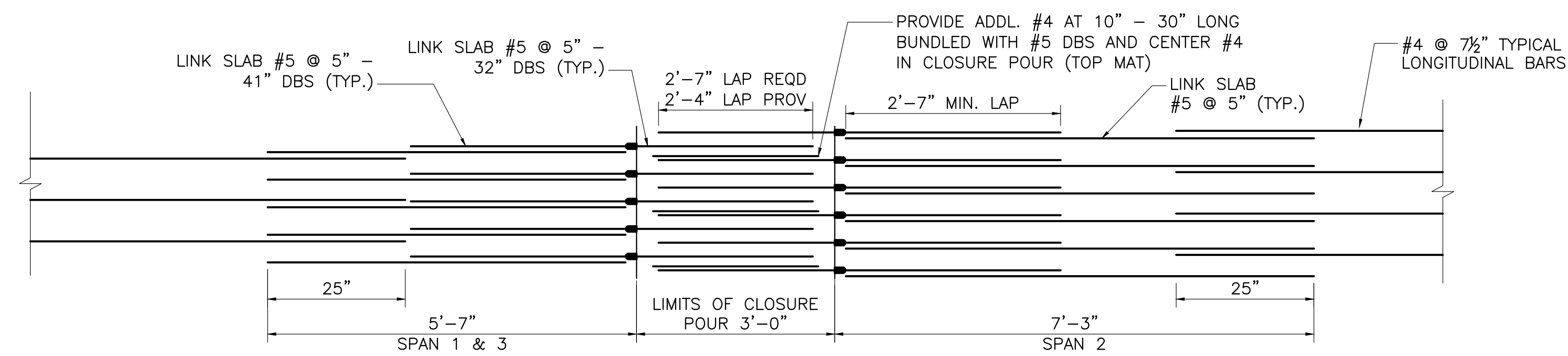
RECESS AT LIFTING LUG SIDE VIEW

SCALE: 1/2" = 1'-0"



SECTION - LINK SLAB DETAILS

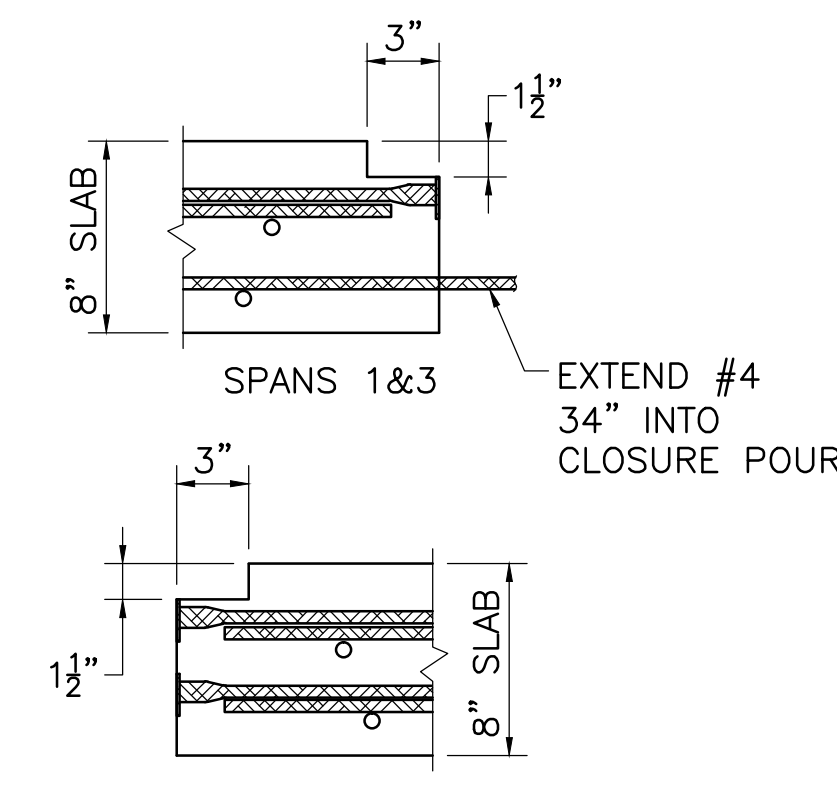
SCALE: 3/4" = 1'-0"



PLAN - LINK SLAB REINFORCEMENT AND LAPPING AT PIER

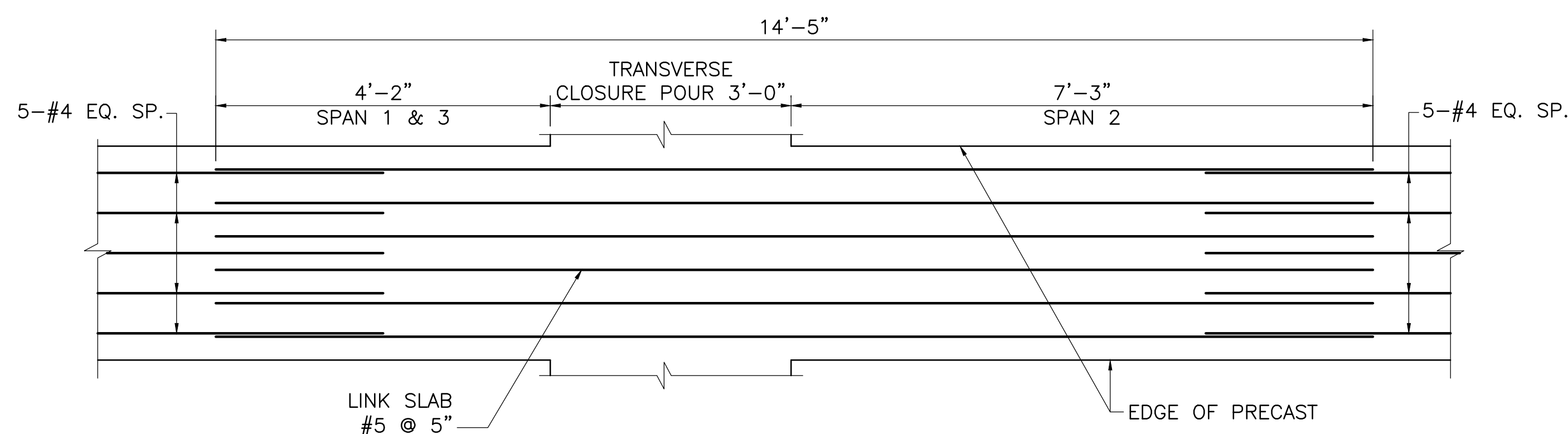
SCALE: 3/4" = 1'-0"

NOTE: TRANSVERSE SLAB REINF. NOT SHOWN FOR CLARITY



SHELF DETAIL AT EDGE OF PRECAST

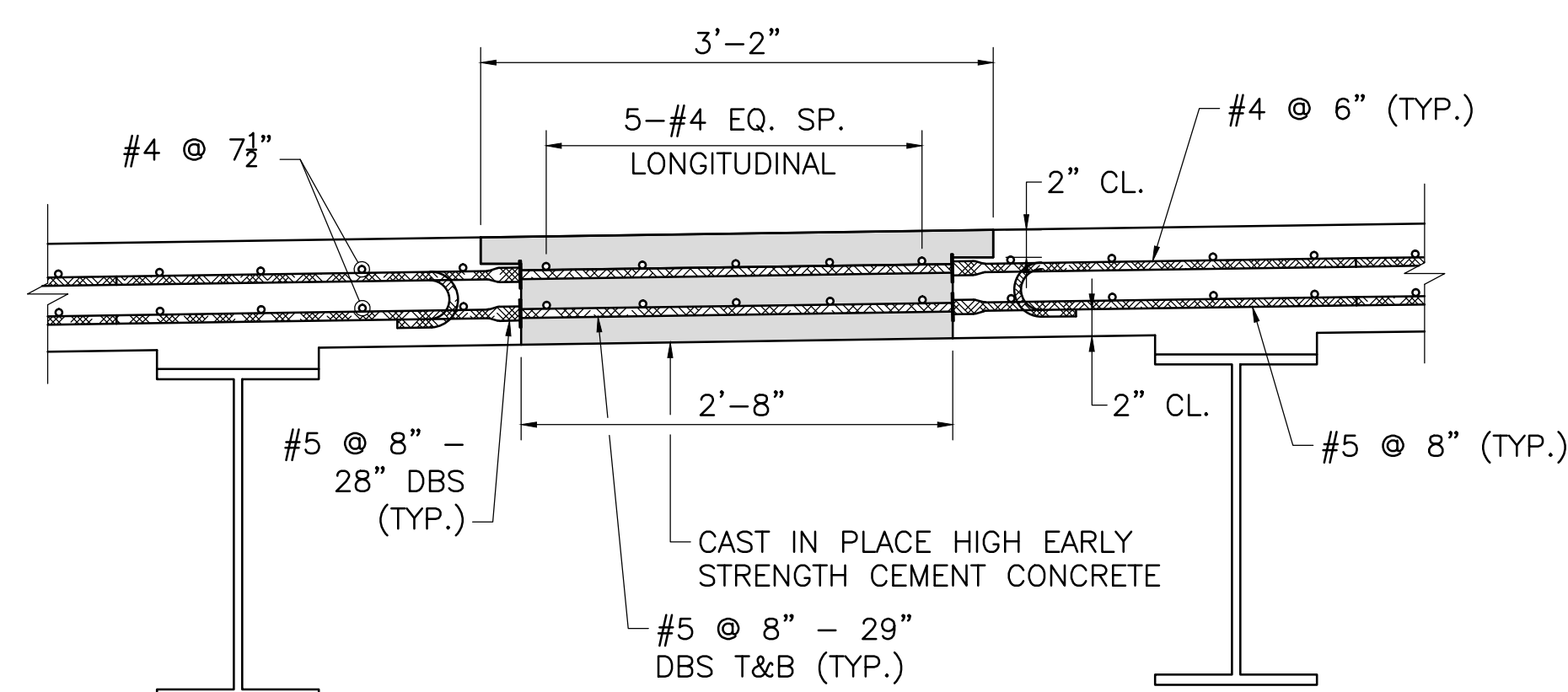
SCALE: 1 1/2" = 1'-0"



PLAN - CLOSURE POUR AT LINK SLAB REINFORCEMENT

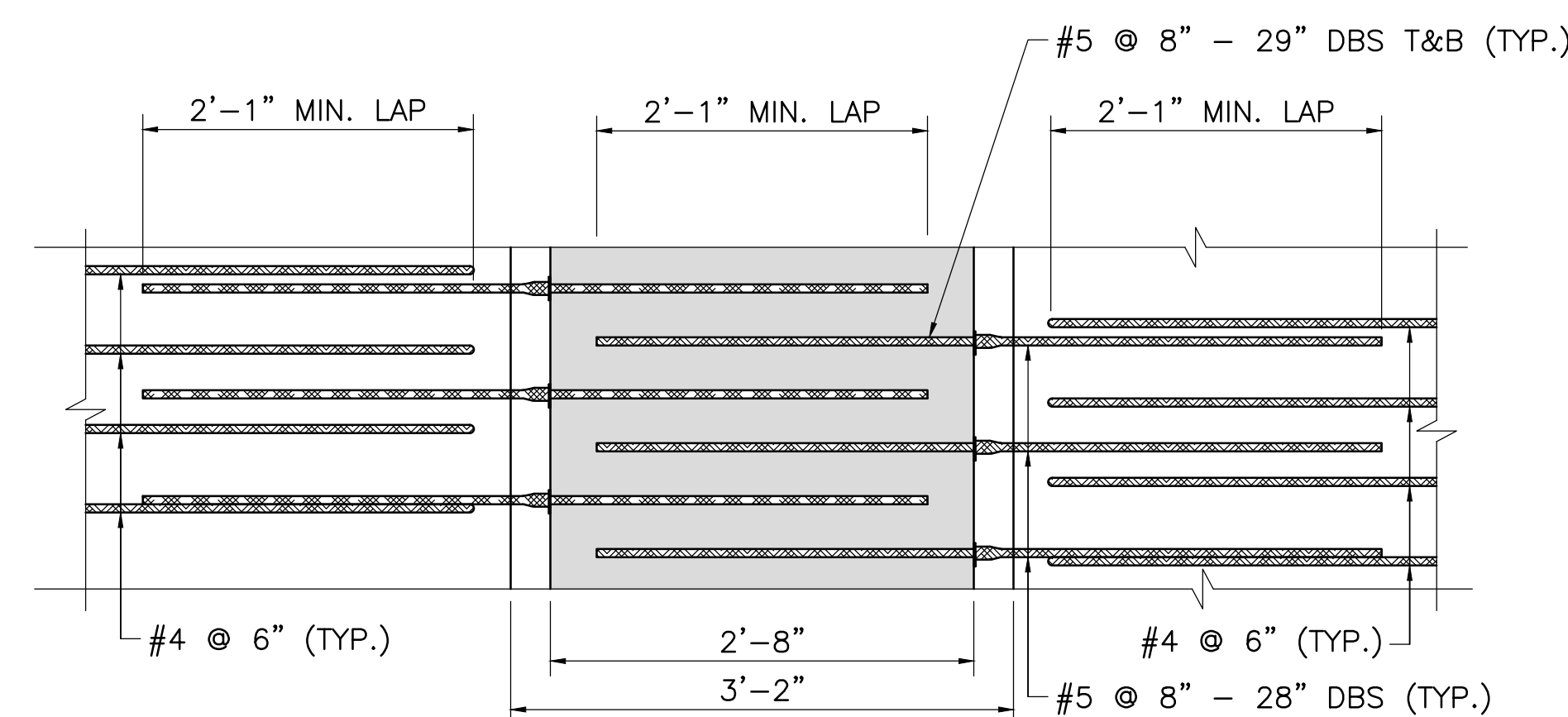
SCALE: 3/4" = 1'-0"

NOTE: TRANSVERSE SLAB REINF. NOT SHOWN FOR CLARITY



TYPICAL LONGITUDINAL CLOSURE POUR SECTION

SCALE 1" = 1'-0"



NOTE: LONGITUDINAL SLAB REINF. AND BOTTOM TRANSVERSE REINF. NOT SHOWN FOR CLARITY

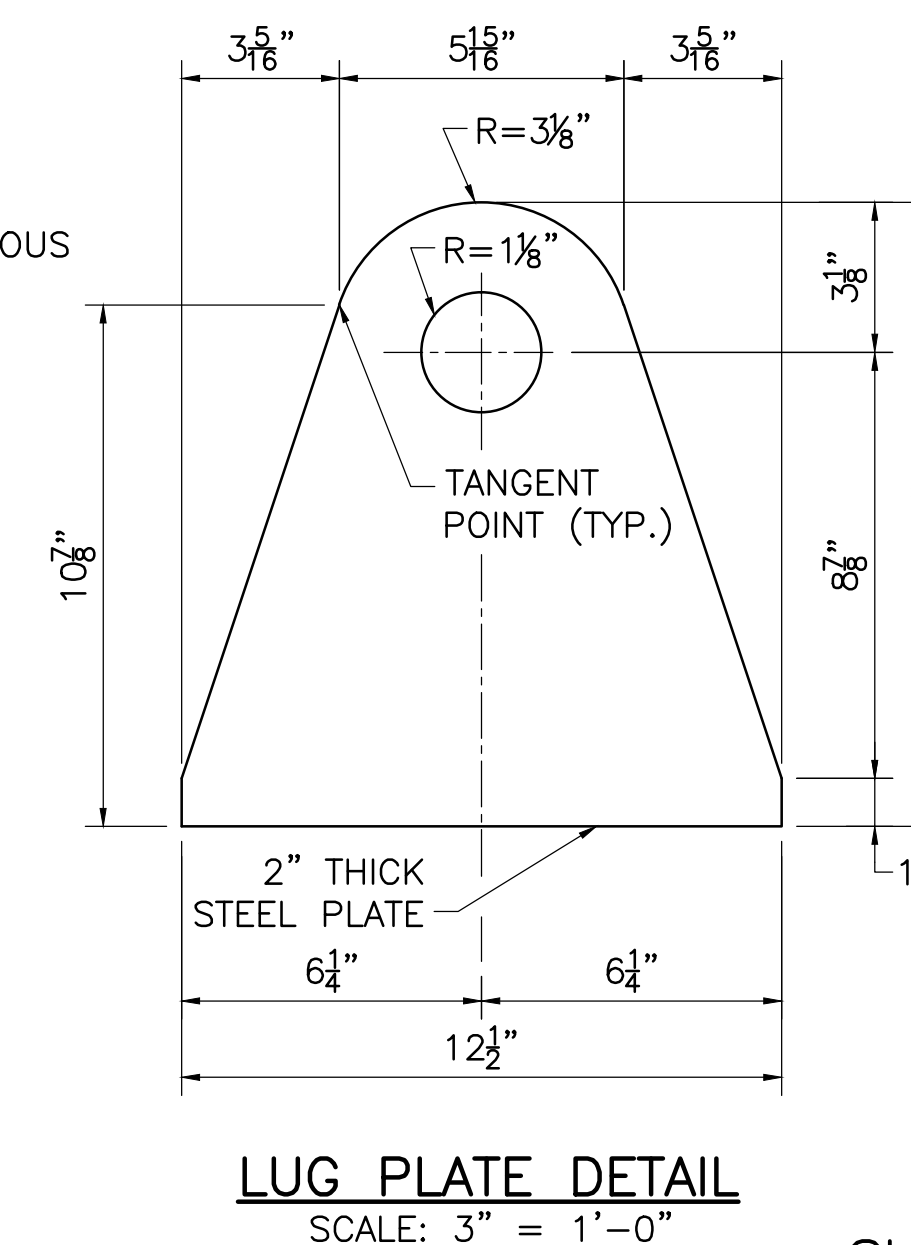
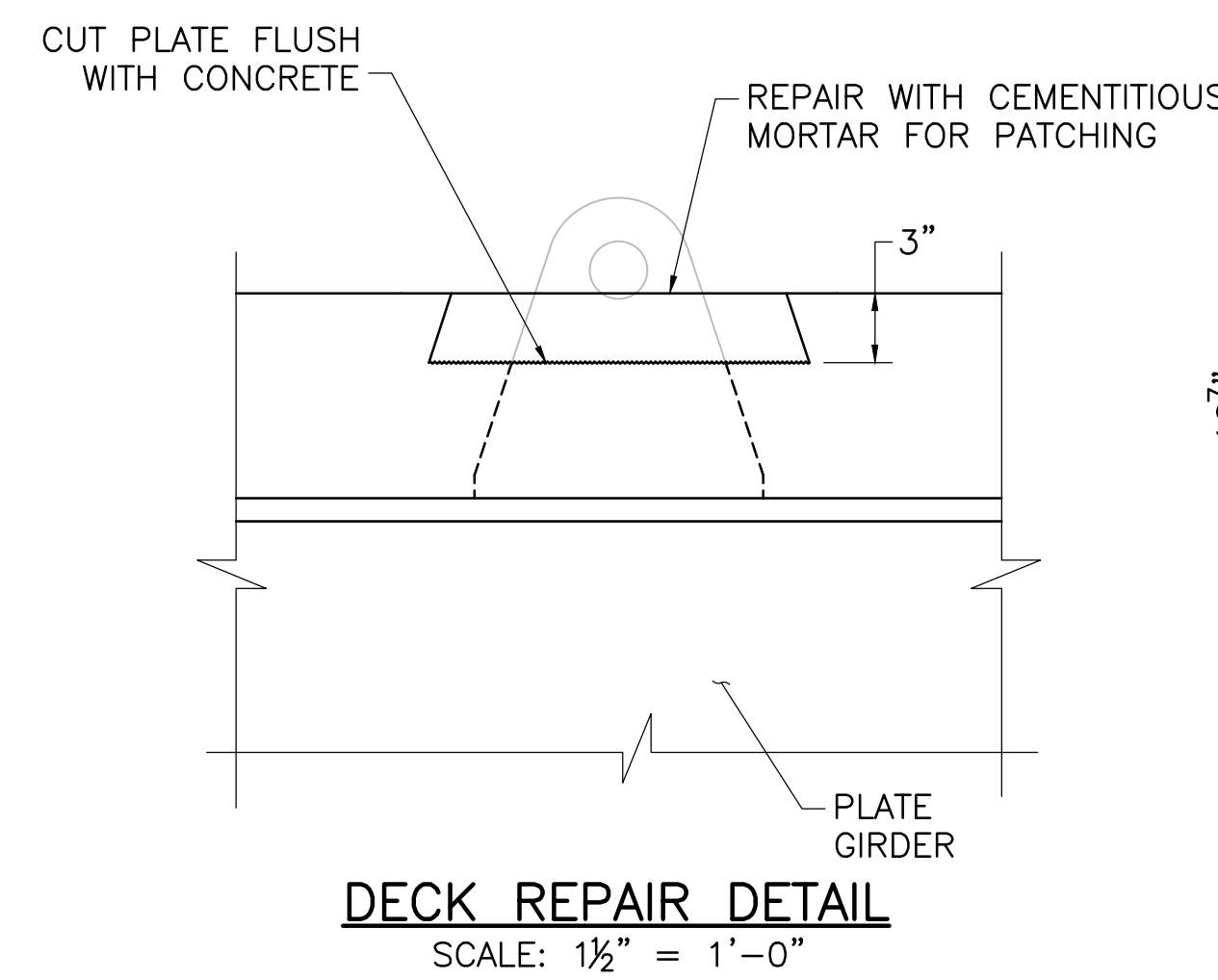
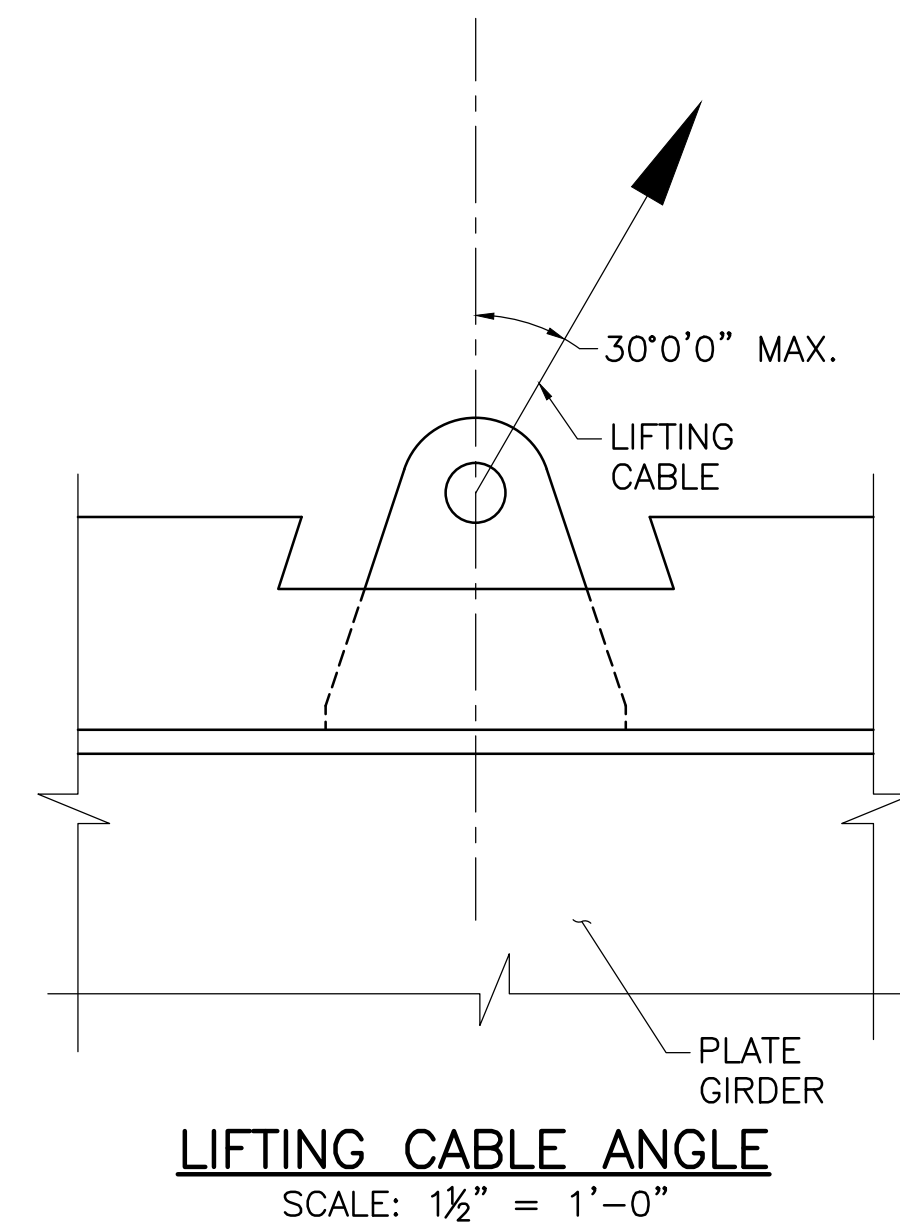
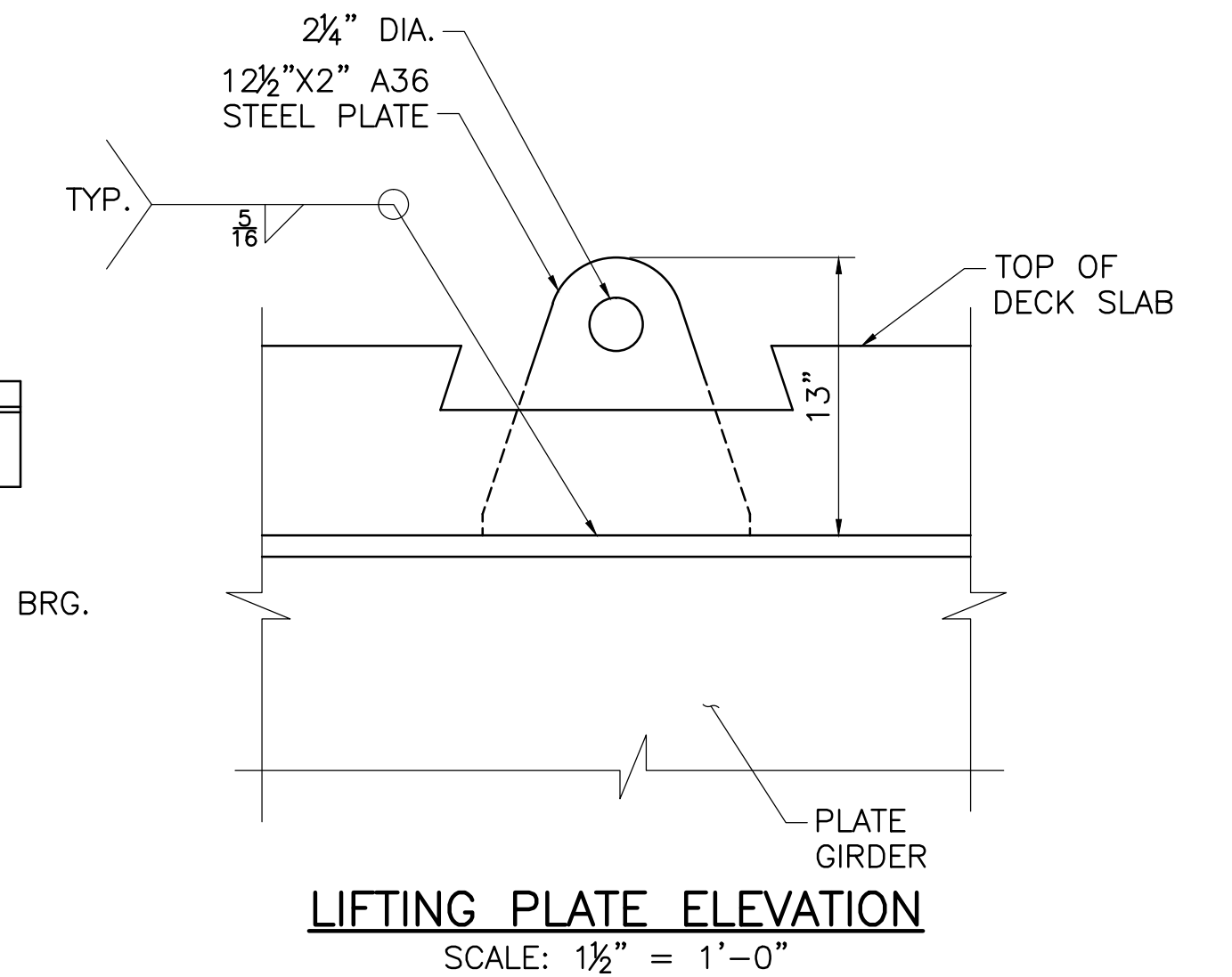
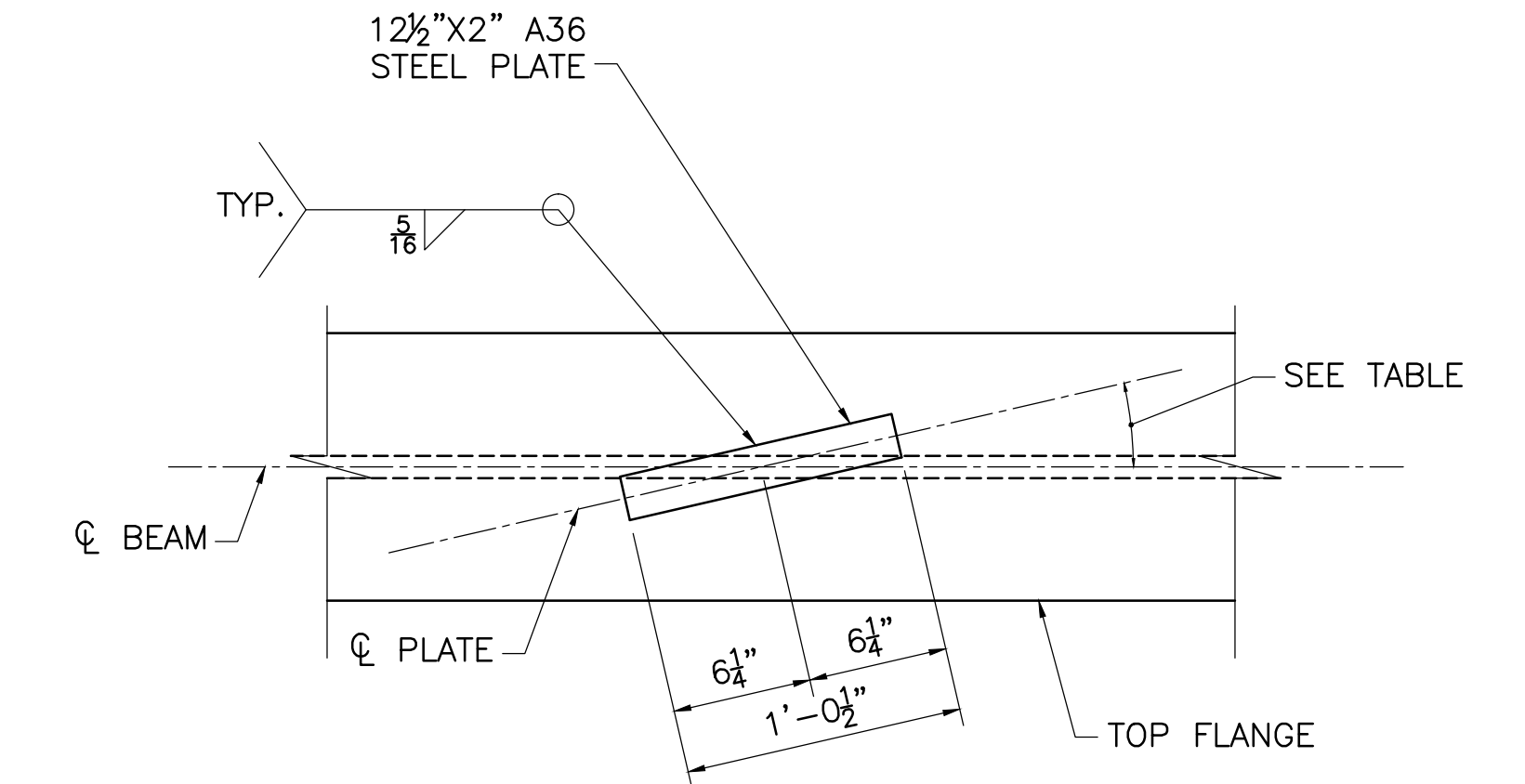
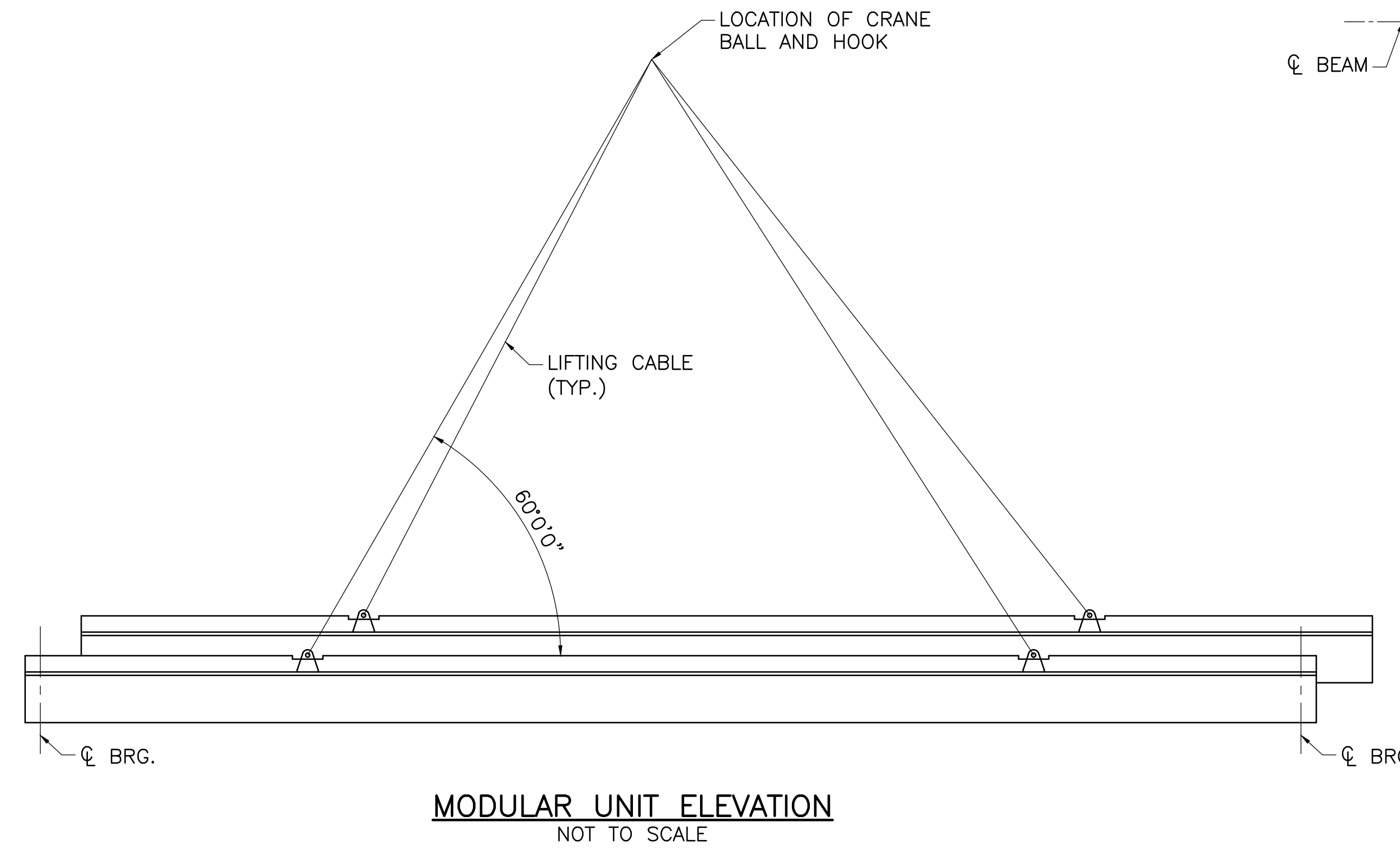
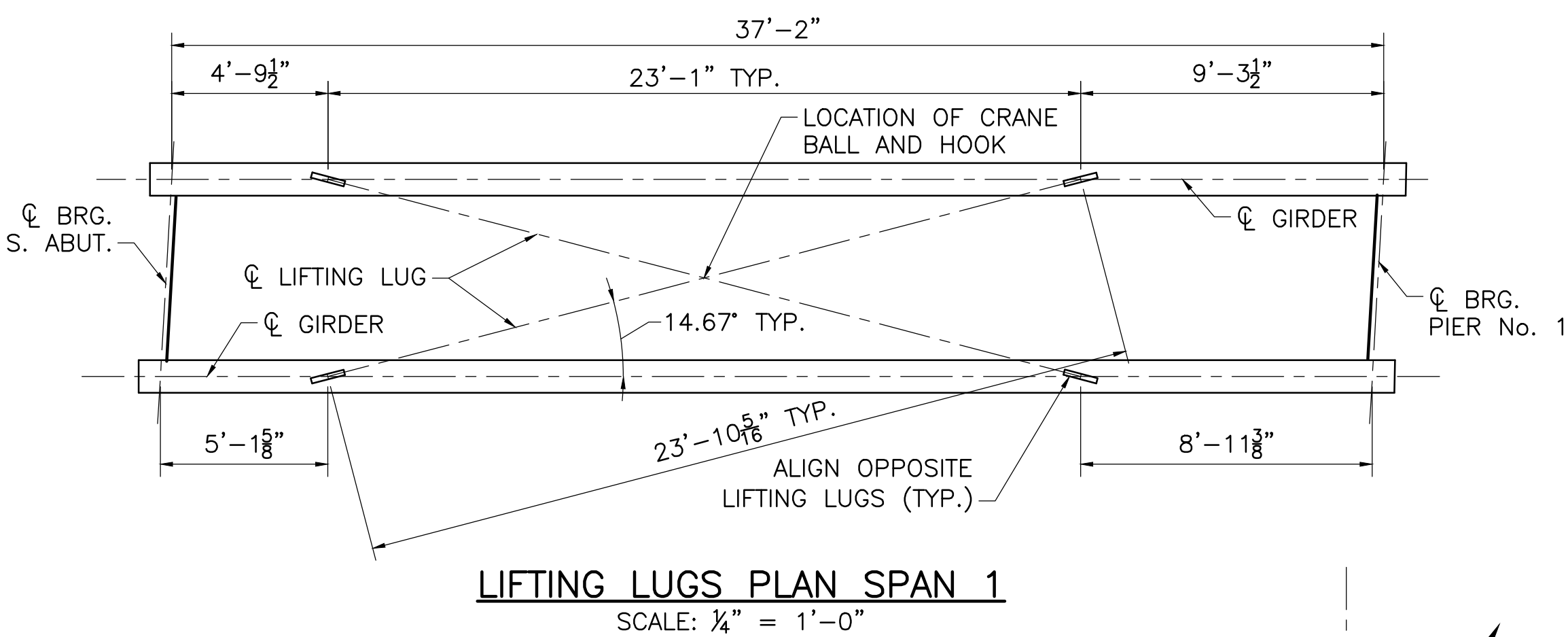
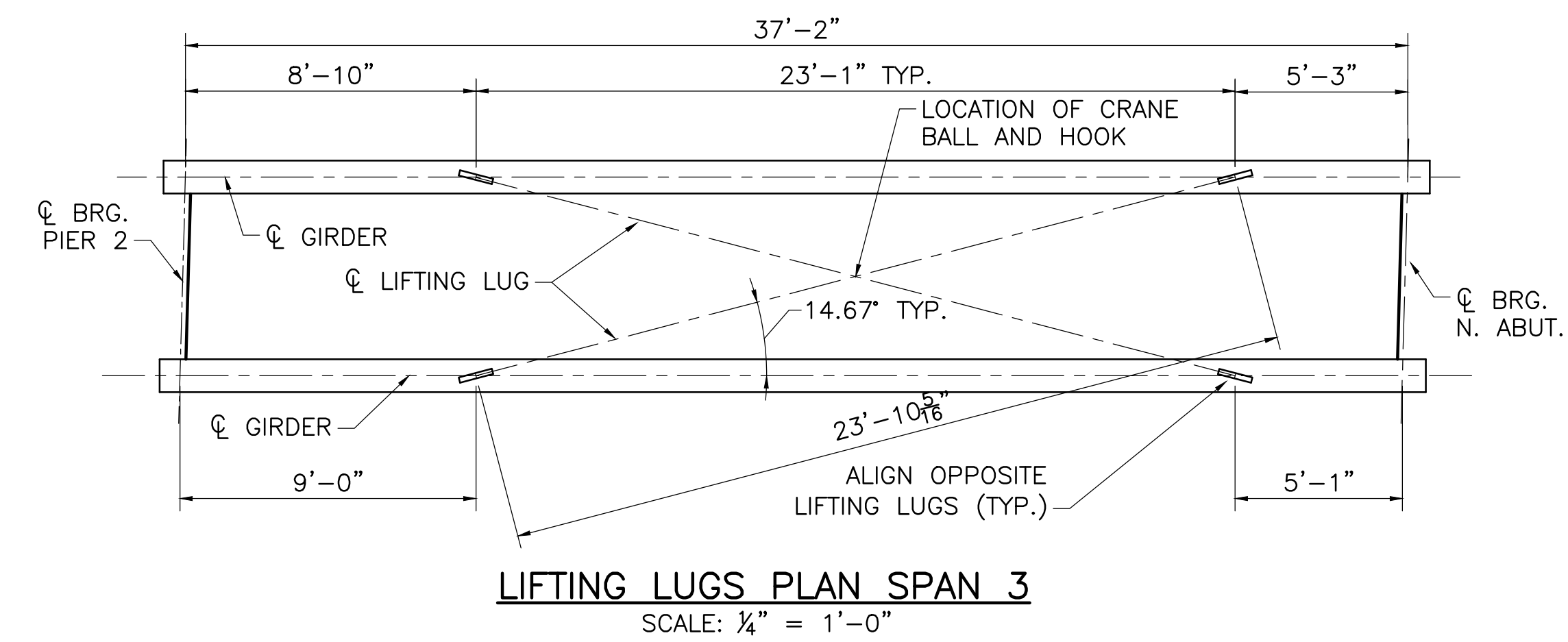
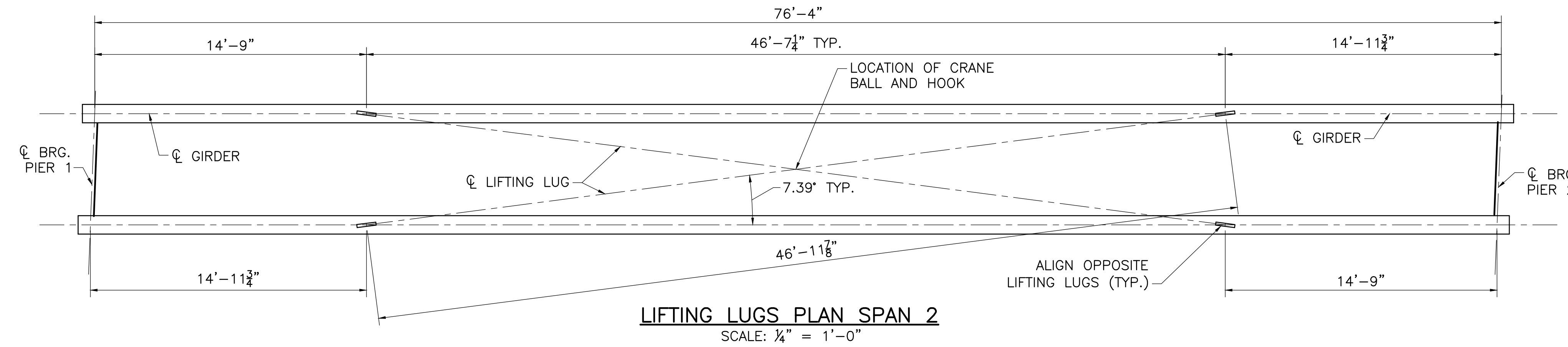
PLAN: TYPICAL LONGITUDINAL CLOSURE POUR

SCALE 1" = 1'-0"

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	54	60
PROJECT FILE NO. 606255			

**MODULAR LIFTING
DETAILS**



LIFTING LUGS PARAMETERS

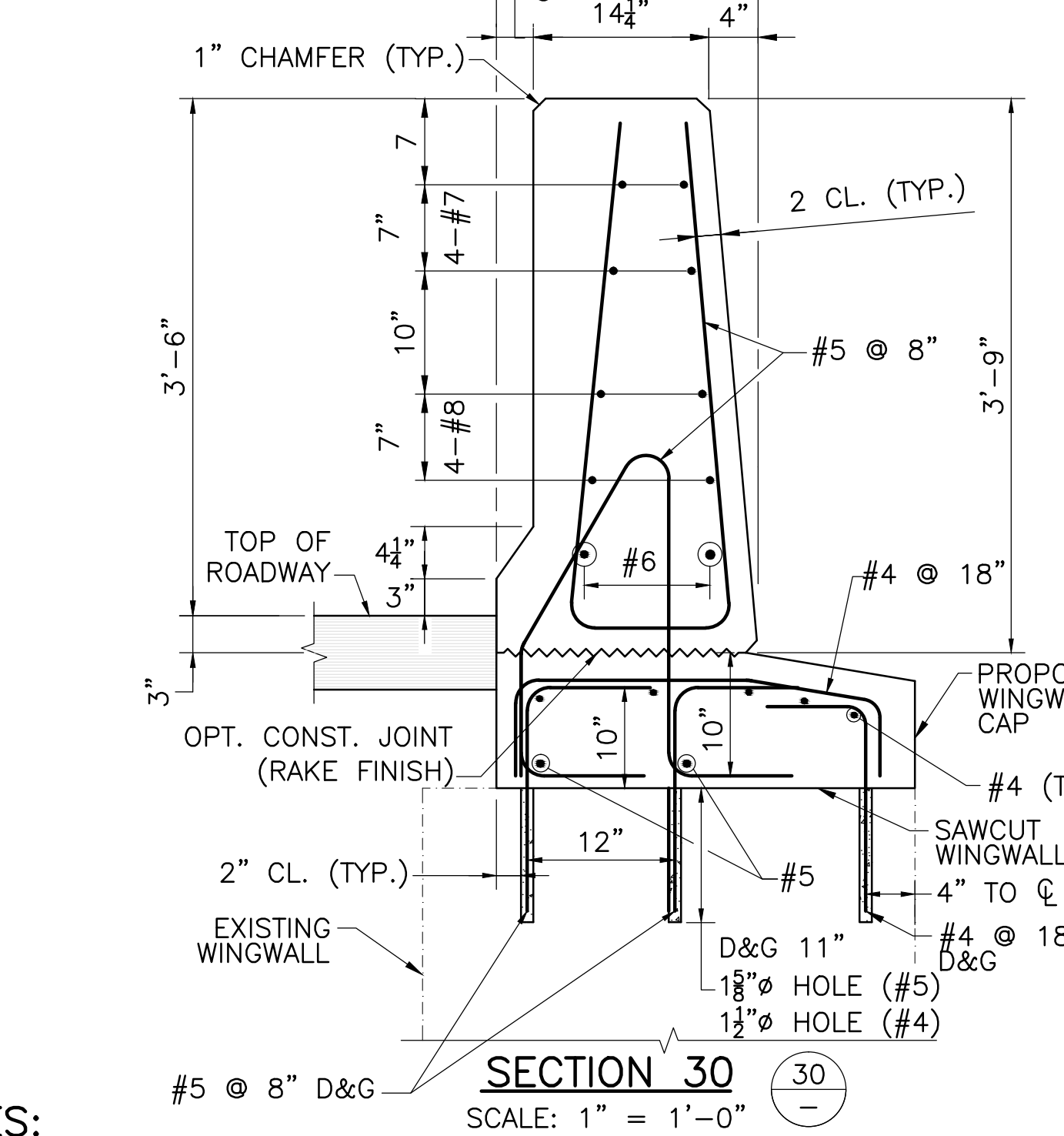
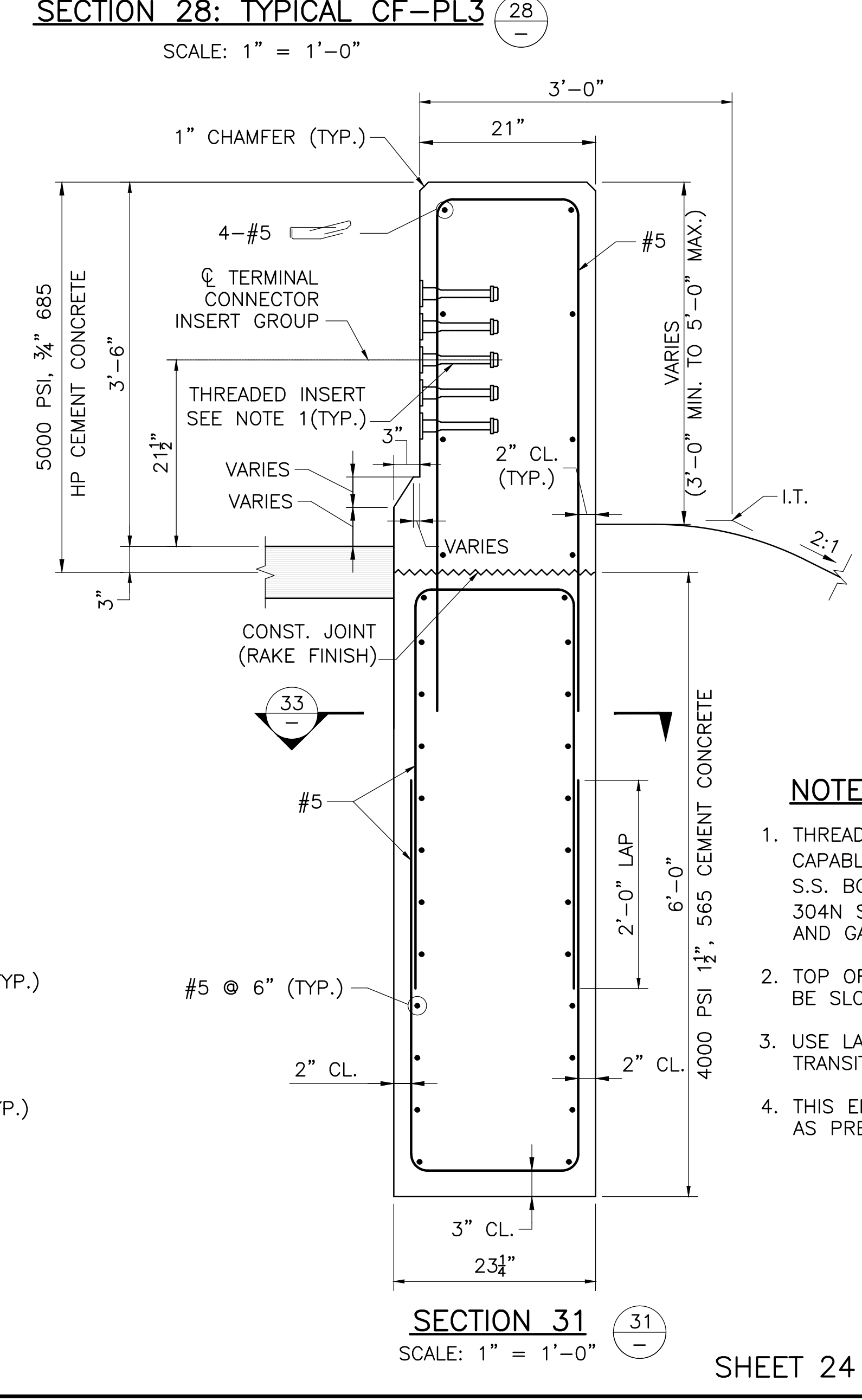
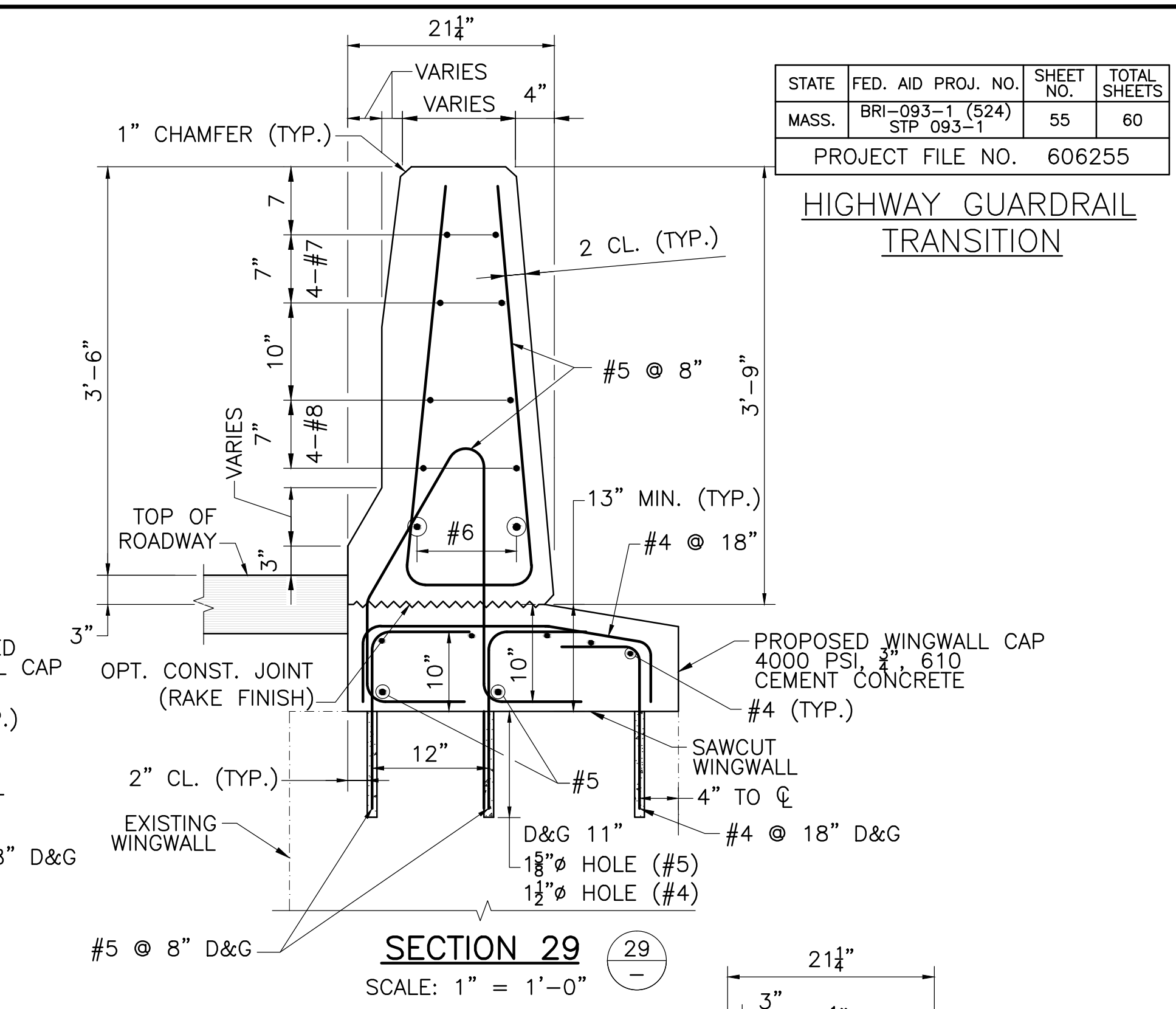
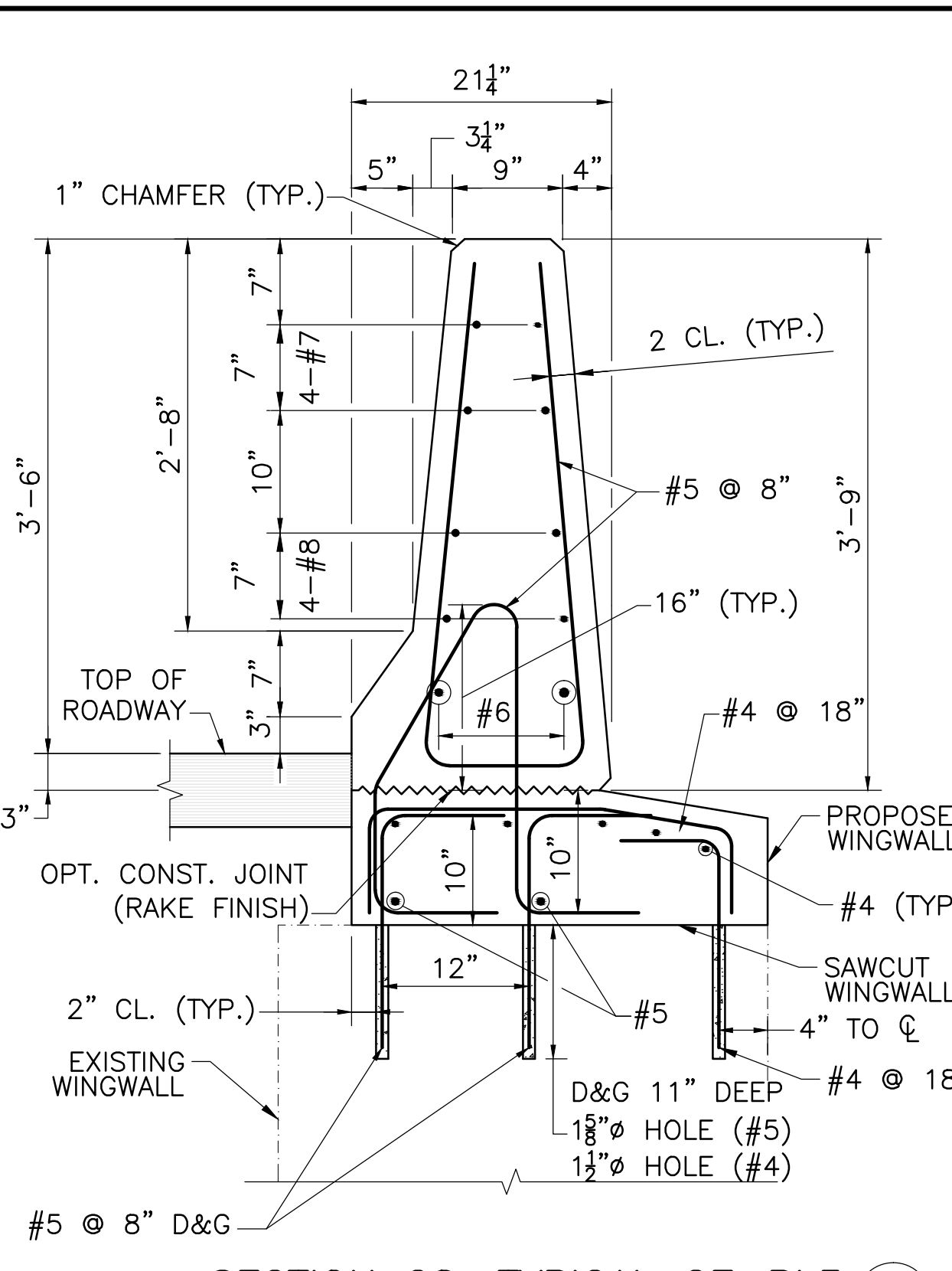
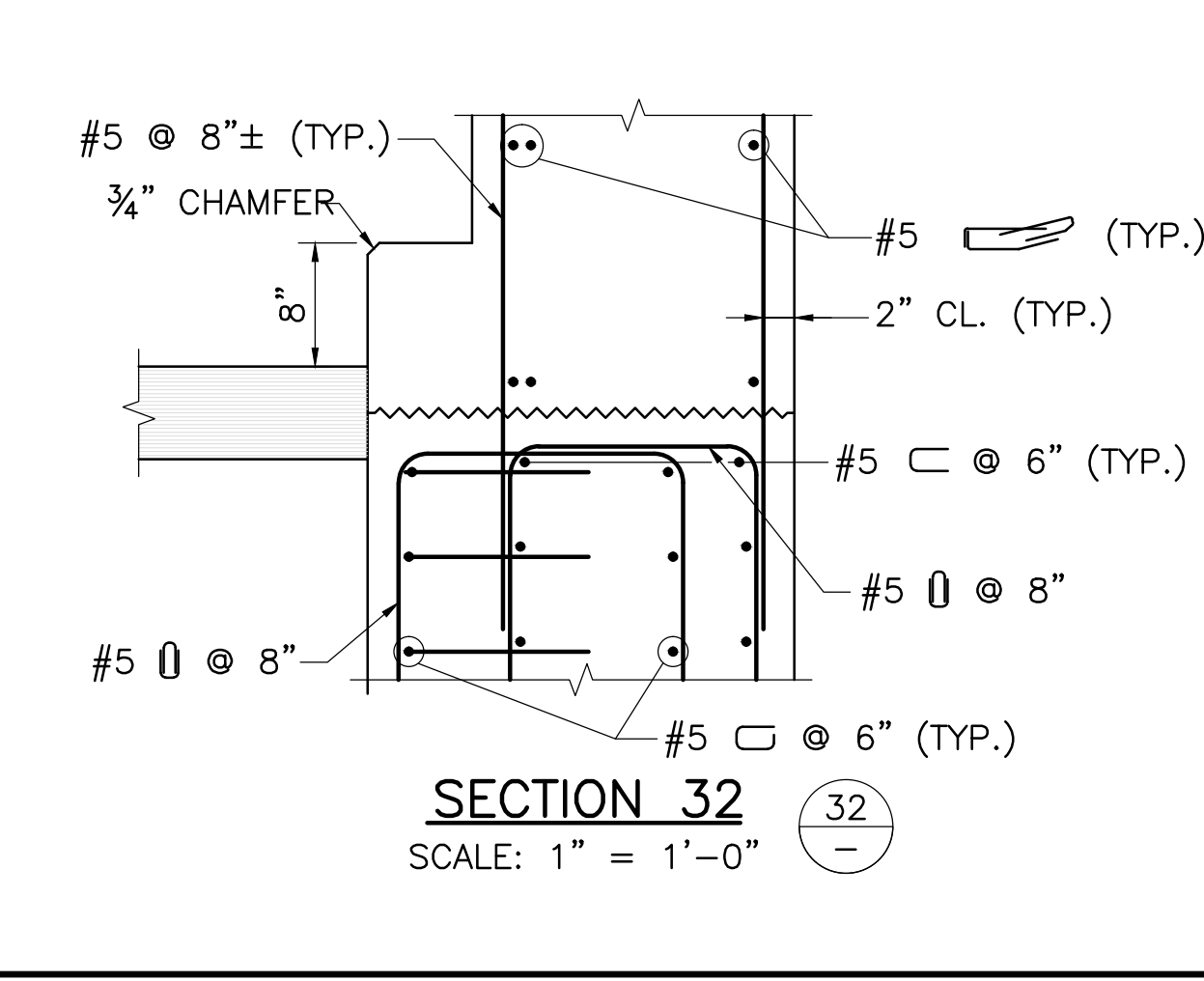
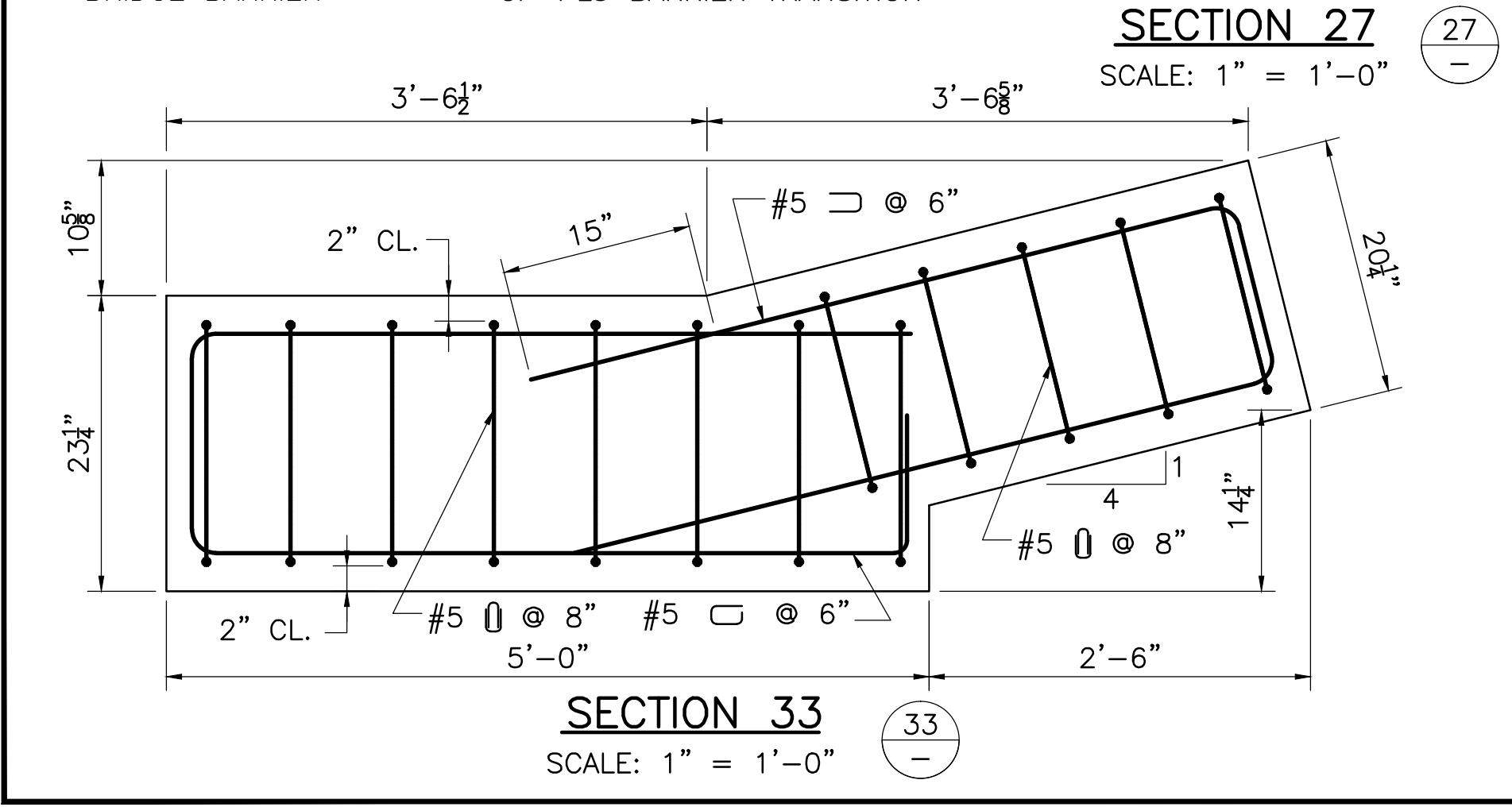
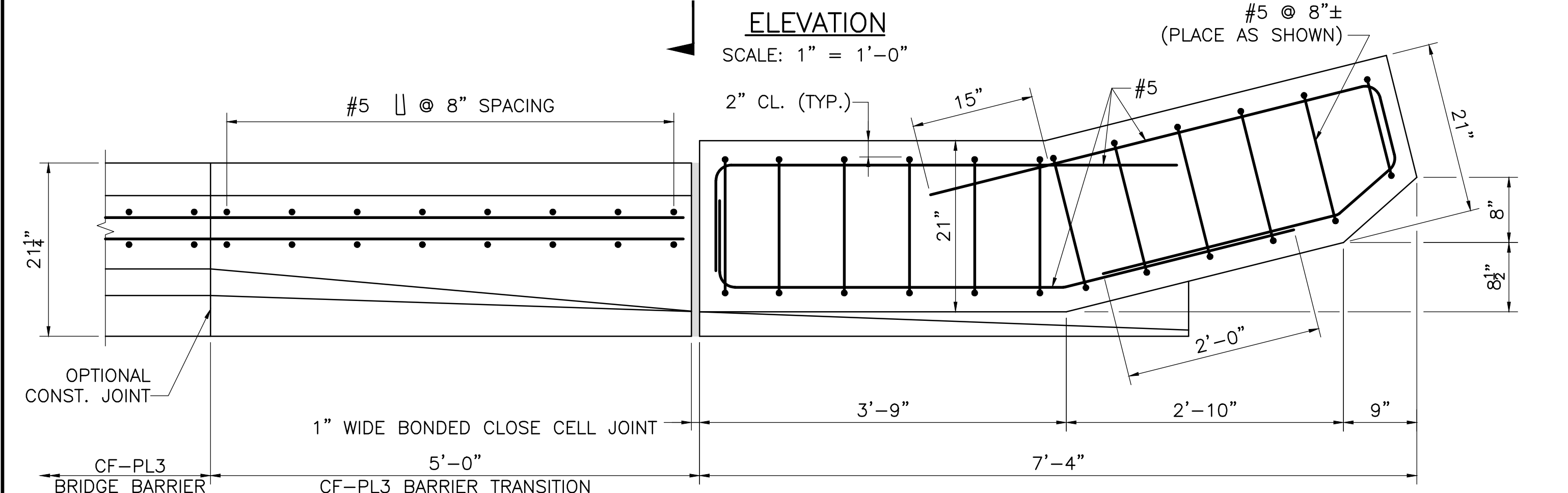
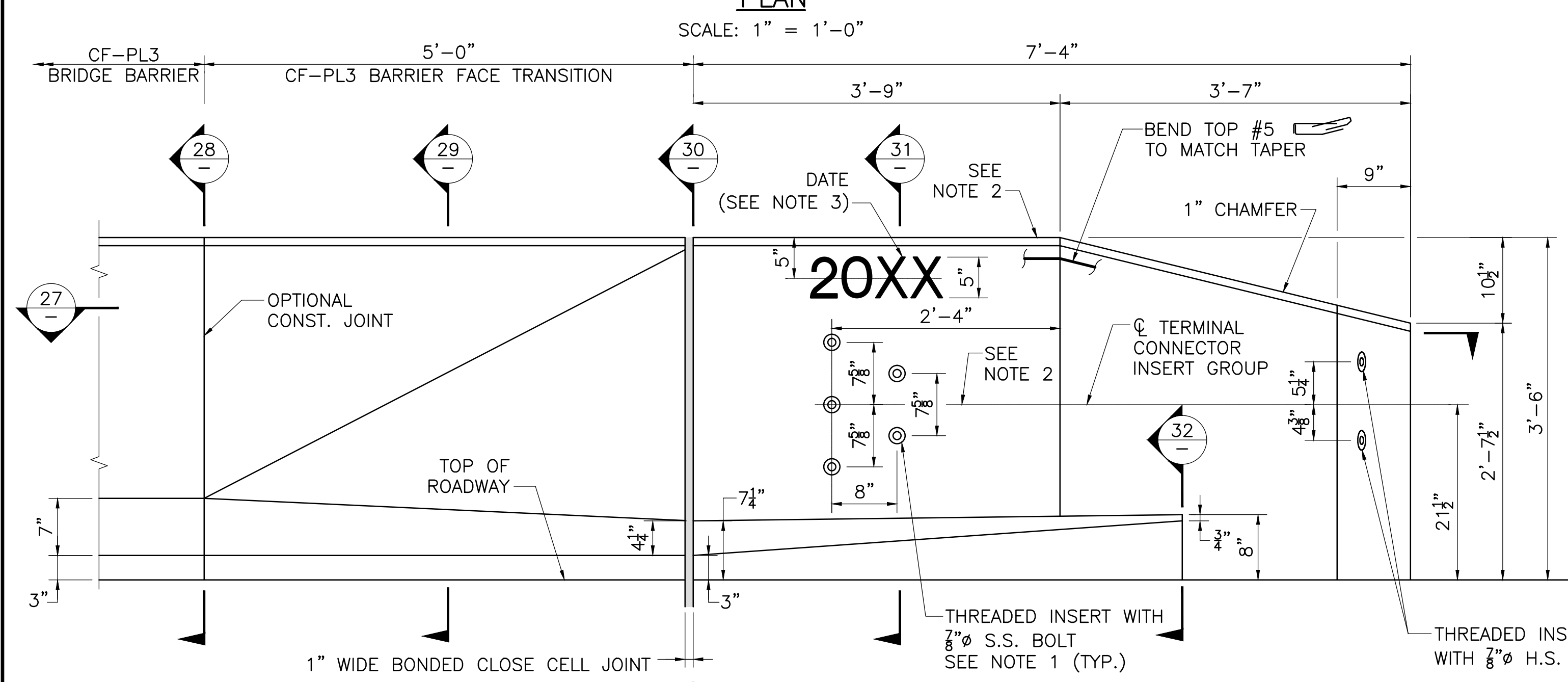
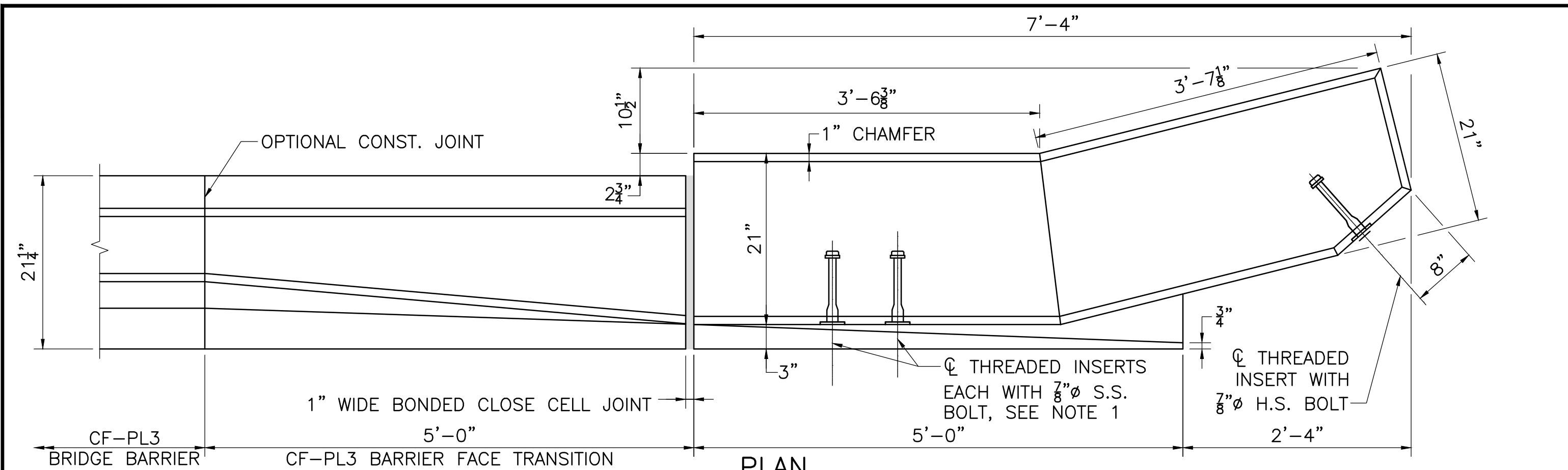
- LIFTING LUGS ARE DESIGNED FOR 150% OF PICK WEIGHT.
- MINIMUM ANGLE FOR RIGGING IS 60 DEGREES FROM HORIZONTAL.
- LIFTING LUGS TO BE ATTACHED DURING GIRDER FABRICATION IN THE SHOP.
- ADJUST SHEAR STUDS AROUND LUGS.
- LIFTING LUGS SHALL BE FABRICATED FROM STEEL MEETING THE REQUIREMENTS OF ASTM A 36.

SEE REINFORCEMENT DETAILS ON SHEET 22

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SP 093-1	55	60
PROJECT FILE NO. 606255			

**HIGHWAY GUARDRAIL
TRANSITION**

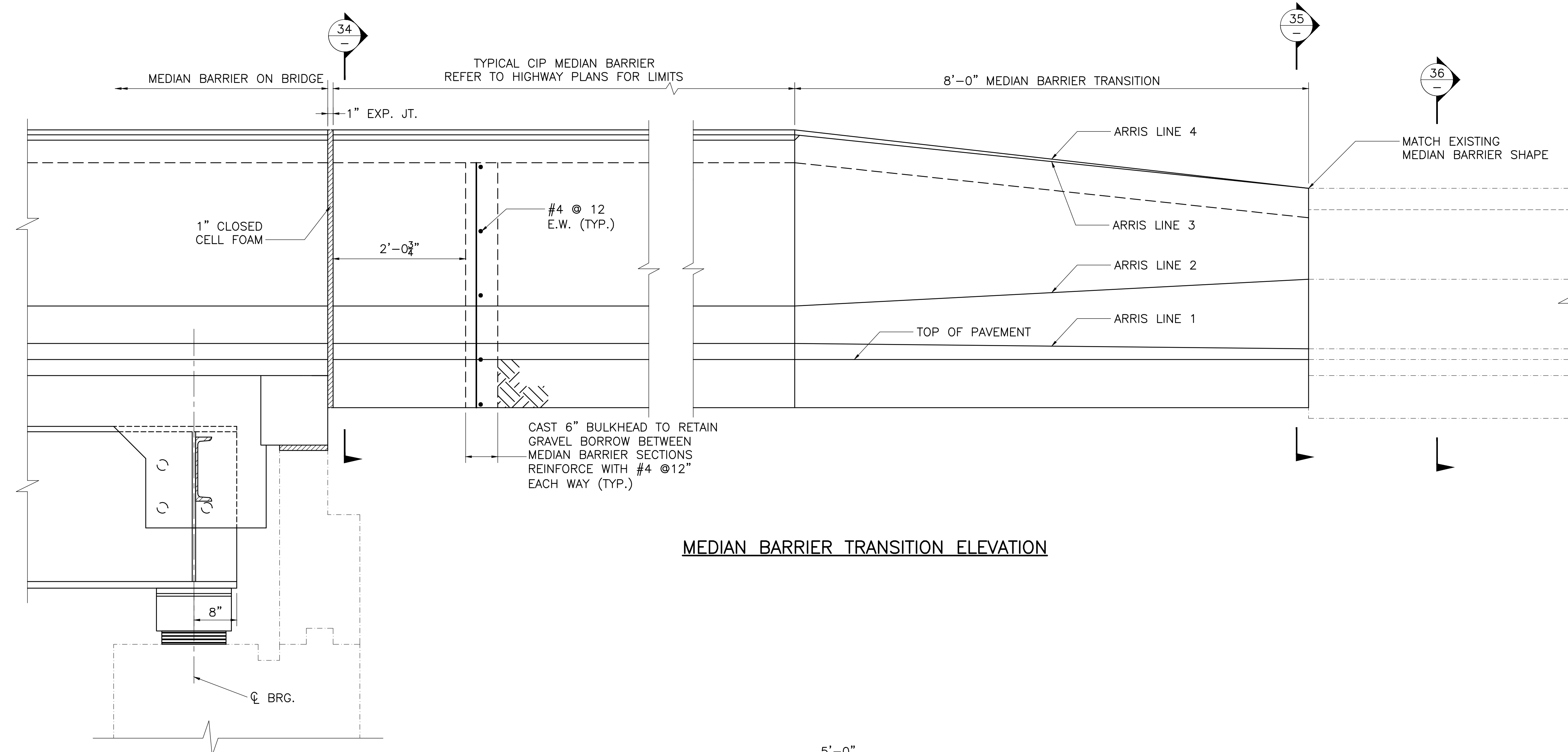


- NOTES:**
1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING AN ULTIMATE SHEAR CAPACITY OF 20 KIPS PER 7/8" S.S. BOLT. S.S. BOLTS SHALL BE 7/8" x 1 1/2" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR 7/8" S.S. BOLTS SHALL BE CAST-IN-PLACE AND GALVANIZED.
 2. TOP OF GUARDRAIL TRANSITION AND TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO MATCH THE PROFILE GRADE.
 3. USE LATEST CONTRACT COMPLETION DATE IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS DATE FOR ALL GUARDRAIL TRANSITIONS.
 4. THIS ENTIRE UNIT, OR SELECTED COMPONENTS OF THE UNIT, MAY BE FURNISHED AS PRECAST AS AN ALTERNATIVE TO CAST-IN-PLACE.

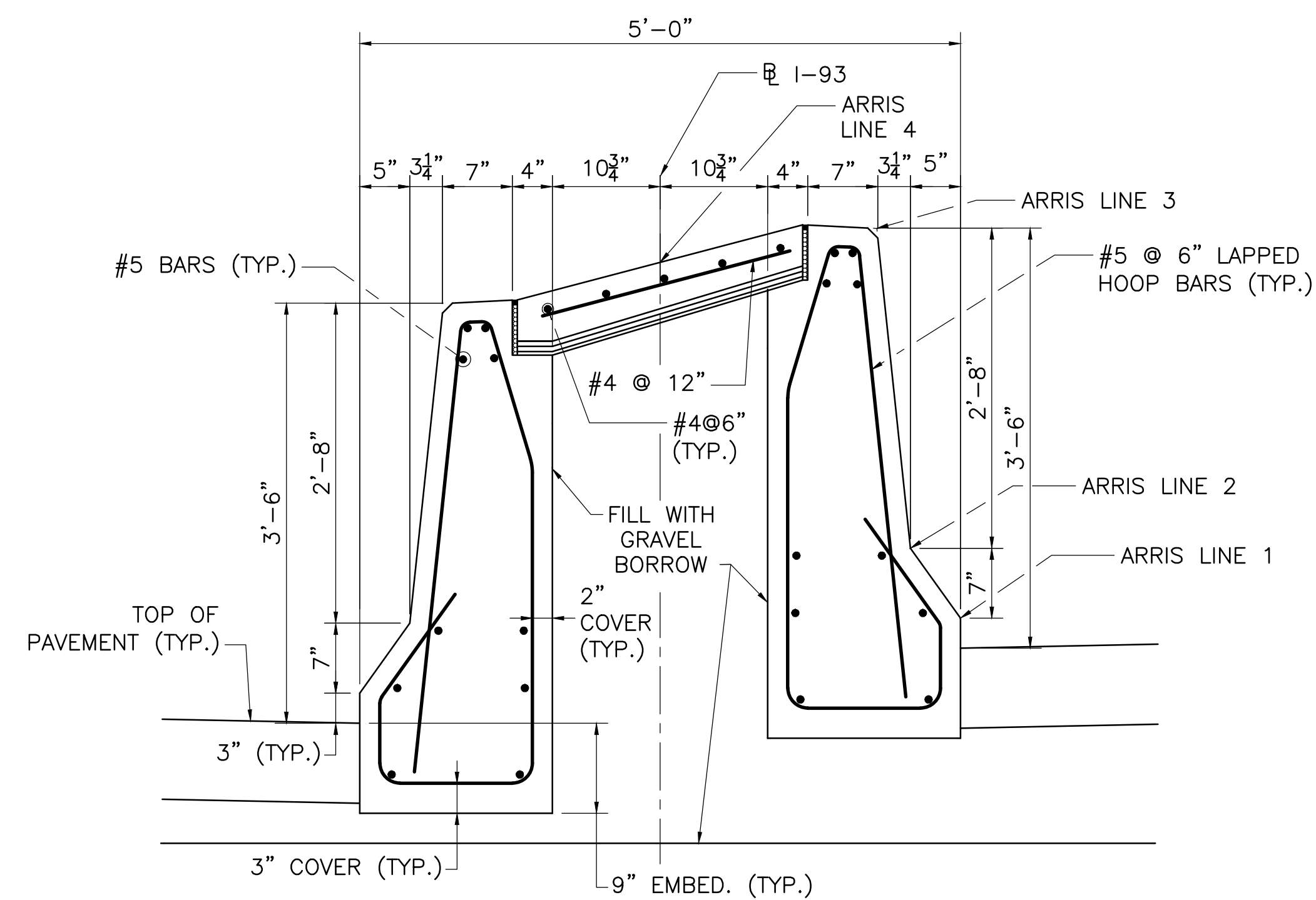
MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) SIP 093-1	56	60
PROJECT FILE NO. 606255			

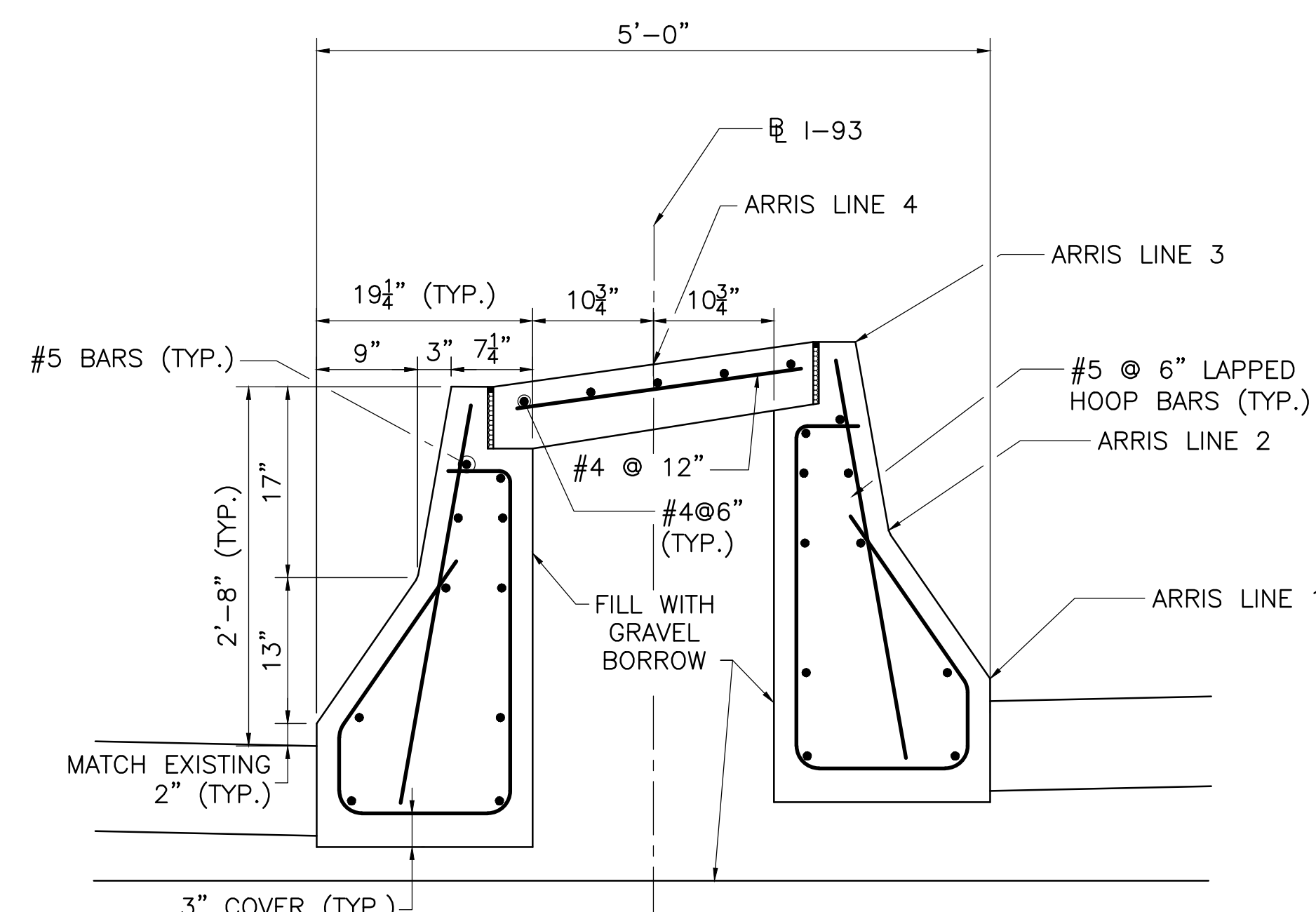
MEDIAN BARRIER ON APPROACH



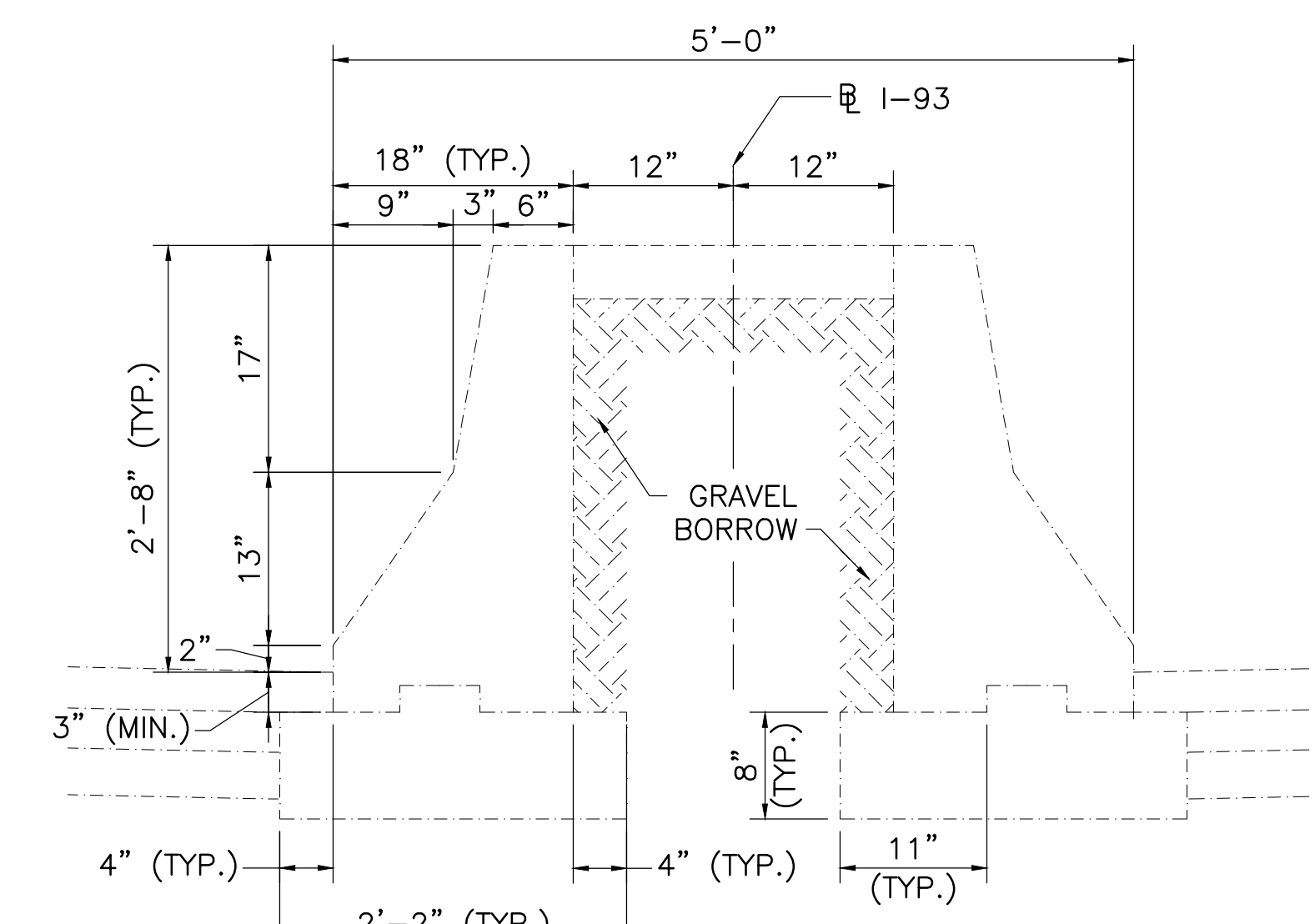
MEDIAN BARRIER TRANSITION ELEVATION



MEDIAN BARRIER DETAIL (34)



MEDIAN BARRIER TRANSITION DETAIL (35)



EXISTING MEDIAN BARRIER DETAIL (36)

NOTE: FOR DETAILS NOT SHOWN SEE CONSTRUCTION STANDARD PLATES 402.20.0, 402.21.0, 402.22.0

MEDIAN BARRIER ON APPROACH

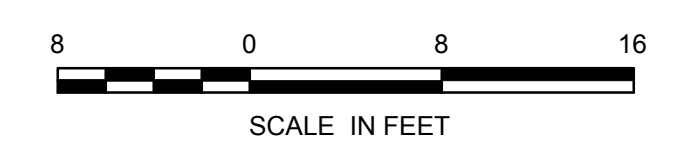
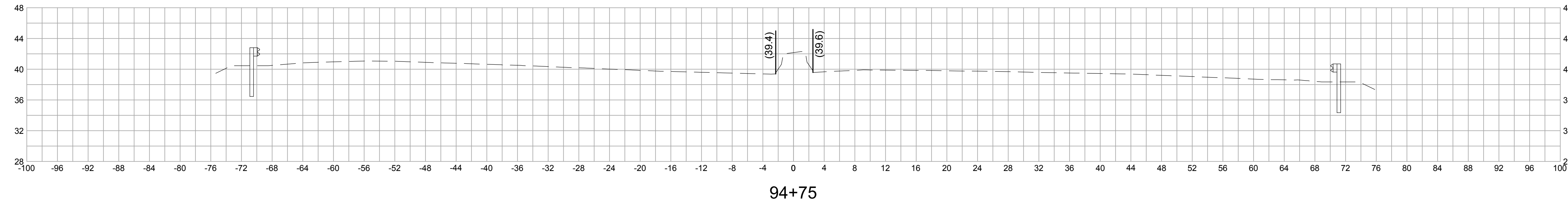
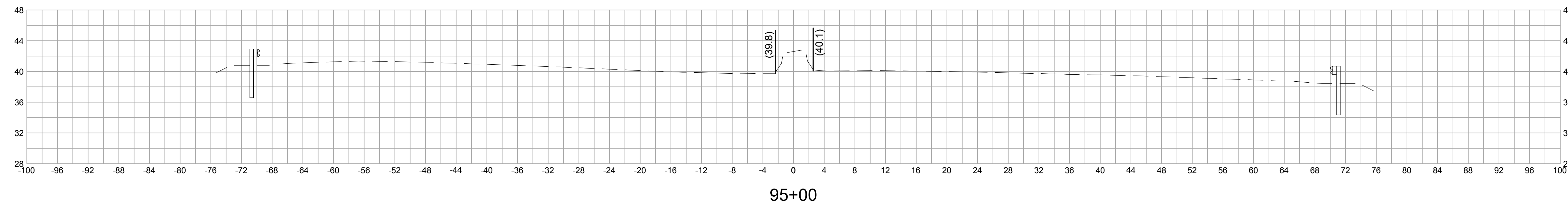
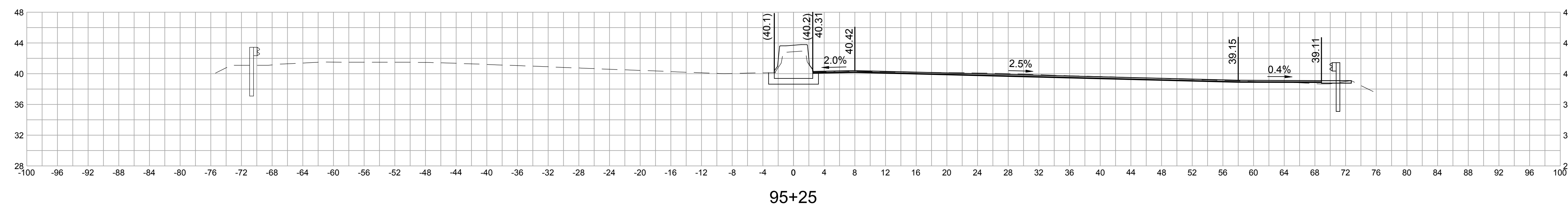
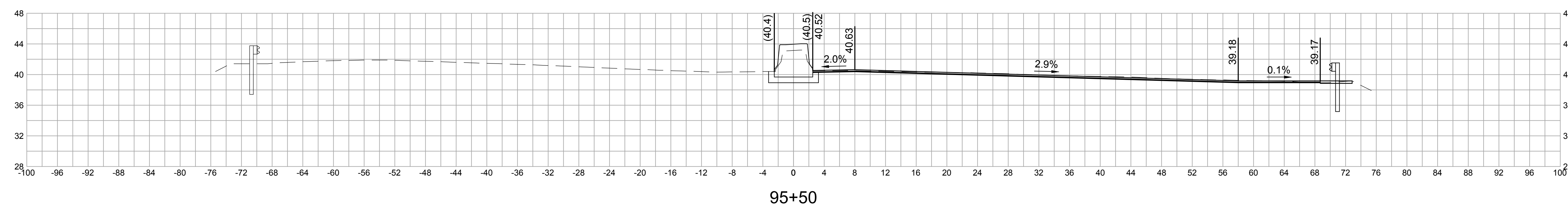
SCALE: 1"=1'-0"

MAY 18, 2011	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

MEDFORD
I-93 OVER SALEM STREET EB

SHEET	TOTAL	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.		BRI-093-1 (524) STP 093-1	57	60
		PROJECT FILE NO.	606255	

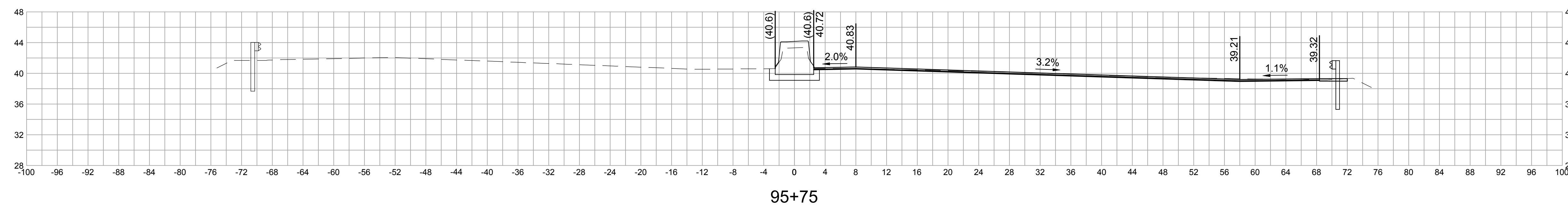
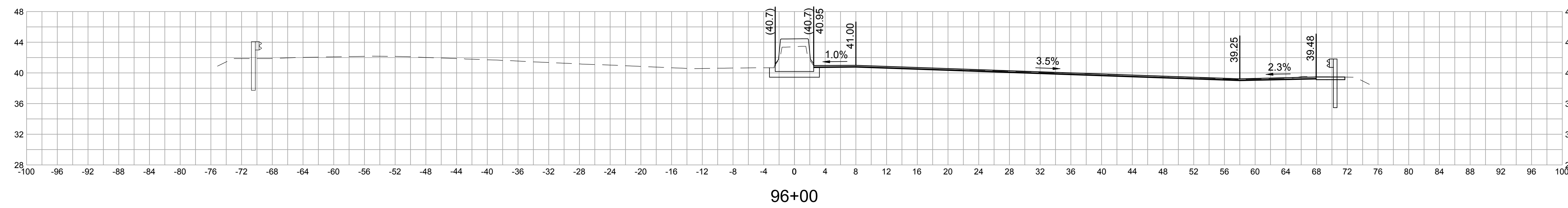
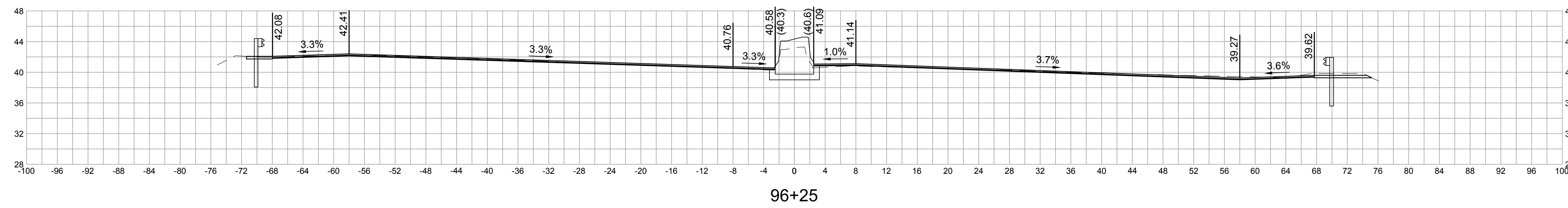
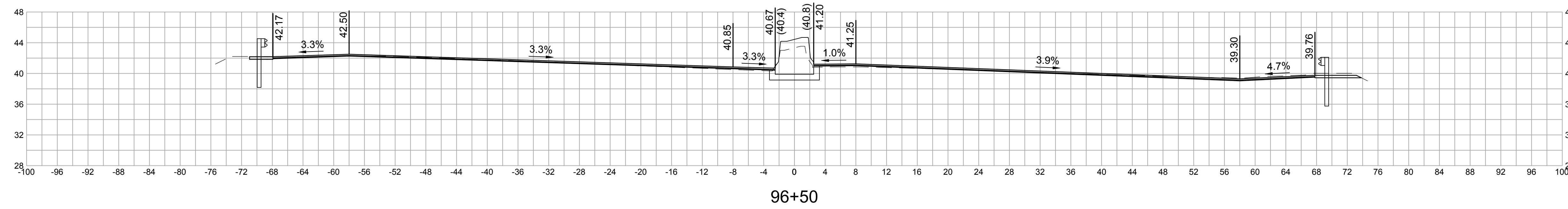
CROSS SECTIONS



**MEDFORD
I-93 OVER SALEM STREET EB**

SHEET	TOTAL	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
		BRI-093-1 (524)	58	60
		STP 093-1		
		PROJECT FILE NO.	606255	

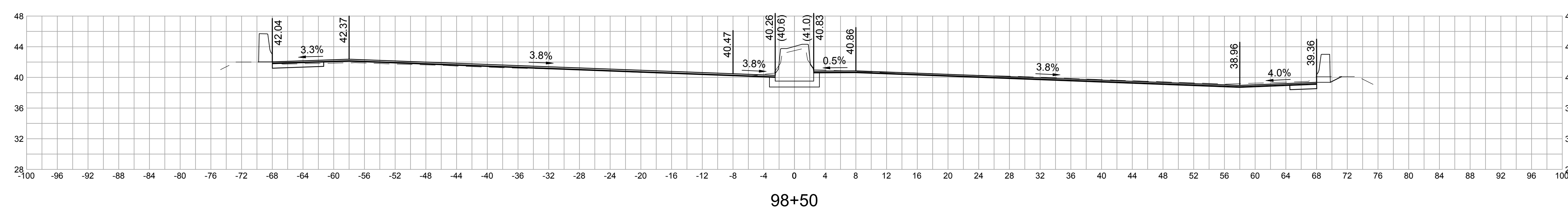
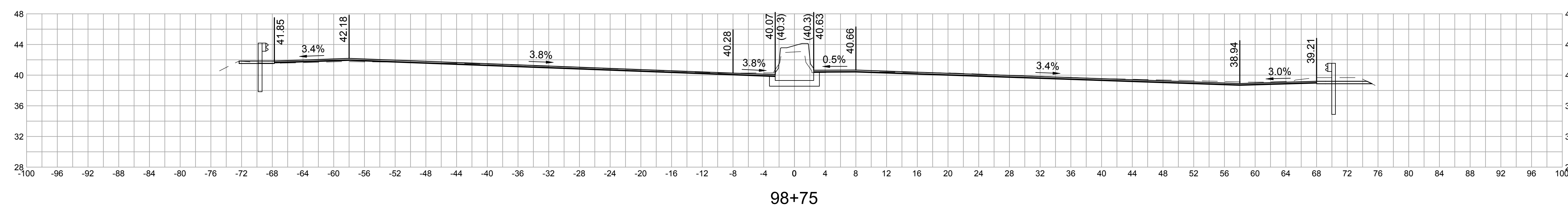
CROSS SECTIONS



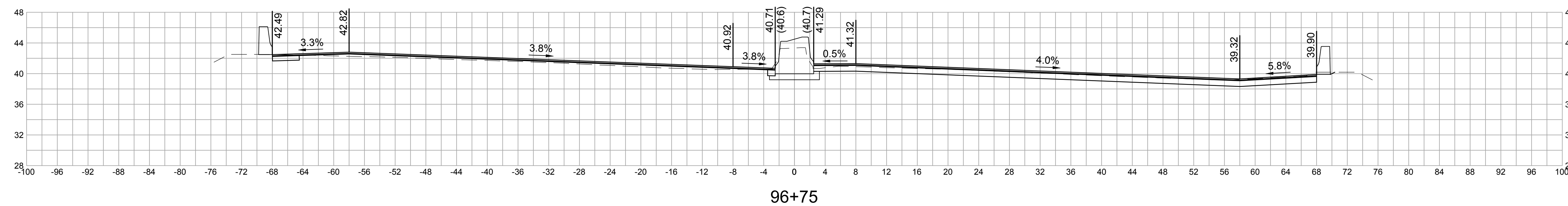
MEDFORD
I-93 OVER SALEM STREET EB

SHEET	TOTAL	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
		BRI-093-1 (524)	59	60
		STP 093-1		
		PROJECT FILE NO.	606255	

CROSS SECTIONS



STA 97+00 TO 98+25
SEE BRIDGE PLANS



**MEDFORD
I-93 OVER SALEM STREET EB**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	BRI-093-1 (524) STP 093-1	60	60
PROJECT FILE NO.		606255	

CROSS SECTIONS

