

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	80% FED. 20% STATE	ST. CLAIR COUNTY									
				ROADWAY 1-70	BRIDGE 1-70	RET. WALL 1-70	CULVERT 1-70						
				URBAN									
			TOTAL QUANTITY	CONSTRUCTION TYPE CODE									
542D1069	PIPE CULVERTS, CLASS D, TYPE 2 24"	FOOT	23	J000-2A	X571-2A	Y007	Y007						
550A0050	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	90										
550A0090	STORM SEWERS, CLASS A, TYPE 1 18"	FOOT	38										
550A0120	STORM SEWERS, CLASS A, TYPE 1 24"	FOOT	78										
550B0450	STORM SEWERS, CLASS B, TYPE 2 36"	FOOT	89										
550B0770	STORM SEWERS, CLASS B, TYPE 3 42"	FOOT	1,621										
55100200	STORM SEWER REMOVAL 6"	FOOT	554										
55100300	STORM SEWER REMOVAL 8"	FOOT	214										
55100400	STORM SEWER REMOVAL 10"	FOOT	75										
55100900	STORM SEWER REMOVAL 18"	FOOT	48										
55101200	STORM SEWER REMOVAL 24"	FOOT	694										
55101600	STORM SEWER REMOVAL 36"	FOOT	35										
56400500	FIRE HYDRANTS TO BE REMOVED	EACH	4										
58700300	CONCRETE SEALER	SQ FT	1,730		1,730								
60100060	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	10										
60107700	PIPE UNDERDRAINS 6"	FOOT	150										
60219000	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	EACH	2										
60221000	MANHOLES, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	3										
60221700	MANHOLES, TYPE A, 5'-DIAMETER, TYPE 8 GRATE	EACH	1										
60223800	MANHOLES, TYPE A, 6'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	10										
60228120	MANHOLES, SANITARY, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	8										
60236200	INLETS, TYPE A, TYPE 8 GRATE	EACH	1										
60240300	INLETS, TYPE B, TYPE 7 GRATE	EACH	1										
60240301	INLETS, TYPE B, TYPE 8 GRATE	EACH	1										
60258200	MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	1										
60500040	REMOVING MANHOLES	EACH	5										
* 63000135	STEEL PLATE BEAM GUARD RAIL, TYPE B (SPECIAL)	FOOT	475										
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1										
* 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	62.5										
66400305	CHAIN LINK FENCE, 6'	FOOT	6,943										

• DENOTES SPECIALTY ITEMS

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\\FS-0044\AMVAULT\2\TRANS\07\2202\20089-001\CIVIL\CAD\99 ALL CONTRACTS\CONNSHEETS\CONTRACT 05\05CON-05-SHT-SUMMARY3.DGN
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BONDHUJO

FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - JB DRAWN - JB CHECKED - ACL DATE - 06/04/10	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION	SUMMARY OF QUANTITIES 3	SCALE: N.T.S.	SHEET NO. OF SHEETS STA. TO STA.	F.A.P. RTE. 998	SECTION 82-2-IHVB	COUNTY ST. CLAIR	TOTAL SHEETS 285	SHEET NO. 6	CONTRACT NO. 76C44
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Rev. 7-12-10

MATCH LINE "A"
SEE SHEET 27

MATCH LINE STA. 148+00
SEE SHEET 25

STA. 162+00
BY OTHERS

BUILDING REMOVAL NO. 13
R. MIN. = 408.0

R. MIN. = 403.0

THIS SHEET
R. MIN. = 401.0

CONCRETE REMOVAL
(SPECIAL)
R. MIN. = 402.0

BUILDING REMOVAL
NO. 12
R. MIN. = 407.0

CONCRETE REMOVAL
(SPECIAL)
R. MIN. = 403.0

CL DARLING ACCESS ROAD

BUILDING REMOVAL NO. 11
R. MIN. = 407.0

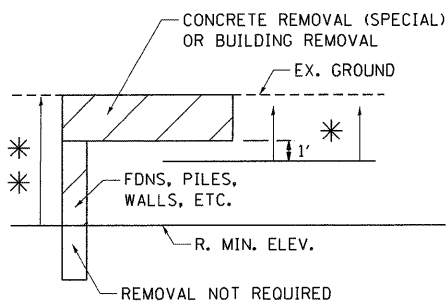
CONCRETE
REMOVAL
(SPECIAL)

ALL RETAINING WALLS ON CONC. SLAB/FDN
TO BE REMOVED. REMOVAL IS INCLUDED IN
THE COST OF CONCRETE REMOVAL (SPECIAL)

CL PROPOSED I-70

R. MIN. REMOVAL DETAIL

* LIMITS OF REMOVAL REQUIRED IF NO
ADDITIONAL FDNS, PILES, WALLS, ETC. ARE
FOUND BELOW BOTTOM OF CONCRETE SLAB.



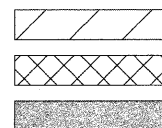
* LIMITS OF REMOVAL REQUIRED IF
ADDITIONAL FDNS, PILES, WALLS, ETC.
ARE FOUND BELOW BOTTOM OF CONCRETE
SLAB DOWN TO THE R. MIN. ELEV.

NOTES:

1. SEE SHEETS 28 TO 31 FOR CLEARING,
SPECIAL AND DEBRIS REMOVAL ITEMS.
2. ALL EXCAVATIONS FOR I-70 AND DETENTION
BASINS 1 & 2 SHALL BE REMOVED AND PAID
FOR AS NON-SPECIAL WASTE DISPOSAL. SEE
SPECIAL PROVISIONS FOR COMPLETE LOCATIONS.

SEE EXISTING DRAINAGE AND UTILITIES SHEETS
FOR REMOVAL OF COMBINED SEWERS AND WATER MAINS.
PORTIONS OF REMOVALS ARE BY OTHERS (CONTRACT 76C41)

LEGEND



CONCRETE REMOVAL (SPECIAL)

BUILDING REMOVAL

TREE REMOVAL, ACRES

--- LINEAR REMOVALS

X TREE REMOVAL

A TREE REMOVAL
DELINATION POINTS

R. MIN. = X. ANY FOUNDATIONS, PILES OR WALLS
ASSOCIATED WITH THIS REMOVAL ITEM WITHIN
PROPOSED RIGHT OF WAY SHALL BE REMOVED
TO THIS MINIMUM DEPTH AS SPECIFIED.
SEE DETAIL ON THIS SHEET.

TREE REMOVAL, ACRES DELINATION POINTS

	STA.	OFF.	AREA (ACRES)
A2	1010+92.43	55.49 LT	1.657
B2	1011+84.03	46.24 RT	
D2	1014+30.68	171.73 RT	
D2	1014+22.59	115.76 RT	
E2	1014+90.46	80.39 RT	0.557
F2	1017+52.16	17.85 RT	
G2	1015+23.51	46.57 LT	
H2	1013+78.99	52.70 LT	
I2	1013+78.51	47.72 LT	0.223
J2	1011+46.54	70.21 LT	
K2	154+34.30	212.60 LT	
L2	156+26.51	208.27 LT	
M2	158+93.08	348.72 LT	0.228
N2	158+73.14	381.50 LT	
U2	158+99.13	324.67 LT	
V2	159+18.04	311.01 LT	
W2	159+71.49	360.75 LT	0.02
X2	159+57.59	372.66 LT	
Y2	159+91.16	277.93 LT	
Z2	160+10.35	235.00 LT	
AA2	161+75.50	235.00 LT	0.223
BB2	161+69.64	272.04 LT	
CC2	160+75.27	310.00 LT	
DD2	159+70.14	393.44 LT	
EE2	159+84.31	390.10 LT	0.228
FF2	160+00.82	449.68 LT	
GG2	159+86.09	449.66 LT	
HH2	159+86.09	449.66 LT	

FILE NAME =	USER NAME = \$USER\$	DESIGNED - JB	REVISED - 1 07/09/2010 JB	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION		PROPOSED I-70 EXISTING PLAN & REMOVALS STA. 148+00 TO STA. 162+00		F.A.P. RTE. 998	SECTION 82-2-1HVB	COUNTY ST. CLAIR	TOTAL SHEETS 285	SHEET NO. 26
TENG	TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = \$SCALE\$	CHECKED - ACL	DATE - 06/04/10	REVISOR -	SCALE: 1"=50'	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76C44

PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
	B.M. NOTED _____		
NO. _____	STRUCTURE NOTATIONS CHK'D _____		

VES-0044\AM\VAL1\T.O-TRANS 07\2202\20868 00\INCIVIL\CAD\99 ALL CONTRACTS\CONNS\SHEETS CONTRACT 05\08CONN 05-SHT-PROF2-12300.DGN



0820318-CONN-05-001-BR.DGN..0820318-CONN-99-001-BOLDGN
BONPHILIO \\FS-00044\AM VALIU.T.D-TRANS..07-2202.200608-08\STRUCT\CAV\VI DESIGN\0820318-SHEET\0820318-CONN-05-001-SHT-BR.DGN



$\varnothing$ Brg.
 $\varnothing$ top bearing $\varnothing$
 -3.00% @ E. Abut. only
 Shaft
 Wt Min.
 Tt

Diagram illustrating the layout of a square plate with a central circular hole and eight surrounding holes. The plate has a side length L and a minimum width $Wt Min.$. The central hole is labeled "Piston". The eight surrounding holes are labeled "Tapped hole for H.S. threaded stud. (typ.)". The central horizontal line is labeled "Girder" and the central vertical line is labeled "Brg".

Base cylinder

Girder

1 1/2" ϕ hole for 1" ϕ Anchor bolt (typ.)

D

Brg.

d

c

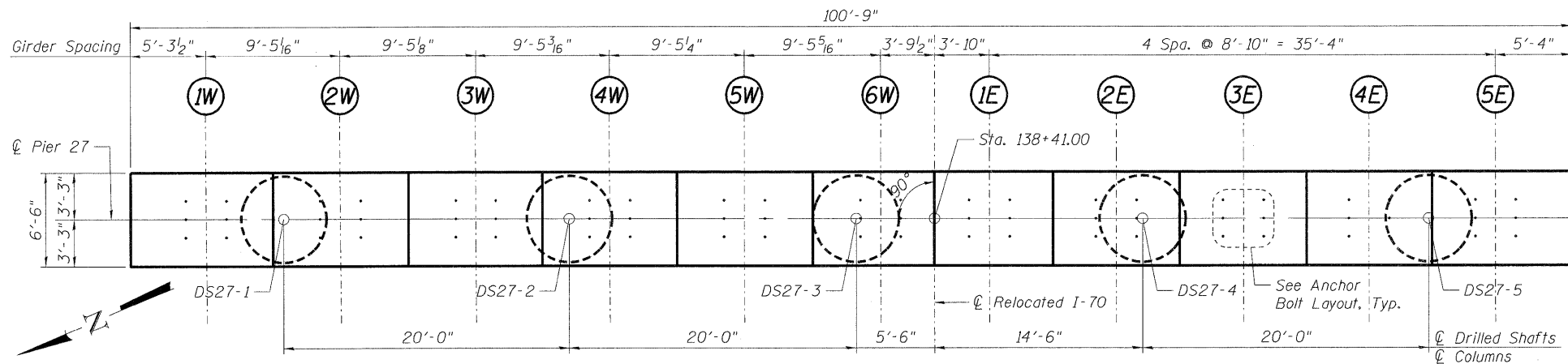
Dimension	Pier 23	E. Abut.
D	13^7_8	13^7_8
L	14	14
Tb	2	2
Th	10^3_{16}	10^9_{16}
Tt	2	2
Wt	26	26
a	11	11
b	7	7
c	9	9
d	13^6_6	13^6_6

<i>Data</i>	<i>Pier 23</i>	<i>E. Abut.</i>
<i>Service Vertical Design Load (kips)</i>	290	295
<i>Factored Horizontal Design Load (kips)</i>	75	90
<i>Factored Design Rotation (rad)</i>	0.02	0.02
<i>Total Required Movement (in)</i>	9½	5¾

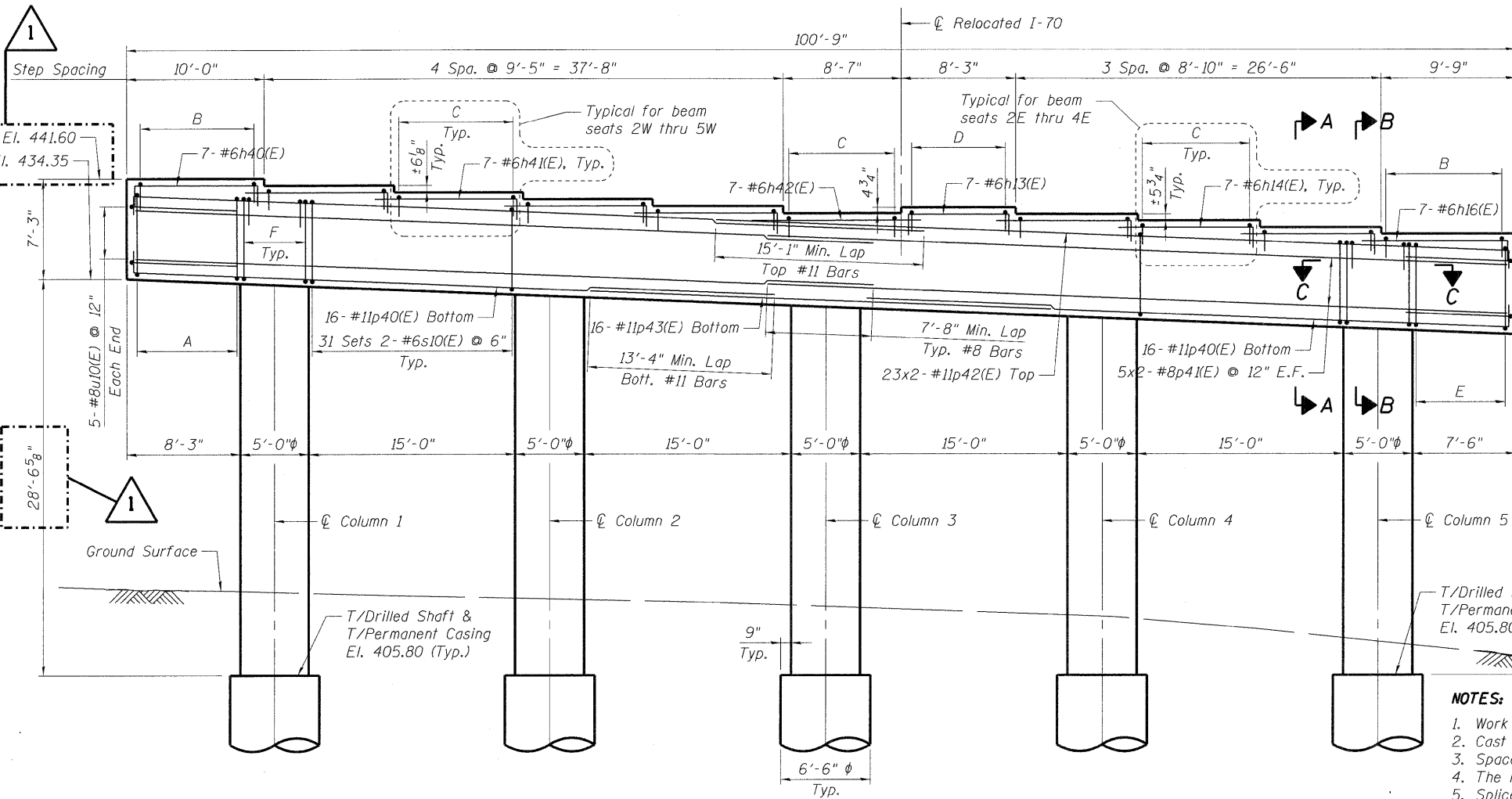
Item	Unit	Total
High Load Multi-Rotation Bearings, Guided Expansion, 300K	Each	22
Anchor Bolts, 1" ϕ	Each	88

1. The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
2. Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
3. H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.
4. If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be T_b plus the depth of the recess.

 TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS 12-2010-1000-1000-1000	FILE NAME =	USER NAME = @USER@	DESIGNED - KK	REVISED - ① 07/09/2010 JR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	BEARING DETAILS 1 OF 2			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	\$FILEL\$		DRAWN - KK	REVISED -					998	82-2-1HVB	ST. CLAIR	285	183
		PLOT SCALE = @SCALE@	CHECKED - TCU	REVISED -		SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44						
		PLOT DATE = @DATE@	DATE - 06/04/10	REVISED -		SCALE:	SHEET NO. S-73 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



PIER 27 PLAN



PIER 27 ELEVATION
(Looking East)

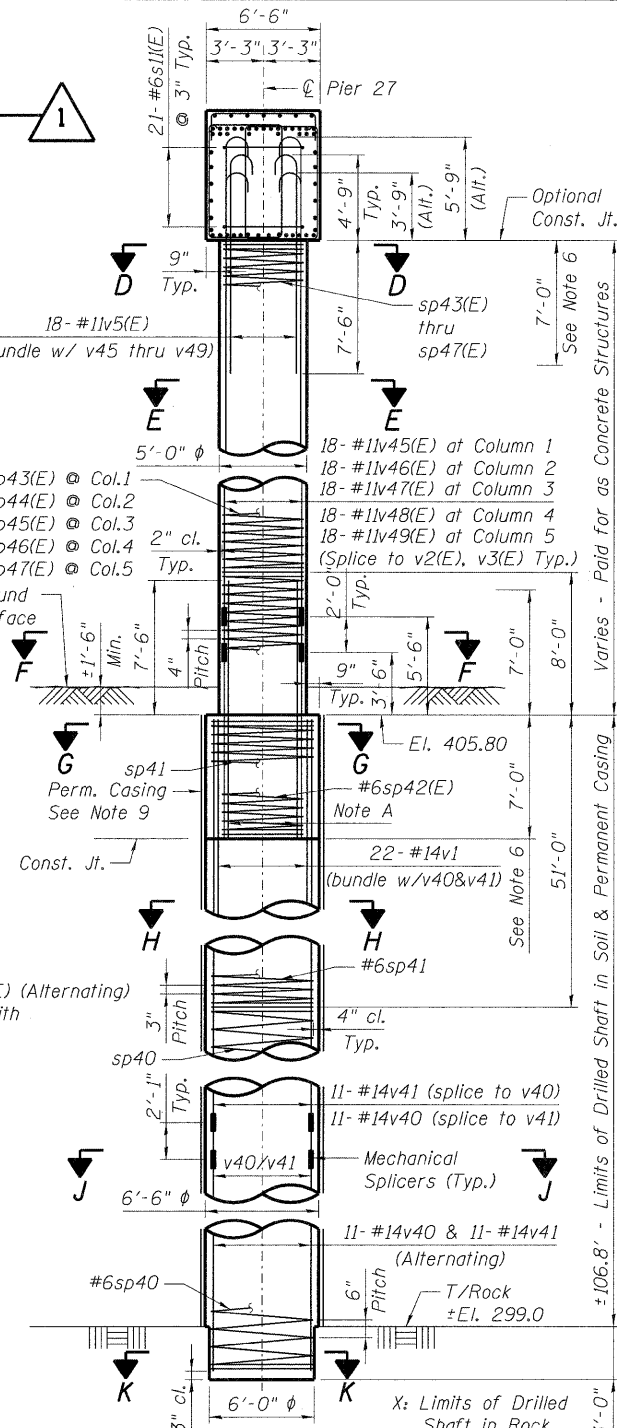
BEARING SEAT
ELEVATIONS

Girder	Elev.
1W	441.60
2W	441.09
3W	440.59
4W	440.08
5W	439.57
6W	439.05
1E	439.46
2E	438.99
3E	438.51
4E	438.03
5E	437.55

- A: 17 Sets of 2-#6s10(E) @ 6"
 B: 11-#6u11(E) @ 12"
 C: 10-#6u11(E) @ 12"
 D: 9-#6u11(E) @ 12"
 E: 16 Sets of 2-#6s10(E) @ 6"
 F: 9 Sets of 1-#6s12(E) & 2-#6s13(E) @ 6"

NOTES:

- Work this sheet with Sht. S-87.
- Cast steps monolithically with cap.
- Space top reinforcement in cap to miss anchor bolts.
- The hooks of v45(E) thru v49(E) bars embedded in pier cap shall be oriented inward.
- Splice locations of v and v(E) bars shall be staggered by 2'-0" min. Lap splicing of v and v(E) bars is not allowed, full-mechanical bar splicers or full-welding of bars is required.
- Lapping of spiral reinforcement is not allowed within 7'-0" of T/Column and B/Column in either the columns or drilled shafts. Where splicing is necessary, fully-welded or full-mechanical splices are allowed.
- Continue sp43(E) thru sp47(E) to bottom of pier cap stirrup bars.
- When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook. Provide min. 4-#4 spacers or equivalent.
- The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.
- The drilled shaft foundation design is based on end bearing in bedrock. The limits shown for Drilled Shaft in Rock is the minimum penetration required to achieve the factored resistance used in design (200 ksf).
- Wet construction methods within the permanent casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which will ensure adequate end bearing on rock is achieved.



PIER 27 END VIEW