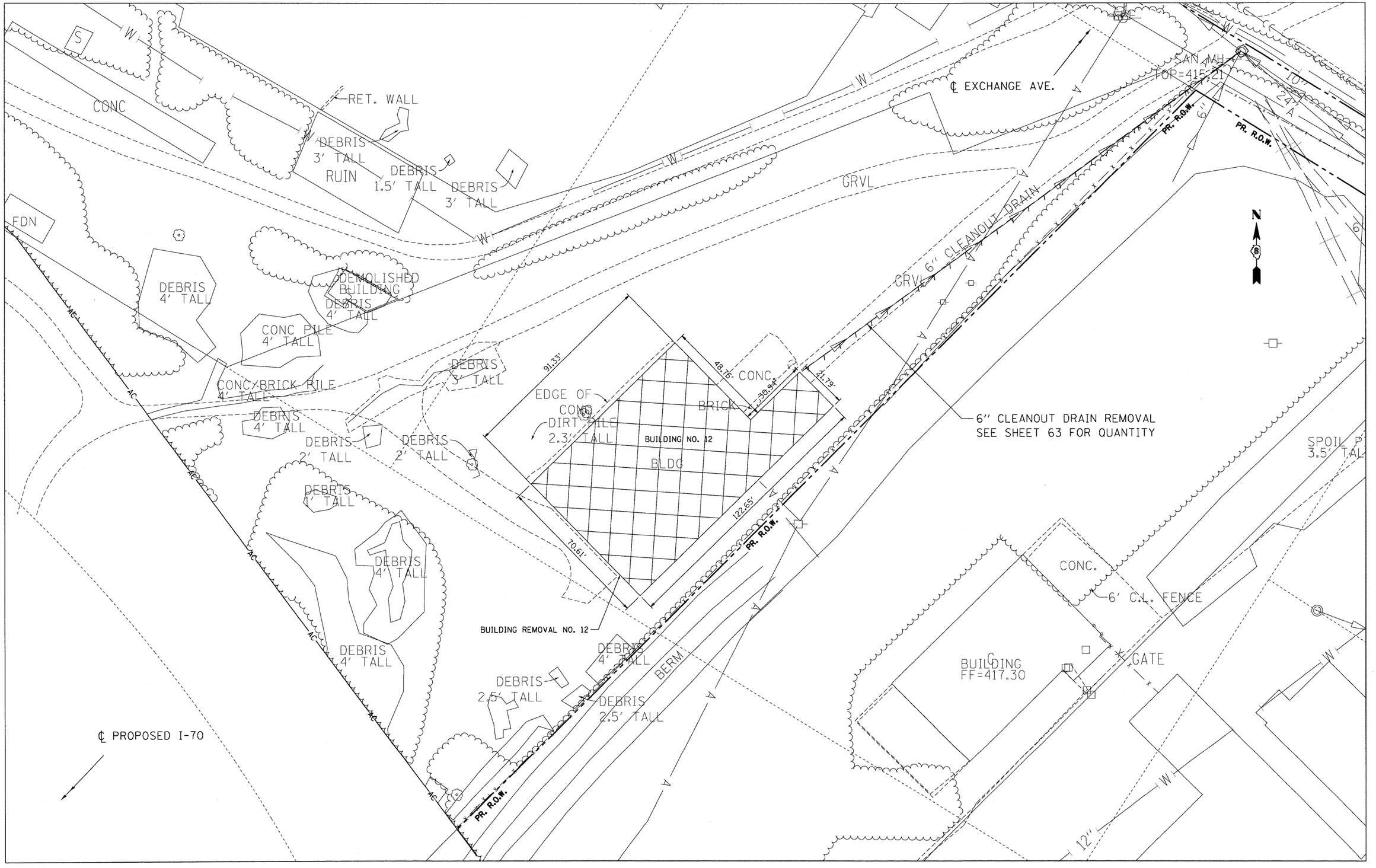

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6-03-2010 14:56:17 BONDHUJD \\FS-0044\HWY\VAULT\D-TRANS\07\2202\20686-298\CIVIL\CAD\99 ALL CONTRACTS\DGN\SHEETS CONTRACT 85\DBCONN-99-SHT-REMOVAL2.DGN

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JB	REVISED -
		DRAWN - JB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

BUILDING DEMOLITION PLAN
BUILDING NO. 12

SCALE: 1"=20' | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	101
		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

℄ EX. IL RTE 3

IL ROUTE 3 (ST. CLAIR AVE.

EX R.O.W.

STA. 127+81.00

CONTRACT 76D61 (BY OTHERS)

CONTRACT 76C44 LIMITS

PIER 23 BY OTHERS

ALL SEEDING ON THIS SHEET INCLUDED IN CONTRACT 76C44

℄ PROPOSED I-70

TEMPORARY EASEMENT

℄ ACCESS ROAD 5

PROPOSED R.O.W.

AC

RETENTION BASIN 1

PERMANENT EASEMENT

BY OTHERS STA. 123+00

MATCH LINE STA. 136+00 SEE SHEET 103

℄ ACCESS ROAD 4

RETENTION BASIN 1 SEEDING, CLASS 4B (WETLAND GRASS & SEDGE MIXTURE) MULCH, METHOD 2

SOUTHERN R.R.

NORFOLK SOUTHERN MAIN

MADISON COUNTY TRANSIT CORRIDOR

NORFOLK SOUTHERN PACKERS SPUR

℄ ACCESS ROAD 5A

N

LEGEND

SEEDING, CLASS 4A (LOW PROFILE NATIVE GRASS) MULCH, METHOD 2

EROSION CONTROL BLANKET (MULCH NOT REQUIRED)

SEEDING, CLASS 7 (TEMPORARY TURF COVER MIXTURE) NITROGEN, PHOSPHOROUS, AND POTASSIUM FERTILIZER NUTRIENTS (90 LBS/ACRE EACH) MULCH, METHOD 2

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JB	REVISED -
		DRAWN - JB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

PROPOSED I-70
LANDSCAPING PLANS
STA. 123+00 TO STA. 136+00

SCALE: 1"=50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	102
		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

..\DBCONN-99-MOTIFLIDON,..\DBCONN-85-BORDERLIDON,..\DBCONN-85-LEGENDLIDON,..\DBCONN-85-MOTIFLIDON
BONDHLLID V#5-8044-VARYHAL.rpt-TRANS.87\2282\28868-881\CIVIL\CAD\94 ALL CONTRACTS\CONN\SHEETS CONTRACT 85\DBCONN-85-SHT-LANDSCAP1-12300.DGN
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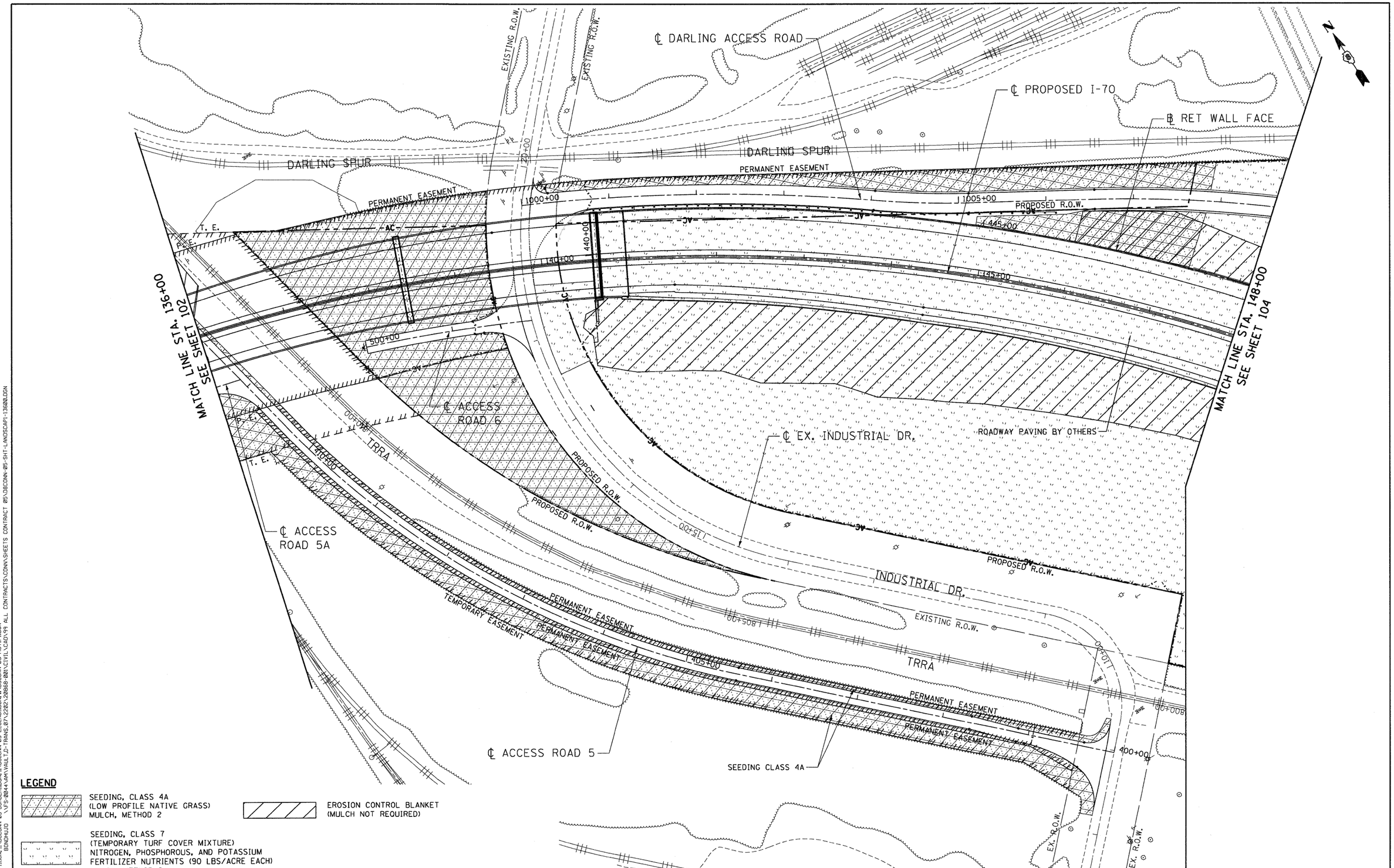

LEGEND

SEEDING, CLASS 4A
(LOW PROFILE NATIVE GRASS)
MULCH, METHOD 2

EROSION CONTROL BLANKET
(MULCH NOT REQUIRED)

SEEDING, CLASS 7
(TEMPORARY TURF COVER MIXTURE)
NITROGEN, PHOSPHOROUS, AND POTASSIUM
FERTILIZER NUTRIENTS (90 LBS/ACRE EACH)
MULCH, METHOD 2

\DBCONN-99-MOTIF1.DGN ..\DBCONN-05-BORDER1.DGN ..\DBCONN-05-LEGEND1.DGN ..\DBCONN-05-MOTIF1.DGN
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FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JB	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION	**PROPOSED I-70** **LANDSCAPING PLANS** **STA. 136+00 TO STA. 148+00**				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JB	REVISED -						998	82-2-1HVB	ST. CLAIR	285	103
	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -								CONTRACT NO. 76C44		
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: 1"=50'	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

MATCH LINE "A"
SEE SHEET 105

℄ DARLING ACCESS ROAD

PROPOSED R.O.W.

DETENTION BASIN 1

PROPOSED R.O.W.

℄ PROPOSED I-70

PR. GRADING LIMITS

ROADWAY GRADING BY OTHERS

ROADWAY PAVING BY OTHERS

℄ CAHOKIA CANAL CULVERT

DETENTION BASIN 2

PROPOSED R.O.W.

PROPOSED R.O.W.

1010+00 1015+00 1020+00 1025+00 1030+00 1035+00 1040+00 1045+00 1050+00 1055+00 1060+00 1065+00 1070+00 1075+00 1080+00 1085+00 1090+00 1095+00 1100+00 1105+00 1110+00 1115+00 1120+00 1125+00 1130+00 1135+00 1140+00 1145+00 1150+00 1155+00 1160+00

MATCH LINE STA. 148+00
SEE SHEET 103

STA. 162+00
BY OTHERS

SEEDING, CLASS 4A
(LOW PROFILE NATIVE GRASS)
MULCH, METHOD 2

EROSION CONTROL BLANKET
(MULCH NOT REQUIRED)

SEEDING, CLASS 7
(TEMPORARY TURF COVER MIXTURE)
NITROGEN, PHOSPHOROUS, AND POTASSIUM
FERTILIZER NUTRIENTS (90 LBS/ACRE EACH)
MULCH, METHOD 2

NOTE:
CLASS 7 SEEDING MAY BE
OMITTED IN AREAS WHERE
SUBSEQUENT CONTRACTS
BEGIN CONSTRUCTION

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JB	REVISED -
		DRAWN - JB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

PROPOSED I-70
LANDSCAPING PLANS
STA. 148+00 TO STA. 162+00

SCALE: 1"=50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	104
		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

..\DBCONN-94-NOTIFLDGN ..\DBCONN-85-BORDERLDGN ..\DBCONN-85-LEGENDLDGN ..\DBCONN-85-NOTIFLDGN
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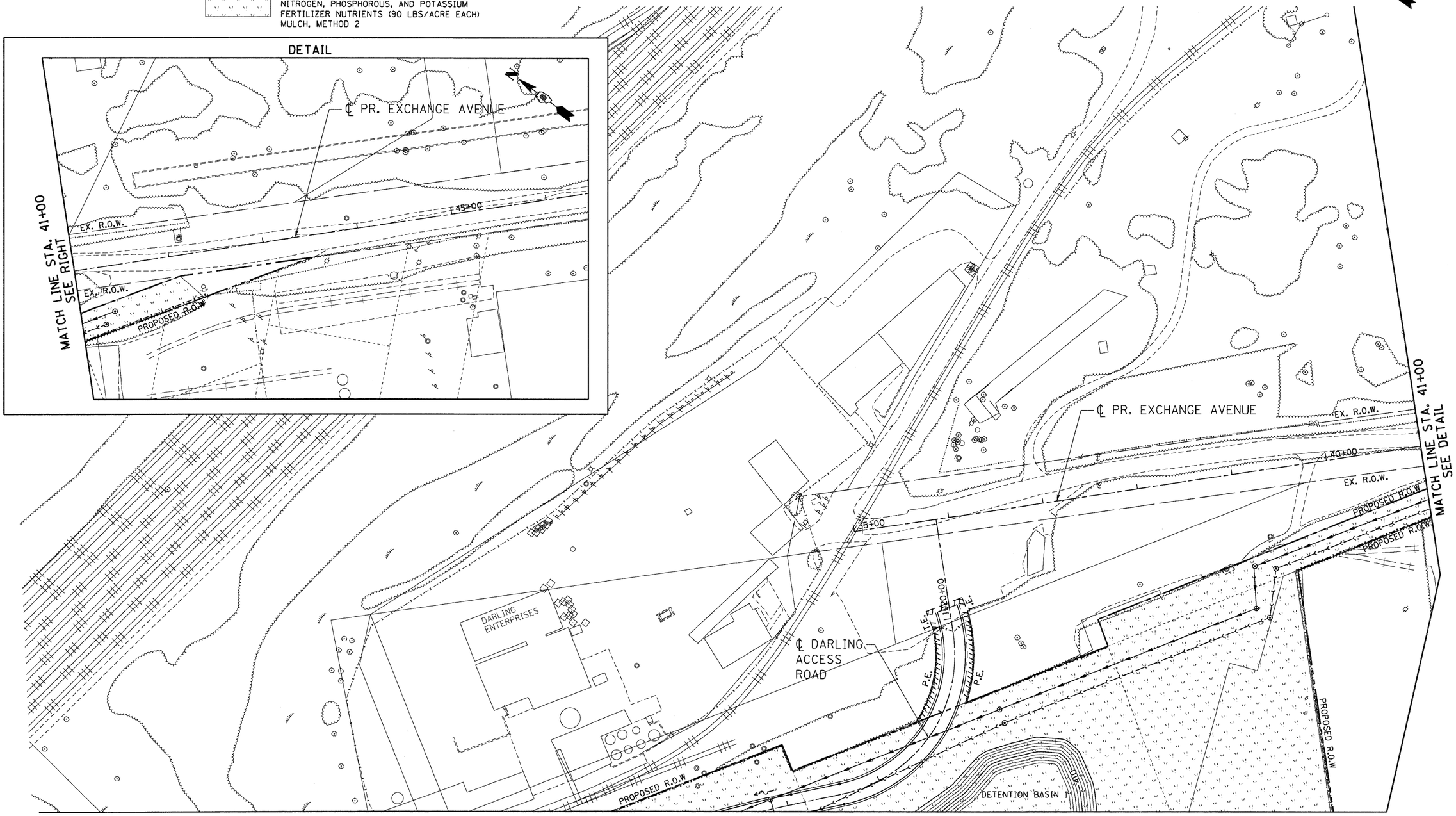
LEGEND

SEEDING, CLASS 4A
(LOW PROFILE NATIVE GRASS)
MULCH, METHOD 2

EROSION CONTROL BLANKET
(MULCH NOT REQUIRED)

SEEDING, CLASS 7
(TEMPORARY TURF COVER MIXTURE)
NITROGEN, PHOSPHOROUS, AND POTASSIUM
FERTILIZER NUTRIENTS (90 LBS/ACRE EACH)
MULCH, METHOD 2

DETAIL



MATCH LINE "A"
SEE SHEET 104

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TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS		DRAWN - JB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

PROPOSED I-70
LANDSCAPING PLANS
STA. 35+00 TO STA. 41+00

SCALE: 1"=50' | SHEET NO. OF SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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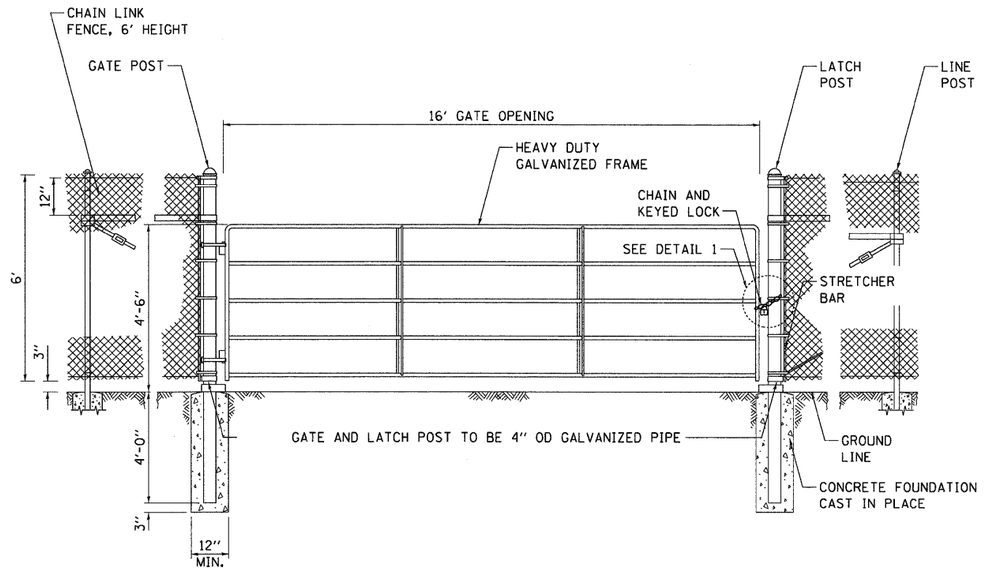
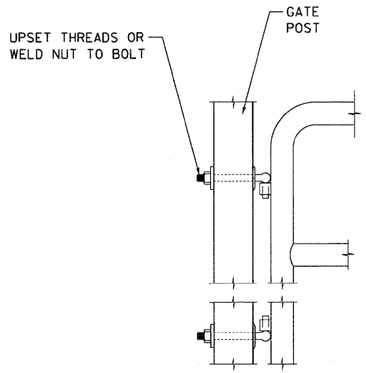
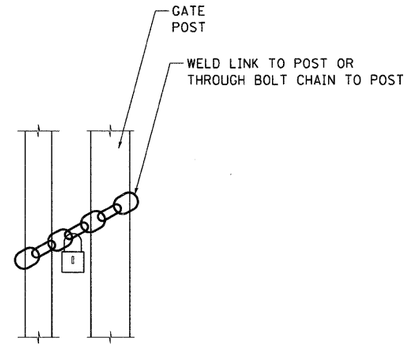
		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TUBULAR GATES, 4.5' X 16' SINGLE



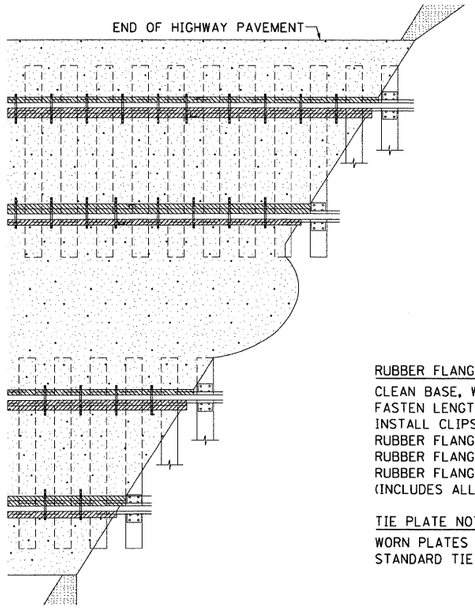
TYPICAL HINGE DETAIL



DETAIL 1

THE CHAIN AND KEYED LOCK SHALL BE CONSIDERED INCIDENTAL TO THE TUBULAR GATE ITEMS. THE CONTRACTOR SHALL PROVIDE LOCKS AND KEYS TO THE APPLICABLE RAILROADS AND IDOT.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED I-70 ROADWAY TUBULAR GATE DETAILS				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -	I-70 CONNECTION					998	82-2-1HVB	ST. CLAIR	285	106
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED -	REVISED -								CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: N.T.S.	SHEET NO. OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



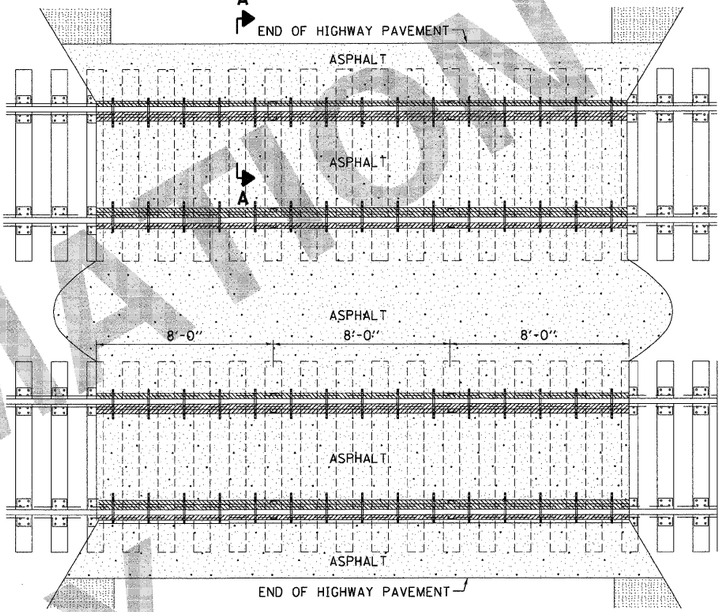
ACUTE ANGLE CROSSING

RUBBER FLANGE WAY NOTES

CLEAN BASE, WEB AND UNDER THE HEAD OF THE RAIL.
FASTEN LENGTHS TOGETHER WITH END CLIPS AND LAY RUBBER AGAINST THE RAIL.
INSTALL CLIPS UNDER BOTH RAILS BETWEEN EVERY TIE IN THE CROSSING.
RUBBER FLANGE WAY FOR 100-LB RAIL 270 995291
RUBBER FLANGE WAY FOR 110RE THROUGH 115RE RAIL 270 991789
RUBBER FLANGE WAY FOR 132RE THROUGH 141AB RAIL 270 008791
(INCLUDES ALL HARDWARE AND IS FURNISHED IN 8 TRACK FOOT SECTION.)

TIE PLATE NOTES

WORN PLATES MUST BE REPLACED WHEN CROSSING IS RENEWED.
STANDARD TIE PLATES TO BE USED FOR 6" BASE RAIL ARE 7 3/4"x 14 3/4".



RIGHT ANGLE CROSSING

PAVING NOTES

PAVEMENT TO BE FULL DEPTH ASPHALT, EXCEPT LIGHTLY USED PRIVATE CROSSING AND FARM CROSSINGS. THESE TYPE CROSSINGS ARE TO HAVE COMPACTED NS STANDARD SUB-BALLAST WITH 4" MAXIMUM ASPHALT.

WHERE HIGHWAY OR STREET HAVE SEPARATE SIDEWALKS, THE ENTIRE WIDTH OF CROSSING TO THE OUTSIDE EDGE OF SIDEWALK, WILL BE PAVED, WHERE PRACTICAL.

WHEN NECESSARY PROVIDE DRAINAGE BETWEEN TRACKS.

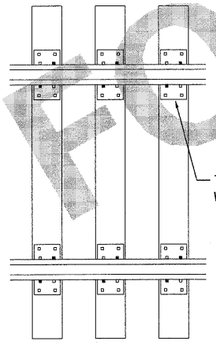
TO ALLOW FOR COMPACTION OF PAVING UNDER VEHICULAR TRAFFIC, THE SURFACE OF THE ASPHALT PAVING SHALL BE RAISED 3/8" ABOVE THE TOP OF THE RUBBER FLANGE WAYS FOR THE WIDTH OF THE ROADWAY.

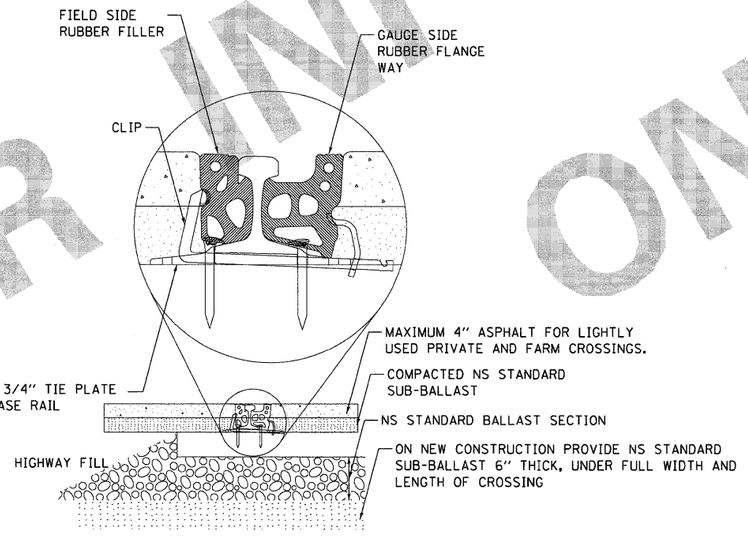
IN FULL DEPTH CROSSINGS, LAY ASPHALT IN TWO LIFTS.

JAM STONE OR ASPHALT UNDER RUBBER FLANGE WAY BETWEEN TIES - BOTH FIELD AND GAUGE SIDES. FILL ALL VOIDS.

SPIKING PATTERN

ALL SPIKES FOR 110# THRU 141# RAIL SHALL BE DRIVEN IN HOLES AS SHOWN BELOW.





SECTION A-A

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION	NORFOLK SOUTHERN RAILWAY COMPANY HIGHWAY GRADE CROSSING ASPHALT PAVING WITH RUBBER FLANGE WAY	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JFS	REVISED -			998	82-2-1HVB	ST. CLAIR	285	107
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED -	REVISED -					CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

..\DBCONN-05-BORDER1.DGN
6-03-2010, 14:57:35 BONDHUJO \\FS-2044\AM\VAULT_D-TRANS_07\2202\20868-001\CIVIL\CAD\99 ALL CONTRACTS\CONN\SHEETS CONTRACT 05\DBCONN-05-SHT-PVTDETAIL2.DGN

TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

FILE NAME = $FILE$
USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = $DATE$

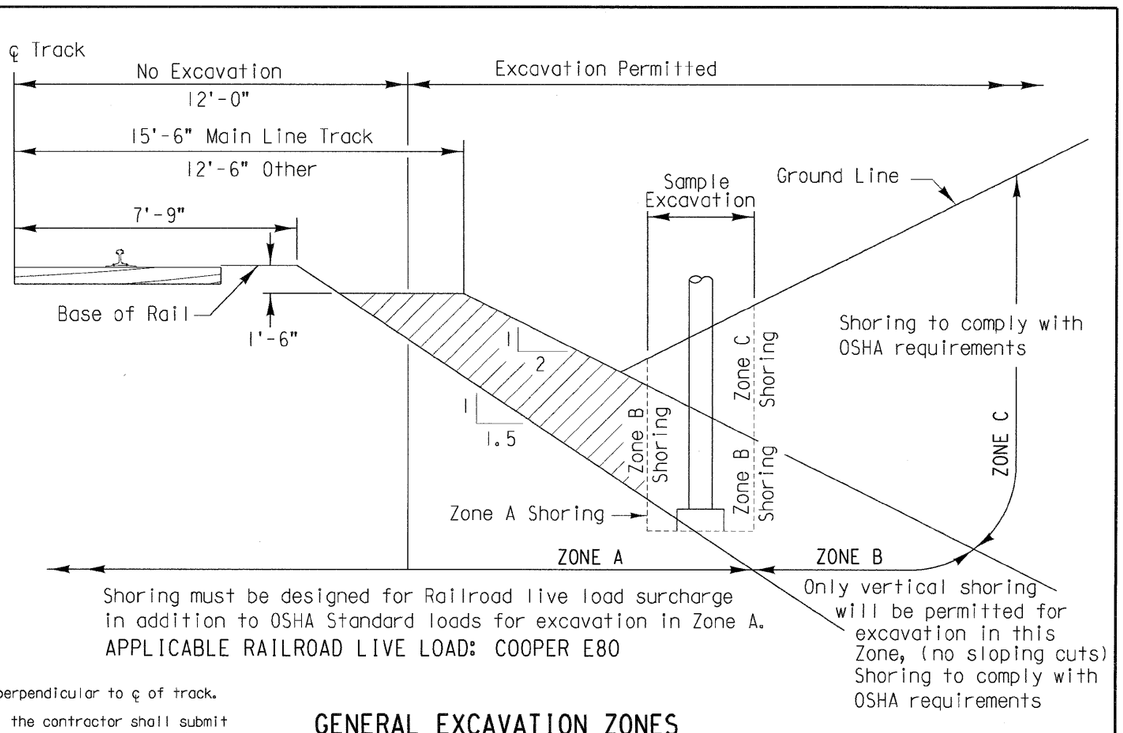
DESIGNED	-	JB
DRAWN	-	JFS
CHECKED	-	ACL
DATE	-	06/04/10
REVISED	-	
REVISED	-	
REVISED	-	

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

GENERAL SHORING REQUIREMENTS
ADJACENT TO RAILROAD

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. | TO STA.



GENERAL NOTES:

All dimensions are measured perpendicular to ℄ of track.

Prior to commencing any work, the contractor shall submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. The contractor shall install the temporary shoring system per the approved plans. Design of the temporary shoring system to comply with **GUIDELINES FOR TEMPORARY SHORING.**

For excavations which encroach into zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the state where the work will be performed.

GENERAL EXCAVATION ZONES

SCALE: (NOT TO SCALE)

REVISIONS		
DATE	LTR.	DESCRIPTION
5/03	1	FORMERLY UPRR C.E. 109613
/		
/		
/		
/		
/		

DESIGN BY: PGP | DRAWN BY: JFS | CHECKED BY: AA

APPROVED:

K.H. Jennison
BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN

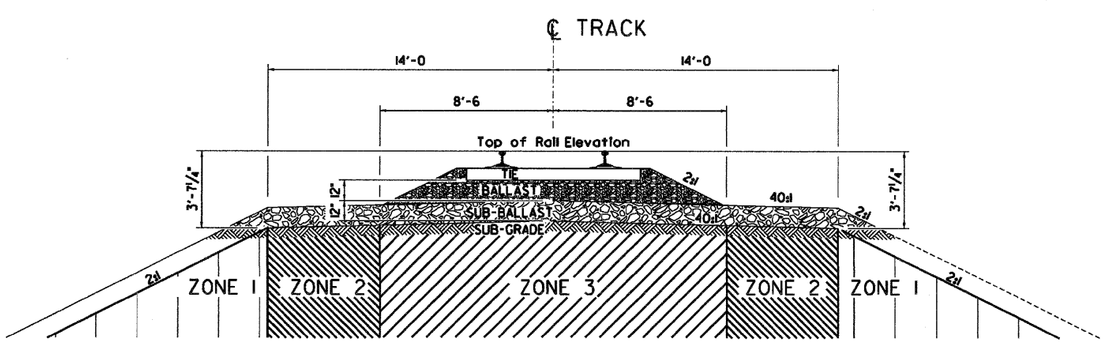
9-1-04
UPRR - MGR SPECIAL PROJECTS STRUCTURES DESIGN

BRIDGE STANDARDS

GENERAL SHORING REQUIREMENTS

FILE OWNER: UPRR | DATE: 5-6-03
PLAN NO.: 710000 | SHEET: 1 OF 1

PLOTTED: $$$$DATE$$$ $TIME



ROADBED PROFILE - SHORING REQUIREMENTS

ZONE 1 Excavation within zone 1 will require shoring for the protection of the Railroad

ZONE 2 Excavation within zone 2 will require shoring consist of interlocking sheeting for the protection of the Railroad

ZONE 3 NO EXCAVATIONS WILL BE ALLOWED IN ZONE 3

NOTE: Excavations outside of zone 1 may require shoring for safety. Lateral pressures due to train loadings do not affect shoring design outside of zone 1

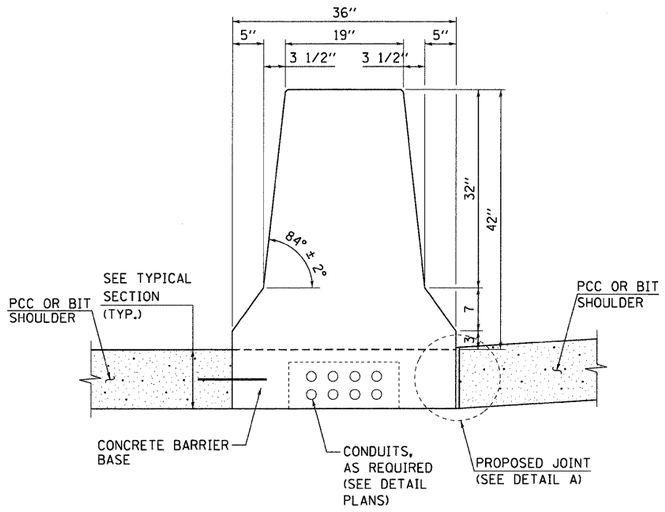
NORFOLK SOUTHERN CORP

STANDARD OVERHEAD BRIDGE DETAILS

SHORING REQUIREMENTS

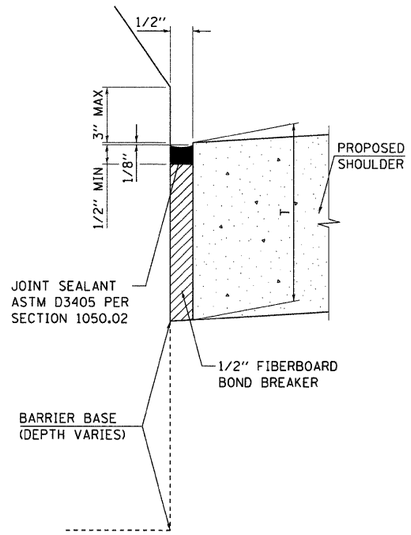
OFFICE OF CHIEF ENGINEER BRIDGES & STRUCTURES
FEBRUARY, 1998
SHEET 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	108
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 76C44		

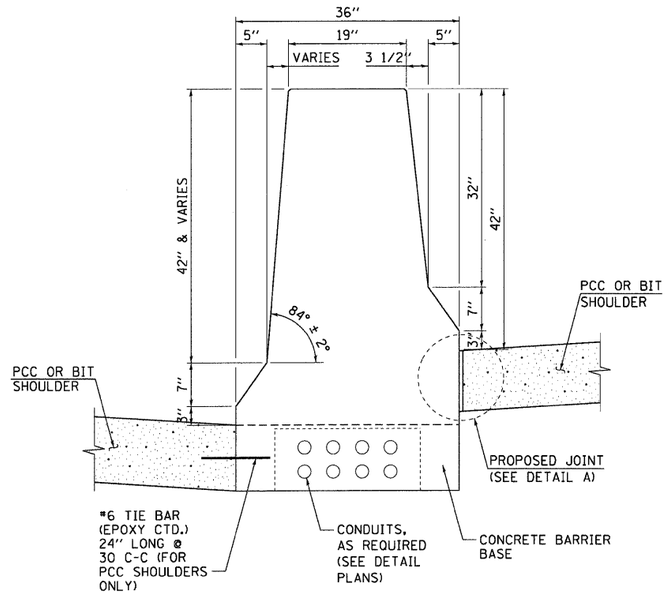


TYPICAL CROSS SECTION

CONCRETE BARRIER, DOUBLE FACE,
42 HEIGHT



DETAIL A



VARIABLE CROSS SECTION

CONCRETE BARRIER, DOUBLE FACE,
42 HEIGHT

LEGEND:

PAY LIMITS OF BITUMINOUS OR PCC SHOULDERS.

NOTES:

1. FOR ADDITIONAL CONCRETE BARRIER DETAILS SEE STANDARDS 637001 & 637006.
2. FOR ADDITIONAL SHOULDER DETAILS SEE TYPICAL SECTIONS, PIPE UNDERDRAIN & SUBGRADE DETAILS FOR OPEN AND CLOSED DRAINAGE SYSTEMS, P.C.C SHOULDER DETAILS AND/OR STANDARDS 601001, 482006, 483001 & 482001 AS APPLICABLE.
3. A 1" RADIUS CAN BE SUBSTITUTED FOR THE 1/2" CHAMFER AT THE TOP OF THE BARRIER WALL.
4. FOR PCC SHOULDERS -- DEPTH "T" SHALL BE 10.5" MINIMUM OR THE SHOULDER DEPTH IF GREATER.
5. THE THICKENED PCC SHOULDER FOR THE REINFORCED CONCRETE BARRIER SECTION SHALL BE INCLUDED IN THE COST OF THE CONCRETE BARRIER OF THE TYPE INVOLVED.
6. ALL REINFORCING BARS, BAR SPLICERS, TIE BARS AND DOWEL BARS SHALL BE SEATED IN THE FINAL POSITION PRIOR TO THE CONCRETE OPERATIONS. BARS CANNOT BE MUCKED INTO PLACE.
7. THE FURNISHING AND PLACING OF TIE BARS AND DOWEL BARS SHALL BE INCLUDED IN THE COST OF PCC SHOULDER OF THE THICKNESS SPECIFIED.
8. THE FURNISHING AND PLACING OF BAR SPLICERS, TIE BARS AND DOWEL BARS SHALL BE INCLUDED IN THE COST OF THE PCC SHOULDER OF THE THICKNESS SPECIFIED.
9. THE CONDUIT LOCATIONS SHOWN ARE TYPICAL. ADDITIONAL CONDUITS MAY BE REQUIRED. FOR THE SIZE, LOCATION, AND DETAILS, SEE THE ELECTRICAL AND/OR SURVEILLANCE PLANS. THE FURNISHING AND PLACING OF CONDUITS OF THE SIZE SPECIFIED SHALL BE PAID FOR SEPARATELY.

C:\DGCONN-05-BORDER.DGN
6-23-2016, 14:57:38 BONDHUJD \\FS-0044\VAN\VAULT\D-TRANS.87\2202\20868-001\CIVIL\CADD\99 ALL CONTRACTS\CONN SHEETS CONTRACT 85\DGCONN-85-SHT-PVTDETAIL3.DGN

FILE NAME = $FILE$ | USER NAME = $USER$ | PLOT SCALE = $SCALE$ | PLOT DATE = $DATE$
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

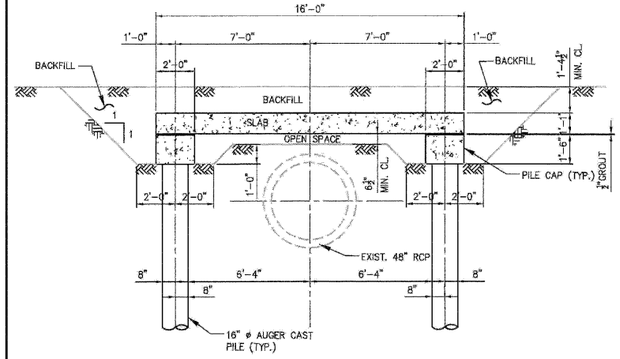
DESIGNED - JB | DRAWN - JFS | CHECKED - ACL | DATE - 06/04/10
REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION

CONCRETE BARRIER, DOUBLE FACE
42 INCH HEIGHT DETAILS

SCALE: N.T.S. | SHEET NO. OF SHEETS | STA. TO STA.

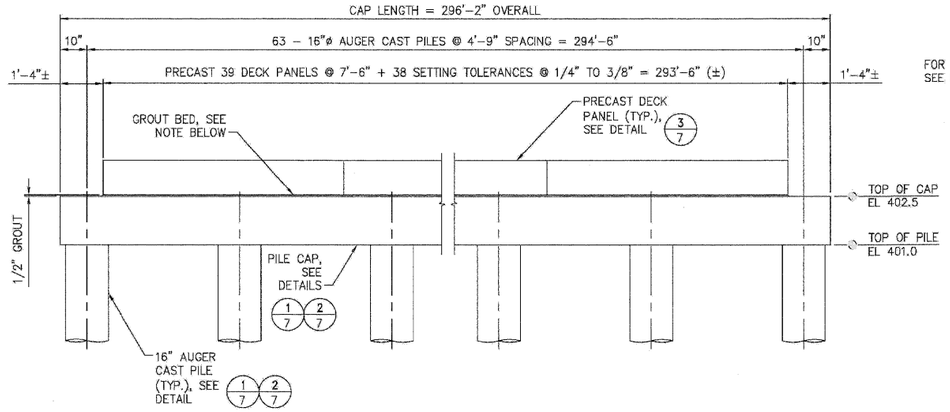
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	109
		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION - 48" RAW WATER PIPE PROTECTION STRUCTURE

NTS

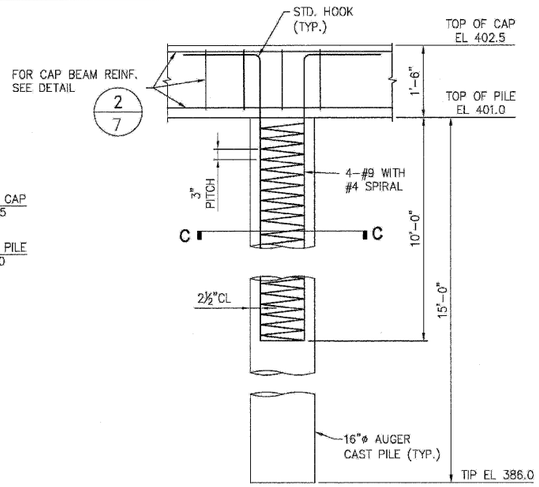
NOTE: FOR REINFORCING, REFERENCE REMAINING DETAILS THIS SHEET.



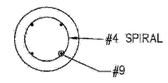
PARTIAL ELEVATION DECK PANEL, PILE CAP AND AUGER CAST PILE SYSTEM

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

NOTE: DECK PANELS ARE TO BE SET ON A BED OF GROUT THAT COVERS THE FULL AREA OF CONTACT, AND MEASURES 1/2" THICK MINIMUM, AFTER PANELS ARE SET. GROUT SHALL HAVE A MINIMUM FINAL STRENGTH OF 200 PSI.



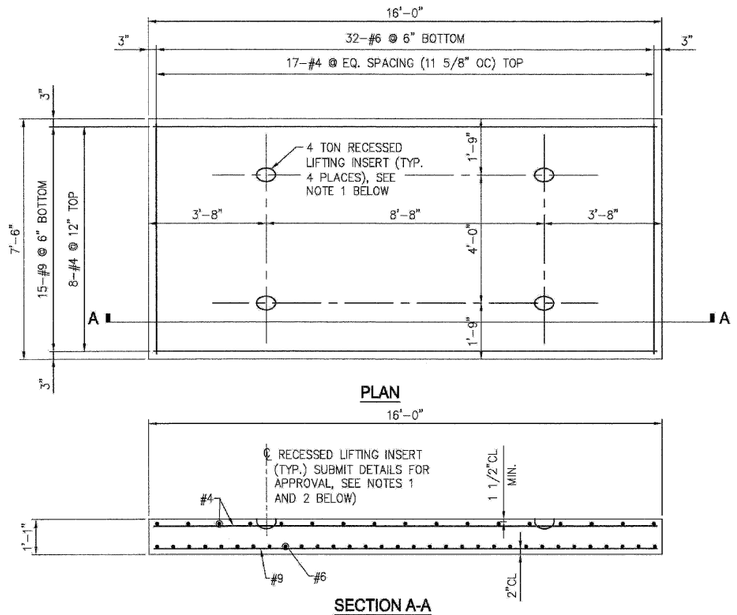
ELEVATION



SECTION C-C

DETAIL 1/7 TYPICAL AUGER CAST PILE

NTS



DETAIL 3/7 PRECAST DECK PANEL

3/4" = 1'-0"

NOTES:
1. PRECAST MANUFACTURER SHALL TAKE CARE TO MAINTAIN 1 1/2" CLEARANCE BETWEEN REINFORCING STEEL AND LIFT INSERT RECESS FORMER WHILE MAINTAINING DIMENSIONS BETWEEN LIFT ASSEMBLIES.

2. PRECAST MANUFACTURER SHALL FOLLOW LIFT INSERT INSTALLATION INSTRUCTIONS FOR, BUT NOT LIMITED TO, SUPPORTING REINFORCING STEEL IN PROXIMITY TO LIFT INSERT AND SECURING INSERT LIFTING BAR TO REINFORCING STEEL.

STRUCTURAL GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," ADOPTED JANUARY 1, 2007 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

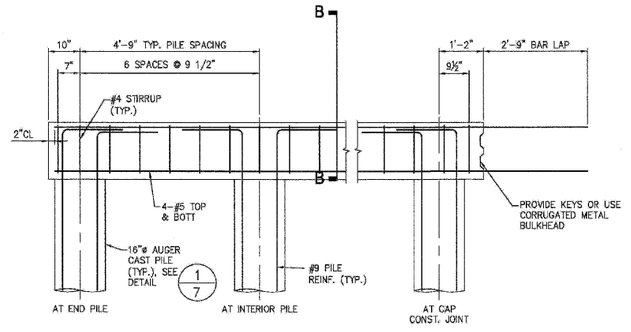
2. CONCRETE SHALL CONFORM TO THE FOLLOWING STANDARD CLASSES, UNLESS OTHERWISE APPROVED BY THE ENGINEER:
   - DECK PANELS: CLASS PC, 4500 PSI AT 28 DAYS, 5-8% AIR
   - PILE CAPS: CLASS BS, 4000 PSI AT 14 DAYS, 5-8% AIR
   - PILES: CLASS DS, 4000 PSI AT 14 DAYS, 5-8% AIR

3. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) OR M322 (ASTM A996), GRADE 60, FOR DEFORMED BARS.

4. ANALYSIS AND DESIGN PROCEDURES ARE BASED UPON AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002.

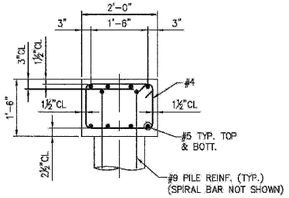
5. LOAD CAPACITY: THE PIPE PROTECTION STRUCTURE, AS DEPICTED IN THE TYPICAL SECTION VIEW, IS DESIGNED TO SUPPORT THE:
   - A. SELF-WEIGHT OF THE CONCRETE STRUCTURE, PLUS
   - B. EARTH BACKFILL OF APPROXIMATELY 1 FT - 4½ IN., PLUS ONE OF THE FOLLOWING:
   - C. A UNIFORMLY - DISTRIBUTED CONSTRUCTION LIVE LOAD OF 1,000 PSF, OR
   - D. AN UNLOADED CRAWLER CRANE SIMILAR TO A MANITOWOC MODEL 4100, WEIGHING APPROXIMATELY 178 TONS, ON TWO CRAWLER TRACKS 4 FT WIDE BY 23 FT LONG, WITH A TRACK SPACING OF APPROXIMATELY 14 - 17 FT. THE CRANE SHALL NOT CROSS THE STRUCTURE WHILE CARRYING A LOAD.

6. NOTIFY ENGINEER IMMEDIATELY IF ANTICIPATED LOADINGS EXCEED THOSE DESCRIBED ABOVE.



DETAIL 2/7 TYPICAL PILE CAP

3/4" = 1'-0"

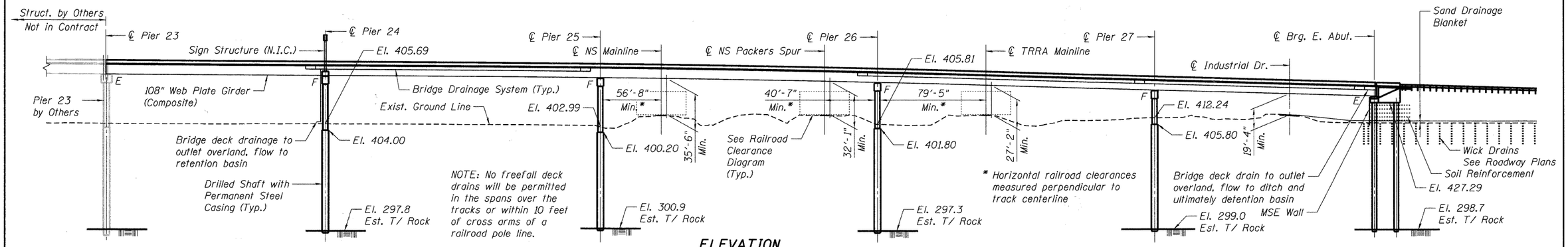


SECTION B-B

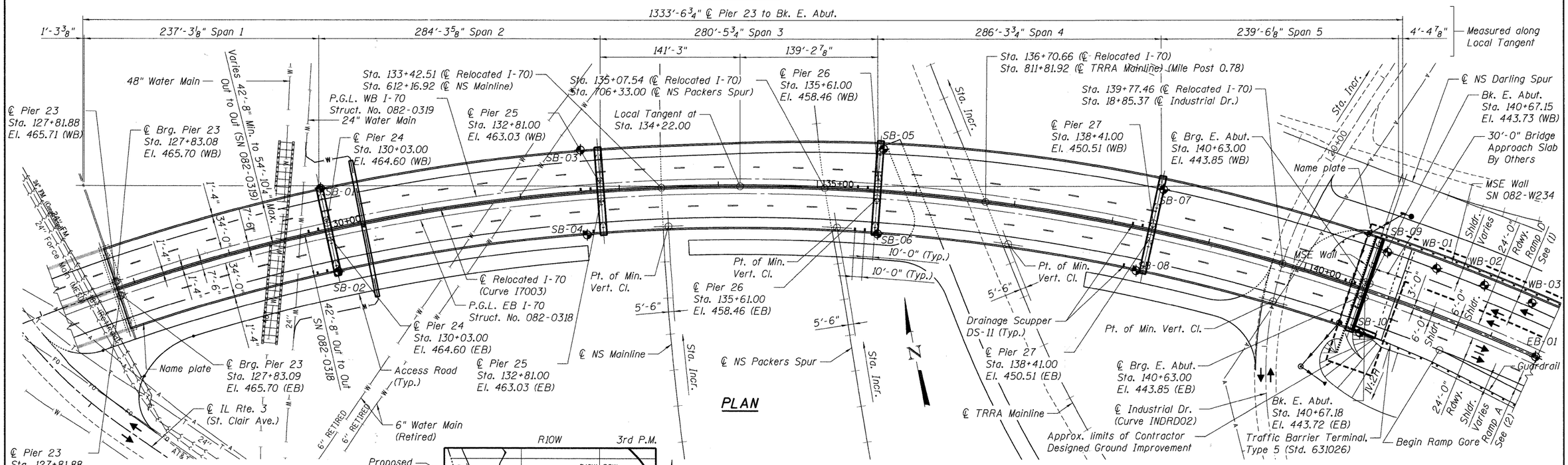
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WATER MAIN PROTECTION DETAILS FOR INFORMATION ONLY	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JFS	REVISED -	I-70 CONNECTION		998	82-2-1HVB	ST. CLAIR	285	110
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - ACL	REVISED -					CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BENCH MARK: Monument No. 11: Aluminum disk set in the back of a 4.5' concrete walk (end of walk), located on the west side of Illinois Route 3 approximately 0.3 miles south of Canal Street (Brooklyn). El. 414.02

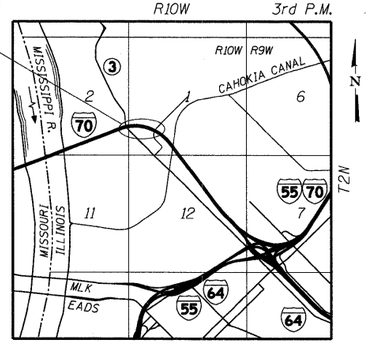
EXISTING STRUCTURE: None



ELEVATION



PLAN



LOCATION SKETCH

Proposed Structure

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Specifications with 2008 & 2009 Interim Revisions

SEISMIC DATA

(See Sheet S-3)

DESIGN LOADING

Vehicular Live Load: HL-93
Future Wearing Surface: 50 psf

DESIGN STRESSES

fc' = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (AASHTO M 270 Grade 50W)

℄ RELOCATED I-70 CURVE I7003

PI Sta. = 138+29.72
Δ = 74°40'52" (RT)
D = 2°56'04"
R = 1,952.50'
T = 1,489.60'
L = 2,544.95'
E = 503.34'
SE = 5.40%
PC Sta. = 123+40.13
PT Sta. = 148+85.08

℄ INDUSTRIAL DR. CURVE INDRD02

PI Sta. = 17+68.75
Δ = 87°47'02" (RT)
D = 15°03'19"
R = 380.57'
T = 366.13'
L = 583.08'
E = 147.52'
SE = n/a
PC Sta. = 14+02.62
PT Sta. = 19+85.70

(1) Ramp D (Auxilliary Lane) Drop Taper begins at Sta. 139+90.69, Offset 43.5' LT and ends at Sta. 133+42.43, Offset 31.5 LT.

(2) Ramp A Taper begins at Sta. 141+51.57, Offset 31.50' RT and ends at Sta. 144+42.57, Offset 43.5' RT.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TSD)
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
R. SHANKAR NAIR
81-3676
LICENSED STRUCTURAL ENGINEER
CHICAGO, IL
6/4/10
Exp 11/30/10

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - KK	REVISED -	
		DRAWN - KK	REVISED -	
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	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GENERAL PLAN & ELEVATION

SCALE: | SHEET NO. S-1 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-IHVB	ST. CLAIR	285	111
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $^{7}/_{8}$ in. ϕ. holes $^{15}/_{16}$ in. ϕ. unless otherwise noted.

2. Calculated weight of Structural Steel = 7,894,000 lbs.

3. All structural steel shall be AASHTO M 270 Grade 50W except expansion joints which shall be AASHTO M 270 Grade 50.

4. No field welding is permitted except as specified in the contract documents.

5. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

6. Reinforcement bars designated (E) shall be epoxy coated.

7. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

8. Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $^{1}/_{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

9. Concrete Sealer shall be applied to the designated areas of the abutment.

10 Structural steel shall only be painted for a distance of 10 ft. each way from the deck joints and piers. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

11. All exposed structural steel of the bearings shall be cleaned and shop painted as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

12. Slipforming of the parapets is not allowed.

13. The Contractor is alerted that camber and dead load deflection values shown on the girder detail drawings were developed based on the deck pouring sequence shown in the Contract Drawings. Any deviation from this pouring sequence will result in changes to camber and elevations that reflect dead load deflections. If the Contractor wishes to change the sequence, then the proposed plan revisions and design calculations shall be submitted to the Engineer for review and approval. The calculations shall be prepared and sealed by a Licensed Structural Engineer in Illinois.

14. Abbreviations:
    NS - Norfolk Southern
    TRRA - Terminal Railroad Association
    MCT - Metro County Transit

BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu Yd	462
Concrete Structures	Cu Yd	1,452.3
Concrete Superstructure	Cu Yd	4,076.2
Bridge Deck Grooving	Sq Yd	11,530
Protective Coat	Sq Yd	14,509
Furnishing And Erecting Structural Steel	L Sum	1
Furnishing and Erecting Structural Steel	Pound	1,150
Stud Shear Connectors	Each	31,625
Reinforcement Bars	Pound	680,740
Reinforcement Bars, Epoxy Coated	Pound	1,475,060
Bar Splicers	Each	97
Name Plates	Each	2
Permanent Casing	Foot	2,447
Drilled Shaft In Soil	Cu Yd	2,579
Drilled Shaft In Rock	Cu Yd	57
Anchor Bolts, 1"	Each	88
Anchor Bolts, 1 1/4"	Each	264
Concrete Sealer	Sq Ft	1,727
Drainage Scuppers, DS-11	Each	20
High Load Multi-Rotation Bearings, Fixed - 900 K	Each	33
High Load Multi-Rotation Bearings, Fixed - 1000 K	Each	11
High Load Multi-Rotation Bearings, Guided Expansion, 300 K	Each	22
Mechanical Splicers	Each	896
Drainage System	L Sum	1
Modular Expansion Joint-Swivel 9"	Foot	93.5
Modular Expansion Joint-Swivel 24"	Foot	80.0
Crosshole Sonic Logging	Each	5

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GENERAL NOTES, BILL OF MATERIAL & INDEX OF SHEETS

SCALE: | SHEET NO. S-2 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	112
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

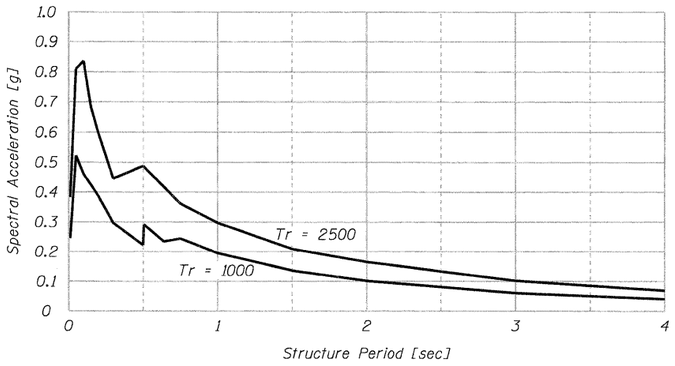
SEISMIC DATA*

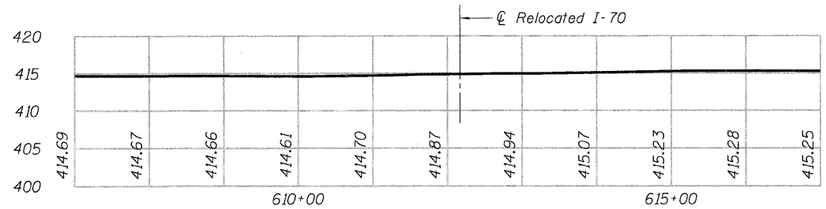
Soil Site Class = D

Return Period, Tr [yrs]	1000	2500
Design Spectral Acceleration at 1.0 sec, SD1 [g]	0.20	0.30
Design Spectral Acceleration at 0.2 sec, SDS [g]	0.39	0.60
Importance Category	Critical	Essential
Seismic Performance Zone	2	2

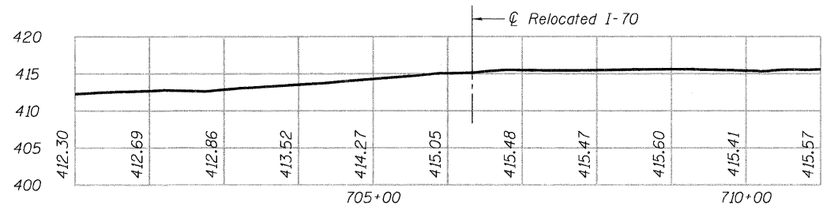
* Seismic Data based on site-specific analysis.

SITE-SPECIFIC UNIFORM HAZARD SPECTRA

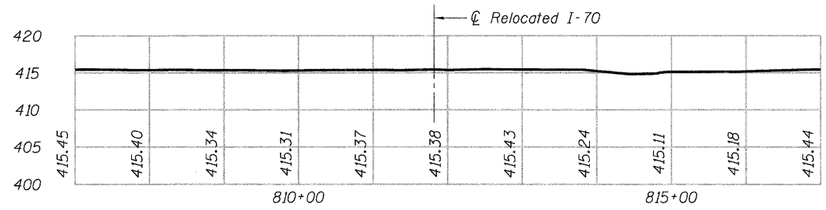




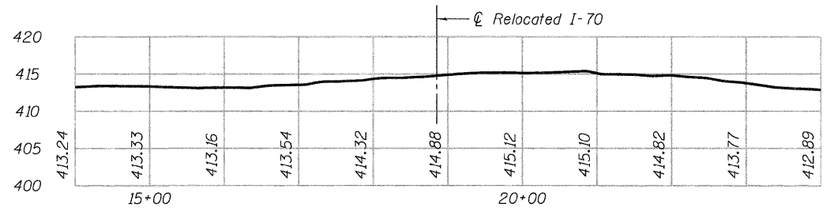
NS MAINLINE PROFILE



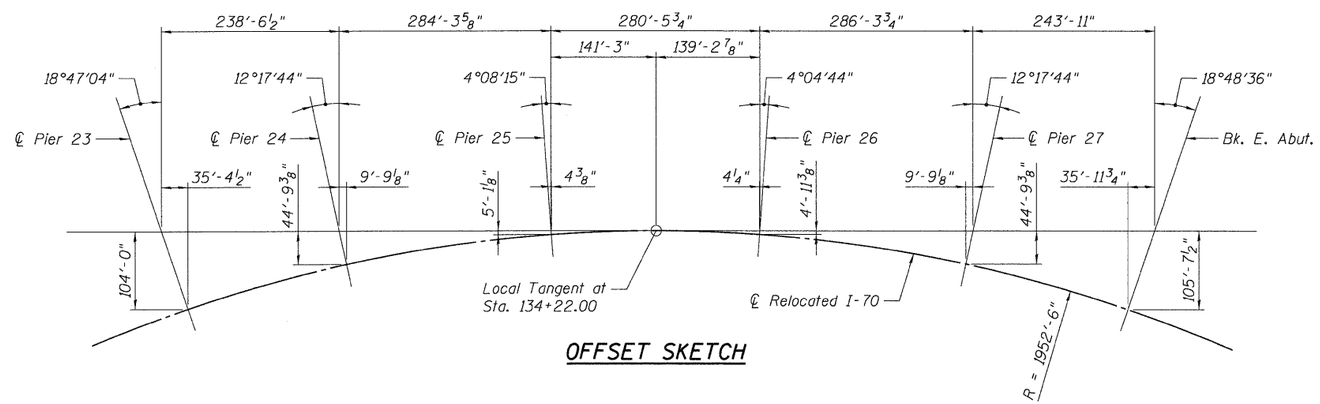
NS PACKERS SPUR PROFILE



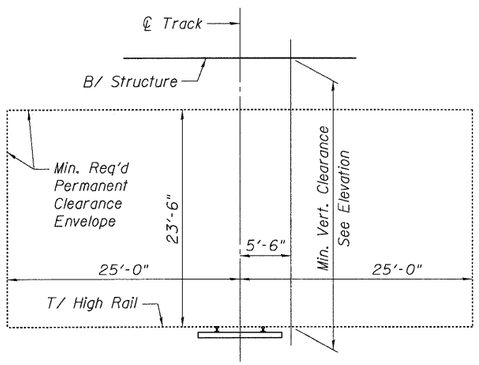
TRRA MAINLINE PROFILE



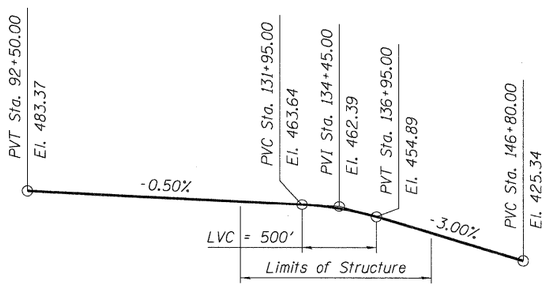
INDUSTRIAL DR. PROFILE



OFFSET SKETCH



RAILROAD CLEARANCE DIAGRAM



PROFILE GRADE F.A.P. RTE 998 (RELOCATED I-70)

STATION 134+22
BUILT 2011 BY
STATE OF ILLINOIS
F.A.P. RT. 998 SEC. 82-2-1HVB
LOADING HL-93
STRUCTURE NO. 082-0318

NAME PLATE (EB)
See Std. 515001

STATION 134+22
BUILT 2011 BY
STATE OF ILLINOIS
F.A.P. RT. 998 SEC. 82-2-1HVB
LOADING HL-93
STRUCTURE NO. 082-0319

NAME PLATE (WB)
See Std. 515001

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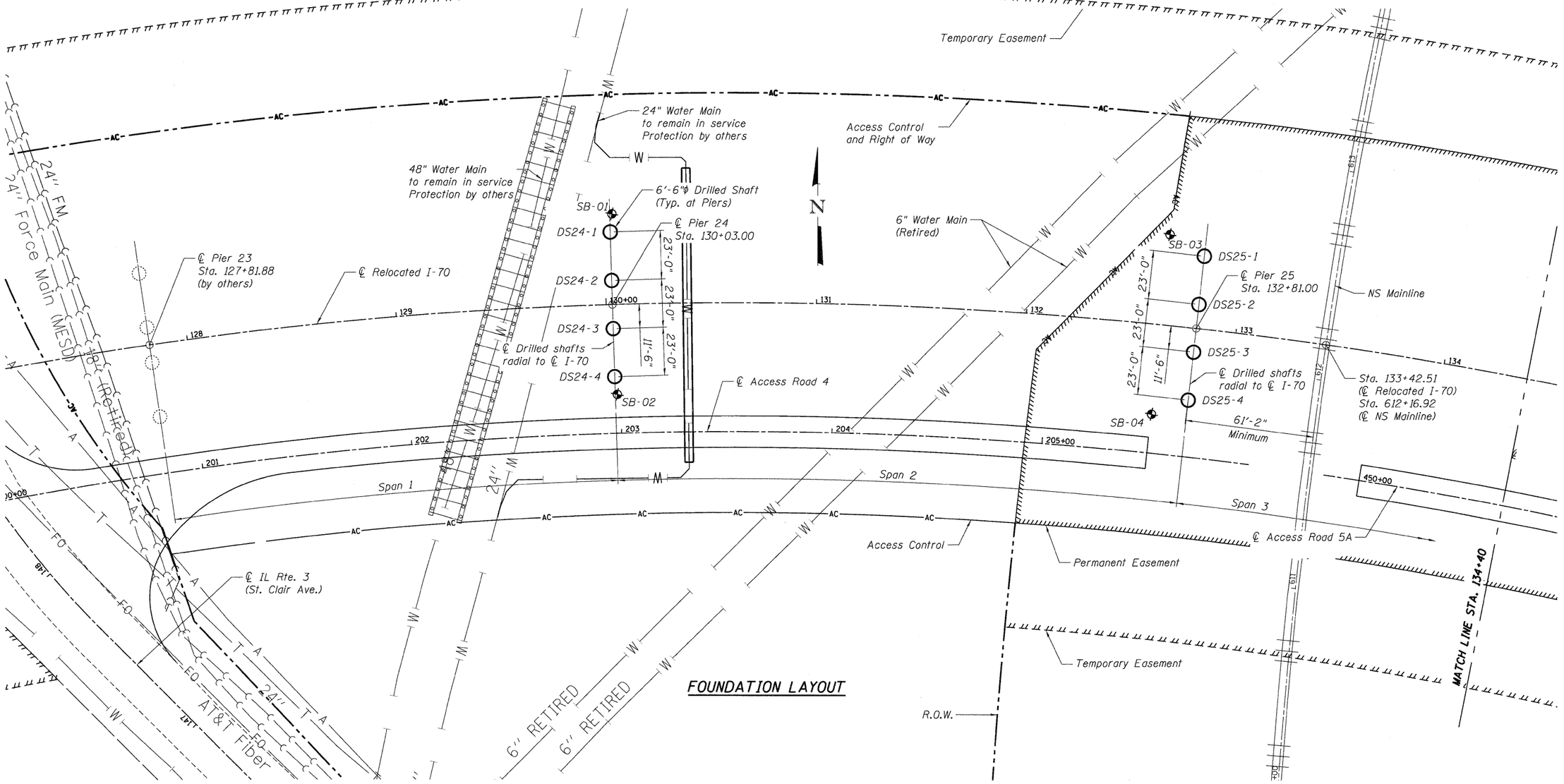
		DRAWN - KK	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

VERTICAL PROFILES & SEISMIC DATA

SCALE: | SHEET NO. S-3 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	113
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FOUNDATION LAYOUT

LEGEND:

- Right of Way (R.O.W.)
- Access Control
- R.O.W. and Access Control
- Permanent Easement
- Temporary Easement

NOTES:

1. Work this sheet with Sheet S-5.
2. See Civil Plans for permanent access road details.

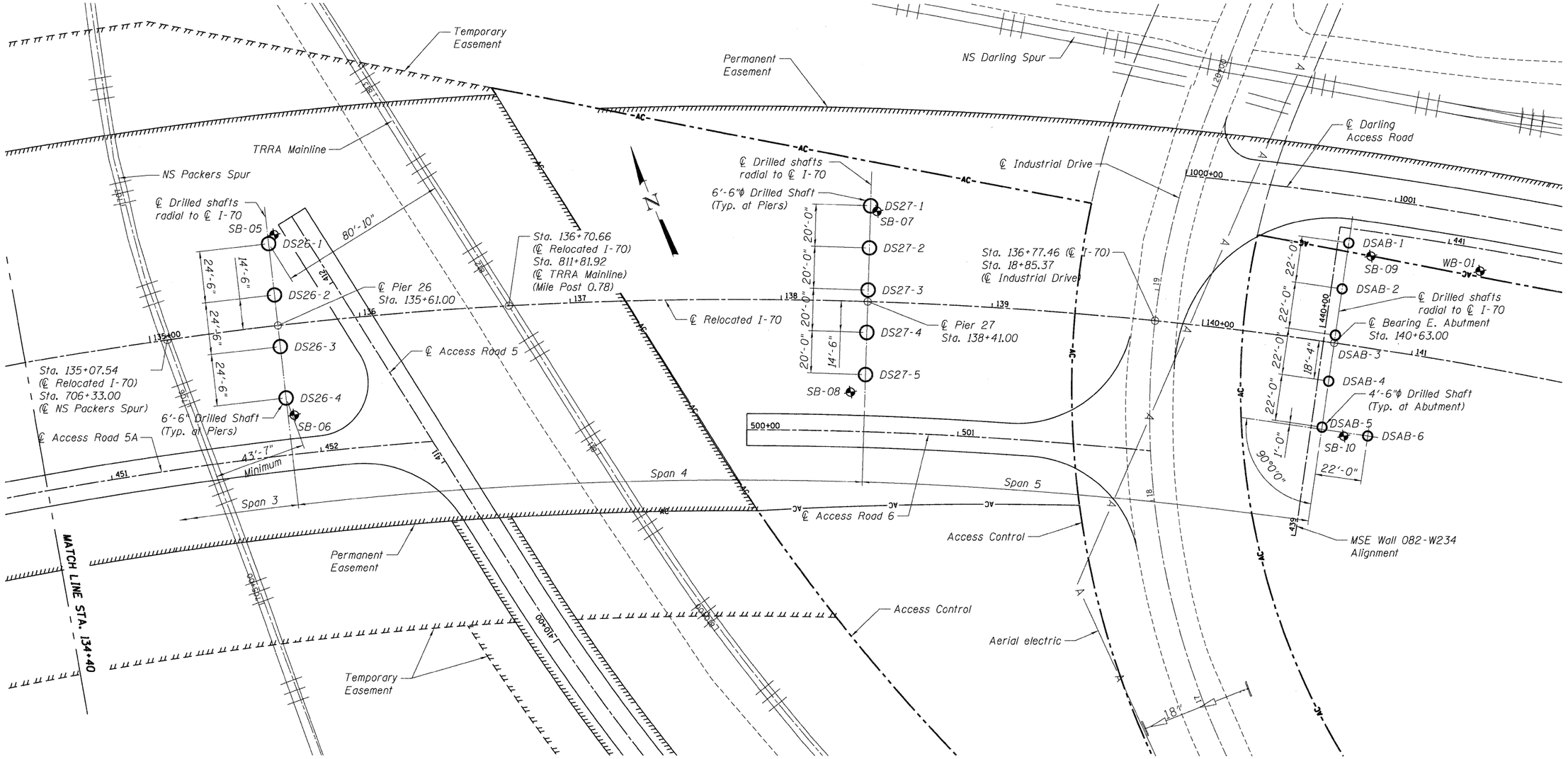
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

FOUNDATION LAYOUT
1 OF 2

SCALE: | SHEET NO. S-4 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	114
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

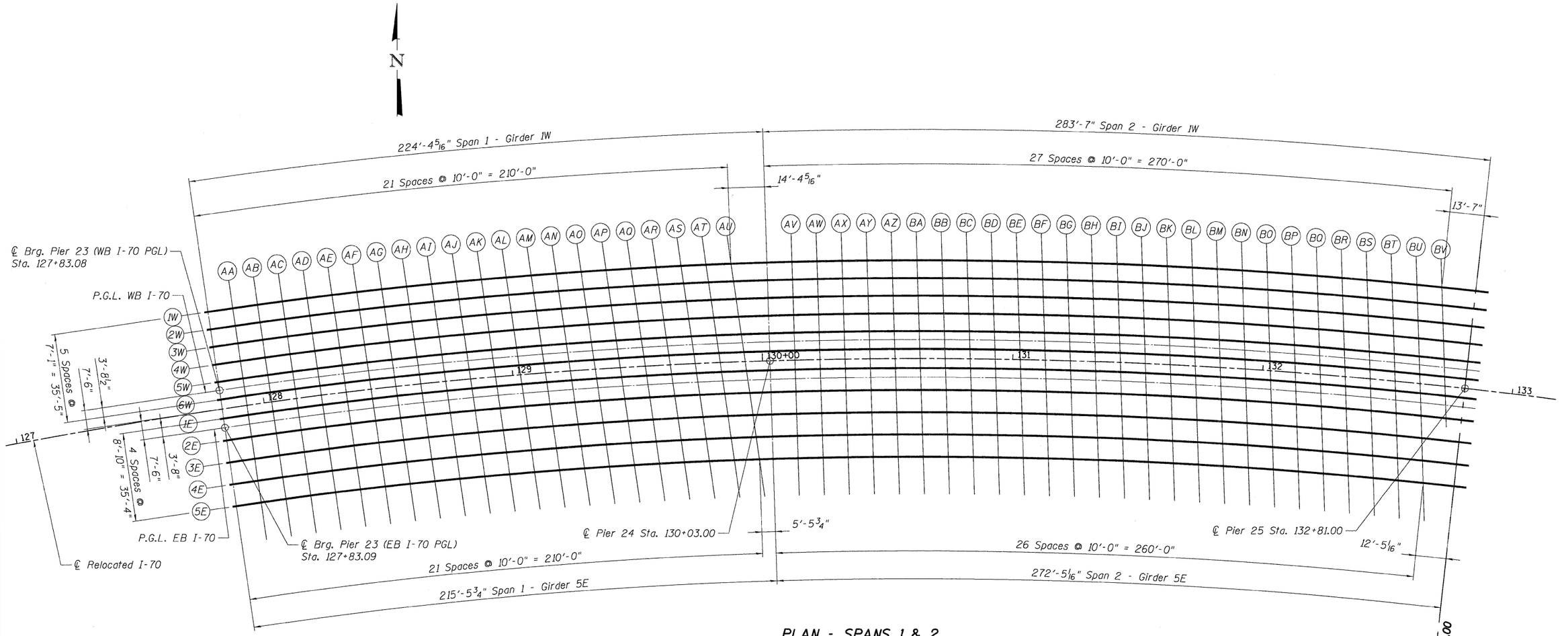


FOUNDATION LAYOUT

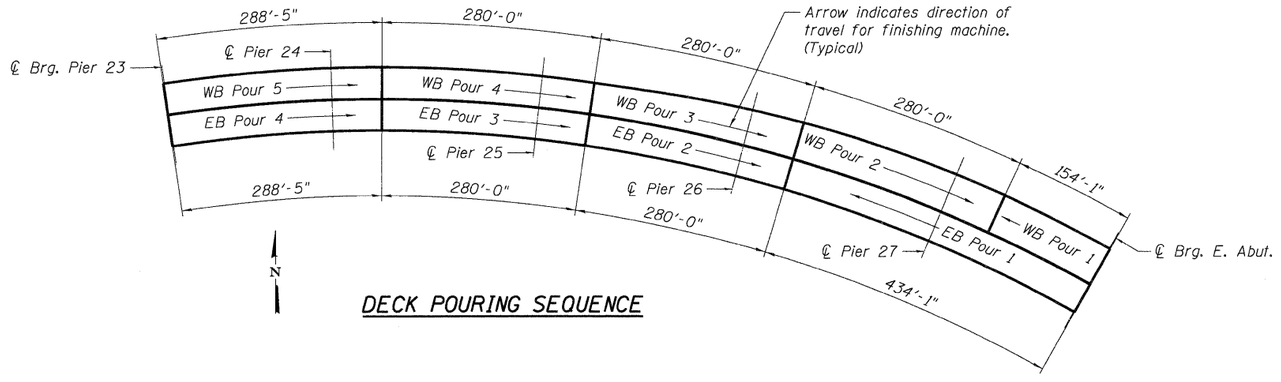
NOTE:

Work this sheet with Sheet S-4.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**FOUNDATION LAYOUT 2 OF 2**			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JLR	REVISED -					998	82-2-1HVB	ST. CLAIR	285	115
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE:	SHEET NO. S-5 OF S-111	STA. 134+22.00 TO STA.	SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN - SPANS 1 & 2

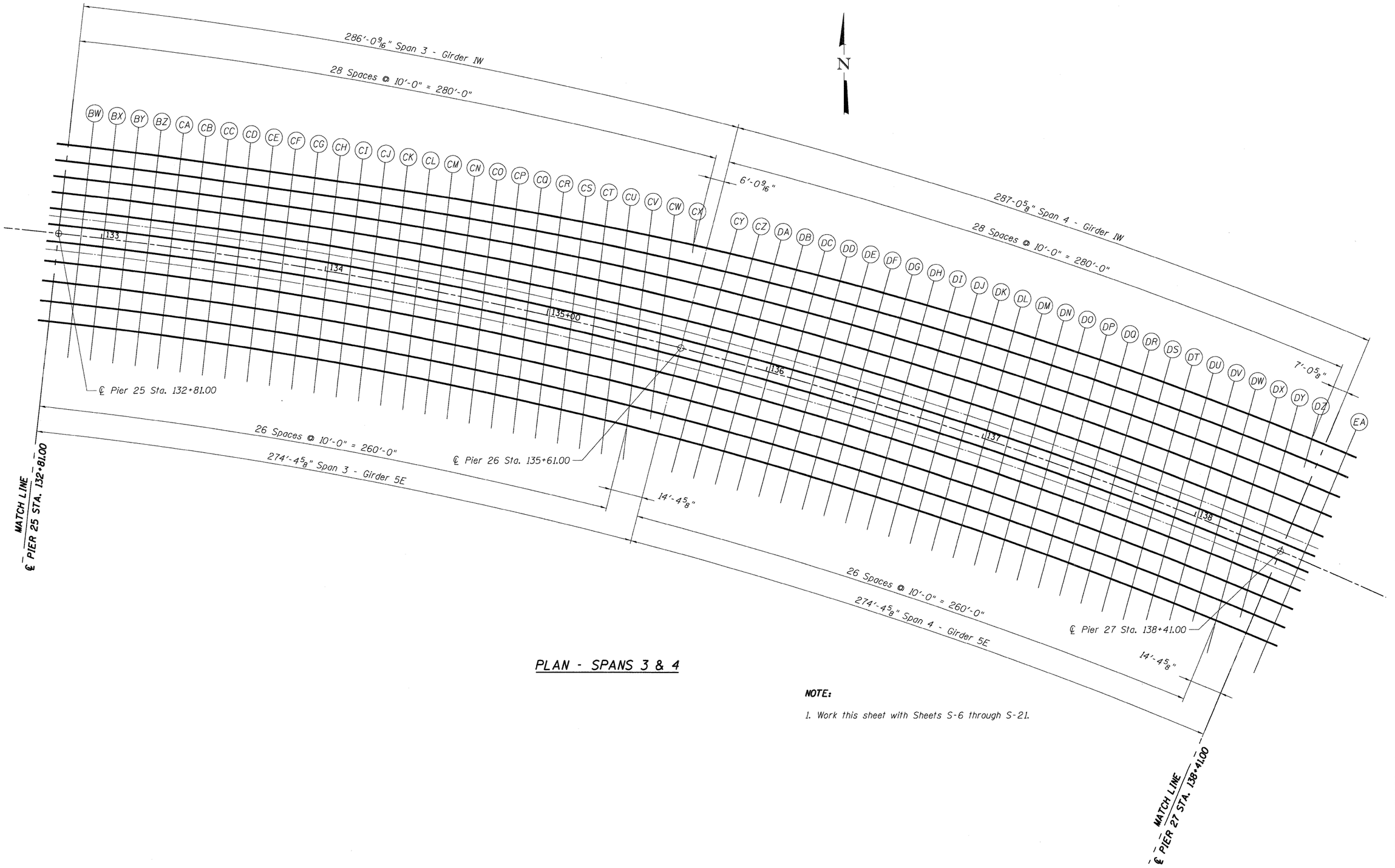


DECK POURING SEQUENCE

NOTES:

1. *Work this sheet with Sheets S-7 through S-21.*
2. *The Contractor is alerted that camber and dead load deflection values shown on the plans were developed based on the deck pouring sequence shown on this sheet. Any deviation from this pouring sequence will result in changes to camber and elevations that reflect dead load deflections. If the Contractor wishes to change the sequence, then the proposed plan revisions and design calculations shall be submitted to the Engineer for review and approval. The calculations shall be prepared and sealed by a Licensed Structural Engineer in Illinois.*
3. *When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:*
   1. At least 72 hours shall have elapsed from the end of the previous pour.
   2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**TOP OF SLAB ELEVATION PLAN** **1 OF 3**			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JLR	REVISED -					998	82-2-1HVB	ST. CLAIR	285	116
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-6 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

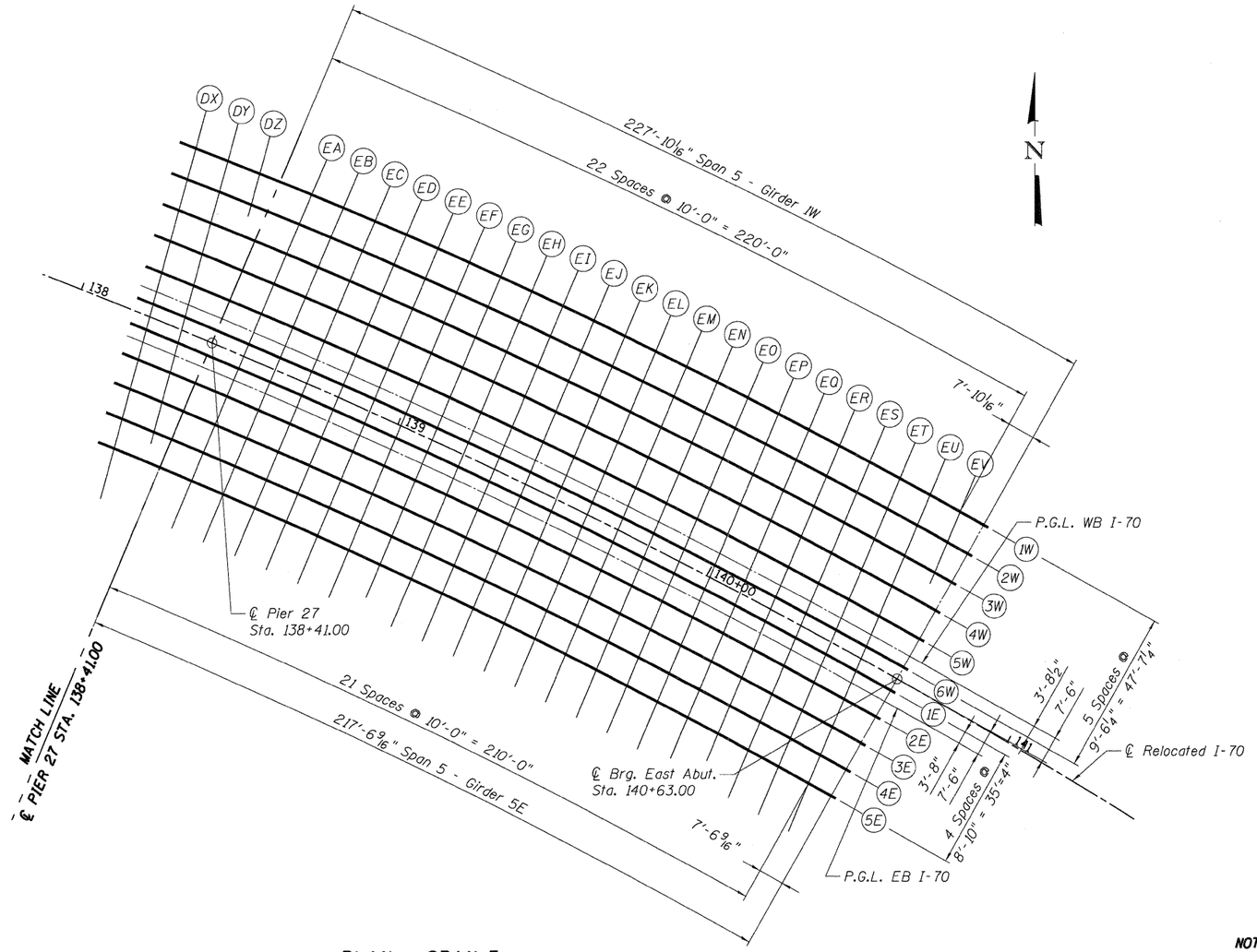


PLAN - SPANS 3 & 4

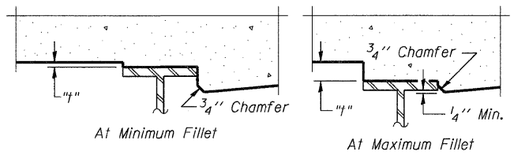
NOTE:

1. Work this sheet with Sheets S-6 through S-21.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**TOP OF SLAB ELEVATION PLAN** **2 OF 3**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JLR	REVISED -			998	82-2-1HVB	ST. CLAIR	285	117
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE:	SHEET NO. S-7 OF S-111	STA. 134+22.00 TO STA.	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -					FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT	



PLAN - SPAN 5



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below and on Sheets S-6 and S-7 of S-111. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-9 thru S-21 of S-111, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

NOTE:

1. Work this sheet with Sheets S-6 through S-21.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**TOP OF SLAB ELEVATION PLAN 3 OF 3**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JLR	REVISED -			998	82-2-1HVB	ST. CLAIR	285	118
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-8 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT

GIRDER 1E - SPANS 1 & 2

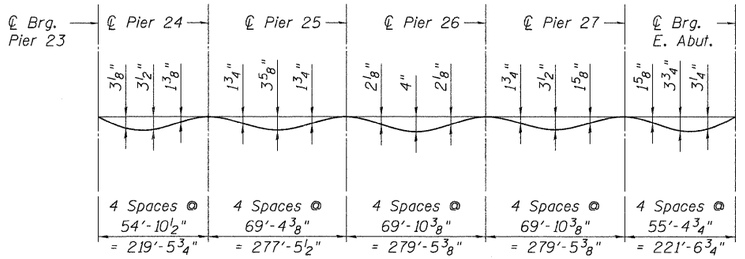
Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.09	-3.67	465.90	465.90
AA	127+93.11	-3.67	465.85	465.90
AB	128+03.13	-3.67	465.80	465.91
AC	128+13.14	-3.67	465.75	465.91
AD	128+23.16	-3.67	465.70	465.90
AE	128+33.18	-3.67	465.65	465.89
AF	128+43.20	-3.67	465.60	465.87
AG	128+53.22	-3.67	465.55	465.84
AH	128+63.24	-3.67	465.50	465.80
AI	128+73.26	-3.67	465.45	465.75
AJ	128+83.28	-3.67	465.40	465.69
AK	128+93.30	-3.67	465.35	465.63
AL	129+03.32	-3.67	465.30	465.56
AM	129+13.34	-3.67	465.25	465.48
AN	129+23.36	-3.67	465.20	465.40
AO	129+33.38	-3.67	465.15	465.31
AP	129+43.40	-3.67	465.10	465.23
AQ	129+53.42	-3.67	465.05	465.14
AR	129+63.44	-3.67	465.00	465.06
AS	129+73.46	-3.67	464.95	464.99
AT	129+83.48	-3.67	464.90	464.92
AU	129+93.50	-3.67	464.85	464.86
℄ Pier 24	130+03.00	-3.67	464.80	464.80
AV	130+13.02	-3.67	464.75	464.76
AW	130+23.04	-3.67	464.70	464.72
AX	130+33.06	-3.67	464.65	464.68
AY	130+43.08	-3.67	464.60	464.66
AZ	130+53.10	-3.67	464.55	464.63
BA	130+63.12	-3.67	464.50	464.61
BB	130+73.14	-3.67	464.45	464.60
BC	130+83.16	-3.67	464.40	464.58
BD	130+93.18	-3.67	464.35	464.56
BE	131+03.20	-3.67	464.30	464.54
BF	131+13.22	-3.67	464.25	464.51
BG	131+23.24	-3.67	464.20	464.48
BH	131+33.26	-3.67	464.15	464.44
BI	131+43.28	-3.67	464.10	464.39
BJ	131+53.30	-3.67	464.05	464.33
BK	131+63.31	-3.67	464.00	464.27
BL	131+73.33	-3.67	463.95	464.21
BM	131+83.35	-3.67	463.90	464.13
BN	131+93.37	-3.67	463.85	464.05
BO	132+03.39	-3.67	463.79	463.97
BP	132+13.41	-3.67	463.74	463.88
BQ	132+23.43	-3.67	463.68	463.78
BR	132+33.45	-3.67	463.61	463.69
BS	132+43.47	-3.67	463.54	463.59
BT	132+53.49	-3.67	463.46	463.49
BU	132+63.51	-3.67	463.38	463.39
BV	132+73.53	-3.67	463.29	463.30

GIRDER 1E - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	-3.67	463.22	463.22
BW	132+91.02	-3.67	463.13	463.14
BX	133+01.04	-3.67	463.03	463.05
BY	133+11.06	-3.67	462.92	462.96
BZ	133+21.08	-3.67	462.81	462.88
CA	133+31.10	-3.67	462.69	462.80
CB	133+41.12	-3.67	462.57	462.71
CC	133+51.14	-3.67	462.45	462.62
CD	133+61.16	-3.67	462.32	462.53
CE	133+71.18	-3.67	462.18	462.42
CF	133+81.20	-3.67	462.04	462.31
CG	133+91.22	-3.67	461.89	462.19
CH	134+01.24	-3.67	461.74	462.06
CI	134+11.26	-3.67	461.59	461.91
CJ	134+21.28	-3.67	461.43	461.76
CK	134+31.30	-3.67	461.26	461.59
CL	134+41.31	-3.67	461.09	461.40
CM	134+51.33	-3.67	460.91	461.21
CN	134+61.35	-3.67	460.73	461.00
CO	134+71.37	-3.67	460.55	460.79
CP	134+81.39	-3.67	460.36	460.56
CQ	134+91.41	-3.67	460.16	460.33
CR	135+01.43	-3.67	459.96	460.09
CS	135+11.45	-3.67	459.75	459.85
CT	135+21.47	-3.67	459.54	459.61
CU	135+31.49	-3.67	459.32	459.37
CV	135+41.51	-3.67	459.10	459.13
CW	135+51.53	-3.67	458.88	458.89
CX				
℄ Pier 26	135+61.00	-3.67	458.66	458.66
CY	135+71.02	-3.67	458.42	458.43
CZ	135+81.04	-3.67	458.18	458.20
DA	135+91.06	-3.67	457.94	457.97
DB	136+01.08	-3.67	457.69	457.74
DC	136+11.10	-3.67	457.43	457.51
DD	136+21.12	-3.67	457.17	457.28
DE	136+31.14	-3.67	456.90	457.05
DF	136+41.16	-3.67	456.63	456.81
DG	136+51.18	-3.67	456.35	456.56
DH	136+61.20	-3.67	456.07	456.31
DI	136+71.22	-3.67	455.79	456.05
DJ	136+81.24	-3.67	455.50	455.77
DK	136+91.26	-3.67	455.20	455.48
DL	137+01.28	-3.67	454.90	455.19
DM	137+11.30	-3.67	454.60	454.88
DN	137+21.31	-3.67	454.30	454.57
DO	137+31.33	-3.67	454.00	454.25
DP	137+41.35	-3.67	453.70	453.92
DQ	137+51.37	-3.67	453.40	453.60
DR	137+61.39	-3.67	453.10	453.26
DS	137+71.41	-3.67	452.80	452.93
DT	137+81.43	-3.67	452.50	452.60
DU	137+91.45	-3.67	452.19	452.27
DV	138+01.47	-3.67	451.89	451.94
DW	138+11.49	-3.67	451.59	451.62
DX	138+21.51	-3.67	451.29	451.31
DY	138+31.53	-3.67	450.99	451.00
DZ				

GIRDER 1E - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	-3.67	450.71	450.71
EA	138+51.02	-3.67	450.41	450.42
EB	138+61.04	-3.67	450.11	450.13
EC	138+71.06	-3.67	449.81	449.86
ED	138+81.08	-3.67	449.51	449.58
EE	138+91.10	-3.67	449.21	449.32
EF	139+01.12	-3.67	448.90	449.05
EG	139+11.14	-3.67	448.60	448.79
EH	139+21.16	-3.67	448.30	448.52
EI	139+31.18	-3.67	448.00	448.26
EJ	139+41.20	-3.67	447.70	447.98
EK	139+51.22	-3.67	447.40	447.71
EL	139+61.24	-3.67	447.10	447.42
EM	139+71.26	-3.67	446.80	447.13
EN	139+81.28	-3.67	446.50	446.82
EO	139+91.30	-3.67	446.20	446.51
EP	140+01.31	-3.67	445.90	446.19
EQ	140+11.33	-3.67	445.60	445.86
ER	140+21.35	-3.67	445.30	445.52
ES	140+31.37	-3.67	445.00	445.17
ET	140+41.39	-3.67	444.70	444.82
EU	140+51.41	-3.67	444.40	444.46
EV				
℄ Brg Abut	140+63.00	-3.67	444.05	444.05



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 1E

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
1 OF 13

SCALE: | SHEET NO. S-9 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	119
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EB I-70 P.G.L. - SPANS 1 & 2

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.09	0.00	465.70	465.70
AA	127+93.13	0.00	465.65	465.70
AB	128+03.17	0.00	465.60	465.71
AC	128+13.20	0.00	465.55	465.70
AD	128+23.24	0.00	465.50	465.70
AE	128+33.28	0.00	465.45	465.68
AF	128+43.32	0.00	465.40	465.66
AG	128+53.36	0.00	465.35	465.63
AH	128+63.40	0.00	465.30	465.59
AI	128+73.44	0.00	465.25	465.55
AJ	128+83.47	0.00	465.20	465.49
AK	128+93.51	0.00	465.15	465.43
AL	129+03.55	0.00	465.10	465.35
AM	129+13.59	0.00	465.05	465.28
AN	129+23.63	0.00	465.00	465.19
AO	129+33.67	0.00	464.95	465.11
AP	129+43.70	0.00	464.90	465.02
AQ	129+53.74	0.00	464.85	464.94
AR	129+63.78	0.00	464.80	464.86
AS	129+73.82	0.00	464.75	464.79
AT	129+83.86	0.00	464.70	464.72
AU	129+93.90	0.00	464.65	464.66
℄ Pier 24	130+03.00	0.00	464.60	464.60
AV	130+13.04	0.00	464.55	464.56
AW	130+23.08	0.00	464.50	464.52
AX	130+33.12	0.00	464.45	464.48
AY	130+43.15	0.00	464.40	464.46
AZ	130+53.19	0.00	464.35	464.44
BA	130+63.23	0.00	464.30	464.42
BB	130+73.27	0.00	464.25	464.40
BC	130+83.31	0.00	464.20	464.38
BD	130+93.35	0.00	464.15	464.36
BE	131+03.39	0.00	464.10	464.34
BF	131+13.42	0.00	464.05	464.32
BG	131+23.46	0.00	464.00	464.28
BH	131+33.50	0.00	463.95	464.24
BI	131+43.54	0.00	463.90	464.19
BJ	131+53.58	0.00	463.85	464.13
BK	131+63.62	0.00	463.80	464.07
BL	131+73.66	0.00	463.75	464.01
BM	131+83.69	0.00	463.70	463.93
BN	131+93.73	0.00	463.65	463.85
BO	132+03.77	0.00	463.59	463.77
BP	132+13.81	0.00	463.54	463.68
BQ	132+23.85	0.00	463.48	463.58
BR	132+33.89	0.00	463.41	463.49
BS	132+43.93	0.00	463.34	463.39
BT	132+53.96	0.00	463.26	463.28
BU	132+64.00	0.00	463.18	463.19
BV	132+74.04	0.00	463.09	463.10

EB I-70 P.G.L. - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	0.00	463.03	463.03
BW	132+91.04	0.00	462.93	462.94
BX	133+01.08	0.00	462.83	462.85
BY	133+11.12	0.00	462.72	462.76
BZ	133+21.15	0.00	462.61	462.68
CA	133+31.19	0.00	462.50	462.60
CB	133+41.23	0.00	462.37	462.51
CC	133+51.27	0.00	462.25	462.42
CD	133+61.31	0.00	462.12	462.32
CE	133+71.35	0.00	461.98	462.22
CF	133+81.39	0.00	461.84	462.11
CG	133+91.42	0.00	461.69	461.99
CH	134+01.46	0.00	461.54	461.85
CI	134+11.50	0.00	461.39	461.71
CJ	134+21.54	0.00	461.22	461.55
CK	134+31.58	0.00	461.06	461.38
CL	134+41.62	0.00	460.89	461.19
CM	134+51.66	0.00	460.71	461.00
CN	134+61.69	0.00	460.53	460.79
CO	134+71.73	0.00	460.34	460.58
CP	134+81.77	0.00	460.15	460.35
CQ	134+91.81	0.00	459.95	460.12
CR	135+01.85	0.00	459.75	459.88
CS	135+11.89	0.00	459.55	459.64
CT	135+21.93	0.00	459.33	459.40
CU	135+31.96	0.00	459.12	459.16
CV	135+42.00	0.00	458.89	458.92
CW	135+52.04	0.00	458.67	458.68
CX				
℄ Pier 26	135+61.00	0.00	458.46	458.46
CY	135+71.04	0.00	458.22	458.23
CZ	135+81.08	0.00	457.98	458.00
DA	135+91.12	0.00	457.74	457.77
DB	136+01.15	0.00	457.49	457.54
DC	136+11.19	0.00	457.23	457.31
DD	136+21.23	0.00	456.97	457.08
DE	136+31.27	0.00	456.70	456.85
DF	136+41.31	0.00	456.43	456.61
DG	136+51.35	0.00	456.15	456.36
DH	136+61.39	0.00	455.87	456.10
DI	136+71.42	0.00	455.58	455.84
DJ	136+81.46	0.00	455.29	455.56
DK	136+91.50	0.00	454.99	455.28
DL	137+01.54	0.00	454.69	454.98
DM	137+11.58	0.00	454.39	454.67
DN	137+21.62	0.00	454.09	454.36
DO	137+31.66	0.00	453.79	454.04
DP	137+41.69	0.00	453.49	453.71
DQ	137+51.73	0.00	453.19	453.39
DR	137+61.77	0.00	452.89	453.06
DS	137+71.81	0.00	452.59	452.72
DT	137+81.85	0.00	452.28	452.39
DU	137+91.89	0.00	451.98	452.06
DV	138+01.93	0.00	451.68	451.73
DW	138+11.96	0.00	451.38	451.40
DX	138+22.00	0.00	451.08	451.09
DY	138+32.04	0.00	450.78	450.79
DZ				

EB I-70 P.G.L. - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	0.00	450.51	450.51
EA	138+51.04	0.00	450.21	450.22
EB	138+61.08	0.00	449.91	449.93
EC	138+71.12	0.00	449.61	449.66
ED	138+81.15	0.00	449.31	449.38
EE	138+91.19	0.00	449.00	449.11
EF	139+01.23	0.00	448.70	448.85
EG	139+11.27	0.00	448.40	448.58
EH	139+21.31	0.00	448.10	448.32
EI	139+31.35	0.00	447.80	448.05
EJ	139+41.39	0.00	447.50	447.77
EK	139+51.42	0.00	447.20	447.50
EL	139+61.46	0.00	446.90	447.21
EM	139+71.50	0.00	446.59	446.92
EN	139+81.54	0.00	446.29	446.61
EO	139+91.58	0.00	445.99	446.30
EP	140+01.62	0.00	445.69	445.97
EQ	140+11.66	0.00	445.39	445.64
ER	140+21.69	0.00	445.09	445.31
ES	140+31.73	0.00	444.79	444.96
ET	140+41.77	0.00	444.49	444.61
EU	140+51.81	0.00	444.19	444.25
EV				
℄ Brg Abut	140+63.00	0.00	443.85	443.85

NOTE:

1. Work this sheet with Sheets S-6 through S-21.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
2 OF 13

SCALE: | SHEET NO. S-10 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	120
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 2E - SPANS 1 & 2

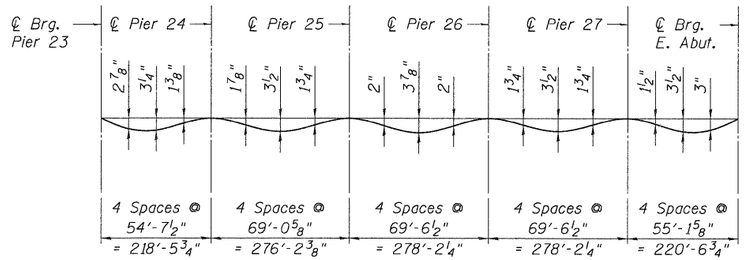
Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.09	5.17	465.42	465.42
AA	127+93.16	5.17	465.37	465.42
AB	128+03.22	5.17	465.32	465.43
AC	128+13.29	5.17	465.27	465.42
AD	128+23.35	5.17	465.22	465.41
AE	128+33.42	5.17	465.17	465.40
AF	128+43.48	5.17	465.12	465.37
AG	128+53.55	5.17	465.07	465.34
AH	128+63.61	5.17	465.02	465.30
AI	128+73.68	5.17	464.97	465.26
AJ	128+83.74	5.17	464.92	465.20
AK	128+93.81	5.17	464.87	465.14
AL	129+03.87	5.17	464.82	465.06
AM	129+13.94	5.17	464.77	464.99
AN	129+24.01	5.17	464.72	464.90
AO	129+34.07	5.17	464.67	464.82
AP	129+44.14	5.17	464.62	464.74
AQ	129+54.20	5.17	464.57	464.66
AR	129+64.27	5.17	464.52	464.58
AS	129+74.33	5.17	464.46	464.50
AT	129+84.40	5.17	464.41	464.43
AU	129+94.46	5.17	464.36	464.37
℄ Pier 24	130+03.00	5.17	464.32	464.32
AV	130+13.07	5.17	464.27	464.28
AW	130+23.13	5.17	464.22	464.24
AX	130+33.20	5.17	464.17	464.20
AY	130+43.26	5.17	464.12	464.18
AZ	130+53.33	5.17	464.07	464.16
BA	130+63.39	5.17	464.02	464.14
BB	130+73.46	5.17	463.97	464.12
BC	130+83.52	5.17	463.92	464.11
BD	130+93.59	5.17	463.87	464.09
BE	131+03.65	5.17	463.82	464.06
BF	131+13.72	5.17	463.77	464.04
BG	131+23.78	5.17	463.72	464.00
BH	131+33.85	5.17	463.67	463.96
BI	131+43.91	5.17	463.62	463.91
BJ	131+53.98	5.17	463.57	463.85
BK	131+64.04	5.17	463.52	463.79
BL	131+74.11	5.17	463.47	463.72
BM	131+84.18	5.17	463.42	463.65
BN	131+94.24	5.17	463.37	463.57
BO	132+04.31	5.17	463.31	463.49
BP	132+14.37	5.17	463.26	463.40
BQ	132+24.44	5.17	463.19	463.30
BR	132+34.50	5.17	463.12	463.20
BS	132+44.57	5.17	463.05	463.10
BT	132+54.63	5.17	462.97	463.00
BU	132+64.70	5.17	462.89	462.91
BV	132+74.76	5.17	462.80	462.81

GIRDER 2E - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	5.17	462.75	462.75
BW	132+91.07	5.17	462.65	462.66
BX	133+01.13	5.17	462.55	462.57
BY	133+11.20	5.17	462.44	462.48
BZ	133+21.26	5.17	462.33	462.40
CA	133+31.33	5.17	462.21	462.31
CB	133+41.39	5.17	462.09	462.23
CC	133+51.46	5.17	461.97	462.14
CD	133+61.52	5.17	461.84	462.04
CE	133+71.59	5.17	461.70	461.93
CF	133+81.65	5.17	461.56	461.82
CG	133+91.72	5.17	461.41	461.70
CH	134+01.78	5.17	461.26	461.56
CI	134+11.85	5.17	461.10	461.41
CJ	134+21.91	5.17	460.94	461.26
CK	134+31.98	5.17	460.77	461.08
CL	134+42.04	5.17	460.60	460.90
CM	134+52.11	5.17	460.42	460.71
CN	134+62.18	5.17	460.24	460.50
CO	134+72.24	5.17	460.05	460.28
CP	134+82.31	5.17	459.86	460.06
CQ	134+92.37	5.17	459.66	459.83
CR	135+02.44	5.17	459.46	459.59
CS	135+12.50	5.17	459.25	459.35
CT	135+22.57	5.17	459.04	459.11
CU	135+32.63	5.17	458.82	458.86
CV	135+42.70	5.17	458.60	458.62
CW	135+52.76	5.17	458.37	458.38
CX				
℄ Pier 26	135+61.00	5.17	458.18	458.18
CY	135+71.07	5.17	457.95	457.95
CZ	135+81.13	5.17	457.70	457.72
DA	135+91.20	5.17	457.46	457.49
DB	136+01.26	5.17	457.20	457.26
DC	136+11.33	5.17	456.95	457.03
DD	136+21.39	5.17	456.68	456.80
DE	136+31.46	5.17	456.42	456.57
DF	136+41.52	5.17	456.14	456.33
DG	136+51.59	5.17	455.87	456.08
DH	136+61.65	5.17	455.58	455.82
DI	136+71.72	5.17	455.30	455.56
DJ	136+81.78	5.17	455.00	455.28
DK	136+91.85	5.17	454.71	454.99
DL	137+01.91	5.17	454.40	454.69
DM	137+11.98	5.17	454.10	454.38
DN	137+22.04	5.17	453.80	454.07
DO	137+32.11	5.17	453.50	453.75
DP	137+42.18	5.17	453.20	453.42
DQ	137+52.24	5.17	452.89	453.09
DR	137+62.31	5.17	452.59	452.76
DS	137+72.37	5.17	452.29	452.43
DT	137+82.44	5.17	451.99	452.09
DU	137+92.50	5.17	451.69	451.76
DV	138+02.57	5.17	451.38	451.43
DW	138+12.63	5.17	451.08	451.11
DX	138+22.70	5.17	450.78	450.79
DY	138+32.76	5.17	450.48	450.48
DZ				

GIRDER 2E - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	5.17	450.23	450.23
EA	138+51.07	5.17	449.93	449.94
EB	138+61.13	5.17	449.63	449.65
EC	138+71.20	5.17	449.33	449.37
ED	138+81.26	5.17	449.02	449.10
EE	138+91.33	5.17	448.72	448.83
EF	139+01.39	5.17	448.42	448.56
EG	139+11.46	5.17	448.12	448.29
EH	139+21.52	5.17	447.82	448.02
EI	139+31.59	5.17	447.51	447.76
EJ	139+41.65	5.17	447.21	447.48
EK	139+51.72	5.17	446.91	447.20
EL	139+61.78	5.17	446.61	446.91
EM	139+71.85	5.17	446.31	446.62
EN	139+81.91	5.17	446.00	446.31
EO	139+91.98	5.17	445.70	445.99
EP	140+02.04	5.17	445.40	445.67
EQ	140+12.11	5.17	445.10	445.34
ER	140+22.18	5.17	444.80	445.00
ES	140+32.24	5.17	444.49	444.65
ET	140+42.31	5.17	444.19	444.30
EU	140+52.37	5.17	443.89	443.95
EV				
℄ Brg Abut	140+63.00	5.17	443.57	443.57



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 2E

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
3 OF 13

SCALE: | SHEET NO. S-11 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	121
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 3E - SPANS 1 & 2

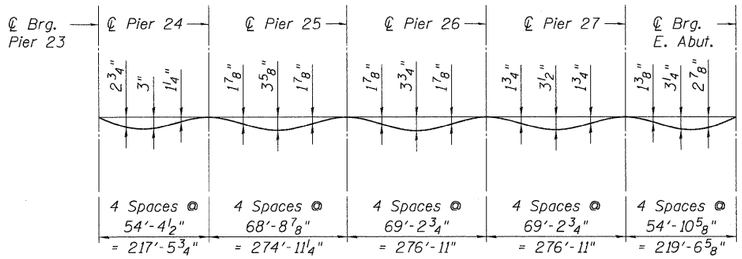
Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.10	14.00	464.94	464.94
AA	127+93.21	14.00	464.89	464.94
AB	128+03.32	14.00	464.84	464.94
AC	128+13.43	14.00	464.79	464.93
AD	128+23.54	14.00	464.74	464.92
AE	128+33.65	14.00	464.69	464.90
AF	128+43.76	14.00	464.64	464.88
AG	128+53.88	14.00	464.59	464.85
AH	128+63.99	14.00	464.54	464.81
AI	128+74.10	14.00	464.49	464.76
AJ	128+84.21	14.00	464.44	464.70
AK	128+94.32	14.00	464.39	464.64
AL	129+04.43	14.00	464.34	464.57
AM	129+14.54	14.00	464.29	464.49
AN	129+24.66	14.00	464.24	464.41
AO	129+34.77	14.00	464.19	464.33
AP	129+44.88	14.00	464.14	464.25
AQ	129+54.99	14.00	464.08	464.17
AR	129+65.10	14.00	464.03	464.09
AS	129+75.21	14.00	463.98	464.02
AT	129+85.32	14.00	463.93	463.95
AU	129+95.43	14.00	463.88	463.89
℄ Pier 24	130+03.00	14.00	463.84	463.84
AV	130+13.11	14.00	463.79	463.81
AW	130+23.22	14.00	463.74	463.77
AX	130+33.33	14.00	463.69	463.73
AY	130+43.45	14.00	463.64	463.71
AZ	130+53.56	14.00	463.59	463.69
BA	130+63.67	14.00	463.54	463.67
BB	130+73.78	14.00	463.49	463.65
BC	130+83.89	14.00	463.44	463.63
BD	130+94.00	14.00	463.39	463.61
BE	131+04.11	14.00	463.34	463.59
BF	131+14.22	14.00	463.29	463.56
BG	131+24.34	14.00	463.24	463.52
BH	131+34.45	14.00	463.19	463.48
BI	131+44.56	14.00	463.14	463.43
BJ	131+54.67	14.00	463.09	463.37
BK	131+64.78	14.00	463.04	463.31
BL	131+74.89	14.00	462.98	463.24
BM	131+85.00	14.00	462.93	463.16
BN	131+95.12	14.00	462.88	463.09
BO	132+05.23	14.00	462.83	463.00
BP	132+15.34	14.00	462.77	462.91
BQ	132+25.45	14.00	462.71	462.82
BR	132+35.56	14.00	462.64	462.72
BS	132+45.67	14.00	462.57	462.62
BT	132+55.78	14.00	462.49	462.51
BU	132+65.89	14.00	462.40	462.42
BV				

GIRDER 3E - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	14.00	462.27	462.27
BW	132+91.11	14.00	462.17	462.18
BX	133+01.22	14.00	462.07	462.09
BY	133+11.33	14.00	461.96	462.00
BZ	133+21.45	14.00	461.85	461.92
CA	133+31.56	14.00	461.74	461.83
CB	133+41.67	14.00	461.61	461.74
CC	133+51.78	14.00	461.49	461.65
CD	133+61.89	14.00	461.35	461.55
CE	133+72.00	14.00	461.22	461.44
CF	133+82.11	14.00	461.07	461.33
CG	133+92.22	14.00	460.93	461.21
CH	134+02.34	14.00	460.77	461.06
CI	134+12.45	14.00	460.61	460.92
CJ	134+22.56	14.00	460.45	460.76
CK	134+32.67	14.00	460.28	460.58
CL	134+42.78	14.00	460.11	460.40
CM	134+52.89	14.00	459.93	460.20
CN	134+63.00	14.00	459.75	459.99
CO	134+73.12	14.00	459.56	459.78
CP	134+83.23	14.00	459.37	459.55
CQ	134+93.34	14.00	459.17	459.32
CR	135+03.45	14.00	458.96	459.08
CS	135+13.56	14.00	458.75	458.84
CT	135+23.67	14.00	458.54	458.60
CU	135+33.78	14.00	458.32	458.35
CV	135+43.89	14.00	458.10	458.12
CW	135+54.01	14.00	457.87	457.88
CX				
℄ Pier 26	135+61.00	14.00	457.71	457.71
CY	135+71.11	14.00	457.47	457.48
CZ	135+81.22	14.00	457.22	457.24
DA	135+91.33	14.00	456.98	457.01
DB	136+01.45	14.00	456.72	456.78
DC	136+11.56	14.00	456.46	456.55
DD	136+21.67	14.00	456.20	456.32
DE	136+31.78	14.00	455.93	456.08
DF	136+41.89	14.00	455.66	455.84
DG	136+52.00	14.00	455.38	455.59
DH	136+62.11	14.00	455.09	455.33
DI	136+72.22	14.00	454.80	455.07
DJ	136+82.34	14.00	454.51	454.78
DK	136+92.45	14.00	454.21	454.49
DL	137+02.56	14.00	453.91	454.20
DM	137+12.67	14.00	453.60	453.88
DN	137+22.78	14.00	453.30	453.57
DO	137+32.89	14.00	453.00	453.25
DP	137+43.00	14.00	452.69	452.92
DQ	137+53.12	14.00	452.39	452.59
DR	137+63.23	14.00	452.09	452.26
DS	137+73.34	14.00	451.78	451.92
DT	137+83.45	14.00	451.48	451.58
DU	137+93.56	14.00	451.18	451.25
DV	138+03.67	14.00	450.87	450.92
DW	138+13.78	14.00	450.57	450.59
DX	138+23.89	14.00	450.27	450.28
DY	138+34.01	14.00	449.96	449.97
DZ				

GIRDER 3E - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	14.00	449.75	449.75
EA	138+51.11	14.00	449.45	449.46
EB	138+61.22	14.00	449.15	449.17
EC	138+71.33	14.00	448.84	448.89
ED	138+81.45	14.00	448.54	448.61
EE	138+91.56	14.00	448.24	448.34
EF	139+01.67	14.00	447.93	448.07
EG	139+11.78	14.00	447.63	447.80
EH	139+21.89	14.00	447.33	447.53
EI	139+32.00	14.00	447.02	447.25
EJ	139+42.11	14.00	446.72	446.97
EK	139+52.22	14.00	446.42	446.69
EL	139+62.34	14.00	446.11	446.40
EM	139+72.45	14.00	445.81	446.10
EN	139+82.56	14.00	445.51	445.79
EO	139+92.67	14.00	445.20	445.48
EP	140+02.78	14.00	444.90	445.15
EQ	140+12.89	14.00	444.60	444.82
ER	140+23.00	14.00	444.29	444.48
ES	140+33.12	14.00	443.99	444.14
ET	140+43.23	14.00	443.69	443.79
EU	140+53.34	14.00	443.38	443.43
EV				
℄ Brg Abut	140+63.00	14.00	443.09	443.09



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 3E

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = ⊕FILE⊕	USER NAME = ⊕USER⊕	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS		DRAWN - JLR	REVISED -	
	PLOT SCALE = ⊕SCALE⊕	CHECKED - TCU	REVISED -	
	PLOT DATE = ⊕DATE⊕	DATE - 06/04/10	REVISED -	

TOP OF SLAB ELEVATIONS
4 OF 13

SCALE: | SHEET NO. S-12 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	122
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 4E - SPANS 1 & 2

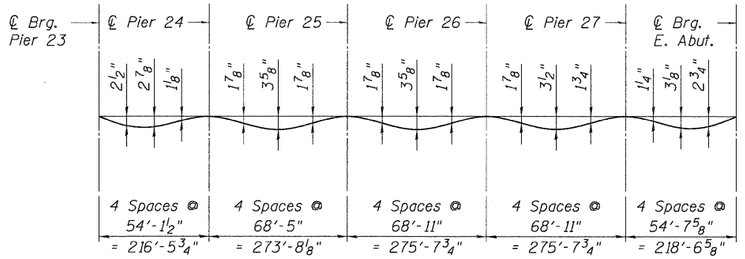
Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.10	22.83	464.47	464.47
AA	127+93.26	22.83	464.42	464.46
AB	128+03.42	22.83	464.37	464.46
AC	128+13.58	22.83	464.31	464.45
AD	128+23.73	22.83	464.26	464.43
AE	128+33.89	22.83	464.21	464.41
AF	128+44.05	22.83	464.16	464.39
AG	128+54.21	22.83	464.11	464.35
AH	128+64.36	22.83	464.06	464.31
AI	128+74.52	22.83	464.01	464.26
AJ	128+84.68	22.83	463.96	464.20
AK	128+94.84	22.83	463.91	464.14
AL	129+05.00	22.83	463.86	464.07
AM	129+15.15	22.83	463.81	464.00
AN	129+25.31	22.83	463.76	463.92
AO	129+35.47	22.83	463.71	463.84
AP	129+45.63	22.83	463.65	463.76
AQ	129+55.79	22.83	463.60	463.68
AR	129+65.94	22.83	463.55	463.60
AS	129+76.10	22.83	463.50	463.53
AT	129+86.26	22.83	463.45	463.46
AU	129+96.42	22.83	463.40	463.41
℄ Pier 24	130+03.00	22.83	463.37	463.37
AV	130+13.16	22.83	463.32	463.33
AW	130+23.32	22.83	463.27	463.29
AX	130+33.47	22.83	463.22	463.26
AY	130+43.63	22.83	463.16	463.23
AZ	130+53.79	22.83	463.11	463.21
BA	130+63.95	22.83	463.06	463.19
BB	130+74.10	22.83	463.01	463.18
BC	130+84.26	22.83	462.96	463.16
BD	130+94.42	22.83	462.91	463.14
BE	131+04.58	22.83	462.86	463.11
BF	131+14.74	22.83	462.81	463.08
BG	131+24.89	22.83	462.76	463.04
BH	131+35.05	22.83	462.71	463.00
BI	131+45.21	22.83	462.66	462.95
BJ	131+55.37	22.83	462.61	462.89
BK	131+65.52	22.83	462.55	462.83
BL	131+75.68	22.83	462.50	462.76
BM	131+85.84	22.83	462.45	462.68
BN	131+96.00	22.83	462.40	462.60
BO	132+06.16	22.83	462.35	462.52
BP	132+16.31	22.83	462.29	462.43
BQ	132+26.47	22.83	462.23	462.33
BR	132+36.63	22.83	462.16	462.23
BS	132+46.79	22.83	462.08	462.13
BT	132+56.95	22.83	462.00	462.03
BU	132+67.10	22.83	461.92	461.93
BV				

GIRDER 4E - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	22.83	461.79	461.79
BW	132+91.16	22.83	461.70	461.71
BX	133+01.32	22.83	461.59	461.62
BY	133+11.47	22.83	461.49	461.52
BZ	133+21.63	22.83	461.37	461.44
CA	133+31.79	22.83	461.26	461.35
CB	133+41.95	22.83	461.13	461.26
CC	133+52.10	22.83	461.00	461.16
CD	133+62.26	22.83	460.87	461.06
CE	133+72.42	22.83	460.73	460.95
CF	133+82.58	22.83	460.59	460.83
CG	133+92.74	22.83	460.44	460.71
CH	134+02.89	22.83	460.29	460.57
CI	134+13.05	22.83	460.13	460.42
CJ	134+23.21	22.83	459.96	460.26
CK	134+33.37	22.83	459.79	460.08
CL	134+43.52	22.83	459.62	459.90
CM	134+53.68	22.83	459.44	459.70
CN	134+63.84	22.83	459.26	459.49
CO	134+74.00	22.83	459.07	459.27
CP	134+84.16	22.83	458.87	459.05
CQ	134+94.31	22.83	458.67	458.81
CR	135+04.47	22.83	458.47	458.58
CS	135+14.63	22.83	458.25	458.34
CT	135+24.79	22.83	458.04	458.09
CU	135+34.95	22.83	457.82	457.85
CV	135+45.10	22.83	457.59	457.61
CW	135+55.26	22.83	457.36	457.37
CX				
℄ Pier 26	135+61.00	22.83	457.23	457.23
CY	135+71.16	22.83	456.99	457.00
CZ	135+81.32	22.83	456.74	456.77
DA	135+91.47	22.83	456.49	456.53
DB	136+01.63	22.83	456.24	456.30
DC	136+11.79	22.83	455.98	456.07
DD	136+21.95	22.83	455.72	455.84
DE	136+32.10	22.83	455.44	455.60
DF	136+42.26	22.83	455.17	455.36
DG	136+52.42	22.83	454.89	455.10
DH	136+62.58	22.83	454.60	454.84
DI	136+72.74	22.83	454.31	454.58
DJ	136+82.89	22.83	454.02	454.29
DK	136+93.05	22.83	453.72	454.00
DL	137+03.21	22.83	453.41	453.70
DM	137+13.37	22.83	453.11	453.38
DN	137+23.52	22.83	452.80	453.07
DO	137+33.68	22.83	452.50	452.75
DP	137+43.84	22.83	452.19	452.42
DQ	137+54.00	22.83	451.89	452.09
DR	137+64.16	22.83	451.58	451.75
DS	137+74.31	22.83	451.28	451.41
DT	137+84.47	22.83	450.97	451.08
DU	137+94.63	22.83	450.67	450.75
DV	138+04.79	22.83	450.36	450.41
DW	138+14.95	22.83	450.06	450.08
DX	138+25.10	22.83	449.75	449.77
DY	138+35.26	22.83	449.45	449.45
DZ				

GIRDER 4E - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	22.83	449.28	449.28
EA	138+51.16	22.83	448.97	448.98
EB	138+61.32	22.83	448.67	448.69
EC	138+71.47	22.83	448.36	448.40
ED	138+81.63	22.83	448.06	448.12
EE	138+91.79	22.83	447.75	447.85
EF	139+01.95	22.83	447.45	447.57
EG	139+12.10	22.83	447.14	447.30
EH	139+22.26	22.83	446.84	447.02
EI	139+32.42	22.83	446.53	446.75
EJ	139+42.58	22.83	446.23	446.47
EK	139+52.74	22.83	445.92	446.18
EL	139+62.89	22.83	445.62	445.89
EM	139+73.05	22.83	445.32	445.59
EN	139+83.21	22.83	445.01	445.28
EO	139+93.37	22.83	444.71	444.96
EP	140+03.52	22.83	444.40	444.64
EQ	140+13.68	22.83	444.10	444.31
ER	140+23.84	22.83	443.79	443.97
ES	140+34.00	22.83	443.49	443.62
ET	140+44.16	22.83	443.18	443.27
EU	140+54.31	22.83	442.88	442.92
EV				
℄ Brg Abut	140+63.00	22.83	442.62	442.62



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 4E

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
5 OF 13

SCALE: | SHEET NO. S-13 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	123
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 5E - SPANS 1 & 2

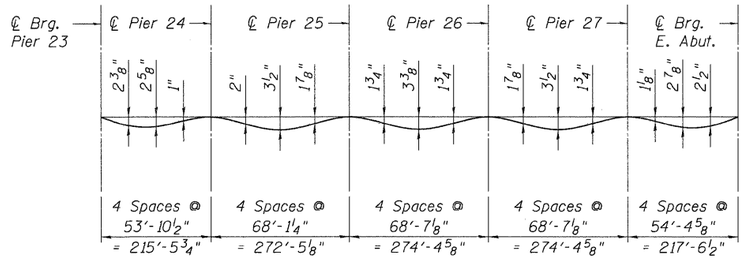
Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.11	31.67	463.99	463.99
AA	127+93.31	31.67	463.94	463.98
AB	128+03.52	31.67	463.89	463.97
AC	128+13.72	31.67	463.84	463.96
AD	128+23.93	31.67	463.79	463.95
AE	128+34.13	31.67	463.74	463.92
AF	128+44.34	31.67	463.68	463.89
AG	128+54.54	31.67	463.63	463.86
AH	128+64.75	31.67	463.58	463.81
AI	128+74.95	31.67	463.53	463.76
AJ	128+85.16	31.67	463.48	463.71
AK	128+95.36	31.67	463.43	463.64
AL	129+05.56	31.67	463.38	463.57
AM	129+15.77	31.67	463.33	463.50
AN	129+25.97	31.67	463.28	463.42
AO	129+36.18	31.67	463.22	463.34
AP	129+46.38	31.67	463.17	463.27
AQ	129+56.59	31.67	463.12	463.19
AR	129+66.79	31.67	463.07	463.11
AS	129+77.00	31.67	463.02	463.04
AT	129+87.20	31.67	462.97	462.98
AU	129+97.41	31.67	462.92	462.92
℄ Pier 24	130+03.00	31.67	462.89	462.89
AV	130+13.20	31.67	462.84	462.85
AW	130+23.41	31.67	462.79	462.81
AX	130+33.61	31.67	462.74	462.78
AY	130+43.82	31.67	462.69	462.76
AZ	130+54.02	31.67	462.64	462.74
BA	130+64.23	31.67	462.58	462.72
BB	130+74.43	31.67	462.53	462.70
BC	130+84.64	31.67	462.48	462.68
BD	130+94.84	31.67	462.43	462.66
BE	131+05.05	31.67	462.38	462.63
BF	131+15.25	31.67	462.33	462.60
BG	131+25.46	31.67	462.28	462.56
BH	131+35.66	31.67	462.23	462.52
BI	131+45.87	31.67	462.18	462.47
BJ	131+56.07	31.67	462.12	462.41
BK	131+66.28	31.67	462.07	462.35
BL	131+76.48	31.67	462.02	462.27
BM	131+86.68	31.67	461.97	462.20
BN	131+96.89	31.67	461.92	462.12
BO	132+07.09	31.67	461.87	462.03
BP	132+17.30	31.67	461.81	461.94
BQ	132+27.50	31.67	461.74	461.84
BR	132+37.71	31.67	461.67	461.75
BS	132+47.91	31.67	461.60	461.64
BT	132+58.12	31.67	461.52	461.54
BU	132+68.32	31.67	461.43	461.44
BV				

GIRDER 5E - SPANS 3 & 4

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	31.67	461.32	461.32
BW	132+91.20	31.67	461.22	461.23
BX	133+01.41	31.67	461.12	461.14
BY	133+11.61	31.67	461.01	461.04
BZ	133+21.82	31.67	460.89	460.96
CA	133+32.02	31.67	460.78	460.87
CB	133+42.23	31.67	460.65	460.77
CC	133+52.43	31.67	460.52	460.68
CD	133+62.64	31.67	460.39	460.57
CE	133+72.84	31.67	460.25	460.46
CF	133+83.05	31.67	460.11	460.34
CG	133+93.25	31.67	459.96	460.22
CH	134+03.46	31.67	459.80	460.07
CI	134+13.66	31.67	459.64	459.92
CJ	134+23.87	31.67	459.48	459.76
CK	134+34.07	31.67	459.31	459.58
CL	134+44.28	31.67	459.13	459.39
CM	134+54.48	31.67	458.95	459.19
CN	134+64.68	31.67	458.76	458.98
CO	134+74.89	31.67	458.57	458.77
CP	134+85.09	31.67	458.38	458.54
CQ	134+95.30	31.67	458.17	458.31
CR	135+05.50	31.67	457.97	458.07
CS	135+15.71	31.67	457.76	457.83
CT	135+25.91	31.67	457.54	457.59
CU	135+36.12	31.67	457.32	457.34
CV	135+46.32	31.67	457.09	457.10
CW				
CX				
℄ Pier 26	135+61.00	31.67	456.75	456.75
CY	135+71.20	31.67	456.51	456.52
CZ	135+81.41	31.67	456.27	456.29
DA	135+91.61	31.67	456.01	456.05
DB	136+01.82	31.67	455.76	455.82
DC	136+12.02	31.67	455.50	455.59
DD	136+22.23	31.67	455.23	455.36
DE	136+32.43	31.67	454.96	455.12
DF	136+42.64	31.67	454.68	454.87
DG	136+52.84	31.67	454.40	454.62
DH	136+63.05	31.67	454.11	454.35
DI	136+73.25	31.67	453.82	454.09
DJ	136+83.46	31.67	453.52	453.80
DK	136+93.66	31.67	453.22	453.50
DL	137+03.87	31.67	452.91	453.20
DM	137+14.07	31.67	452.61	452.89
DN	137+24.28	31.67	452.30	452.57
DO	137+34.48	31.67	452.00	452.25
DP	137+44.68	31.67	451.69	451.91
DQ	137+54.89	31.67	451.38	451.58
DR	137+65.09	31.67	451.08	451.25
DS	137+75.30	31.67	450.77	450.91
DT	137+85.50	31.67	450.46	450.57
DU	137+95.71	31.67	450.16	450.24
DV	138+05.91	31.67	449.85	449.90
DW	138+16.12	31.67	449.55	449.57
DX	138+26.32	31.67	449.24	449.26
DY				
DZ				

GIRDER 5E - SPAN 5

Location	Station	Offset From EB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	31.67	448.80	448.80
EA	138+51.20	31.67	448.49	448.50
EB	138+61.41	31.67	448.19	448.21
EC	138+71.61	31.67	447.88	447.92
ED	138+81.82	31.67	447.58	447.63
EE	138+92.02	31.67	447.27	447.36
EF	139+02.23	31.67	446.96	447.08
EG	139+12.43	31.67	446.66	446.80
EH	139+22.64	31.67	446.35	446.52
EI	139+32.84	31.67	446.04	446.24
EJ	139+43.05	31.67	445.74	445.96
EK	139+53.25	31.67	445.43	445.67
EL	139+63.46	31.67	445.13	445.37
EM	139+73.66	31.67	444.82	445.07
EN	139+83.87	31.67	444.51	444.76
EO	139+94.07	31.67	444.21	444.45
EP	140+04.28	31.67	443.90	444.12
EQ	140+14.48	31.67	443.60	443.79
ER	140+24.68	31.67	443.29	443.45
ES	140+34.89	31.67	442.98	443.10
ET	140+45.09	31.67	442.68	442.76
EU	140+55.30	31.67	442.37	442.41
EV				
℄ Brg Abut	140+63.00	31.67	442.14	442.14



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 5E

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
6 OF 13

SCALE: | SHEET NO. S-14 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	124
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 1W - SPANS 1 & 2

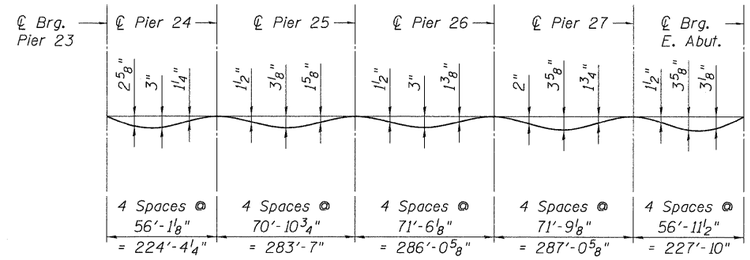
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.06	-31.71	467.41	467.41
AA	127+92.86	-31.71	467.36	467.41
AB	128+02.67	-31.71	467.31	467.41
AC	128+12.47	-31.71	467.27	467.40
AD	128+22.27	-31.71	467.22	467.39
AE	128+32.08	-31.71	467.17	467.37
AF	128+41.88	-31.71	467.12	467.35
AG	128+51.68	-31.71	467.07	467.32
AH	128+61.48	-31.71	467.02	467.28
AI	128+71.29	-31.71	466.97	467.24
AJ	128+81.09	-31.71	466.92	467.18
AK	128+90.89	-31.71	466.87	467.13
AL	129+00.70	-31.71	466.82	467.06
AM	129+10.50	-31.71	466.78	466.99
AN	129+20.30	-31.71	466.73	466.91
AO	129+30.11	-31.71	466.68	466.84
AP	129+39.91	-31.71	466.63	466.76
AQ	129+49.71	-31.71	466.58	466.68
AR	129+59.52	-31.71	466.53	466.60
AS	129+69.32	-31.71	466.48	466.53
AT	129+79.12	-31.71	466.43	466.46
AU	129+88.93	-31.71	466.38	466.40
℄ Pier 24	130+03.00	-31.71	466.31	466.31
AV	130+12.80	-31.71	466.26	466.27
AW	130+22.61	-31.71	466.21	466.23
AX	130+32.41	-31.71	466.17	466.19
AY	130+42.21	-31.71	466.12	466.16
AZ	130+52.02	-31.71	466.07	466.14
BA	130+61.82	-31.71	466.02	466.11
BB	130+71.62	-31.71	465.97	466.09
BC	130+81.43	-31.71	465.92	466.07
BD	130+91.23	-31.71	465.87	466.05
BE	131+01.03	-31.71	465.82	466.02
BF	131+10.83	-31.71	465.77	466.00
BG	131+20.64	-31.71	465.72	465.96
BH	131+30.44	-31.71	465.68	465.92
BI	131+40.24	-31.71	465.63	465.88
BJ	131+50.05	-31.71	465.58	465.83
BK	131+59.85	-31.71	465.53	465.77
BL	131+69.65	-31.71	465.48	465.72
BM	131+79.46	-31.71	465.43	465.65
BN	131+89.26	-31.71	465.38	465.57
BO	131+99.06	-31.71	465.33	465.50
BP	132+08.87	-31.71	465.28	465.42
BQ	132+18.67	-31.71	465.22	465.34
BR	132+28.47	-31.71	465.16	465.25
BS	132+38.28	-31.71	465.09	465.15
BT	132+48.08	-31.71	465.02	465.06
BU	132+57.88	-31.71	464.94	464.96
BV	132+67.68	-31.71	464.86	464.87

GIRDER 1W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	-31.71	464.74	464.74
BW	132+90.80	-31.71	464.64	464.65
BX	133+00.61	-31.71	464.55	464.56
BY	133+10.41	-31.71	464.44	464.47
BZ	133+20.21	-31.71	464.33	464.38
CA	133+30.02	-31.71	464.22	464.29
CB	133+39.82	-31.71	464.10	464.20
CC	133+49.62	-31.72	463.98	464.11
CD	133+59.42	-31.79	463.86	464.01
CE	133+69.23	-31.90	463.73	463.91
CF	133+79.03	-32.07	463.60	463.80
CG	133+88.83	-32.28	463.47	463.69
CH	133+98.62	-32.55	463.34	463.57
CI	134+08.42	-32.86	463.21	463.45
CJ	134+18.21	-33.23	463.07	463.32
CK	134+27.99	-33.61	462.93	463.18
CL	134+37.78	-33.99	462.79	463.02
CM	134+47.56	-34.37	462.64	462.86
CN	134+57.35	-34.73	462.48	462.69
CO	134+67.13	-35.09	462.32	462.50
CP	134+76.91	-35.44	462.16	462.32
CQ	134+86.68	-35.79	461.99	462.12
CR	134+96.46	-36.13	461.81	461.92
CS	135+06.24	-36.46	461.63	461.71
CT	135+16.01	-36.78	461.45	461.50
CU	135+25.78	-37.10	461.25	461.29
CV	135+35.55	-37.41	461.06	461.07
CW	135+45.32	-37.71	460.86	460.87
CX	135+55.09	-38.01	460.65	460.65
℄ Pier 26	135+61.00	-38.18	460.52	460.52
CY	135+70.77	-38.46	460.31	460.32
CZ	135+80.53	-38.74	460.09	460.11
DA	135+90.30	-39.01	459.86	459.90
DB	136+00.06	-39.27	459.63	459.70
DC	136+09.82	-39.53	459.40	459.49
DD	136+19.58	-39.77	459.16	459.28
DE	136+29.34	-40.02	458.91	459.07
DF	136+39.10	-40.25	458.66	458.85
DG	136+48.86	-40.47	458.41	458.62
DH	136+58.62	-40.69	458.15	458.39
DI	136+68.37	-40.91	457.88	458.15
DJ	136+78.13	-41.11	457.61	457.89
DK	136+87.89	-41.31	457.33	457.62
DL	136+97.64	-41.50	457.05	457.35
DM	137+07.39	-41.68	456.77	457.06
DN	137+17.14	-41.86	456.49	456.77
DO	137+26.90	-42.02	456.20	456.47
DP	137+36.65	-42.19	455.92	456.16
DQ	137+46.40	-42.34	455.63	455.85
DR	137+56.15	-42.49	455.35	455.54
DS	137+65.90	-42.63	455.06	455.22
DT	137+75.64	-42.76	454.78	454.91
DU	137+85.39	-42.88	454.49	454.59
DV	137+95.14	-43.00	454.21	454.28
DW	138+04.89	-43.11	453.92	453.96
DX	138+14.63	-43.21	453.63	453.65
DY	138+24.38	-43.31	453.35	453.36
DZ	138+34.13	-43.40	453.06	453.07

GIRDER 1W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	-43.46	452.86	452.86
EA	138+50.75	-43.53	452.57	452.58
EB	138+60.49	-43.60	452.28	452.31
EC	138+70.23	-43.66	451.99	452.04
ED	138+79.98	-43.72	451.70	451.78
EE	138+89.72	-43.77	451.41	451.52
EF	138+99.47	-43.81	451.12	451.26
EG	139+09.21	-43.84	450.83	451.00
EH	139+18.95	-43.86	450.54	450.75
EI	139+28.70	-43.88	450.25	450.49
EJ	139+38.44	-43.89	449.96	450.22
EK	139+48.19	-43.90	449.66	449.96
EL	139+57.93	-43.90	449.37	449.68
EM	139+67.67	-43.90	449.08	449.40
EN	139+77.42	-43.90	448.79	449.11
EO	139+87.16	-43.90	448.50	448.80
EP	139+96.90	-43.90	448.20	448.50
EQ	140+06.65	-43.90	447.91	448.18
ER	140+16.39	-43.90	447.62	447.86
ES	140+26.13	-43.90	447.33	447.52
ET	140+35.88	-43.90	447.03	447.18
EU	140+45.62	-43.90	446.74	446.84
EV	140+55.36	-43.90	446.45	446.49
℄ Brg Abut	140+63.00	-43.90	446.22	446.22



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 1W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
7 OF 13

SCALE: | SHEET NO. S-15 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	125
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 2W - SPANS 1 & 2

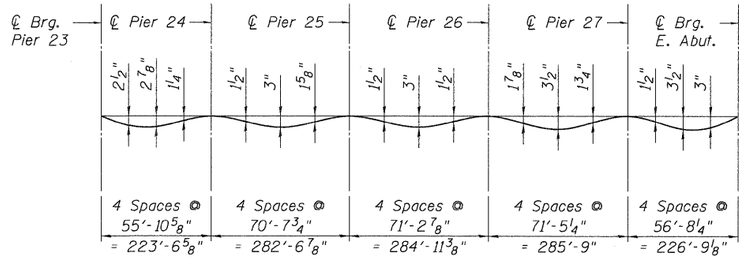
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.06	-24.63	467.03	467.03
AA	127+92.90	-24.63	466.98	467.03
AB	128+02.74	-24.63	466.93	467.02
AC	128+12.58	-24.63	466.88	467.01
AD	128+22.42	-24.63	466.83	467.00
AE	128+32.25	-24.63	466.78	466.98
AF	128+42.09	-24.63	466.73	466.95
AG	128+51.93	-24.63	466.69	466.92
AH	128+61.77	-24.63	466.64	466.88
AI	128+71.61	-24.63	466.59	466.84
AJ	128+81.45	-24.63	466.54	466.79
AK	128+91.28	-24.63	466.49	466.73
AL	129+01.12	-24.63	466.44	466.66
AM	129+10.96	-24.63	466.39	466.59
AN	129+20.80	-24.63	466.34	466.52
AO	129+30.64	-24.63	466.29	466.44
AP	129+40.47	-24.63	466.24	466.37
AQ	129+50.31	-24.63	466.19	466.29
AR	129+60.15	-24.63	466.14	466.21
AS	129+69.99	-24.63	466.10	466.14
AT	129+79.83	-24.63	466.05	466.07
AU	129+89.66	-24.63	466.00	466.01
℄ Pier 24	130+03.00	-24.63	465.93	465.93
AV	130+12.84	-24.63	465.88	465.89
AW	130+22.68	-24.63	465.83	465.85
AX	130+32.51	-24.63	465.78	465.81
AY	130+42.35	-24.63	465.73	465.78
AZ	130+52.19	-24.63	465.68	465.76
BA	130+62.03	-24.63	465.64	465.73
BB	130+71.87	-24.63	465.59	465.71
BC	130+81.71	-24.63	465.54	465.69
BD	130+91.54	-24.63	465.49	465.66
BE	131+01.38	-24.63	465.44	465.64
BF	131+11.22	-24.63	465.39	465.61
BG	131+21.06	-24.63	465.34	465.57
BH	131+30.90	-24.63	465.29	465.53
BI	131+40.73	-24.63	465.24	465.49
BJ	131+50.57	-24.63	465.19	465.44
BK	131+60.41	-24.63	465.14	465.38
BL	131+70.25	-24.63	465.09	465.32
BM	131+80.09	-24.63	465.04	465.25
BN	131+89.92	-24.63	465.00	465.18
BO	131+99.76	-24.63	464.95	465.11
BP	132+09.60	-24.63	464.89	465.03
BQ	132+19.44	-24.63	464.83	464.94
BR	132+29.28	-24.63	464.77	464.85
BS	132+39.12	-24.63	464.70	464.76
BT	132+48.95	-24.63	464.63	464.67
BU	132+58.79	-24.63	464.55	464.57
BV	132+68.63	-24.63	464.47	464.48

GIRDER 2W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	-24.63	464.36	464.36
BW	132+90.84	-24.63	464.26	464.27
BX	133+00.68	-24.63	464.16	464.18
BY	133+10.51	-24.63	464.06	464.09
BZ	133+20.35	-24.63	463.95	464.00
CA	133+30.19	-24.63	463.84	463.91
CB	133+40.03	-24.63	463.72	463.82
CC	133+49.87	-24.64	463.60	463.72
CD	133+59.70	-24.71	463.47	463.63
CE	133+69.54	-24.82	463.35	463.52
CF	133+79.38	-24.99	463.22	463.42
CG	133+89.21	-25.21	463.09	463.31
CH	133+99.04	-25.47	462.95	463.19
CI	134+08.87	-25.78	462.82	463.06
CJ	134+18.70	-26.09	462.68	462.93
CK	134+28.52	-26.39	462.53	462.78
CL	134+38.35	-26.69	462.38	462.62
CM	134+48.17	-26.98	462.23	462.45
CN	134+57.99	-27.27	462.07	462.27
CO	134+67.81	-27.55	461.90	462.08
CP	134+77.63	-27.82	461.73	461.89
CQ	134+87.45	-28.09	461.56	461.69
CR	134+97.27	-28.35	461.38	461.48
CS	135+07.08	-28.61	461.19	461.27
CT	135+16.90	-28.86	461.00	461.05
CU	135+26.71	-29.11	460.80	460.84
CV	135+36.52	-29.35	460.60	460.62
CW	135+46.33	-29.59	460.40	460.41
CX				
℄ Pier 26	135+61.00	-29.93	460.08	460.08
CY	135+70.81	-30.15	459.86	459.87
CZ	135+80.62	-30.37	459.63	459.66
DA	135+90.42	-30.58	459.41	459.45
DB	136+00.23	-30.78	459.17	459.24
DC	136+10.04	-30.98	458.93	459.03
DD	136+19.84	-31.17	458.69	458.81
DE	136+29.64	-31.36	458.44	458.59
DF	136+39.45	-31.54	458.18	458.37
DG	136+49.25	-31.72	457.92	458.14
DH	136+59.05	-31.89	457.66	457.90
DI	136+68.85	-32.06	457.39	457.65
DJ	136+78.65	-32.22	457.11	457.39
DK	136+88.45	-32.37	456.83	457.12
DL	136+98.25	-32.52	456.55	456.84
DM	137+08.05	-32.66	456.26	456.55
DN	137+17.84	-32.80	455.98	456.25
DO	137+27.64	-32.93	455.69	455.95
DP	137+37.43	-33.05	455.40	455.64
DQ	137+47.23	-33.17	455.11	455.33
DR	137+57.03	-33.29	454.83	455.01
DS	137+66.82	-33.40	454.54	454.69
DT	137+76.61	-33.50	454.25	454.37
DU	137+86.41	-33.60	453.96	454.05
DV	137+96.20	-33.69	453.67	453.74
DW	138+05.99	-33.77	453.38	453.43
DX	138+15.79	-33.85	453.09	453.12
DY	138+25.58	-33.93	452.80	452.82
DZ	138+35.37	-34.00	452.51	452.52

GIRDER 2W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	-34.03	452.35	452.35
EA	138+50.79	-34.09	452.06	452.07
EB	138+60.58	-34.15	451.77	451.79
EC	138+70.37	-34.20	451.48	451.52
ED	138+80.16	-34.24	451.18	451.26
EE	138+89.95	-34.27	450.89	450.99
EF	138+99.75	-34.31	450.60	450.73
EG	139+09.54	-34.33	450.31	450.48
EH	139+19.33	-34.35	450.02	450.22
EI	139+29.12	-34.36	449.72	449.96
EJ	139+38.91	-34.37	449.43	449.69
EK	139+48.70	-34.38	449.14	449.42
EL	139+58.49	-34.38	448.84	449.14
EM	139+68.28	-34.38	448.55	448.85
EN	139+78.07	-34.38	448.25	448.56
EO	139+87.86	-34.38	447.96	448.26
EP	139+97.65	-34.38	447.67	447.95
EQ	140+07.44	-34.38	447.37	447.63
ER	140+17.23	-34.38	447.08	447.31
ES	140+27.02	-34.38	446.79	446.97
ET	140+36.81	-34.38	446.49	446.63
EU	140+46.60	-34.38	446.20	446.29
EV	140+56.39	-34.38	445.90	445.94
℄ Brg Abut	140+63.00	-34.38	445.71	445.71



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 2W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
8 OF 13

SCALE: | SHEET NO. S-16 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	126
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 3W - SPANS 1 & 2

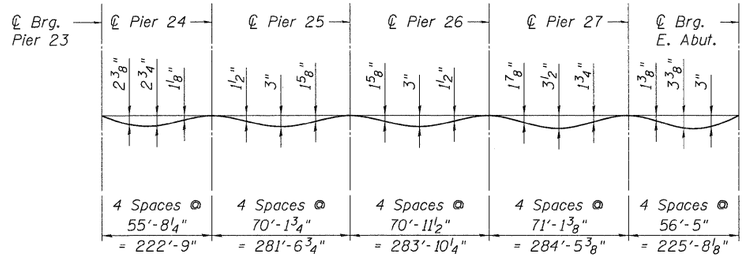
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.07	-17.54	466.65	466.65
AA	127+92.94	-17.54	466.60	466.64
AB	128+02.81	-17.54	466.55	466.63
AC	128+12.69	-17.54	466.50	466.62
AD	128+22.56	-17.54	466.45	466.61
AE	128+32.43	-17.54	466.40	466.59
AF	128+42.31	-17.54	466.35	466.56
AG	128+52.18	-17.54	466.30	466.53
AH	128+62.05	-17.54	466.25	466.49
AI	128+71.93	-17.54	466.20	466.45
AJ	128+81.80	-17.54	466.15	466.39
AK	128+91.68	-17.54	466.10	466.33
AL	129+01.55	-17.54	466.06	466.27
AM	129+11.42	-17.54	466.01	466.20
AN	129+21.30	-17.54	465.96	466.13
AO	129+31.17	-17.54	465.91	466.05
AP	129+41.04	-17.54	465.86	465.97
AQ	129+50.92	-17.54	465.81	465.90
AR	129+60.79	-17.54	465.76	465.82
AS	129+70.66	-17.54	465.71	465.75
AT	129+80.54	-17.54	465.66	465.68
AU	129+90.41	-17.54	465.61	465.62
℄ Pier 24	130+03.00	-17.54	465.55	465.55
AV	130+12.87	-17.54	465.50	465.51
AW	130+22.75	-17.54	465.45	465.47
AX	130+32.62	-17.54	465.40	465.43
AY	130+42.49	-17.54	465.35	465.40
AZ	130+52.37	-17.54	465.30	465.37
BA	130+62.24	-17.54	465.25	465.35
BB	130+72.11	-17.54	465.20	465.33
BC	130+81.99	-17.54	465.15	465.30
BD	130+91.86	-17.54	465.10	465.28
BE	131+01.73	-17.54	465.05	465.25
BF	131+11.61	-17.54	465.00	465.22
BG	131+21.48	-17.54	464.96	465.19
BH	131+31.35	-17.54	464.91	465.15
BI	131+41.23	-17.54	464.86	465.10
BJ	131+51.10	-17.54	464.81	465.05
BK	131+60.97	-17.54	464.76	464.99
BL	131+70.85	-17.54	464.71	464.93
BM	131+80.72	-17.54	464.66	464.86
BN	131+90.59	-17.54	464.61	464.79
BO	132+00.47	-17.54	464.56	464.72
BP	132+10.34	-17.54	464.50	464.64
BQ	132+20.21	-17.54	464.45	464.55
BR	132+30.09	-17.54	464.38	464.46
BS	132+39.96	-17.54	464.31	464.37
BT	132+49.83	-17.54	464.24	464.27
BU	132+59.71	-17.54	464.16	464.18
BV	132+69.58	-17.54	464.08	464.09

GIRDER 3W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	-17.54	463.97	463.97
BW	132+90.87	-17.54	463.88	463.89
BX	133+00.75	-17.54	463.78	463.80
BY	133+10.62	-17.54	463.68	463.71
BZ	133+20.49	-17.54	463.57	463.62
CA	133+30.37	-17.54	463.45	463.53
CB	133+40.24	-17.54	463.33	463.44
CC	133+50.11	-17.56	463.21	463.34
CD	133+59.99	-17.63	463.09	463.24
CE	133+69.86	-17.74	462.96	463.14
CF	133+79.73	-17.91	462.83	463.03
CG	133+89.60	-18.13	462.70	462.92
CH	133+99.46	-18.36	462.56	462.80
CI	134+09.33	-18.59	462.42	462.66
CJ	134+19.20	-18.82	462.28	462.53
CK	134+29.06	-19.04	462.13	462.37
CL	134+38.92	-19.26	461.97	462.21
CM	134+48.79	-19.47	461.81	462.04
CN	134+58.65	-19.68	461.65	461.85
CO	134+68.51	-19.88	461.48	461.66
CP	134+78.37	-20.09	461.30	461.46
CQ	134+88.22	-20.28	461.12	461.25
CR	134+98.08	-20.48	460.93	461.04
CS	135+07.94	-20.66	460.74	460.82
CT	135+17.79	-20.85	460.55	460.60
CU	135+27.65	-21.03	460.35	460.38
CV	135+37.50	-21.21	460.14	460.16
CW	135+47.36	-21.38	459.93	459.94
CX				
℄ Pier 26	135+61.00	-21.61	459.63	459.63
CY	135+70.85	-21.77	459.40	459.42
CZ	135+80.70	-21.93	459.18	459.20
DA	135+90.55	-22.08	458.94	458.98
DB	136+00.40	-22.23	458.70	458.77
DC	136+10.25	-22.38	458.46	458.56
DD	136+20.10	-22.52	458.21	458.34
DE	136+29.95	-22.66	457.96	458.11
DF	136+39.79	-22.79	457.70	457.89
DG	136+49.64	-22.92	457.44	457.65
DH	136+59.48	-23.05	457.17	457.40
DI	136+69.33	-23.17	456.89	457.15
DJ	136+79.17	-23.29	456.62	456.89
DK	136+89.02	-23.40	456.33	456.61
DL	136+98.86	-23.51	456.04	456.33
DM	137+08.70	-23.61	455.75	456.04
DN	137+18.55	-23.71	455.46	455.73
DO	137+28.39	-23.81	455.17	455.43
DP	137+38.23	-23.90	454.88	455.12
DQ	137+48.07	-23.99	454.59	454.80
DR	137+57.91	-24.07	454.30	454.49
DS	137+67.75	-24.15	454.01	454.16
DT	137+77.59	-24.22	453.72	453.84
DU	137+87.43	-24.29	453.43	453.52
DV	137+97.27	-24.36	453.14	453.20
DW	138+07.11	-24.42	452.85	452.89
DX	138+16.95	-24.48	452.55	452.57
DY	138+26.79	-24.53	452.26	452.27
DZ				

GIRDER 3W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	-24.61	451.84	451.84
EA	138+50.84	-24.65	451.55	451.56
EB	138+60.68	-24.69	451.25	451.28
EC	138+70.51	-24.72	450.96	451.00
ED	138+80.35	-24.75	450.67	450.74
EE	138+90.19	-24.78	450.37	450.47
EF	139+00.03	-24.80	450.08	450.21
EG	139+09.86	-24.82	449.78	449.95
EH	139+19.70	-24.84	449.49	449.69
EI	139+29.54	-24.85	449.20	449.42
EJ	139+39.37	-24.85	448.90	449.15
EK	139+49.21	-24.85	448.61	448.88
EL	139+59.05	-24.85	448.31	448.60
EM	139+68.89	-24.85	448.02	448.31
EN	139+78.72	-24.85	447.72	448.02
EO	139+88.56	-24.85	447.43	447.71
EP	139+98.40	-24.85	447.13	447.40
EQ	140+08.23	-24.85	446.84	447.08
ER	140+18.07	-24.85	446.54	446.76
ES	140+27.91	-24.85	446.24	446.42
ET	140+37.74	-24.85	445.95	446.08
EU	140+47.58	-24.85	445.65	445.74
EV	140+57.42	-24.85	445.36	445.39
℄ Brg Abut	140+63.00	-24.85	445.19	445.19



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 3W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

..\082031B-CONN-05-001-SP.DGN ..\082031B-CONN-99-001-SD.DGN
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FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
9 OF 13

SCALE: | SHEET NO. S-17 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	127
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 4W - SPANS 1 & 2

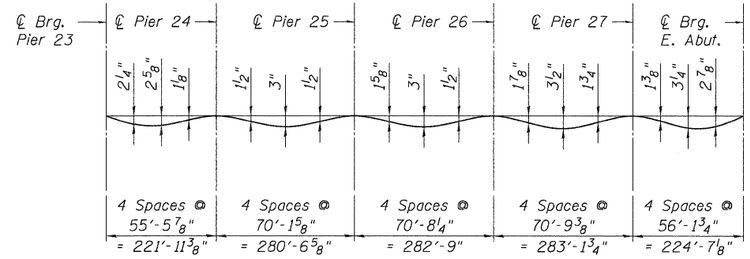
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.07	- 10.46	466.27	466.27
AA	127+92.98	- 10.46	466.22	466.26
AB	128+02.89	- 10.46	466.17	466.25
AC	128+12.80	- 10.46	466.12	466.23
AD	128+22.71	- 10.46	466.07	466.22
AE	128+32.62	- 10.46	466.02	466.19
AF	128+42.53	- 10.46	465.97	466.17
AG	128+52.43	- 10.46	465.92	466.13
AH	128+62.34	- 10.46	465.87	466.09
AI	128+72.25	- 10.46	465.82	466.05
AJ	128+82.16	- 10.46	465.77	465.99
AK	128+92.07	- 10.46	465.72	465.94
AL	129+01.98	- 10.46	465.67	465.87
AM	129+11.89	- 10.46	465.62	465.80
AN	129+21.80	- 10.46	465.57	465.73
AO	129+31.71	- 10.46	465.52	465.66
AP	129+41.61	- 10.46	465.47	465.58
AQ	129+51.52	- 10.46	465.42	465.51
AR	129+61.43	- 10.46	465.37	465.43
AS	129+71.34	- 10.46	465.32	465.36
AT	129+81.25	- 10.46	465.27	465.29
AU	129+91.16	- 10.46	465.22	465.23
℄ Pier 24	130+03.00	- 10.46	465.17	465.17
AV	130+12.91	- 10.46	465.12	465.12
AW	130+22.82	- 10.46	465.07	465.08
AX	130+32.73	- 10.46	465.02	465.05
AY	130+42.64	- 10.46	464.97	465.02
AZ	130+52.54	- 10.46	464.92	464.99
BA	130+62.45	- 10.46	464.87	464.97
BB	130+72.36	- 10.46	464.82	464.94
BC	130+82.27	- 10.46	464.77	464.92
BD	130+92.18	- 10.46	464.72	464.90
BE	131+02.09	- 10.46	464.67	464.87
BF	131+12.00	- 10.46	464.62	464.84
BG	131+21.91	- 10.46	464.57	464.80
BH	131+31.82	- 10.46	464.52	464.76
BI	131+41.72	- 10.46	464.47	464.72
BJ	131+51.63	- 10.46	464.42	464.66
BK	131+61.54	- 10.46	464.37	464.60
BL	131+71.45	- 10.46	464.32	464.54
BM	131+81.36	- 10.46	464.27	464.47
BN	131+91.27	- 10.46	464.22	464.40
BO	132+01.18	- 10.46	464.17	464.33
BP	132+11.09	- 10.46	464.12	464.25
BQ	132+20.99	- 10.46	464.06	464.16
BR	132+30.90	- 10.46	463.99	464.07
BS	132+40.81	- 10.46	463.92	463.98
BT	132+50.72	- 10.46	463.85	463.88
BU	132+60.63	- 10.46	463.77	463.79
BV	132+70.54	- 10.46	463.68	463.69

GIRDER 4W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	- 10.46	463.59	463.59
BW	132+90.91	- 10.46	463.50	463.51
BX	133+00.82	- 10.46	463.40	463.42
BY	133+10.73	- 10.46	463.29	463.32
BZ	133+20.64	- 10.46	463.18	463.24
CA	133+30.54	- 10.46	463.07	463.15
CB	133+40.45	- 10.46	462.95	463.05
CC	133+50.36	- 10.48	462.83	462.96
CD	133+60.27	- 10.54	462.70	462.86
CE	133+70.18	- 10.66	462.57	462.76
CF	133+80.08	- 10.82	462.44	462.65
CG	133+89.99	- 10.97	462.31	462.53
CH	133+99.89	- 11.13	462.17	462.40
CI	134+09.80	- 11.28	462.02	462.26
CJ	134+19.70	- 11.42	461.87	462.12
CK	134+29.60	- 11.57	461.72	461.96
CL	134+39.51	- 11.71	461.56	461.79
CM	134+49.41	- 11.85	461.39	461.61
CN	134+59.31	- 11.98	461.22	461.42
CO	134+69.21	- 12.12	461.04	461.22
CP	134+79.11	- 12.25	460.86	461.02
CQ	134+89.01	- 12.38	460.68	460.81
CR	134+98.90	- 12.50	460.49	460.59
CS	135+08.80	- 12.62	460.29	460.37
CT	135+18.70	- 12.74	460.09	460.15
CU	135+28.60	- 12.86	459.88	459.92
CV	135+38.49	- 12.98	459.67	459.69
CW	135+48.39	- 13.09	459.46	459.47
CX				
℄ Pier 26	135+61.00	- 13.23	459.18	459.18
CY	135+70.89	- 13.33	458.95	458.96
CZ	135+80.79	- 13.44	458.72	458.74
DA	135+90.68	- 13.54	458.48	458.52
DB	136+00.57	- 13.64	458.24	458.30
DC	136+10.47	- 13.73	457.99	458.08
DD	136+20.36	- 13.82	457.74	457.86
DE	136+30.25	- 13.91	457.48	457.63
DF	136+40.14	- 14.00	457.22	457.40
DG	136+50.03	- 14.08	456.95	457.16
DH	136+59.92	- 14.16	456.68	456.91
DI	136+69.81	- 14.24	456.40	456.66
DJ	136+79.70	- 14.32	456.12	456.39
DK	136+89.59	- 14.39	455.83	456.11
DL	136+99.48	- 14.46	455.54	455.82
DM	137+09.37	- 14.53	455.24	455.52
DN	137+19.25	- 14.60	454.95	455.22
DO	137+29.14	- 14.66	454.66	454.91
DP	137+39.03	- 14.72	454.36	454.60
DQ	137+48.92	- 14.77	454.07	454.28
DR	137+58.80	- 14.83	453.78	453.96
DS	137+68.69	- 14.88	453.48	453.63
DT	137+78.58	- 14.93	453.19	453.31
DU	137+88.46	- 14.97	452.89	452.98
DV	137+98.35	- 15.02	452.60	452.66
DW	138+08.23	- 15.06	452.31	452.34
DX	138+18.12	- 15.10	452.01	452.03
DY	138+28.01	- 15.13	451.72	451.73
DZ				

GIRDER 4W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	- 15.17	451.33	451.33
EA	138+50.89	- 15.20	451.03	451.05
EB	138+60.77	- 15.23	450.74	450.76
EC	138+70.65	- 15.25	450.44	450.49
ED	138+80.54	- 15.27	450.15	450.22
EE	138+90.42	- 15.29	449.85	449.95
EF	139+00.31	- 15.30	449.56	449.68
EG	139+10.19	- 15.31	449.26	449.42
EH	139+20.08	- 15.32	448.97	449.15
EI	139+29.96	- 15.33	448.67	448.89
EJ	139+39.85	- 15.33	448.37	448.62
EK	139+49.73	- 15.33	448.08	448.34
EL	139+59.62	- 15.33	447.78	448.06
EM	139+69.50	- 15.33	447.48	447.77
EN	139+79.38	- 15.33	447.19	447.47
EO	139+89.27	- 15.33	446.89	447.16
EP	139+99.15	- 15.33	446.59	446.85
EQ	140+09.04	- 15.33	446.30	446.53
ER	140+18.92	- 15.33	446.00	446.21
ES	140+28.81	- 15.33	445.70	445.87
ET	140+38.69	- 15.33	445.41	445.53
EU	140+48.58	- 15.33	445.11	445.18
EV				
℄ Brg Abut	140+63.00	- 15.33	444.68	444.68



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 4W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
10 OF 13

SCALE: | SHEET NO. S-18 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	128
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 5W - SPANS 1 & 2

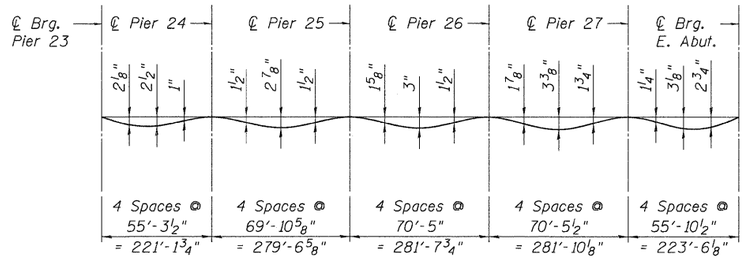
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.08	-3.38	465.88	465.88
AA	127+93.02	-3.38	465.83	465.87
AB	128+02.97	-3.38	465.78	465.86
AC	128+12.91	-3.38	465.73	465.84
AD	128+22.86	-3.38	465.68	465.83
AE	128+32.80	-3.38	465.63	465.80
AF	128+42.74	-3.38	465.58	465.77
AG	128+52.69	-3.38	465.53	465.74
AH	128+62.63	-3.38	465.48	465.70
AI	128+72.58	-3.38	465.43	465.65
AJ	128+82.52	-3.38	465.39	465.60
AK	128+92.47	-3.38	465.34	465.54
AL	129+02.41	-3.38	465.29	465.48
AM	129+12.36	-3.38	465.24	465.41
AN	129+22.30	-3.38	465.19	465.34
AO	129+32.25	-3.38	465.14	465.26
AP	129+42.19	-3.38	465.09	465.19
AQ	129+52.14	-3.38	465.04	465.11
AR	129+62.08	-3.38	464.99	465.04
AS	129+72.02	-3.38	464.94	464.97
AT	129+81.97	-3.38	464.89	464.90
AU	129+91.91	-3.38	464.84	464.85
℄ Pier 24	130+03.00	-3.38	464.78	464.78
AV	130+12.94	-3.38	464.73	464.74
AW	130+22.89	-3.38	464.68	464.70
AX	130+32.83	-3.38	464.63	464.66
AY	130+42.78	-3.38	464.58	464.64
AZ	130+52.72	-3.38	464.53	464.61
BA	130+62.67	-3.38	464.48	464.59
BB	130+72.61	-3.38	464.43	464.56
BC	130+82.56	-3.38	464.38	464.54
BD	130+92.50	-3.38	464.34	464.51
BE	131+02.45	-3.38	464.29	464.48
BF	131+12.39	-3.38	464.24	464.45
BG	131+22.34	-3.38	464.19	464.41
BH	131+32.28	-3.38	464.14	464.37
BI	131+42.22	-3.38	464.09	464.33
BJ	131+52.17	-3.38	464.04	464.27
BK	131+62.11	-3.38	463.99	464.21
BL	131+72.06	-3.38	463.94	464.15
BM	131+82.00	-3.38	463.89	464.08
BN	131+91.95	-3.38	463.84	464.01
BO	132+01.89	-3.38	463.79	463.94
BP	132+11.84	-3.38	463.73	463.86
BQ	132+21.78	-3.38	463.67	463.77
BR	132+31.73	-3.38	463.61	463.68
BS	132+41.67	-3.38	463.53	463.59
BT	132+51.62	-3.38	463.46	463.49
BU	132+61.56	-3.38	463.38	463.40
BV	132+71.50	-3.38	463.29	463.30

GIRDER 5W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	-3.38	463.21	463.21
BW	132+90.94	-3.38	463.11	463.12
BX	133+00.89	-3.38	463.01	463.03
BY	133+10.83	-3.38	462.91	462.94
BZ	133+20.78	-3.38	462.80	462.86
CA	133+30.72	-3.38	462.68	462.76
CB	133+40.67	-3.38	462.56	462.67
CC	133+50.61	-3.39	462.44	462.57
CD	133+60.56	-3.46	462.31	462.48
CE	133+70.50	-3.54	462.18	462.37
CF	133+80.44	-3.62	462.05	462.25
CG	133+90.39	-3.69	461.91	462.13
CH	134+00.33	-3.77	461.76	462.00
CI	134+10.27	-3.84	461.61	461.86
CJ	134+20.21	-3.91	461.46	461.71
CK	134+30.15	-3.98	461.30	461.54
CL	134+40.10	-4.05	461.13	461.37
CM	134+50.04	-4.12	460.96	461.19
CN	134+59.98	-4.19	460.79	460.99
CO	134+69.92	-4.25	460.61	460.79
CP	134+79.86	-4.31	460.42	460.58
CQ	134+89.80	-4.38	460.23	460.36
CR	134+99.74	-4.44	460.03	460.14
CS	135+09.67	-4.50	459.83	459.91
CT	135+19.61	-4.56	459.63	459.68
CU	135+29.55	-4.61	459.42	459.45
CV	135+39.49	-4.67	459.20	459.22
CW	135+49.43	-4.73	458.98	458.99
CX				
℄ Pier 26	135+61.00	-4.79	458.72	458.72
CY	135+70.94	-4.84	458.49	458.50
CZ	135+80.87	-4.89	458.25	458.28
DA	135+90.81	-4.94	458.01	458.05
DB	136+00.75	-4.99	457.76	457.83
DC	136+10.68	-5.03	457.51	457.61
DD	136+20.62	-5.08	457.26	457.38
DE	136+30.56	-5.12	457.00	457.15
DF	136+40.49	-5.16	456.73	456.91
DG	136+50.43	-5.21	456.46	456.67
DH	136+60.36	-5.25	456.18	456.41
DI	136+70.30	-5.28	455.90	456.16
DJ	136+80.23	-5.32	455.61	455.88
DK	136+90.17	-5.36	455.32	455.60
DL	137+00.10	-5.39	455.03	455.31
DM	137+10.03	-5.42	454.73	455.01
DN	137+19.97	-5.46	454.44	454.70
DO	137+29.90	-5.49	454.14	454.39
DP	137+39.84	-5.52	453.84	454.07
DQ	137+49.77	-5.54	453.55	453.75
DR	137+59.70	-5.57	453.25	453.43
DS	137+69.64	-5.59	452.95	453.10
DT	137+79.57	-5.62	452.66	452.77
DU	137+89.50	-5.64	452.36	452.45
DV	137+99.44	-5.66	452.06	452.12
DW	138+09.37	-5.68	451.77	451.80
DX	138+19.30	-5.70	451.47	451.49
DY	138+29.24	-5.72	451.17	451.18
DZ				

GIRDER 5W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	-5.73	450.82	450.82
EA	138+50.93	-5.75	450.52	450.53
EB	138+60.87	-5.76	450.23	450.25
EC	138+70.80	-5.77	449.93	449.97
ED	138+80.73	-5.78	449.63	449.69
EE	138+90.66	-5.79	449.33	449.42
EF	139+00.59	-5.80	449.04	449.16
EG	139+10.53	-5.80	448.74	448.89
EH	139+20.46	-5.81	448.44	448.62
EI	139+30.39	-5.81	448.14	448.35
EJ	139+40.32	-5.81	447.84	448.08
EK	139+50.26	-5.81	447.55	447.80
EL	139+60.19	-5.81	447.25	447.51
EM	139+70.12	-5.81	446.95	447.22
EN	139+80.05	-5.81	446.65	446.92
EO	139+89.99	-5.81	446.35	446.62
EP	139+99.92	-5.81	446.06	446.30
EQ	140+09.85	-5.81	445.76	445.98
ER	140+19.78	-5.81	445.46	445.65
ES	140+29.71	-5.81	445.16	445.32
ET	140+39.65	-5.81	444.86	444.98
EU	140+49.58	-5.81	444.57	444.63
EV				
℄ Brg Abut	140+63.00	-5.81	444.16	444.16



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 5W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-21.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
11 OF 13

SCALE: | SHEET NO. S-19 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	129
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

WB I-70 P.G.L. - SPANS 1 & 2

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.08	0.00	465.70	465.70
AA	127+93.04	0.00	465.65	465.69
AB	128+03.00	0.00	465.60	465.68
AC	128+12.96	0.00	465.55	465.66
AD	128+22.92	0.00	465.50	465.64
AE	128+32.89	0.00	465.45	465.61
AF	128+42.85	0.00	465.40	465.59
AG	128+52.81	0.00	465.35	465.55
AH	128+62.77	0.00	465.30	465.51
AI	128+72.73	0.00	465.25	465.46
AJ	128+82.70	0.00	465.20	465.41
AK	128+92.66	0.00	465.15	465.35
AL	129+02.62	0.00	465.10	465.29
AM	129+12.58	0.00	465.05	465.22
AN	129+22.54	0.00	465.00	465.15
AO	129+32.50	0.00	464.95	465.08
AP	129+42.47	0.00	464.90	465.00
AQ	129+52.43	0.00	464.85	464.93
AR	129+62.39	0.00	464.80	464.86
AS	129+72.35	0.00	464.75	464.79
AT	129+82.31	0.00	464.70	464.72
AU	129+92.27	0.00	464.65	464.66
℄ Pier 24	130+03.00	0.00	464.60	464.60
AV	130+12.96	0.00	464.55	464.56
AW	130+22.92	0.00	464.50	464.52
AX	130+32.89	0.00	464.45	464.48
AY	130+42.85	0.00	464.40	464.46
AZ	130+52.81	0.00	464.35	464.43
BA	130+62.77	0.00	464.30	464.40
BB	130+72.73	0.00	464.25	464.38
BC	130+82.69	0.00	464.20	464.36
BD	130+92.66	0.00	464.15	464.33
BE	131+02.62	0.00	464.10	464.30
BF	131+12.58	0.00	464.05	464.27
BG	131+22.54	0.00	464.00	464.23
BH	131+32.50	0.00	463.95	464.19
BI	131+42.46	0.00	463.90	464.14
BJ	131+52.43	0.00	463.85	464.09
BK	131+62.39	0.00	463.80	464.03
BL	131+72.35	0.00	463.75	463.97
BM	131+82.31	0.00	463.70	463.90
BN	131+92.27	0.00	463.65	463.83
BO	132+02.23	0.00	463.60	463.75
BP	132+12.20	0.00	463.55	463.67
BQ	132+22.16	0.00	463.49	463.59
BR	132+32.12	0.00	463.42	463.49
BS	132+42.08	0.00	463.35	463.40
BT	132+52.04	0.00	463.27	463.30
BU	132+62.01	0.00	463.19	463.21
BV	132+71.97	0.00	463.11	463.12

WB I-70 P.G.L. - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	0.00	463.03	463.03
BW	132+90.96	0.00	462.93	462.94
BX	133+00.92	0.00	462.83	462.85
BY	133+10.89	0.00	462.73	462.76
BZ	133+20.85	0.00	462.61	462.67
CA	133+30.81	0.00	462.50	462.58
CB	133+40.77	0.00	462.38	462.49
CC	133+50.73	0.00	462.26	462.39
CD	133+60.69	0.00	462.13	462.29
CE	133+70.66	0.00	461.99	462.18
CF	133+80.62	0.00	461.85	462.06
CG	133+90.58	0.00	461.71	461.93
CH	134+00.54	0.00	461.56	461.79
CI	134+10.50	0.00	461.40	461.65
CJ	134+20.46	0.00	461.24	461.49
CK	134+30.43	0.00	461.08	461.32
CL	134+40.39	0.00	460.91	461.14
CM	134+50.35	0.00	460.73	460.96
CN	134+60.31	0.00	460.55	460.76
CO	134+70.27	0.00	460.37	460.55
CP	134+80.23	0.00	460.18	460.34
CQ	134+90.20	0.00	459.99	460.12
CR	135+00.16	0.00	459.79	459.89
CS	135+10.12	0.00	459.58	459.66
CT	135+20.08	0.00	459.37	459.43
CU	135+30.04	0.00	459.16	459.19
CV	135+40.01	0.00	458.94	458.96
CW	135+49.97	0.00	458.72	458.72
CX				
℄ Pier 26	135+61.00	0.00	458.46	458.46
CY	135+70.96	0.00	458.23	458.24
CZ	135+80.92	0.00	457.99	458.01
DA	135+90.89	0.00	457.74	457.78
DB	136+00.85	0.00	457.49	457.56
DC	136+10.81	0.00	457.24	457.33
DD	136+20.77	0.00	456.98	457.10
DE	136+30.73	0.00	456.71	456.87
DF	136+40.69	0.00	456.45	456.63
DG	136+50.66	0.00	456.17	456.38
DH	136+60.62	0.00	455.89	456.12
DI	136+70.58	0.00	455.61	455.86
DJ	136+80.54	0.00	455.32	455.58
DK	136+90.50	0.00	455.02	455.30
DL	137+00.46	0.00	454.73	455.01
DM	137+10.43	0.00	454.43	454.70
DN	137+20.39	0.00	454.13	454.39
DO	137+30.35	0.00	453.83	454.08
DP	137+40.31	0.00	453.53	453.75
DQ	137+50.27	0.00	453.23	453.43
DR	137+60.23	0.00	452.93	453.11
DS	137+70.20	0.00	452.63	452.78
DT	137+80.16	0.00	452.34	452.45
DU	137+90.12	0.00	452.04	452.12
DV	138+00.08	0.00	451.74	451.80
DW	138+10.04	0.00	451.44	451.47
DX	138+20.01	0.00	451.14	451.16
DY	138+29.97	0.00	450.84	450.85
DZ				

WB I-70 P.G.L. - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	0.00	450.51	450.51
EA	138+50.96	0.00	450.21	450.22
EB	138+60.92	0.00	449.91	449.93
EC	138+70.89	0.00	449.61	449.65
ED	138+80.85	0.00	449.31	449.38
EE	138+90.81	0.00	449.02	449.10
EF	139+00.77	0.00	448.72	448.84
EG	139+10.73	0.00	448.42	448.57
EH	139+20.69	0.00	448.12	448.30
EI	139+30.66	0.00	447.82	448.03
EJ	139+40.62	0.00	447.52	447.75
EK	139+50.58	0.00	447.22	447.47
EL	139+60.54	0.00	446.92	447.18
EM	139+70.50	0.00	446.62	446.89
EN	139+80.46	0.00	446.33	446.59
EO	139+90.43	0.00	446.03	446.28
EP	140+00.39	0.00	445.73	445.97
EQ	140+10.35	0.00	445.43	445.64
ER	140+20.31	0.00	445.13	445.32
ES	140+30.27	0.00	444.83	444.98
ET	140+40.23	0.00	444.53	444.64
EU	140+50.20	0.00	444.23	444.29
EV				
℄ Brg Abut	140+63.00	0.00	443.85	443.85

NOTE:

1. Work this sheet with Sheets S-6 through S-21.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
12 OF 13

SCALE: | SHEET NO. S-20 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	130
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 6W - SPANS 1 & 2

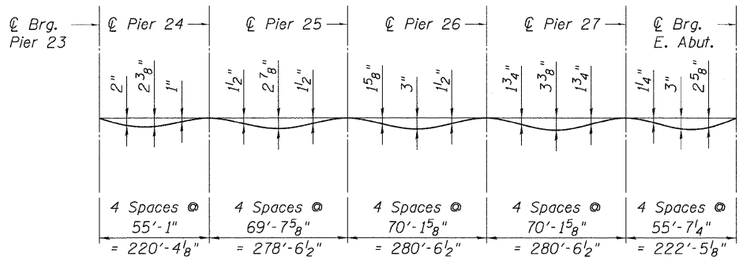
Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Brg P23	127+83.08	3.71	465.50	465.50
AA	127+93.06	3.71	465.45	465.49
AB	128+03.04	3.71	465.40	465.47
AC	128+13.02	3.71	465.35	465.46
AD	128+23.00	3.71	465.30	465.44
AE	128+32.98	3.71	465.25	465.41
AF	128+42.96	3.71	465.20	465.38
AG	128+52.95	3.71	465.15	465.34
AH	128+62.93	3.71	465.10	465.30
AI	128+72.91	3.71	465.05	465.26
AJ	128+82.89	3.71	465.00	465.20
AK	128+92.87	3.71	464.95	465.15
AL	129+02.85	3.71	464.90	465.08
AM	129+12.83	3.71	464.85	465.02
AN	129+22.81	3.71	464.80	464.94
AO	129+32.79	3.71	464.75	464.87
AP	129+42.77	3.71	464.70	464.80
AQ	129+52.75	3.71	464.65	464.72
AR	129+62.73	3.71	464.60	464.65
AS	129+72.71	3.71	464.55	464.58
AT	129+82.69	3.71	464.50	464.52
AU	129+92.67	3.71	464.45	464.46
℄ Pier 24	130+03.00	3.71	464.40	464.40
AV	130+12.98	3.71	464.35	464.36
AW	130+22.96	3.71	464.30	464.32
AX	130+32.94	3.71	464.25	464.28
AY	130+42.92	3.71	464.20	464.26
AZ	130+52.90	3.71	464.15	464.23
BA	130+62.88	3.71	464.10	464.20
BB	130+72.86	3.71	464.05	464.18
BC	130+82.84	3.71	464.00	464.16
BD	130+92.83	3.71	463.95	464.13
BE	131+02.81	3.71	463.90	464.10
BF	131+12.79	3.71	463.85	464.07
BG	131+22.77	3.71	463.80	464.03
BH	131+32.75	3.71	463.75	463.99
BI	131+42.73	3.71	463.70	463.94
BJ	131+52.71	3.71	463.65	463.88
BK	131+62.69	3.71	463.60	463.83
BL	131+72.67	3.71	463.55	463.76
BM	131+82.65	3.71	463.50	463.69
BN	131+92.63	3.71	463.45	463.62
BO	132+02.61	3.71	463.40	463.55
BP	132+12.59	3.71	463.34	463.47
BQ	132+22.57	3.71	463.28	463.38
BR	132+32.55	3.71	463.22	463.29
BS	132+42.53	3.71	463.15	463.20
BT	132+52.52	3.71	463.07	463.10
BU	132+62.50	3.71	462.99	463.01
BV	132+72.48	3.71	462.90	462.91

GIRDER 6W - SPANS 3 & 4

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 25	132+81.00	3.71	462.83	462.83
BW	132+90.98	3.71	462.73	462.74
BX	133+00.96	3.71	462.63	462.65
BY	133+10.94	3.71	462.52	462.56
BZ	133+20.92	3.71	462.41	462.47
CA	133+30.90	3.71	462.30	462.38
CB	133+40.88	3.71	462.18	462.29
CC	133+50.86	3.71	462.05	462.19
CD	133+60.84	3.71	461.92	462.09
CE	133+70.83	3.71	461.79	461.97
CF	133+80.81	3.71	461.65	461.86
CG	133+90.79	3.71	461.50	461.73
CH	134+00.77	3.71	461.35	461.59
CI	134+10.75	3.71	461.20	461.44
CJ	134+20.73	3.71	461.04	461.29
CK	134+30.71	3.71	460.87	461.12
CL	134+40.69	3.71	460.70	460.94
CM	134+50.67	3.71	460.53	460.75
CN	134+60.65	3.71	460.35	460.55
CO	134+70.63	3.71	460.16	460.34
CP	134+80.61	3.71	459.97	460.13
CQ	134+90.59	3.71	459.78	459.91
CR	135+00.57	3.71	459.58	459.68
CS	135+10.55	3.71	459.37	459.45
CT	135+20.53	3.71	459.16	459.22
CU	135+30.52	3.71	458.95	458.98
CV	135+40.50	3.71	458.73	458.75
CW	135+50.48	3.71	458.50	458.51
CX				
℄ Pier 26	135+61.00	3.71	458.26	458.26
CY	135+70.98	3.71	458.03	458.04
CZ	135+80.96	3.71	457.79	457.81
DA	135+90.94	3.71	457.54	457.58
DB	136+00.92	3.71	457.29	457.36
DC	136+10.90	3.71	457.04	457.13
DD	136+20.88	3.71	456.78	456.90
DE	136+30.86	3.71	456.51	456.66
DF	136+40.84	3.71	456.24	456.42
DG	136+50.83	3.71	455.97	456.17
DH	136+60.81	3.71	455.69	455.91
DI	136+70.79	3.71	455.40	455.65
DJ	136+80.77	3.71	455.11	455.37
DK	136+90.75	3.71	454.82	455.09
DL	137+00.73	3.71	454.52	454.80
DM	137+10.71	3.71	454.22	454.49
DN	137+20.69	3.71	453.92	454.18
DO	137+30.67	3.71	453.62	453.87
DP	137+40.65	3.71	453.32	453.54
DQ	137+50.63	3.71	453.02	453.22
DR	137+60.61	3.71	452.72	452.89
DS	137+70.59	3.71	452.42	452.56
DT	137+80.57	3.71	452.12	452.23
DU	137+90.55	3.71	451.82	451.91
DV	138+00.53	3.71	451.52	451.58
DW	138+10.52	3.71	451.22	451.26
DX	138+20.50	3.71	450.92	450.94
DY	138+30.48	3.71	450.63	450.64
DZ				

GIRDER 6W - SPAN 5

Location	Station	Offset From WB I-70 P.G.L.	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for DL Deflections
℄ Pier 27	138+41.00	3.71	450.31	450.31
EA	138+50.98	3.71	450.01	450.02
EB	138+60.96	3.71	449.71	449.73
EC	138+70.94	3.71	449.41	449.45
ED	138+80.92	3.71	449.11	449.17
EE	138+90.90	3.71	448.81	448.90
EF	139+00.88	3.71	448.51	448.63
EG	139+10.86	3.71	448.21	448.36
EH	139+20.84	3.71	447.91	448.09
EI	139+30.83	3.71	447.61	447.82
EJ	139+40.81	3.71	447.32	447.54
EK	139+50.79	3.71	447.02	447.26
EL	139+60.77	3.71	446.72	446.97
EM	139+70.75	3.71	446.42	446.68
EN	139+80.73	3.71	446.12	446.38
EO	139+90.71	3.71	445.82	446.07
EP	140+00.69	3.71	445.52	445.75
EQ	140+10.67	3.71	445.22	445.43
ER	140+20.65	3.71	444.92	445.10
ES	140+30.63	3.71	444.62	444.76
ET	140+40.61	3.71	444.32	444.43
EU	140+50.59	3.71	444.02	444.08
EV				
℄ Brg Abut	140+63.00	3.71	443.65	443.65



DEAD LOAD DEFLECTION DIAGRAM - GIRDER 6W

(Includes weight of concrete only.)

NOTES:

1. Work this sheet with Sheets S-6 through S-20.
2. The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.

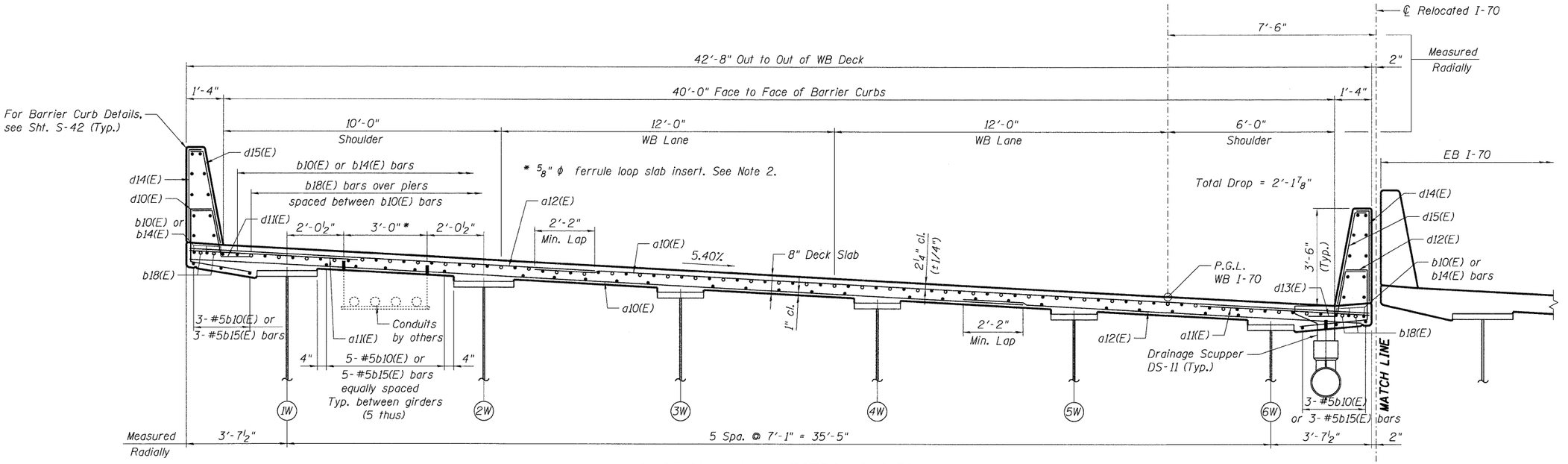
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - JLR	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

TOP OF SLAB ELEVATIONS
13 OF 13

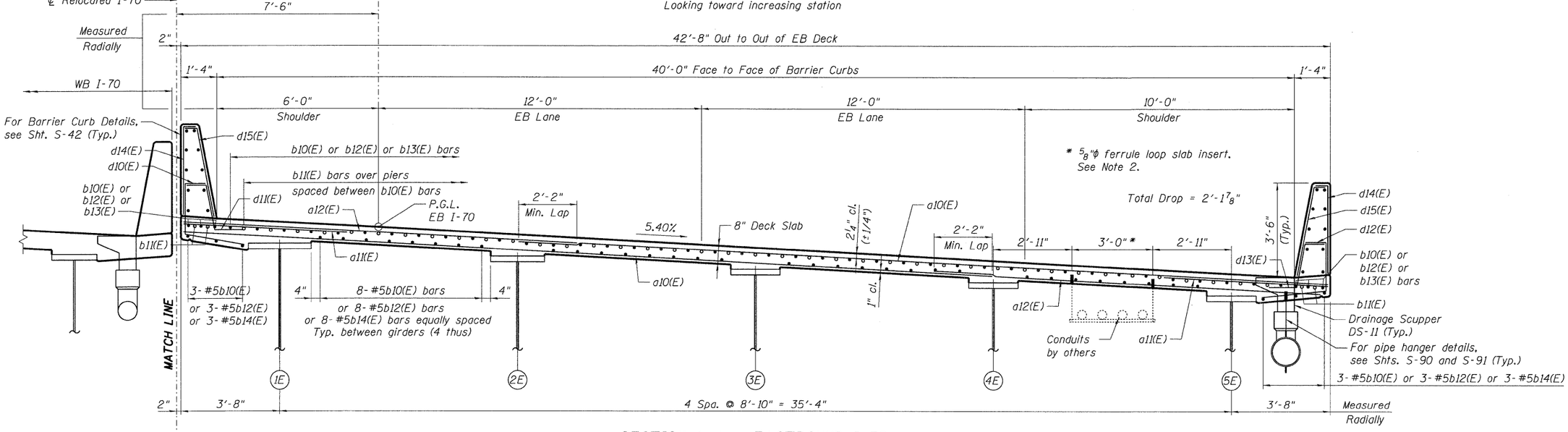
SCALE: | SHEET NO. S-21 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	131
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SECTION A-A - WESTBOUND I-70

Sta. 127+81.58 to Sta. 133+42.00
(Pour 5 & Pour 4 Sections)
Looking toward increasing station



SECTION A-A - EASTBOUND I-70

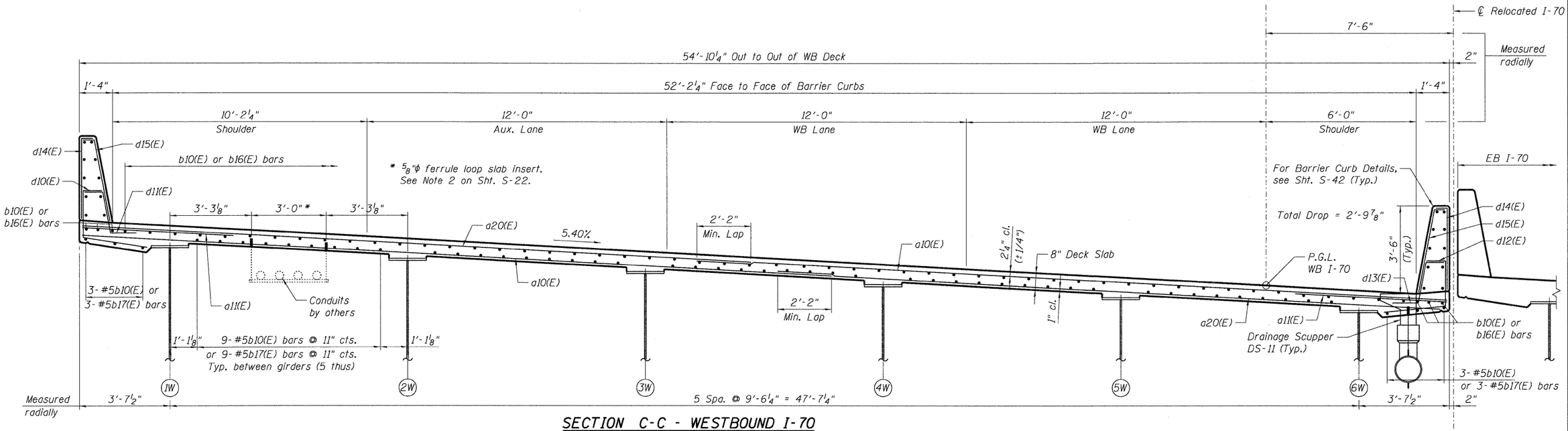
Sta. 127+81.58 to Sta. 140+64.57
Looking toward increasing station

NOTES:

1. Work this sheet with Shts. S-23 thru S-47.
2. Inserts installed in this contract, conduit and hangers installed in future contract. Space inserts at 5'-0" cts. longitudinally, full length of bridges. The cost of inserts is included in the cost of Reinforcement Bars, Epoxy Coated. Safe working load = 2,200 lbs.
3. For scupper spacing, see Shts. S-24 thru S-33.

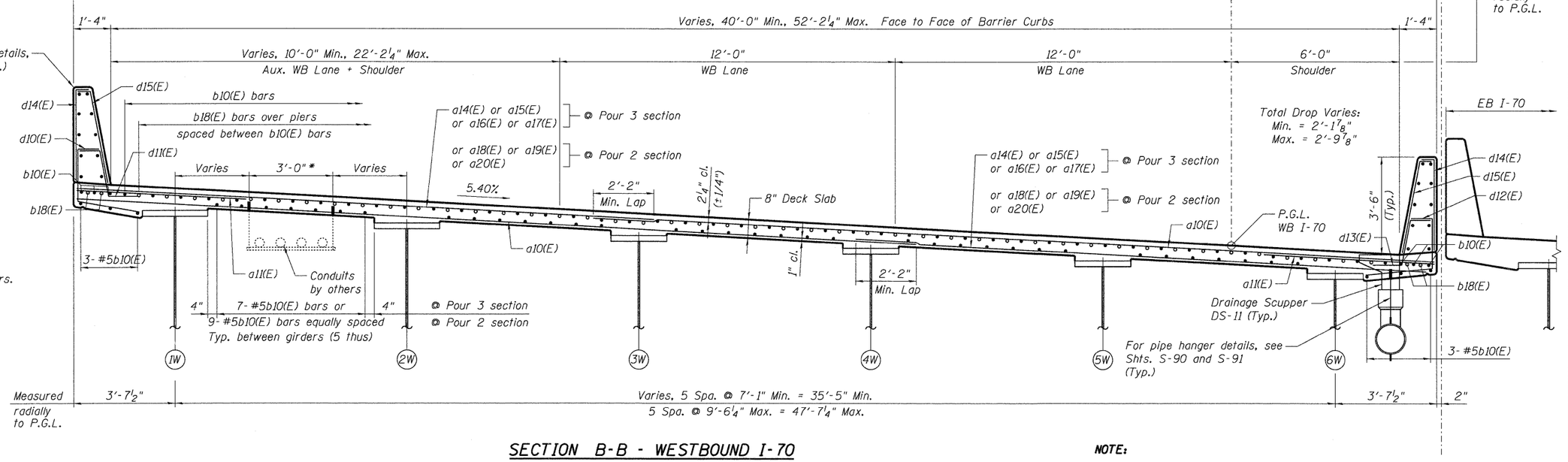
\\B82318-CONN-99-001-BU.DGN, \\B82318-CONN-85-001-SU.DGN, \\B82318-CONN-85-001-SU.DGN
6-03-2010, 12:41:11 BONDHUS \\VS-0014\VAN\VAL_FS-1\PRWS_87\22222-28866-001\STRUCT\CADD\01 DESIGN\B82318\SHEET\B82318-CONN-95-101-SHT-SU.DGN

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**DECK CROSS SECTIONS 1 OF 2**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	132
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-22 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT



SECTION C-C - WESTBOUND I-70

Sta. 139+48.00 to Sta. 140+64.57 (Pour 1 Section)
Looking toward increasing station



SECTION B-B - WESTBOUND I-70

Sta. 133+42.00 to Sta. 139+48.00 (Pour 3 & Pour 2 Sections)
Looking toward increasing station

NOTE:

See Sht. S-22 for notes.

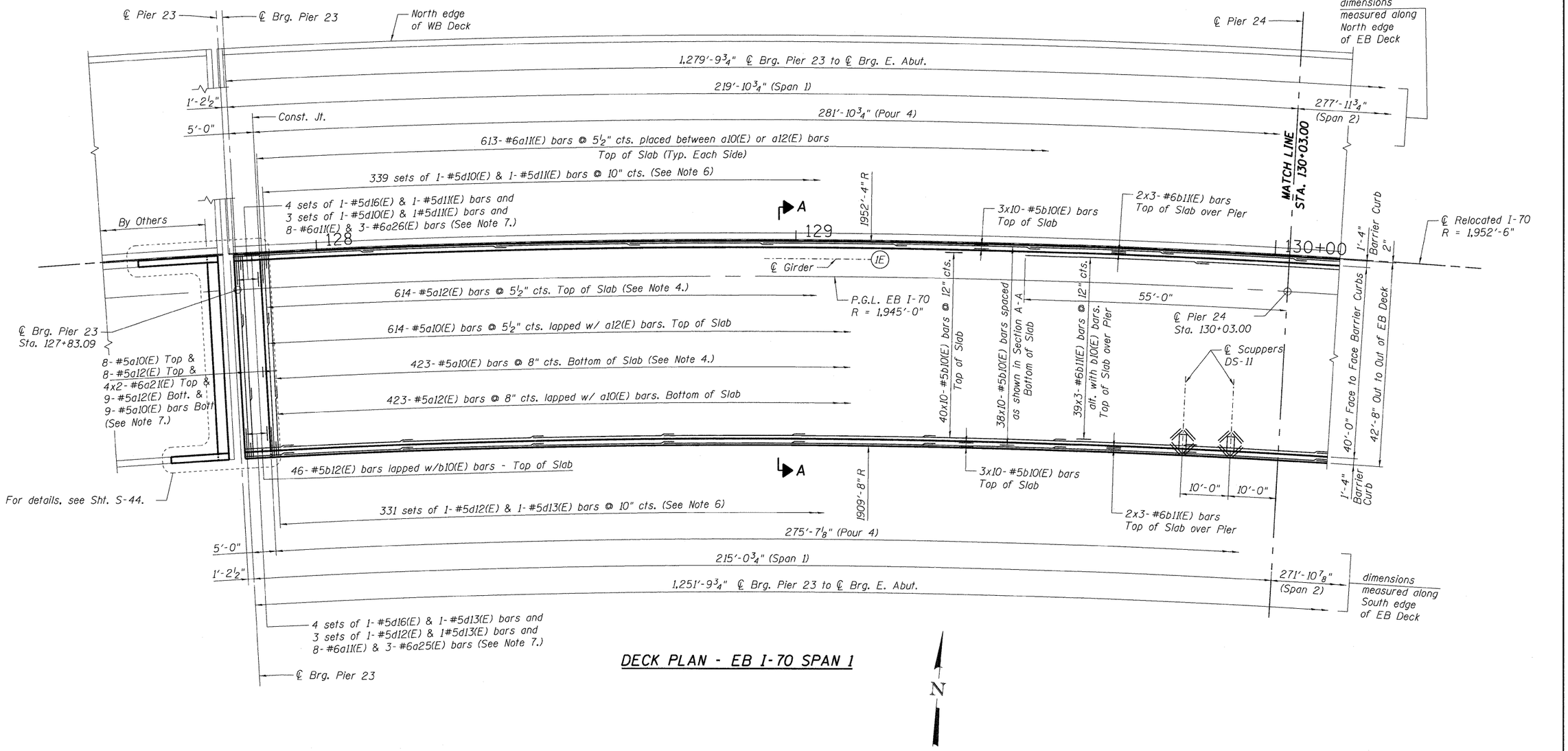
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK CROSS SECTIONS
2 OF 2

SCALE: | SHEET NO. S-23 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	133
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - EB I-70 SPAN 1

NOTES:

1. Work this sheet with Shts. S-22 thru S-47.
2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. Longitudinal b(E) bars shall be sprung into place to be concentric at the spacing noted.
4. Transverse a(E) bars shall be placed radially at the spacing noted. The spacing is measured along ℄ of Girder 1E.
5. Minimum Lap for Deck Reinforcement:
   #5 Bars = 2'-2"
   #6 Bars = 2'-7"
6. Space bars to miss Barrier Curb Joints.
7. For layout of bars and additional edge beam reinforcement, see Shts. S-45 and S-46.

\\B82031B-CONN-95-002-SLUDN,..\B82031B-CONN-95-001-SLUDN,..\DECONN-99-A-ALIGNMENT3.DGN,..\B82031B-CONN-99-001-BLUDN,..\B82031B-CONN-95-001-SHT-SLUDN
6-03-2010, 10:41:23 BDAGNELLO \\FS-9044-04\VAULT\D-TRANS_87\2282\28989-001\STRUCTURE\CAD\01 DESIGN\B82031B\SHEET\B82031B-CONN-95-026-SHT-SLUDN

TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

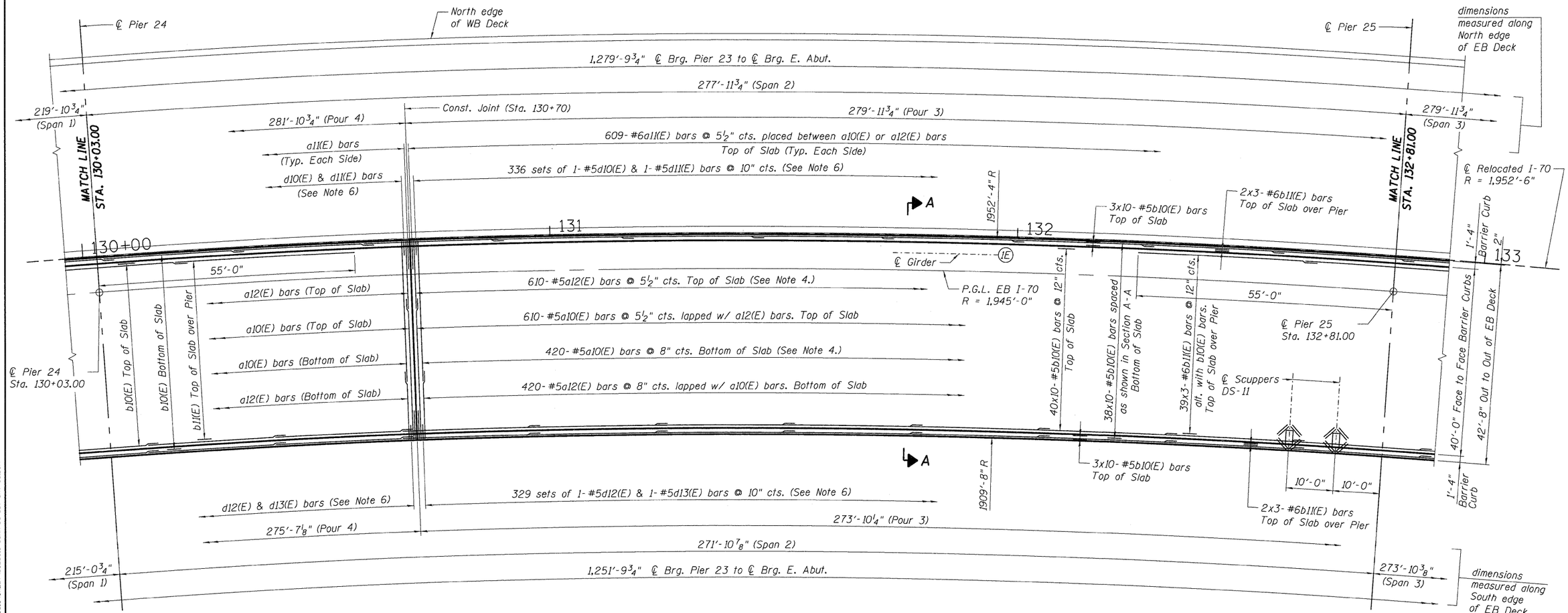
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN EB I-70
1 OF 5

SCALE: | SHEET NO. S-24 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	134
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - EB I-70 SPAN 2

NOTE:
See Sht. S-24 for notes.

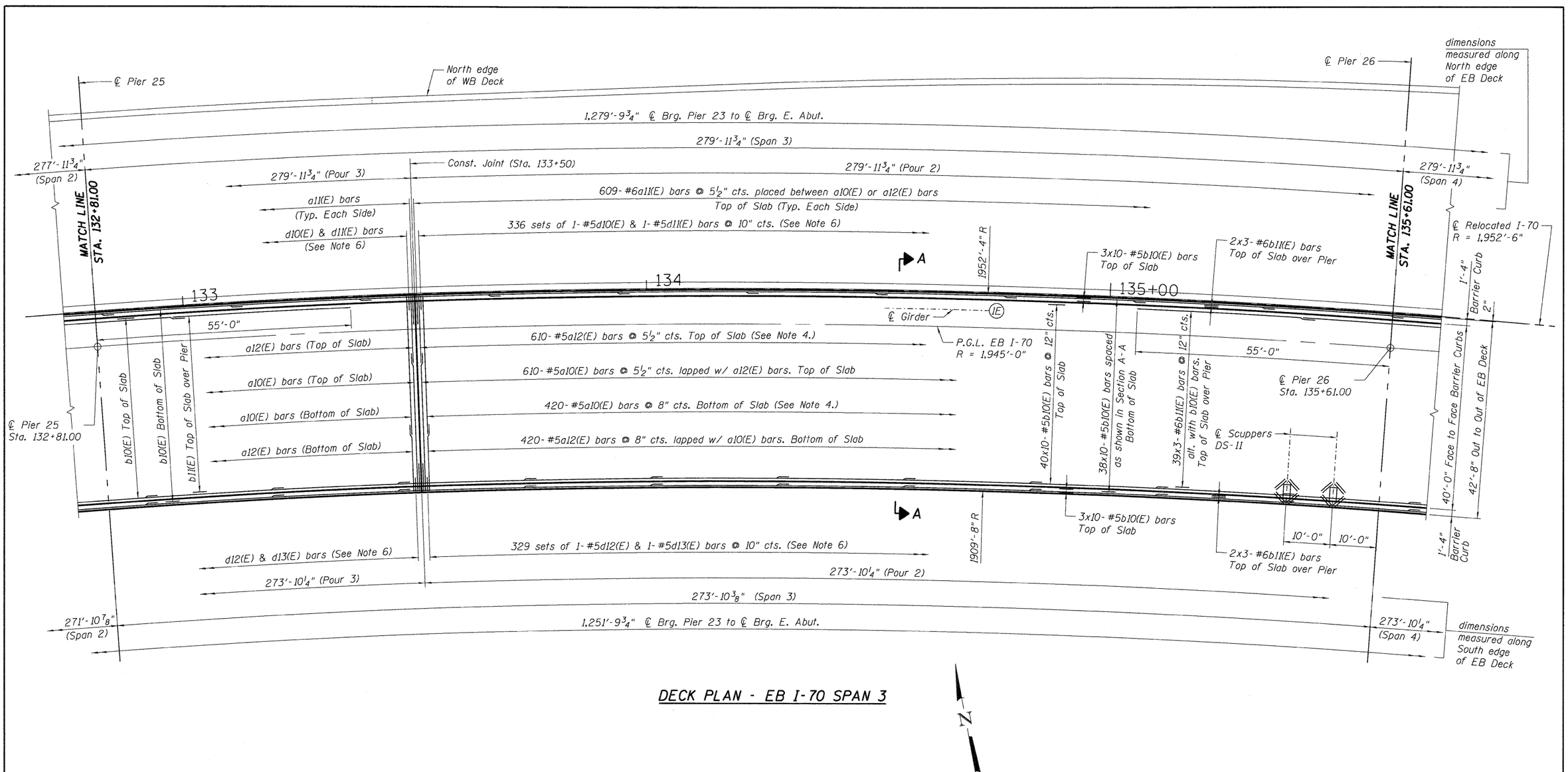
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN EB I-70
2 OF 5

SCALE: | SHEET NO. S-25 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	135
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - EB I-70 SPAN 3

NOTE:
See Sht. S-24 for notes.

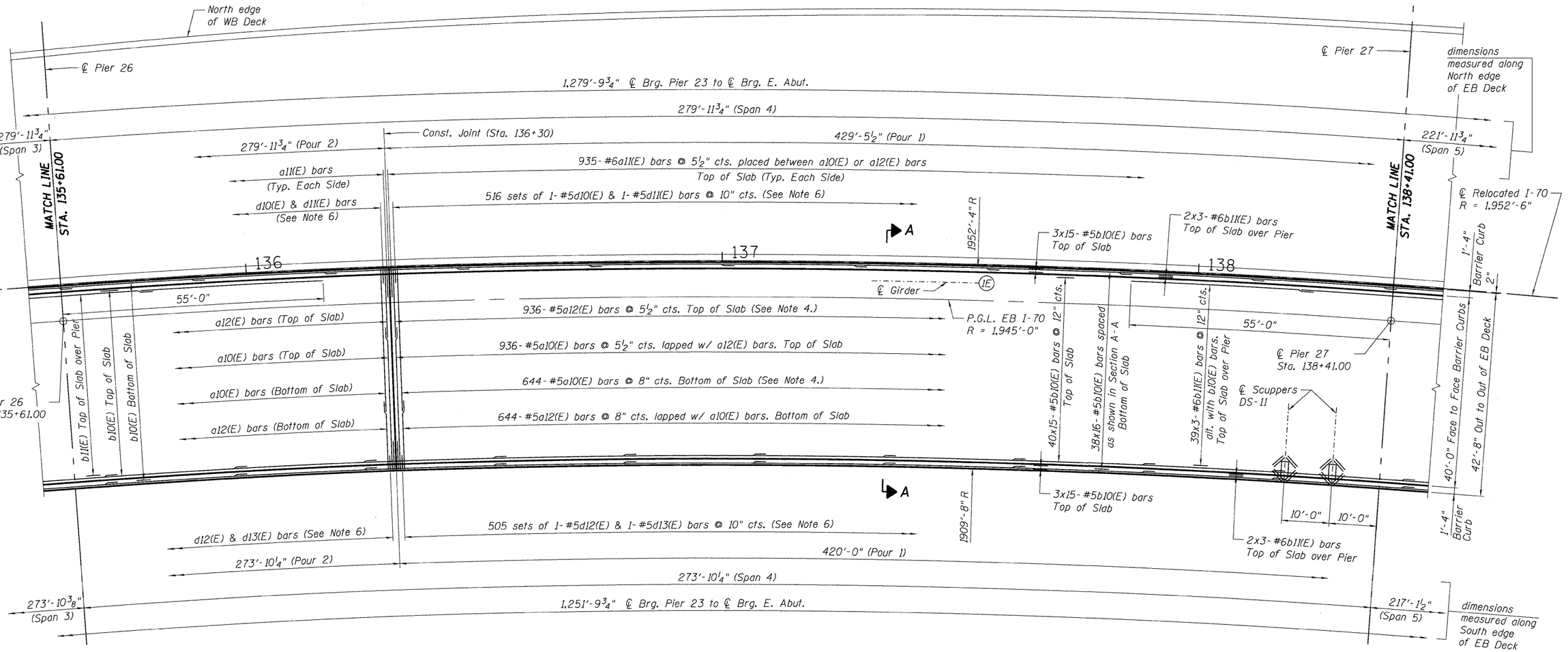
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN EB I-70
3 OF 5

SCALE: | SHEET NO. S-26 OF S-111 | STA. 134+22.00 TO STA.

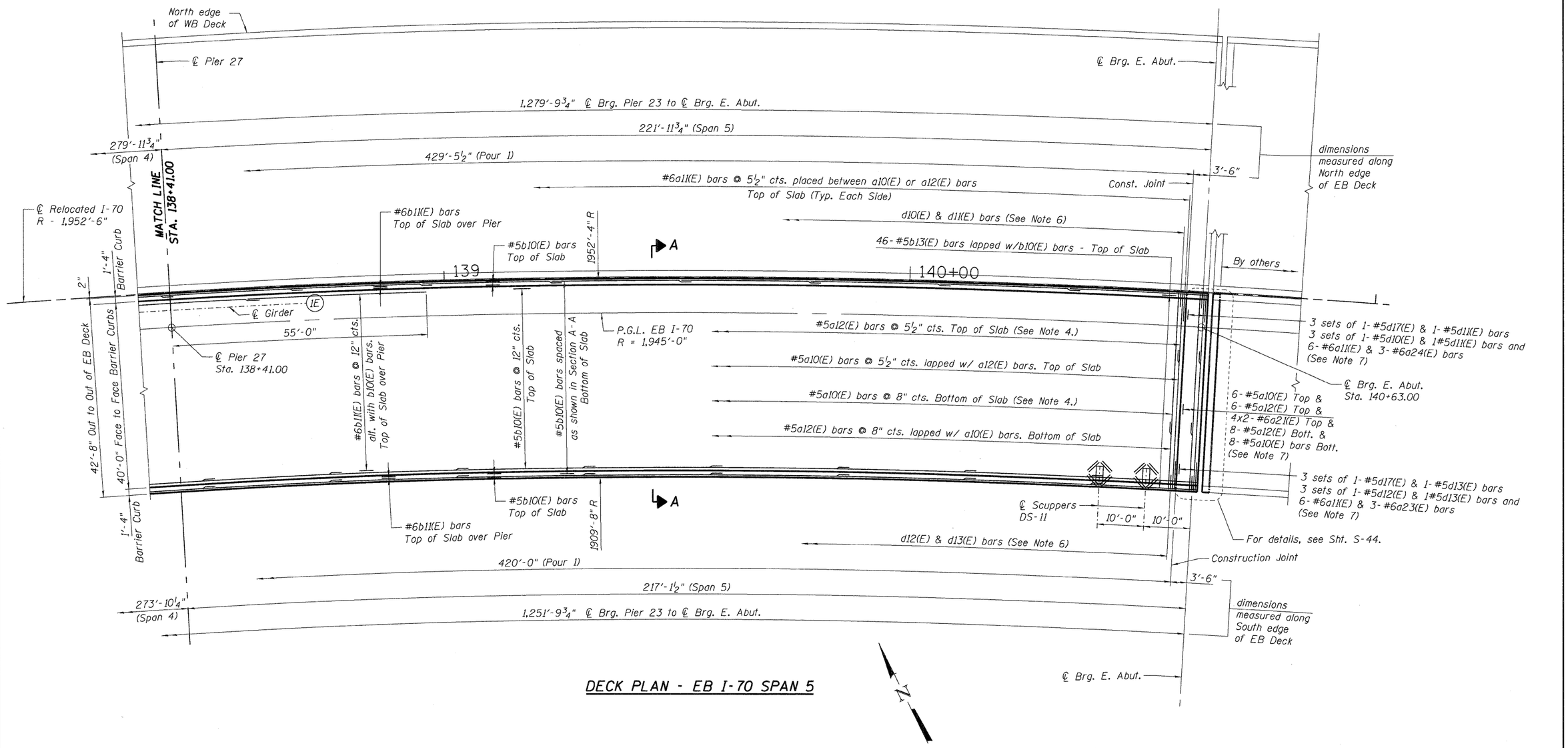
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	136
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - EB I-70 SPAN 4

NOTE:
See Sht. S-24 for notes.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**DECK PLAN EB I-70 4 OF 5**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	137
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-27 OF S-111 STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - EB I-70 SPAN 5

NOTE:
See Sht. S-24 for notes.

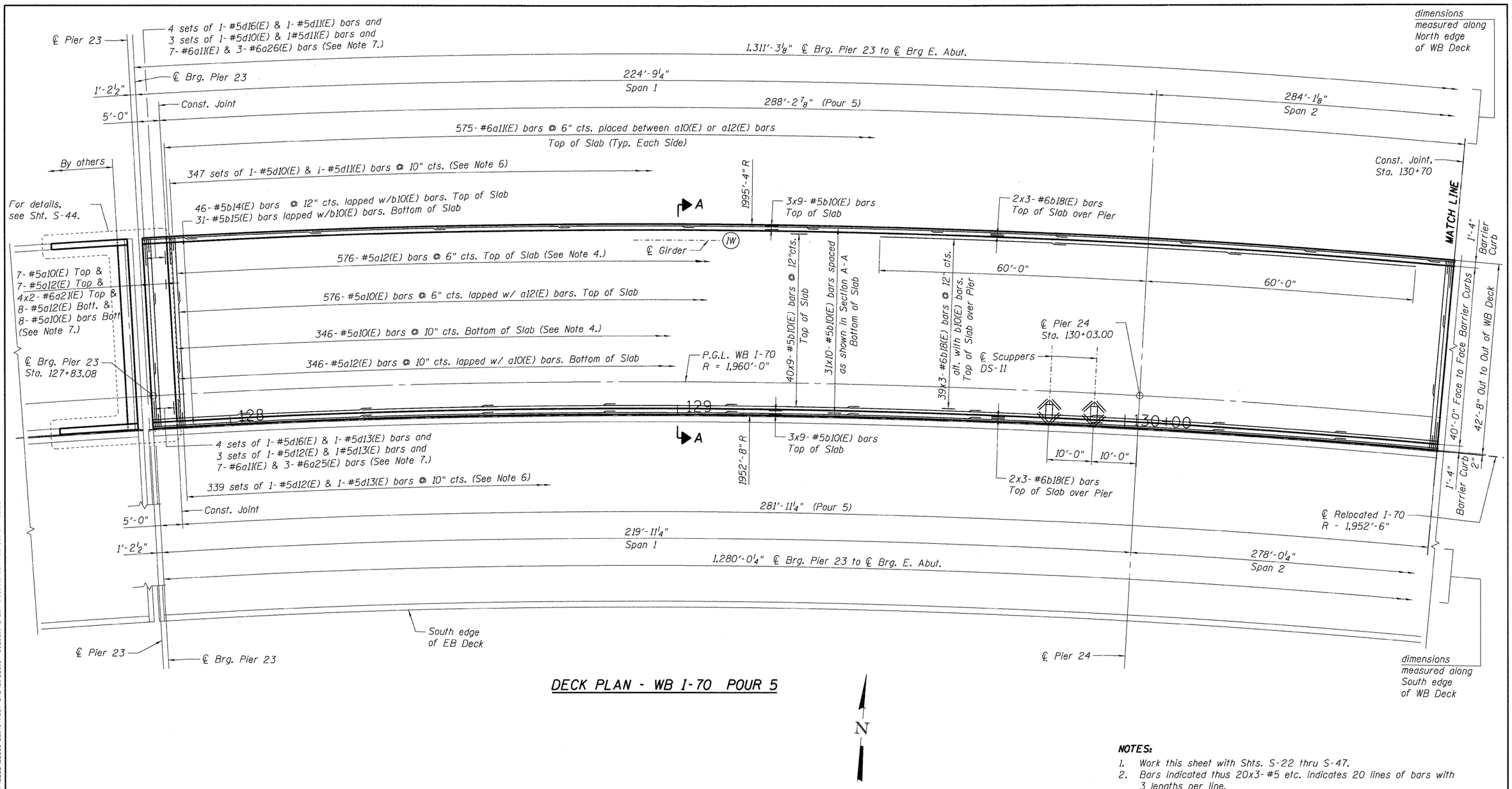
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN EB I-70
5 OF 5

SCALE: | SHEET NO. S-28 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	138
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



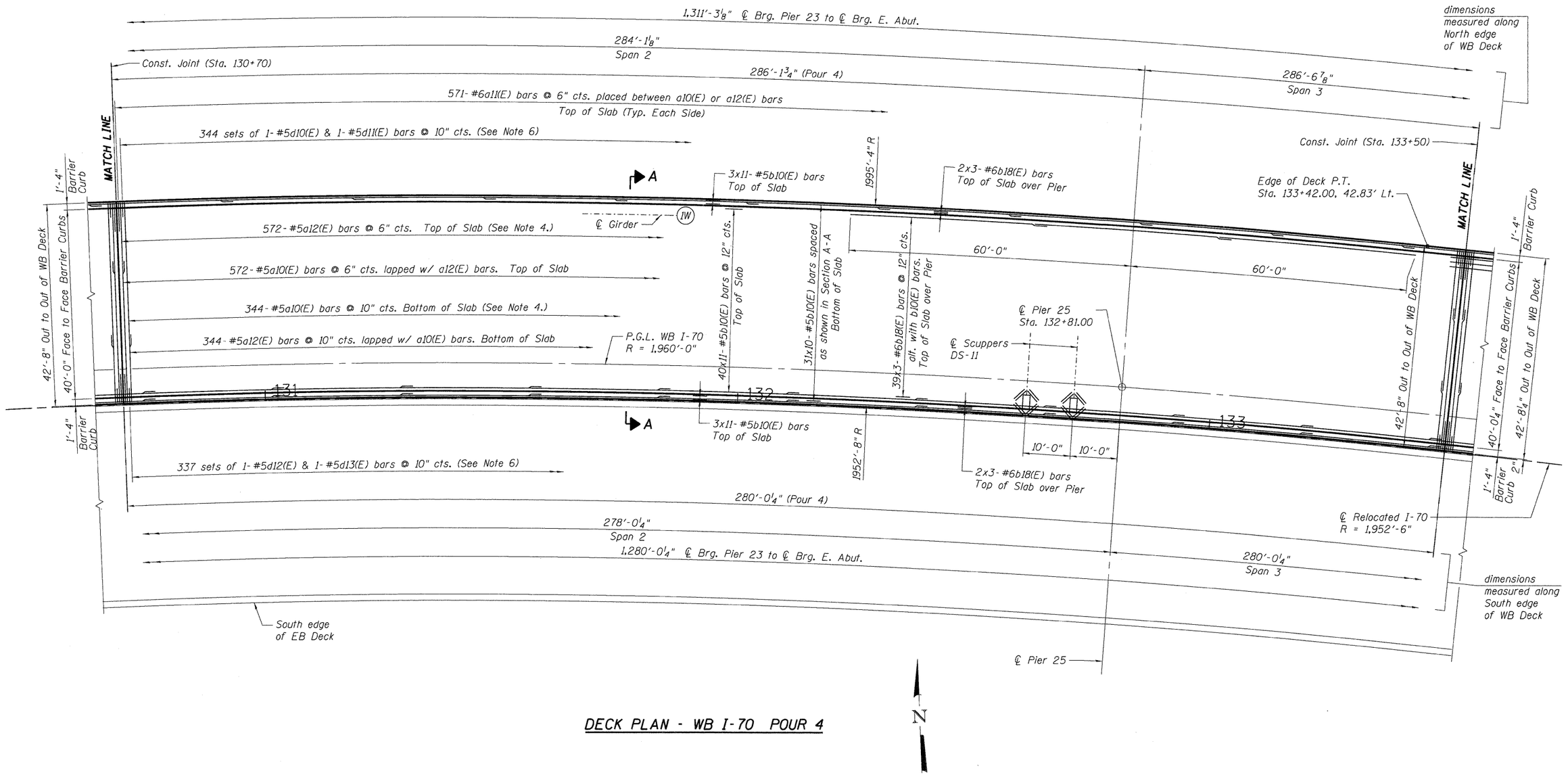
DECK PLAN - WB I-70 POUR 5

N

NOTES:

1. Work this sheet with Shts. S-22 thru S-47.
2. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. Longitudinal b(E) bars shall be sprung into place to be concentric at the spacing noted.
4. Transverse a(E) bars shall be placed radially to P.G.L. at the spacing noted. The spacing is measured along ℄ of Girder 1W.
5. Minimum Lap for Deck Reinforcement:
   #5 Bars = 2'-2"
   #6 Bars = 2'-7"
6. Space bars to miss Barrier Curb Joints.
7. For layout of bars and additional edge beam reinforcement, see Shts. S-45 and S-46.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**DECK PLAN WB I-70** **1 OF 5**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	139
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-29 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT



DECK PLAN - WB I-70 POUR 4

NOTE:
See Sht. S-29 for notes.

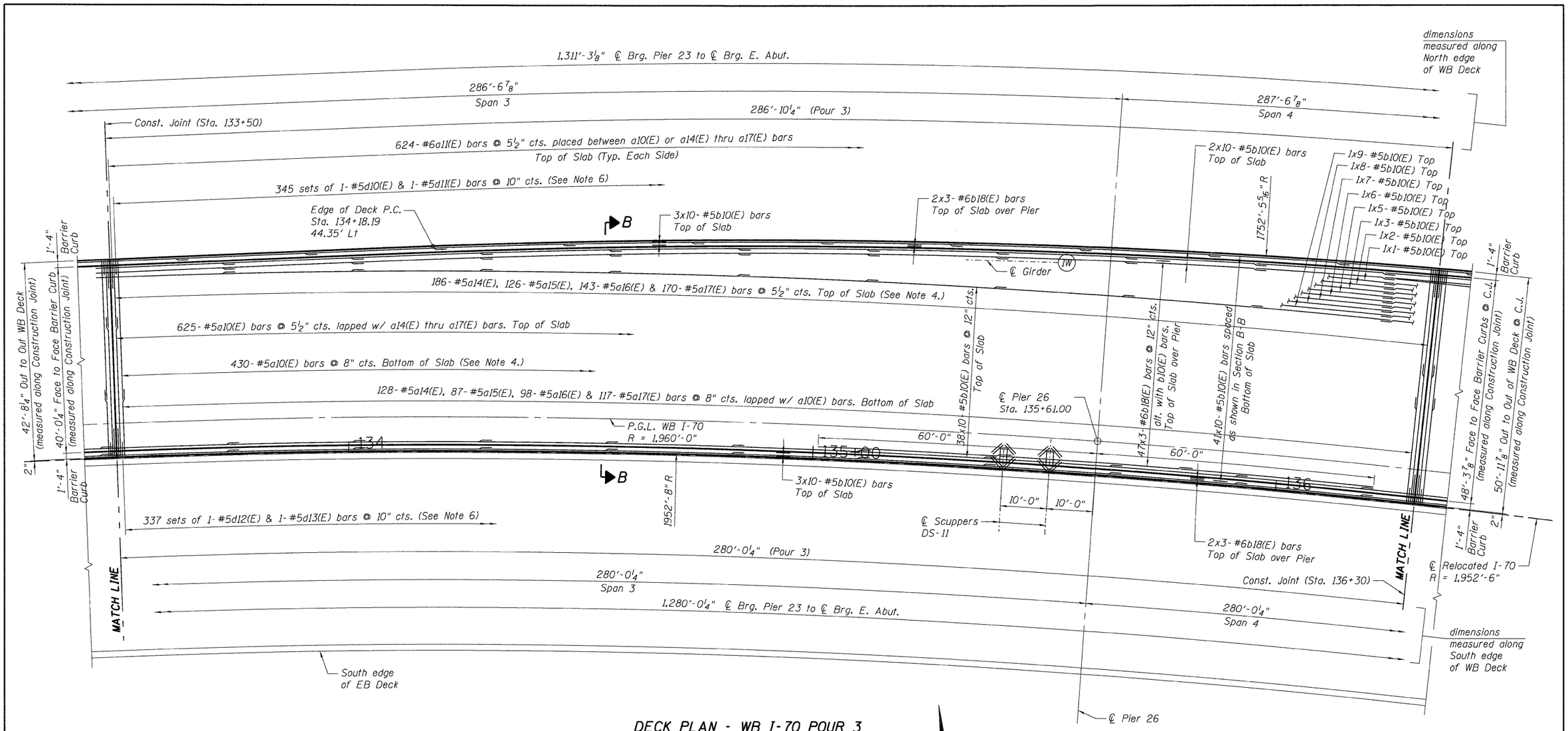
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN WB I-70
2 OF 5

SCALE: | SHEET NO. S-30 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	140
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - WB I-70 POUR 3

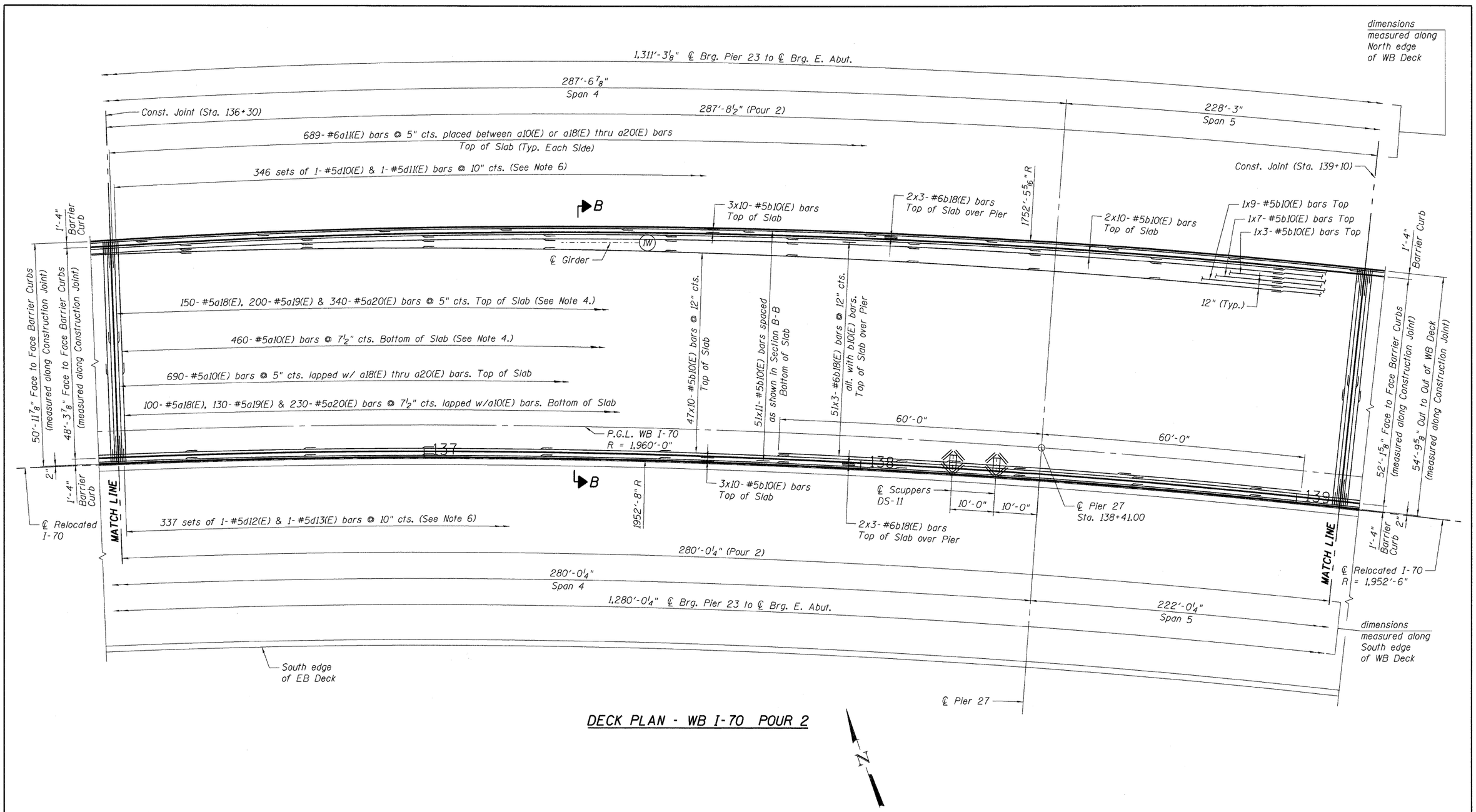
NOTE:
See Sht. S-29 for notes.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS		DRAWN - FD	REVISED -	
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

DECK PLAN WB I-70
3 OF 5

SCALE: | SHEET NO. S-31 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	141
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - WB I-70 POUR 2

NOTE:
See Sht. S-29 for notes.

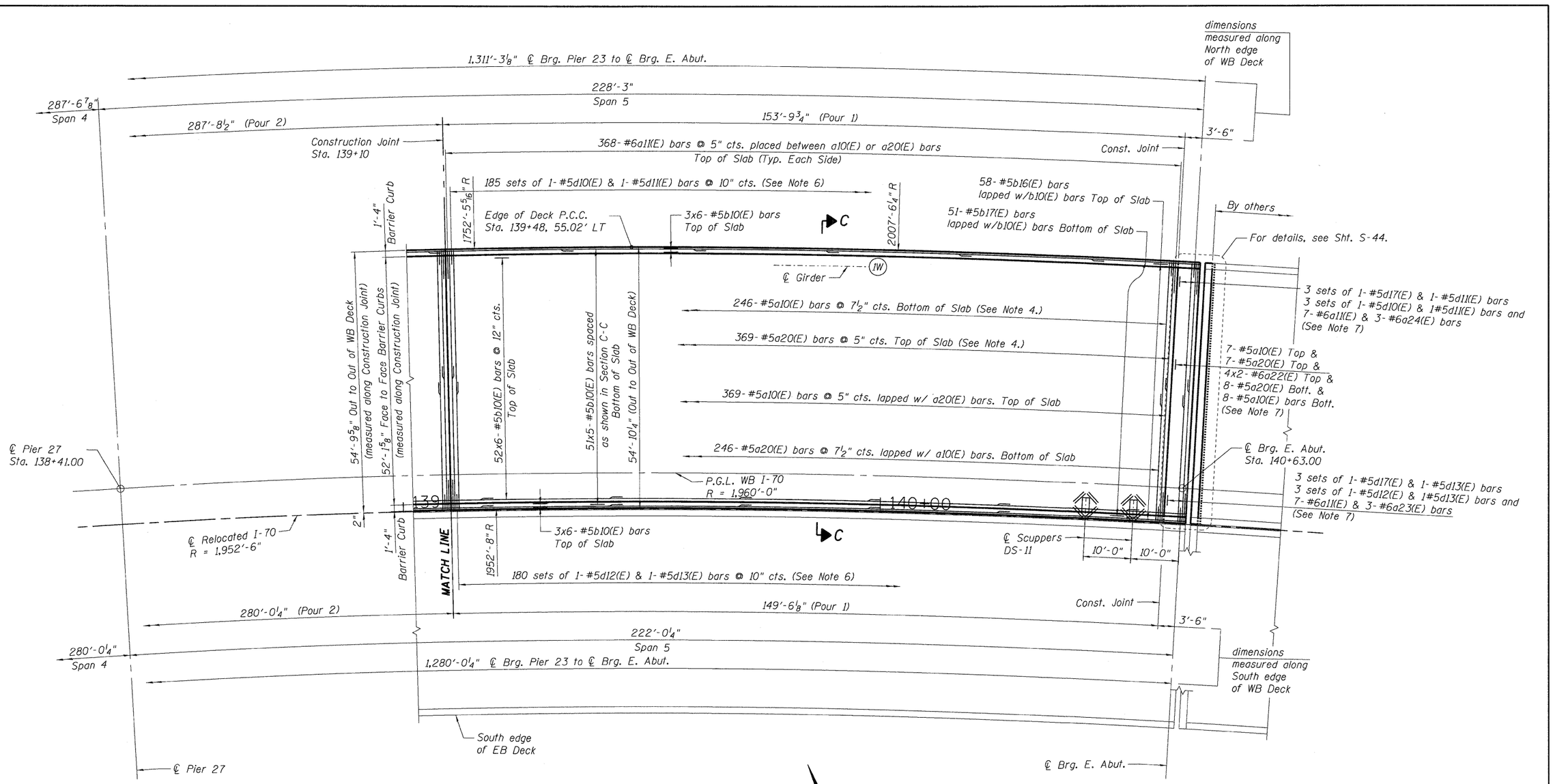
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK PLAN WB I-70
4 OF 5

SCALE: | SHEET NO. S-32 OF S-111 | STA. 134+22.00 TO STA.

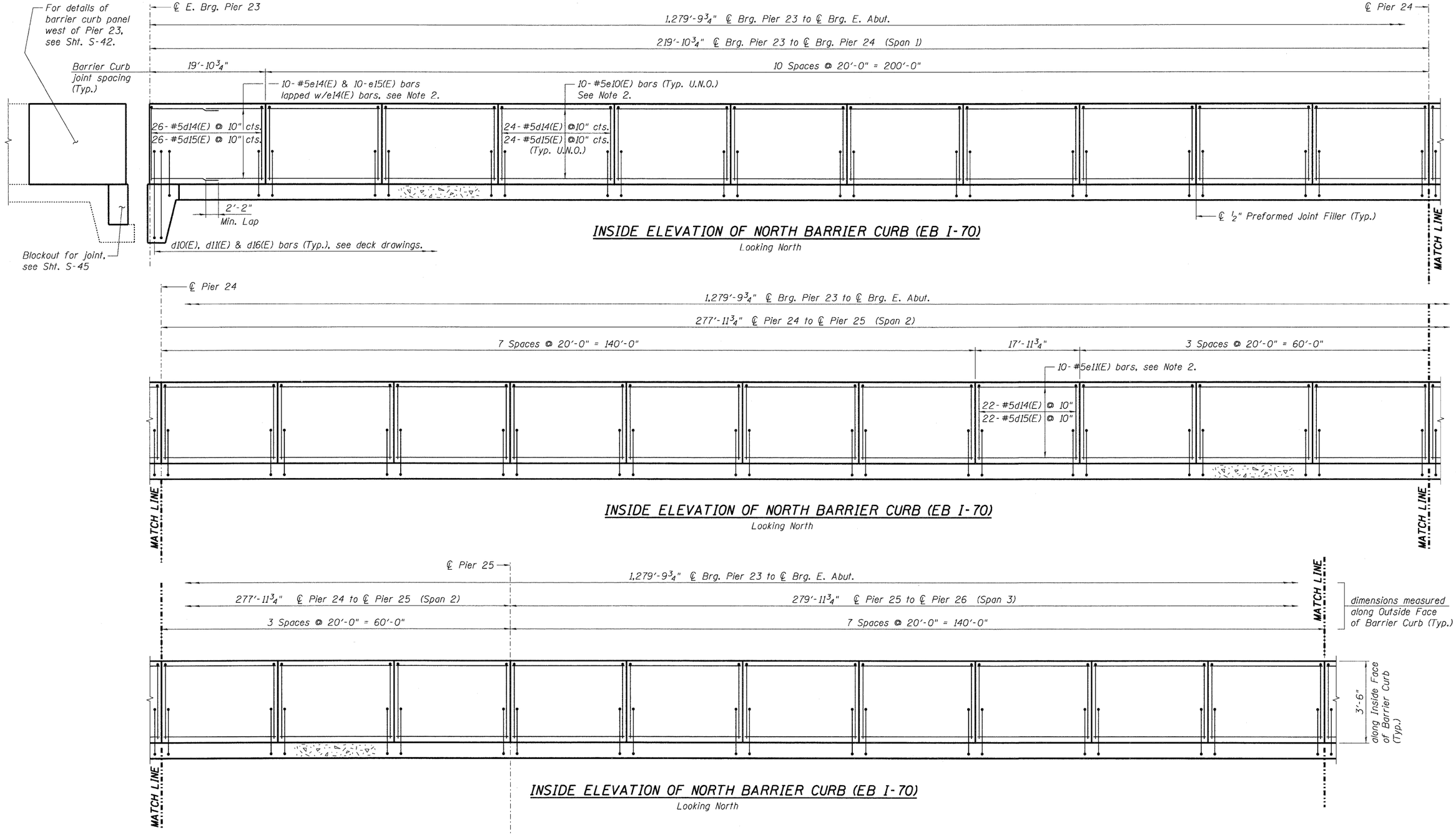
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	142
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DECK PLAN - WB I-70 POUR 1

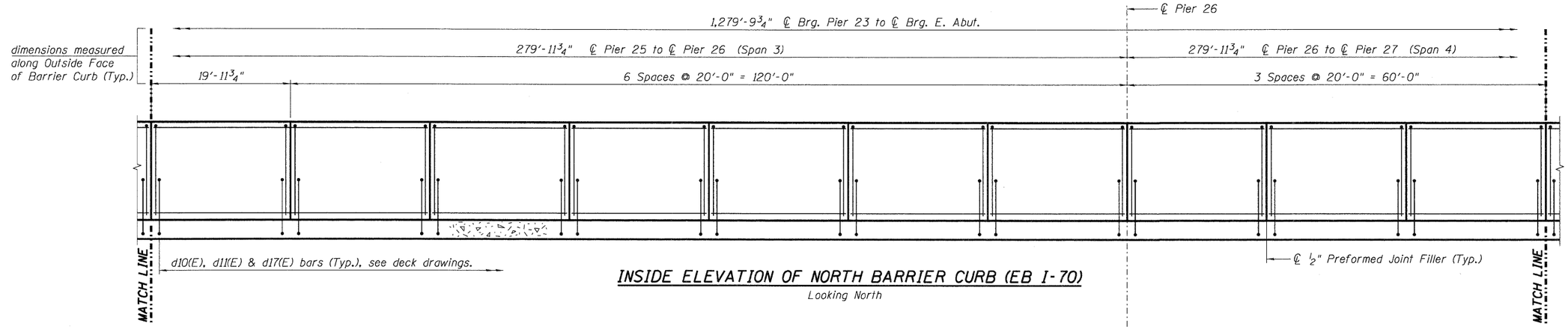
NOTE:
See Sht. S-29 for notes.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**DECK PLAN WB I-70 5 OF 5**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	143
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE:	SHEET NO. S-33 OF S-111	STA. 134+22.00 TO STA.	SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



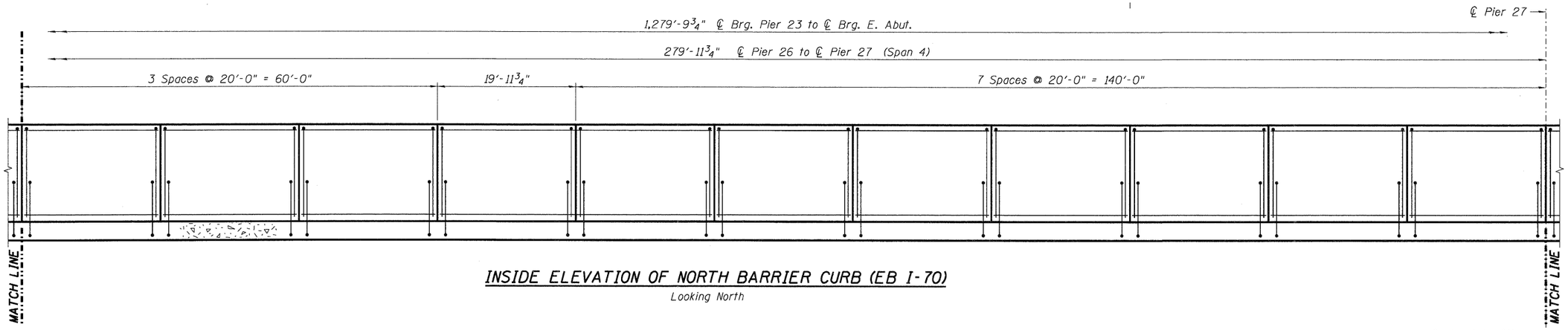
NOTE:
See Sht. S-35 for Notes.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**PARAPET ELEVATIONS EB I-70 1 OF 4**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	144
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -			SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE:	SHEET NO. S-34 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



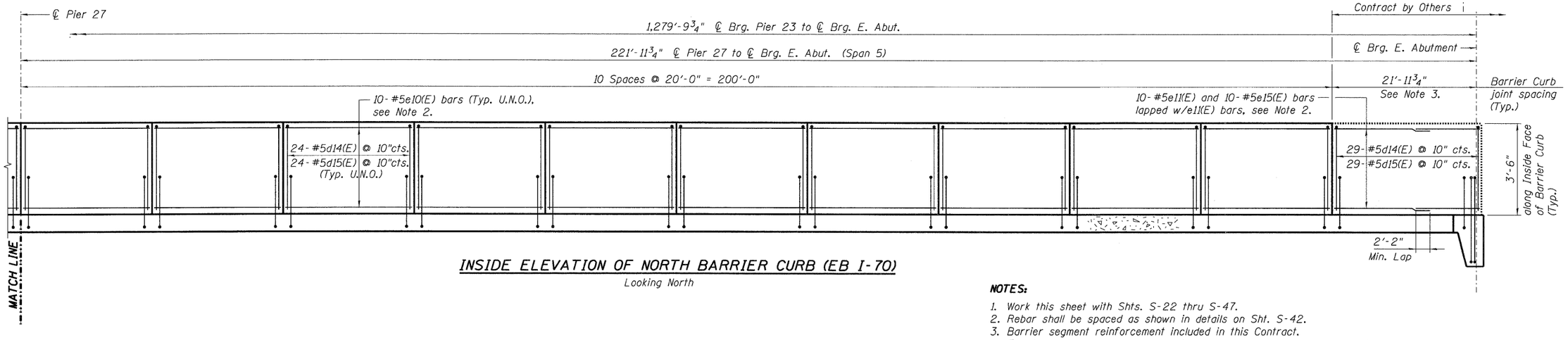
INSIDE ELEVATION OF NORTH BARRIER CURB (EB I-70)

Looking North



INSIDE ELEVATION OF NORTH BARRIER CURB (EB I-70)

Looking North



INSIDE ELEVATION OF NORTH BARRIER CURB (EB I-70)

Looking North

NOTES:

1. Work this sheet with Shts. S-22 thru S-47.
2. Rebar shall be spaced as shown in details on Sht. S-42.
3. Barrier segment reinforcement included in this Contract. Forming and concrete placement for barrier included in Contract by Others.

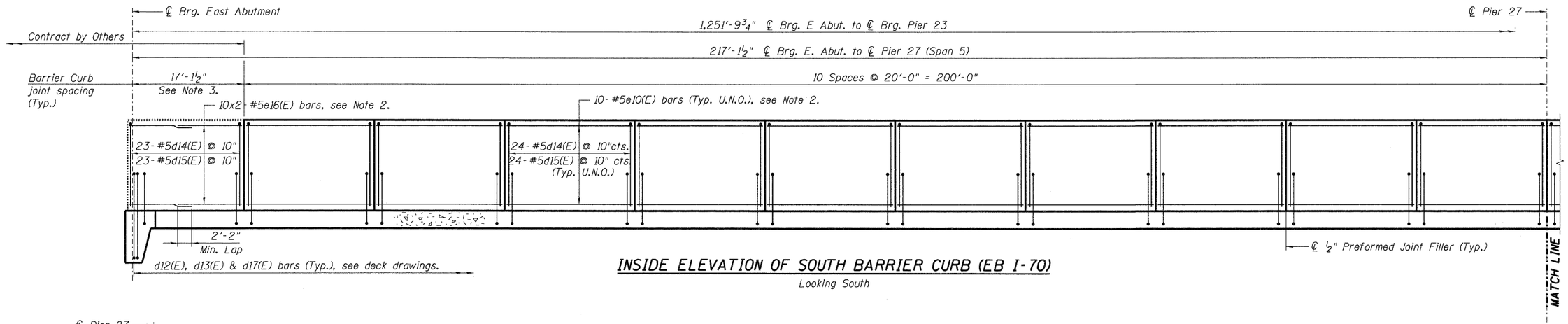
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PARAPET ELEVATIONS EB I-70
2 OF 4

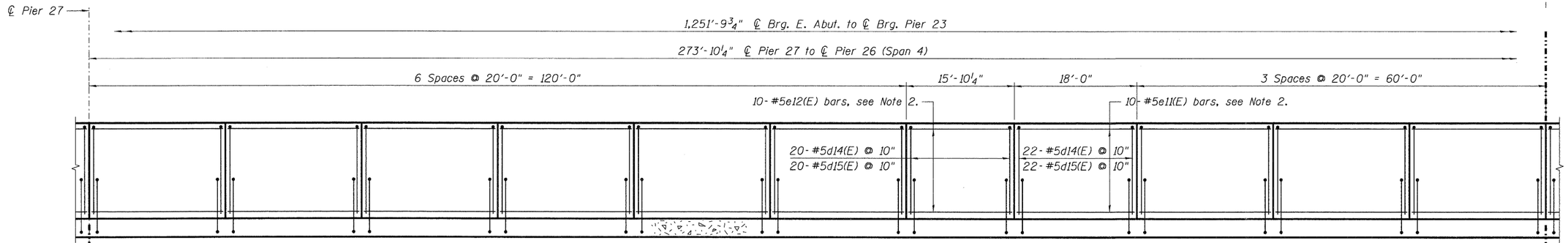
SCALE: | SHEET NO. S-35 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	145
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



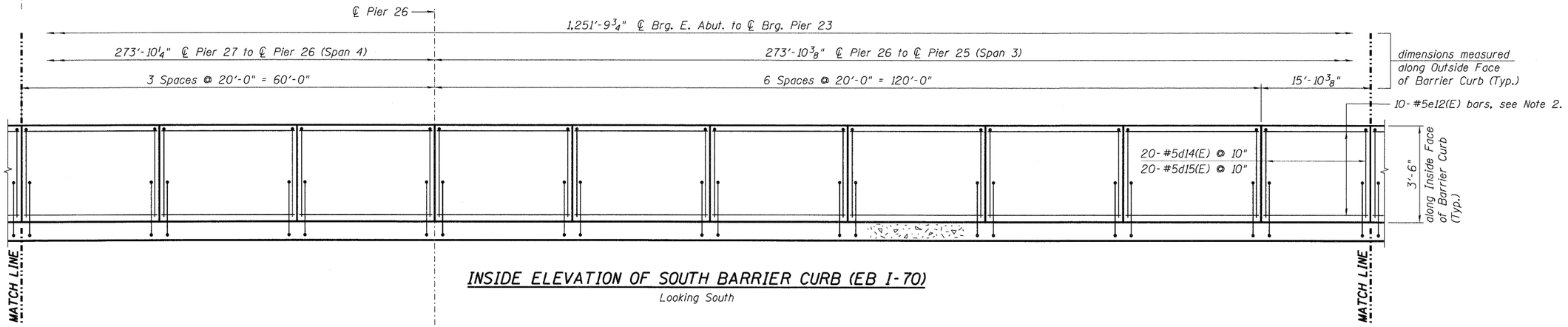
INSIDE ELEVATION OF SOUTH BARRIER CURB (EB I-70)

Looking South



INSIDE ELEVATION OF SOUTH BARRIER CURB (EB I-70)

Looking South

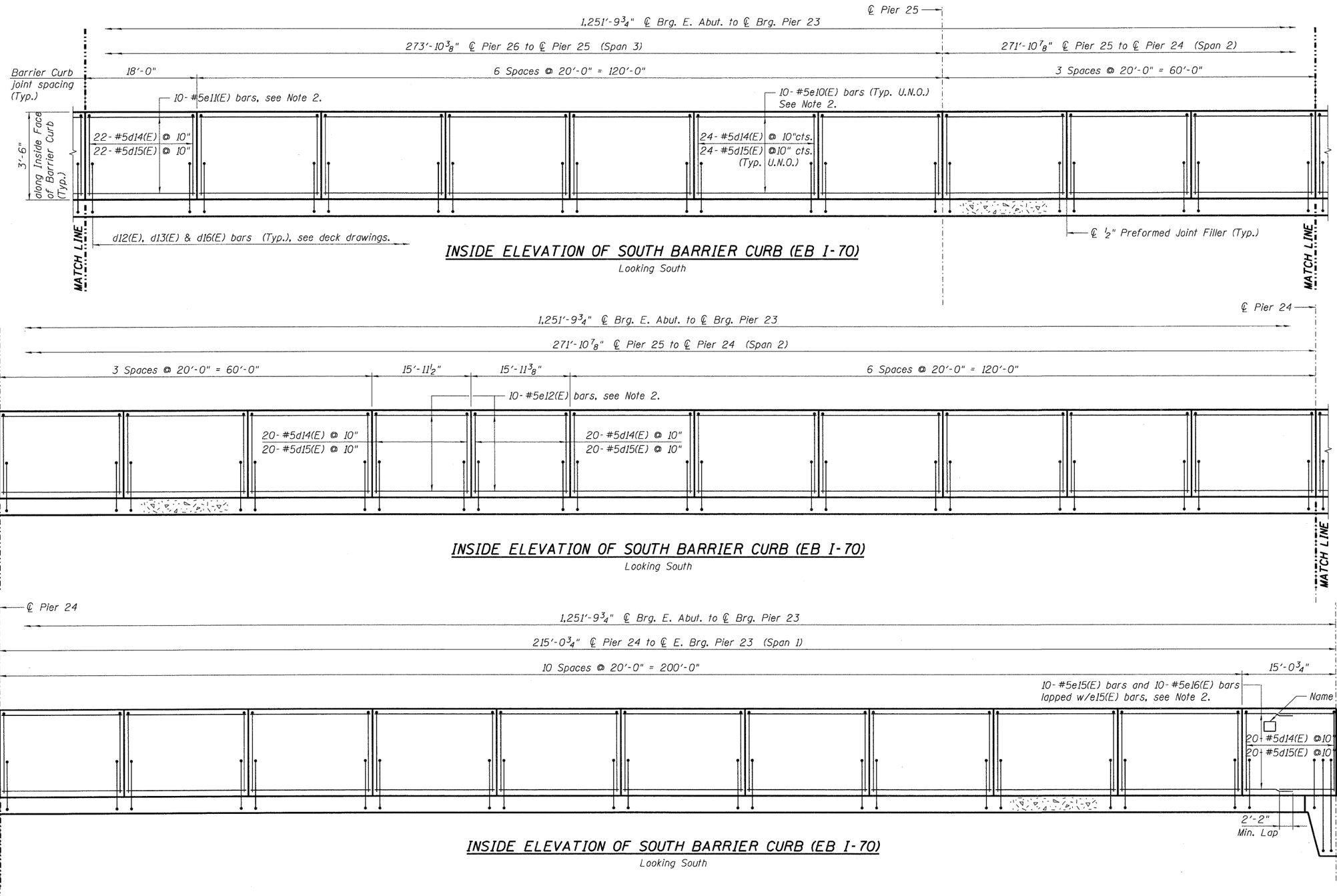


INSIDE ELEVATION OF SOUTH BARRIER CURB (EB I-70)

Looking South

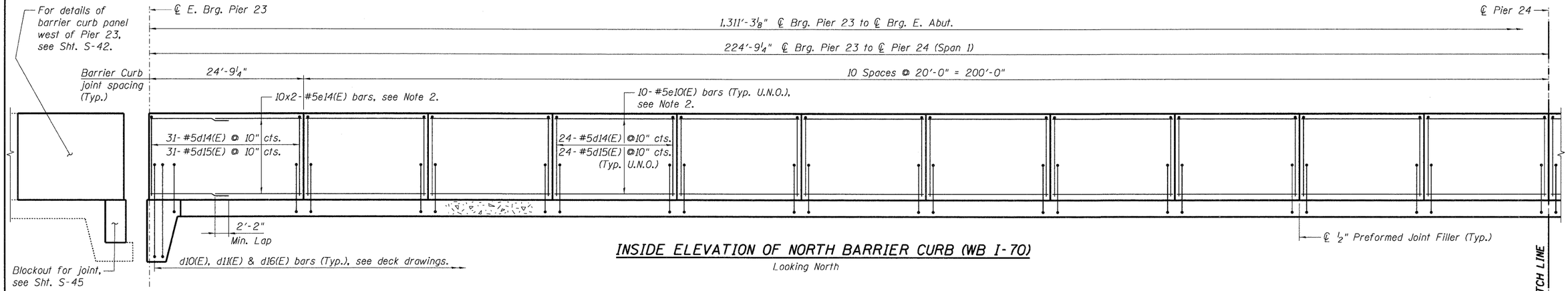
NOTE:
See Sht. S-35 for Notes.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**PARAPET ELEVATIONS EB I-70 3 OF 4**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	146
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE: SHEET NO. S-36 OF S-111 STA. 134+22.00 TO STA.	SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



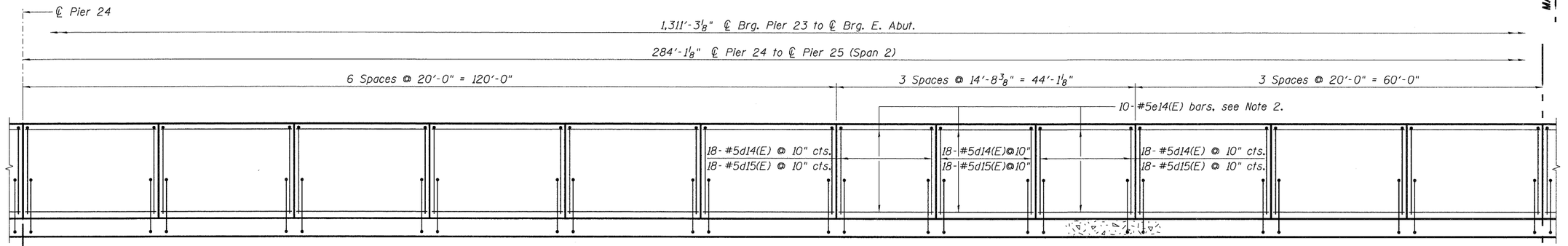
NOTE:
See Sht. S-35 for Notes.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**PARAPET ELEVATIONS EB I-70 4 OF 4**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	147
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -			SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: SHEET NO. S-37 OF S-111 STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



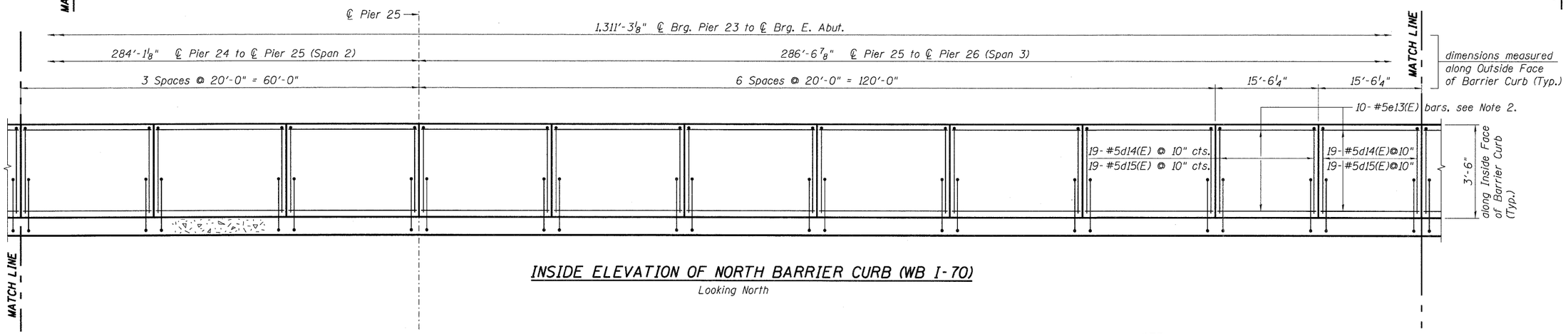
INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North



INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North



INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North

NOTE:
See Sht. S-39 for Notes.

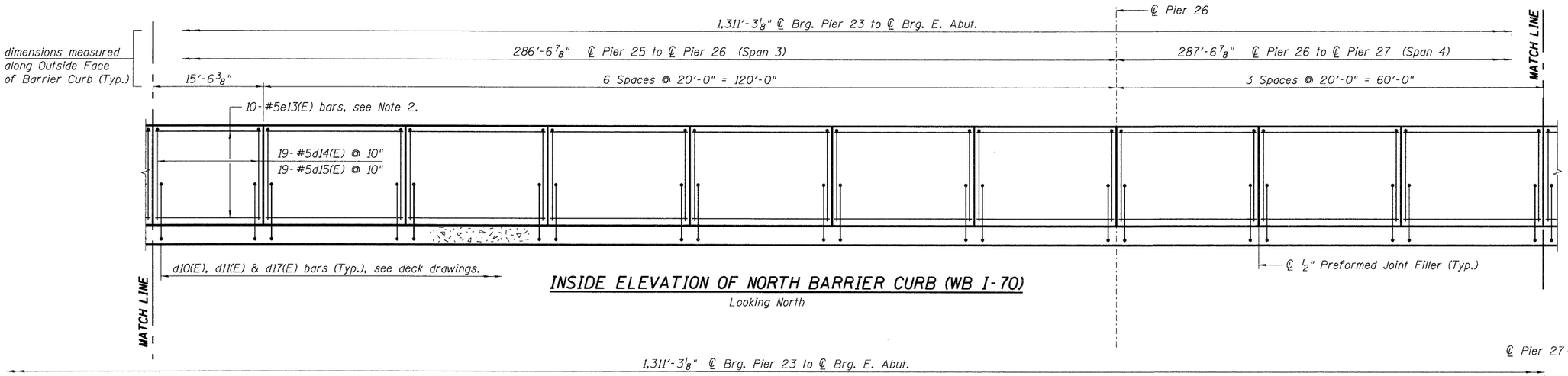
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PARAPET ELEVATIONS WB I-70
1 OF 4

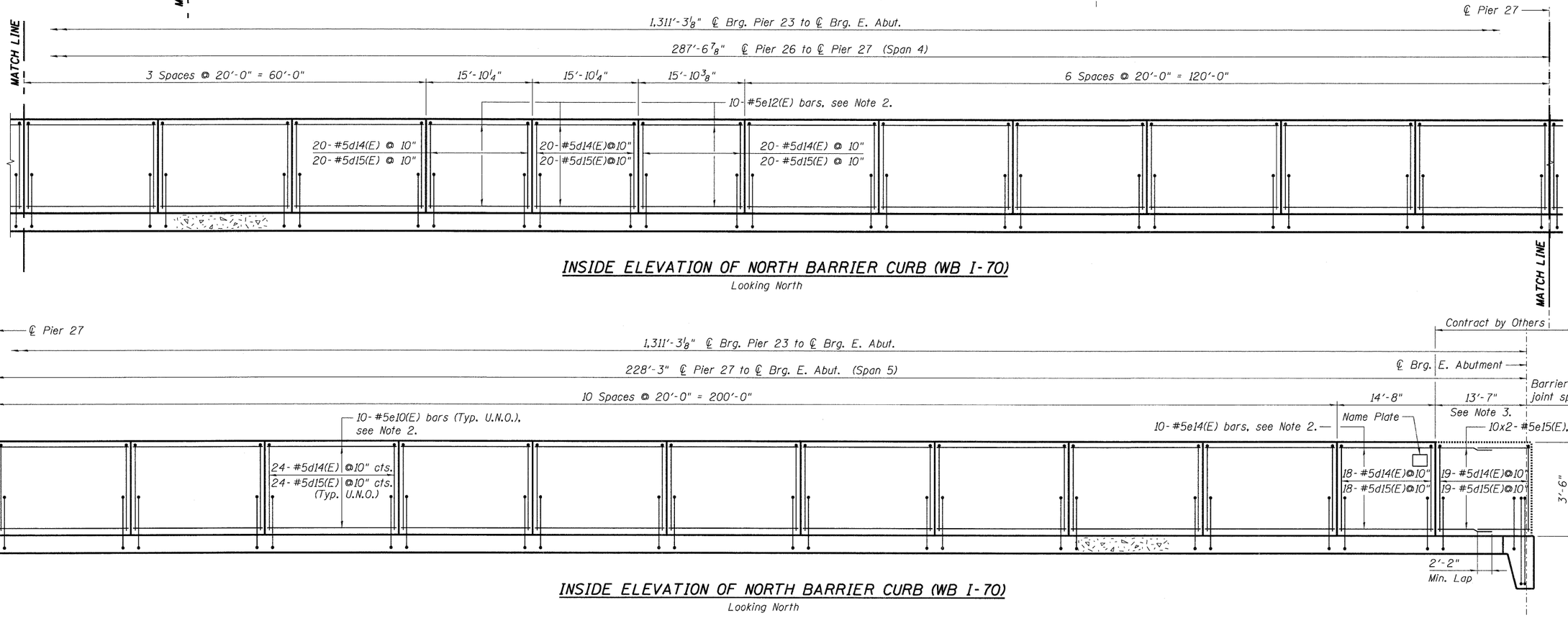
SCALE: | SHEET NO. S-38 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	148
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



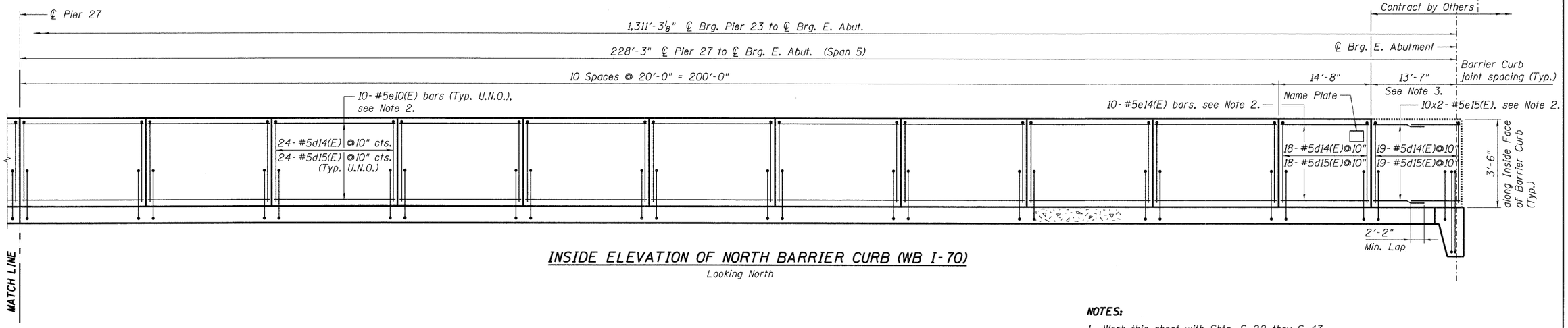
INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North



INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North



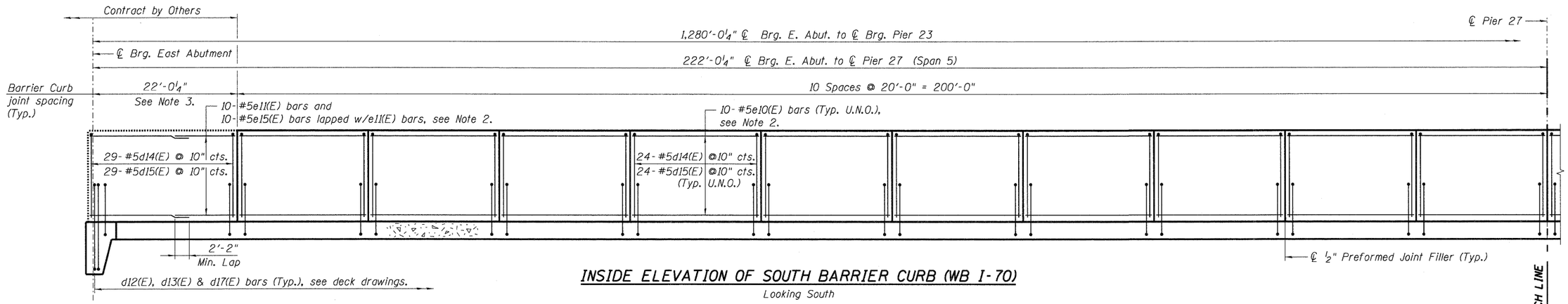
INSIDE ELEVATION OF NORTH BARRIER CURB (WB I-70)

Looking North

NOTES:

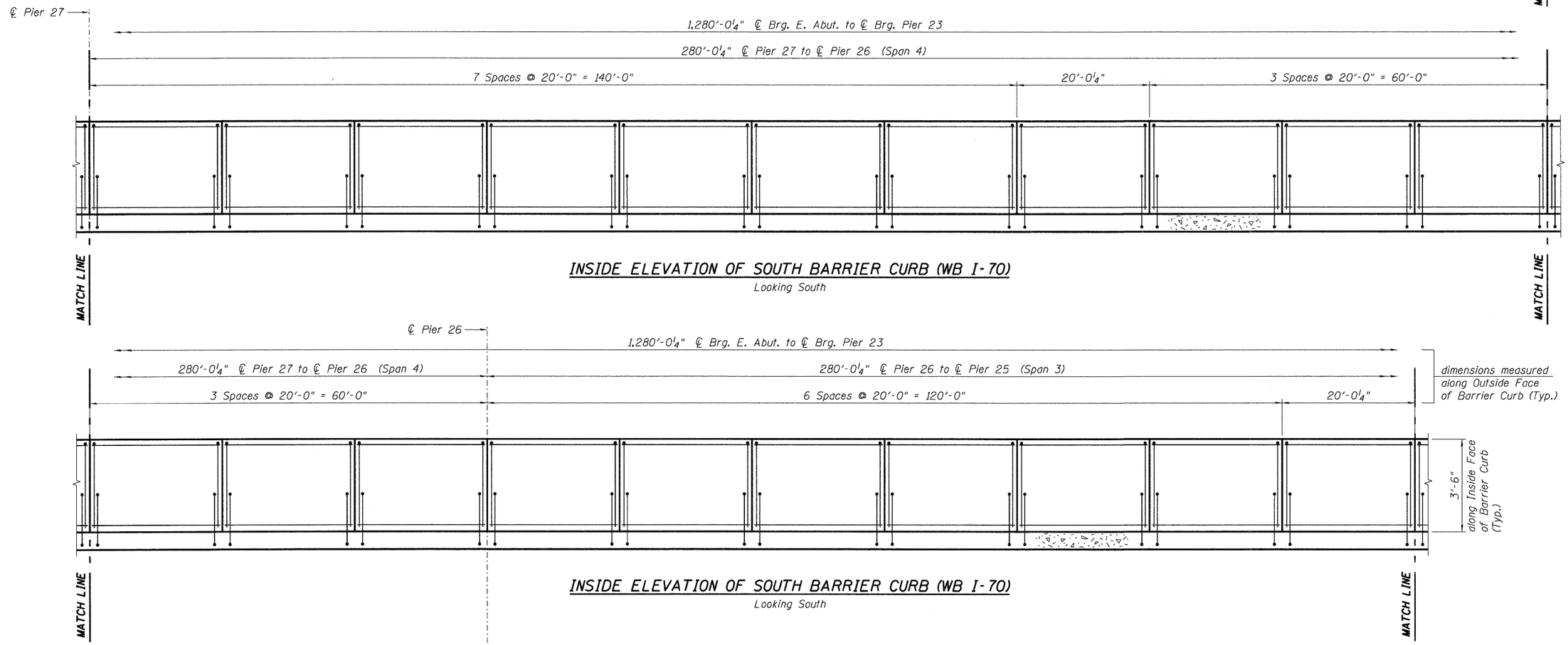
1. Work this sheet with Shts. S-22 thru S-47.
2. Rebar shall be spaced as shown in details on Sht. S-42.
3. Barrier segment reinforcement included in this Contract. Forming and concrete placement for barrier included in Contract by Others.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**PARAPET ELEVATIONS WB I-70 2 OF 4**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - FD	REVISED -			998	82-2-1HVB	ST. CLAIR	285	149
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -			SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE:	SHEET NO. S-39 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South



INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South

INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South

NOTE:
See Sht. S-39 for Notes.

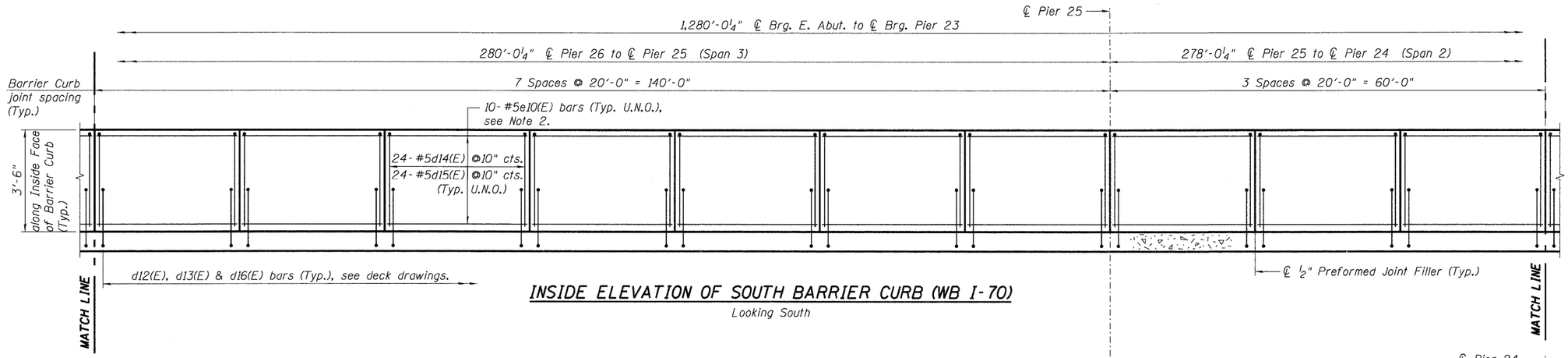
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PARAPET ELEVATIONS WB I-70
3 OF 4

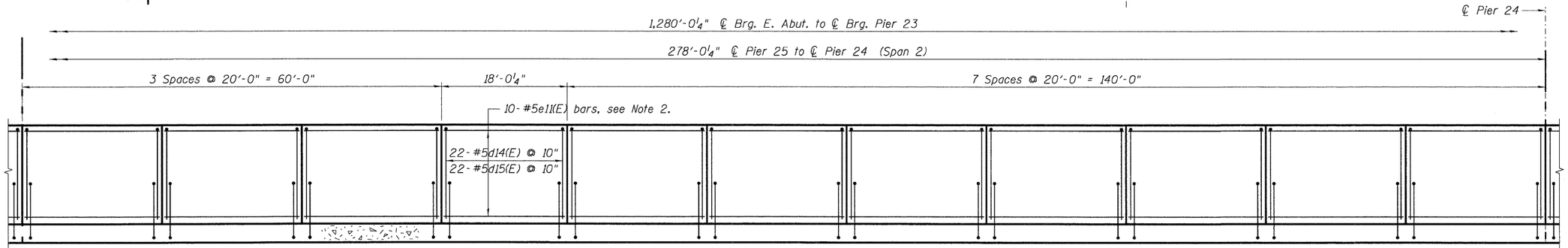
SCALE: | SHEET NO. S-40 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	150
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



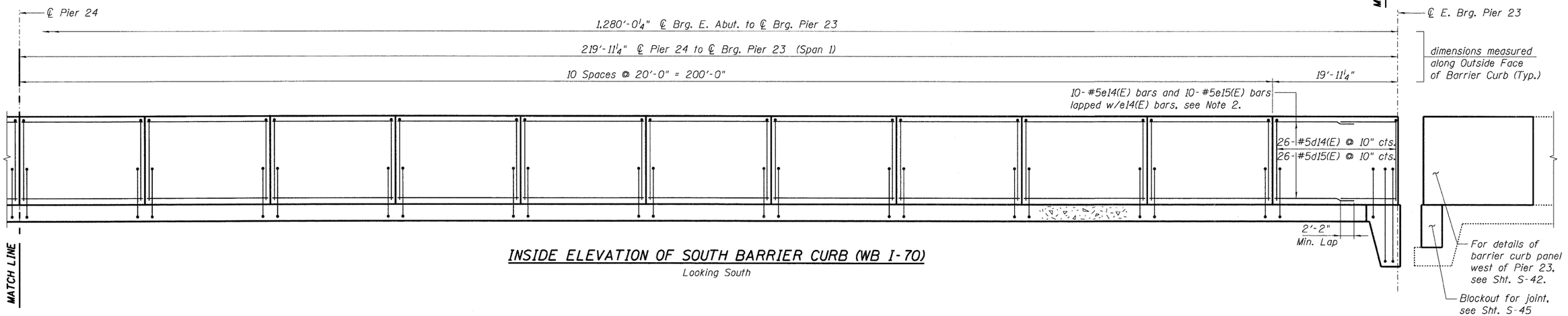
INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South



INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South



INSIDE ELEVATION OF SOUTH BARRIER CURB (WB I-70)

Looking South

NOTE:
See Sht. S-39 for Notes.

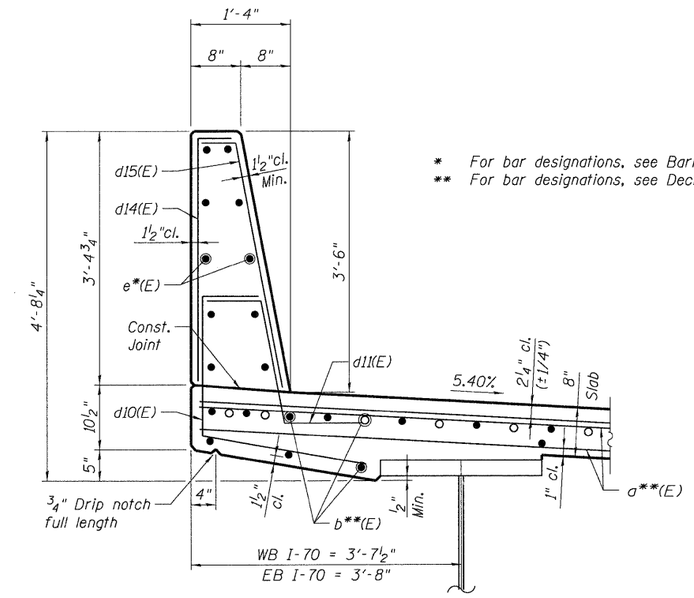
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PARAPET ELEVATIONS WB I-70
4 OF 4

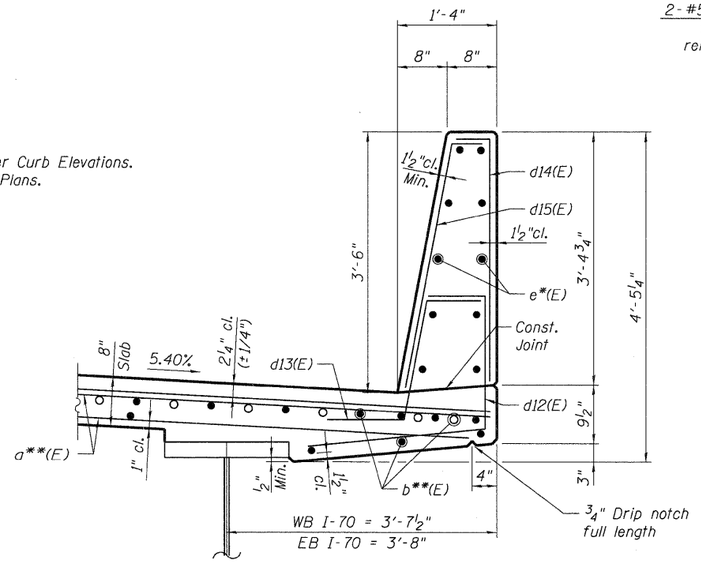
SCALE: | SHEET NO. S-41 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	151
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

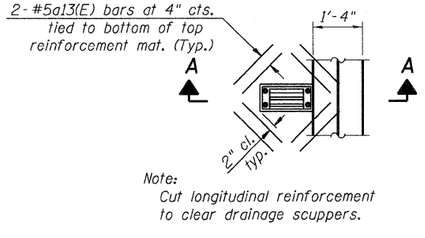


* For bar designations, see Barrier Curb Elevations.
** For bar designations, see Deck Plans.

NORTH BARRIER CURB DETAIL

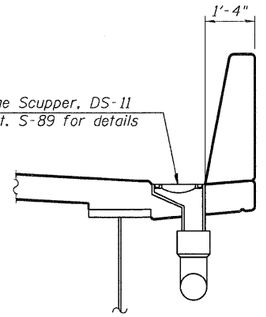


SOUTH BARRIER CURB DETAIL

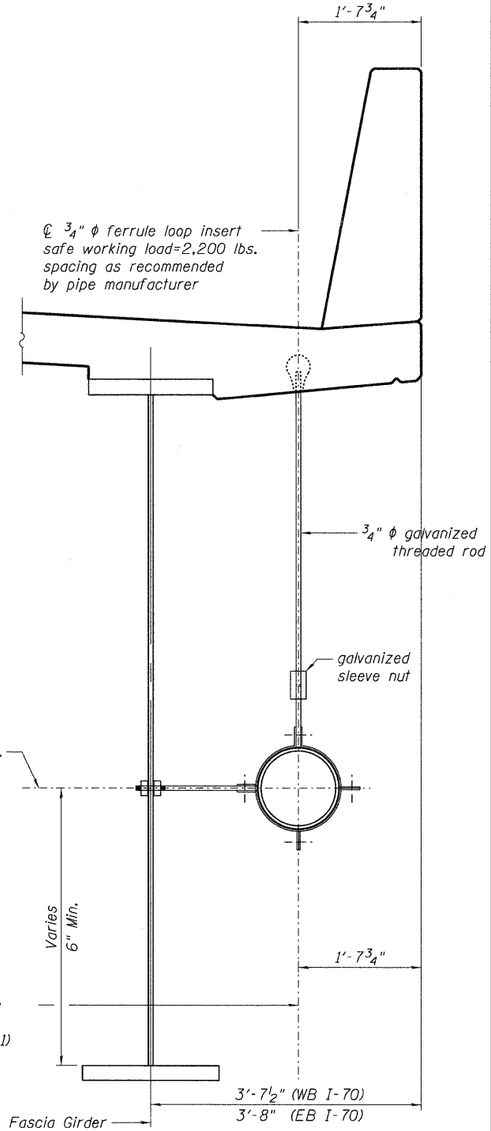


Note:
Cut longitudinal reinforcement to clear drainage scuppers.

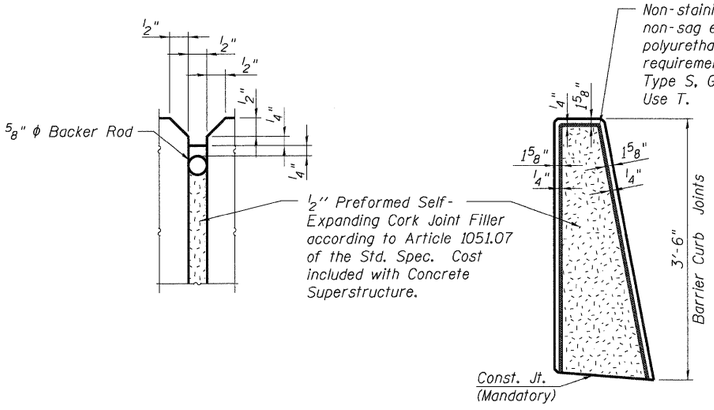
PLAN



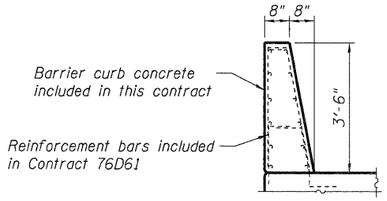
SECTION A-A



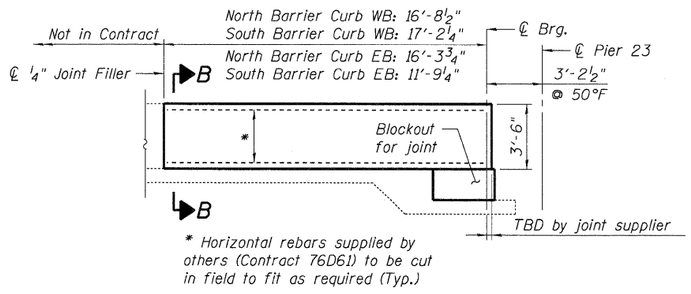
PIPE HANGER DETAIL



BARRIER CURB JOINT DETAILS



SECTION B-B



* Horizontal rebars supplied by others (Contract 76D61) to be cut in field to fit as required (Typ.)

BARRIER ELEVATION

(Barrier at Pier 23, west of Exp. Joint)

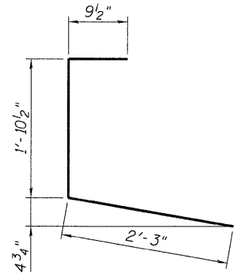
NOTE:
Work this sheet with Shts. S-22 thru S-47.

FILE NAME = $FILE$
USER NAME = $USER$ | DESIGNED - JLR | REVISED -
DRAWN - FD | REVISED -
PLOT SCALE = $SCALE$ | CHECKED - TCU | REVISED -
PLOT DATE = $DATE$ | DATE - 06/04/10 | REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

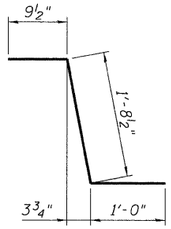
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DECK DETAILS
SCALE: | SHEET NO. S-42 OF S-111 | STA. 134+22.00 TO STA.

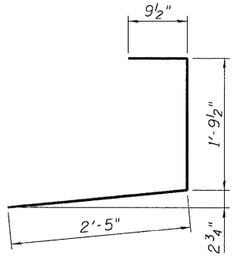
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	152
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



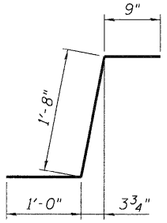
BAR d10(E)



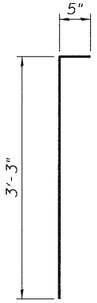
BAR d11(E)



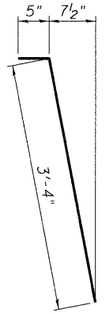
BAR d12(E)



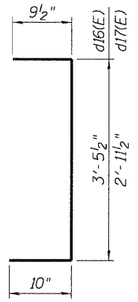
BAR d13(E)



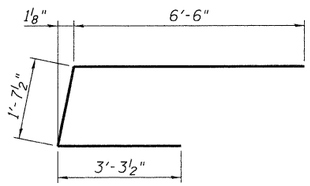
BAR d14(E)



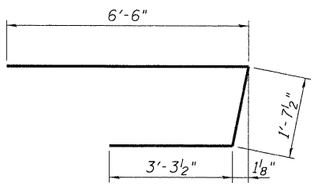
BAR d15(E)



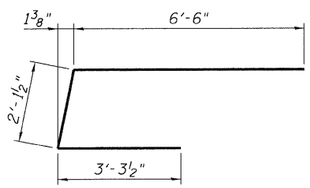
BARS d16(E) & d17(E)



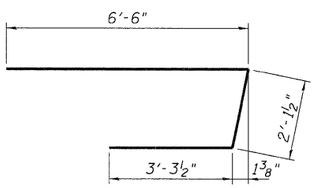
BAR a23(E)



BAR a24(E)



BAR a25(E)



BAR a26(E)

EB DECK
BAR LIST

Bar	No.	Size	Length	Shape
a10(E)	4708	#5	30'-0"	——
a11(E)	5560	#6	6'-6"	——
a12(E)	4708	#5	14'-7"	——
a13(E)	80	#5	1'-6"	——
a21(E)	16	#6	22'-7"	——
a23(E)	3	#6	11'-5"	⌐
a24(E)	3	#6	11'-5"	¬
a25(E)	3	#6	11'-11"	⌐
a26(E)	3	#6	11'-11"	¬
b10(E)	3818	#5	30'-0"	——
b11(E)	516	#6	38'-5"	——
b12(E)	46	#5	9'-0"	——
b13(E)	46	#5	23'-1"	——
d10(E)	1533	#5	4'-11"	⌐
d11(E)	1540	#5	3'-6"	⌐
d12(E)	1500	#5	5'-0"	⌐
d13(E)	1507	#5	3'-5"	⌐
d14(E)	3052	#5	3'-8"	⌐——
d15(E)	3052	#5	3'-9"	⌐/
d16(E)	8	#5	5'-1"	⌐
d17(E)	6	#5	4'-7"	⌐
e10(E)	1170	#5	19'-7"	——
e11(E)	40	#5	17'-7"	——
e12(E)	40	#5	15'-6"	——
e14(E)	10	#5	14'-4"	——
e15(E)	30	#5	8'-6"	——
e16(E)	30	#5	10'-3"	——

WB DECK
BAR LIST

Bar	No.	Size	Length	Shape
a10(E)	4688	#5	30'-0"	——
a11(E)	5682	#6	6'-6"	——
a12(E)	1853	#5	14'-7"	——
a13(E)	80	#5	1'-6"	——
a14(E)	314	#5	16'-7"	——
a15(E)	213	#5	18'-8"	——
a16(E)	241	#5	20'-9"	——
a17(E)	287	#5	22'-10"	——
a18(E)	250	#5	24'-2"	——
a19(E)	330	#5	25'-6"	——
a20(E)	1200	#5	26'-8"	——
a21(E)	8	#6	22'-7"	——
a22(E)	8	#6	28'-8"	——
a23(E)	3	#6	11'-5"	⌐
a24(E)	3	#6	11'-5"	¬
a25(E)	3	#6	11'-11"	⌐
a26(E)	3	#6	11'-11"	¬
b10(E)	4184	#5	30'-0"	——
b14(E)	46	#5	23'-6"	——
b15(E)	31	#5	13'-6"	——
b16(E)	58	#5	12'-5"	——
b17(E)	51	#5	22'-5"	——
b18(E)	576	#6	41'-9"	——
d10(E)	1573	#5	4'-11"	⌐
d11(E)	1580	#5	3'-6"	⌐
d12(E)	1536	#5	5'-0"	⌐
d13(E)	1543	#5	3'-5"	⌐
d14(E)	3124	#5	3'-8"	⌐——
d15(E)	3124	#5	3'-9"	⌐/
d16(E)	8	#5	5'-1"	⌐
d17(E)	6	#5	4'-7"	⌐
e10(E)	1170	#5	19'-7"	——
e11(E)	20	#5	17'-7"	——
e12(E)	30	#5	15'-6"	——
e13(E)	30	#5	15'-2"	——
e14(E)	70	#5	14'-4"	——
e15(E)	40	#5	8'-6"	——

EB DECK
BILL OF MATERIAL

Item	Unit	Total
Concrete Superstructure	Cu. Yd.	1879.5
Reinforcement Bars, Epoxy Coated	Pound	501,230
Bridge Deck Grooving	Sq. Yd.	5,363
Protective Coat	Sq. Yd.	6,835
Name Plates	Each	1

WB DECK
BILL OF MATERIAL

Item	Unit	Total
Concrete Superstructure	Cu. Yd.	2101.9
Reinforcement Bars, Epoxy Coated	Pound	550,130
Bridge Deck Grooving	Sq. Yd.	6,167
Protective Coat	Sq. Yd.	7,674
Name Plates	Each	1

NOTE:
Work this sheet with Shts. S-22 thru S-47.

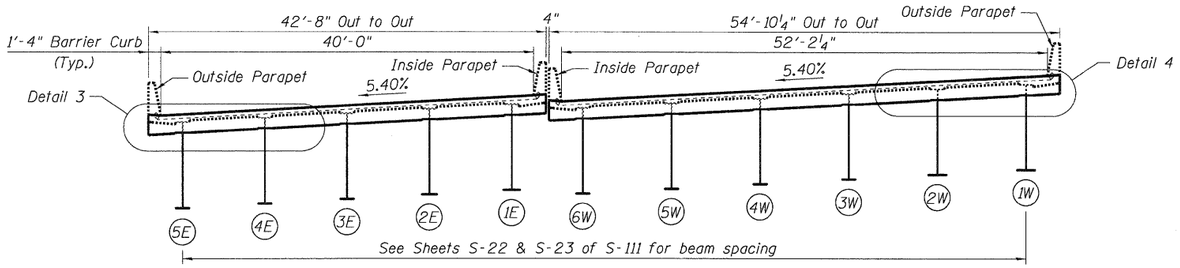
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

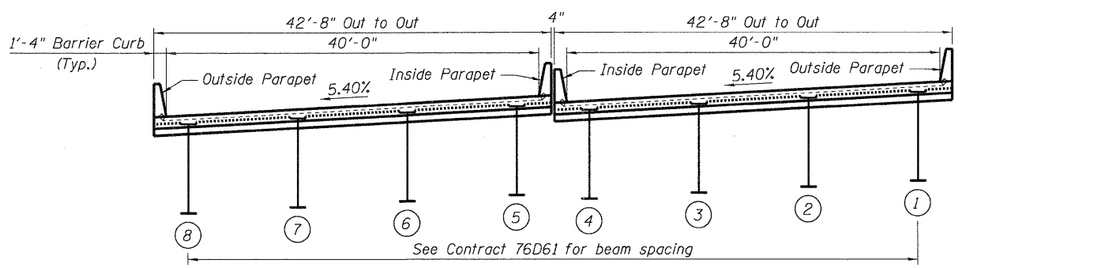
DECK BAR LISTS

SCALE: | SHEET NO. S-43 OF S-111 | STA. 134+22.00 TO STA.

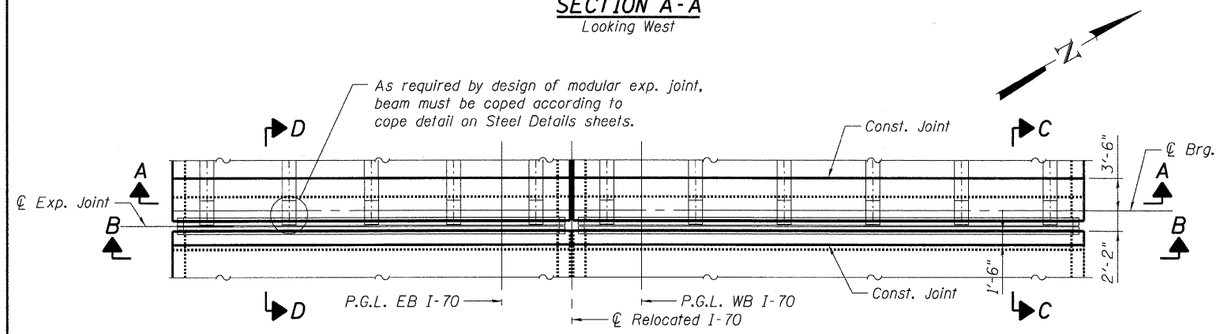
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	153
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



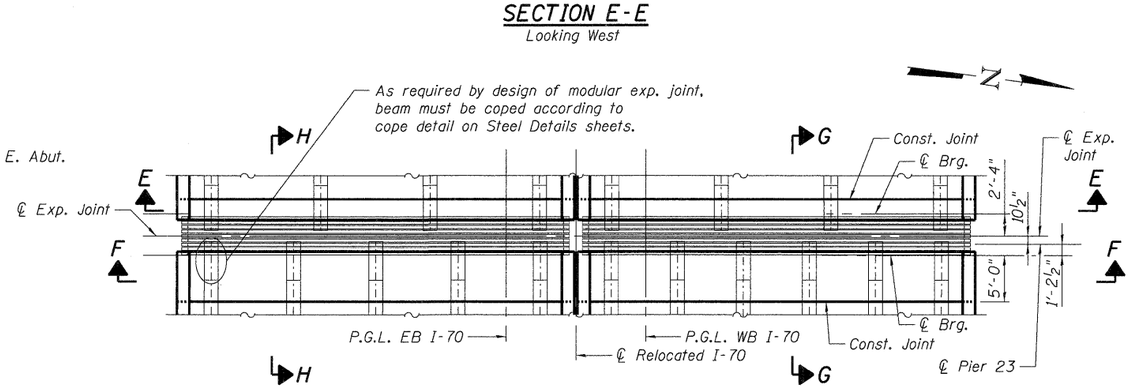
SECTION A-A
Looking West



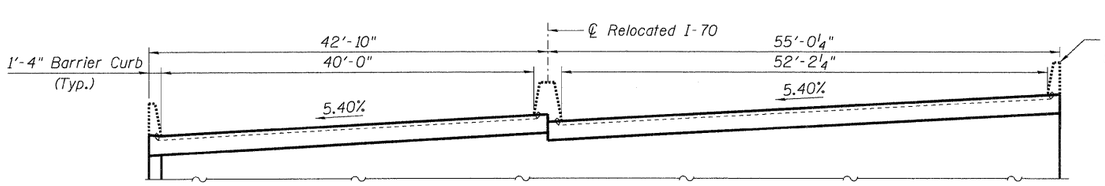
SECTION E-E
Looking West



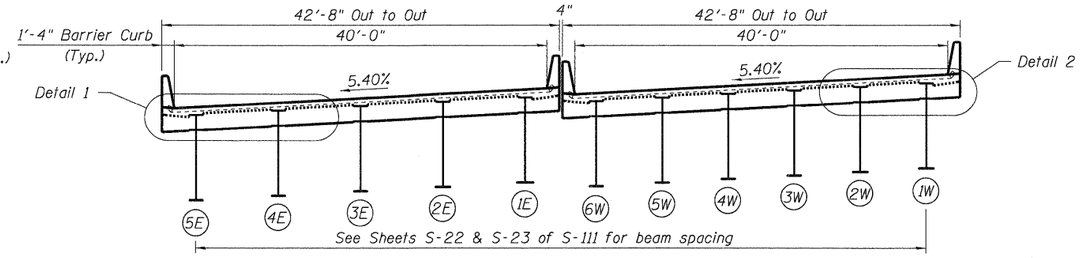
DECK PLAN AT EAST ABUTMENT



DECK PLAN AT PIER 23



SECTION B-B
Looking West



SECTION F-F
Looking West

REQUIRED MOVEMENT

(AASHTO LOAD COMBINATION SERVICE I)

Item	East Abutment	Pier 23
Total longitudinal (open/close) movement	8½"	24"
Total transverse (wracking) movement	1"	1"
Maximum longitudinal break about ℄ joint	0.0033 Rad	0.0066 Rad

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Modular Expansion Joint - Swivel 9"	Foot	92.5
Modular Expansion Joint - Swivel 24"	Foot	80.0

NOTES:

1. Work this sheet with Sheets S-22 through S-47.
2. The expansion joint device shall be a prefabricated modular assembly with multiple support bars and separator beams, providing a continuous seal across the deck. The device shall be capable of accomodating differential (non-parallel) open/close movements and transverse (wracking) movements. The design concept shall have been tested successfuly under dynamic conditions representative of seismic demands.
3. Joint longitudinal opening shall be adjusted according to Article 520.04 of the Standard Specifications when the end of the deck is cast at an ambient temperature other than 50° F.
4. The opposing sides of the joint assembly shall be positioned with respect to the face of parapet on each deck as shown in the plans. At 50° F, the opposing sides of the joint assembly shall be aligned transversely. The neoprene strip seals shall be secured in place with the opposing sides of the joint aligned transversely.
5. Concrete in end of the deck to be placed after the Modular Joint is fixed in position.
6. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
7. For sections C-C, D-D, G-G & H-H, see Sht. S-45.

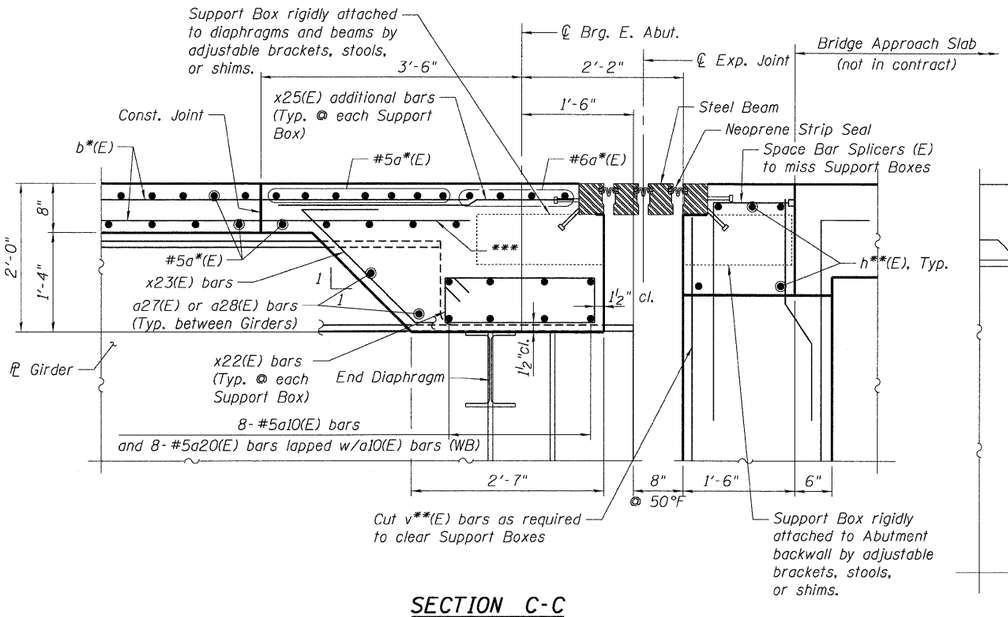
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - TCG	REVISED -
		DRAWN - TCG	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

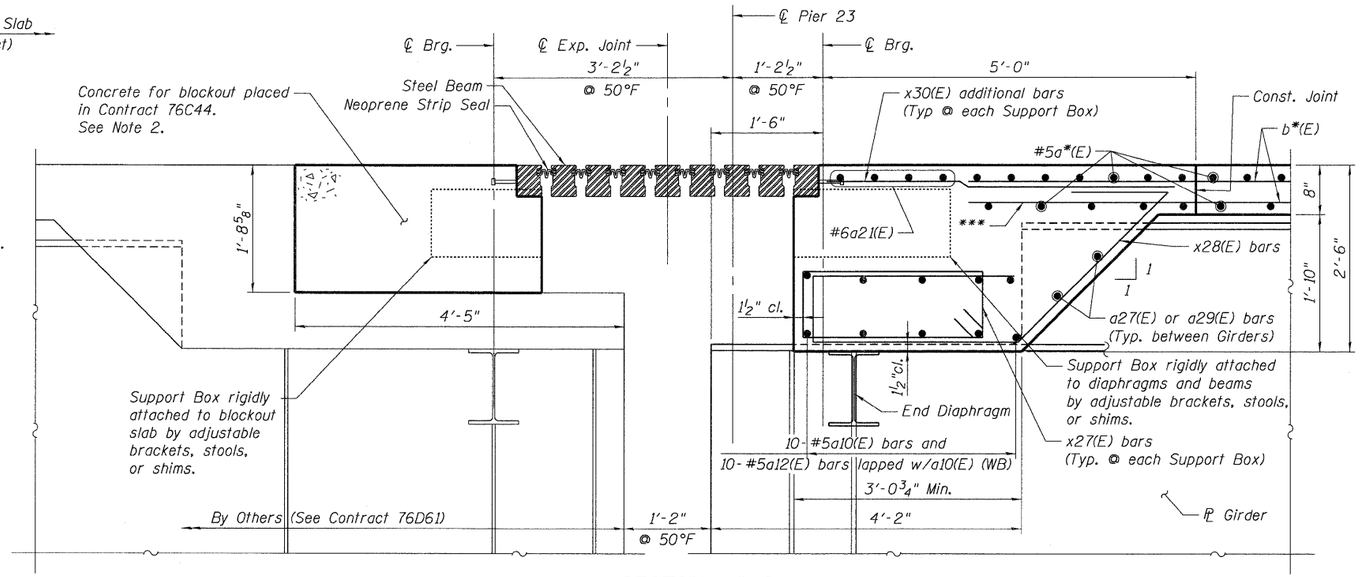
MODULAR EXPANSION JOINT
1 OF 4

SCALE: | SHEET NO. S-44 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	154
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

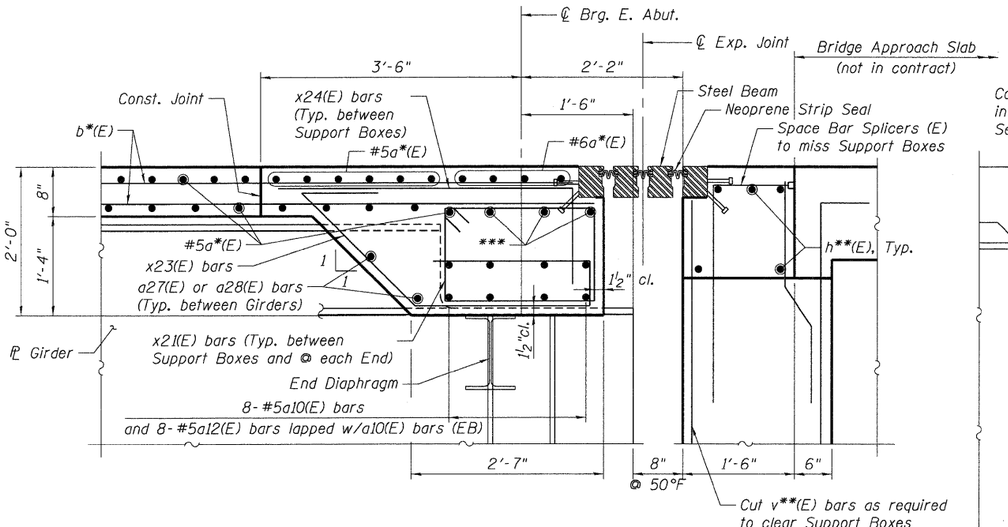


SECTION C-C
(@ Support Box)

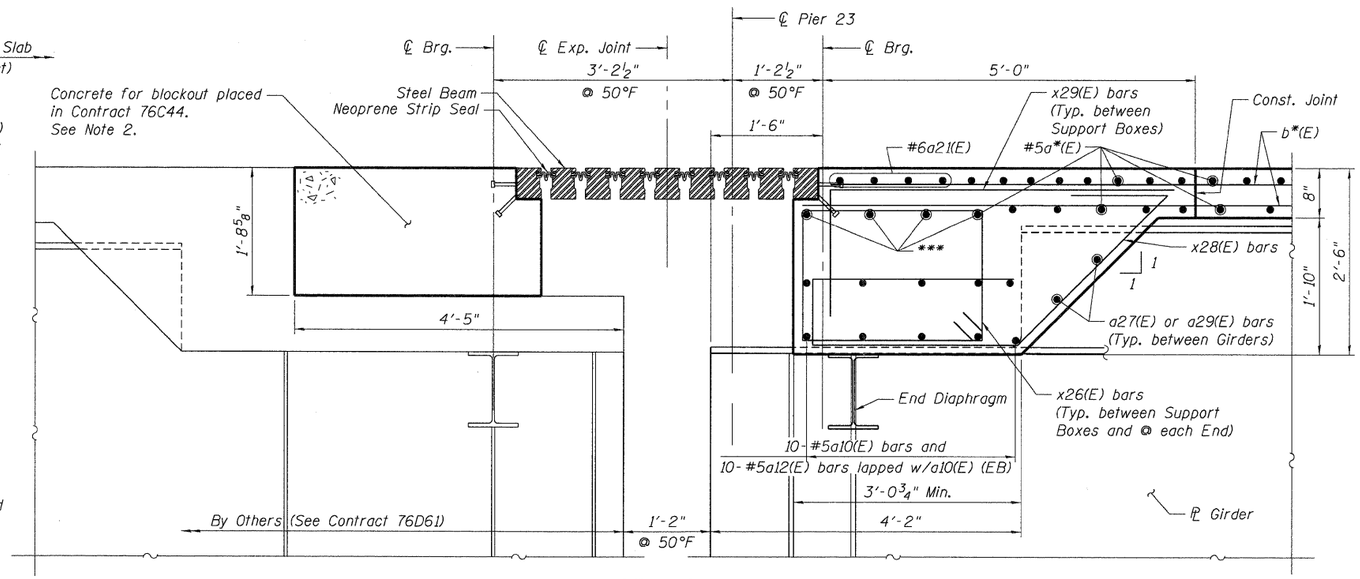


SECTION G-G
(@ Support Box)

* For bar designations, see Deck Plans.
** For bar designations, see Abutment Plans.
*** Cut bars as required to clear Support Boxes.



SECTION D-D
(between Support Boxes)



SECTION H-H
(between Support Boxes)

NOTES:
1. Work this sheet with Shts. S-22 thru S-47.
2. Concrete for blockout is to be placed in this Contract, 76C44. Quantity is included with Concrete Superstructure. Reinforcement in the blockout is by others under Contract 76D61 and may need to be modified to provide clearance for modular joint. Cost for bending or cutting rebar in field is included with Modular Expansion Joint - Swivel, 24".

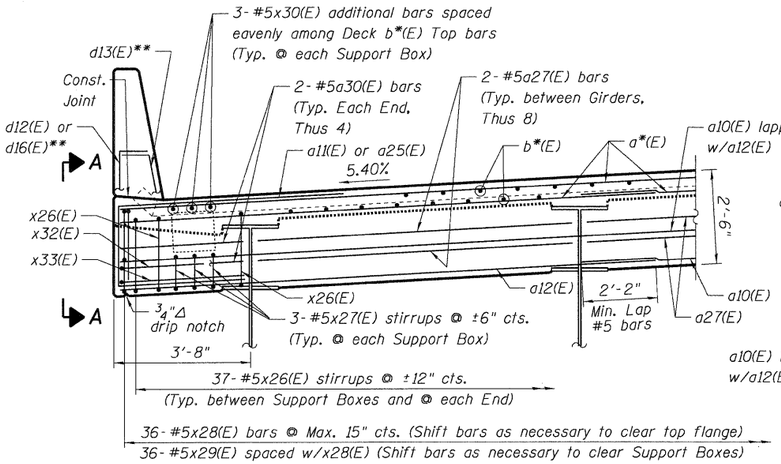
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - FD	REVISED -
		DRAWN - FD	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

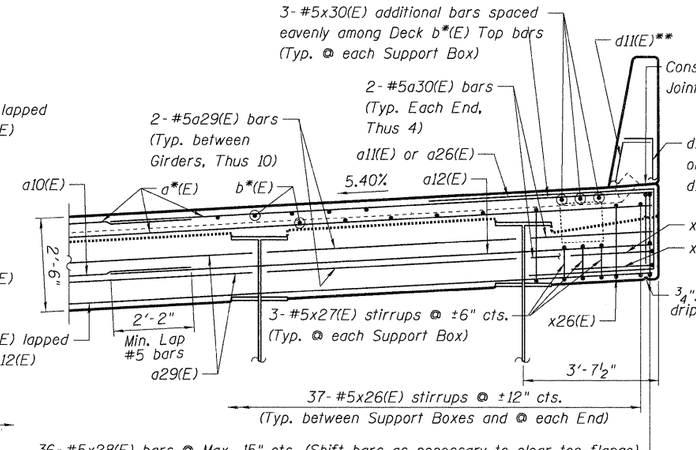
MODULAR EXPANSION JOINT
2 OF 4

SCALE: | SHEET NO. S-45 OF S-111 | STA. 134+22.00 TO STA.

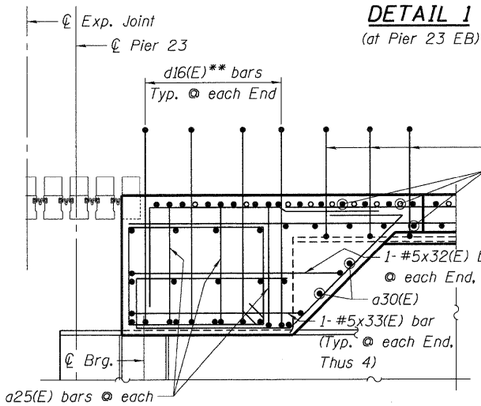
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	155
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



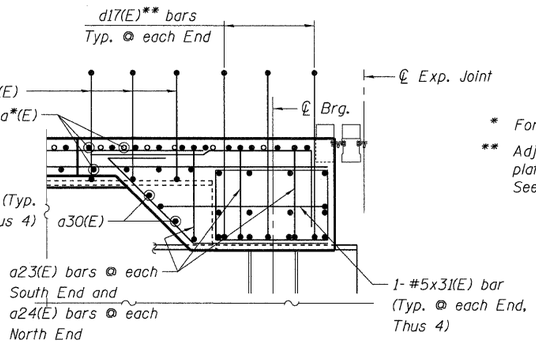
DETAIL 1
(at Pier 23 EB)



DETAIL 2
(at Pier 23 WB)



ELEVATION A-A



ELEVATION B-B

* For bar designations, see Deck Plans.

** Adjust bar position as required to clear anchor bolts, plates and studs in barrier plate assemblies. See Sht. S-47.

EAST ABUTMENT BAR LIST

Bar	No.	Size	Length	Shape
a10(E)	16	#5	30'-0"	—
a12(E)	8	#5	14'-7"	—
a20(E)	8	#5	26'-8"	—
a27(E)	8	#5	8'-5"	—
a28(E)	10	#5	9'-2"	—
a30(E)	8	#5	3'-4"	—
x21(E)	83	#5	7'-8"	□
x22(E)	81	#5	6'-1"	□
x23(E)	82	#5	8'-4"	⌐
x24(E)	82	#5	5'-4"	⌐
x25(E)	81	#5	4'-0"	—
x31(E)	4	#5	9'-4"	⊓

PIER 23 BAR LIST

Bar	No.	Size	Length	Shape
a10(E)	20	#5	30'-0"	—
a12(E)	20	#5	14'-7"	—
a27(E)	8	#5	8'-5"	—
a29(E)	10	#5	6'-8"	—
a30(E)	8	#5	3'-4"	—
x26(E)	74	#5	9'-4"	□
x27(E)	72	#5	7'-3"	□
x28(E)	72	#5	10'-7"	⌐
x29(E)	72	#5	6'-5"	⌐
x30(E)	72	#5	4'-9"	—
x32(E)	4	#5	10'-0"	⊓
x33(E)	4	#5	9'-7"	⊓

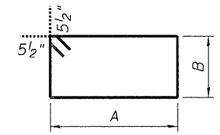
EAST ABUTMENT BILL OF MATERIAL

Item	Unit	Total
Concrete Superstructure	Cu. Yd.	35.6
Reinforcement Bars, Epoxy Coated	Pound	3,760

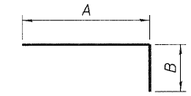
PIER 23 BILL OF MATERIAL

Item	Unit	Total
Concrete Superstructure	Cu. Yd.	59.2
Reinforcement Bars, Epoxy Coated	Pound	4,080

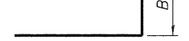
Bar	A	B
x21(E)	2'-0"	1'-4½"
x22(E)	2'-0"	7"
x24(E)	4'-0"	1'-4"
x26(E)	2'-4"	1'-10½"
x27(E)	2'-4"	10"
x29(E)	4'-8"	1'-9"
x31(E)	3'-3"	2'-10"
x32(E)	3'-3"	3'-6"
x33(E)	3'-3"	3'-1"



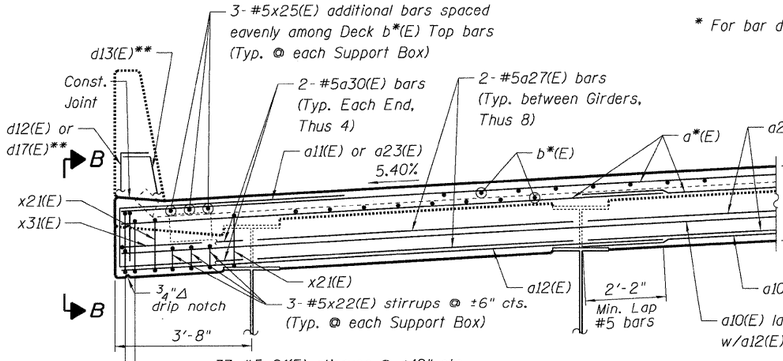
BARS x21(E), x22(E), x26(E) & x27(E)



BARS x24(E) & x29(E)

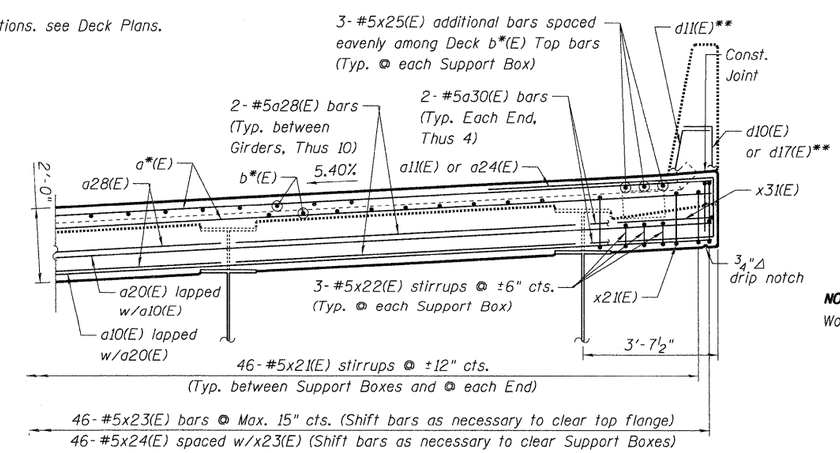


BARS x31(E), x32(E) & x33(E)

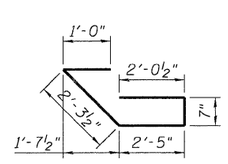


DETAIL 3
(at East Abut. EB)

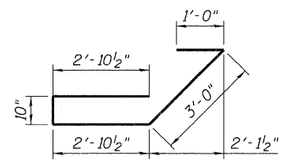
* For bar designations. see Deck Plans.



DETAIL 4
(at East Abut. WB)



BAR x23(E)



BAR x28(E)

NOTE:
Work this sheet with Sheets S-22 through S-47.

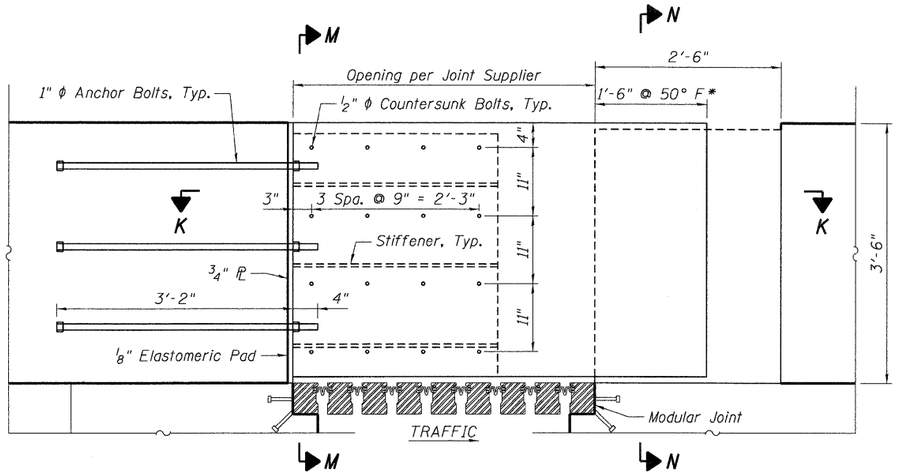
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - FD	REVISED -
		DRAWN - FD	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

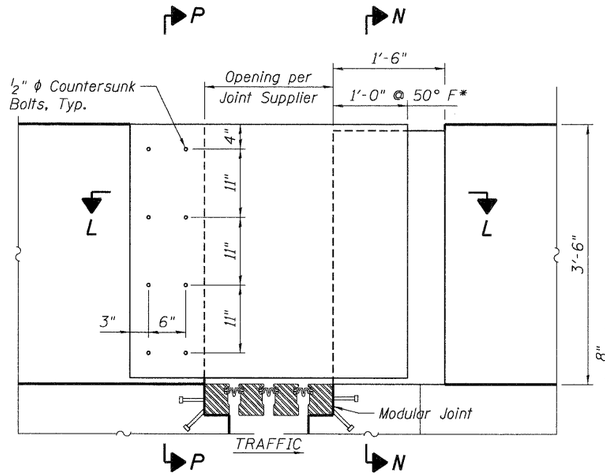
MODULAR EXPANSION JOINT
3 OF 4

SCALE: | SHEET NO. S-46 OF S-111 | STA. 134+22.00 TO STA.

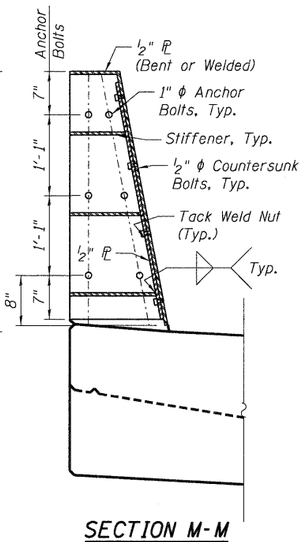
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	156
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



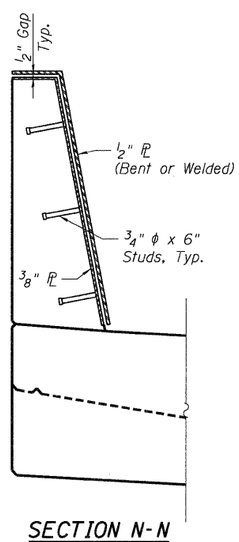
BARRIER PLATE ASSEMBLY DETAIL AT PIER 23



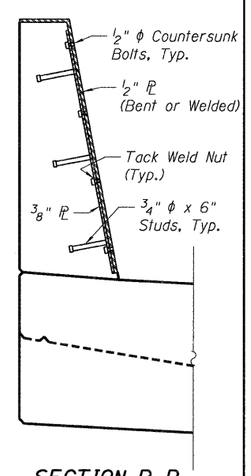
BARRIER PLATE ASSEMBLY DETAIL AT EAST ABUTMENT



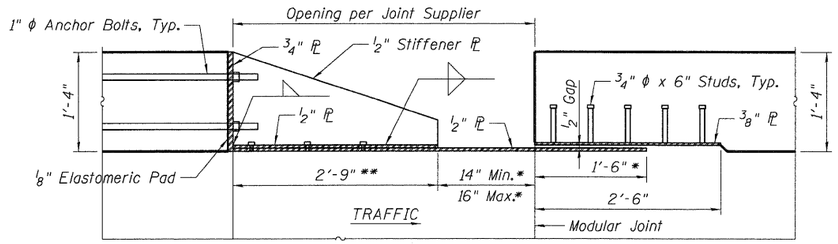
SECTION M-M
(Inside Parapets)



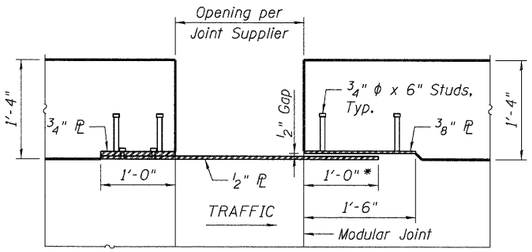
SECTION N-N
(Inside Parapets)



SECTION P-P
(Inside Parapets)

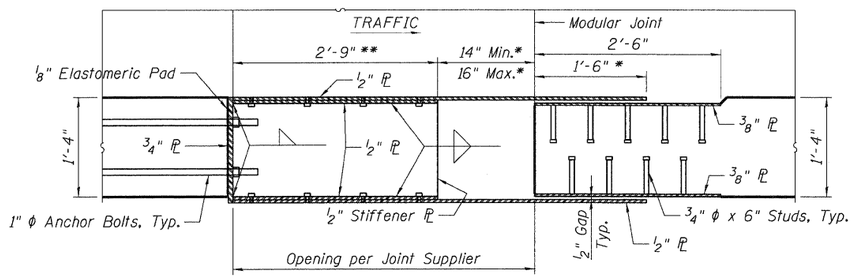


SECTION K-K
(Inside Parapets)

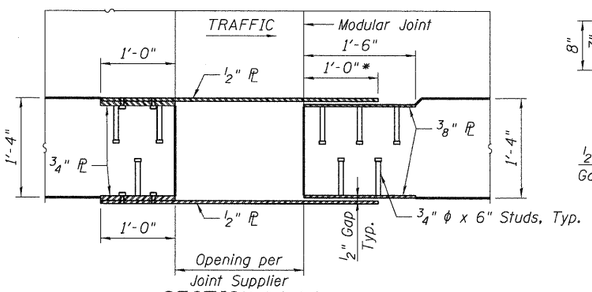


SECTION L-L
(Inside Parapets)

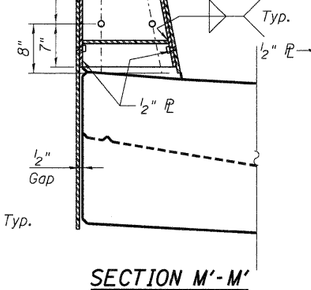
* Dimensions for T = 50° F
** Contractor to verify with Joint Supplier



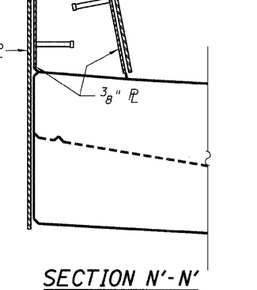
SECTION K'-K'
(Outside Parapets)



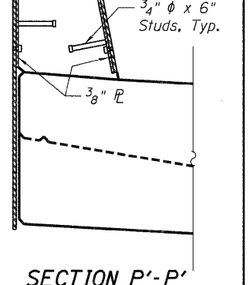
SECTION L'-L'
(Outside Parapets)



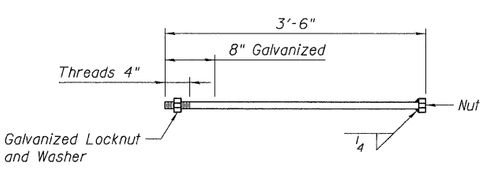
SECTION M'-M'
(Outside Parapets)



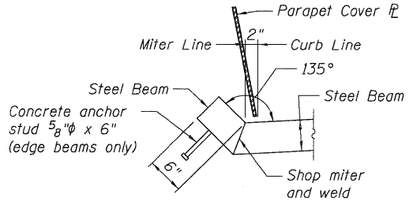
SECTION N'-N'
(Outside Parapets)



SECTION P'-P'
(Outside Parapets)



1" ϕ Anchor Bolt



DETAIL 4

NOTES:

1. Work this sheet with Sheets S-44 through S-46.
2. Opening at 50° F is dependent upon modular expansion joint selection. Contractor is responsible for coordinating any revisions required due to deviations from dimensions shown.
3. All structural steel of the barrier plate assemblies shall be AASHTO M270 Grade 50 and galvanized according to AASHTO M111.
4. Payment for furnishing and installing the barrier plate assemblies shall be included in cost of Modular Expansion Joints.
5. Plug end of nut to maintain void for bolt placement.
6. Countersunk bolts shall be in accordance with ASTM A307, Grade A.
7. Barrier plate assemblies shall be placed as shown for traffic direction, such that sliding plate is anchored on oncoming traffic side of joint.

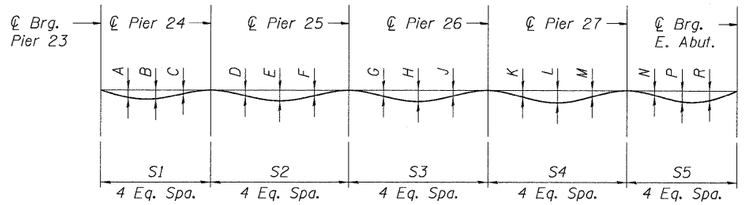
FILE NAME = $FILEL$
USER NAME = $USER$ | DESIGNED - TCG | REVISED -
DRAWN - TCG | REVISED -
PLOT SCALE = $SCALE$ | CHECKED - TCU | REVISED -
PLOT DATE = $DATE$ | DATE - 06/04/10 | REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

MODULAR EXPANSION JOINT
4 OF 4

SCALE: | SHEET NO. S-47 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	157
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



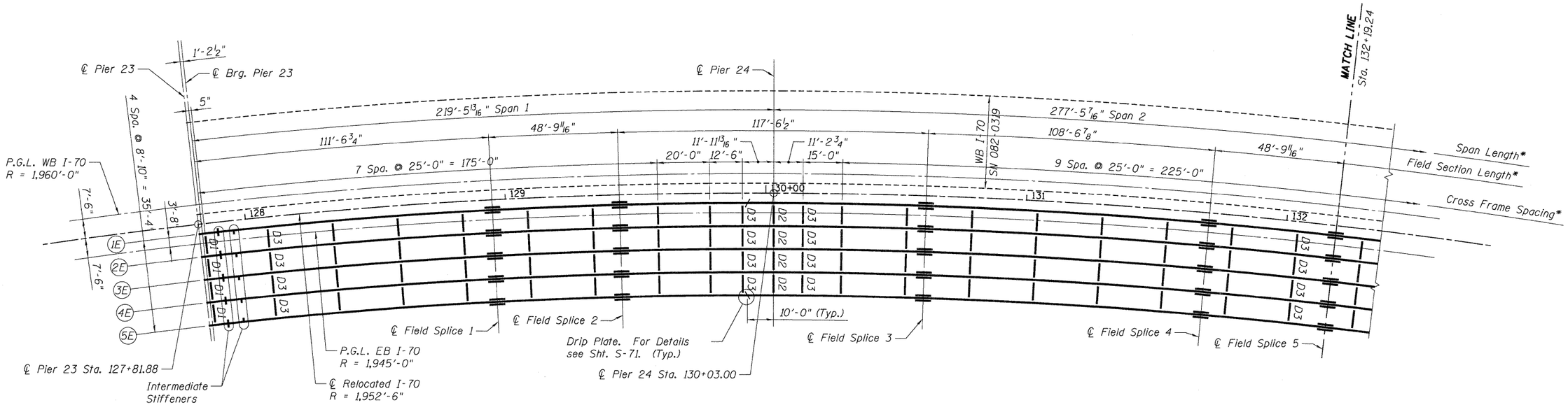
DEAD LOAD DEFLECTIONS - STEEL SELF WEIGHT ONLY

	S1	S2	S3	S4	S5	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R
Girder 1E	219'-5 13/16"	277'-5 7/16"	279'-5 3/8"	279'-5 3/8"	221'-6 3/4"	1 3/8	1 9/16	5/8	3/4	1 1/2	3/4	15/16	1 13/16	15/16	3/4	1 9/16	3/4	11/16	1 5/8	1 7/16
Girder 2E	218'-5 13/16"	276'-2 3/8"	278'-2 3/16"	278'-2 3/16"	220'-6 11/16"	1 5/16	1 7/16	5/8	3/4	1 1/2	3/4	15/16	1 3/4	15/16	3/4	1 9/16	3/4	5/8	1 9/16	1 5/16
Girder 3E	217'-5 3/4"	274'-11 1/4"	276'-11"	276'-11"	219'-6 11/16"	1 3/16	1 3/8	9/16	3/4	1 7/16	3/4	7/8	1 5/8	7/8	13/16	1 1/2	3/4	5/8	1 7/16	1 1/4
Girder 4E	216'-5 3/4"	273'-8 3/16"	275'-7 13/16"	275'-7 13/16"	218'-6 5/8"	1 1/8	1 1/4	1/2	3/4	1 7/16	3/4	13/16	1 9/16	13/16	3/4	1 1/2	3/4	9/16	1 5/16	1 3/16
Girder 5E	215'-5 3/4"	272'-5 1/16"	274'-4 5/8"	274'-4 5/8"	217'-6 9/16"	1	1 3/16	1/2	3/4	1 7/16	3/4	13/16	1 1/2	3/4	3/4	1 1/2	3/4	1/2	1 3/16	1 1/16

DEAD LOAD DEFLECTION - STEEL SELF WEIGHT

(Includes weight of structural steel only.)

NOTE:
The calculated deflections of the primary girders/beams under steel self-weight shall be used to detail the diaphragm, cross frame and lateral bracing connections, and to erect the structural steel such that the girders/beams will be plumb within a tolerance of ±1/8" per vertical ft. throughout when supporting their own weight.



* Dimensions measured along centerline Girder 1E

FRAMING PLAN
EB I-70 SN 082-0318

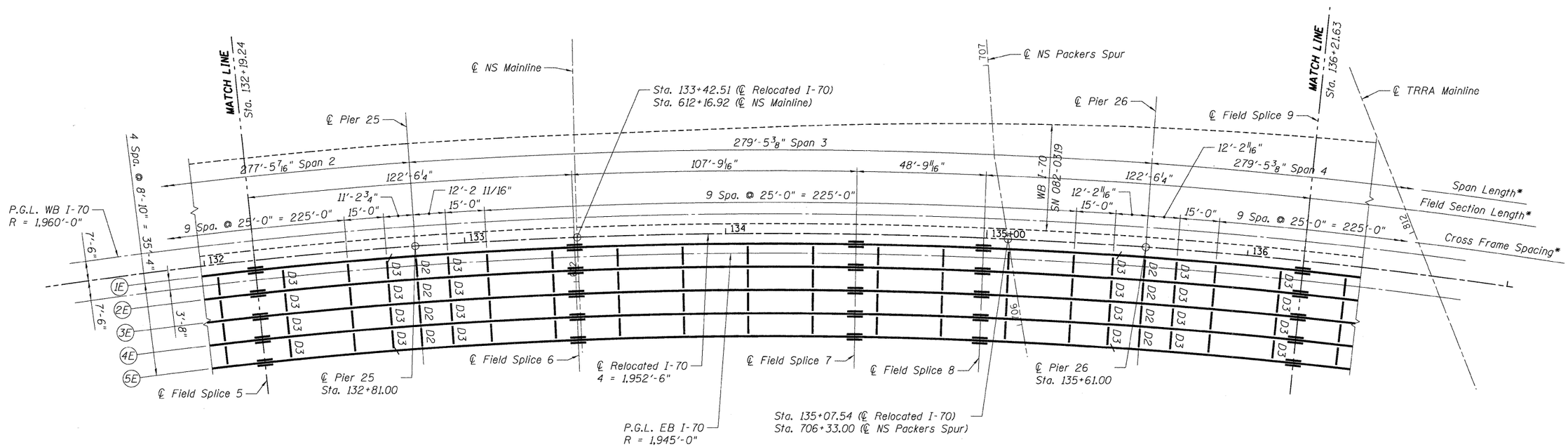
N

NOTES:

1. Work this sheet with Sheets S-49 and S-50.
2. All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
3. All cross frames shall be installed radial to ℄ Relocated I-70 or parallel to ℄ of bearing at Pier 23.
4. The Contractor shall either:
   1. Ream diaphragm and/or cross frame connection holes during shop assembly, or
   2. Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(i) of the Standard Specifications.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - CCE	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**FRAMING PLAN EB I-70 1 OF 3**
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS		DRAWN - CCE	REVISED -		
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE: SHEET NO. S-48 OF S-111 STA. 134+22.00 TO STA.
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	158
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FRAMING PLAN
EB I-70 SN 082-0318

* Dimensions measured along centerline Girder 1E

NOTE:

Work this sheet with Sheets S-48 and S-50.

.\082\0318-CONN-05-002-FP.DGN ..\082\0318-CONN-99-001-00.DGN ..\08CONN-05-ALIGNMENT2.DGN
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TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

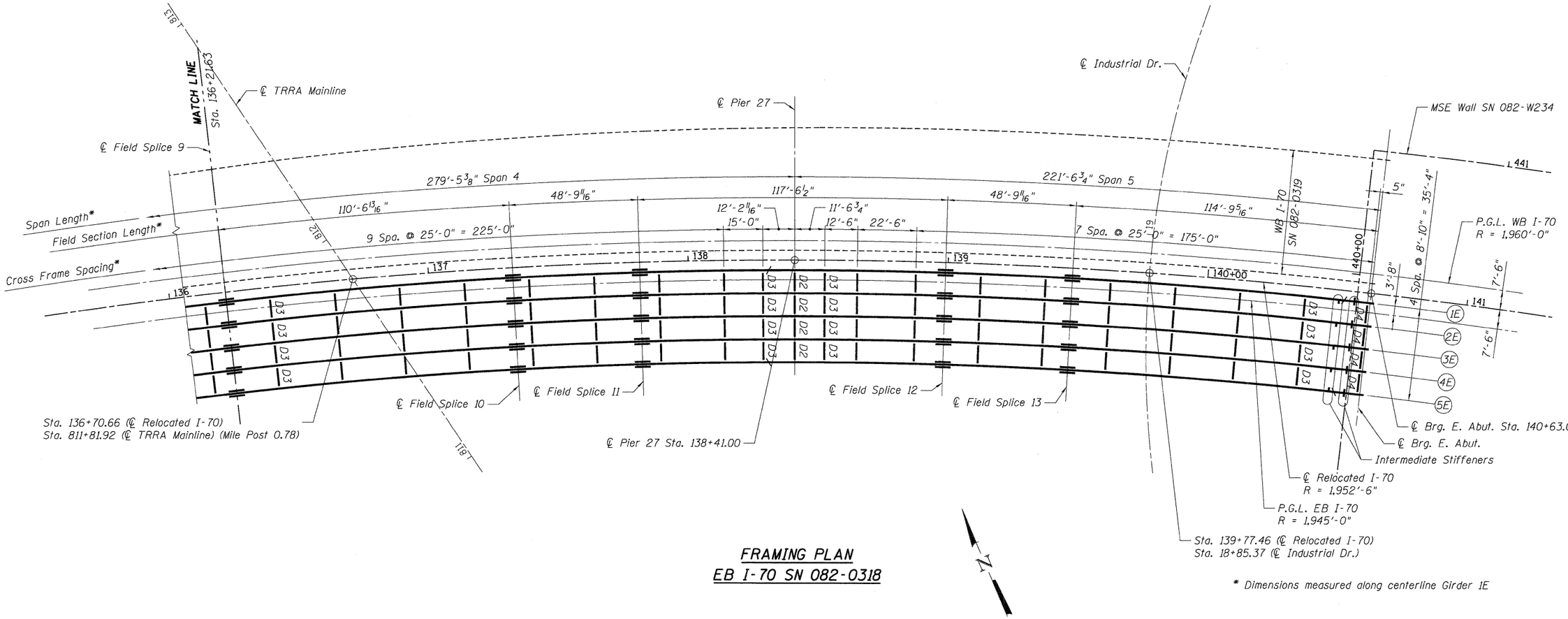
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CCE	REVISED -
		DRAWN - CCE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

FRAMING PLAN EB I-70
2 OF 3

SCALE: | SHEET NO. S-49 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	159
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



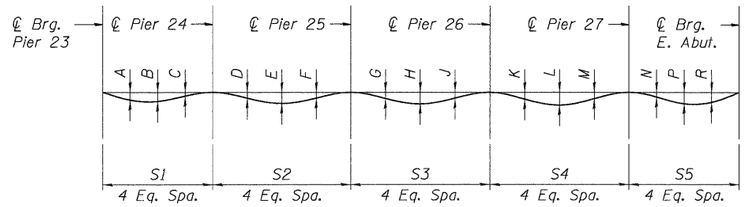
FRAMING PLAN
EB I-70 SN 082-0318

* Dimensions measured along centerline Girder 1E

NOTE:

Work this sheet with Sheets S-48 and S-49.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CCE	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**FRAMING PLAN EB I-70** **3 OF 3**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CCE	REVISED -			998	82-2-1HVB	ST. CLAIR	285	160
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-50 OF S-111 STA. 134+22.00 TO STA.		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



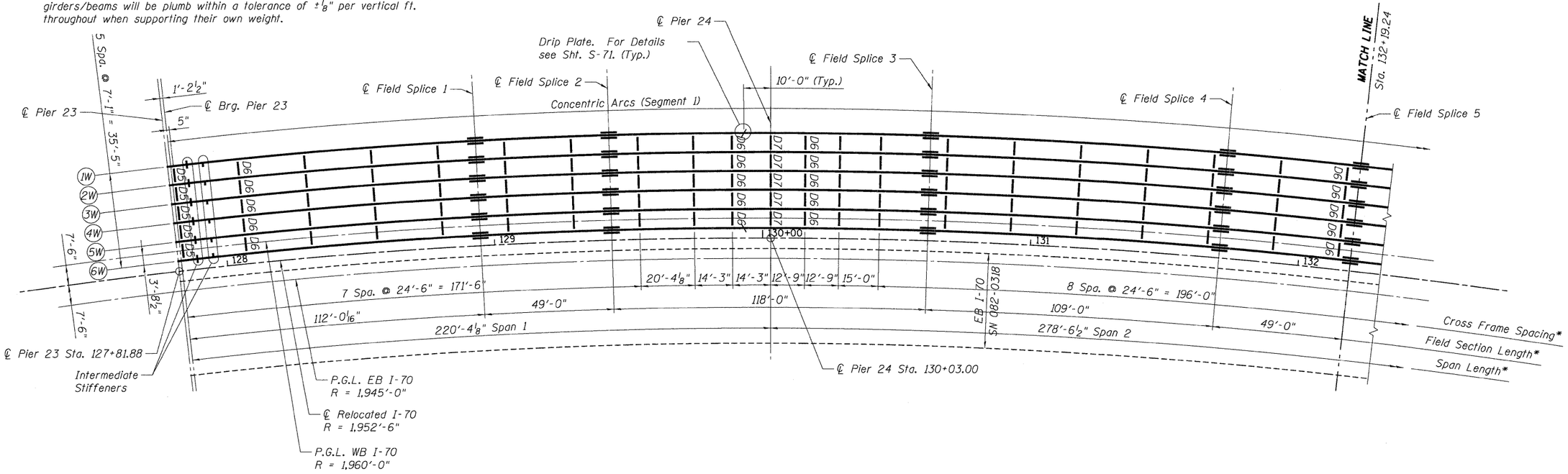
DEAD LOAD DEFLECTIONS - STEEL SELF WEIGHT ONLY

	S1	S2	S3	S4	S5	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R
Girder 1W	224'-4 5/16"	283'-7"	286'-0 9/16"	287'-0 5/8"	227'-10 1/16"	1 3/8	1 9/16	5/8	7/8	1 11/16	7/8	7/8	1 3/4	7/8	7/8	1 11/16	7/8	5/8	1 5/8	1 7/16
Girder 2W	223'-6 11/16"	282'-6 7/8"	284'-11 3/8"	285'-9"	226'-9 1/16"	1 5/16	1 1/2	5/8	7/8	1 11/16	7/8	7/8	1 11/16	7/8	7/8	1 5/8	7/8	5/8	1 1/2	1 5/16
Girder 3W	222'-9 1/16"	281'-6 13/16"	283'-10 3/16"	284'-5 3/8"	225'-8 1/8"	1 1/4	1 7/16	9/16	7/8	1 5/8	7/8	7/8	1 11/16	7/8	7/8	1 5/8	13/16	5/8	1 1/16	1 1/4
Girder 4W	221'-11 3/8"	280'-6 11/16"	282'-9"	283'-1 3/4"	224'-7 1/8"	1 3/16	1 3/8	9/16	13/16	1 5/8	7/8	7/8	1 5/8	7/8	13/16	1 9/16	13/16	9/16	1 3/8	1 3/16
Girder 5W	221'-1 3/4"	279'-6 9/16"	281'-7 3/4"	281'-10 1/8"	223'-6 1/8"	1 1/8	1 1/4	9/16	13/16	1 9/16	13/16	7/8	1 5/8	7/8	13/16	1 9/16	13/16	1/2	1 5/16	1 1/8
Girder 6W	220'-4 1/8"	278'-6 1/2"	280'-6 1/2"	280'-6 1/2"	222'-5 3/16"	1 1/16	1 3/16	1/2	13/16	1 9/16	13/16	7/8	1 9/16	7/8	13/16	1 1/2	13/16	1/2	1 1/4	1 1/16

DEAD LOAD DEFLECTION - STEEL SELF WEIGHT

(Includes weight of structural steel only.)

NOTE:
The calculated deflections of the primary girders/beams under steel self-weight shall be used to detail the diaphragm, cross frame and lateral bracing connections, and to erect the structural steel such that the girders/beams will be plumb within a tolerance of ±1/8" per vertical ft. throughout when supporting their own weight.



* Dimensions measured along centerline Girder 6W

FRAMING PLAN
WB I-70 SN 082-0319

N

NOTES:

1. Work this sheet with Sheets S-52 and S-53.
2. All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
3. All cross frames shall be installed radial to ℄ Relocated I-70 or parallel to ℄ of bearing at Pier 23.
4. The Contractor shall either:
   1. Ream diaphragm and/or cross frame connection holes during shop assembly, or
   2. Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(l) of the Standard Specifications.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CCE	REVISED -
		DRAWN - CCE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

FRAMING PLAN WB I-70
1 OF 3
SCALE: | SHEET NO. S-51 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	161
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

\\V082018-CONN-05-001-FP.DGN, \\V082018-CONN-99-001-BG.DGN, \\V082018-CONN-05-004-GI.DGN, \\V8CONN-05-AL1GNMENT2.DGN
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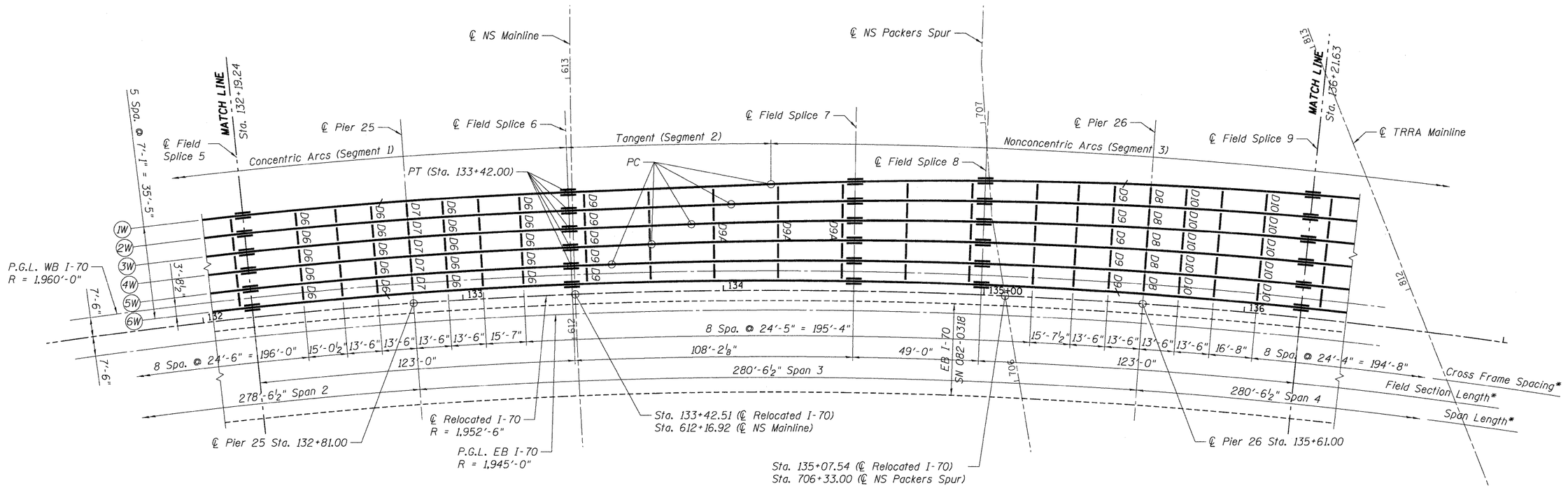


FRAMING PLAN
WB I-70 SN 082-0319

* Dimensions measured along centerline Girder 6W

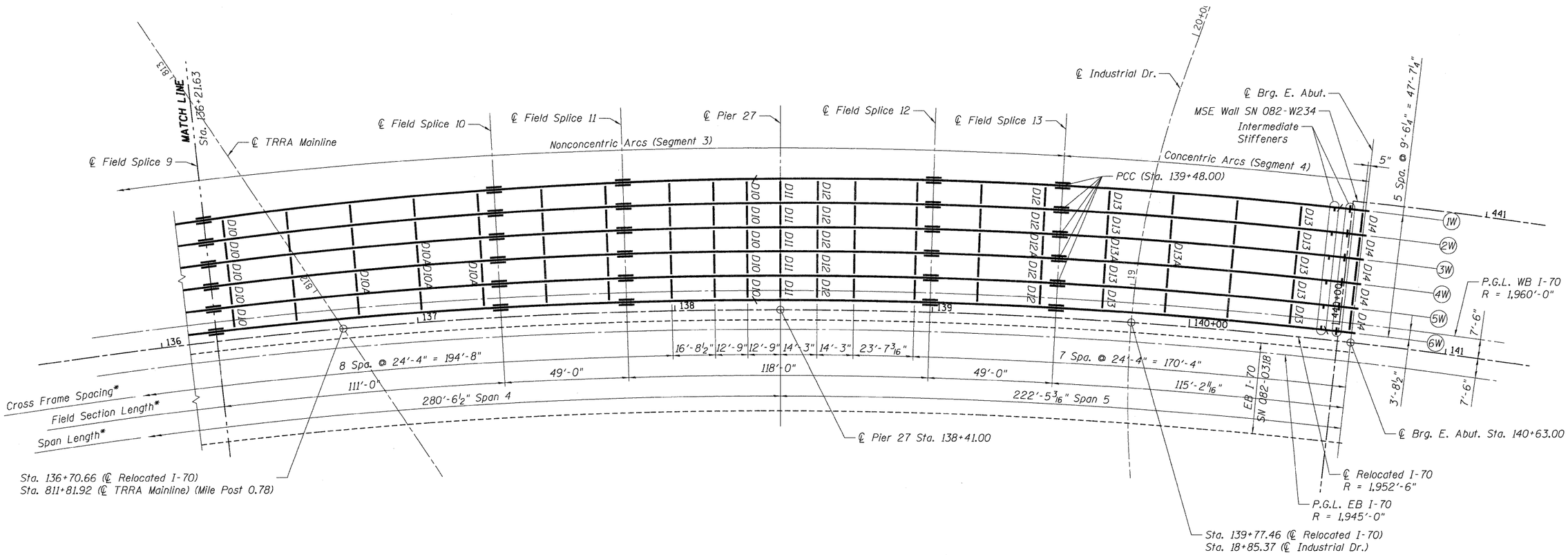
FLARED GIRDERS 1W-5W RADII

Girder	PC Sta. ℄ I-70	PC Offset ℄ I-70	Radius Segment 1	Radius Segment 3	Radius Segment 4
1W	134+18.33	-40.73	1991'-8½"	1748'-9 13/16"	2003'-10¾"
2W	134+03.29	-33.10	1984'-7½"	1790'-3¾"	1994'-4½"
3W	133+88.14	-25.59	1977'-6½"	1831'-9 11/16"	1984'-10¼"
4W	133+72.87	-18.20	1970'-5½"	1873'-3⅝"	1975'-4"
5W	133+57.49	-10.94	1963'-4½"	1914'-9 9/16"	1965'-9¾"

NOTE:

Work this sheet with Sheets S-51 and S-53.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - CCE	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**FRAMING PLAN WB I-70 2 OF 3**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CCE	REVISED -			998	82-2-1HVB	ST. CLAIR	285	162
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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-52 OF S-111 STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



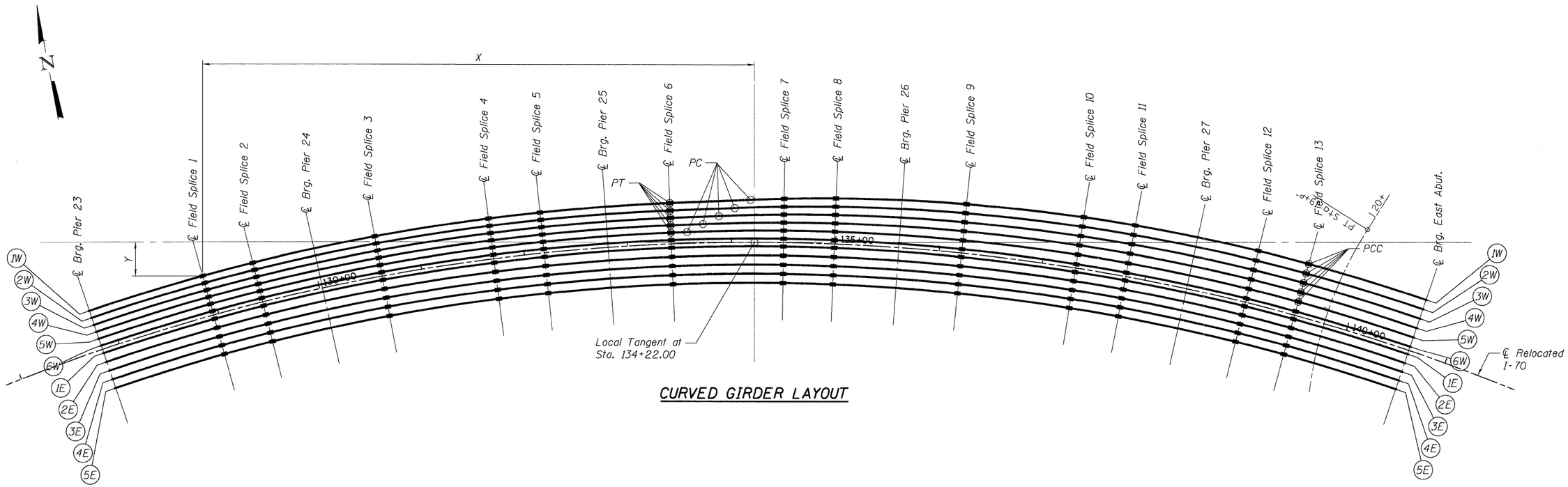
FRAMING PLAN
WB I-70 SN 082-0319

* Dimensions measured along centerline Girder 6W

NOTE:

Work this sheet with Sheets S-51 and S-52.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CCE	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**FRAMING PLAN WB I-70 3 OF 3**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CCE	REVISED -			998	82-2-1HVB	ST. CLAIR	285	163
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE:	SHEET NO. S-53 OF S-111	STA. 134+22.00 TO STA.	SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT



CURVED GIRDER LAYOUT

SPAN 1

Girder	℄ Brg. Pier 23 Sta. Varies		Splice 1 Sta. 128+94.87		Splice 2 Sta. 129+43.77	
	X	Y	X	Y	X	Y
1W	-640.20	-66.49	-531.21	-32.94	-482.97	-20.24
2W	-637.92	-73.19	-529.32	-39.76	-481.25	-27.11
3W	-635.64	-79.90	-527.43	-46.59	-479.53	-33.98
4W	-633.36	-86.61	-525.54	-53.42	-477.81	-40.85
5W	-631.08	-93.31	-523.65	-60.24	-476.10	-47.72
6W	-628.80	-100.02	-521.76	-67.07	-474.38	-54.60
1E	-626.34	-107.24	-519.73	-74.42	-472.53	-61.99
2E	-623.50	-115.60	-517.37	-82.93	-470.39	-70.56
3E	-620.65	-123.96	-515.02	-91.45	-468.25	-79.13
4E	-617.81	-132.32	-512.66	-99.96	-466.10	-87.70
5E	-614.96	-140.69	-510.31	-108.47	-463.96	-96.27

SPAN 2

Girder	℄ Pier 24 Sta. 130+03.00		Splice 3 Sta. 130+61.54		Splice 4 Sta. 131+70.33		Splice 5 Sta. 132+19.24	
	X	Y	X	Y	X	Y	X	Y
1W	-424.14	-6.48	-365.61	5.36	-256.01	22.69	-206.46	28.48
2W	-422.63	-13.40	-364.31	-1.60	-255.10	15.66	-205.73	21.43
3W	-421.12	-20.32	-363.01	-8.56	-254.19	8.64	-204.99	14.39
4W	-419.62	-27.24	-361.71	-15.52	-253.28	1.61	-204.26	7.34
5W	-418.11	-34.16	-360.41	-22.49	-252.37	-5.41	-203.52	0.30
6W	-416.60	-41.08	-359.11	-29.45	-251.46	-12.44	-202.79	-6.75
1E	-414.98	-48.53	-357.71	-36.95	-250.48	-20.00	-202.00	-14.33
2E	-413.09	-57.16	-356.09	-45.63	-249.34	-28.76	-201.08	-23.12
3E	-411.21	-65.79	-354.46	-54.31	-248.21	-37.52	-200.17	-31.90
4E	-409.33	-74.42	-352.84	-63.00	-247.07	-46.28	-199.25	-40.69
5E	-407.45	-83.05	-351.22	-71.68	-245.94	-55.04	-198.34	-49.47

SPAN 3

Girder	℄ Pier 25 Sta. 132+81.00		Splice 6 Sta. 133+42.00		PC Sta. Varies		Splice 7 Sta. 134+49.97		Splice 8 Sta. 134+98.87	
	X	Y	X	Y	X	Y	X	Y	X	Y
1W	-143.71	34.02	-81.58	37.54	-3.75	40.73	28.57	41.75	78.57	42.16
2W	-143.20	26.95	-81.29	30.46	-19.02	33.01	28.46	34.33	78.27	34.35
3W	-142.68	19.89	-81.00	23.38	-34.30	25.30	28.35	26.79	77.95	26.46
4W	-142.17	12.82	-80.71	16.30	-49.58	17.58	28.24	19.15	77.64	18.47
5W	-141.66	5.76	-80.42	9.23	-64.86	9.87	28.13	11.42	77.32	10.41
6W	-141.15	-1.31	-80.13	2.15	N/A	N/A	28.02	3.59	77.00	2.28
1E	-140.60	-8.91	-79.82	-5.47	N/A	N/A	27.91	-4.03	76.70	-5.34
2E	-139.96	-17.72	-79.46	-14.29	N/A	N/A	27.78	-12.87	76.35	-14.17
3E	-139.33	-26.53	-79.10	-23.12	N/A	N/A	27.66	-21.70	76.01	-23.00
4E	-138.69	-35.34	-78.74	-31.95	N/A	N/A	27.53	-30.53	75.66	-31.82
5E	-138.05	-44.15	-78.37	-40.77	N/A	N/A	27.41	-39.36	75.31	-40.65

SPAN 4

Girder	℄ Pier 26 Sta. 135+61.00		Splice 9 Sta. 136+21.63		Splice 10 Sta. 137+32.42		Splice 11 Sta. 137+81.32	
	X	Y	X	Y	X	Y	X	Y
1W	142.13	40.62	204.12	36.88	316.97	24.37	366.51	16.51
2W	141.54	32.39	203.24	28.31	315.52	15.36	364.81	7.38
3W	140.95	24.09	202.35	19.69	314.07	6.33	363.11	-1.76
4W	140.36	15.73	201.46	11.03	312.62	-2.73	361.41	-10.91
5W	139.76	7.31	200.57	2.32	311.17	-11.79	359.70	-20.07
6W	139.15	-1.16	199.67	-6.43	309.71	-20.88	357.99	-29.24
1E	138.61	-8.77	198.89	-14.01	308.51	-28.41	356.60	-36.74
2E	137.98	-17.58	197.99	-22.80	307.11	-37.13	354.98	-45.42
3E	137.35	-26.39	197.09	-31.58	305.71	-45.85	353.36	-54.11
4E	136.72	-35.20	196.19	-40.37	304.31	-54.57	351.75	-62.79
5E	136.10	-44.01	195.29	-49.16	302.91	-63.30	350.13	-71.48

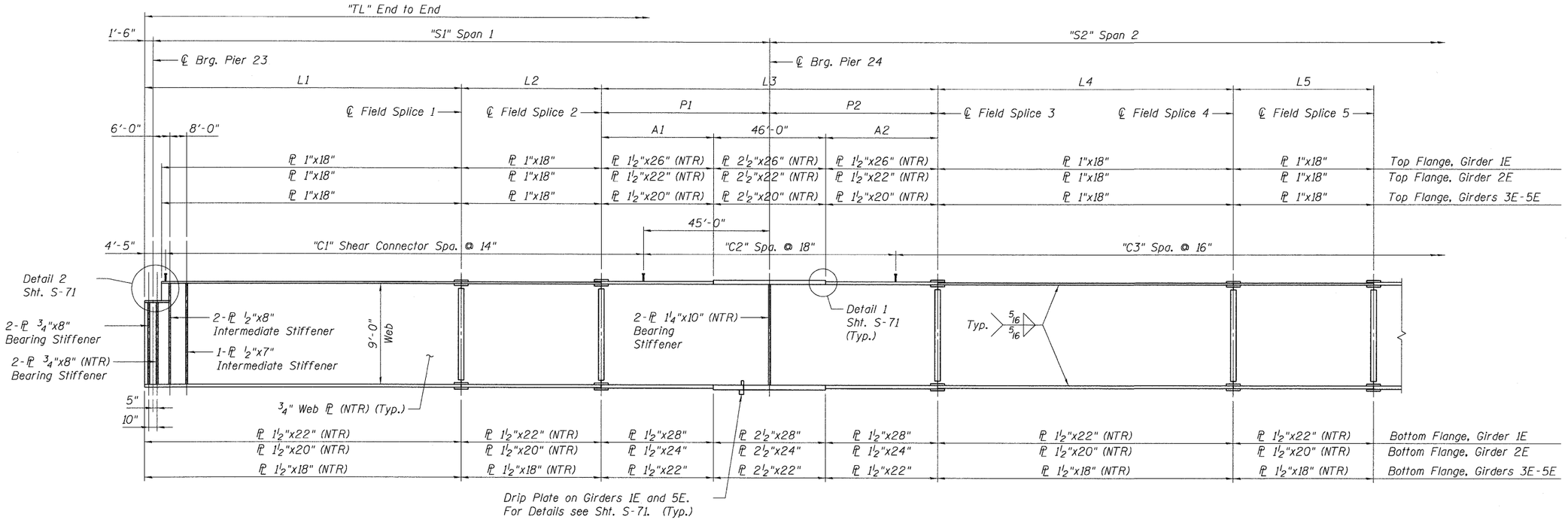
SPAN 5

Girder	℄ Pier 27 Sta. 138+41.00		Splice 12 Sta. 138+99.10		Splice 13 Sta. 139+48.00		℄ Brg. E. Abut. Sta. 140+63.00	
	X	Y	X	Y	X	Y	X	Y
1W	426.64	5.00	484.77	-8.22	533.34	-20.88	646.12	-55.63
2W	424.64	-4.20	482.47	-17.44	530.81	-30.06	643.05	-64.64
3W	422.63	-13.42	480.18	-26.66	528.27	-39.24	639.98	-73.65
4W	420.62	-22.63	477.88	-35.88	525.74	-48.41	636.91	-82.66
5W	418.61	-31.86	475.58	-45.10	523.20	-57.59	633.84	-91.68
6W	416.60	-41.08	473.28	-54.32	520.67	-66.77	630.77	-100.69
1E	414.98	-48.53	471.43	-61.72	518.64	-74.12	628.31	-107.91
2E	413.09	-57.16	469.30	-70.29	516.29	-82.63	625.46	-116.27
3E	411.21	-65.79	467.16	-78.86	513.94	-91.15	622.62	-124.63
4E	409.33	-74.42	465.02	-87.43	511.59	-99.66	619.77	-132.99
5E	407.45	-83.05	462.89	-96.00	509.24	-108.18	616.92	-141.35

NOTES:
1. For girder segment lengths see Sheets S-55 through S-57 and Sheets S-61 through S-63.
2. For girder radii and location of PT, PC, and PCC see Sheets S-48 through S-53.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - CCE	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**CURVED GIRDER LAYOUT**
		DRAWN - CCE	REVISED -		
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE: SHEET NO. S-54 OF S-111 STA. 134+22.00 TO STA.
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		

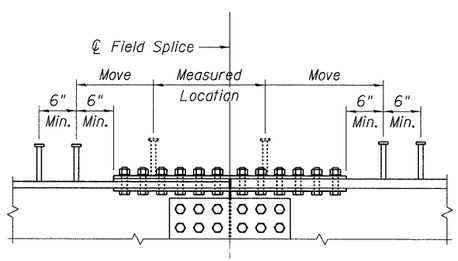
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	164
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1E-5E ELEVATION

GIRDERS 1E-5E DIMENSIONS

Girder	Radius	TL	S1	S2	L1	L2	L3	L4	L5	P1	P2	A1	A2	C1	C2	C3
1E	1948'-8"	1280'-4 13/16"	219'-5 13/16"	277'-5 7/16"	113'-0 3/4"	48'-9 11/16"	117'-6 1/2"	108'-6 7/8"	48'-9 11/16"	59'-1 5/16"	58'-5 3/16"	36'-1 5/16"	35'-5 3/16"	148	60	141
2E	1939'-10"	1274'-7 1/4"	218'-5 13/16"	276'-2 3/8"	112'-6 5/8"	48'-7 1/16"	117'-0 1/16"	108'-1"	48'-7 1/16"	58'-10 1/8"	58'-2"	35'-10 1/8"	35'-2"	147	60	140
3E	1931'-0"	1268'-9 11/16"	217'-5 3/4"	274'-11 1/4"	112'-0 1/2"	48'-4 3/8"	116'-5 11/16"	107'-7 1/16"	48'-4 3/8"	58'-6 7/8"	57'-10 13/16"	35'-6 7/8"	34'-10 13/16"	146	60	139
4E	1922'-2"	1263'-0 3/16"	216'-5 3/4"	273'-8 3/16"	111'-6 3/8"	48'-1 3/4"	115'-11 5/16"	107'-1 3/16"	48'-1 3/4"	58'-3 1/16"	57'-7 5/8"	35'-3 1/16"	34'-7 5/8"	145	60	138
5E	1913'-4"	1257'-2 5/8"	215'-5 3/4"	272'-5 1/16"	111'-0 1/4"	47'-11 1/16"	115'-4 7/8"	106'-7 1/4"	47'-11 1/16"	58'-0 7/16"	57'-4 7/16"	35'-0 7/16"	34'-4 7/16"	144	60	137



SHEAR CONNECTOR DETAIL AT SPLICES AND FLANGE TRANSITIONS

DO NOT place shear connectors on splice plates.
Move row of studs to 6" beyond nearest edge of splice plate from measured location.

NOTES:

1. Work this sheet with Sheets S-56 and S-57.
2. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 7/8 in. dia., holes 15/16 in. dia. unless otherwise noted.
3. All structural steel shall be AASHTO M 270 Grade 50W except expansion joints which shall be AASHTO M 270 Grade 50.
4. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
5. Structural steel shall only be painted for a distance of 10 ft. each way from the deck joints and interior supports. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
6. Single-sided intermediate transverse stiffeners are to be placed on the south face of the web of Girders 1E through 4E and on the north face of the web of Girder 5E. See Framing Plan Sht. S-48.

\\0826318-CONN-95-001-GE.DGN ... \0826318-CONN-99-901-BD.DGN
6-05-2010, 12:45:38 BONDHUD \\VS-2044\VAL_12\TRANS_87\2282\26868-9901\STRUCTCAD\01 DESIGN\0826318\SHEET\0826318-CONN-95-004-SHT-GE.DGN

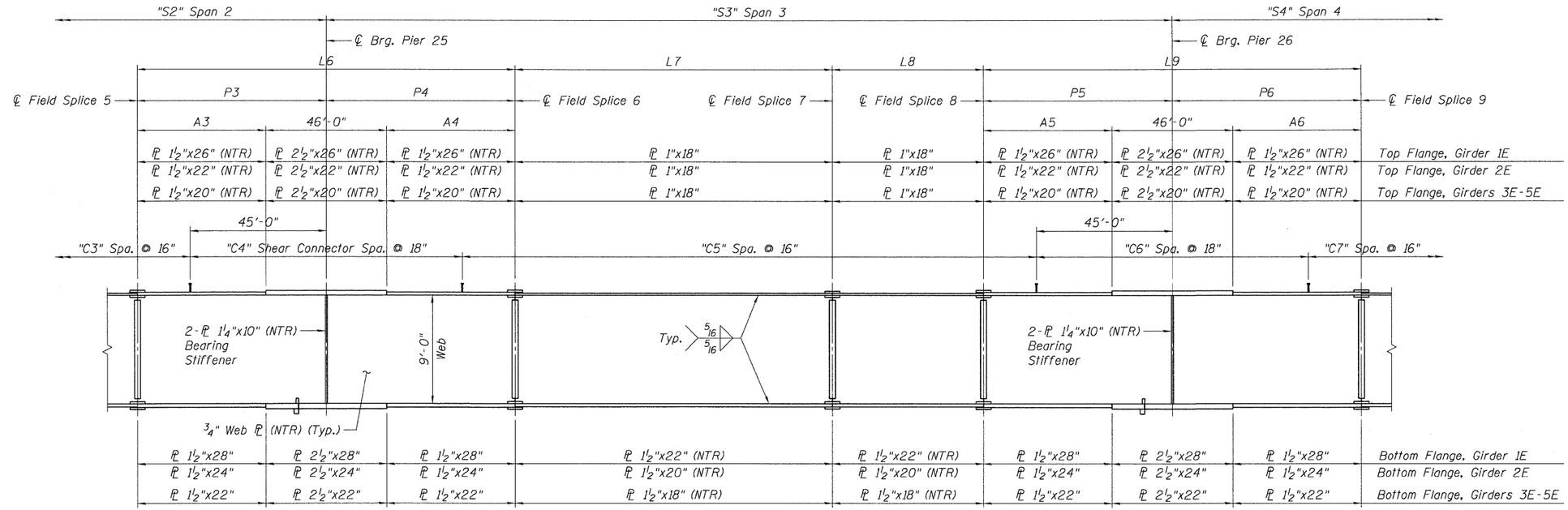
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - CCE	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER ELEVATIONS EB I-70
1 OF 3

SCALE: | SHEET NO. S-55 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	165
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1E-5E ELEVATION

GIRDERS 1E-5E DIMENSIONS

Girder	S3	L6	L7	L8	L9	P3	P4	P5	P6	A3	A4	A5	A6	C4	C5	C6
1E	279'-5 3/8"	122'-6 1/4"	107'-9 1/16"	48'-9 11/16"	122'-6 1/4"	61'-7 11/16"	60'-10 9/16"	62'-0 1/16"	60'-6 3/16"	38'-7 11/16"	37'-10 9/16"	39'-0 1/16"	37'-6 3/16"	60	143	60
2E	278'-2 3/16"	121'-11 9/16"	107'-3 3/16"	48'-7 1/16"	121'-11 9/16"	61'-4 5/16"	60'-7 1/4"	61'-8 11/16"	60'-2 7/8"	38'-4 5/16"	37'-7 1/4"	38'-8 11/16"	37'-2 7/8"	60	142	60
3E	276'-11"	121'-4 15/16"	106'-9 5/16"	48'-4 3/8"	121'-4 15/16"	61'-1"	60'-3 15/16"	61'-5 5/16"	59'-11 9/16"	38'-1"	37'-3 15/16"	38'-5 5/16"	36'-11 9/16"	60	141	60
4E	275'-7 13/16"	120'-10 1/4"	106'-3 1/2"	48'-1 3/4"	120'-10 1/4"	60'-9 5/8"	60'-0 5/8"	61'-1 15/16"	59'-8 5/16"	37'-9 5/8"	37'-0 5/8"	38'-1 15/16"	36'-8 5/16"	60	140	60
5E	274'-4 5/8"	120'-3 9/16"	105'-9 5/8"	47'-11 1/16"	120'-3 9/16"	60'-6 1/4"	59'-9 5/16"	60'-10 9/16"	59'-5"	37'-6 1/4"	36'-9 5/16"	37'-10 9/16"	36'-5"	60	139	60

NOTE:

Work this sheet with Sheets S-55 and S-57.

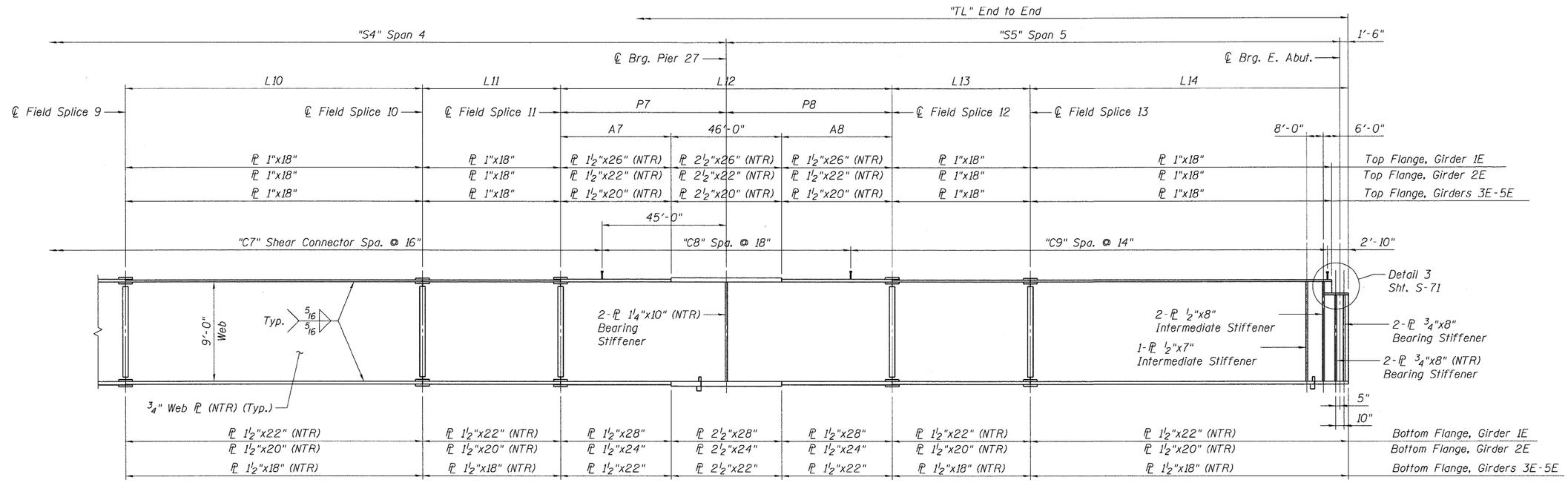
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - CCE	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER ELEVATIONS EB I-70
2 OF 3

SCALE: | SHEET NO. S-56 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	166
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1E-5E ELEVATION

GIRDERS 1E-5E DIMENSIONS

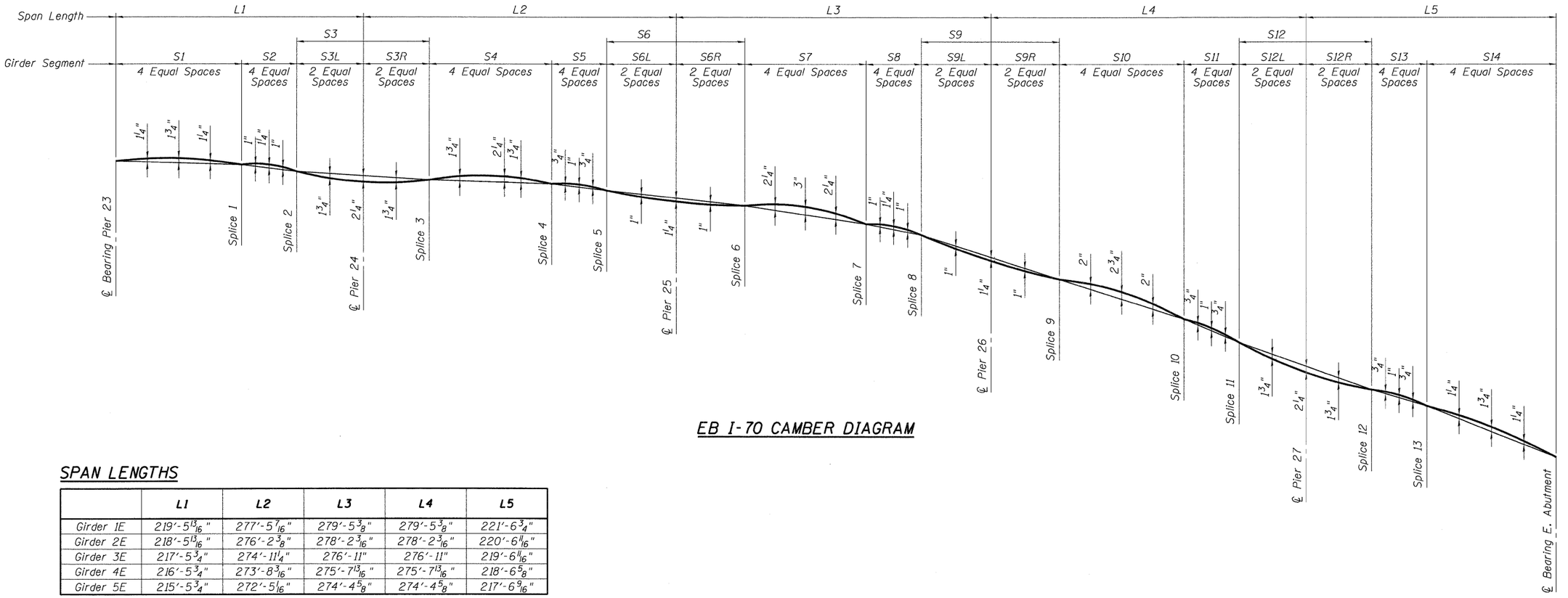
Girder	S4	S5	L10	L11	L12	L13	L14	P7	P8	A7	A8	C7	C8	C9
1E	279'-5 3/8"	221'-6 3/4"	110'-6 13/16"	48'-9 11/16"	117'-6 1/2"	48'-9 11/16"	116'-3 5/16"	59'-6 11/16"	57'-11 3/4"	36'-6 11/16"	34'-11 3/4"	143	60	151
2E	278'-2 3/16"	220'-6 11/16"	110'-0 13/16"	48'-7 1/16"	117'-0 1/16"	48'-7 1/16"	115'-9 1/16"	59'-3 1/2"	57'-8 5/8"	36'-3 1/2"	34'-8 5/8"	142	60	150
3E	276'-11"	219'-6 11/16"	109'-6 3/4"	48'-4 3/8"	116'-5 11/16"	48'-4 3/8"	115'-2 13/16"	59'-0 1/4"	57'-5 7/16"	36'-0 1/4"	34'-5 7/16"	141	60	149
4E	275'-7 13/16"	218'-6 5/8"	109'-0 3/4"	48'-1 3/4"	115'-11 5/16"	48'-1 3/4"	114'-8 9/16"	58'-9"	57'-2 5/16"	35'-9"	34'-2 5/16"	140	60	148
5E	274'-4 5/8"	217'-6 9/16"	108'-6 3/4"	47'-11 1/16"	115'-4 7/8"	47'-11 1/16"	114'-2 5/16"	58'-5 3/4"	56'-11 1/8"	35'-5 3/4"	33'-11 1/8"	139	60	147

NOTE:

Work this sheet with Sheets S-55 and S-56.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**GIRDER ELEVATIONS EB I-70 3 OF 3**
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS		DRAWN - CCE	REVISED -		
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: / SHEET NO. S-57 OF S-111 / STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	167
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



EB I-70 CAMBER DIAGRAM

SPAN LENGTHS

	L1	L2	L3	L4	L5
Girder 1E	219′-5 13/16″	277′-5 7/16″	279′-5 3/8″	279′-5 3/8″	221′-6 3/4″
Girder 2E	218′-5 13/16″	276′-2 3/8″	278′-2 3/16″	278′-2 3/16″	220′-6 11/16″
Girder 3E	217′-5 3/4″	274′-11 1/4″	276′-11″	276′-11″	219′-6 11/16″
Girder 4E	216′-5 3/4″	273′-8 3/16″	275′-7 13/16″	275′-7 13/16″	218′-6 5/8″
Girder 5E	215′-5 3/4″	272′-5 1/16″	274′-4 5/8″	274′-4 5/8″	217′-6 9/16″

GIRDER SEGMENT LENGTHS

	S1	S2	S3	S3L	S3R	S4	S5	S6	S6L	S6R	S7	S8	S9	S9L	S9R	S10	S11	S12	S12L	S12R	S13	S14
Girder 1E	111′-6 3/4″	48′-9 11/16″	117′-6 1/2″	59′-1 3/8″	58′-5 1/8″	108′-6 7/8″	48′-9 11/16″	122′-6 1/4″	61′-7 11/16″	60′-10 9/16″	107′-9 1/16″	48′-9 11/16″	122′-6 1/4″	62′-0 1/8″	60′-6 1/8″	110′-6 13/16″	48′-9 11/16″	117′-6 1/2″	59′-6 3/4″	57′-11 3/4″	48′-9 11/16″	114′-9 5/16″
Girder 2E	111′-0 5/8″	48′-7 1/16″	117′-0 1/16″	58′-10 1/8″	58′-2″	108′-1″	48′-7 1/16″	121′-11 9/16″	61′-4 5/16″	60′-7 1/4″	107′-3 3/16″	48′-7 1/16″	121′-11 9/16″	61′-8 11/16″	60′-2 7/8″	110′-0 13/16″	48′-7 1/16″	117′-0 1/16″	59′-3 1/2″	57′-8 5/8″	48′-7 1/16″	114′-3 1/16″
Girder 3E	110′-6 1/2″	48′-4 3/8″	116′-5 11/16″	58′-6 7/8″	57′-10 13/16″	107′-7 1/16″	48′-4 3/8″	121′-4 15/16″	61′-1″	60′-3 15/16″	106′-9 5/16″	48′-4 3/8″	121′-4 15/16″	61′-5 5/16″	59′-11 9/16″	109′-6 3/4″	48′-4 3/8″	116′-5 11/16″	59′-0 1/4″	57′-5 7/16″	48′-4 3/8″	113′-8 13/16″
Girder 4E	110′-0 3/8″	48′-1 3/4″	115′-11 5/16″	58′-3 11/16″	57′-7 5/8″	107′-1 3/16″	48′-1 3/4″	120′-10 1/4″	60′-9 5/8″	60′-0 5/8″	106′-3 1/2″	48′-1 3/4″	120′-10 1/4″	61′-1 5/16″	59′-8 5/16″	109′-0 3/4″	48′-1 3/4″	115′-11 5/16″	58′-9″	57′-2 5/16″	48′-1 3/4″	113′-2 9/16″
Girder 5E	109′-6 1/4″	47′-11 1/16″	115′-4 7/8″	58′-0 7/16″	57′-4 7/16″	106′-7 1/4″	47′-11 1/16″	120′-3 9/16″	60′-6 1/4″	59′-9 5/16″	105′-9 5/8″	47′-11 1/16″	120′-3 9/16″	60′-10 9/16″	59′-5″	108′-6 3/4″	47′-11 1/16″	115′-4 7/8″	58′-5 3/4″	56′-11 1/8″	47′-11 1/16″	112′-8 5/16″

TOP OF WEB ELEVATIONS *(For fabrication only)*

	*℄ Brg. Pier 23	Splice 1	Splice 2	℄ Brg. Pier 24	Splice 3	Splice 4	Splice 5	℄ Brg. Pier 25	Splice 6	Splice 7	Splice 8	℄ Brg. Pier 26	Splice 9	Splice 10	Splice 11	℄ Brg. Pier 27	Splice 12	Splice 13	*℄ Brg. E. Abut.
Girder 1E	465.03	464.79	464.28	463.78	463.66	463.38	462.87	462.21	461.76	460.41	459.21	457.64	456.32	453.37	451.65	449.69	448.16	446.97	443.18
Girder 2E	464.56	464.29	463.81	463.31	463.20	462.90	462.41	461.74	461.29	459.92	458.74	457.17	455.85	452.89	451.18	449.22	447.69	446.47	442.71
Girder 3E	464.08	463.79	463.32	462.84	462.73	462.43	461.94	461.27	460.81	459.43	458.26	456.70	455.38	452.41	450.72	448.75	447.20	445.97	442.23
Girder 4E	463.60	463.29	462.83	462.36	462.26	461.95	461.46	460.79	460.32	458.93	457.78	456.22	454.91	451.94	450.24	448.27	446.71	445.47	441.75
Girder 5E	463.13	462.79	462.34	461.88	461.78	461.47	460.99	460.31	459.84	458.44	457.29	455.74	454.43	451.46	449.77	447.79	446.22	444.96	441.28

* Top of web elevations at Pier 23 and East Abutment are top of web before girder is coped.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

GIRDER CAMBER DIAGRAM EB I-70

SCALE: | SHEET NO. S-58 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	168
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 1E MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	225,958	490,545	225,958	490,545	225,958	490,545	225,958	490,545	225,958
$I_c(n)$	(in^4)	463,114	514,254	463,114	514,254	463,114	514,254	463,114	514,254	463,114
$I_c(3n)$	(in^4)	339,716	514,254	339,716	514,254	339,716	514,254	339,716	514,254	339,716
S_s	(in^3)	4,589	8,490	4,589	8,490	4,589	8,490	4,589	8,490	4,589
$S_c(n)$	(in^3)	6,052	9,175	6,052	9,175	6,052	9,175	6,052	9,175	6,052
$S_c(3n)$	(in^3)	5,449	9,175	5,449	9,175	5,449	9,175	5,449	9,175	5,449
S_{xt}	(in^3)	121	327	121	327	121	327	121	327	121
DC1	(k/')	1.46	1.75	1.46	1.75	1.46	1.75	1.46	1.75	1.46
M_{DC1}	('k)	4,758	11,419	3,840	11,233	4,187	11,307	3,889	11,696	4,824
DC2	(k/')	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
M_{DC2}	('k)	726	1,551	632	1,549	662	1,564	642	1,584	741
DW	(k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
M_{DW}	('k)	1,383	2,955	1,204	2,950	1,261	2,978	1,224	3,018	1,411
M_{L+IM}	('k)	6,029	7,248	6,298	7,806	6,562	7,852	6,353	7,344	6,111
M_u (Strength I) *	('k)	20,453	34,995	19,340	35,767	20,408	36,011	19,549	35,678	20,756
M_{bf}	('k)	26	19	24	20	25	22	24	21	26
f_s DC1	(ksi)	12.44	16.14	10.04	15.88	10.95	15.98	10.17	16.53	12.61
f_s DC2	(ksi)	1.60	2.03	1.39	2.03	1.46	2.05	1.41	2.07	1.63
f_s DW	(ksi)	3.05	3.86	2.65	3.86	2.78	3.90	2.69	3.95	3.11
f_s 1.3(L+IM)	(ksi)	15.54	12.32	16.23	13.27	16.91	13.35	16.38	12.49	15.75
f_f	(ksi)	2.53	0.71	2.41	0.75	2.53	0.81	2.42	0.76	2.53
f_s (Service II)	(ksi)	32.63	34.36	30.32	35.03	32.10	35.27	30.66	35.04	33.11
f_s (Total)(Strength I)*	(ksi)	45.19	47.35	42.13	48.34	44.57	48.67	42.60	48.28	45.86
F_{cr} (Service II)	(ksi)	36.39	47.54	36.39	47.54	36.39	47.54	36.39	47.54	36.39
Vf	(k)	40.61	58.12	45.39	59.56	48.06	60.42	48.08	60.03	46.35
F_{cr}	(ksi)	50.00	49.70	50.00	49.70	50.00	49.70	50.00	49.70	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 2E MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	218,738	429,447	218,738	429,447	218,738	429,447	218,738	429,447	218,738
$I_c(n)$	(in^4)	457,420	455,321	457,420	455,321	457,420	455,321	457,420	455,321	457,420
$I_c(3n)$	(in^4)	336,065	455,321	336,065	455,321	336,065	455,321	336,065	455,321	336,065
S_s	(in^3)	4,343	7,416	4,343	7,416	4,343	7,416	4,343	7,416	4,343
$S_c(n)$	(in^3)	5,794	8,155	5,794	8,155	5,794	8,155	5,794	8,155	5,794
$S_c(3n)$	(in^3)	5,215	8,155	5,215	8,155	5,215	8,155	5,215	8,155	5,215
S_{xt}	(in^3)	100	240	100	240	100	240	100	240	100
DC1	(k/')	1.41	1.64	1.41	1.64	1.41	1.64	1.41	1.64	1.41
M_{DC1}	('k)	4,327	10,430	3,648	10,299	3,938	10,368	3,736	10,645	4,441
DC2	(k/')	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
M_{DC2}	('k)	678	1,466	601	1,471	625	1,484	611	1,494	692
DW	(k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
M_{DW}	('k)	1,291	2,793	1,145	2,802	1,190	2,826	1,164	2,846	1,318
M_{L+IM}	('k)	4,736	5,685	4,949	6,098	5,146	6,126	4,994	5,752	4,798
M_u (Strength I) *	('k)	17,303	30,458	16,475	31,068	17,318	31,264	16,715	30,985	17,629
M_{bf}	('k)	21	17	21	17	21	19	21	18	22
f_s DC1	(ksi)	11.96	16.88	10.08	16.67	10.88	16.78	10.32	17.23	12.27
f_s DC2	(ksi)	1.56	2.16	1.38	2.16	1.44	2.18	1.41	2.20	1.59
f_s DW	(ksi)	2.97	4.11	2.64	4.12	2.74	4.16	2.68	4.19	3.03
f_s 1.3(L+IM)	(ksi)	12.75	10.88	13.33	11.66	13.85	11.72	13.45	11.00	12.92
f_f	(ksi)	2.57	0.84	2.47	0.87	2.56	0.95	2.48	0.89	2.58
f_s (Service II)	(ksi)	29.24	34.02	27.43	34.62	28.91	34.84	27.85	34.61	29.82
f_s (Total)(Strength I)*	(ksi)	40.44	46.83	38.03	47.70	40.06	48.00	38.62	47.64	41.23
F_{cr} (Service II)	(ksi)	37.79	47.77	37.79	47.77	37.79	47.77	37.79	47.77	37.79
Vf	(k)	22.98	35.63	26.24	37.98	26.25	38.40	28.10	38.39	27.39
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 3E MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	398,895	211,175	398,895	211,175
$I_c(n)$	(in^4)	438,834	424,785	438,834	424,785	438,834	424,785	438,834	424,785	438,834
$I_c(3n)$	(in^4)	323,671	424,785	323,671	424,785	323,671	424,785	323,671	424,785	323,671
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	6,879	4,097	6,879	4,097
$S_c(n)$	(in^3)	5,487	7,613	5,487	7,613	5,487	7,613	5,487	7,613	5,487
$S_c(3n)$	(in^3)	4,933	7,613	4,933	7,613	4,933	7,613	4,933	7,613	4,933
S_{xt}	(in^3)	81	202	81	202	81	202	81	202	81
DC1	(k/')	1.40	1.61	1.40	1.61	1.40	1.61	1.40	1.61	1.40
M_{DC1}	('k)	3,914	9,641	3,384	9,593	3,532	9,664	3,390	9,845	3,993
DC2	(k/')	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
M_{DC2}	('k)	619	1,367	562	1,380	577	1,392	570	1,393	631
DW	(k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
M_{DW}	('k)	1,179	2,603	1,071	2,629	1,099	2,651	1,085	2,653	1,202
M_{L+IM}	('k)	3,830	4,716	4,005	5,002	4,134	5,024	4,034	4,768	3,873
M_u (Strength I) *	('k)	14,845	27,213	14,225	27,732	14,721	27,916	14,319	27,690	15,079
M_{bf}	('k)	18	15	18	15	18	17	18	16	18
f_s DC1	(ksi)	11.47	16.82	9.91	16.73	10.35	16.86	9.93	17.18	11.70
f_s DC2	(ksi)	1.51	2.15	1.37	2.18	1.40	2.19	1.39	2.20	1.53
f_s DW	(ksi)	2.87	4.10	2.60	4.14	2.67	4.18	2.64	4.18	2.92
f_s 1.3(L+IM)	(ksi)	10.89	9.66	11.39	10.25	11.75	10.30	11.47	9.77	11.01
f_f	(ksi)	2.71	0.89	2.61	0.92	2.68	1.00	2.61	0.94	2.70
f_s (Service II)	(ksi)	26.73	32.74	25.27	33.30	26.18	33.53	25.42	33.32	27.17
f_s (Total)(Strength I)*	(ksi)	36.93	45.03	35.00	45.83	36.25	46.14	35.22	45.82	37.54
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.91	39.35	47.91	39.35
Vf	(k)	27.24	39.97	29.71	42.41	29.66	42.78	31.58	42.42	32.63
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 4E MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	398,895	211,175	398,895	211,175
$I_c(n)$	(in^4)	438,834	424,785	438,834	424,785	438,834	424,785	438,834	424,785	438,834
$I_c(3n)$	(in^4)	323,671	424,785	323,671	424,785	323,671	424,785	323,671	424,785	323,671
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	6,879	4,097	6,879	4,097
$S_c(n)$	(in^3)	5,487	7,613	5,487	7,613	5,487	7,613	5,487	7,613	5,487
$S_c(3n)$	(in^3)	4,933	7,613	4,933	7,613	4,933	7,613	4,933	7,613	4,933
S_{xt}	(in^3)	81	202	81	202	81	202	81	202	81
DC1	(k/')	1.40	1.61	1.40	1.61	1.40	1.61	1.40	1.61	1.40
M_{DC1}	('k)	3,804	9,519	3,337	9,502	3,453	9,611	3,394	9,701	3,868
DC2	(k/')	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
M_{DC2}	('k)	588	1,337	548	1,353	557	1,368	556	1,360	599
DW	(k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
M_{DW}	('k)	1,120	2,546	1,045	2,578	1,061	2,605	1,060	2,590	1,141
M_{L+IM}	('k)	3,861	4,850	4,066	5,149	4,178	5,181	4,096	4,903	3,902
M_u (Strength I) *	('k)	14,623	27,170	14,217	27,769	14,612	28,034	14,381	27,607	14,828
M_{bf}	('k)	18	15	18	15	18	17	18	16	18
f_s DC1	(ksi)	11.14	16.61	9.78	16.58	10.12	16.77	9.94	16.92	11.33
f_s DC2	(ksi)	1.43	2.11	1.33	2.13	1.35	2.16	1.35	2.14	1.46
f_s DW	(ksi)	2.73	4.01	2.54	4.06	2.58	4.11	2.58	4.08	2.77
f_s 1.3(L+IM)	(ksi)	10.98	9.94	11.56	10.55	11.88	10.62	11.65	10.05	11.09
f_f	(ksi)	2.65	0.88	2.61	0.92	2.65	1.00	2.61	0.94	2.65
f_s (Service II)	(ksi)	26.27	32.67	25.21	33.32	25.93	33.65	25.52	33.20	26.65
f_s (Total)(Strength I)*	(ksi)	36.31	44.93	34.92	45.87	35.91	46.31	35.35	45.66	36.83
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.91	39.35	47.91	39.35
Vf	(k)	25.46	37.49	28.54	39.50	28.49	39.76	29.97	39.41	30.45
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

GIRDER TABLES EB I-70
1 OF 2

SCALE: | SHEET NO. S-59 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	169
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 5E MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	398,895	211,175	398,895	211,175
$I_c(n)$	(in^4)	427,725	422,655	427,725	422,655	427,725	422,655	427,725	422,655	427,725
$I_c(3n)$	(in^4)	316,093	422,655	316,093	422,655	316,093	422,655	316,093	422,655	316,093
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	6,879	4,097	6,879	4,097
$S_c(n)$	(in^3)	5,442	7,550	5,442	7,550	5,442	7,550	5,442	7,550	5,442
$S_c(3n)$	(in^3)	4,888	7,550	4,888	7,550	4,888	7,550	4,888	7,550	4,888
S_{xt}	(in^3)	81	202	81	202	81	202	81	202	81
DC1	(k/')	1.44	1.64	1.44	1.64	1.44	1.64	1.44	1.64	1.44
M_{DC1}	('k)	3,513	9,572	3,350	9,676	3,353	9,776	3,381	9,770	3,557
DC2	(k/')	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
M_{DC2}	('k)	539	1,311	520	1,341	521	1,352	527	1,334	548
DW	(k/')	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
M_{DW}	('k)	1,027	2,496	990	2,555	992	2,576	1,004	2,542	1,044
M_{L+IM}	('k)	4,427	5,794	4,715	6,222	4,840	6,255	4,751	5,865	4,474
M_u (Strength I) *	('k)	15,070	28,861	15,303	29,916	15,540	30,157	15,440	29,356	15,252
M_{bl}	('k)	19	16	19	17	19	18	19	17	18
f_s DC1	(ksi)	10.29	16.70	9.81	16.88	9.82	17.05	9.90	17.04	10.42
f_s DC2	(ksi)	1.32	2.08	1.28	2.13	1.28	2.15	1.29	2.12	1.35
f_s DW	(ksi)	2.52	3.97	2.43	4.06	2.44	4.09	2.46	4.04	2.56
f_s 1.3(L+IM)	(ksi)	12.69	11.97	13.51	12.86	13.87	12.93	13.62	12.12	12.82
f_l	(ksi)	2.75	0.94	2.82	0.99	2.83	1.08	2.81	1.00	2.73
f_s (Service II)	(ksi)	26.82	34.72	27.04	35.93	27.41	36.22	27.28	35.32	27.15
f_s (Total)(Strength I)*	(ksi)	37.15	47.82	37.49	49.52	38.01	49.92	37.83	48.65	37.60
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.91	39.35	47.91	39.35
Vr	(k)	35.46	52.33	39.60	52.76	41.69	53.24	41.69	52.85	41.22
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

S_{xt}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

M_{bl}: Factored lateral bending moment for controlling flange plate (kip-ft.).

f_l: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

F_{cr} (Service II): Critical flange stress at Service II computed according to Article 6.10.4.2 (ksi).

F_{cr}: Critical flange stress computed according to Article 6.10.7 or 6.10.8 (ksi).

Vr: Maximum factored shear range computed according to Article 6.10.10.

Note:
M_{L+IM} and R_{L+IM} include the effects of centrifugal force and superelevation.

MAXIMUM GIRDER REACTION TABLE

		Pier 23	Pier 24	Pier 25	Pier 26	Pier 27	E. Abut.
R_{DC1}	(k)	123.3	436.0	435.6	437.3	441.5	125.8
R_{DC2}	(k)	18.5	60.6	61.0	61.4	61.2	18.7
R_{DW}	(k)	35.2	115.5	116.3	116.9	116.6	35.6
R_{L+IM}	(k)	140.6	275.8	284.6	285.1	274.6	141.3
R_{Total}	(k)	317.6	887.8	897.4	900.6	894.0	321.4

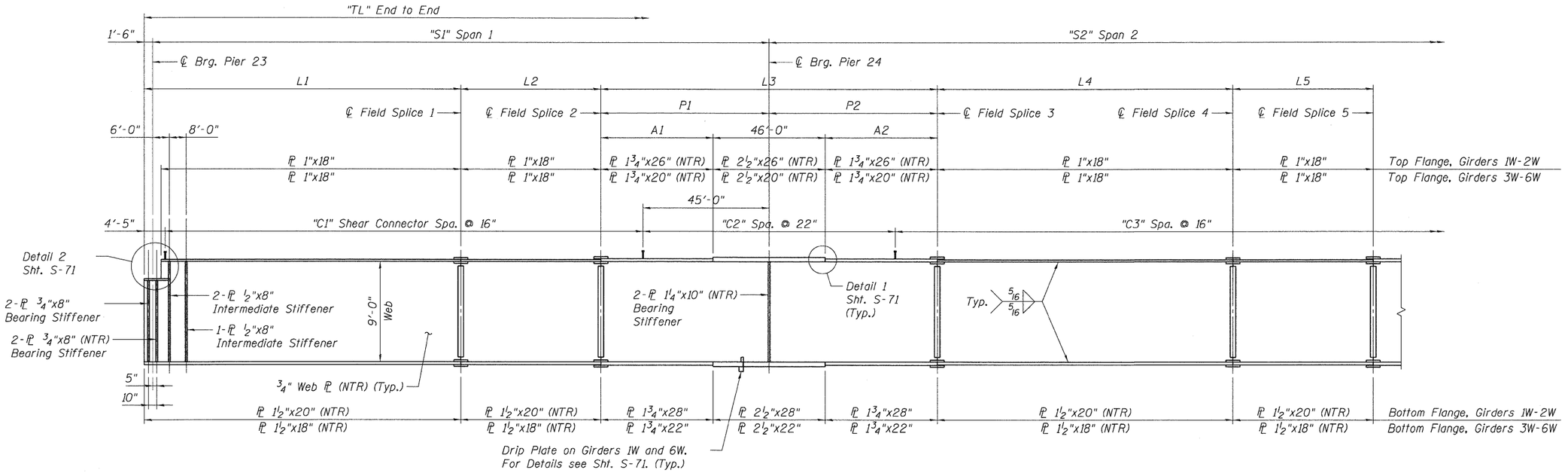
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER TABLES EB I-70
2 OF 2

SCALE: | SHEET NO. S-60 OF S-111 | STA. 134+22.00 TO STA.

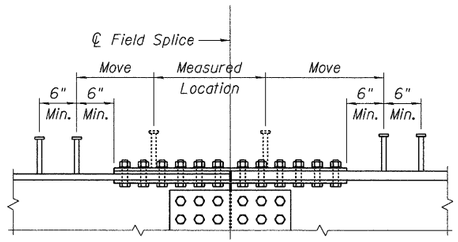
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	170
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1W-6W ELEVATION

GIRDERS 1W-6W DIMENSIONS

Girder	Radius	TL	S1	S2	L1	L2	L3	L4	L5	P1	P2	A1	A2	C1	C2	C3
1W	(See Plan Sht. S-52)	1311'-10 9/16"	224'-4 5/16"	283'-7"	115'-6 5/8"	49'-10 5/8"	120'-1 5/8"	110'-11 11/16"	49'-10 5/8"	60'-5"	59'-8 5/8"	37'-5"	36'-8 5/8"	133	50	146
2W		1306'-7"	223'-6 11/16"	282'-6 7/8"	115'-1 3/4"	49'-8 1/2"	119'-8 1/2"	110'-6 15/16"	49'-8 1/2"	60'-2 7/16"	59'-6 1/8"	37'-2 7/16"	36'-6 1/8"	132	50	145
3W		1301'-3 7/16"	222'-9 1/16"	281'-6 13/16"	114'-8 13/16"	49'-6 3/8"	119'-3 3/8"	110'-2 3/16"	49'-6 3/8"	59'-11 13/16"	59'-3 9/16"	36'-11 13/16"	36'-3 9/16"	132	50	144
4W		1295'-11 15/16"	221'-11 3/8"	280'-6 11/16"	114'-3 7/8"	49'-4 1/4"	118'-10 1/4"	109'-9 1/2"	49'-4 1/4"	59'-9 1/4"	59'-1"	36'-9 1/4"	36'-1"	131	50	143
5W		1290'-8 3/8"	221'-1 3/4"	279'-6 9/16"	113'-11"	49'-2 1/8"	118'-5 1/8"	109'-4 3/4"	49'-2 1/8"	59'-6 1/16"	58'-10 7/16"	36'-6 1/16"	35'-10 7/16"	130	50	143
6W	1956'-3 1/2"	1285'-4 7/8"	220'-4 1/8"	278'-6 1/2"	113'-6 1/16"	49'-0"	118'-0"	109'-0"	49'-0"	59'-4 1/8"	58'-7 7/8"	36'-4 1/8"	35'-7 7/8"	130	50	142



SHEAR CONNECTOR DETAIL AT SPLICES AND FLANGE TRANSITIONS

DO NOT place shear connectors on splice plates.
Move row of studs to 6" beyond nearest edge of splice plate from measured location.

NOTES:

1. Work this sheet with Sheets S-62 and S-63.
2. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 7/8 in. dia., holes 15/16 in. dia. unless otherwise noted.
3. All structural steel shall be AASHTO M 270 Grade 50W except expansion joints which shall be AASHTO M 270 Grade 50.
4. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
5. Structural steel shall only be painted for a distance of 10 ft. each way from the deck joints and interior supports. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
6. Single-sided intermediate transverse stiffeners are to be placed on the south face of the web of Girders 1W through 5W and on the north face of the web of Girder 6W. See Framing Plan Sht. S-51.

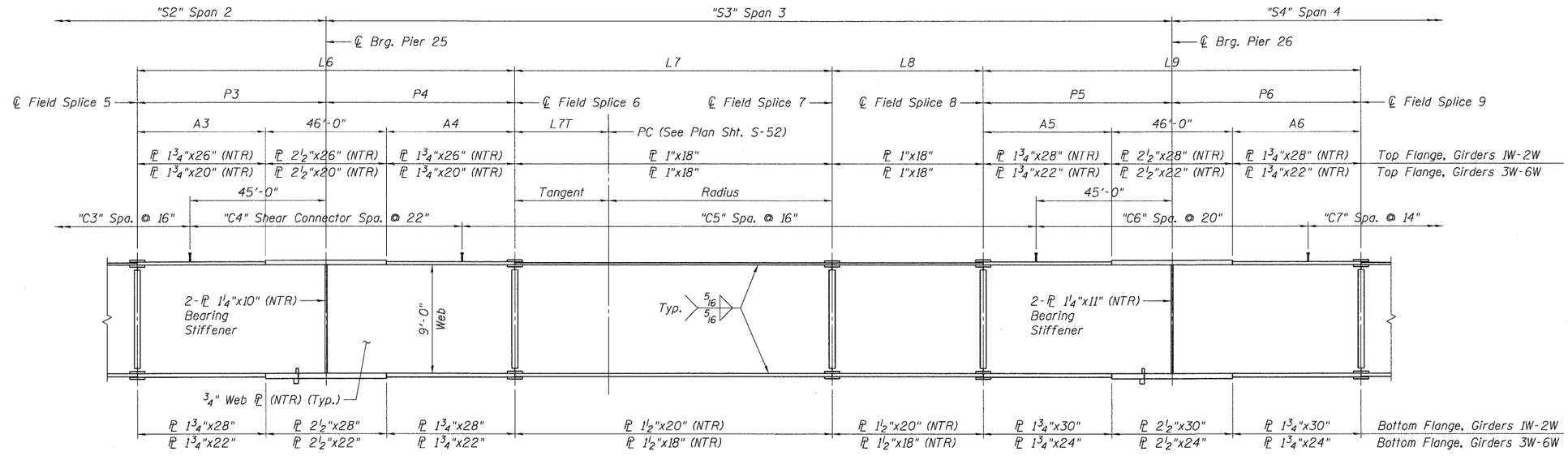
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - CCE	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER ELEVATIONS WB I-70
1 OF 3

SCALE: | SHEET NO. S-61 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	171
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1W-6W ELEVATION

GIRDERS 1W-6W DIMENSIONS

Girder	S3	L6	L7	L7T	L8	L9	P3	P4	P5	P6	A3	A4	A5	A6	C4	C5	C6
1W	286'-0 9/16"	125'-2 3/4"	110'-2 13/16"	77'-10 13/16"	50'-0 1/8"	125'-8 3/16"	63'-0"	62'-2 11/16"	63'-7"	62'-1 3/16"	40'-0"	39'-2 11/16"	40'-7"	39'-1 3/16"	50	148	54
2W	284'-11 3/8"	124'-9 3/8"	109'-9 15/16"	62'-3 7/8"	49'-9 11/16"	125'-1 3/4"	62'-9 5/16"	62'-0 1/16"	63'-3 3/4"	61'-9 15/16"	39'-9 5/16"	39'-0 1/16"	40'-3 3/4"	38'-9 15/16"	50	147	54
3W	283'-10 3/16"	124'-4 1/16"	109'-5"	46'-8 7/8"	49'-7 1/4"	124'-7 1/4"	62'-6 5/8"	61'-9 3/8"	63'-0 9/16"	61'-6 11/16"	39'-6 5/8"	38'-9 3/8"	40'-0 9/16"	38'-6 11/16"	50	146	54
4W	282'-9"	123'-10 11/16"	109'-0 1/16"	31'-1 15/16"	49'-4 13/16"	124'-0 7/8"	62'-3 15/16"	61'-6 3/4"	62'-9 3/8"	61'-3 1/2"	39'-3 15/16"	38'-6 3/4"	39'-9 3/8"	38'-3 1/2"	50	145	54
5W	281'-7 3/4"	123'-5 3/8"	108'-7 1/16"	15'-6 15/16"	49'-2 7/16"	123'-6 7/16"	62'-1 1/4"	61'-4 1/16"	62'-6 3/16"	61'-0 1/4"	39'-1 1/4"	38'-4 1/16"	39'-6 3/16"	38'-0 1/4"	50	144	54
6W	280'-6 1/2"	123'-0"	108'-2 1/8"	N.A.	49'-0"	123'-0"	61'-10 9/16"	61'-1 7/16"	62'-3"	60'-9"	38'-10 9/16"	38'-1 7/16"	39'-3"	37'-9"	50	143	54

NOTE:

Work this sheet with Sheets S-61 and S-63.

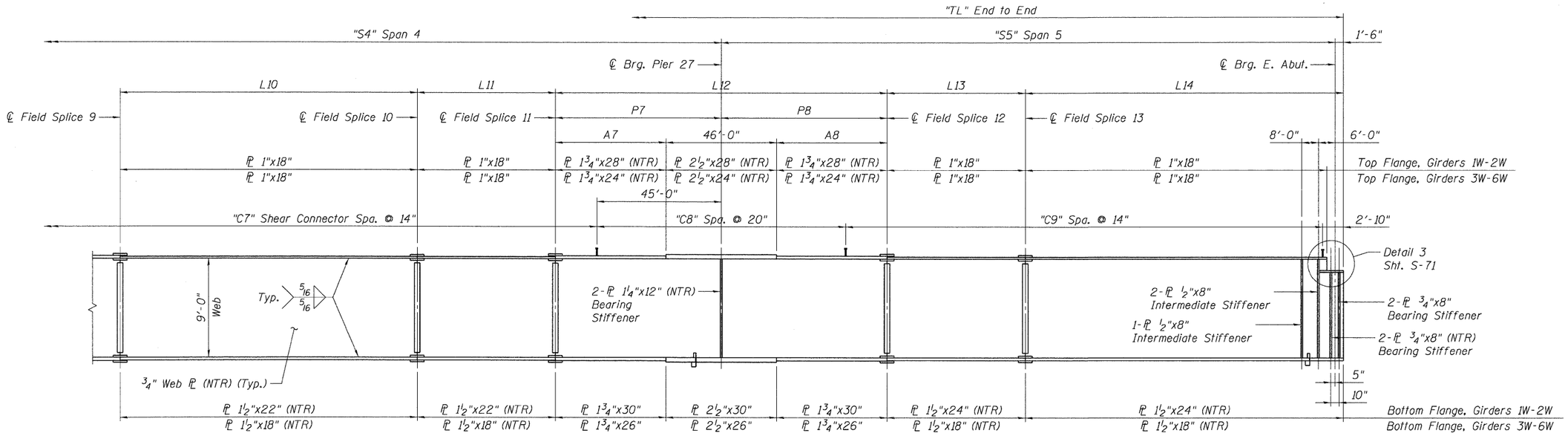
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - CCE	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER ELEVATIONS WB I-70
2 OF 3

SCALE: | SHEET NO. S-62 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	172
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



GIRDERS 1W-6W ELEVATION

GIRDERS 1W-6W DIMENSIONS

Girder	S4	S5	L10	L11	L12	L13	L14	P7	P8	A7	A8	C7	C8	C9
1W	287'-0 5/8"	227'-10 1/16"	113'-6 3/4"	50'-1 15/16"	120'-10 1/8"	50'-2 5/16"	119'-6 5/16"	61'-2 3/4"	59'-7 7/16"	38'-2 3/4"	36'-7 7/16"	169	54	156
2W	285'-9"	226'-9 1/16"	113'-0 9/16"	49'-11 1/8"	120'-3 5/16"	49'-11 7/16"	118'-11 5/8"	60'-11 5/16"	59'-4"	37'-11 5/16"	36'-4"	168	54	155
3W	284'-5 3/8"	225'-8 1/2"	112'-6 7/16"	49'-8 3/8"	119'-8 1/2"	49'-8 9/16"	118'-4 7/8"	60'-7 13/16"	59'-0 5/8"	37'-7 13/16"	36'-0 5/8"	167	54	154
4W	283'-1 3/4"	224'-7 1/8"	112'-0 5/16"	49'-5 9/16"	119'-1 11/16"	49'-5 3/4"	117'-10 1/8"	60'-4 3/8"	58'-9 1/4"	37'-4 3/8"	35'-9 1/4"	166	54	153
5W	281'-10 1/8"	223'-6 1/2"	111'-6 1/8"	49'-2 13/16"	118'-6 13/16"	49'-2 7/8"	117'-3 7/16"	60'-0 15/16"	58'-5 7/8"	37'-0 15/16"	35'-5 7/8"	165	54	152
6W	280'-6 1/2"	222'-5 3/16"	111'-0"	49'-0"	118'-0"	49'-0"	116'-8 11/16"	59'-9 1/2"	58'-2 1/2"	36'-9 1/2"	35'-2 1/2"	164	54	151

NOTE:

Work this sheet with Sheets S-61 and S-62.

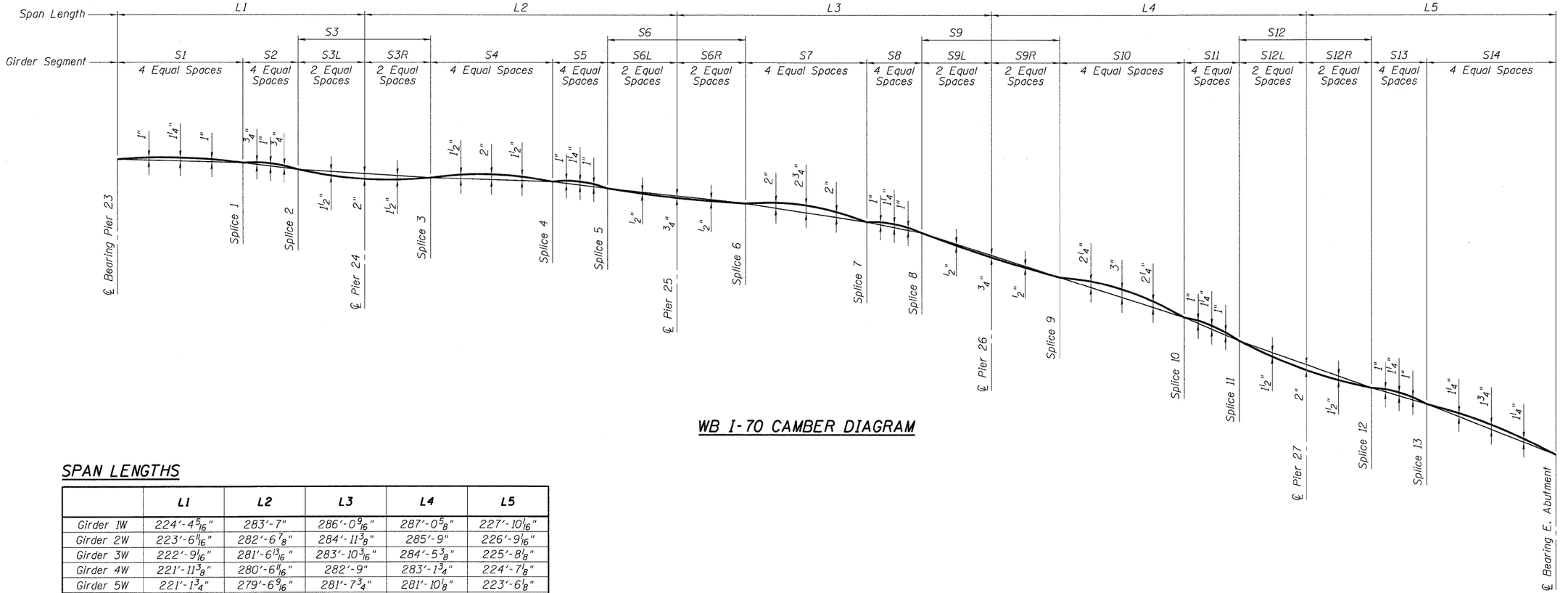
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - CCE	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER ELEVATIONS WB I-70
3 OF 3

SCALE: | SHEET NO. S-63 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	173
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



WB I-70 CAMBER DIAGRAM

SPAN LENGTHS

	L1	L2	L3	L4	L5
Girder 1W	224'-4 5/16"	283'-7"	286'-0 9/16"	287'-0 5/8"	227'-10 1/16"
Girder 2W	223'-6 11/16"	282'-6 7/8"	284'-11 3/8"	285'-9"	226'-9 1/16"
Girder 3W	222'-9 1/16"	281'-6 13/16"	283'-10 3/16"	284'-5 3/8"	225'-8 1/8"
Girder 4W	221'-11 3/8"	280'-6 11/16"	282'-9"	283'-1 3/4"	224'-7 1/8"
Girder 5W	221'-1 3/4"	279'-6 9/16"	281'-7 3/4"	281'-10 1/8"	223'-6 1/8"
Girder 6W	220'-4 1/8"	278'-6 1/2"	280'-6 1/2"	280'-6 1/2"	222'-5 3/16"

GIRDER SEGMENT LENGTHS

	S1	S2	S3	S3L	S3R	S4	S5	S6	S6L	S6R	S7	S8	S9	S9L	S9R	S10	S11	S12	S12L	S12R	S13	S14
Girder 1W	114'-0 5/8"	49'-10 5/8"	120'-1 5/8"	60'-5"	59'-8 5/8"	110'-11 11/16"	49'-10 5/8"	125'-2 3/4"	63'-0"	62'-2 11/16"	110'-2 13/16"	50'-0 1/8"	125'-8 3/16"	63'-7"	62'-1 3/16"	113'-6 3/4"	50'-1 15/16"	120'-10 1/8"	61'-2 3/4"	59'-7 7/16"	50'-2 5/16"	118'-0 5/16"
Girder 2W	113'-7 3/4"	49'-8 1/2"	119'-8 1/2"	60'-2 7/16"	59'-6 1/8"	110'-6 15/16"	49'-8 1/2"	124'-9 3/8"	62'-9 5/16"	62'-0 1/16"	109'-9 15/16"	49'-9 11/16"	125'-1 3/4"	63'-3 3/4"	61'-9 15/16"	113'-0 9/16"	49'-11 1/8"	120'-3 5/16"	60'-11 5/16"	59'-4 1/16"	49'-11 7/16"	117'-5 5/8"
Girder 3W	113'-2 13/16"	49'-6 3/8"	119'-3 3/8"	59'-11 13/16"	59'-3 9/16"	110'-2 3/16"	49'-6 3/8"	124'-4 1/16"	62'-6 5/8"	61'-9 3/8"	109'-5"	49'-7 1/4"	124'-7 1/4"	63'-0 9/16"	61'-6 11/16"	112'-6 7/16"	49'-8 3/8"	119'-8 1/2"	60'-7 13/16"	59'-0 5/8"	49'-8 9/16"	116'-10 7/8"
Girder 4W	112'-9 7/8"	49'-4 1/4"	118'-10 1/4"	59'-9 1/4"	59'-1"	109'-9 1/2"	49'-4 1/4"	123'-10 11/16"	62'-3 15/16"	61'-6 3/4"	109'-0 1/16"	49'-4 13/16"	124'-0 7/8"	62'-9 3/8"	61'-3 1/2"	112'-0 5/16"	49'-5 9/16"	119'-1 11/16"	60'-4 3/8"	58'-9 1/4"	49'-5 3/4"	116'-4 1/8"
Girder 5W	112'-5"	49'-2 1/8"	118'-5 1/8"	59'-6 11/16"	58'-10 7/16"	109'-4 3/4"	49'-2 1/8"	123'-5 3/8"	62'-1 1/4"	61'-4 1/16"	108'-7 1/16"	49'-2 7/16"	123'-6 7/16"	62'-6 3/16"	61'-0 1/4"	111'-6 1/8"	49'-2 13/16"	118'-6 13/16"	60'-0 15/16"	58'-5 7/8"	49'-2 7/8"	115'-9 7/16"
Girder 6W	112'-0 1/16"	49'-0"	118'-0"	59'-4 1/8"	58'-7 7/8"	109'-0"	49'-0"	123'-0"	61'-10 9/16"	61'-1 7/16"	108'-2 1/8"	49'-0"	123'-0"	62'-3"	60'-9"	111'-0"	49'-0"	118'-0"	59'-9 1/2"	58'-2 1/2"	49'-0"	115'-2 11/16"

TOP OF WEB ELEVATIONS *(For fabrication only)*

	*℄ Brg. Pier 23	Splice 1	Splice 2	℄ Brg. Pier 24	Splice 3	Splice 4	Splice 5	℄ Brg. Pier 25	Splice 6	Splice 7	Splice 8	℄ Brg. Pier 26	Splice 9	Splice 10	Splice 11	℄ Brg. Pier 27	Splice 12	Splice 13	*℄ Brg. E. Abut.
Girder 1W	466.55	466.27	465.76	465.29	465.15	464.88	464.37	463.73	463.21	461.99	460.90	459.51	458.28	455.47	453.76	451.84	450.30	449.12	445.36
Girder 2W	466.17	465.87	465.37	464.90	464.77	464.49	463.99	463.34	462.84	461.59	460.48	459.06	457.81	454.98	453.26	451.33	449.78	448.60	444.84
Girder 3W	465.78	465.47	465.00	464.53	464.40	464.10	463.61	462.98	462.47	461.18	460.07	458.63	457.35	454.48	452.76	450.83	449.27	448.07	444.33
Girder 4W	465.40	465.08	464.61	464.15	464.02	463.72	463.23	462.59	462.09	460.77	459.64	458.18	456.88	453.98	452.26	450.31	448.75	447.54	443.81
Girder 5W	465.02	464.68	464.22	463.76	463.64	463.33	462.84	462.21	461.71	460.35	459.20	457.72	456.40	453.47	451.76	449.80	448.23	447.01	443.30
Girder 6W	464.64	464.28	463.83	463.37	463.25	462.94	462.46	461.83	461.33	459.93	458.76	457.26	455.92	452.97	451.25	449.29	447.71	446.48	442.79

* Top of web elevations at Pier 23 and East Abutment are top of web before girder is coped.

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	**GIRDER CAMBER DIAGRAM WB I-70**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JLR	REVISED -			998	82-2-1HVB	ST. CLAIR	285	174
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -			SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: SHEET NO. S-64 OF S-111 STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 1W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	218,738	490,545	218,738	490,545	218,738	521,091	225,958	521,091	232,857
$I_c(n)$	(in^4)	426,644	516,823	426,644	516,823	427,508	549,587	460,251	551,532	481,681
$I_c(3n)$	(in^4)	311,925	516,823	311,925	516,823	312,447	549,587	333,336	551,532	347,122
S_s	(in^3)	4,343	8,490	4,343	8,490	4,343	9,028	4,589	9,028	4,834
$S_c(n)$	(in^3)	5,669	9,255	5,669	9,255	5,673	9,865	6,042	9,925	6,364
$S_c(3n)$	(in^3)	5,069	9,255	5,069	9,255	5,073	9,865	5,411	9,925	5,708
S_{xt}	(in^3)	100	327	100	327	100	375	121	375	144
DC1	(k/')	1.38	1.68	1.38	1.68	1.38	1.77	1.49	1.84	1.53
M_{DC1}	('k)	4,530	10,828	3,774	10,396	3,728	11,451	4,334	12,671	5,318
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	629	1,358	534	1,325	542	1,345	528	1,348	623
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	1,193	2,598	1,031	2,492	1,005	2,926	1,322	3,366	1,540
M_{LL+IM}	('k)	5,350	8,294	5,441	8,718	5,806	8,442	6,193	7,457	6,207
M_u (Strength I) *	('k)	18,481	35,326	17,277	35,330	17,856	36,914	19,843	37,404	21,630
M_{bl}	('k)	20	27	36	27	49	32	49	33	19
f_s DC1	(ksi)	12.52	15.30	10.43	14.69	10.30	15.22	11.33	16.84	13.20
f_s DC2	(ksi)	1.49	1.76	1.26	1.72	1.28	1.64	1.17	1.63	1.31
f_s DW	(ksi)	2.82	3.37	2.44	3.23	2.38	3.56	2.93	4.07	3.24
f_s 1.3(LL+IM)	(ksi)	14.72	13.98	14.97	14.69	15.97	13.35	15.99	11.72	15.22
f_f	(ksi)	2.43	0.99	4.33	0.99	5.92	1.04	4.83	1.06	1.57
f_s (Service II)	(ksi)	31.55	34.41	29.11	34.34	29.93	33.76	31.43	34.26	32.97
f_s (Total)(Strength I)*	(ksi)	43.64	47.46	40.36	47.40	41.52	46.60	43.63	47.22	45.65
F_{cr} (Service II)	(ksi)	37.79	47.54	37.79	47.54	37.79	47.44	36.39	47.44	35.12
Vr	(k)	42.05	53.23	41.27	53.81	42.88	57.75	46.15	58.80	46.71
F_{cr}	(ksi)	50.00	49.70	50.00	49.70	50.00	49.70	50.00	49.70	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 2W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	218,738	490,545	218,738	490,545	218,738	521,091	225,958	521,091	232,857
$I_c(n)$	(in^4)	425,149	516,527	425,149	516,527	427,980	551,622	474,773	555,382	500,482
$I_c(3n)$	(in^4)	311,027	516,527	311,027	516,527	312,732	551,622	342,699	555,382	359,358
S_s	(in^3)	4,343	8,490	4,343	8,490	4,343	9,028	4,589	9,028	4,834
$S_c(n)$	(in^3)	5,663	9,247	5,663	9,247	5,675	9,927	6,099	10,043	6,435
$S_c(3n)$	(in^3)	5,064	9,247	5,064	9,247	5,074	9,927	5,468	10,043	5,780
S_{xt}	(in^3)	100	327	100	327	100	375	121	375	144
DC1	(k/')	1.29	1.59	1.29	1.59	1.30	1.74	1.49	1.86	1.55
M_{DC1}	('k)	4,286	11,231	3,635	10,925	3,637	12,103	4,188	13,164	5,126
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	594	1,411	512	1,393	523	1,426	523	1,417	620
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	1,127	2,698	986	2,623	976	3,103	1,301	3,533	1,534
M_{LL+IM}	('k)	4,267	6,553	4,332	6,956	4,631	6,967	5,200	6,537	5,358
M_u (Strength I) *	('k)	16,020	32,883	14,956	33,080	15,507	35,446	17,786	36,715	19,802
M_{bl}	('k)	17	25	31	25	42	30	42	31	17
f_s DC1	(ksi)	11.84	15.87	10.04	15.44	10.05	16.09	10.95	17.50	12.72
f_s DC2	(ksi)	1.41	1.83	1.21	1.81	1.24	1.72	1.15	1.69	1.29
f_s DW	(ksi)	2.67	3.50	2.34	3.40	2.31	3.75	2.86	4.22	3.18
f_s 1.3(LL+IM)	(ksi)	11.75	11.05	11.93	11.74	12.73	10.95	13.30	10.15	12.99
f_f	(ksi)	2.09	0.92	3.72	0.92	5.01	0.96	4.16	1.01	1.43
f_s (Service II)	(ksi)	27.68	32.26	25.53	32.39	26.33	32.51	28.25	33.57	30.18
f_s (Total)(Strength I)*	(ksi)	38.21	44.38	35.32	44.59	36.44	44.76	39.18	46.19	41.76
F_{cr} (Service II)	(ksi)	37.79	47.54	37.79	47.54	37.79	47.44	36.39	47.44	35.12
Vr	(k)	27.50	40.49	29.34	41.06	30.69	41.10	27.12	37.24	29.37
F_{cr}	(ksi)	50.00	49.70	50.00	49.70	50.00	49.70	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 3W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	429,447	211,175	459,997	211,175
$I_c(n)$	(in^4)	408,332	424,921	408,332	424,921	412,992	460,212	438,539	494,303	445,039
$I_c(3n)$	(in^4)	299,765	424,921	299,765	424,921	302,610	460,212	319,078	494,303	323,520
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	7,416	4,097	7,953	4,097
$S_c(n)$	(in^3)	5,362	7,621	5,362	7,621	5,382	8,306	5,487	8,956	5,512
$S_c(3n)$	(in^3)	4,787	7,621	4,787	7,621	4,806	8,306	4,907	8,956	4,933
S_{xt}	(in^3)	81	202	81	202	81	240	81	282	81
DC1	(k/')	1.28	1.48	1.28	1.48	1.30	1.64	1.47	1.79	1.52
M_{DC1}	('k)	3,933	9,170	3,403	9,052	3,448	10,148	3,818	11,554	4,506
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	545	1,191	479	1,190	491	1,228	474	1,266	542
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	1,034	2,276	919	2,245	922	2,673	1,174	3,153	1,343
M_{LL+IM}	('k)	3,343	4,305	3,455	4,554	3,600	4,839	3,802	5,095	3,812
M_u (Strength I) *	('k)	13,648	25,095	12,889	25,345	13,237	28,034	14,469	31,153	15,745
M_{bl}	('k)	15	19	27	19	35	23	33	26	14
f_s DC1	(ksi)	11.52	16.00	9.97	15.79	10.10	16.42	11.18	17.43	13.20
f_s DC2	(ksi)	1.37	1.88	1.20	1.87	1.23	1.77	1.16	1.70	1.32
f_s DW	(ksi)	2.59	3.58	2.30	3.54	2.30	3.86	2.87	4.22	3.27
f_s 1.3(LL+IM)	(ksi)	9.73	8.81	10.05	9.32	10.43	9.09	10.81	8.87	10.79
f_f	(ksi)	2.19	1.12	3.93	1.14	5.14	1.15	4.85	1.10	2.02
f_s (Service II)	(ksi)	25.20	30.27	23.52	30.52	24.06	31.15	26.03	32.23	28.57
f_s (Total)(Strength I)*	(ksi)	34.74	41.56	32.49	41.93	33.24	42.81	36.01	44.30	39.45
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.77	39.35	47.65	39.35
Vr	(k)	23.95	31.99	24.12	32.89	24.32	34.11	31.10	44.28	34.50
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 4W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	429,447	211,175	459,997	211,175
$I_c(n)$	(in^4)	408,332	424,921	408,332	424,921	414,819	460,410	438,884	494,316	445,039
$I_c(3n)$	(in^4)	299,765	424,921	299,765	424,921	303,738	460,410	319,311	494,316	323,520
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	7,416	4,097	7,953	4,097
$S_c(n)$	(in^3)	5,362	7,621	5,362	7,621	5,389	8,311	5,488	8,957	5,512
$S_c(3n)$	(in^3)	4,787	7,621	4,787	7,621	4,813	8,311	4,908	8,957	4,933
S_{xt}	(in^3)	81	202	81	202	81	240	81	282	81
DC1	(k/')	1.28	1.48	1.28	1.48	1.32	1.65	1.47	1.79	1.52
M_{DC1}	('k)	3,748	9,123	3,322	9,138	3,410	10,214	3,751	11,409	4,374
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	519	1,180	467	1,192	481	1,227	467	1,249	529
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	986	2,253	894	2,253	912	2,672	1,150	3,104	1,313
M_{LL+IM}	('k)	3,021	3,888	3,068	4,156	3,295	4,805	3,922	4,991	3,926
M_u (Strength I) *	('k)	12,705	24,216	12,020	24,744	12,598	28,053	14,554	30,672	15,716
M_{bl}	('k)	14	18	25	19	32	22	32	25	14
f_s DC1	(ksi)	10.98	15.92	9.73	15.94	9.99	16.53	10.99	17.21	12.81
f_s DC2	(ksi)	1.30	1.86	1.17	1.88	1.20	1.77	1.14	1.67	1.29
f_s DW	(ksi)	2.47	3.55	2.24	3.55	2.27	3.86	2.81	4.16	3.19
f_s 1.3(LL+IM)	(ksi)	8.79	7.96	8.93	8.51	9.54	9.02	11.15	8.69	11.11
f_f	(ksi)	2.03	1.08	3.65	1.10	4.78	1.11	4.72	1.05	2.01
f_s (Service II)	(ksi)	23.54	29.28	22.07	29.87	23.00	31.18	26.09	31.74	28.40
f_s (Total)(Strength I)*	(ksi)	32.43	40.17	30.46	41.00	31.75	42.84	36.11	43.63	39.24
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.77	39.35	47.65	39.35
Vr	(k)	21.93	27.61	21.05	28.14	26.50	41.48	32.58	46.70	36.83
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	
		DRAWN - JLR	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER TABLES WB I-70
1 OF 2

SCALE: | SHEET NO. S-65 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	175
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER 5W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	429,447	211,175	459,997	211,175
$I_c(n)$	(in^4)	408,332	424,921	408,332	424,921	416,509	460,595	439,207	494,329	445,039
$I_c(3n)$	(in^4)	299,765	424,921	299,765	424,921	304,788	460,595	319,530	494,329	323,520
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	7,416	4,097	7,953	4,097
$S_c(n)$	(in^3)	5,362	7,621	5,362	7,621	5,397	8,317	5,489	8,957	5,512
$S_c(3n)$	(in^3)	4,787	7,621	4,787	7,621	4,820	8,317	4,910	8,957	4,933
S_{xt}	(in^3)	81	202	81	202	81	240	81	282	81
DC1	(k/')	1.28	1.48	1.28	1.48	1.33	1.66	1.48	1.79	1.52
M_{DC1}	('k)	3,569	9,055	3,250	9,207	3,378	10,214	3,681	11,178	4,222
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	493	1,160	455	1,185	470	1,215	459	1,224	513
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	937	2,213	870	2,244	898	2,647	1,124	3,037	1,277
M_{L+IM}	('k)	3,344	4,281	3,504	4,637	3,843	5,267	4,301	5,470	4,335
M_u (Strength I) *	('k)	12,953	24,758	12,672	25,694	13,526	28,847	15,107	31,112	16,193
M_{bl}	('k)	14	19	26	19	34	22	32	24	14
f_s DC1	(ksi)	10.46	15.80	9.52	16.06	9.90	16.53	10.78	16.87	12.37
f_s DC2	(ksi)	1.24	1.83	1.14	1.87	1.17	1.75	1.12	1.64	1.25
f_s DW	(ksi)	2.35	3.48	2.18	3.53	2.24	3.82	2.75	4.07	3.11
f_s 1.3(L+IM)	(ksi)	9.73	8.76	10.20	9.49	11.11	9.88	12.22	9.53	12.27
f_l	(ksi)	2.06	1.10	3.84	1.14	5.04	1.11	4.74	1.03	2.05
f_s (Service II)	(ksi)	23.77	29.87	23.04	30.95	24.41	31.98	26.87	32.10	28.99
f_s (Total)(Strength I)*	(ksi)	32.80	41.00	31.84	42.51	33.75	43.97	37.23	44.16	40.11
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.77	39.35	47.65	39.35
V_f	(k)	29.70	40.97	31.46	41.83	32.91	42.00	29.91	38.29	30.32
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

GIRDER 6W MOMENT TABLE

		0.4 Span 1	Pier 24	0.5 Span 2	Pier 25	0.5 Span 3	Pier 26	0.5 Span 4	Pier 27	0.6 Span 5
I_s	(in^4)	211,175	398,895	211,175	398,895	211,175	429,447	211,175	459,997	211,175
$I_c(n)$	(in^4)	409,747	425,216	409,747	425,216	414,266	458,373	425,928	490,478	429,074
$I_c(3n)$	(in^4)	300,624	425,216	300,624	425,216	303,395	458,373	310,758	490,478	312,798
S_s	(in^3)	4,097	6,879	4,097	6,879	4,097	7,416	4,097	7,953	4,097
$S_c(n)$	(in^3)	5,367	7,629	5,367	7,629	5,387	8,250	5,436	8,839	5,449
$S_c(3n)$	(in^3)	4,793	7,629	4,793	7,629	4,810	8,250	4,856	8,839	4,869
S_{xt}	(in^3)	81	202	81	202	81	240	81	282	81
DC1	(k/')	1.36	1.57	1.36	1.57	1.39	1.68	1.48	1.77	1.50
M_{DC1}	('k)	3,385	9,217	3,173	9,523	3,339	10,487	3,586	11,255	4,033
DC2	(k/')	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	466	1,169	444	1,208	453	1,220	434	1,213	476
DW	(k/')	0.33	0.33	0.33	0.33	0.35	0.39	0.42	0.43	0.43
M_{DW}	('k)	887	2,228	845	2,292	873	2,659	1,056	3,003	1,187
M_{L+IM}	('k)	4,004	5,311	4,257	5,869	4,549	6,511	4,803	6,503	4,709
M_u (Strength I) *	('k)	13,808	26,901	13,901	28,477	14,711	31,517	15,765	33,043	16,440
M_{bl}	('k)	15	20	28	21	36	24	32	25	14
f_s DC1	(ksi)	9.92	16.08	9.30	16.61	9.78	16.97	10.50	16.98	11.81
f_s DC2	(ksi)	1.17	1.84	1.11	1.90	1.13	1.77	1.07	1.65	1.17
f_s DW	(ksi)	2.22	3.50	2.12	3.61	2.18	3.87	2.61	4.08	2.92
f_s 1.3(L+IM)	(ksi)	11.64	10.86	12.37	12.00	13.17	12.31	13.79	11.48	13.48
f_l	(ksi)	2.20	1.20	4.22	1.27	5.39	1.18	4.80	1.06	2.08
f_s (Service II)	(ksi)	24.94	32.28	24.90	34.12	26.26	34.92	27.97	34.18	29.39
f_s (Total)(Strength I)*	(ksi)	34.49	44.39	34.48	46.94	36.37	48.09	38.79	47.09	40.71
F_{cr} (Service II)	(ksi)	39.35	47.91	39.35	47.91	39.35	47.77	39.35	47.65	39.35
V_f	(k)	36.75	47.51	35.76	47.56	37.89	54.36	39.76	54.45	42.12
F_{cr}	(ksi)	50.00	49.60	50.00	49.60	50.00	49.60	50.00	49.60	50.00

* LRFD Strength I Load Combinations include an Operational Importance Factor, η_I = 1.05

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in^4 and in^3).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in^4 and in^3).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in^4 and in^3).

S_{xt}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in^3).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

M_{bl}: Factored lateral bending moment for controlling flange plate (kip-ft.).

f_l: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

F_{cr} (Service II): Critical flange stress at Service II computed according to Article 6.10.4.2 (ksi).

F_{cr}: Critical flange stress computed according to Article 6.10.7 or 6.10.8 (ksi).

V_r: Maximum factored shear range computed according to Article 6.10.10.

Note:
M_L and R_L include the effects of centrifugal force and superelevation.

MAXIMUM GIRDER REACTION TABLE

		Pier 23	Pier 24	Pier 25	Pier 26	Pier 27	E. Abut.
R_{DC1}	(k)	116.8	453.9	442.0	487.7	523.3	130.2
R_{DC2}	(k)	15.8	56.9	55.8	56.8	56.5	15.3
R_{DW}	(k)	30.0	108.7	105.9	124.3	139.8	37.9
R_{L+IM}	(k)	125.4	267.3	268.6	297.2	271.5	117.3
R_{Total}	(k)	288.0	886.7	872.2	966.0	991.1	300.7

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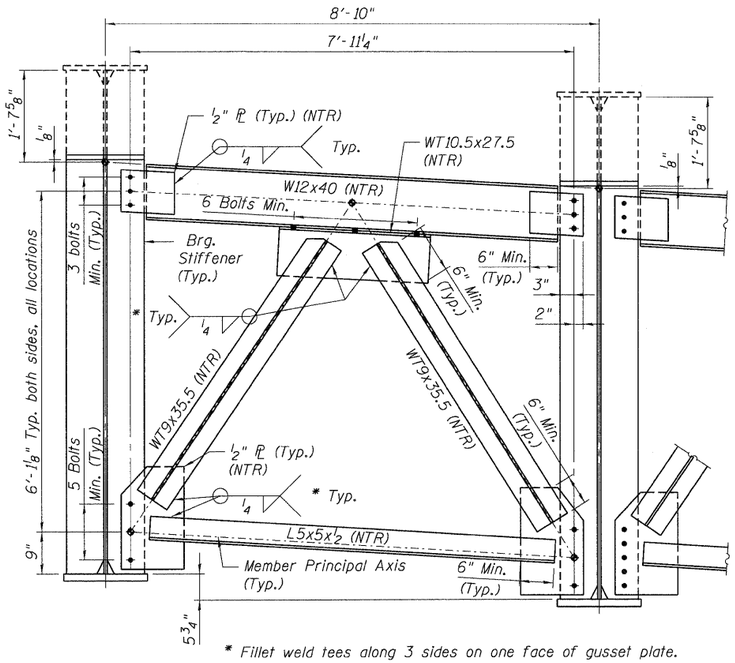
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

GIRDER TABLES WB I-70
2 OF 2

SCALE: | SHEET NO. S-66 OF S-111 | STA. 134+22.00 TO STA.

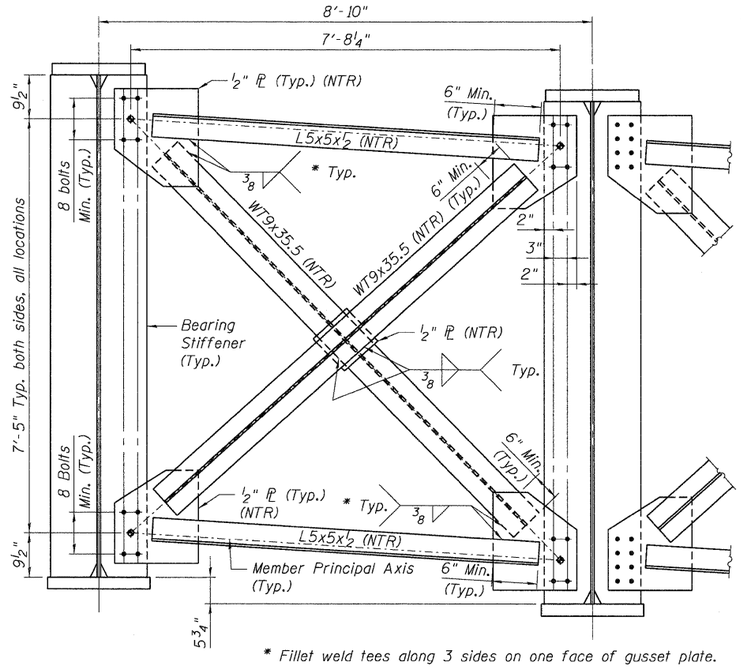
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	176
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



* Fillet weld tees along 3 sides on one face of gusset plate.

D1 - CROSS FRAME AT PIER 23

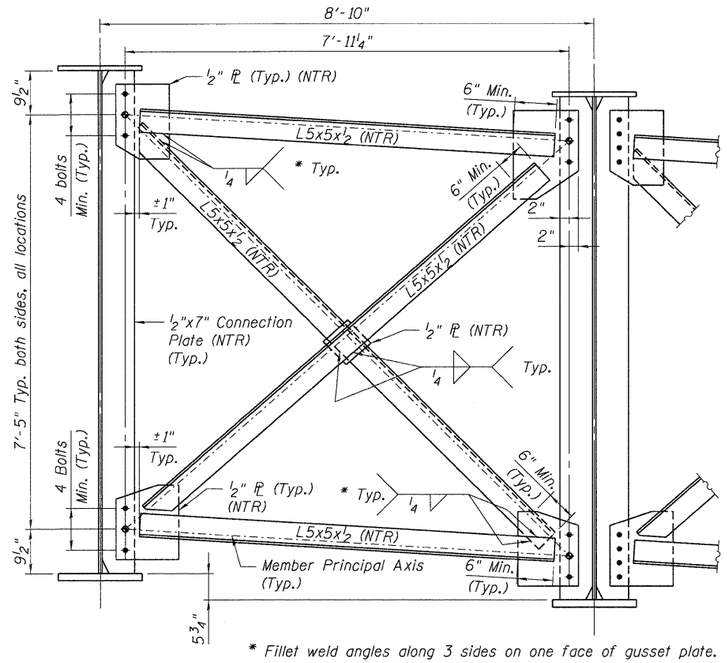
(4 thus)



* Fillet weld tees along 3 sides on one face of gusset plate.

D2 - CROSS FRAME AT PIERS 24 THRU 27

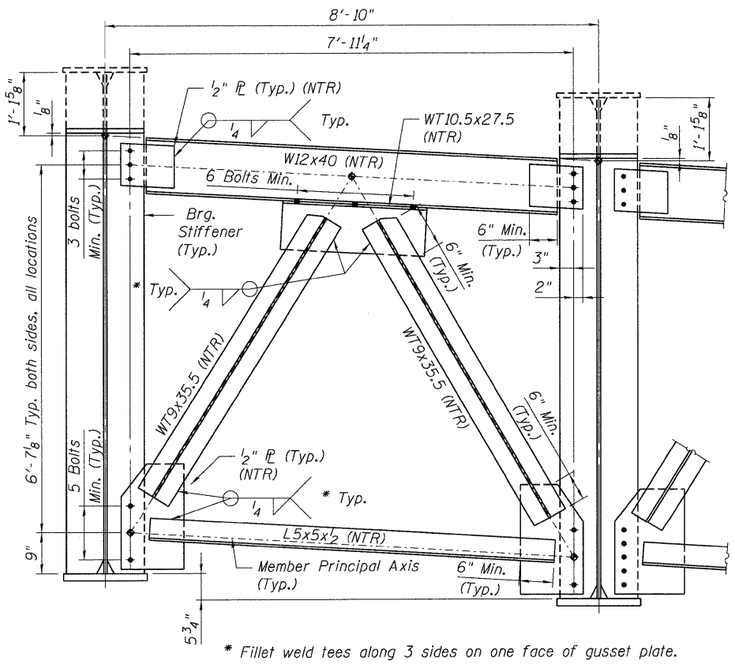
(16 thus)



* Fillet weld angles along 3 sides on one face of gusset plate.

D3 - TYPICAL INTERIOR CROSS FRAME

(216 thus)



* Fillet weld tees along 3 sides on one face of gusset plate.

D4 - CROSS FRAME AT EAST ABUTMENT

(4 thus)

◆ Centroid of bolt group and workpoint of member principal axes

NOTES:

1. All cross frames between girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
3. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts ⅞" ϕ, holes $^{15}/_{16}$" ϕ, unless noted otherwise.
4. The calculated deflections of the primary girders/beams under steel self-weight shall be used to detail the diaphragm, cross frame and lateral bracing connections, and to erect the structural steel such that the girders/beams will be plumb within a tolerance of ±⅛ in. per vertical ft. throughout when supporting their own weight.
5. The contractor shall either:
   1. Ream diaphragm and/or cross frame connection holes during shop assembly, or
   2. Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(I) of the Standard Specifications.
6. For Bearing Stiffener ℄ sizes, see Shts. S-55 thru S-63.

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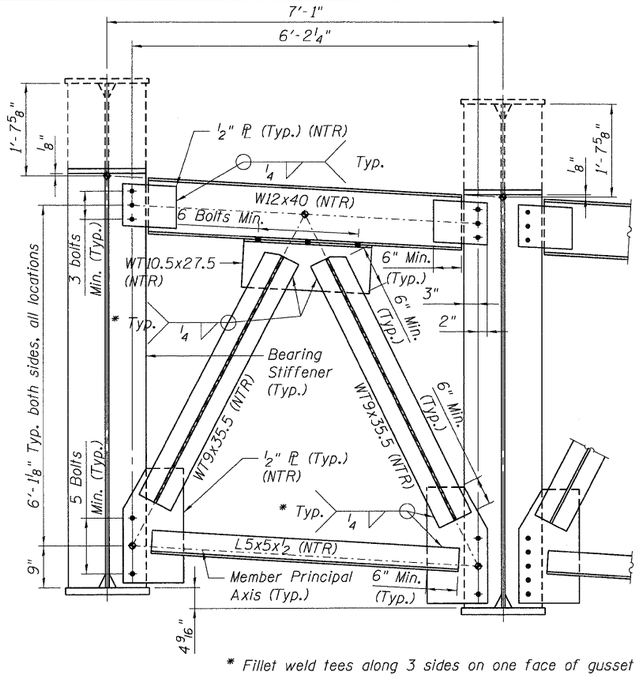
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

STEEL DETAILS
1 OF 6

SCALE: | SHEET NO. S-67 OF S-111 | STA. 134+22.00 TO STA.

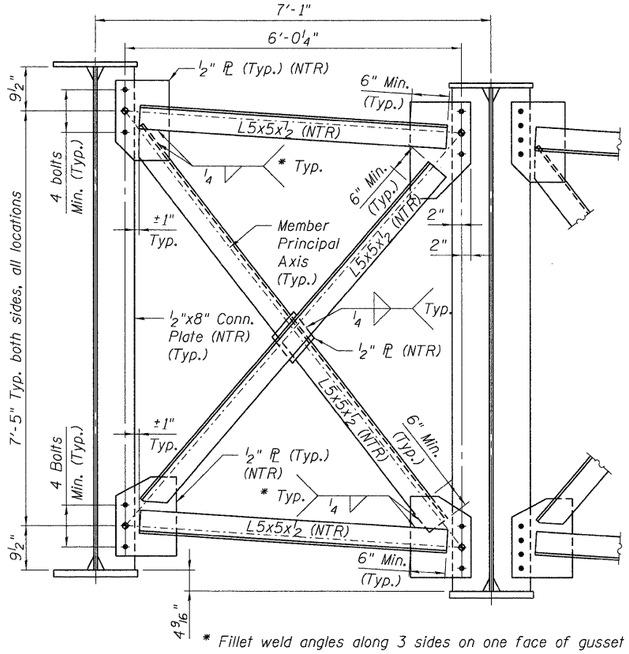
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	177
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



* Fillet weld tees along 3 sides on one face of gusset plate.

D5 - CROSS FRAME AT PIER 23

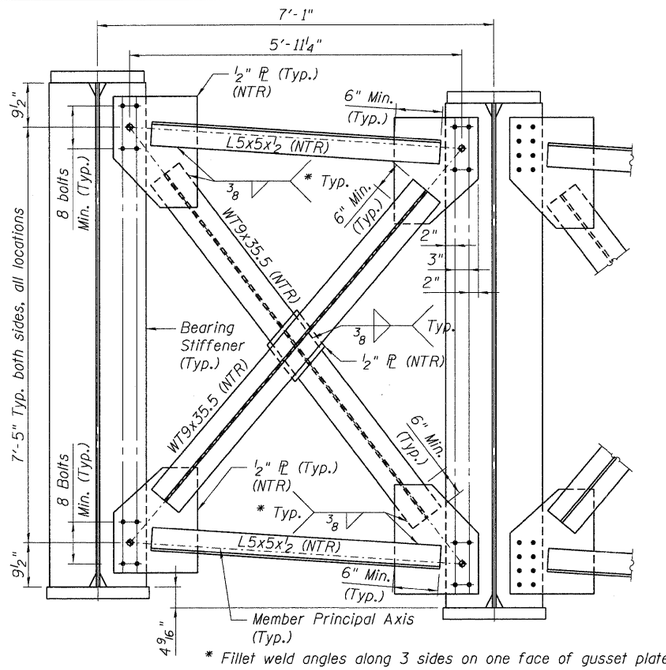
(5 thus)



* Fillet weld angles along 3 sides on one face of gusset plate.

D6 - TYPICAL INTERIOR CROSS FRAME

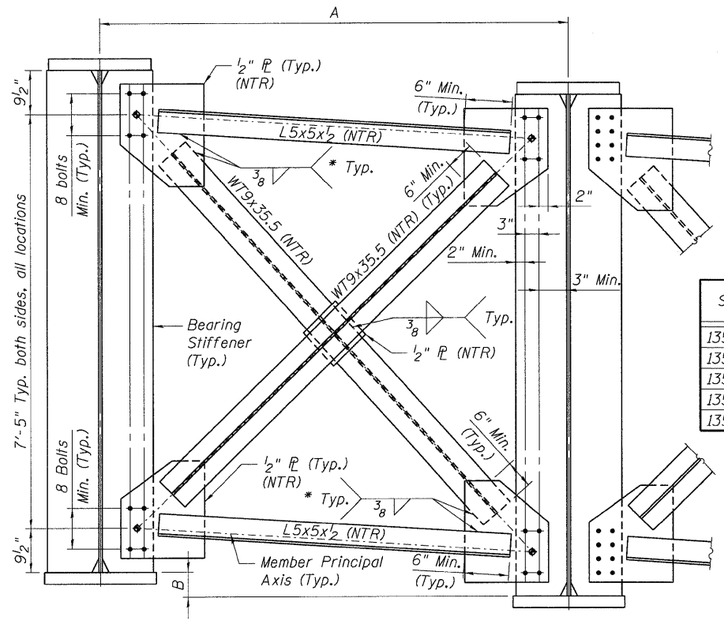
(125 thus)



* Fillet weld angles along 3 sides on one face of gusset plate.

D7 - CROSS FRAME AT PIERS 24 & 25

(10 thus)



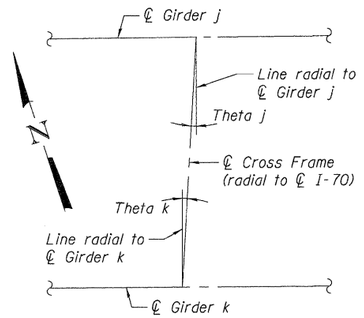
* Fillet weld angles along 3 sides on one face of gusset plate.

D8 - CROSS FRAME AT PIER 26

(5 thus)

D8 CROSS FRAME DIMENSIONS

Station	Bay [j-k]	A	B	Theta j [deg.]	Theta k [deg.]
135+61.00	1-2	8'-3"	5 3/8"	1.65	1.29
135+61.00	2-3	8'-3 13/16"	5 3/8"	1.29	0.94
135+61.00	3-4	8'-4 9/16"	5 7/16"	0.94	0.61
135+61.00	4-5	8'-5 5/16"	5 1/2"	0.61	0.30
135+61.00	5-6	8'-5 15/16"	5 1/2"	0.30	0.00



CROSS FRAME PLAN VIEW

Note: Cross Frame - Girder skew measured in degrees.

❖ Centroid of bolt group and workpoint of member principal axes

NOTE:
See Sht. S-67 for notes.

FILE NAME = $FILE$
USER NAME = $USER$ | DESIGNED - JLR | REVISED -
PLOT SCALE = $SCALE$ | DRAWN - MDB | REVISED -
PLOT DATE = $DATE$ | CHECKED - TCU | REVISED -
DATE - 06/04/10 | REVISED -

TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

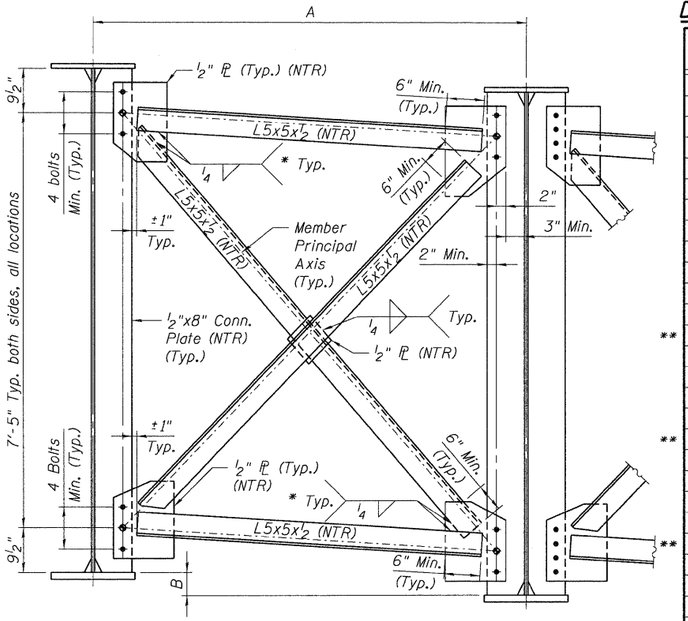
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

STEEL DETAILS
2 OF 6

SCALE: | SHEET NO. S-68 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	178
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

..\0820318-CONN-05-001-GD.DGN ..\0820318-CONN-99-001-BD.DGN
6-23-2010, 10:47:47 BDNDMJD \\FS-0044\MAYHALL\D-TRANS_87\2282\28868-001\STRUCT\CAD\01 DESIGN\0820318\SHEET\0820318-CONN-05-002-SHT-GD.DGN



* Fillet weld angles along 3 sides on one face of gusset plate.

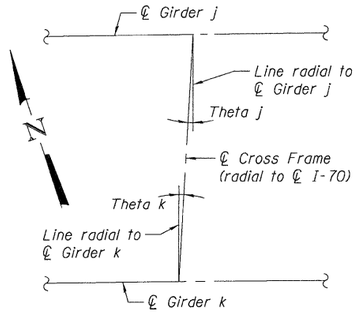
D9 - TYPICAL INTERIOR CROSS FRAME

(47 thus)

** D9A similar to D9, except all connection plates shall have 5 bolts, min.

D9A - TYPICAL INTERIOR CROSS FRAME

(3 thus)

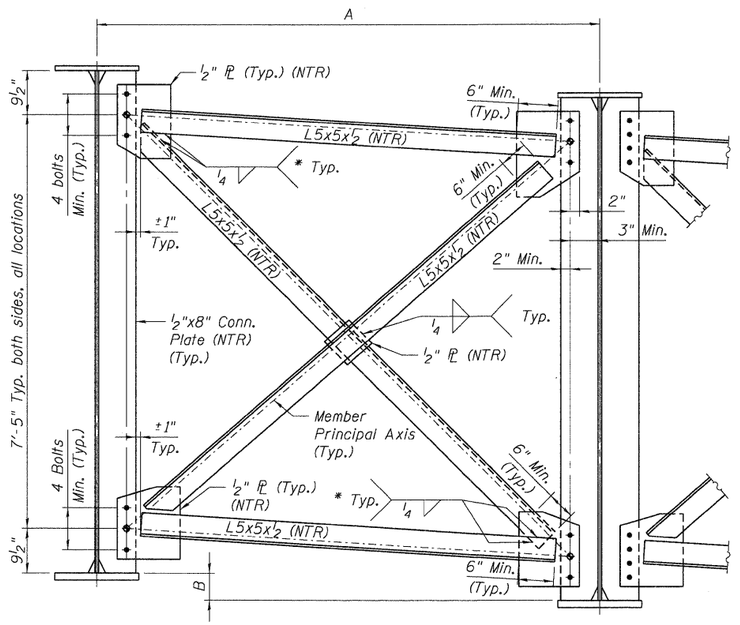


CROSS FRAME PLAN VIEW

Note: Cross Frame - Girder skew measured in degrees.

D9 & D9A CROSS FRAME DIMENSIONS

Station	Bay [j-k]	A	B	Theta j [deg.]	Theta k [deg.]	
133+47.87	1-2	7'-1"	4 9/16"	0.17	0.17	
133+47.87	2-3	7'-1"	4 9/16"	0.17	0.17	
133+47.87	3-4	7'-1"	4 9/16"	0.17	0.17	
133+47.87	4-5	7'-1"	4 9/16"	0.17	0.17	
133+47.87	5-6	7'-1 1/8"	4 5/8"	0.17	0.00	
133+72.24	1-2	7'-1"	4 9/16"	0.89	0.89	
133+72.24	2-3	7'-1"	4 9/16"	0.89	0.89	
133+72.24	3-4	7'-1"	4 9/16"	0.89	0.89	
133+72.24	4-5	7'-1 11/16"	4 5/8"	0.89	0.44	
133+72.24	5-6	7'-3 1/8"	4 11/16"	0.44	0.00	
133+96.61	1-2	7'-1 1/16"	4 9/16"	1.60	1.60	
133+96.61	2-3	7'-1 1/4"	4 5/8"	1.60	1.33	
133+96.61	3-4	7'-2 5/8"	4 11/16"	1.33	0.87	**
133+96.61	4-5	7'-4 1/16"	4 3/4"	0.87	0.43	
133+96.61	5-6	7'-5 3/8"	4 13/16"	0.43	0.00	
134+20.98	1-2	7'-2 1/8"	4 5/8"	2.23	1.74	
134+20.98	2-3	7'-3 5/8"	4 3/4"	1.74	1.28	
134+20.98	3-4	7'-5"	4 13/16"	1.28	0.83	**
134+20.98	4-5	7'-6 5/16"	4 7/8"	0.83	0.41	
134+20.98	5-6	7'-7 1/2"	4 15/16"	0.41	0.00	
134+45.35	1-2	7'-4 5/8"	4 13/16"	2.13	1.66	
134+45.35	2-3	7'-6"	4 7/8"	1.66	1.22	
134+45.35	3-4	7'-7 1/4"	4 15/16"	1.22	0.79	
134+45.35	4-5	7'-8 7/16"	5"	0.79	0.39	
134+45.35	5-6	7'-9 9/16"	5 1/16"	0.39	0.00	
134+69.72	1-2	7'-7 1/16"	4 15/16"	2.03	1.58	
134+69.72	2-3	7'-8 1/4"	5"	1.58	1.16	
134+69.72	3-4	7'-9 7/16"	5 1/16"	1.16	0.76	
134+69.72	4-5	7'-10 1/2"	5 1/8"	1.16	0.37	
134+69.72	5-6	7'-11 1/2"	5 3/16"	0.37	0.00	
134+94.09	1-2	7'-9 5/16"	5 1/16"	1.93	1.50	
134+94.09	2-3	7'-10 7/16"	5 1/8"	1.50	1.10	
134+94.09	3-4	7'-11 1/2"	5 1/8"	1.10	0.72	
134+94.09	4-5	8'-0 7/16"	5 3/16"	0.72	0.35	
134+94.09	5-6	8'-1 3/8"	5 1/4"	0.35	0.00	
135+18.46	1-2	7'-11 1/2"	5 3/16"	1.82	1.43	
135+18.46	2-3	8'-0 1/2"	5 3/16"	1.43	1.04	
135+18.46	3-4	8'-1 7/16"	5 1/4"	1.04	0.68	
135+18.46	4-5	8'-2 5/16"	5 5/16"	0.68	0.33	
135+18.46	5-6	8'-3 1/8"	5 3/8"	0.33	0.00	
135+34.05	1-2	8'-0 13/16"	5 1/4"	1.76	1.37	
135+34.05	2-3	8'-1 3/4"	5 1/4"	1.37	1.01	
135+34.05	3-4	8'-2 5/8"	5 5/16"	1.01	0.66	
135+34.05	4-5	8'-3 7/16"	5 3/8"	0.66	0.32	
135+34.05	5-6	8'-4 3/16"	5 7/16"	0.32	0.00	
135+47.53	1-2	8'-1 15/16"	5 5/16"	1.70	1.33	
135+47.53	2-3	8'-2 13/16"	5 5/16"	1.33	0.98	
135+47.53	3-4	8'-3 5/8"	5 3/8"	0.98	0.64	
135+47.53	4-5	8'-4 3/8"	5 7/16"	0.64	0.31	
135+47.53	5-6	8'-5 1/16"	5 7/16"	0.31	0.00	



* Fillet weld angles along 3 sides on one face of gusset plate.

D10 - TYPICAL INTERIOR CROSS FRAME

(61 thus)

*** D10A similar to D10, except all connection plates shall have 5 bolts, min.

D10A - TYPICAL INTERIOR CROSS FRAME

(4 thus)

◆ Centroid of bolt group and workpoint of member principal axes

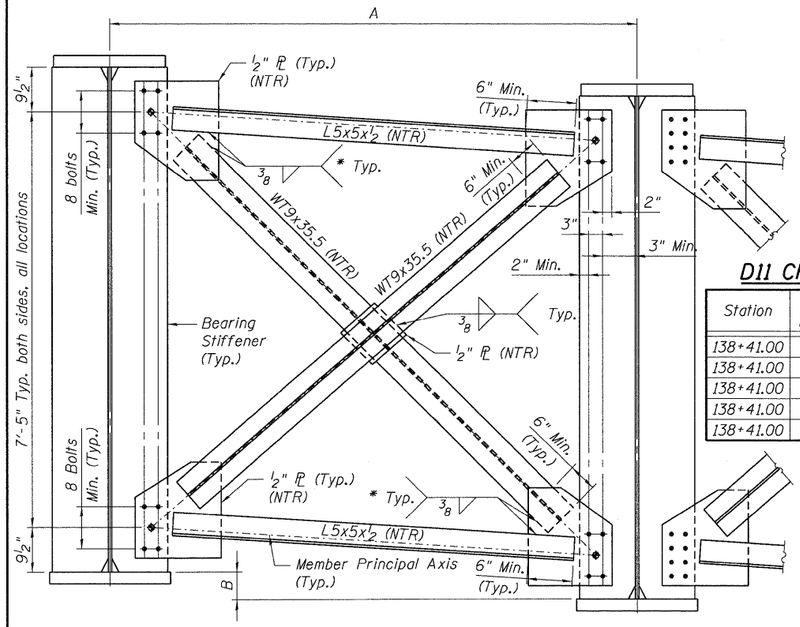
NOTE:
See Sht. S-67 for notes.

D10 & D10A CROSS FRAME DIMENSIONS

Station	Bay [j-k]	A	B	Theta j [deg.]	Theta k [deg.]	
135+74.47	1-2	8'-4 1/16"	5 3/8"	1.59	1.24	
135+74.47	2-3	8'-4 13/16"	5 7/16"	1.24	0.91	
135+74.47	3-4	8'-5 1/2"	5 1/2"	0.91	0.59	
135+74.47	4-5	8'-6 3/16"	5 1/2"	0.59	0.29	
135+74.47	5-6	8'-6 13/16"	5 9/16"	0.29	0.00	
135+87.95	1-2	8'-5 1/16"	5 7/16"	1.53	1.20	
135+87.95	2-3	8'-5 3/4"	5 1/2"	1.20	0.88	
135+87.95	3-4	8'-6 7/16"	5 1/2"	0.88	0.57	
135+87.95	4-5	8'-7"	5 9/16"	0.57	0.28	
135+87.95	5-6	8'-7 5/8"	5 5/8"	0.28	0.00	
136+04.58	1-2	8'-6 1/4"	5 1/2"	1.46	1.14	
136+04.58	2-3	8'-6 7/8"	5 9/16"	1.14	0.84	
136+04.58	3-4	8'-7 1/2"	5 9/16"	0.84	0.55	
136+04.58	4-5	8'-8 1/16"	5 5/8"	0.55	0.27	
136+04.58	5-6	8'-8 9/16"	5 5/8"	0.27	0.00	
136+28.87	1-2	8'-7 7/8"	5 5/8"	1.36	1.06	
136+28.87	2-3	8'-8 7/16"	5 5/8"	1.06	0.78	
136+28.87	3-4	8'-8 15/16"	5 11/16"	0.78	0.51	
136+28.87	4-5	8'-9 7/16"	5 11/16"	0.51	0.25	
136+28.87	5-6	8'-9 7/8"	5 11/16"	0.25	0.00	
136+53.15	1-2	8'-9 3/8"	5 11/16"	1.26	0.98	
136+53.15	2-3	8'-9 7/8"	5 11/16"	0.98	0.72	
136+53.15	3-4	8'-10 5/16"	5 3/4"	0.72	0.47	
136+53.15	4-5	8'-10 11/16"	5 3/4"	0.47	0.23	
136+53.15	5-6	8'-11 1/8"	5 13/16"	0.23	0.00	
136+77.44	1-2	8'-10 13/16"	5 3/4"	1.15	0.90	
136+77.44	2-3	8'-11 3/16"	5 13/16"	0.90	0.66	
136+77.44	3-4	8'-11 9/16"	5 13/16"	0.66	0.43	
136+77.44	4-5	8'-11 7/8"	5 13/16"	0.43	0.21	***
136+77.44	5-6	9'-0 1/4"	5 7/8"	0.21	0.00	
137+01.73	1-2	9'-0 1/16"	5 13/16"	1.05	0.82	
137+01.73	2-3	9'-0 3/8"	5 7/8"	0.82	0.60	
137+01.73	3-4	9'-0 11/16"	5 7/8"	0.60	0.39	***
137+01.73	4-5	9'-1"	5 7/8"	0.39	0.19	***
137+01.73	5-6	9'-1 1/4"	5 7/8"	0.19	0.00	
137+26.01	1-2	9'-1 1/4"	5 7/8"	0.95	0.74	
137+26.01	2-3	9'-1 1/2"	5 15/16"	0.74	0.54	
137+26.01	3-4	9'-1 3/4"	5 15/16"	0.54	0.35	
137+26.01	4-5	9'-2"	5 15/16"	0.35	0.17	***
137+26.01	5-6	9'-2 3/16"	5 15/16"	0.17	0.00	
137+50.30	1-2	9'-2 1/4"	5 15/16"	0.84	0.66	
137+50.30	2-3	9'-2 1/2"	5 15/16"	0.66	0.48	
137+50.30	3-4	9'-2 11/16"	6"	0.48	0.32	
137+50.30	4-5	9'-2 7/8"	6"	0.32	0.15	
137+50.30	5-6	9'-3"	6"	0.15	0.00	
137+74.59	1-2	9'-3 3/16"	6"	0.74	0.58	
137+74.59	2-3	9'-3 5/16"	6"	0.58	0.42	
137+74.59	3-4	9'-3 1/2"	6"	0.42	0.28	
137+74.59	4-5	9'-3 5/8"	6"	0.28	0.14	
137+74.59	5-6	9'-3 3/4"	6 1/16"	0.14	0.00	
137+98.87	1-2	9'-4"	6 1/16"	0.64	0.50	
137+98.87	2-3	9'-4 1/8"	6 1/16"	0.50	0.37	
137+98.87	3-4	9'-4 3/16"	6 1/16"	0.37	0.24	
137+98.87	4-5	9'-4 5/16"	6 1/16"	0.24	0.12	
137+98.87	5-6	9'-4 7/16"	6 1/16"	0.12	0.00	
138+15.55	1-2	9'-4 7/16"	6 1/16"	0.57	0.44	
138+15.55	2-3	9'-4 9/16"	6 1/16"	0.44	0.32	
138+15.55	3-4	9'-4 5/8"	6 1/16"	0.32	0.21	
138+15.55	4-5	9'-4 3/4"	6 1/16"	0.21	0.10	
138+15.55	5-6	9'-4 13/16"	6 1/16"	0.10	0.00	
138+28.27	1-2	9'-4 13/16"	6 1/16"	0.51	0.40	
138+28.27	2-3	9'-4 7/8"	6 1/8"	0.40	0.29	
138+28.27	3-4	9'-4 15/16"	6 1/8"	0.29	0.19	
138+28.27	4-5	9'-5"	6 1/8"	0.19	0.09	
138+28.27	5-6	9'-5 1/16"	6 1/8"	0.09	0.00	

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	STEEL DETAILS 3 OF 6
		DRAWN - MDB	REVISED -		
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		SCALE: SHEET NO. S-69 OF S-111 STA. 134+22.00 TO STA.
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	179
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



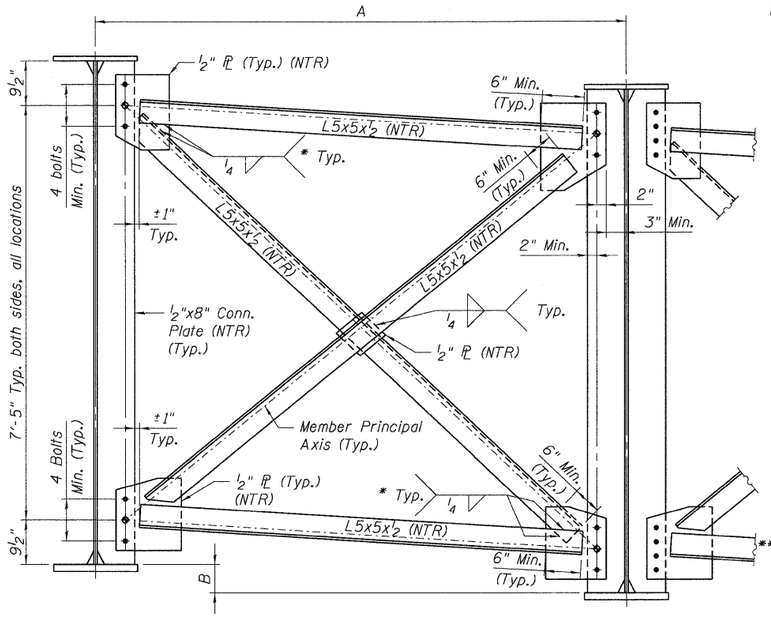
* Fillet weld angles along 3 sides on one face of gusset plate.

D11 - CROSS FRAME AT PIER 27

(5 thus)

D11 CROSS FRAME DIMENSIONS

Station	Bay [j-k]	A	B	Theta j [deg.]	Theta k [deg.]
138+41.00	1-2	9'-5 1/16"	6 1/8"	0.46	0.36
138+41.00	2-3	9'-5 1/8"	6 1/8"	0.36	0.26
138+41.00	3-4	9'-5 3/16"	6 1/8"	0.26	0.17
138+41.00	4-5	9'-5 1/4"	6 1/8"	0.17	0.08
138+41.00	5-6	9'-5 5/16"	6 1/8"	0.08	0.00



* Fillet weld angles along 3 sides on one face of gusset plate.

D12 - TYPICAL INTERIOR CROSS FRAME

(24 thus)

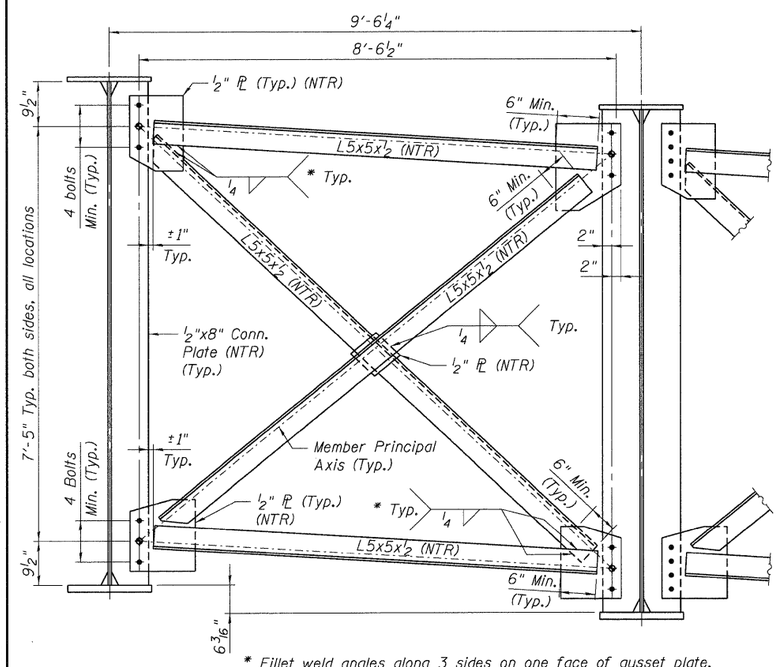
D12 & D12A CROSS FRAME DIMENSIONS

Station	Bay [j-k]	A	B	Theta j [deg.]	Theta k [deg.]
138+55.22	1-2	9'-5 3/8"	6 1/8"	0.40	0.31
138+55.22	2-3	9'-5 7/16"	6 1/8"	0.31	0.23
138+55.22	3-4	9'-5 7/16"	6 1/8"	0.23	0.15
138+55.22	4-5	9'-5 1/2"	6 1/8"	0.15	0.07
138+55.22	5-6	9'-5 9/16"	6 1/8"	0.07	0.00
138+69.44	1-2	9'-5 5/8"	6 1/8"	0.34	0.26
138+69.44	2-3	9'-5 5/8"	6 1/8"	0.26	0.19
138+69.44	3-4	9'-5 11/16"	6 1/8"	0.19	0.13
138+69.44	4-5	9'-5 11/16"	6 1/8"	0.13	0.06
138+69.44	5-6	9'-5 3/4"	6 1/8"	0.06	0.00
138+93.00	1-2	9'-5 15/16"	6 1/8"	0.24	0.18
138+93.00	2-3	9'-5 15/16"	6 1/8"	0.18	0.13
138+93.00	3-4	9'-6"	6 1/8"	0.13	0.09
138+93.00	4-5	9'-6"	6 1/8"	0.09	0.04
138+93.00	5-6	9'-6"	6 1/8"	0.04	0.00
139+17.28	1-2	9'-6 1/8"	6 3/16"	0.13	0.10
139+17.28	2-3	9'-6 3/16"	6 3/16"	0.10	0.08
139+17.28	3-4	9'-6 3/16"	6 3/16"	0.08	0.05
139+17.28	4-5	9'-6 3/16"	6 3/16"	0.05	0.02
139+17.28	5-6	9'-6 3/16"	6 3/16"	0.02	0.00
139+41.57	1-2	9'-6 1/4"	6 3/16"	0.03	0.02
139+41.57	2-3	9'-6 1/4"	6 3/16"	0.02	0.02
139+41.57	3-4	9'-6 1/4"	6 3/16"	0.02	0.01
139+41.57	4-5	9'-6 1/4"	6 3/16"	0.01	0.01
139+41.57	5-6	9'-6 1/4"	6 3/16"	0.01	0.00

*** D12A similar to D12, except all connection plates shall have 5 bolts, min.

D12A - TYPICAL INTERIOR CROSS FRAME

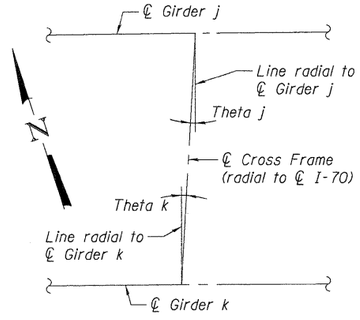
(1 thus)



* Fillet weld angles along 3 sides on one face of gusset plate.

D13 - TYPICAL INTERIOR CROSS FRAME

(18 thus)



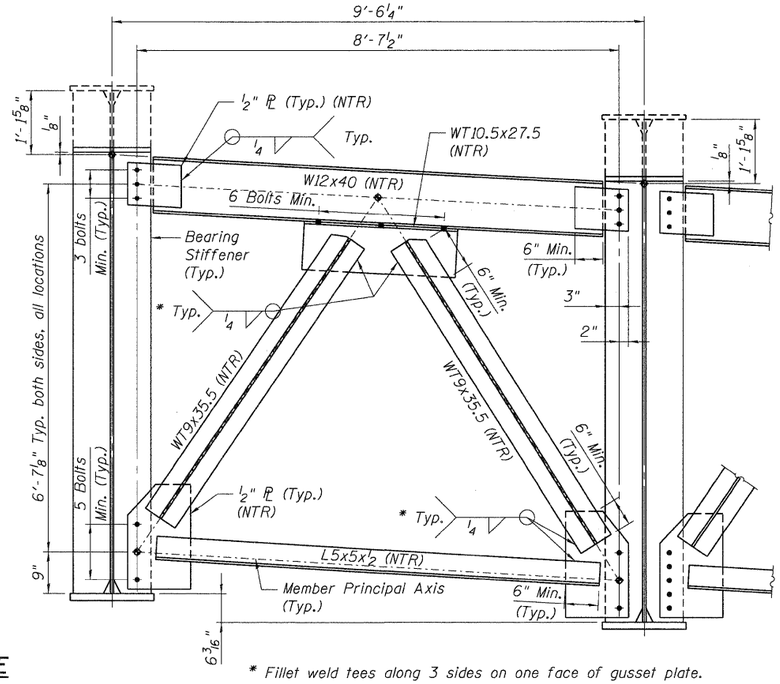
CROSS FRAME PLAN VIEW

Note: Cross Frame - Girder skew measured in degrees.

** D13A similar to D13, except all connection plates shall have 5 bolts, min.

D13A - TYPICAL INTERIOR CROSS FRAME

(2 thus)



* Fillet weld tees along 3 sides on one face of gusset plate.

D14 - CROSS FRAME AT E. ABUT.

(5 thus)

◆ Centroid of bolt group and workpoint of member principal axes

NOTE:
See Sht. S-67 for notes.

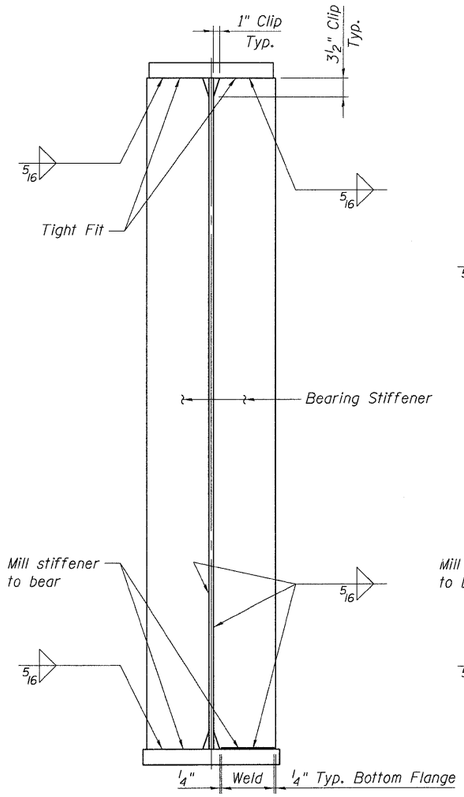
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - MDB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

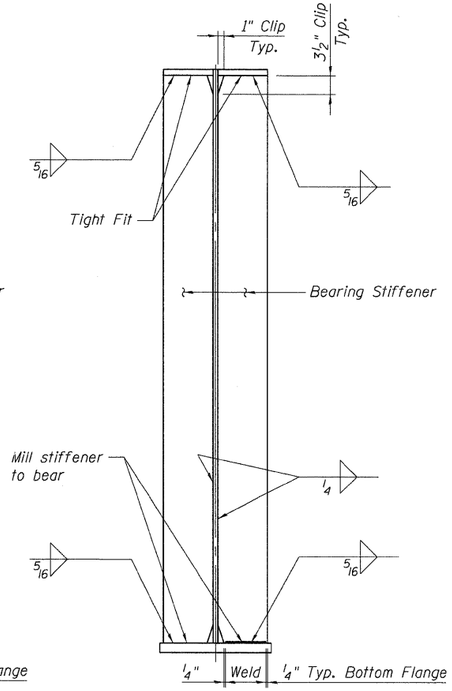
STEEL DETAILS
4 OF 6

SCALE: | SHEET NO. S-70 OF S-111 | STA. 134+22.00 TO STA.

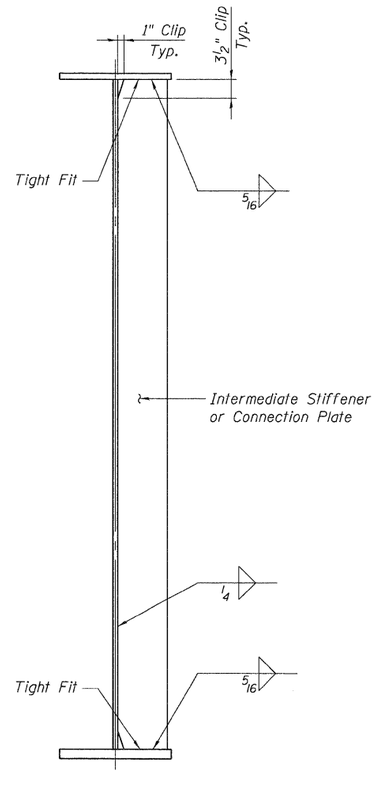
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	180
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



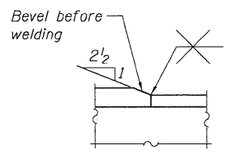
BEARING STIFFENER DETAIL AT PIERS 24 THRU 27



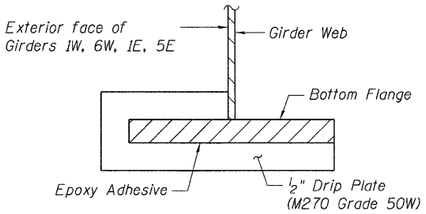
BEARING STIFFENER DETAIL AT EAST ABUTMENT AND PIER 23



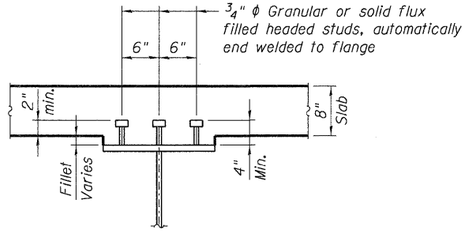
INTERMEDIATE STIFFENER AND CONNECTION ℄ DETAIL



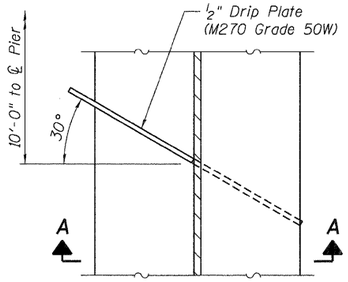
DETAIL 1



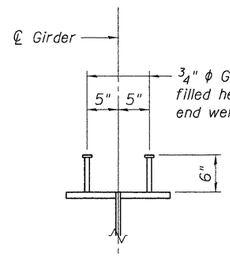
SECTION A-A



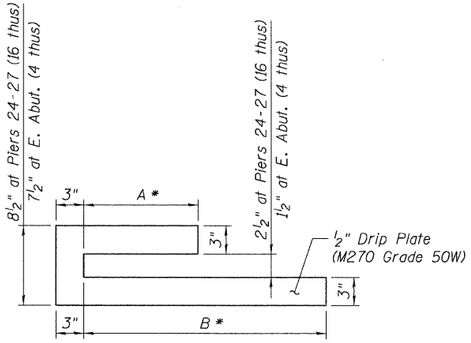
SHEAR STUD CONNECTOR



PLAN - DRIP PLATE



SECTION B-B

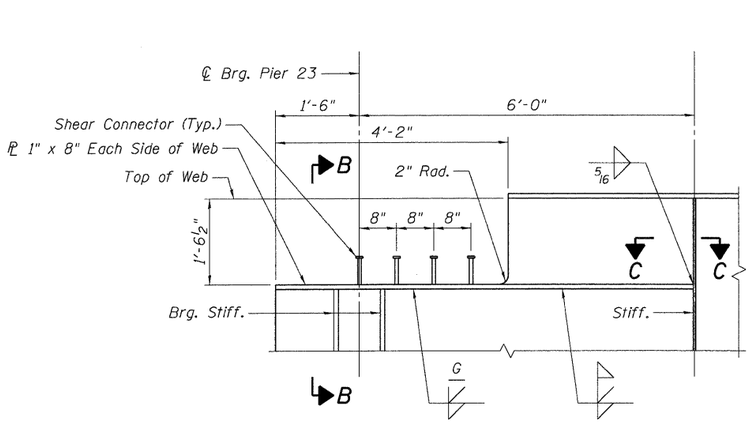


* Adust A and B to fit girder bottom flange.

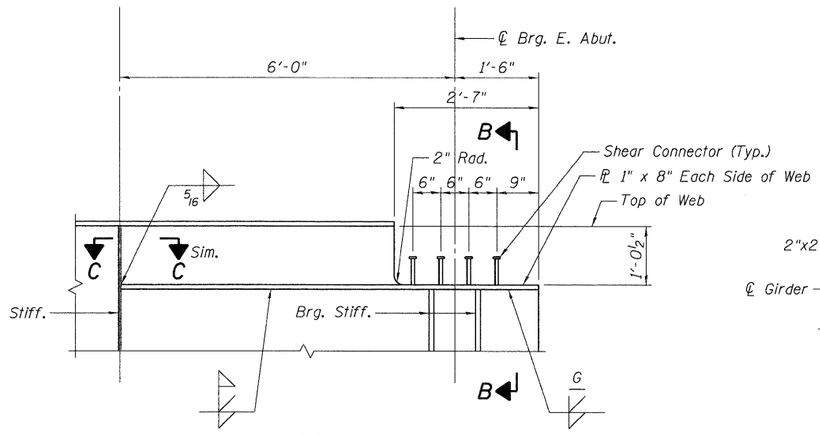
PLAN - DRIP PLATE

20 thus. cost included with Furnishing and Erecting Structural Steel

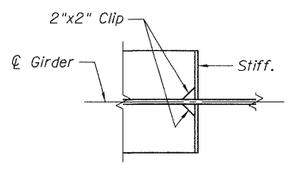
Drip Plate Note:
Drip plates shall be installed on suitably prepared surfaces after shop priming, using a two component epoxy suitable for structural steel under prolonged exposure. Plates shall be painted with the paint specified for structural steel.



DETAIL 2



DETAIL 3



SECTION C-C

NOTE:
See Sht. S-67 for notes.

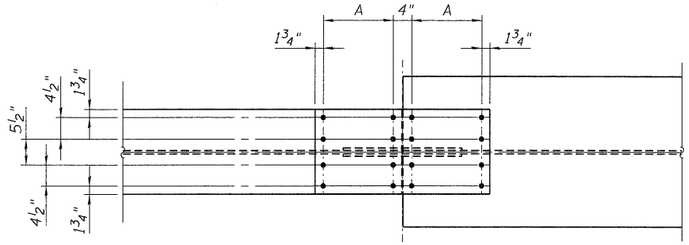
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - MDB	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

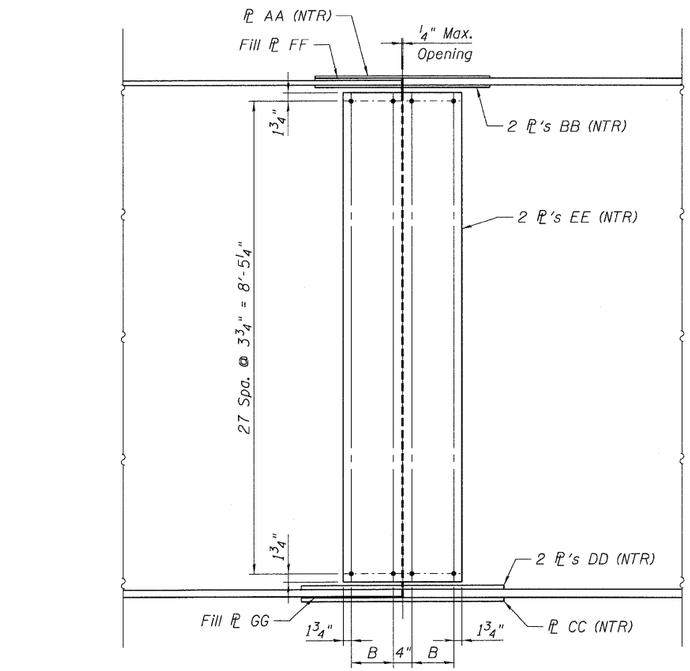
STEEL DETAILS
5 OF 6

SCALE: | SHEET NO. S-71 OF S-111 | STA. 134+22.00 TO STA.

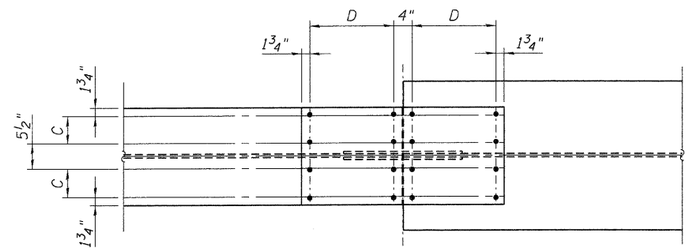
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	181
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TOP FLANGE



ELEVATION



BOTTOM FLANGE

FIELD SPLICE TYPE

GIRDER	FIELD SPLICE 1	2	3	4	5	6	7	8	9	10	11	12	13
1W	20-4	20-3	20-3	20-4	20-3	20-3	20-4	20-3	22-3	22-4	22-3	24-1	24-2
2W													
3W	18-2	18-3	18-3	18-2	18-3	18-3	18-2	18-3	18-3	18-2	18-3	18-3	18-4
4W													
5W													
6W													
1E	22-2	22-1	22-1	22-2	22-1	22-1	22-2	22-1	22-1	22-2	22-1	22-1	22-2
2E	20-2	20-1	20-1	20-2	20-1	20-1	20-2	20-1	20-1	20-2	20-1	20-1	20-2
3E	18-2	18-1	18-1	18-2	18-1	18-1	18-2	18-1	18-1	18-2	18-1	18-1	18-2
4E													
5E													

SPLICE BOLT SPACING

SPLICE TYPE	A	B	C	D
18-1	5 Spa. @ 3" = 1'-3"	2 Spa. @ 3" = 6"	4 1/2"	6 Spa. @ 3" = 1'-6"
18-2	4 Spa. @ 3" = 1'-0"	2 Spa. @ 3" = 6"	4 1/2"	6 Spa. @ 3" = 1'-6"
18-3	5 Spa. @ 3" = 1'-3"	2 Spa. @ 3" = 6"	4 1/2"	7 Spa. @ 3" = 1'-9"
18-4	4 Spa. @ 3" = 1'-0"	2 Spa. @ 3" = 6"	4 1/2"	7 Spa. @ 3" = 1'-9"
20-1	5 Spa. @ 3" = 1'-3"	2 Spa. @ 3" = 6"	5 1/2"	7 Spa. @ 3" = 1'-9"
20-2	4 Spa. @ 3" = 1'-0"	2 Spa. @ 3" = 6"	5 1/2"	7 Spa. @ 3" = 1'-9"
20-3	6 Spa. @ 3" = 1'-6"	2 Spa. @ 3" = 6"	5 1/2"	8 Spa. @ 3" = 2'-0"
20-4	4 Spa. @ 3" = 1'-0"	3 Spa. @ 3" = 9"	5 1/2"	8 Spa. @ 3" = 2'-0"
22-1	5 Spa. @ 3" = 1'-3"	2 Spa. @ 3" = 6"	2 Spa. @ 3 1/4" = 6 1/2"	5 Spa. @ 3" = 1'-3"
22-2	4 Spa. @ 3" = 1'-0"	3 Spa. @ 3" = 9"	2 Spa. @ 3 1/4" = 6 1/2"	6 Spa. @ 3" = 1'-6"
22-3	6 Spa. @ 3" = 1'-6"	2 Spa. @ 3" = 6"	2 Spa. @ 3 1/4" = 6 1/2"	6 Spa. @ 3" = 1'-6"
22-4	4 Spa. @ 3" = 1'-0"	3 Spa. @ 3" = 9"	2 Spa. @ 3 1/4" = 6 1/2"	6 Spa. @ 3" = 1'-6"
24-1	6 Spa. @ 3" = 1'-6"	2 Spa. @ 3" = 6"	2 Spa. @ 3 3/4" = 7 1/2"	6 Spa. @ 3" = 1'-6"
24-2	4 Spa. @ 3" = 1'-0"	3 Spa. @ 3" = 9"	2 Spa. @ 3 3/4" = 7 1/2"	7 Spa. @ 3" = 1'-9"

SPLICE PLATE SIZES

SPLICE TYPE	AA	BB	CC	DD	EE	FF	GG
18-1	1/2" x 18" x 3'-1 1/2"	1/2" x 8" x 3'-1 1/2"	3/4" x 18" x 3'-7 1/2"	3/4" x 8" x 3'-7 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	1/2" x 18" x 1'-6 5/8"	---
18-2	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 18" x 3'-7 1/2"	7/8" x 8" x 3'-7 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	---	---
18-3	1/2" x 18" x 3'-1 1/2"	1/2" x 8" x 3'-1 1/2"	3/4" x 18" x 4'-1 1/2"	3/4" x 8" x 4'-1 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	3/4" x 18" x 1'-6 5/8"	1/4" x 18" x 2'-0 5/8"
18-4	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 18" x 4'-1 1/2"	7/8" x 8" x 4'-1 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	---	---
20-1	1/2" x 18" x 3'-1 1/2"	1/2" x 8" x 3'-1 1/2"	3/4" x 20" x 4'-1 1/2"	3/4" x 9" x 4'-1 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	1/2" x 18" x 1'-6 5/8"	---
20-2	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 20" x 4'-1 1/2"	7/8" x 9" x 4'-1 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	---	---
20-3	1/2" x 18" x 3'-7 1/2"	1/2" x 8" x 3'-7 1/2"	7/8" x 20" x 4'-7 1/2"	7/8" x 9" x 4'-7 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	3/4" x 18" x 1'-9 5/8"	1/4" x 20" x 2'-3 5/8"
20-4	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 20" x 4'-7 1/2"	7/8" x 9" x 4'-7 1/2"	1/2" x 25 1/2" x 8'-8 3/4"	---	---
22-1	1/2" x 18" x 3'-1 1/2"	1/2" x 8" x 3'-1 1/2"	3/4" x 22" x 3'-1 1/2"	3/4" x 10" x 3'-1 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	1/2" x 18" x 1'-6 5/8"	---
22-2	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	1" x 22" x 3'-7 1/2"	1" x 10" x 3'-7 1/2"	1/2" x 25 1/2" x 8'-8 3/4"	---	---
22-3	1/2" x 18" x 3'-7 1/2"	1/2" x 8" x 3'-7 1/2"	7/8" x 22" x 3'-7 1/2"	7/8" x 10" x 3'-7 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	3/4" x 18" x 1'-9 5/8"	1/4" x 22" x 1'-9 5/8"
22-4	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 22" x 3'-7 1/2"	7/8" x 10" x 3'-7 1/2"	1/2" x 25 1/2" x 8'-8 3/4"	---	---
24-1	1/2" x 18" x 3'-7 1/2"	1/2" x 8" x 3'-7 1/2"	3/4" x 24" x 3'-7 1/2"	3/4" x 11" x 3'-7 1/2"	1/2" x 19 1/2" x 8'-8 3/4"	3/4" x 18" x 1'-9 5/8"	1/4" x 24" x 1'-9 5/8"
24-2	1/2" x 18" x 2'-7 1/2"	1/2" x 8" x 2'-7 1/2"	7/8" x 24" x 4'-1 1/2"	7/8" x 11" x 4'-1 1/2"	1/2" x 25 1/2" x 8'-8 3/4"	---	---

NOTE:
See Sht. S-67 for notes.

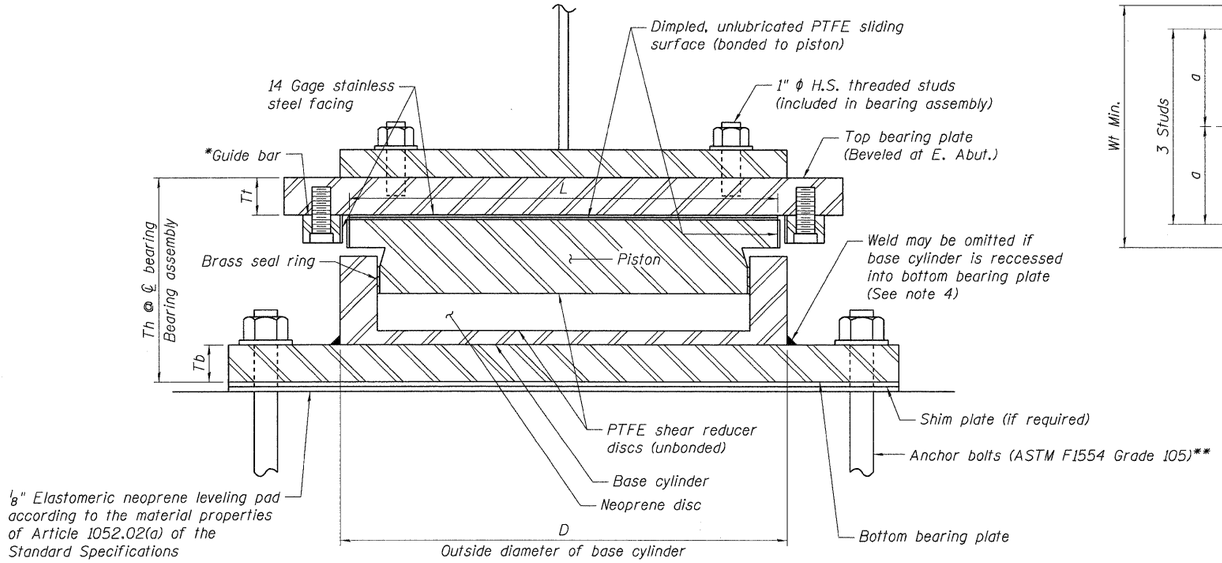
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION** I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.
		DRAWN - MDB	REVISED -	
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -	
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -	

STEEL DETAILS
6 OF 6

SCALE: | SHEET NO. S-72 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	182
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

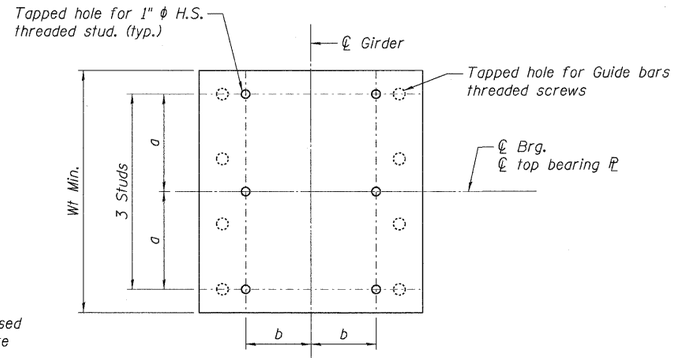
* As alternate to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.



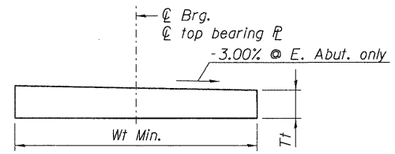
GUIDED EXPANSION POT BEARING

(Pier 23 & E. Abutment)

**1" ϕ x 12" Anchor bolts
2¼" x 2¼" x 5/16" ℄. Washer under nut
1½" ϕ holes in bottom bearing ℄. typ.



TOP BEARING ℄ PLAN



TOP BEARING ℄ ELEVATION

DIMENSIONS (IN)

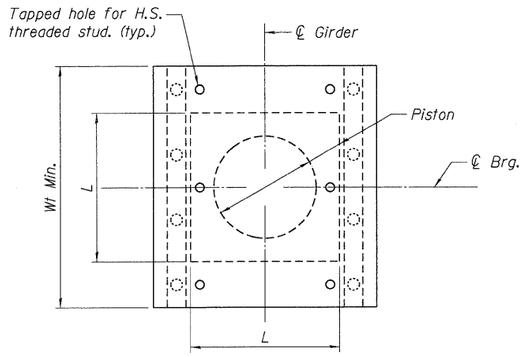
Dimension	Pier 23/E. Abut.
D	13 7/8
L	14
Tb	2
Th	10 3/16
Tt	2
Wt	26
a	11
b	7
c	9
d	13½

DESIGN DATA

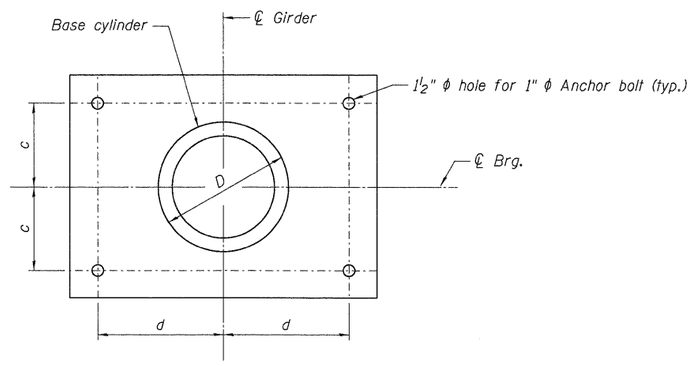
Data	Pier 23	E. Abut.
Service Vertical Design Load (kips)	290	295
Factored Horizontal Design Load (kips)	75	90
Factored Design Rotation (rad)	0.02	0.02
Total Required Movement (in)	9½	5¾

BILL OF MATERIAL

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



TOP BEARING ℄ AND PISTON PLAN

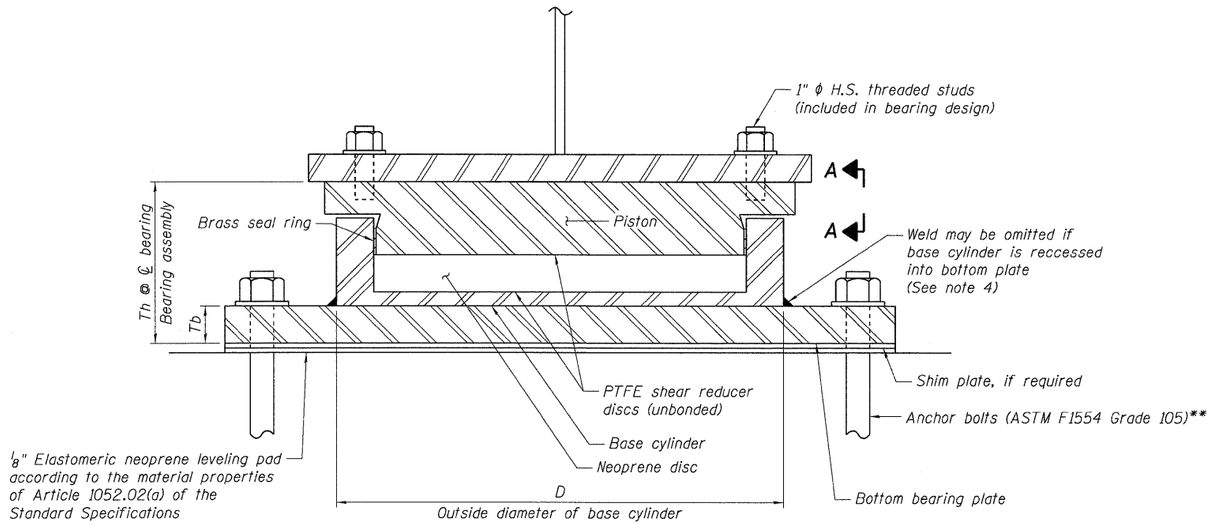


BOTTOM BEARING ℄ AND BASE CYLINDER PLAN

NOTES:

1. The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
2. Two ⅛ 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 Tb plus the depth of the recess.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - KK	REVISED -	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.
		DRAWN - KK	REVISED -			998	82-2-1HVB	ST. CLAIR	285	183
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	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



FIXED POT BEARING

(Piers 24 - 27)

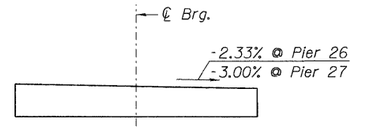
** $1\frac{1}{4}$" ϕ x 15" Anchor bolts
$2\frac{3}{4}$" x $2\frac{3}{4}$" x $\frac{5}{16}$" ℄. Washer under nut.
$1\frac{3}{4}$" ϕ holes in bottom bearing ℄, typ

DIMENSIONS (IN)

Dimension	Piers 24 & 25	Pier 26	Pier 27
D	$23\frac{7}{8}$	$23\frac{7}{8}$	24
Tb	$2\frac{3}{4}$	$2\frac{3}{4}$	$2\frac{3}{4}$
Th	$11\frac{3}{4}$	12	$12\frac{3}{16}$
a	$6\frac{1}{2}$	$6\frac{1}{2}$	$6\frac{1}{2}$
b	9	9	9
c	$15\frac{1}{2}$	$15\frac{1}{2}$	$15\frac{1}{2}$
d	17	17	17

DESIGN DATA

Data	Pier 24	Pier 25	Pier 26	Pier 27
Service Vertical Design Load (kips)	825	835	900	945
Factored Horizontal Design Load (kips)	270	240	280	240
Factored Design Rotation (rad)	0.02	0.02	0.02	0.02



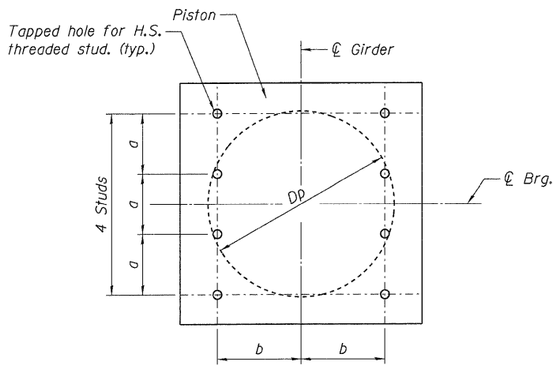
VIEW A-A - BEVELED TOP OF PISTON

(level top at piers 24 & 25)

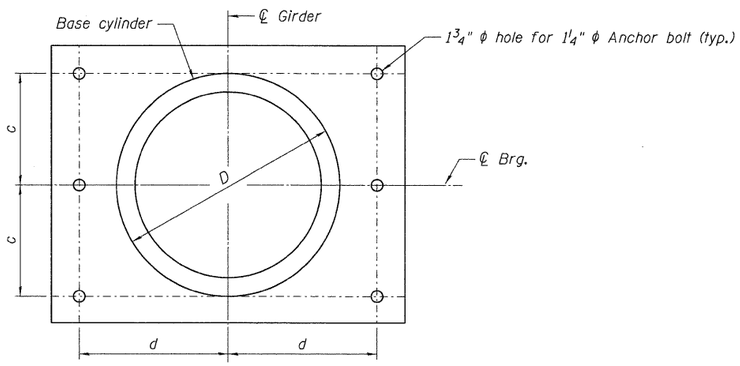
BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotation Bearings, Fixed - 900K	Each	33
* High Load Multi-Rotation Bearings, Fixed - 1000K	Each	11 *
Anchor Bolts, $1\frac{1}{4}$" ϕ	Each	264

* High Load Multi-Rotation Bearings, Fixed - 1000K at Pier 27.



TOP ℄ - PISTON PLAN

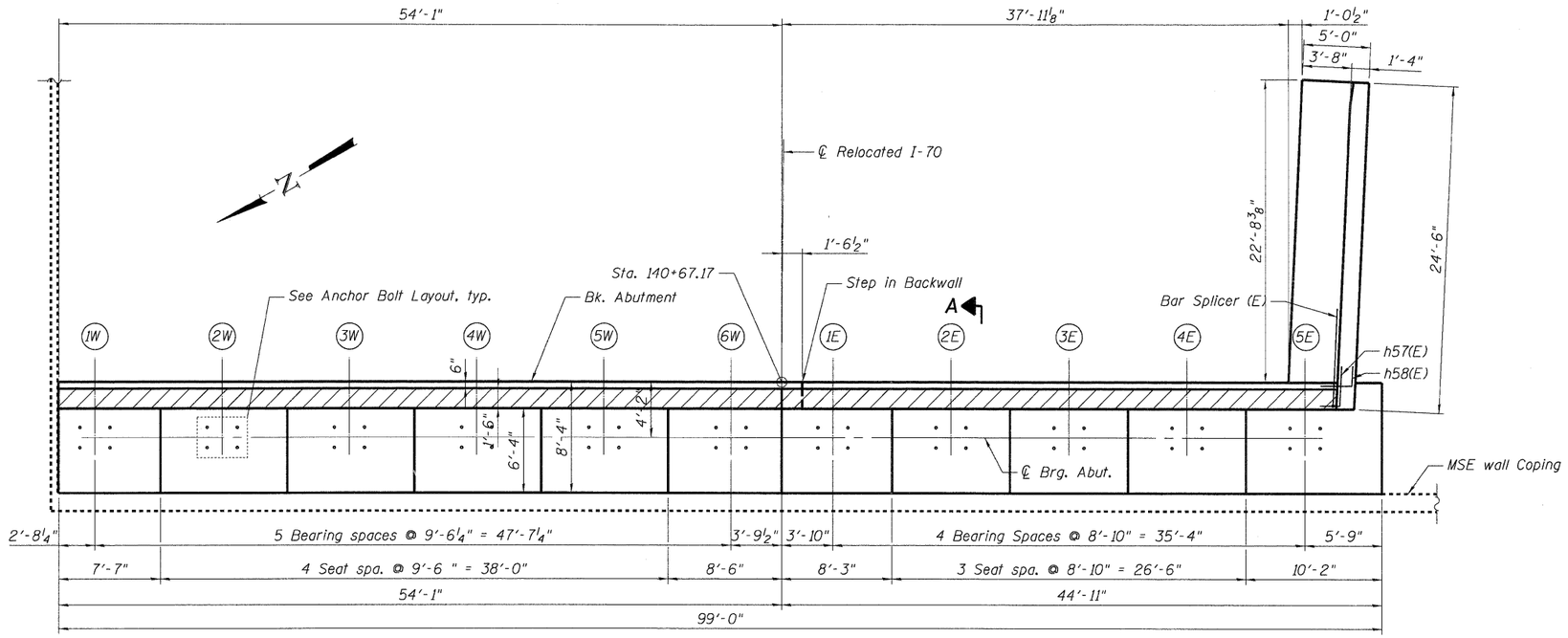


BOTTOM BEARING ℄ AND BASE CYLINDER PLAN

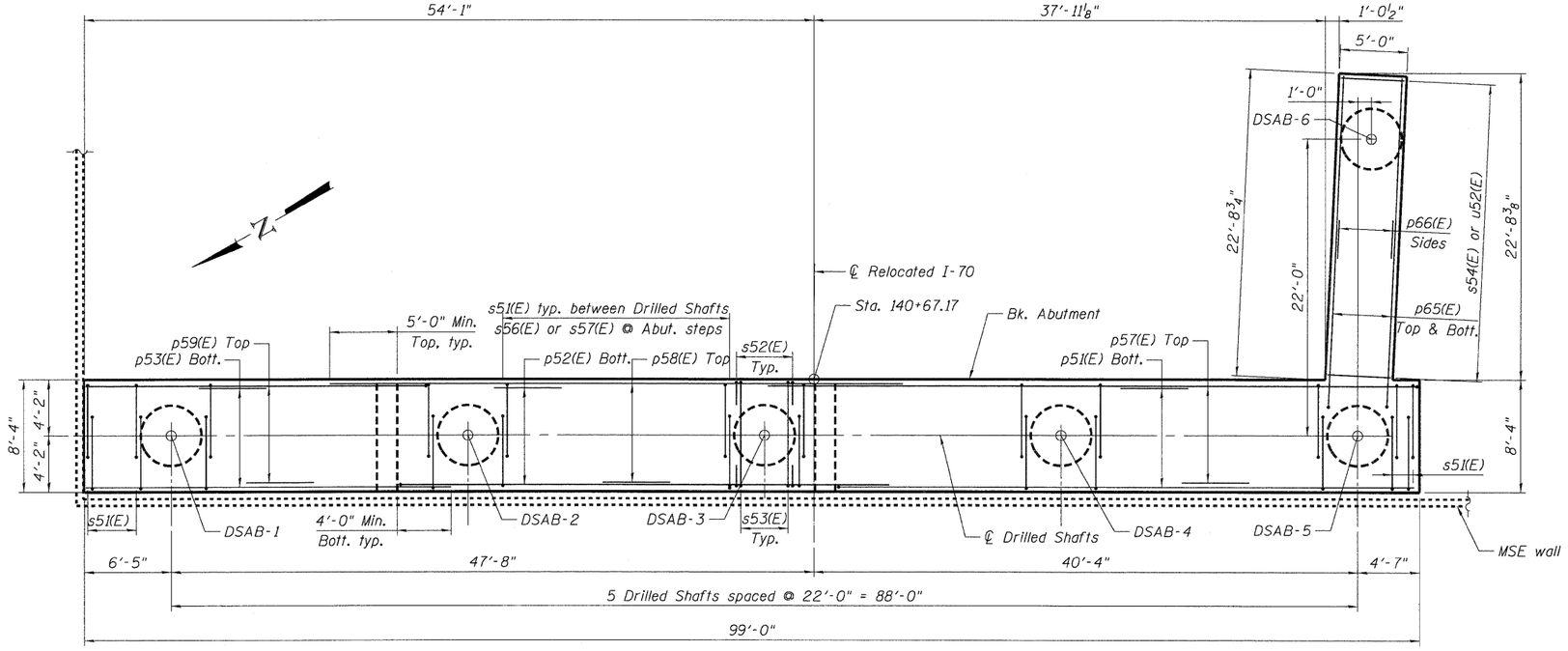
NOTES:

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 Tb plus the depth of the recess.

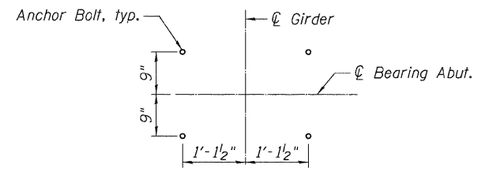
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - KK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	BEARING DETAILS 2 OF 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - KK	REVISED -			998	82-2-1HVB	ST. CLAIR	285	184
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -				SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE:	SHEET NO. S-74 OF S-111	STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	



TOP VIEW



PLAN - E. ABUTMENT CAP



ANCHOR BOLT LAYOUT

BEARING SEAT ELEVATIONS

Girder	Elevations
1W	435.34
2W	434.83
3W	434.31
4W	433.80
5W	433.28
6W	432.77
1E	433.17
2E	432.69
3E	432.21
4E	431.74
5E	431.26

NOTES:

1. Work this sheet with Shts. S-76, S-77 & S-78.
2. Hatched area of abutment backwall to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure on Sht. S-46.
3. For MSE Wall plans, see Shts. W-1, W-2 & W-3.
4. For Anchor Bolt and Bearing details, see Sht. S-73.

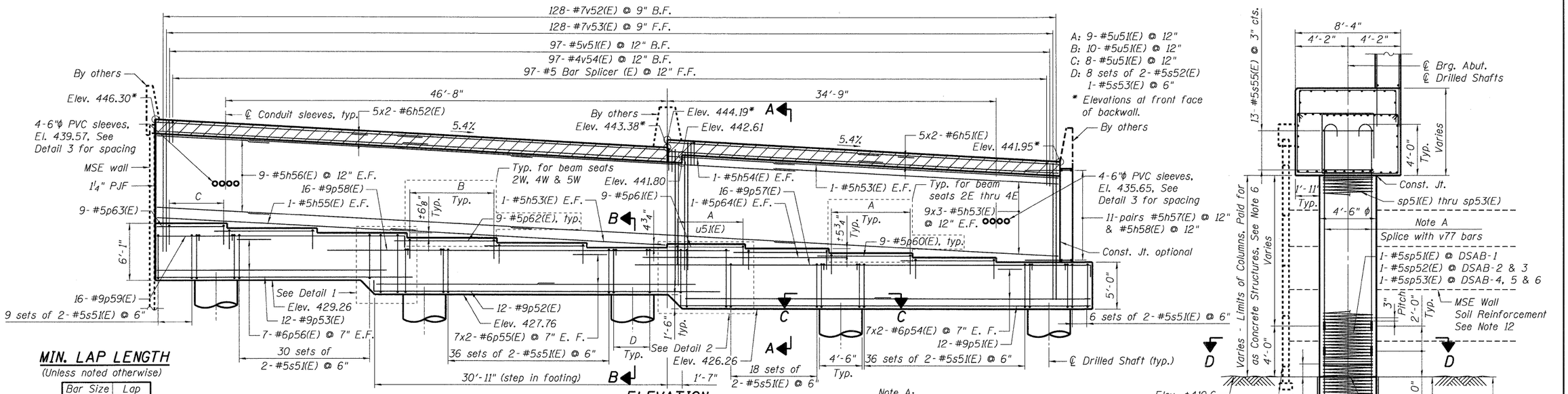
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - KK	REVISED -
		DRAWN - KK	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

EAST ABUTMENT PLAN

SCALE: | SHEET NO. S-75 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	185
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
	FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT		



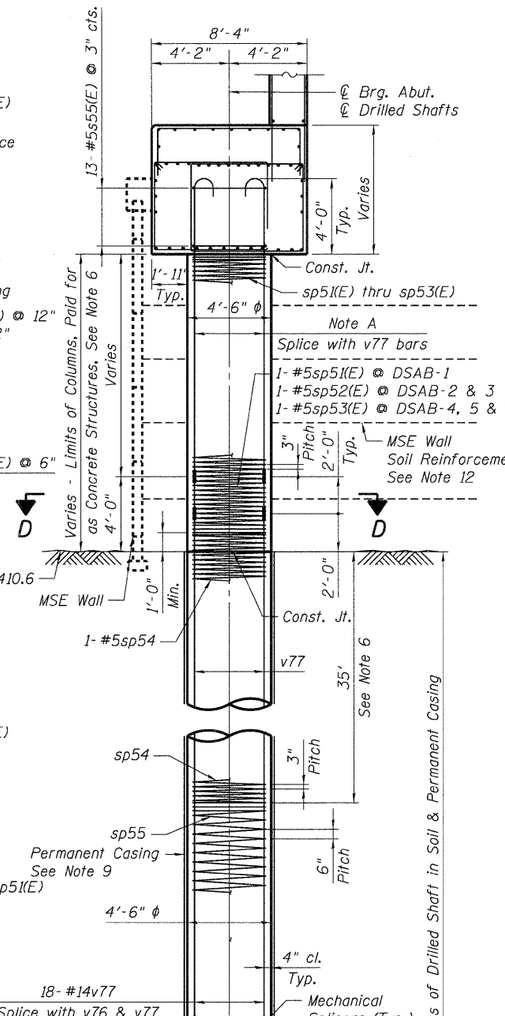
MIN. LAP LENGTH

(Unless noted otherwise)

Bar Size	Lap
#4	2'-11"
#5	3'-8"
#6	4'-5"

ELEVATION

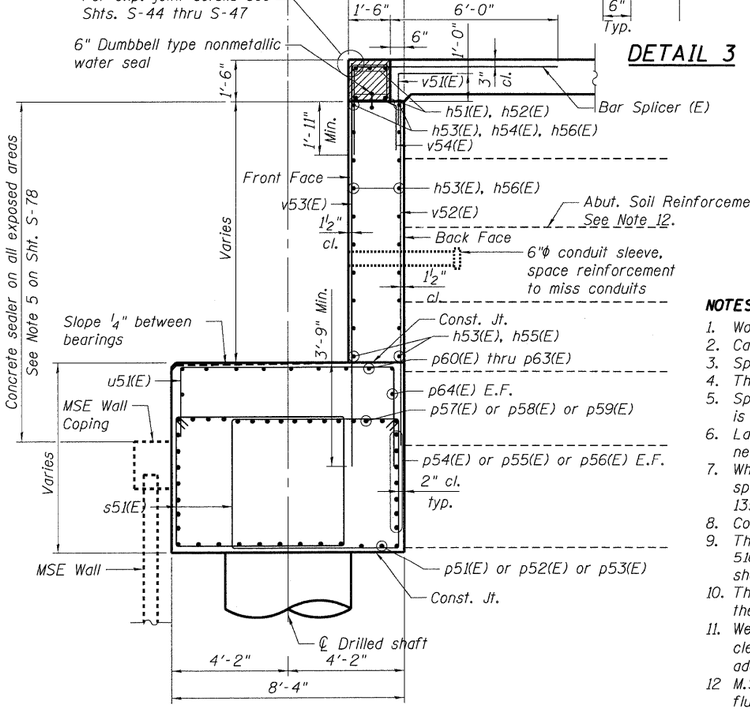
(Looking East)



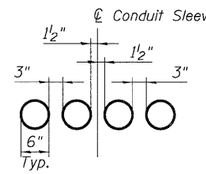
Note A:
9-#14v70(E) & 9-#14v71(E) (Alternating): DSAB-1
9-#14v72(E) & 9-#14v73(E) (Alternating): DSAB-2 & 3
9-#14v74(E) & 9-#14v75(E) (Alternating): DSAB-4, 5 & 6

X: Limits of Drilled Shaft in Rock

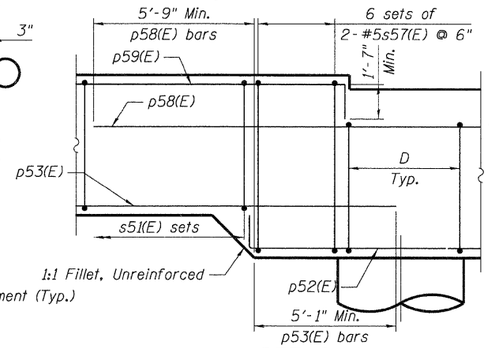
COLUMN/DRILLED SHAFT END VIEW



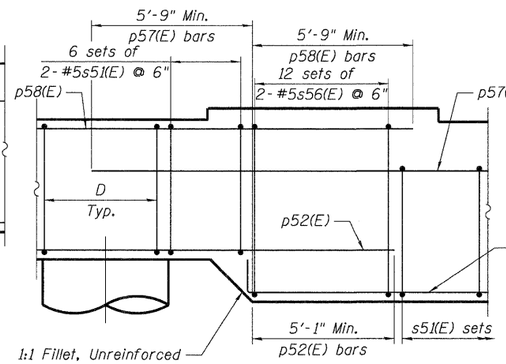
SECTION A-A



DETAIL 3



DETAIL 1



DETAIL 2

NOTES:

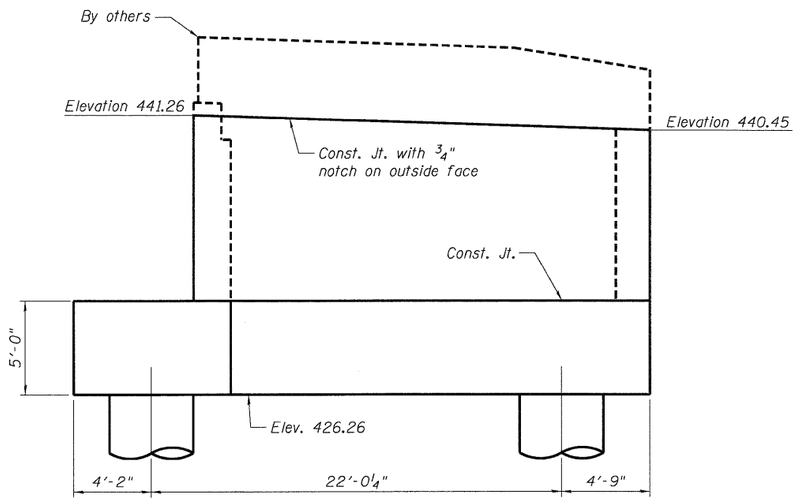
1. Work this sheet with Shts. S-75, S-77 & S-78.
2. Cast steps monolithically with cap.
3. Space top reinforcement in cap to miss anchor bolts.
4. The hooks of v70(E) thru v75(E) bars embedded in abutment cap shall be oriented inward.
5. Splice locations of v or v(E) bars in column/drilled shaft shall be staggered by 2'-0" min. Lap splicing of these bars is not allowed, full-mechanical bar splicers or full-welding of bars is required.
6. Lapping of spiral reinforcement is not allowed within columns and within 35' of T/drilled shafts. Where splicing is necessary, fully-welded or full-mechanical splices are allowed.
7. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ 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.
8. Continue sp51(E) thru sp53(E) to the bottom of abutment cap stirrup bars.
9. 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.
10. The drilled shaft foundation design is based on end bearing in bedrock. The limits shown for Drilled Shaft in Rock is the minimum penetration into bedrock required to achieve the factored resistance used in design (200 ksf).
11. 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.
12. M.S.E. Wall supplier shall design and supply abutment soil reinforcement to resist earth pressure of 40 pcf equivalent fluid weight applied to back of the abutment and backwall plus a longitudinal force of 72 kips transmitted by the bearings to the bridge seats.
13. Construct backwall and backfill prior to erecting structural steel.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

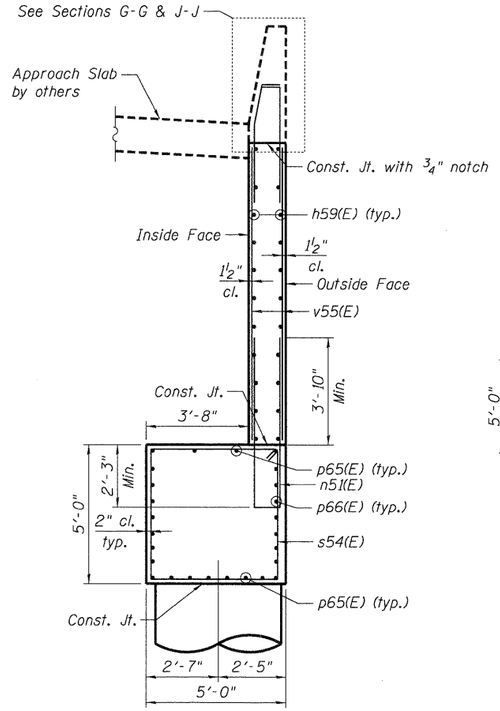
EAST ABUTMENT DETAILS
1 OF 3

SCALE: | SHEET NO. S-76 OF S-111 | STA. 134+22.00 TO STA.

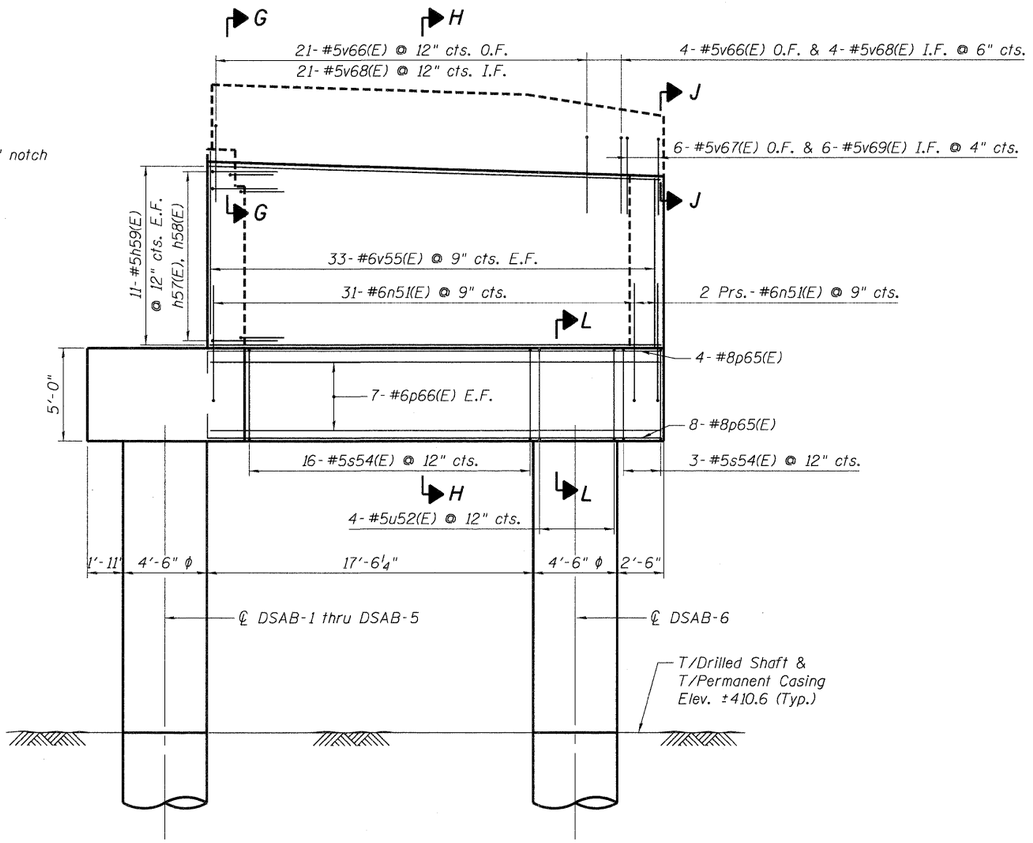
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	186
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



WING WALL ELEVATION
(Looking North - Showing dimensions)

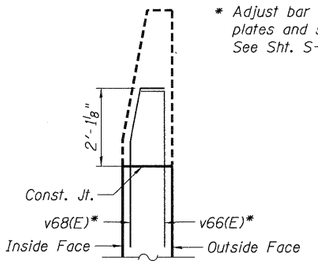


SECTION H-H

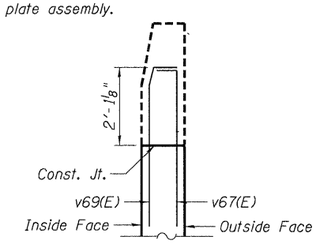


WING WALL & COLUMN ELEVATION
(Looking North - Showing Reinforcement)

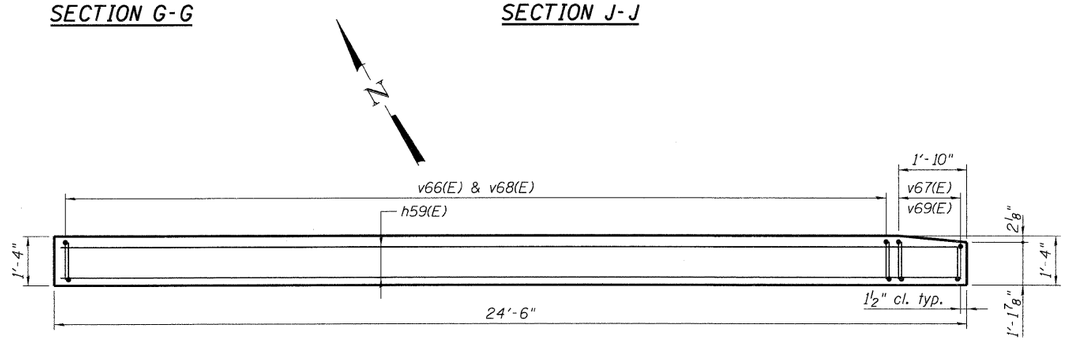
* *Adjust bar position as required to clear plates and studs in barrier plate assembly. See Sht. S-47.*



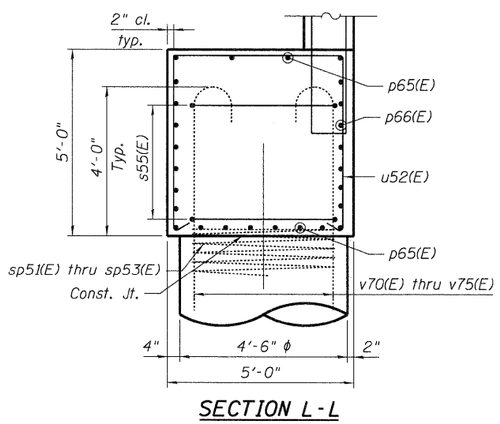
SECTION G-G



SECTION J-J



WINGWALL PLAN



SECTION L-L

NOTES:

1. Work this sheet with Shts. S-75, S-76 & S-78.
2. Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.
3. All edges shall have 3/4" chamfer unless noted otherwise.
4. F.F. indicates Front Face.
   B.F. indicates Back Face.
   I.F. indicates Inside Face.
   O.F. indicates Outside Face.
   E.F. indicates Each Face.

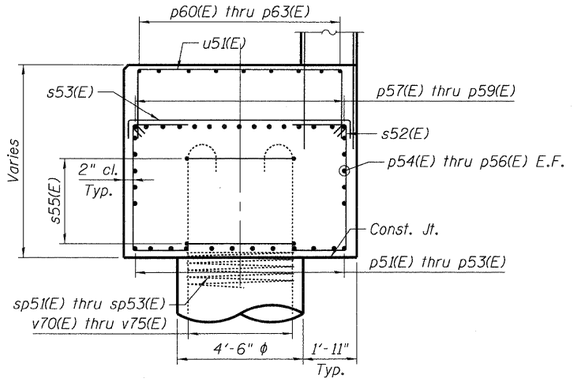
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - KK	REVISED -
		DRAWN - KK	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

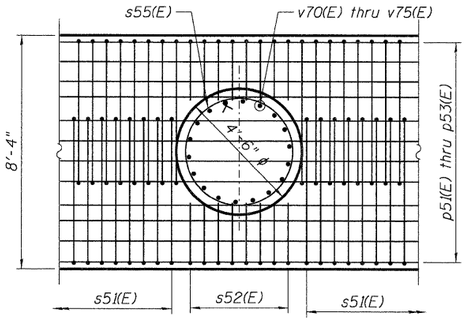
EAST ABUTMENT DETAILS
2 OF 3

SCALE: | SHEET NO. S-77 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	187
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SECTION B-B



SECTION C-C

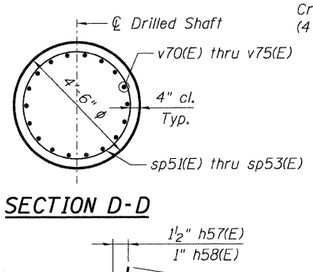
BILL OF MATERIAL

Item	Unit	Total
Concrete Structures	Cu. Yd.	331.5
Reinforcement Bars	Pound	119,150
Reinforcement Bars, Epoxy Coated	Pound	61,530
Bar Splicer	Each	97
Permanent Casing	Foot	672
Drilled Shaft in Soil	Cu. Yd.	396
Drilled Shaft in Rock	Cu. Yd.	6
Concrete Sealer	Sq. Ft.	1727
Mechanical Splicers	Each	216
Crosshole Sonic Logging	Each	1

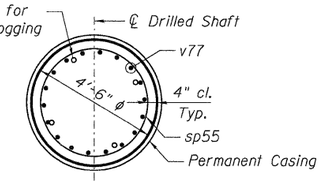
BAR LIST

	Bar	No.	Size	Length	Shape
	h51(E)	10	#6	22'-10"	
	h52(E)	10	#6	29'-1"	
	h53(E)	58	#5	30'-0"	
	h54(E)	2	#5	14'-10"	
	h55(E)	2	#5	27'-5"	
	h56(E)	18	#5	16'-3"	
	h57(E)	11	#5	5'-10"	
	h58(E)	11	#5	5'-8"	
	h59(E)	22	#5	24'-3"	
	n51(E)	33	#6	14'-11"	
	p51(E)	12	#9	44'-10"	
	p52(E)	12	#9	39'-1"	
	p53(E)	12	#9	28'-1"	
	p54(E)	28	#6	25'-3"	
	p55(E)	28	#6	19'-8"	
	p56(E)	14	#6	25'-7"	
	p57(E)	16	#9	50'-6"	
	p58(E)	16	#9	44'-0"	
	p59(E)	16	#9	27'-9"	
	60(E)	27	#5	10'-10"	
	p61(E)	9	#5	7'-11"	
	p62(E)	27	#5	11'-6"	
	p63(E)	9	#5	7'-2"	
	p64(E)	2	#5	19'-10"	
	p65(E)	12	#8	25'-6"	
	p66(E)	14	#6	24'-2"	
	s51(E)	282	#5	20'-9"	
	s52(E)	80	#5	9'-0"	
	s53(E)	40	#5	9'-0"	
	s54(E)	19	#5	19'-7"	
	s55(E)	78	#5	13'-0"	
	s56(E)	24	#5	24'-7"	
	s57(E)	12	#5	23'-11"	
*	sp51(E)	1	#5	18'-8"	
*	sp52(E)	2	#5	17'-2"	
*	sp53(E)	3	#5	15'-8"	
*	sp54	6	#5	35'-0"	
*	sp55	6	#5	78'-11"	
	u51(E)	74	#5	12'-8"	
	u52(E)	4	#5	14'-11"	
	v51(E)	97	#5	3'-9"	
	v52(E)	128	#7	13'-2"	
	v53(E)	128	#7	14'-8"	
	v54(E)	97	#4	3'-2"	
	v55(E)	66	#6	8'-11"	
	v66(E)	25	#5	4'-10"	
	v67(E)	6	#5	4'-8"	
	v68(E)	25	#5	4'-11"	
	v69(E)	6	#5	4'-8"	
	v70(E)	9	#14	22'-11"	
	v71(E)	9	#14	20'-11"	
	v72(E)	18	#14	21'-5"	
	v73(E)	18	#14	19'-5"	
	v74(E)	27	#14	19'-11"	
	v75(E)	27	#14	17'-11"	
	v76	54	#14	57'-0"	
	v77	162	#14	58'-11"	

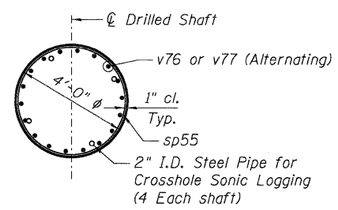
* Height of the spiral (not length) is provided in the Bar List.



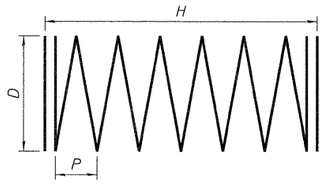
SECTION D-D



SECTION E-E

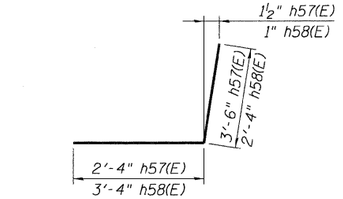


SECTION F-F

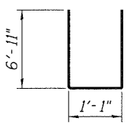


Bar	H	D	P
sp51(E)	18'-8"	3'-10"	3"
sp52(E)	17'-2"	3'-10"	3"
sp53(E)	15'-8"	3'-10"	3"
sp54	35'	3'-10"	3"
sp55	78'-11"	3'-10"	6"

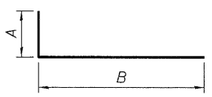
sp1(E) thru sp5 BARS



h57(E) & h58(E) BARS

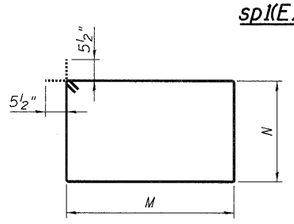


n51(E) BAR



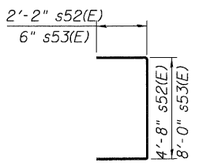
Bar	A	B
p51(E)	1'-6"	43'-4"
p52(E)	1'-6"	37'-7"
p57(E)	1'-7"	48'-11"
p59(E)	1'-7"	26'-2"
p65(E)	1'-4"	24'-2"

p51(E), p52(E), p57(E) p59(E) & p65(E)

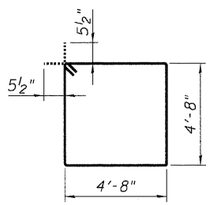


Bar	M	N
s51(E)	5'-3"	4'-8"
s56(E)	5'-3"	6'-7"
s57(E)	5'-3"	6'-3"

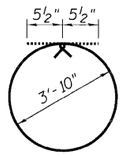
s51(E), s56(E) & s57(E) BARS



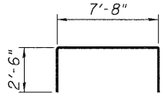
s52(E) & s53(E) BARS



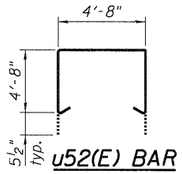
s54(E) BAR



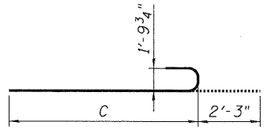
s55(E) BAR



u51(E) BAR

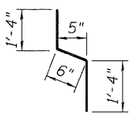


u52(E) BAR

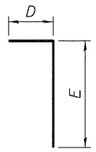


Bar	C
v70(E)	20'-8"
v71(E)	18'-8"
v72(E)	19'-2"
v73(E)	17'-2"
v74(E)	17'-8"
v75(E)	15'-8"

v70(E) thru v75(E) BARS

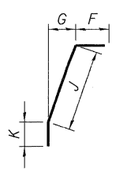


v54(E) BAR



Bar	D	E
v51(E)	1'-11"	1'-10"
v66(E)	10"	4'-0"
v67(E)	8"	4'-0"

v51(E), v66(E) & v67(E) BARS



Bar	F	G	J	K
v68(E)	10"	3"	1'-6"	2'-7"
v69(E)	8"	1"	6"	3'-6"

v68(E) & v69(E) BARS

NOTES:

1. Work this sheet with Shts. S-75, S-76 & S-77.
2. The cost of steel pipes, pipe caps, and couplers for crosshole sonic logging shall be included in Drilled Shaft in Soil and Drilled Shaft in Rock.
3. v(E) bars in the column/drilled shaft shall be placed as shown to provide space for p(E) bars in cap.
4. Quantities and reinforcement detailing shown are based on the top of shaft and estimated top of rock elevations shown and may change based on the actual elevations encountered at each shaft.
5. Concrete Sealer shall be applied to all exposed abutment areas including the bearing seats and steps, front face of backwall, top 1 ft. of the abutment face, north side of the backwall, and north and south face of abutment.
6. The exposed end of v51(E) bars are to be protected. The unused half of the abutment bar splicers to be incorporated into the approach slab are to be stored by the Contractor at a location as directed by the Engineer.

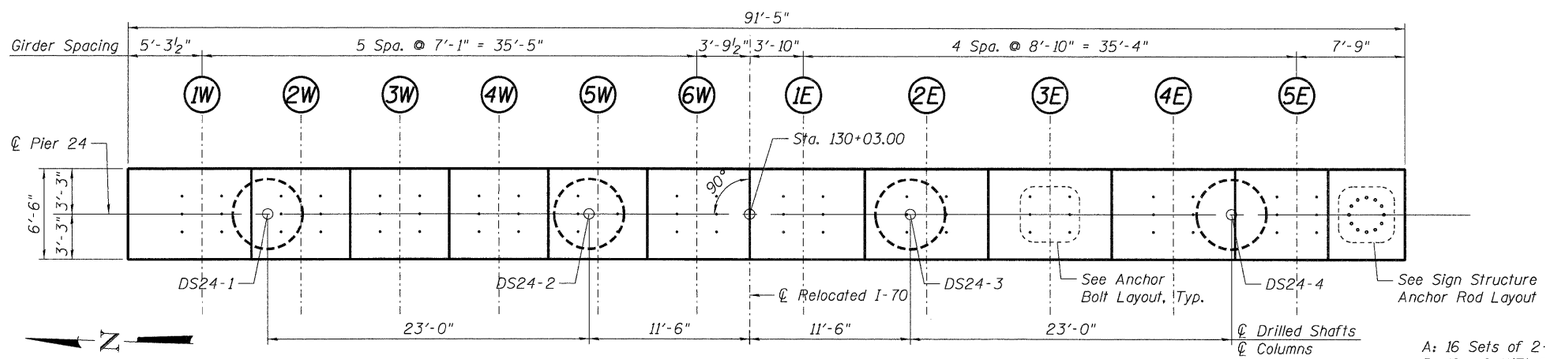
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - KK	REVISED -
		DRAWN - KK	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

EAST ABUTMENT DETAILS
3 OF 3

SCALE: | SHEET NO. S-78 OF S-111 | STA. 134+22.00 TO STA.

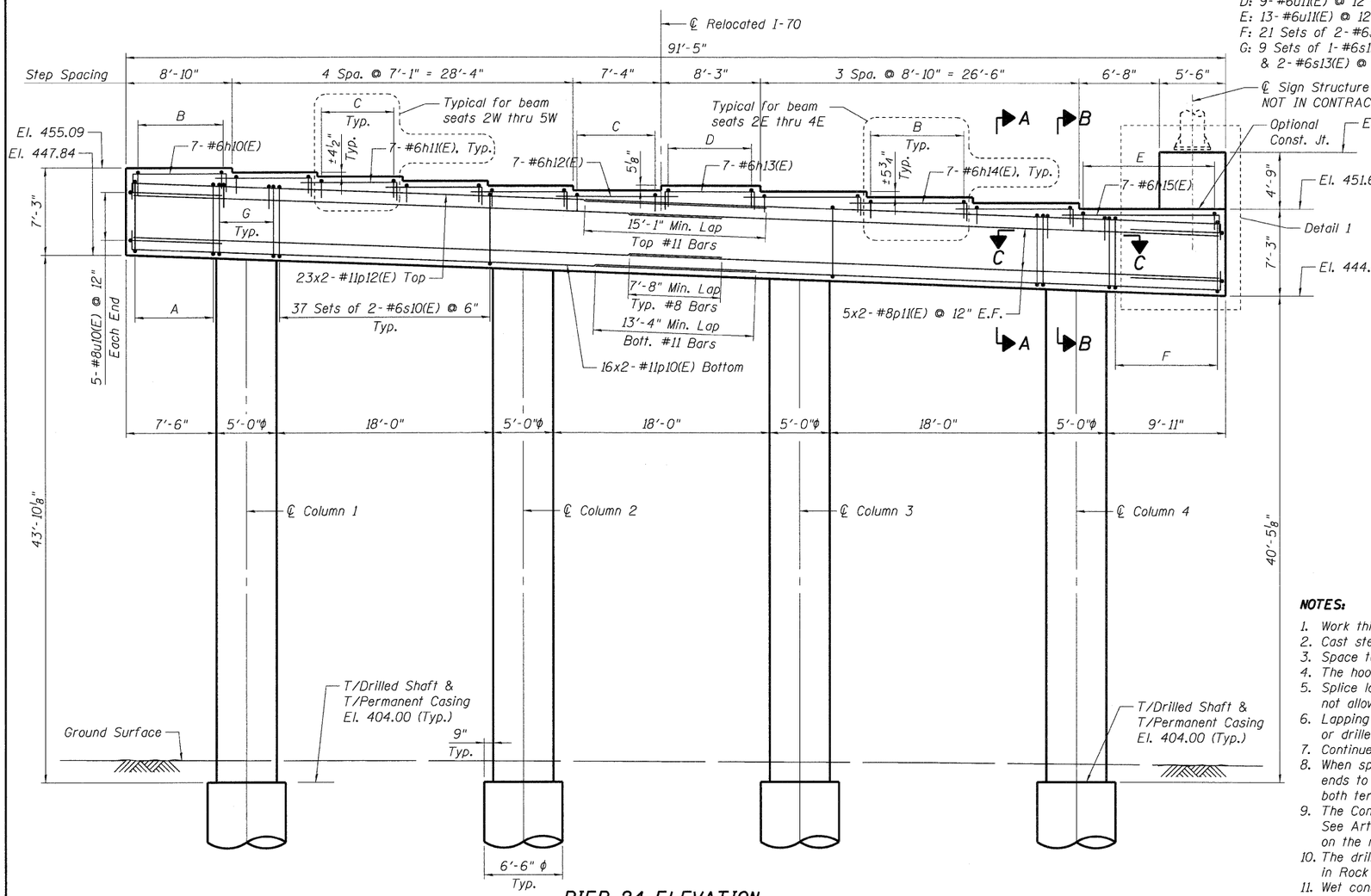
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-IHVB	ST. CLAIR	285	188
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PIER 24 PLAN

BEARING SEAT ELEVATIONS

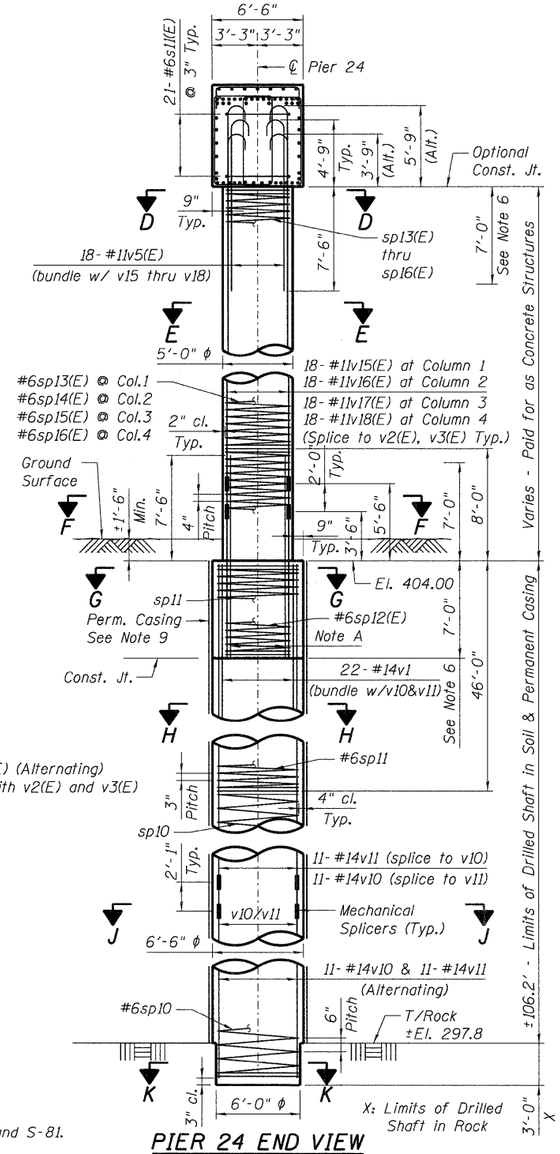
Girder	Elev.
1W	455.09
2W	454.70
3W	454.33
4W	453.95
5W	453.56
6W	453.18
1E	453.58
2E	453.11
3E	452.64
4E	452.16
5E	451.68



PIER 24 ELEVATION

(Looking East)

A: 16 Sets of 2- #6s10(E) @ 6"
B: 10- #6u11(E) @ 12"
C: 8- #6u11(E) @ 12"
D: 9- #6u11(E) @ 12"
E: 13- #6u11(E) @ 12"
F: 21 Sets of 2- #6s10(E) @ 6"
G: 9 Sets of 1- #6s12(E) & 2- #6s13(E) @ 6"



PIER 24 END VIEW

Note A:
9- #11v2(E) & 9- #11v3(E) (Alternating)
18- #11v4(E) - bundle with v2(E) and v3(E)

NOTES:

1. Work this sheet with Shts. S-80 and S-81.
2. Cast steps monolithically with cap.
3. Space top reinforcement in cap to miss anchor bolts.
4. The hooks of v15(E) thru v18(E) bars embedded in pier cap shall be oriented inward.
5. 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.
6. 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.
7. Continue sp13(E) thru sp16(E) to bottom of pier cap stirrup bars.
8. When splicing of spiral reinforcement is necessary, the spirals shall be provided with $1\frac{1}{2}$ 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.
9. 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.
10. 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).
11. 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.

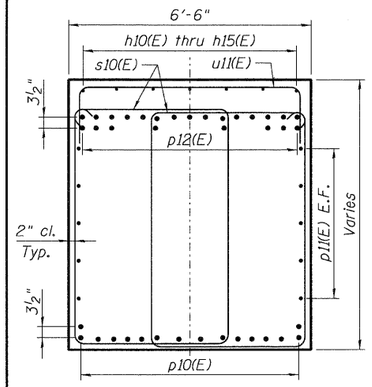
FILE NAME = $FILE$
USER NAME = $USER$
PLOT SCALE = $SCALE$
PLOT DATE = $DATE$
DESIGNED - MDB
DRAWN - MDB
CHECKED - TCU
DATE - 06/04/10
REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

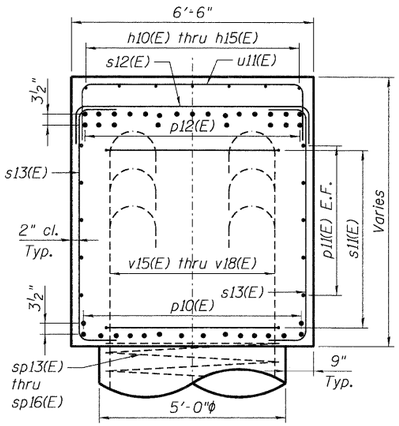
PIER 24 PLAN & ELEVATION

SCALE: | SHEET NO. S-79 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	189
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SECTION A-A



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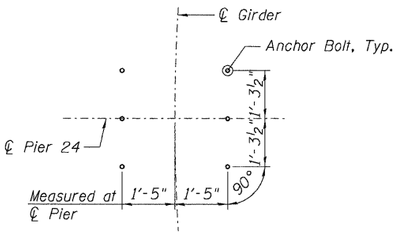
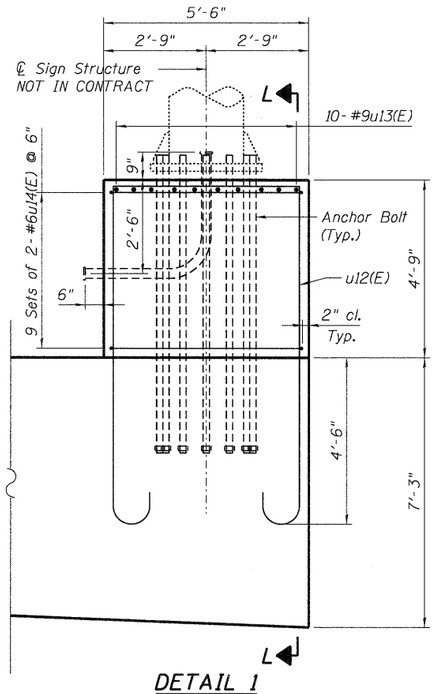
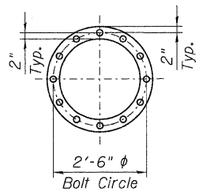


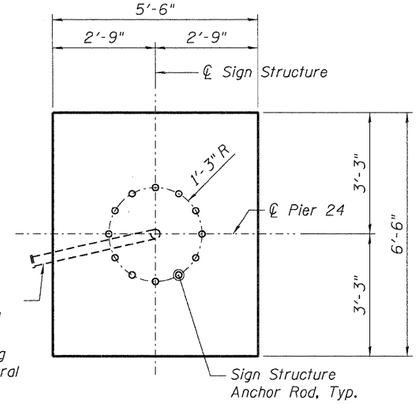
ANCHOR BOLT LAYOUT



DETAIL 1

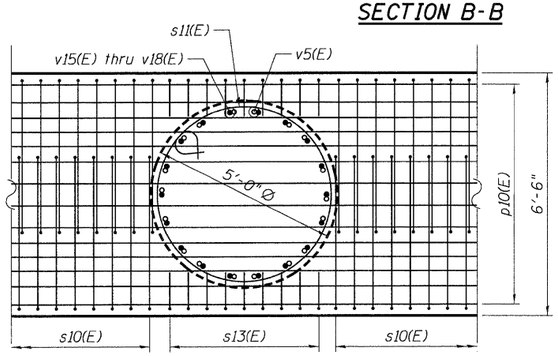


SUGGESTED POSITIONING PLATE

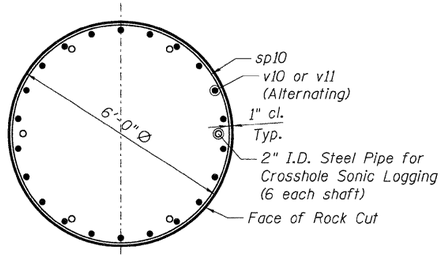


3"ø galvanized steel conduit - thread and cap both ends. Cost included in Furnishing and Erecting Structural Steel (Pounds).

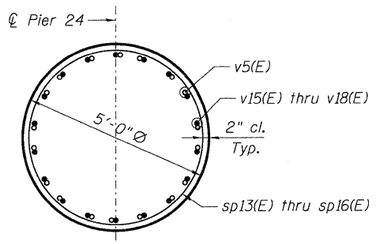
SIGN STRUCTURE ANCHOR ROD LAYOUT



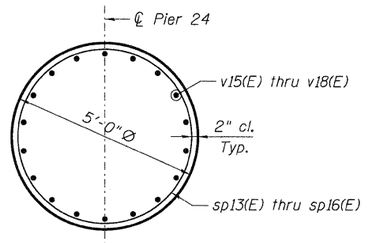
SECTION C-C



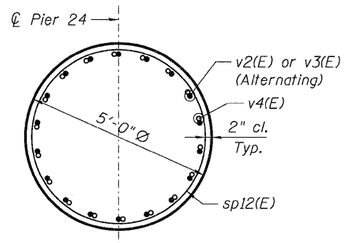
SECTION K-K



SECTION D-D



SECTION E-E



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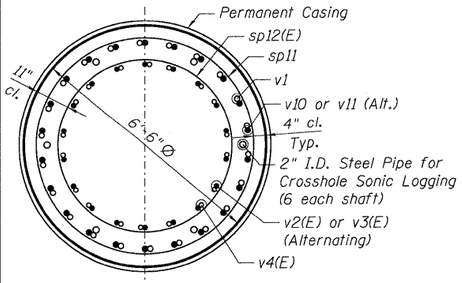
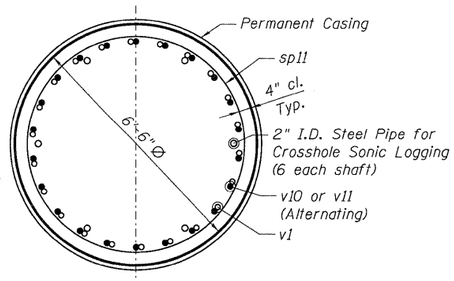
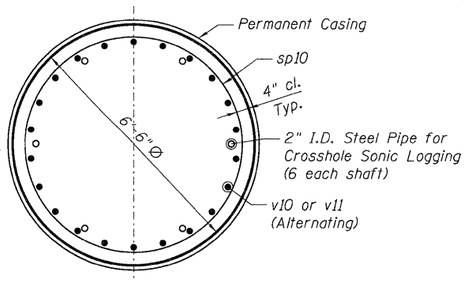


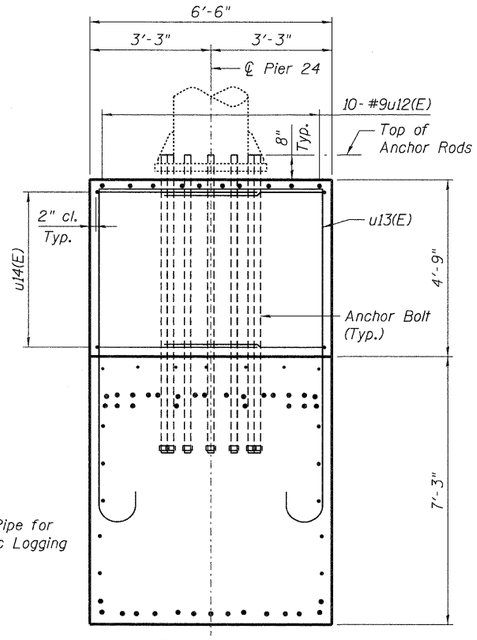
SECTION G-G



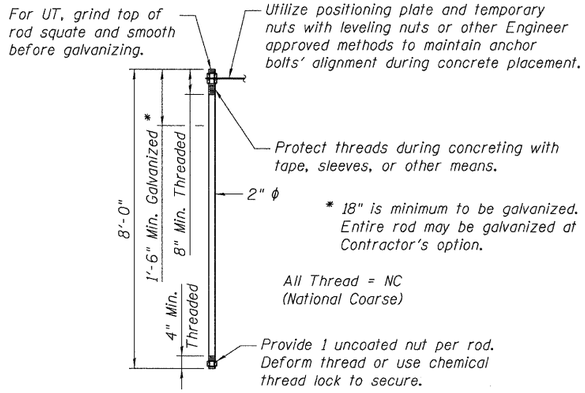
SECTION H-H



SECTION J-J



SECTION L-L



SIGN STRUCTURE ANCHOR ROD DETAIL

Anchor rods shall conform to AASHTO M314 Grade 105 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F. before galvanizing. Galvanize the upper 18" (minimum*) and associated M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide an unfinished nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, using a straight beam, ½" ø 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Furnishing and Erecting Structural Steel (Pounds). Anchor rods, nuts and positioning plate shall be paid for as Furnishing and Erecting Structural Steel (Pounds).

NOTES:

1. Work this sheet with Shts. S-79 & S-81.
2. The cost of steel pipes, pipe caps and couplers for crosshole sonic logging shall be included in Drilled Shaft in Soil and Drilled Shaft in Rock.
3. v(E) bars in columns shall be placed as shown to provide space for p10(E) bars in cap.
4. For Anchor Bolt and bearing details, see Sht. S-74.
5. Sign structure to be furnished and installed in future contract. Anchor rods and conduit to be installed in this contract.

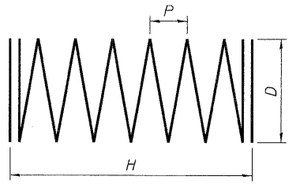
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PIER 24 DETAILS

SCALE: | SHEET NO. S-80 OF S-111 | STA. 134+22.00 TO STA.

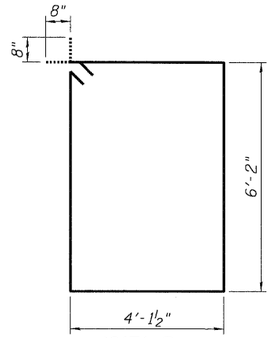
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	190
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



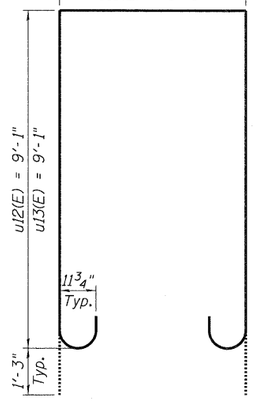
sp10 thru sp16(E) Bars

Bar	H	D	P	Length*
sp10	63'-0"	5'-10"	6"	2,339'
sp11	45'-10"	5'-10"	3"	3,379'
sp12(E)	15'-0"	4'-8"	4"	695'
sp13(E)	35'-8"	4'-8"	4"	1,592'
sp14(E)	34'-10"	4'-8"	4"	1,555'
sp15(E)	33'-11"	4'-8"	4"	1,516'
sp16(E)	33'-1"	4'-8"	4"	1,479'

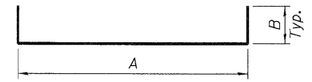
* For Information Only - length calculated as continuous bar (ignoring splices).



s10(E) Bars

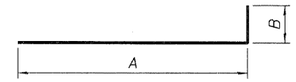


u12(E) & u13(E) Bars



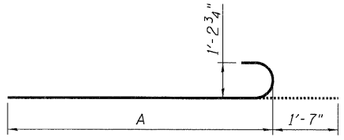
h10(E), h13(E), s12(E), s13(E), u10(E), u11(E), u14(E) Bars

Bar	A	B	Length
h10(E)	8'-6"	1'-6"	11'-6"
h13(E)	7'-11"	1'-6"	10'-11"
s12(E)	6'-2"	1'-0"	8'-2"
s13(E)	6'-2"	1'-0"	8'-2"
u10(E)	6'-0"	7'-9"	21'-6"
u11(E)	6'-2"	1'-6"	9'-2"
u14(E)	5'-2"	4'-4"	13'-10"



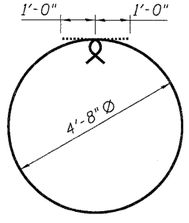
h11(E), h14(E), h15(E), p10(E), p12(E) Bars

Bar	A	B	Length
h11(E)	8'-5"	1'-6"	9'-11"
h14(E)	10'-2"	1'-6"	11'-8"
h15(E)	13'-6"	1'-6"	15'-0"
p10(E)	52'-2"	2'-0"	54'-2"
p12(E)	53'-1"	2'-0"	55'-1"



v15(E) - v18(E) & v5(E) Bars

Bar	A	Length
v15(E)	43'-9"	45'-4"
v16(E)	42'-11"	44'-6"
v17(E)	42'-0"	43'-7"
v18(E)	41'-2"	42'-9"
v5(E)	12'-3"	13'-10"



s11(E) Bars

PIER 24 BAR LIST

Bar	No.	Size	Length	Shape
h10(E)	7	#6	11'-6"	
h11(E)	28	#6	9'-11"	
h12(E)	7	#6	10'-4"	
h13(E)	7	#6	10'-11"	
h14(E)	21	#6	11'-8"	
h15(E)	7	#6	15'-0"	
p10(E)	32	#11	54'-2"	
p11(E)	20	#8	49'-4"	
p12(E)	46	#11	55'-1"	
s10(E)	296	#6	21'-11"	
s11(E)	84	#6	16'-8"	
s12(E)	36	#6	8'-2"	
s13(E)	72	#6	8'-2"	
sp10	4	#6	63'-0"	*
sp11	4	#6	45'-10"	*
sp12(E)	4	#6	15'-0"	*
sp13(E)	1	#6	35'-8"	*
sp14(E)	1	#6	34'-10"	*
sp15(E)	1	#6	33'-11"	*
sp16(E)	1	#6	33'-1"	*
u10(E)	10	#8	21'-6"	
u11(E)	102	#6	9'-2"	
u12(E)	10	#9	25'-8"	
u13(E)	10	#9	26'-8"	
u14(E)	18	#6	13'-10"	
v10	88	#14	53'-4"	
v11	88	#14	55'-5"	
v1	88	#14	38'-10"	
v2(E)	36	#11	10'-6"	
v3(E)	36	#11	12'-6"	
v4(E)	72	#11	14'-6"	
v15(E)	18	#11	45'-4"	
v16(E)	18	#11	44'-6"	
v17(E)	18	#11	43'-7"	
v18(E)	18	#11	42'-9"	
v5(E)	72	#11	13'-10"	

* Length is height of spiral

PIER 24 BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	52
Concrete Structures	Cu. Yd.	287.5
Furnishing and Erecting Structural Steel	Pound	1,150
Reinforcement Bars	Pound	133,700
Reinforcement Bars, Epoxy Coated	Pound	89,380
Permanent Casing	Foot	425
Drilled Shaft in Soil	Cu. Yd.	523
Drilled Shaft in Rock	Cu. Yd.	13
Mechanical Splicers	Each	160
Crosshole Sonic Logging	Each	1

NOTES:

1. Work this sheet with Shts. S-79 & S-80.
2. The quantities and reinforcement detailing shown are based on the top of shaft and estimated top of rock elevations shown and may change based on the actual elevations encountered at each shaft.

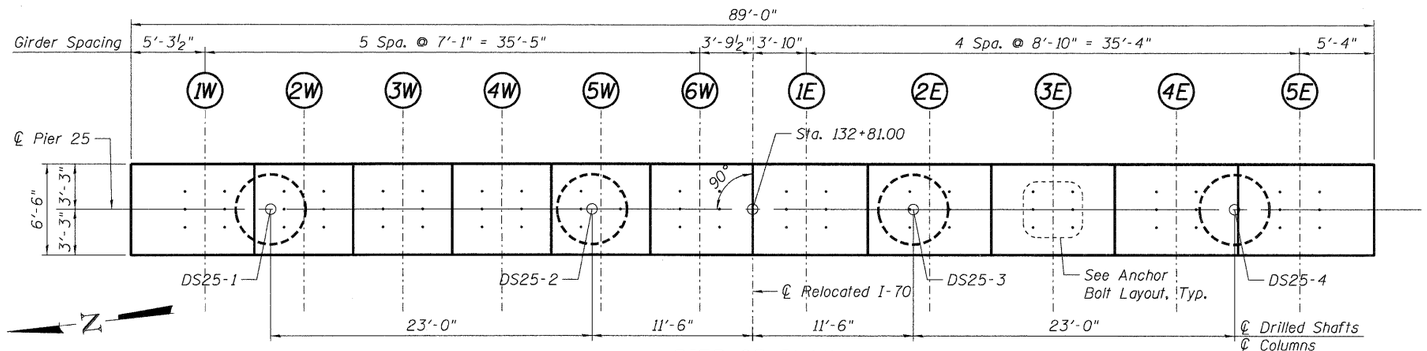
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PIER 24 BAR LIST

SCALE: | SHEET NO. S-81 OF S-111 | STA. 134+22.00 TO STA.

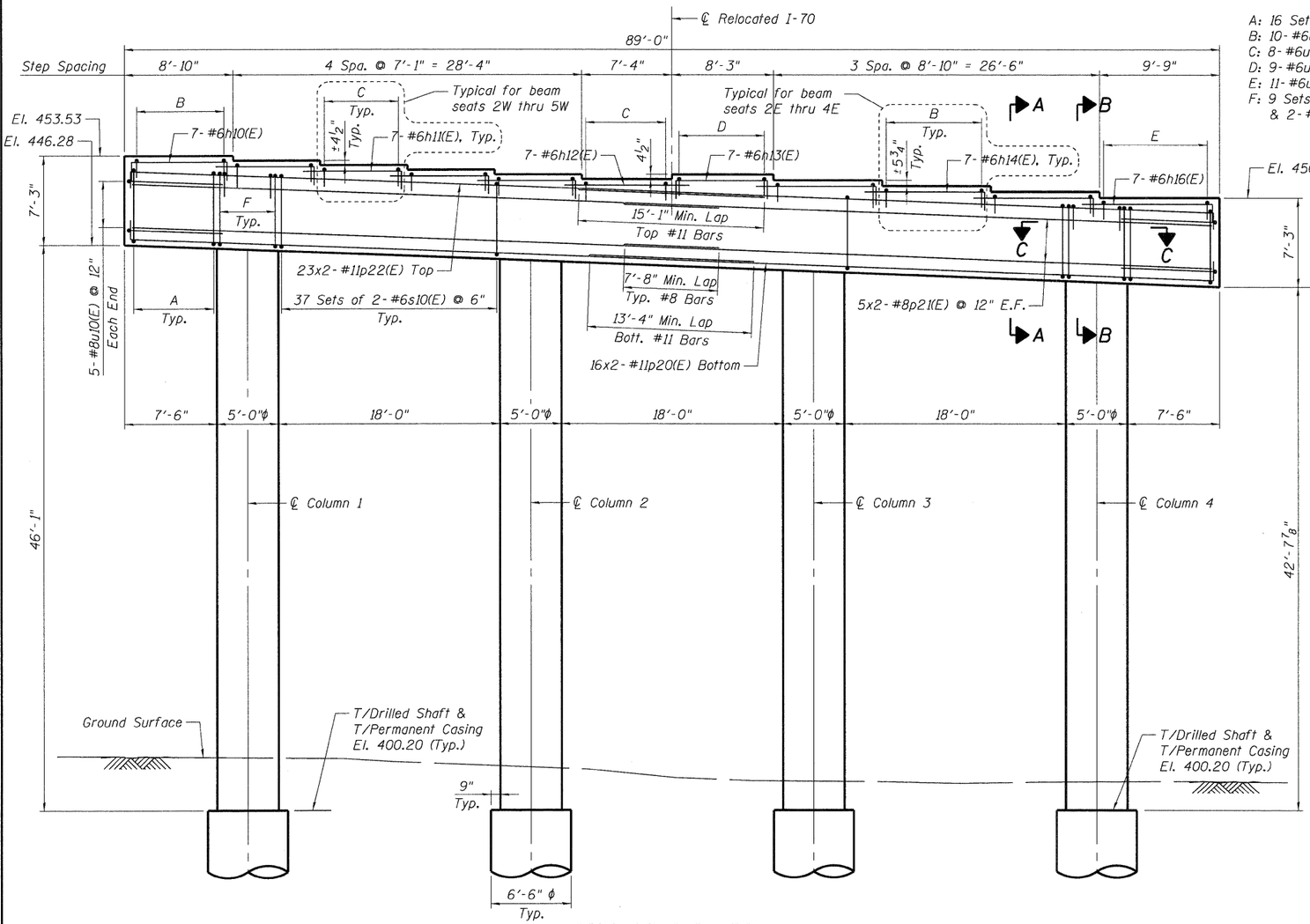
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	191
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PIER 25 PLAN

BEARING SEAT ELEVATIONS

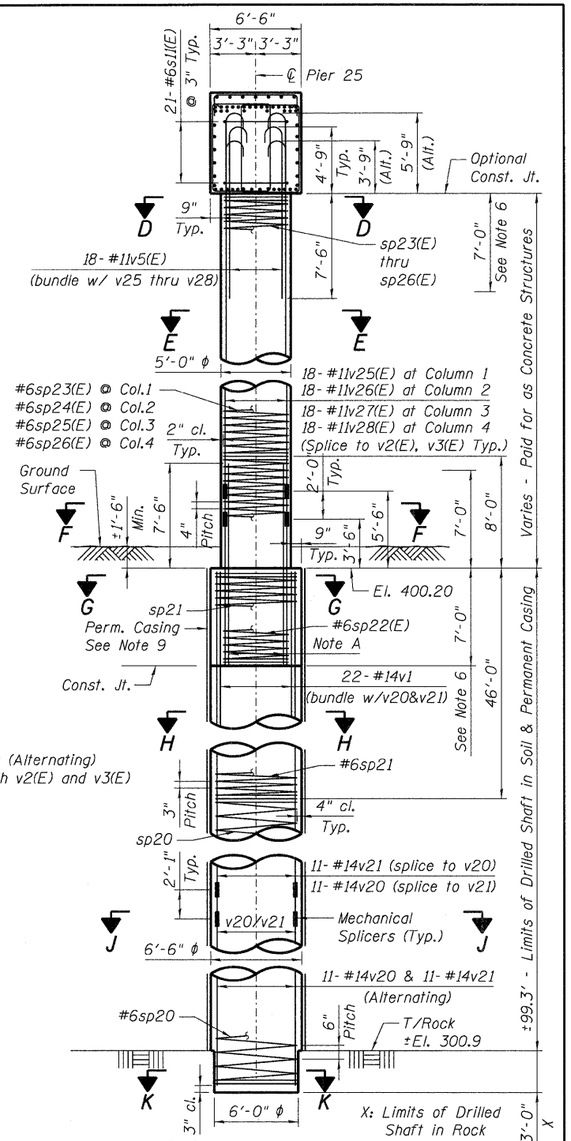
Girder	Elev.
1W	453.53
2W	453.15
3W	452.78
4W	452.39
5W	452.01
6W	451.63
1E	452.01
2E	451.54
3E	451.07
4E	450.59
5E	450.11



PIER 25 ELEVATION

(Looking East)

A: 16 Sets of 2- #6s10(E) @ 6"
B: 10- #6u11(E) @ 12"
C: 8- #6u11(E) @ 12"
D: 9- #6u11(E) @ 12"
E: 11- #6u11(E) @ 12"
F: 9 Sets of 1- #6s12(E) & 2- #6s13(E) @ 6"



PIER 25 END VIEW

Note A:
9- #11v2(E) & 9- #11v3(E) (Alternating)
18- #11v4(E) - bundle with v2(E) and v3(E)

NOTES:

1. Work this sheet with Sht. S-83.
2. Cast steps monolithically with cap.
3. Space top reinforcement in cap to miss anchor bolts.
4. The hooks of v25(E) thru v28(E) bars embedded in pier cap shall be oriented inward.
5. 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.
6. 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.
7. Continue sp23(E) thru sp26(E) to bottom of pier cap stirrup bars.
8. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ 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.
9. 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.
10. 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).
11. 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.

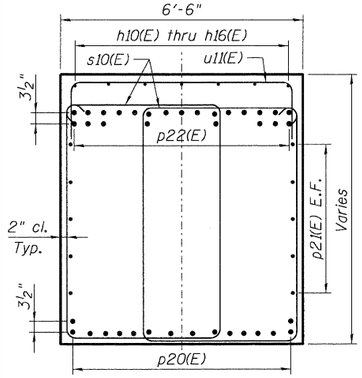
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

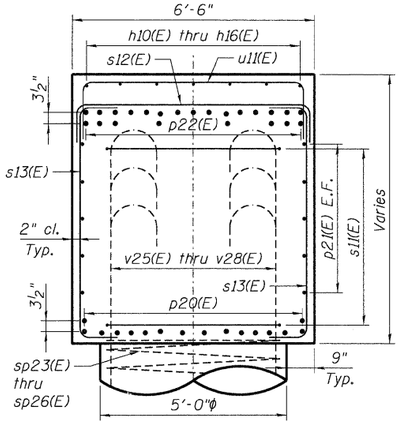
PIER 25 PLAN & ELEVATION

SCALE: | SHEET NO. S-82 OF S-111 | STA. 134+22.00 TO STA.

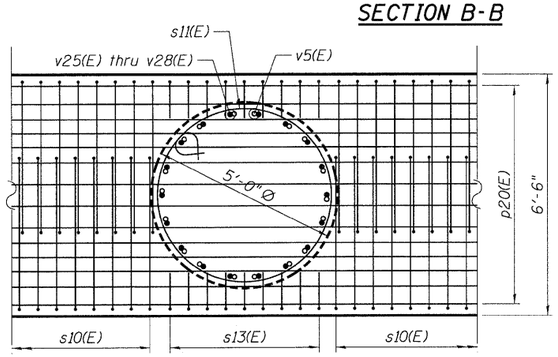
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	192
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



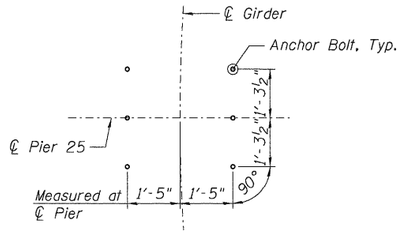
SECTION A-A



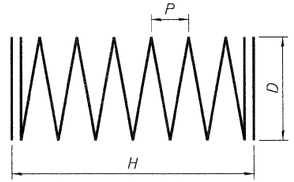
SECTION B-B



SECTION C-C



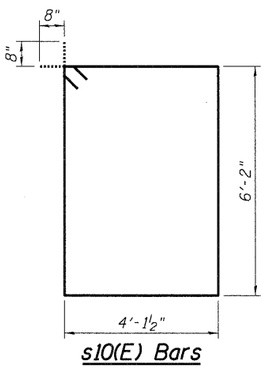
ANCHOR BOLT LAYOUT



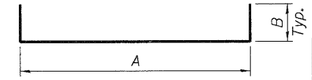
sp20 thru sp26(E) Bars

Bar	H	D	P	Length*
sp20	56'-1"	5'-10"	6"	2,088'
sp21	45'-10"	5'-10"	3"	3,379'
sp22(E)	15'-0"	4'-8"	4"	695'
sp23(E)	37'-11"	4'-8"	4"	1,689'
sp24(E)	37'-0"	4'-8"	4"	1,649'
sp25(E)	36'-1"	4'-8"	4"	1,610'
sp26(E)	35'-3"	4'-8"	4"	1,574'

* For Information Only - length calculated as continuous bar (ignoring splices).

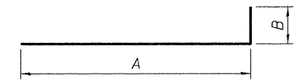


s10(E) Bars



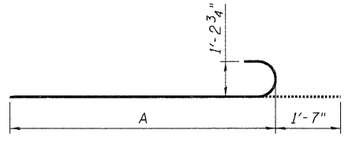
h10(E), h13(E), s12(E), s13(E), u10(E), u11(E) Bars

Bar	A	B	Length
h10(E)	8'-6"	1'-6"	11'-6"
h13(E)	7'-11"	1'-6"	10'-11"
s12(E)	6'-2"	1'-0"	8'-2"
s13(E)	6'-2"	1'-0"	8'-2"
u10(E)	6'-0"	7'-9"	21'-6"
u11(E)	6'-2"	1'-6"	9'-2"



h11(E), h14(E), h16(E), p20(E), p22(E) Bars

Bar	A	B	Length
h11(E)	8'-5"	1'-6"	9'-11"
h14(E)	10'-2"	1'-6"	11'-8"
h16(E)	11'-1"	1'-6"	12'-7"
p20(E)	51'-0"	2'-0"	53'-0"
p22(E)	51'-10"	2'-0"	53'-10"



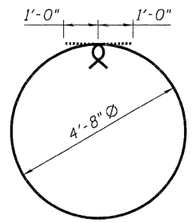
v25(E) - v28(E) & v5(E) Bars

Bar	A	Length
v25(E)	46'-0"	47'-7"
v26(E)	45'-1"	46'-8"
v27(E)	44'-2"	45'-9"
v28(E)	43'-4"	44'-11"
v5(E)	12'-3"	13'-10"

PIER 25 BAR LIST

Bar	No.	Size	Length	Shape
h10(E)	7	#6	11'-6"	
h11(E)	28	#6	9'-11"	
h12(E)	7	#6	10'-4"	
h13(E)	7	#6	10'-11"	
h14(E)	21	#6	11'-8"	
h16(E)	7	#6	12'-7"	
p20(E)	32	#11	53'-0"	
p21(E)	20	#8	48'-2"	
p22(E)	46	#11	53'-10"	
s10(E)	286	#6	21'-11"	
s11(E)	84	#6	16'-8"	
s12(E)	36	#6	8'-2"	
s13(E)	72	#6	8'-2"	
sp20	4	#6	56'-1"	*
sp21	4	#6	45'-10"	*
sp22(E)	4	#6	15'-0"	*
sp23(E)	1	#6	37'-11"	*
sp24(E)	1	#6	37'-0"	*
sp25(E)	1	#6	36'-1"	*
sp26(E)	1	#6	35'-3"	*
u10(E)	10	#8	21'-6"	
u11(E)	100	#6	9'-2"	
v20	88	#14	49'-11"	
v21	88	#14	52'-0"	
v1	88	#14	38'-10"	
v2(E)	36	#11	10'-6"	
v3(E)	36	#11	12'-6"	
v4(E)	72	#11	14'-6"	
v25(E)	18	#11	47'-7"	
v26(E)	18	#11	46'-8"	
v27(E)	18	#11	45'-9"	
v28(E)	18	#11	44'-11"	
v5(E)	72	#11	13'-10"	

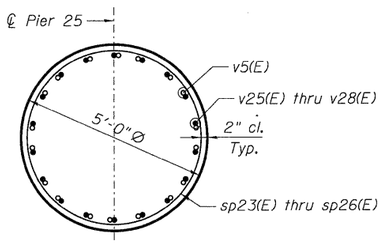
* Length is height of spiral



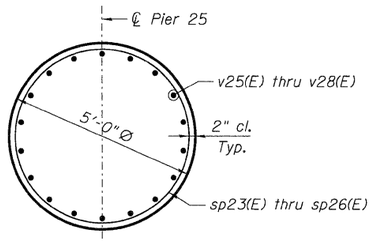
s11(E) Bars

PIER 25 BILL OF MATERIAL

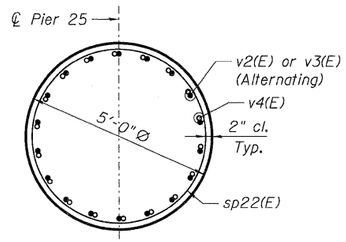
Item	Unit	Total
Structure Excavation	Cu. Yd.	101
Concrete Structures	Cu. Yd.	284.5
Reinforcement Bars	Pound	127,590
Reinforcement Bars, Epoxy Coated	Pound	87,680
Permanent Casing	Foot	398
Drilled Shaft in Soil	Cu. Yd.	489
Drilled Shaft in Rock	Cu. Yd.	13
Mechanical Splicers	Each	160
Crosshole Sonic Logging	Each	1



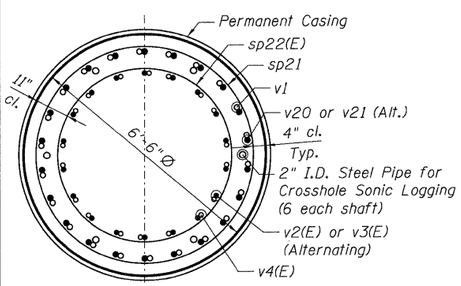
SECTION D-D



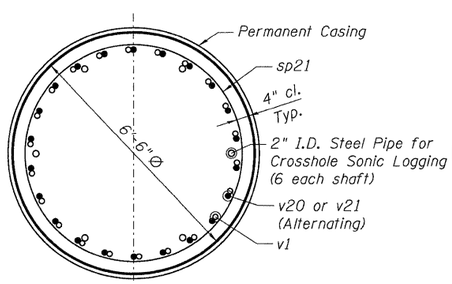
SECTION E-E



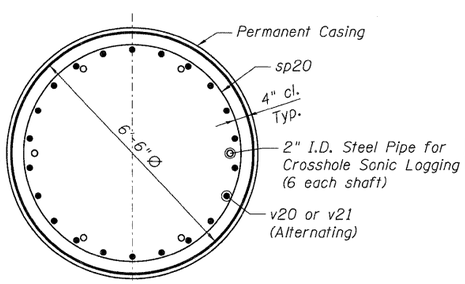
SECTION F-F



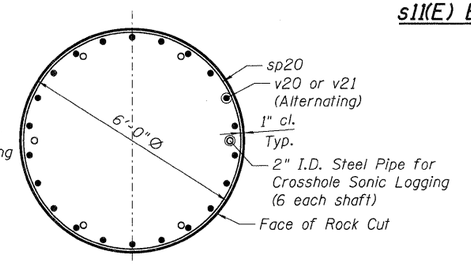
SECTION G-G



SECTION H-H



SECTION J-J



SECTION K-K

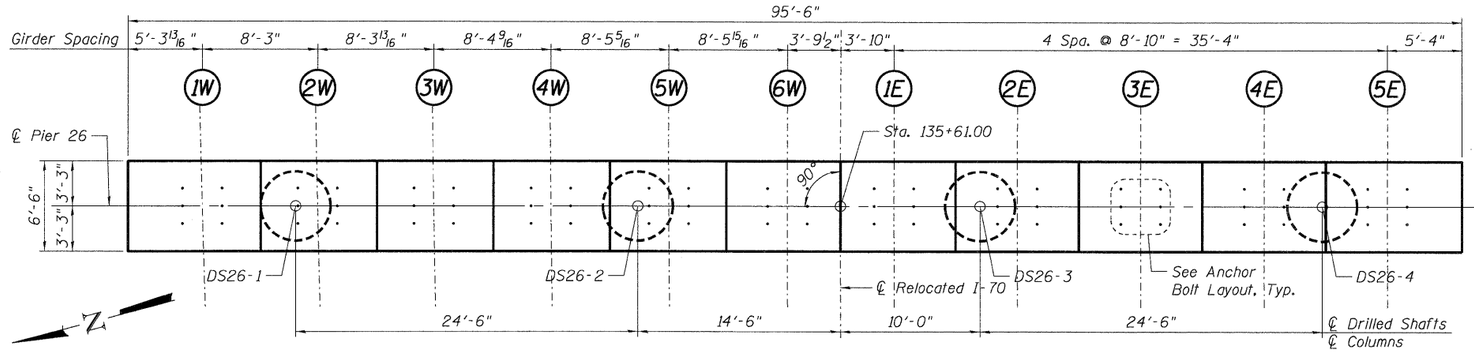
NOTES:

1. Work this sheet with Sht. S-82.
2. The quantities and reinforcement detailing shown are based on the top of shaft and estimated top of rock elevations shown and may change based on the actual elevations encountered at each shaft.
3. The cost of steel pipes, pipe caps and couplers for crosshole sonic logging shall be included in Drilled Shaft in Soil and Drilled Shaft in Rock.
4. v(E) bars in columns shall be placed as shown to provide space for p20(E) bars in cap.
5. For Anchor Bolt and bearing details, see Sht. S-74.

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - MDB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	PIER 25 DETAILS & BAR LIST
		DRAWN - MDB	REVISED -		
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: SHEET NO. S-83 OF S-111 STA. 134+22.00 TO STA.

TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS

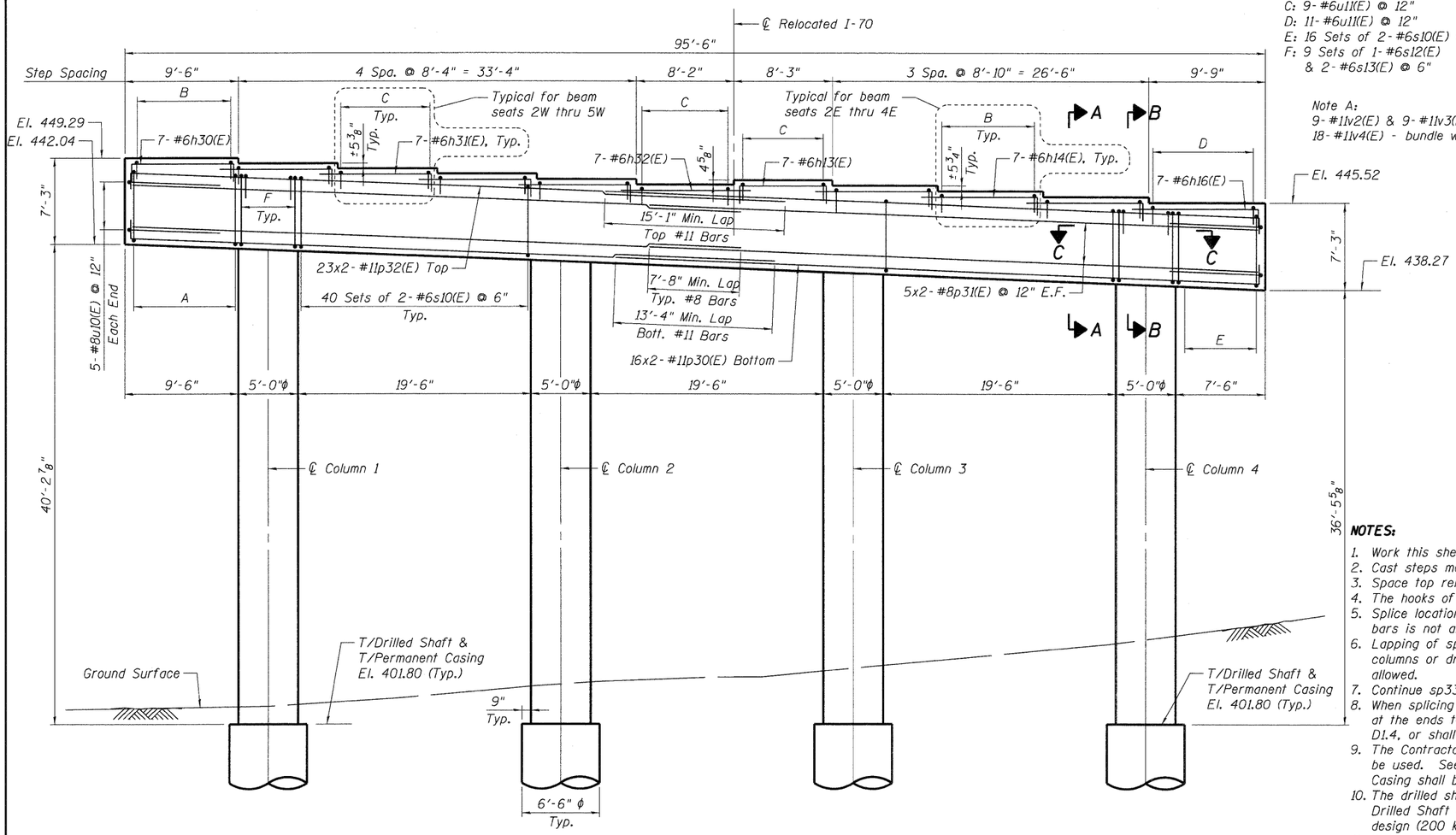
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	193
	SN 082-0318 (EB) & 0319 (WB)	CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PIER 26 PLAN

BEARING SEAT ELEVATIONS

Girder	Elev.
1W	449.29
2W	448.84
3W	448.41
4W	447.96
5W	447.50
6W	447.04
1E	447.42
2E	446.95
3E	446.48
4E	446.00
5E	445.52

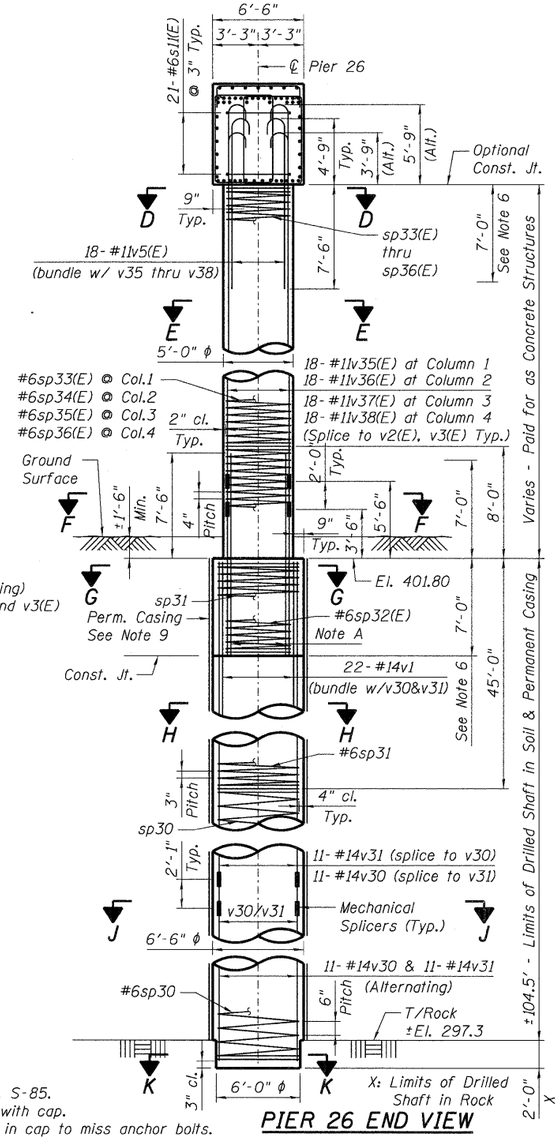


PIER 26 ELEVATION

(Looking East)

A: 20 Sets of 2-#6s10(E) @ 6"
B: 10-#6u11(E) @ 12"
C: 9-#6u11(E) @ 12"
D: 11-#6u11(E) @ 12"
E: 16 Sets of 2-#6s10(E) @ 6"
F: 9 Sets of 1-#6s12(E) & 2-#6s13(E) @ 6"

Note A:
9-#11v2(E) & 9-#11v3(E) (Alternating)
18-#11v4(E) - bundle with v2(E) and v3(E)



PIER 26 END VIEW

NOTES:

1. Work this sheet with Sht. S-85.
2. Cast steps monolithically with cap.
3. Space top reinforcement in cap to miss anchor bolts.
4. The hooks of v35(E) thru v38(E) bars embedded in pier cap shall be oriented inward.
5. 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.
6. 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.
7. Continue sp33(E) thru sp36(E) to bottom of pier cap stirrup bars.
8. When splicing of spiral reinforcement is necessary, the spirals shall be provided with $1\frac{1}{2}$ 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.
9. 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.
10. 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).
11. 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.

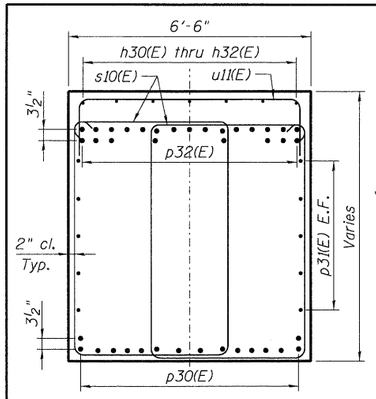
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

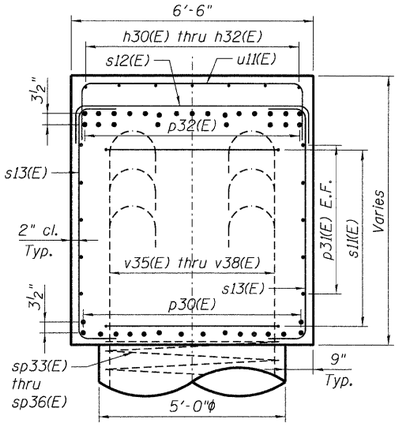
PIER 26 PLAN & ELEVATION

SCALE: | SHEET NO. S-84 OF S-111 | STA. 134+22.00 TO STA.

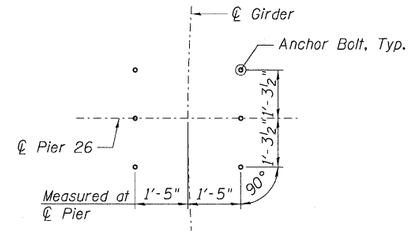
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	194
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



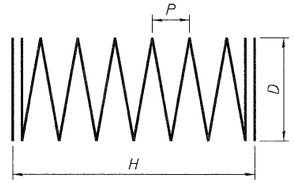
SECTION A-A



SECTION B-B



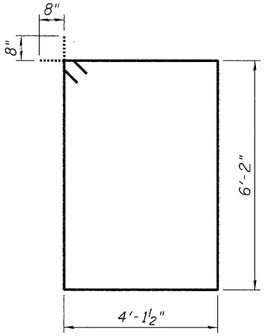
ANCHOR BOLT LAYOUT



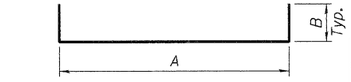
sp30 thru sp36(E) Bars

Bar	H	D	P	Length*
sp30	61'-3"	5'-10"	6"	2,276'
sp31	44'-10"	5'-10"	3"	3,306'
sp32(E)	15'-0"	4'-8"	4"	695'
sp33(E)	31'-11"	4'-8"	4"	1,429'
sp34(E)	31'-0"	4'-8"	4"	1,389'
sp35(E)	30'-0"	4'-8"	4"	1,346'
sp36(E)	29'-0"	4'-8"	4"	1,302'

* For Information Only - length calculated as continuous bar (ignoring splices).

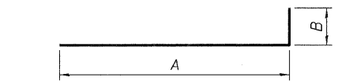


s10(E) Bars



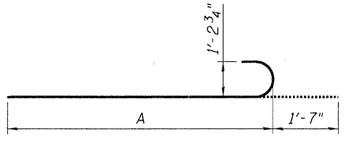
h30(E), h13(E), s12(E), s13(E), u10(E), u11(E) Bars

Bar	A	B	Length
h30(E)	9'-2"	1'-6"	12'-2"
h13(E)	7'-11"	1'-6"	10'-11"
s12(E)	6'-2"	1'-0"	8'-2"
s13(E)	6'-2"	1'-0"	8'-2"
u10(E)	6'-0"	7'-9"	21'-6"
u11(E)	6'-2"	1'-6"	9'-2"



h31(E), h14(E), h16(E), p30(E), p32(E) Bars

Bar	A	B	Length
h31(E)	9'-8"	1'-6"	11'-2"
h14(E)	10'-2"	1'-6"	11'-8"
h16(E)	11'-1"	1'-6"	12'-7"
p30(E)	54'-3"	2'-0"	56'-3"
p32(E)	55'-1"	2'-0"	57'-1"



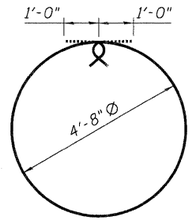
v35(E) - v38(E) & v5(E) Bars

Bar	A	Length
v35(E)	40'-0"	41'-7"
v36(E)	39'-1"	40'-8"
v37(E)	38'-1"	39'-8"
v38(E)	37'-1"	38'-8"
v5(E)	12'-3"	13'-10"

PIER 26 BAR LIST

Bar	No.	Size	Length	Shape
h30(E)	7	#6	12'-2"	
h31(E)	28	#6	11'-2"	
h32(E)	7	#6	11'-2"	
h13(E)	7	#6	10'-11"	
h14(E)	21	#6	11'-8"	
h16(E)	7	#6	12'-7"	
p30(E)	32	#11	56'-3"	
p31(E)	20	#8	51'-5"	
p32(E)	46	#11	57'-1"	
s10(E)	312	#6	21'-11"	
s11(E)	84	#6	16'-8"	
s12(E)	36	#6	8'-2"	
s13(E)	72	#6	8'-2"	
sp30	4	#6	61'-3"	*
sp31	4	#6	44'-10"	*
sp32(E)	4	#6	15'-0"	*
sp33(E)	1	#6	31'-11"	*
sp34(E)	1	#6	31'-0"	*
sp35(E)	1	#6	30'-0"	*
sp36(E)	1	#6	29'-0"	*
u10(E)	10	#8	21'-6"	
u11(E)	105	#6	9'-2"	
v30	88	#14	52'-0"	
v31	88	#14	54'-1"	
v1	88	#14	38'-10"	
v2(E)	36	#11	10'-6"	
v3(E)	36	#11	12'-6"	
v4(E)	72	#11	14'-6"	
v35(E)	18	#11	41'-7"	
v36(E)	18	#11	40'-8"	
v37(E)	18	#11	39'-8"	
v38(E)	18	#11	38'-8"	
v5(E)	72	#11	13'-10"	

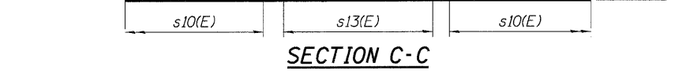
* Length is height of spiral



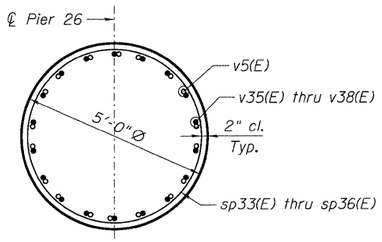
s11(E) Bars

PIER 26 BILL OF MATERIAL

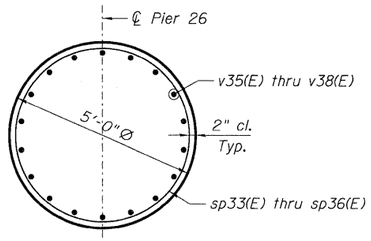
Item	Unit	Total
Structure Excavation	Cu. Yd.	145
Concrete Structures	Cu. Yd.	277.6
Reinforcement Bars	Pound	131,090
Reinforcement Bars, Epoxy Coated	Pound	86,280
Permanent Casing	Foot	418
Drilled Shaft in Soil	Cu. Yd.	514
Drilled Shaft in Rock	Cu. Yd.	9
Mechanical Splicers	Each	160
Crosshole Sonic Logging	Each	1



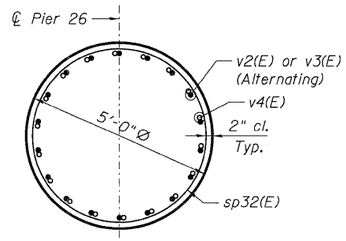
SECTION C-C



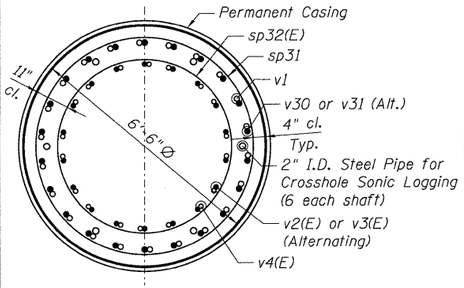
SECTION D-D



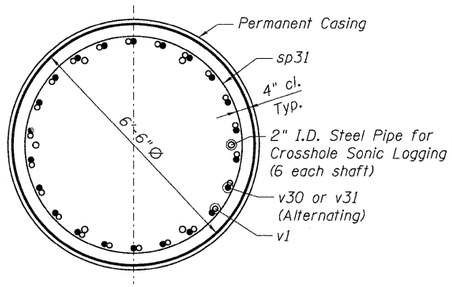
SECTION E-E



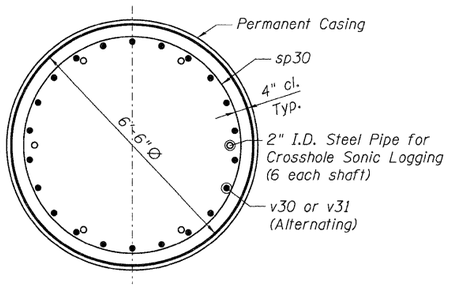
SECTION F-F



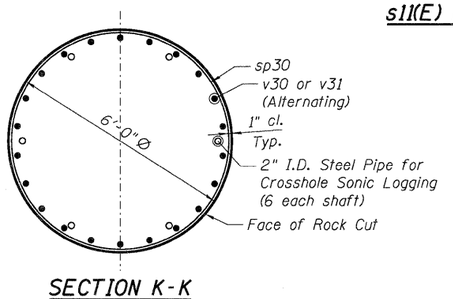
SECTION G-G



SECTION H-H



SECTION J-J

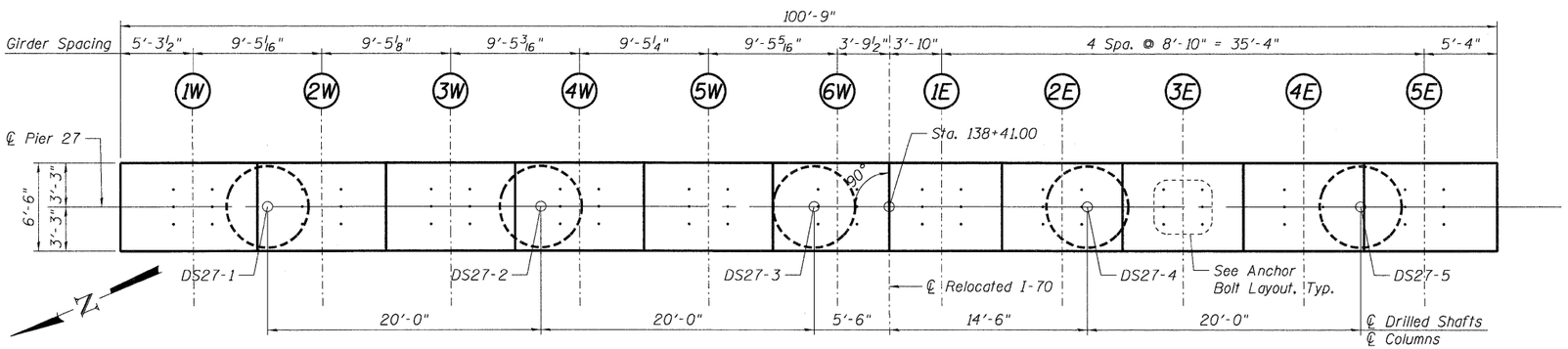


SECTION K-K

NOTES:

1. Work this sheet with Sht. S-84.
2. The quantities and reinforcement detailing shown are based on the top of shaft and estimated top of rock elevations shown and may change based on the actual elevations encountered at each shaft.
3. The cost of steel pipes, pipe caps and couplers for crosshole sonic logging shall be included in Drilled Shaft in Soil and Drilled Shaft in Rock.
4. v(E) bars in columns shall be placed as shown to provide space for p30(E) bars in cap.
5. For Anchor Bolt and bearing details, see Sht. S-74.

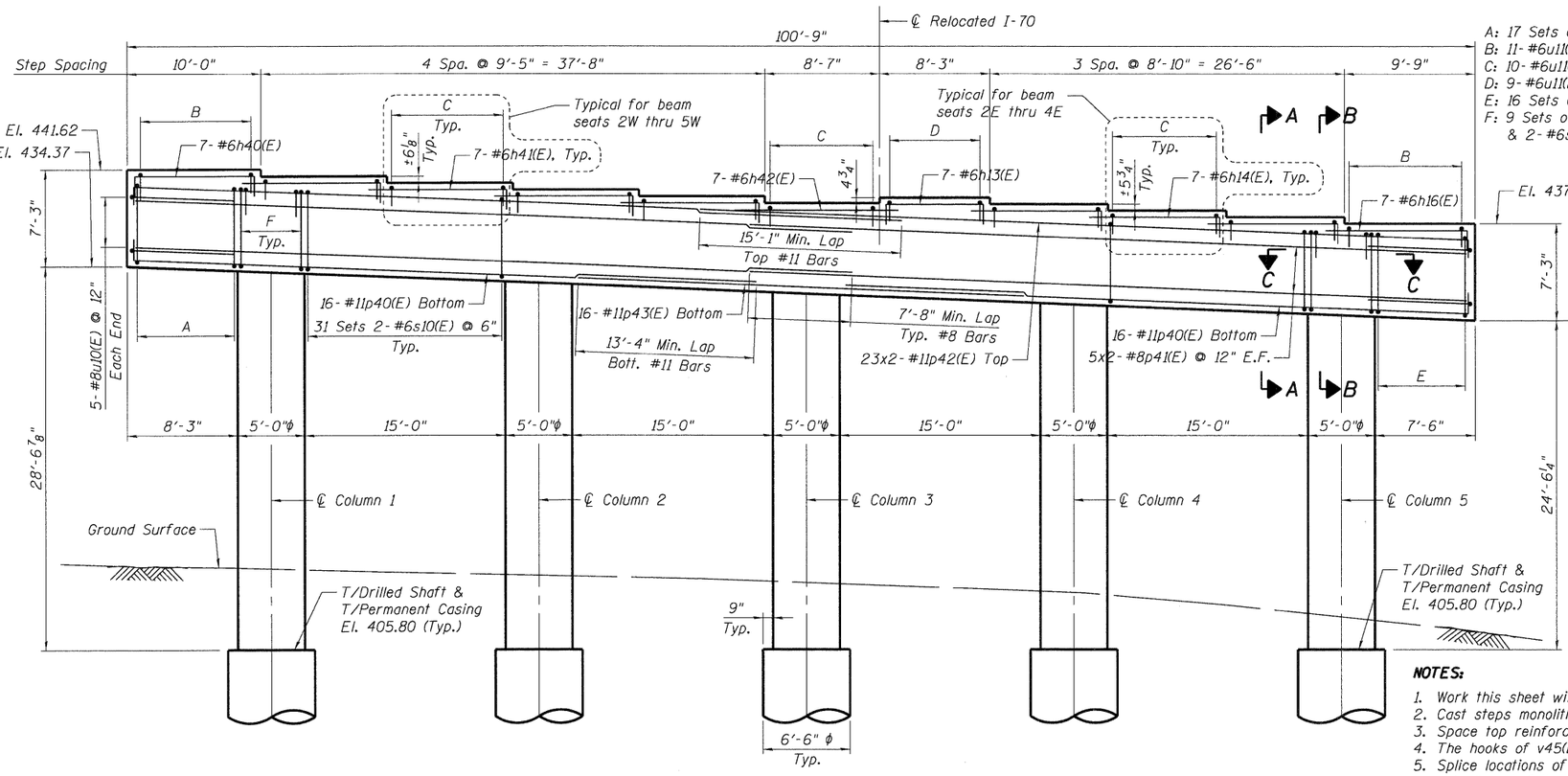
FILE NAME = $FILE$ | USER NAME = $USER$ | PLOT SCALE = $SCALE$ | PLOT DATE = $DATE$
DESIGNED - MDB | DRAWN - MDB | CHECKED - TCU | DATE - 06/04/10
REVISED - | REVISED - | REVISED - | REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.
PIER 26 DETAILS & BAR LIST
SCALE: | SHEET NO. S-85 OF S-111 | STA. 134+22.00 TO STA.
F.A.P. RTE. 998 | SECTION 82-2-1HVB | COUNTY ST. CLAIR | TOTAL SHEETS 285 | SHEET NO. 195
SN 082-0318 (EB) & 0319 (WB) | CONTRACT NO. 76C44
FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT



PIER 27 PLAN

BEARING SEAT ELEVATIONS

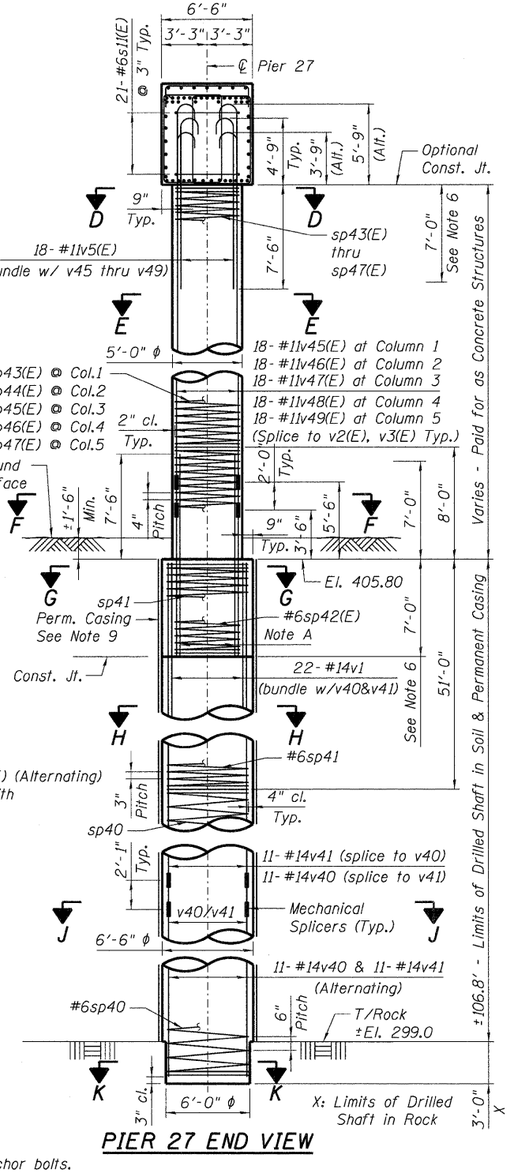
Girder	Elev.
1W	441.62
2W	441.11
3W	440.61
4W	440.10
5W	439.59
6W	439.08
1E	439.48
2E	439.01
3E	438.54
4E	438.05
5E	437.57



PIER 27 ELEVATION

(Looking East)

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"



Note A:
9-#11v2(E) & 9-#11v3(E) (Alternating)
18-#11v4(E) - bundle with v2(E) and v3(E)

PIER 27 END VIEW

NOTES:

1. Work this sheet with Sht. S-87.
2. Cast steps monolithically with cap.
3. Space top reinforcement in cap to miss anchor bolts.
4. The hooks of v45(E) thru v49(E) bars embedded in pier cap shall be oriented inward.
5. 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.
6. 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.
7. Continue sp43(E) thru sp47(E) to bottom of pier cap stirrup bars.
8. When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ 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.
9. 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.
10. 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).
11. 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.

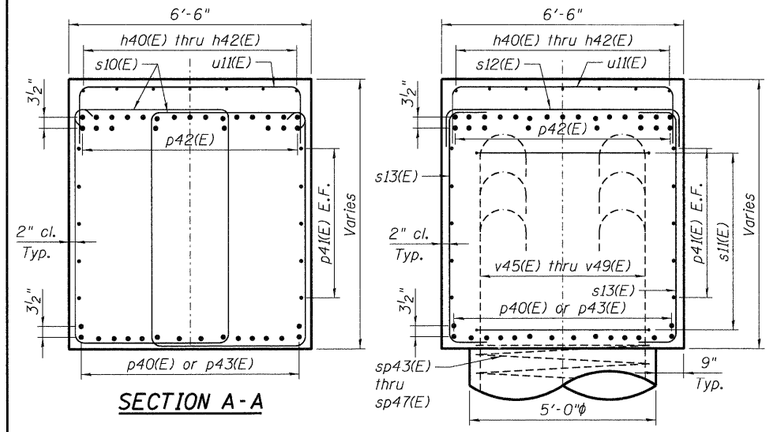
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PIER 27 PLAN & ELEVATION

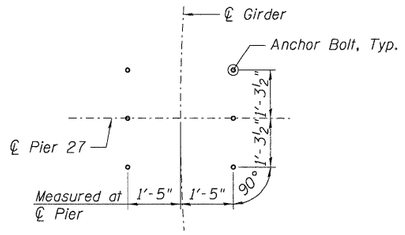
SCALE: | SHEET NO. S-86 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	196
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

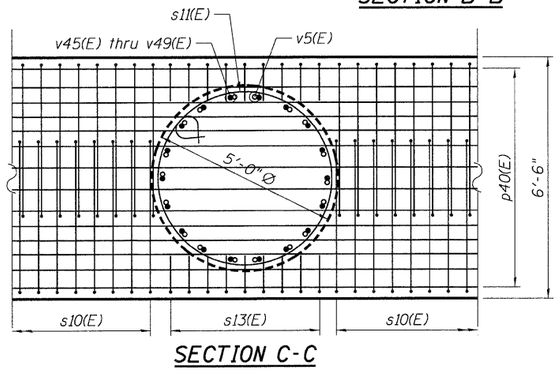


SECTION A-A

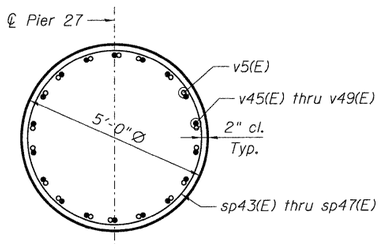
SECTION B-B



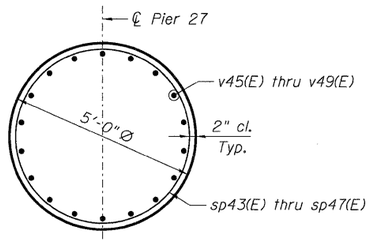
ANCHOR BOLT LAYOUT



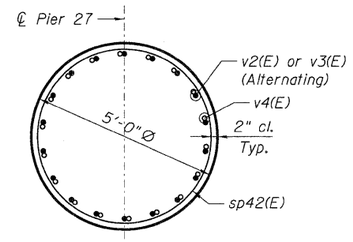
SECTION C-C



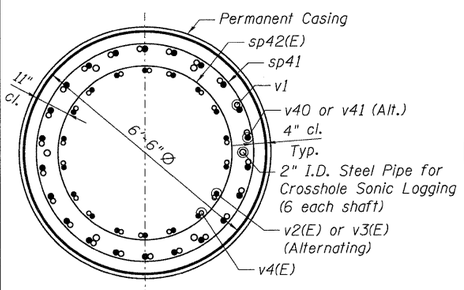
SECTION D-D



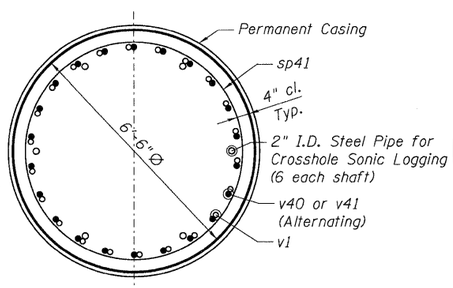
SECTION E-E



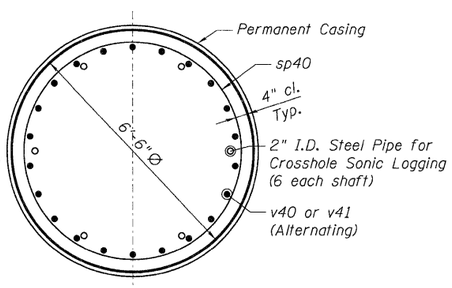
SECTION F-F



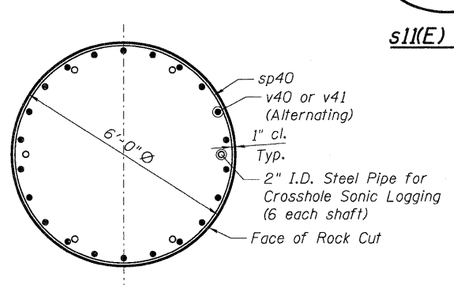
SECTION G-G



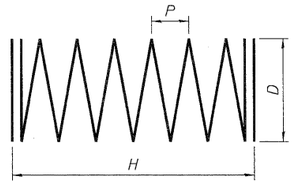
SECTION H-H



SECTION J-J



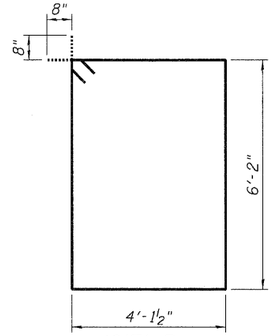
SECTION K-K



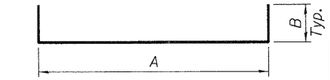
sp40 thru sp47(E) Bars

Bar	H	D	P	Length*
sp40	58'-7"	5'-10"	6"	2,179'
sp41	50'-10"	5'-10"	3"	3,741'
sp42(E)	15'-0"	4'-8"	4"	695'
sp43(E)	20'-4"	4'-8"	4"	926'
sp44(E)	19'-6"	4'-8"	4"	890'
sp45(E)	18'-9"	4'-8"	4"	858'
sp46(E)	17'-11"	4'-8"	4"	821'
sp47(E)	17'-1"	4'-8"	4"	785'

* For Information Only - length calculated as continuous bar (ignoring splices).

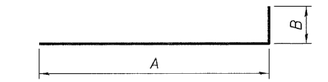


s10(E) Bars



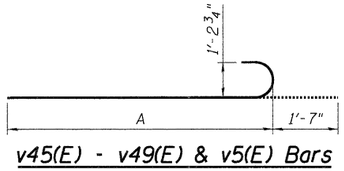
h40(E), h13(E), s12(E), s13(E), u10(E), u11(E) Bars

Bar	A	B	Length
h40(E)	9'-8"	1'-6"	12'-8"
h13(E)	7'-11"	1'-6"	10'-11"
s12(E)	6'-2"	1'-0"	8'-2"
s13(E)	6'-2"	1'-0"	8'-2"
u10(E)	6'-0"	7'-9"	21'-6"
u11(E)	6'-2"	1'-6"	9'-2"



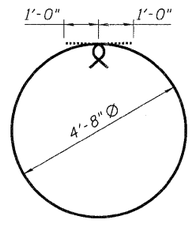
h41(E), h14(E), h16(E), p40(E), p42(E) Bars

Bar	A	B	Length
h41(E)	10'-9"	1'-6"	12'-3"
h14(E)	10'-2"	1'-6"	11'-8"
h16(E)	11'-1"	1'-6"	12'-7"
p40(E)	46'-10"	2'-0"	48'-10"
p42(E)	57'-9"	2'-0"	59'-9"



v45(E) - v49(E) & v5(E) Bars

Bar	A	Length
v45(E)	28'-5"	30'-0"
v46(E)	27'-7"	29'-2"
v47(E)	26'-10"	28'-5"
v48(E)	26'-0"	27'-7"
v49(E)	25'-2"	26'-9"
v5(E)	12'-3"	13'-10"



s11(E) Bars

PIER 27 BAR LIST

Bar	No.	Size	Length	Shape
h40(E)	7	#6	12'-8"	
h41(E)	28	#6	12'-3"	
h42(E)	7	#6	11'-7"	
h13(E)	7	#6	10'-11"	
h14(E)	21	#6	11'-8"	
h16(E)	7	#6	12'-7"	
p40(E)	32	#11	48'-10"	
p41(E)	20	#8	54'-0"	
p42(E)	46	#11	59'-9"	
p43(E)	16	#11	33'-4"	
s10(E)	314	#6	21'-11"	
s11(E)	105	#6	16'-8"	
s12(E)	45	#6	8'-2"	
s13(E)	90	#6	8'-2"	
sp40	5	#6	58'-7"	*
sp41	5	#6	50'-10"	*
sp42(E)	5	#6	15'-0"	*
sp43(E)	1	#6	20'-4"	*
sp44(E)	1	#6	19'-6"	*
sp45(E)	1	#6	18'-9"	*
sp46(E)	1	#6	17'-11"	*
sp47(E)	1	#6	17'-1"	*
u10(E)	10	#8	21'-6"	
u11(E)	111	#6	9'-2"	
v40	110	#14	53'-8"	
v41	110	#14	55'-9"	
v1	110	#14	38'-10"	
v2(E)	45	#11	10'-6"	
v3(E)	45	#11	12'-6"	
v4(E)	90	#11	14'-6"	
v45(E)	18	#11	30'-0"	
v46(E)	18	#11	29'-2"	
v47(E)	18	#11	28'-5"	
v48(E)	18	#11	27'-7"	
v49(E)	18	#11	26'-9"	
v5(E)	90	#11	13'-10"	

* Length is height of spiral

PIER 27 BILL OF MATERIAL

Item	Unit	Total
Structure Excavation	Cu. Yd.	164
Concrete Structures	Cu. Yd.	271.2
Reinforcement Bars	Pound	169,210
Reinforcement Bars, Epoxy Coated	Pound	90,990
Permanent Casing	Foot	534
Drilled Shaft in Soil	Cu. Yd.	657
Drilled Shaft in Rock	Cu. Yd.	16
Mechanical Splicers	Each	200
Crosshole Sonic Logging	Each	1

NOTES:

1. Work this sheet with Sht. S-86.
2. The quantities and reinforcement detailing shown are based on the top of shaft and estimated top of rock elevations shown and may change based on the actual elevations encountered at each shaft.
3. The cost of steel pipes, pipe caps and couplers for crosshole sonic logging shall be included in Drilled Shaft in Soil and Drilled Shaft in Rock.
4. v(E) bars in columns shall be placed as shown to provide space for p40(E) bars in cap.
5. For Anchor Bolt and bearing details, see Sht. S-74.

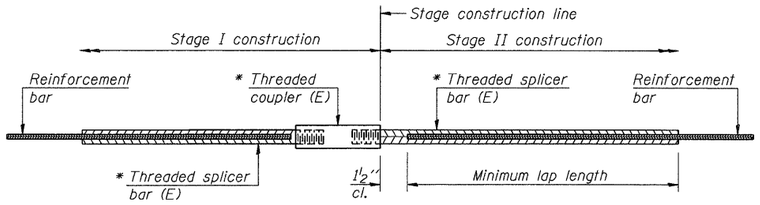
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - MDB	REVISED -
		DRAWN - MDB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

PIER 27 DETAILS & BAR LIST

SCALE: | SHEET NO. S-87 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	197
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

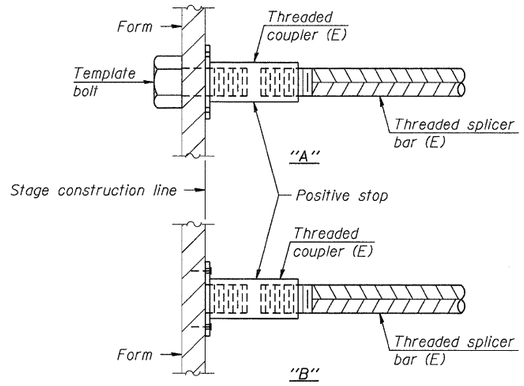
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

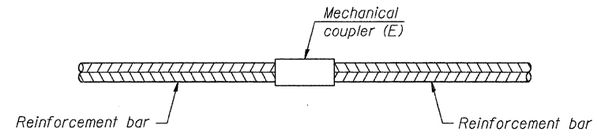
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



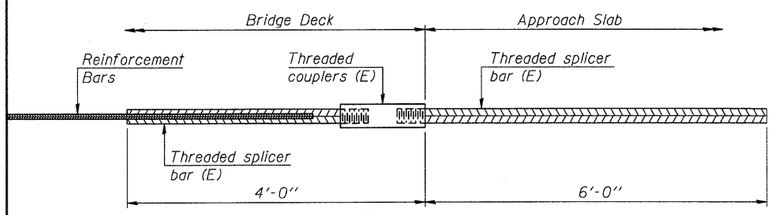
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



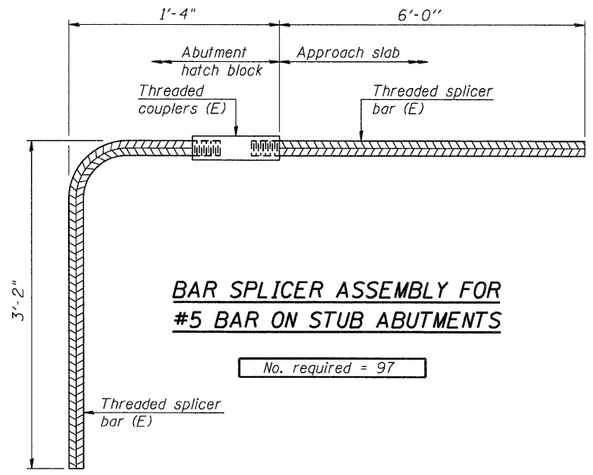
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 24	#14	88
	#11	72
Pier 25	#14	88
	#11	72
Pier 26	#14	88
	#11	72
Pier 27	#14	110
	#11	90



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 97

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

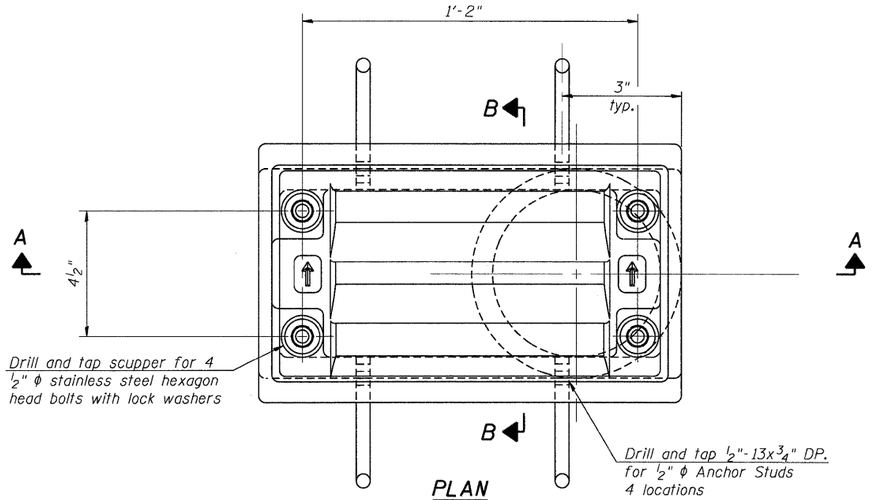
See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

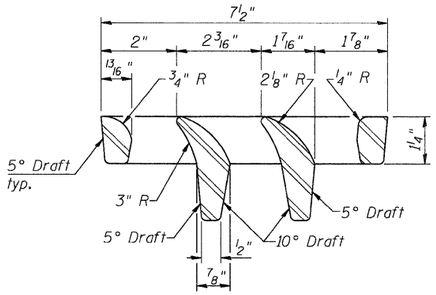
BSD-1

11-1-09

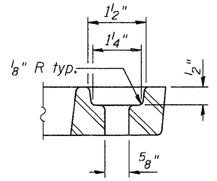
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION I-70 CONNECTION OVER NS, TRRA, MCT AND INDUSTRIAL DR.	BAR SPLICER DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CPB	REVISED -			998	82-2-1HVB	ST. CLAIR	285	198
TENG TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - JLR	REVISED -			SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -		SCALE: SHEET NO. S-88 OF S-111 STA. 134+22.00 TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

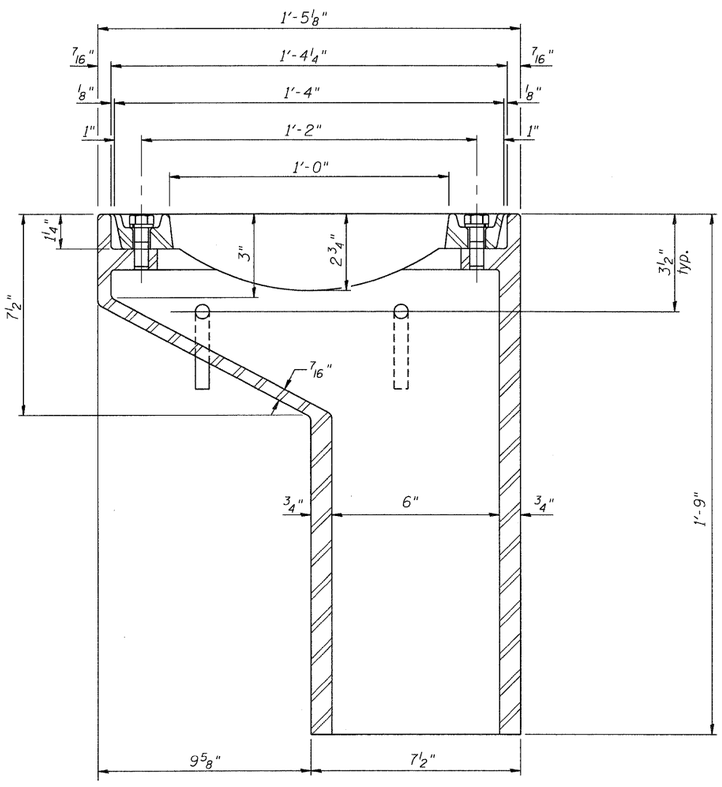
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

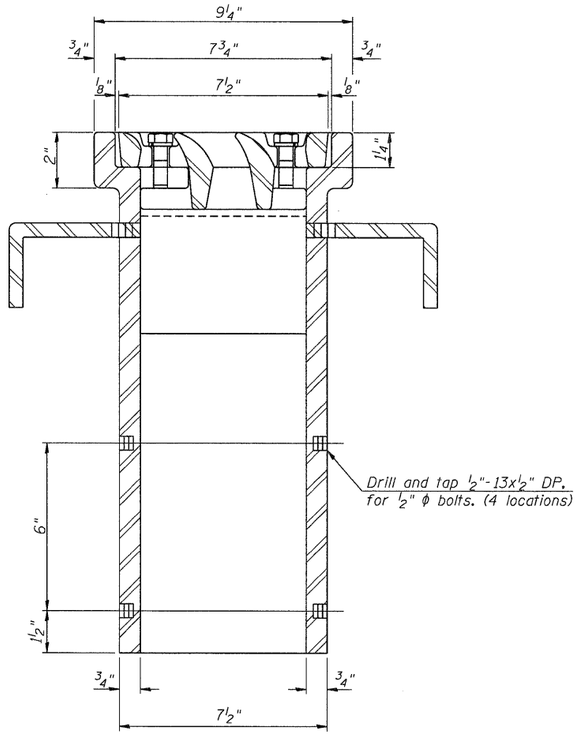
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

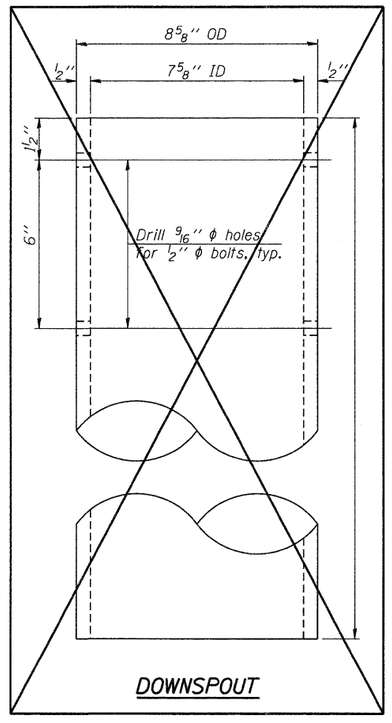


SECTION A-A

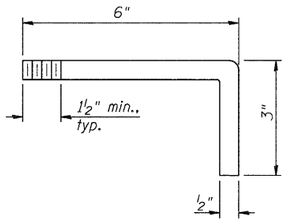
See sheet of for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	20

DS-11

11-1-09

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - JLR	REVISED -
		DRAWN - CPB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - JLR	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

DRAINAGE SCUPPER DS-11

SCALE: | SHEET NO. S-89 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	199
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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BONHAJO
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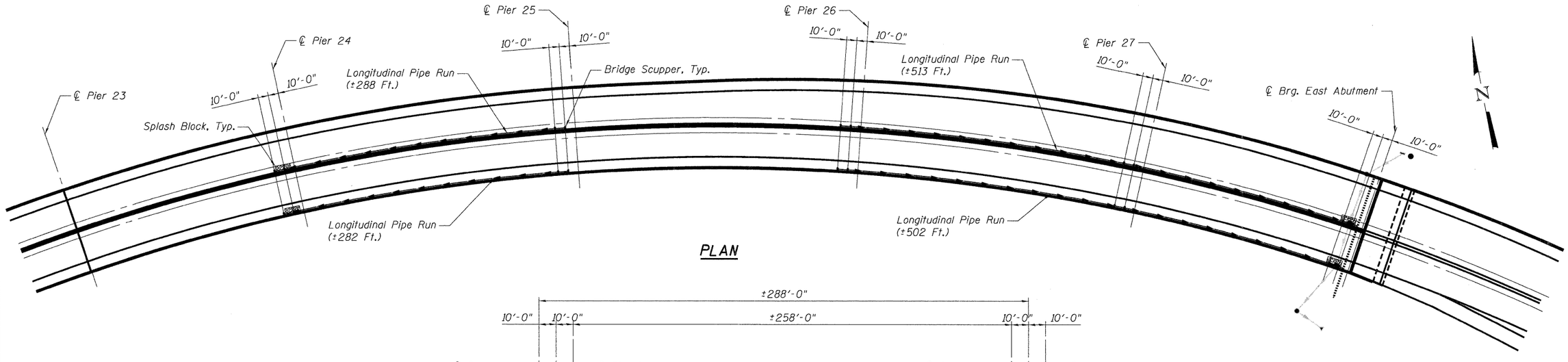

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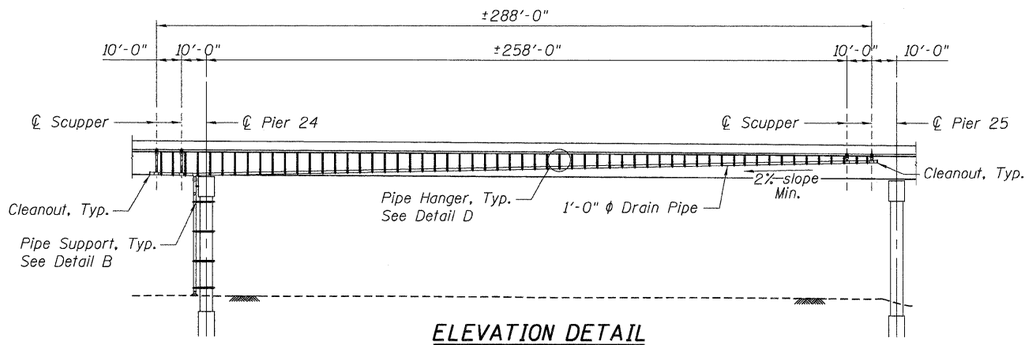
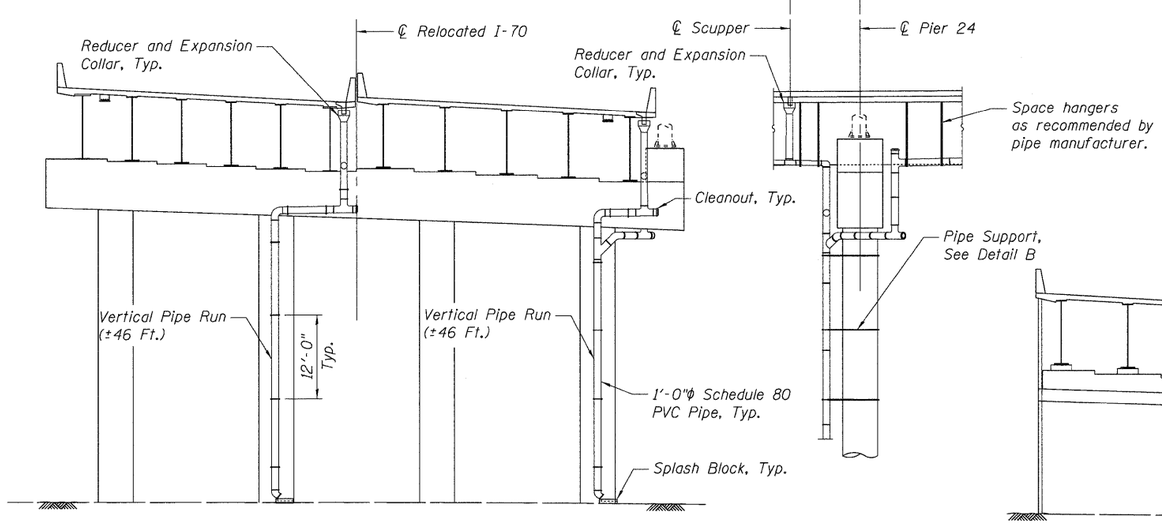


ELEVATION DETAIL

(Looking North, WB Pipe Run shown)

NOTES:

1. Work this sheet with Sheet S-91.
2. Pipe hangers shall be provided on all horizontal collector pipes at each tee, elbow, or change in direction and at intermediate points as recommended by pipe manufacturer. Collector pipe hangers shall have a load capacity of not less than 2000 lbs. and shall be designed so as not to apply excessive compressive stress to the pipe. Pipe supports shall be provided on all vertical drain pipes at points not more than 12'-0" on centers.

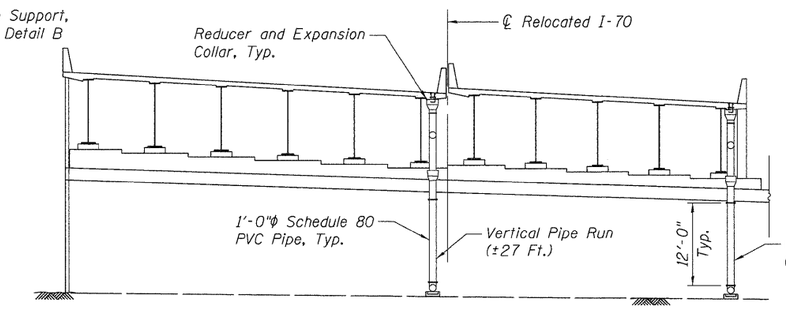


ELEVATION - PIER 24

(Looking East)

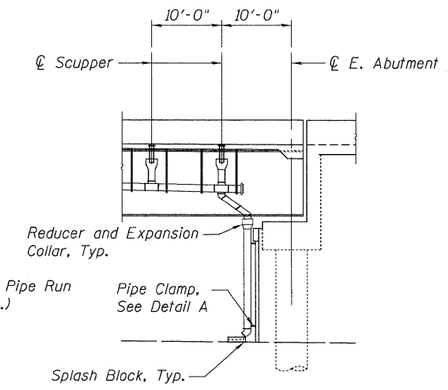
END VIEW - PIER 24

(Looking North)



ELEVATION - EAST ABUTMENT

(Looking East)



END VIEW - EAST ABUTMENT

(Looking North)

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - TKL	REVISED -
		DRAWN - CPB	REVISED -
TENG & ASSOCIATES, INC. ENGINEERS/ARCHITECTS/PLANNERS CHICAGO, ILLINOIS	PLOT SCALE = $SCALE$	CHECKED - TCU	REVISED -
	PLOT DATE = $DATE$	DATE - 06/04/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
I-70 CONNECTION OVER
NS, TRRA, MCT AND INDUSTRIAL DR.

BRIDGE DRAINAGE SYSTEM

SCALE: | SHEET NO. S-90 OF S-111 | STA. 134+22.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-2-1HVB	ST. CLAIR	285	200
SN 082-0318 (EB) & 0319 (WB)		CONTRACT NO. 76C44		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		