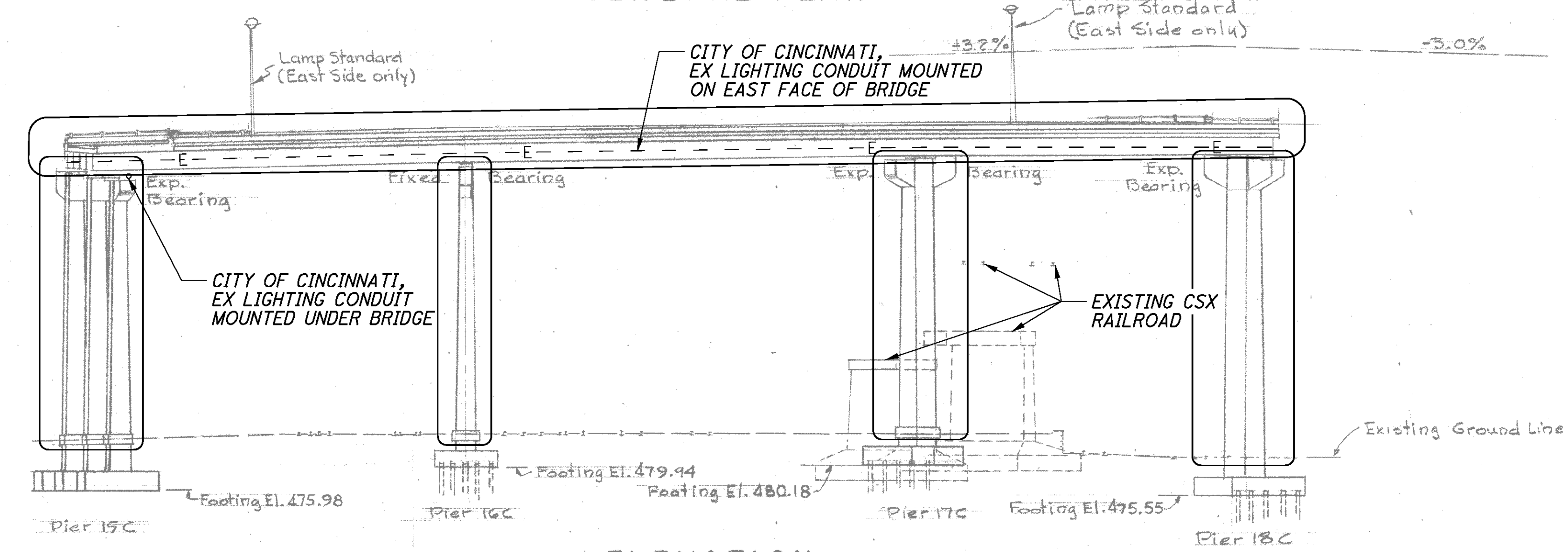


GENERAL PLAN



ELEVATION

LIST OF ALL REPAIR WORK	
REPAIR TYPE	SCOPE OF WORK
512.A	SEAL WEARING SURFACE WITH SRS
513.A	REPLACE END CROSSFRAMES WITH JACKING FRAMES
514.A1	ZONE PAINT STRUCTURAL STEEL TO LIMITS SHOWN, OZEU SPECIFICATIONS (EXTERIOR)
516.A	REPLACE STEEL ROCKER BEARINGS WITH ELASTOMERIC BEARINGS
518.A	REPLACE DOWNSPOUTS IN KIND
519.B	REPAIR CONCRETE SPALLS
530.C	INSTALL CARBON FIBERWRAP

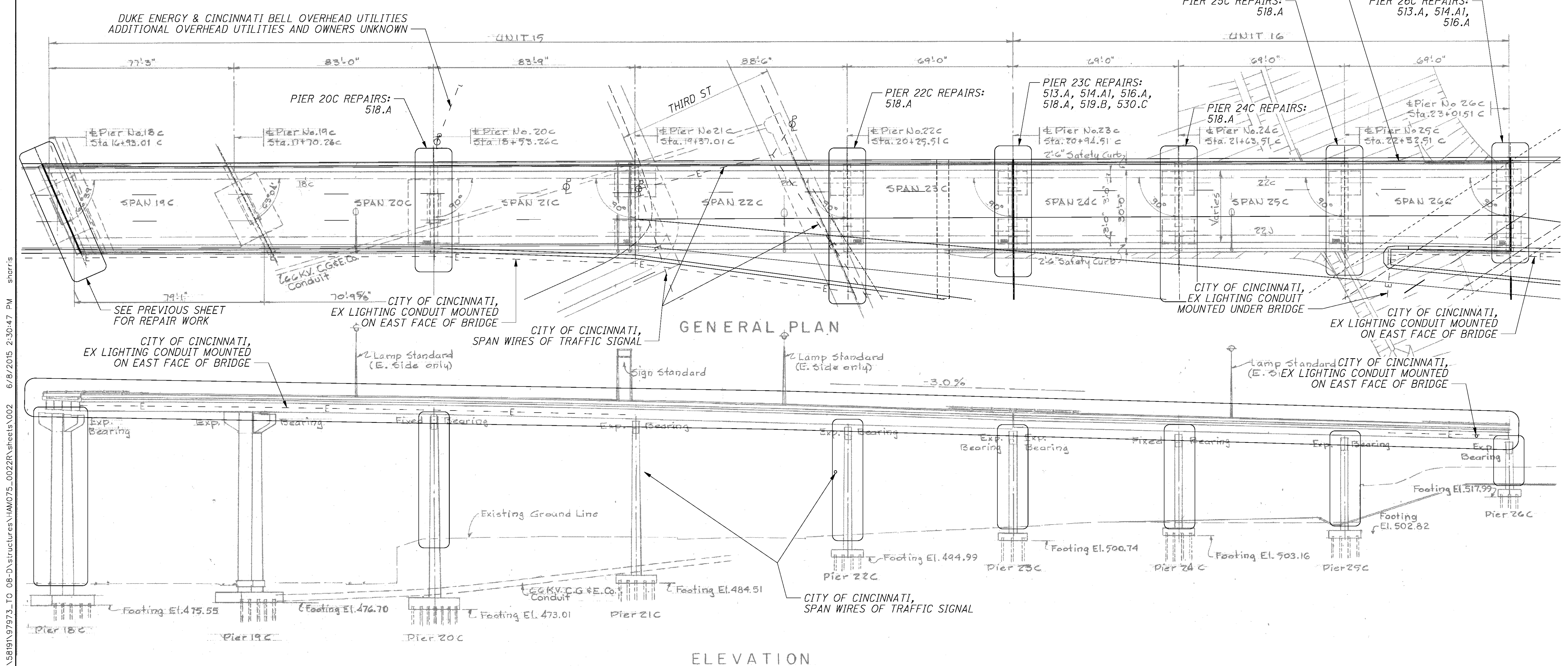
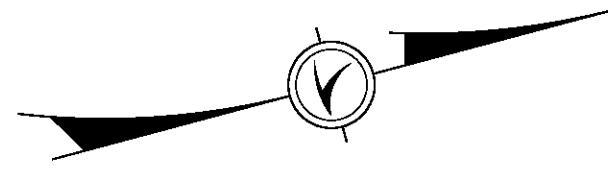
NOTES:

- EXISTING 1960 PLAN & ELEVATION PROVIDED TO LOCATE THE REPAIR WORK & EXISTING UTILITIES, DIMENSIONS SHOWN MAY VARY IN THE FIELD.
- FOR DETAILS ON REPAIR WORK SHOWN, REFER TO SHEETS [3] [19] TO [19] [19].

EXISTING STRUCTURE
TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN LENGTH: VARIES
ROADWAY: VARIES T/T PARAPET
SUPERELEVATION: VARIES
WEARING SURFACE: 2 3/4" ± SDC OVERLAY
ORIGINAL DESIGN LOADING: CF 2000 (57)
ALIGNMENT: VARIES
SKEW: VARIES
YEAR BUILT: 1960 WITH REHABILITATIONS IN 1988 AND 2009
STRUCTURE FILE NUMBER: 3108805
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE
TYPE: SAME AS EXISTING
SPAN: SAME AS EXISTING
WIDTH: SAME AS EXISTING
LOADING: SAME AS EXISTING
ALIGNMENT: SAME AS EXISTING
SKEW: SAME AS EXISTING
COORDINATES: SAME AS EXISTING
STRUCTURE FILE NUMBER: 3108805

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GENERAL PLAN

ELEVATION

LIST OF ALL REPAIR WORK	
REPAIR TYPE	SCOPE OF WORK
512.A	SEAL WEARING SURFACE WITH SRS
513.A	REPLACE END CROSSFRAMES WITH JACKING FRAMES
514.A1	ZONE PAINT STRUCTURAL STEEL TO LIMITS SHOWN, OZEU SPECIFICATIONS (EXTERIOR)
516.A	REPLACE STEEL ROCKER BEARINGS WITH ELASTOMERIC BEARINGS
518.A	REPLACE DOWNSPOUTS IN KIND
519.B	REPAIR CONCRETE SPALLS
530.C	INSTALL CARBON FIBERWRAP

NOTES:
 1. EXISTING 1960 PLAN & ELEVATION PROVIDED TO LOCATE THE REPAIR WORK & EXISTING UTILITIES, DIMENSIONS SHOWN MAY VARY IN THE FIELD.
 2. FOR DETAILS ON REPAIR WORK SHOWN, REFER TO SHEETS [3/19] TO [19/19].

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HAM-75-0022R ESTIMATED BRIDGE QUANTITIES

100% OI/IMS/BR FUNDING

ITEM	ITEM EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION	SUBSTRUCTURE										SUPER	GENERAL	SHEET REF	
					PIER 16C	PIER 17C	PIER 18C	PIER 20C	PIER 22C	PIER 22J	PIER 23C	PIER 23J	PIER 24J	PIER 25C				PIER 27C
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN													LS	57/177
509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN			50				50							61/177
511	81200	LS		CONCRETE, MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION													LS	58/177
512	10400	3633	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS													3633	
513	95030	29	EACH	STRUCTURAL STEEL, MISC.: JACKING FRAME													29	59/177
514	00050	6822	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL													6822	59/177
514	00056	6822	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT													6822	59/177
514	00060	8670	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, INTERMEDIATE COAT													8670	59/177
514	00066	8670	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, FINISH COAT													8670	59/177
514	00504	7	MNHR	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL													7	59/177
514	10000	8	EACH	FINAL INSPECTION REPAIR													8	59/177
516	44201	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (12" x 12" x 3.903")													5	60/177
516	44201	21	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (12" x 14" x 3.348")													21	60/177
516	44201	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13" x 16" x 3.903")													5	60/177
516	44301	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 14" x 4.458")													5	60/177
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN													LS	60/177
518	51101	658	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN	74	72		59	48	47	43	40	38	27	10		200	60/177
518	63300	LS		STRUCTURE DRAINAGE, MISC.: DRAINAGE PIPE VIDEO MONITORING													LS	170/177
519	11101	110	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN			30				80							61/177
SPECIAL	530E00600	555	SF	STRUCTURE, MISC.: CARBON FIBER WRAP (2 LAYERS)			275				280							62/177
SPECIAL	530E00600	222	SF	STRUCTURE, MISC.: DECK CONCRETE REMOVAL													222	61/177



DESIGN AGENCY
Gannett Fleming
 ENGINEERS & ARCHITECTS, P. C.
 40 WESTVALE DRIVE
 WESTVALE, CO 80085

DESIGNED
 SNH
 CHECKED
 VDT

DRAWN
 SNH
 REVISED

REVIEWED
 CTM
 STRUCTURE FILE NUMBER
 3108805

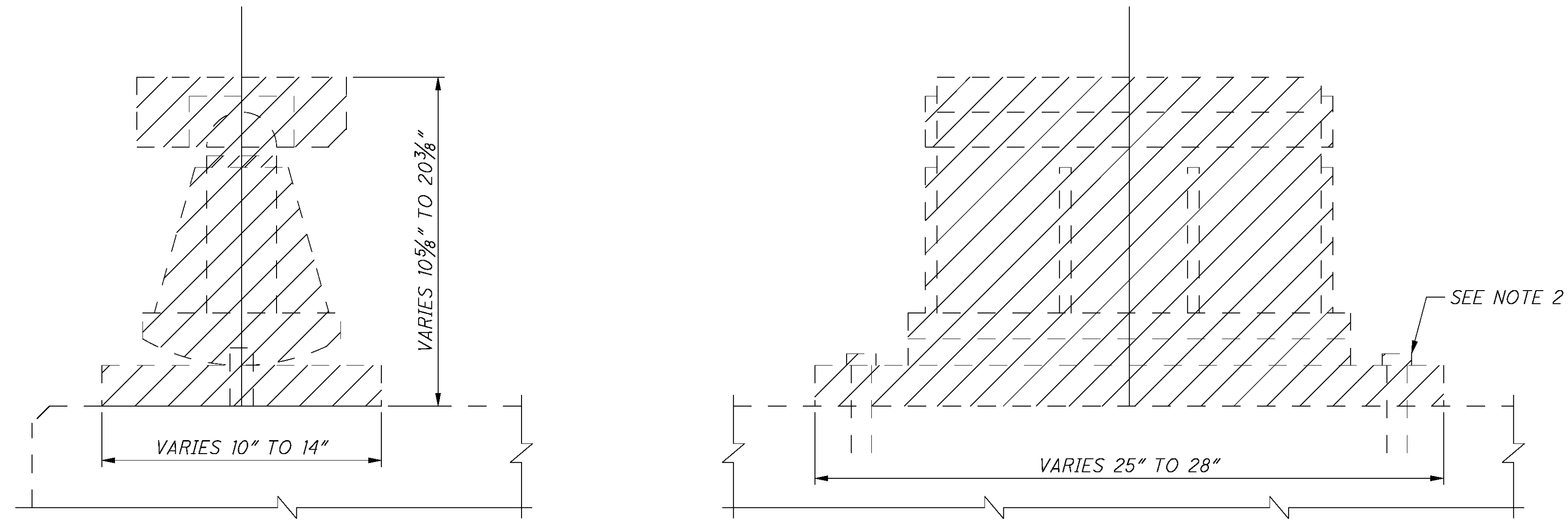
DATE
 4/15

ESTIMATED QUANTITIES
 BRIDGE NO. HAM-75-0022R (NB I-75)
 OVER THIRD STREET AND US 50 RAMPS

HAM-71/75-0.00/0.22
 PID No. 97973

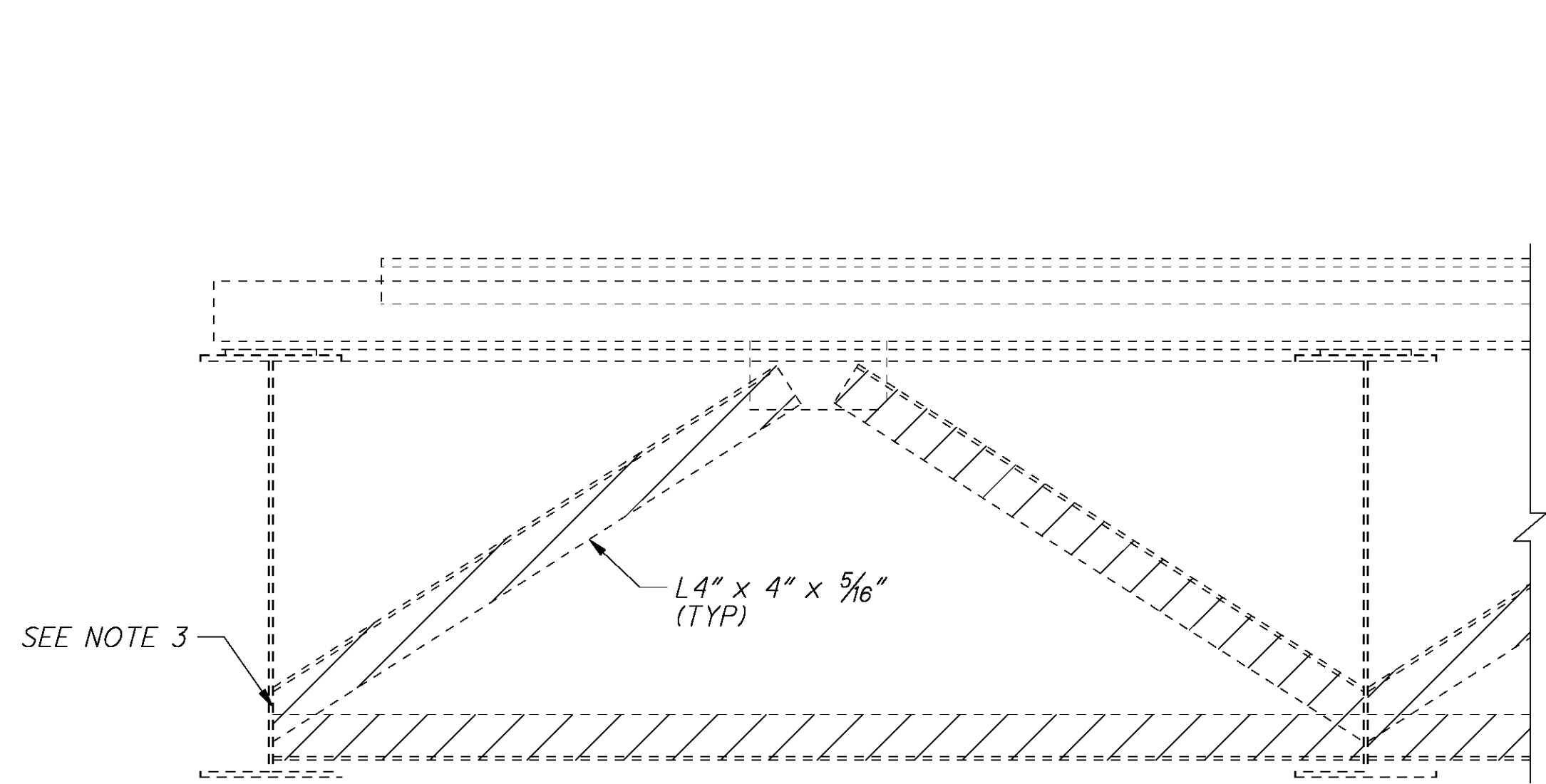
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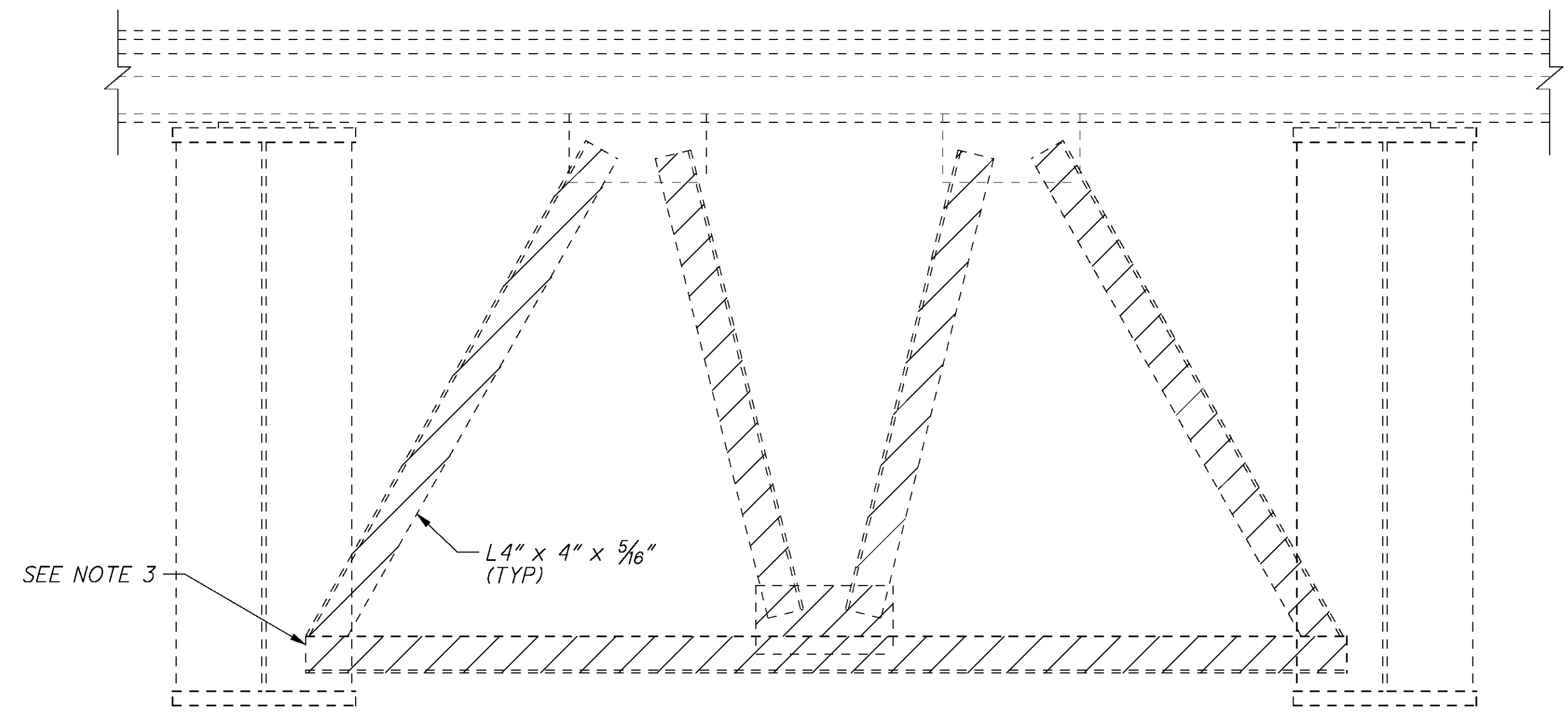


EXISTING STRUCTURAL STEEL ROCKER BEARING REMOVAL LIMITS
R100, R125, R150 & R175

- NOTES:**
1. DIMENSIONS AND SIZES MAY VARY IN FIELD.
 2. REMOVE EXISTING ANCHOR BOLTS IN MASONRY PLATE TO TOP OF BEAM SEAT. SEAL EXPOSED FACE OF ANCHOR BOLTS TO REMAIN PER C&MS 509.09.
 3. REMOVE CROSSFRAMES AND GRIND SMOOTH.
 4. EXISTING BEARING & END FRAME REMOVAL DETAILS PROVIDED FOR PIER 15C FORWARD, PIER 18C REAR & FORWARD, PIER 23C REAR & FORWARD, AND PIER 26C REAR & FORWARD.



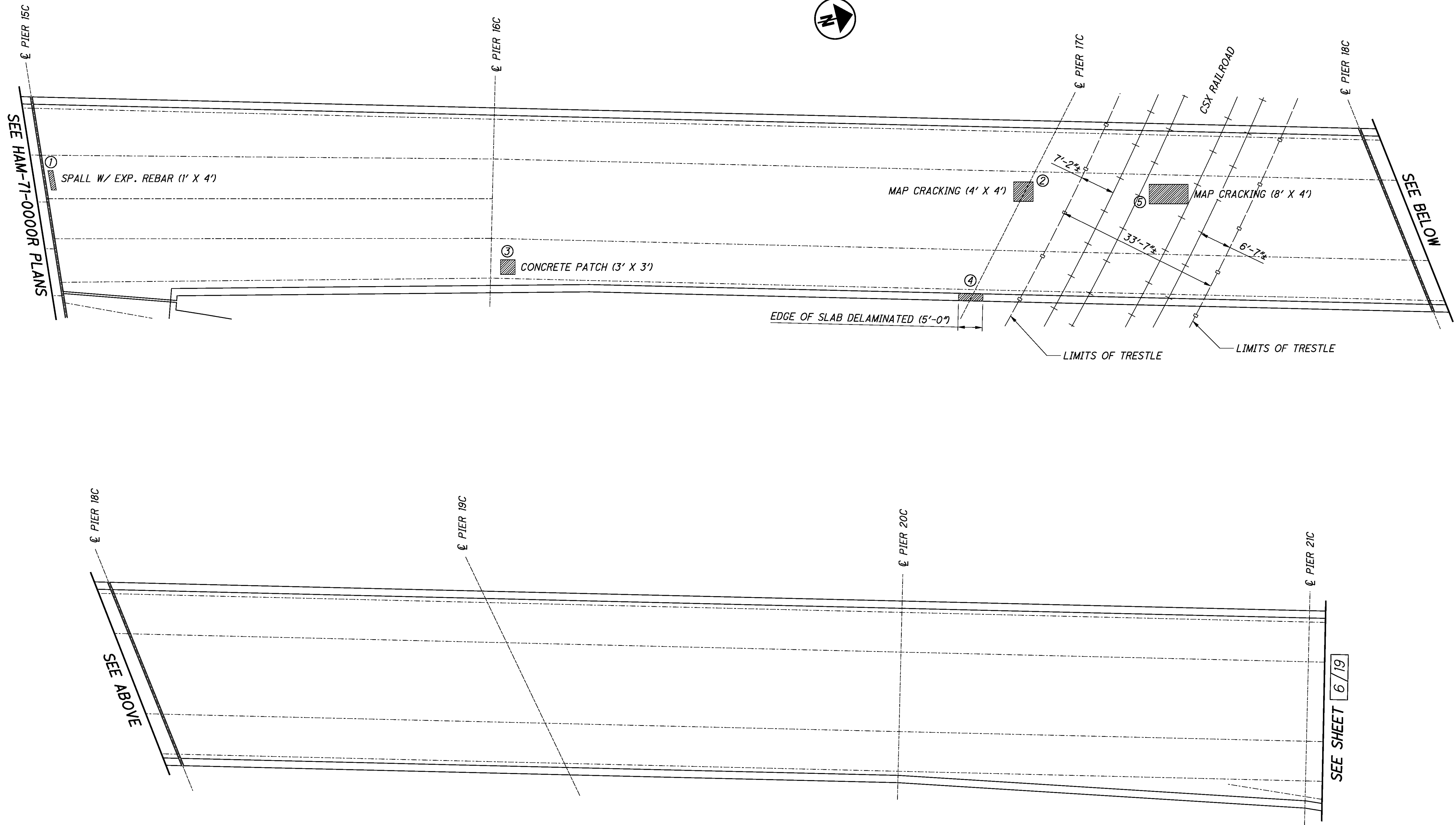
EXISTING END FRAME REMOVAL LIMITS
FOR BEAM SPACING LESS THAN 8'-0"



EXISTING END FRAME REMOVAL LIMITS
FOR BEAM SPACING GREATER THAN 8'-0"

DESIGNED	SNH	CHECKED	CTM
DRAWN	SNH	REVISED	
REVIEWED	DEK	STRUCTURE FILE NUMBER	3108605
DATE	4/15		

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LEGEND

REMOVAL AREA (DECK UNDERSIDE)

NOTE

SEE SHEET 7/19 FOR ESTIMATED QUANTITY TABLE AND ADDITIONAL NOTES.

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SEE ABOVE

☉ PIER 24 J ☉ PIER 25 J ☉ PIER 26C

SEE SHEET 5/19

☉ PIER 21C

W. 3RD ST.

☉ PIER 22C

☉ PIER 23C

☉ PIER 24 J

☉ PIER 25C

☉ PIER 27C

☉ PIER 24C

☉ PIER 25C

☉ PIER 26C

☉ PIER 27C

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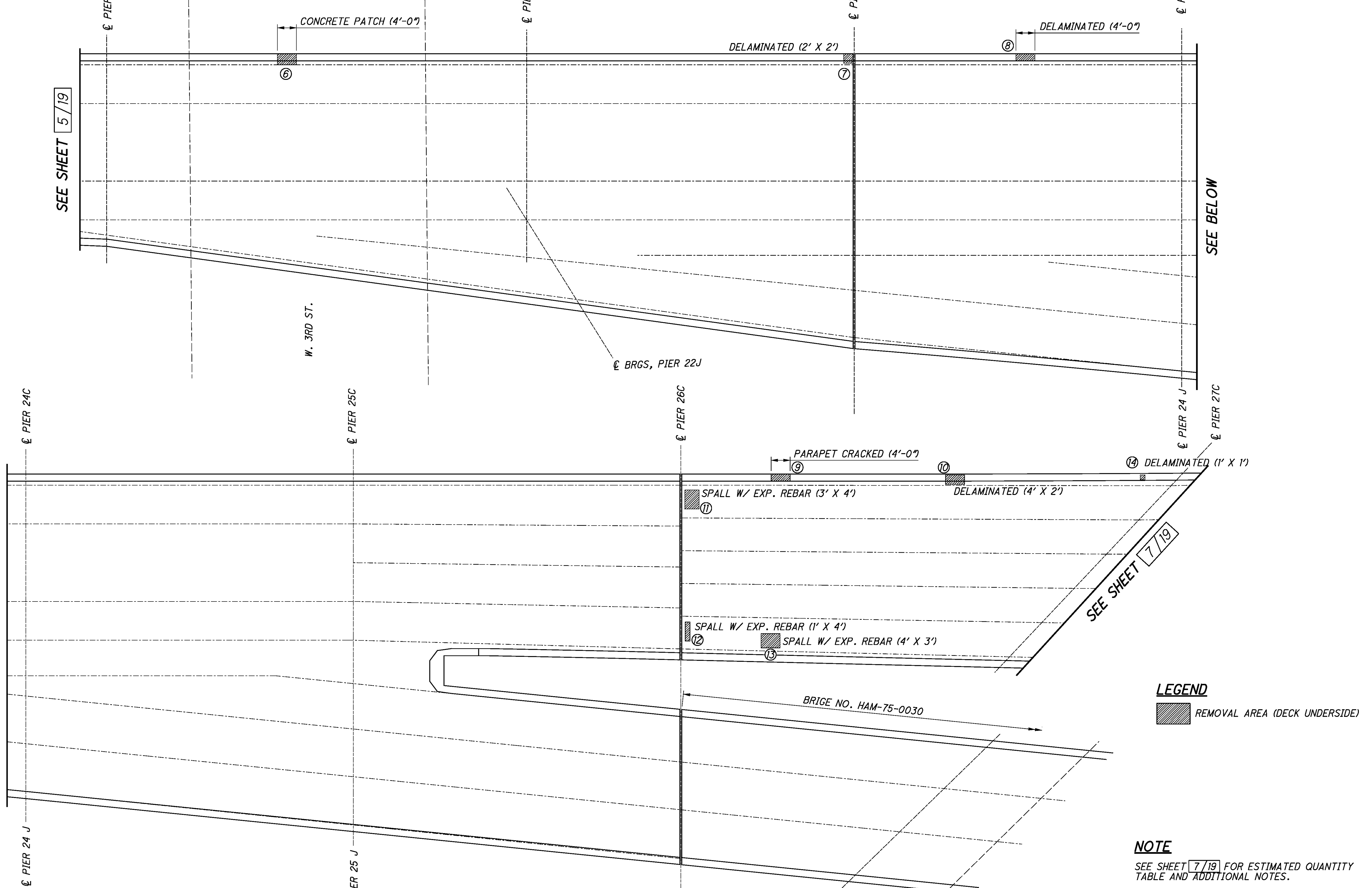
☉ PIER 26C

☉ PIER 27C

☉ PIER 24C

☉ PIER 25C

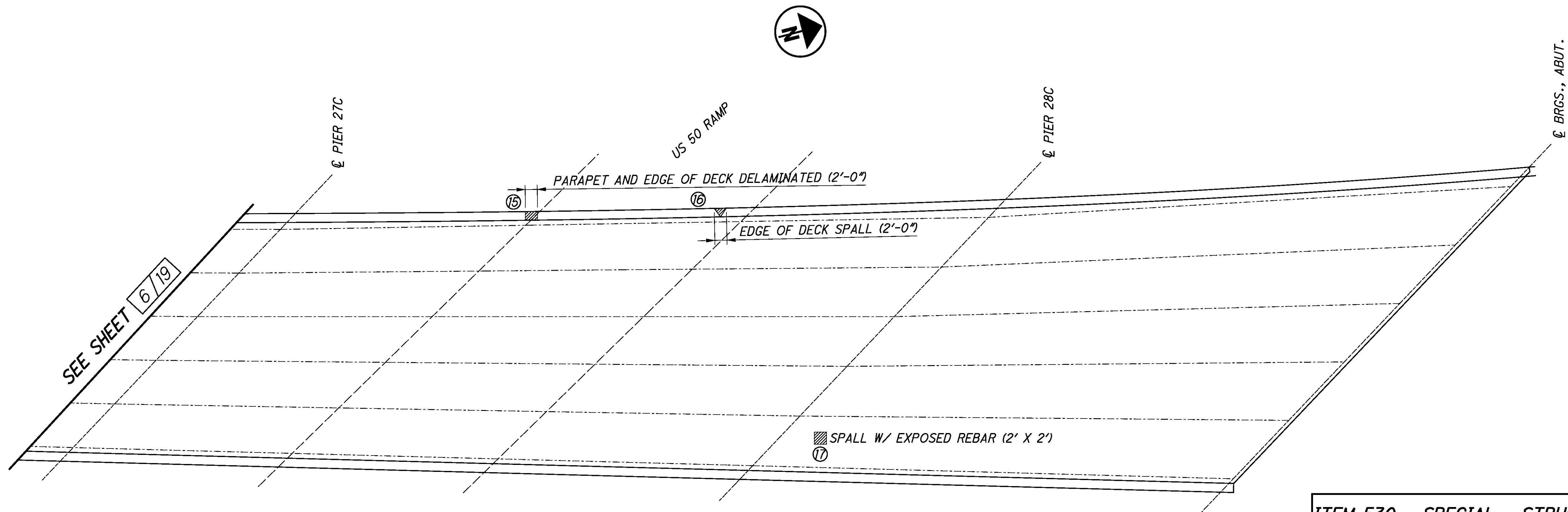
☉ PIER 26C



LEGEND
 REMOVAL AREA (DECK UNDERSIDE)

NOTE
 SEE SHEET 7/19 FOR ESTIMATED QUANTITY TABLE AND ADDITIONAL NOTES.

DESIGN AGENCY CARPENTER MARTY <small>TRANSPORTATION CONSULTANTS</small>	
REVIEWED GDJ	DATE 3-11-15
DRAWN AMR	STRUCTURE FILE NUMBER 3108805
DESIGNED AMR	CHECKED STK
SUPERSTRUCTURE CONCRETE REMOVAL DETAILS BRIDGE NO. HAM-75-0022R OVER THIRD STREET AND US50 RAMPS	
HAM-71/75-0.00/0.22	PID No. 97973
6 / 19	159 177



LEGEND

REMOVAL AREA (DECK UNDERSIDE)

NOTES

1. THE MEASURED QUANTITIES PROVIDED IN THE TABLE WERE ACQUIRED VISUALLY FROM THE GROUND AND ARE TO BE USED AS AN ESTIMATE. THE CONTRACTOR SHALL PERFORM A PHYSICAL INSPECTION OF THE AREAS LOCATED IN THE PLANS TO DETERMINE IF THEY ARE IN NEED OF REMOVAL. AFTER PHYSICAL INSPECTION ANY AREAS THAT THE CONTRACTOR DEEMS DOES NOT NEED REMOVED SHALL MEET THE APPROVAL OF THE ENGINEER. PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED WITH ITEM 530 - SPECIAL - STRUCTURE MISC.: DECK CONCRETE REMOVAL.
2. ITEM 530 - SPECIAL - STRUCTURE MISC.: DECK CONCRETE REMOVAL: REMOVE ALL LOOSE AND DISINTEGRATED CONCRETE FROM THE AREAS DETAILED IN THE PLAN SET TO AN EXTENT AS TO EXPOSE A SOUND CONCRETE SURFACE.

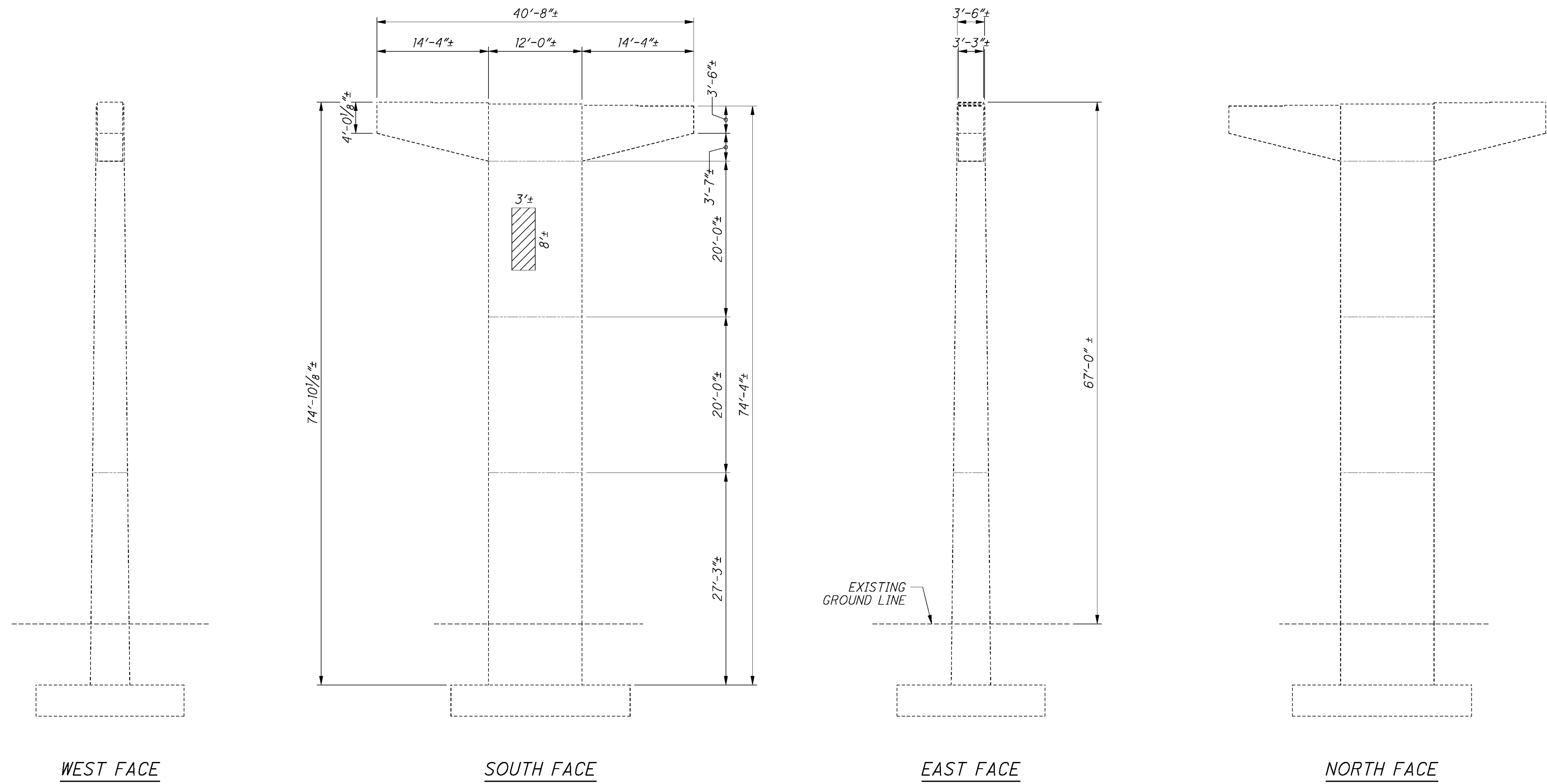
ITEM 530 - SPECIAL - STRUCTURE, MISC.: DECK CONCRETE REMOVAL

VISUAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN SEPTEMBER OF 2014.

EXACT DIMENSIONS AND LOCATIONS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ESTIMATED REMOVAL QUANTITIES (S.F.)		
BRIDGE NO. HAM-75-0022R	MEASURED QUANTITIES	ESTIMATED QUANTITIES
①	4.0	6.0*
②	16.0	24.0*
③	9.0	13.5*
④	10.0	15.0*
⑤	32.0	48.0*
⑥	8.0	12.0*
⑦	4.0	6.0*
⑧	8.0	12.0*
⑨	8.0	12.0*
⑩	8.0	12.0*
⑪	12.0	18.0*
⑫	4.0	6.0*
⑬	12.0	18.0*
⑭	1.0	1.5*
⑮	4.0	6.0*
⑯	4.0	6.0*
⑰	4.0	6.0*
TOTAL	148.0	222.0*

* - ESTIMATED QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ALLOW FOR ADDITIONAL DETERIORATION

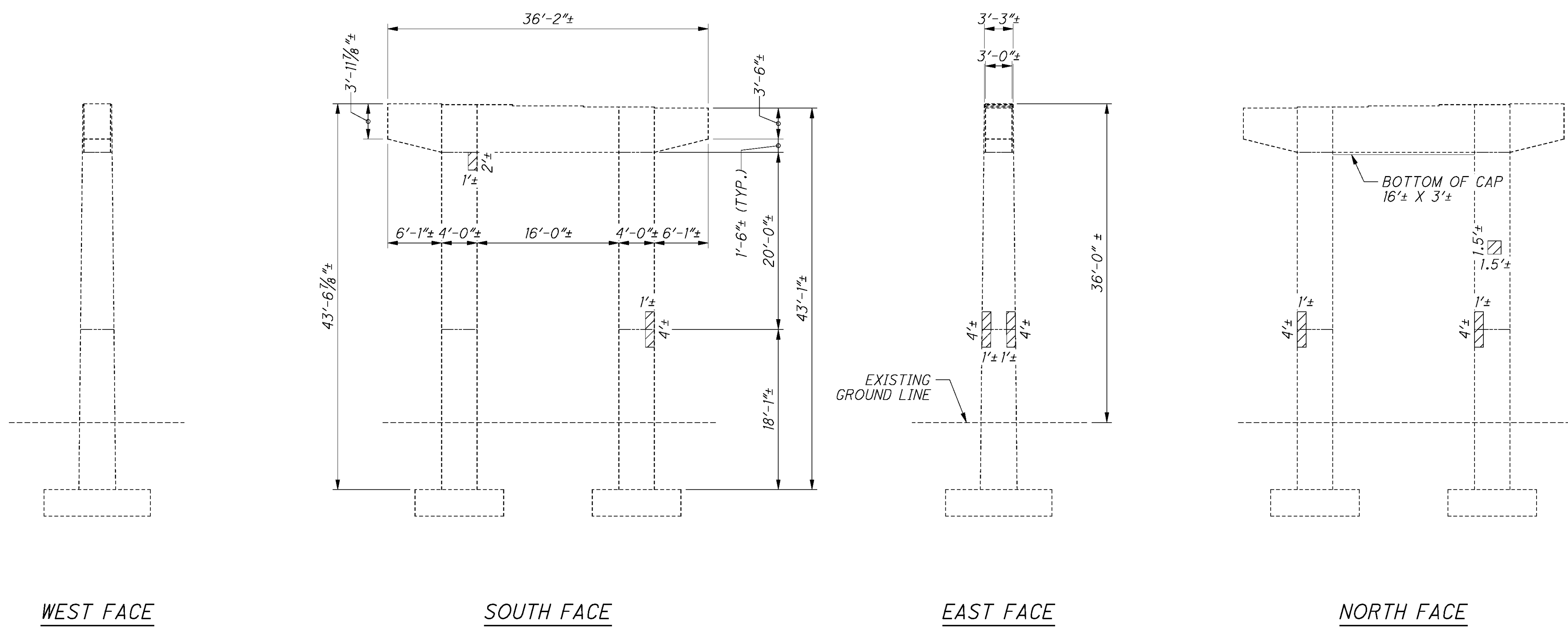


SUMMARY OF REPAIR QUANTITIES - PIER 18C				
LOCATION	- 519.B - REPAIR CONCRETE SPALLS			
	UNIT	MEASURED QUANTITY	CONTINGENCY QTY. (25%)	TOTAL REPAIR QTY.
WEST FACE	SQ FT	0	0	0
SOUTH FACE	SQ FT	24	6	30
EAST FACE	SQ FT	0	0	0
NORTH FACE	SQ FT	0	0	0
BOTTOM OF CAP	SQ FT	0	0	0
TOTAL PIER 18C QTY.	SQ FT			30

NOTES:
 1. FOR ADDITIONAL REPAIR TYPE DESCRIPTIONS, SEE GENERAL NOTES SHEETS 57 THRU 63.
 2. PORTIONS OF REPAIRED SPALLS SHALL BE FIBER WRAPPED. FOR FIBERWRAP DETAILS, INCLUDING SECTIONS AND BASIS OF PAYMENT FOR WRAPPING, SEE SHEET 10/19.

LEGEND:
 APPROXIMATE AREA TO BE REPAIRED PER ITEM 519.B

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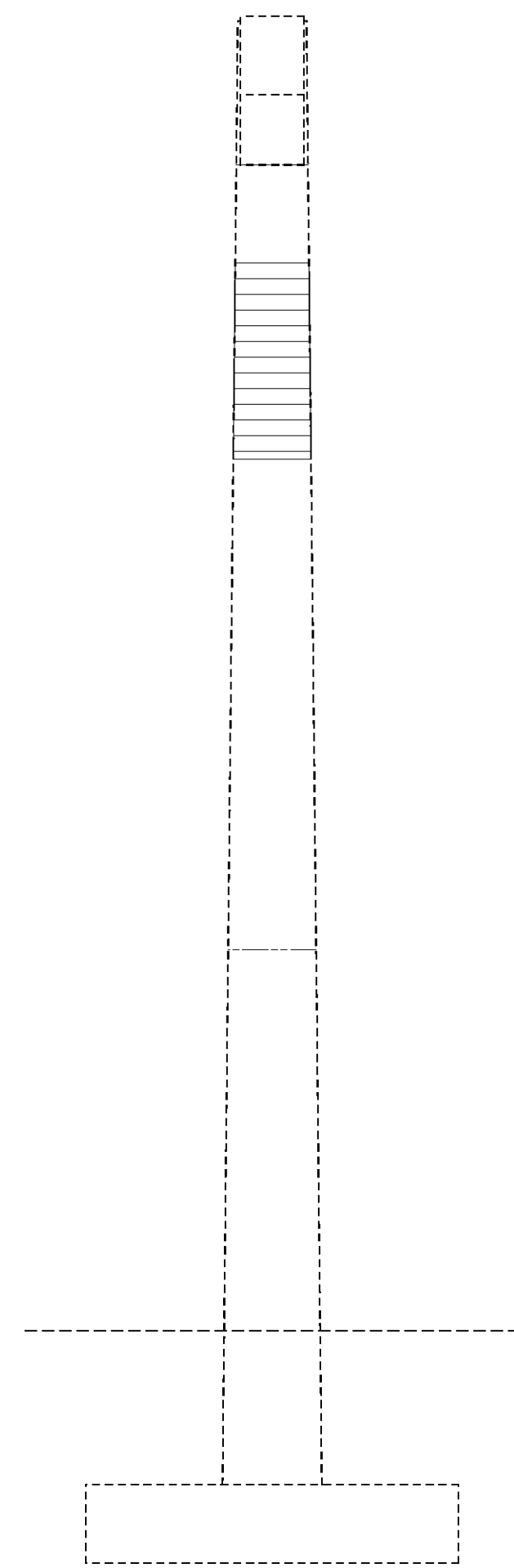
SUMMARY OF REPAIR QUANTITIES - PIER 23C				
LOCATION	▨ - 519.B - REPAIR CONCRETE SPALLS			
	UNIT	MEASURED QUANTITY	CONTINGENCY QTY. (25%)	TOTAL REPAIR QTY.
WEST FACE *	SQ FT	0	0	0
SOUTH FACE	SQ FT	6	2	8
EAST FACE **	SQ FT	8	2	10
NORTH FACE	SQ FT	11	3	14
BOTTOM OF CAP	SQ FT	48	0	48
TOTAL PIER 23C QTY.	SQ FT			80

* INCLUDES WEST FACES OF ALL COLUMNS
 ** INCLUDES EAST FACES OF ALL COLUMNS

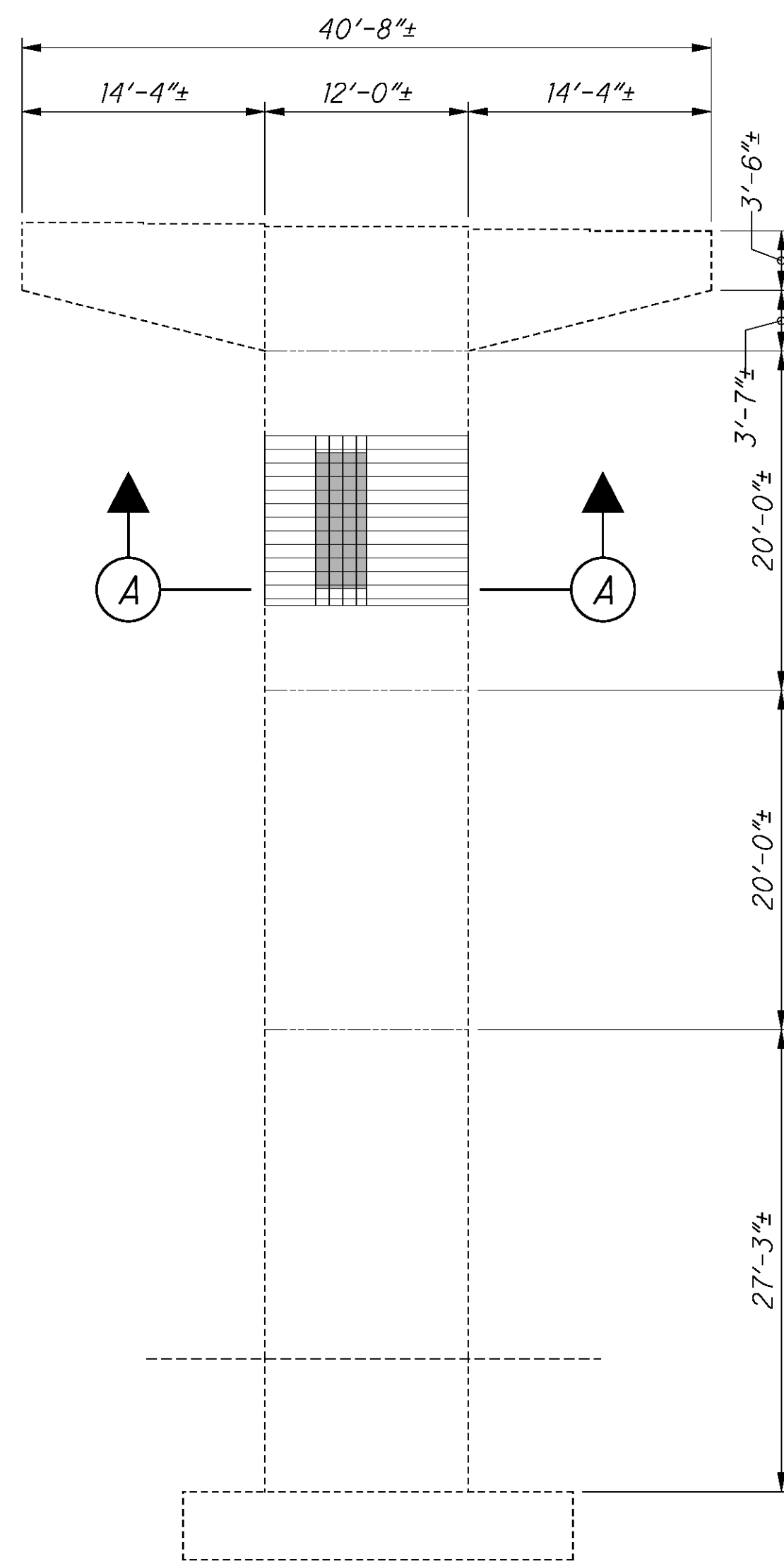
- NOTES:**
- FOR ADDITIONAL REPAIR TYPE DESCRIPTIONS, SEE GENERAL NOTES SHEETS 57 THRU 63.
 - PORTIONS OF REPAIRED SPALLS SHALL BE FIBER WRAPPED. FOR FIBERWRAP DETAILS, INCLUDING SECTIONS AND BASIS OF PAYMENT FOR WRAPPING, SEE SHEET 11/19.

LEGEND:
 ▨ APPROXIMATE AREA TO BE REPAIRED PER ITEM 519.B

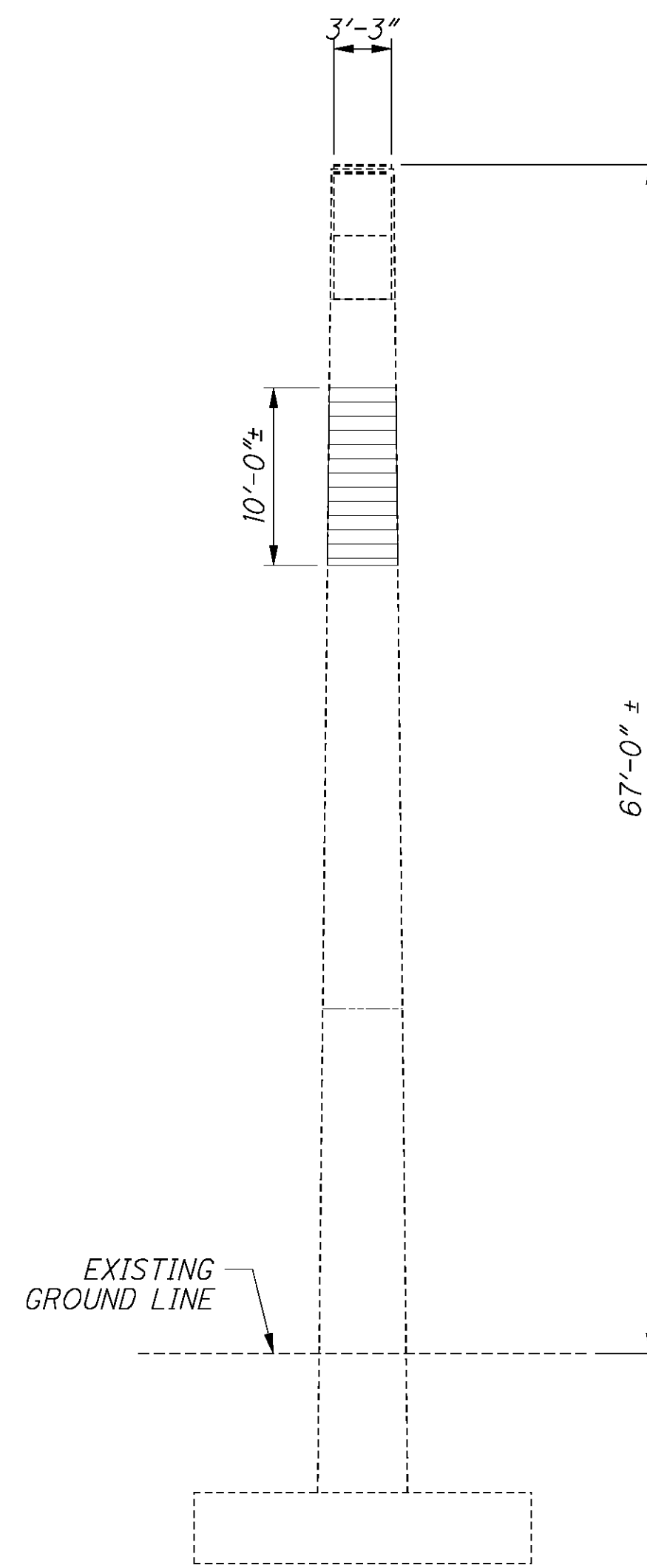
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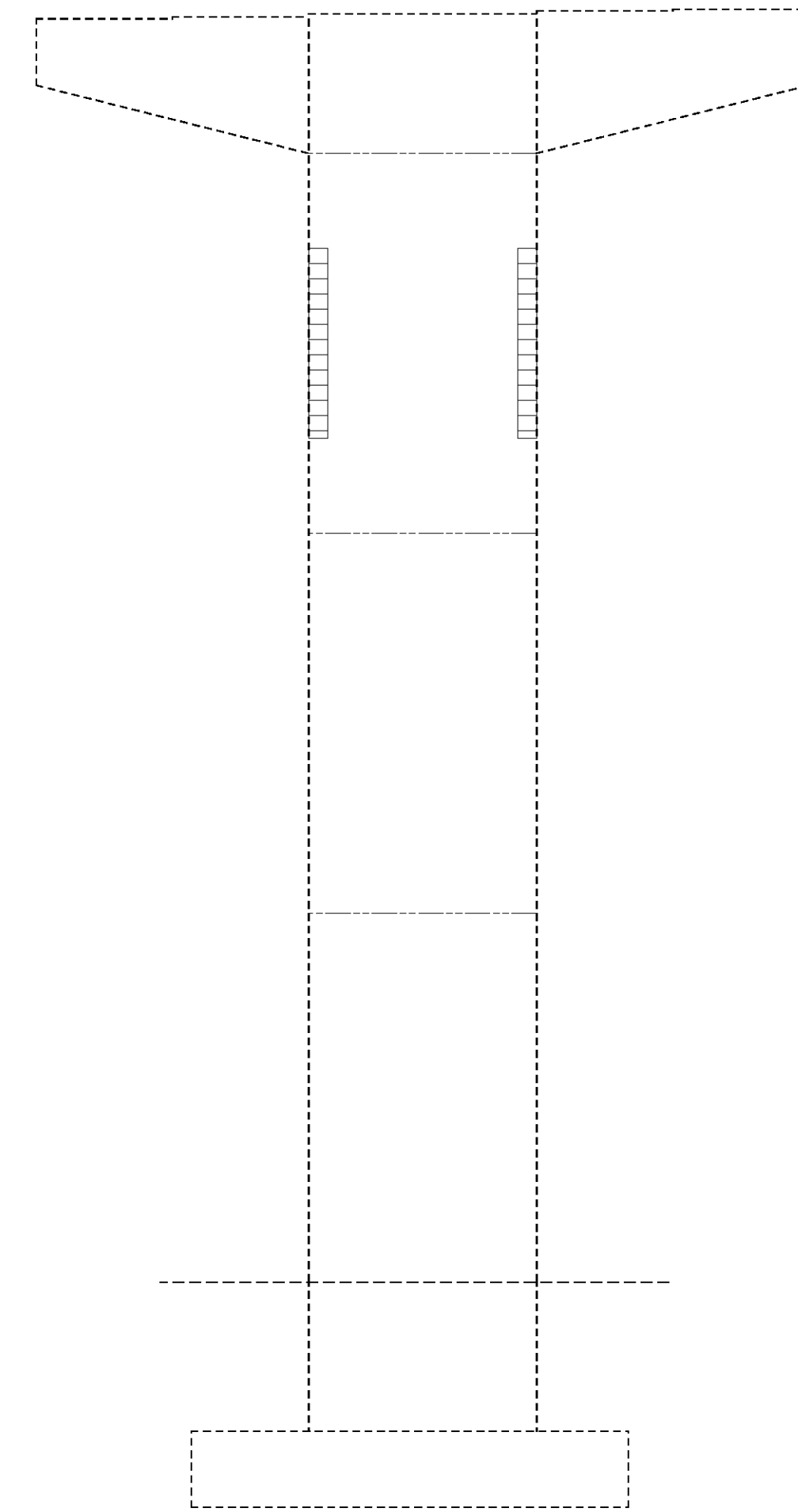
WEST FACE



SOUTH FACE

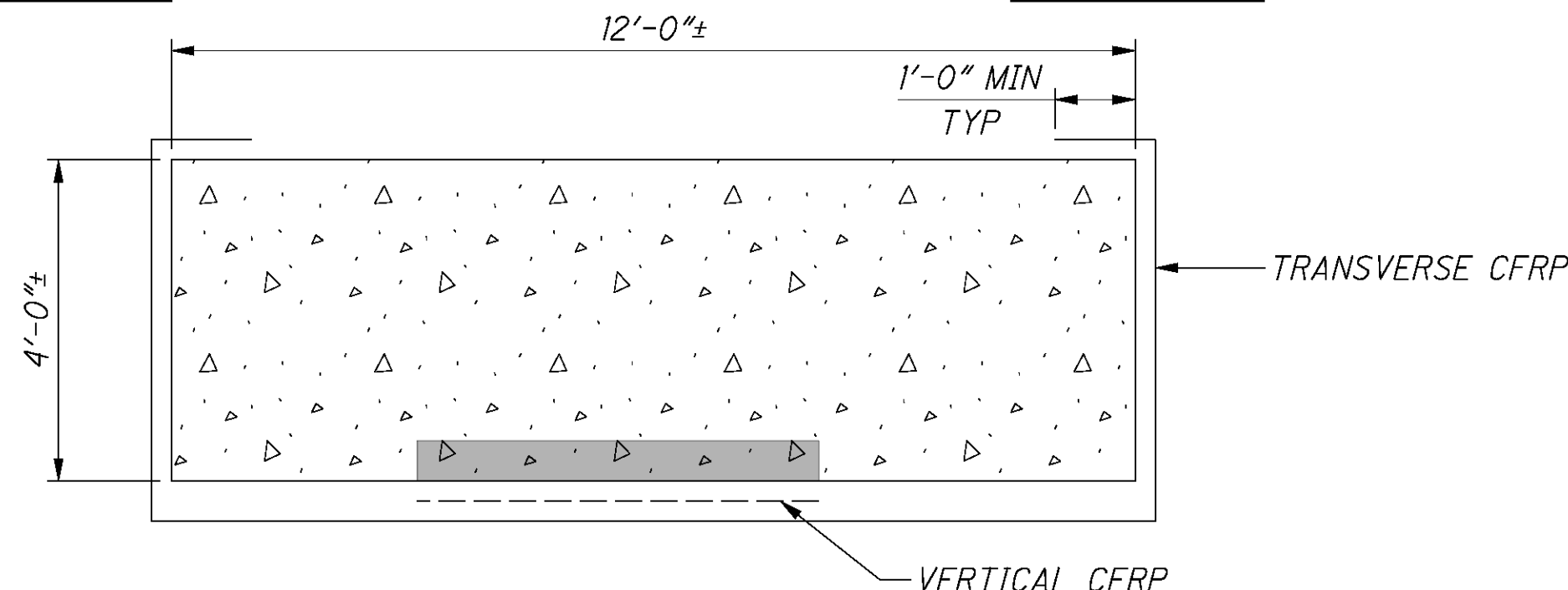


EAST FACE



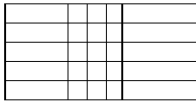

NORTH FACE

SUMMARY OF FIBER WRAP QUANTITIES - PIER 18C				
REPAIR TYPE	UNIT	MEASURED QUANTITY	CONTINGENCY QTY. (25%)	TOTAL REPAIR QTY.
530.C - INSTALL CARBON FIBERWRAP, 2 LAYERS	SQ FT	220	55	275

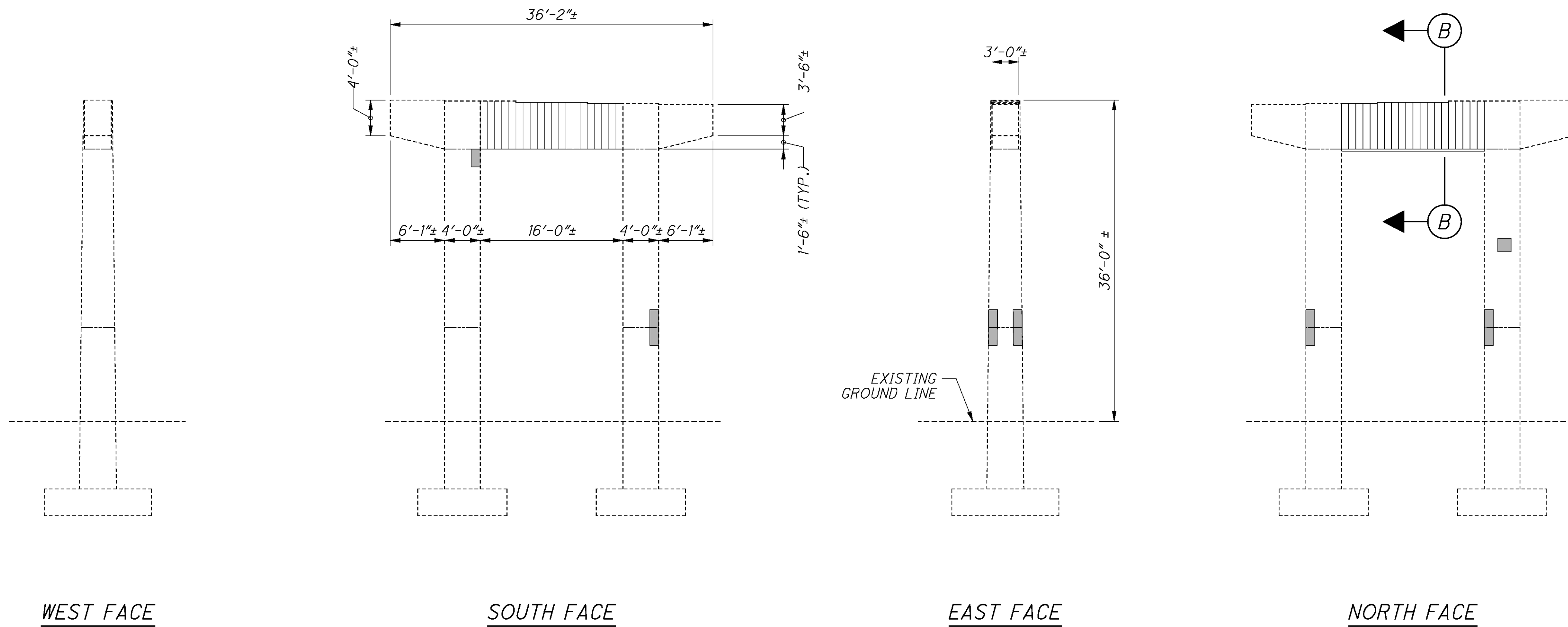


SECTION A-A COLUMN FIBER WRAP DETAIL

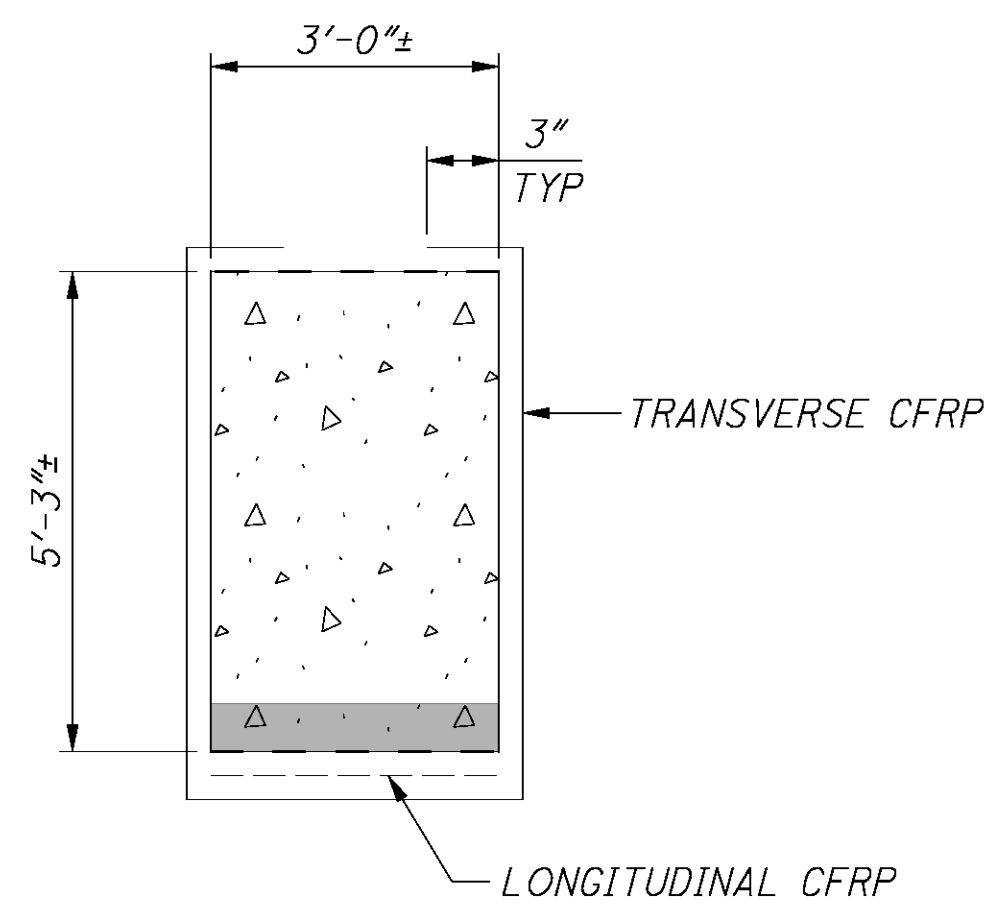
NOTES:
 1. INSTALL VERTICAL CFRP TO LIMITS OF COMPLETED SPALL REPAIR BEFORE WRAPPING CAP WITH TRANSVERSE CFRP.

LEGEND
 APPROXIMATE AREA TO BE FIBER WRAPPED PER ITEM 530 - STRUCTURE MISC.: CARBON FIBER WRAP (2 LAYERS).
 APPROXIMATE AREA OF COMPLETED SPALL REPAIR, REPAIR TYPE 519.B

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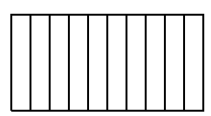



SUMMARY OF FIBER WRAP QUANTITIES - PIER 23C				
REPAIR TYPE	UNIT	MEASURED QUANTITY	CONTINGENCY QTY. (25%)	TOTAL REPAIR QTY.
530.C - INSTALL CARBON FIBERWRAP, 2 LAYERS	SQ FT	224	56	280

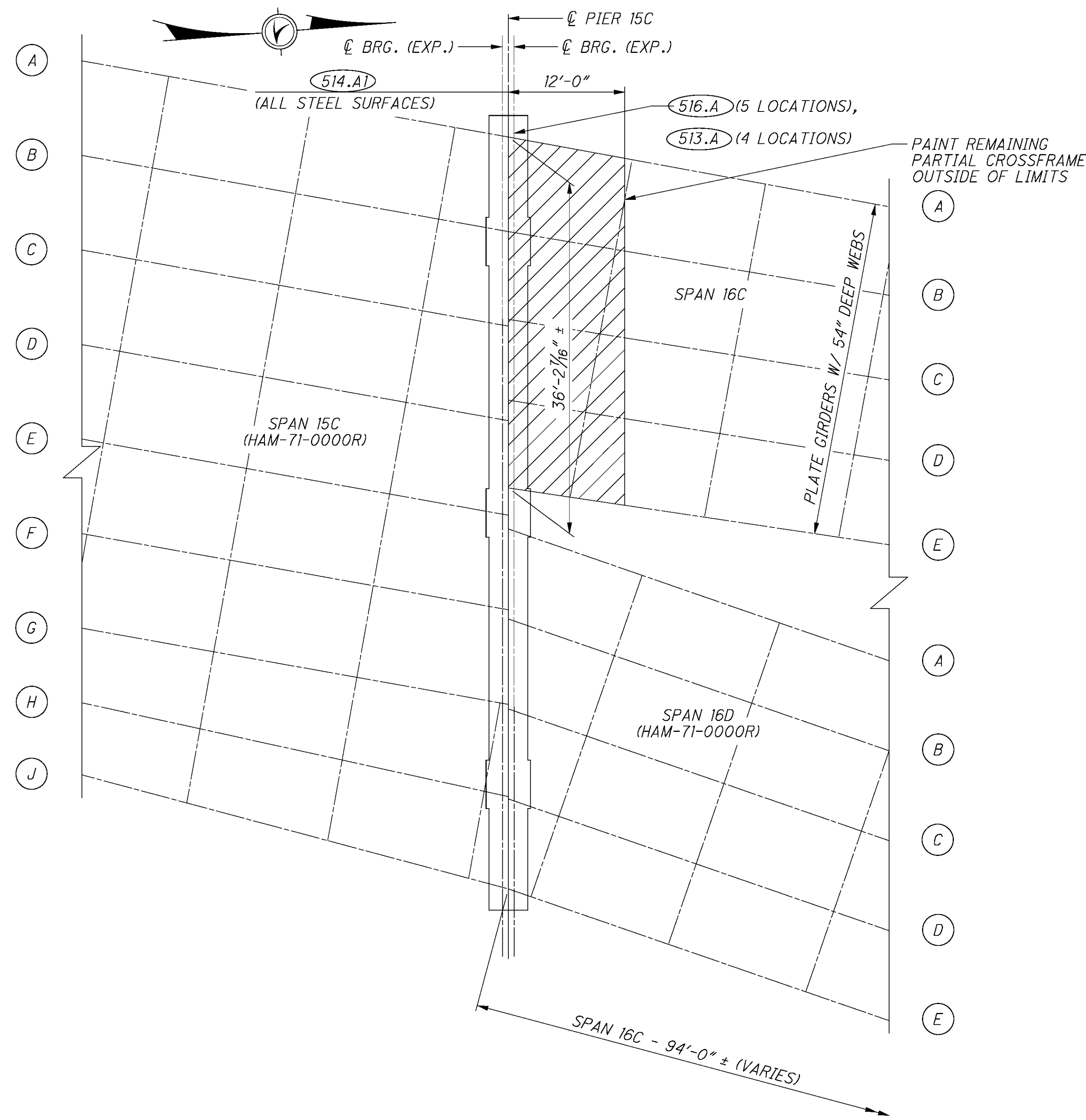


(B) SECTION
CAP FIBER WRAP DETAIL

NOTES:
1. INSTALL LONGITUDINAL CFRP TO LIMITS OF COMPLETED SPALL REPAIR BEFORE WRAPPING CAP WITH TRANSVERSE CFRP.

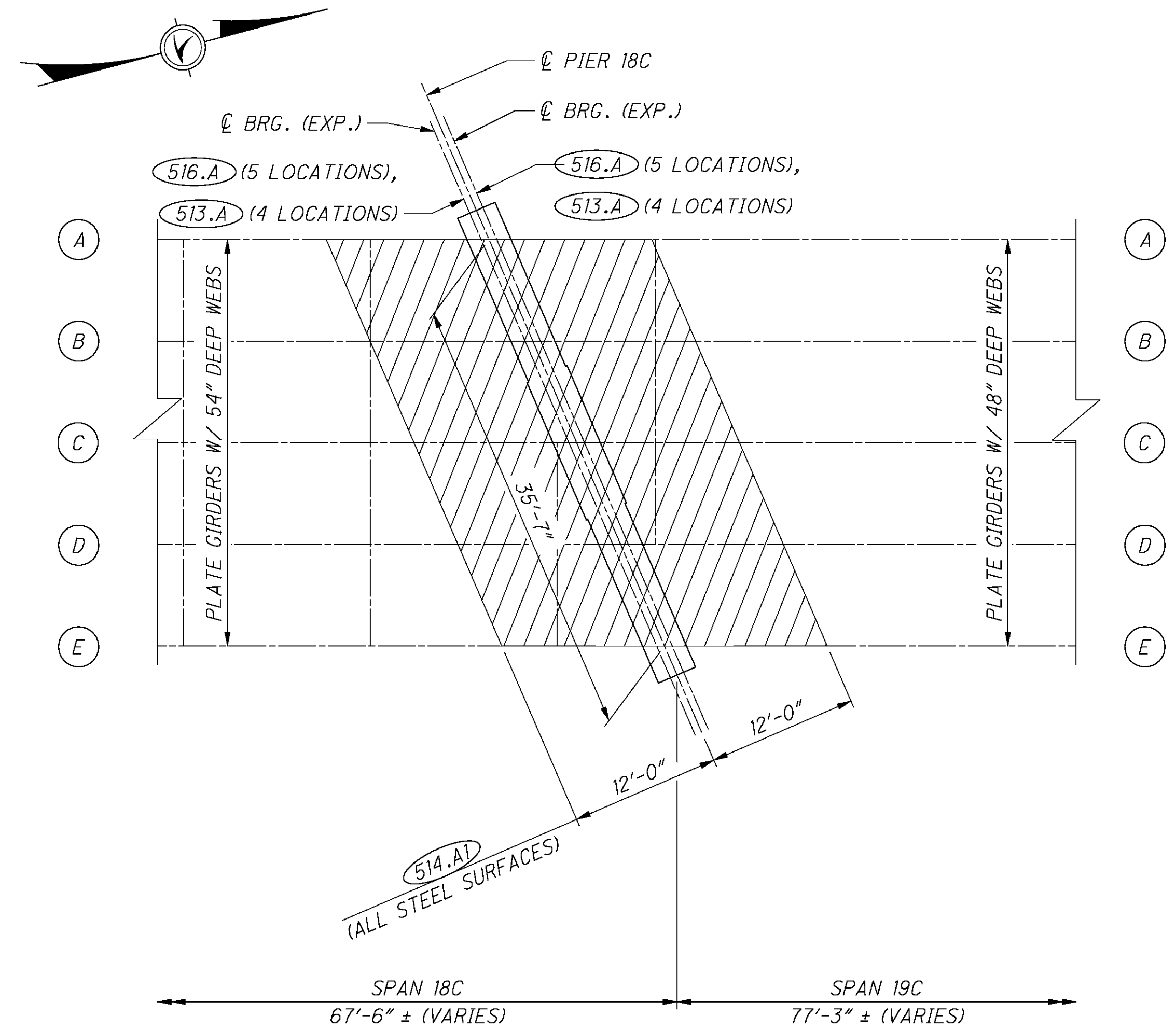
LEGEND:
 APPROXIMATE AREA TO BE FIBER WRAPPED PER ITEM 530 - STRUCTURE MISC.: CARBON FIBER WRAP (2 LAYERS).
 APPROXIMATE AREA OF COMPLETED SPALL REPAIR, REPAIR TYPE 519.B

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FRAMING PLAN - PIER 15C

MISCELLANEOUS STEEL REPAIR DETAILS	
REPAIR TYPE	SCOPE OF WORK
513.A	REPLACE END CROSSFRAMES WITH JACKING FRAMES
514.A1	ZONE PAINT STRUCTURAL STEEL TO LIMITS SHOWN, OZEU SPECIFICATIONS (EXTERIOR)
516.A	REPLACE STEEL ROCKER BEARINGS WITH ELASTOMERIC BEARINGS



FRAMING PLAN - PIER 18C

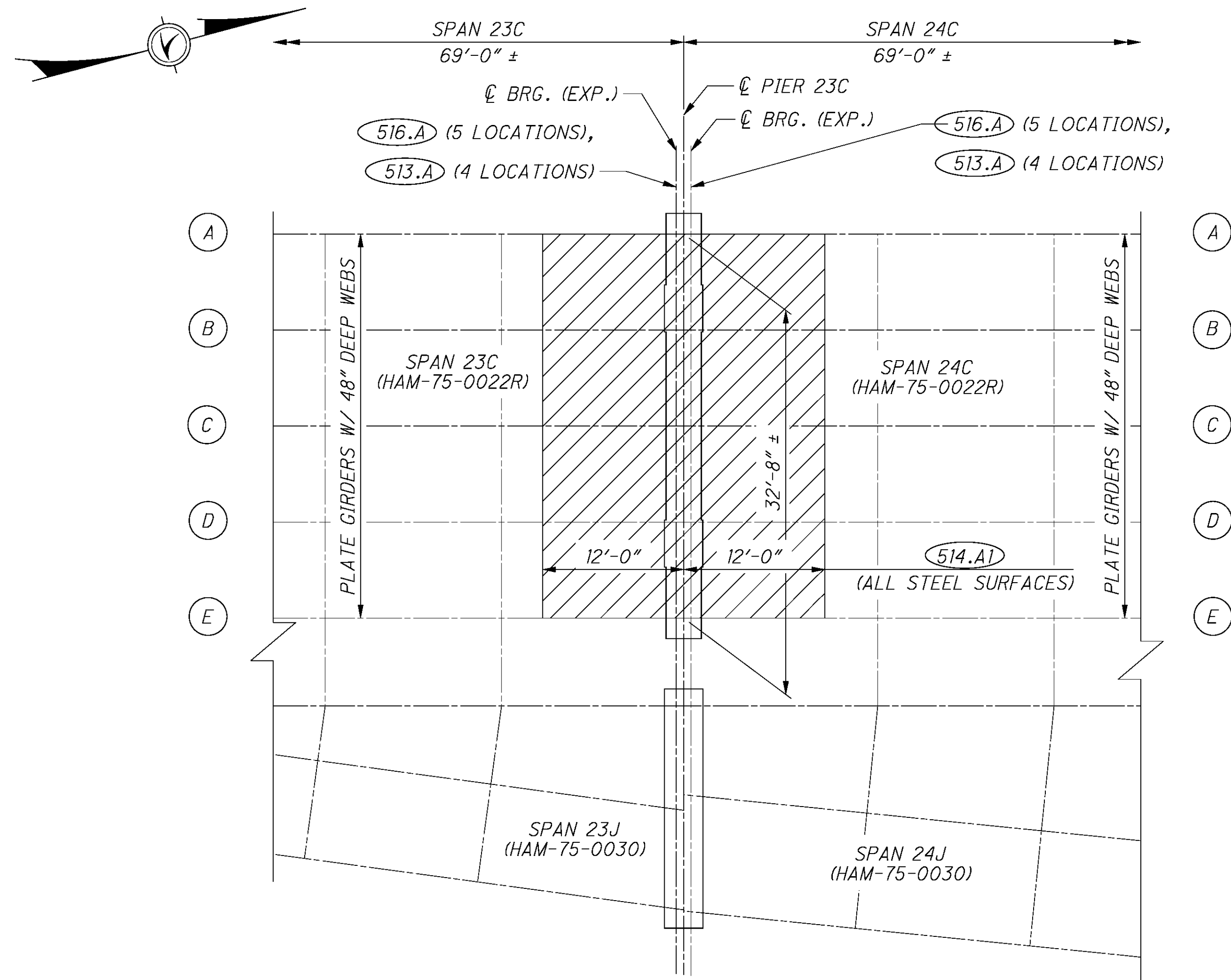
LEGEND:

- STRINGER/GIRDER LINE
- REPAIR TYPE
- 514.A1 PAINT LIMITS

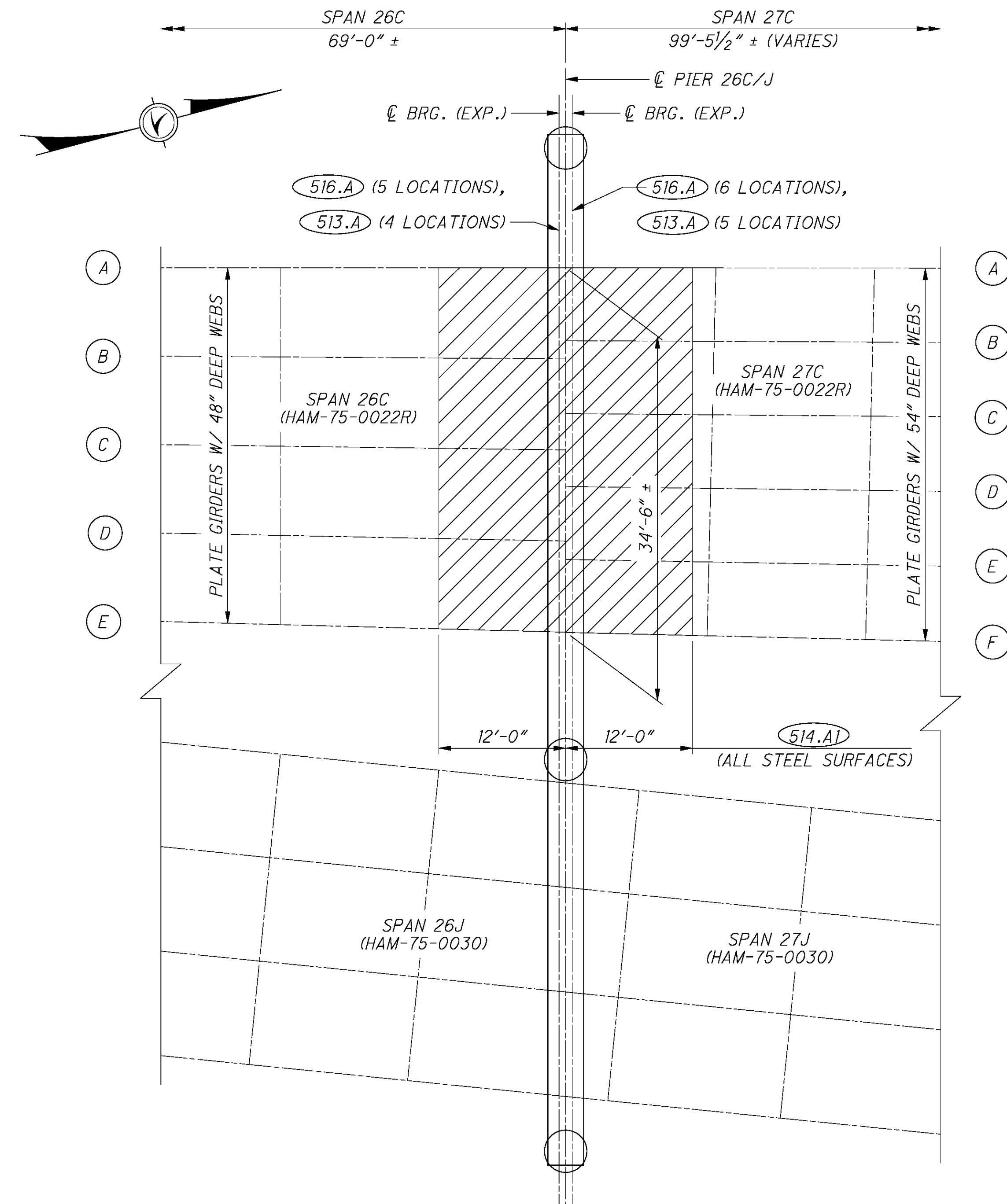
NOTES:

1. FOR ADDITIONAL REPAIR TYPE DESCRIPTIONS, SEE GENERAL NOTES SHEETS (57/177) THRU (63/177).
2. FOR JACKING FRAME DETAILS, SEE SHEETS [14/19] THRU [15/19].
3. FOR BEARING DETAILS, SEE SHEET [16/19].
4. REPAIRS IN SPAN 15C AND SPAN 16D (HAM-71-0000R) ARE INCLUDED WITH HAM-71-0000R. SEE SHEET (133/177).

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FRAMING PLAN - PIER 23C



FRAMING PLAN - PIER 26C
(STEEL PIER CAP)

MISCELLANEOUS STEEL REPAIR DETAILS	
REPAIR TYPE	SCOPE OF WORK
513.A	REPLACE END CROSSFRAMES WITH JACKING FRAMES
514.A1	ZONE PAINT STRUCTURAL STEEL TO LIMITS SHOWN, OZEU SPECIFICATIONS (EXTERIOR)
516.A	REPLACE STEEL ROCKER BEARINGS WITH ELASTOMERIC BEARINGS

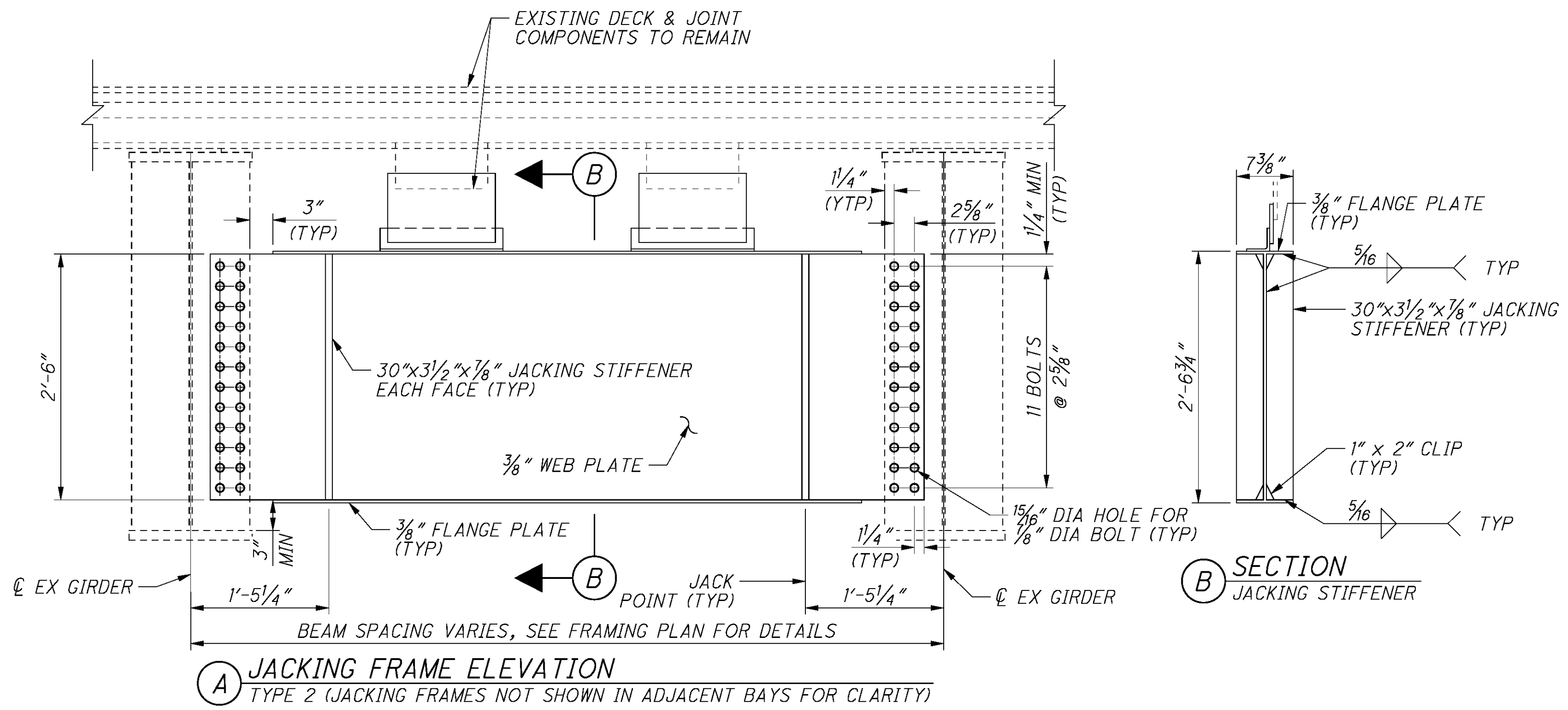
LEGEND:

- STRINGER/GIRDER LINE
- REPAIR TYPE
- 514.A1 PAINT LIMITS

NOTES:

1. FOR ADDITIONAL REPAIR TYPE DESCRIPTIONS, SEE GENERAL NOTES SHEETS THRU .
2. FOR JACKING FRAME DETAILS, SEE SHEETS THRU .
3. FOR BEARING DETAILS, SEE SHEET .

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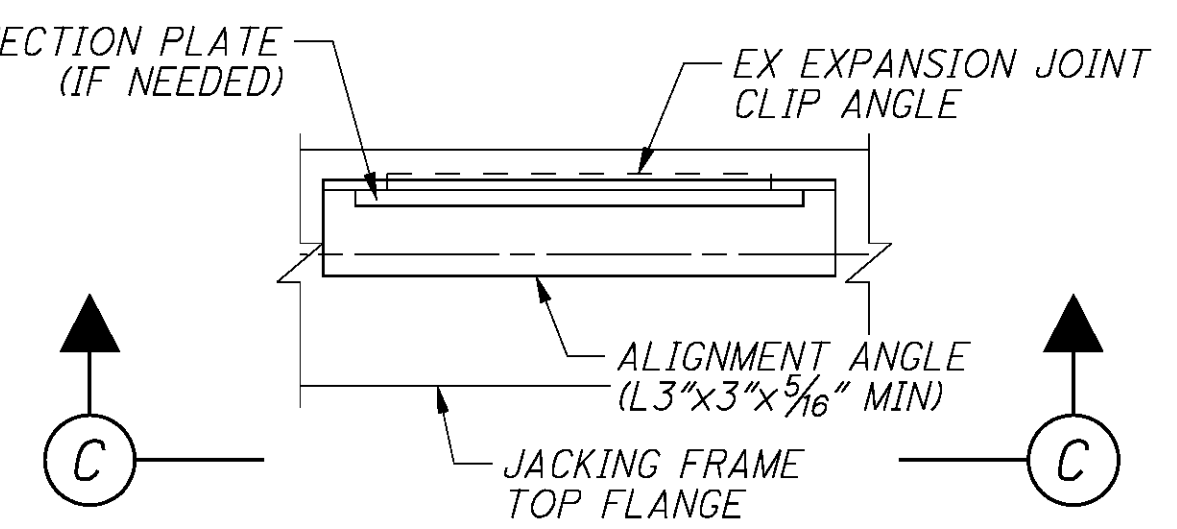
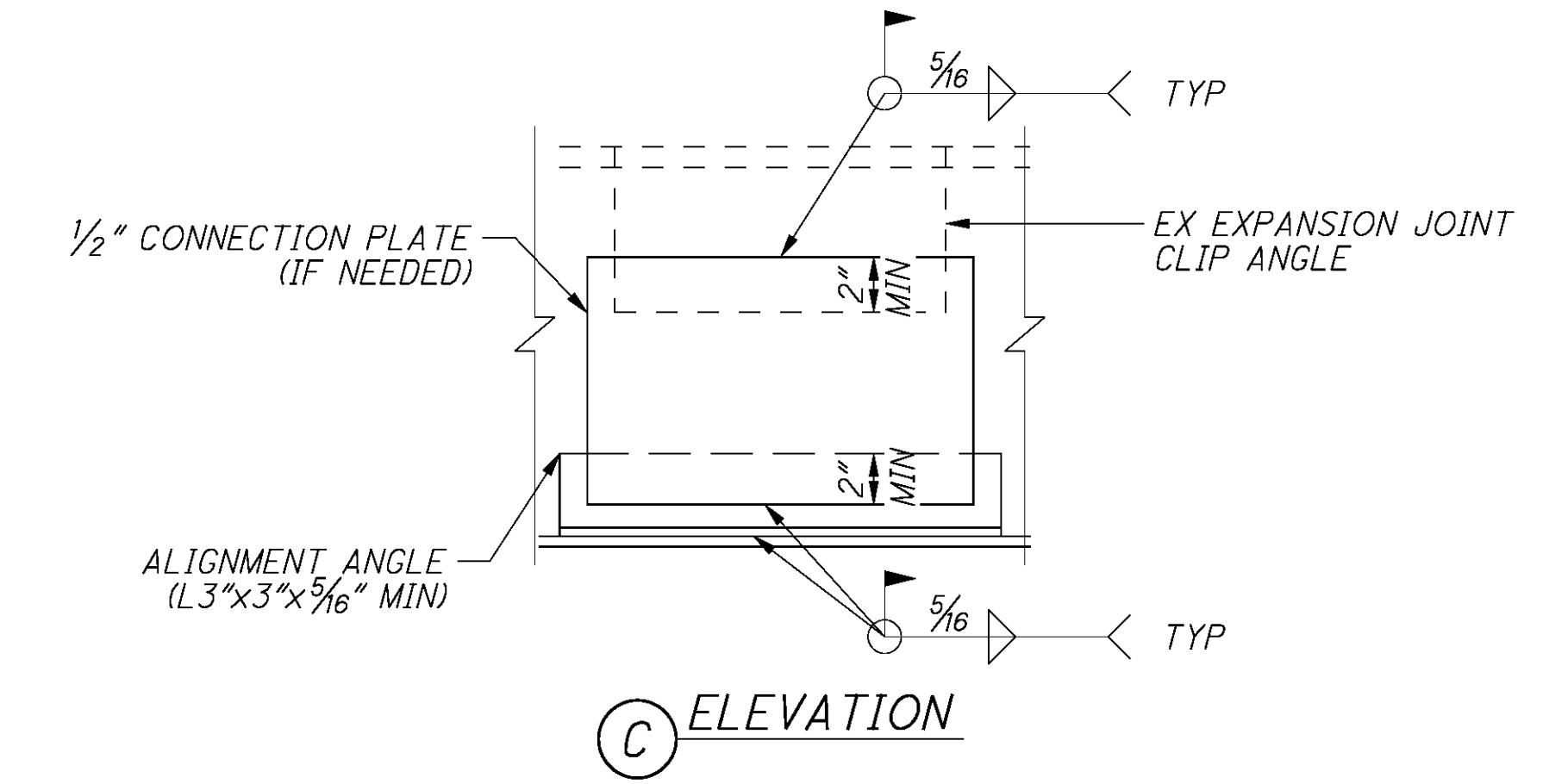


NOTES:

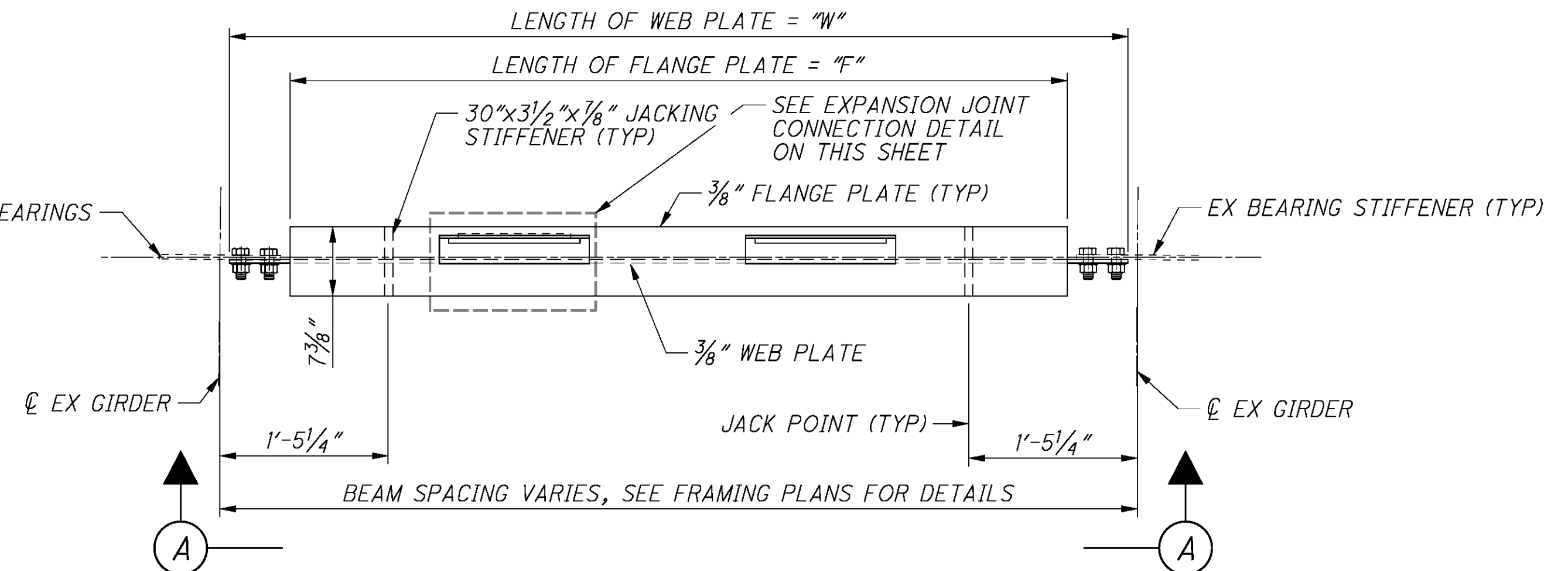
1. FIELD VERIFY ALL EXISTING MEMBER SIZES AND DIMENSIONS PRIOR TO FABRICATING MEMBERS FOR PROPOSED CONNECTIONS AND PERFORMING WORK.
2. CONTRACTOR MAY USE SHIM PLATES AS NEEDED TO MAKE CONNECTION FIT UP.
3. ALL EXISTING END CROSSFRAMES MUST BE REMOVED AND REPLACED WITH JACKING FRAMES IN ALL BAYS PRIOR TO BEGINNING JACKING PROCEDURES AND REPLACING APPLICABLE BEARINGS. EXISTING END CROSSFRAME REPAIR TO BE PERFORMED IN ONE BAY AT A TIME.
4. ALL BOLTS SHALL BE 1/2" DIA A325, TYPE 1, HIGH STRENGTH. PROVIDE PER CMS 513.20. ALL HOLES SHALL BE 1/16" DIA.
5. CONTRACTOR SHALL SUBMIT JACKING PLAN TO THE ENGINEER AND RECEIVE APPROVAL BEFORE BEGINNING WORK. THE CONTRACTOR MAY SUBMIT AN ALTERNATE SEQUENCE OF CONSTRUCTION, JACKING FRAME DETAILS, AND DETAILS OF AN ADEQUATE JACKING SYSTEM. METHODS AND PROCEDURES SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER PER APPROVAL IN ACCORDANCE WITH CMS 501.05.

SEQUENCE OF CONSTRUCTION:

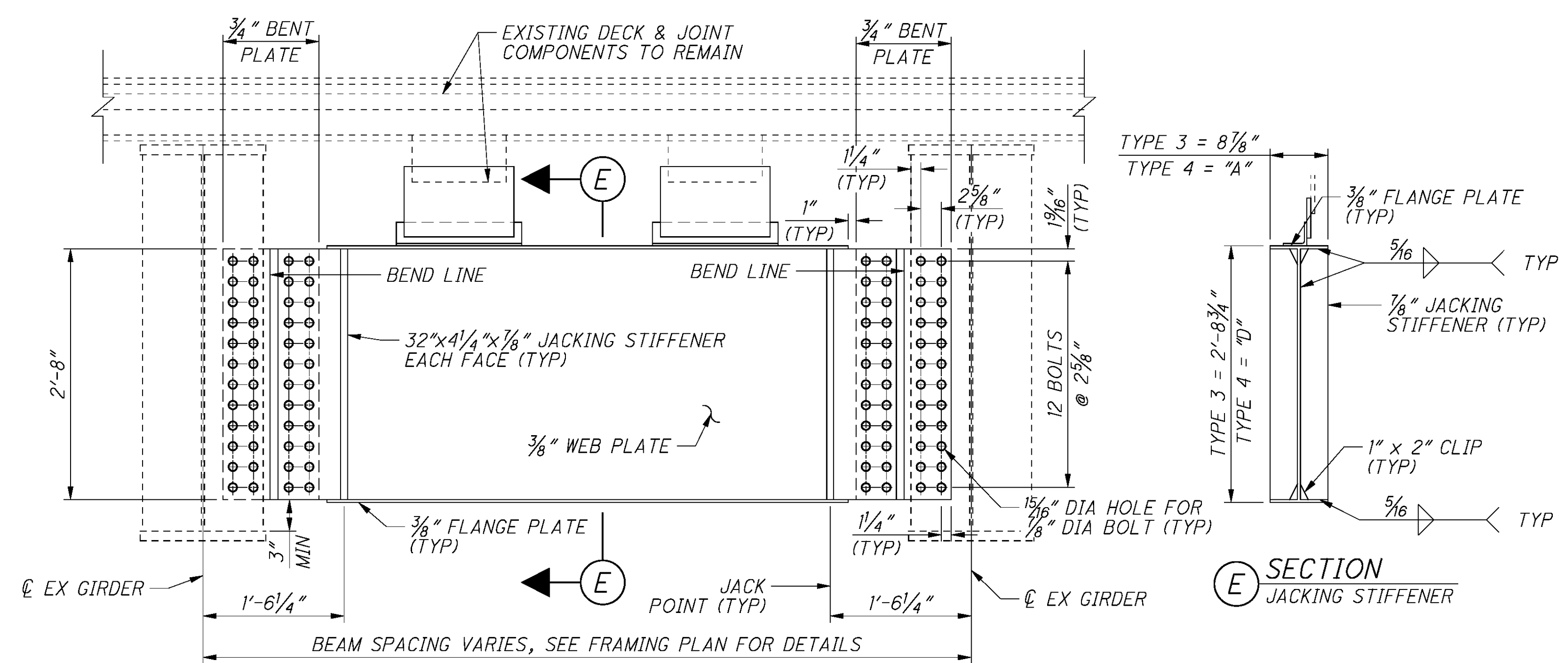
- WORKING IN ONE BAY AT A TIME:
1. REMOVE EXISTING END CROSSFRAMES.
 2. PREPARE SURFACE OF EXISTING BEARING STIFFENERS AND PROPOSED CONNECTION PLATES AT BOLTED CONNECTIONS TO PROVIDE CLASS A SLIP RESISTANCE (FAYING SURFACE).
 3. INSTALL APPLICABLE JACKING FRAME PER JACKING FRAME DETAIL SHEETS.
 4. INSTALL CONNECTION BETWEEN THE PROPOSED JACKING FRAME AND EXISTING EXPANSION JOINT.
 5. REPEAT STEPS 1-4 IN ALL BAYS PRIOR TO PERFORMING ANY JACKING PROCEDURES.



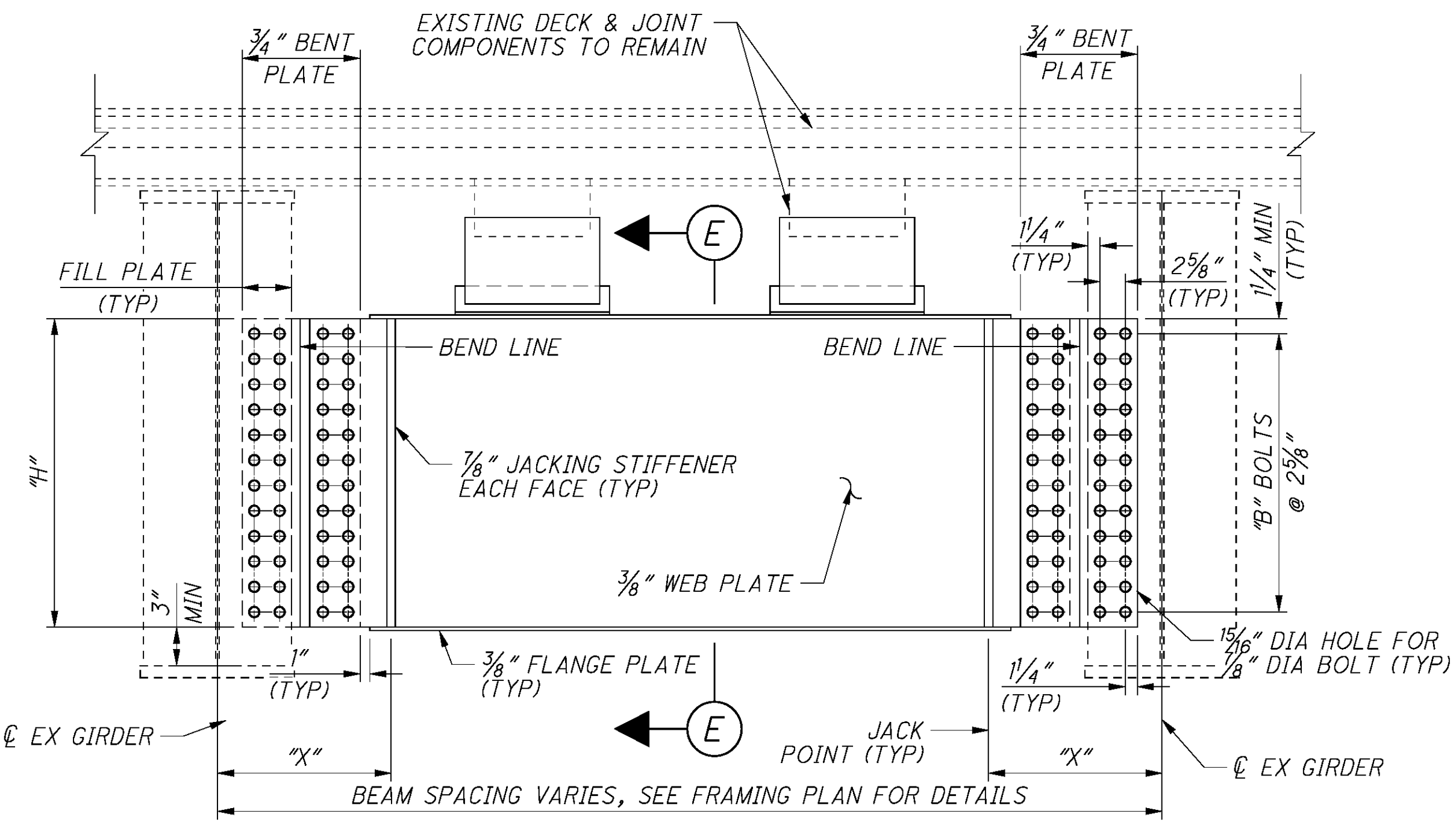
EXPANSION JOINT CONNECTION DETAIL



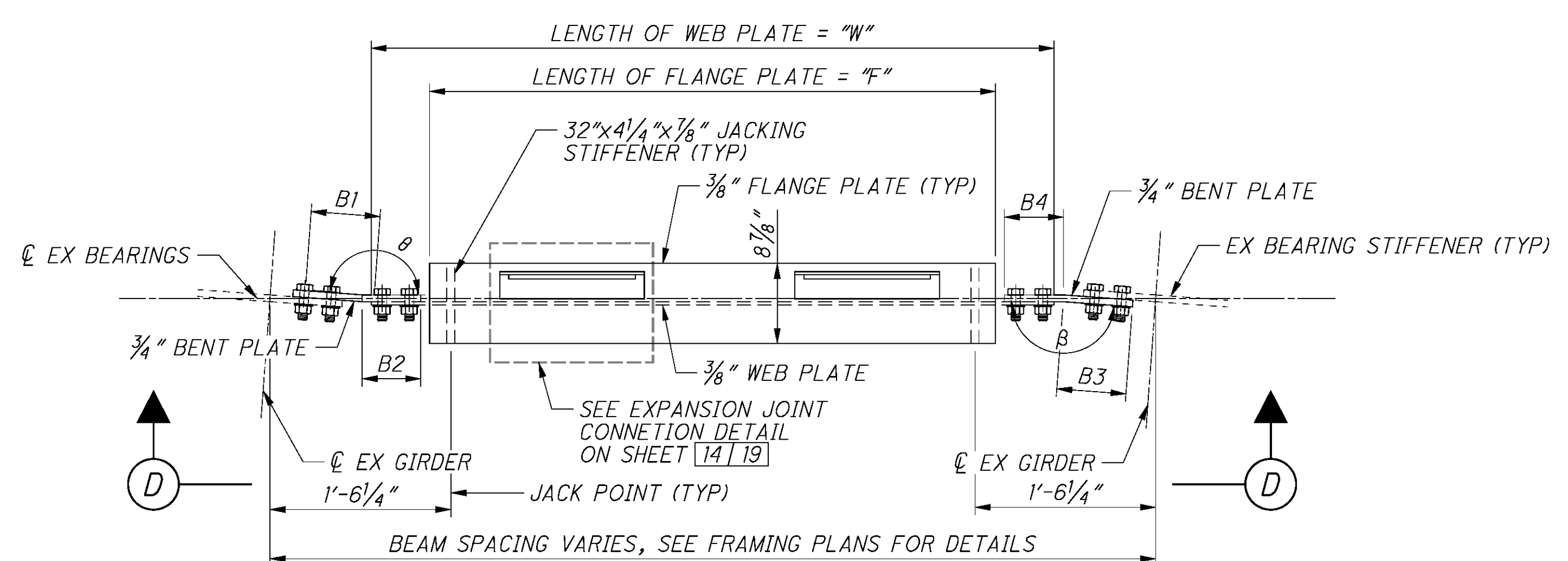
TYPE 2 JACKING FRAMES									
LOCATION	SPAN	BAY	QUANTITY (No. OF)	WEIGHT OF STEEL	DESIGN LOAD			W	F
					DL (KIPS)	LL+I (KIPS)			
PIER 23C - REAR	23C	ALL BAYS	4	530	50	110		7'-9 1/2"	6'-9"
PIER 23C - FORWARD	24C	ALL BAYS	4	548	50	110		8'-1 1/4"	7'-1"
PIER 26C - REAR	26C	ALL BAYS	4	573	50	110		8'-6 3/4"	7'-6"
PIER 26C - FORWARD	27C	ALL BAYS	5	457	50	110		6'-6 1/4"	5'-6"



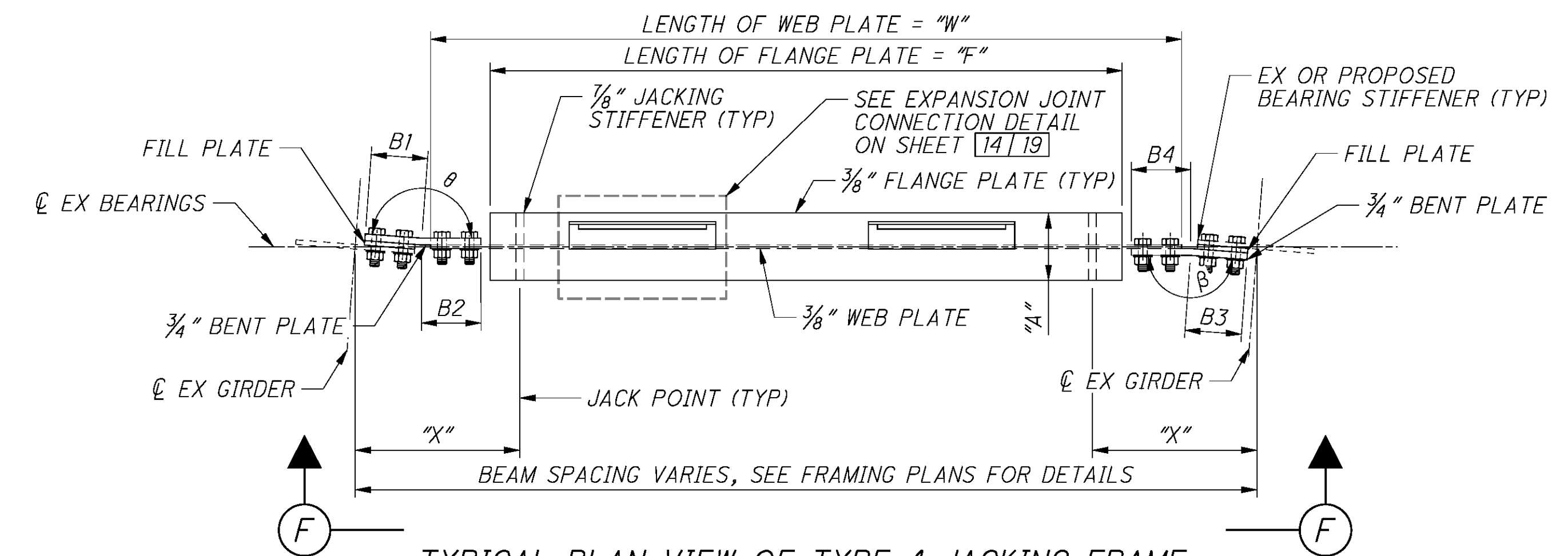
(D) JACKING FRAME ELEVATION
TYPE 3 (JACKING FRAMES NOT SHOWN IN ADJACENT BAYS FOR CLARITY)



(F) JACKING FRAME ELEVATION
TYPE 4 (JACKING FRAMES NOT SHOWN IN ADJACENT BAYS FOR CLARITY)



(D) TYPICAL PLAN VIEW OF TYPE 3 JACKING FRAME
(JACKING FRAMES NOT SHOWN IN ADJACENT SPAN AND BAYS FOR CLARITY)

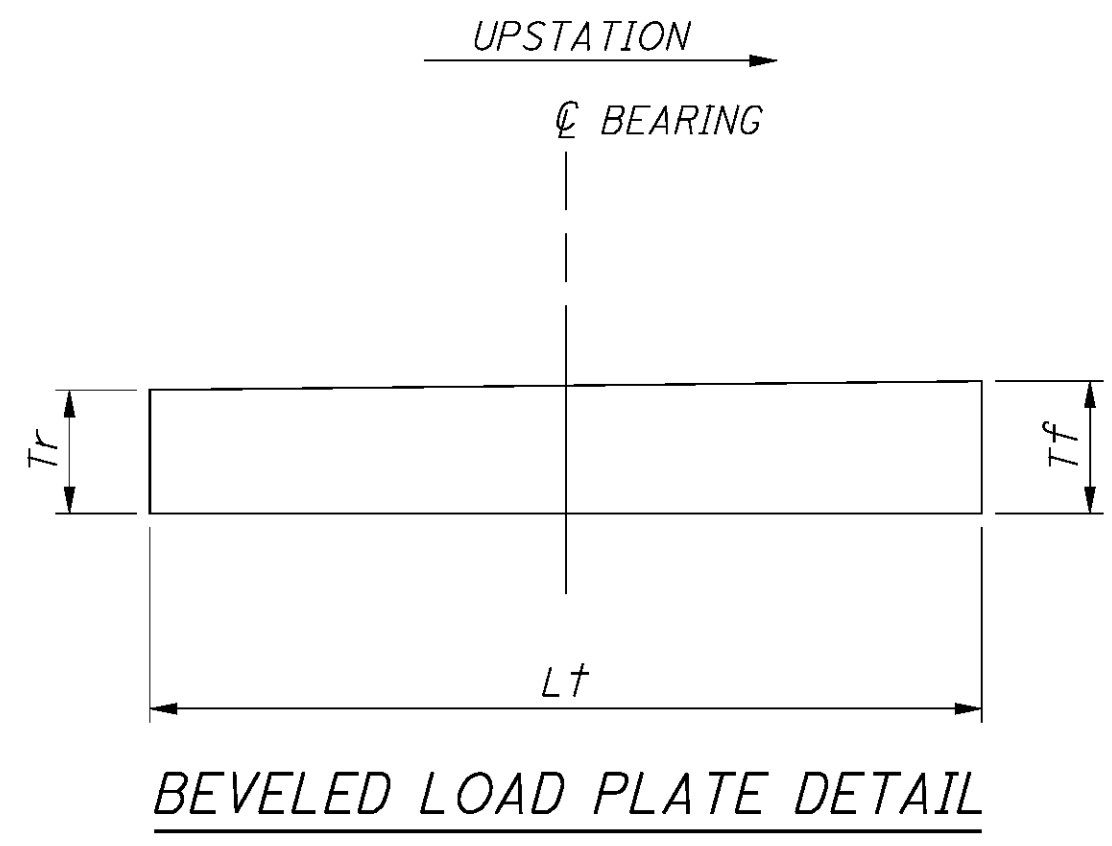


(F) TYPICAL PLAN VIEW OF TYPE 4 JACKING FRAME
(JACKING FRAMES NOT SHOWN IN ADJACENT SPAN AND BAYS FOR CLARITY)

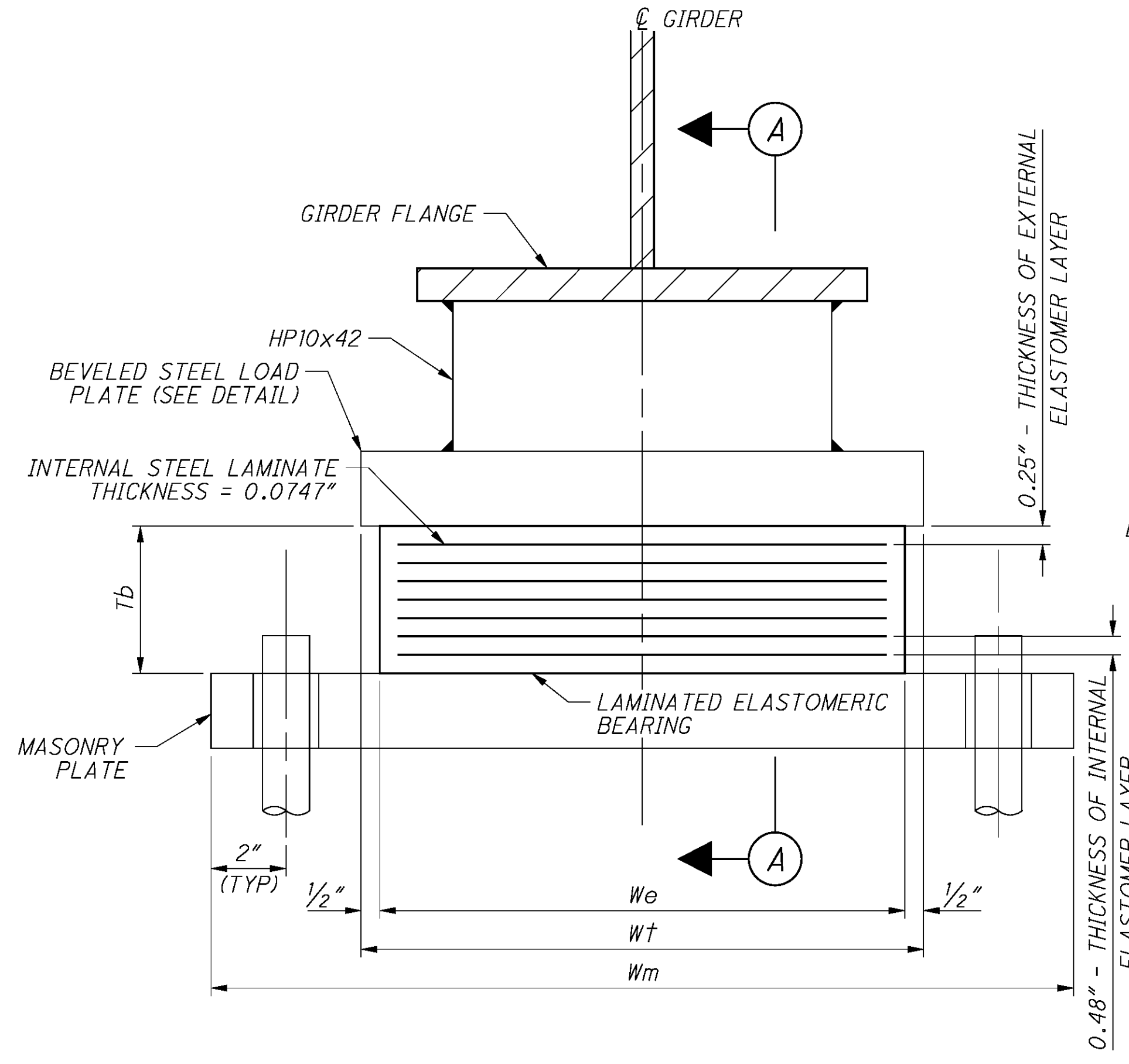
NOTES:
1. SEE SHEET 14 | 19, JACKING FRAME DETAILS 1 OF 2, FOR DETAILED NOTES.

TYPE 3 JACKING FRAME														
LOCATION	SPAN	BAY	QUANTITY (No. OF FRAMES)	WEIGHT OF STEEL (LBS)	DESIGN LOAD		WEB PLATE W	FLANGE PLATE F	BENT PLATE					
					DL (KIPS)	LL+I (KIPS)			B1	B2	THETA	B3	B4	BETA
PIER 15C - FORWARD	16C	C-D	1	704	70	130	6'-11"	5'-10"	5 1/4"	6 1/8"	171 00' 34.12"	5 1/8"	6 1/8"	170 57' 41.75"
		D-E	1	749			7'-7"	6'-6"	5 5/8"		171 30' 36.44"	5 1/4"		171 00' 34.12"

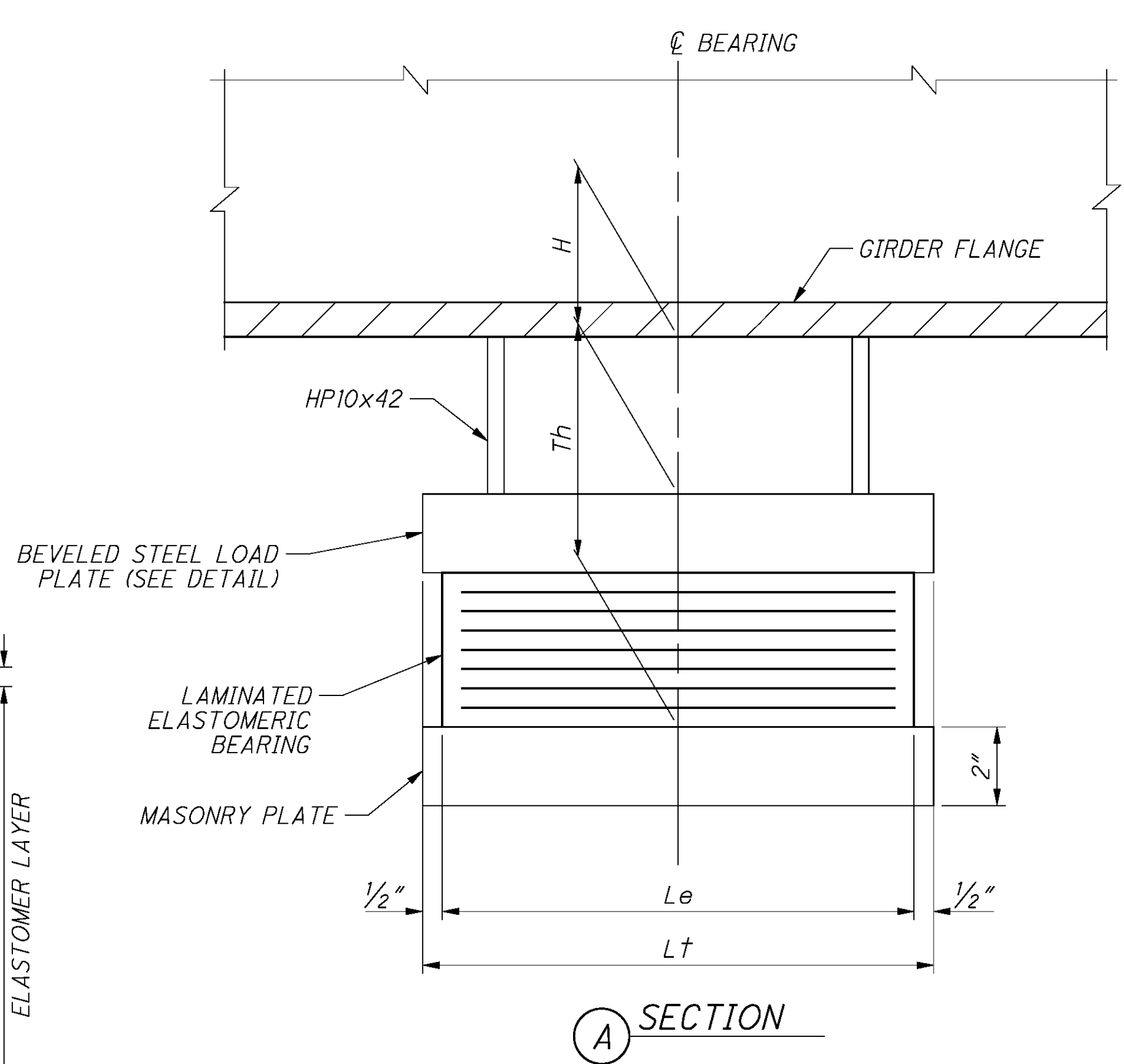
TYPE 4 JACKING FRAMES																								
LOCATION	SPAN	BAY	QUANTITY (No. OF FRAMES)	WEIGHT OF STEEL (LBS)	DESIGN LOAD		WEB PLATE			FLANGE PLATES		TOTAL DEPTH	JACKING STIFFENER	FILL PLATE			BENT PLATE							
					DL (KIPS)	LL+I (KIPS)	H	W	A	F	D	X	H	WIDTH	THK	H	B1	B2	THETA	B3	B4	BETA	B	
PIER 15C - FORWARD	16C	A-B	1	846	70	130	32"	7'-11 1/2"	8 7/8"	6'-11"	32 3/4"	32" x 4 1/4"	1'-6 1/4"	32"	5 1/8"	1/2"	32"	7 3/4"	6 1/8"	170 29' 14.15"	6 7/8"	6 1/8"	169 36' 44.75"	12
		B-C	1	803			7'-1 3/4"	8 7/8"	6'-1"											170 57' 41.75"	7 3/4"		170 29' 14.15"	
PIER 18C - REAR	18C	A-B THRU C-D	3	825	50	110	30"	7'-4 7/8"	7 3/8"	6'-4"	30 3/4"	30" x 3 1/2"	1'-5 1/4"	30"	5 1/8"	2"	30"	156 39' 00"	6 1/8"	156 39' 00"	5 1/8"	6 1/8"	156 39' 00"	11
		D-E	1															156 38' 54.64"		156 39' 00"			156 39' 00"	
PIER 18C - FORWARD	19C	A-B THRU C-D	3	825	50	110	30"	7'-4 7/8"	7 3/8"	6'-4"	30 3/4"	30" x 3 1/2"	1'-5 1/4"	30"	5 1/8"	2"	30"	156 39' 00"	6 1/8"	156 39' 00"	5 1/8"	6 1/8"	156 39' 00"	11
		D-E	1															156 39' 06.29"		156 39' 00"			156 39' 00"	



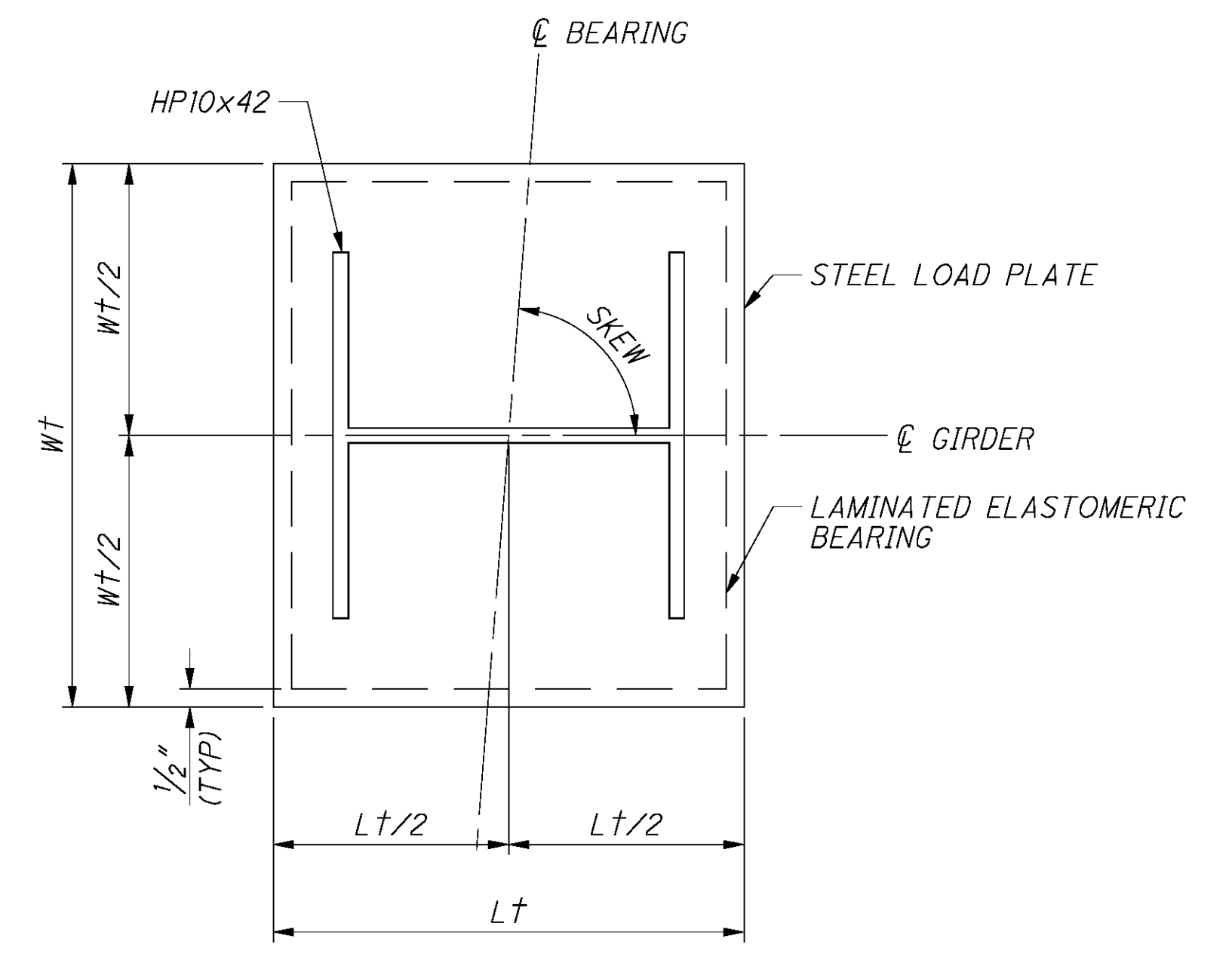
BEVELED LOAD PLATE DETAIL



LAMINATED ELASTOMERIC EXPANSION BEARING



SECTION A-A



BEARING ORIENTATION PLAN

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
2. THE STEEL LOAD PLATE AND MASONRY PLATE SHALL BE ASTM A709, GRADE 50 STEEL. BOND THE LOAD PLATE AND MASONRY PLATE BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. BEARING REPOSITIONING: IF THE BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F, AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/8 OF THE BEARING HEIGHT AT 60°F (±10°F), RAISE THE BEAMS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (±10°F).
4. FOR SKEW ANGLES, SEE EXISTING PLANS.

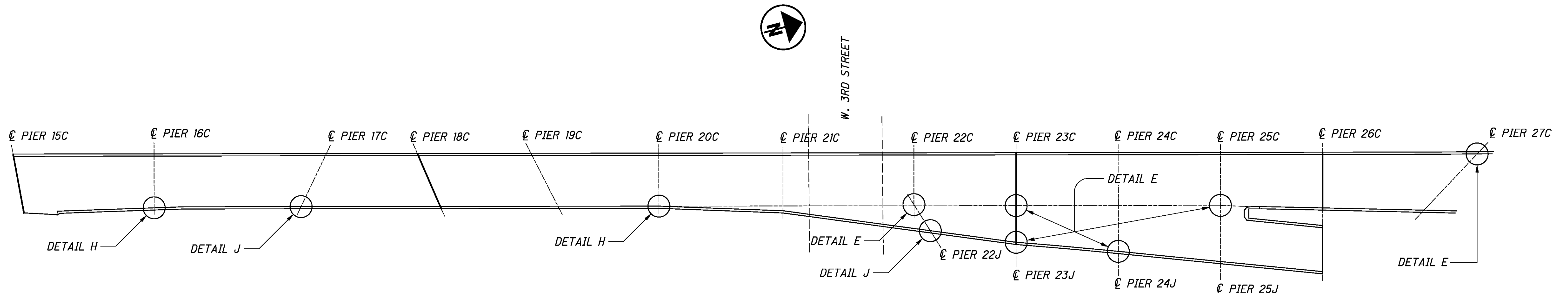
BEARING SCHEDULE																		
LOCATION	TYPE	NO. REQ'D	DL (KIP)	LL (KIP)	TOTAL LOAD (DL+LL)	Le (IN)	We (IN)	NO. OF ti's	NO. OF te's	NO. INTERNAL LAMINATES	Tb (IN)	Wt (IN)	Lt (IN)	Tr (IN)	Tf (IN)	Th (IN)	H (IN)	Wm
PIER 15C - FORWARD	EXP	5	57.7	55.5	113.2	13	16	6	2	7	3.903	17	14	1.81	2.19	5.903	7.597	N/A
PIER 18C - REAR	EXP	5	30.3	52.6	82.9	12	12	6	2	7	3.903	13	13	2	2	5.903	4.347	21
PIER 18C - FORWARD	EXP	5	47.4	50.3	97.7	12	14	5	2	6	3.348	15	13	2	2	5.348	*	N/A
PIER 23C - REAR	EXP	5	38.3	49	87.3	14	14	7	2	8	4.458	15	15	2.21	1.79	6.458	*	N/A
PIER 23C - FORWARD	EXP	5	43.4	51.5	94.9	12	14	5	2	6	3.348	15	13	2.18	1.82	5.348	6.902	N/A
PIER 26C - REAR	EXP	5	43.60	51.5	95.1	12	14	5	2	6	3.348	15	13	2.18	1.82	5.348	*	N/A
PIER 26C - FORWARD	EXP	6	55.9	44.7	100.6	12	14	5	2	6	3.348	15	13	2.18	1.82	5.348	6.902	N/A

* PEDESTAL HIGHTS VARY AT EACH GIRDER. SEE PEDESTAL HEIGHTS TABLE FOR DETAILS.

* PEDESTAL HEIGHTS "H" (IN)			
	Pier 18C - Forward	Pier 23C - Rear	Pier 26C - Rear
Girder A	13.402	5.542	15.152
Girder B	13.527	5.542	14.527
Girder C	13.652	5.542	14.277
Girder D	13.902	5.542	14.027
Girder E	13.652	5.417	13.652

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PLAN

ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN*					
LOCATION	DETAIL	8"φ PIPE (FT.)	45° ELBOW	90° ELBOW	12" x 8" REDUCER
PIER 16C	H	74		2	1
PIER 17C	J	72	3	1	1
PIER 20C	H	59		2	1
PIER 22C	E	48	2		1
PIER 22J	J	47	2		1
PIER 23C	E	43	2		1
PIER 23J	E	40	2		1
PIER 24J	E	38	2		1
PIER 25C	E	27		2	1
PIER 27C	E	10	2		1
TOTAL		458	15	7	10

* - QUANTITIES BASED ON VISUAL FIELD OBSERVATIONS PERFORMED IN SEPTEMBER 2014

NOTES

- REFER TO SHEETS 18/19 AND 19/19 FOR DRAINAGE DETAILS AND CONNECTIONS.
- IN ADDITION TO REPLACING THE EXISTING DRAINAGE DOWNSPOUTS AND CONNECTIONS, THE SCUPPER BASINS SHALL BE CLEANED AND FLUSHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE WATER SUPPLY USED DURING THE CLEANING OPERATION AND SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ANY DEBRIS COLLECTED DURING THESE OPERATIONS. ALL WORK NECESSARY TO CLEAN AND FLUSH THE BASINS TO BE INCLUDED WITH ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN.
- THE UNDERGROUND PORTIONS OF DRAINAGE PIPES SHALL BE CLEANED TO THE NEAREST DRAINAGE INLET. THE PORTIONS THAT ARE TO BE CLEANED BELOW GROUND SHALL ALSO BE INSPECTED USING REMOTE VIDEO INSPECTION EQUIPMENT TO ENSURE THAT THEY ARE INTACT AND FREE OF DEBRIS. THE CONTRACTOR SHALL COORDINATE ALL DRAINAGE REPAIR TO PREVENT ANY DRAINAGE ONTO TRAFFIC, PARKED VEHICLES, LANDSCAPED AREAS, OR OTHER OCCUPIED AREAS BELOW.

 PROVIDE A CRAWLER MOUNTED CAMERA AND EQUIPMENT IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 902 CONDUIT INSPECTION EQUIPMENT.

 THE CONTRACTOR SHALL CONDUCT A SURVEY OF THE UNDERGROUND PORTIONS OF DRAINAGE PIPES TO THE CLOSEST DRAINAGE INLET. THE CONTRACTOR SHALL DELIVER THREE COPIES OF THE SURVEY IN DIGITAL FORMAT TO THE ENGINEER. ALL DRAINAGE PIPE DEFECTS SHALL BE IDENTIFIED, MEASURED, AND DOCUMENTED. REPLACEMENT OF ANY DAMAGED DRAINAGE PIPES CANNOT BEGIN UNTIL APPROVAL OF THE ENGINEER. A CONTINGENCY QUANTITY OF 200 LINEAR FEET FOR REPLACEMENT OF UNDERGROUND DRAIN PIPE IS PROVIDED AS DEEMED NECESSARY BY THE ENGINEER.

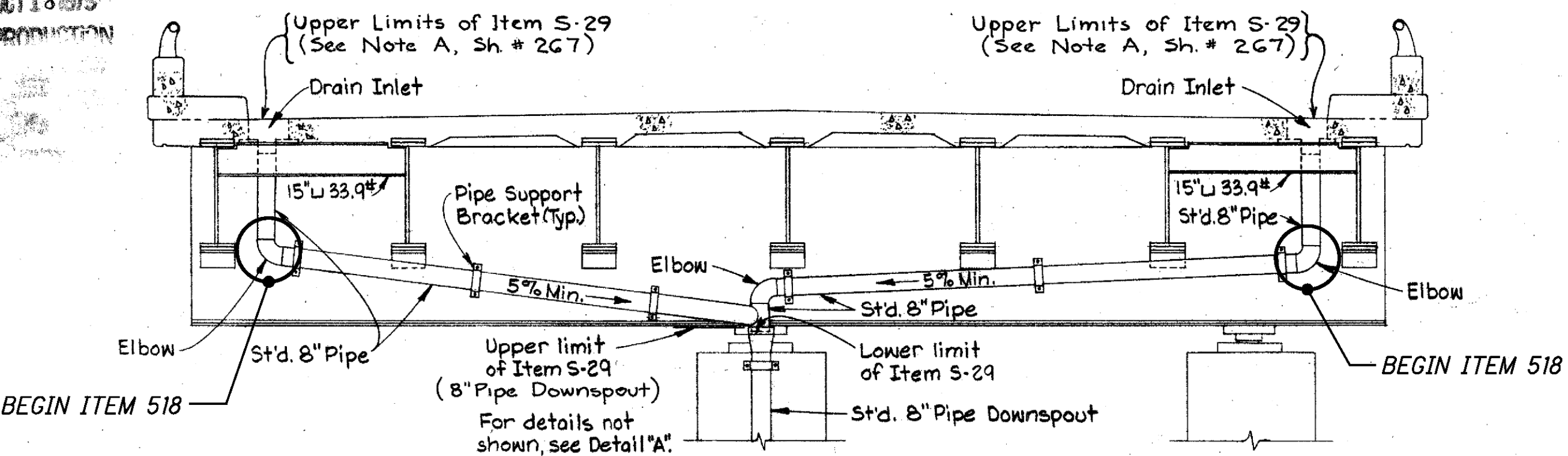
 ALL PREPARATION, INSTALLATION, OPERATION, LABOR AND EQUIPMENT REQUIRED FOR THE DESCRIBED WORK SHALL BE PER ITEM 518-STRUCTURE DRAINAGE, MISC.: DRAINAGE PIPE VIDEO MONITORING.
- ALL QUANTITIES LISTED SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS.

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OCT 18 1975
REPRODUCTION

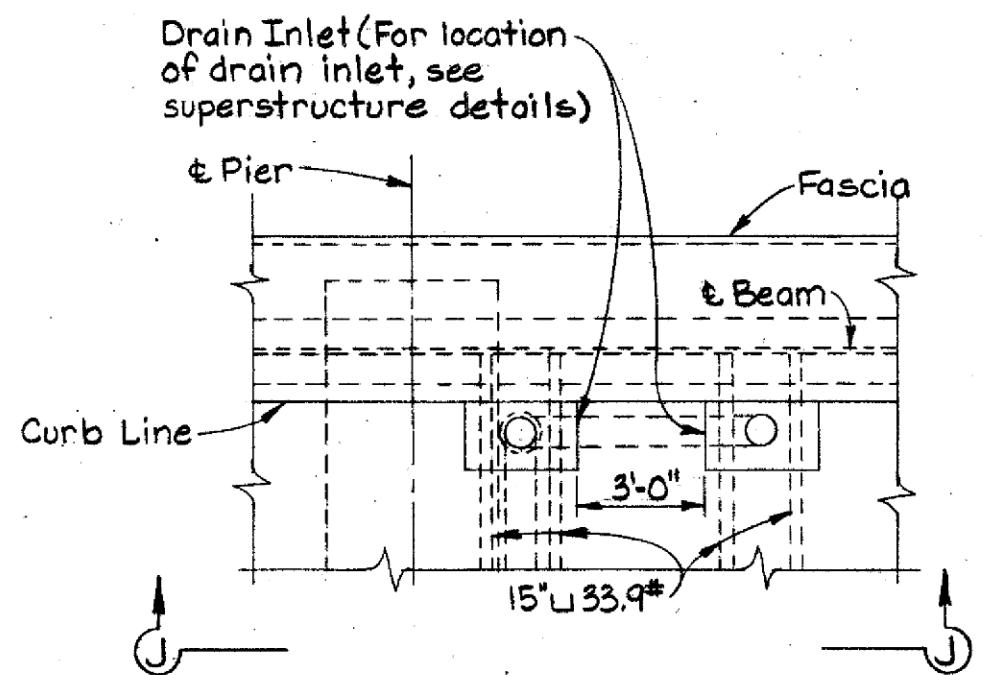
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

268

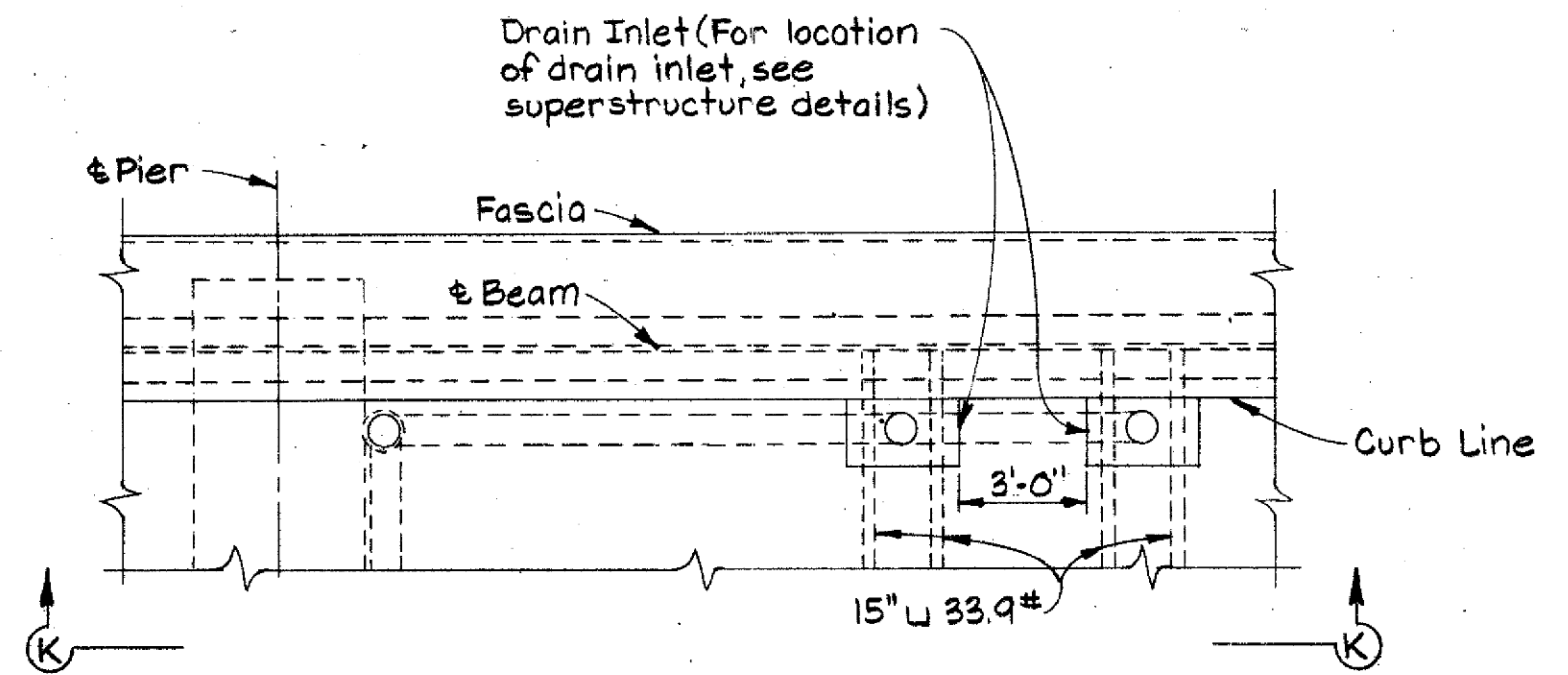
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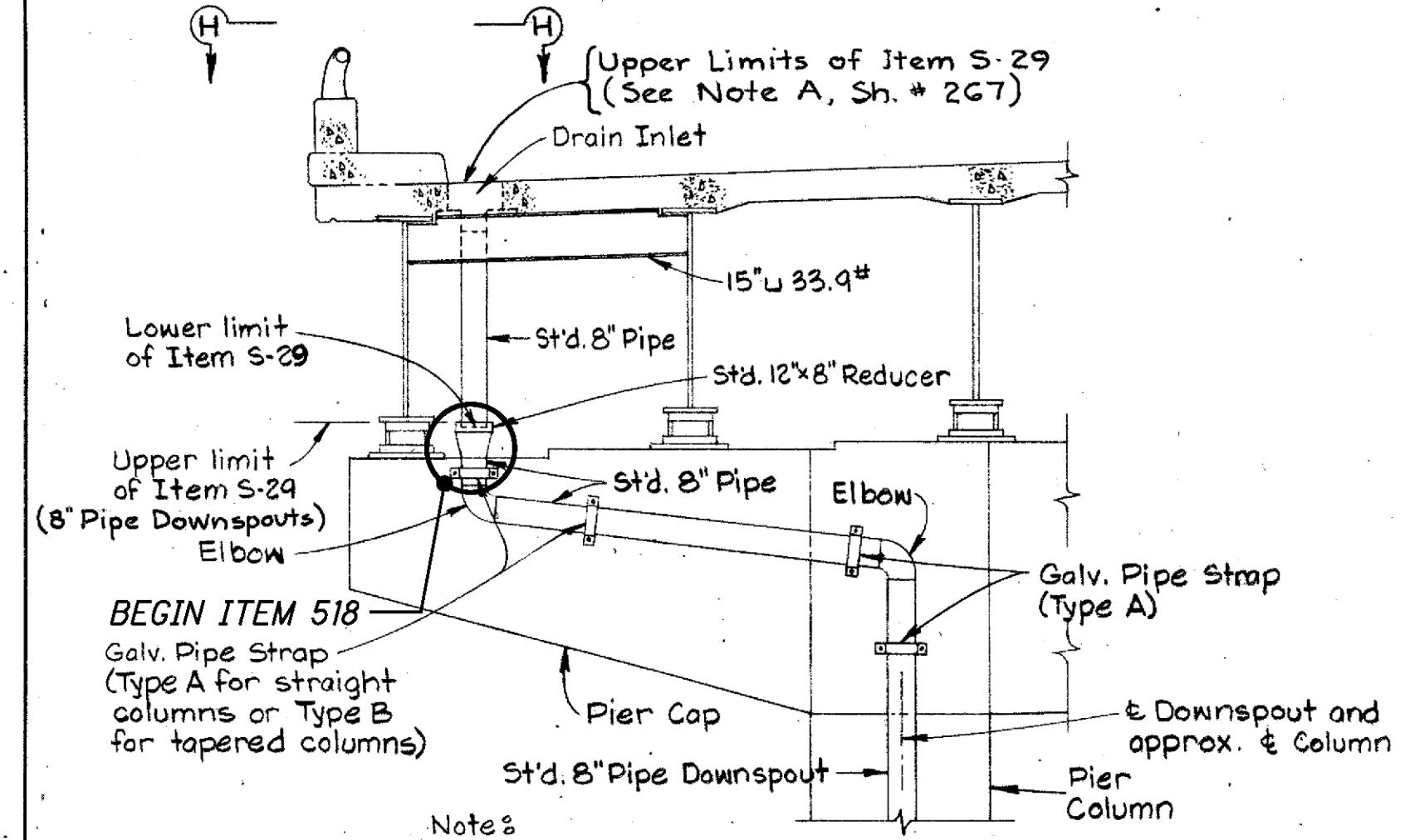
DETAIL "D"
(Transverse section (looking south)
of upper deck at Pier No. 12A)



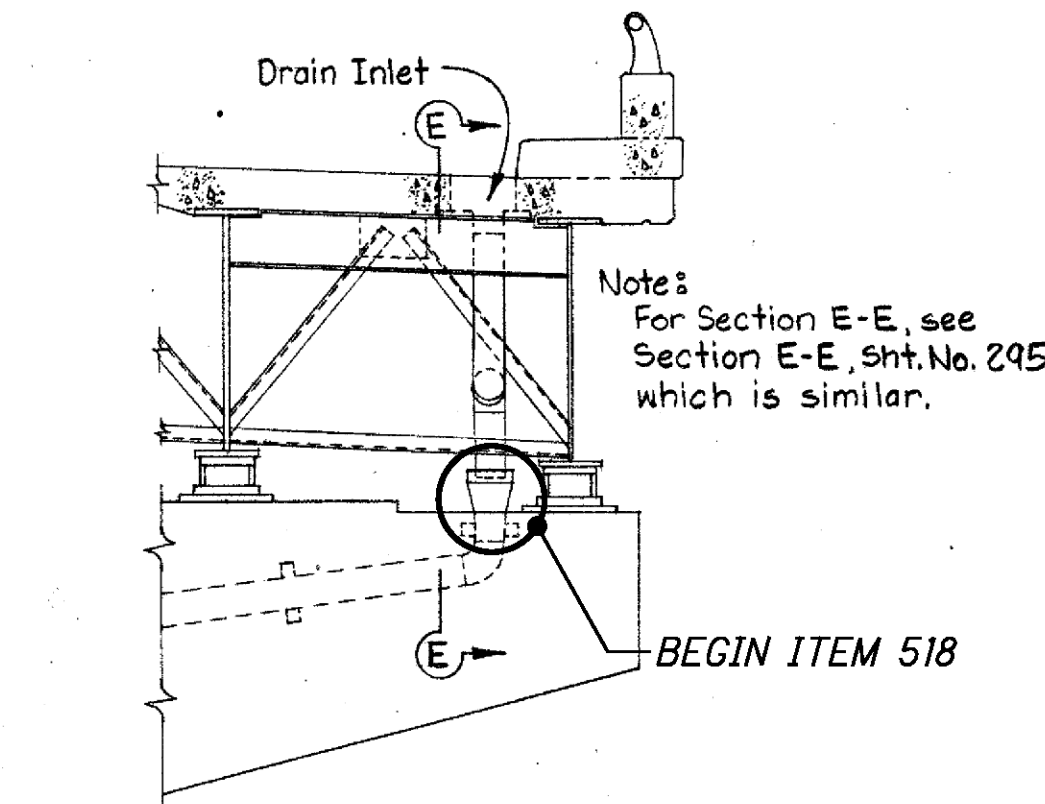
VIEW H-H
(For double inlet located near Pier)



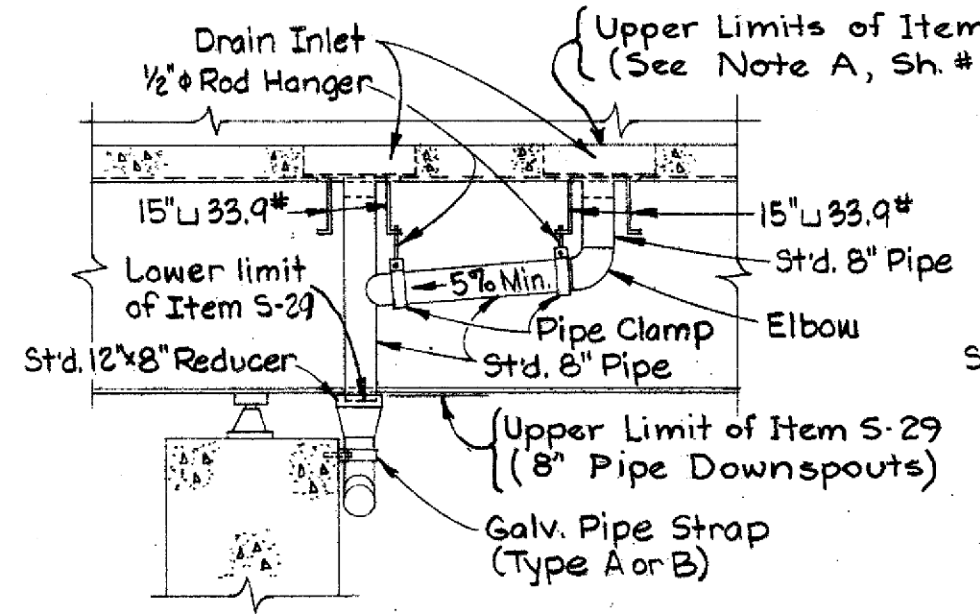
VIEW H-H
(For double inlet located in center of span)



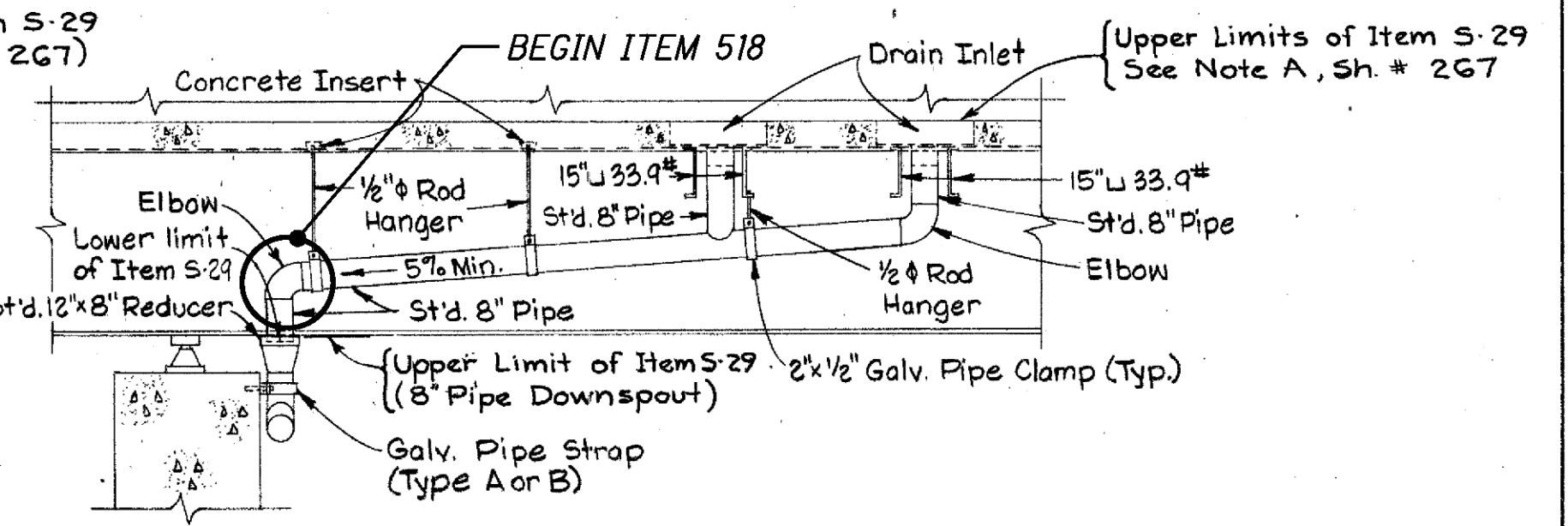
DETAIL "E"
(Typical detail for two-column or three-column pier, where drain inlet and downspout are located on same side of pier.)



DETAIL "F"
(Typical detail for two-column, three-column, or shaft-type pier, where drain inlet and downspout are located on opposite sides of pier.)



VIEW J-J



VIEW K-K

NOTE
EXISTING PLANS ARE FOR REFERENCE ONLY AND MAY NOT BE INDICATIVE OF ACTUAL DRAINAGE DETAILS. THE CONTRACTOR SHALL FIELD VERIFY ALL REMOVAL/REPLACEMENT QUANTITIES PRIOR TO ORDERING MATERIALS.

Work this sheet with Shts. Nos. 266, 267 & 269
HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

DRAINAGE DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	JVK 6-15-60		W.S.C. 7-18-60	H.A.F. 10-12-60	

DESIGN AGENCY
CARPENTER MARTY
TRANSPORTATION
ENGINEERS AND ARCHITECTS
COLUMBUS, OHIO

DATE
3-11-15
REVIEWED
GDU
DRAWN
AMR
DESIGNED
AMR
CHECKED
STK

STRUCTURE FILE NUMBER
310805

DRAINAGE DETAILS
BRIDGE NO. HAM-75-0022R
OVER THIRD STREET AND US50 RAMPS

HAM-71/75-0.00/0.22
PID No. 97973

18 / 19

171
177

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

269

HAM-25-0.04

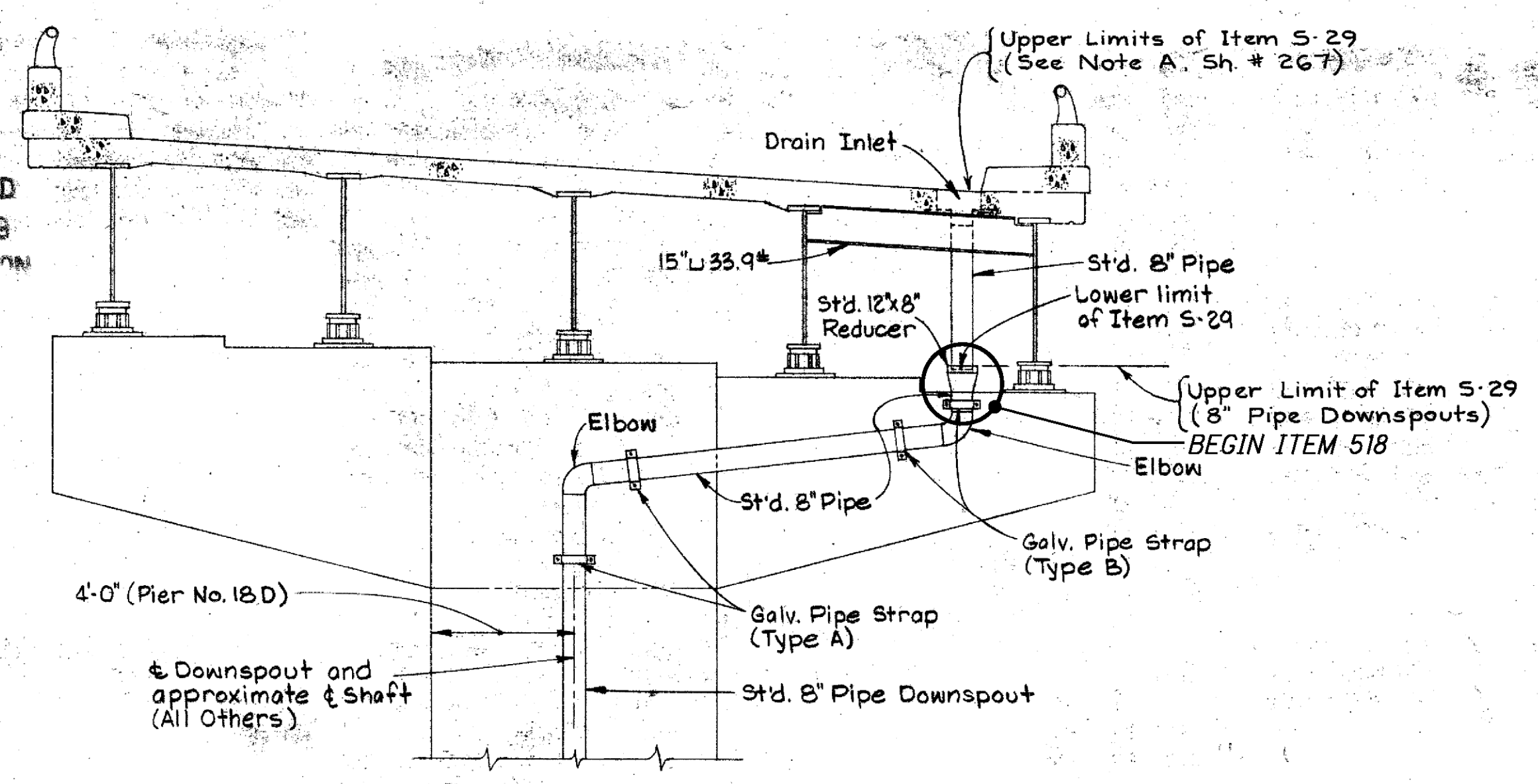
DESIGN AGENCY
CARPENTER MARTY
TRANSPORTATION
INCORPORATED
OHIO

DATE
3-11-15
REVIEWED
GDU
DRAWN
AMR
DESIGNED
AMR
CHECKED
STK

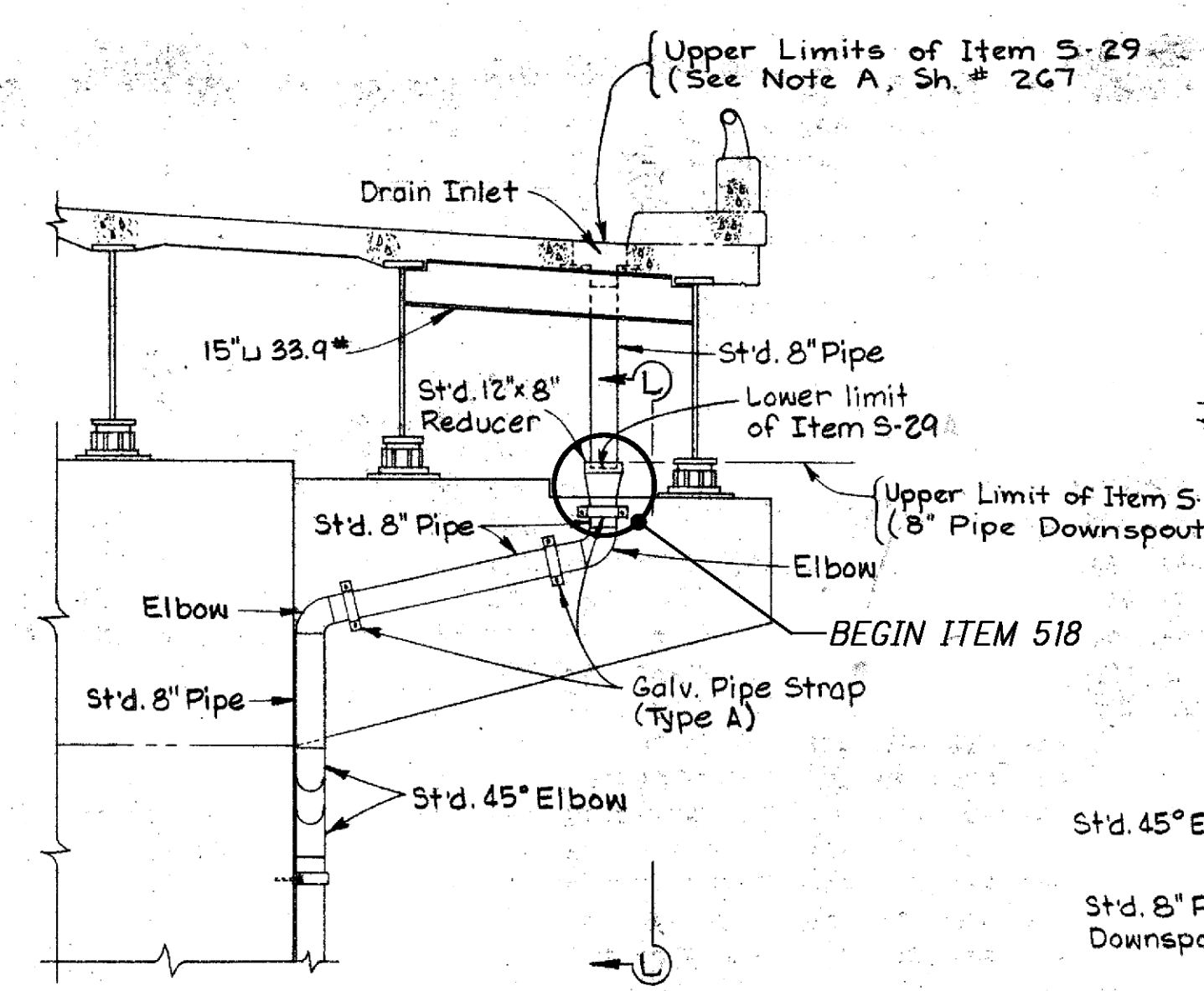
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3108805
DRAINAGE DETAILS
BRIDGE NO. HAM-75-0022R
OVER THIRD STREET AND US50 RAMPS

HAM-71/75-0.00/0.22
PID No. 97973

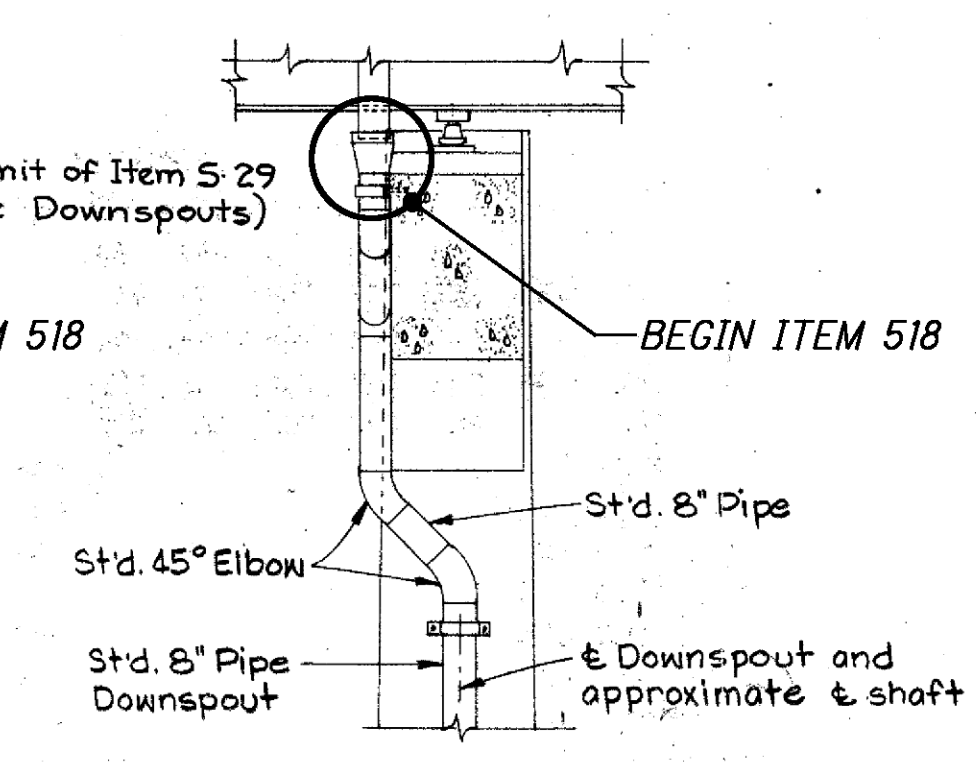
19/19
172
177



DETAIL "H"
(Typical detail for shaft-type pier, where drain inlet and downspout are located on same side of pier.)



DETAIL "J"
(Typical detail for shaft-type pier, where downspout is located on end of pier shaft.)



SECTION L-L

NOTE
EXISTING PLANS ARE FOR REFERENCE ONLY AND MAY NOT BE INDICATIVE OF ACTUAL DRAINAGE DETAILS. THE CONTRACTOR SHALL FIELD VERIFY ALL REMOVAL/REPLACEMENT QUANTITIES PRIOR TO ORDERING MATERIALS.

Work this sheet with Shts. Nos. 266-268

HAZELET & ERDAL
CONSULTING ENGINEERS
CINCINNATI, OHIO

DRAINAGE DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JVK		W.W.C.	11.13.10	
	6-20-60		7-18-60	9-12-60	

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