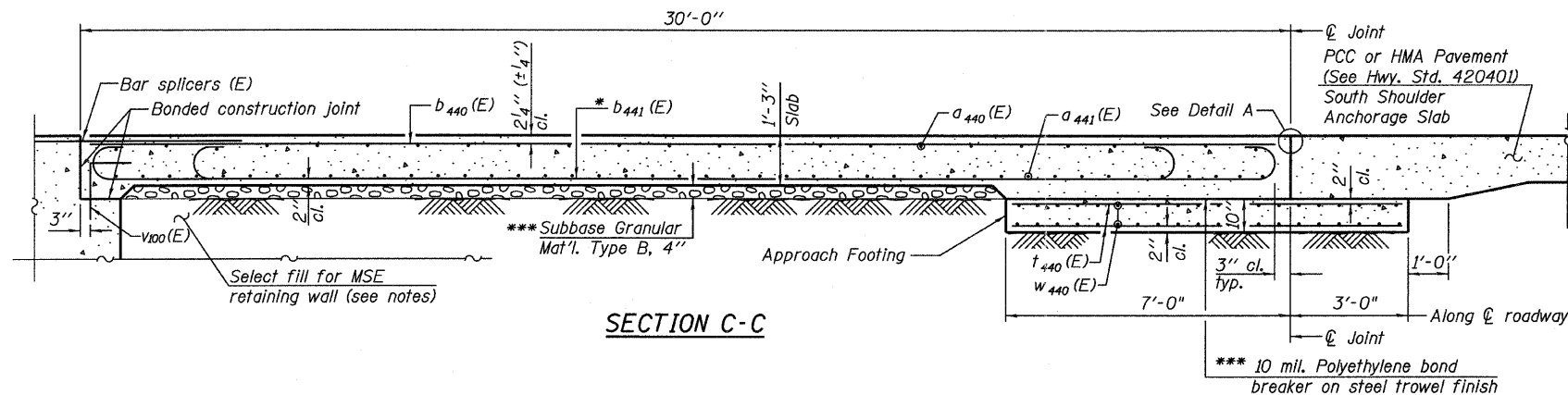


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



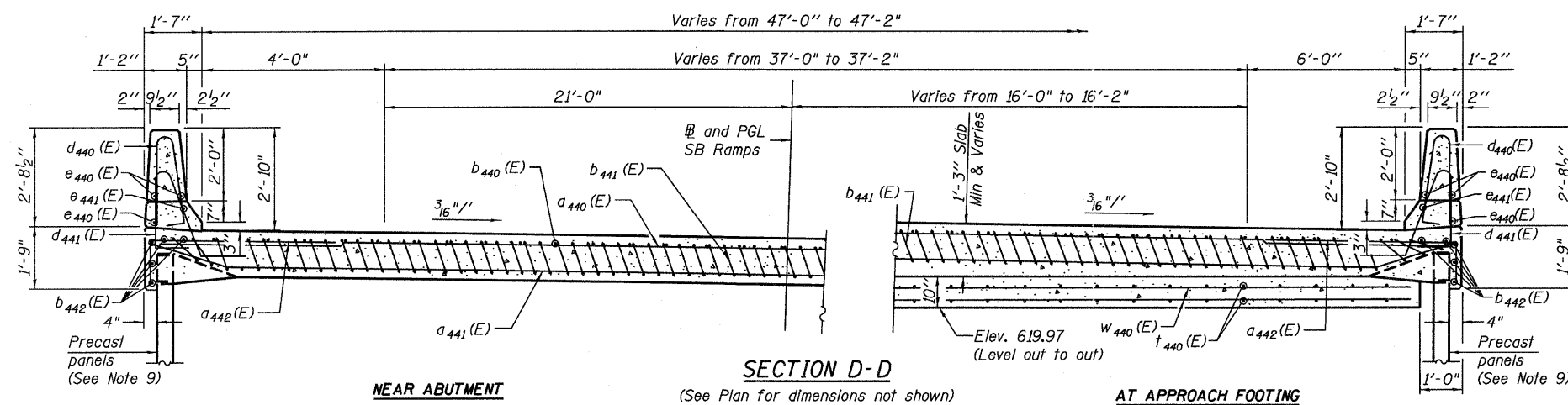
SECTION C-C

Notes:

1. See sheet 76 for Detail A.
2. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For $v_{100}(E)$ bar details, see sheet 220.
6. The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
7. For bar splicer details, see sheet 224.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For MSE Retaining Wall details (S.N. 016-1307), See sheets 593-603 of 741.

The quantity for Bridge Deck Grooving & Protective Coat for approach slab is included with the quantities on sheet 58.

- * Tilt #9 $b_{441}(E)$ bars as required to maintain clearance.
- *** Cost included with Concrete Superstructure.

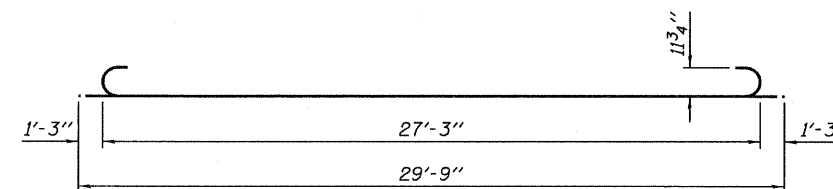


SECTION D-D

NEAR ABUTMENT

(See Plan for dimensions not shown)

AT APPROACH FOOTING

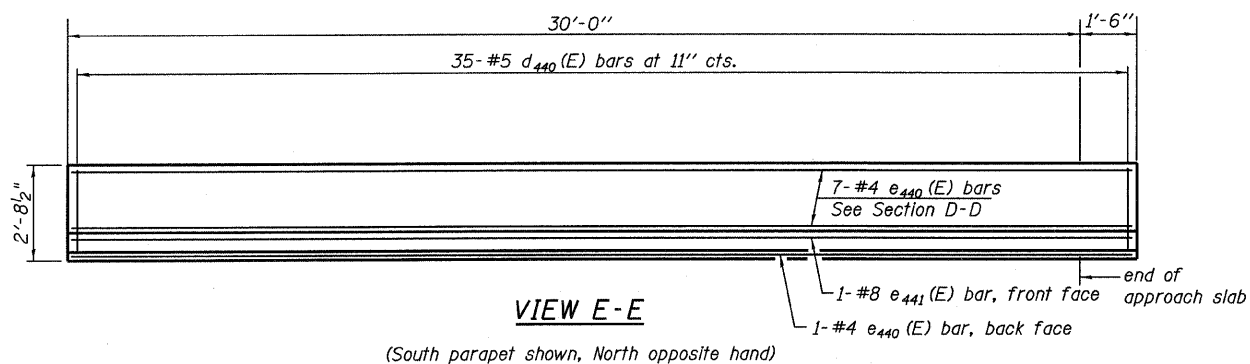


BAR $b_{441}(E)$

BILL OF MATERIAL

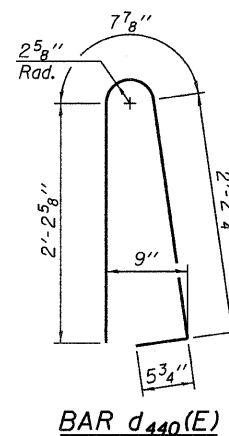
Bar	No.	Size	Length	Shape
$d_{440}(E)$	50	#4	26'-7"	—
$a_{441}(E)$	92	#5	26'-11"	—
$a_{442}(E)$	50	#6	7'-8"	—
$b_{440}(E)$	38	#4	29'-8"	—
$b_{441}(E)$	121	#9	29'-9"	—
$b_{442}(E)$	10	#5	31'-2"	—
$d_{440}(E)$	70	#5	5'-7"	Δ
$d_{441}(E)$	66	#5	6'-11"	Δ
$e_{440}(E)$	16	#4	31'-2"	—
$e_{441}(E)$	2	#8	31'-2"	—
$t_{440}(E)$	98	#4	9'-9"	—
$w_{440}(E)$	80	#5	25'-9"	—
Concrete Superstructure			Cu. Yd.	81.4
Concrete Structures			Cu. Yd.	14.9
(1.) Reinforcement Bars, Epoxy Coated			Pound	21,550

(1.) 2,790 pounds billed in Substructure
Total in Total Bill of Material on sheet 2.

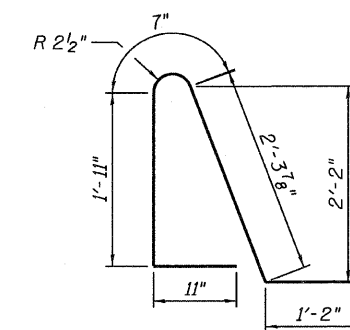


VIEW E-E

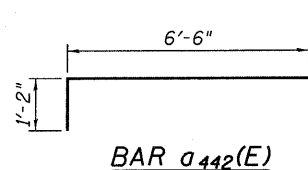
(South parapet shown, North opposite hand)



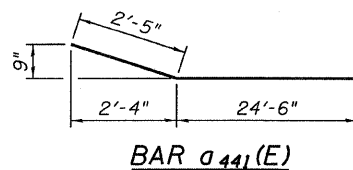
BAR $d_{440}(E)$



BAR $d_{441}(E)$



BAR $a_{442}(E)$



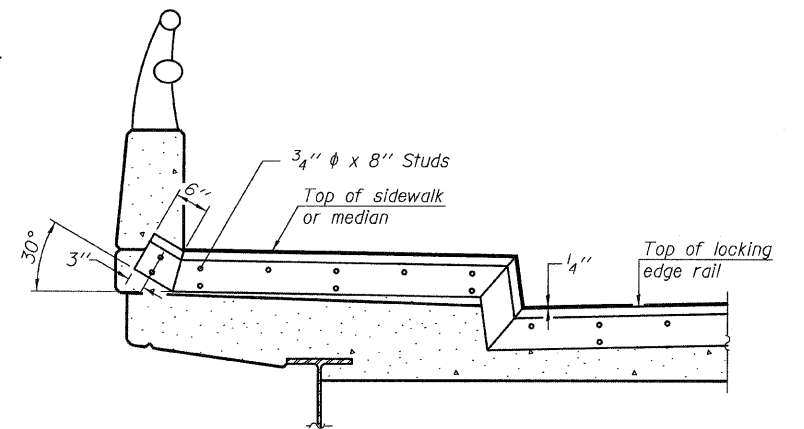
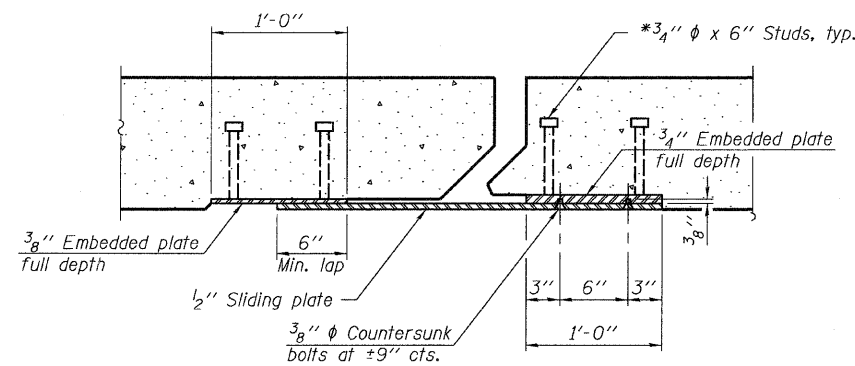
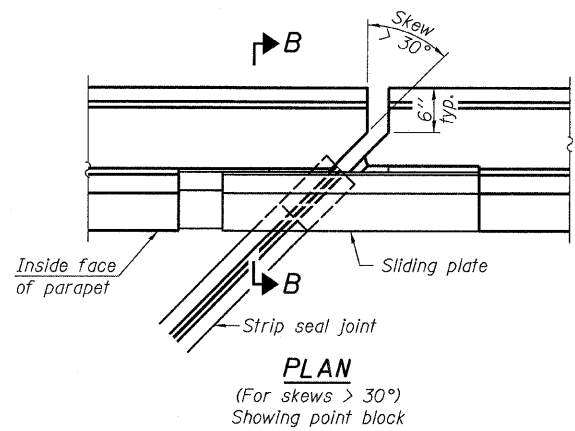
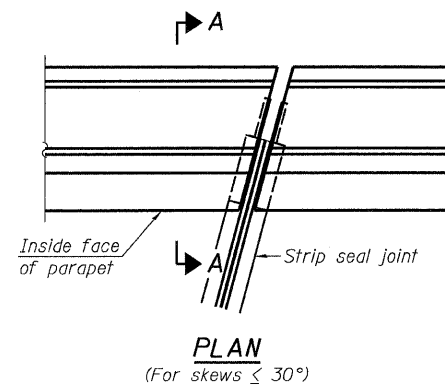
BAR $a_{441}(E)$

(Sheet 2 of 2)
RAMP 4 APPROACH SLAB DETAILS
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - CBS	REVISIONS		SHEET NO. 77	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,MMB	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	401
	DRAWN - CBS				CONTRACT NO. 60999					
	CHECKED - AMD,MMB				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
DATE - 03/25/2011										

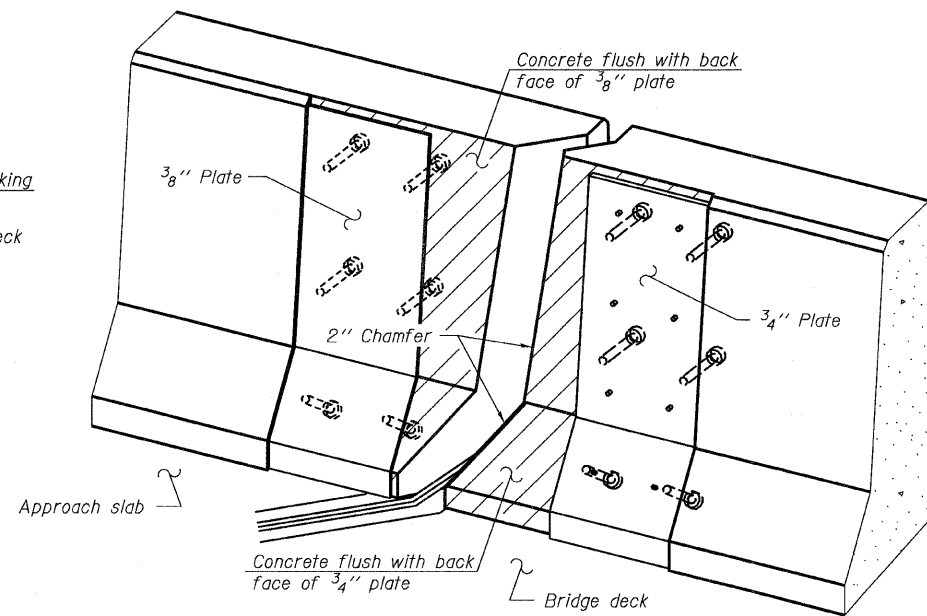
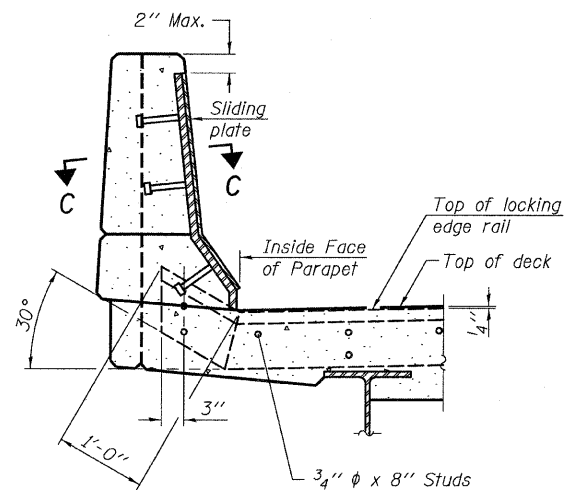
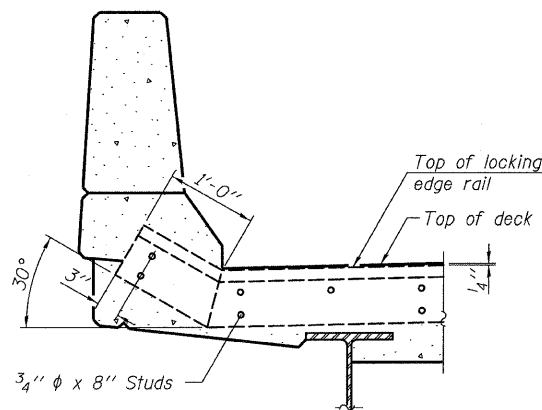
4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

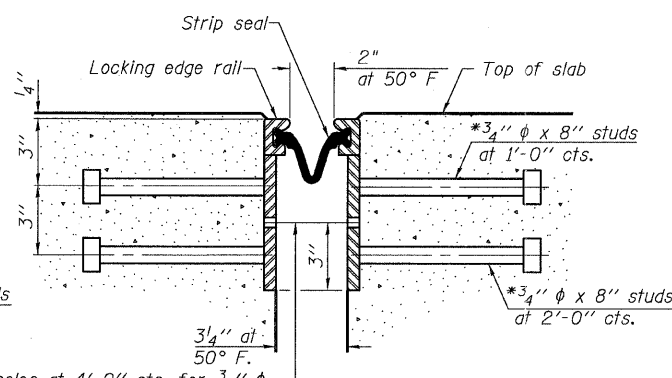
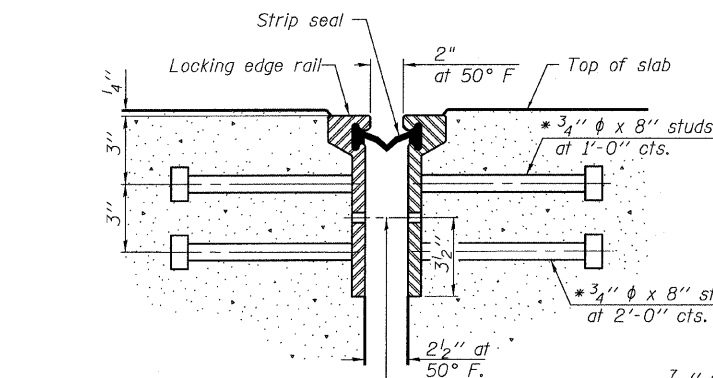


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

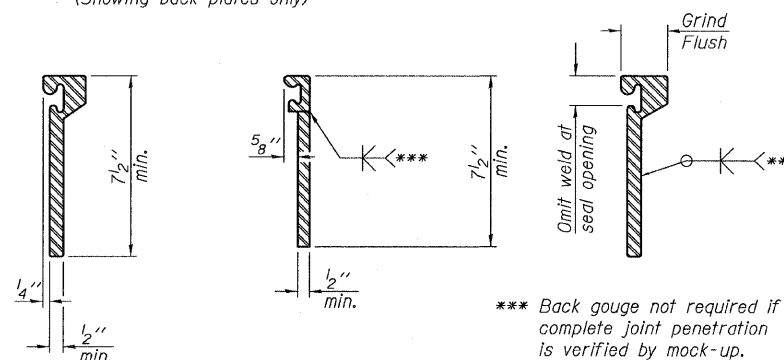


Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
The manufacturer's recommended installation methods shall be followed.
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.
Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.



*** Back gauge not required if complete joint penetration is verified by mock-up.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	350

PREFORMED JOINT STRIP SEAL

CENTRAL/I-55

STRUCTURE NO. 016-0724

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

EJ-SSJ

7-1-10

TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 78	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 402
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

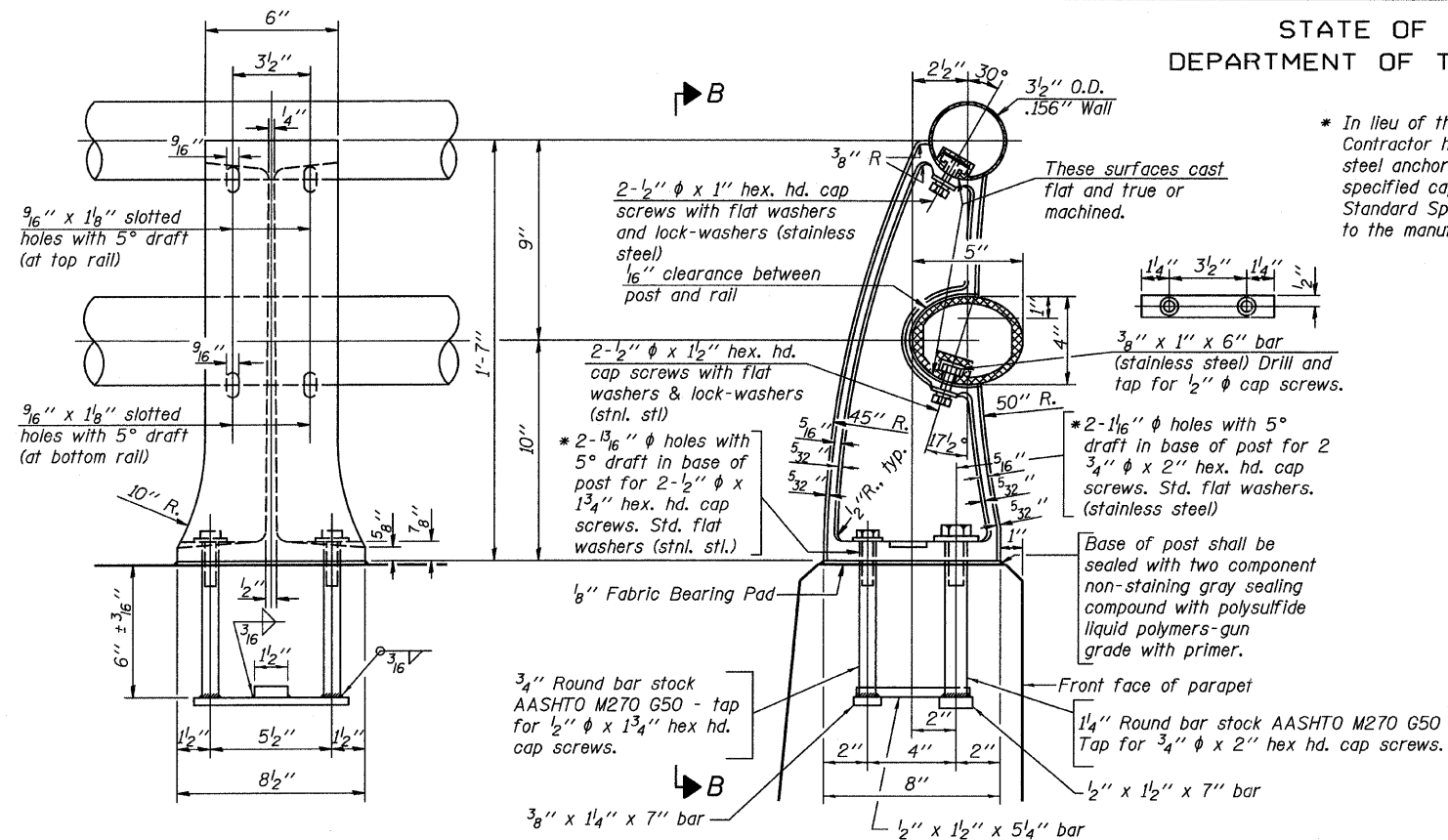
4/28/2011

pl:\01345\structure\c2 Central Ave. 016-0724\155c2e.tbl

12:02:30 PM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

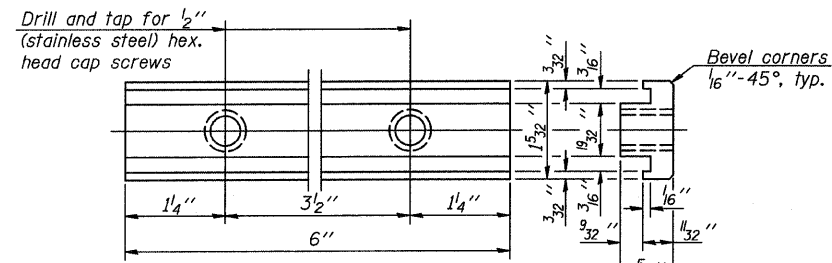
* In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



VIEW B-B

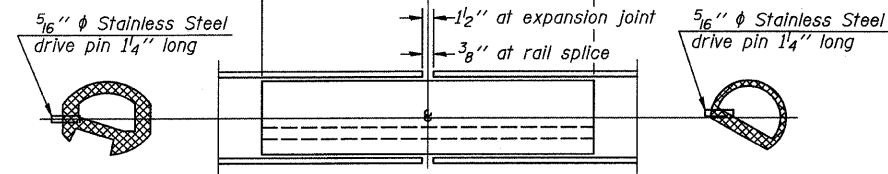
RAIL POST DETAILS

SECTION A-A



RAIL POST CLAMP BAR

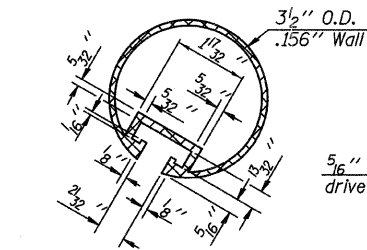
For Top Rail



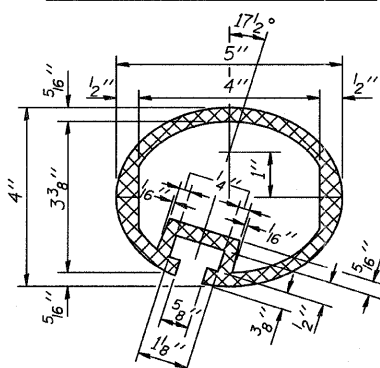
RAIL SPLICE

R-20

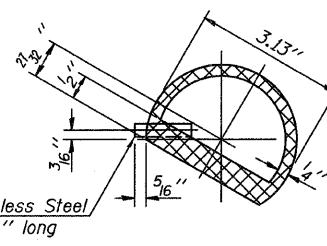
7-1-10 (7'-0" to 10'-0" Post spacing)



SECTION THRU TOP RAIL

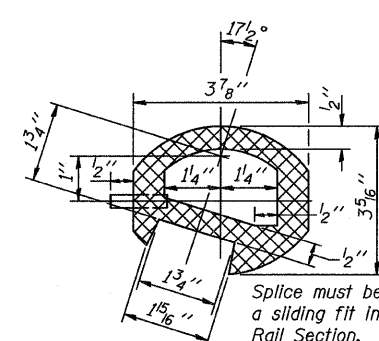


SEC. THRU ELLIPTICAL RAIL SECTION

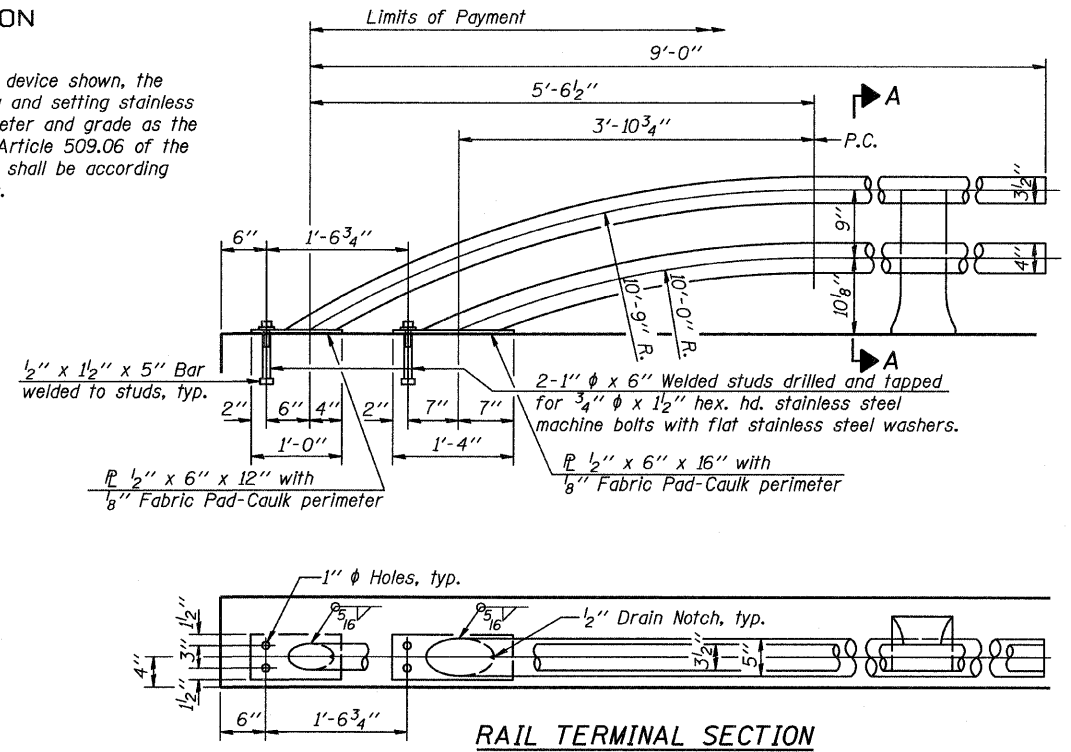


SECTION THRU SPLICE

For Top Rail

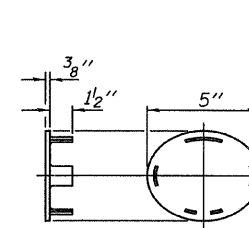


SEC. THRU SPLICE



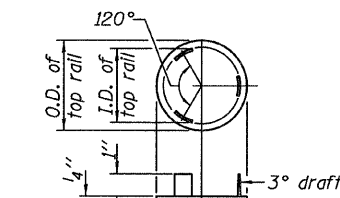
RAIL TERMINAL SECTION

Note:
The end rail post shall be set back as required for the terminal rail section.



CAST END CAP

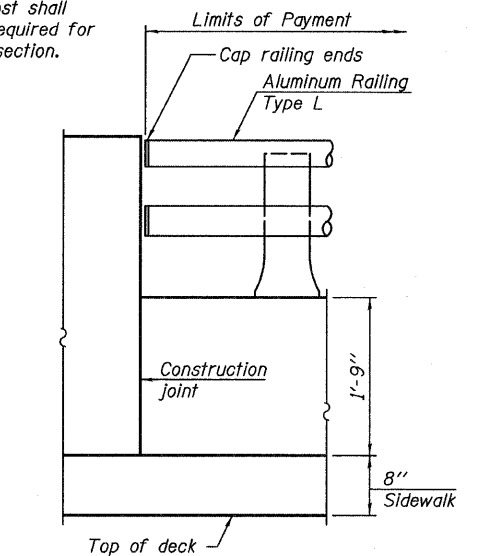
For bottom rail
DRIVE FIT TYPE



CAST END CAP

For top rail

Notes:
All Posts shall be normal to parapet.
All joints in rail shall be spliced per detail.
All exposed rail ends shall be capped per detail.
Provide 1-1/8" and 2-1/16" Aluminum Shimms for 25% of the Posts. Rail elements shall be parallel to Grade-high spots will be ground and low spots shimmed.
See sheets 47, 51, 55, 59 & 64 for rail post spacing.



RAIL END TREATMENT FOR TYPE 5 AND 6 TERMINAL

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Railing, Type L	Foot	257.5

ALUMINUM RAILING, TYPE L
CENTRAL/I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - MU	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - MU		
	CHECKED - AMD,		
	DATE - 03/25/2011		

SHEET NO. 79	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	403
239 SHEETS		CONTRACT NO. 60999			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

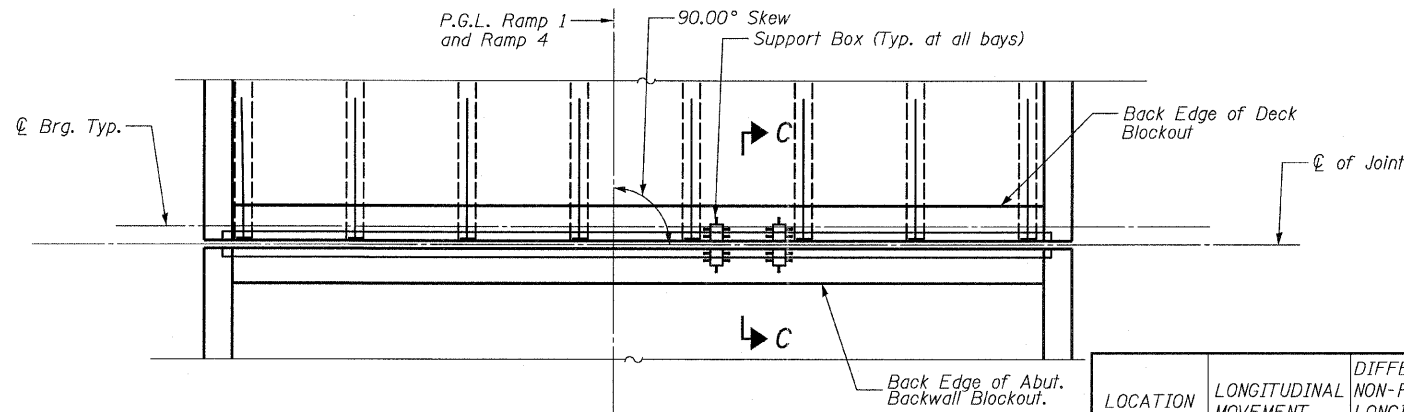
THIS SHEET IS
NOT USED

STRUCTURE NO. 016-0724

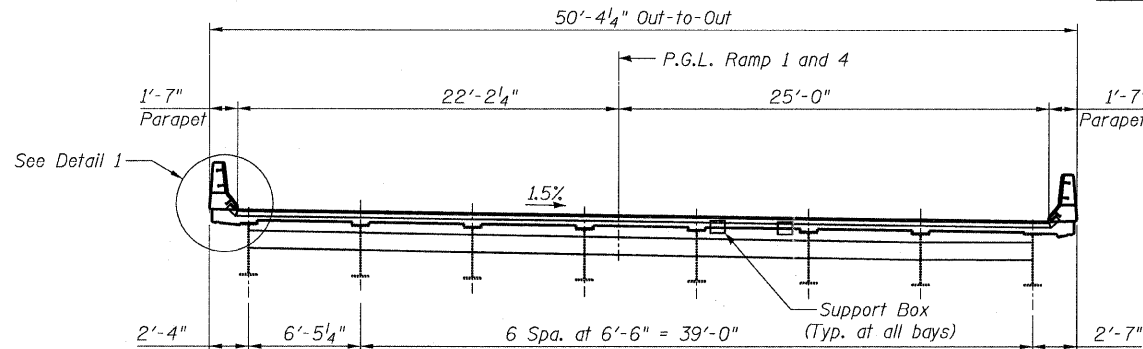
TYLIN INTERNATIONAL	DESIGNED -	REVISIONS		SHEET NO. 80	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	404	
	DRAWN -				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									
				239 SHEETS						

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

(For Ramp 1, Ramp 4
Opposite Hand.)



PLAN VIEW RAMP 1
(Ramp 4 Opposite Hand)



CROSS SECTION

(Looking Upstation Ramp 1
Looking Downstation Ramp 4)

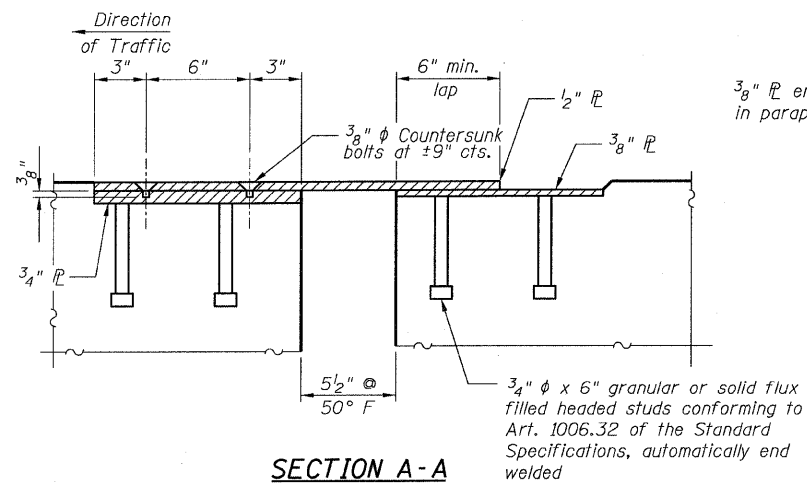
LOCATION	LONGITUDINAL MOVEMENT	DIFFERENTIAL NON-PARALLEL LONGITUDINAL MOVEMENT	PARALLEL TRANSVERSE MOVEMENT	SIZE
Ramp 1	±1/2"	3/8"	±1"	6"
Ramp 4	±1/2"	3/8"	±1"	6"

GENERAL NOTES

- The expansion joint device shall be a prefabricated modular assembly with multiple support bars and separator beams, providing a continuous seal across the deck.
- All splices of center beams and edge beams shall be full penetration welds. Uprun splices may be partial penetration welds.
- Joint shall be fabricated according to the manufacturer's recommendations and as described in the GBSP No. 18 for Modular Expansion Joint and as approved by the Engineer.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the concrete blockout is cast at an ambient temperature other than 50° F.
- Joint shall be fabricated to conform to the roadway profile and cross slope.
- The cost of furnishing all material for the sliding plate assemblies at the parapets and median barrier shall be included with Furnishing Modular Expansion Joints. The sliding plate assembly shall be galvanized.
- Countersunk bolts and concrete inserts shall be Hot-Dipped Galvanized according to AASHTO M232.
- Barrier plates to be AASHTO M270, Grade 36 and to be Hot-Dipped Galvanized according to AASHTO M111 after fabrication.
- All anchor studs are furnished under separate contract.
- Modular expansion joint shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
- The modular expansion joint shall be either the Maurer Swivel System by the D.S. Brown Company or the WABO X-Cel System by the Watson Bowman Acme Corporation.
- The modular expansion joint shall be designed in accordance with the latest AASHTO Specifications for HS20-44 truck loading with impact.

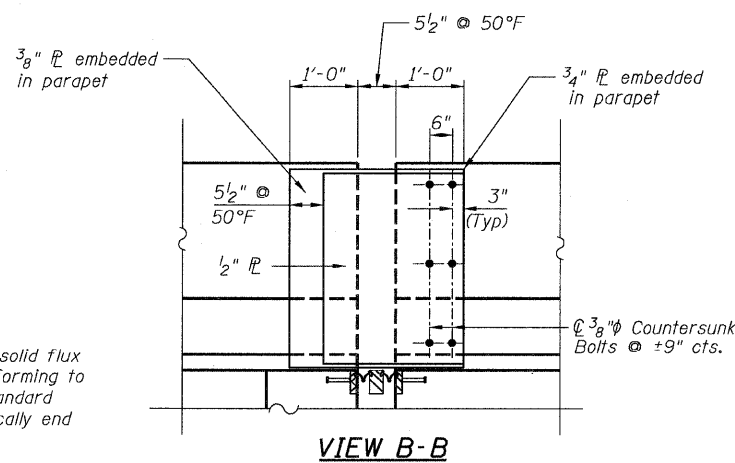
BILLS OF MATERIAL

LOCATION	ITEM	UNIT	TOTAL
Ramp 1	Modular Expansion Joint-Swivel 6" (Erect Only)	Foot	47.0
Ramp 4	Modular Expansion Joint-Swivel 6" (Erect Only)	Foot	47.0



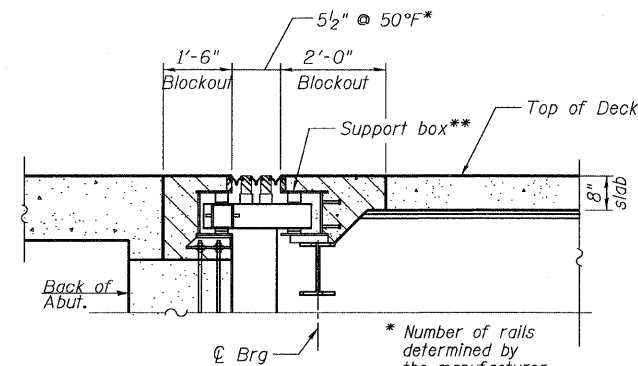
SECTION A-A

3/4" x 6" granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specifications, automatically end welded



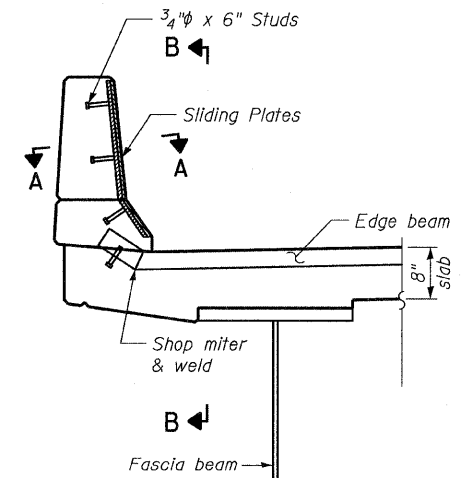
VIEW B-B

Note: Parapet shown. Studs not shown for clarity.



SECTION C-C

* Number of rails determined by the manufacturer
** Rigidly attached to cross frames and beams by adjustable brackets, studs or shims



DETAIL 1

RAMP 1 AND 4 MODULAR EXPANSION JOINT DETAILS AT ABUTMENT STRUCTURE NO. 016-0724

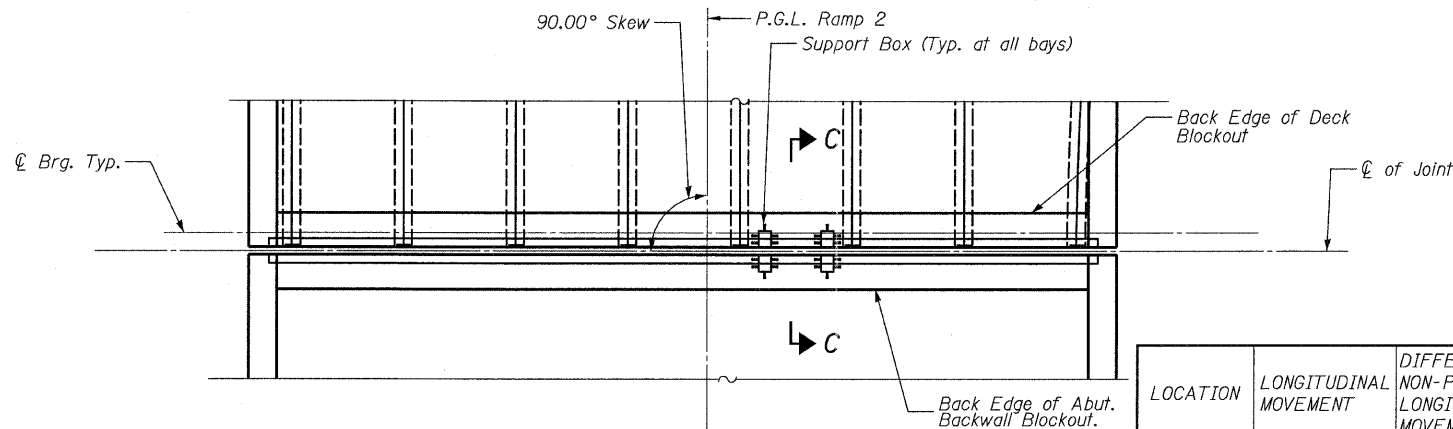
TYLIN INTERNATIONAL	DESIGNED -	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - MRB		
	CHECKED - AMD,		
	DATE - 03/25/2011		

SHEET NO. 81	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	239 SHEETS	55	0711.2R & 1011.1BR	COOK	741 405
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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4/28/2011

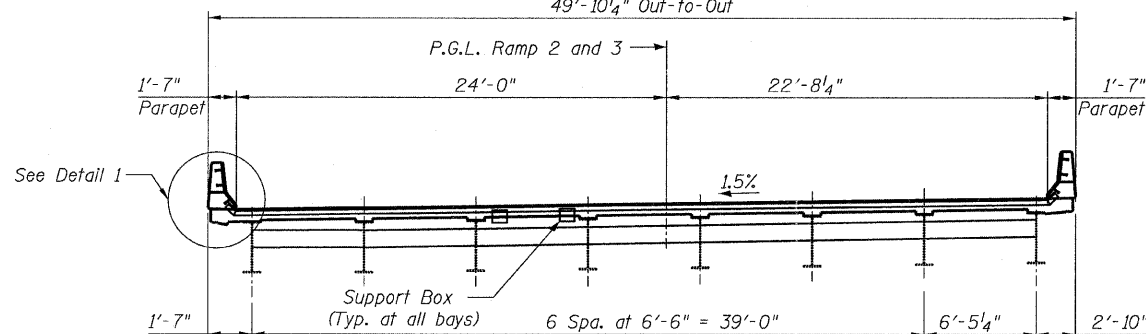
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN VIEW RAMP 2

(Ramp 3 opposite hand)

49'-10 1/4" Out-to-Out



CROSS SECTION

(Looking Upstation - Ramp 2)
(Looking Downstation - Ramp 3)

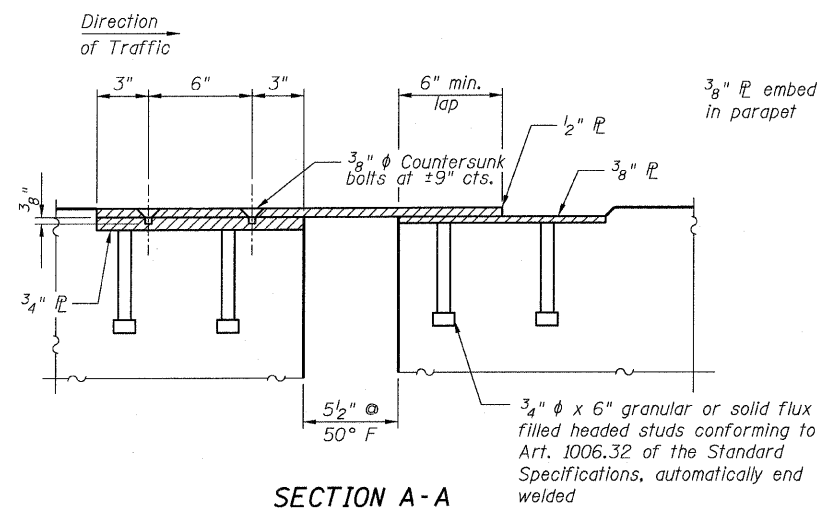
LOCATION	LONGITUDINAL MOVEMENT	DIFFERENTIAL NON-PARALLEL LONGITUDINAL MOVEMENT	PARALLEL TRANSVERSE MOVEMENT	SIZE
Ramp 2	±1"	3/8"	±1"	6"
Ramp 3	±1"	3/8"	±1"	6"

GENERAL NOTES

- The expansion joint device shall be a prefabricated modular assembly with multiple support bars and separator beams, providing a continuous seal across the deck.
- All splices of center beams and edge beams shall be full penetration welds. Upturn splices may be partial penetration welds.
- Joint shall be fabricated according to the manufacturer's recommendations and as described in the GBSP No. 18 for Modular Expansion Joint and as approved by the Engineer.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the concrete blockout is cast at an ambient temperature other than 50° F.
- Joint shall be fabricated to conform to the roadway profile and cross slope.
- The cost of furnishing all material for the sliding plate assemblies at the parapets and median barrier shall be included with Furnishing Modular Expansion Joints. The sliding plate assembly shall be galvanized.
- Countersunk bolts and concrete inserts shall be Hot-Dipped Galvanized according to AASHTO M232.
- Barrier plates to be AASHTO M270, Grade 36 and to be Hot-Dipped Galvanized according to AASHTO M111 after fabrication.
- All anchor studs are furnished under separate contract.
- Modular expansion joint shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
- The modular expansion joint shall be either the Maurer Swivel System by the D.S. Brown Company or the WABO X-Cel System by the Watson Bowman Acme Corporation.
- The modular expansion joint shall be designed in accordance with the latest AASHTO Specifications for HS20-44 truck loading with impact.

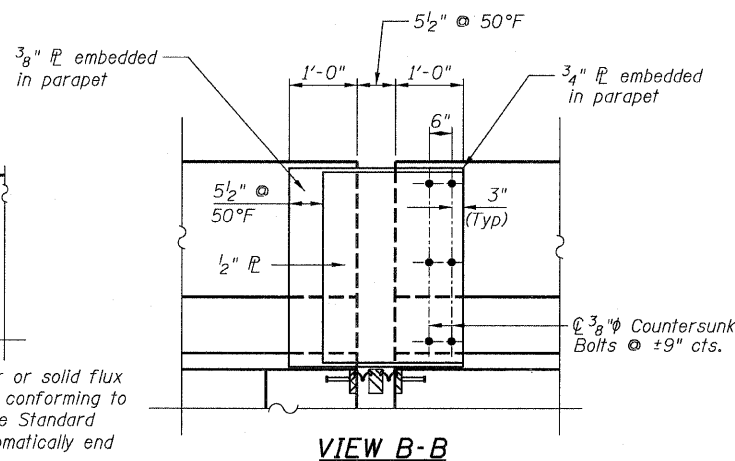
BILLS OF MATERIAL

LOCATION	ITEM	UNIT	TOTAL
Ramp 2	Modular Expansion Joint-Swivel 6" (Erect Only)	Foot	46.0
Ramp 3	Modular Expansion Joint-Swivel 6" (Erect Only)	Foot	46.0



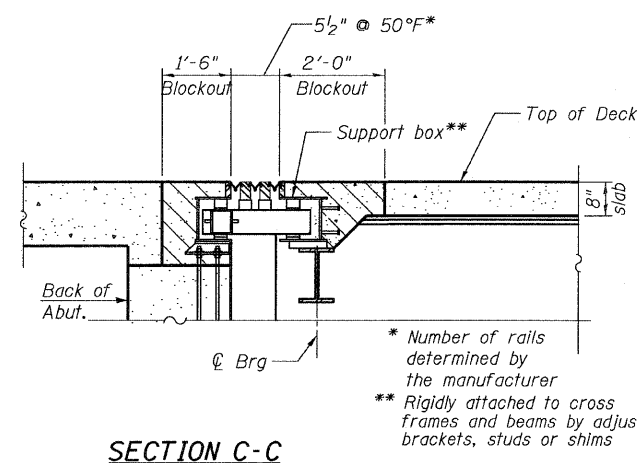
SECTION A-A

3/4" x 6" granular or solid flux filled headed studs conforming to Art. 1006.32 of the Standard Specifications, automatically end welded



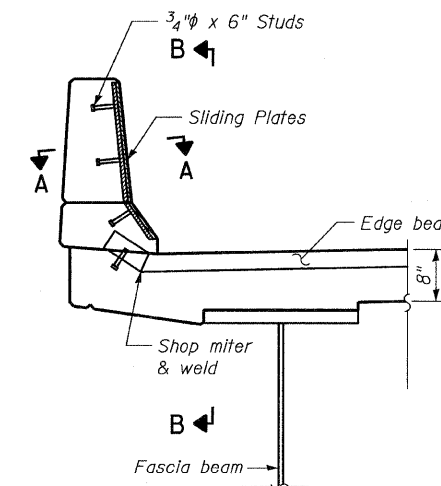
VIEW B-B

Note: Parapet shown. Studs not shown for clarity.



SECTION C-C

* Number of rails determined by the manufacturer
** Rigidly attached to cross frames and beams by adjustable brackets, studs or shims



DETAIL 1

RAMPS 2 & 3 MODULAR EXPANSION JOINT DETAILS AT ABUTMENT
STRUCTURE NO. 016-0724

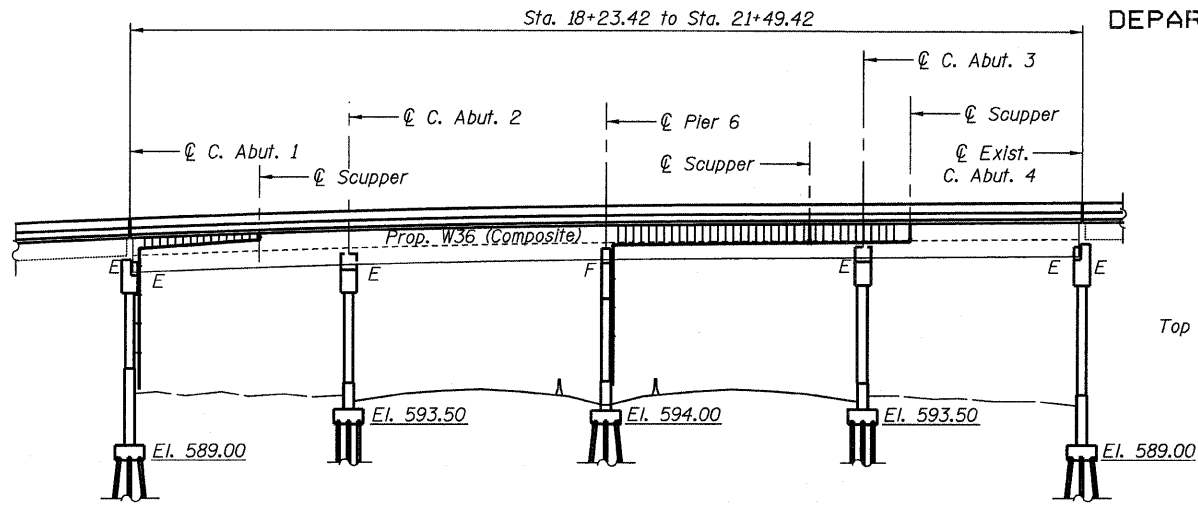
TYLIN INTERNATIONAL

DESIGNED	MAU	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	MRB		
CHECKED	AMD,		
DATE	03/25/2011		

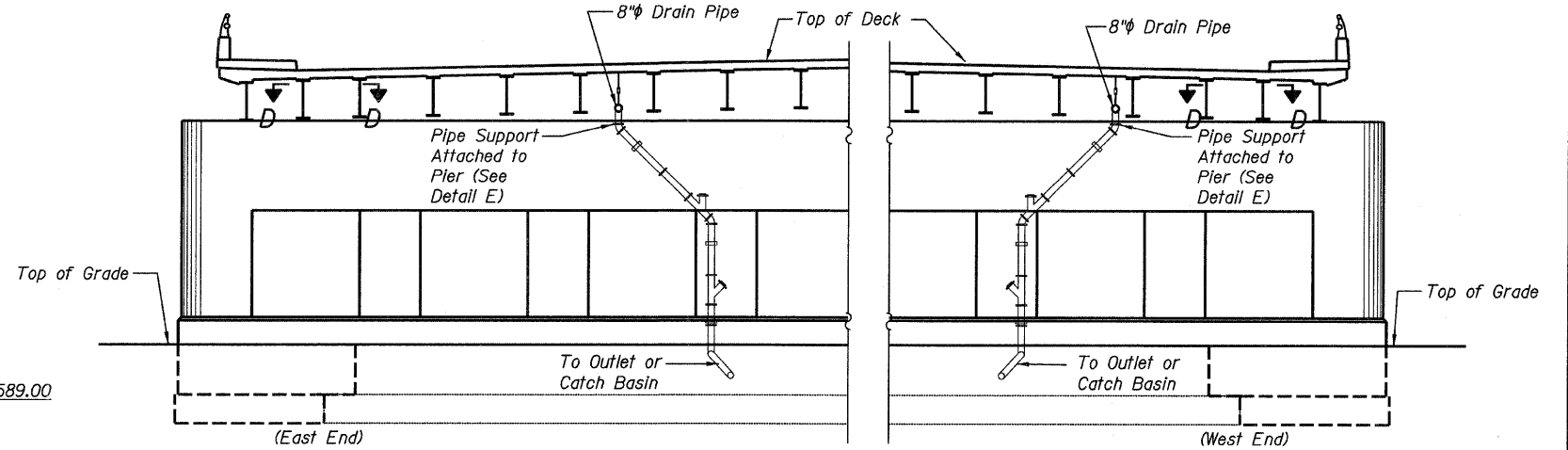
SHEET NO. 82	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	406
239 SHEETS	CONTRACT NO. 60999				
	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

4/28/2011

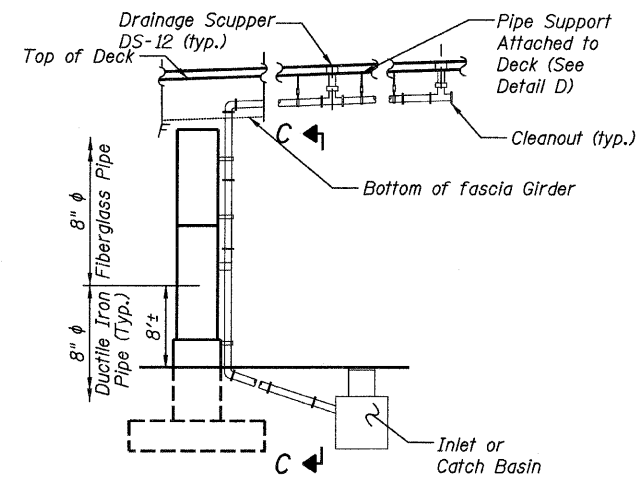
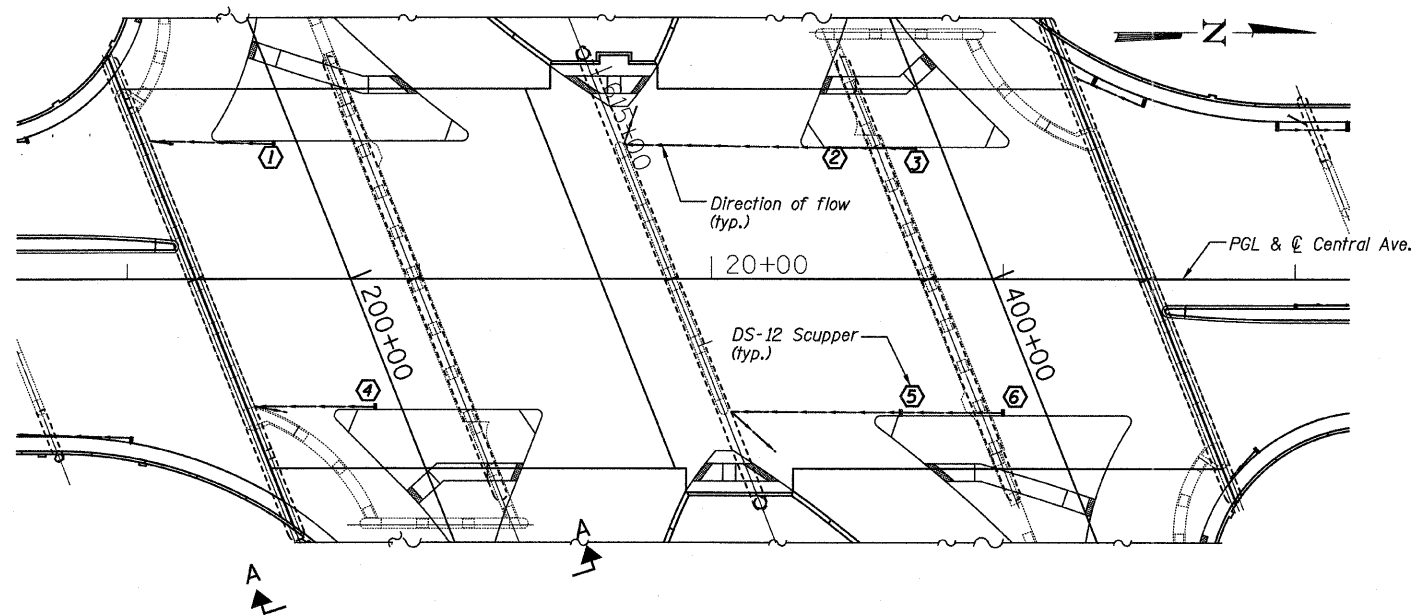
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



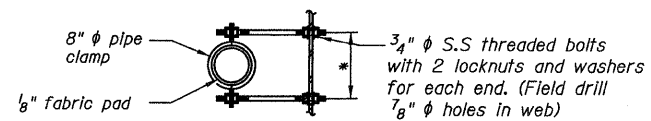
ELEVATION



VIEW C-C
(Typical)



VIEW A-A
(Typical)



SECTION D-D

* Dimension as required by pipe clamp

SCUPPER LOCATION TABLE

Scupper No.	Type	Station	Offset
1	DS-12	18+50.00	45.93 (L)
2	DS-12	20+40.00	45.93 (L)
3	DS-12	20+70.00	45.93 (L)
4	DS-12	18+85.00	45.93 (R)
5	DS-12	20+65.00	45.93 (R)
6	DS-12	21+00.00	45.93 (R)

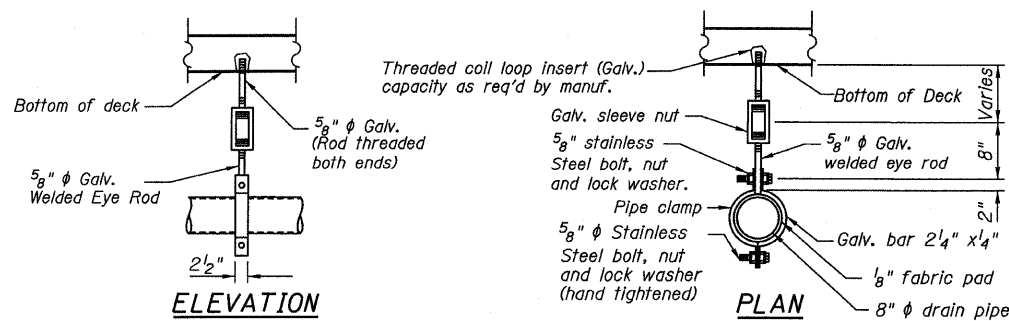
NOTES:

1. Pipes and fittings shall be reinforced fiberglass. See Special Provisions.
2. All pipe supports and hardware shall be hot dipped galvanized. See Special Provisions.
3. See Special Provisions for additional information.
4. Contractor to provide shop drawings for Drainage System.
5. The Pipe Support Detail at C. Abut. 1 shall be such as to provide for a total movement based on thermal expansion of 2 inches.
6. The cost of the removal of the existing drainage system is included with the cost of "Removal of Existing Superstructures".
7. The pay item "Drainage System" includes the Mainline and the Ramps.
8. The cost of the ductile iron pipe, connection to proposed catch basin, trenching and backfilling shall be included in Drainage System.

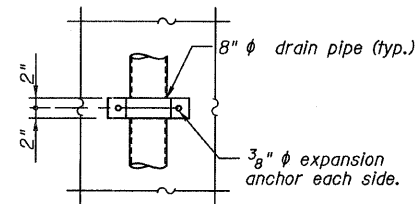
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Drainage System	L SUM	0.28

DRAINAGE SYSTEM
CENTRAL / I-55
S.N. 016-0724



PIPE SUPPORT DETAIL AT BRIDGE DECK - DETAIL D



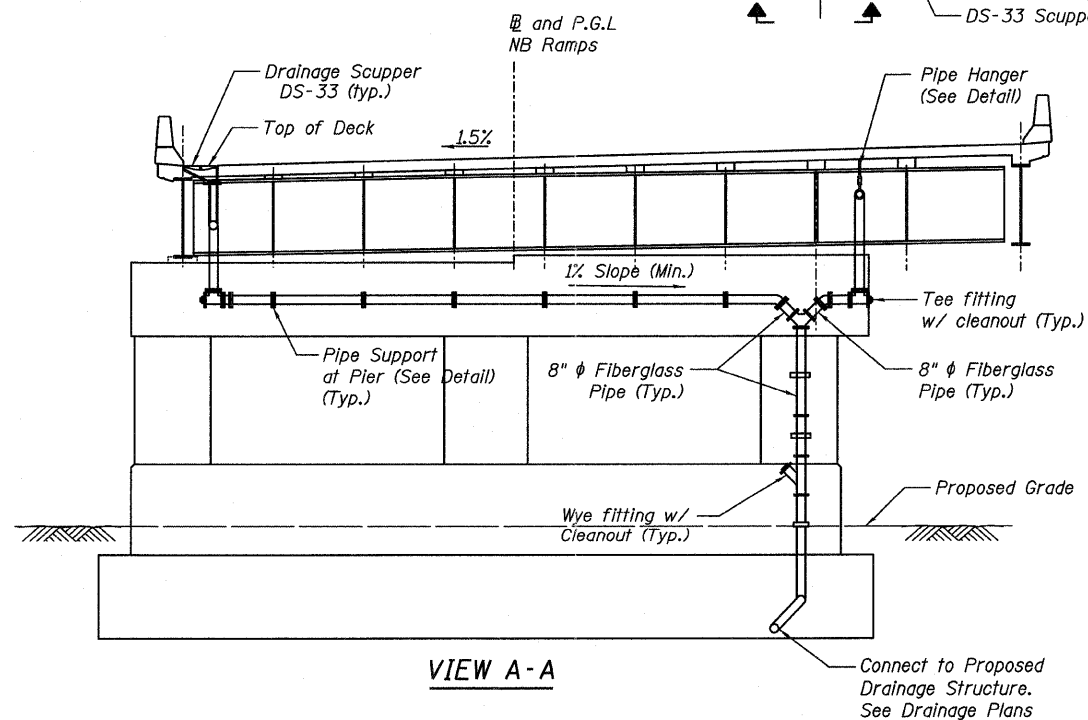
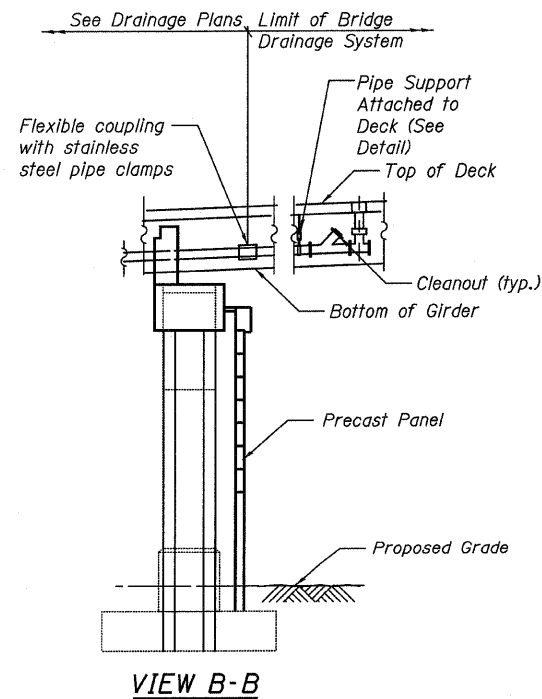
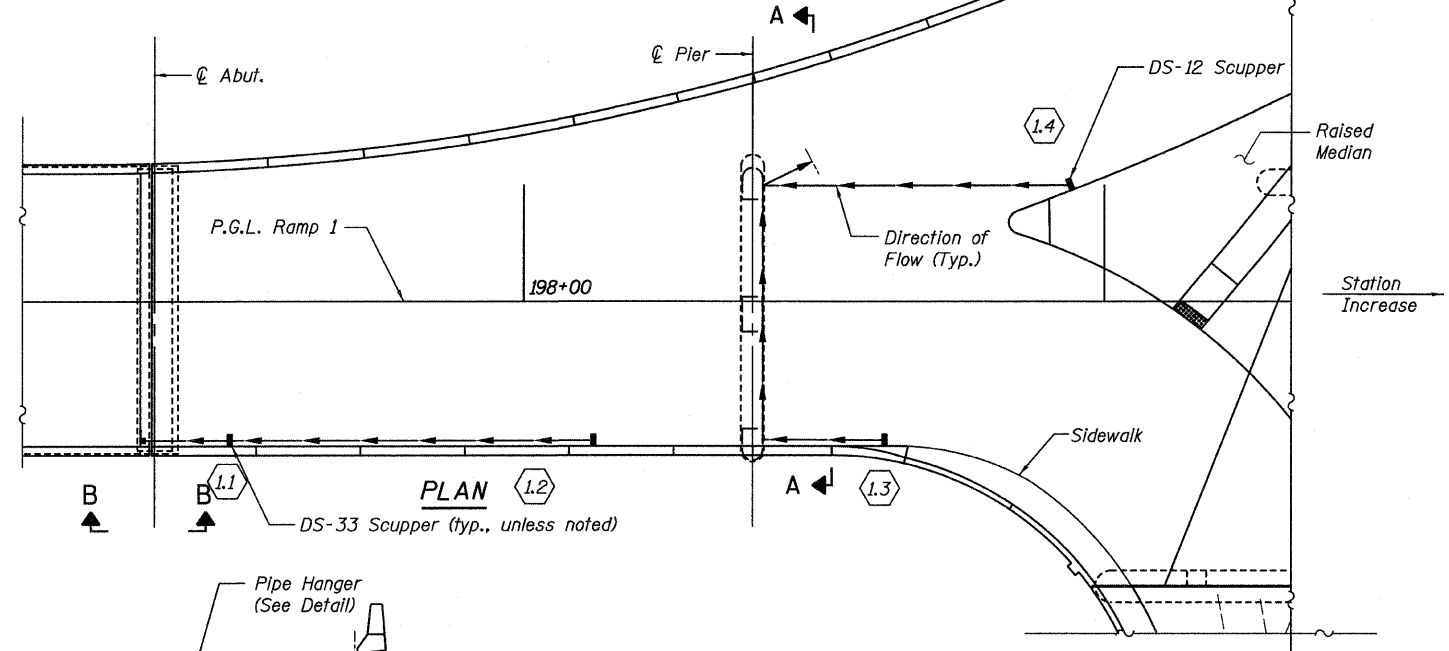
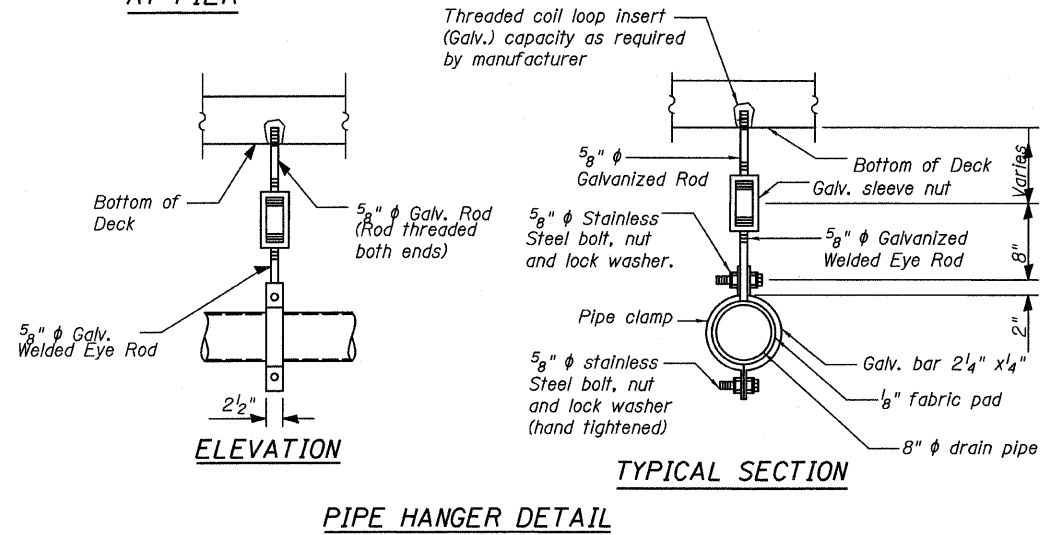
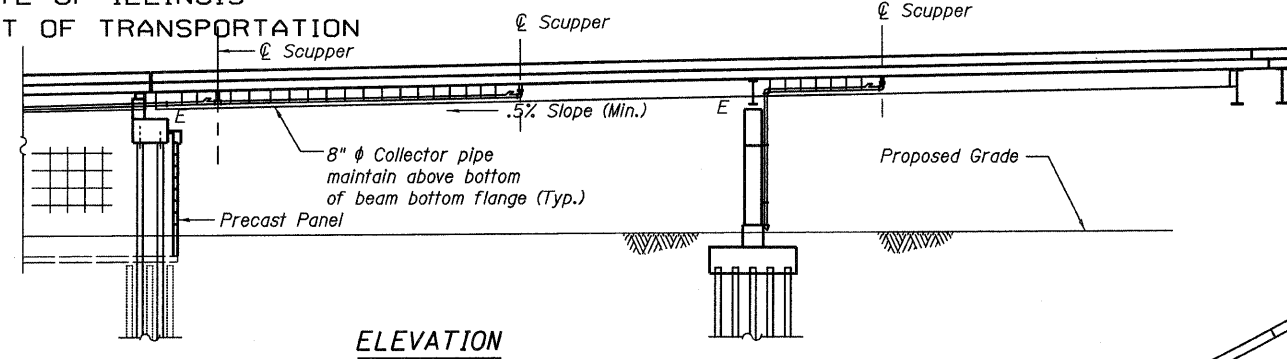
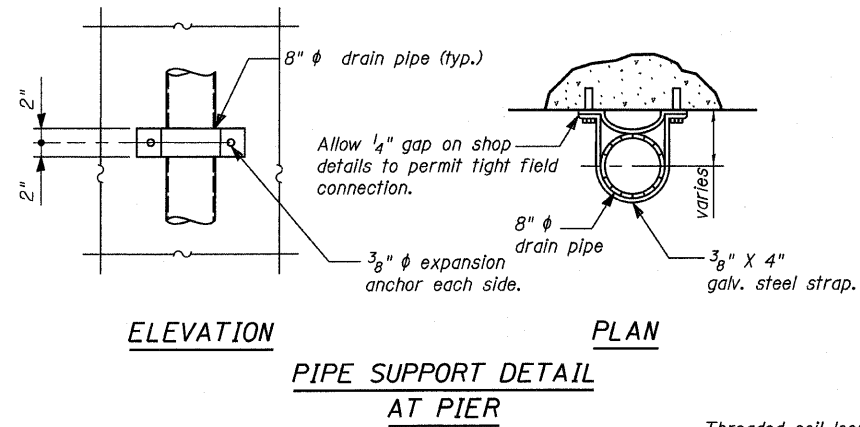
PIPE SUPPORT DETAIL AT ABUTMENT & PIER - DETAIL E

TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD, JMA	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 83	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	407
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



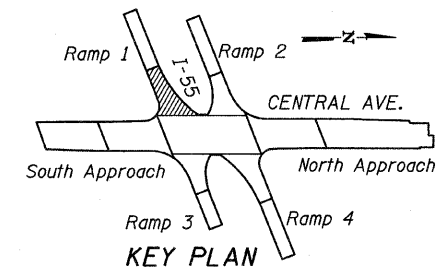
SCUPPER LOCATION TABLE *

Scupper No.	Type	Station	Offset
1.1	DS-33	197+49.00	25.00 (R)
1.2	DS-33	198+12.00	25.00 (R)
1.3	DS-33	198+62.00	25.00 (R)
1.4	DS-12	198+94.00	19.16 (L)

*Stations & offsets measured from NB Ramps Baseline to centerline of scupper or face of barrier or curb

NOTES:

- Bridge Drainage System limits to coupling at Abut. and catch basin or inlet at pier.
- See sheet 83 for additional notes.



**DRAINAGE SYSTEM
RAMP 1
S.N. 016-0724**

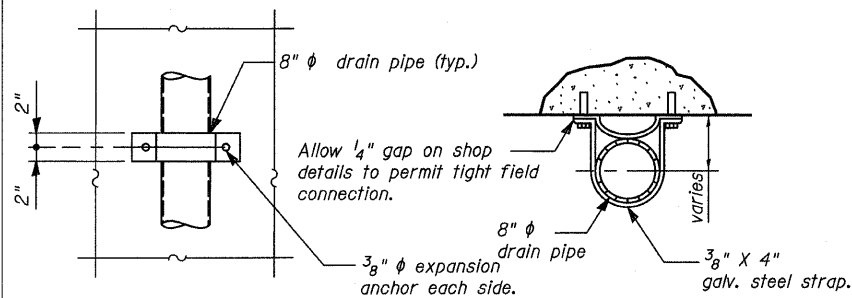
TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

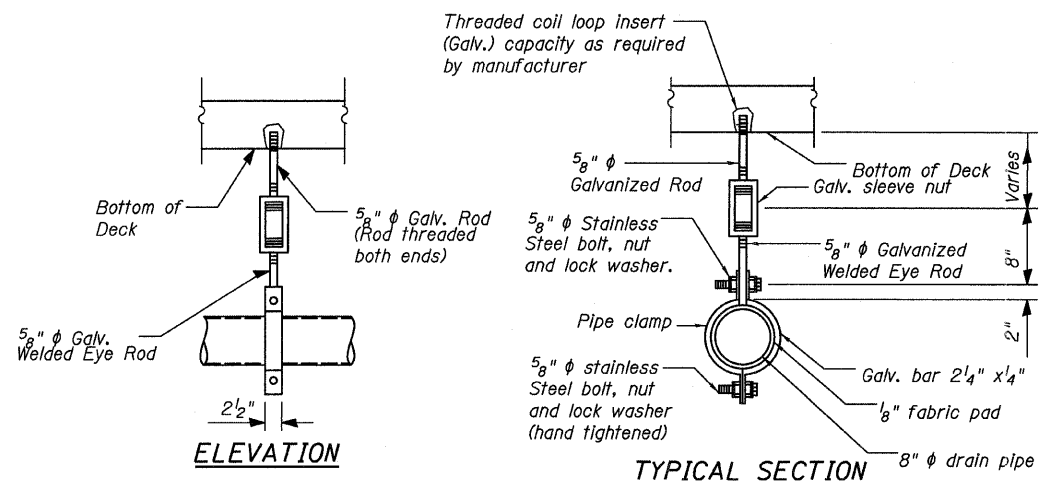
SHEET NO. 84	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 408
239 SHEETS	FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		
CONTRACT NO. 60999					

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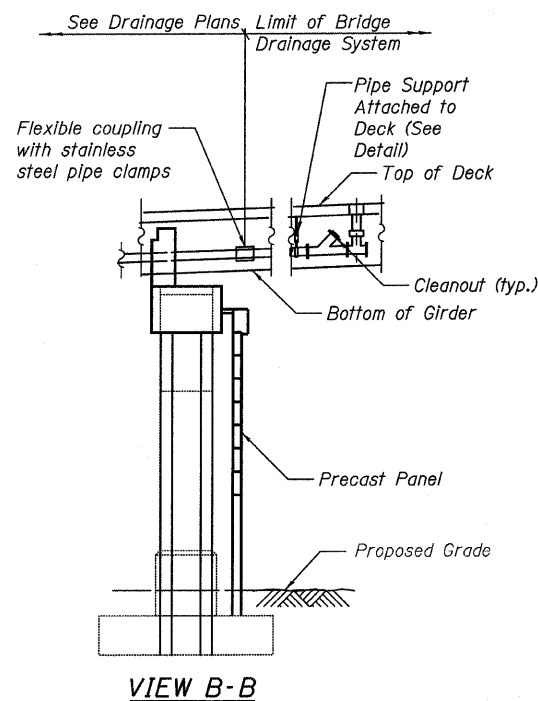
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



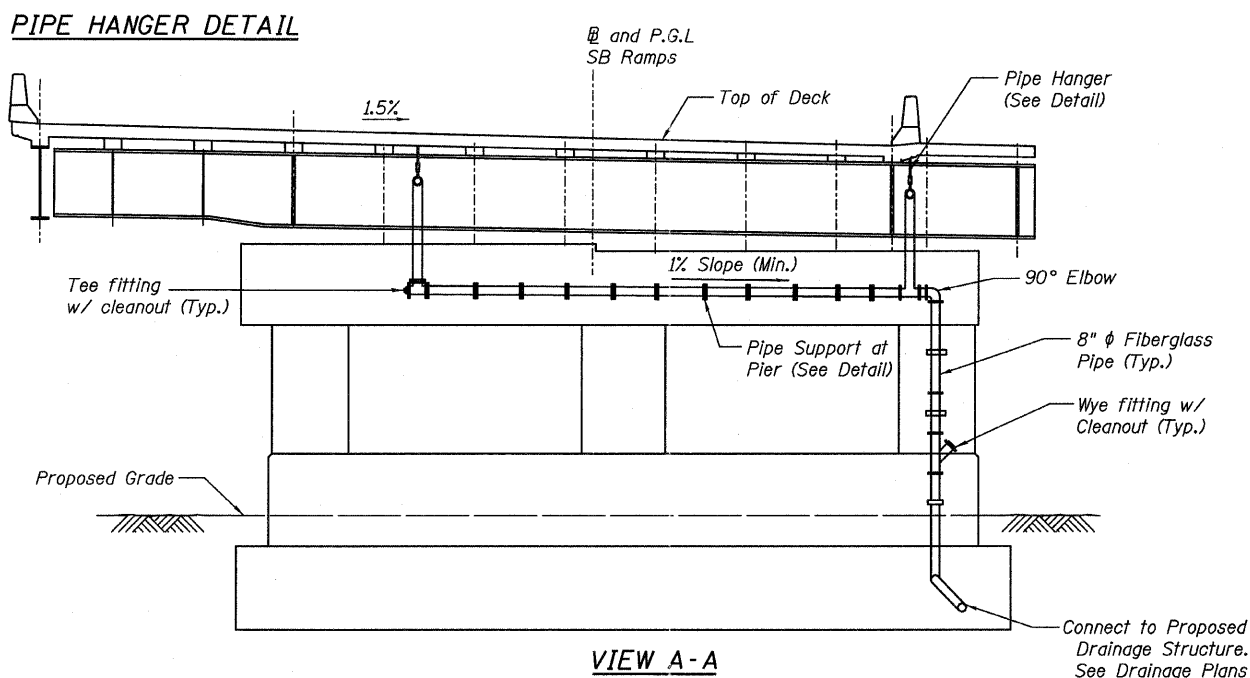
ELEVATION
PLAN
PIPE SUPPORT DETAIL AT PIER



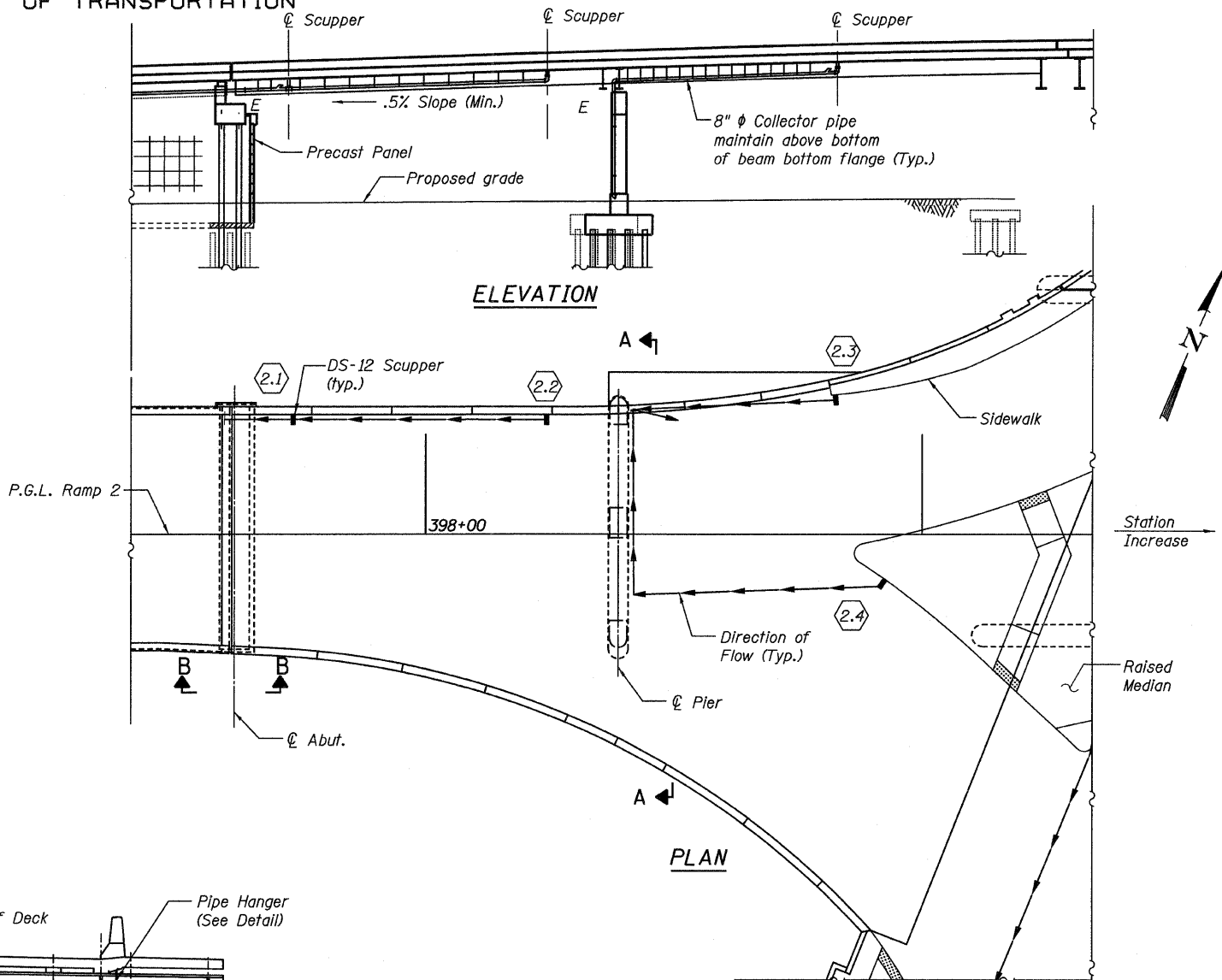
TYPICAL SECTION



VIEW B-B



VIEW A-A



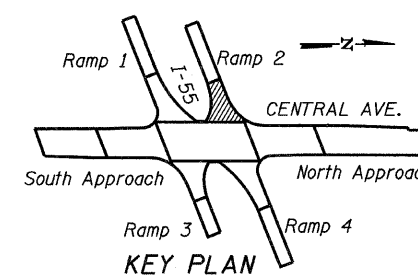
SCUPPER LOCATION TABLE*

Scupper No.	Type	Station	Offset
2.1	DS-12	397+73.00	24.00 (L)
2.2	DS-12	398+24.00	24.00 (L)
2.3	DS-12	398+82.50	28.00 (L)
2.4	DS-12	398+93.00	9.25 (R)

*Stations & offsets measured from SB Ramp Baseline to \odot scupper \odot face of barrier or curb

NOTES:

1. Bridge Drainage System limits to coupling at Abut. and catch basin or inlet at pier.
2. See sheet 83 for additional notes.

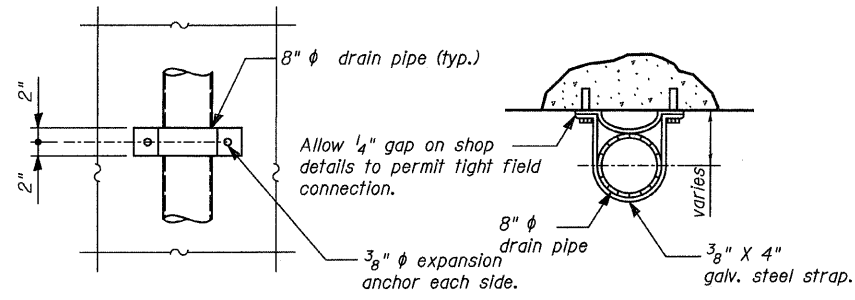


DRAINAGE SYSTEM RAMP 2
S.N. 016-0724

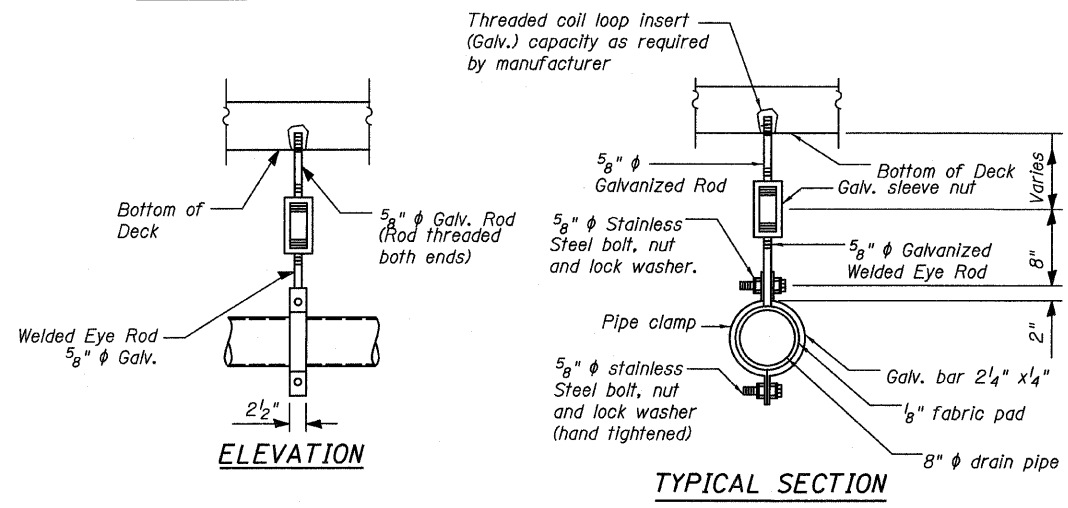
TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - JMA		
	CHECKED - AMD,		
	DATE - 03/25/2011		

SHEET NO. 85	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	409
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

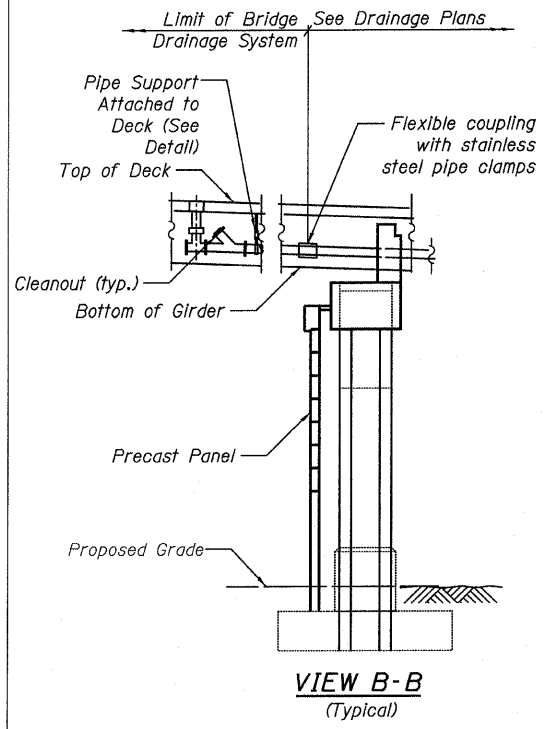
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



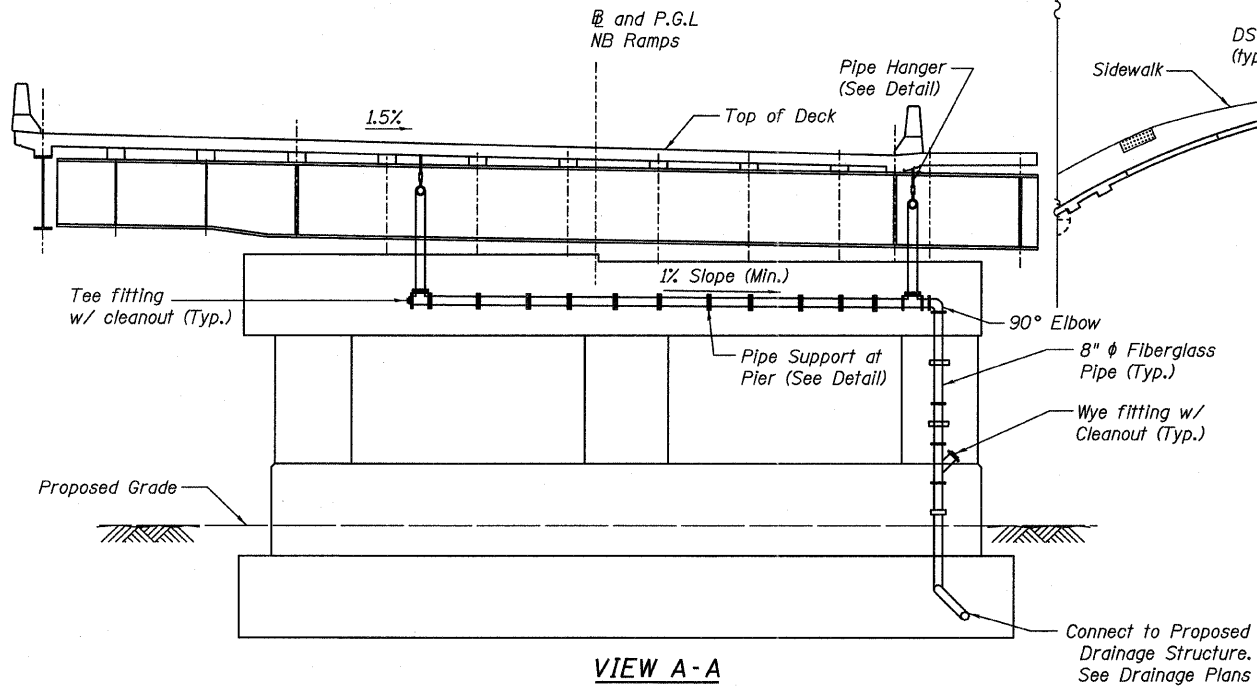
**PIPE SUPPORT DETAIL
AT PIER**



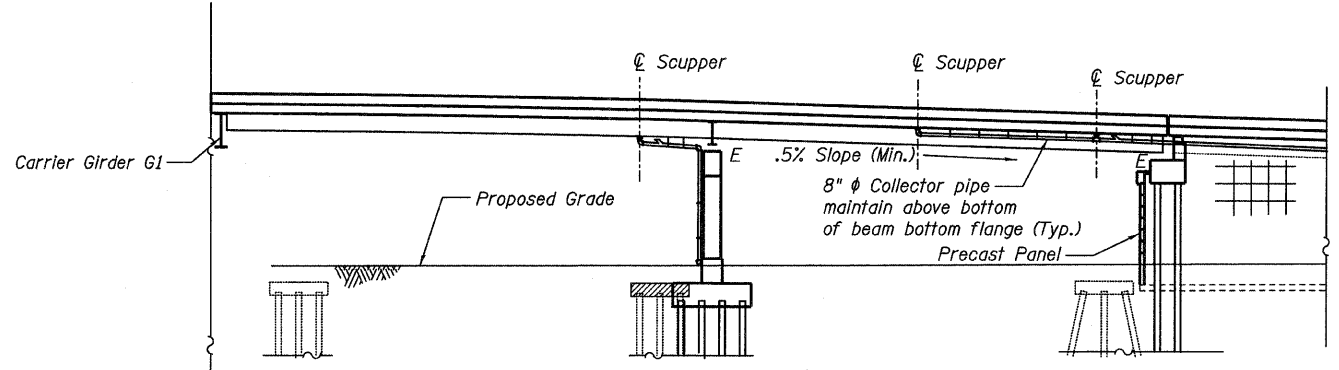
PIPE HANGER DETAIL



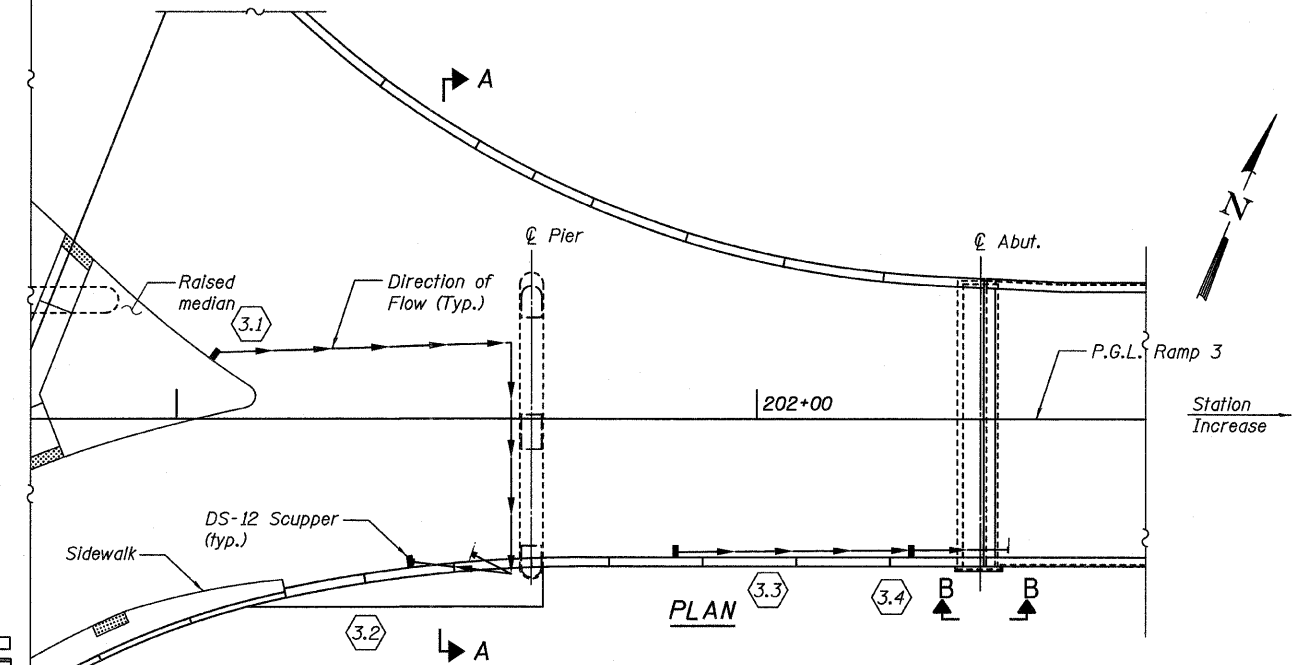
**VIEW B-B
(Typical)**



VIEW A-A



ELEVATION



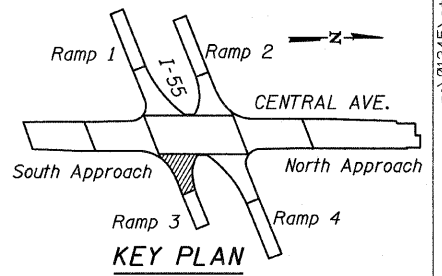
PLAN

SCUPPER LOCATION TABLE*

Scupper No.	Type	Station	Offset
3.1	DS-12	201+06.00	10.30 (L)
3.2	DS-12	201+40.00	25.84 (R)
3.3	DS-12	201+86.00	24.00 (R)
3.4	DS-12	202+26.00	24.00 (R)

*Stations & offsets measured from NB Ramps Baseline to centerline of scupper or face of barrier or curb

- NOTES:**
1. Bridge Drainage System limits to coupling at Abut. and catch basin or inlet at pier.
 2. See sheet 83 for additional notes.



**DRAINAGE SYSTEM
RAMP 3
S.N. 016-0724**

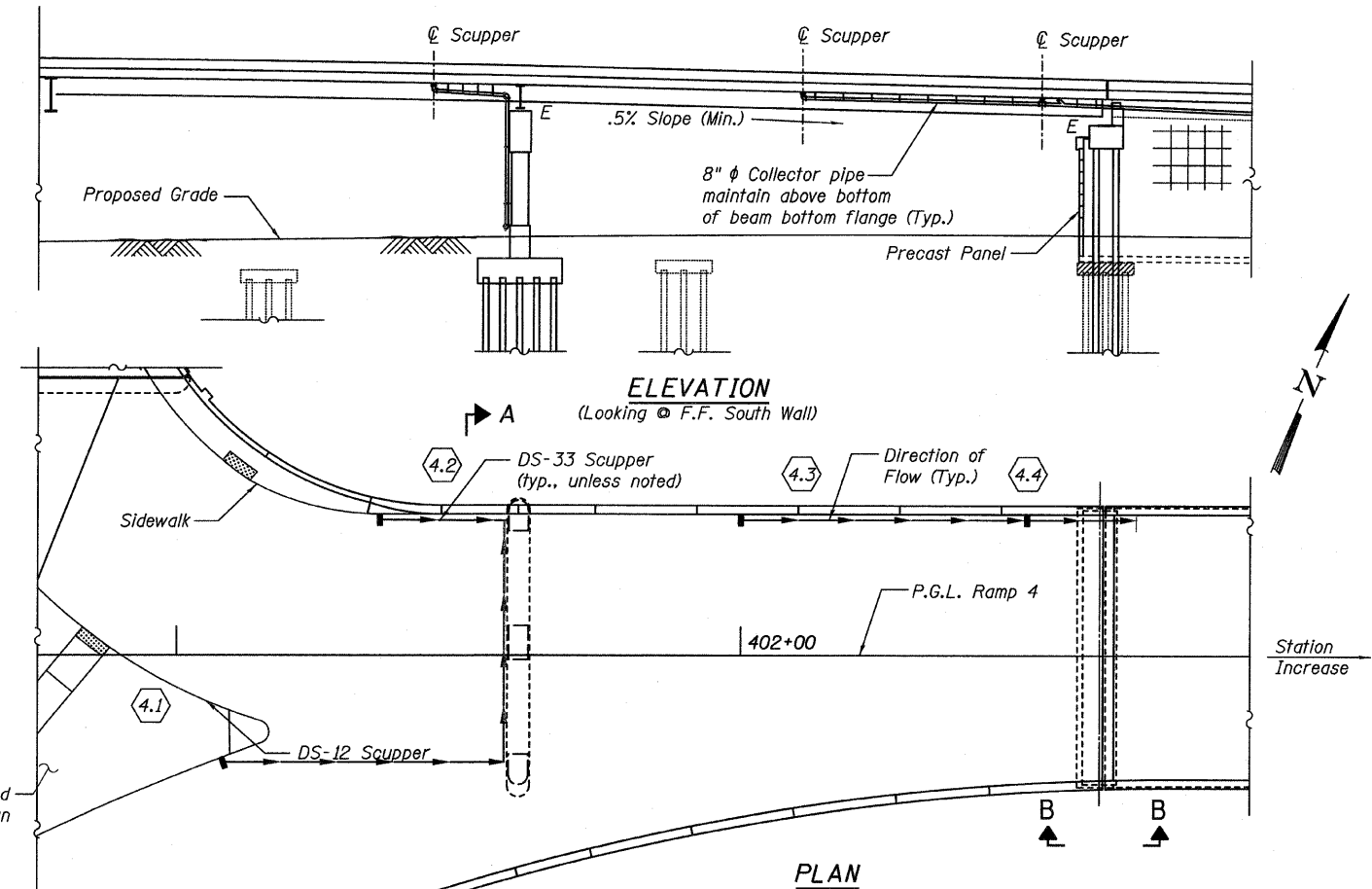
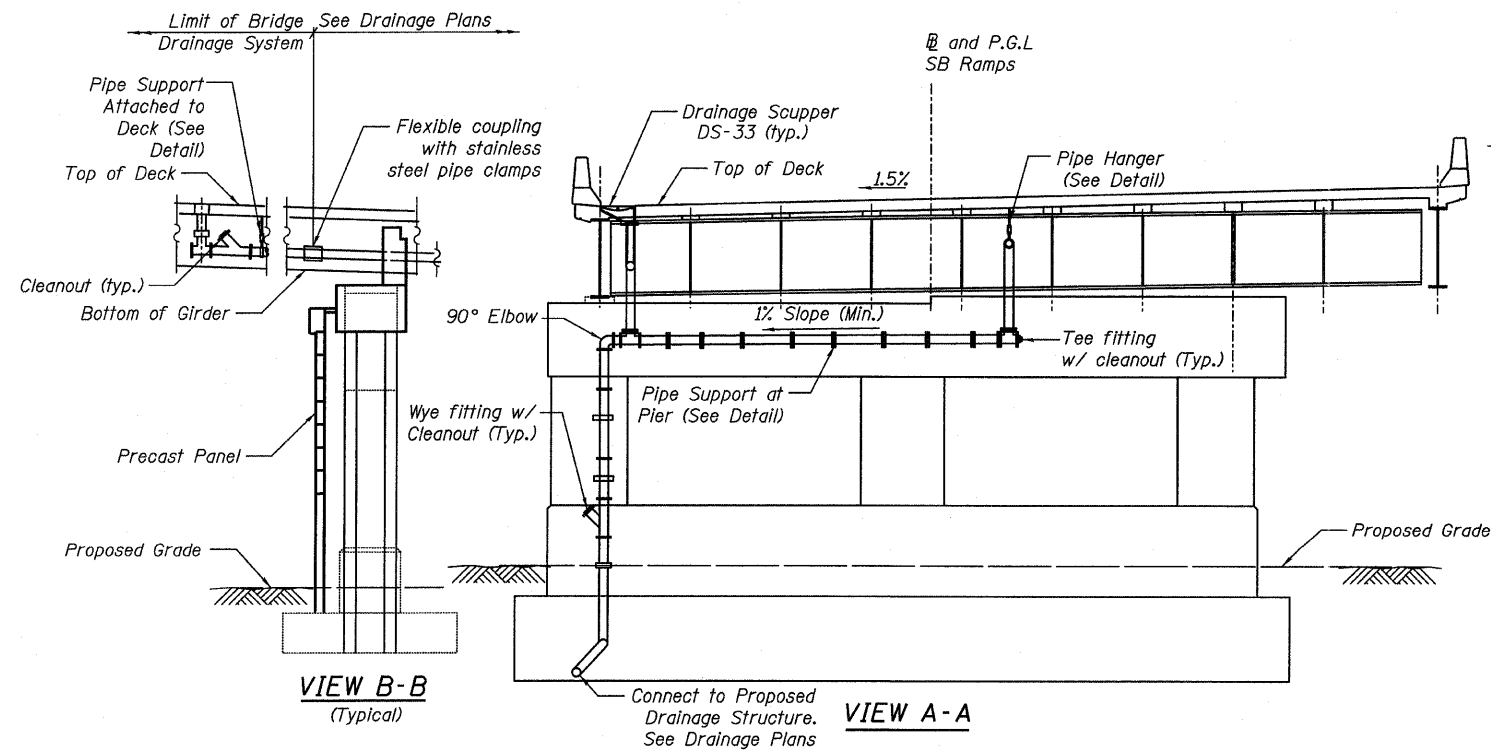
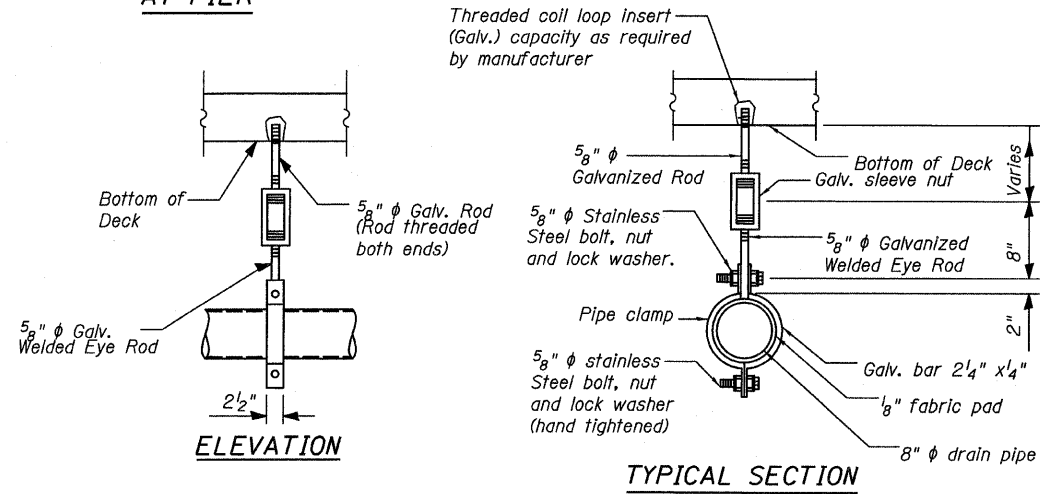
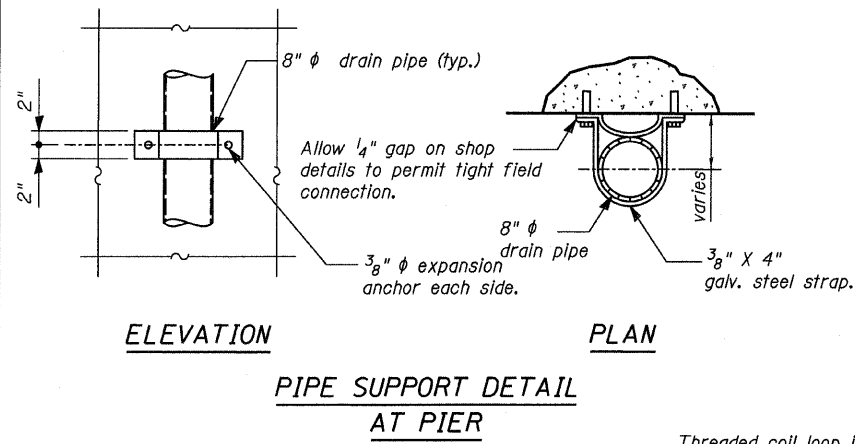
TYLIN INTERNATIONAL

DESIGNED	REVISIONS
- JMA	NAME
CHECKED - AMD,	DATE
DRAWN - JMA	
CHECKED - AMD,	
DATE - 03/25/2011	

SHEET NO. 86	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	410
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

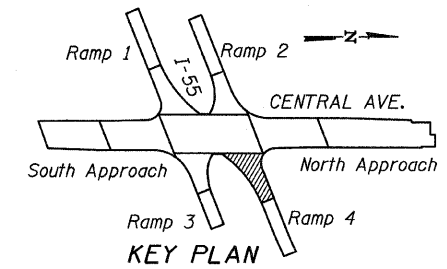


SCUPPER LOCATION TABLE*

Scupper No.	Type	Station	Offset
4.1	DS-12	401+08.00	18.25 (R)
4.2	DS-33	401+36.00	25.00 (L)
4.3	DS-33	402+00.00	25.00 (L)
4.4	DS-33	402+51.00	25.00 (L)

*Stations & offsets measured from SB Ramp Baseline to scupper face of barrier or curb

- NOTES:**
1. Bridge Drainage System limits to coupling at Abut. and catch basin or inlet at pier.
 2. See sheet 83 for additional notes.



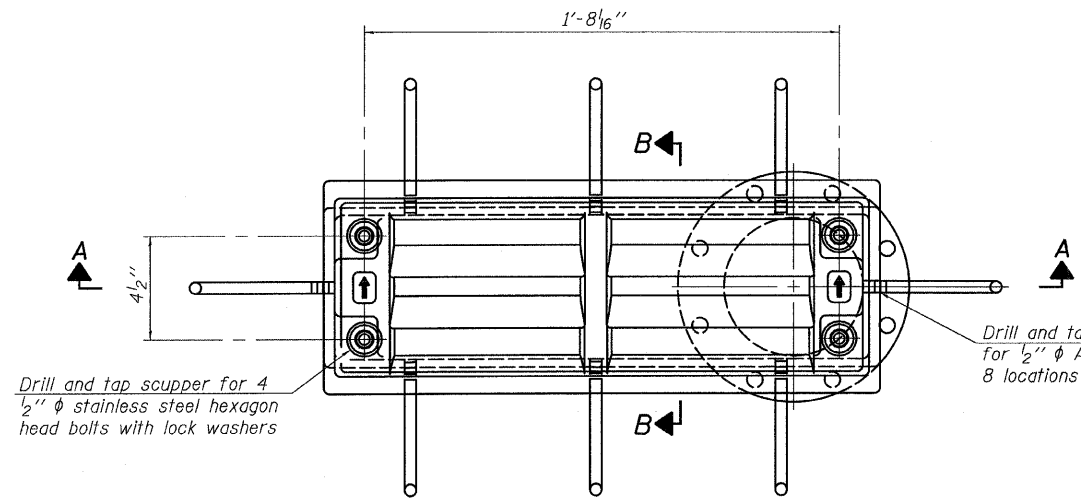
DRAINAGE SYSTEM RAMP 4
S.N. 016-0724

TYLIN INTERNATIONAL

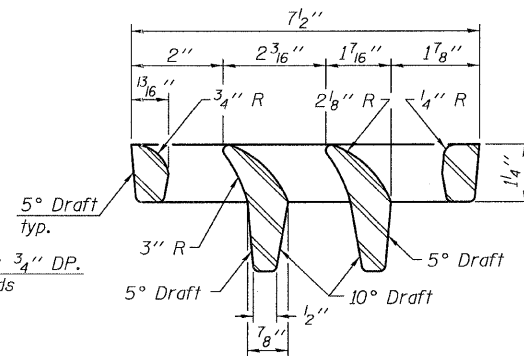
DESIGNED - JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 87	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	411
239 SHEETS		CONTRACT NO. 60999			
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT			

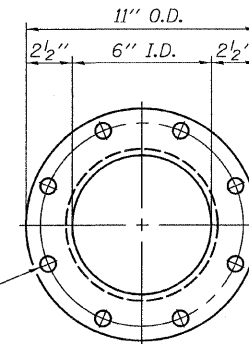
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



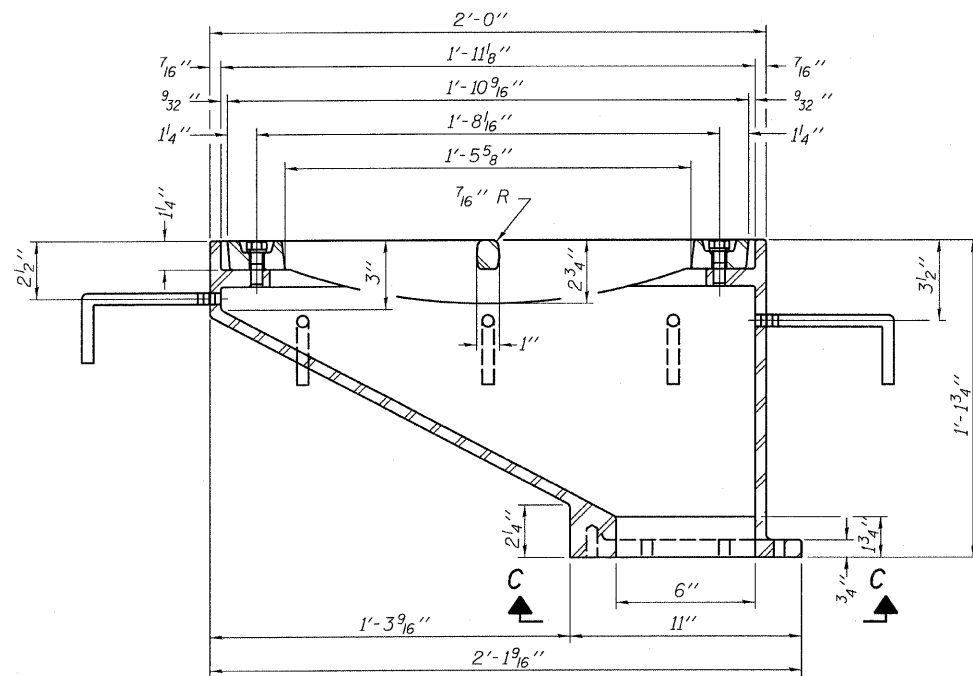
PLAN



VANE GRATE DETAIL

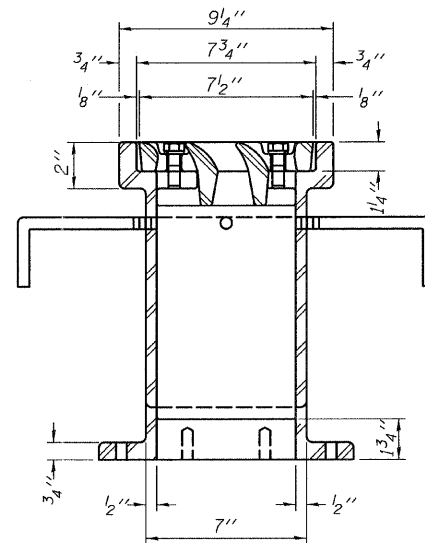


VIEW C-C



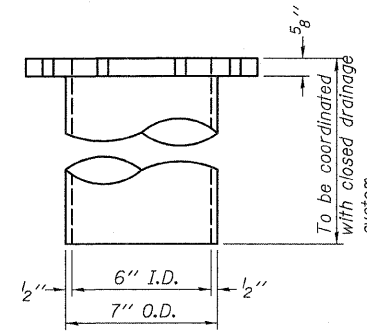
SECTION A-A

See sheets 83 thru 87 of 239 for scupper locations relative to parapet

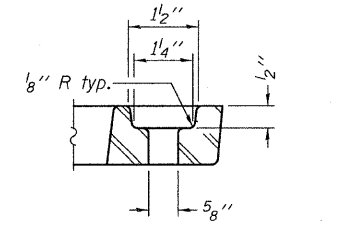


SECTION B-B

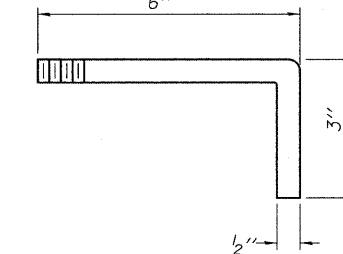
Drill and tap 8 holes for 1/2"-13 bolts on a 9 1/2" φ bolt circle. (2 blind holes are 1 1/4" deep, 6 thru holes)



DOWNSPOUT



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	16

DRAINAGE SCUPPER, DS-12
STRUCTURE NO. 016-0724

DS-12 11-1-09

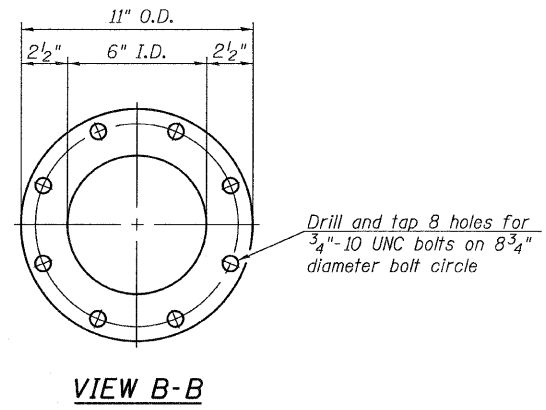
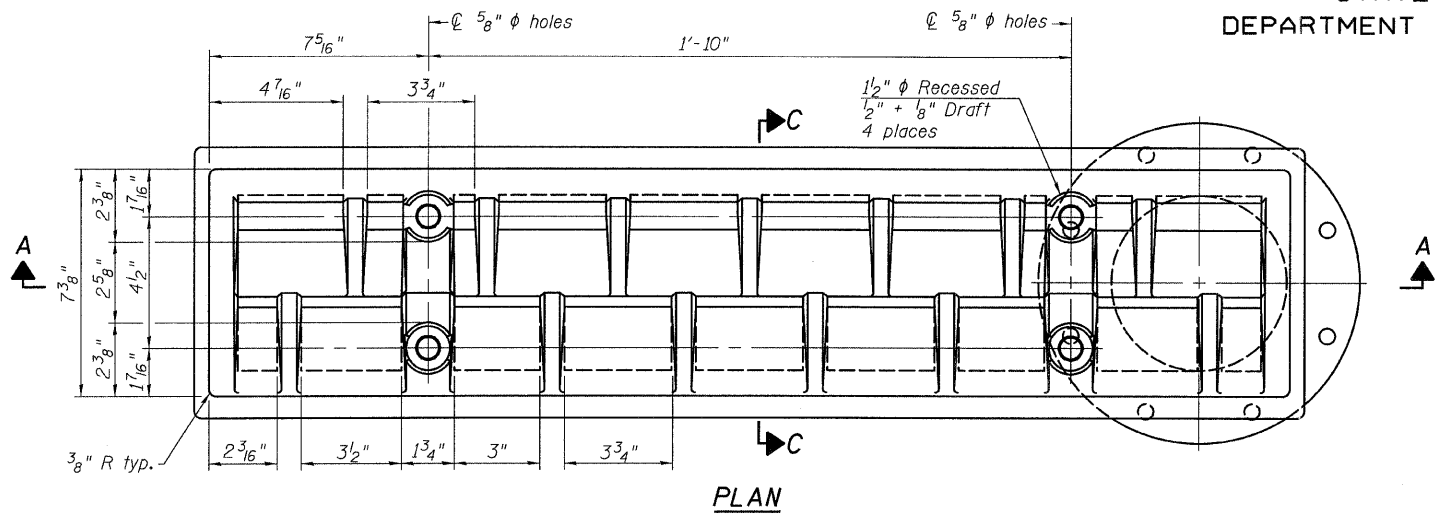
TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

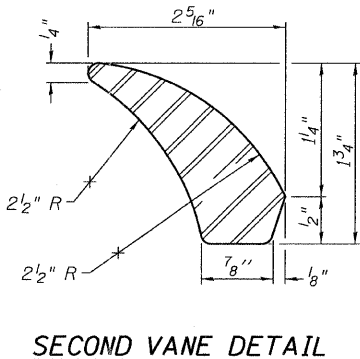
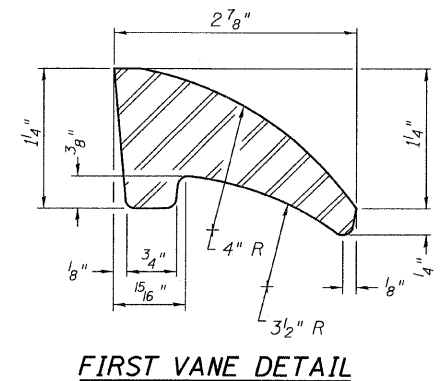
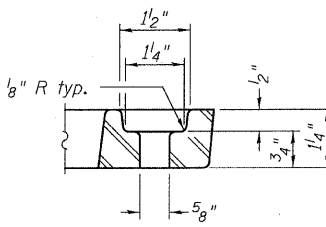
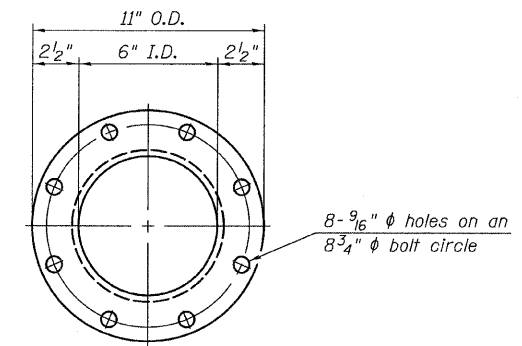
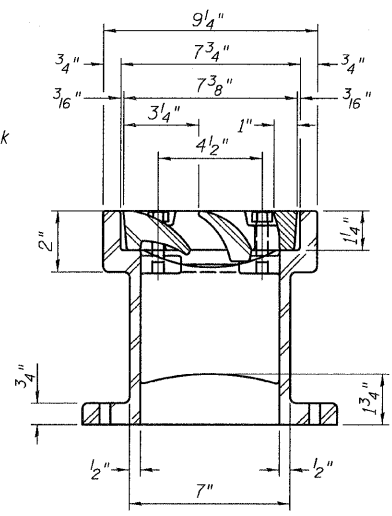
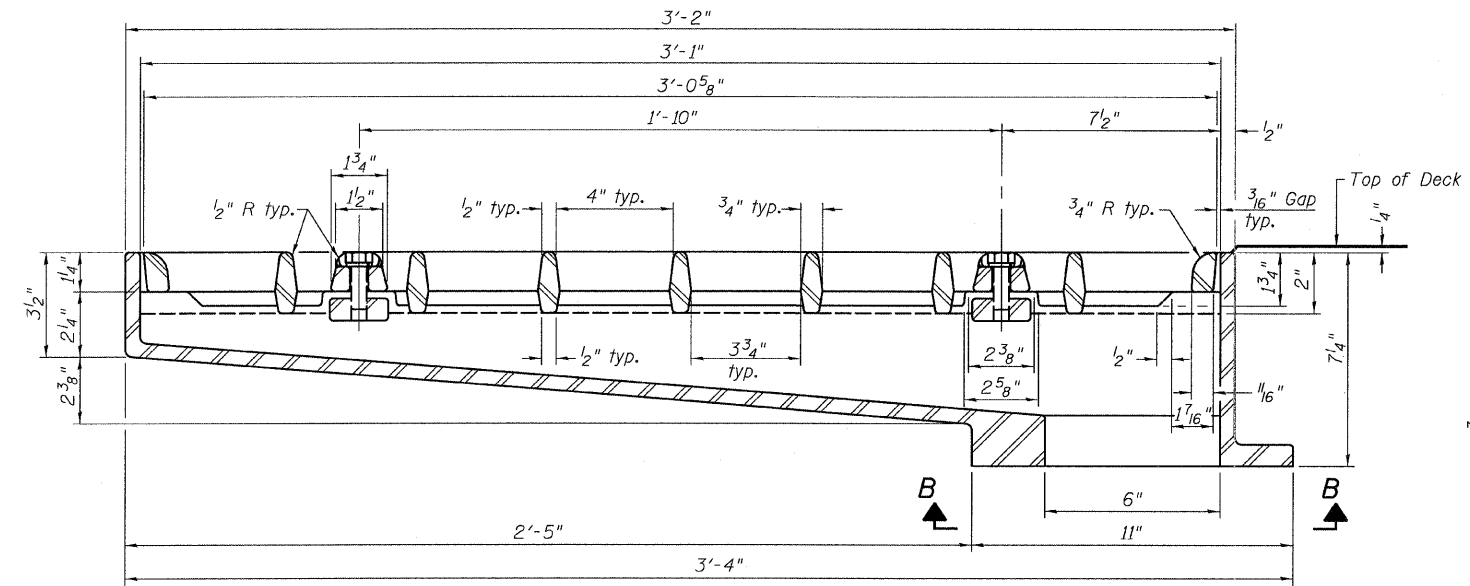
SHEET NO. 88	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	412
CONTRACT NO. 60999					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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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-33.
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.



BILL OF MATERIAL

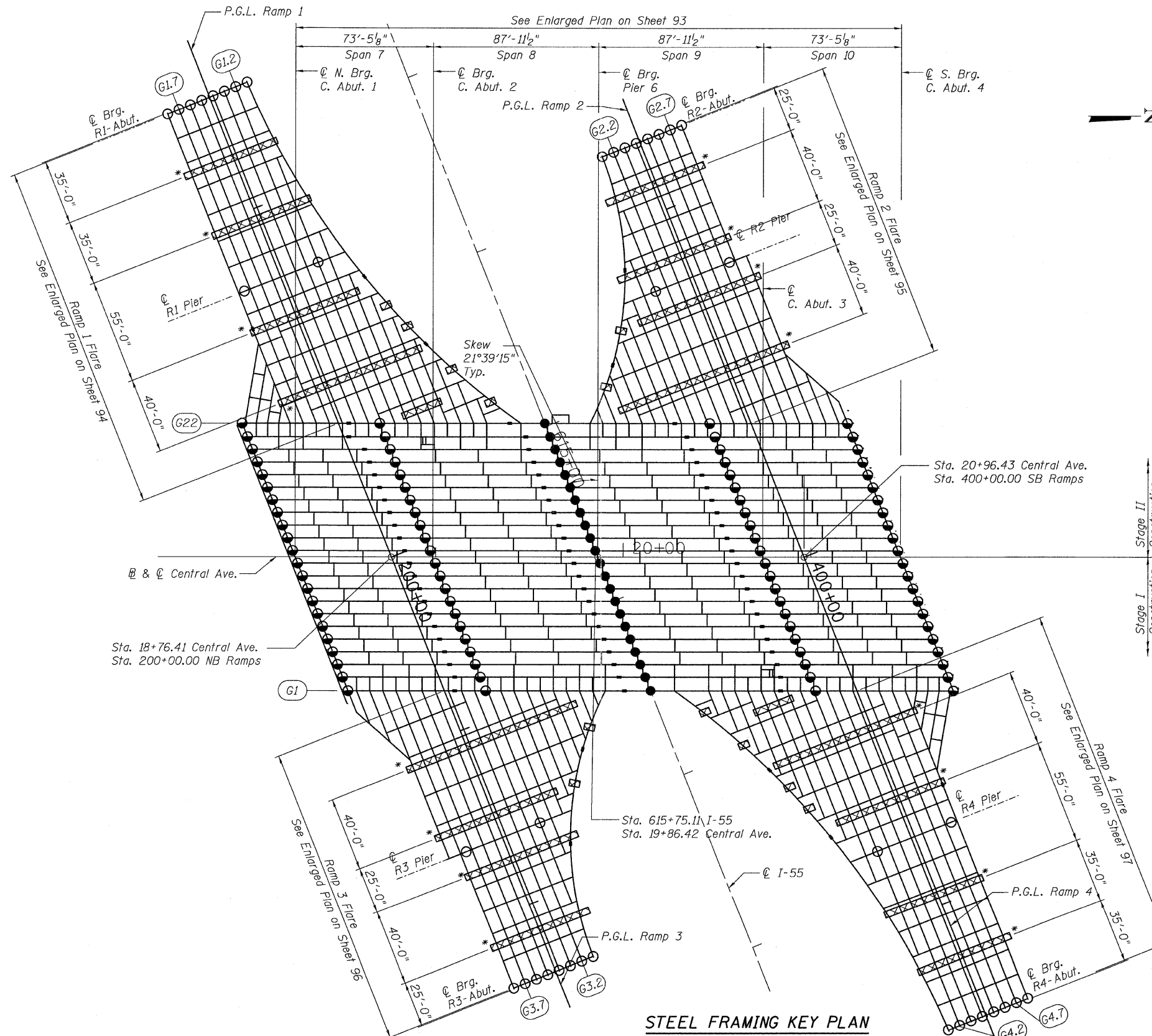
ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	6

DRAINAGE SCUPPER, DS-33
CENTRAL AVENUE OVER I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED -	REVISIONS		SHEET NO. 89	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	413
	DRAWN - JMA				239 SHEETS	CONTRACT NO. 60999			
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 03/25/2011								

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



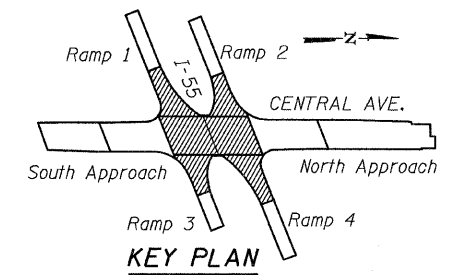
LEGEND:

- Guided Bearing
- Non-Guided Bearing
- Fixed Bearing
- ▨ Falsework Locations for Shop Assembly and Steel Erection

NOTES:

1. For Steel Fabrication and Shop Assembly Requirements, refer to the Special Provisions.
2. Falsework indicated with an * shall be removed for Girder Lines 2 through 7 once these girders have been erected from Pier to the Carrier Girder (G1 or G22).

Stage I Construction
Stage II Construction



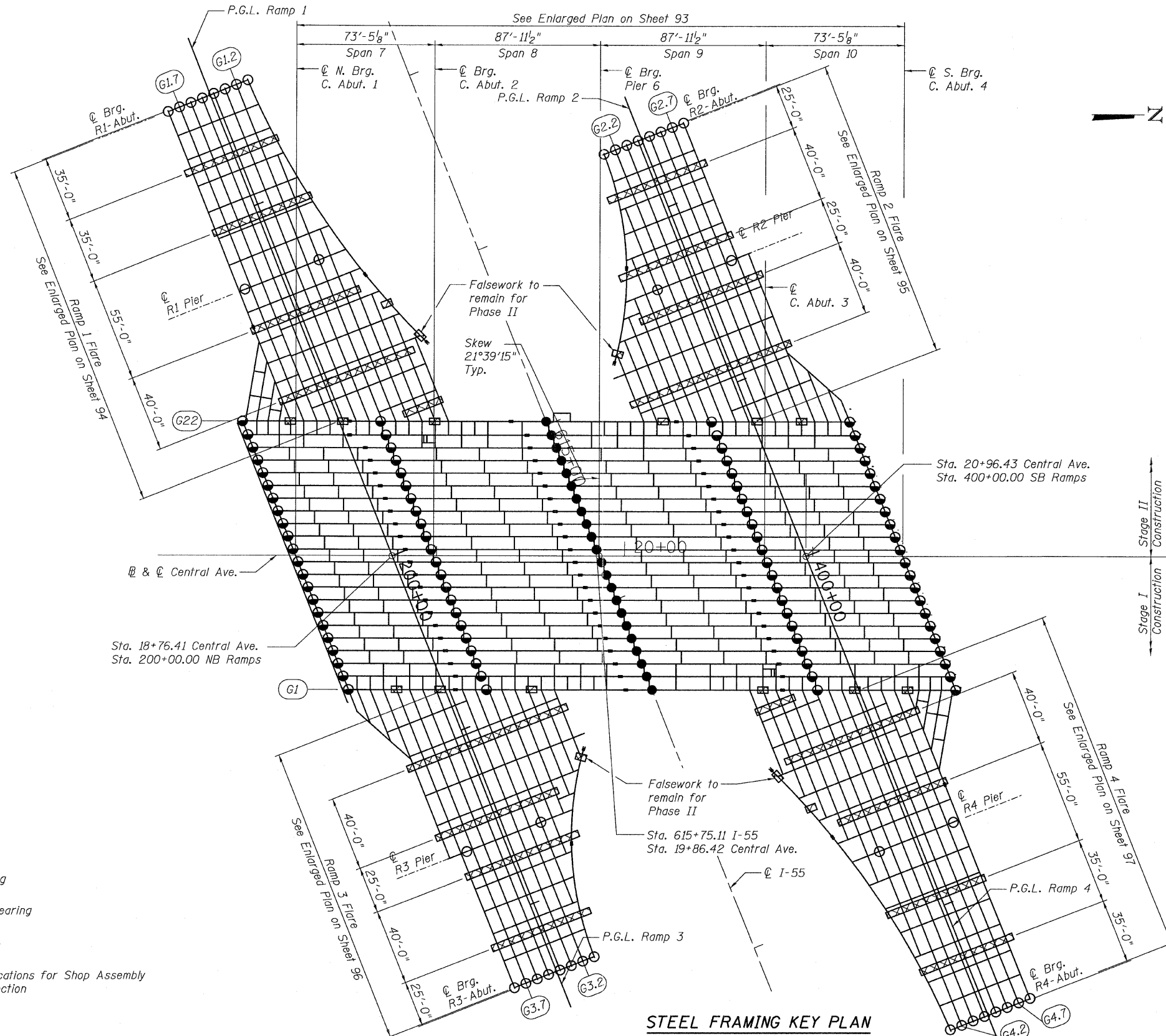
FRAMING KEY PLAN & SHORING LAYOUT
CENTRAL / I-55
STRUCTURE NO. 016-0724

STEEL FRAMING KEY PLAN

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 90	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 414			
	CHECKED - AMD, PDF	NAME	DATE							239 SHEETS	CONTRACT NO. 60999	
	DRAWN - JMA											FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT
	CHECKED - AMD, PDF											
	DATE - 03/25/2011											

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4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

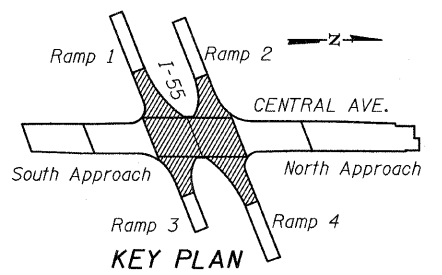


STEEL ERECTION SEQUENCE

RAMP 3 PHASE I	MOT STAGE 1
RAMP 3 PHASE II	MOT STAGE 1A
RAMP 4 PHASE I	MOT STAGE 2
RAMP 4 PHASE II	MOT STAGE 2A
RAMP 1 PHASE I	MOT STAGE 3
RAMP 1 PHASE II	MOT STAGE 3A
RAMP 2 PHASE I	MOT STAGE 4
RAMP 2 PHASE II	MOT STAGE 4A

NOTES:

- For Steel Fabrication and Shop Assembly Requirements, refer to the Special Provisions.
- Coordinate steel erection and shoring with MOT plans. Phase 1 shoring is for erection of outside ramp beams/girders as shown. Remove all falsework except as indicated for Phase II traffic shift.



**PHASE I SHORING PLAN LAYOUT
CENTRAL / I-55
STRUCTURE NO. 016-0724**

LEGEND:

- Guided Bearing
- Non-Guided Bearing
- Fixed Bearing
- ▨ Falsework Locations for Shop Assembly and Steel Erection

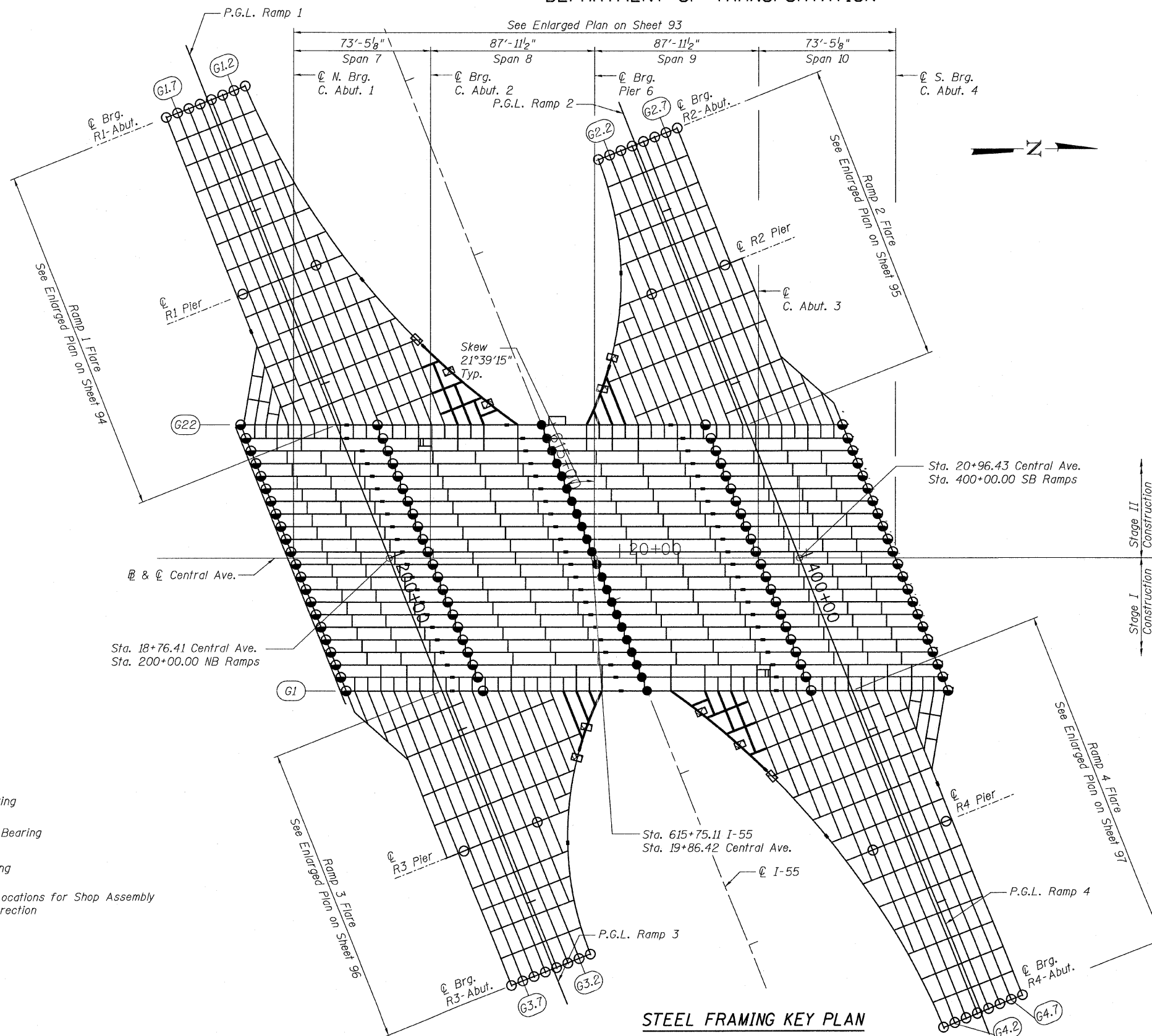
TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD, PDF	NAME	DATE
DRAWN - JMA		
CHECKED - AMD, PDF		
DATE - 03/25/2011		

SHEET NO. 91 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	415
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60999		

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STEEL ERECTION SEQUENCE

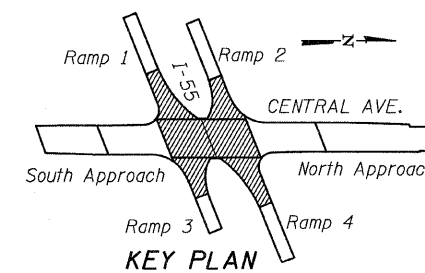
RAMP 3 PHASE I	MOT STAGE 1
RAMP 3 PHASE II	MOT STAGE 1A
RAMP 4 PHASE I	MOT STAGE 2
RAMP 4 PHASE II	MOT STAGE 2A
RAMP 1 PHASE I	MOT STAGE 3
RAMP 1 PHASE II	MOT STAGE 3A
RAMP 2 PHASE I	MOT STAGE 4
RAMP 2 PHASE II	MOT STAGE 4A

NOTES:

1. For Steel Fabrication and Shop Assembly Requirements, refer to the Special Provisions.
2. Coordinate steel erection and shoring with MOT plans. Phase 1 shoring is for erection of outside ramp beams/girders as shown. Remove all falsework except as indicated for Phase II traffic shift.

LEGEND:

- Guided Bearing
- Non-Guided Bearing
- Fixed Bearing
- ▨ Falsework Locations for Shop Assembly and Steel Erection



**PHASE II SHORING PLAN LAYOUT
CENTRAL / I-55
STRUCTURE NO. 016-0724**

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CHECKED - AMD, PDF			
DATE - 03/25/2011			

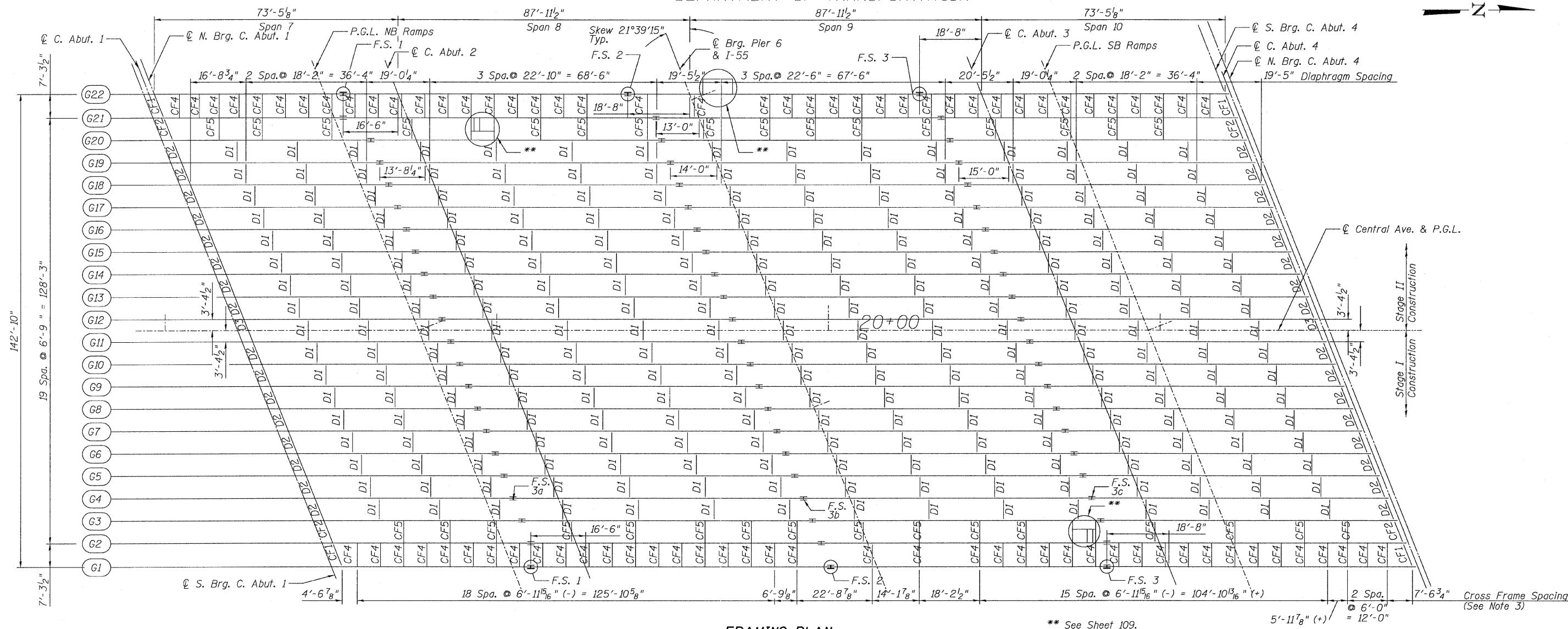
SHEET NO. 92 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	416
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60999		

4/28/2011

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FRAMING PLAN

** See Sheet 109.

5'-11 7/8" (+)
12'-0"

NOTES:

- Structural Steel for Girders, Splice Plates, and Bearing Plates shall conform to the requirements of AASHTO M 270 Grade 50. All other steel shall conform to the requirements of AASHTO M 270 Grade 36.
- Work this sheet with sheets 99 thru 109.
- Cross Frame spacing on G22 is same as G1, opposite hand.

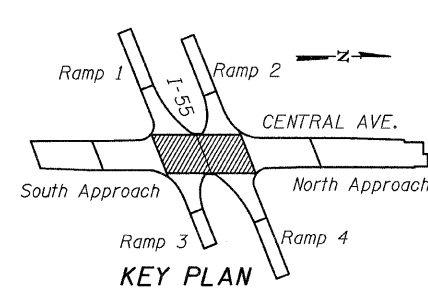
TOP OF BEAM ELEVATIONS*

	☉ N. Brg. C. Abut. 1	Field Splice 3a	☉ Brg. C. Abut. 2	Field Splice 3b	☉ Brg. Pier 6	Field Splice 3c	☉ Brg. C. Abut. 3	☉ S. Brg. C. Abut. 4
G3	626.27	627.15	627.29	628.05	628.11	628.43	628.50	628.84
G4	626.36	627.25	627.39	628.16	628.22	628.55	628.62	628.96
G5	626.44	627.34	627.49	628.28	628.34	628.68	628.75	629.09
G6	626.53	627.44	627.59	628.39	628.46	628.80	628.87	629.21
G7	626.61	627.54	627.69	628.51	628.58	628.93	629.00	629.34
G8	626.68	627.62	627.77	628.61	628.67	629.04	629.11	629.45
G9	626.73	627.68	627.83	628.69	628.76	629.13	629.20	629.54
G10	626.78	627.74	627.90	628.76	628.84	629.22	629.29	629.63
G11	626.82	627.80	627.96	628.84	628.92	629.31	629.38	629.72
G12	626.77	627.76	627.92	628.82	628.90	629.30	629.37	629.71
G13	626.62	627.61	627.78	628.70	628.77	629.19	629.26	629.60
G14	626.46	627.47	627.64	628.57	628.65	629.08	629.15	629.49
G15	626.30	627.33	627.50	628.44	628.53	628.97	629.04	629.38
G16	626.13	627.16	627.34	628.30	628.39	628.84	628.91	629.25
G17	625.94	626.98	627.16	628.14	628.23	628.70	628.76	629.11
G18	625.74	626.80	626.99	627.98	628.07	628.55	628.62	628.96
G19	625.55	626.62	626.81	627.82	627.91	628.41	628.48	628.82
G20	625.36	626.44	626.63	627.65	627.75	628.26	628.33	628.67

TOP OF WEB ELEVATIONS*

	☉ N. Brg. C. Abut. 1	Field Splice 1	☉ Brg. C. Abut. 2	Field Splice 2	☉ Brg. Pier 6	Field Splice 3	☉ Brg. C. Abut. 3	☉ S. Brg. C. Abut. 4
G1	625.89	626.69	626.85	627.58	627.64	627.94	628.02	628.37
G2	626.07	626.96	627.09	627.83	627.90	628.21	628.28	628.60
G21	625.05	626.07	626.35	627.31	627.48	628.00	628.09	628.41
G22	624.74	625.80	626.04	627.04	627.19	627.72	627.81	628.16

* For Fabrication only



FRAMING PLAN
CENTRAL/I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 93	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD, PDF	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	417
	DRAWN - JMA				CONTRACT NO. 60999					
	CHECKED - AMD, PDF				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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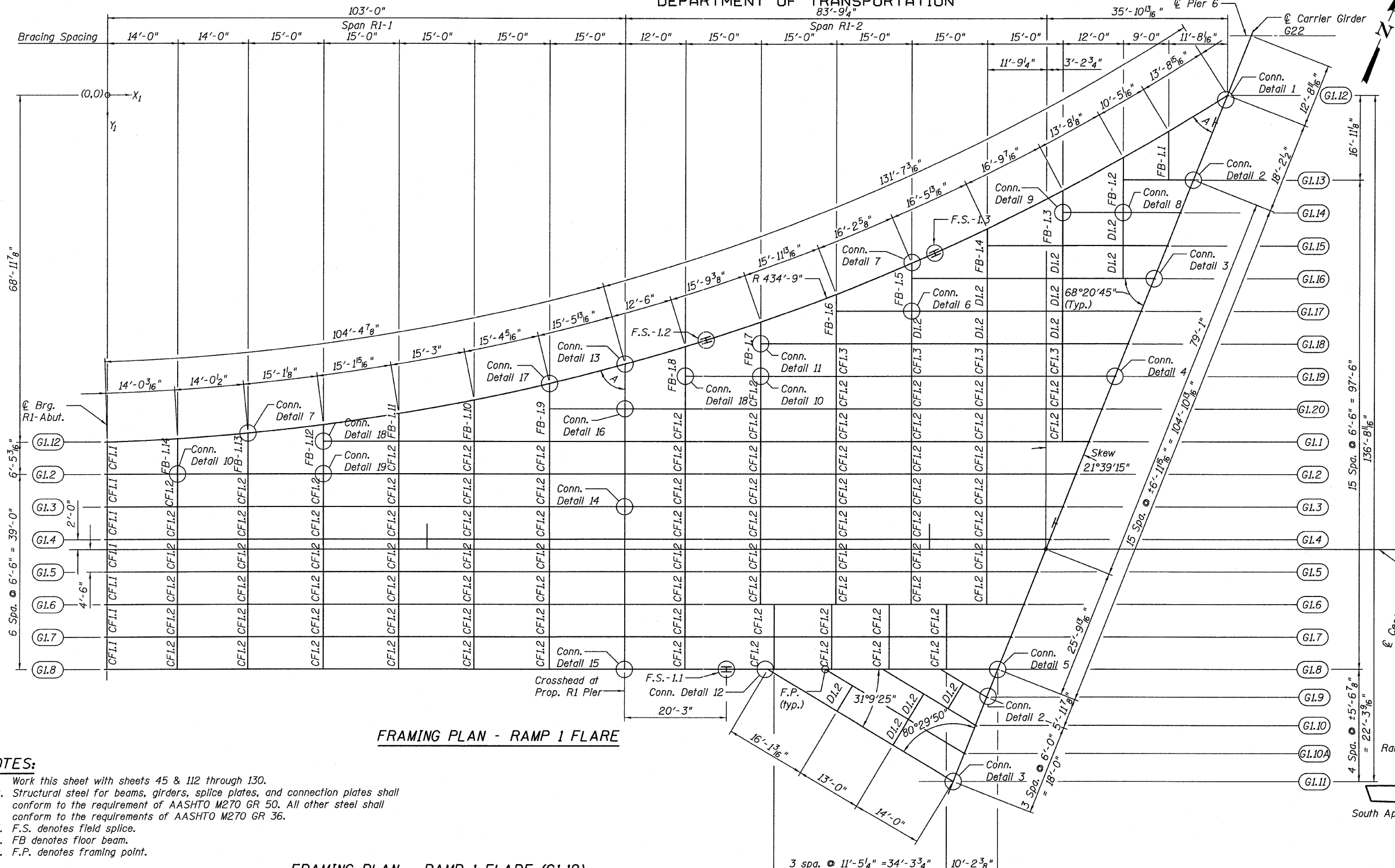
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEMBER SIZE

Girder	Size
G1.1-G1.7	54" I Girder
G1.8	60" I Girder
G1.9	W36x150
G1.10	W36x150
G1.10A	W36x150
G1.11	W36x231
G1.12	60" I Girder
G1.13	W36x150
G1.14	W36x150
G1.15	W36x150
G1.16	W36x231
G1.17	W36x231
G1.18	W36x231
G1.19	54" I Girder
G1.20	54" I Girder
FB1.1-FB1.7	W36x231
FB1.8, FB1.9, FB1.12	54" I Girder
FB1.10, FB1.11, FB1.13, FB1.14	W36x231

ANGLE "A"

Girder	Angle "A"
Carrier Girder	35°34'48"
FB-1.1	59°2'44"
FB-1.2	60°25'8"
FB-1.3	62°13'18"
FB-1.4	64°26'2"
FB-1.5	66°36'22"
FB-1.6	68°44'36"
FB-1.7	70°51'0"
FB-1.8	72°55'48"
Crosshead	74°34'38"
FB-1.9	76°37'5"
FB-1.10	78°38'31"
FB-1.11	80°39'6"
FB-1.12	82°39'0"
FB-1.13	84°38'21"
FB-1.14	86°29'23"



FRAMING PLAN - RAMP 1 FLARE

FRAMING PLAN - RAMP 1 FLARE (G1.12)

	Carrier Girder G22	F.S.-1.3	F.S.-1.2	Crosshead	Brg. RI-Abut.
X ₁	222'-8 ¹ / ₁₆ "	164'-6 ¹³ / ₁₆ "	119'-1 ³ / ₈ "	103'-0"	0'-0"
Y ₁	0'-0"	31'-5 ¹ / ₈ "	48'-8 ³ / ₄ "	53'-6 ¹ / ₄ "	68'-11 ⁷ / ₈ "

NOTES:

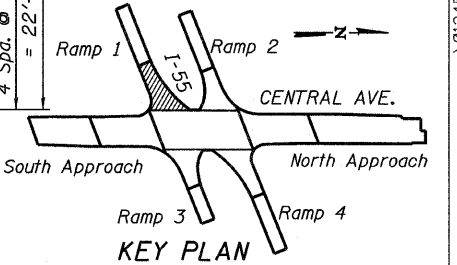
1. Work this sheet with sheets 45 & 112 through 130.
2. Structural steel for beams, girders, splice plates, and connection plates shall conform to the requirement of AASHTO M270 GR 50. All other steel shall conform to the requirements of AASHTO M270 GR 36.
3. F.S. denotes field splice.
4. FB denotes floor beam.
5. F.P. denotes framing point.

TYLIN INTERNATIONAL

DESIGNED	JN	REVISIONS	
CHECKED	AMD, PDF	NAME	DATE
DRAWN	JMA		
CHECKED	AMD, PDF		
DATE	03/25/2011		

SHEET NO. 94	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 418
239 SHEETS					
CONTRACT NO. 60999					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

FRAMING PLAN
RAMP 1 FLARE
STRUCTURE NO. 016-0724

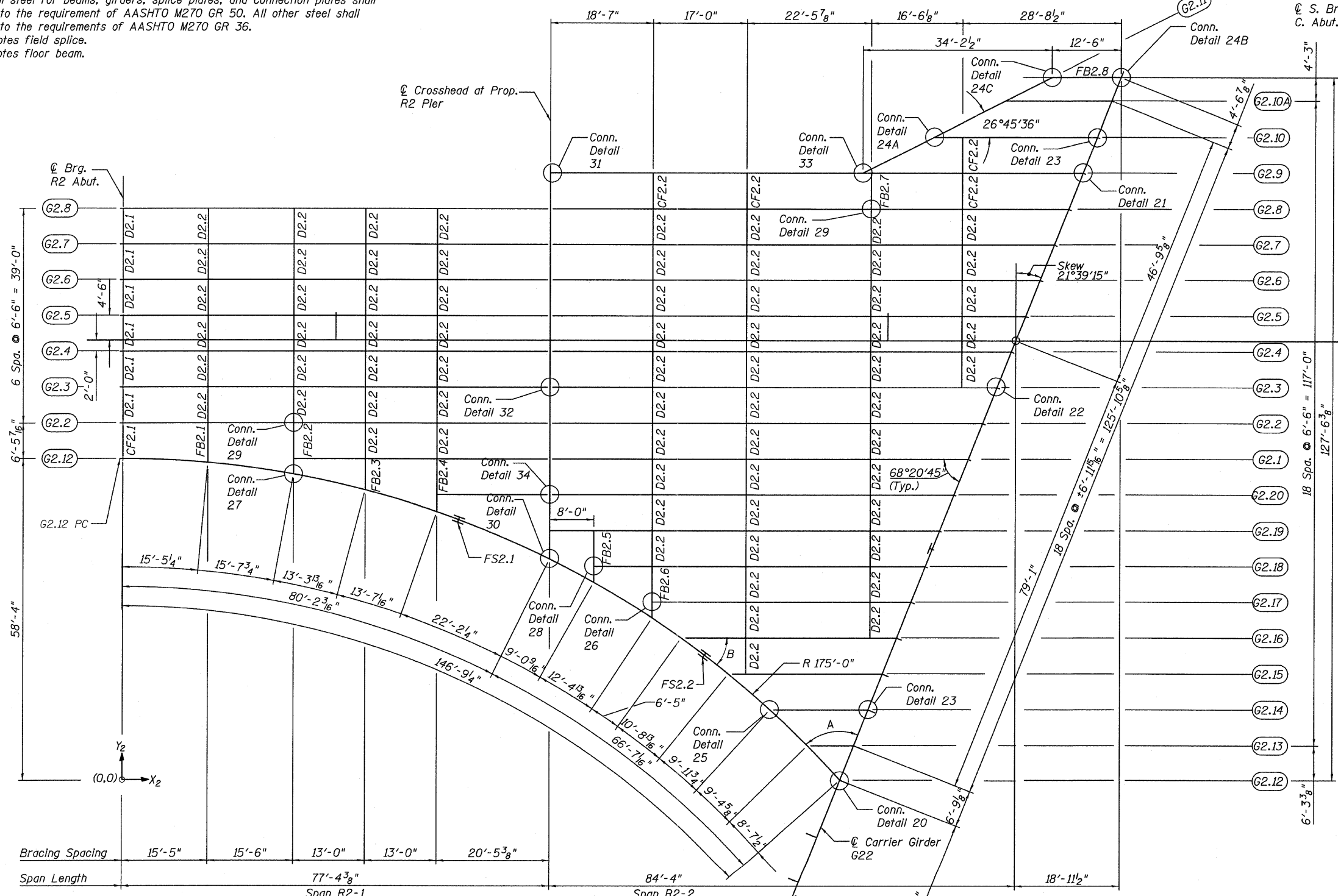


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DEPARTMENT OF TRANSPORTATION

NOTES:

1. Work this sheet with sheets 132 through 149.
2. Structural steel for beams, girders, splice plates, and connection plates shall conform to the requirement of AASHTO M270 GR 50. All other steel shall conform to the requirements of AASHTO M270 GR 36.
3. F.S. denotes field splice.
4. FB denotes floor beam.

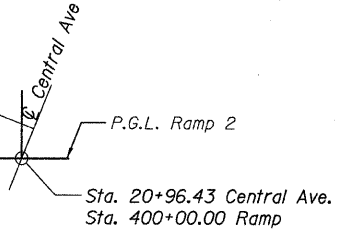


ANGLE "A"

Girder	A
Carrier Girder	63°27'58"
FB-2.6	56°35'24"
FB-2.5	60°38'59"
Crosshead	63°36'46"
FB-2.4	70°52'39"
FB-2.3	75°19'37"
FB-2.2	79°41'15"
FB-2.1	84°48'39"

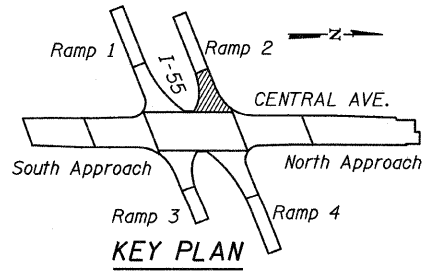
ANGLE "B"

Girder	B
G2.13	45°21'53"
G2.14	42°17'28"
G2.15	39°12'28"
G2.16	35°30'34"



MEMBER SIZE

Girder	Size
G2.1	W36x231
G2.2	
G2.3	
G2.4	
G2.5	
G2.6	
G2.7	
G2.8	W36x231
G2.9	54" I Girder
G2.10	W36x150
G2.10A	W36x150
G2.11	W36x231
G2.12	54" I Girder
G2.13	W36x150
G2.14	
G2.15	
G2.16	
G2.17	W36x150
G2.18	W36x231
G2.19	W36x231
G2.20	W36x231
FB2.1 thru FB2.7	W36x231
FB2.8	W24x76



FRAMING PLAN - RAMP 2 FLARE (G2.12)

	G2.12 PC	Q Brg. Abutment	Q F.S. -2.1	Q Crosshead	Q F.S. -2.2	Q Carrier Girder G22
X ₂	-6"	0'-0"	60'-10 ⁵ / ₁₆ "	77'-4 ³ / ₈ "	105'-5 ³ / ₁₆ "	130'-0 ¹ / ₄ "
Y ₂	58'-4"	58'-4"	47'-3"	40'-1 ³ / ₁₆ "	22'-8 ³ / ₁₆ "	0'-0"

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DESIGNED	JN	REVISIONS	
CHECKED	AMD, PDF	NAME	DATE
DRAWN	JN		
CHECKED	AMD, PDF		
DATE	03/25/2011		

SHEET NO. 95	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 419
239 SHEETS		CONTRACT NO. 60999		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

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FRAMING PLAN - RAMP 3 FLARE (G3.12)

	G3.12 PC	℄ Brg. Abutment	℄ F.S. -3.1	℄ Crosshead	℄ F.S. -3.2	℄ Carrier Girder G1
X ₃	-6"	0'-0"	60'-10 ⁵ / ₁₆ "	77'-4 ³ / ₈ "	105'-5 ³ / ₁₆ "	130'-0 ¹ / ₄ "
Y ₃	58'-4"	58'-4"	47'-3"	40'-1 ³ / ₁₆ "	22'-8 ³ / ₁₆ "	0'-0"

NOTES:

1. Work this sheet with sheets 151 through 168.
2. Structural steel for beams, girders, splice plates, and connection plates shall conform to the requirement of AASHTO M270 GR 50. All other steel shall conform to the requirements of AASHTO M270 GR 36.
3. F.S. denotes field splice.
4. FB denotes floor beam.

MEMBER SIZE

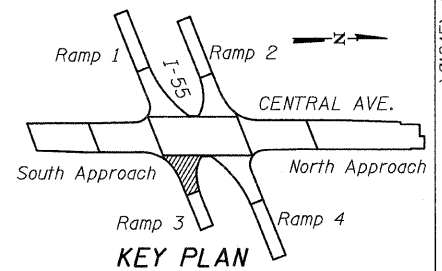
Girder	Size
G3.1	W36x231
G3.2	
G3.3	
G3.4	
G3.5	
G3.6	
G3.7	
G3.8	W36x231
G3.9	54" I ^e Girder
G3.10	W36x150
G3.10A	W36x150
G3.11	W36x231
G3.12	54" I ^e Girder
G3.13	W36x150
G3.14	
G3.15	
G3.16	
G3.17	W36x150
G3.18	W36x231
G3.19	W36x231
G3.20	W36x231
FB3.1 thru FB3.7	W36x231
FB3.8	W24x76

ANGLE "A"

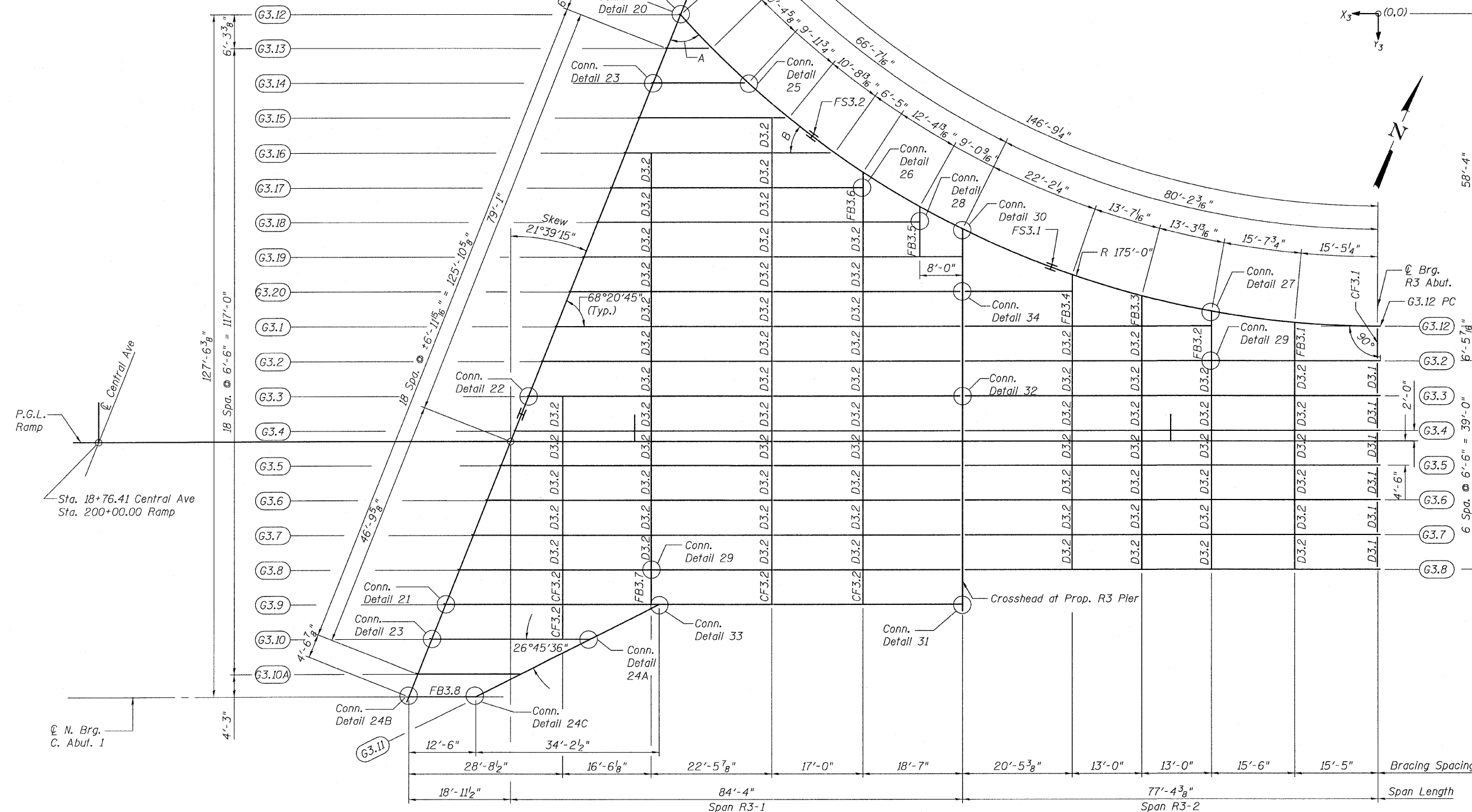
Girder	A
Carrier Girder	63°27'58"
FB-3.6	56°35'24"
FB-3.5	60°38'59"
Crosshead	63°36'46"
FB-3.4	70°52'39"
FB-3.3	75°19'37"
FB-3.2	79°41'15"
FB-3.1	84°48'39"

ANGLE "B"

Girder	B
G3.13	45°21'53"
G3.14	42°17'28"
G3.15	39°1'28"
G3.16	35°30'34"



FRAMING PLAN
RAMP 3 FLARE
STRUCTURE NO. 016-0724



FRAMING PLAN - RAMP 3 FLARE

TYLIN INTERNATIONAL

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CHECKED	AMD, PDF		
DATE	03/25/2011		

SHEET NO. 96	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	420
239 SHEETS		CONTRACT NO. 60999			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
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NOTES:

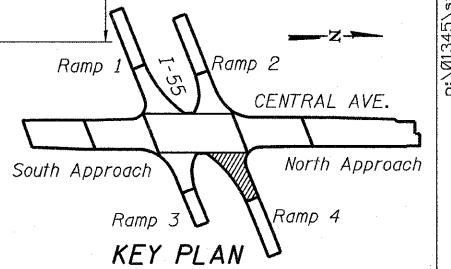
1. Work this sheet with sheets 57 & 170 through 189.
2. Structural steel for beams, girders, splice plates, and connection plates shall conform to the requirement of AASHTO M270 GR 50. All other steel shall conform to the requirements of AASHTO M270 GR 36.
3. F.S. denotes field splice.
4. FB denotes floor beam.
5. F.P. denotes framing point.

ANGLE "A"

Girder	Angle "A"
Carrier Girder	35°34'48"
FB-4.1	59°2'44"
FB-4.2	60°25'8"
FB-4.3	62°13'18"
FB-4.4	64°26'2"
FB-4.5	66°36'22"
FB-4.6	68°44'36"
FB-4.7	70°51'0"
FB-4.8	72°55'48"
Crosshead	74°34'38"
FB-4.9	76°37'5"
FB-4.10	78°38'31"
FB-4.11	80°39'6"
FB-4.12	82°39'0"
FB-4.13	84°38'21"
FB-4.14	86°29'23"

MEMBER SIZE

Girder	Size
G4.1-G4.7	54" I _p Girder
G4.8	60" I _p Girder
G4.9	W36x150
G4.10	W36x150
G4.10A	W36x150
G4.11	W36x231
G4.12	60" I _p Girder
G4.13	W36x150
G4.14	W36x150
G4.15	W36x150
G4.16	W36x231
G4.17	W36x231
G4.18	W36x231
G4.19	54" I _p Girder
G4.20	54" I _p Girder
FB4.1-FB4.7	W36x231
FB4.8, FB4.9, FB4.12	54" I _p Girder
FB4.10, FB4.11, FB4.13, FB4.14	W36x231

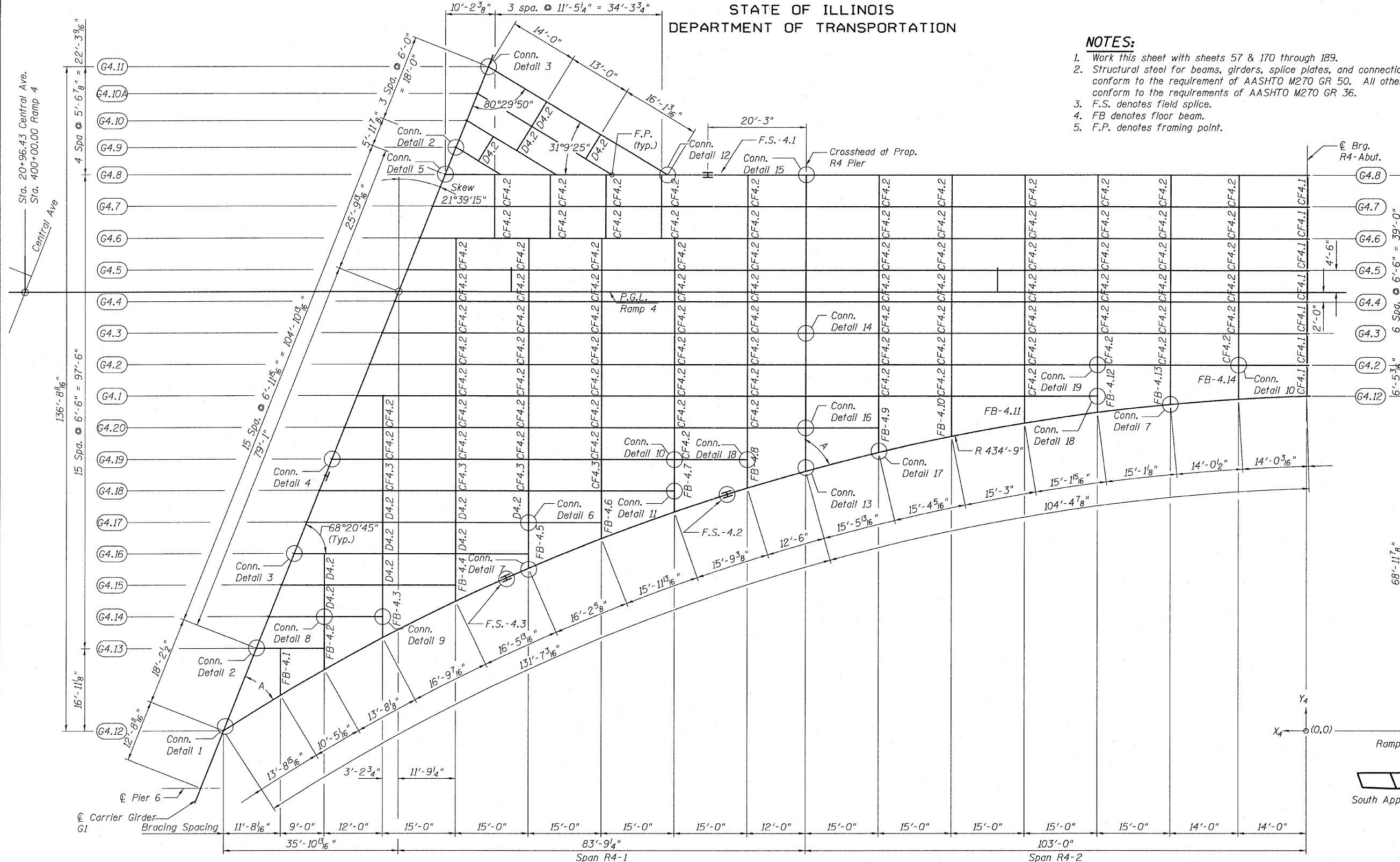


FRAMING PLAN
RAMP 4 FLARE
STRUCTURE NO. 016-0724

FRAMING PLAN - RAMP 4 FLARE

	Carrier Girder G22	F.S.-4.3	F.S.-4.2	Crosshead	Brg. R4-Abut.
X ₄	222'-8 ¹ / ₁₆ "	164'-6 ³ / ₁₆ "	119'-1 ⁵ / ₈ "	103'-0"	0'-0"
Y ₄	0'-0"	31'-5 ¹ / ₈ "	48'-8 ³ / ₄ "	53'-6 ¹ / ₄ "	68'-11 ⁷ / ₈ "

Sta. 20+96.43 Central Ave.
Sta. 400+00.00 Ramp 4



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CHECKED	AMD, PDF		
DATE	03/25/2011		

SHEET NO. 97
239 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	0711.2R & 1011.1BR	COOK	741	421
CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

4/28/2011

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GIRDER MOMENT TABLE - CENTRAL AVE.

	Fascia Girder G1 and G22 (Note 1)							Interior girder G2 and 21						
	0.4 Sp.7	C. Abt. 2	0.5 Sp.8	Pier 6	0.5 Sp.9	C. Abt. 3	0.6 Sp.10	0.4 Sp.7	C. Abt. 2	0.5 Sp.8	Pier 6	0.5 Sp.9	C. Abt. 3	0.6 Sp.10
I_s	(in ⁴) 128965	179592	179592	179592	179592	179592	128965	83898	83898	83898	83898	83898	83898	83898
$I_c(n)$	(in ⁴) 209125	-	268800	-	268800	-	209125	153635	-	153635	-	153635	-	153635
$I_c(3n)$	(in ⁴) 163380	-	216353	-	216353	-	163380	116813	-	116813	-	116813	-	116813
S_s	(in ³) 3474	4742	4742	4742	4742	4742	3474	2283	2283	2283	2283	2283	2283	2283
$S_c(n)$	(in ³) 4103	-	5385	-	5385	-	4103	2805	-	2805	-	2805	-	2805
$S_c(3n)$	(in ³) 3793	-	5050	-	5050	-	3793	2580	-	2580	-	2580	-	2580
Z	(in ³) -	-	-	-	-	-	-	-	-	-	-	-	-	-
\bar{Q}	(k/ft) 6.96	8.0	2.62	4.6	4.5	7.83	4.88	1.11	1.69	1.11	1.69	1.11	1.69	1.11
$M\bar{Q}$	(k) 2664	5271	833	2921	1429	5162	1870	429	1083	362	1055	362	1083	429
$s\bar{Q}$	(k/ft) 2.87	-	1.18	-	1.84	-	2.01	0.58	-	0.58	-	0.58	-	0.58
$M_s\bar{Q}$	(k) 1093	-	374	-	586	-	770	233	-	207	-	207	-	233
M_L	(k) 944.5	621.8	943.5	625.7	943.5	621.7	944.5	568	413	574	436	574	409	559
M (IM)	(k) 238.0	151.2	221.6	147.0	221.6	151.2	238.0	143	100	135	102	135	99	141
$M_3[M_L+I]$	(k) 1970.8	1288.3	1941.8	1287.8	1941.8	1288.2	1970.8	1186	855	1182	897	1182	847	1166
M_a	(k) 7453	8527	4094	5472	5144	8385	5994	2406	2522	2279	2540	2279	2511	2380
M_u	(k) 18145.3	-	22060.0	-	22060.0	-	18145.3	14104	-	14104	-	14104	-	14104
$f_s\bar{Q}_{non-comp}$	(ksi) 9.2	13.3	2.1	7.4	3.6	13.1	6.5	2.3	5.7	1.9	5.5	1.9	5.7	2.3
$f_s\bar{Q}_{comp}$	(ksi) 3.5	-	0.9	-	1.4	-	2.4	1.1	-	1.0	-	1.0	-	1.1
$f_s\bar{Q}_3(M_L+MI)$	(ksi) 5.8	3.3	4.3	3.3	4.3	3.3	5.8	5.2	4.5	5.1	4.7	5.1	4.5	5.1
f_s (Overload)	(ksi) 18.4	16.6	7.3	10.7	9.3	16.3	14.7	8.5	10.2	8.0	10.3	8.0	10.1	8.4
f_s (Total)	(ksi) -	21.6	-	13.9	-	21.2	-	-	13.2	-	13.3	-	13.2	-
VR	(k) 90.3	-	79.0	-	79.0	-	90.3	61.0	-	45.7	-	45.9	-	60.3

Note 1: Moments for G22 are opposite hand.

	Girder G3 thru G20			
	0.4 Sp.7 & 0.6 Sp.10	C. Abt. 2 & C. Abt. 3	0.5 Sp.8 & 0.5 Sp. 9	Pier 6
I_s	(in ⁴) 12100	12100	12100	12100
$I_c(n)$	(in ⁴) 28227	-	28227	-
$I_c(3n)$	(in ⁴) 20585	-	20585	-
S_s	(in ³) 664	664	664	664
$S_c(n)$	(in ³) 921	-	921	-
$S_c(3n)$	(in ³) 829	-	829	-
Z	(in ³) -	767	-	767
\bar{Q}	(k/ft) 0.92	1.32	0.92	1.32
$M\bar{Q}$	(k) 357	833	301	816
$s\bar{Q}$	(k/ft) 0.4	-	0.4	-
$M_s\bar{Q}$	(k) 167	-	155	-
M_L	(k) 550	358	573	379
M (IM)	(k) 139	87	135	89
$M_3[M_L+I]$	(k) 1149	742	1180	780
M_a	(k) 2178	2039	2133	2067
M_u	(k) 4191	-	4407	-
$f_s\bar{Q}_{non-comp}$	(ksi) 6.5	15.1	5.4	14.7
$f_s\bar{Q}_{comp}$	(ksi) 2.45	-	2.27	-
$f_s\bar{Q}_3(M_L+MI)$	(ksi) 15.2	13.41	15.61	14.1
f_s (Overload)	(ksi) 24.1	28.3	23.4	28.7
f_s (Total)	(ksi) -	36.8	-	37.3
VR	(k) 58	-	44	-

GIRDER REACTION TABLE - CENTRAL AVE.

	Fascia Girder G1 & G22 (Note 2)					Interior Girder G2 & G21				
	N. Brg. C. Abt.1	C. Abt.2	Pier 6	C. Abt.3	S. Brg. C. Abt.4	N. Brg. C. Abt.1	C. Abt.2	Pier 6	C. Abt.3	S. Brg. C. Abt.4
$R\bar{Q}$	(k) 220.2	730.0	375.4	737.4	189.3	48.5	151.7	148.3	151.7	48.4
R_L	(k) 66.9	83.8	83.8	83.8	66.9	44.0	55.5	56.6	55.2	44.0
Imp.	(k) 16.8	14.6	13.9	14.6	16.8	11.1	9.7	9.4	9.6	11.1
R (Total)	(k) 303.9	828.4	473.1	835.8	273.0	103.6	216.8	214.3	216.6	103.5

Note 2: Reactions for G22 are opposite hand

	Interior Girder G3-G20		
	N. Brg. C. Abt.1 & S. Brg. C. Abt.4	C. Abt.2 & C. Abt.3	Pier 6
$R\bar{Q}$	(k) 38	118	116
R_L	(k) 42	50	51
Imp.	(k) 10	12	12
R (Total)	(k) 90	180	179

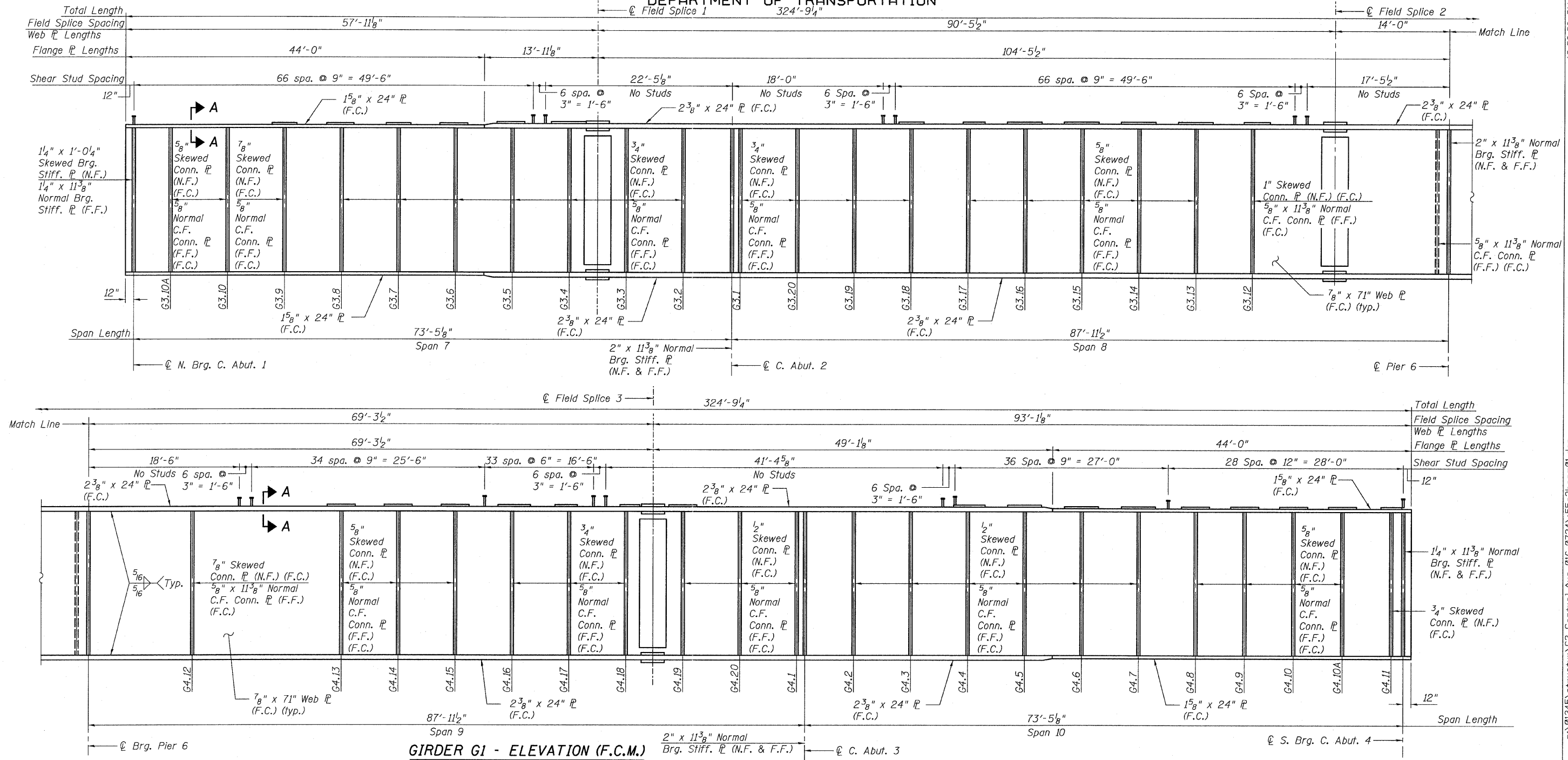
I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in.4 and in.3).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in.4 and in.3).
Z: Plastic Section Modulus of the steel section in non-composite areas (in.3).
 \bar{Q} : Un-factored non-composite dead load (kips/ft.).
 $M\bar{Q}$: Un-factored moment due to non-composite dead load (kip-ft.).
 $s\bar{Q}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s\bar{Q}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
M (IM): Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M\bar{Q} + M_s\bar{Q} + \frac{2}{3} (M_L + M (IM))]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M\bar{Q} + M_s\bar{Q} + \frac{2}{3} (M_L + M (IM))$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\bar{Q} + M_s\bar{Q} + \frac{2}{3} (M_L + M (IM))]$
VR: Maximum \bar{Q} + impact shear range within the composite portion of the span for stud shear connector design (kips).

* Compact section
** Braced non-compact and partially braced section

MOMENT & REACTION TABLES
CENTRAL / I-55
STRUCTURE NO. 016-0724

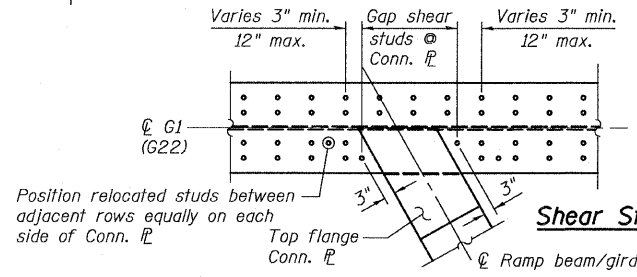
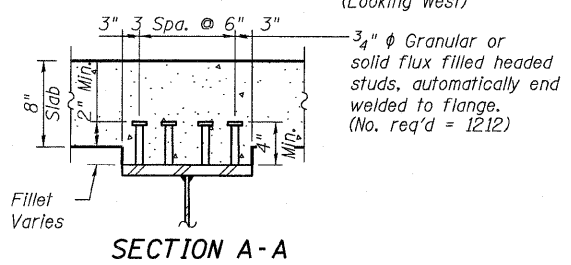
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	DRAWN - JMA				239 SHEETS					CONTRACT NO. 60999			
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								
	DATE - 03/25/2011												

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NOTES:

- For Top of Web Elevations, see Sheet 93.
- For Bearing stiffener and connection plate details see Sheet 107.
- For Field Splice detail, see Sheet 106.
- F.C.M. denotes Fracture Critical Member.
- F.C. denotes Fracture Critical material, AASHTO Zone II.
- N.F. denotes Near Face.
- F.F. denotes Far Face.
- Girder G1 shall not be cambered.



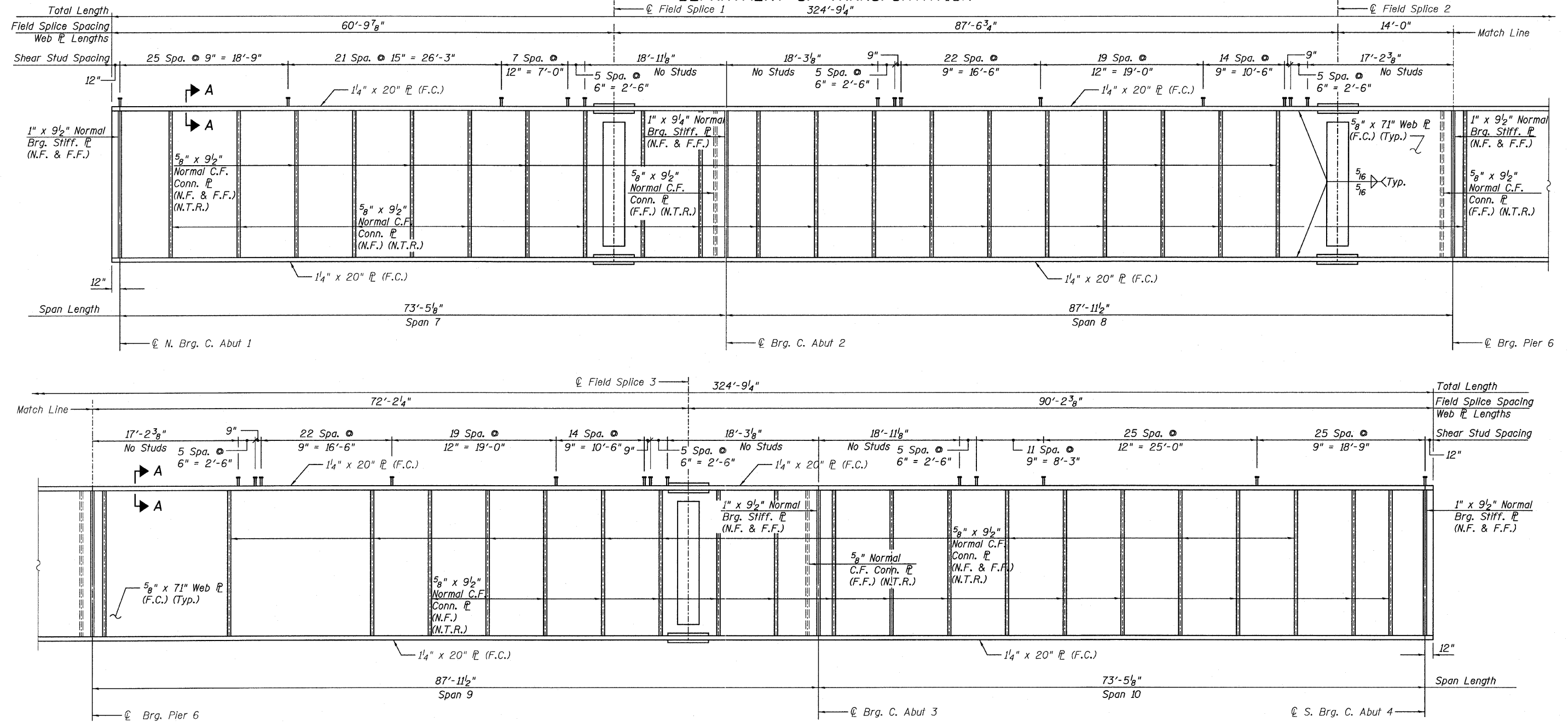
- Relocate studs in order to clear Conn. P.
- Locate last stud 3" from edge of Conn. P. as shown.
- Equally distribute relocated studs between adjacent rows on each side of Conn. P.

**GIRDER G1 - ELEVATION
CENTRAL/I-55
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 99	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 423
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	DRAWN - JMA								
	CHECKED - AMD,								
	DATE - 03/25/2011			239 SHEETS	CONTRACT NO. 60999				
					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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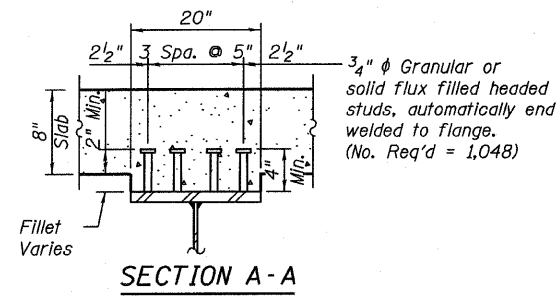
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GIRDER G2 - ELEVATION (F.C.M)
(Looking West)

NOTES:

- All Steel shown on this sheet shall be AASHTO M 270 GR 50.
- For Top of Web Elevations, see Sheet 93.
- For Bearing stiffener, and connection plate details, see Sheet 107.
- For Field Splice detail, see Sheet 106.
- F.C.M. denotes Fracture Critical Member
- F.C. denotes Fracture Critical Material, AASHTO Zone II
- N.F. denotes Near Face
- F.F. denotes Far Face
- Girder G2 shall not be cambered.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.

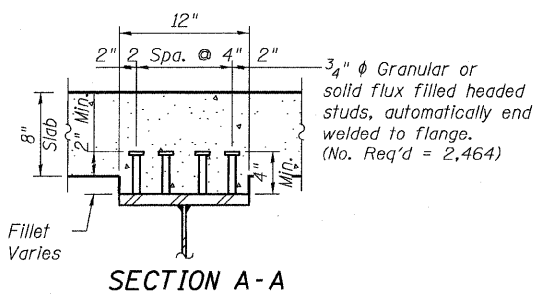
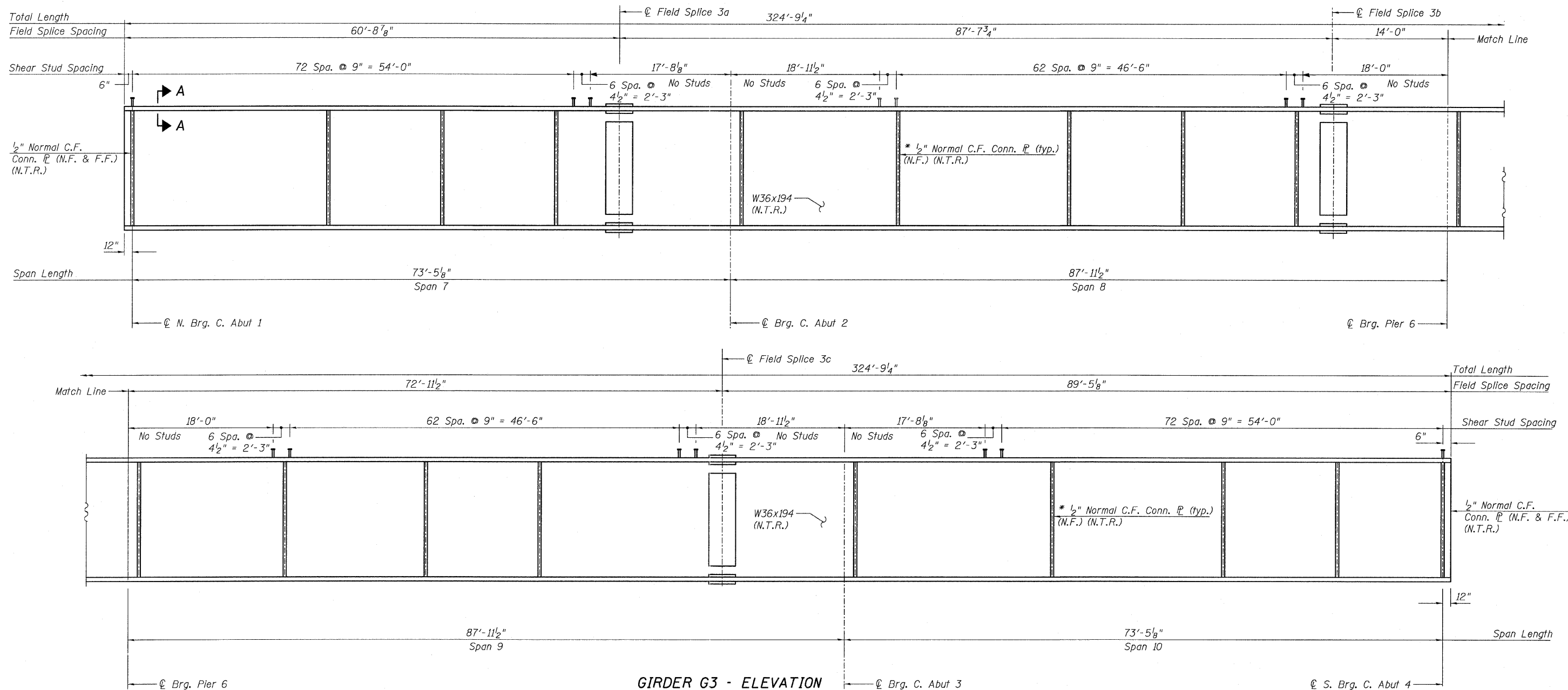


GIRDER G2 - ELEVATION
CENTRAL/I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 100 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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DEPARTMENT OF TRANSPORTATION



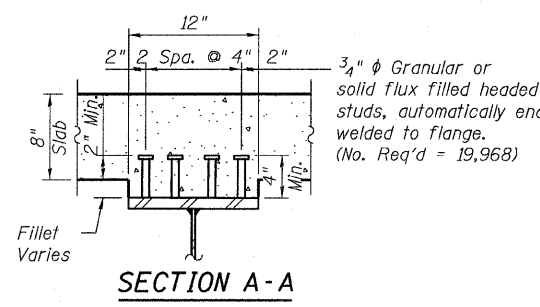
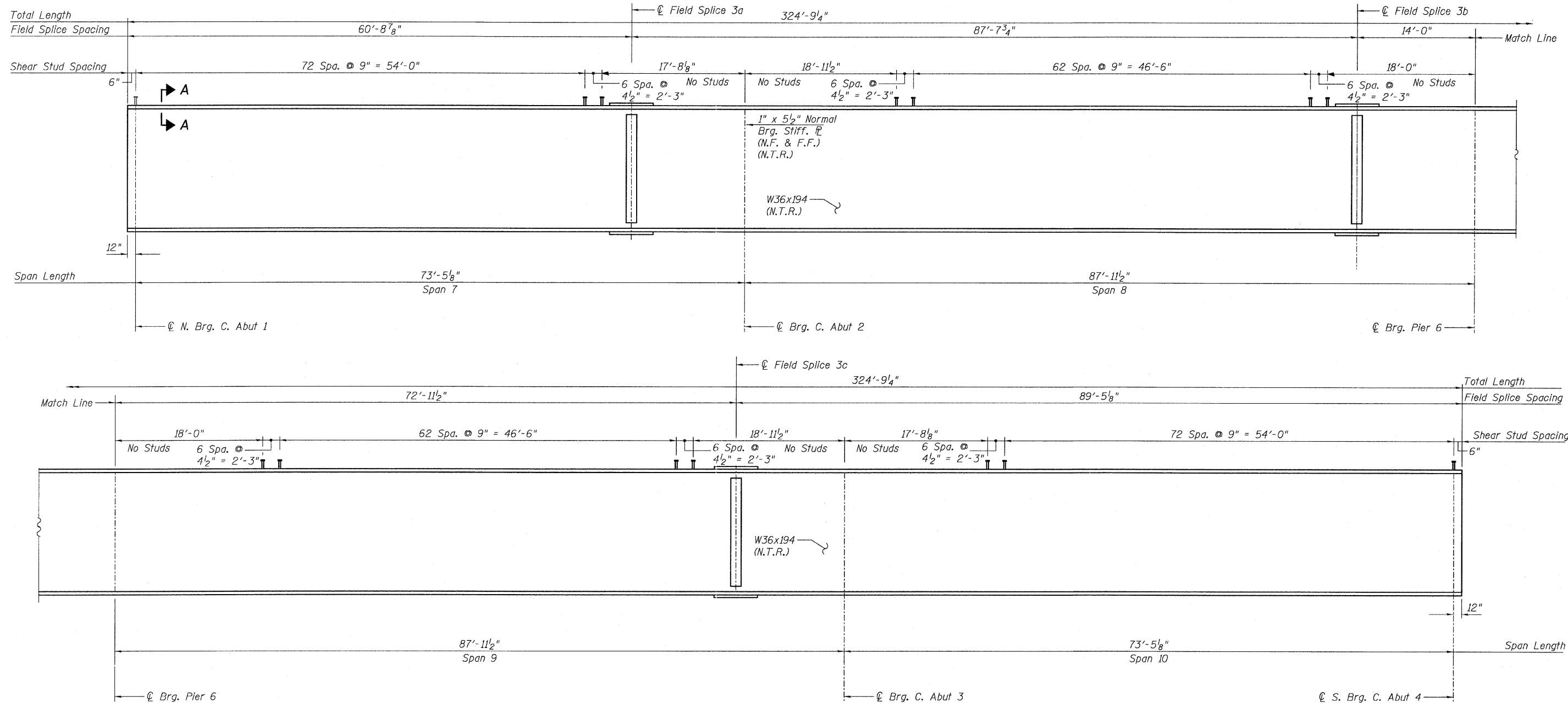
- NOTES:**
- All steel on this sheet shall be AASHTO M 270 Grade 50.
 - For Connection Plate details, see Sheet 106.
 - For Field Splice detail, see Sheets 106 & 107.
 - N.T.R. denotes Notch Toughness Requirements.
 - N.F. denotes Near Face.
 - F.F. denotes Far Face.

GIRDER G3/G20 - ELEVATION
CENTRAL/I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 101	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 425	
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	DRAWN - JMA									
	CHECKED - AMD,									
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GIRDERS G4 THRU G19 - ELEVATION

(Looking West)
(N.T.R.)

NOTES:

1. All steel shown on this sheet shall be AASHTO M 270 Grade 50.
2. N.T.R. denotes Notch Toughness Requirements.
3. N.F. denotes Near Face.
4. F.F. denotes Far Face.
5. For Field Splice detail, see Sheet 107.

**GIRDERS G4 THRU G19 EL
CENTRAL/I-55
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - JMA		
	CHECKED - AMD,		
	DATE - 03/25/2011		

SHEET NO. 102 239 SHEETS	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 426
	CONTRACT NO. 60999			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

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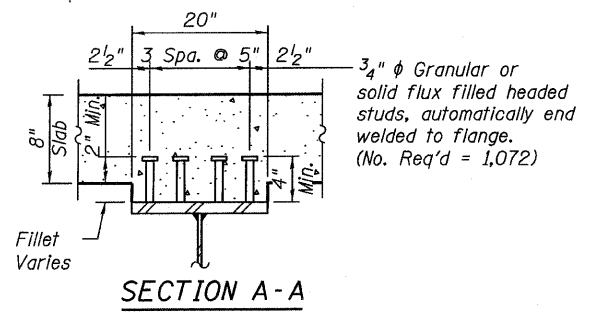
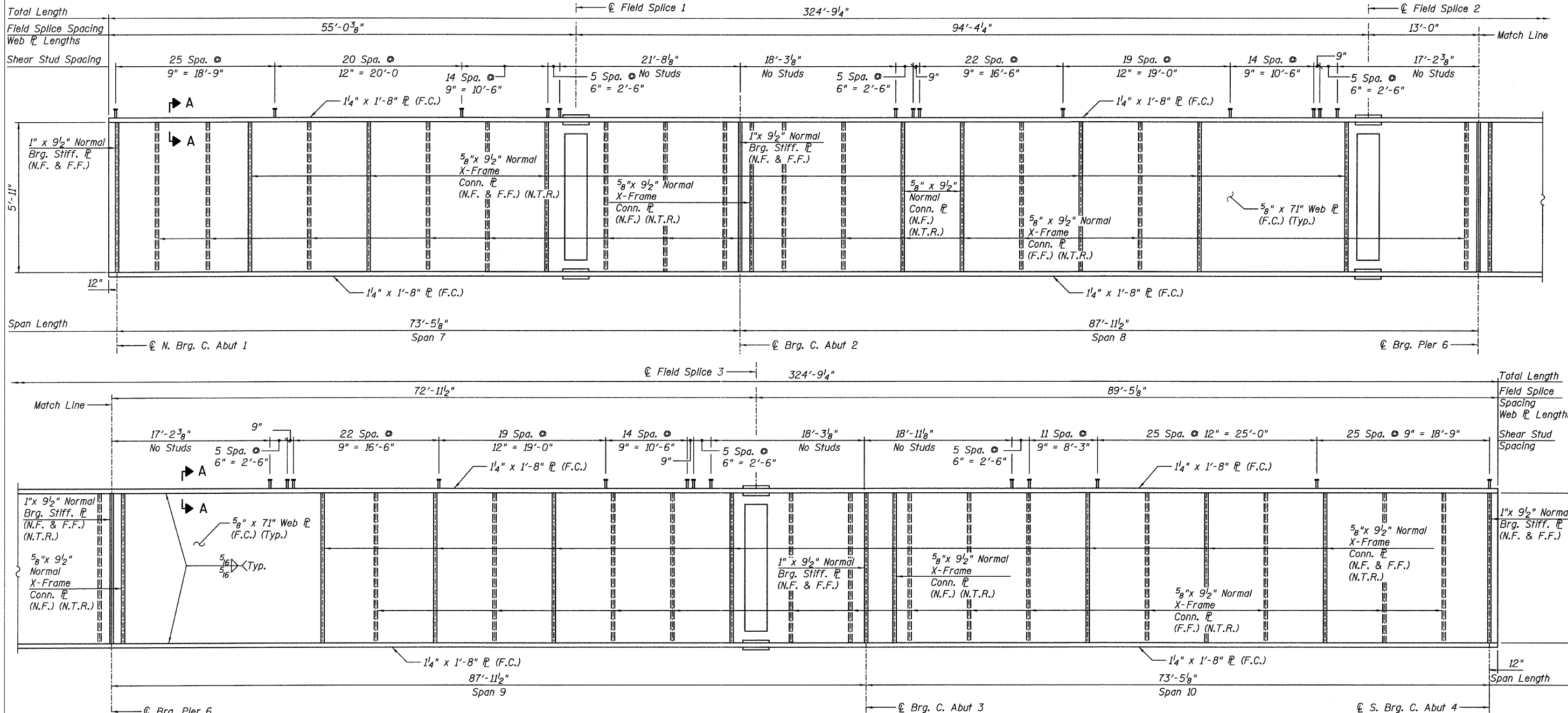
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**THIS SHEET IS
NOT USED**

STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 103	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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DEPARTMENT OF TRANSPORTATION



GIRDER G21 - ELEVATION
(Looking West)
(F.C.M.)

NOTES:

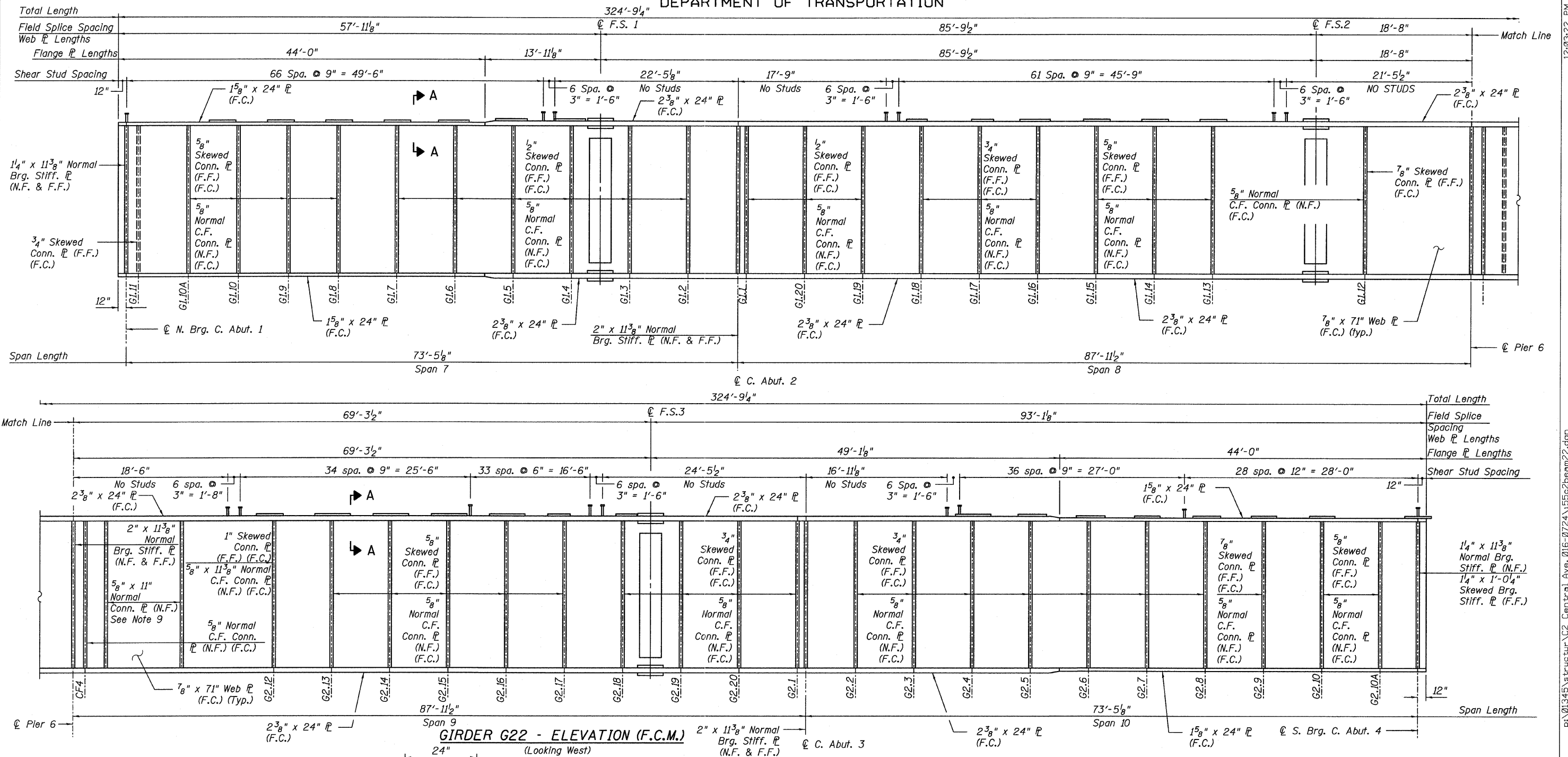
- All Steel shown on this sheet shall be AASHTO M 270 GR 50.
- For Top of Web Elevations, see Sheet 93.
- For Bearing stiffener and connection plate details, see Sheet 107.
- For Field Splice detail, see Sheets 106 & 107.
- F.C.M. denotes Fracture Critical Member
- F.C. denotes Fracture Critical Material, AASHTO Zone II
- N.F. denotes Near Face
- F.F. denotes Far Face
- Girder G21 shall not be cambered.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.

GIRDER G21 - ELEVATION
CENTRAL/I-55
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 104	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 428
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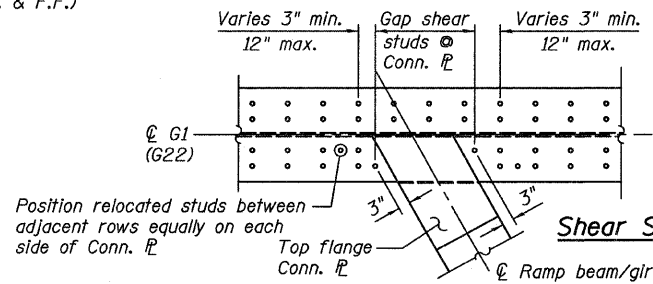
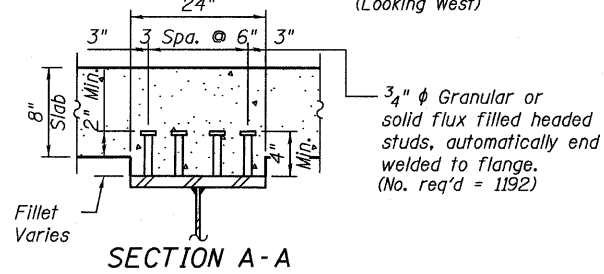
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NOTES:

- For Top of Web Elevations see Sheet 93.
- For Bearing stiffener and connection plate details see Sheet 107.
- For Field Splice detail, see Sheets 106.
- F.C.M. denotes Fracture Critical Member.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- N.F. denotes Near Face.
- F.F. denotes Far Face.
- Girder G22 shall not be cambered.
- For bracket details, see Sheet 109.



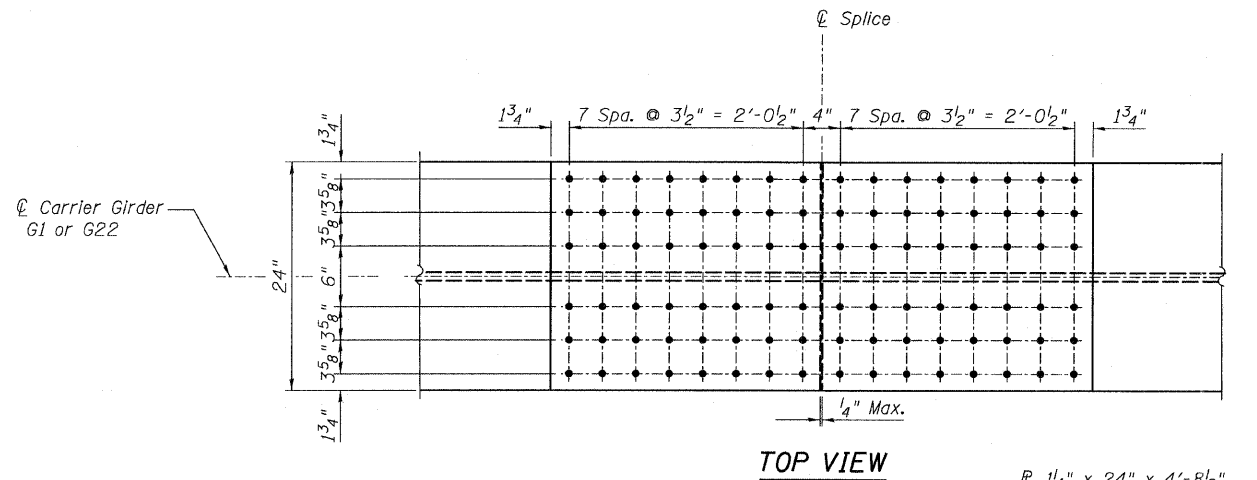
- Relocate studs in order to clear Conn. P.
- Locate last stud 3" from edge of Conn. P. as shown.
- Equally distribute relocated studs between adjacent rows on each side of Conn. P.

**GIRDER G22 - ELEVATION
CENTRAL/1-55
STRUCTURE NO. 016-0724**

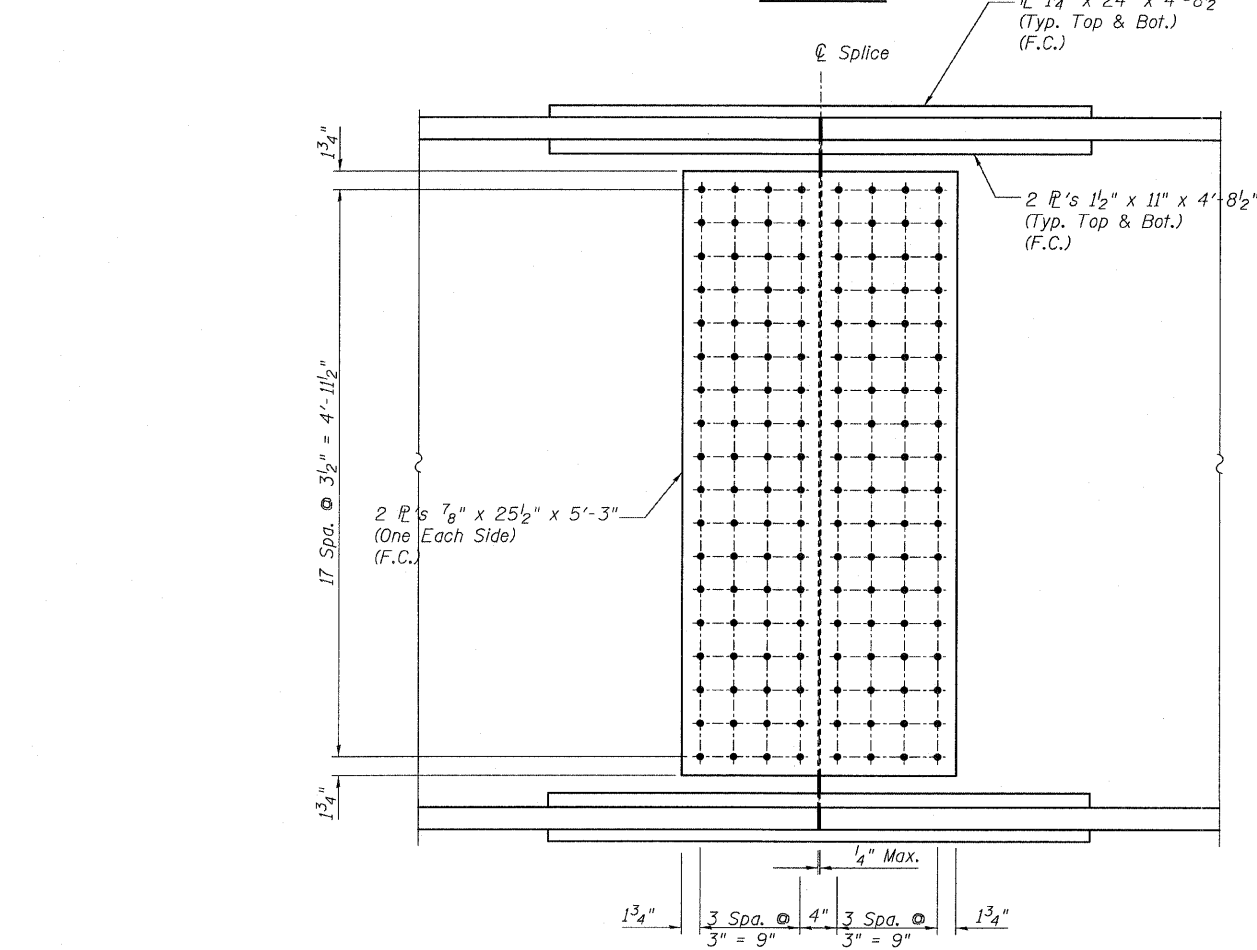
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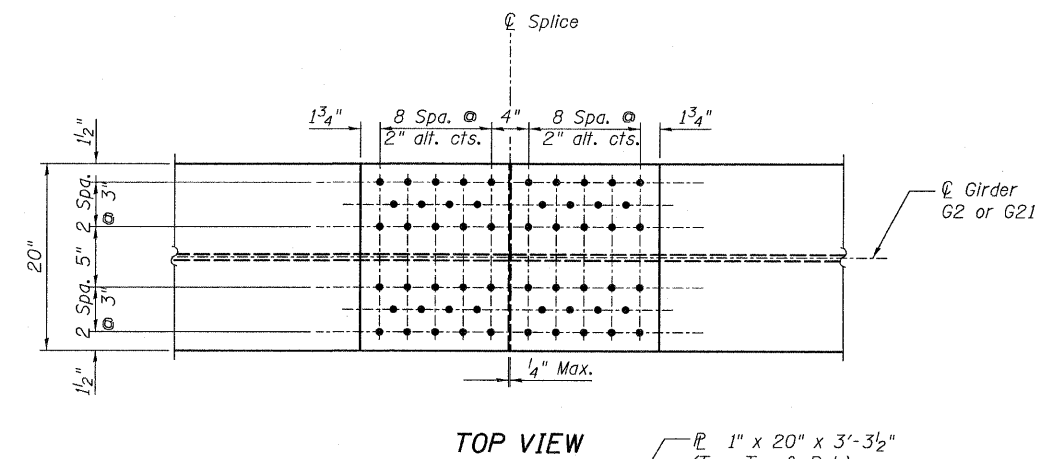
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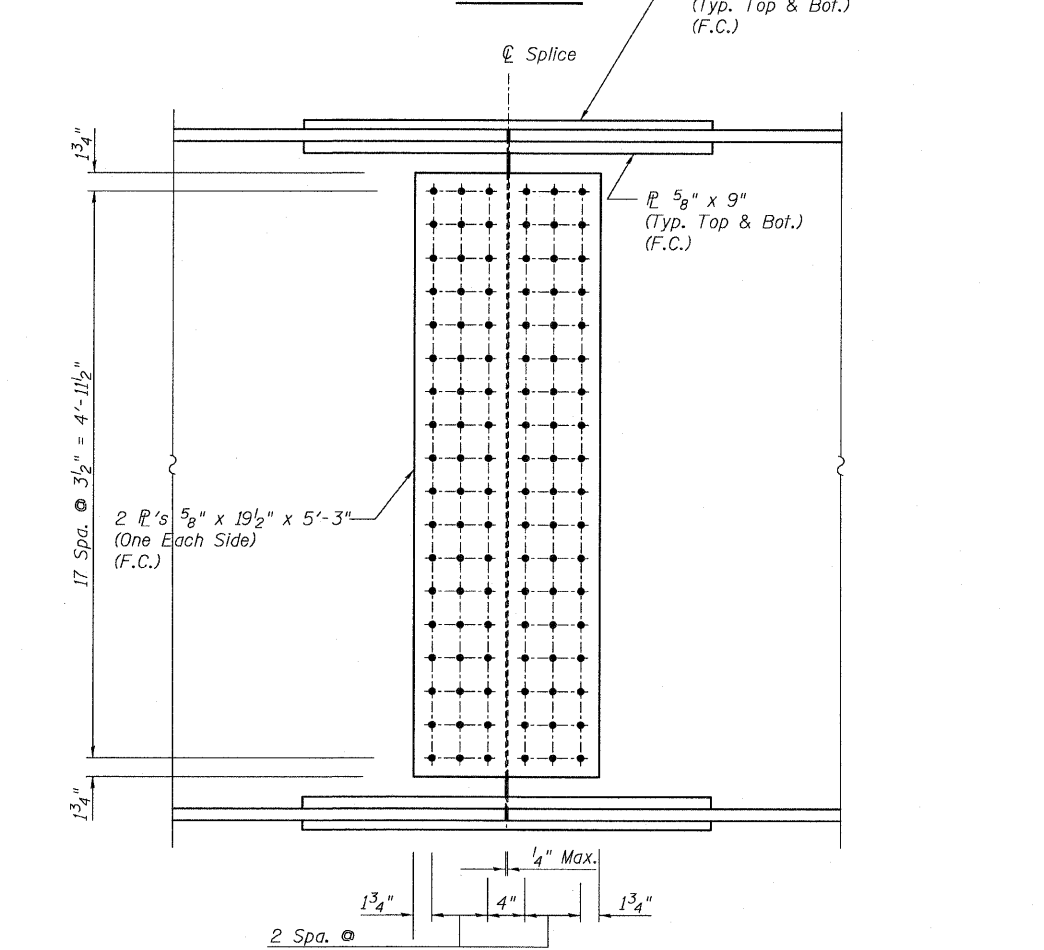
TOP VIEW



ELEVATION
FIELD SPlice G1 & G22



TOP VIEW



ELEVATION
FIELD SPlice G2 & G21

- NOTES:**
1. All splice materials to be AASHTO M 270 Grade 50.
 2. All bolts shall be 1" ϕ with 1 1/16" ϕ holes for G1 and G22 Field Splices and 7/8" ϕ with 15/16" ϕ holes for G2 and G21 Field Splices.
 3. F.C. denotes fracture critical material, AASHTO Zone II.

FIELD SPLICES
CENTRAL / I-55
STRUCTURE NO. 016-0724

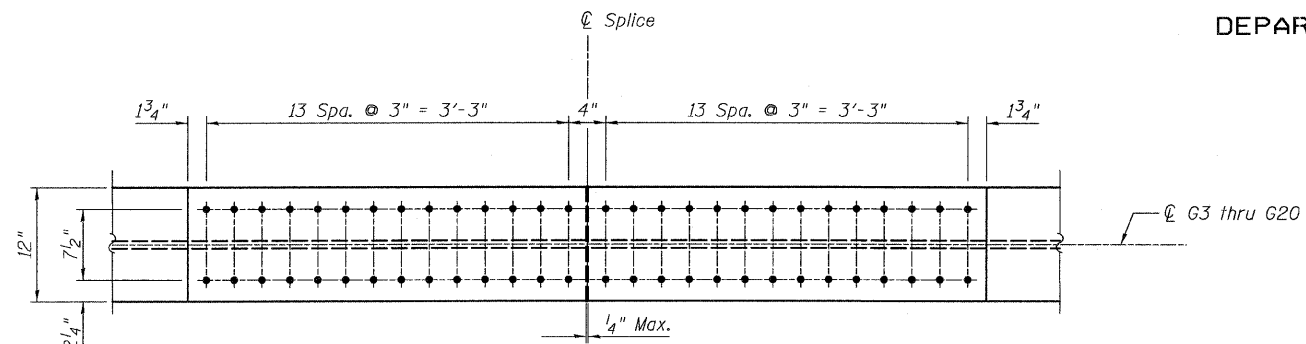
TYLIN INTERNATIONAL

DESIGNED - JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

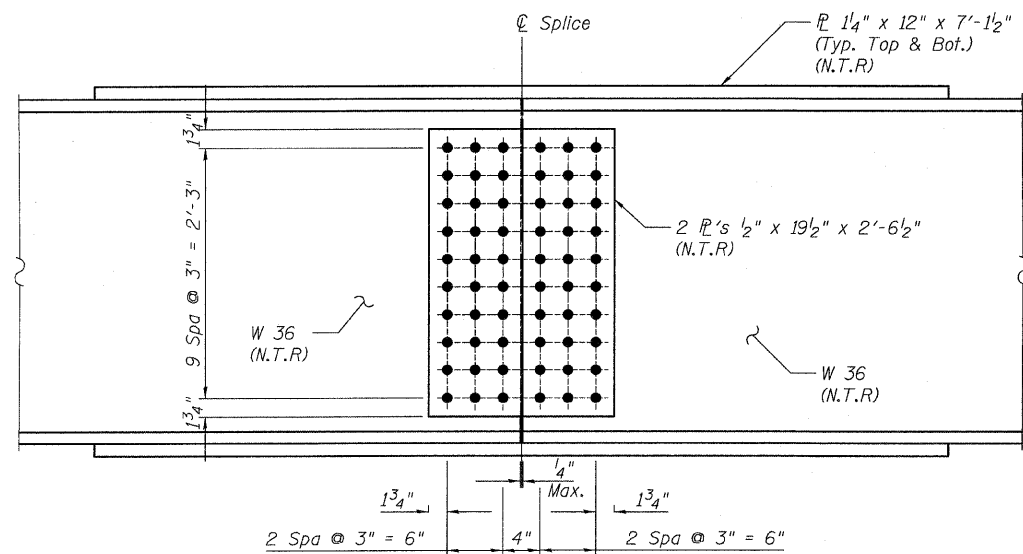
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60999		

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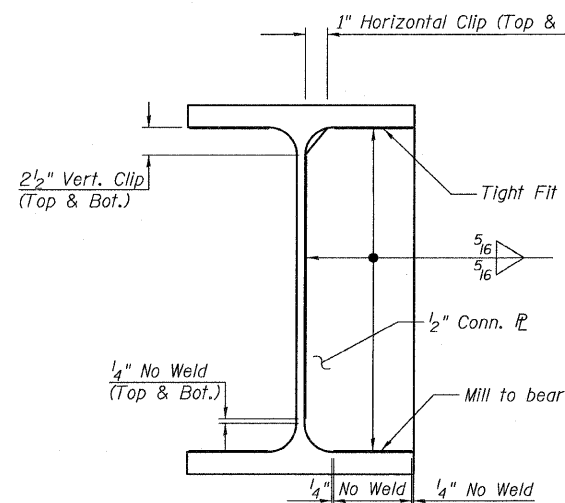
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



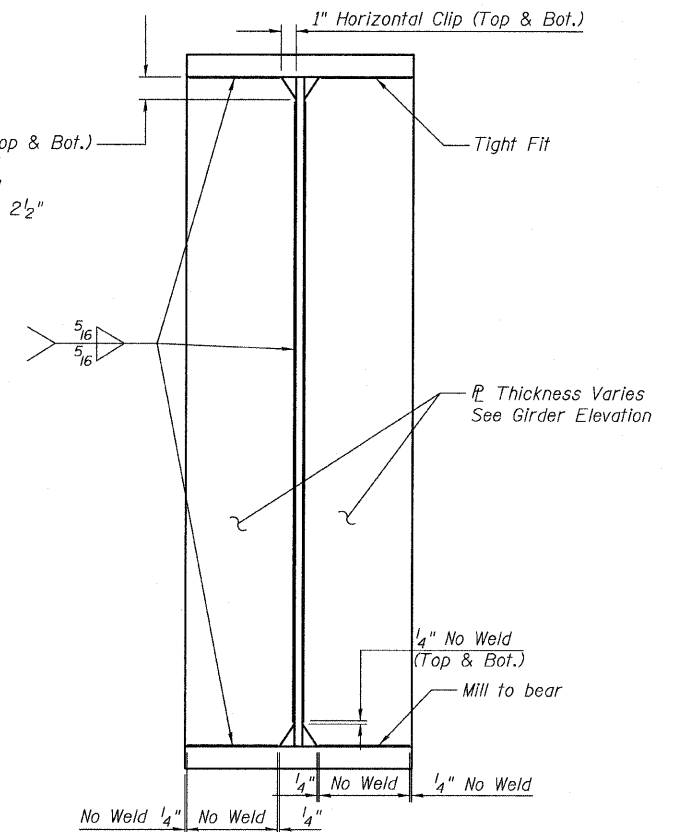
TOP VIEW



ELEVATION
FIELD SPLICES 3a, 3b, 3c
(G3 Thru G20)



CONN. PLATE DETAIL
FOR ROLLED BEAM



TYPICAL BEARING STIFFENER AND CONN. PLATE
DETAIL @ GIRDERS

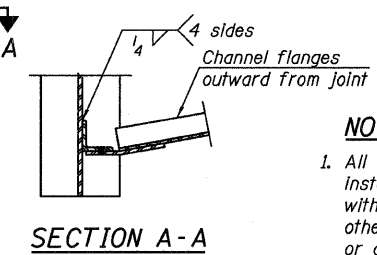
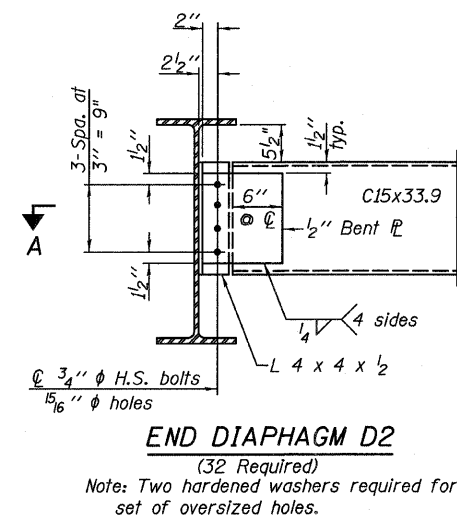
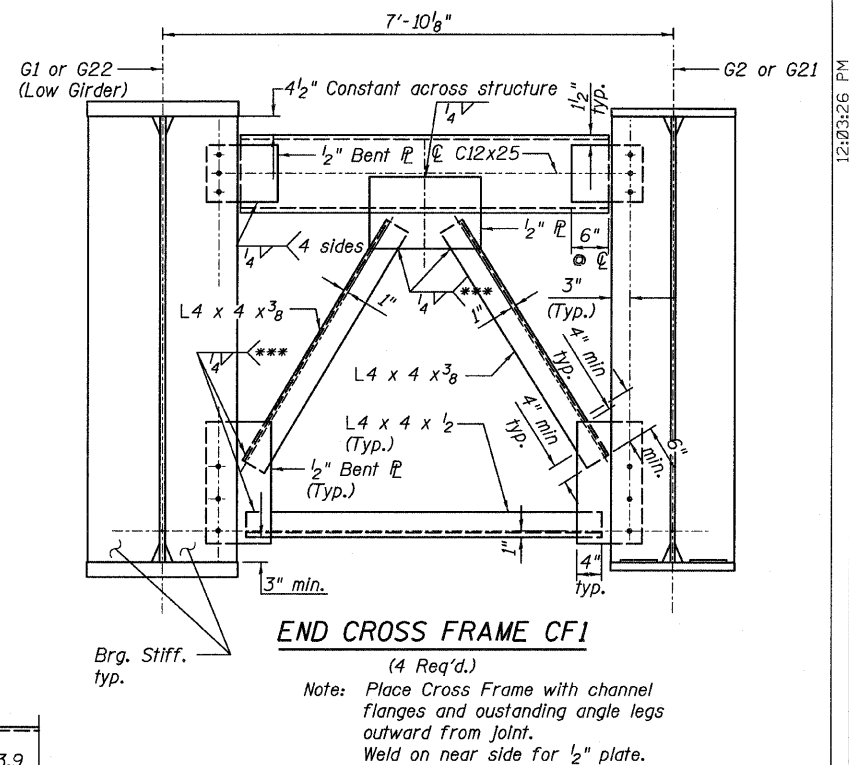
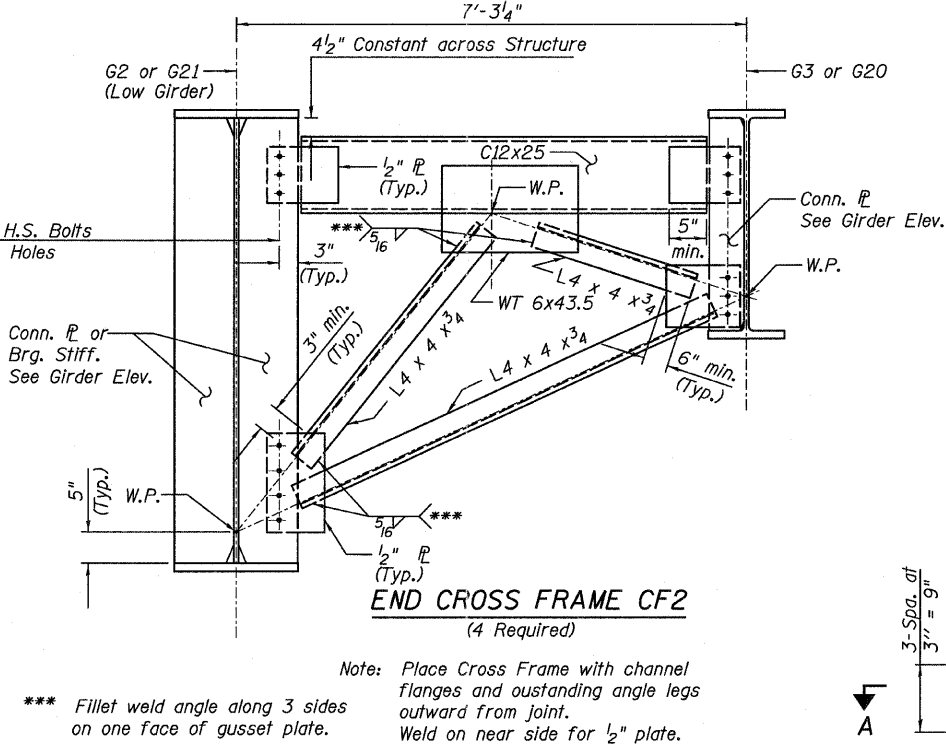
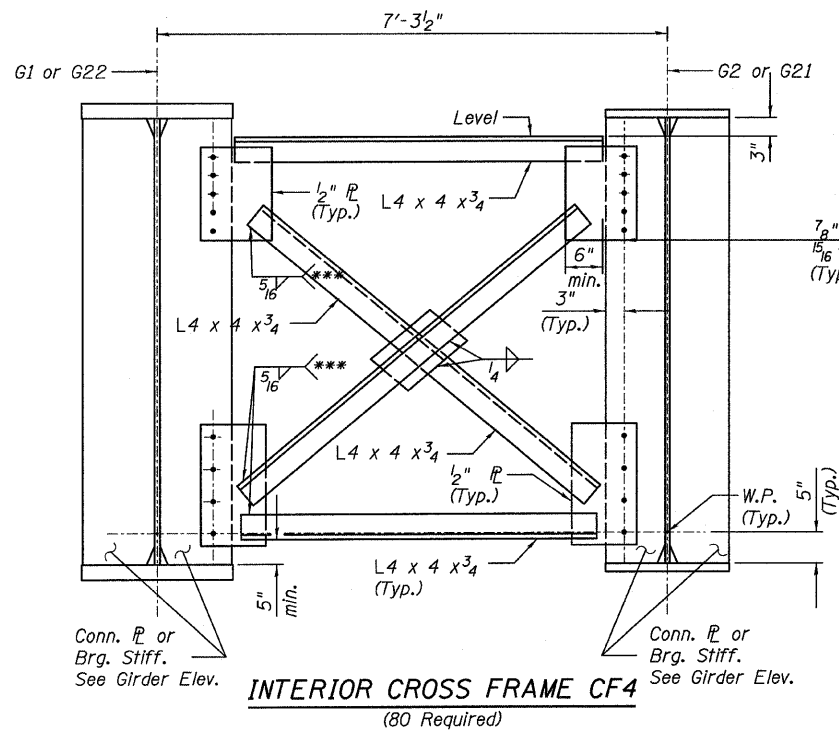
NOTES:

1. All splice materials to be AASHTO M 270 Grade 50.
2. All bolts shall be 7/8" ϕ AASHTO M164 with 5/16" ϕ holes.
3. Load carrying components designated *NTR* shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

FIELD SPLICE 3 & CONNECTION DETAILS
CENTRAL / I-55
STRUCTURE NO. 016-0724

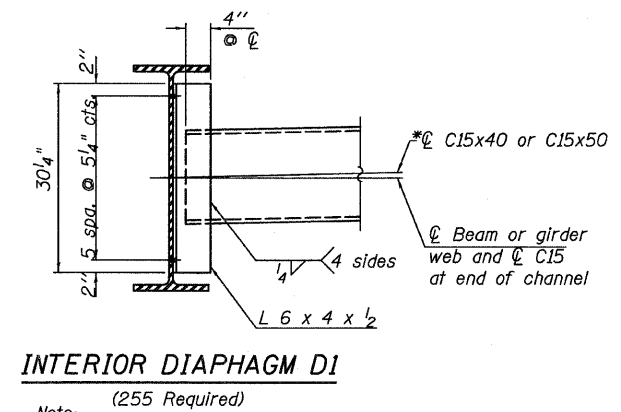
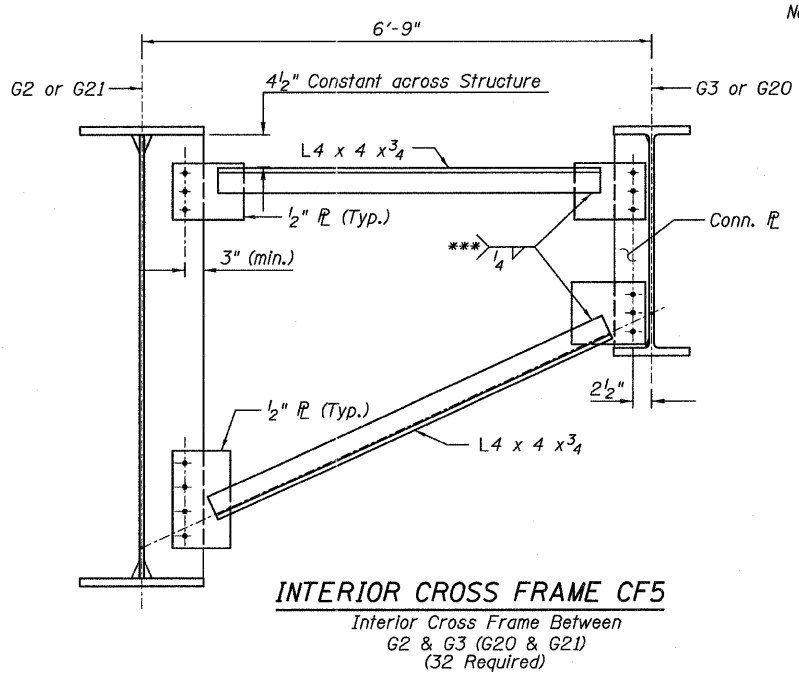
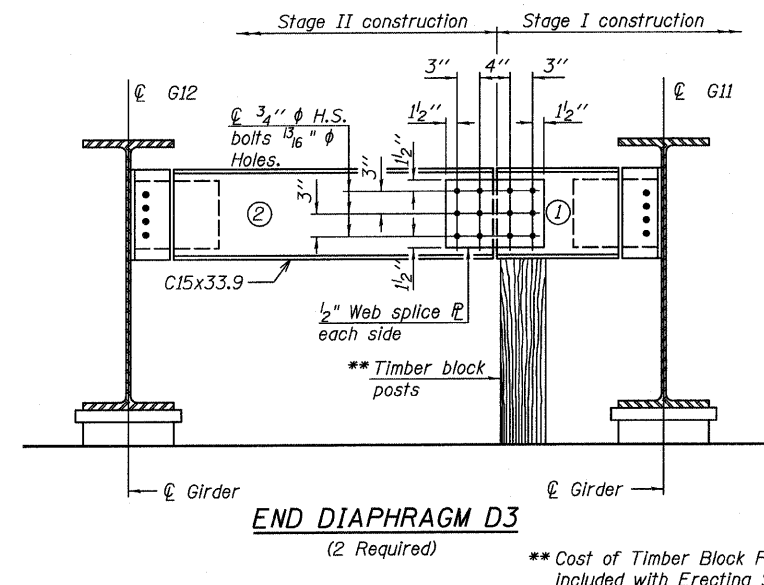
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	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NOTES:

- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



CROSS FRAMES & DIAPH.
CENTRAL/I-55
STRUCTURE NO. 016-0724

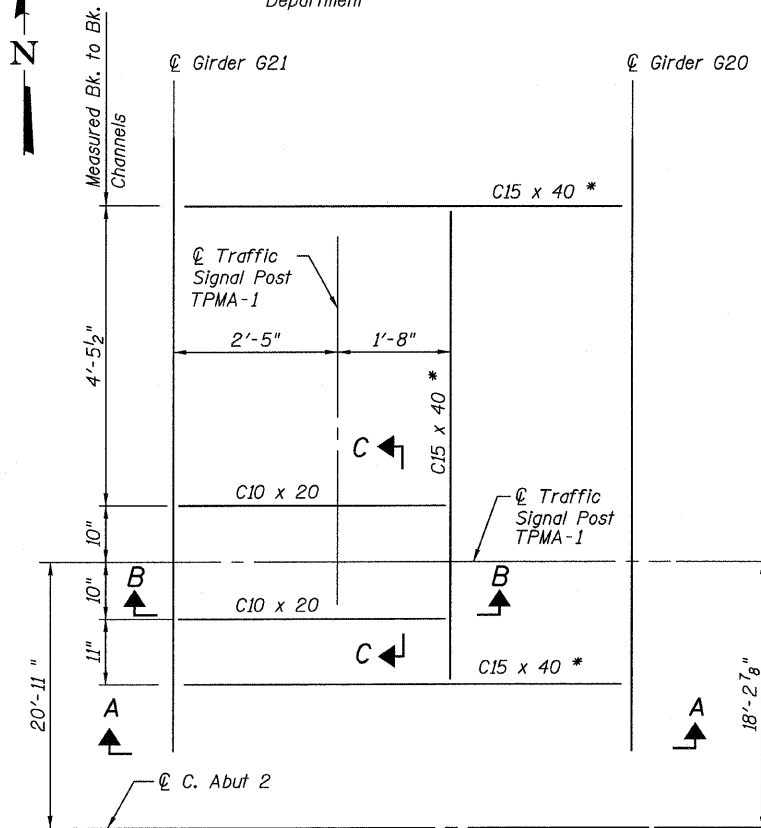
- Order diaphragm in two sections.
- Attach section ① of diaphragm to Beam G11.
- Place timber block posts between section ① of diaphragm and abutment bearing section.
- Attach section ② of diaphragm to both Beam G12 and section ① of diaphragm during stage II construction with splice plates.
- Remove timber block posts.

TYLIN INTERNATIONAL	DESIGNED - JMA	REVISIONS		SHEET NO. 108	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS	SHEET NO.
	CHECKED - AMD,	NAME	DATE					741	432
	DRAWN - JMA							CONTRACT NO. 60999	
	CHECKED - AMD,							FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	
	DATE - 03/25/2011								

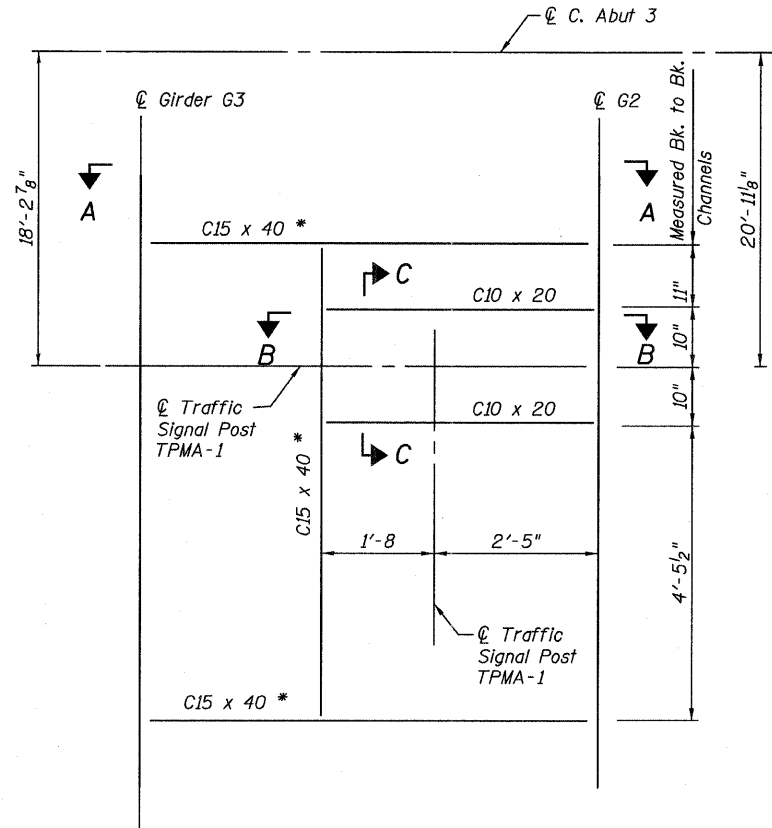
4/28/2011 12:03:26 PM
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

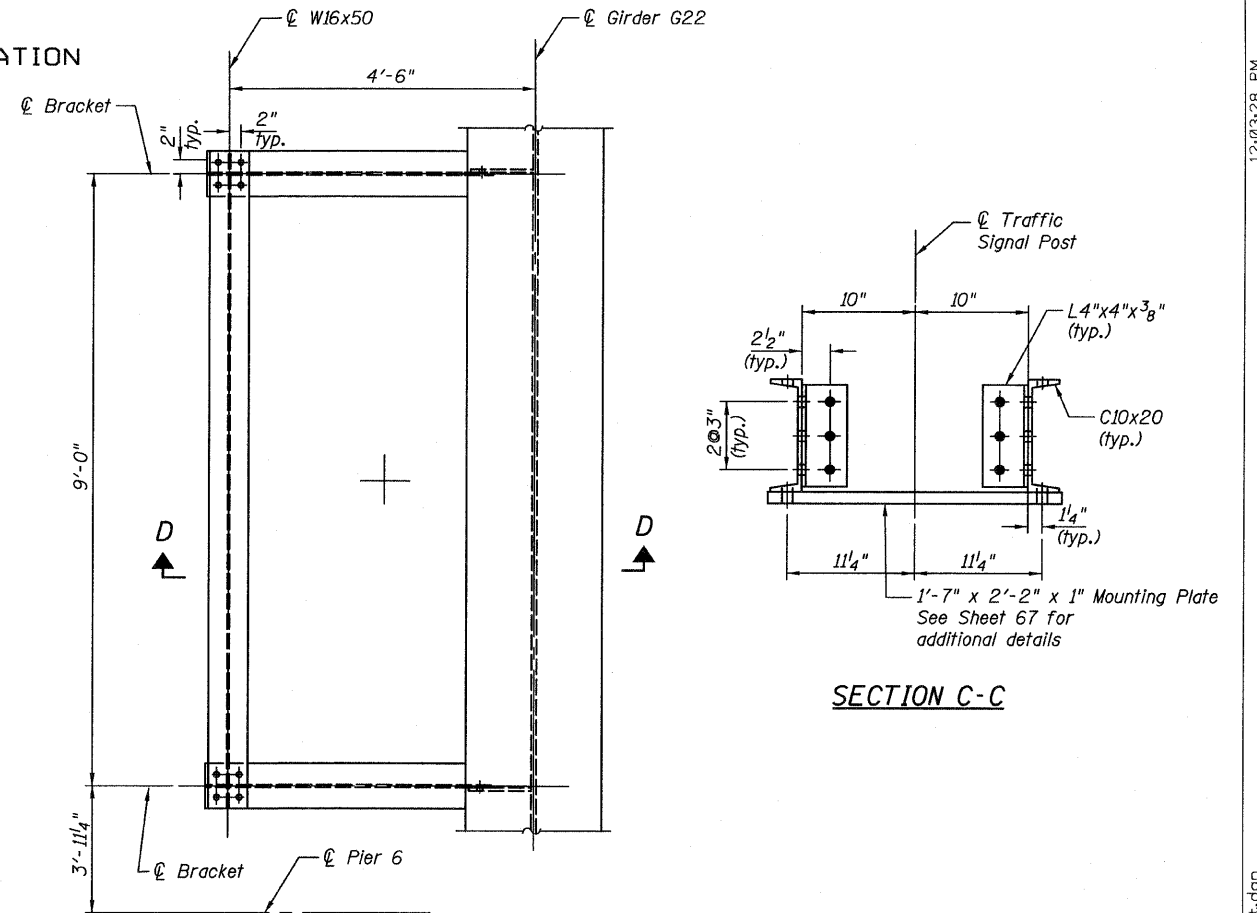
* Alternate channel C15x50, permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if used, shall be provided at no additional cost to the Department



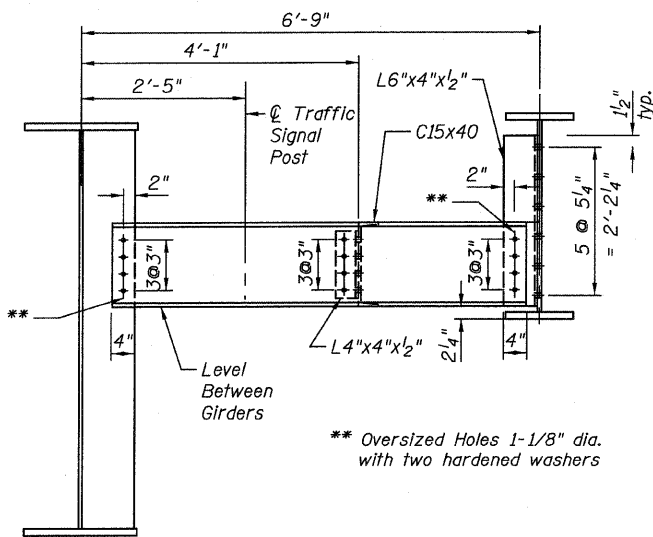
RAMP 1 ISLAND TPMA-1
Framing Plan



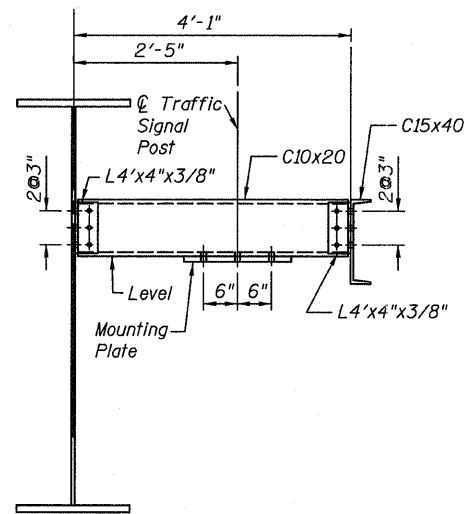
RAMP 4 ISLAND TPMA-1
Framing Plan



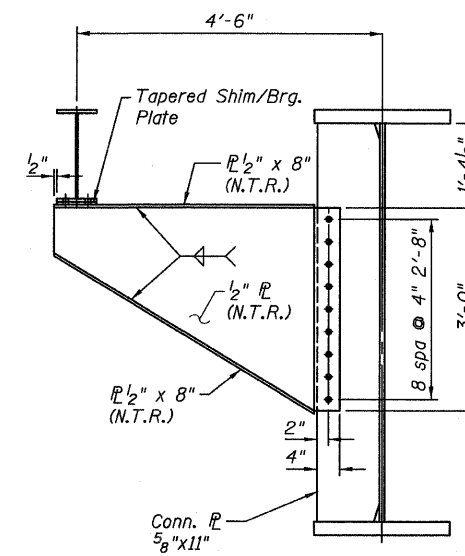
TRAFFIC SIGNAL CABINET
CANTILEVER BRACKET
Framing Plan



SECTION A-A



SECTION B-B



SECTION D-D

NOTES:

1. All bolts to be 7/8" dia. AASHTO M164, Type 1, in standard size holes unless noted otherwise.
2. Work this Sheet with Framing Plan and Girder Elevation Sheets

DIAPHRAGM & FRAMING DETAILS
CENTRAL/I-55
STRUCTURE NO.016-0724

TYLIN INTERNATIONAL

DESIGNED - JN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JN		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO.109 239 SHEETS	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	433
FED. ROAD DIST. NO. 1			ILLINOIS FED. AID PROJECT		

CONTRACT NO. 60999

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 1 FLARE

	Girder 1.1			Girder 1.2			Girder 1.3 to 1.7			Girder 1.8			Girder 1.9 to 1.10A & 1.13 to 1.15	Girder 1.11 & 1.16 to 1.18	Girder 1.19 & 1.20	Crosshead Girder	
	0.4 Sp. RI-1	Pier	0.6 Sp. RI-2	0.4 Sp. RI-1	Pier	0.6 Sp. RI-2	0.4 Sp. RI-1	Pier	0.6 Sp. RI-2	0.4 Sp. RI-1	Pier	0.6 Sp. RI-2	0.5 Sp.	0.5 Sp.	0.5 Sp.	Bearing 1	0.5 Sp.
Is	(in ⁴)	30,764	30,764	30,764	30,764	30,764	30,764	30,764	30,764	53,461	53,461	53,461	9,040	15,000	40,988	138,181	138,181
Ic (n)	(in ⁴)	63,774		63,774	63,774		63,774		63,774			97,867		97,867		31,861	93,600
Ic (3n)	(in ⁴)	47,892		47,892	47,892		47,892		47,892			74,166		74,166		23,421	66,730
Ss	(in ³)	1,099	1,099	1,099	1,099	1,099	1,099	1,099	1,099	1,711	1,711	1,711	504	837	1,788	4,268	4,268
Sc (n)	(in ³)	1,408		1,408	1,408		1,408		1,408			2,109		2,109		1,096	2,271
Sc (3n)	(in ³)	1,294		1,294	1,294		1,294		1,294			1,935		1,935		995	2,092
Z	(in ³)												943				
ϕ	(k/')	1.27	1.32	0.93	1.12	1.32	0.93	0.93	1.32	0.93	0.94	1.3	2.2	1.57	1.10	1.14	
M ϕ	(k)	132.1	1066.3	643.6	801.9	1585.2	436.8	743.6	1431.8	414.1	676.1	1773.5	890.1	251.7	736.0	1286.5	6453.0
s ϕ	(k/')	0.43		0.39	0.51		0.39	0.39		0.39	0.36		0.8		0.44	0.45	
Ms ϕ	(k)	65.9		286.4	410.8		205.4	339.9		199.0	274.9		228.6		296.2	503.8	
M ϕ	(k)	446.9	394.0	680.2	917.7	524.2	674.0	786.3	496.7	648.3	770.4	481.2	531.0	215.0	588.3	842.5	866.0
M (Imp)	(k)	120.7	98.0	156.8	201.3	118.4	157.0	172.4	112.9	152.8	169.1	112.7	133.2	64.5	176.5	191.6	203.0
5 ₃ [M ϕ + M (Imp)]	(k)	946.0	820.0	1395.0	1865.0	1071.0	1385.0	1597.8	1016.0	1335.2	1565.8	989.8	1107.0	465.8	1274.7	1723.5	1781.7
Ma	(k)	1487.2	2452.2	3022.5	4001.0	3453.1	2635.4	3485.7	3182.1	2532.8	3271.9	3592.3	2893.4	932.8	2998.9	4567.9	10705.1
Mu	(k)	7179.0		7179.0	7179.0		7179.0		7179.0		10291.0		10291.0		3929.0	5068.0	9994.0
fs ϕ (non-comp)	(ksi)	1.4	11.6	7.0	8.8	17.3	4.8	8.1	15.6	4.5	4.7	12.4	6.2	6.0	10.6	8.6	18.1
fs ϕ (comp)	(ksi)	0.6		2.7	3.8		1.9	3.2		1.8	1.7		1.4		3.6	2.9	
fs 5 ₃ ϕ + Imp	(ksi)	8.1	9.0	11.9	15.9	11.7	11.8	13.6	11.1	11.4	8.9	6.9	6.3	11.1	14.0	9.1	5.0
fs (Overload)	(ksi)	10.1	20.6	21.6	28.5	29.0	18.5	24.9	26.7	17.7	15.4	19.4	14.0	17.1	28.1	20.6	23.2
fs (Total)	(ksi)		26.8			37.7			34.7			25.2				30.1	17.6
VR	(k)	59.3		54.6	58.6		57.2	55.5		56.7	49.4		52.1	46.7	52.6	53.0	

GIRDER REACTION TABLE - RAMP 1 FLARE

	Girder 1.1			Girder 1.2			Girder 1.3 to 1.7			Girder 1.8			Girder 1.9 to 1.10A & 1.13 to 1.15	Girder 1.11 & 1.16 to 1.18	Girder 1.19 & 1.20	Crosshead Girder	
	FB 1.12	Pier	Carrier Girder	RI Abut.	Pier	Carrier Girder	RI Abut.	Pier	Carrier Girder	RI Abut.	Pier	Carrier Girder				Bearing 1	Bearing 2
R ϕ	(k)	23.1	134.8	50.6	61.8	163.4	42.5	53.9	154.0	41.1	50.8	196.4	69.6	26.1	63.5	100.3	1201.6
R ϕ	(k)	40.0	53.4	41.5	44.5	59.9	41.8	42.4	58.5	41.7	37.8	56.5	36.2	35.9	40.0	42.8	163.0
Imp.	(k)	10.8	9.6	9.6	9.7	9.4	9.7	9.3	9.3	9.8	8.3	9.3	9.1	10.8	12.0	9.7	38.1
R (Total)	(k)	73.9	197.8	101.7	116.0	232.7	94.0	105.6	221.8	92.6	96.9	262.2	114.9	72.8	115.5	152.8	1402.7

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs (Total and Overload) due to non-composite dead loads (in⁴ and in³).
Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs (Total and Overload) due to short-term composite live loads (in⁴ and in³).
Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
ϕ: Un-factored non-composite dead load (kips/ft.).
M ϕ: Un-factored moment due to non-composite dead load (kip-ft.).
s ϕ: Un-factored long-term composite (superimposed) dead load (kips/ft.).
Ms ϕ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
Mt: Un-factored live load moment (kip-ft.).

M1: Un-factored moment due to impact (kip-ft.).
Ma: Factored design moment (kip-ft.).
1.3 [M ϕ + Ms ϕ + $\frac{5}{8}$ (Mt + M1)]
Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
fs (Overload): Sum of stresses as computed from the moments below (ksi).
M ϕ + Ms ϕ + $\frac{5}{8}$ (Mt + M1)
fs (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.3 [M ϕ + Ms ϕ + $\frac{5}{8}$ (Mt + M1)]
VR: Maximum ϕ + impact shear range within the composite portion of the span for stud shear connector design (kips).

MOMENT TABLE 1
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 110	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
	CHECKED - AMD,	NAME	DATE		55					0711.2R & 1011.1BR	COOK	741	434
	DRAWN - EKH, JMA				239 SHEETS					CONTRACT NO. 60999			
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								
	DATE - 03/25/2011												

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 1 FLARE

Girder 1.12				
		0.4 Sp. R1-1	Pier	0.6 Sp. R1-2
I_s	(in ⁴)	126,687	126,687	126,687
$I_c(n)$	(in ⁴)	185,044	185,044	185,044
$I_c(3n)$	(in ⁴)	150,261	150,261	150,261
S_s	(in ³)	3913	3913	3913
$S_c(n)$	(in ³)	4410	4410	4410
$S_c(3n)$	(in ³)	4145	4145	4145
S_l	(in ³)	228	228	228
ρ	(k/')	1.11	1.54	2.43
$M\phi$	(k)	646.6	2783.5	1418
$s\phi$	(k/')	0.34	0.53	0.91
$M_s\phi$	(k)	197.9	956.7	533.7
$M\psi$	(k)	722.9	828.5	803.4
M_I	(k)	157.6	170.7	156.7
$M_3 [M\psi + M_I]$	(k)	1467.5	1665.3	1600.2
M_a	(k)	3005.6	7027.2	4617.4
M_{b1}	(k)	24.1	49.8	44.8
$f_s\phi$ (non-comp)	(ksi)	2.0	8.5	4.3
$f_s\phi$ (comp)	(ksi)	0.6	2.8	1.5
$f_s\phi_3 [M\psi + M_I]$	(ksi)	4.0	4.5	4.4
f_l	(ksi)	1.3	2.6	2.4
f_s (Overload)	(ksi)	6.5	15.8	10.2
f_s (Total)	(ksi)	8.6	20.6	13.4
F_{or} (Overload)	(ksi)	47.5	47.5	47.5
VR	(k)	69.1		70.4
F_{or}	(ksi)	49.8	48.4	49.7

GIRDER REACTION TABLE - RAMP 1 FLARE

Girder 1.12				
		R1 Abut.	Pier	Carrier Girder
$R\phi$	(k)	50.2	371.7	66.4
$R\psi$	(k)	42.9	83.3	41.0
R_I	(k)	9.4	17.1	8.0
R_{Total}	(k)	102.5	472.1	115.4

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

S_l : Section modulus of one flange plate for lateral flange bending (in³).

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

$M\phi$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\phi$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s\phi$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M\psi$: Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

$1.3 [M\phi + M_s\phi + \frac{5}{3} (M\psi + M_I)]$

M_{b1} : Factored lateral bending moment for flange plate (kip-ft.).

f_l : Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$M\phi + M_s\phi + \frac{5}{3} (M\psi + M_I)$

f_s (Total): Sum of stresses as computed from the moments below (ksi).

$1.3 [M\phi + M_s\phi + \frac{5}{3} (M\psi + M_I)]$

F_{or} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi).

F_{or} : Critical average flange stress (smaller of F_{or1} or F_{or2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

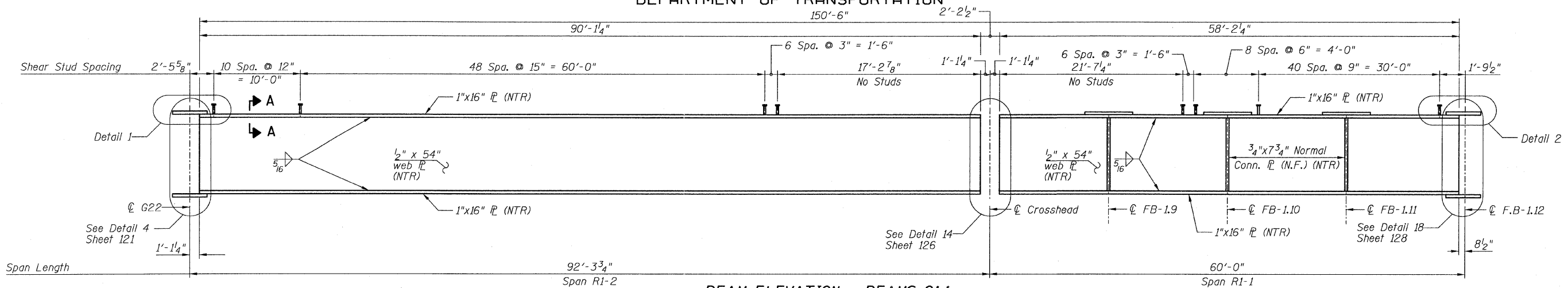
VR: Maximum impact shear range within span for stud shear connector design (kips).

Note:
 $M\psi$ and $R\psi$ include the effects of centrifugal force and superelevation.

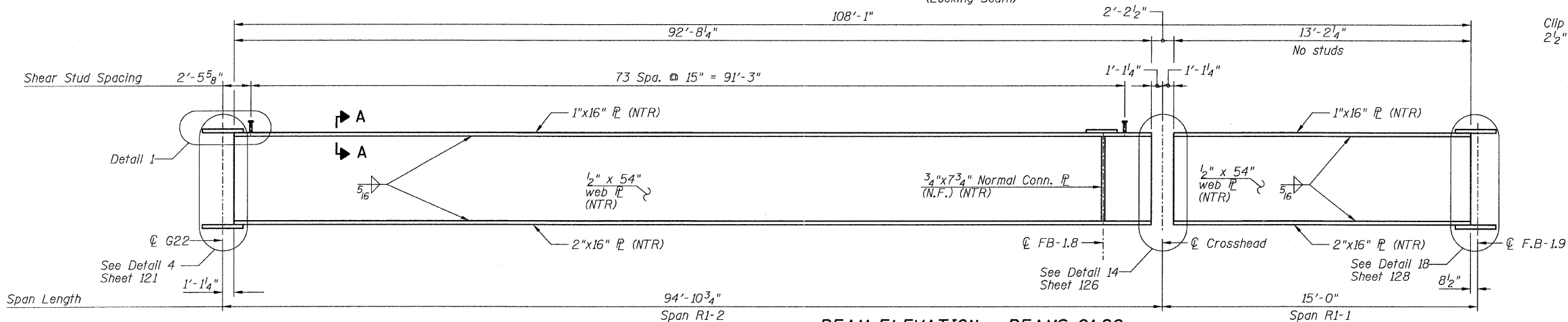
MOMENT TABLE 2
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 111	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
	CHECKED - AMD,	NAME	DATE							239 SHEETS	741	435	
	DRAWN - EKH, JMA												CONTRACT NO. 60999
	CHECKED - AMD,												
DATE - 03/25/2011			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT										

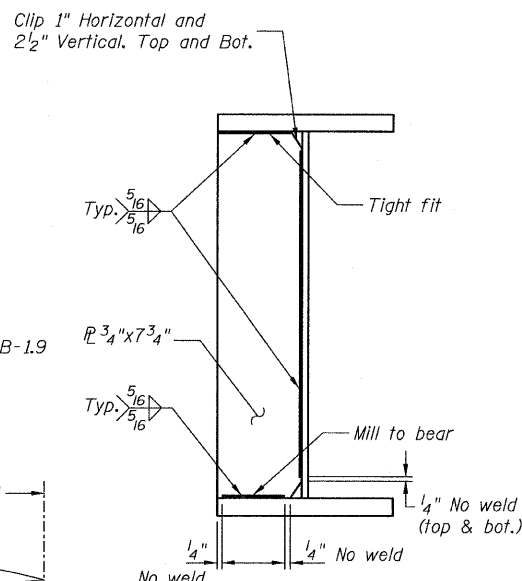
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



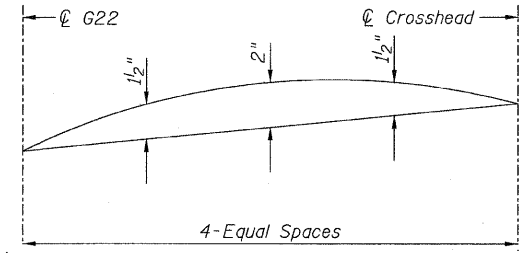
BEAM ELEVATION - BEAMS G1.1
(Looking South)



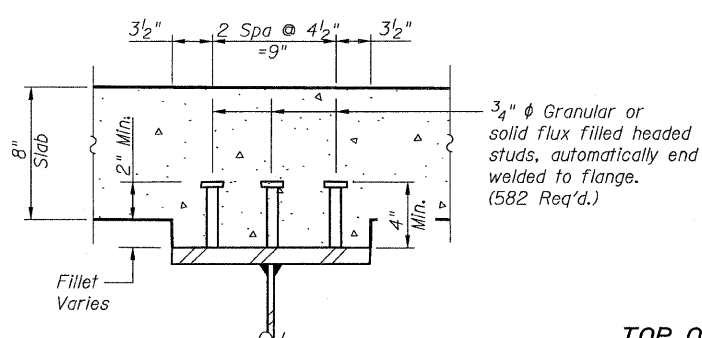
BEAM ELEVATION - BEAMS G1.20
(Looking South)



TYPICAL CONN. P DETAIL
(Floor beams)



CAMBER DIAGRAM
(G1.20)



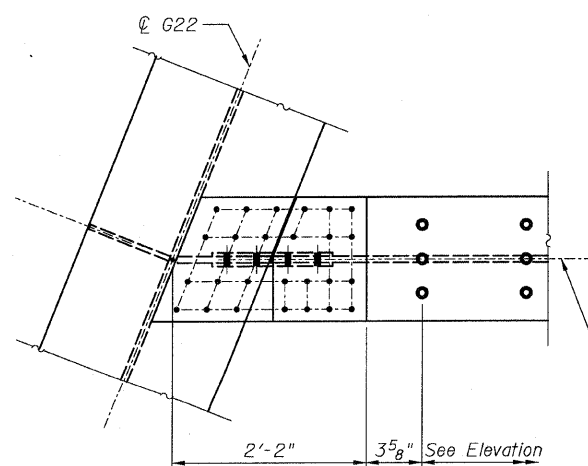
SECTION A-A

TOP OF WEB ELEVATIONS
(For Fabrication Only)

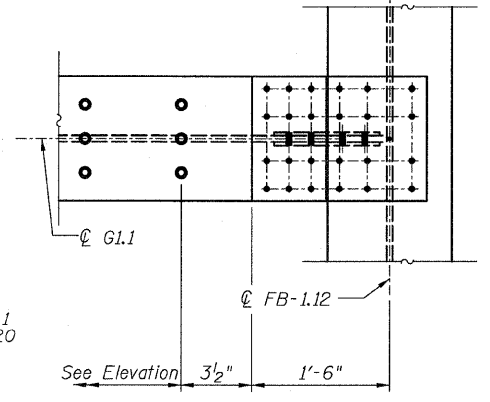
Location	Girder	G1.1	G1.20
Centerline G22		626.17	626.27
Centerline Crosshead		624.40	624.50
Centerline F.B.			

- NOTES:**
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
 - Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
 - N.F. denotes Near Face.
 - Girders shall not be cambered for spans RI-1.

GIRDER ELEVATIONS 1
RAMP 1 FLARE
STRUCTURE NO. 016-0724



DETAIL 1

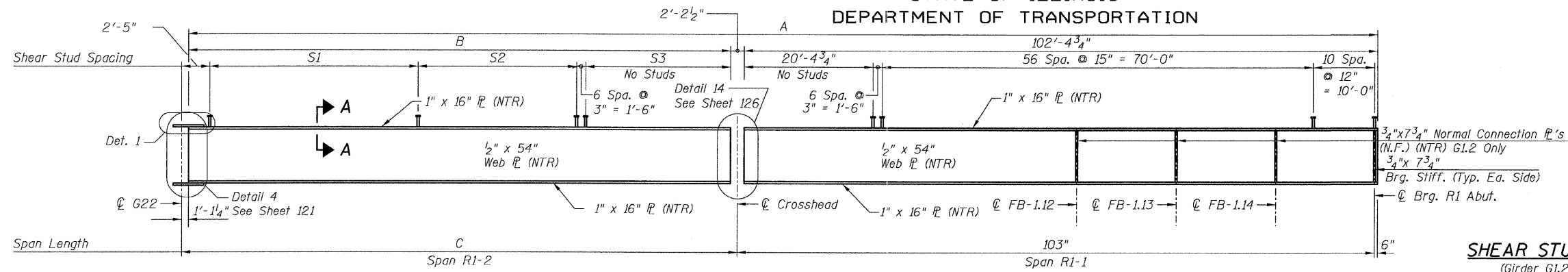


DETAIL 2

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 112	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 436
	CHECKED - AMD,	NAME	DATE						
	DRAWN - EKH, JMA, PK								
	CHECKED - AMD,								
DATE - 03/25/2011				239 SHEETS	CONTRACT NO. 60999		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



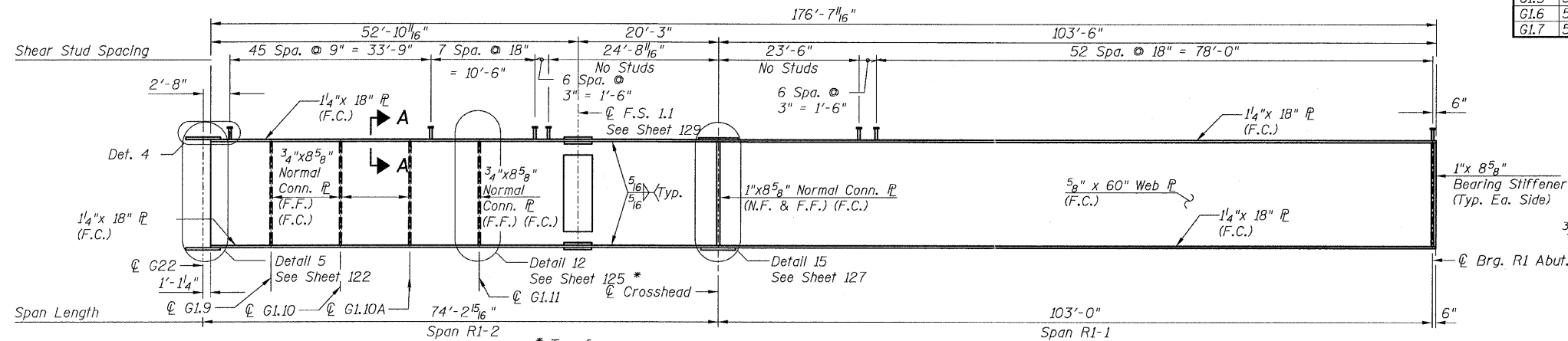
GIRDER DIMENSIONS
(Girder G1.2 thru G1.7)

	A	B	C
G1.2	192'-1 1/2"	87'-6 1/4"	89'-8 3/4"
G1.3	189'-6 9/16"	84'-11 5/16"	87'-1 1/8"
G1.4	186'-11 3/16"	82'-4 3/16"	84'-6 5/16"
G1.5	184'-4 5/8"	79'-9 3/8"	81'-11 1/8"
G1.6	181'-9 1/16"	77'-2 1/16"	79'-4 5/16"
G1.7	179'-2 5/8"	74'-7 3/8"	76'-9 1/4"

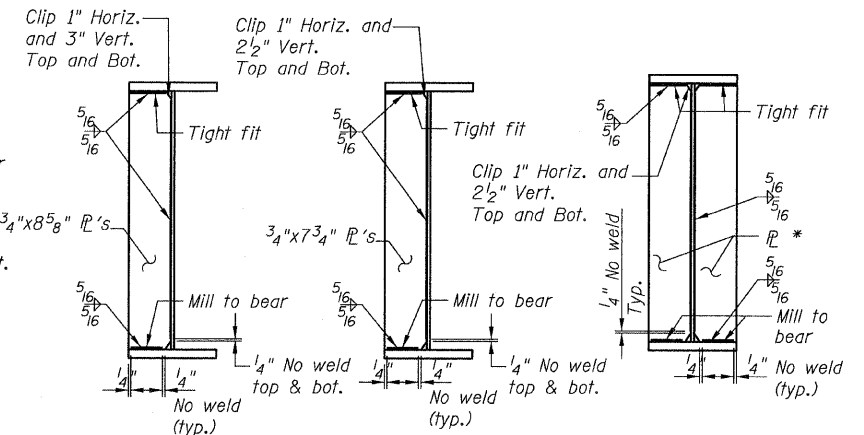
SHEAR STUD SPACINGS
(Girder G1.2 thru G1.7)

	S1	S2	S3
G1.2	51 Spa. @ 12" = 51'-0"	7 Spa. @ 15" = 8'-9"	24'-11 1/2"
G1.3	57 Spa. @ 12" = 57'-0"	3"	24'-10 9/16"
G1.4	50 Spa. @ 9" = 37'-6"	16 Spa. @ 12" = 16'-0"	26'-0 3/16"
G1.5	50 Spa. @ 9" = 37'-6"	13 Spa. @ 12" = 13'-0"	26'-5 3/8"
G1.6	50 Spa. @ 9" = 37'-6"	8 Spa. @ 15" = 10'-0"	26'-10 1/16"
G1.7	57 Spa. @ 9" = 42'-9"	2 Spa. @ 12" = 2'-0"	27'-0 5/8"

GIRDER ELEVATION - G1.2 THRU G1.7
(Looking South)



GIRDER ELEVATION - G1.8
(Looking South)
(F.C.M.)



**CONN. P
DETAIL G1.8**

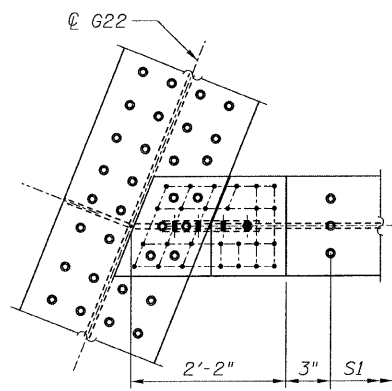
**CONN. P
DETAIL G1.2**

BEARING STIFFENER
* 3/4" x 7 3/4" (G1.2 to G1.7)
1" x 8 5/8" (G1.8)

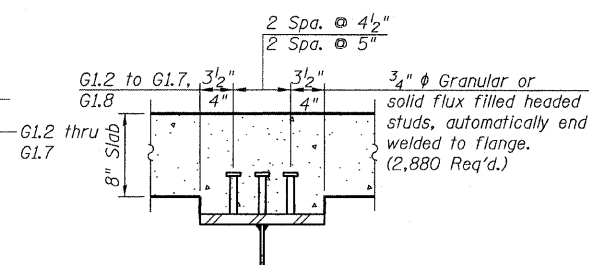
NOTES:

1. Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
2. F.C. denotes Fracture Critical material, AASHTO Zone II.
3. For Field Splice details, See Sheet 129.
4. N.F. denotes Near Face.
5. F.F. denotes Far Face.
6. Girder G1.8 does not require camber.

**GIRDER ELEVATIONS 2
RAMP 1 FLARE
STRUCTURE NO. 016-0724**



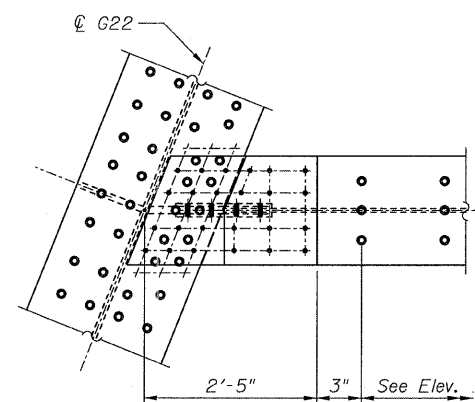
DETAIL 1



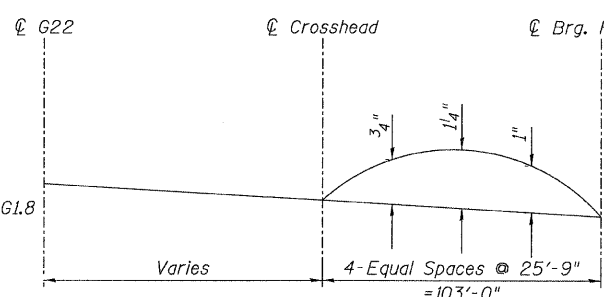
SECTION A-A

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G1.8
Centerline G22		625.26
Fieldspace		624.08
Centerline Crosshead		623.70
Centerline Bearing R1-Abut.		621.88



DETAIL 4



CAMBER DIAGRAM
Girder G1.2 to G1.7

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G1.2	G1.3	G1.4	G1.5	G1.6	G1.7
Centerline G22		626.06	625.96	625.84	625.71	625.52	625.39
Centerline Crosshead		624.31	624.21	624.11	624.01	623.92	623.82
Centerline Bearing R1-Abut.		622.49	622.39	622.29	622.19	622.09	621.99

TYLIN INTERNATIONAL

DESIGNED	REVISIONS
- EKH, JMA, PK	NAME
CHECKED - AMD,	DATE
DRAWN - EKH, JMA, PK	
CHECKED - AMD,	
DATE - 03/25/2011	

SHEET NO. 113	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	437
CONTRACT NO. 60999					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

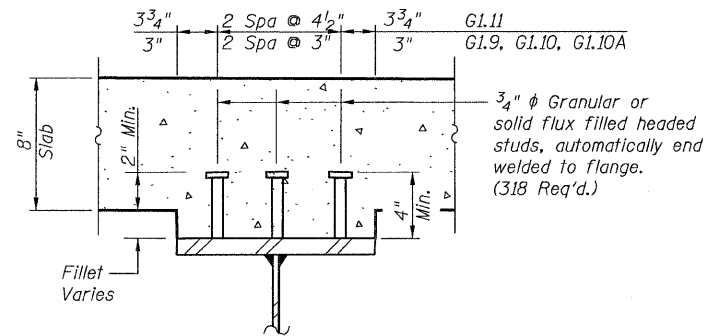
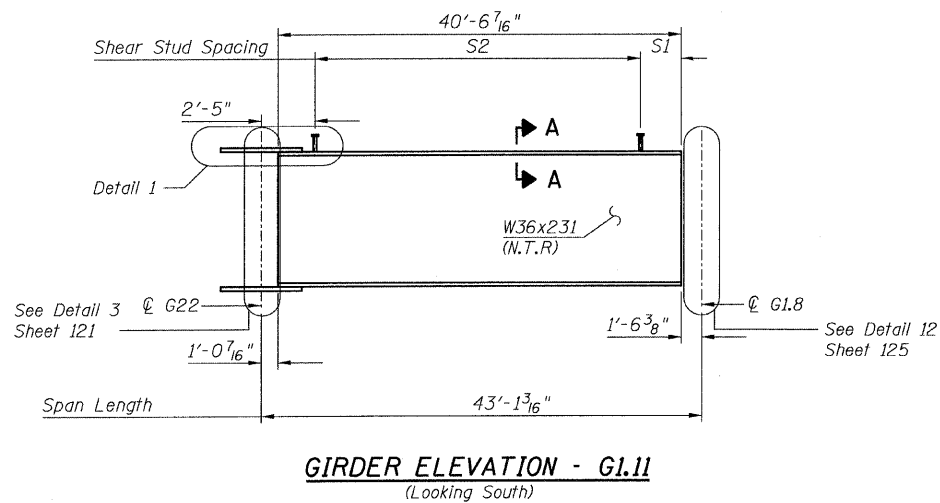
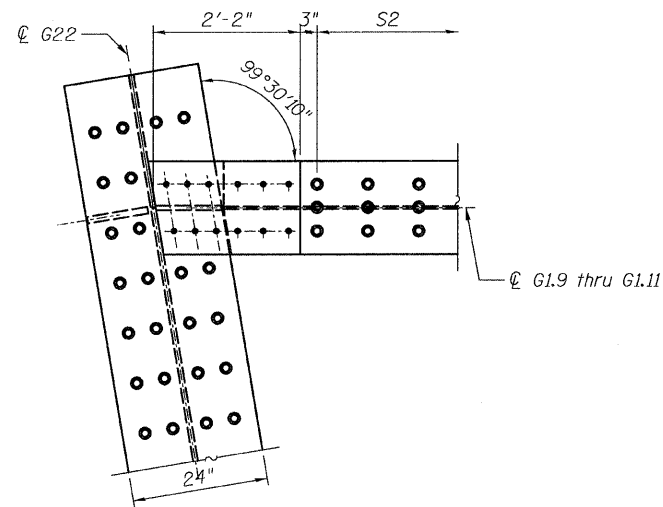
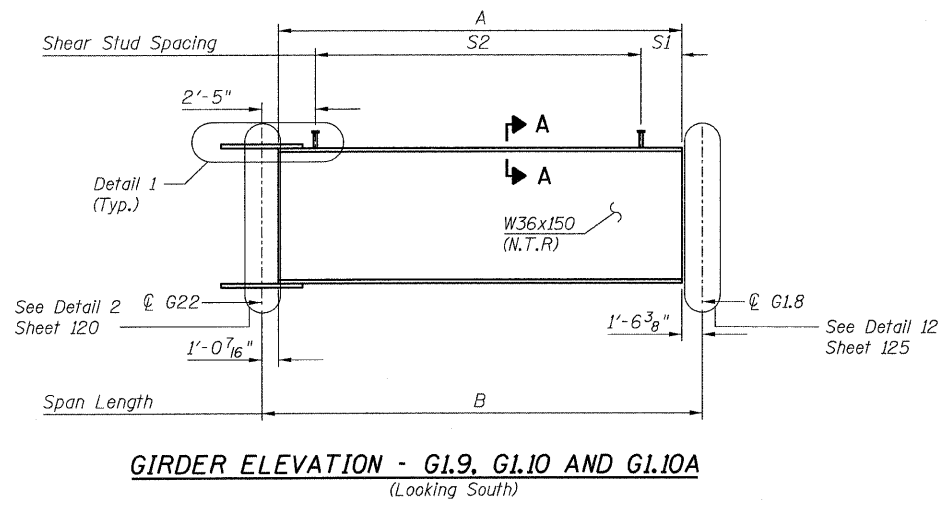
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER DIMENSIONS

Girder	A	B
G1.9	8'-2 ⁵ / ₁₆ "	10'-9 ¹ / ₈ "
G1.10	18'-11 ¹ / ₁₆ "	21'-6 ¹ / ₂ "
G1.10A	29'-9"	32'-3 ⁵ / ₁₆ "

SHEAR STUD SPACING

Girder	S1	S2
G1.9	9 ³ / ₄ "	3 Spa. @ 24" = 6'-0"
G1.10	1'-7 ¹ / ₈ "	8 Spa. @ 24" = 16'-0"
G1.10A	4 ¹ / ₁₆ "	14 Spa. @ 24" = 28'-0"
G1.11	7 ¹ / ₈ "	77 Spa. @ 6" = 38'-6"



NOTES:

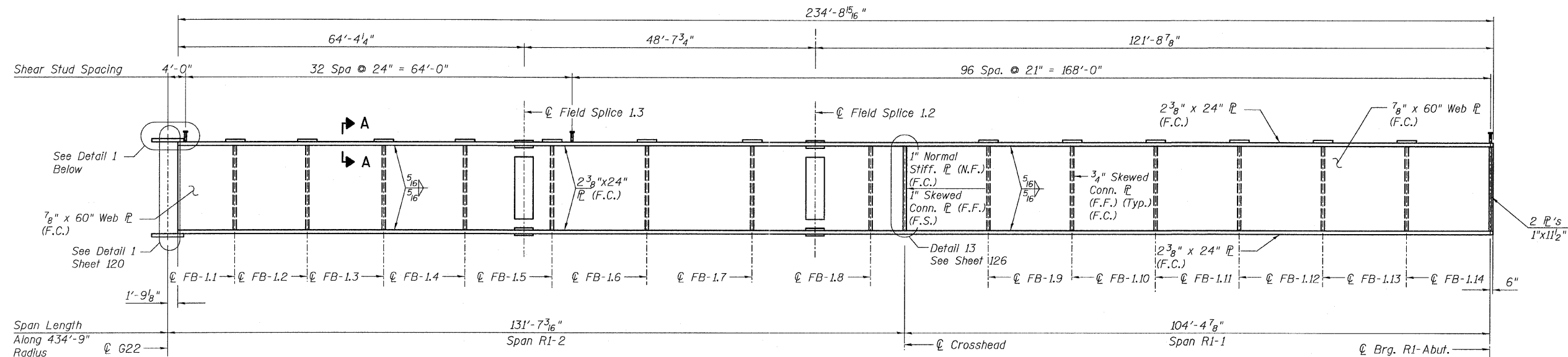
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. - denotes Near Face.

GIRDER ELEVATIONS 3
RAMP 1 FLARE
S.N. 016-0724

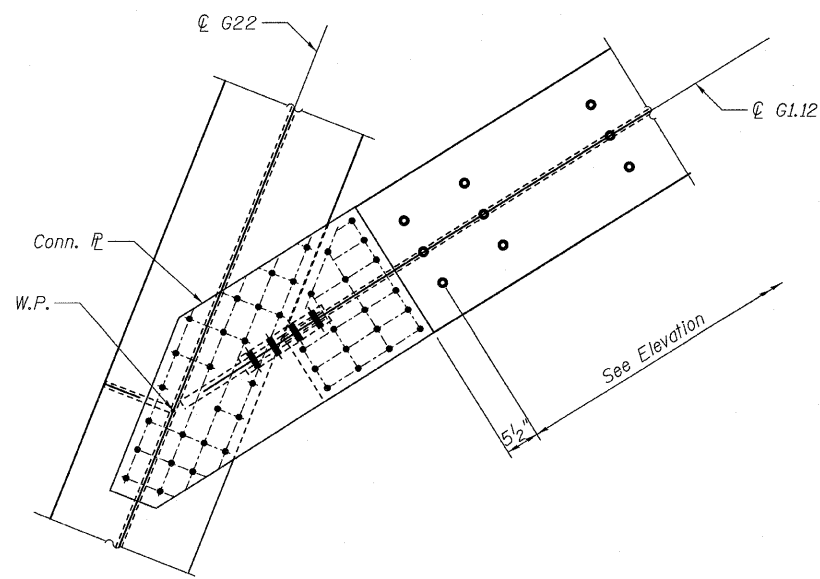
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 114	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 438
	CHECKED - AMD,	NAME	DATE						
	DRAWN - EKH, JMA, PK								
	CHECKED - AMD,								
	DATE - 03/25/2011								
				239 SHEETS	CONTRACT NO. 60999				
				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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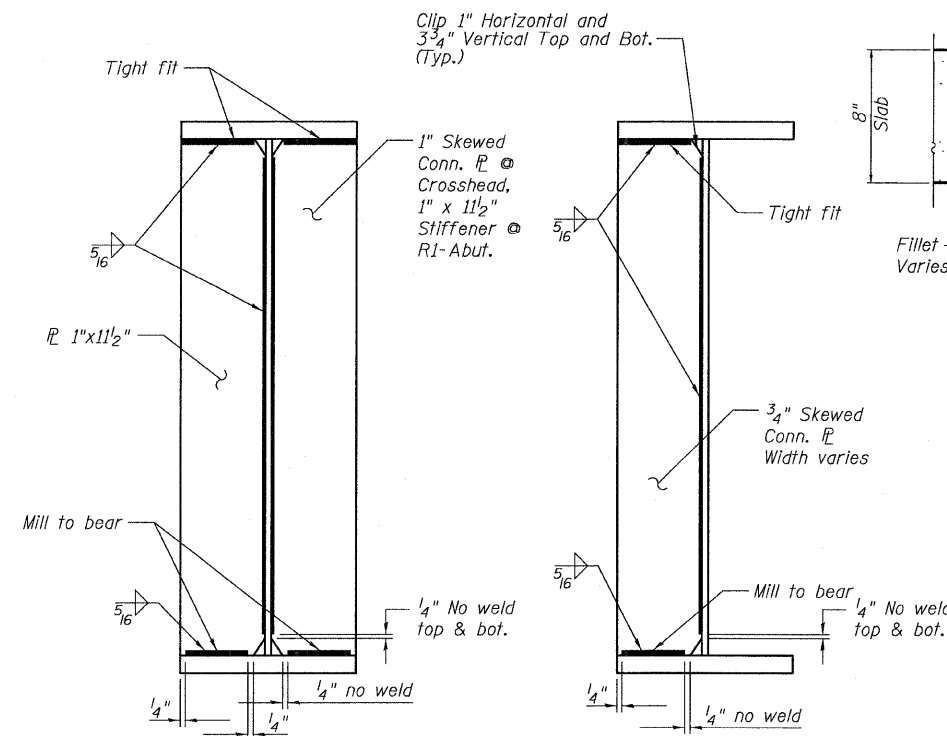
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



GIRDER ELEVATION - G1.12 (F.C.M)
(Looking South)

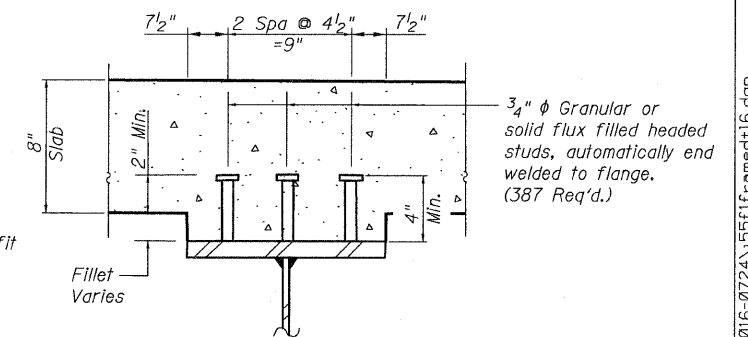


DETAIL 1



BEARING STIFFENERS

CONNECTION P



SECTION A-A

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G1.12
Centerline G22		627.09
Field Splice 1.3		625.89
Field Splice 1.2		624.91
Centerline Crosshead		624.51
Centerline Bearing R1-Abut.		622.46

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- For Field Splice details, See Sheet 129.
- FCM denotes Fracture Critical Member.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- N.F. denotes Near Face.
- F.F. denotes Far Face.
- Girder G1.12 shall not be cambered.

TYLIN INTERNATIONAL

DESIGNED	EKH, JMA, PK	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA, PK		
CHECKED	AMD,		
DATE	03/25/2011		

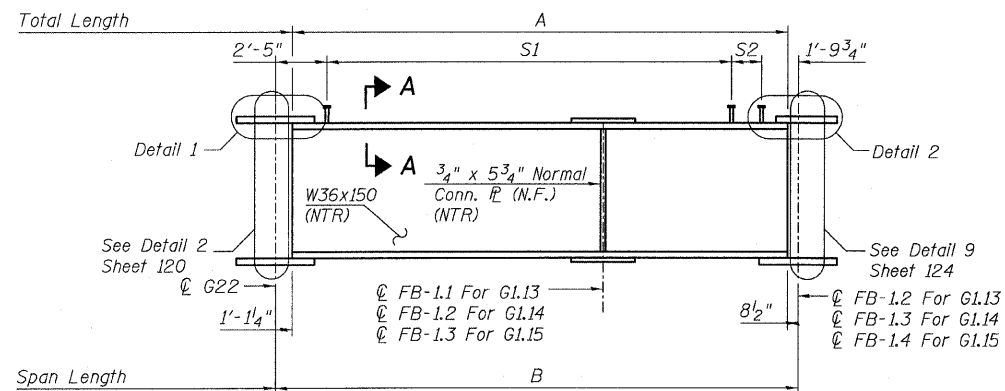
SHEET NO. 115 239 SHEETS	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	439
			CONTRACT NO. 60999		
			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

4/28/2011

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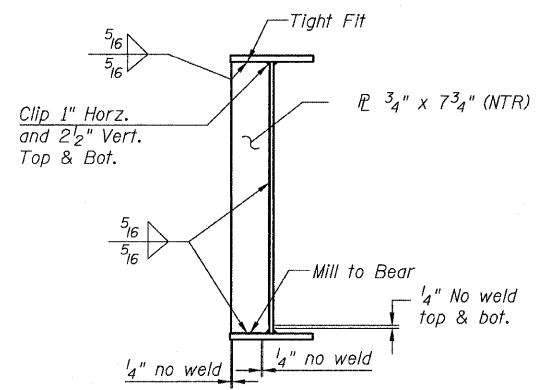
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



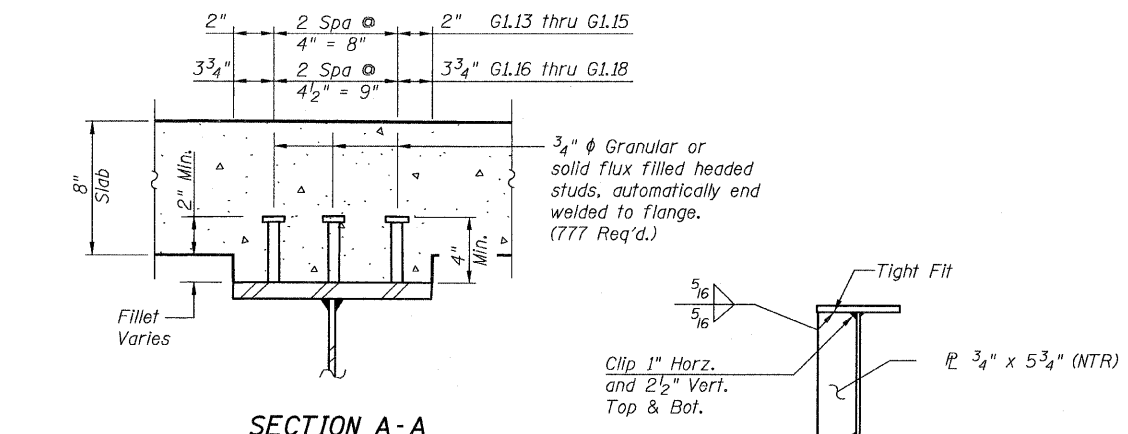
GIRDER ELEVATION - G1.13 THRU G1.15
(Looking South)

GIRDER DIMENSIONS
(Girders G1.13 thru G1.15)

	A	B	S1	S2
G1.13	12'-1 1/8"	13'-11 1/8"	4 Spa. @ 24" = 8'-0"	1'-8 1/8"
G1.14	21'-6 3/4"	23'-4 1/2"	9 Spa. @ 24" = 18'-0"	1'-1 3/4"
G1.15	33'-11 3/4"	35'-9 1/2"	16 Spa. @ 24" = 32'-0"	1'-11 3/4"

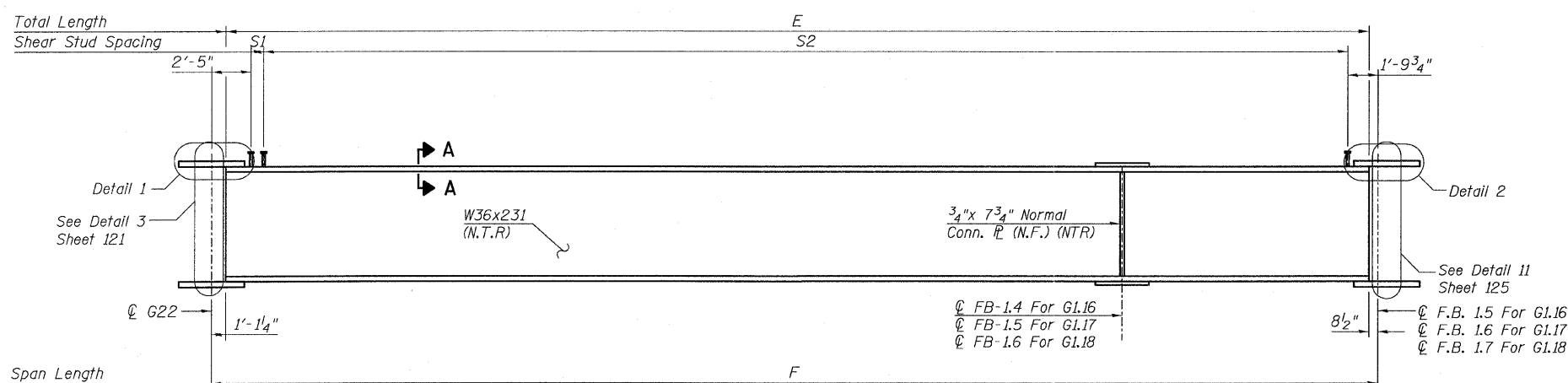


CONN. P DETAIL G1.16 THRU G1.18
(Floor beams & Cross frames)



SECTION A-A

CONN. P DETAIL G1.13 THRU G1.15
(Floor beams)



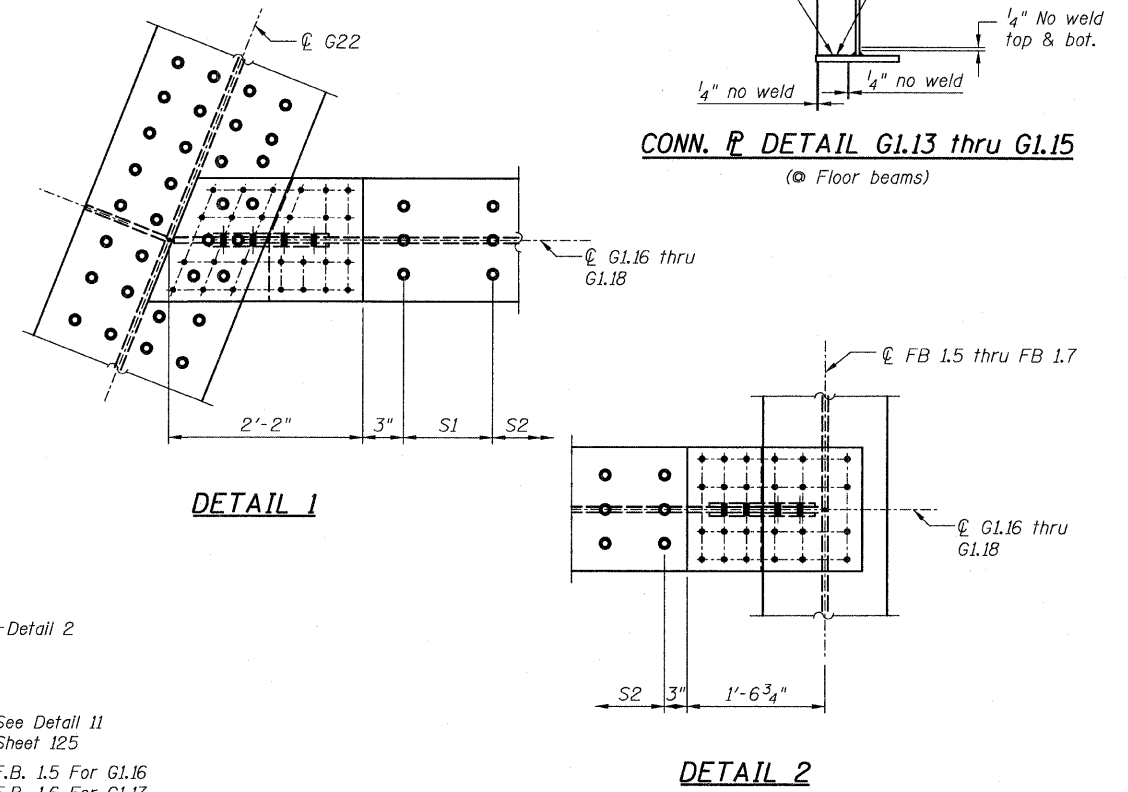
GIRDER ELEVATION - G1.16 THRU G1.18
(Looking South)

Shear Stud Spacings
(Girders G1.16 thru G1.18)

	S1	S2
G1.16	5 7/8"	58 Spa. @ 9" = 43'-6"
G1.17	1 1/8"	75 Spa. @ 9" = 56'-3"
G1.18	6 7/8"	91 Spa. @ 9" = 68'-3"

GIRDER DIMENSIONS
(Girders G1.16 thru G1.18)

	E	F
G1.16	46'-4 1/8"	48'-2 5/8"
G1.17	58'-9 1/8"	60'-7 5/8"
G1.18	71'-2 1/8"	73'-0 5/8"



DETAIL 1

DETAIL 2

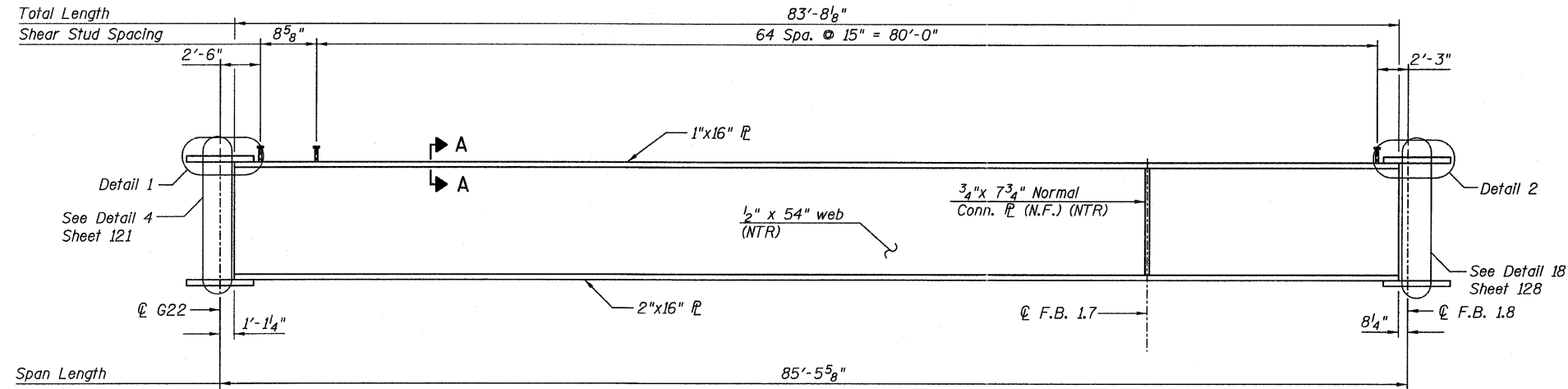
- NOTES:**
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
 - Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
 - N.F. denotes Near Face.

GIRDER ELEVATIONS 5
RAMP 1 FLARE
STRUCTURE NO. 016-0724

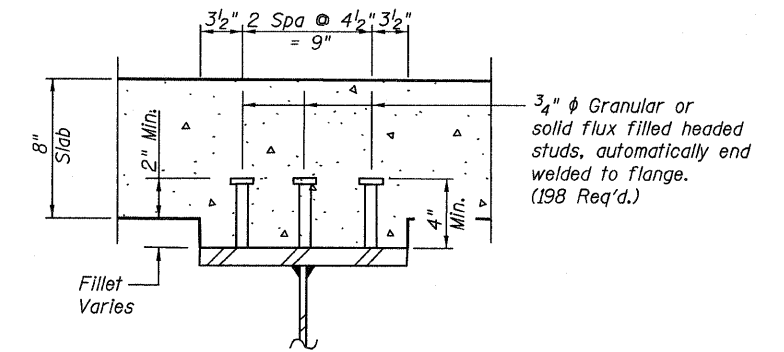
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 116	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	440
	DRAWN - EKH, JMA, PK				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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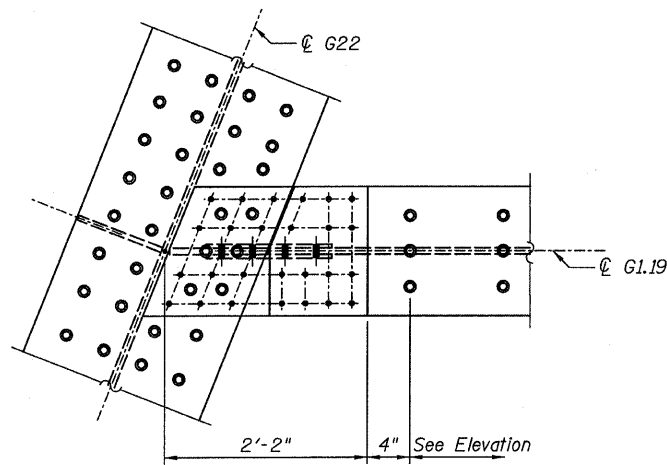
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



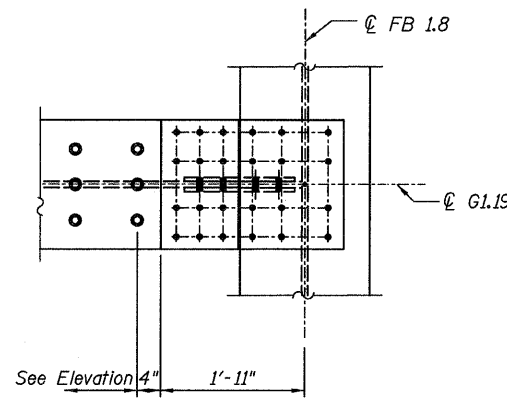
GIRDER ELEVATION - G1.19
(Looking South)



SECTION A-A



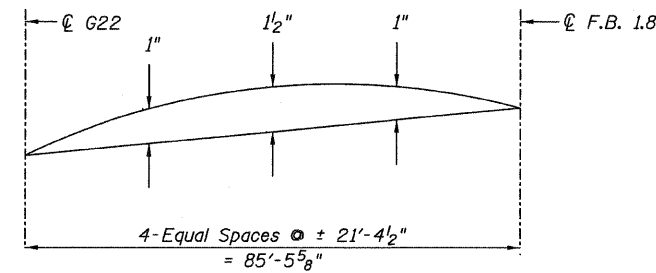
DETAIL 1



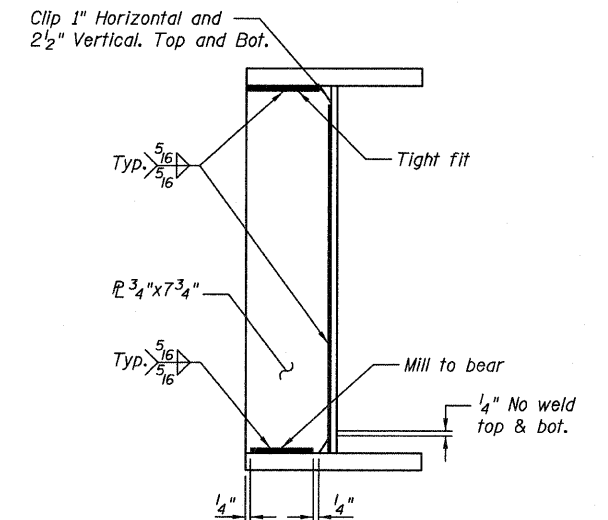
DETAIL 2

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Elevation
Centerline G22	626.35
Centerline F.B. 1.8	624.86



CAMBER DIAGRAMS



TYPICAL CONN. F DETAIL
(@ Floor beams)

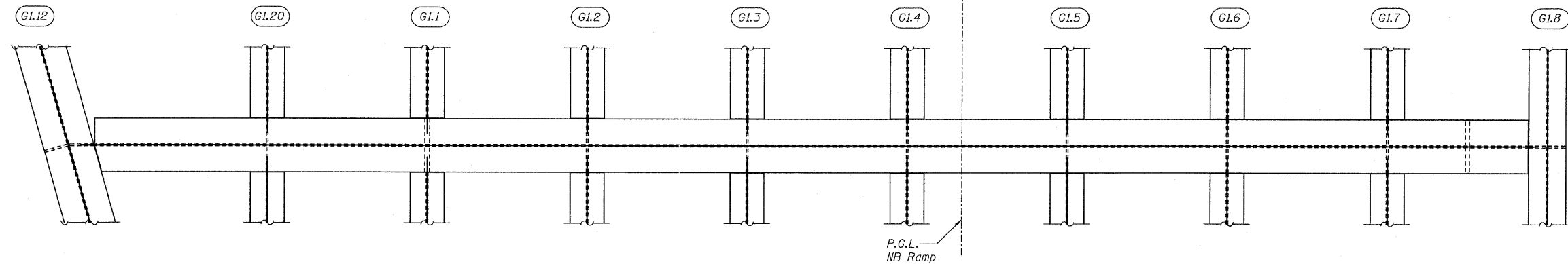
NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. denotes Near Face.

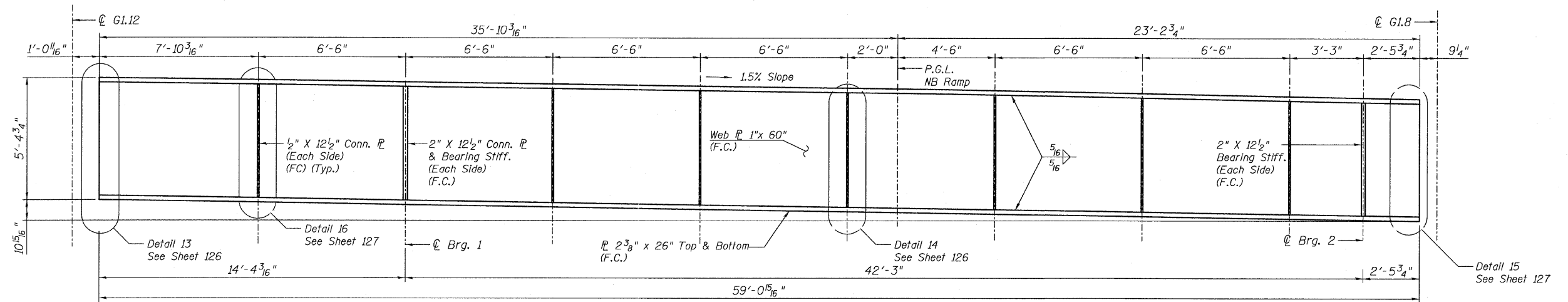
GIRDER ELEVATIONS 6
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 117	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	441	
	DRAWN - EKH, JMA, PK				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

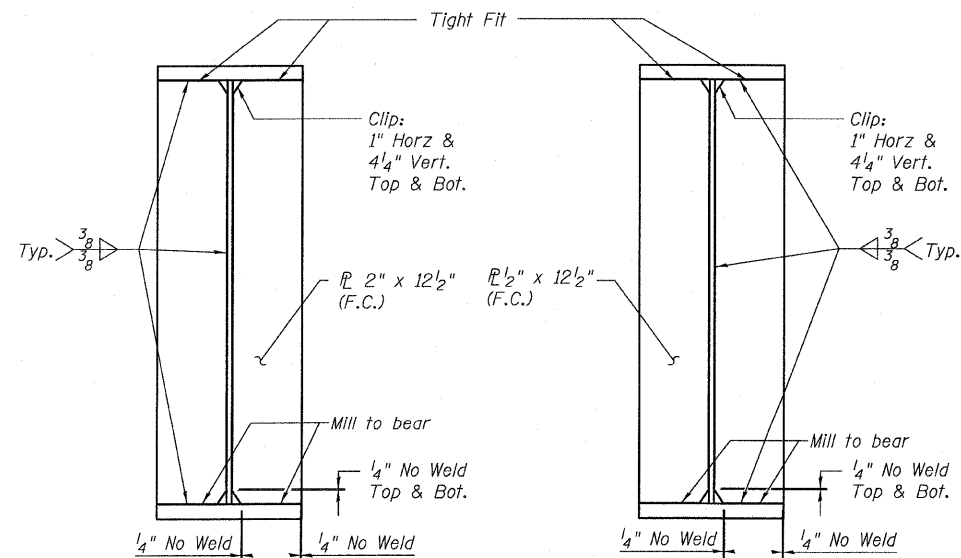
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSSHEAD PLAN - AT RI PIER
(Top Connection Plates Not Shown for Clarity)



CROSSHEAD ELEVATION - AT RI PIER (F.C.M.)
(Looking East)



Bearing Stiffener Details

Conn. P. Details

TOP OF WEB ELEVATIONS
(For Fabrication Only)

LOCATION	ELEVATION
℄ Brg. 1	624.28
℄ Brg. 2	623.65

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- F.C.M. denotes Fracture Critical Member.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- Crosshead shall not be cambered.

CROSSHEAD GIRDER DETAILS
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

DESIGNED	EKH, JMA, PK	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA, PK		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 118
239 SHEETS

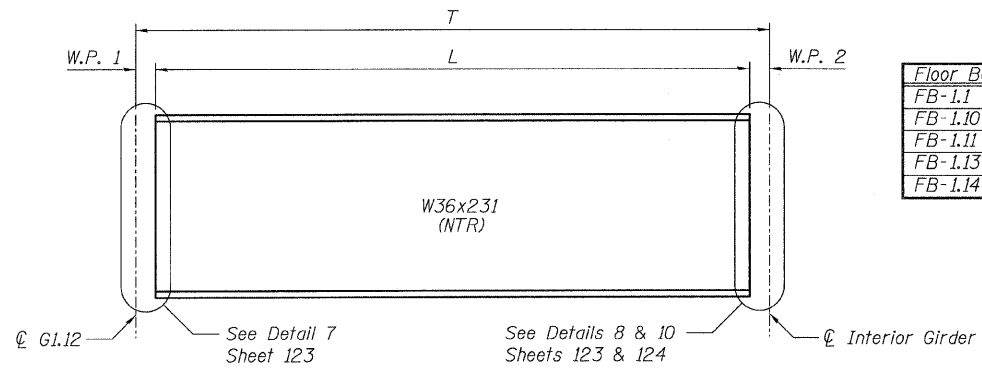
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

4/28/2011

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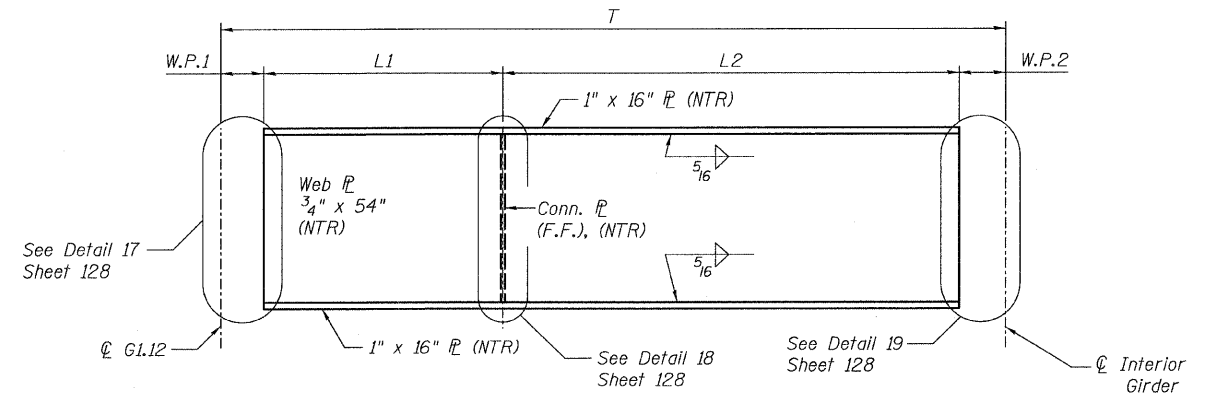
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

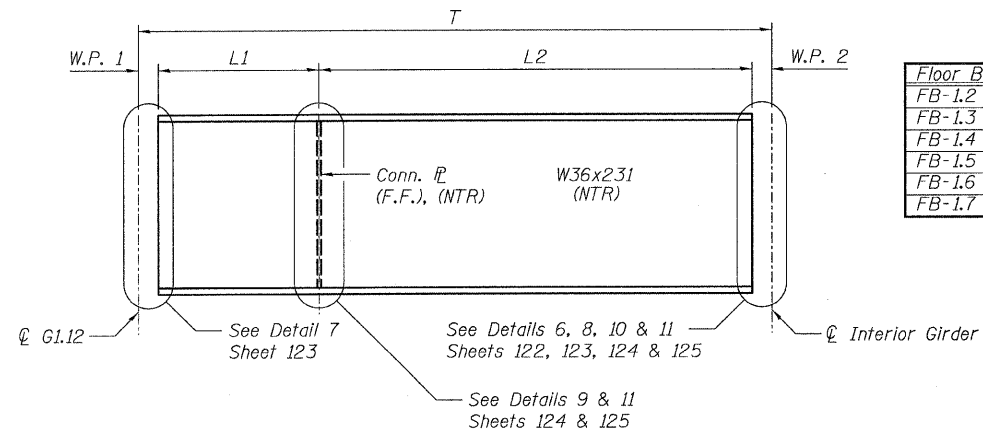


Floor Beam	W.P. 1	W.P. 2	L	T
FB-1.1	1'-2 ⁵ / ₁₆ "	6 ¹ / ₄ "	7'-11 ⁷ / ₁₆ "	9'-8"
FB-1.10	1'-0 ¹ / ₂ "	8 ¹ / ₄ "	6'-6 ¹ / ₁₆ "	8'-3 ³ / ₁₆ "
FB-1.11	1'-0 ¹ / ₁₆ "	8 ¹ / ₄ "	3'-9 ⁵ / ₈ "	5'-6 ⁵ / ₁₆ "
FB-1.13	1'-0 ¹ / ₁₆ "	8 ¹ / ₄ "	6'-5 ⁵ / ₁₆ "	8'-1 ⁷ / ₈ "
FB-1.14	1'-0 ¹ / ₄ "	8 ¹ / ₄ "	5'-4 ⁵ / ₁₆ "	7'-0 ³ / ₁₆ "

FLOOR BEAM ELEVATION
(FB-1.1, FB-1.10, FB-1.11, FB-1.13, FB-1.14)



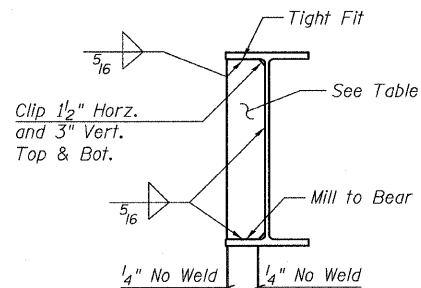
FLOOR BEAM ELEVATION
(FB-1.8, FB-1.9, FB-1.12)
(Looking East)



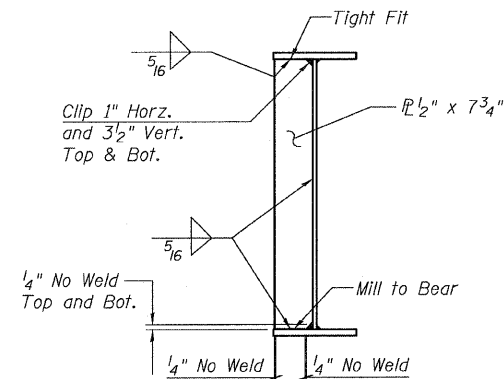
Floor Beam	W.P. 1	W.P. 2	L1	L2	T	Conn. P
FB-1.2	1'-2 ¹ / ₁₆ "	6 ¹ / ₄ "	3'-2 ⁵ / ₁₆ "	5'-11 ³ / ₄ "	10'-11"	5 ⁸ / ₁₆ " x 7 ³ / ₄ "
FB-1.3	1'-1 ⁹ / ₁₆ "	6 ¹ / ₄ "	3'-2 ³ / ₈ "	5'-11 ³ / ₄ "	10'-10 ¹ / ₄ "	5 ⁸ / ₁₆ " x 7 ³ / ₄ "
FB-1.4	1'-1 ⁹ / ₁₆ "	8 ¹ / ₂ "	2'-2 ¹ / ₄ "	5'-9 ¹ / ₂ "	9'-9 ¹³ / ₁₆ "	5 ⁸ / ₁₆ " x 7 ³ / ₄ "
FB-1.5	1'-1 ³ / ₈ "	8 ¹ / ₂ "	1'-10 ¹ / ₂ "	5'-9 ¹ / ₂ "	9'-5 ¹ / ₈ "	5 ⁸ / ₁₆ " x 7 ³ / ₄ "
FB-1.6	1'-1 ⁹ / ₁₆ "	8 ¹ / ₂ "	2'-2 ⁵ / ₁₆ "	5'-9 ¹ / ₂ "	9'-9 ¹³ / ₁₆ "	5 ⁸ / ₁₆ " x 7 ³ / ₄ "
FB-1.7	1'-1"	8 ¹ / ₄ "	3'-2 ¹ / ₁₆ "	5'-9 ³ / ₄ "	10'-9 ¹ / ₁₆ "	5 ⁸ / ₁₆ " x 7 ³ / ₄ "

Floor Beam	W.P. 1	W.P. 2	L1	L2	T
FB-1.8	1'-0 ¹³ / ₁₆ "	8 ¹ / ₄ "	4'-10"	5'-9 ³ / ₄ "	12'-4 ¹³ / ₁₆ "
FB-1.9	1'-0 ⁹ / ₁₆ "	8 ¹ / ₄ "	4'-0 ¹ / ₁₆ "	5'-9 ³ / ₄ "	11'-6 ⁵ / ₈ "
FB-1.12	1'-0 ³ / ₈ "	8 ¹ / ₄ "	2'-3 ¹ / ₂ "	5'-9 ³ / ₄ "	9'-9 ¹ / ₈ "

FLOOR BEAM ELEVATION
(FB-1.2 thru FB-1.7)
(Looking East)



CONN. P DETAILS
(FB-1.2 to FB-1.7)



CONN. P DETAILS
(FB-1.8, FB-1.9, FB-1.12)

NOTES:

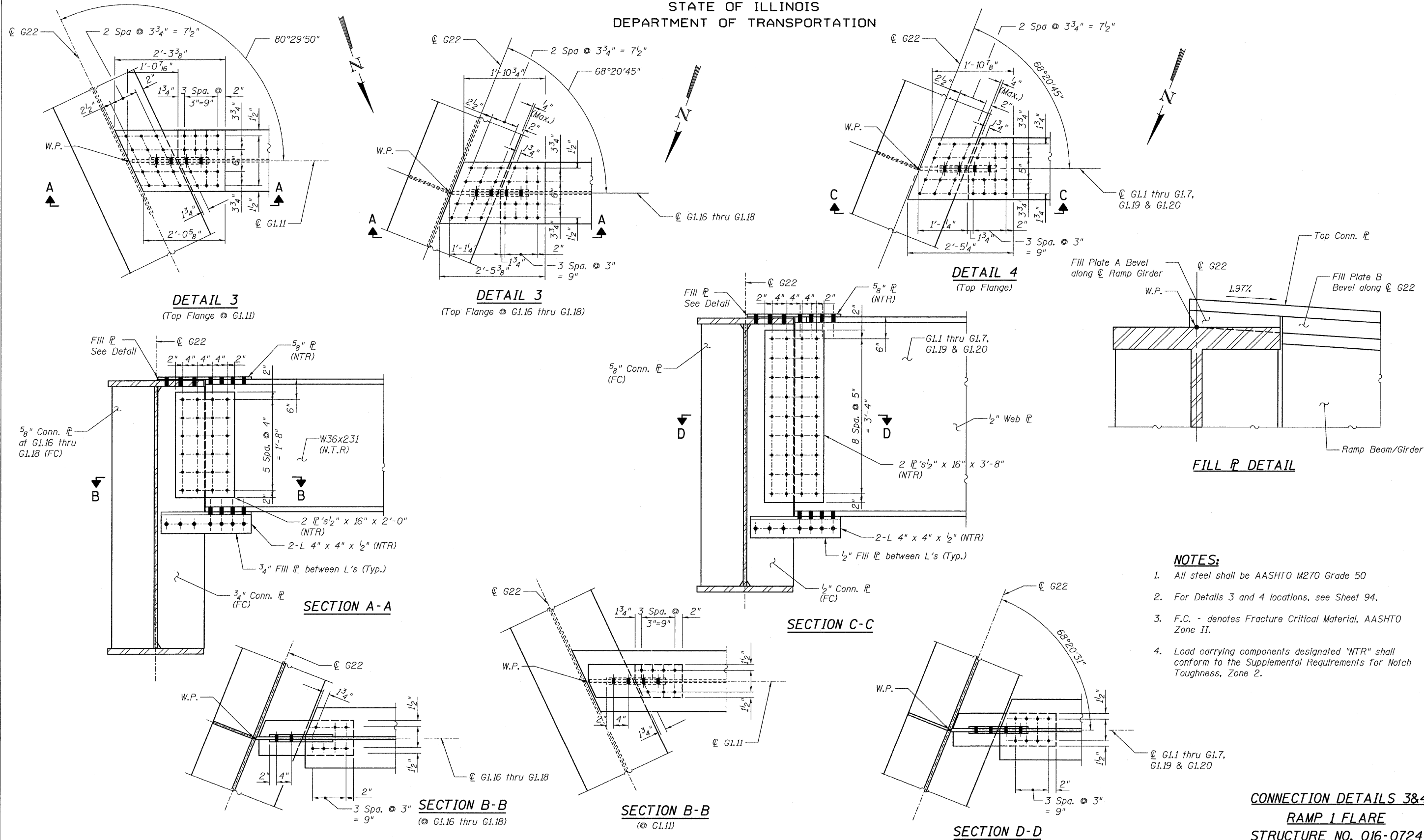
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- F.F. denotes Far Face.

FLOOR BEAM DETAILS
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 119	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
	CHECKED - AMD,	NAME	DATE							55	0711.2R & 1011.1BR	COOK	741	443
	DRAWN - EKH, JMA									CONTRACT NO. 60999				
	CHECKED - AMD,									FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 03/25/2011			239 SHEETS										

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



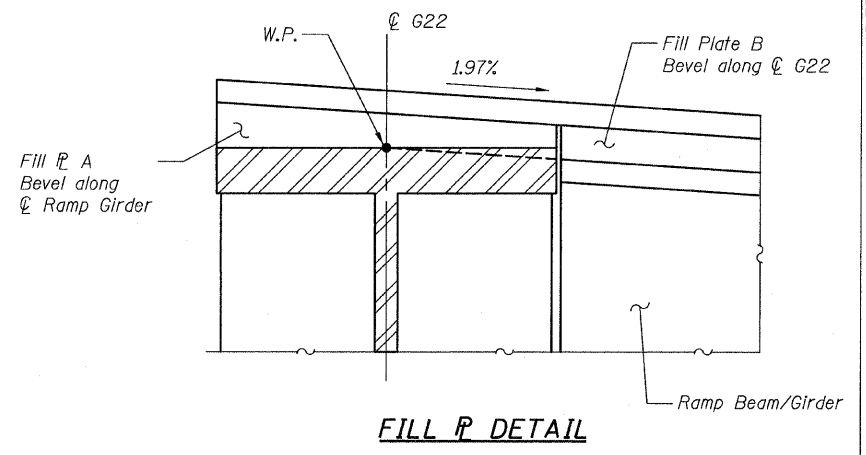
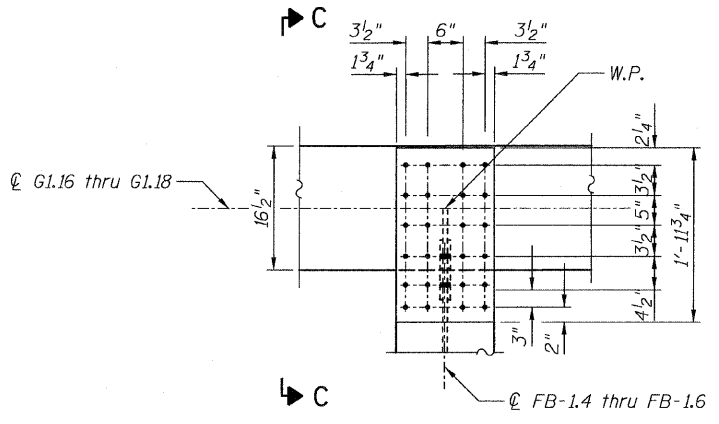
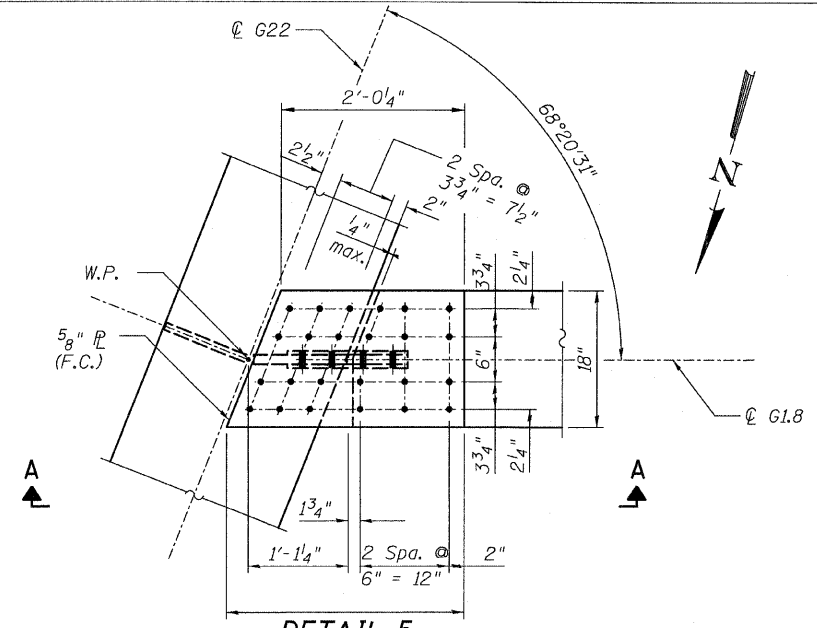
- NOTES:**
- All steel shall be AASHTO M270 Grade 50
 - For Details 3 and 4 locations, see Sheet 94.
 - F.C. - denotes Fracture Critical Material, AASHTO Zone II.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 3&4
RAMP 1 FLARE
STRUCTURE NO. 016-0724

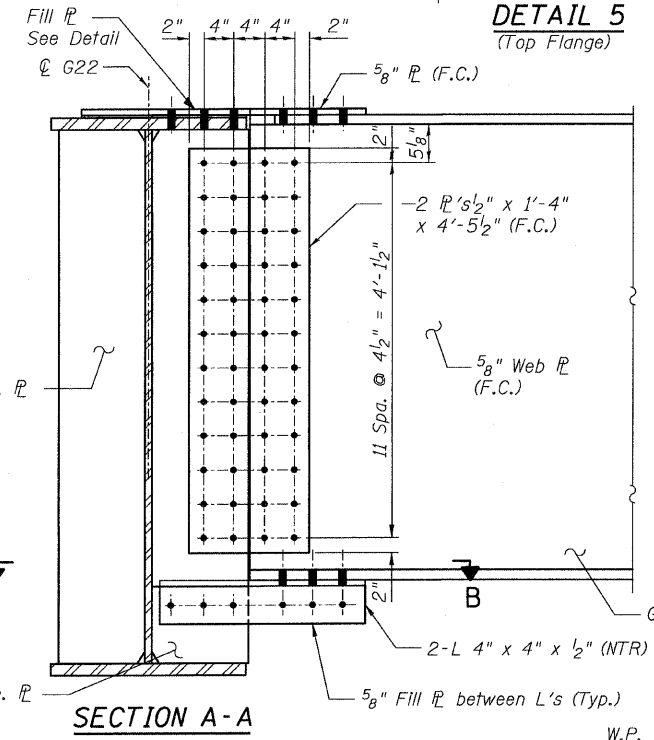
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 121	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	445
	DRAWN - EKH, JMA				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

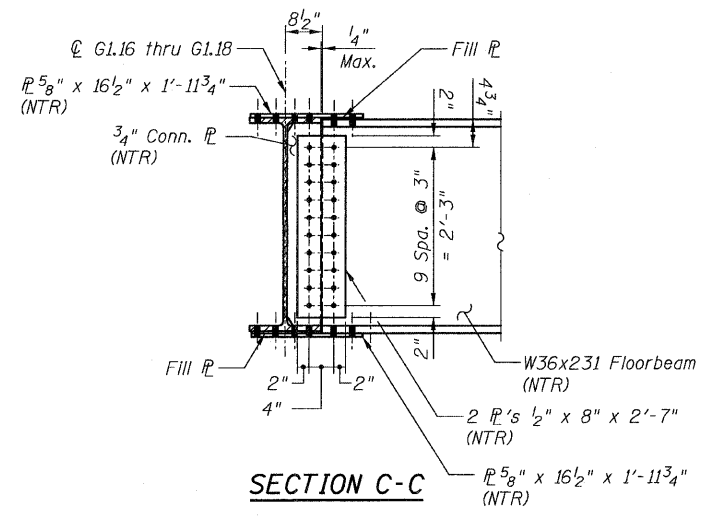


FILL P DETAIL

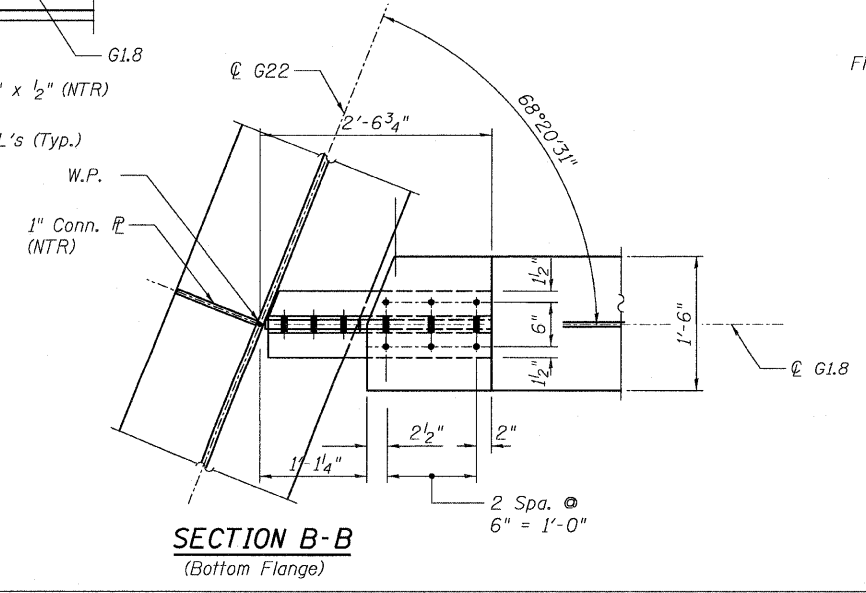


SECTION A-A

DETAIL 6
(Top Flange)
(Bot. Flange Similar)



SECTION C-C



SECTION B-B
(Bottom Flange)

NOTES:

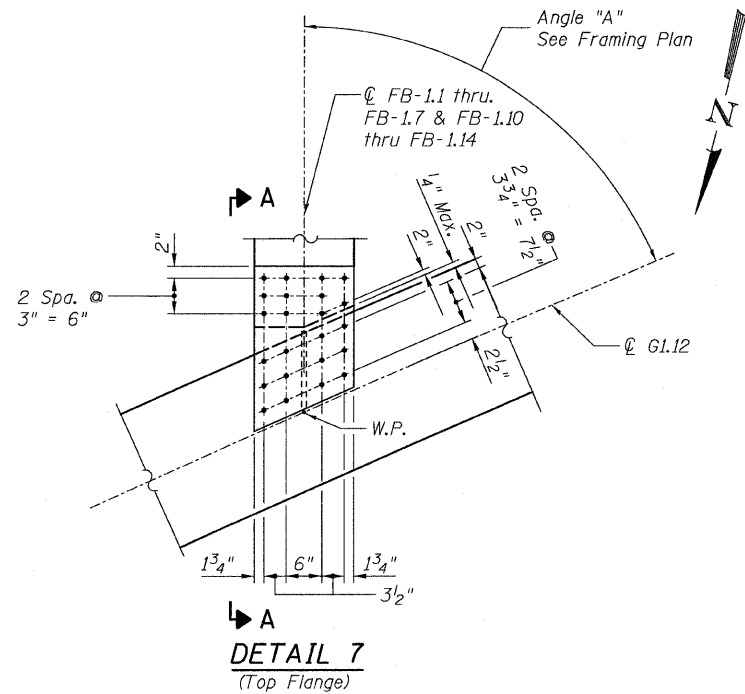
- All steel shall be AASHTO M270 Grade 50.
- For Details 5 and 6 locations, see Sheet 94.
- F.C. - denotes Fracture Critical Material, AASHTO Zone II.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 5&6
RAMP 1 FLARE
STRUCTURE NO. 016-0724

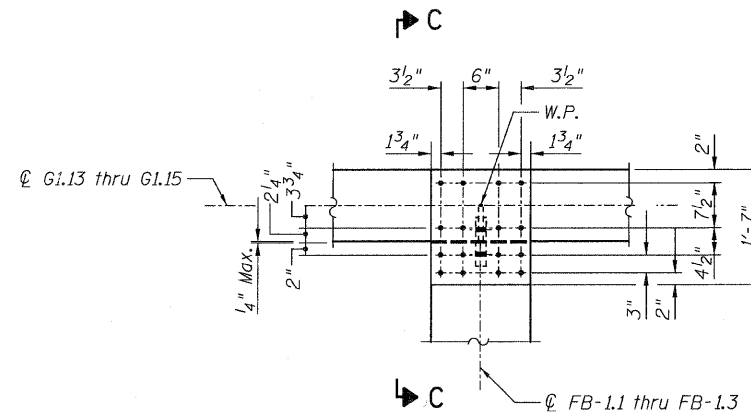
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 122 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	446	
	DRAWN - EKH, JMA				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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p:\01345\structure\02_Central_Ave_016-0724\15511 Framed\113.dgn

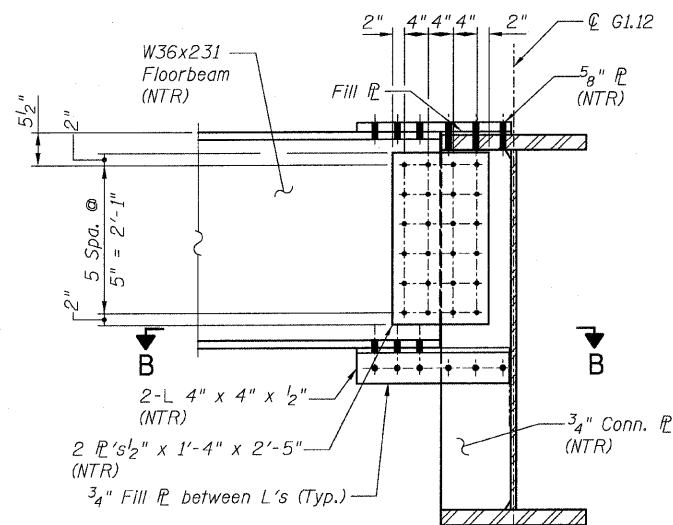
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



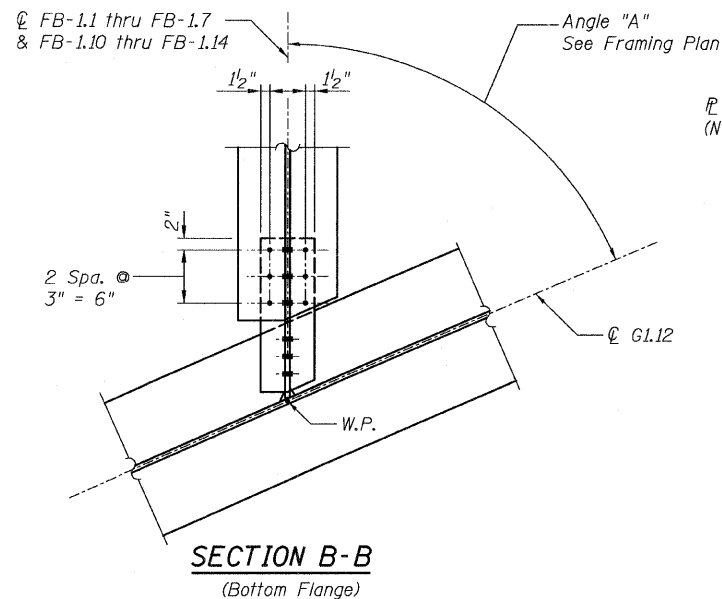
DETAIL 7
(Top Flange)



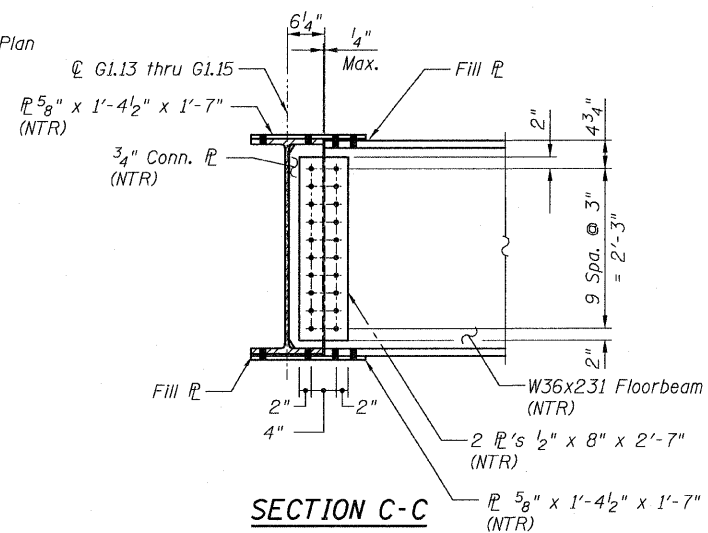
DETAIL 8
(Top Flange)
(Bot. Flange Similar)



SECTION A-A



SECTION B-B
(Bottom Flange)



SECTION C-C

NOTES:

- All steel shall be AASHTO M270 Grade 50.
- For Details 7 and 8 locations, see Sheet 94.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 7&8
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

DESIGNED - EKH, JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - EKH, JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

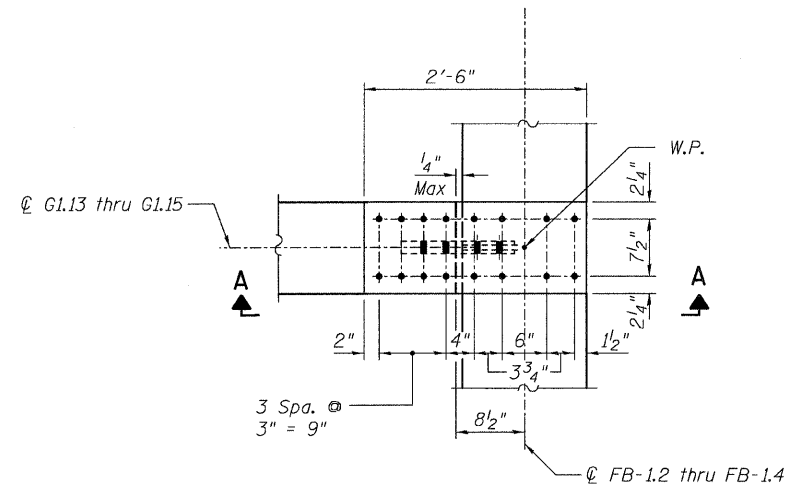
SHEET NO. 123	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	447
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

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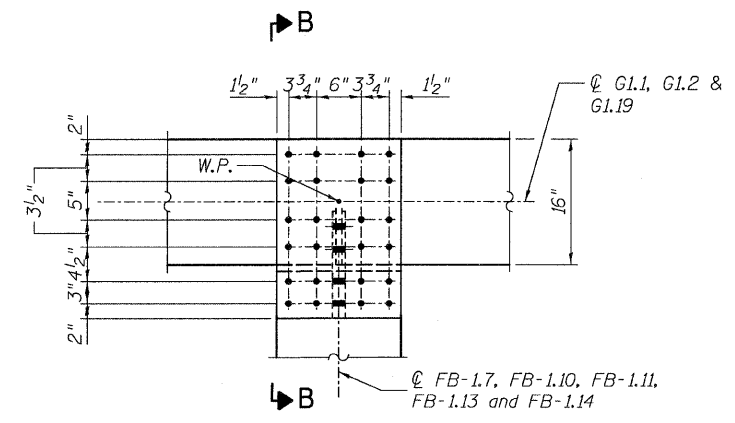
p:\01345\structure\c2 Central Ave. 016-0724\1551\Framed114.dgn

4/28/2011

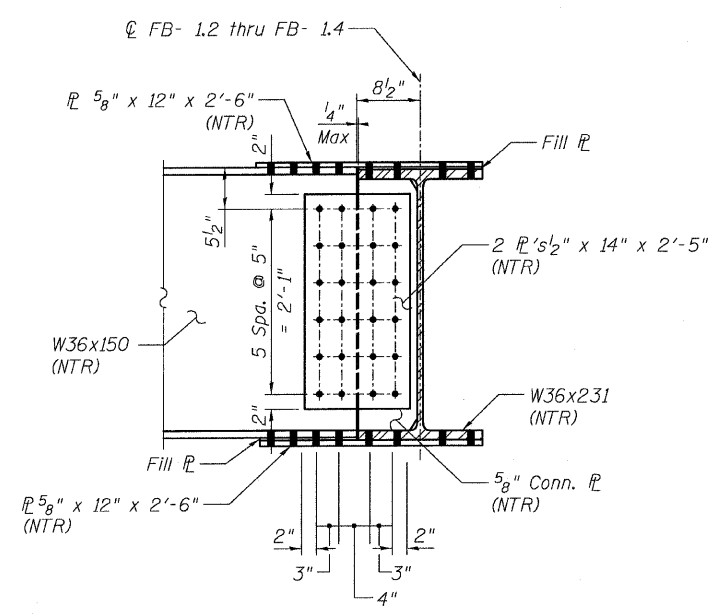
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



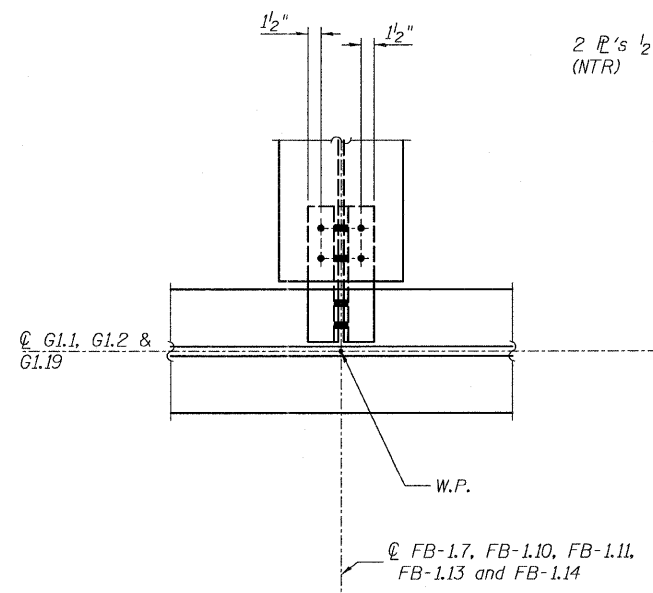
DETAIL 9
(Top Flange)
(Bottom Flange Similar)



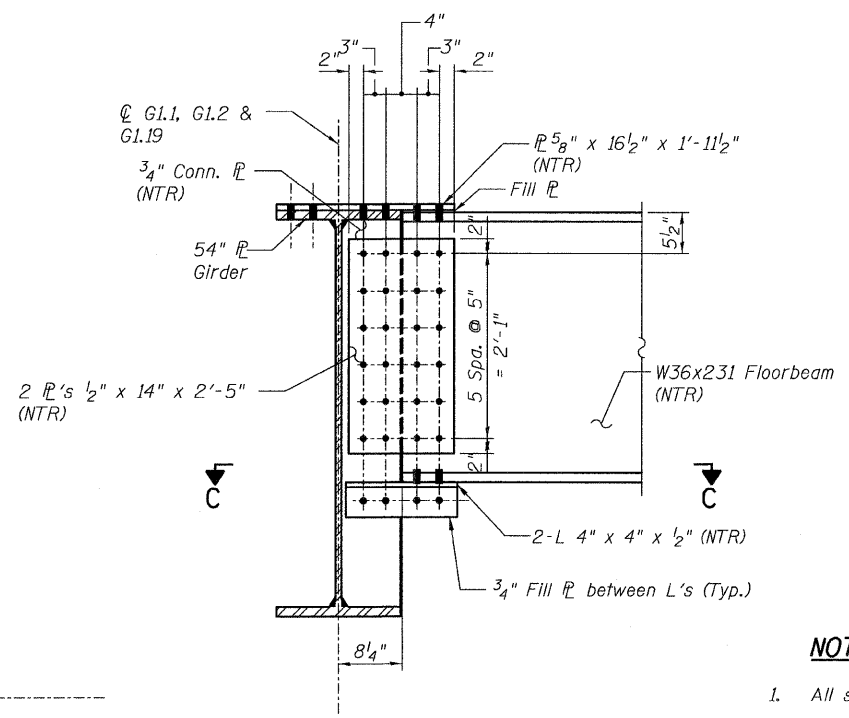
DETAIL 10
(Top Flange)



SECTION A-A



SECTION C-C



SECTION B-B

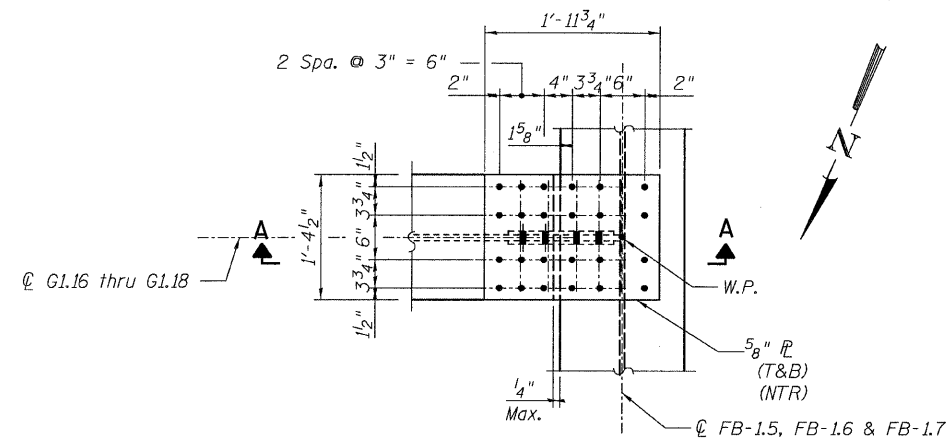
- NOTES:**
- All steel shall be AASHTO M270 Grade 50.
 - For Details 9 and 10 locations, see Sheet 94.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 9&10
RAMP 1 FLARE
STRUCTURE NO. 016-0724

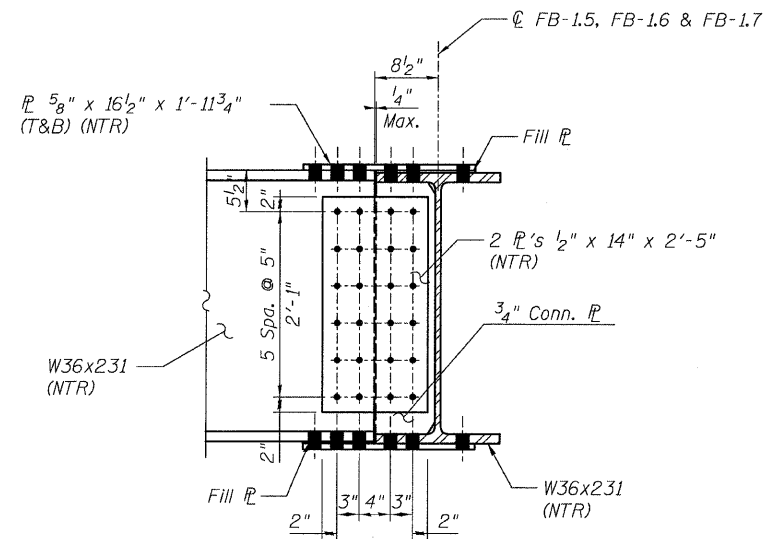
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 124	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.									
	CHECKED - AMD,	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	448			
	DRAWN - EKH, JMA															CONTRACT NO. 60999		
	CHECKED - AMD,															FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		
DATE - 03/25/2011																		

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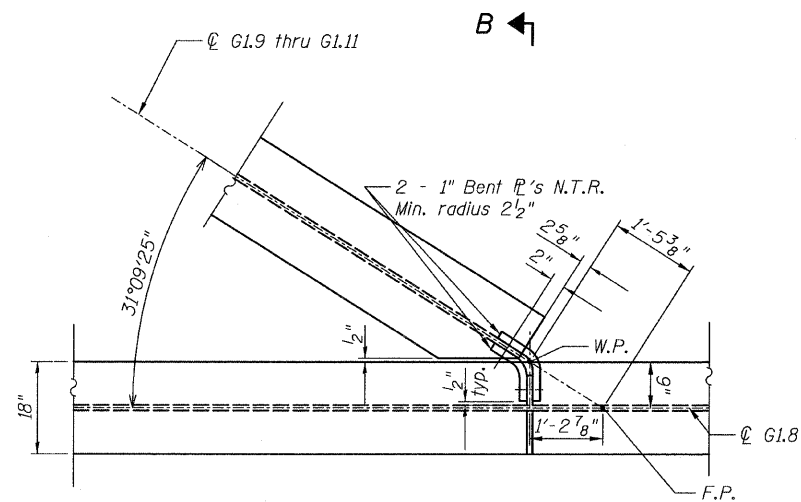
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



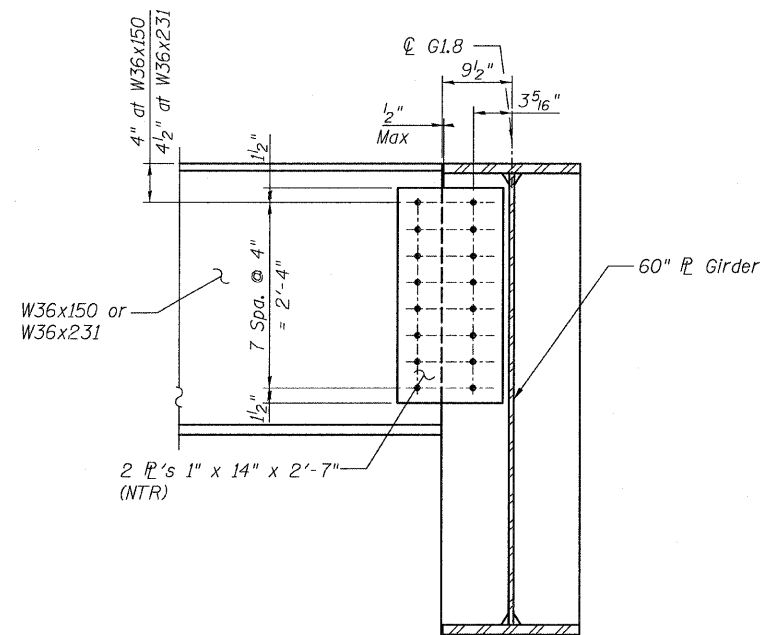
DETAIL 11
(Top Flange)
(Bottom flange is similar.)



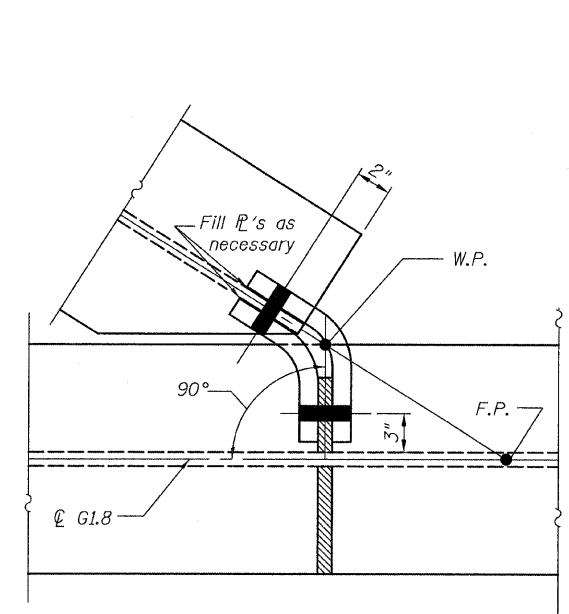
SECTION A-A



DETAIL 12



SECTION B-B



PLAN-FRAMED CONNECTION

NOTES:

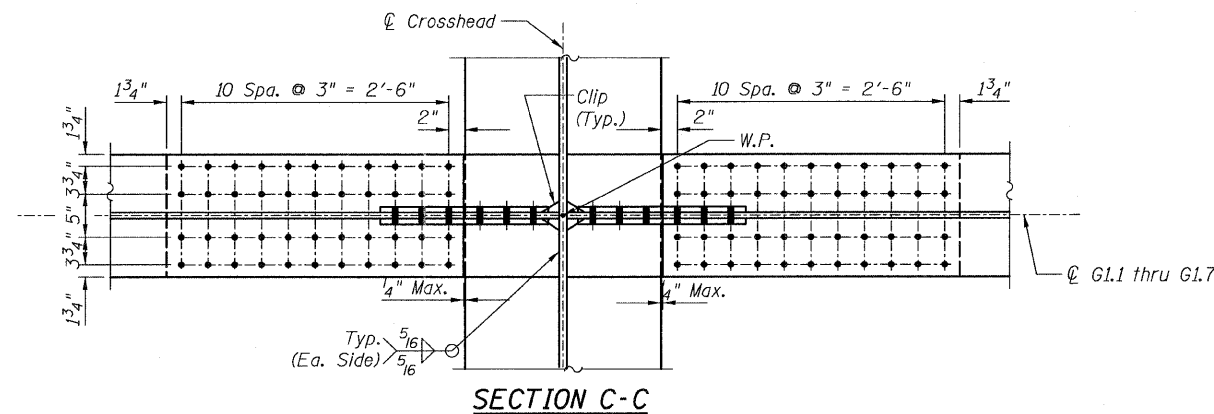
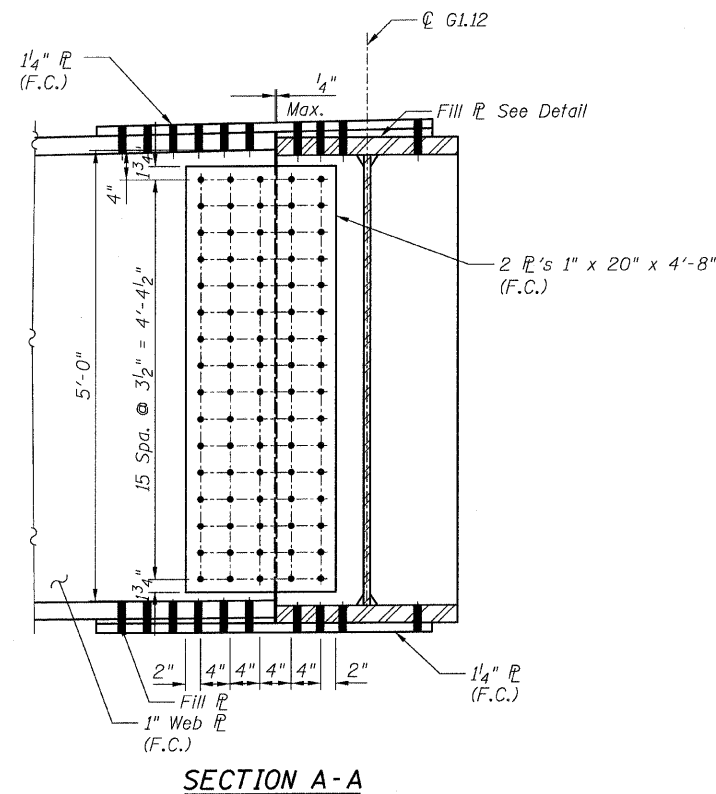
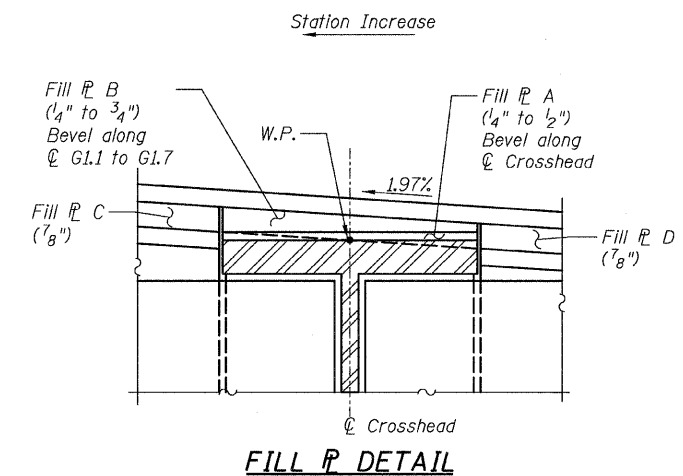
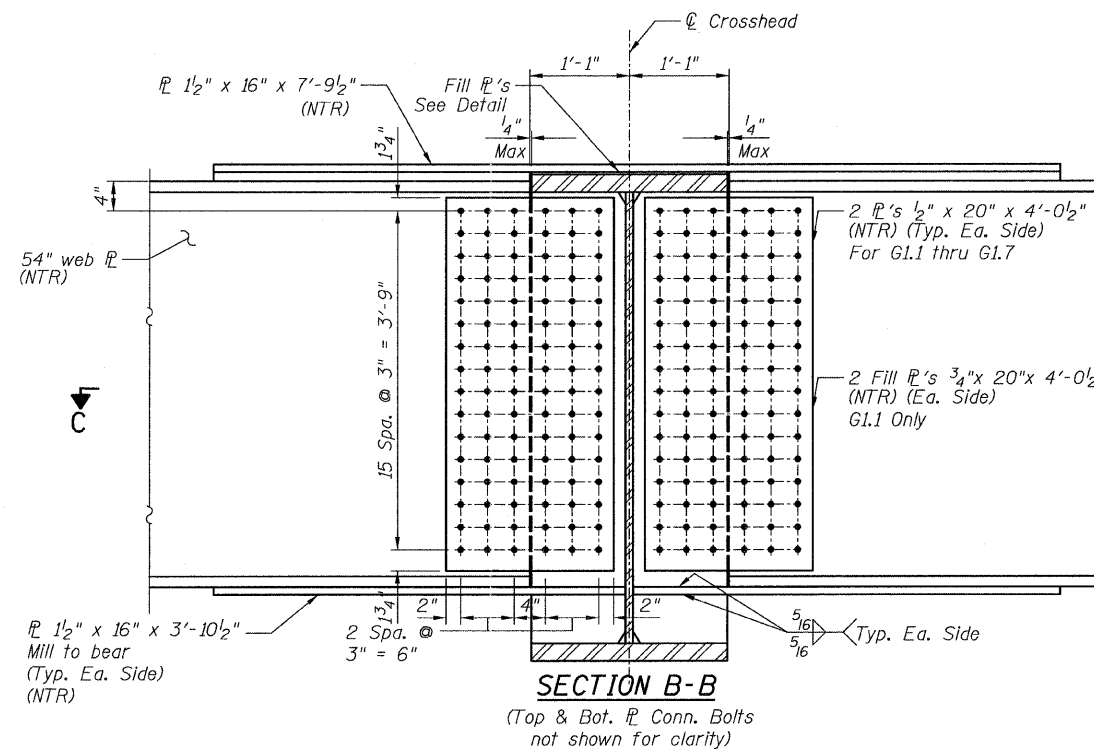
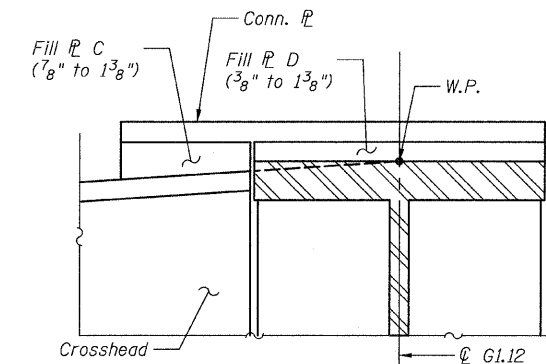
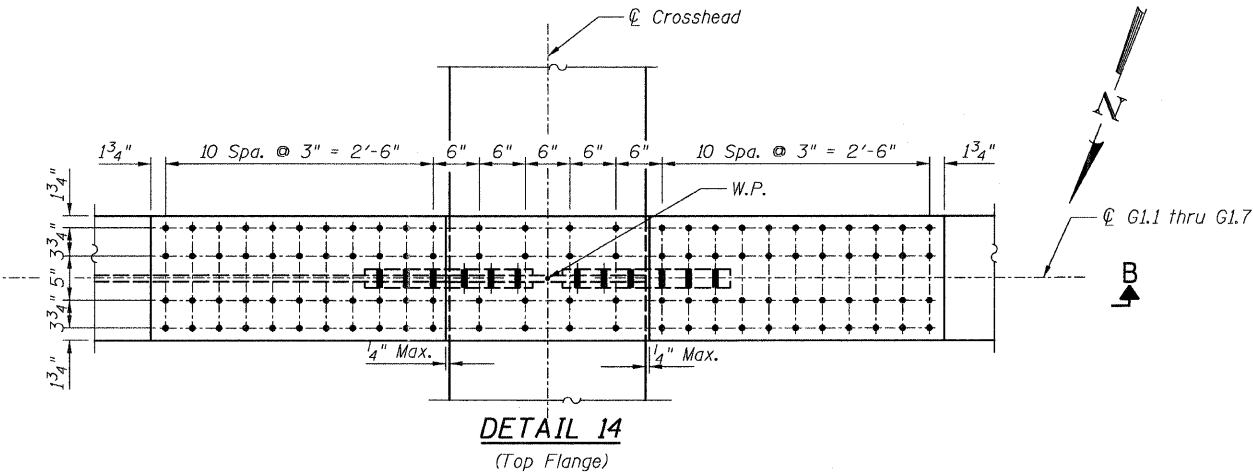
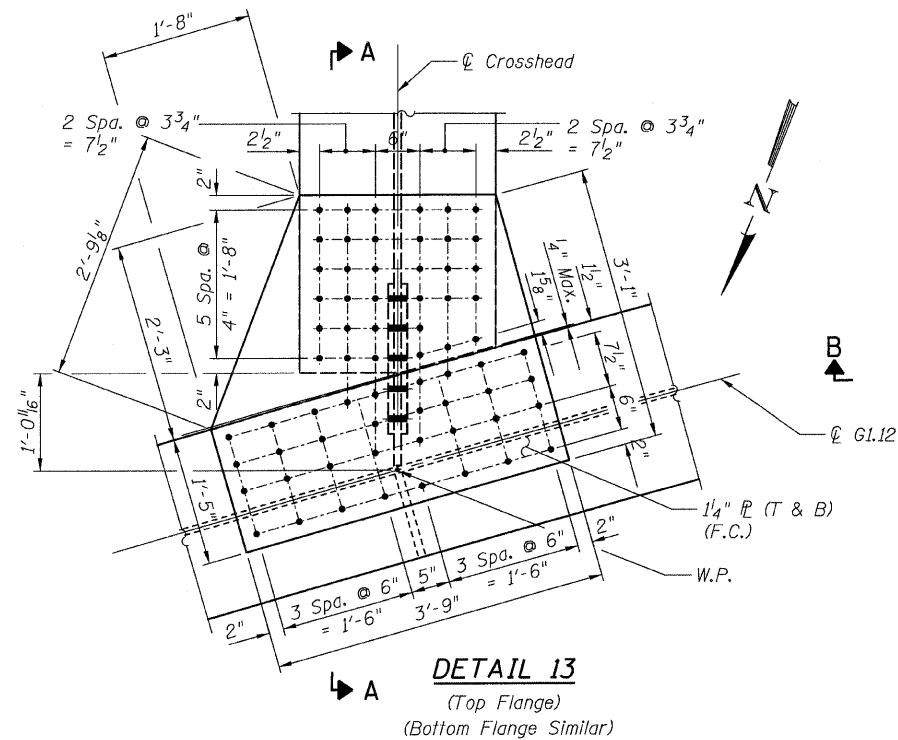
1. All steel shall be AASHTO M270 Grade 50.
2. For Details 11 and 12 locations, see Sheet 94.
3. F.C. - denotes Fracture Critical Material, AASHTO Zone II.
4. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

**CONNECTION DETAILS 11&12
RAMP 1 FLARE
STRUCTURE NO. 106-0724**

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - EKH, JMA		
	CHECKED - AMD,		
	DATE - 03/25/2011		

SHEET NO. 125	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	449
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

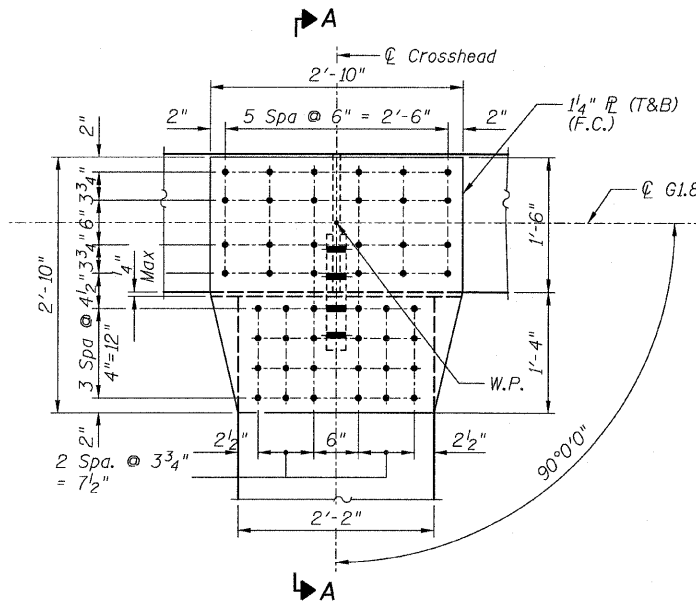


- NOTES:**
- All steel shall be AASHTO M270 Grade 50.
 - For Details 13 and 14 locations, see Sheet 94.
 - F.C. - denotes Fracture Critical Material, AASHTO Zone II.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

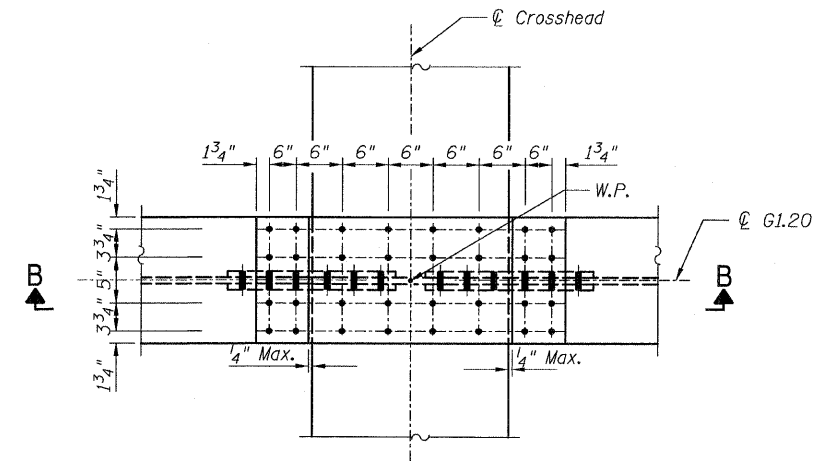
**CONNECTION DETAILS 13&14
RAMP 1 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 126	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	450	
	DRAWN - EKH, JMA				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

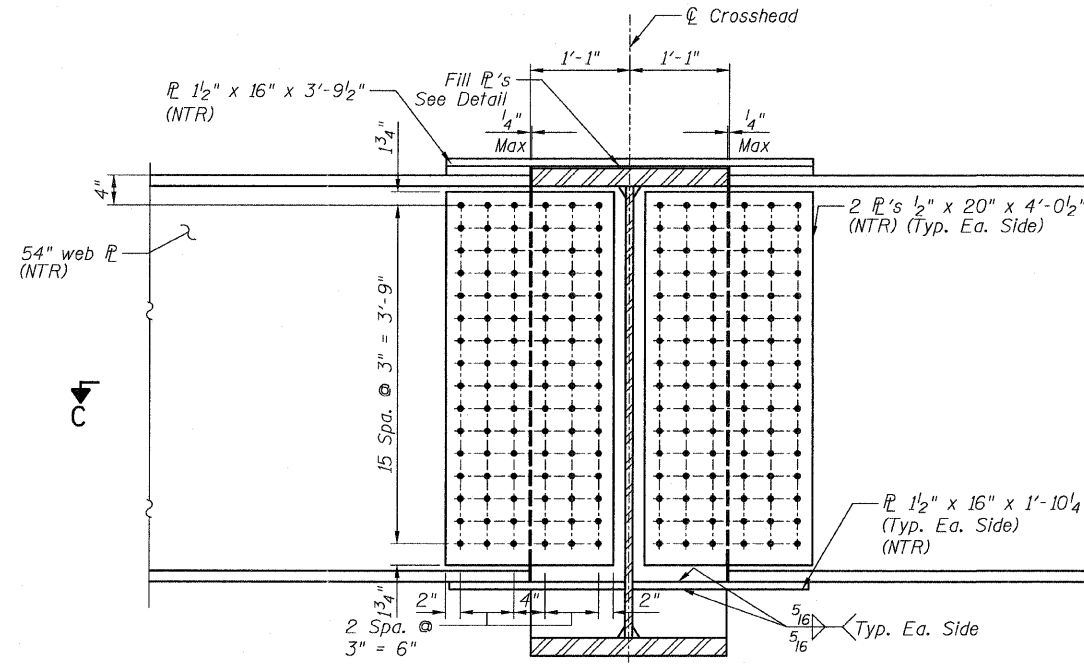
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DETAIL 15
(Top Flange)
(Bot. Flange Similar)

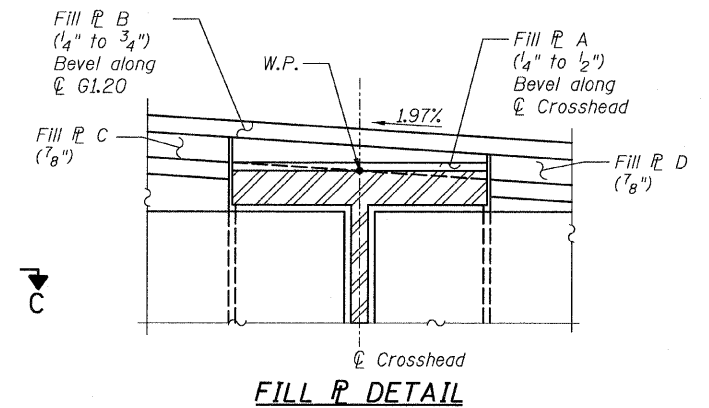


DETAIL 16
(Top Flange)



SECTION B-B

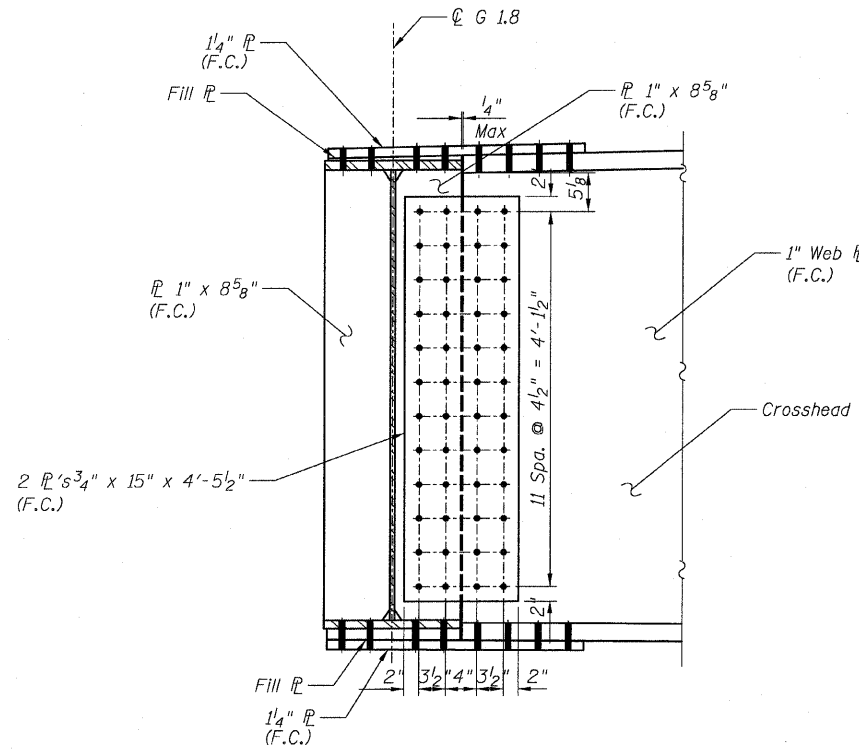
(Top & bottom connection bolts not shown for clarity)



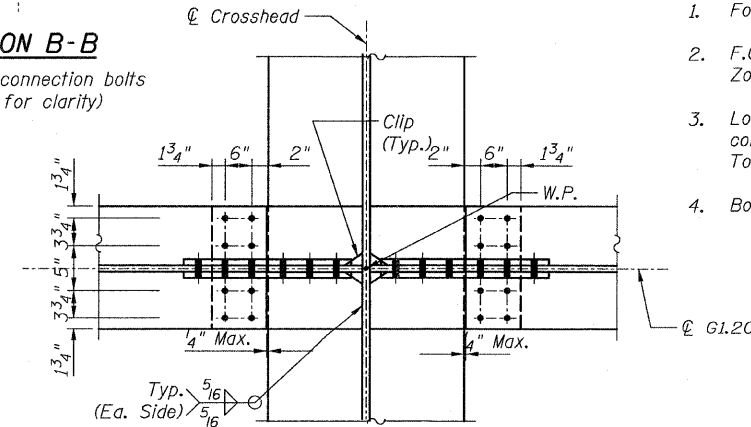
FILL P DETAIL

NOTES:

1. For Details 15 and 16 locations, see Sheet 94.
2. F.C. - denotes Fracture Critical Material, AASHTO Zone II.
3. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
4. Bolts for connection detail 15 shall be 1" ϕ with 1/16" holes.



SECTION A-A



SECTION C-C

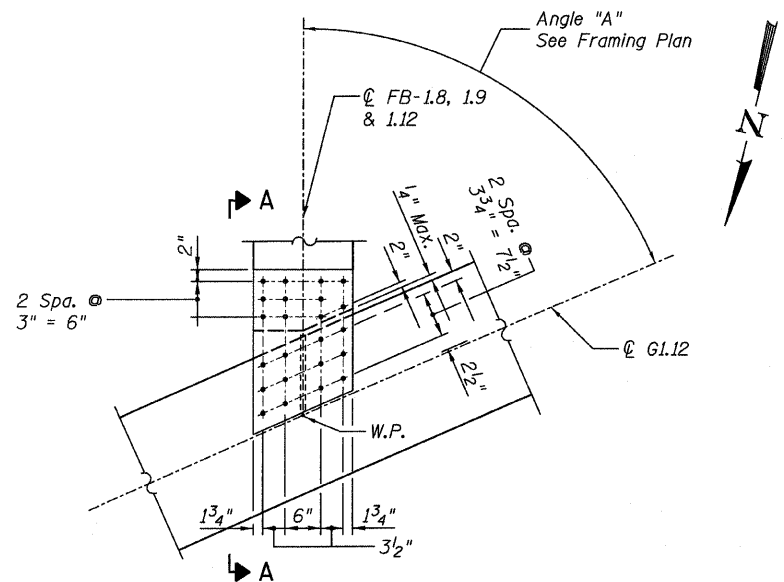
CONNECTION DETAILS 15&16
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

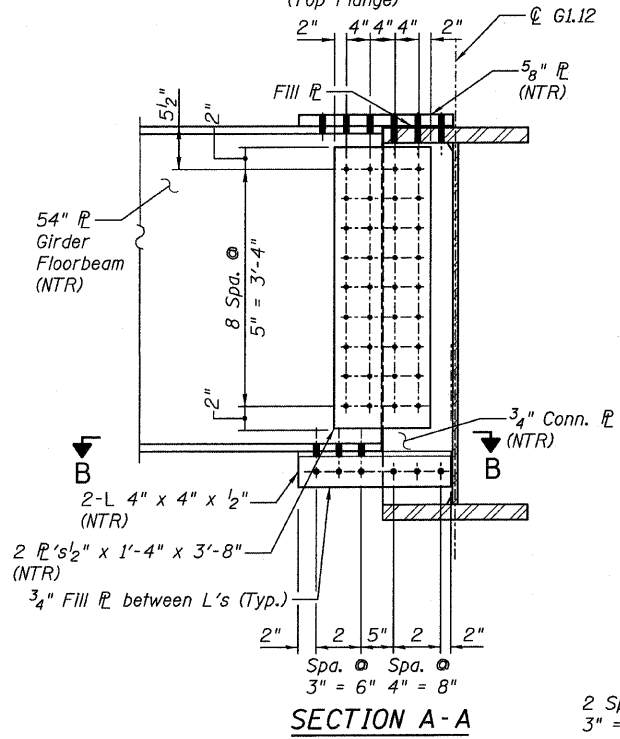
DESIGNED	EKH, JMA	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 127	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	451
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

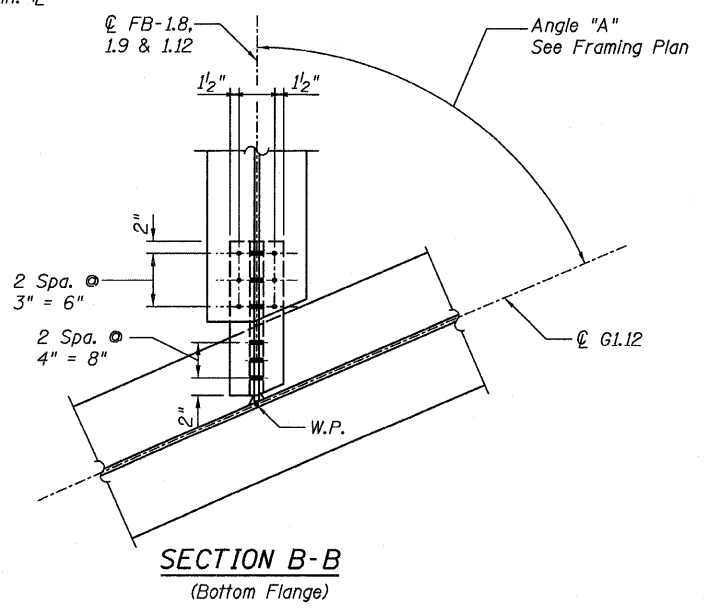
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



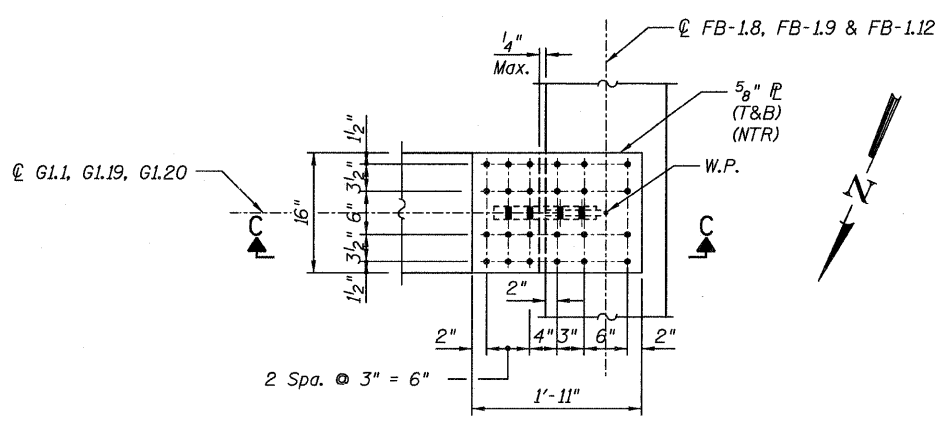
DETAIL 17
(Top Flange)



SECTION A-A

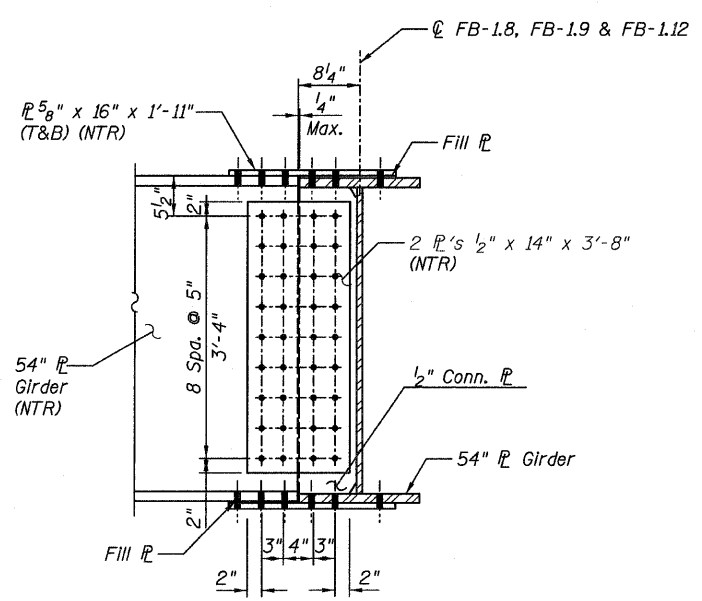


SECTION B-B
(Bottom Flange)

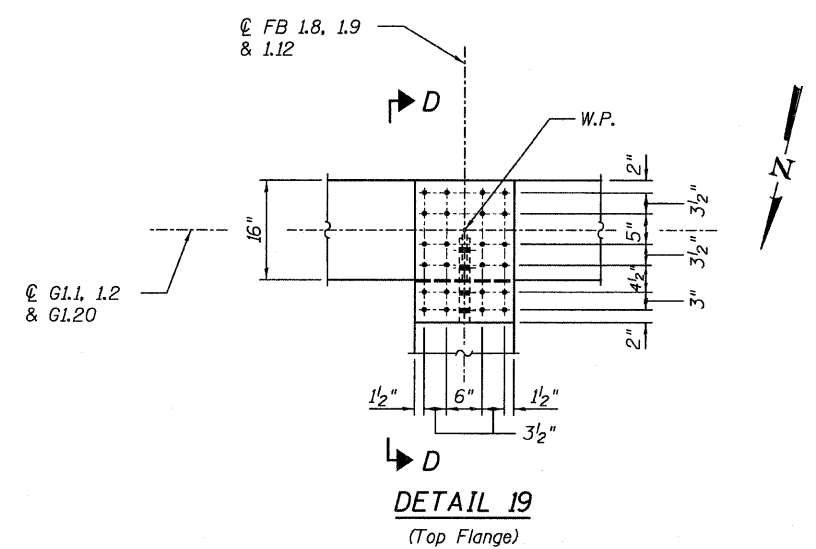


DETAIL 18

(Top Flange)
(Bottom flange is similar.)

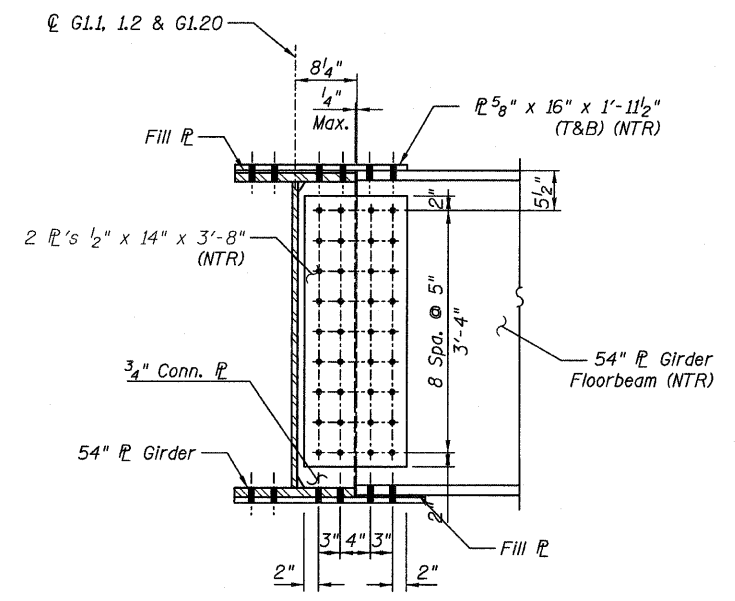


SECTION C-C



DETAIL 19

(Top Flange)



SECTION D-D

NOTES:

1. All steel shall be AASHTO M270 Grade 50.
2. For Details 17, 18 & 19 locations, see Sheet 94.
3. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 17, 18 & 19
RAMP 1 FLARE
STRUCTURE NO. 016-0724

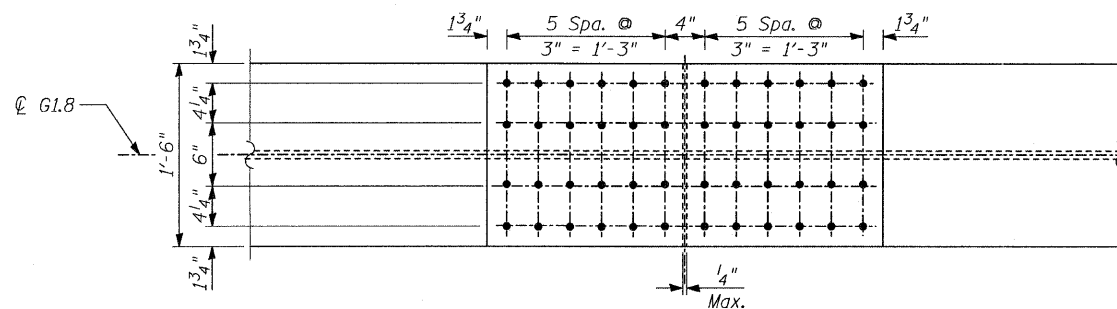
TYLIN INTERNATIONAL

DESIGNED - EKH, JMA	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - EKH, JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

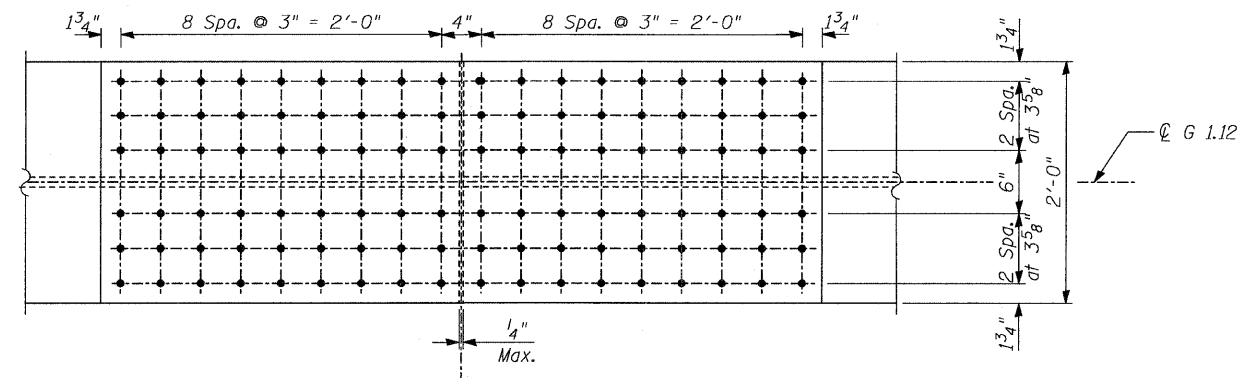
SHEET NO. 128 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	452
FED. ROAD DIST. NO. 1 ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 60999					

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 4/28/2011

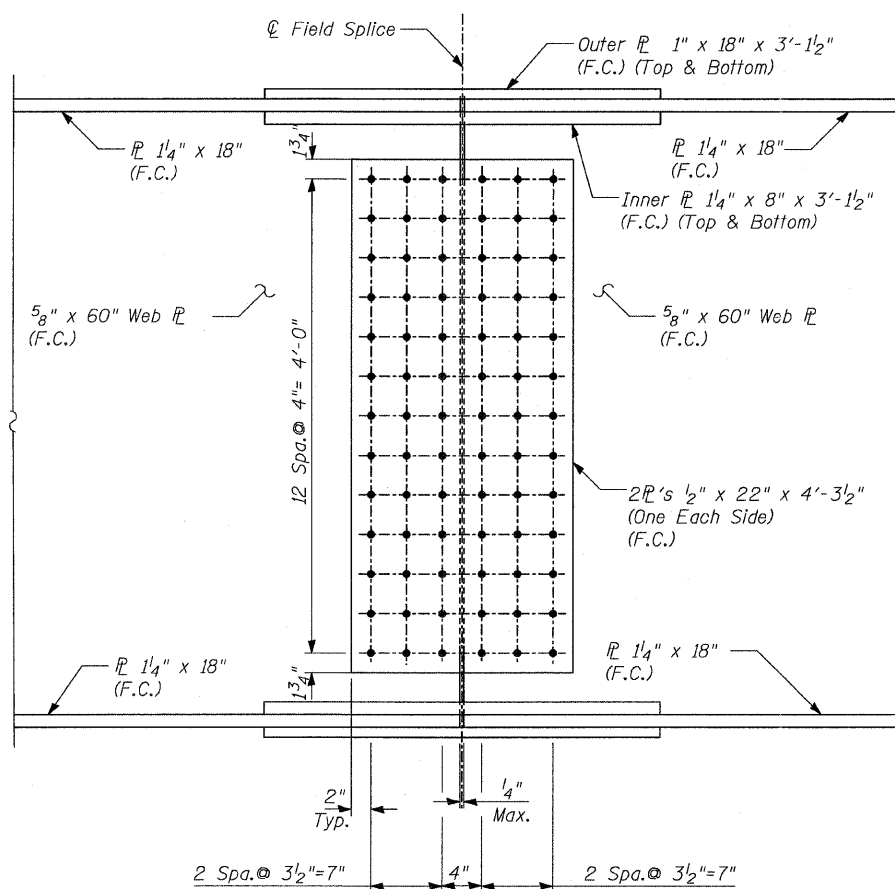
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



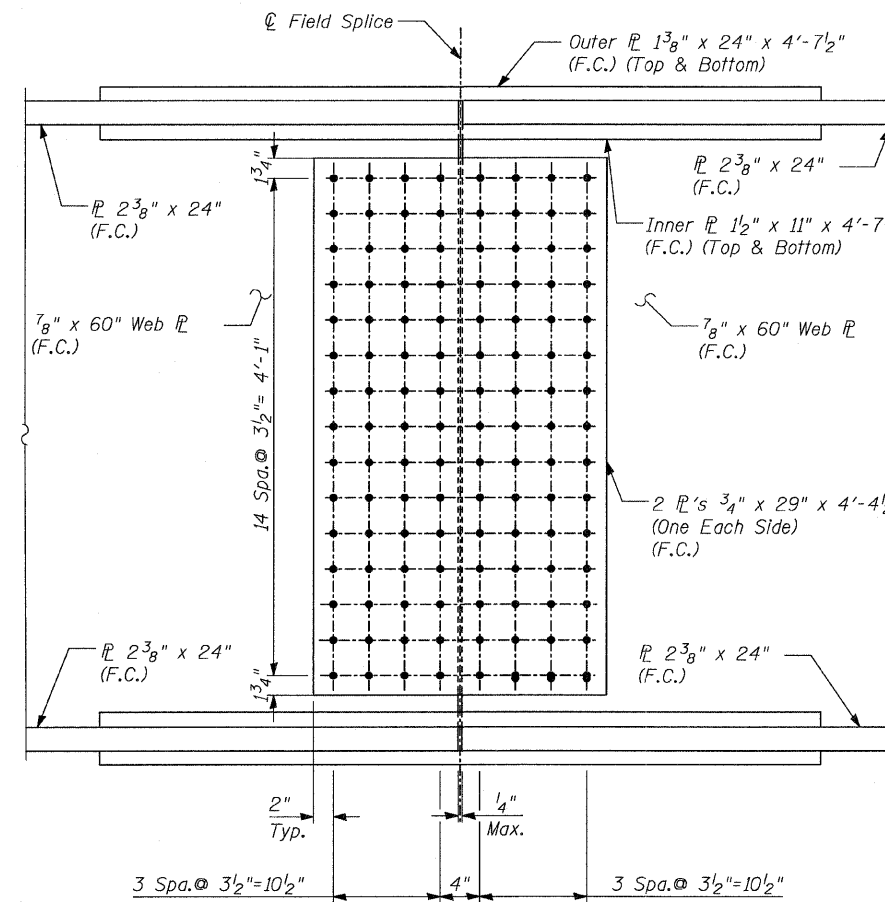
PLAN - TOP & BOTTOM FLANGE
FIELD SPLICE FS-1.1



PLAN - TOP & BOTTOM FLANGE
FIELD SPLICE FS-1.2 & 1.3



ELEVATION



ELEVATION

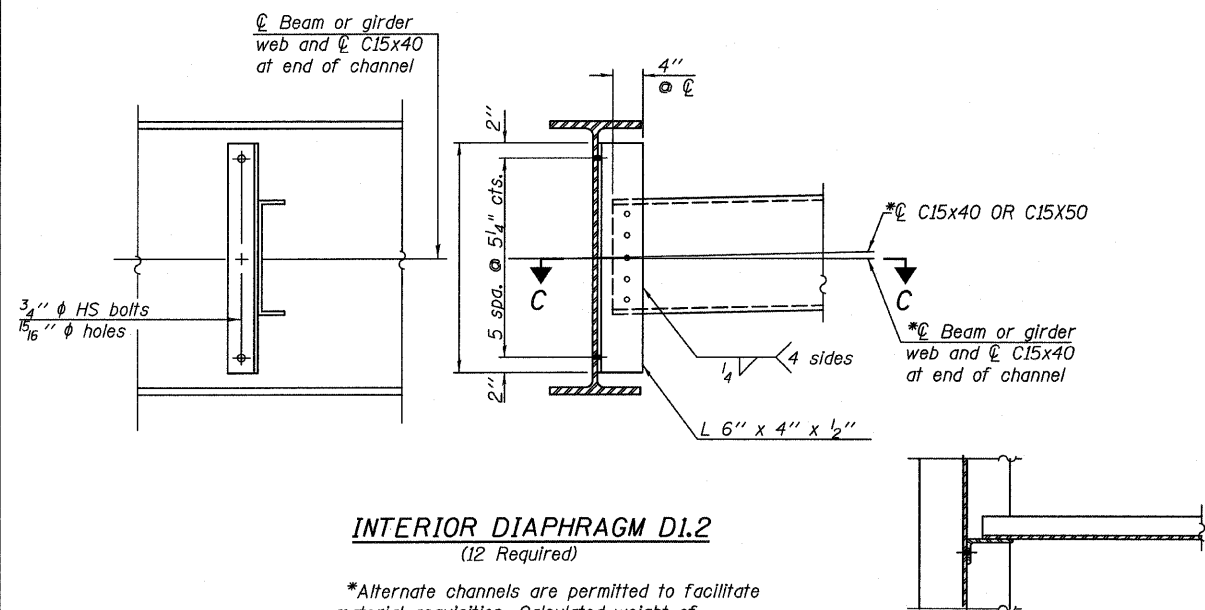
NOTES:

- All steel shall be AASHTO M270 Grade 50.
- F.C. denotes Fracture Critical Material, AASHTO Zone 2.

FIELD SPLICES
RAMP 1
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA	REVISIONS		SHEET NO. 129	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 453
	CHECKED - AMD,	NAME	DATE						
	DRAWN - EKH, JMA								
	CHECKED - AMD,								
	DATE - 03/25/2011								
				239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT									

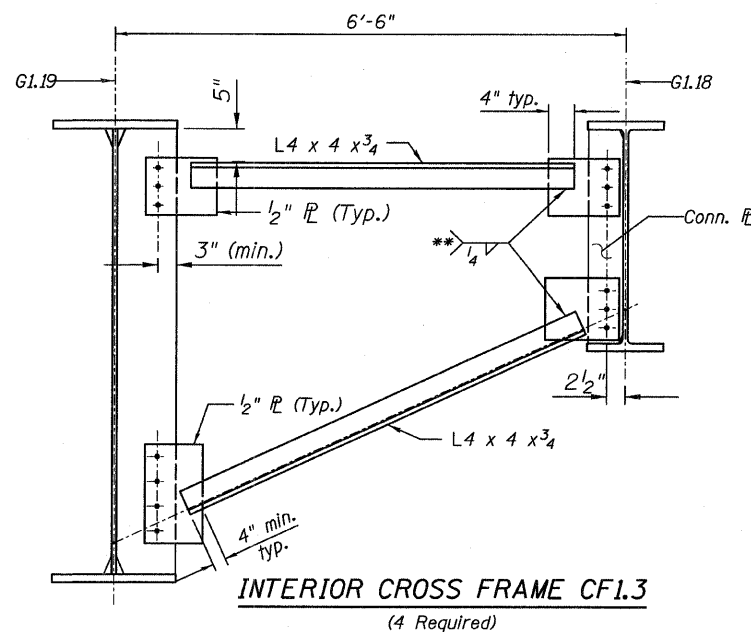
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



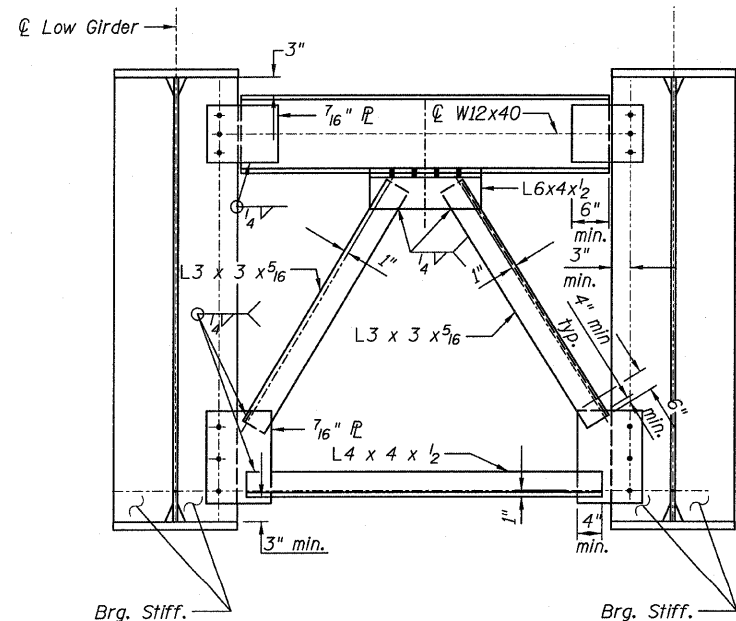
INTERIOR DIAPHRAGM D1.2
(12 Required)

*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.

SECTION C-C

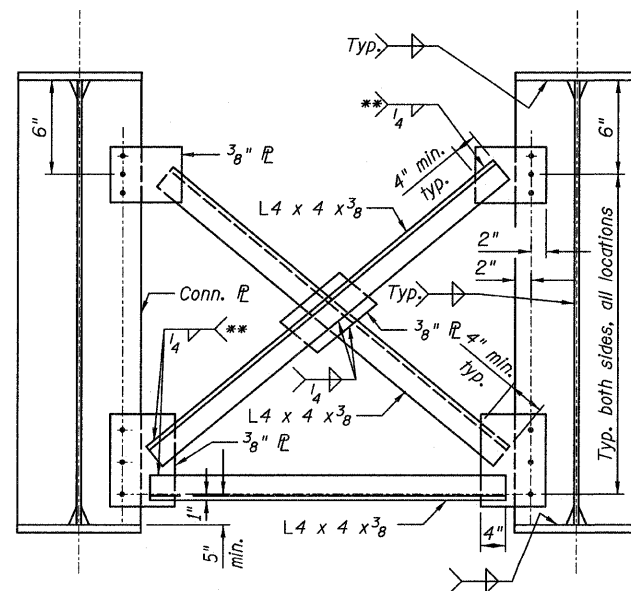


INTERIOR CROSS FRAME CF1.3
(4 Required)



END CROSS FRAME CF1.1
(7 Required)

Note:
Place CrossFrame with channel Flanges and outstanding angle legs outward from abutment backwall. Weld on near side for 7/16 inch plate.



INTERIOR CROSS FRAME CF1.2
(85 Required)

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

NOTES:

1. All bolts shall be 3/4" φ with 5/16" φ holes unless otherwise noted.
2. Two hardened washers shall be required over all oversize holes for diaphragms.
3. All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

DIAPHRAGMS & DETAILS
RAMP 1 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

DESIGNED	EKH, JMA	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 130	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	454
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 2 FLARE

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).
 $I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in³).
 Q : Un-factored non-composite dead load (kips/ft.).
 M_Q : Un-factored moment due to non-composite dead load (kip-ft.).
 s_Q : Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_{sQ} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)]$
 VR : Maximum \pm impact shear range within the composite portion of the span for stud shear connector design (kips).
 S_f : Section modulus of one flange plate for lateral flange bending (in³).
 M_{bl} : Factored lateral bending moment for flange plate (kip-ft.).
 f_1 : Factored calculated normal stress at the edge of flange due to lateral bending (ksi).
 F_{cr} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi).
 F_{cr} : Critical average flange stress (smaller of F_{cr1} or F_{cr2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

	Girder 2.1 & 2.18-2.20		Girder 2.2			Girder 2.3 to 2.8			Girder 2.9	Girder 2.11	Girder 2.17, 2.10, 2.10A & 2.13-2.16	Cross Head Girder	
	0.5 Sp. R2-1	0.5 Sp. R2-2	0.4 Sp. R2-1	R2 Pier	0.6 Sp. R2-2	0.4 Sp. R2-1	R2 Pier	0.6 Sp. R2-2	0.6 Sp. R2-2	0.5 Sp. R2-2	0.5 Sp. R2-2	0.4 Span	at G2.12
I_s (in ⁴)	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	49,795	15,000	9,040	131,400	131,400
I_c (n) (in ⁴)	31,876	31,876	31,876		31,876	31,876		31,876	88,605	29,661			
I_c (3n) (in ⁴)	23,429	23,429	23,429		23,429	23,429		23,429	67,636	21,883			
S_s (in ³)	837	837	837	837	837	837	837	837	1,747	837	504	4,074	4,074
S_c (n) (in ³)	1,096	1,096	1,096		1,096	1,096		1,096	2,110	1,073			
S_c (3n) (in ³)	995	995	995		995	995		995	1,948	971			
Z (in ³)				943							575	4541	4541
Q (k/')	1.18	0.98	1.42	1.57	0.89	0.98	1.38	0.98	1.41	1.11	1.29		
M_Q (k)	318.0	705.0	584.0	1,111.0	396.0	340.0	1,243.0	671.0	1,644.0	228.0	357.0	2,758.0	5,970.0
s_Q (k/')	0.40	0.40	0.57		0.36	0.40		0.40	0.60	0.80			
M_{sQ} (k)	113.0	288.0	249.0		179.0	157.0		292.0	708.0	147.0			
M_L (k)	329.0	640.0	560.0	348.0	565.0	560.0	413.0	703.0	857.0	270.0	334.0	1,049.0	1,336.0
M (Imp) (k)	95.0	160.0	139.0	87.0	141.0	140.0	103.0	162.0	197.0	81.0	96.0	262.0	347.0
$5_3 [M_L + M(imp)]$ (k)	706.7	1,333.3	1,165.0	725.0	1,177.0	1,166.7	860.0	1,441.7	1,756.7	585.0	716.7	2,185.0	2,805.0
M_a (k)	1,479.0	3,024.2	2,598.0	2,387.0	2,278.0	2,162.8	2,734.0	3,126.1	5,341.3	1,248.0	1,395.8	6,425.9	11,407.5
M_u (k)	5,073.0	5,073.0	5,073.0	3,929.0	5,073.0	5,073.0		5,073.0	10,286.0	4,897.0	2,397.0	18,920.0	18,920.0
$f_s Q$ (non-comp) (ksi)	4.6	10.1	8.4	16.0	5.7	4.9	17.8	9.6	11.3	3.3	8.5	8.1	17.6
$f_s Q$ (comp) (ksi)	1.4	3.5	3.0	-	2.2	1.9	-	3.5	4.4	1.8	-	-	-
$f_s 5_3 (L + Imp)$ (ksi)	7.7	14.6	12.8	10.4	12.9	12.8	12.3	15.8	10.0	6.5	17.1	6.4	8.3
f_s (Overload) (ksi)	13.7	28.2	24.2	26.4	20.8	19.5	30.1	28.9	25.6	11.6	25.6	14.6	25.8
f_s (Total) (ksi)							39.2						
VR (k)	49.9	52.6	55.5		55.4	56.5		55.0	53.0	46.0			

* Compact section
 ** Braced non-compact and partially braced section

GIRDER REACTION TABLES - RAMP 2 FLARE

	Girder 2.1				Girder 2.2			Girder 2.3 to 2.8			Girder 2.9	Girder 2.11	Girder 2.17	Cross Head Girder			
	Carrier Girder	Pier R2 (West)	Pier R2 (East)	FB 2.2	Carrier Girder	Pier R2	Q Bearing Abutment	Carrier Girder	Pier R2	Q Bearing Abutment	Carrier Girder	Pier R2	Q S. Brg C. Abut 4	G2.9	Carrier Girder & FB2.6	South Bearing	North Bearing
R_{DL} (k)	53.2	53.2	36.0	34.5	41.6	142.2	50.1	52.5	147.6	38.3	88.3	78.5	39.6	39.4	31.1	554.0	1034.0
R_{LL} (k)	41.8	41.8	38.6	38.6	40.8	47.8	40.8	42.0	51.2	41.0	42.8	38.3	35.4	35.4	38.6	100.0	160.0
R_I (k)	10.4	10.4	11.1	11.1	10.3	11.7	10.2	9.6	12.2	10.2	9.8	8.8	10.6	10.6	11.2	25.0	40.0
R_{TOTAL} (k)	105.4	105.4	85.7	84.2	92.7	201.7	101.1	104.1	211.0	89.5	140.9	125.6	85.6	85.4	80.9	679.0	1234.0

	Girder 2.12		
	0.4 Sp. R2-1	R2 Pier	0.6 Span R2-2
I_s (in ⁴)	78,863	78,863	78,863
I_c (n) (in ⁴)	127,048	85,300	127,048
I_c (3n) (in ⁴)	99,626	3,100	99,626
S_s (in ³)	2,719	2,719	2,719
S_c (n) (in ³)	3,154	85,300	3,154
S_c (3n) (in ³)	2,941	3,100	2,941
S_f (in ³)	161	161	161
Q (k/')	1.6	2.1	3.1
M_Q (k)	765	1,358	784
s_Q (k/')	0.5	0.73	1.3
M_{sQ} (k)	246	497	326
M_L (k)	626.0	470.0	512.0
M (Imp) (k)	150.0	117.0	133.0
$5_3 [M_L + M(imp)]$ (k)	1,294.0	979.0	1,075.0
M_a (k)	2,997.0	3,685.0	2,841.0
M_{bl} (k)	42.0	73	26.0
$f_s Q$ (non-comp) (ksi)	3.4	6.0	3.5
$f_s Q$ (comp) (ksi)	1.0	2.0	1.4
$f_s 5_3 (L + Imp)$ (ksi)	5.0	3.8	4.1
f_l (ksi)	3.1	5.4	2.0
f_s (Overload) (ksi)	9.4	11.8	9.0
f_s (Total) (ksi)	12.3	15.4	11.7
F_{cr} (Overload) (ksi)	47.5	47.5	47.5
VR (k)	56.3		59.1
F_{cr} (ksi)	44.3	32.3	49.3

MOMENT TABLE
 RAMP 2 FLARE
 STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 131	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.							
	CHECKED - AMD,	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	455	
	DRAWN - MAU															CONTRACT NO. 60999
	CHECKED - AMD,															
DATE - 03/25/2011			FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT											

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 4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF BEAM ELEVATIONS

Girder	CL G22	CL S Brg C Abut 4	CL G2.11	CL G2.9 at WP	CL G2.12	CL FB 2.6	CL FB 2.5	CL Cross Head	CL FB 2.4	CL FB 2.2	CL Brg R2 Abut
G2.11		627.99		627.30							
G2.10A	628.28		627.81								
G2.10	628.24		627.54								
G2.8	628.18							625.45			623.39
G2.7	628.14							625.54			623.49
G2.6	628.11							625.64			623.59
G2.5	628.14							625.73			623.68
G2.4	628.11							625.83			623.78
G2.3	628.07							625.92			623.88
G2.2	628.04							626.02			623.98
G2.1	628.01							626.11		625.01	
G2.20	627.97							626.21	625.87		
G2.19	627.94							626.30			
G2.18	627.90						626.55				
G2.17	627.84					626.80					
G2.16	627.79					626.91					
G2.15	627.73					627.09					
G2.14	627.68					627.26					
G2.13	627.63					627.43					

(No load/undeflected elevations to be used for fabrication only)

TOP OF WEB ELEVATIONS

Girder	CL G22	CL FS 2.2	CL Cross Head	CL FS 2.1	CL Brg R2 Abut
G2.12	627.41	626.83	626.26	625.95	623.91
G2.9	628.08		625.25		

(No load/undeflected elevations to be used for fabrication only)

**STEEL ELEVATIONS
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 132	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55					0711.2R & 1011.1BR
	DRAWN - MAU				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 03/25/2011									

4/28/2011

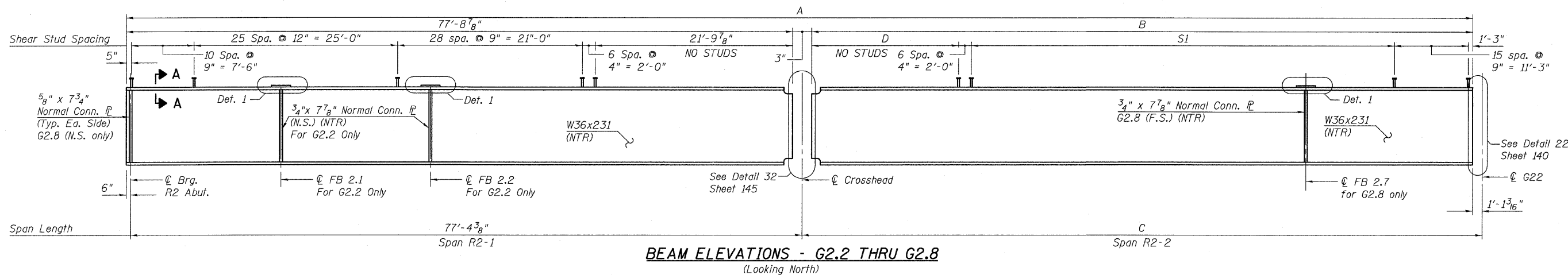
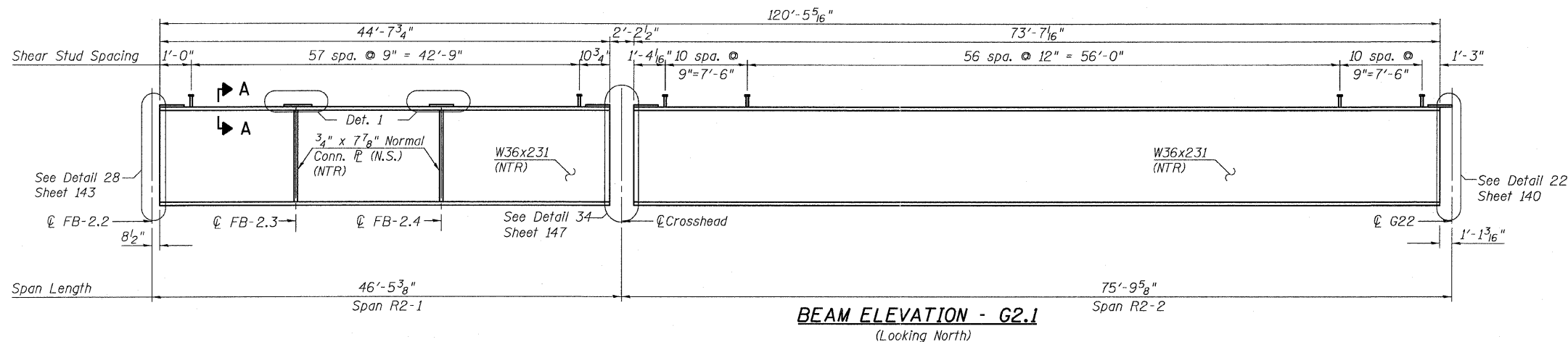
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- F.S. denotes far side.
- N.S. denotes near side.



SHEAR STUD SPACING

Girder	S1	*D
G2.2	46 sps. @ 12" = 46'-0"	16'-8"
G2.3	46 sps. @ 12" = 46'-0"	19'-3"
G2.4	48 sps. @ 12" = 48'-0"	19'-10"
G2.5	50 sps. @ 12" = 50'-0"	20'-5"
G2.6	53 sps. @ 12" = 53'-0"	20'-0"
G2.7	55 sps. @ 12" = 55'-0"	20'-7"
G2.8	58 sps. @ 12" = 58'-0"	20'-2"

* Indicates rounded to nearest inch

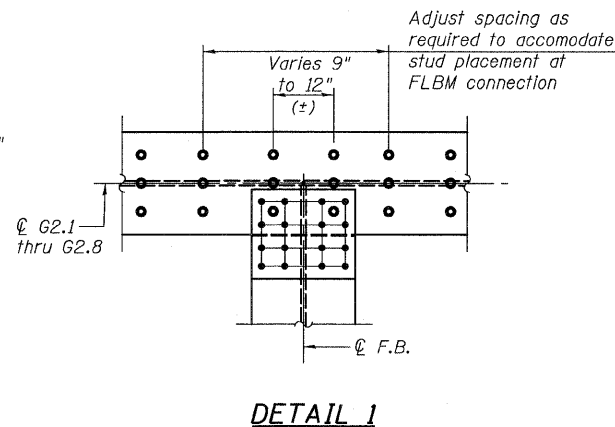
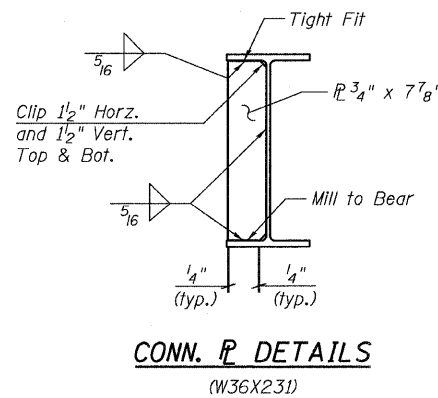
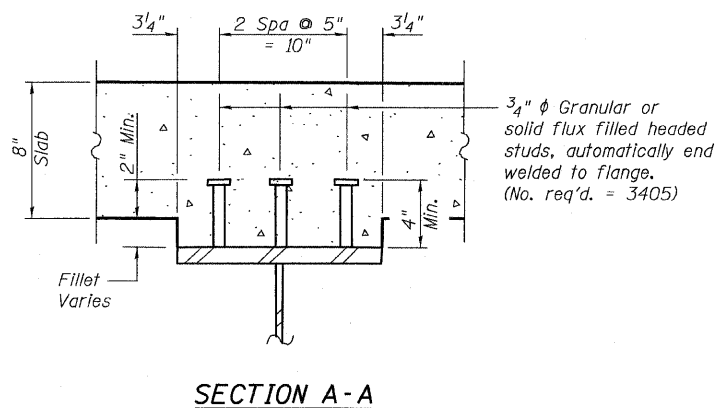


TABLE OF BEAM DIMENSIONS (G2.2 THRU G2.8)

Girder	A	B	C
G2.2	155'-1 3/4"	77'-1 7/8"	78'-4 9/16"
G2.3	157'-8 1/16"	79'-8 13/16"	80'-11 1/2"
G2.4	160'-3 1/16"	82'-3 13/16"	83'-6 1/2"
G2.5	162'-10 3/8"	84'-10 3/4"	86'-1 1/16"
G2.6	165'-5 5/8"	87'-5 3/4"	88'-8 1/16"
G2.7	168'-0 9/16"	90'-0 1/16"	91'-3 3/8"
G2.8	170'-7 1/2"	92'-7 5/8"	93'-10 9/16"

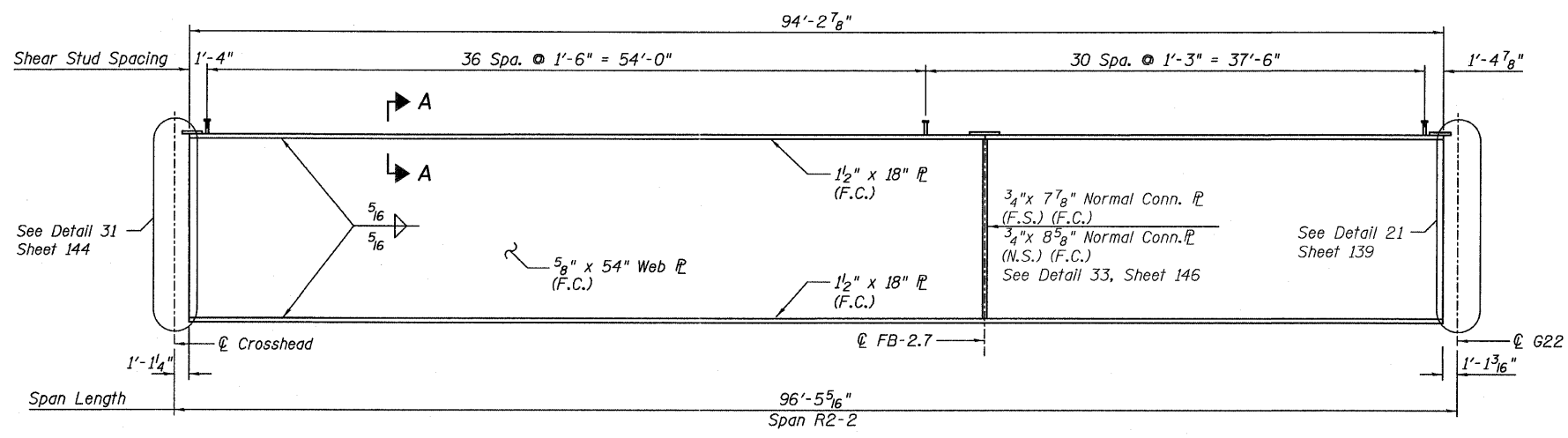
**GIRDER ELEVATIONS 1
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 133	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 457
	CHECKED - AMD,	NAME	DATE						
	DRAWN - DJR								
	CHECKED - AMD,								
	DATE - 03/25/2011								
				239 SHEETS	CONTRACT NO. 60999				
				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

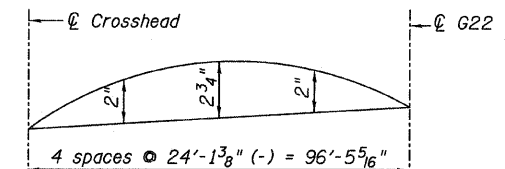
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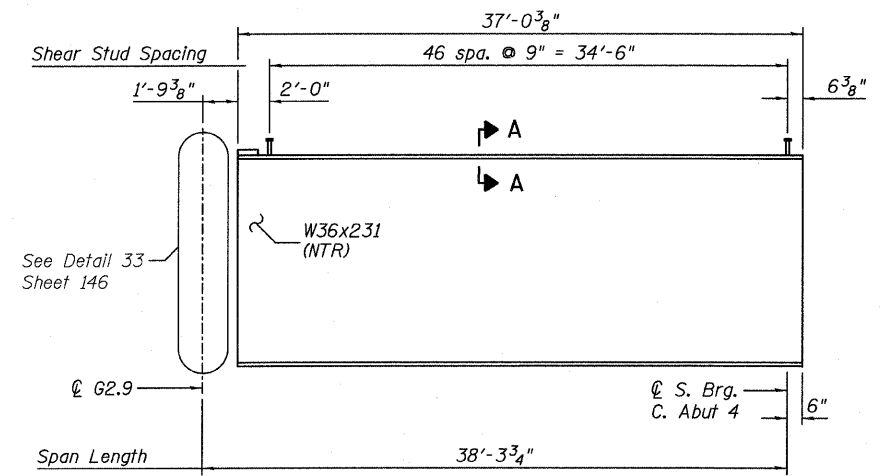
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



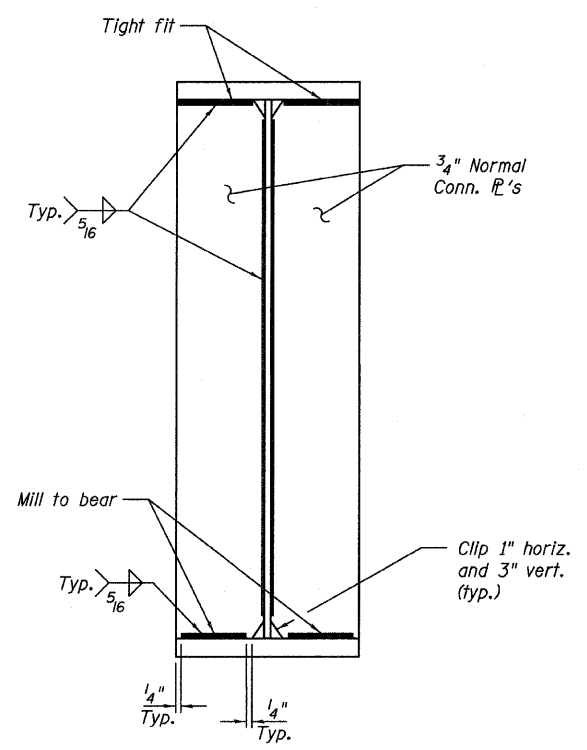
GIRDER ELEVATION - G2.9
(Looking North)



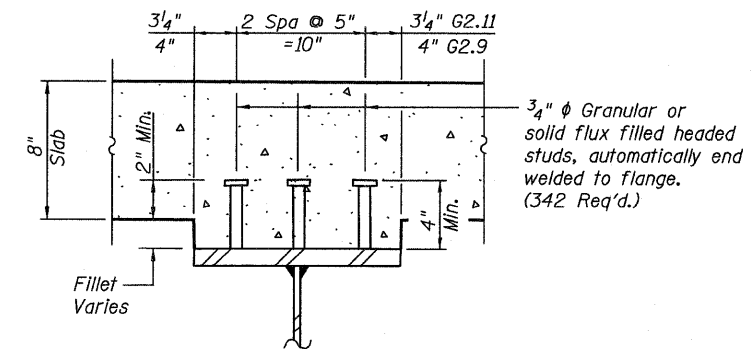
CAMBER DIAGRAM
Girder G2.9



GIRDER ELEVATION - G2.11
(Looking North)



CONNECTION P



SECTION A-A

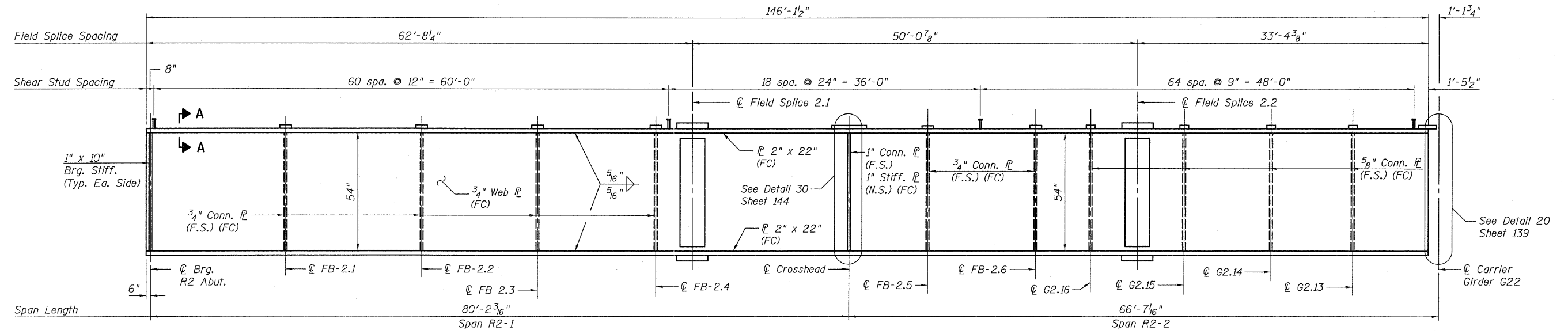
- NOTES:**
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 - F.C. denotes Fracture Critical Material AASHTO Zone II.
 - F.S. denotes far side.
 - N.S. denotes near side.

GIRDER ELEVATIONS 2
RAMP 2 FLARE
STRUCTURE NO. 016-0724

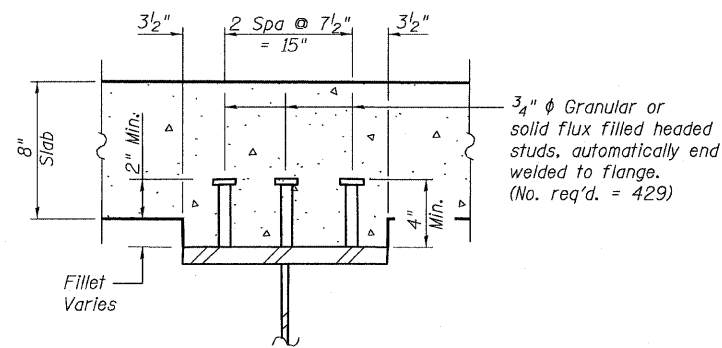
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	CHECKED - AMD,	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	458
	DRAWN - MAU				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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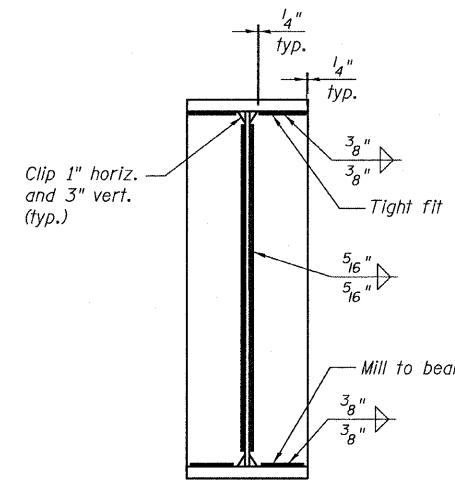
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



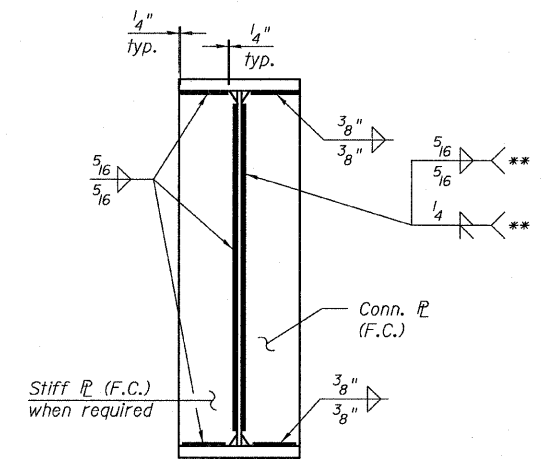
GIRDER ELEVATION - G2.12
(Looking North)
(F.C.M.)



SECTION A-A



BEARING STIFFENER



** Weld type based on angle between web and connection plate where angles warrant combination of fillet and groove welds. Fillet weld is acute angle and groove weld is obtuse angle.

**TYPICAL CONNECTION
PLATE DETAIL**

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- For Field Splice details, See Sheet 148.
- F.S. denotes far side.
- N.S. denotes near side.

**GIRDER ELEVATIONS 3
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

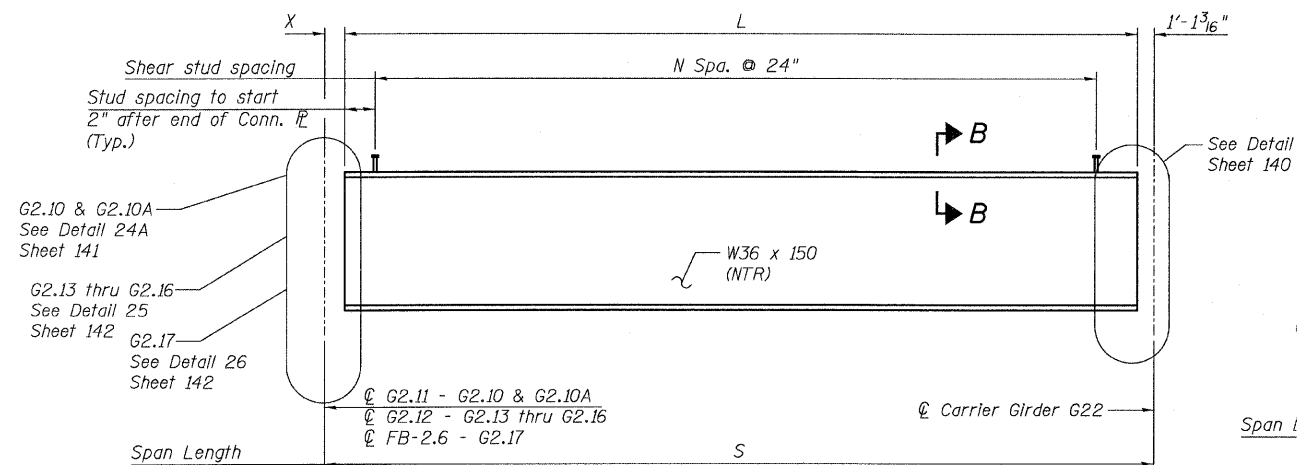
TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 135	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	459	
	DRAWN - MAU				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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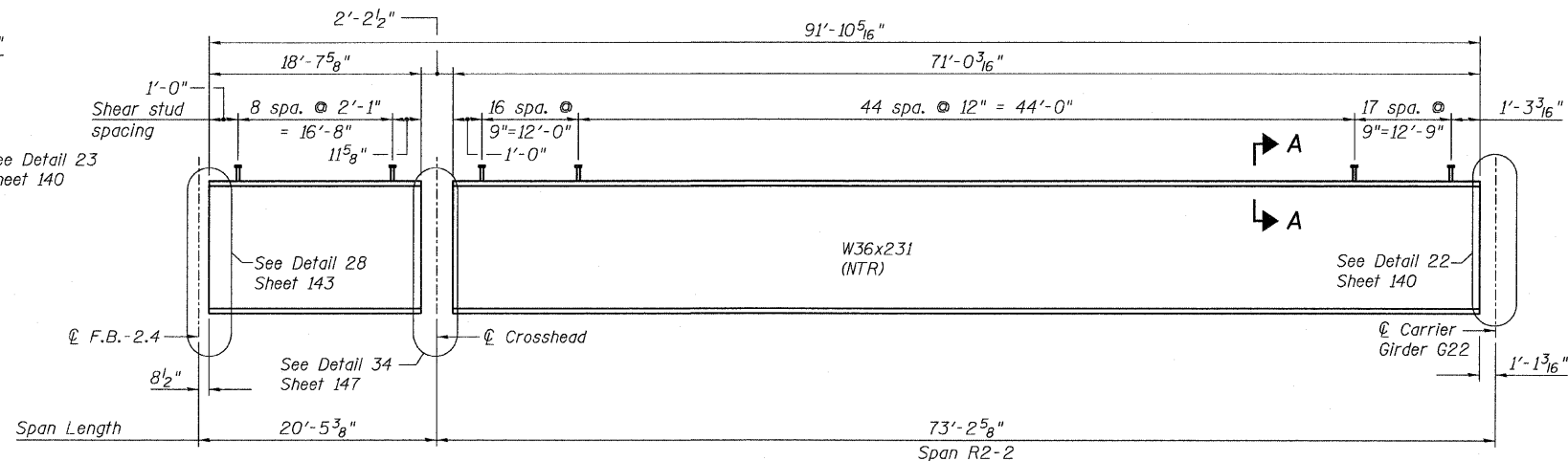
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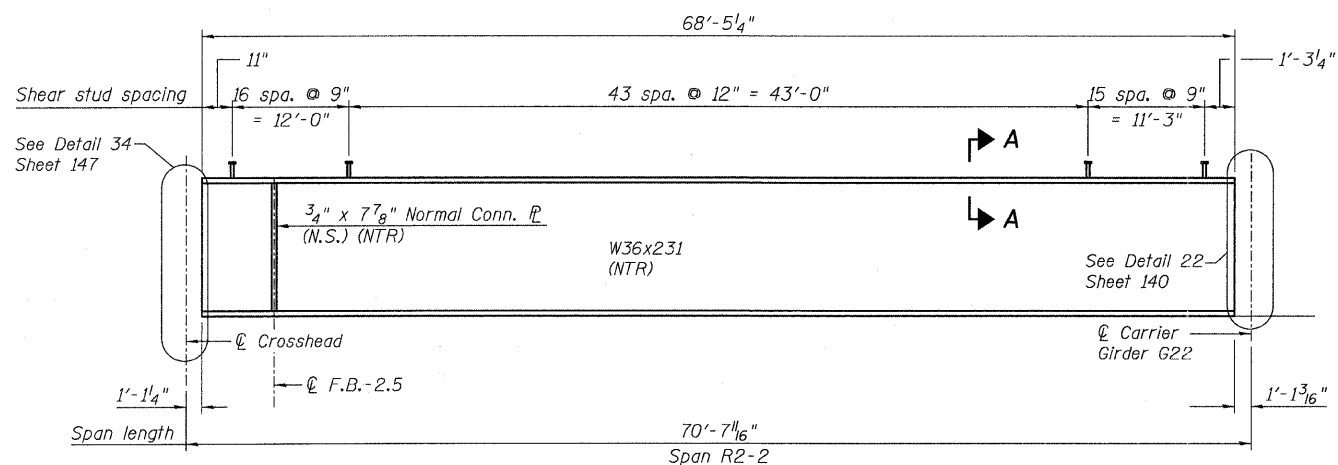
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



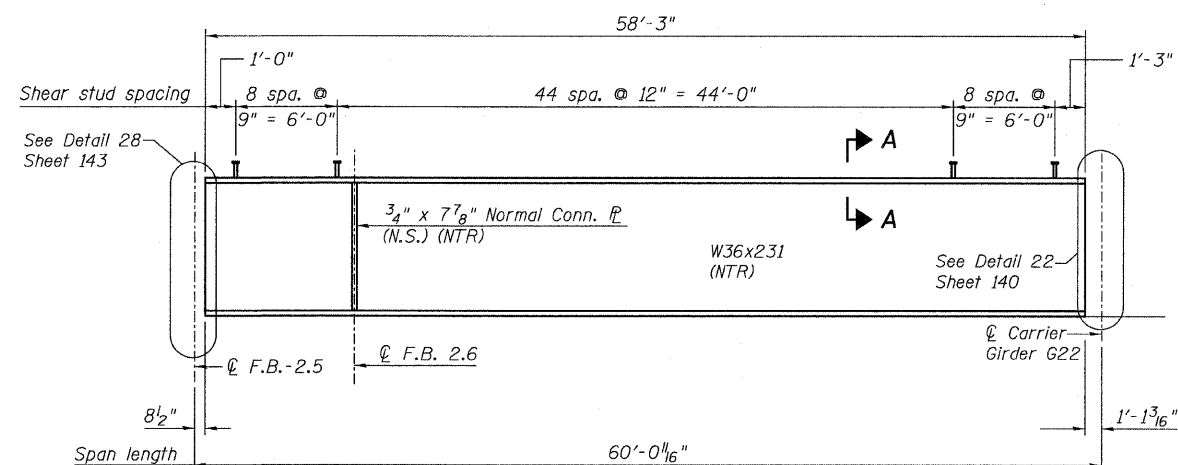
GIRDER ELEVATIONS - G2.10, G2.10A & G2.13 THRU G2.17
(Looking North)



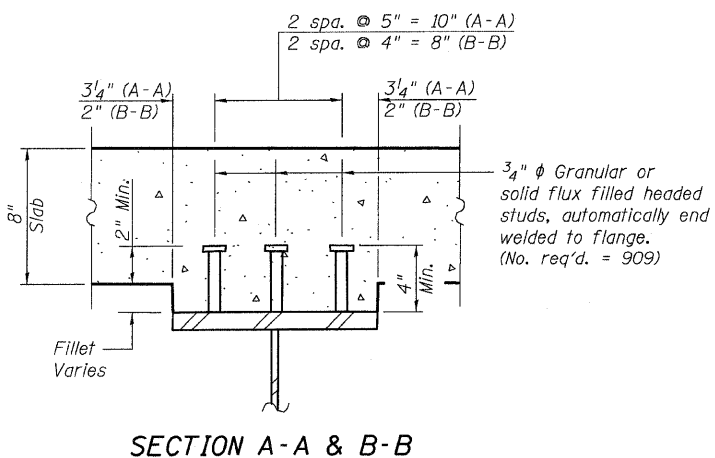
GIRDER ELEVATION - G2.20
(Looking North)



GIRDER ELEVATION - G2.19
(Looking North)



GIRDER ELEVATION - G2.18
(Looking North)



SECTION A-A & B-B

TABLE OF GIRDER VALUES

Girder	L	S	X	N
G2.10	28'-3 7/16"	29'-6 5/8"	2"	12
G2.10A	17'-11 1/16"	19'-2 1/8"	2"	6
G2.13	5'-9"	8'-4 13/16"	1'-6 5/8"	1
G2.14	15'-0 1/16"	17'-9"	1'-7 3/4"	6
G2.15	25'-0 3/16"	27'-10 13/16"	1'-9 1/16"	11
G2.16	36'-0 5/16"	39'-0 5/16"	1'-10 13/16"	16
G2.17	45'-1 1/16"	46'-10 3/4"	8 1/2"	21

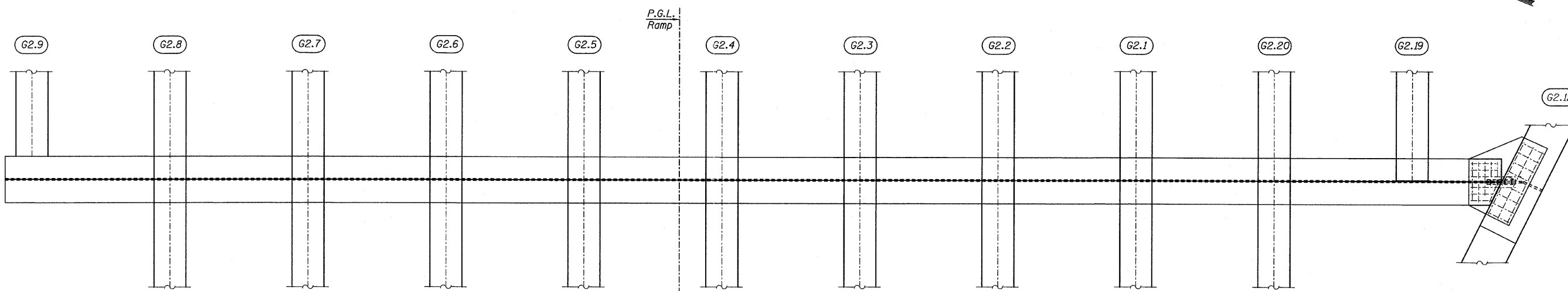
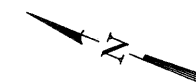
NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- For Connection Plate Detail see "Girder Elevations 1" Sheet 133.
- N.S. denotes near side.

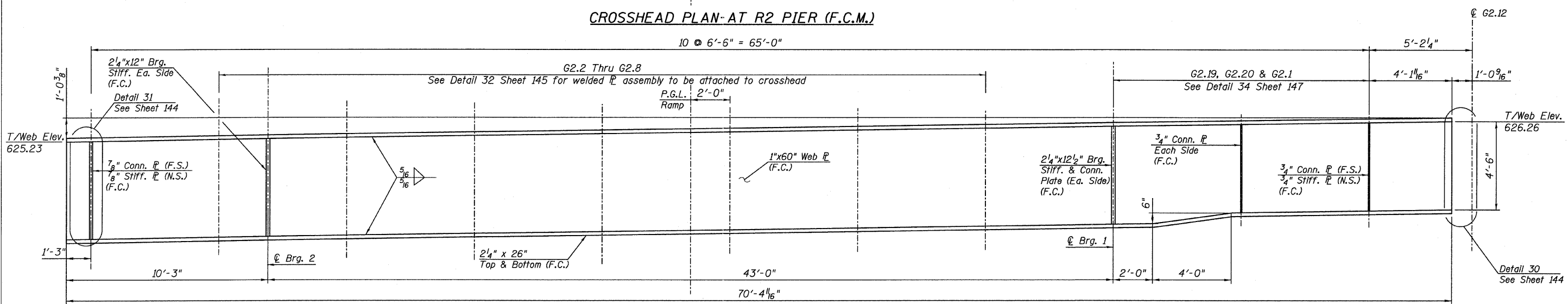
GIRDER ELEVATIONS 4
RAMP 2 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 136	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
	CHECKED - AMD,	NAME	DATE		55					0711.2R & 1011.1BR	COOK	741	460
	DRAWN - MAU				239 SHEETS					CONTRACT NO. 60999			
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								
	DATE - 03/25/2011												

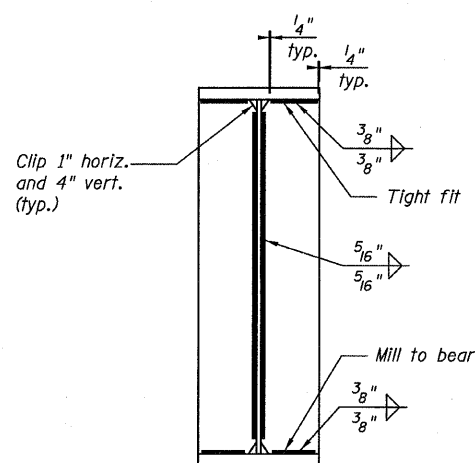
STATE OF ILLINOIS
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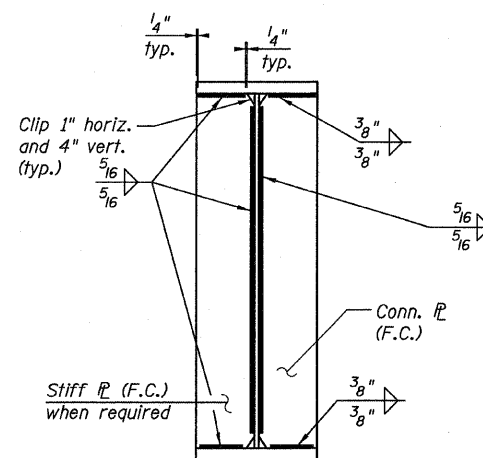
CROSSHEAD PLAN AT R2 PIER (F.C.M.)



CROSSHEAD ELEVATION AT R2 PIER (F.C.M.)
(LOOKING EAST)



BEARING STIFFENER



CONNECTION PLATE
DETAIL

TOP OF WEB ELEVATIONS
(For Fabrication Only)

LOCATION	ELEVATION
CL BRG 1	626.01
CL BRG 2	625.38

NOTES:

- All steel shown on this sheet shall be AASHTO M 270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- F.C. indicates Fracture Critical Material, AASHTO Zone II.

TYLIN INTERNATIONAL

DESIGNED	JPN	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	JMA		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 137 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. 1 ILLINOIS			FED. AID PROJECT		

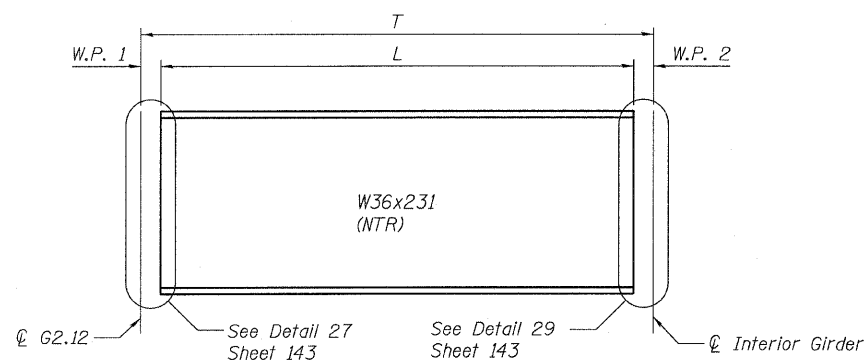
CROSSHEAD DETAILS
RAMP 2 FLARE
STRUCTURE NO. 016-0724

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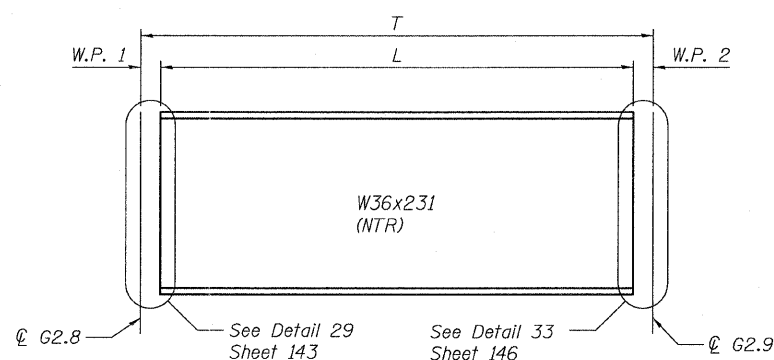
4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FLOOR BEAM ELEVATION

(FB-2.1 & FB-2.3)
(Looking West)

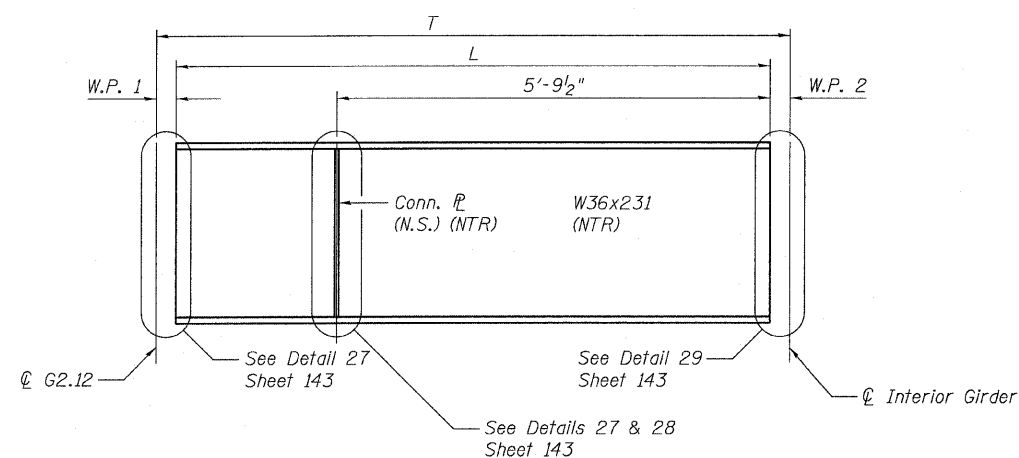


F.B. 2.7 ELEVATION

(Looking West)

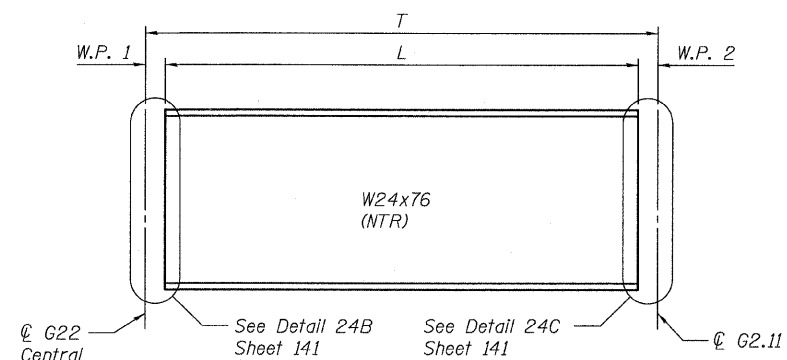
Floor Beam	W.P. 1	W.P. 2	L	T
FB-2.2	11' 1/6"	8' 1/2"	7'-7 1/6"	9'-3 3/8"
FB-2.4	11' 5/8"	8' 1/2"	7'-10 5/8"	9'-7 3/8"
FB-2.5	1'-0 13/16"	8' 1/2"	7'-7 3/8"	9'-5"
FB-2.6	1'-1 1/2"	8' 1/2"	7'-6 1/2"	9'-4 1/2"

Floor Beam	W.P. 1	W.P. 2	L	T
FB-2.1	11' 5/8"	8' 1/2"	5'-6 1/4"	7'-2 1/6"
FB-2.3	11' 5/8"	8' 1/2"	3'-11 13/16"	5'-7 5/16"
FB-2.7	8' 1/2"	9' 1/4"	5'-0 1/4"	6'-6"
FB-2.8	1'-1 3/16"	2"	11'-2 13/16"	12'-6"



FLOOR BEAM ELEVATION

(FB-2.2, FB-2.4 thru FB-2.6)
(Looking West)



F.B. 2.8 ELEVATION

(Looking South)

NOTES:

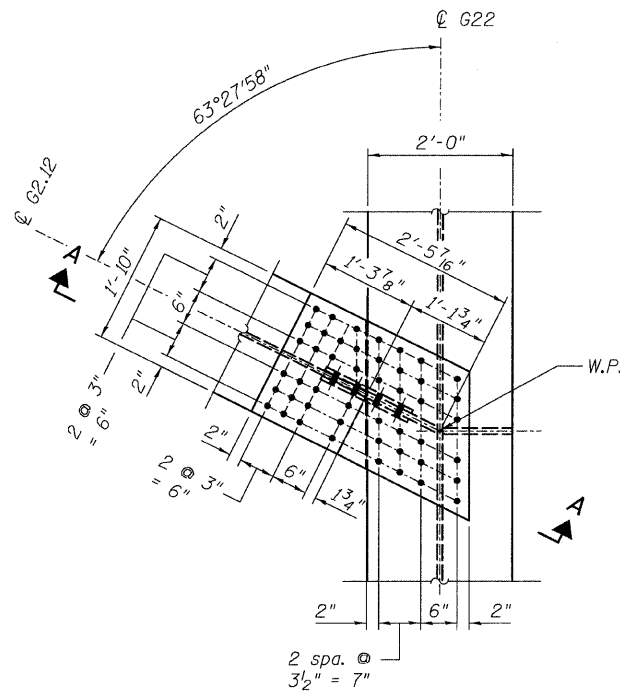
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.S. denotes near side
- For Connection Plate Detail see Sheet 133.

**FLOOR BEAM DETAILS
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

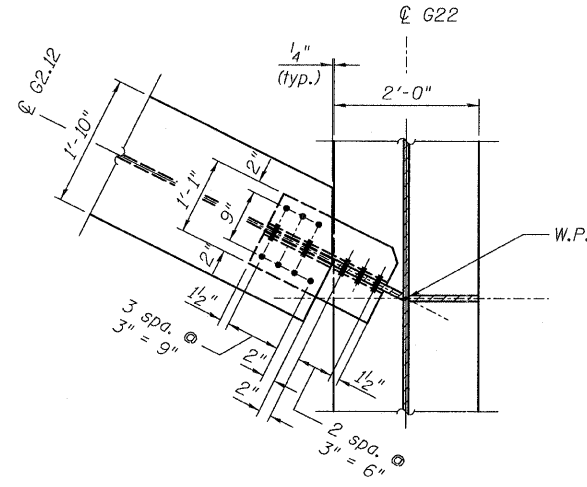
TYLIN INTERNATIONAL	DESIGNED - MI	REVISIONS		SHEET NO. 138	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 462			
	CHECKED - AMD, TD, MAI	NAME	DATE							CONTRACT NO. 60999		
	DRAWN - DJR, SB, RLB											
	CHECKED - AMD, TD, MAI											
DATE - 03/25/2011				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								

4/28/2011 12:53:14 PM p:\01345\structure\02 Central Ave. 016-0724\155121.rvt

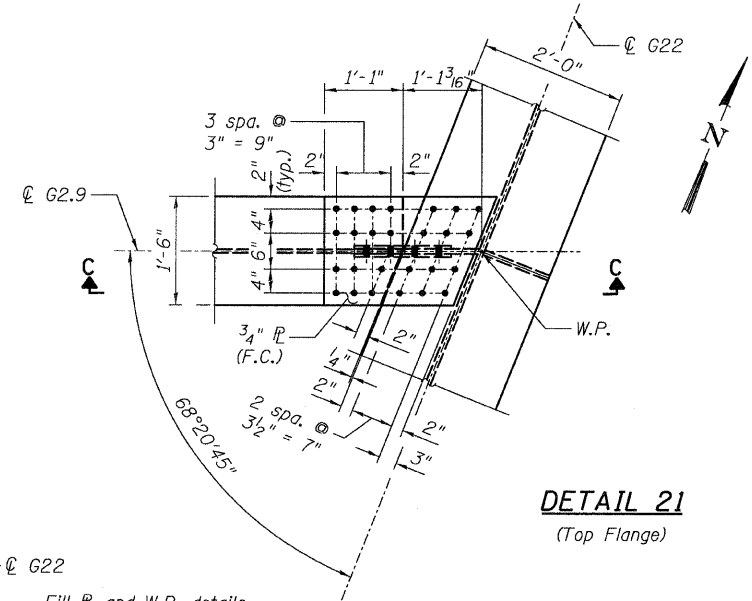
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



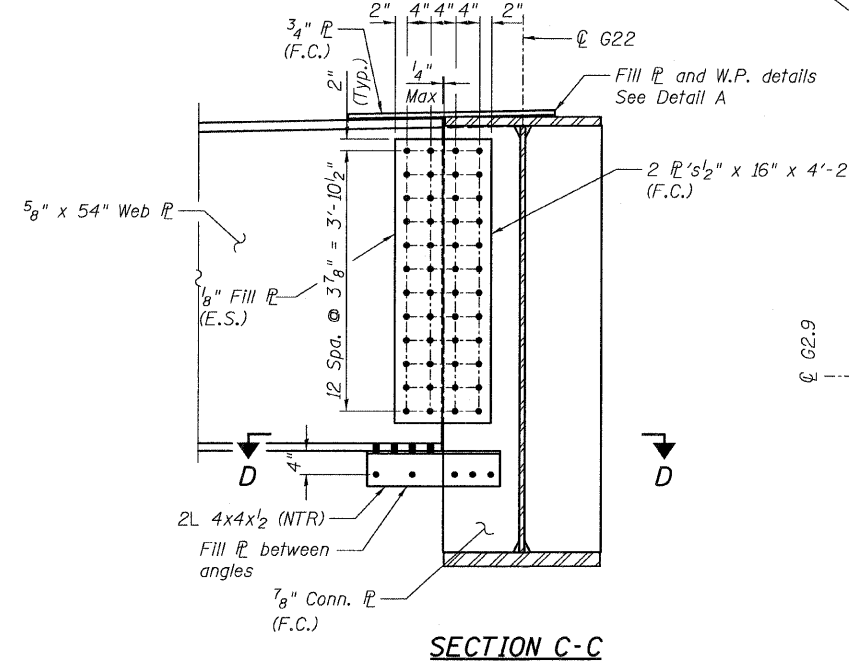
DETAIL 20
(Top Flange)



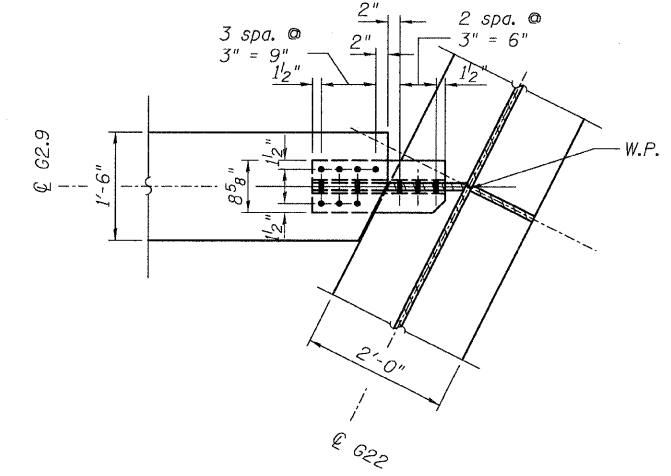
SECTION B-B
(Bottom Flange)



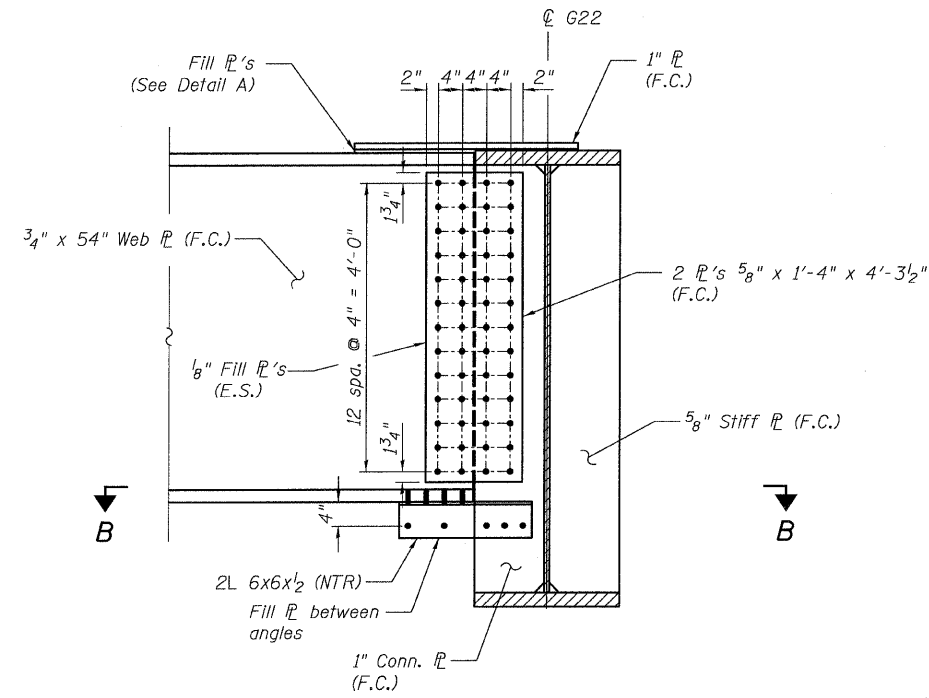
DETAIL 21
(Top Flange)



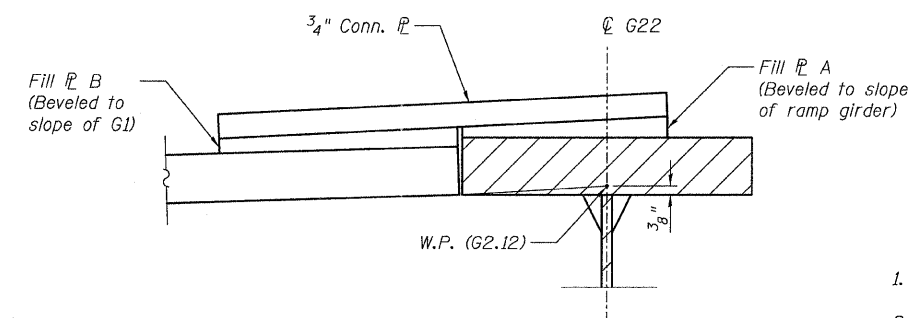
SECTION C-C



SECTION D-D
(Bottom Flange)



SECTION A-A



DETAIL A
(Not to scale)

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- F.C. indicates Fracture Critical Material, AASHTO Zone 2.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 20 & 21
RAMP 2 FLARE
STRUCTURE NO. 016-0724

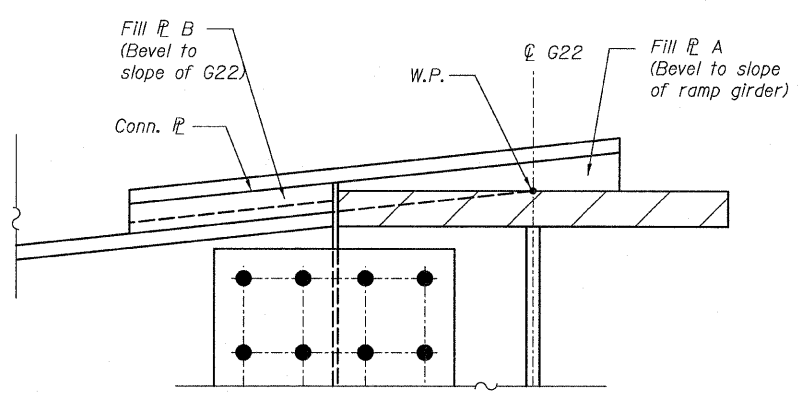
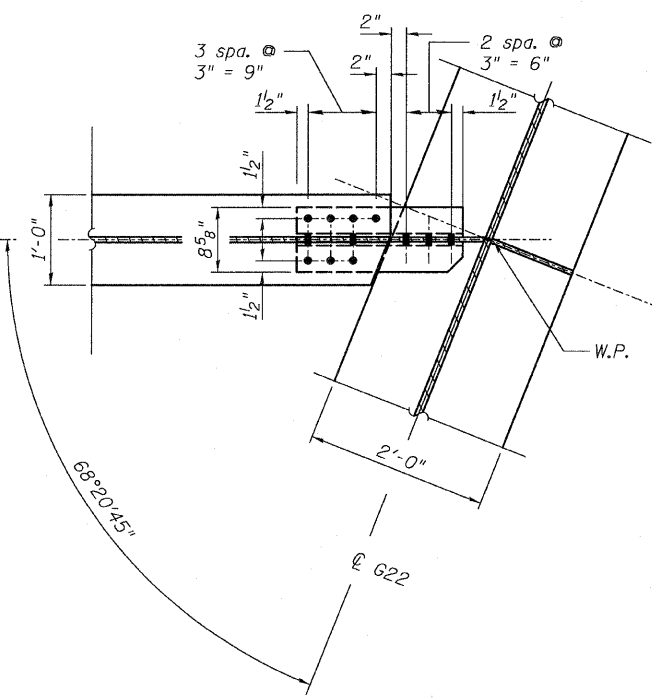
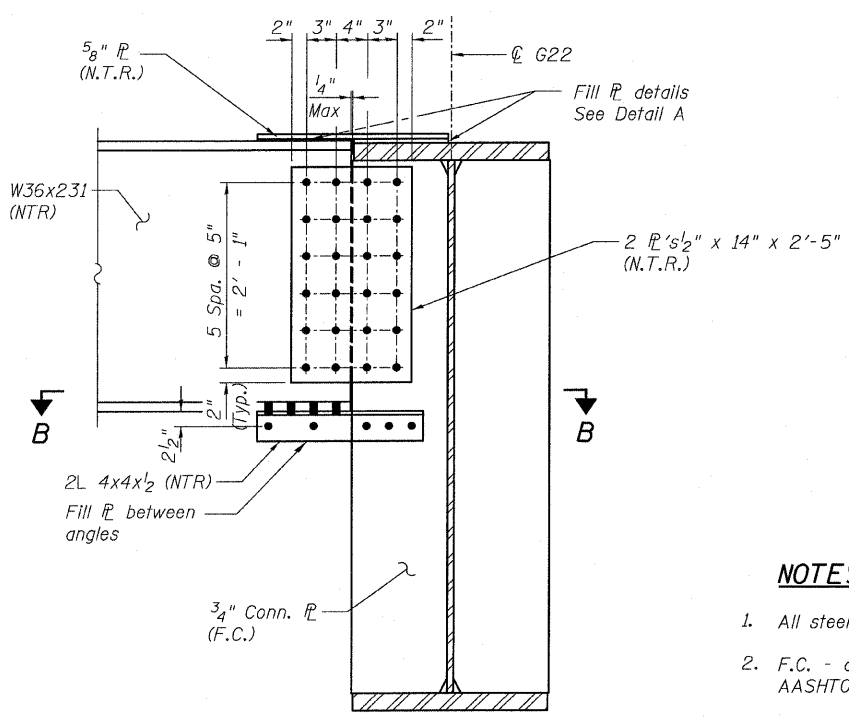
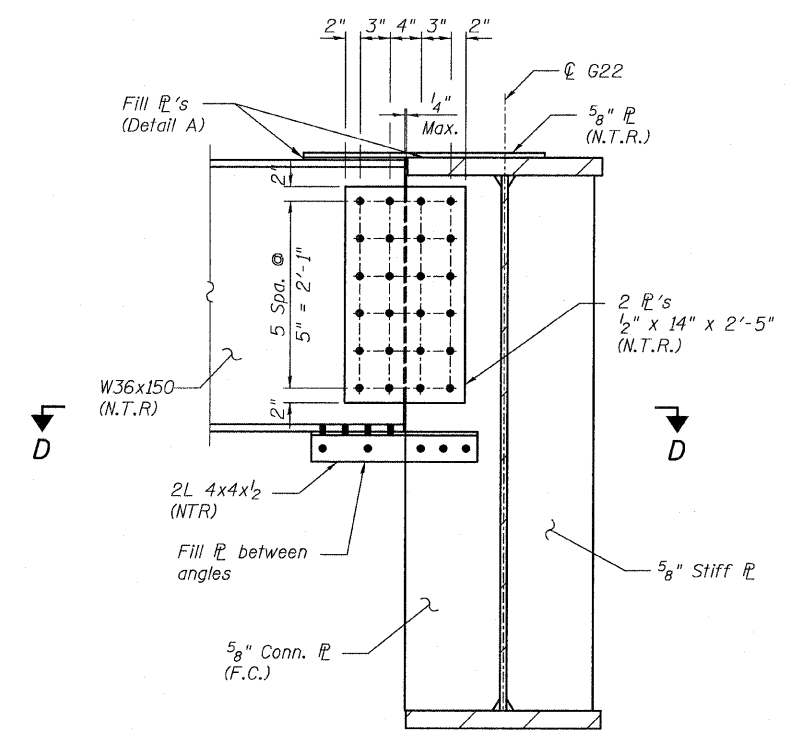
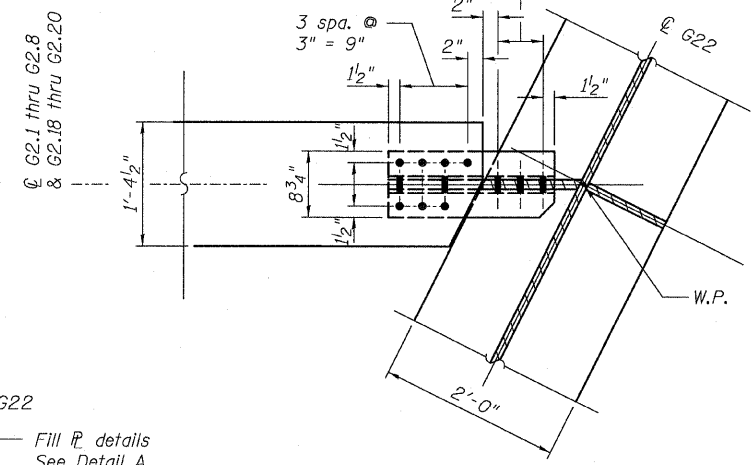
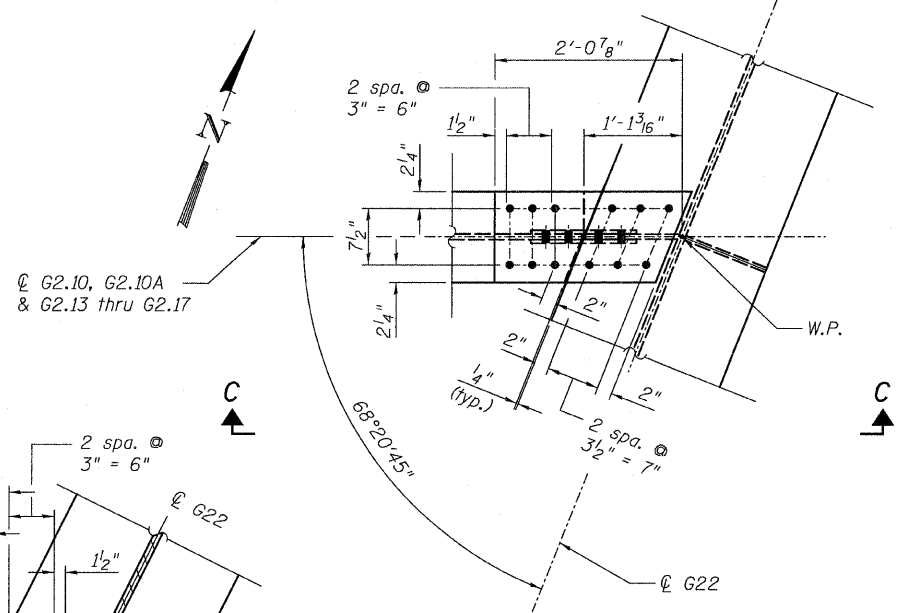
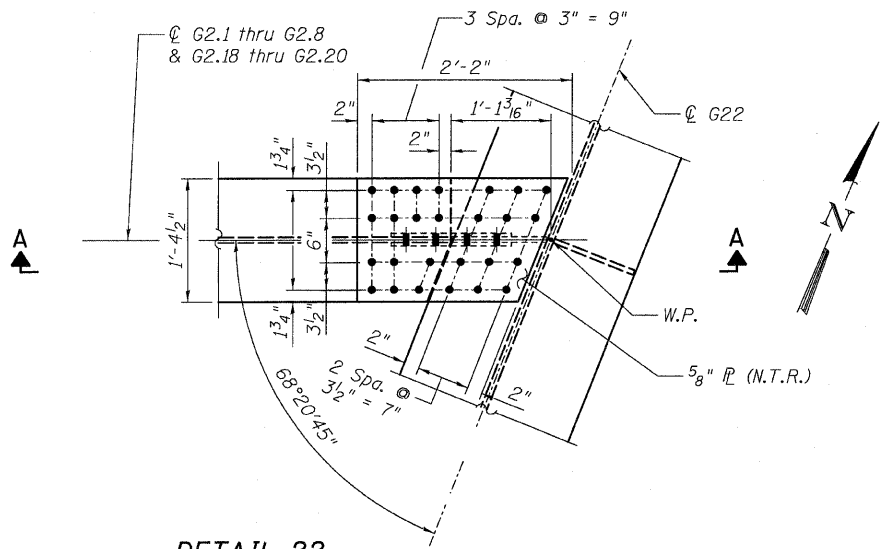
TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - MAU		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 139	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	463
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

5/9/2011
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



- NOTES:**
- All steel shall be AASHTO M 270 Grade 50.
 - F.C. - denotes Fracture Critical material, AASHTO Zone II.
 - Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 22 & 23
RAMP 2 FLARE
STRUCTURE NO. 016-0724

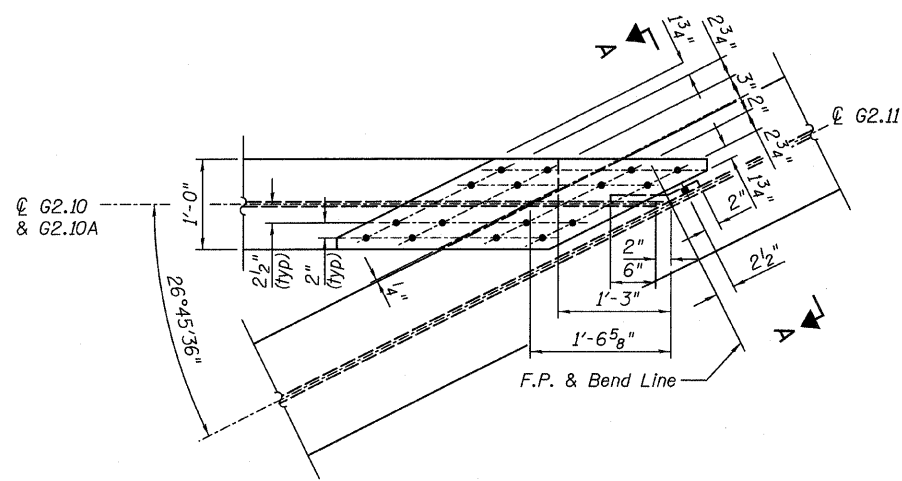
TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - MAU		
CHECKED - AMD,		
DATE - 03/25/2011		

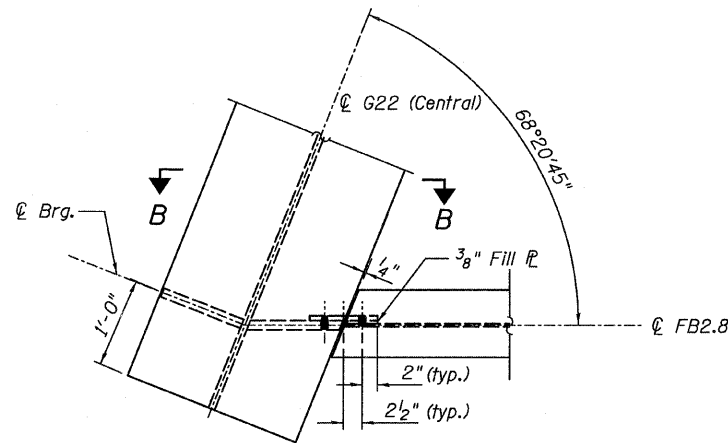
SHEET NO. 140 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	464
CONTRACT NO. 60999			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

4/28/2011 12:53:17 PM p:\01345\structure\02_Central_Ave_016-0724\y55f2\Framed110.dwg

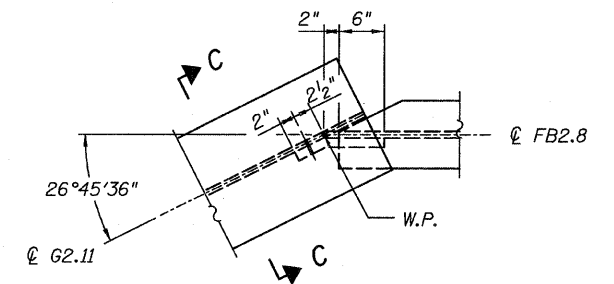
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



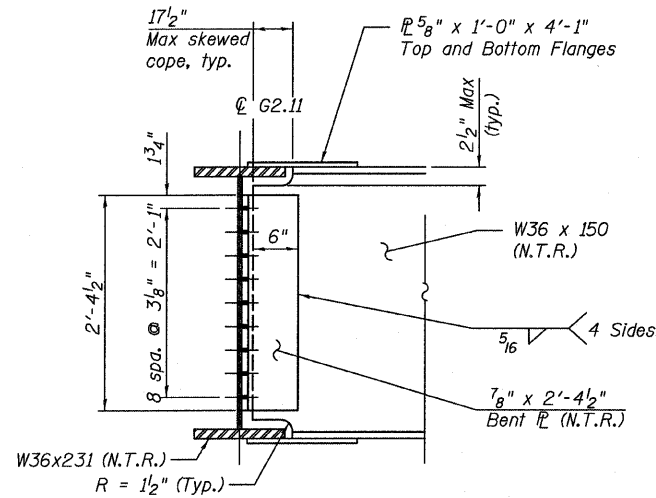
DETAIL 24A
(Top Flange)
(Bottom flange similar)



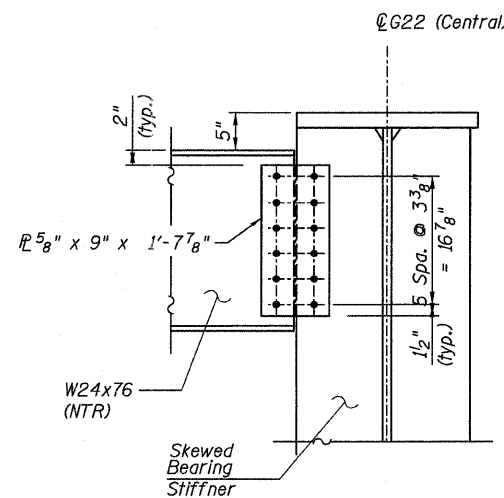
DETAIL 24B
(Top Flange)



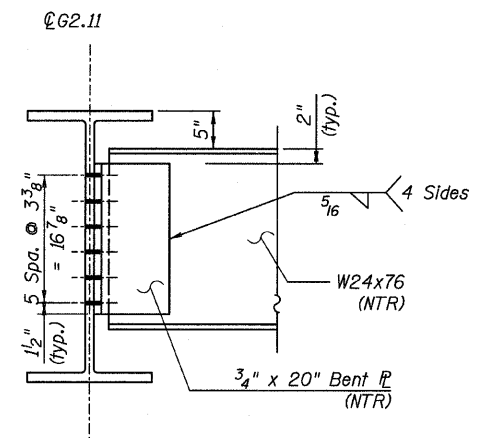
DETAIL 24C
(Top Flange)



SECTION A-A



SECTION B-B



SECTION C-C

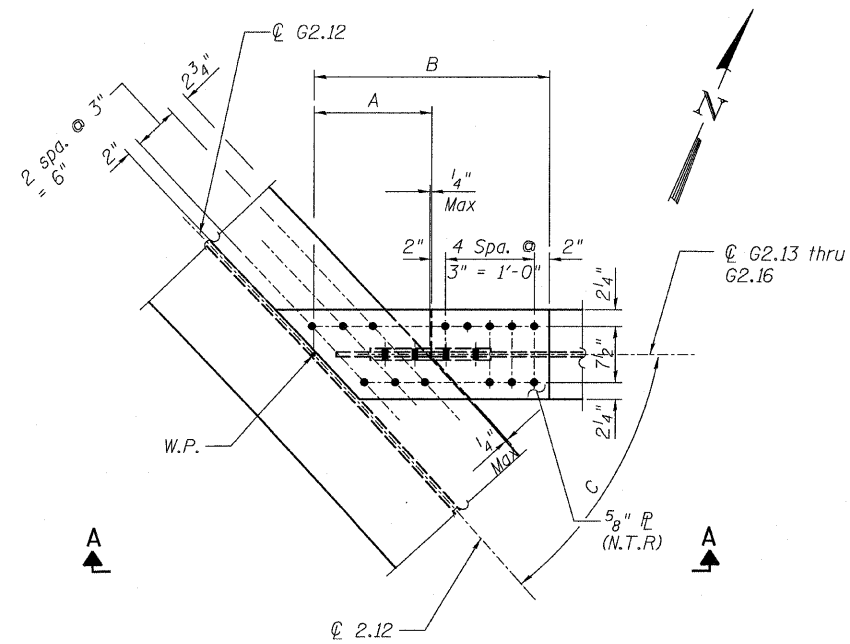
NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

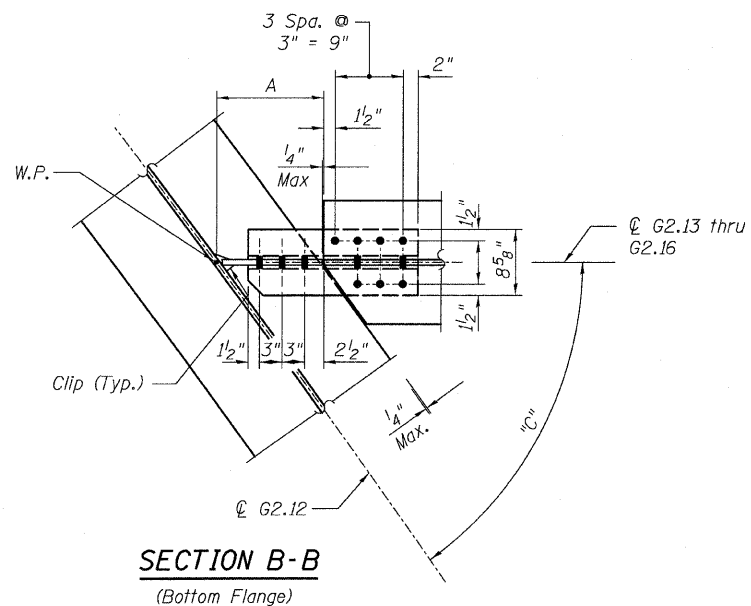
CONNECTION DETAIL 24
RAMP 2 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 141	F.A.I RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 465
	CHECKED - AMD,	NAME	DATE						
	DRAWN - MAU								
	CHECKED - AMD,								
	DATE - 03/25/2011								
					239 SHEETS				
					CONTRACT NO. 60999				
					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

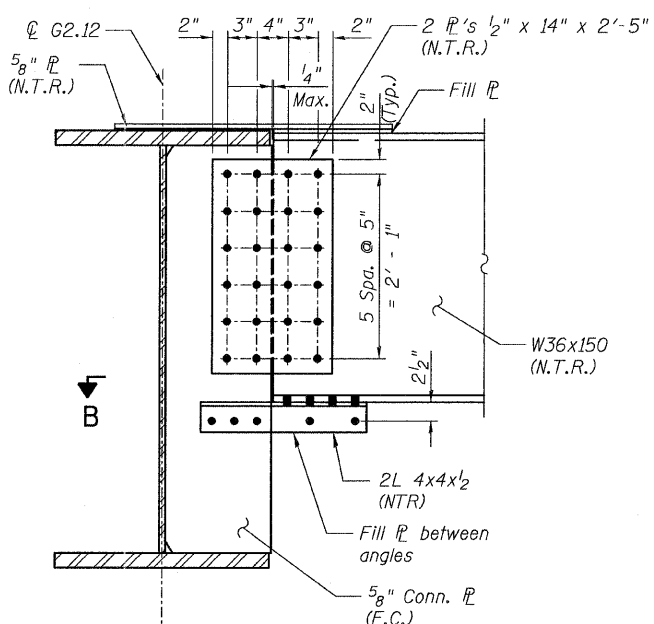
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DETAIL 25
(Top Flange)

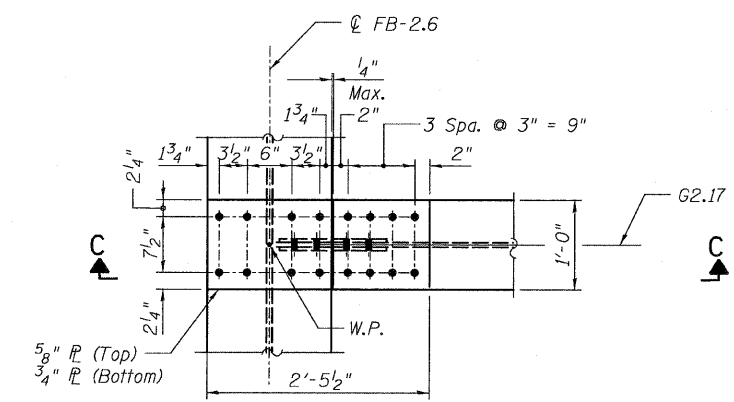


SECTION B-B
(Bottom Flange)

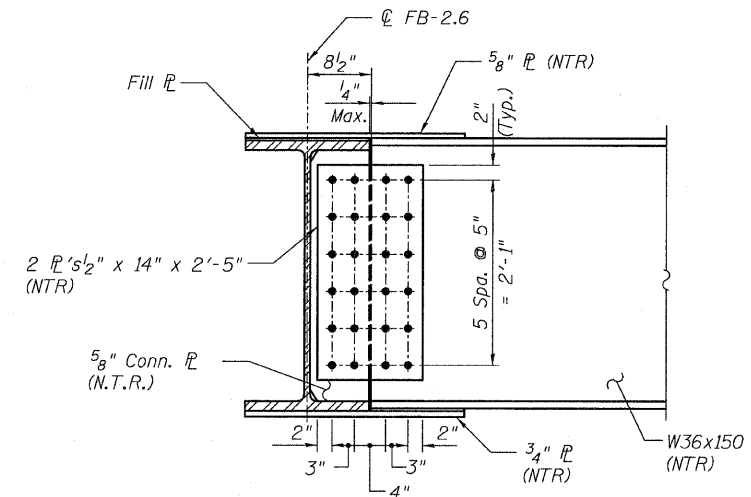


SECTION A-A

Girder	Dimensions		
	A	B	C
G2.13	1'-6 ⁵ / ₈ "	2'-10 ⁵ / ₈ "	45°21'53"
G2.14	1'-7 ³ / ₄ "	2'-11 ³ / ₄ "	42°17'28"
G2.15	1'-9 ¹ / ₁₆ "	3'-1 ¹ / ₁₆ "	39°1'28"
G2.16	1'-10 ¹³ / ₁₆ "	3'-2 ¹³ / ₁₆ "	35°30'34"



DETAIL 26
(Top Flange)
(Bottom Flange Similar)



SECTION C-C

NOTES:

1. All steel shall be AASHTO M 270 Grade 50.
2. F.C. indicates Fracture Critical material, AASHTO Zone II.
3. Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

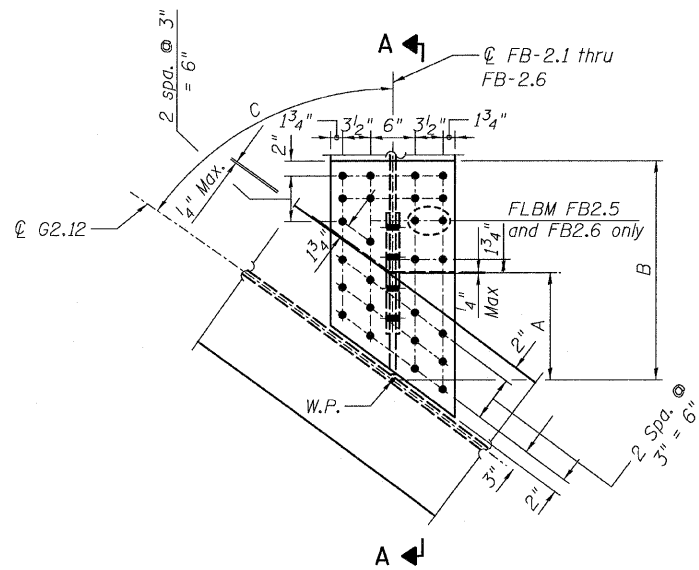
SHEET NO. 142	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	466
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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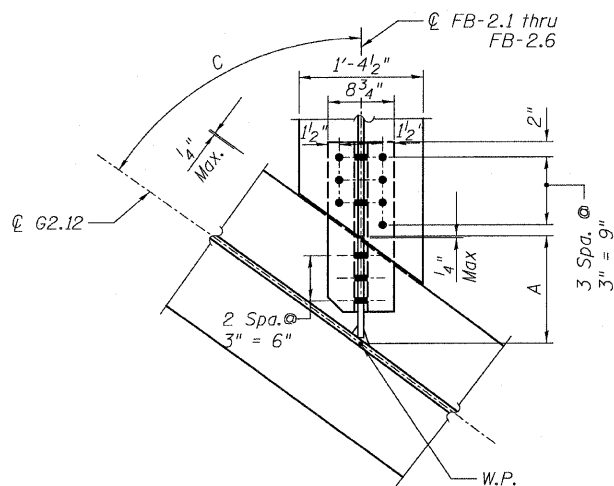
4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

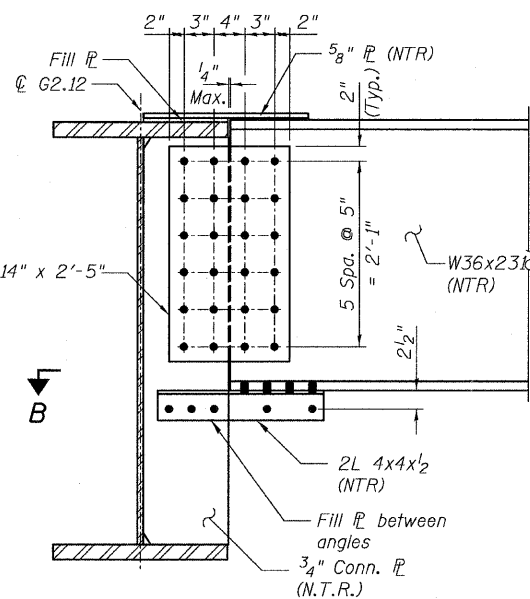


DETAIL 27
(Top Flange)

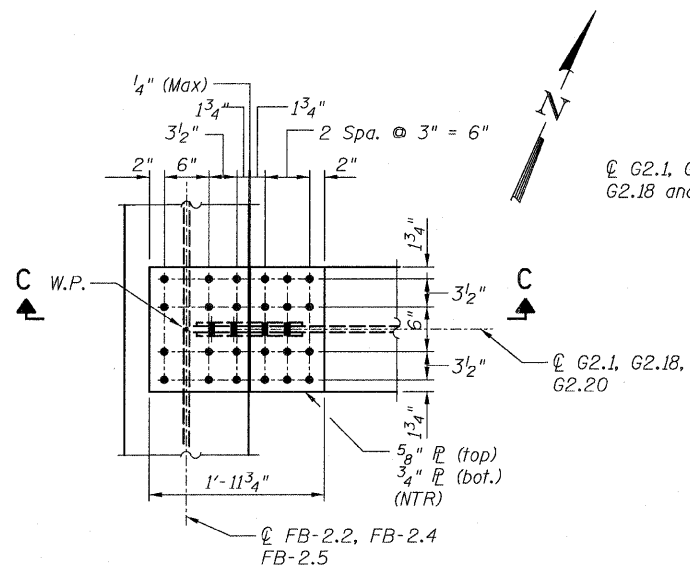
Floor Beam	A	B	C
FB-2.1	11 ⁵ / ₁₆ "	1'-9 ⁵ / ₈ "	84°48'39"
FB-2.2	11 ¹ / ₁₆ "	1'-10 ³ / ₈ "	79°41'15"
FB-2.3	11 ⁵ / ₈ "	1'-11 ¹ / ₈ "	75°19'37"
FB-2.4	11 ¹ / ₁₆ "	2'-0"	70°52'39"
FB-2.5	1'-0 ¹⁵ / ₁₆ "	2'-2 ⁵ / ₈ "	60°38'59"
FB-2.6	1'-1 ¹ / ₂ "	2'-3 ³ / ₈ "	56°35'24"



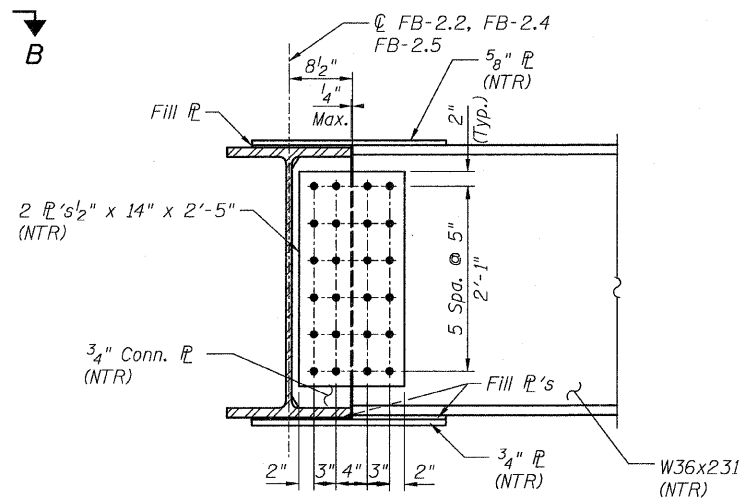
SECTION B-B
(Bottom Flange)



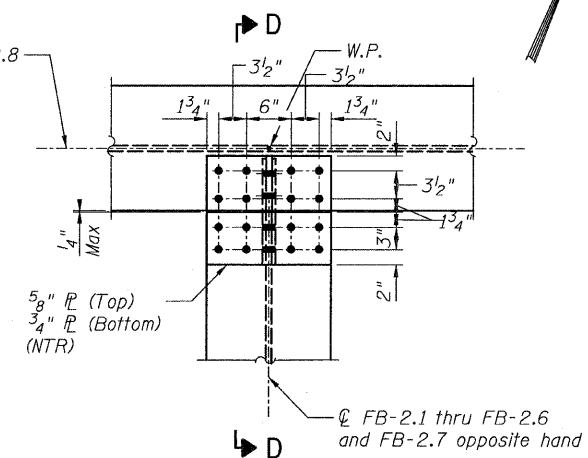
SECTION A-A



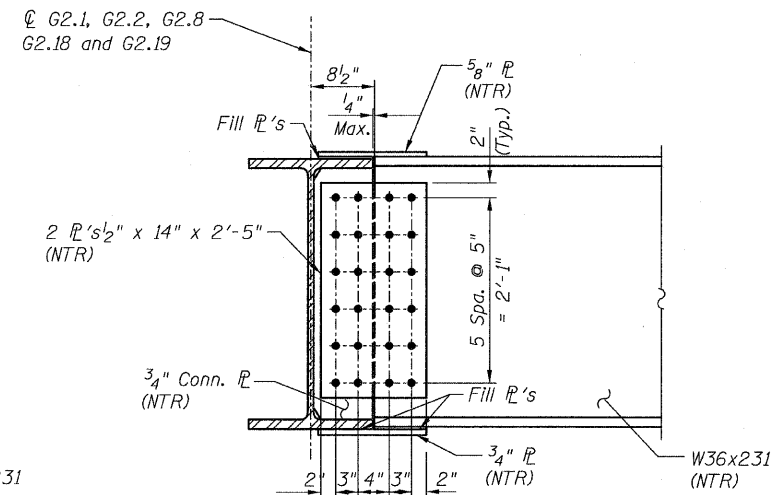
DETAIL 28
(Top Flange)
(Bottom Flange Similar)



SECTION C-C



DETAIL 29
(Top Flange)
(Bottom Flange Similar)



SECTION D-D

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 27, 28 & 29
RAMP 2 FLARE
STRUCTURE NO. 016-0724

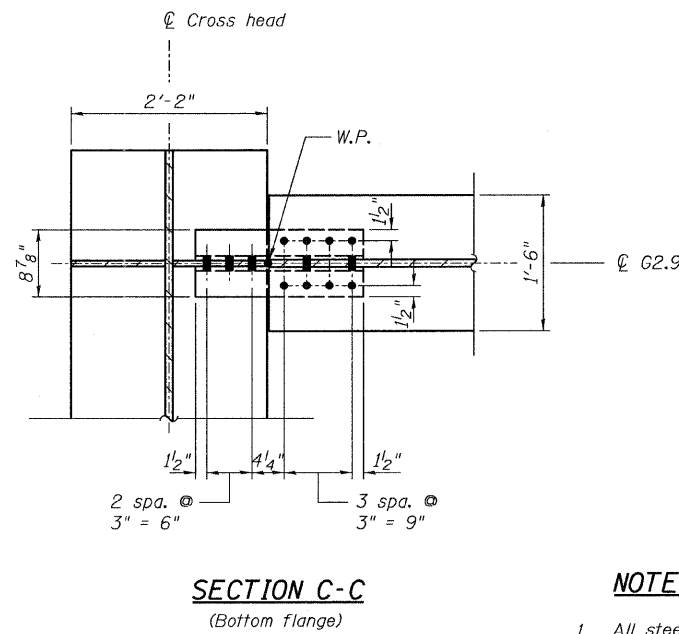
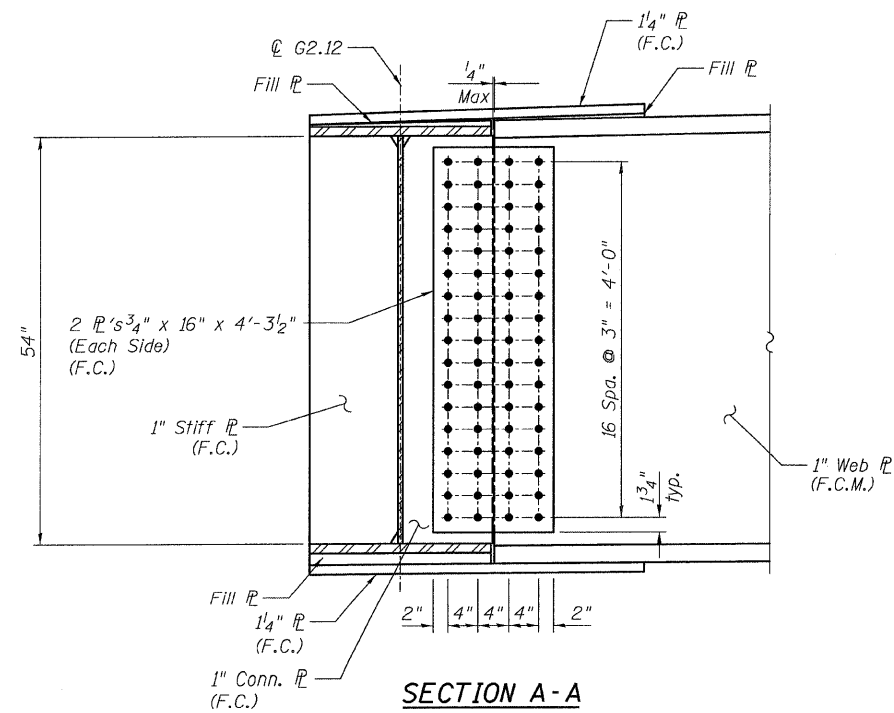
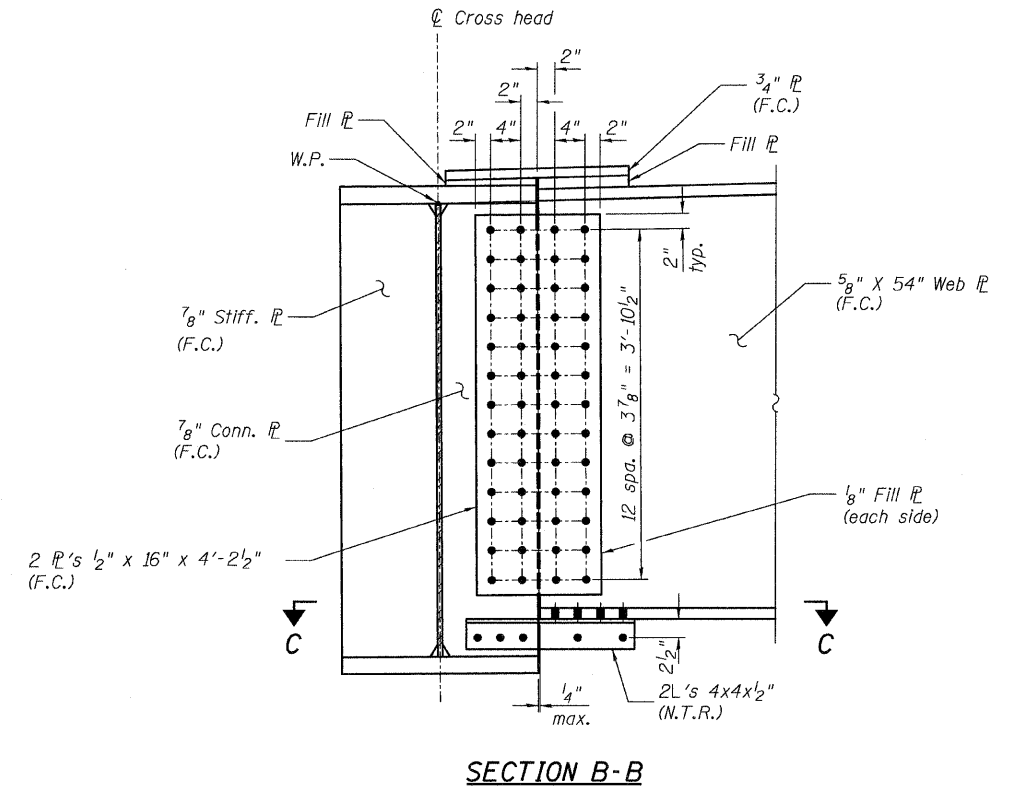
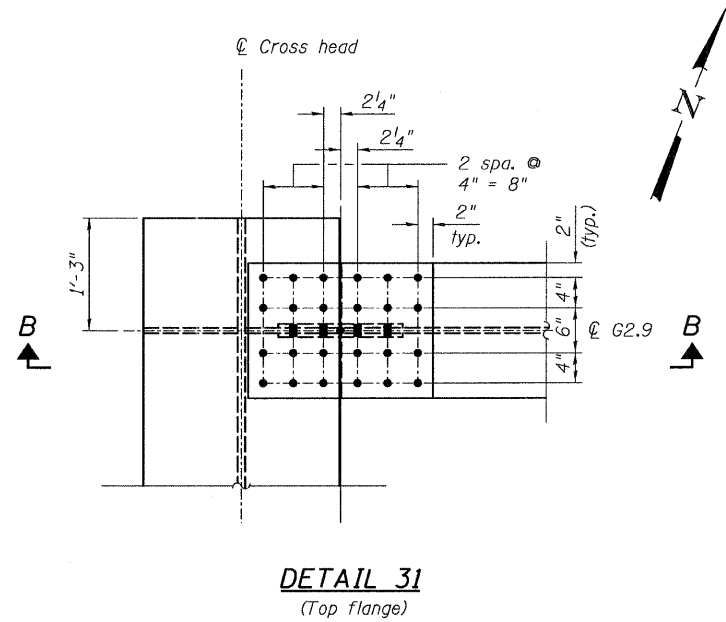
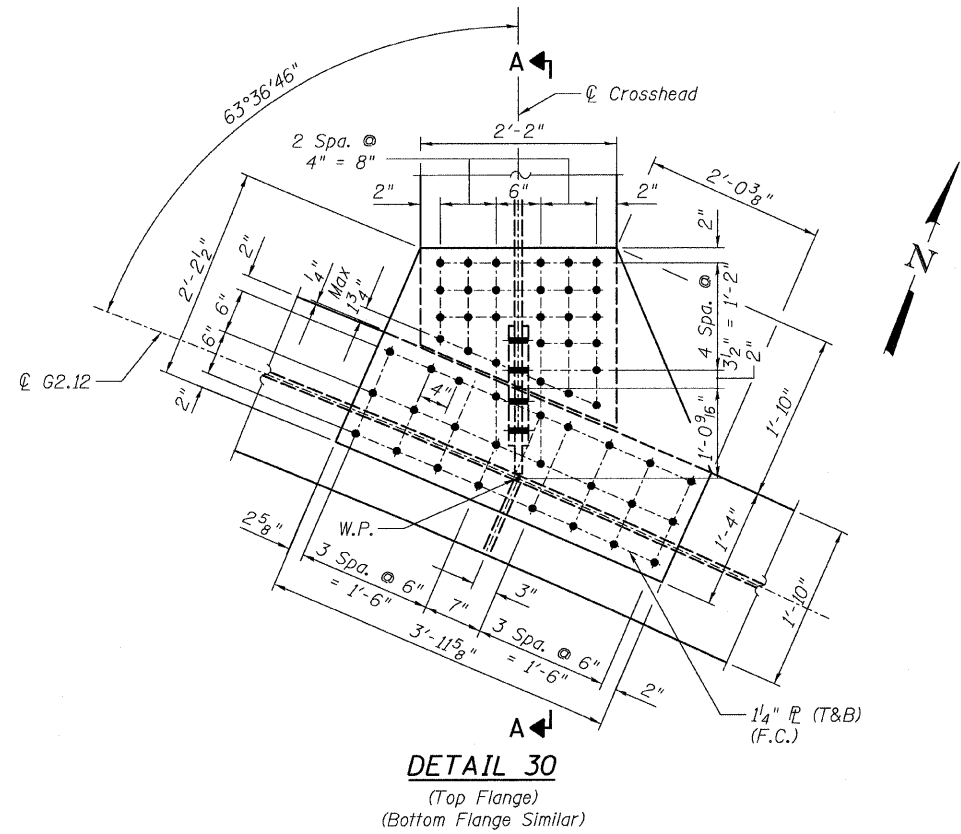
TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 143	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	467
			CONTRACT NO. 60999		
			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

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4/28/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- F.C. indicates Fracture Critical Material, AASHTO Zone II.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 30 & 31
RAMP 2 FLARE
STRUCTURE NO. 016-0724

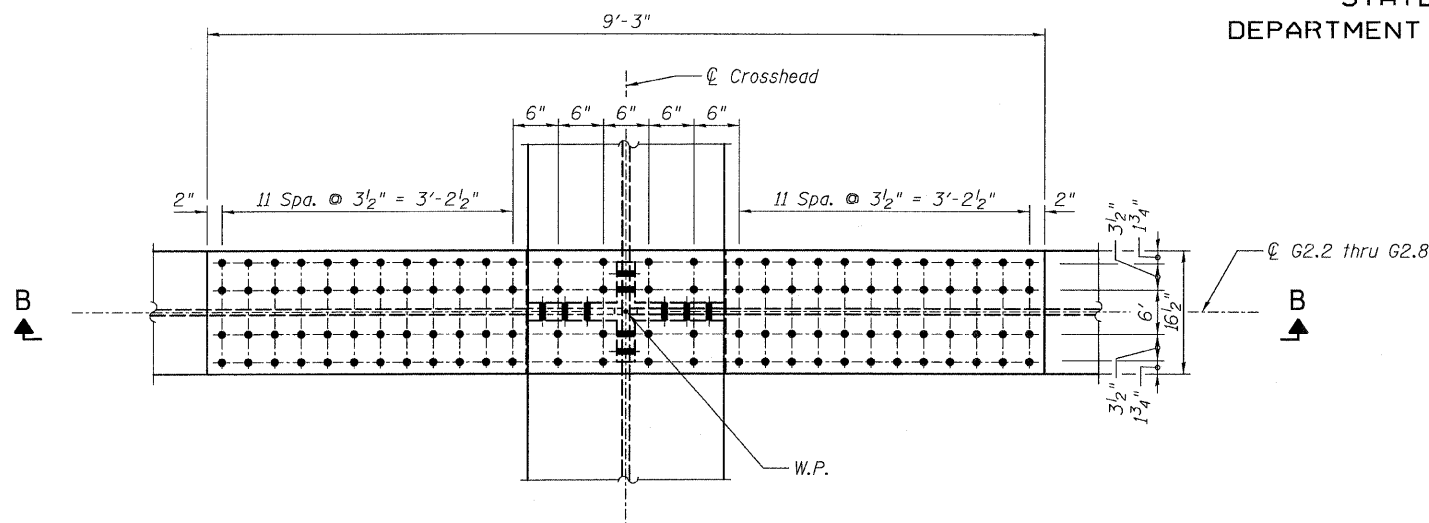
TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

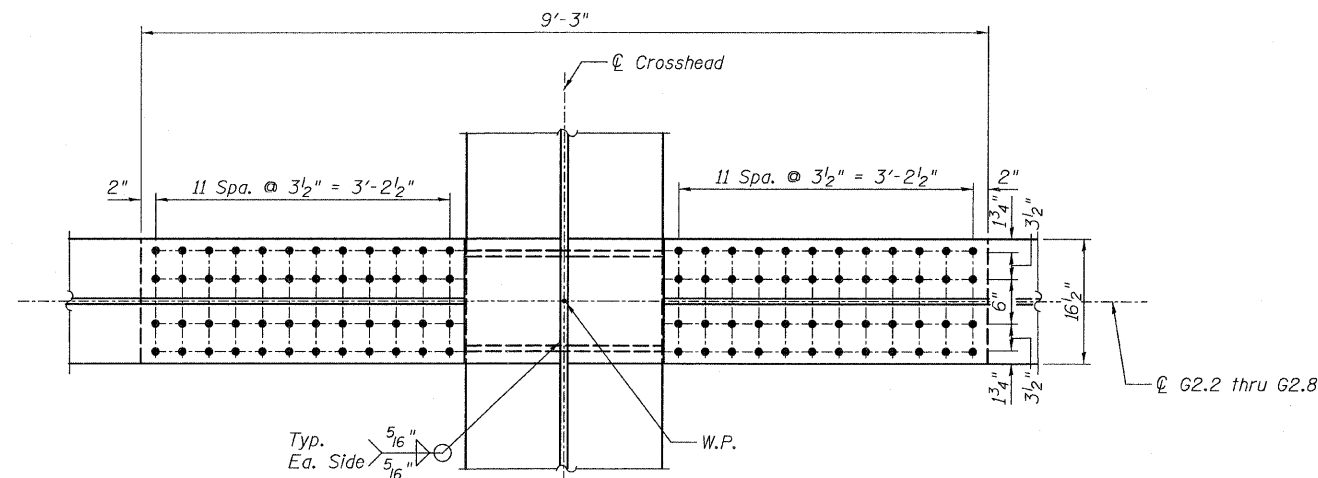
SHEET NO. 144	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	468
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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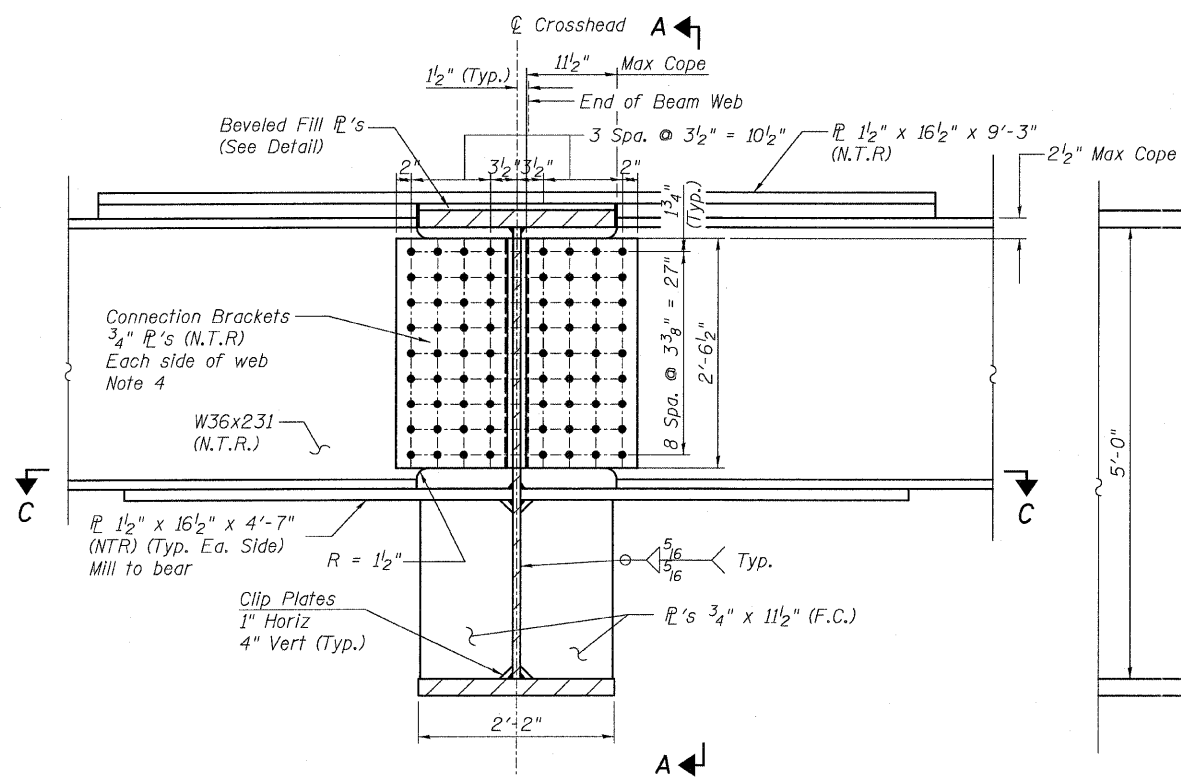
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



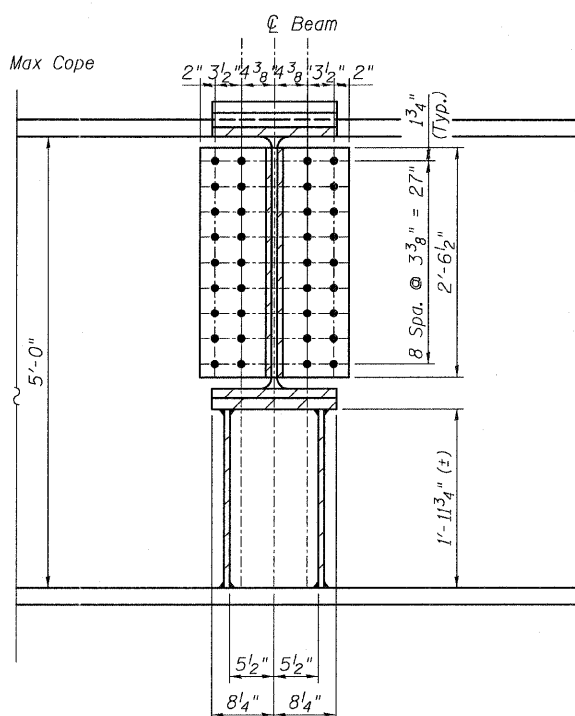
DETAIL 32
(Top Flange)



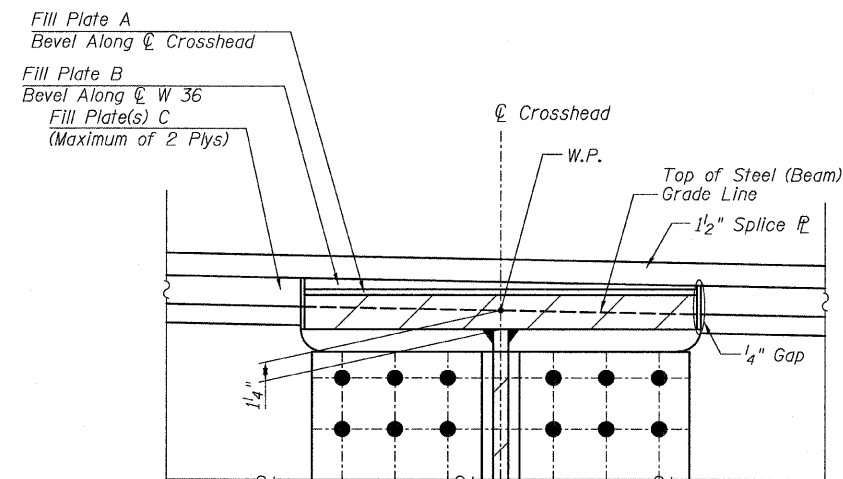
SECTION C-C
(Bottom Flange)



SECTION B-B



SECTION A-A



FILL PLATE DETAIL

Note:
Notify Engineer if total fill PL thickness to exceed 1 1/8"

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- All bolts shall be 1" ϕ with 1 1/16" ϕ holes.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- 3/4" Connection brackets can be fabricated from single bent plate or 2 plates utilizing a pre-qualified, full penetration corner joint welded assembly.

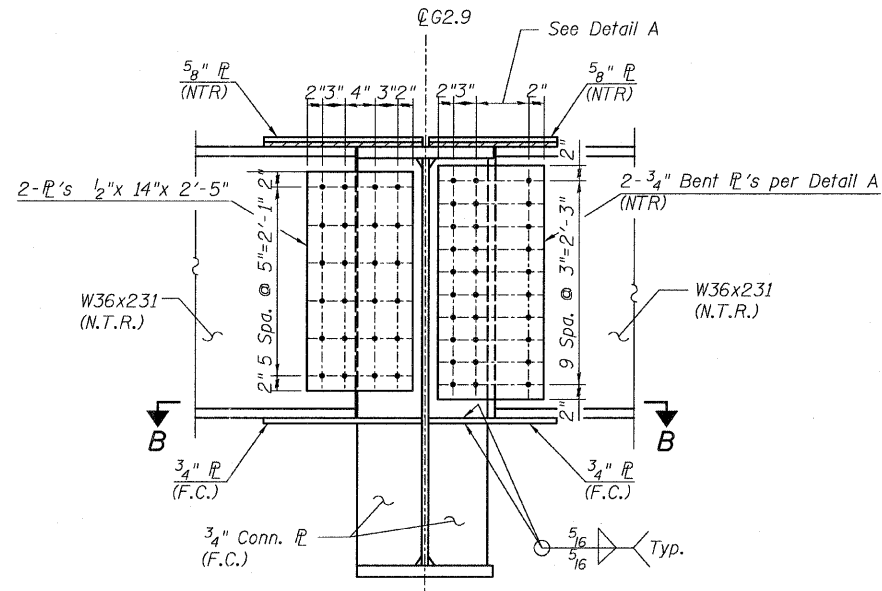
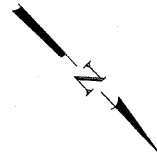
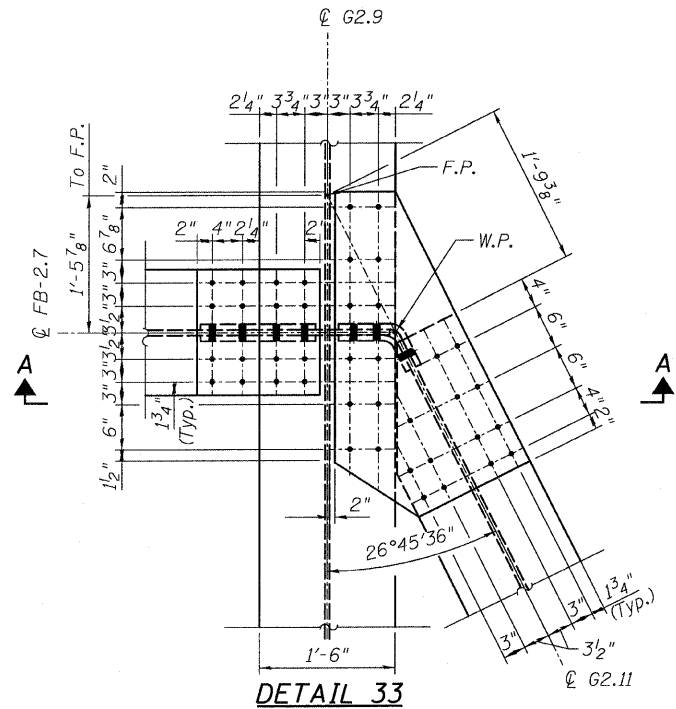
CONNECTION DETAIL 32
RAMP 2 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 145	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 469
	CHECKED - AMD,	NAME	DATE						
	DRAWN - JMA								
	CHECKED - AMD,								
	DATE - 03/25/2011			239 SHEETS	CONTRACT NO. 60999		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

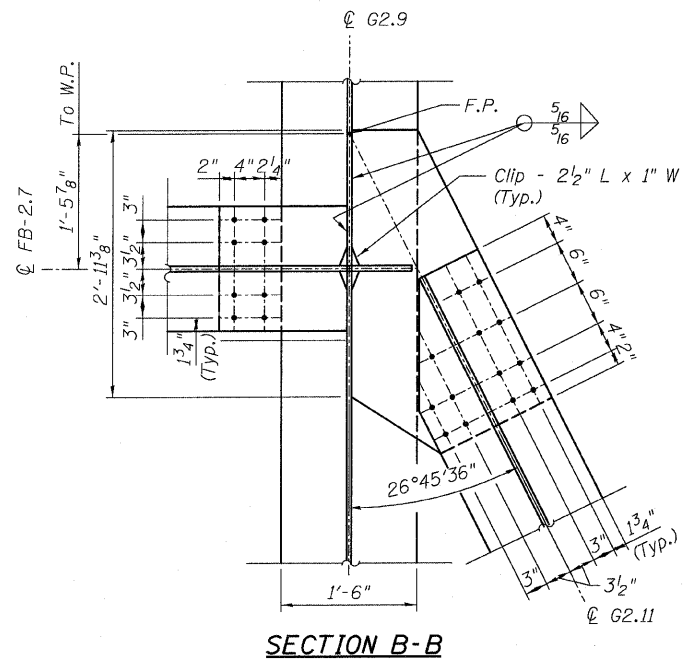
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES:

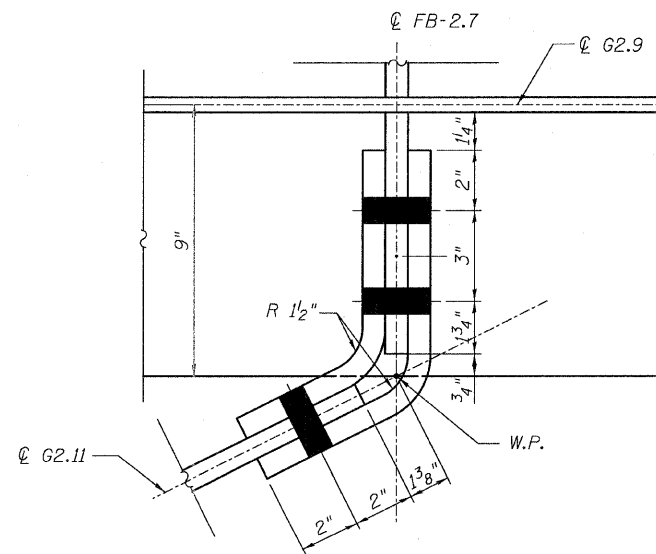
1. All steel shall be AASHTO M 270 Grade 50.
2. F.C. indicates Fracture Critical Material, AASHTO Zone 2.
3. Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.
4. Grain to run horizontally in bent \bar{r} .



SECTION A-A



SECTION B-B



DETAIL A

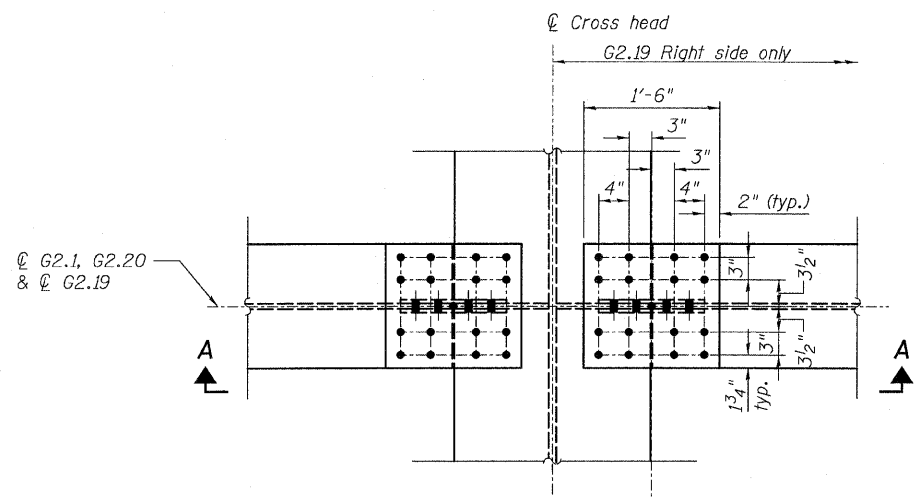
**CONNECTION DETAIL 33
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL

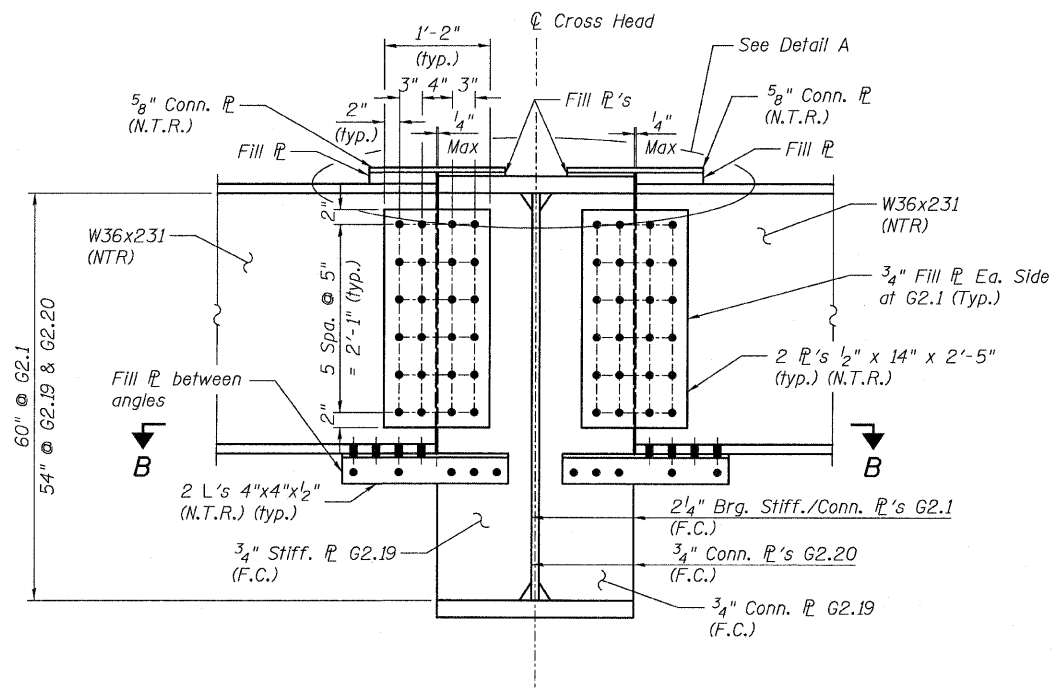
DESIGNED - JPN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 146 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

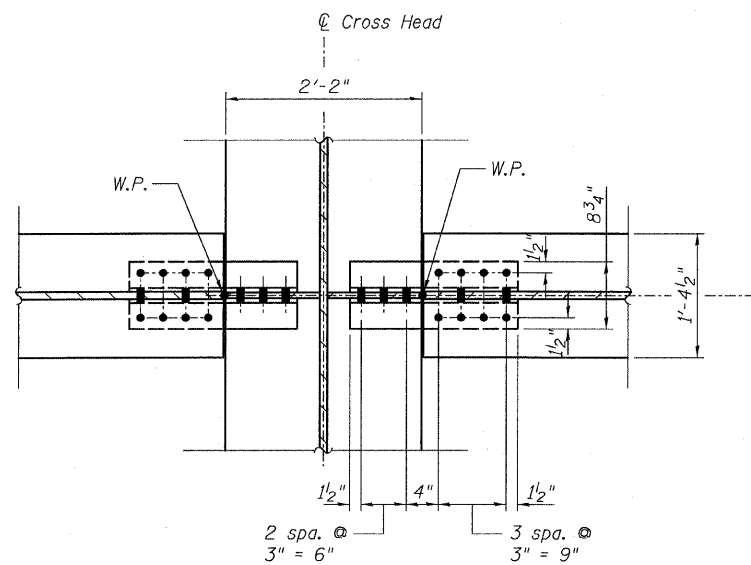
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



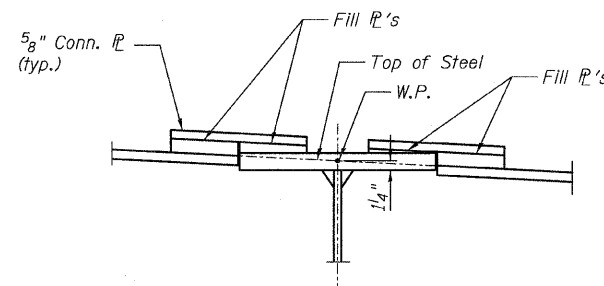
DETAIL 34
(Top flange)



SECTION A-A



SECTION B-B
(Bottom flange)



DETAIL A

NOTES:

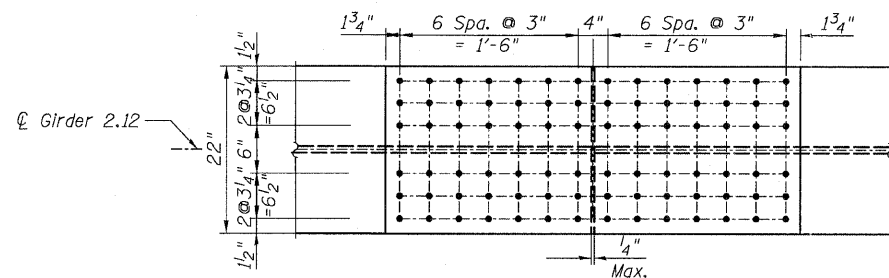
1. All steel shall be AASHTO M 270 Grade 50.
2. Load carrying components designated "N.T.R." shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
3. F.C. Indicates Fracture Critical Material, AASHTO Zone 2.

CONNECTION DETAILS 34
RAMP 2 FLARE
STRUCTURE NO. 016-0724

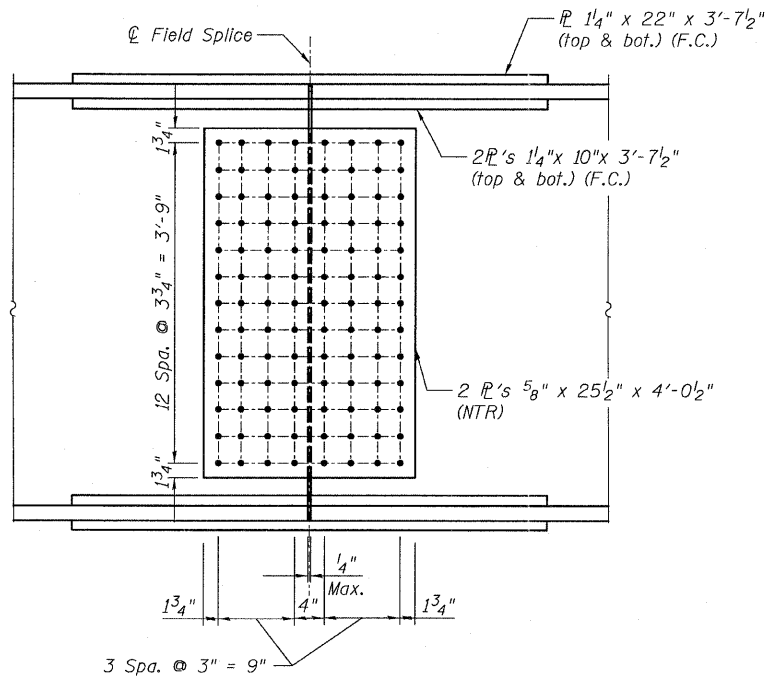
TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 147	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.								
	CHECKED - AMD,	NAME	DATE							55	0711.2R & 1011.1BR	COOK	741	471			
	DRAWN - JMA																
	CHECKED - AMD,														CONTRACT NO. 60999		
	DATE - 03/25/2011														FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN - TOP & BOTTOM FLANGE



ELEVATION

FIELD SPLICE F.S.-2.1 & 2.2
(Girder 2.12)

NOTES:

1. All steel shall be AASHTO M270 Grade 50.
2. F.C. denotes Fracture Critical Material, AASHTO Zone 2.

**FIELD SPLICES
RAMP 2 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL

DESIGNED - JPN
CHECKED - AMD,
DRAWN - JMA
CHECKED - AMD,
DATE - 03/25/2011

REVISIONS	
NAME	DATE

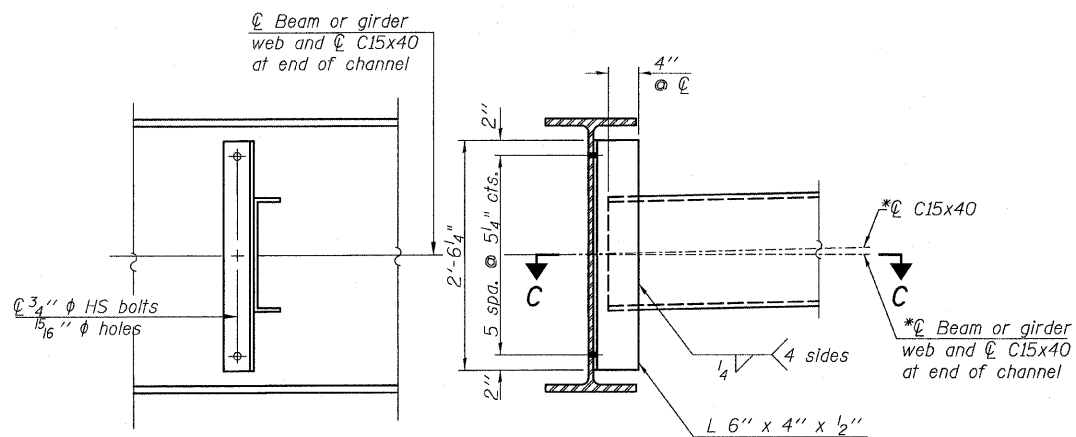
SHEET NO. 148 239 SHEETS	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	472
FED. ROAD DIST. NO. 1 ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 60999					

4/28/2011

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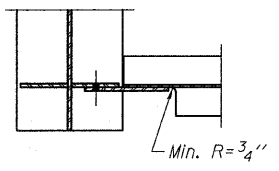
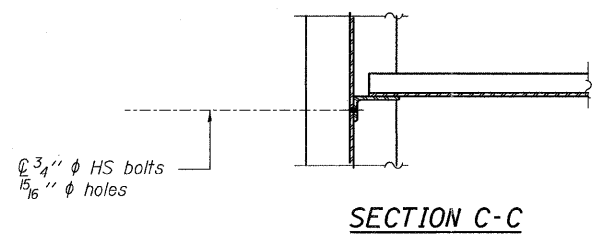
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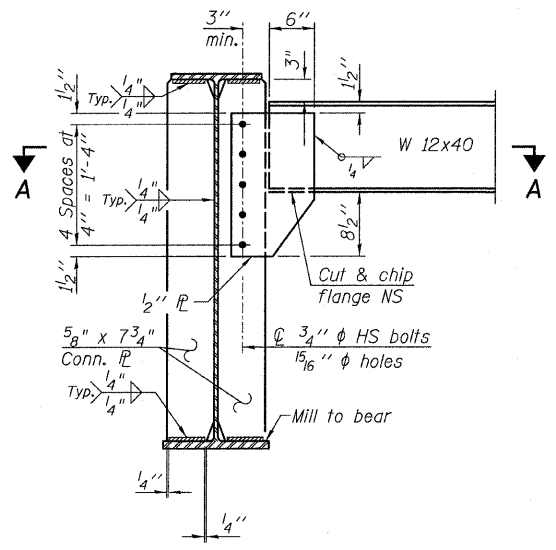


INTERIOR DIAPHRAGM
(D2.2)
(66 REQUIRED)

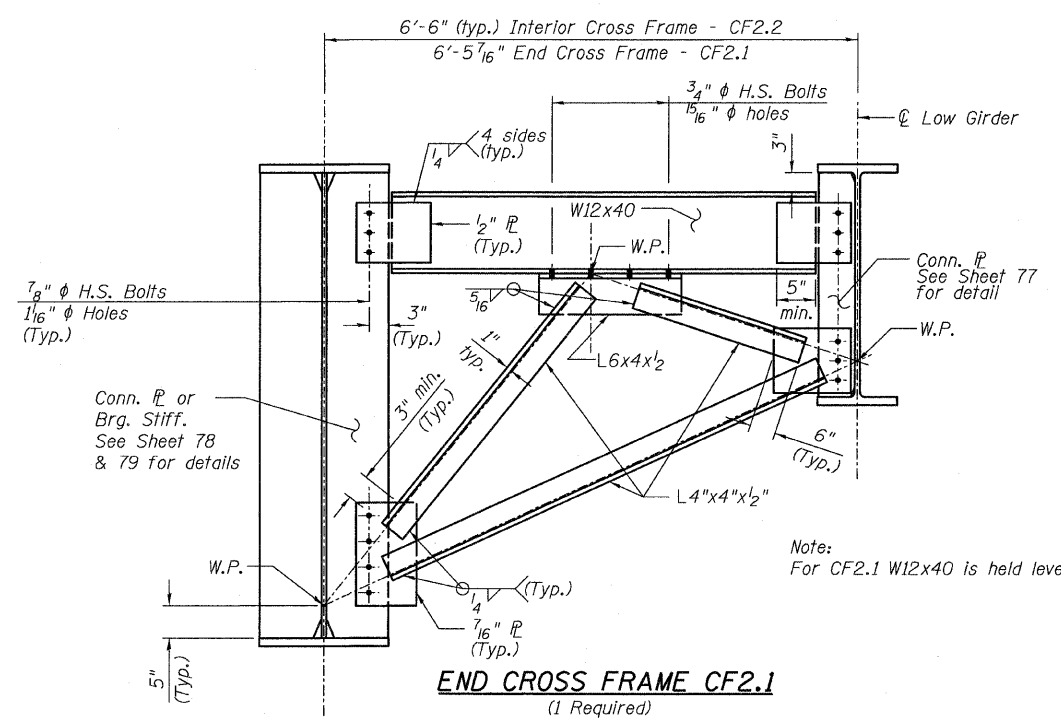
Note:
*Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.



SECTION A-A



END DIAPHRAGM
(D2.1)
(6 REQUIRED)



END CROSS FRAME CF2.1
(1 Required)
INTERIOR CROSS FRAME CF2.2
(4 Required)

Note:
For CF2.1 W12x40 is held level

NOTES:

- Two hardened washers shall be required over all oversize holes for diaphragms.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All bolts shall be 3/4" phi with 1 5/16" phi holes unless otherwise noted.

DIAPHRAGMS & DETAILS
RAMP 2 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 149	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.								
	CHECKED - AMD,	NAME	DATE							55	0711.2R & 1011.1BR	COOK	741	473			
	DRAWN - JMA																
	CHECKED - AMD,														CONTRACT NO. 60999		
	DATE - 03/25/2011														FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

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DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 3 FLARE

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
 Z : Plastic Section Modulus of the steel section in non-composite areas (in.³).
 Q : Un-factored non-composite dead load (kips/ft.).
 M_Q : Un-factored moment due to non-composite dead load (kip-ft.).
 s_Q : Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_{sQ} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_Q + M_{sQ} + \frac{5}{8} (M_L + M_I)]$
 VR : Maximum \pm impact shear range within the composite portion of the span for stud shear connector design (kips).
 S_f : Section modulus of one flange plate for lateral flange bending (in.³).
 M_{bl} : Factored lateral bending moment for flange plate (kip-ft.).
 f_l : Factored calculated normal stress at the edge of flange due to lateral bending (ksi).
 F_{cr} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi).
 F_{cr} : Critical average flange stress (smaller of F_{cr1} or F_{cr2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

	Girder 3.1, & 3.18-3.20		Girder 3.2			Girder 3.3 to 3.8			Girder 3.9	Girder 3.11	Girder 3.17, 3.10, 3.10A & 3.13-3.16	Cross Head Girder	
	0.5 Sp. R3-1	0.5 Sp. R3-2	0.4 Sp. R3-1	R3 Pier	0.6 Sp. R3-2	0.4 Sp. R3-1	R3 Pier	0.6 Sp. R3-2	0.4 Sp. R3-1	0.5 Sp. R3-1	0.5 Sp. R3-1	0.4 Span	at G3.12
I_s (in ⁴)	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	49,795	15,000	9,040	131,400	131,400
I_c (n) (in ⁴)	31,876	31,876	31,876		31,876	31,876		31,876	88,605	29,661			
I_c (3n) (in ⁴)	23,429	23,429	23,429		23,429	23,429		23,429	67,636	21,883			
S_s (in ³)	837	837	837	837	837	837	837	837	1,747	837	504	4,074	4,074
S_c (n) (in ³)	1,096	1,096	1,096		1,096	1,096		1,096	2,110	1,073			
S_c (3n) (in ³)	995	995	995		995	995		995	1,948	971			
Z (in ³)				943							575	4541	4541
Q (k/ft)	0.98	1.18	0.89	1.57	1.42	0.98	1.38	0.98	1.41	1.11	1.29		
M_Q (k)	705.0	318.0	396.0	1,111.0	584.0	671.0	1,243.0	340.0	1,644.0	228.0	357.0	2,758.0	5,970.0
s_Q (k/ft)	0.40	0.40	0.36		0.57	0.40		0.40	0.60	0.80			
M_{sQ} (k)	288.0	113.0	179.0		249.0	292.0		157.0	708.0	147.0			
M_L (k)	640.0	329.0	565.0	348.0	560.0	703.0	413.0	560.0	857.0	270.0	334.0	1,049.0	1,336.0
M_I (k)	160.0	95.0	141.0	87.0	139.0	162.0	103.0	140.0	197.0	81.0	96.0	262.0	347.0
$5_3 [M_L + M_I]$ (k)	1,333.3	706.7	1,177.0	725.0	1,165.0	1,441.7	860.0	1,166.7	1,756.7	585.0	716.7	2,185.0	2,805.0
M_a (k)	3,024.2	1,479.0	2,278.0	2,387.0	2,598.0	3,126.1	2,734.0	2,162.8	5,341.3	1,248.0	1,395.8	6,425.9	11,407.5
M_u (k)	5,073.0	5,073.0	5,073.0	3,929.0	5,073.0	5,073.0		5,073.0	10,286.0	4,897.0	2,397.0	18,920.0	18,920.0
$f_s Q$ (non-comp) (ksi)	10.1	4.6	5.7	16.0	8.4	9.6	17.8	4.9	11.3	3.3	8.5	8.1	17.6
$f_s Q$ (comp) (ksi)	3.5	1.4	2.2	-	3.0	3.5	-	1.9	4.4	1.8	-	-	-
$f_s 5_3 (L + Imp)$ (ksi)	14.6	7.7	12.9	10.4	12.8	15.8	12.3	12.8	10.0	6.5	17.1	6.4	8.3
f_s (Overload) (ksi)	28.2	13.7	20.8	26.4	24.2	28.9	30.1	19.5	25.6	11.6	25.6	14.6	25.8
f_s (Total) (ksi)							39.2						
VR (k)	52.6	49.9	55.4		55.5	50.0		56.5	53.0	46.0			

	Girder 3.12		
	0.4 Sp. R3-1	R3 Pier	0.6 Span R3-2
I_s (in ⁴)	78,863	78,863	78,863
I_c (n) (in ⁴)	127,048	85,300	127,048
I_c (3n) (in ⁴)	99,626	3,100	99,626
S_s (in ³)	2719	2719	2719
S_c (n) (in ³)	3154	85,300	3154
S_c (3n) (in ³)	2941	3,100	2941
S_f (in ³)	161	161	161
Q (k/ft)	3.1	2.1	1.6
M_Q (k)	784	1358	765
s_Q (k/ft)	1.3	0.73	0.5
M_{sQ} (k)	326	497	246
M_L (k)	512.0	470.0	626.0
M_I (k)	133.0	117.0	150.0
$5_3 [M_L + M_I]$ (k)	1,075.0	979.0	1,294.0
M_a (k)	2,841.0	3,685.0	2,997.0
M_{bl} (k)	26.0	73	42.0
$f_s Q$ (non-comp) (ksi)	3.5	6.0	3.4
$f_s Q$ (comp) (ksi)	1.4	2.0	1.0
$f_s 5_3 (L + Imp)$ (ksi)	4.1	3.8	5.0
F_l (ksi)	2.0	5.4	3.1
f_s (Overload) (ksi)	9.0	11.8	9.4
f_s (Total) (ksi)	11.7	15.4	12.3
F_{cr} (Overload) (ksi)	47.5	47.5	47.5
VR (k)	59.1		56.3
F_{cr} (ksi)	49.3	32.3	44.3

GIRDER REACTION TABLES - RAMP 3 FLARE

	Girder 3.1				Girder 3.2			Girder 3.3 to 3.8			Girder 3.9		Girder 3.11		Girder 3.17		Cross Head Girder	
	Carrier Girder	Pier R3 (West)	Pier R3 (East)	FB 3.4	Carrier Girder	Pier R3	Q Bearing Abutment	Carrier Girder	Pier R3	Q Bearing Abutment	Carrier Girder	Pier R3	Q N. Brg C. Abut 1	G3.9	Carrier Girder & FB3.6	South Bearing	North Bearing	
R_{DL} (k)	53.2	53.2	36.0	34.5	41.6	142.2	50.1	52.5	147.6	38.3	88.3	78.5	39.6	39.4	31.1	554.0	1034.0	
R_{LL} (k)	41.8	41.8	38.6	38.6	40.8	47.8	40.8	42.0	51.2	41.0	42.8	38.3	35.4	35.4	38.6	100.0	160.0	
R_I (k)	10.4	10.4	11.1	11.1	10.3	11.7	10.2	9.6	12.2	10.2	9.8	8.8	10.6	10.6	11.2	25.0	40.0	
R_{TOTAL} (k)	105.4	105.4	85.7	84.2	92.7	201.7	101.1	104.1	211.0	89.5	140.9	125.6	85.6	85.4	80.9	679.0	1234.0	

	Girder 3.12		
	G1	R3 Pier	R3 Abut
R_{DL}	71.0	254.0	59.0
R_{LL}	41.0	55.0	42.0
R_I	10.0	14.0	10.0
R_{TOTAL}	122.0	323.0	111.0

MOMENT TABLE
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 150	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.							
	CHECKED - AMD,	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	474	
	DRAWN - MAU															CONTRACT NO. 60999
	CHECKED - AMD,															
DATE - 03/25/2011			FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT											

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF BEAM ELEVATIONS

Girder	CL G1	CL N Brg C Abut 1	CL G3.11	CL G3.9 at WP	CL G3.12	CL FB 3.6	CL FB 3.5	CL Cross Head at R3 Pier	CL FB 3.4	CL FB 3.2	CL Brg R3 Abut
G3.11		625.91		625.78							
G3.10A	626.09		625.88								
G3.10	626.18		625.83								
G3.8	626.38							624.53			622.72
G3.7	626.48							624.62			622.82
G3.6	626.58							624.72			622.92
G3.5	626.74							624.81			623.01
G3.4	626.83							624.91			623.11
G3.3	626.92							625.00			623.21
G3.2	626.99							625.10			623.31
G3.1	627.06							625.19		624.12	
G3.20	627.13							625.29	624.79		
G3.19	627.20							625.38			
G3.18	627.27						625.73				
G3.17	627.33					626.14					
G3.16	627.40					626.41					
G3.15	627.47					626.76					
G3.14	627.54					627.09					
G3.13	627.61					627.39					

(No load/undeflected elevations to be used for fabrication only)

TOP OF WEB ELEVATIONS

Girder	CL G1	CL FS 3.2	CL Cross Head	CL FS 3.1	CL Brg R3 Abut
G3.12	627.51	626.42	625.34	624.75	623.24
G3.9	626.16		624.33		

(No load/undeflected elevations to be used for fabrication only)

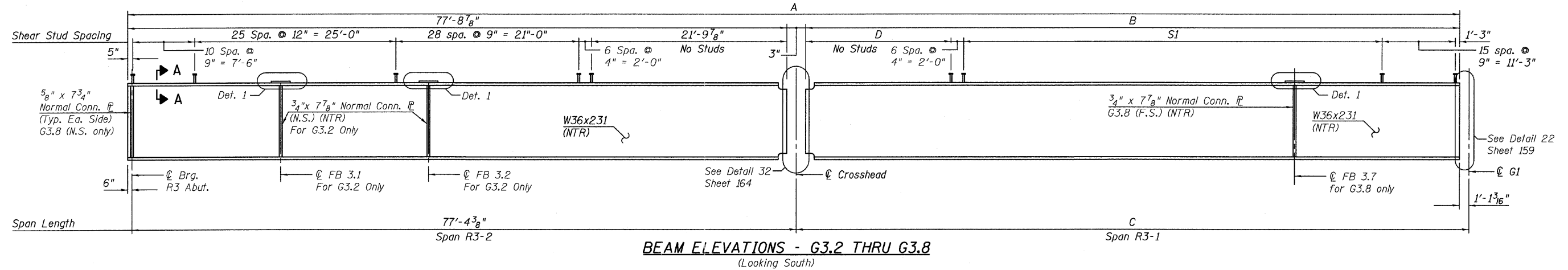
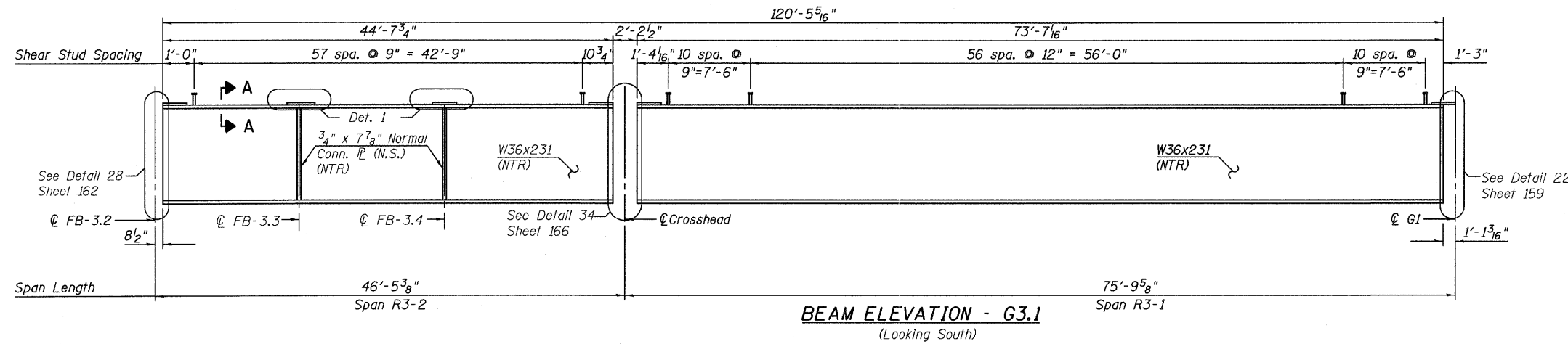
**STEEL ELEVATIONS
RAMP 3 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 151	F.A.I RTE.	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL	SHEET
	CHECKED - AMD,	NAME	DATE		SHEETS			NO.	
	DRAWN - MAU				741			475	
	CHECKED - AMD,				CONTRACT NO. 60999				
DATE - 03/25/2011				239 SHEETS	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
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NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- F.S. denotes far side.
- N.S. denotes near side.



SHEAR STUD SPACING

Girder	S1	*D
G3.2	46 sps. @ 12" = 46'-0"	16'-8"
G3.3	46 sps. @ 12" = 46'-0"	19'-3"
G3.4	48 sps. @ 12" = 48'-0"	19'-10"
G3.5	50 sps. @ 12" = 50'-0"	20'-5"
G3.6	53 sps. @ 12" = 53'-0"	20'-0"
G3.7	55 sps. @ 12" = 55'-0"	20'-7"
G3.8	58 sps. @ 12" = 58'-0"	20'-2"

* Indicates rounded to nearest inch

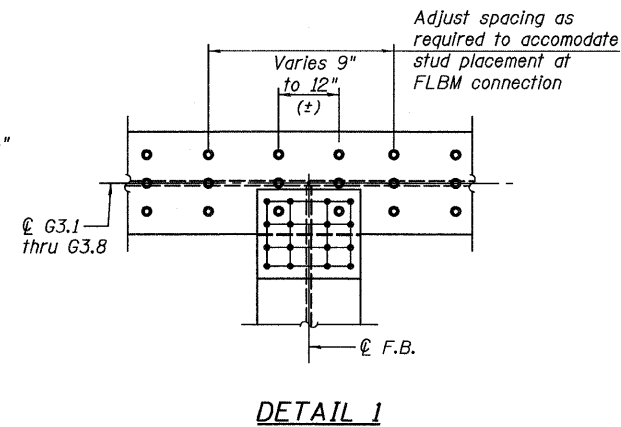
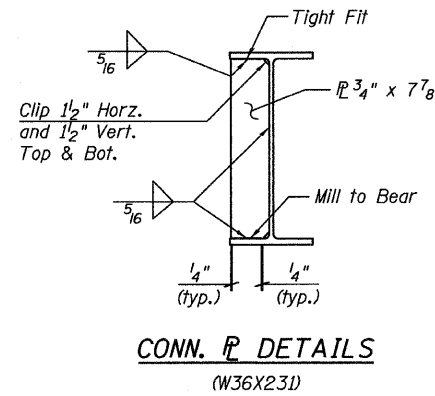
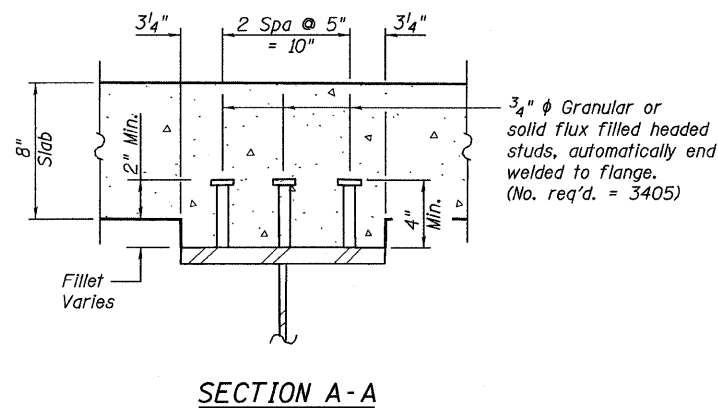


TABLE OF BEAM DIMENSIONS
(G3.2 THRU G3.8)

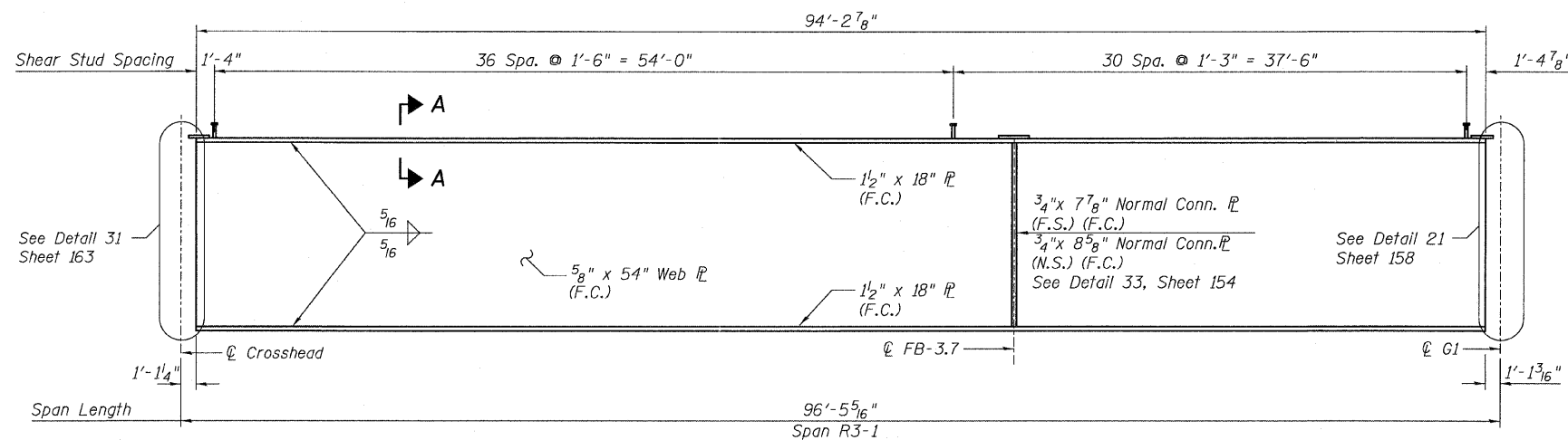
Girder	A	B	C
G3.2	155'-1 1/16"	77'-1 1/16"	78'-4 9/16"
G3.3	157'-8 5/8"	79'-8 3/4"	80'-11 1/2"
G3.4	160'-3 5/8"	82'-3 3/4"	83'-6 1/2"
G3.5	162'-10 9/16"	84'-10 1/4"	86'-1 1/16"
G3.6	165'-5 9/16"	87'-5 1/16"	88'-8 7/16"
G3.7	168'-0 1/2"	90'-0 5/8"	91'-3 3/8"
G3.8	170'-7 1/16"	92'-7 3/16"	93'-10 9/16"

GIRDER ELEVATIONS 1
RAMP 3 FLARE
STRUCTURE NO. 016-0724

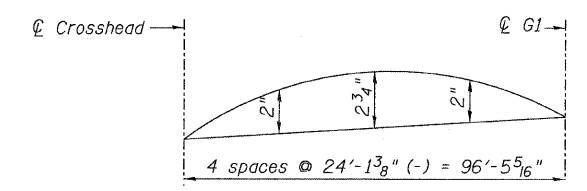
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	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	476	
	DRAWN - DJR				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

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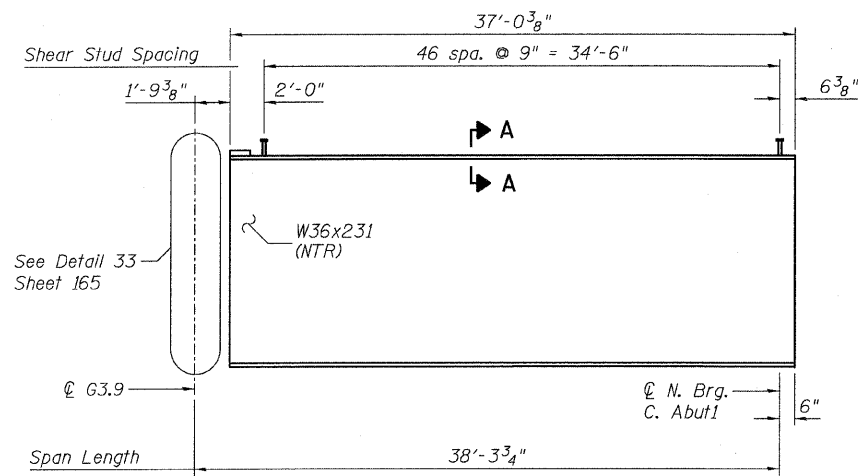
STATE OF ILLINOIS
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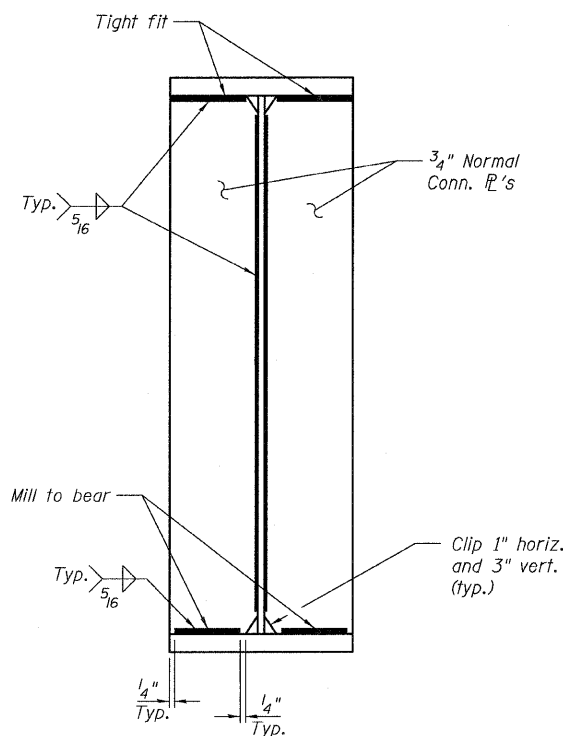
GIRDER ELEVATION - G3.9
(Looking South)



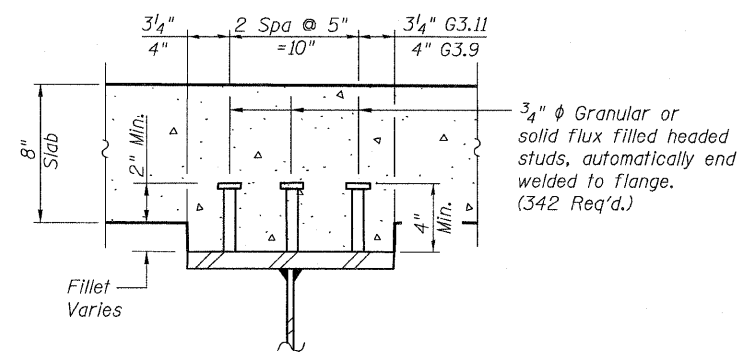
CAMBER DIAGRAM
Girder G3.9



GIRDER ELEVATION - G3.11
(Looking South)



CONNECTION P



SECTION A-A

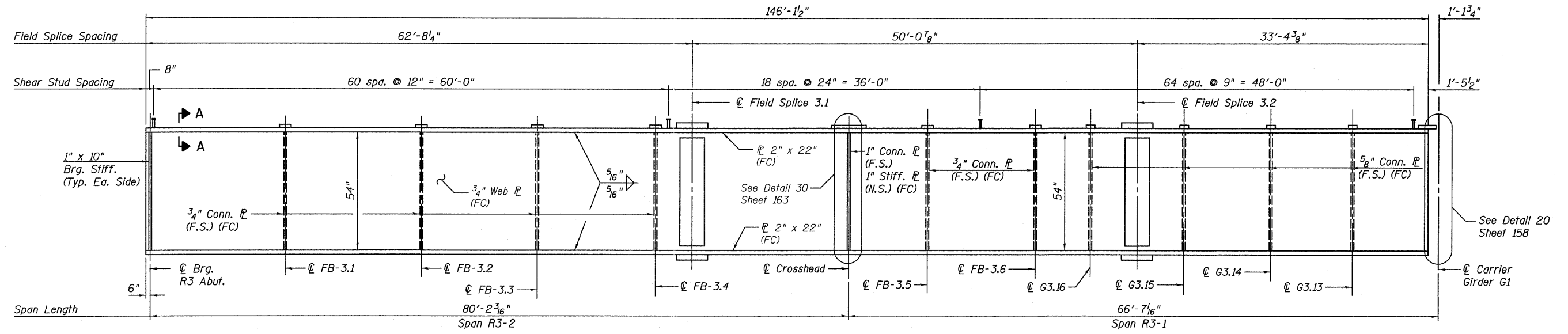
- NOTES:**
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 - F.C. denotes Fracture Critical Material AASHTO Zone II.
 - F.S. denotes far side.
 - N.S. denotes near side.

GIRDER ELEVATIONS 2
RAMP 3 FLARE
STRUCTURE NO. 016-0724

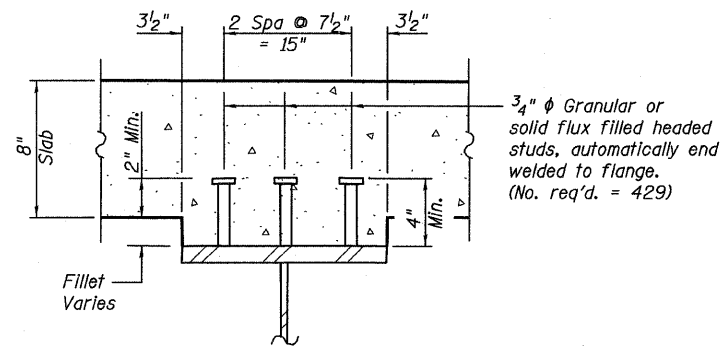
TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 153	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.BR	COOK	741	477	
	DRAWN - MAU				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD,				DATE - 03/25/2011	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

pi:\01345\structure\c2_Central_Ave_016-0724\155131_ramped1.dgn 4/28/2011 12:53:31 PM

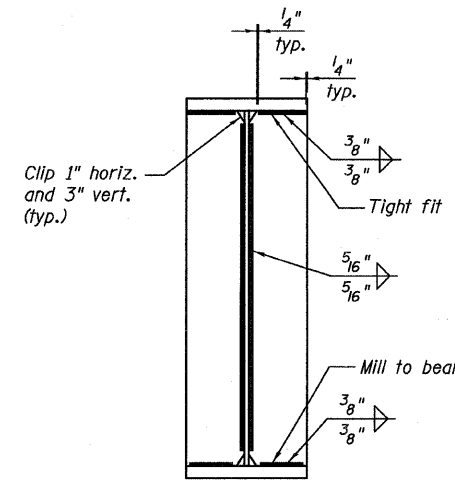
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



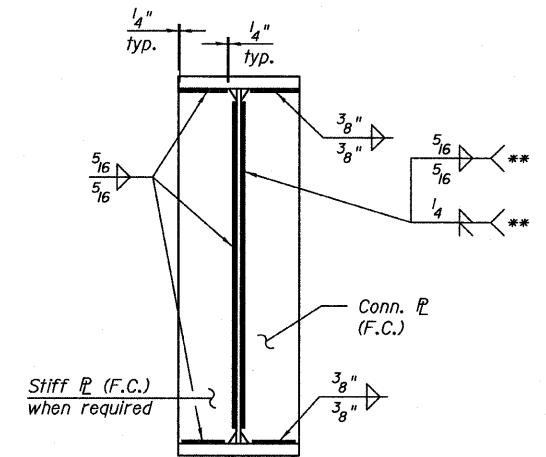
GIRDER ELEVATION - G3.12
(Looking South)
(F.C.M.)



SECTION A-A



BEARING STIFFENER



** Weld type based on angle between web and connection plate where angles warrant combination of fillet and groove welds. Fillet weld is acute angle and groove weld is obtuse angle.

**TYPICAL CONNECTION
PLATE DETAIL**

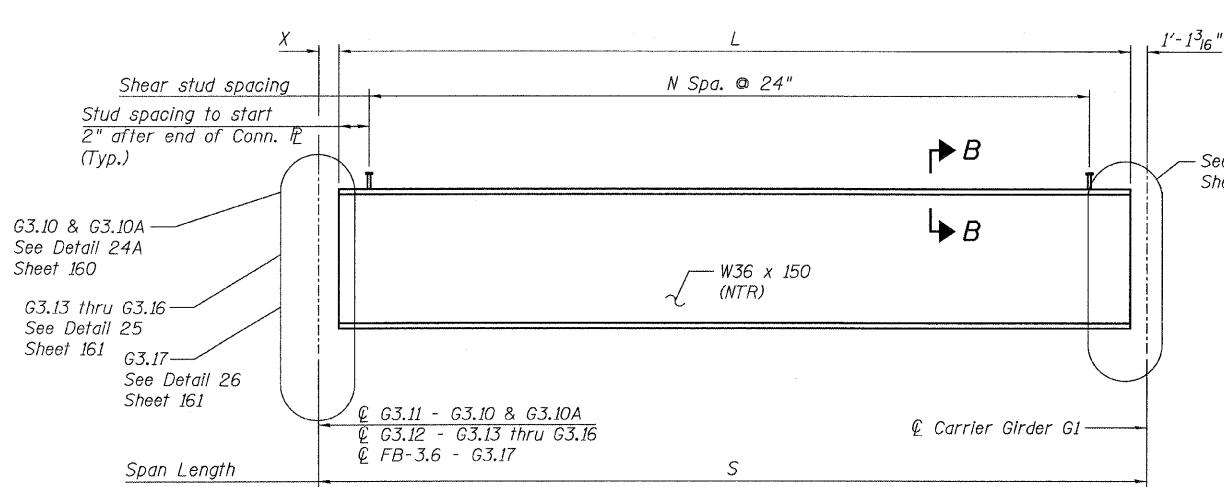
**GIRDER ELEVATIONS 3
RAMP 3 FLARE
STRUCTURE NO. 016-0724**

NOTES:

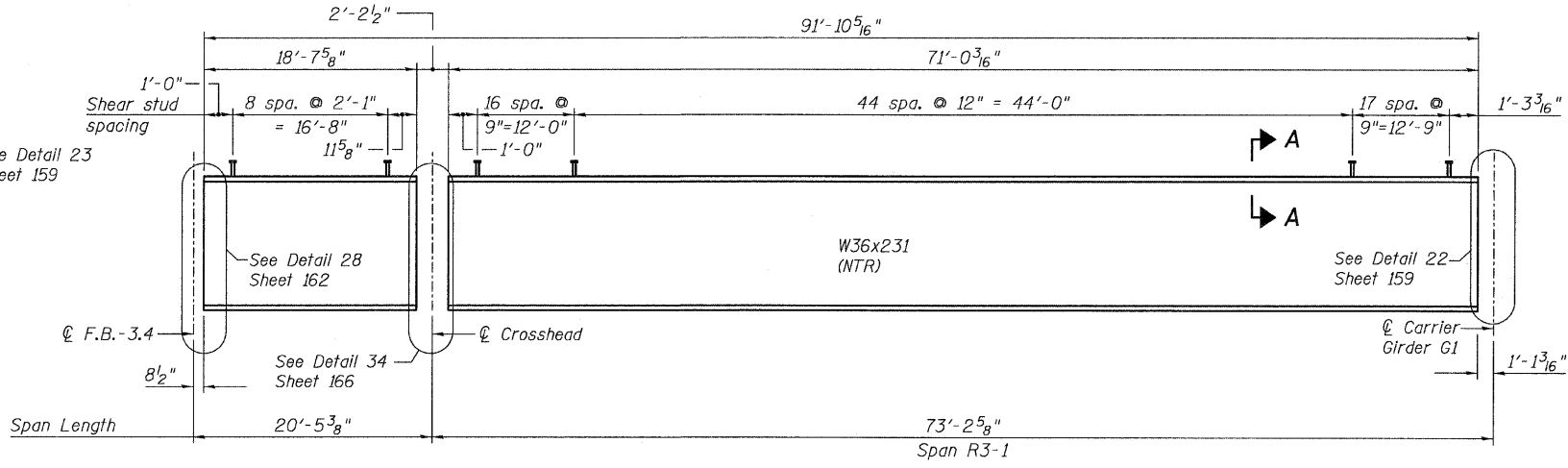
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- For Field Splice details, See Sheet 167.
- F.S. denotes far side.
- N.S. denotes near side.

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	478
	DRAWN - MAU				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

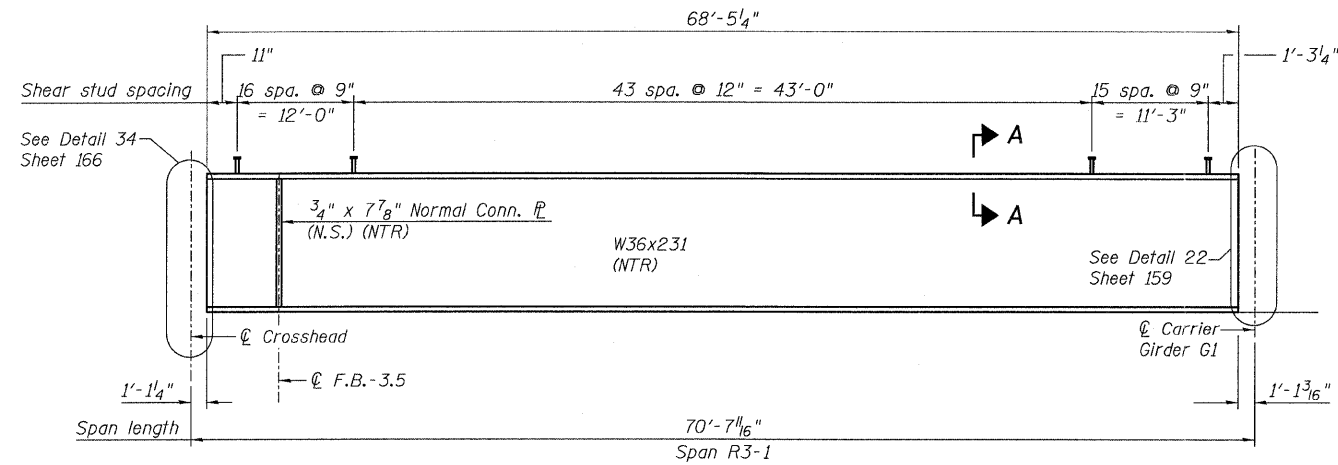
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



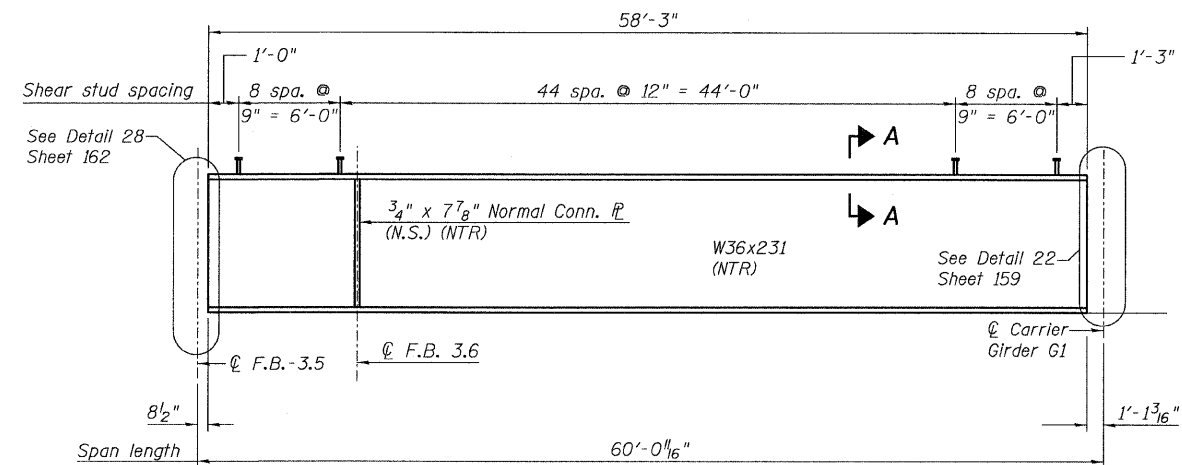
GIRDER ELEVATIONS - G3.10, G3.10A & G3.13 THRU G3.17
(Looking South)



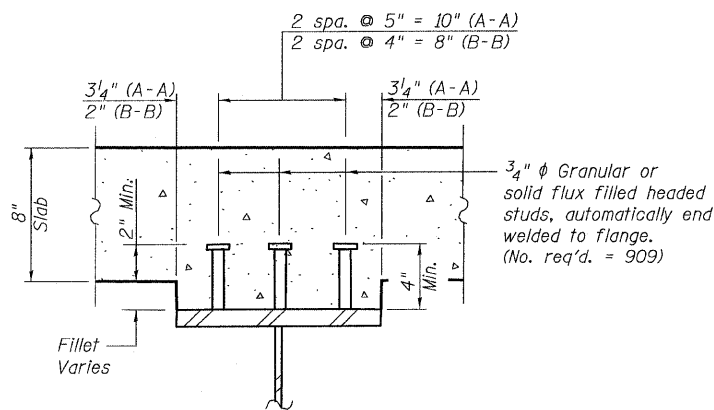
GIRDER ELEVATION - G3.20
(Looking South)



GIRDER ELEVATION - G3.19
(Looking South)



GIRDER ELEVATION - G3.18
(Looking South)



SECTION A-A & B-B

TABLE OF GIRDER VALUES

Girder	L	S	X	N
G3.10	26'-10 ⁵ / ₁₆ "	29'-6 ³ / ₈ "	1'-6 ³ / ₈ "	12
G3.10A	16'-7 ¹ / ₁₆ "	19'-2 ⁷ / ₈ "	1'-6 ³ / ₈ "	6
G3.13	5'-9"	8'-4 ¹ / ₁₆ "	1'-6 ³ / ₈ "	1
G3.14	15'-0 ¹ / ₁₆ "	17'-9"	1'-7 ³ / ₄ "	6
G3.15	25'-0 ⁹ / ₁₆ "	27'-10 ¹ / ₁₆ "	1'-9 ¹ / ₁₆ "	11
G3.16	36'-0 ⁵ / ₁₆ "	39'-0 ⁵ / ₁₆ "	1'-10 ¹ / ₁₆ "	16
G3.17	45'-1 ¹ / ₁₆ "	46'-10 ³ / ₄ "	8 ¹ / ₂ "	21

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- For Connection Plate Detail see "Girder Elevations 1" Sheet 152.
- N.S. denotes near side.

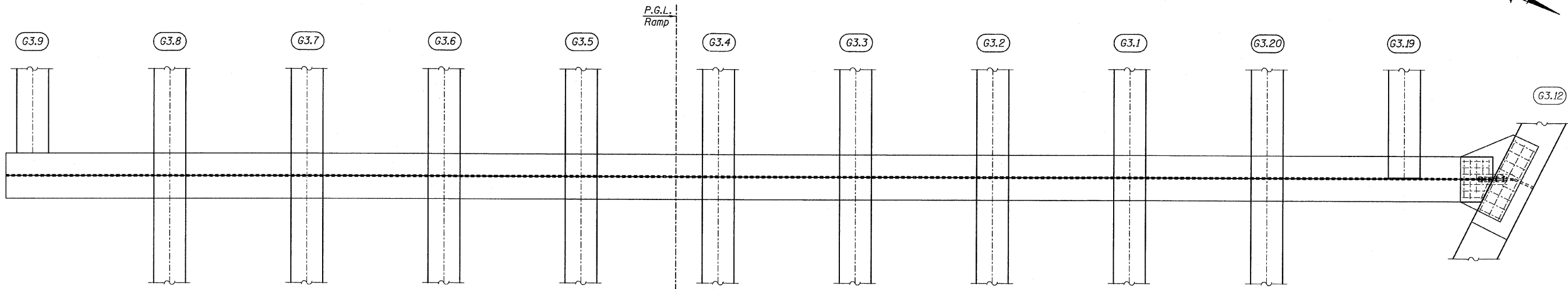
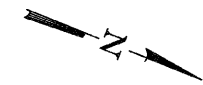
GIRDER ELEVATIONS 4
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - MAU		
	CHECKED - AMD,		
	DATE - 03/25/2011		

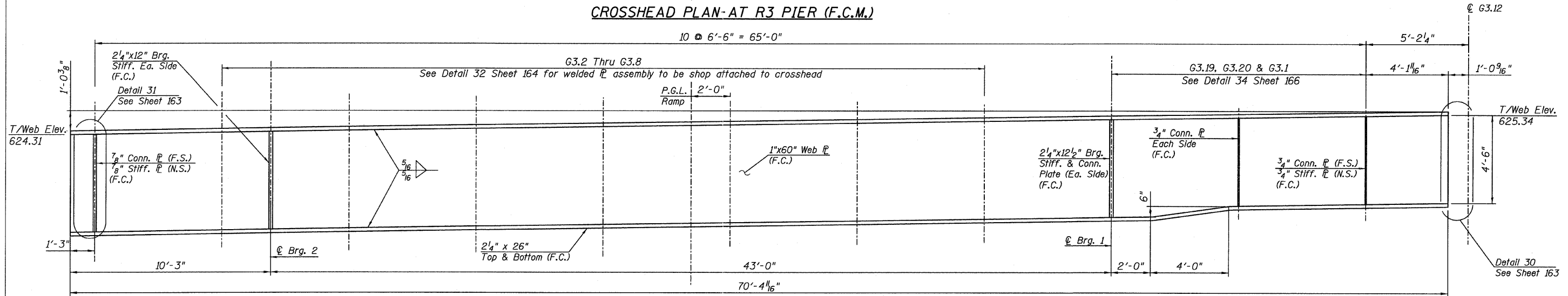
SHEET NO. 155	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	479
239 SHEETS		CONTRACT NO. 60999			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



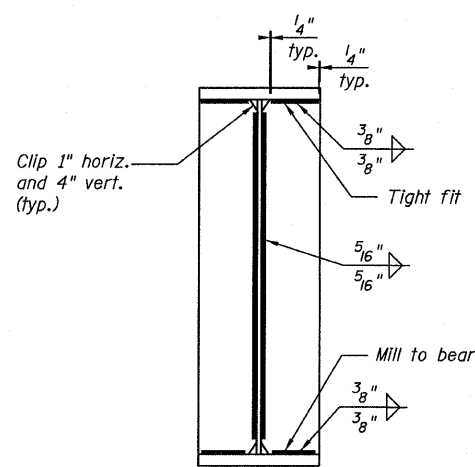
CROSSHEAD PLAN-AT R3 PIER (F.C.M.)



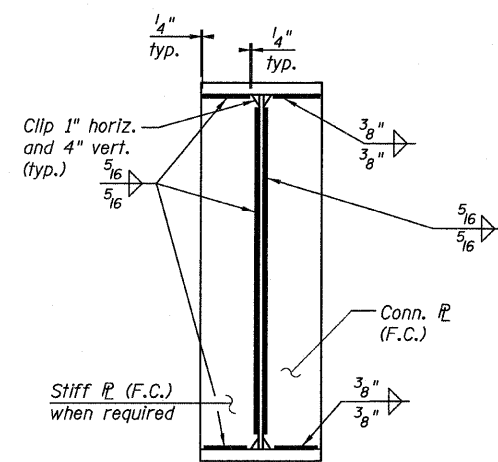
CROSSHEAD ELEVATION-AT R3 PIER (F.C.M.)
(LOOKING WEST)

NOTES:

- All steel shown on this sheet shall be AASHTO M 270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- F.C. indicates Fracture Critical Material, AASHTO Zone II.



BEARING STIFFENER



CONNECTION PLATE
DETAIL

TOP OF WEB ELEVATIONS
(For Fabrication Only)

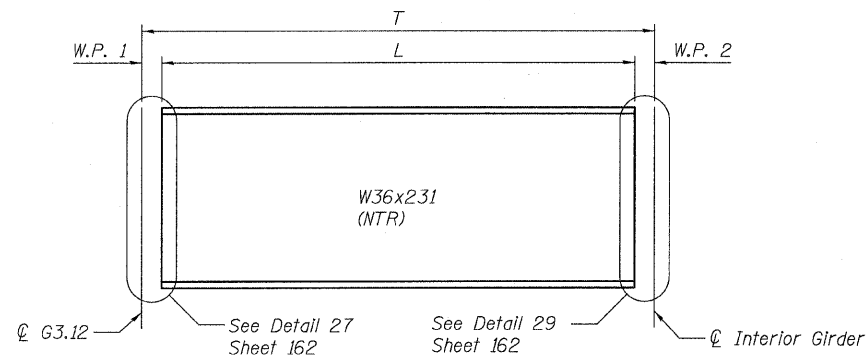
LOCATION	ELEVATION
℄ BRG 1	625.09
℄ BRG 2	624.46

CROSSHEAD DETAILS
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 156	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 480
	CHECKED - AMD,	NAME	DATE						
	DRAWN - JMA								
	CHECKED - AMD,								
	DATE - 03/25/2011			239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT									

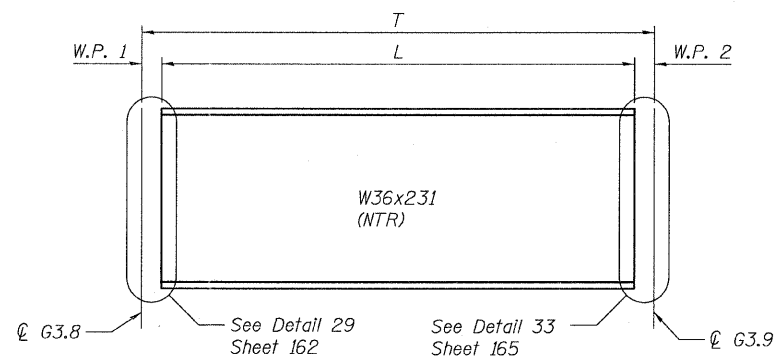
12:53:35 PM p:\01345\structure\02_Central_Ave_016-0724\155131_ramped17.dwg

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FLOOR BEAM ELEVATION

(FB-3.1 & FB-3.3)
(Looking East)

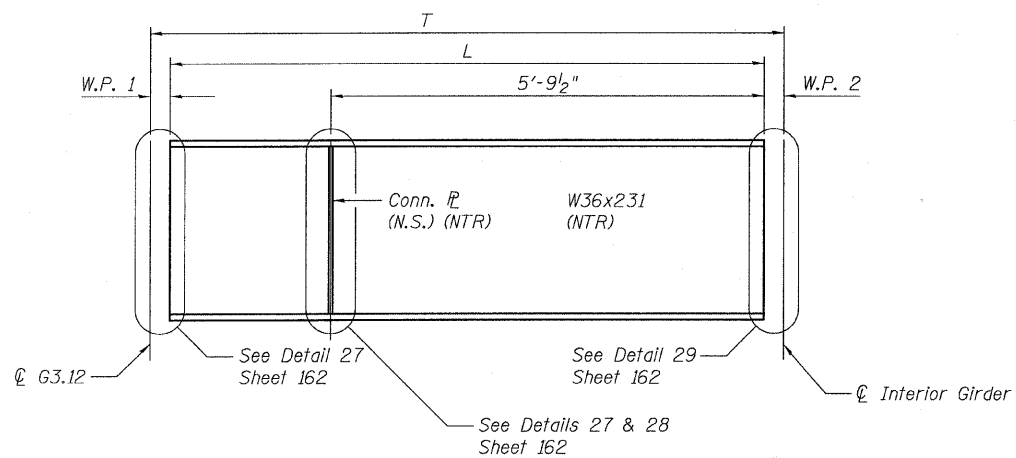


F.B. 3.7 ELEVATION

(Looking East)

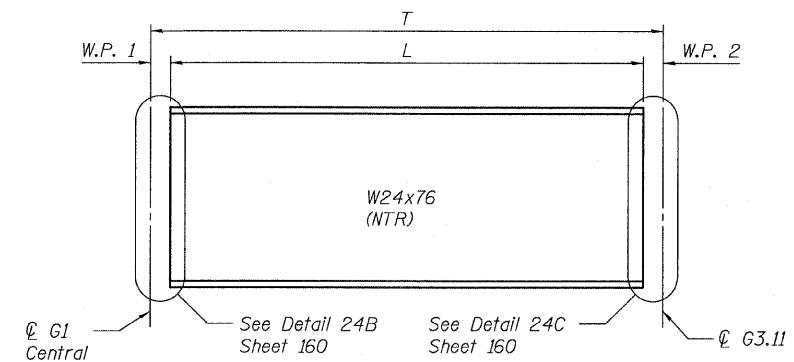
Floor Beam	W.P. 1	W.P. 2	L	T
FB-3.2	11 ⁷ / ₁₆ "	8 ¹ / ₂ "	7'-7 ¹ / ₁₆ "	9'-3 ³ / ₈ "
FB-3.4	11 ¹⁵ / ₁₆ "	8 ¹ / ₂ "	7'-10 ¹⁵ / ₁₆ "	9'-7 ³ / ₈ "
FB-3.5	1'-0 ¹⁵ / ₁₆ "	8 ¹ / ₂ "	7'-7 ³ / ₁₆ "	9'-5"
FB-3.6	1'-1 ¹ / ₂ "	8 ¹ / ₂ "	7'-6 ¹ / ₂ "	9'-4 ¹ / ₂ "

Floor Beam	W.P. 1	W.P. 2	L	T
FB-3.1	11 ⁵ / ₁₆ "	8 ¹ / ₂ "	5'-6 ¹ / ₄ "	7'-2 ¹ / ₁₆ "
FB-3.3	11 ⁵ / ₈ "	8 ¹ / ₂ "	3'-11 ¹³ / ₁₆ "	5'-7 ¹⁵ / ₁₆ "
FB-3.7	8 ¹ / ₂ "	9 ¹ / ₄ "	5'-0 ¹ / ₄ "	6'-6"
FB-3.8	1'-1 ³ / ₁₆ "	2"	11'-2 ¹³ / ₁₆ "	12'-6"



FLOOR BEAM ELEVATION

(FB-3.2, FB-3.4 thru FB-3.6)
(Looking East)



F.B. 3.8 ELEVATION

(Looking North)

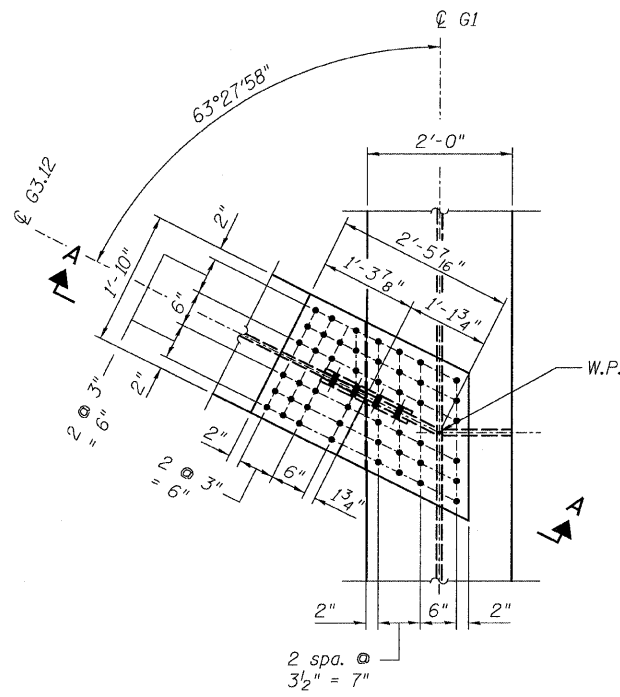
NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.S. denotes near side.
- For Connection Plate Detail see Sheet 152.

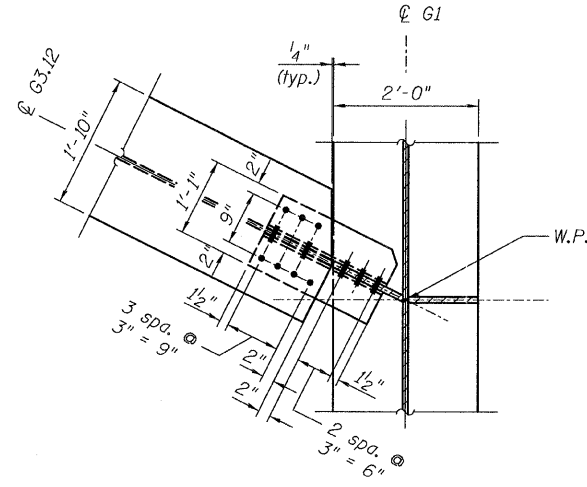
**FLOOR BEAM DETAILS
RAMP 3 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 157	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.										
	CHECKED - AMD,	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	481				
	DRAWN - JMA															CONTRACT NO. 60999			
	CHECKED - AMD,															FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			
DATE - 03/25/2011																			

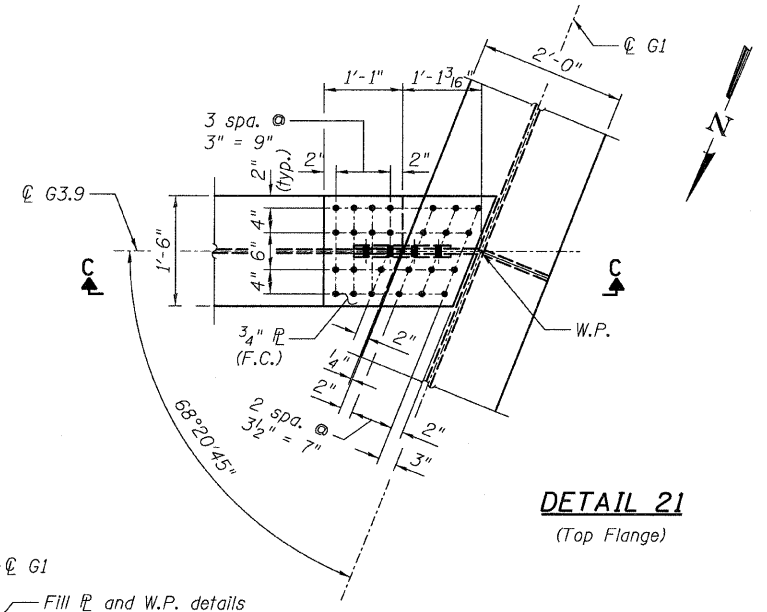
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



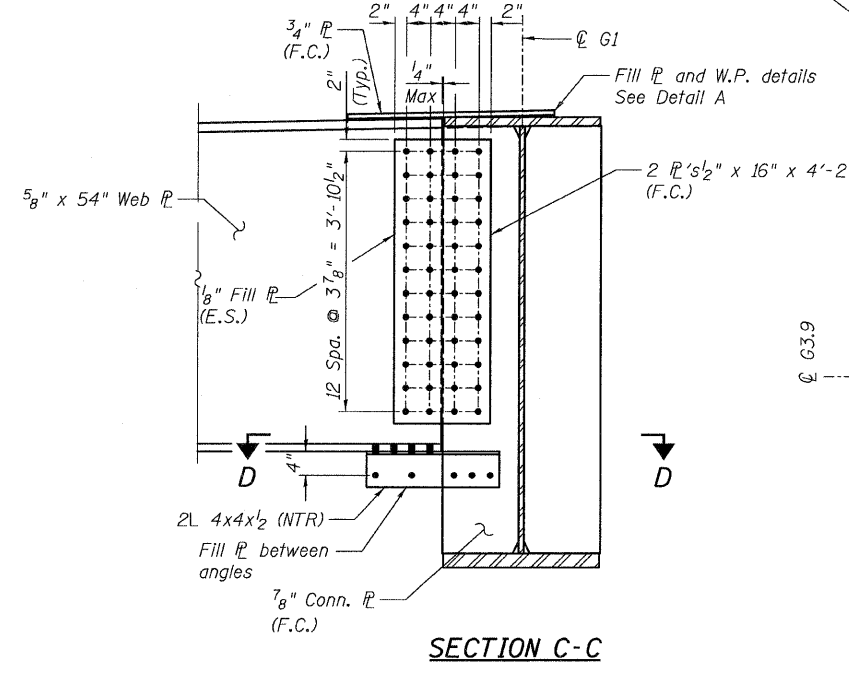
DETAIL 20
(Top Flange)



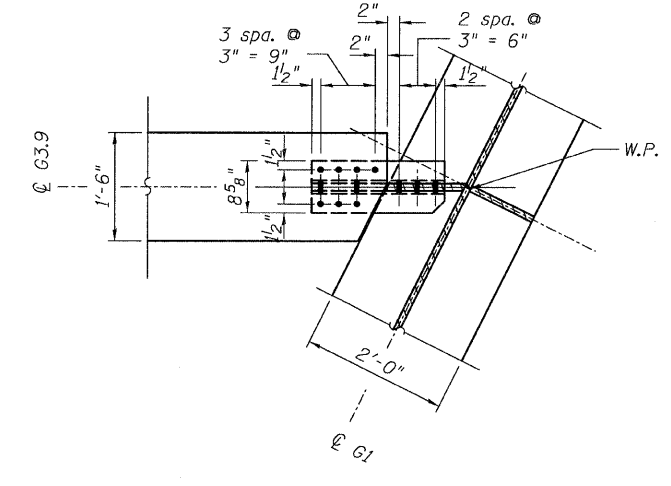
SECTION B-B
(Bottom Flange)



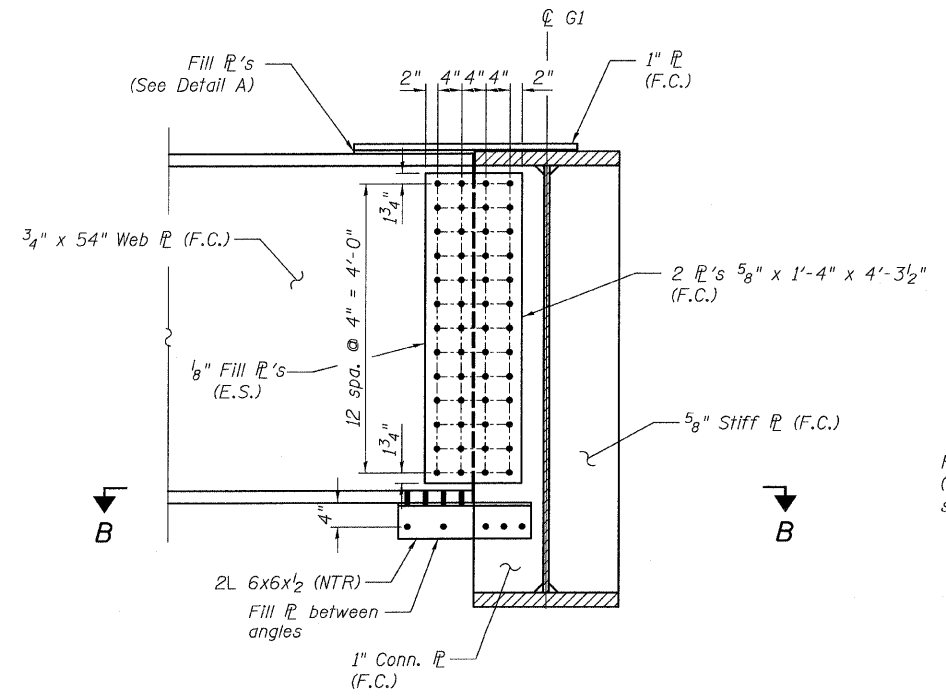
DETAIL 21
(Top Flange)



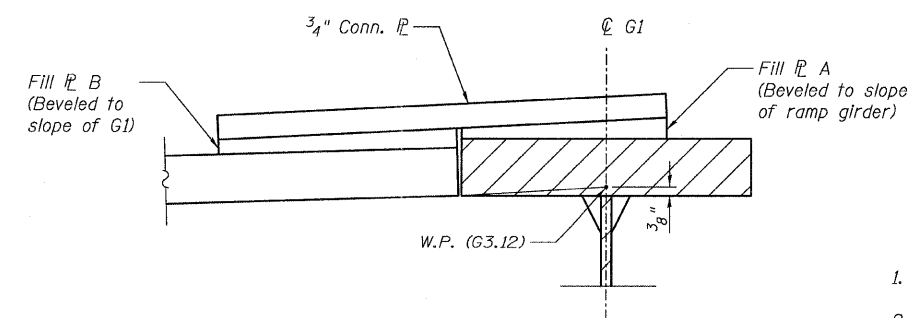
SECTION C-C



SECTION D-D
(Bottom Flange)



SECTION A-A



DETAIL A
(Not to scale)

NOTES:

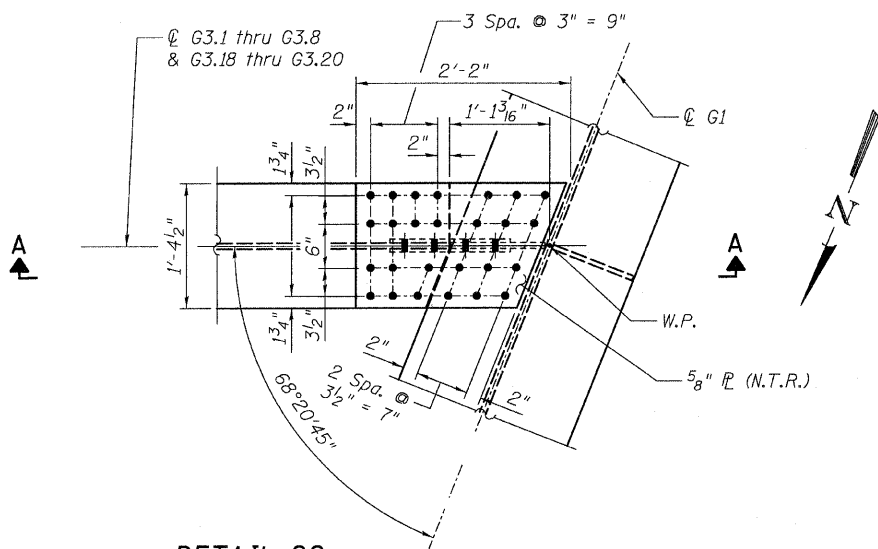
- All steel shall be AASHTO M 270 Grade 50.
- F.C. indicates Fracture Critical Material, AASHTO Zone 2.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

CONNECTION DETAILS 20 & 21
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 158	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	482
	DRAWN - MAU				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

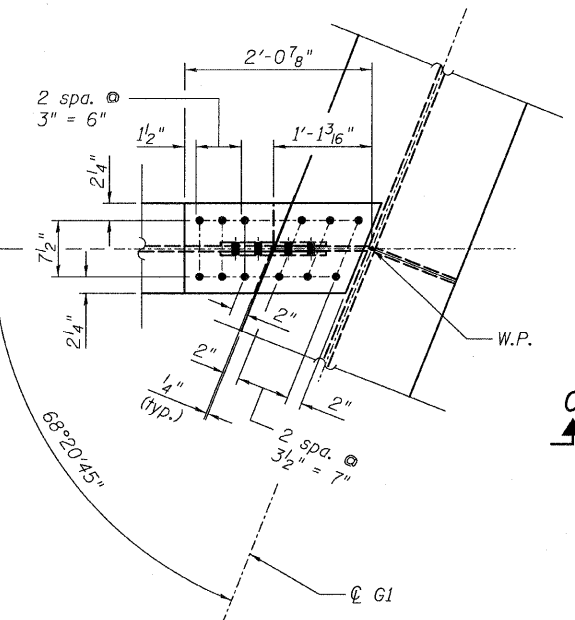
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 5/9/2011

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



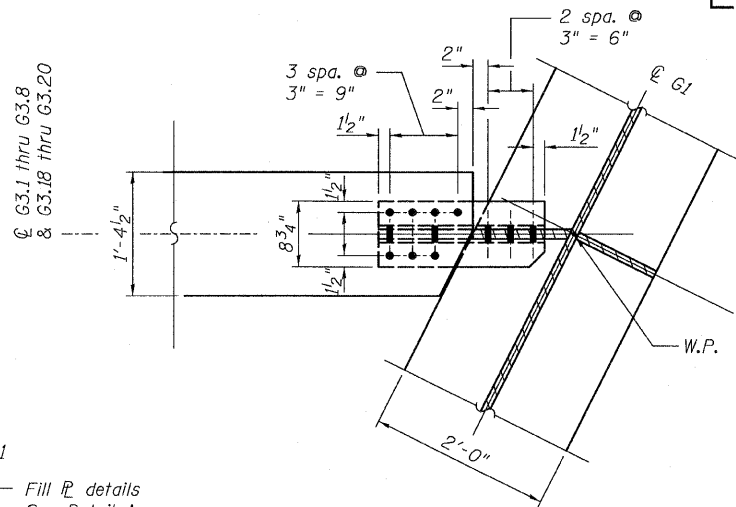
DETAIL 22
(Top Flange)

Ø G3.10, G3.10A
& G3.13 thru G3.17



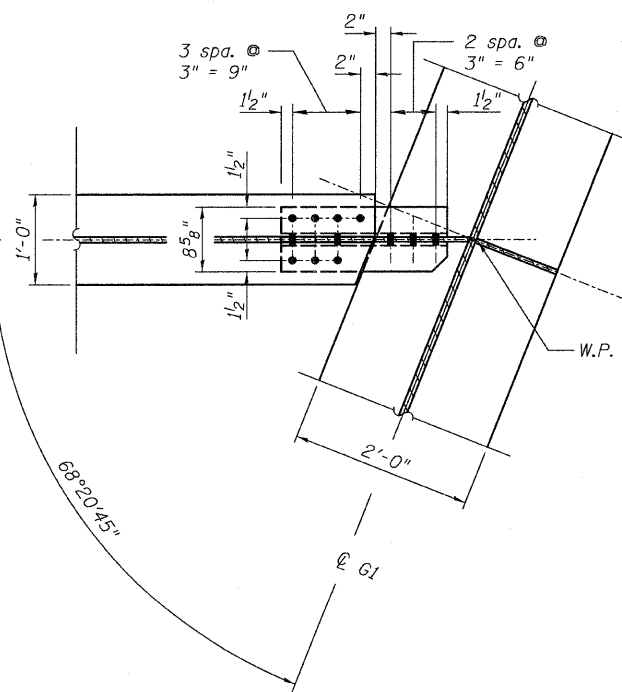
DETAIL 23
(Top Flange)

Ø G3.1 thru G3.8
& G3.18 thru G3.20

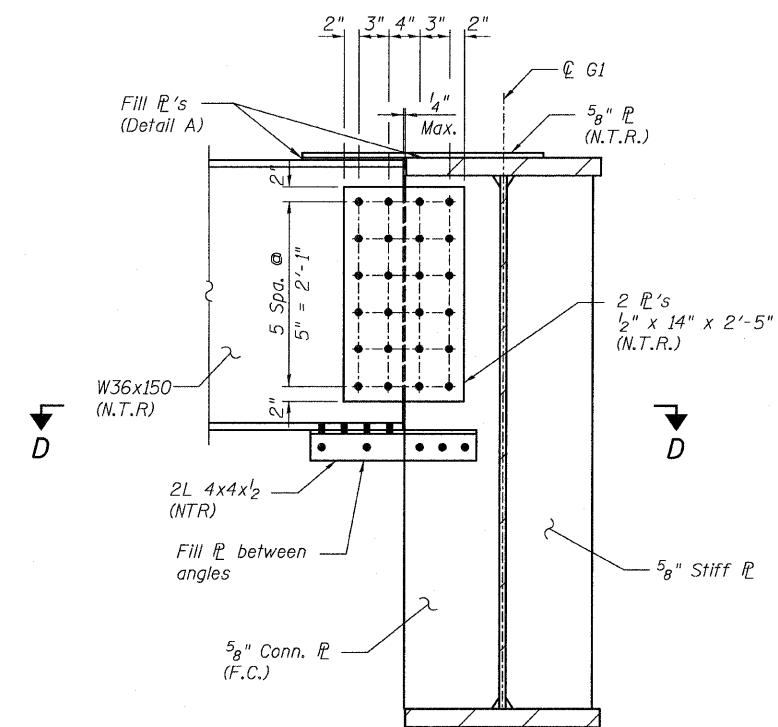


SECTION B-B
(Bottom Flange)

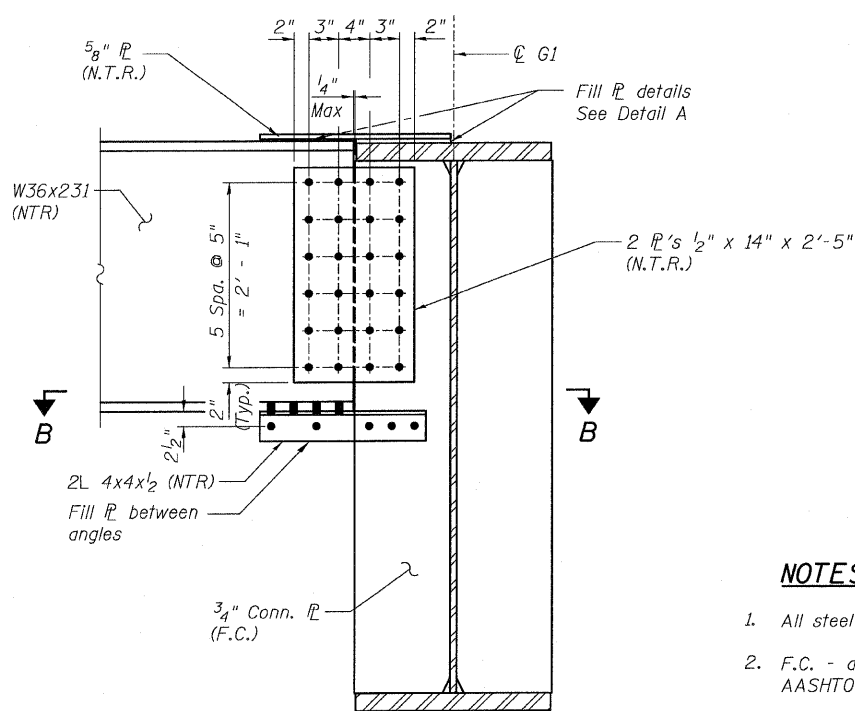
Ø G3.10, G3.10A
& G3.13 thru G3.17



SECTION D-D
(Bottom Flange)



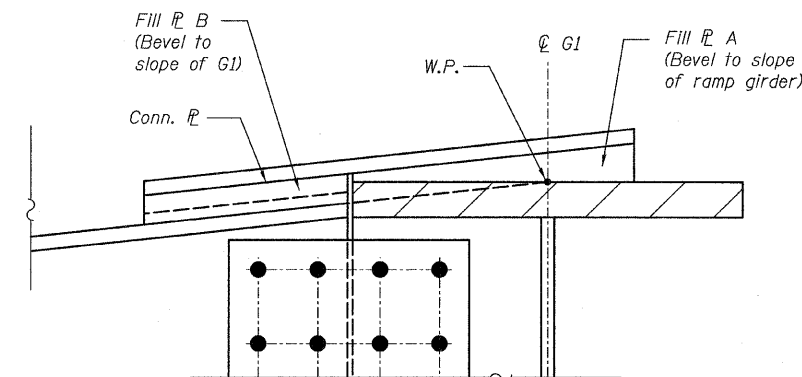
SECTION C-C



SECTION A-A

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- F.C. - denotes Fracture Critical material, AASHTO Zone II.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.



DETAIL A
(Not to scale)

CONNECTION DETAILS 22 & 23
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

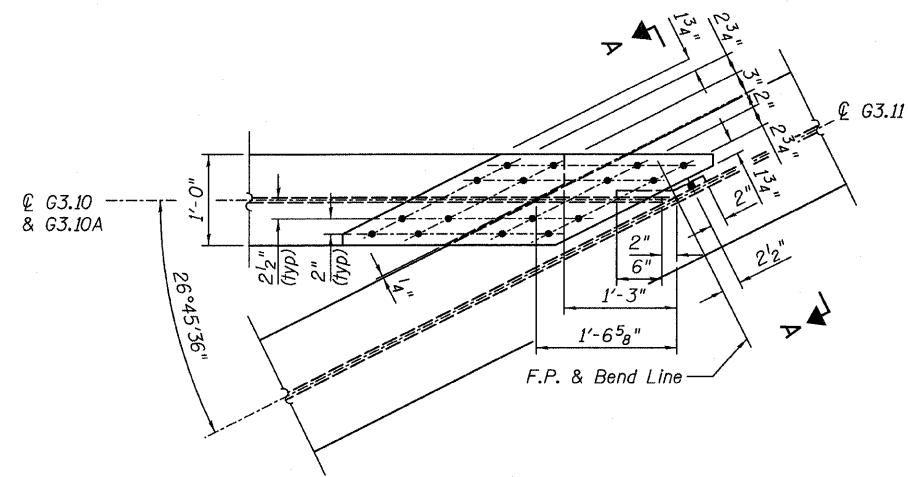
DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - MAU		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 159	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	483
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

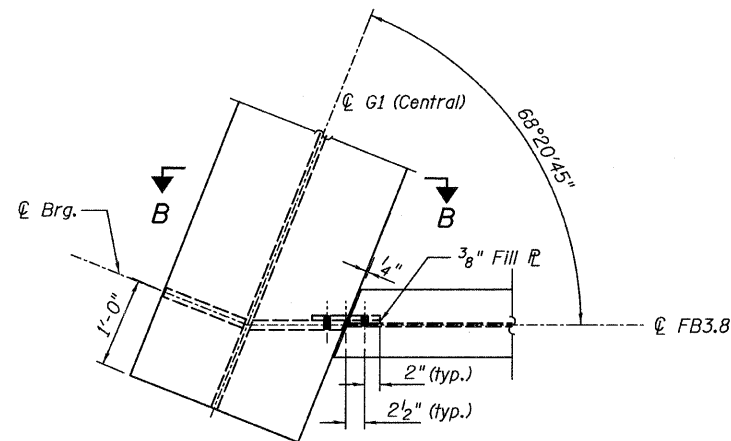
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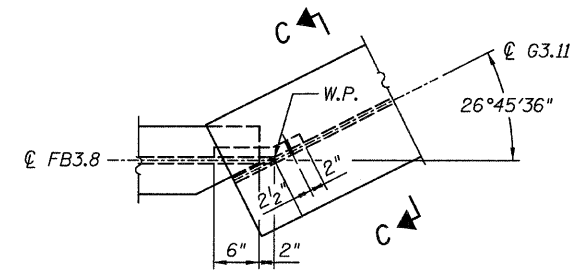
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



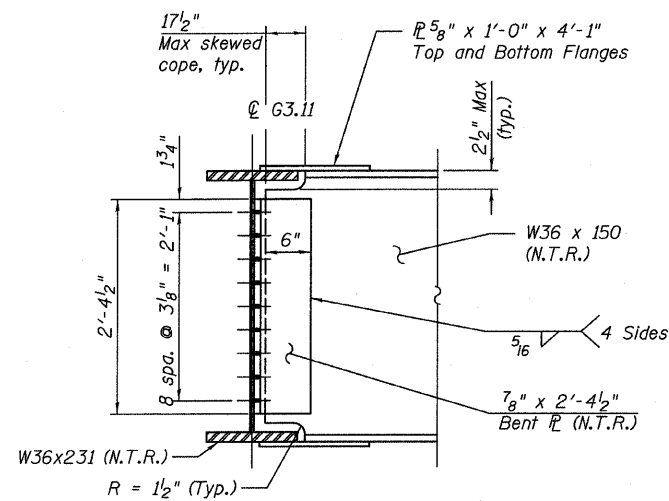
DETAIL 24A
(Top Flange)
(Bottom flange similar)



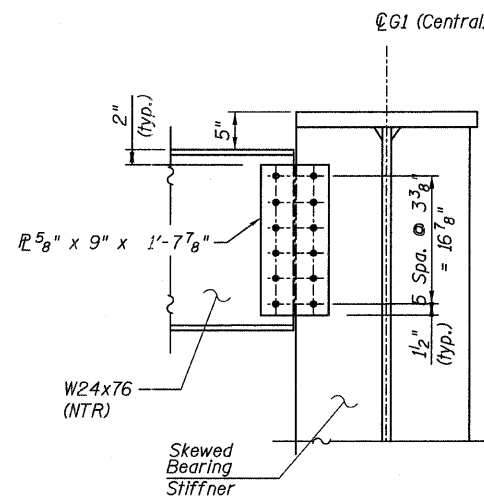
DETAIL 24B
(Top Flange)



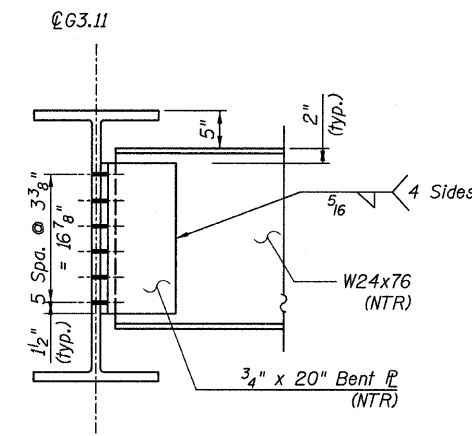
DETAIL 24C
(Top Flange)



SECTION A-A



SECTION B-B



SECTION C-C

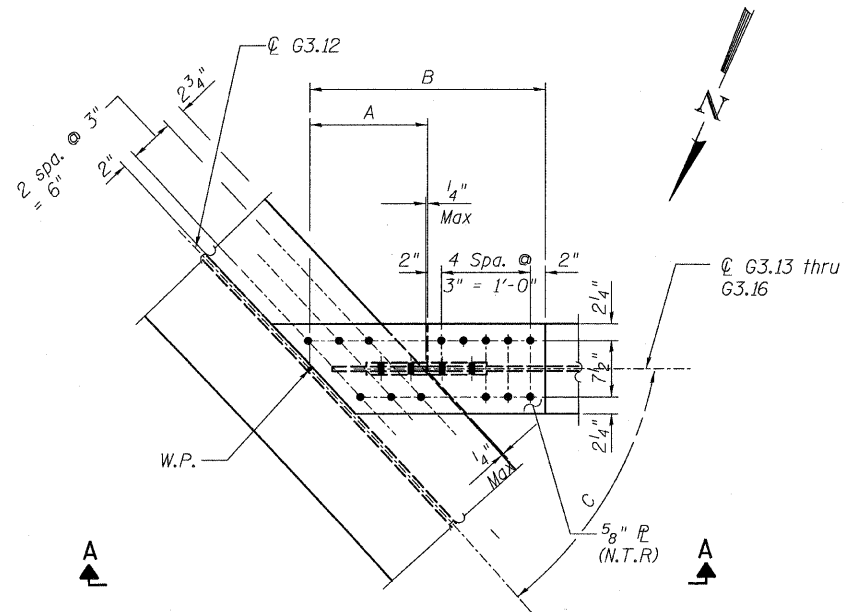
NOTES:

1. All steel shall be AASHTO M 270 Grade 50.
2. Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

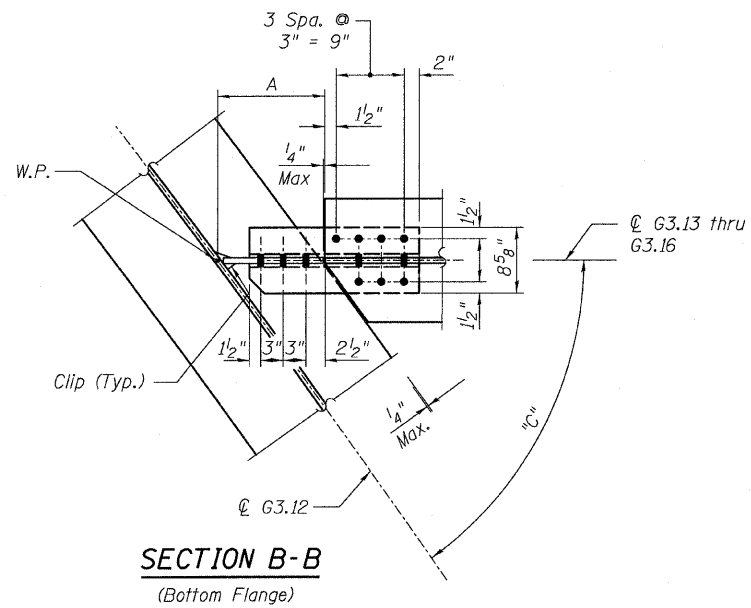
CONNECTION DETAIL 24
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 160	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	484	
	DRAWN - MAU				CONTRACT NO. 60999					
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
	DATE - 03/25/2011									

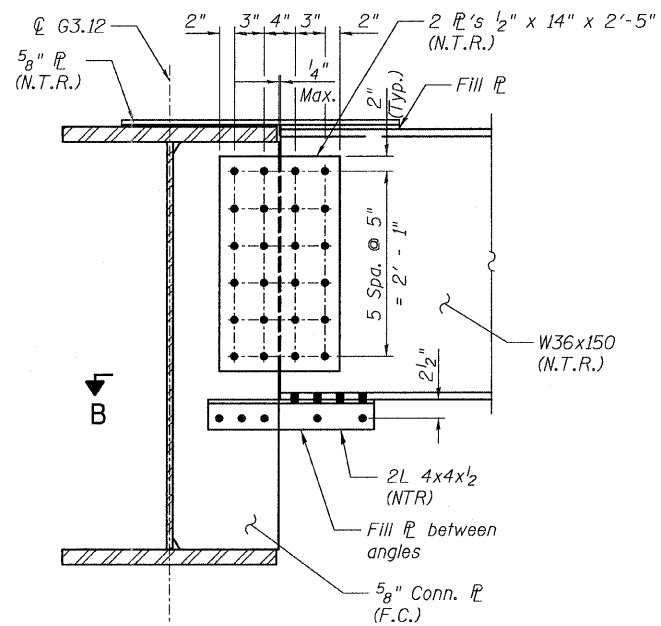
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DETAIL 25
(Top Flange)

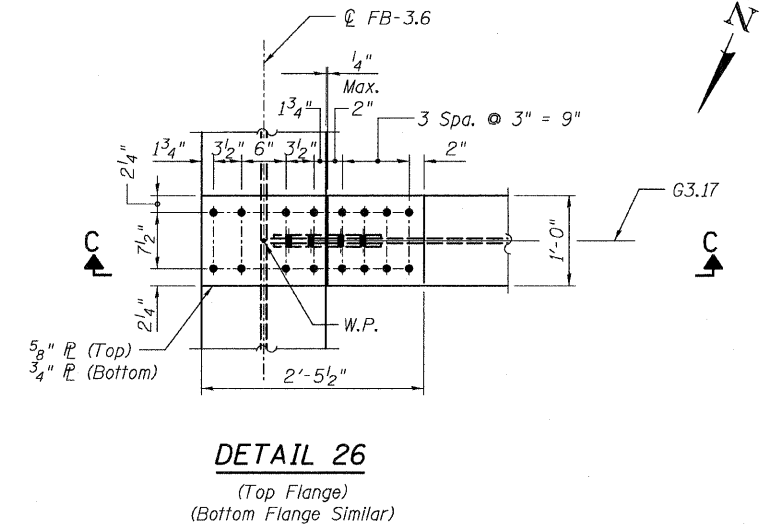


SECTION B-B
(Bottom Flange)

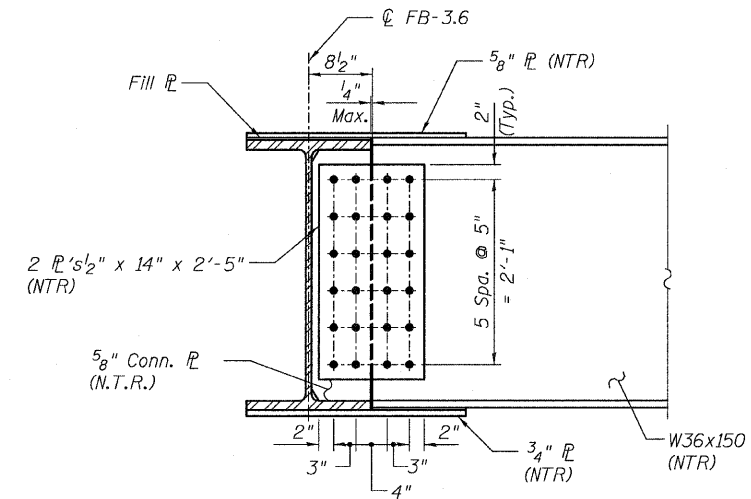


SECTION A-A

Girder	Dimensions		
	A	B	C
G3.13	1'-6 ⁵ / ₈ "	2'-10 ⁵ / ₈ "	45°21'53"
G3.14	1'-7 ³ / ₄ "	2'-11 ³ / ₄ "	42°17'28"
G3.15	1'-9 ¹ / ₆ "	3'-1 ¹ / ₆ "	39°1'28"
G3.16	1'-10 ¹³ / ₁₆ "	3'-2 ¹³ / ₁₆ "	35°30'34"



DETAIL 26
(Top Flange)
(Bottom Flange Similar)



SECTION C-C

NOTES:

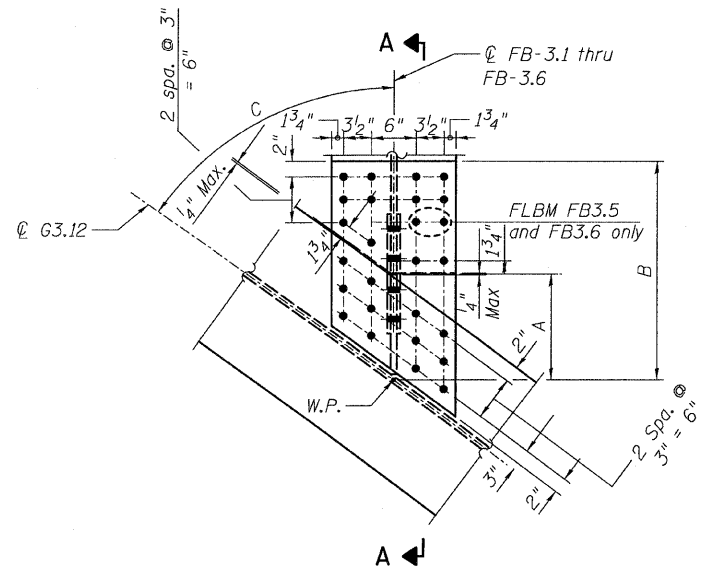
- All steel shall be AASHTO M 270 Grade 50.
- F.C. indicates Fracture Critical material, AASHTO Zone II.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

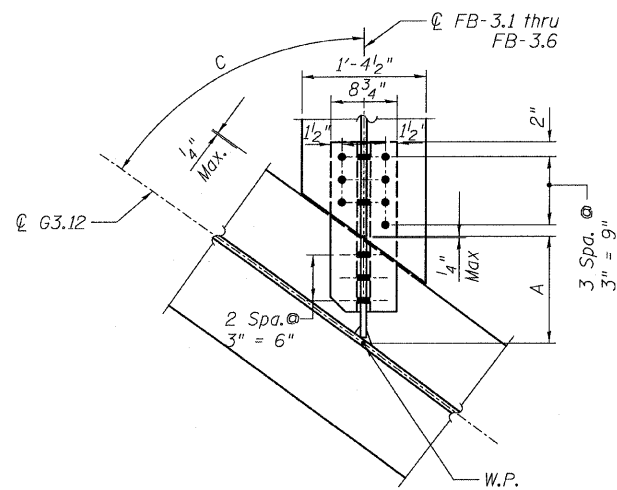
SHEET NO. 161	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	485
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

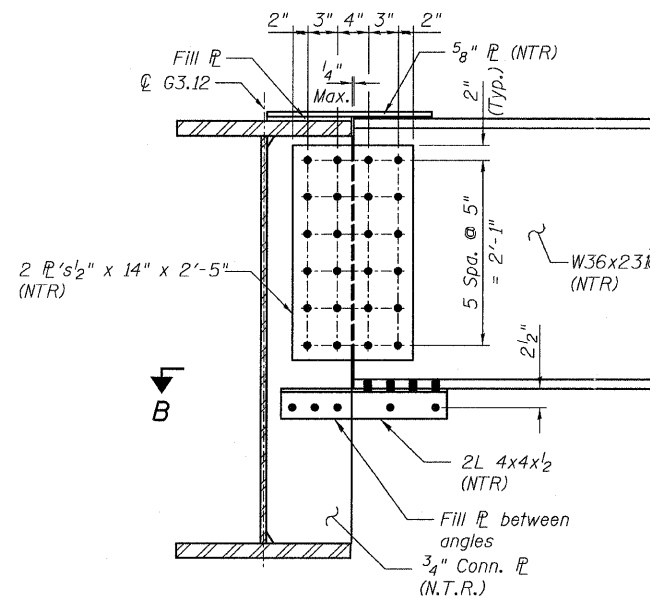


DETAIL 27
(Top Flange)

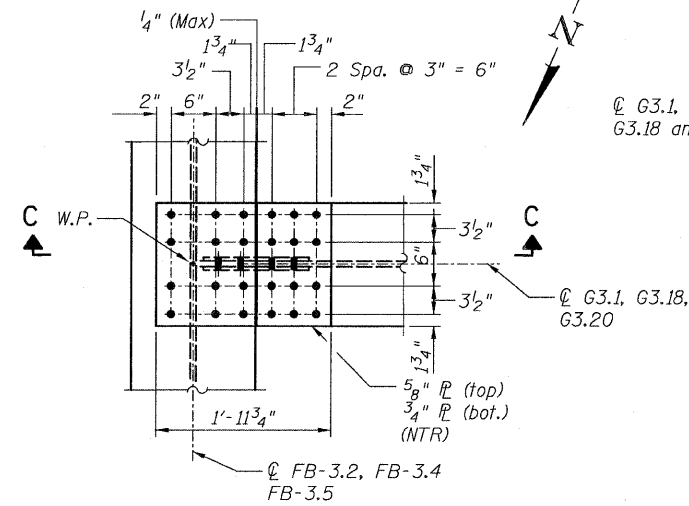
Floor Beam	Dimensions		
	A	B	C
FB-3.1	11 ⁵ / ₁₆ "	1'-9 ⁵ / ₈ "	84°48'39"
FB-3.2	11 ⁷ / ₁₆ "	1'-10 ³ / ₈ "	79°41'15"
FB-3.3	11 ³ / ₈ "	1'-11 ³ / ₈ "	75°19'37"
FB-3.4	11 ¹⁵ / ₁₆ "	2'-0"	70°52'39"
FB-3.5	1'-0 ⁵ / ₁₆ "	2'-2 ⁵ / ₈ "	60°38'59"
FB-3.6	1'-1 ¹ / ₂ "	2'-3 ³ / ₈ "	56°35'24"



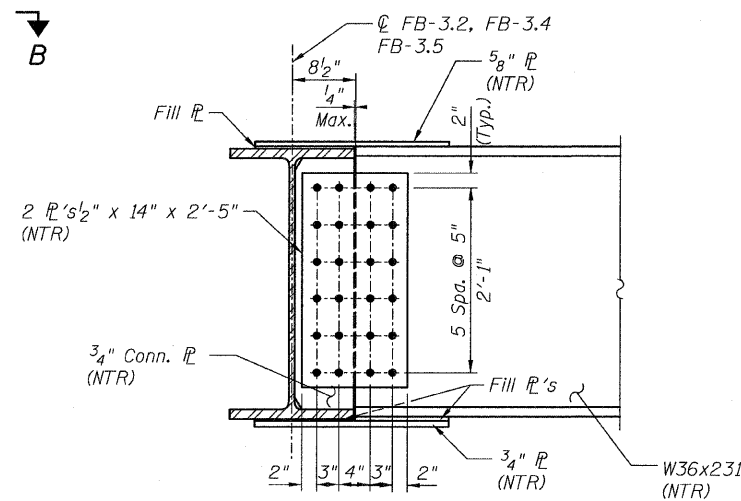
SECTION B-B
(Bottom Flange)



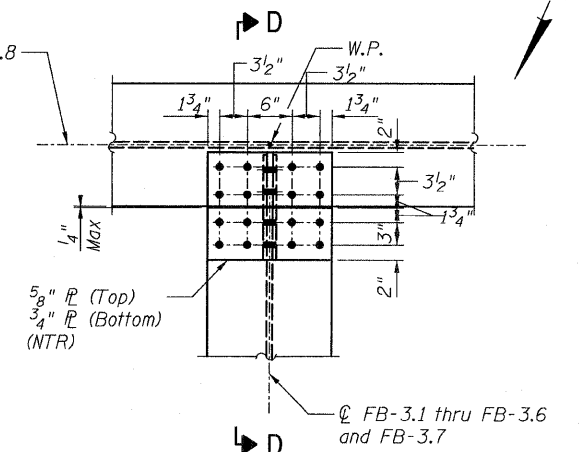
SECTION A-A



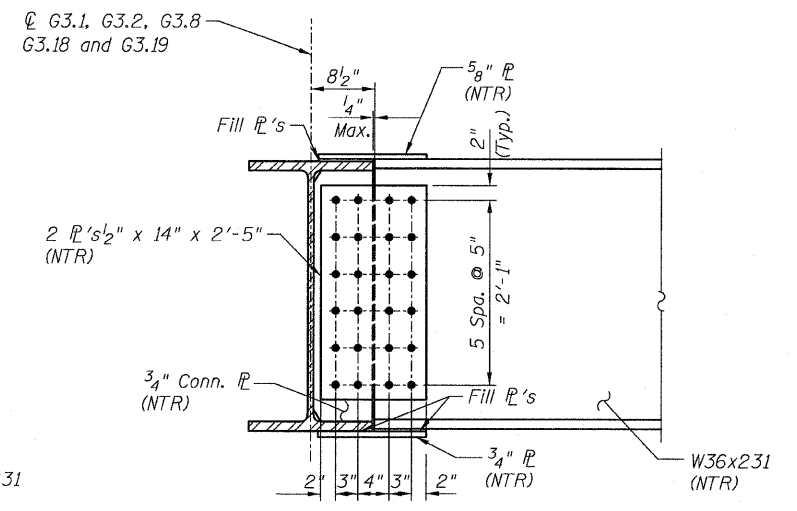
DETAIL 28
(Top Flange)
(Bottom Flange Similar)



SECTION C-C



DETAIL 29
(Top Flange)
(Bottom Flange Similar)



SECTION D-D

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

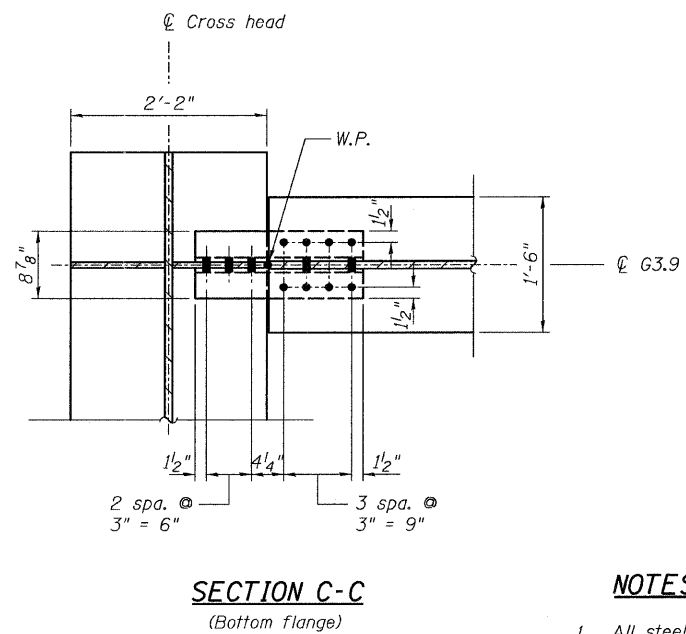
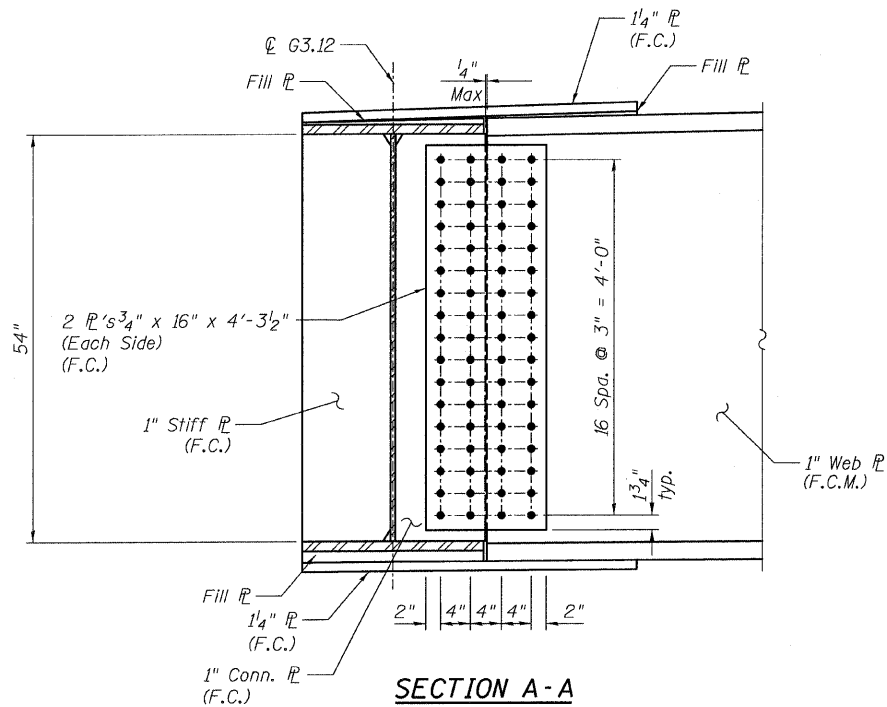
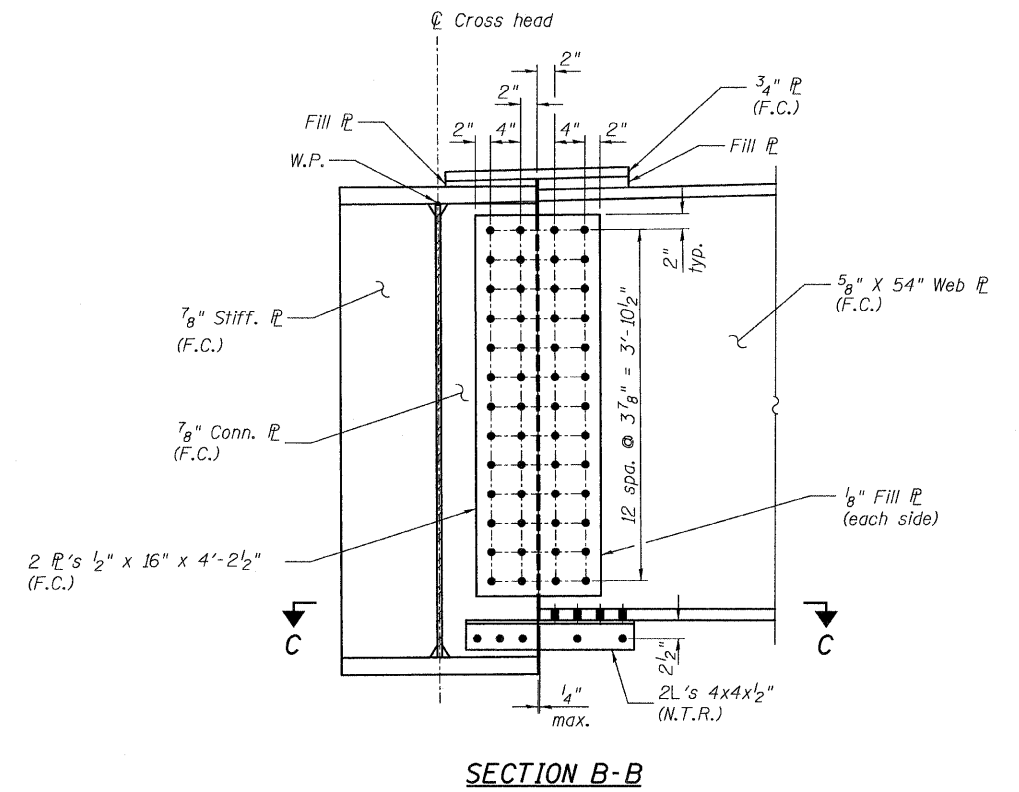
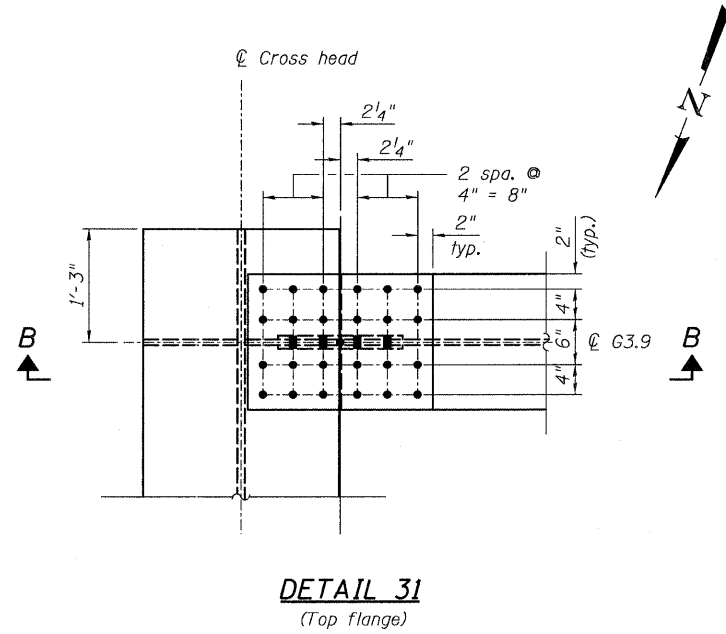
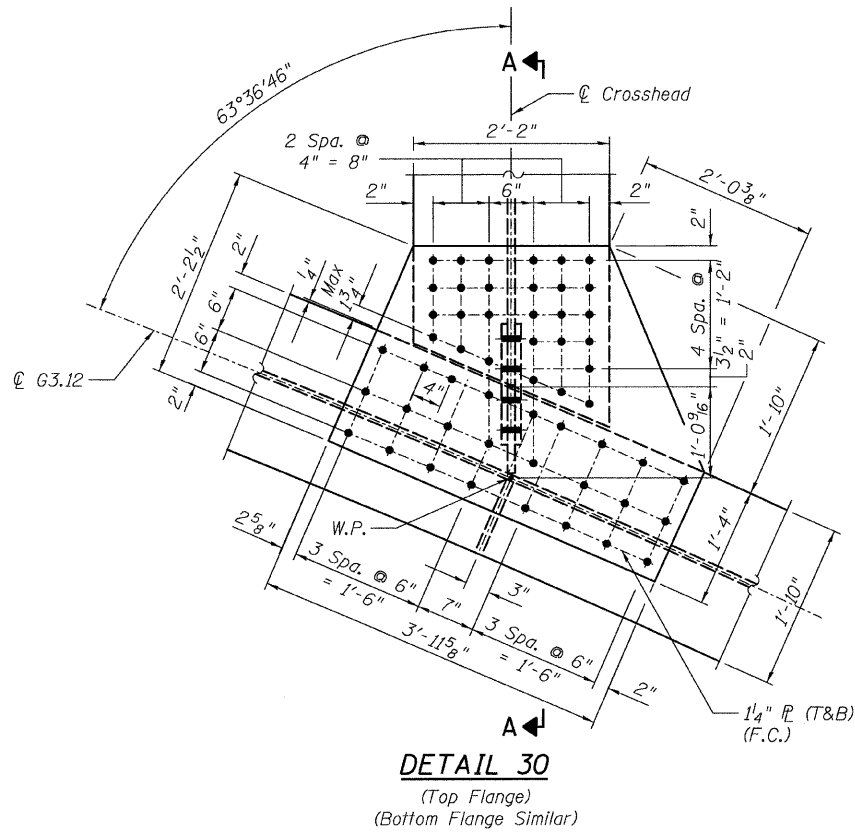
CONNECTION DETAILS 27, 28 & 29
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
	NAME	DATE
CHECKED - AMD,		
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 162	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	239 SHEETS	55	0711.2R & 1011.1BR	COOK	741 486
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- F.C. indicates Fracture Critical Material, AASHTO Zone II.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.

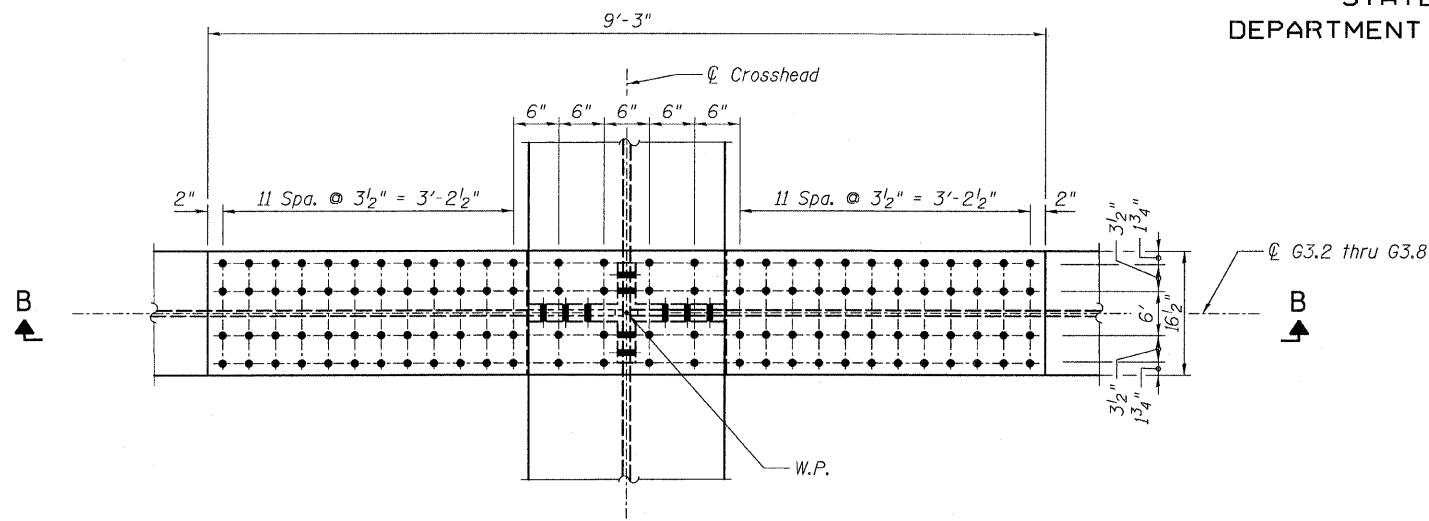
CONNECTION DETAILS 30 & 31
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS	
	CHECKED - AMD,	NAME	DATE
	DRAWN - JMA		
	CHECKED - AMD,		
	DATE - 03/25/2011		

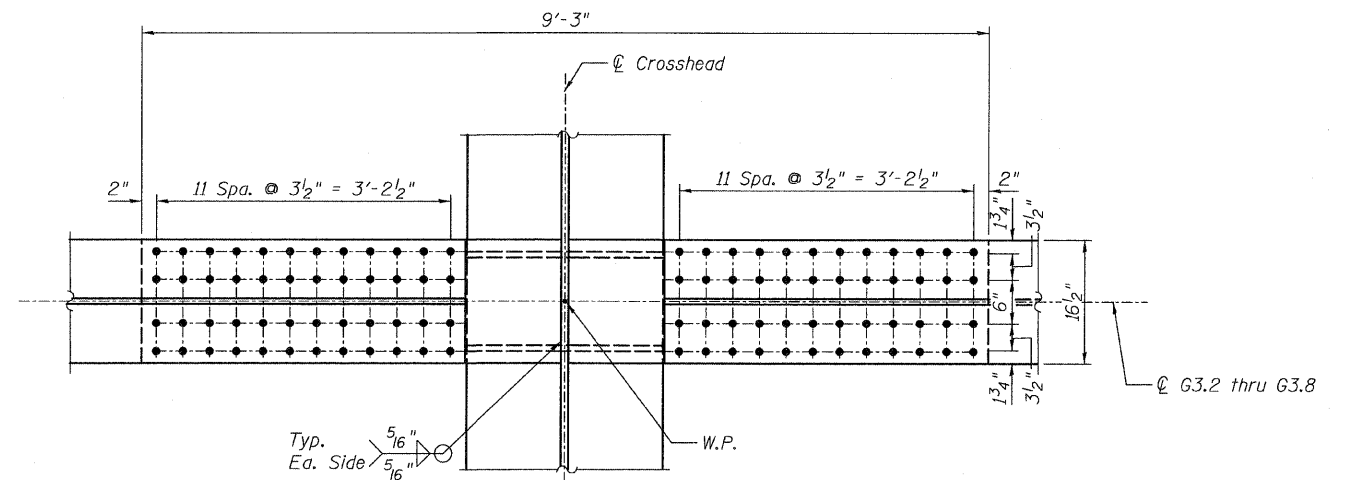
SHEET NO. 163	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	239 SHEETS	55	0711.2R & 1011.1BR	COOK	741 487
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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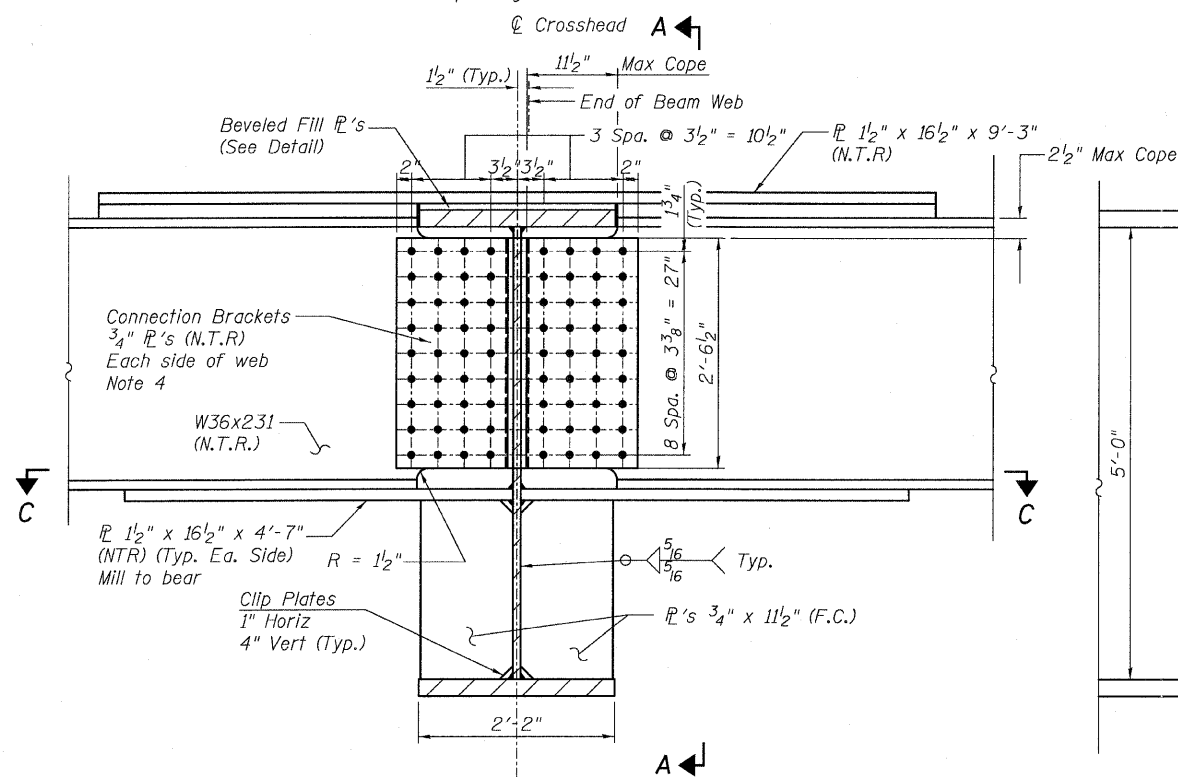
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



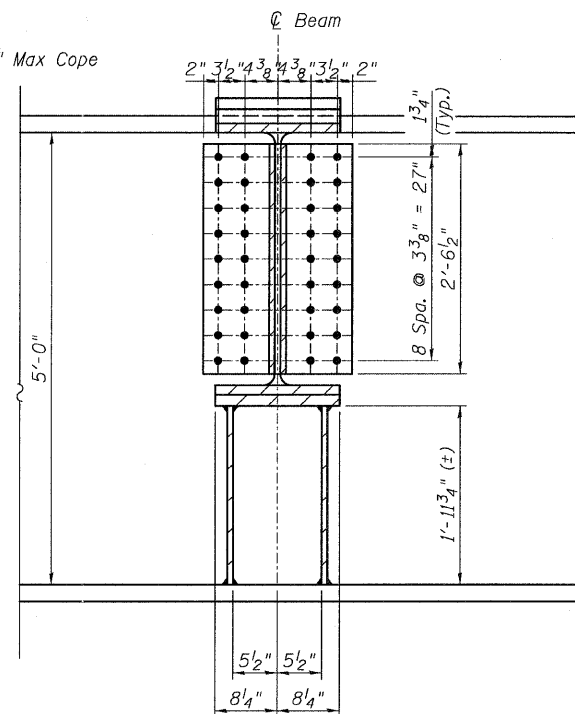
DETAIL 32
(Top Flange)



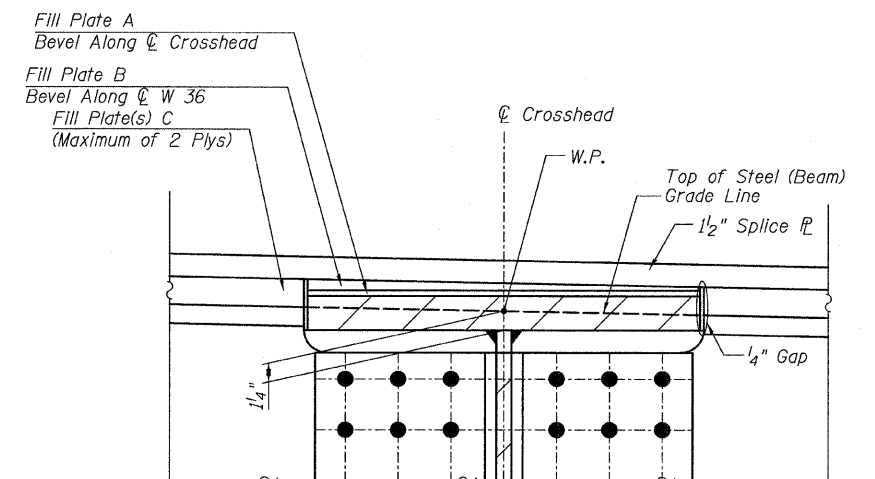
SECTION C-C
(Bottom Flange)



SECTION B-B



SECTION A-A



FILL PLATE DETAIL

Note:
Notify Engineer if total fill P thickness to exceed 1 7/8"

NOTES:

- All steel shall be AASHTO M 270 Grade 50.
- All bolts shall be 1" ϕ with 1 1/16" ϕ holes.
- Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- 3/4" Connection brackets can be fabricated from single bent plate or 2 plates utilizing a pre-qualified, full penetration corner joint welded assembly.

CONNECTION DETAIL 32
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

DESIGNED - JPN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 164	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	488
FED. ROAD DIST. NO. 1			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60999					

4/28/2011

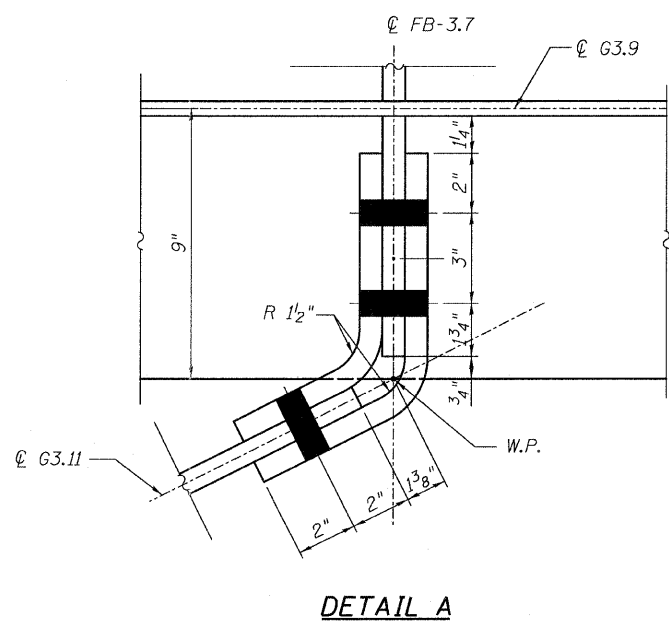
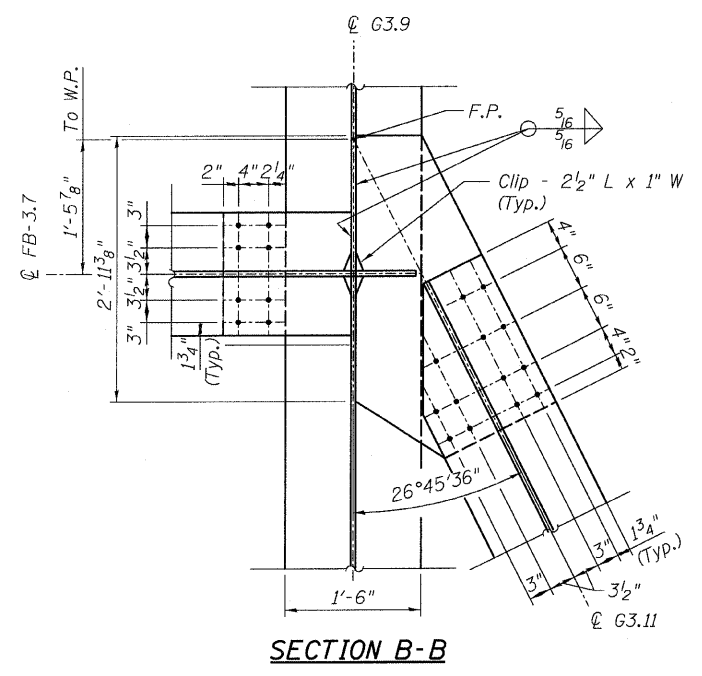
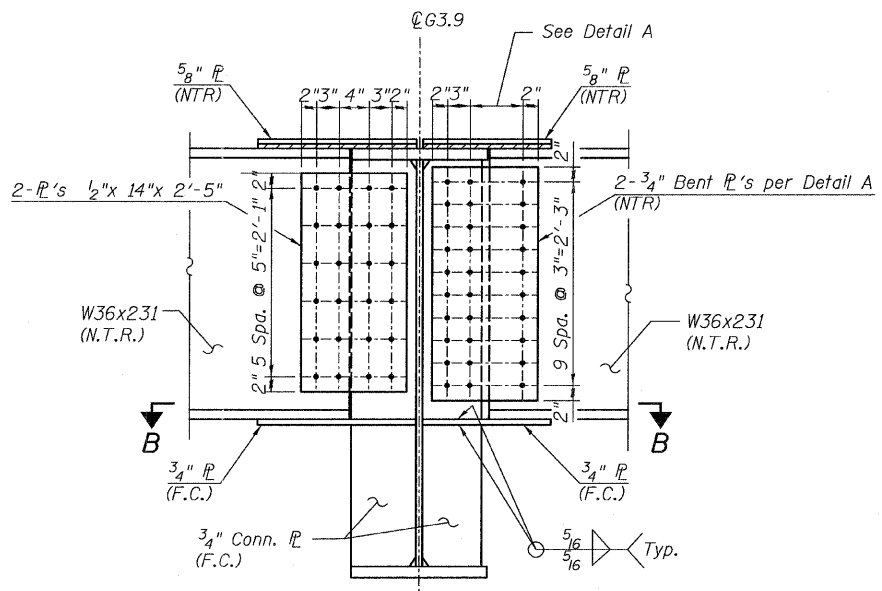
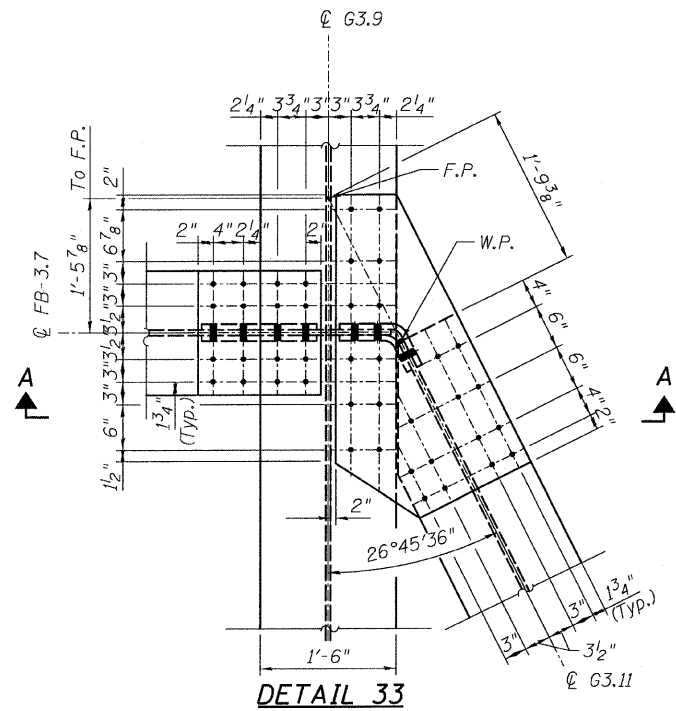
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTES:

1. All steel shall be AASHTO M 270 Grade 50.
2. F.C. indicates Fracture Critical Material, AASHTO Zone 2.
3. Load carrying components designated "N.T.R." shall conform to the supplemental requirements for Notch Toughness, Zone 2.
4. Grain to run horizontally in bent \bar{r} .

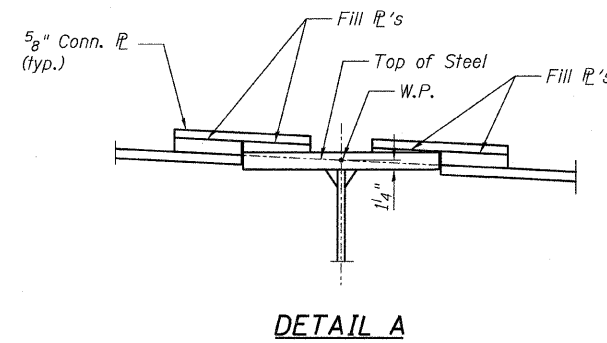
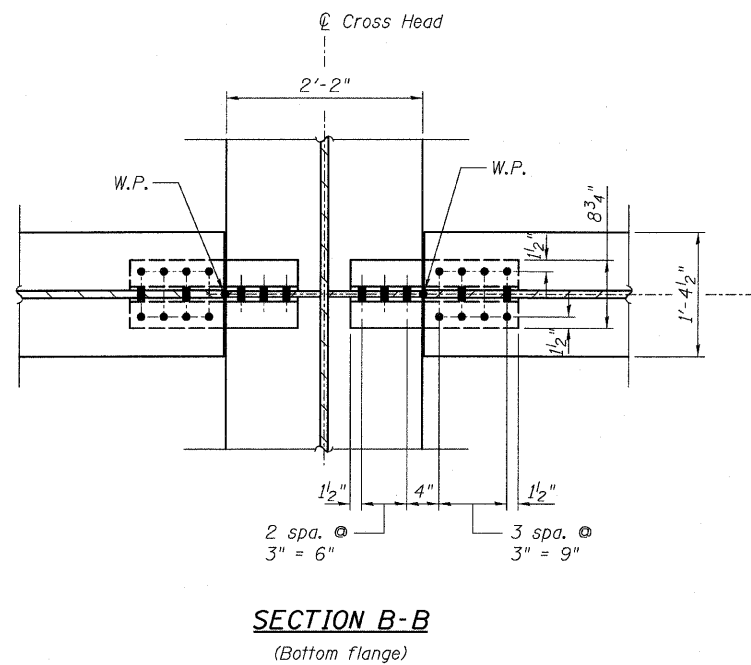
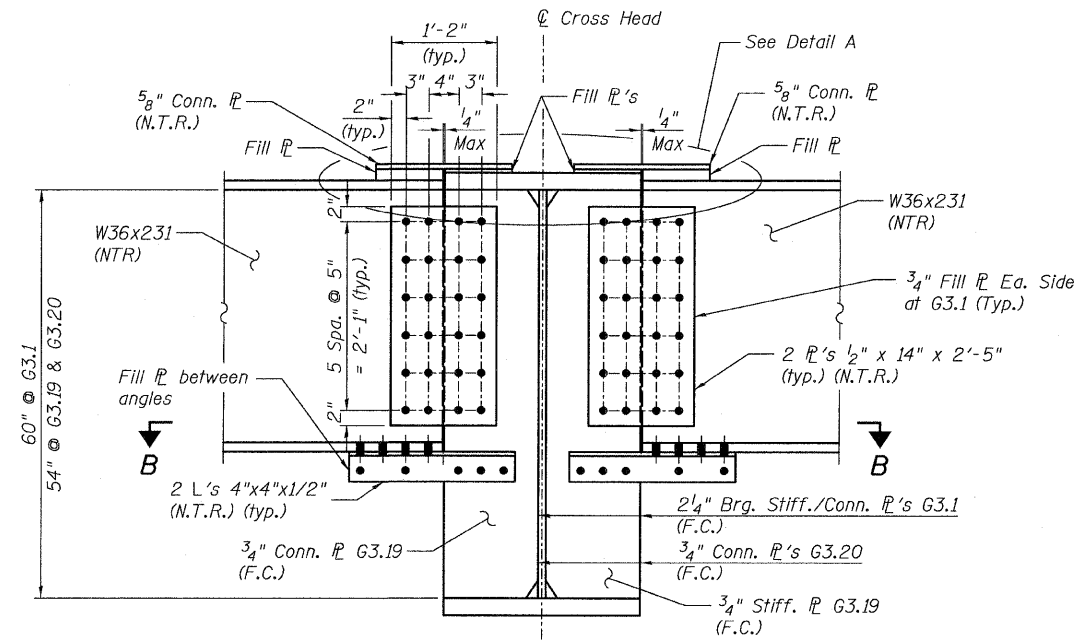
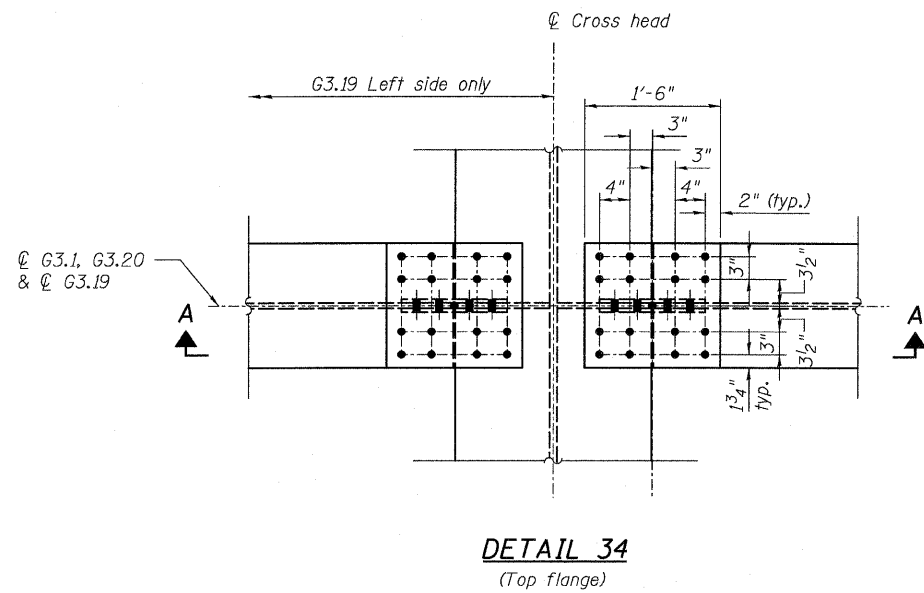


**CONNECTION DETAIL 33
RAMP 3 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - JPN	REVISIONS		SHEET NO. 165	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.							
	CHECKED - AMD,	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	489	
	DRAWN - JMA															CONTRACT NO. 60999
	CHECKED - AMD,															
	DATE - 03/25/2011															
			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT													

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



- NOTES:**
1. All steel shall be AASHTO M 270 Grade 50.
 2. Load carrying components designated "N.T.R." shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 3. F.C. Indicates Fracture Critical Material, AASHTO Zone 2.

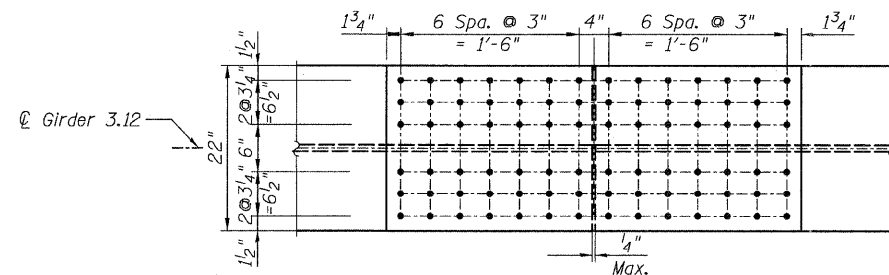
CONNECTION DETAILS 34
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL

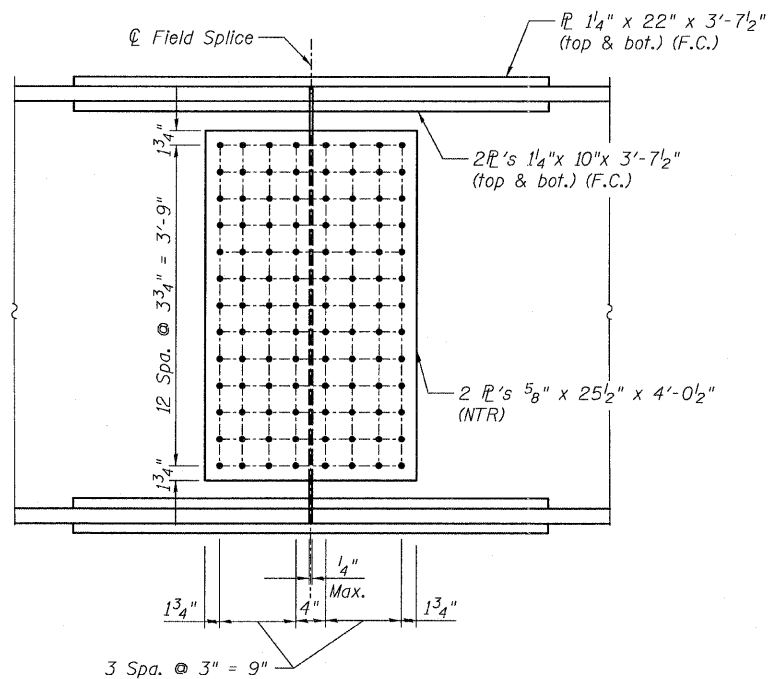
DESIGNED - JPN	REVISIONS	
CHECKED - AMD,	NAME	DATE
DRAWN - JMA		
CHECKED - AMD,		
DATE - 03/25/2011		

SHEET NO. 166 239 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	490
			CONTRACT NO. 60999		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN - TOP & BOTTOM FLANGE



ELEVATION

FIELD SPLICE F.S.-3.1 & 3.2
(Girder 3.12)

NOTES:

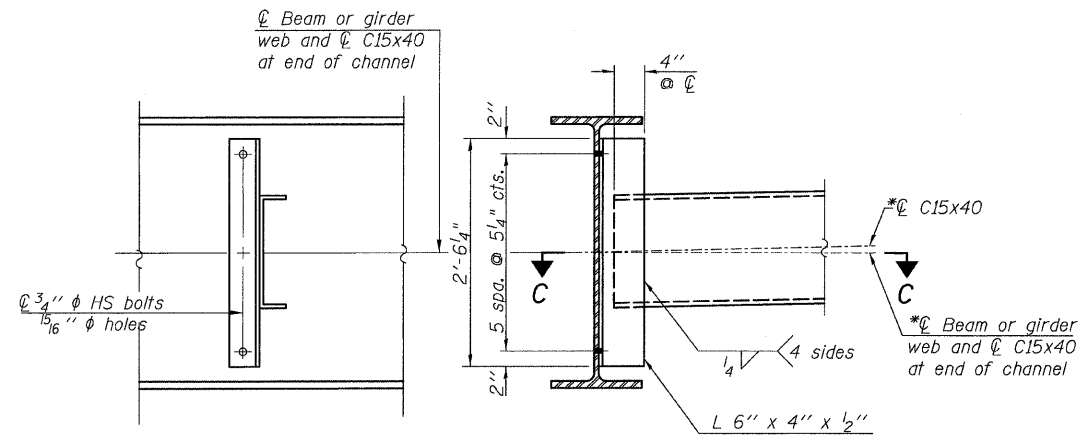
1. All steel shall be AASHTO M270 Grade 50.
2. F.C. denotes Fracture Critical Material, AASHTO Zone 2.

**FIELD SPLICES
RAMP 3 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL	DESIGNED - TD	REVISIONS		SHEET NO. 167	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.							
	CHECKED - AMD, MAI	NAME	DATE							239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	491	
	DRAWN - Y.J, DJR, RLB															CONTRACT NO. 60999
	CHECKED - AMD, MAI, MI															
	DATE - 03/25/2011															

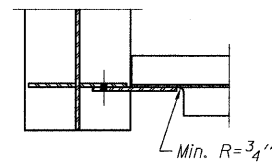
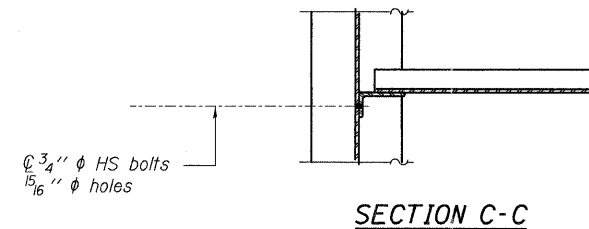
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

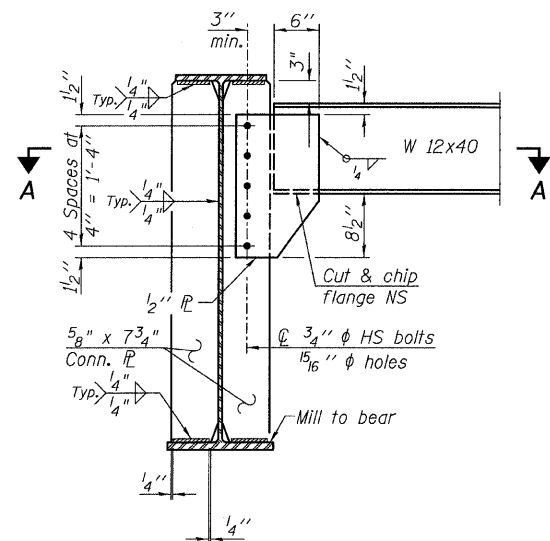


INTERIOR DIAPHRAGM
(D3.2)
(66 REQUIRED)

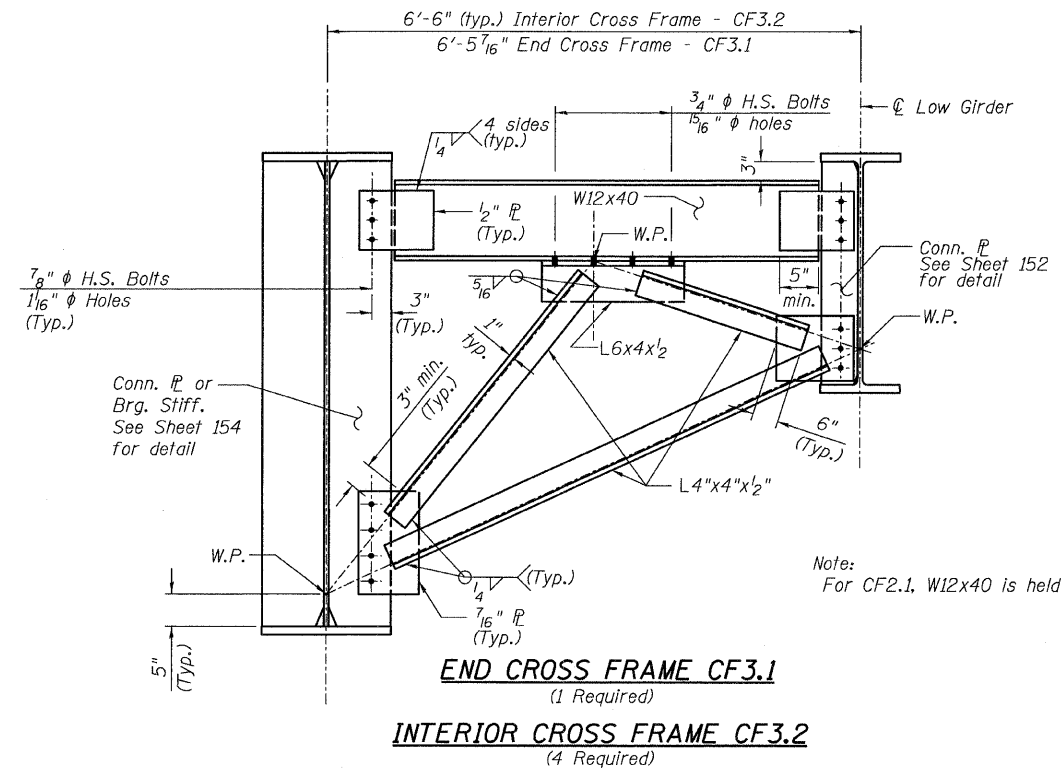
Note:
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.



SECTION A-A



END DIAPHRAGM
(D3.1)
(6 REQUIRED)



END CROSS FRAME CF3.1
(1 Required)
INTERIOR CROSS FRAME CF3.2
(4 Required)

NOTES:

- Two hardened washers shall be required over all oversize holes for diaphragms.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All bolts shall be 3/4 inch diameter with 15/16 inch diameter holes unless otherwise noted.

DIAPHRAGMS & DETAILS
RAMP 3 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - MI, DJR	REVISIONS		SHEET NO. 168	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	CHECKED - AMD, MAI	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	492	
	DRAWN - DJR, SB				239 SHEETS	CONTRACT NO. 60999				
	CHECKED - AMD, MAI					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 03/25/2011									

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 4 FLARE

	Girder 4.1			Girder 4.2			Girder 4.3 to 4.7			Girder 4.8			Girder 4.9 to 4.10A & 4.13 to 4.15	Girder 4.11 & 4.16 to 4.18	Girder 4.19 & 4.20	Crosshead Girder	
	0.4 Sp. R4-1	Pier	0.6 Sp. R4-2	0.4 Sp. R4-1	Pier	0.6 Sp. R4-2	0.4 Sp. R4-1	Pier	0.6 Sp. R4-2	0.4 Sp. R4-1	Pier	0.6 Sp. R4-2	0.5 Sp.	0.5 Sp.	0.5 Sp.	Bearing 1	0.5 Sp.
Is (in ⁴)	30,764	30,764	30,764	30,764	30,764	30,764	30,764	30,764	30,764	53,461	53,461	53,461	9,040	15,000	40,988	138,181	138,181
Ic (n) (in ⁴)	63,774		63,774	63,774		63,774	63,774		63,774	97,867		97,867		31,861	93,600		
Ic (3n) (in ⁴)	47,892		47,892	47,892		47,892	47,892		47,892	74,166		74,166		23,421	66,730		
Ss (in ³)	1,099	1,099	1,099	1,099	1,099	1,099	1,099	1,099	1,099	1,711	1,711	1,711	504	837	1,788	4,268	4,268
Sc (n) (in ³)	1,408		1,408	1,408		1,408	1,408		1,408	2,109		2,109		1,096	2,271		
Sc (3n) (in ³)	1,294		1,294	1,294		1,294	1,294		1,294	1,935		1,935		995	2,092		
Z (in ³)													943				
Q (k/')	0.93	1.32	1.27	0.93	1.32	1.12	0.93	1.32	0.93	2.2	1.3	0.94	1.57	1.10	1.14		
M Q (k)	643.6	1066.3	132.1	436.8	1585.2	801.9	414.1	1431.8	743.6	890.1	1773.5	676.1	251.7	736.0	1286.5	6453.0	2361.0
s Q (k/')	0.39		0.43	0.39		0.51	0.39		0.39	0.8		0.36		0.44	0.45		
Ms Q (k)	286.4		65.9	205.4		410.8	199.0		339.9	228.6		274.9		296.2	503.8		
M L (k)	680.2	394.0	446.9	674.0	524.2	917.7	648.3	496.7	786.3	531.0	481.2	770.4	215.0	588.3	842.5	866.0	1188.2
M (Imp) (k)	156.8	98.0	120.7	157.0	118.4	201.3	152.8	112.9	172.4	133.2	112.7	169.1	64.5	176.5	191.6	203.0	278.0
5/8 [M L + M (Imp)] (k)	1395.0	820.0	946.0	1385.0	1071.0	1865.0	1335.2	1016.0	1597.8	1107.0	989.8	1565.8	465.8	1274.7	1723.5	1781.7	2443.7
Ma (k)	3022.5	2452.2	1487.2	2635.4	3453.1	4001.0	2532.8	3182.1	3485.7	2893.4	3592.3	3271.9	932.8	2998.9	4567.9	10705.1	6246.1
Mu (k)	7179.0		7179.0	7179.0		7179.0	7179.0		7179.0	10291.0		10291.0	3929.0	5068.0	9994.0		
fs Q (non-comp) (ksi)	7.0	11.6	1.4	4.8	17.3	8.8	4.5	15.6	8.1	6.2	12.4	4.7	6.0	10.6	8.6	18.1	6.6
fs Q (comp) (ksi)	2.7		0.6	1.9		3.8	1.8		3.2	1.4		1.7		3.6	2.9		
fs 5/8 (L + Imp) (ksi)	11.9	9.0	8.1	11.8	11.7	15.9	11.4	11.1	13.6	6.3	6.9	8.9	11.1	14.0	9.1	5.0	6.9
fs (Overload) (ksi)	21.6	20.6	10.1	18.5	29.0	28.5	17.7	26.7	24.9	14.0	19.4	15.4	17.1	28.1	20.6	23.2	13.5
fs (Total) (ksi)		26.8			37.7				34.7			25.2				30.1	17.6
VR (k)	54.6		59.3	57.2		58.6	56.7		55.5	52.1		49.4	46.7	52.6	53.0		

GIRDER REACTION TABLE - RAMP 4 FLARE

	Girder 4.1			Girder 4.2			Girder 4.3 to 4.7			Girder 4.8			Girder 4.9 to 4.10A & 4.13 to 4.15	Girder 4.11 & 4.16 to 4.18	Girder 4.19 & 4.20	Crosshead Girder	
	Carrier Girder	Pier	FB 4.12	Carrier Girder	Pier	R4 Abut.	Carrier Girder	Pier	R4 Abut.	Carrier Girder	Pier	R4 Abut.				Bearing 1	Bearing 2
R Q (k)	50.6	134.8	23.1	42.5	163.4	61.8	41.1	154.0	53.9	69.6	196.4	50.8	26.1	63.5	100.3	1201.6	573.1
R L (k)	41.5	53.4	40.0	41.8	59.9	44.5	41.7	58.5	42.4	36.2	56.5	37.8	35.9	40.0	42.8	163.0	120.9
Imp. (k)	9.6	9.6	10.8	9.7	9.4	9.7	9.8	9.3	9.3	9.1	9.3	8.3	10.8	12.0	9.7	38.1	28.3
R (Total) (k)	101.7	197.8	73.9	94.0	232.7	116.0	92.6	221.8	105.6	114.9	262.2	96.9	72.8	115.5	152.8	1402.7	722.3

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs (Total and Overload) due to non-composite dead loads (in⁴ and in³).
Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs (Total and Overload) due to short-term composite live loads (in⁴ and in³).
Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
Q: Un-factored non-composite dead load (kips/ft.).
M Q: Un-factored moment due to non-composite dead load (kip-ft.).
s Q: Un-factored long-term composite (superimposed) dead load (kips/ft.).
Ms Q: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
Mt: Un-factored live load moment (kip-ft.).

M1: Un-factored moment due to impact (kip-ft.).
Ma: Factored design moment (kip-ft.).
1.3 [M Q + Ms Q + 5/8 (Mt + M1)]
Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
fs (Overload): Sum of stresses as computed from the moments below (ksi).
M Q + Ms Q + 5/8 (Mt + M1)
fs (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.3 [M Q + Ms Q + 5/8 (Mt + M1)]
VR: Maximum L + impact shear range within the composite portion of the span for stud shear connector design (kips).

MOMENT TABLE 1
RAMP 4 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - PK	REVISIONS		SHEET NO. 169	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.						
	CHECKED - AMD,	NAME	DATE							239 SHEETS	0711.2R & 1011.1BR	COOK	741	493	
	DRAWN - PK														CONTRACT NO. 60999
	CHECKED - AMD,														
DATE - 03/25/2011			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT												

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT TABLE - RAMP 4 FLARE

Girder 4.12				
		0.4 Sp. R4-1	Pier	0.6 Sp. R4-2
I_s	(in ⁴)	126,687	126,687	126,687
$I_c(n)$	(in ⁴)	185,044	185,044	185,044
$I_c(3n)$	(in ⁴)	150,261	150,261	150,261
S_s	(in ³)	3913	3913	3913
$S_c(n)$	(in ³)	4410	4410	4410
$S_c(3n)$	(in ³)	4145	4145	4145
S_1	(in ³)	228	228	228
Q	(k/')	2.43	1.54	1.11
M_D	(k)	1418	2783.5	646.6
s_D	(k/')	0.91	0.53	0.34
M_{sD}	(k)	533.7	956.7	197.9
M_L	(k)	803.4	828.5	722.9
M_I	(k)	156.7	170.7	157.6
$M_{sD} + M_I$	(k)	1600.2	1665.3	1467.5
M_a	(k)	4617.4	7027.2	3005.6
M_{b1}	(k)	44.8	49.8	24.1
$f_s D$ (non-comp)	(ksi)	4.3	8.5	2.0
$f_s D$ (comp)	(ksi)	1.5	2.8	0.6
$f_s D_{3D}$ [$M_L + M_I$]	(ksi)	4.4	4.5	4.0
f_1	(ksi)	2.4	2.6	1.3
f_s (Overload)	(ksi)	10.2	15.8	6.5
f_s (Total)	(ksi)	13.4	20.6	8.6
F_{or} (Overload)	(ksi)	47.5	47.5	47.5
VR	(k)	70.4		69.1
F_{or}	(ksi)	49.7	48.4	49.8

GIRDER REACTION TABLE - RAMP 4 FLARE

Girder 4.12				
		Carrier Girder	Pier	R4 Abut.
R_D	(k)	66.4	371.7	50.2
R_L	(k)	41.0	83.3	42.9
R_I	(k)	8.0	17.1	9.4
R_{Total}	(k)	115.4	472.1	102.5

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

S_1 : Section modulus of one flange plate for lateral flange bending (in³).

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

M_D : Un-factored moment due to non-composite dead load (kip-ft.).

s_D : Un-factored long-term composite (superimposed) dead load (kips/ft.).

M_{sD} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L : Un-factored live load moment (kip-ft.).

M_I : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

$1.3 [M_D + M_{sD} + \frac{5}{3} (M_L + M_I)]$

M_{b1} : Factored lateral bending moment for flange plate (kip-ft.).

f_1 : Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$M_D + M_{sD} + \frac{5}{3} (M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below (ksi).

$1.3 [M_D + M_{sD} + \frac{5}{3} (M_L + M_I)]$

F_{or} (Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi).

F_{or} : Critical average flange stress (smaller of F_{or1} or F_{or2} for partially braced flanges and F_y for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

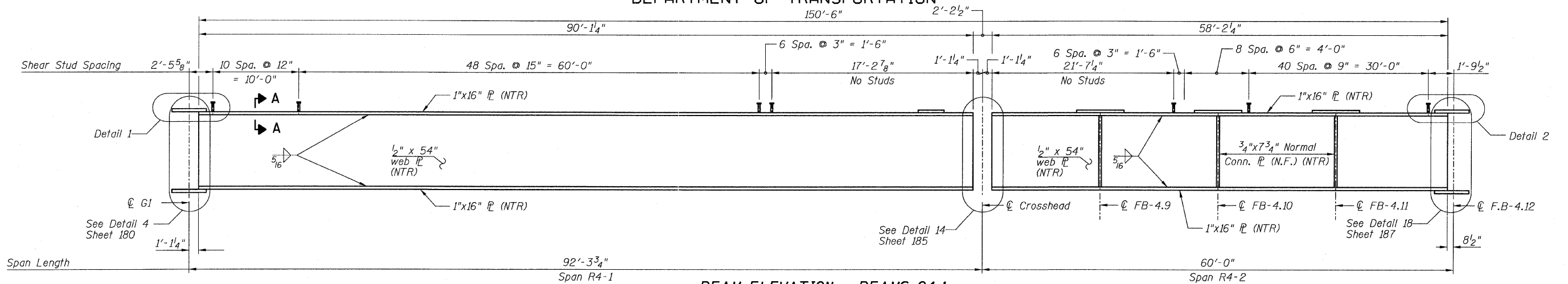
VR: Maximum impact shear range within span for stud shear connector design (kips).

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

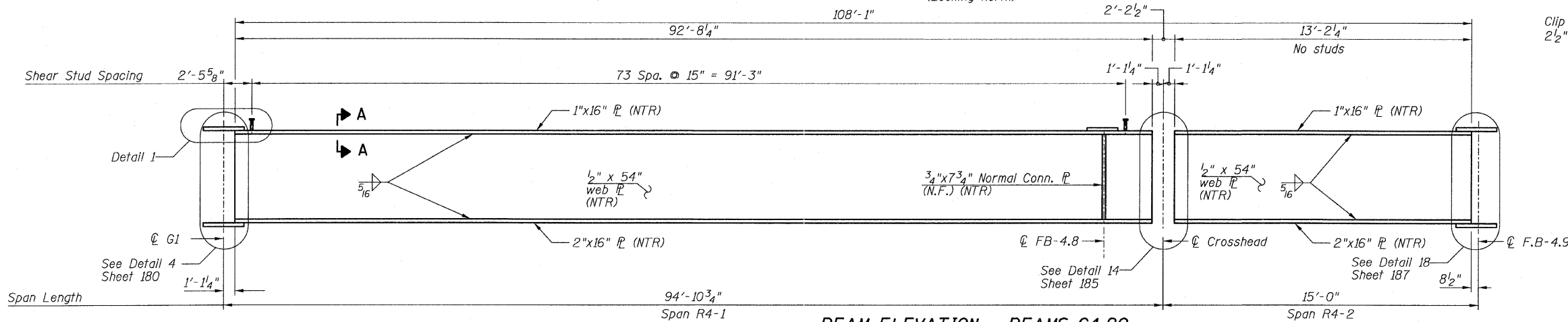
MOMENT TABLE 2
RAMP 4 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - PK	REVISIONS		SHEET NO. 170	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
	CHECKED - AMD,	NAME	DATE							239 SHEETS	741	494	
	DRAWN - PK												CONTRACT NO. 60999
	CHECKED - AMD,												
DATE - 03/25/2011			FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT								

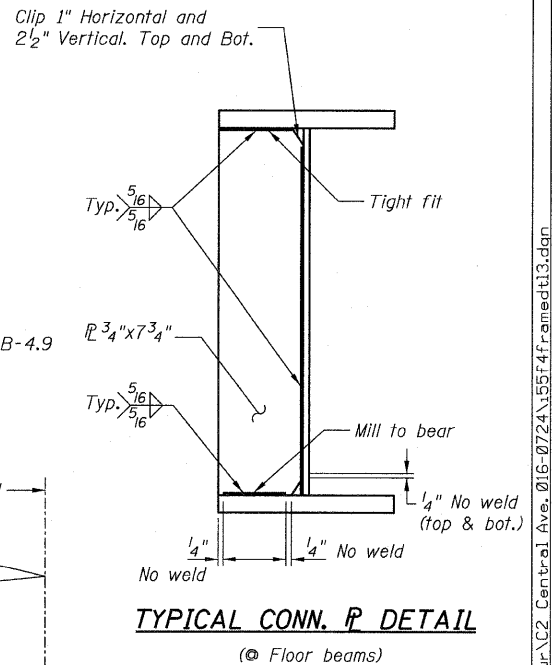
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



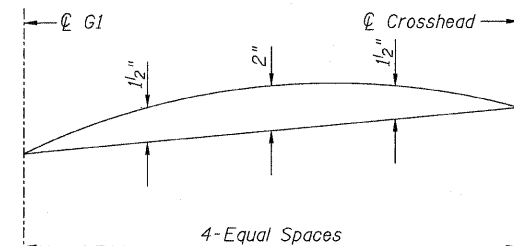
BEAM ELEVATION - BEAMS G4.1
(Looking North)



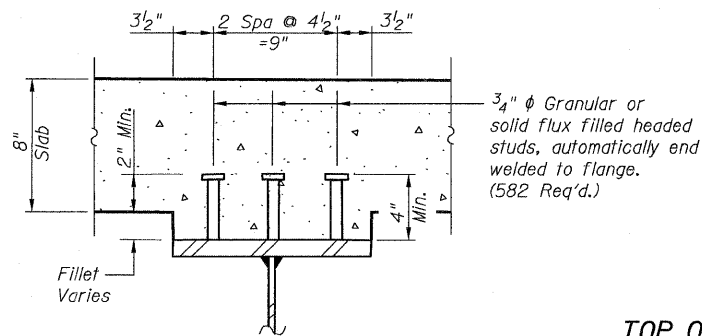
BEAM ELEVATION - BEAMS G4.2
(Looking North)



TYPICAL CONN. P DETAIL
(Floor beams)



CAMBER DIAGRAM
(G4.20)



SECTION A-A

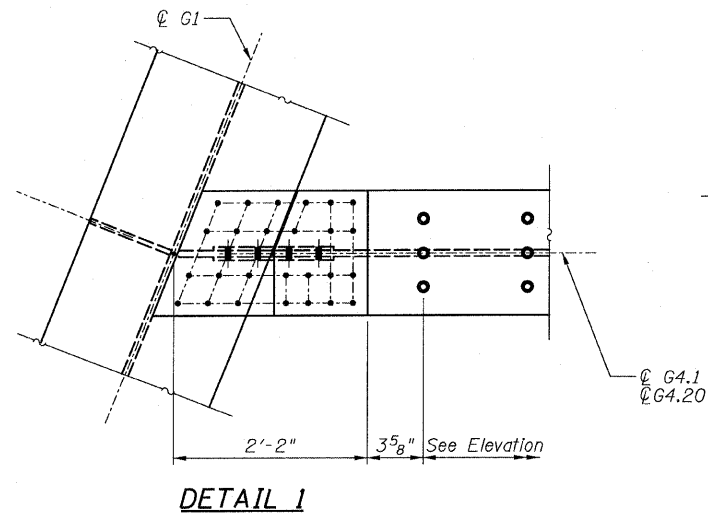
TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G4.1	G4.20
Centerline G1		628.13	628.10
Centerline Crosshead		626.75	626.85
Centerline F.B.		625.68	626.65

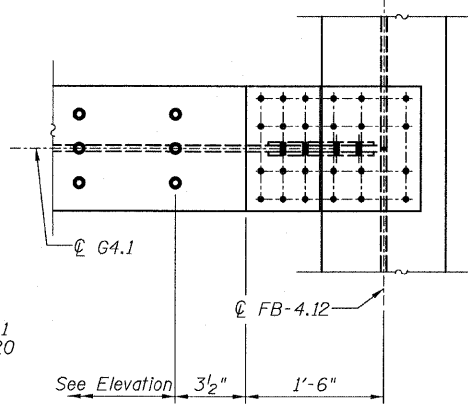
NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. denotes Near Face.
- Girders shall not be cambered for spans R1-1.

GIRDER ELEVATIONS 1
RAMP 4 FLARE
STRUCTURE NO. 016-0724



DETAIL 1



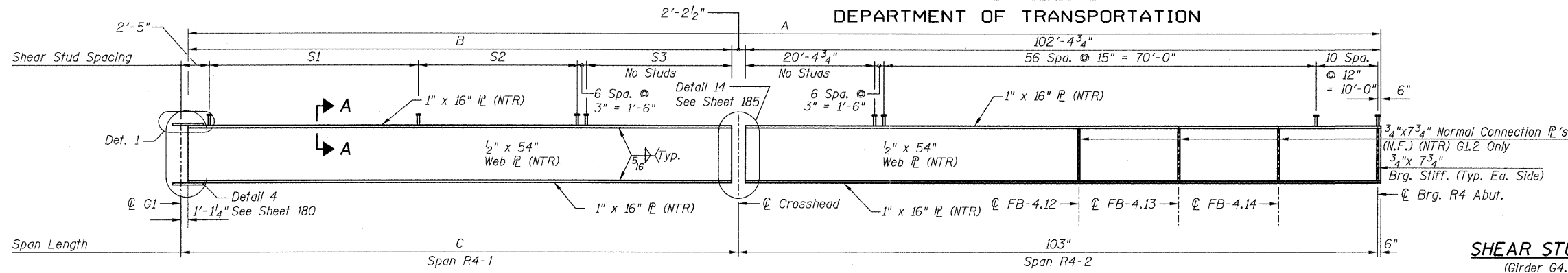
DETAIL 2

TYLIN INTERNATIONAL

DESIGNED	EKH, JMA, PK	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA, PK		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 171	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 495
239 SHEETS		CONTRACT NO. 60999		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



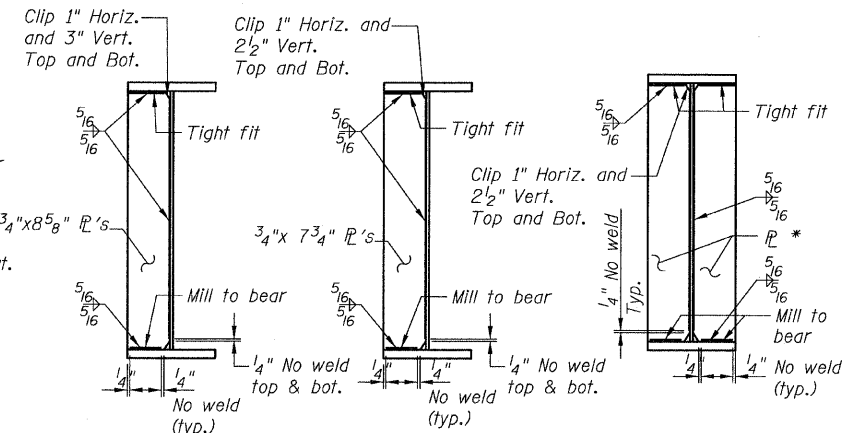
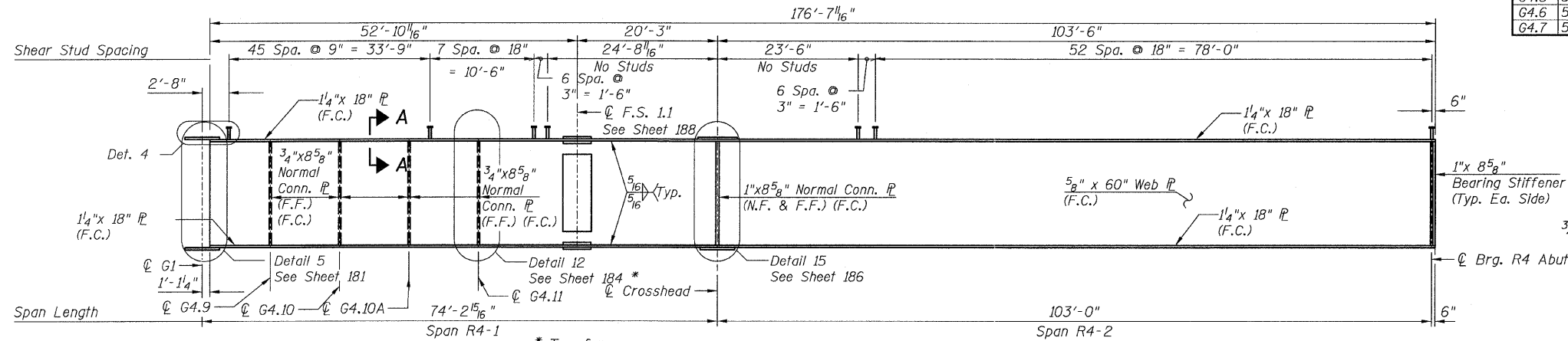
GIRDER DIMENSIONS
(Girder G4.2 thru G4.7)

	A	B	C
G4.2	192'-1 1/2"	87'-6 1/4"	89'-8 3/4"
G4.3	189'-6 9/16"	84'-11 5/16"	87'-1 5/16"
G4.4	186'-11 1/16"	82'-4 5/8"	84'-6 3/16"
G4.5	184'-4 5/8"	79'-9 3/8"	81'-11 1/8"
G4.6	181'-9 1/8"	77'-2 1/8"	79'-4 5/8"
G4.7	179'-2 5/8"	74'-7 3/8"	76'-9 1/8"

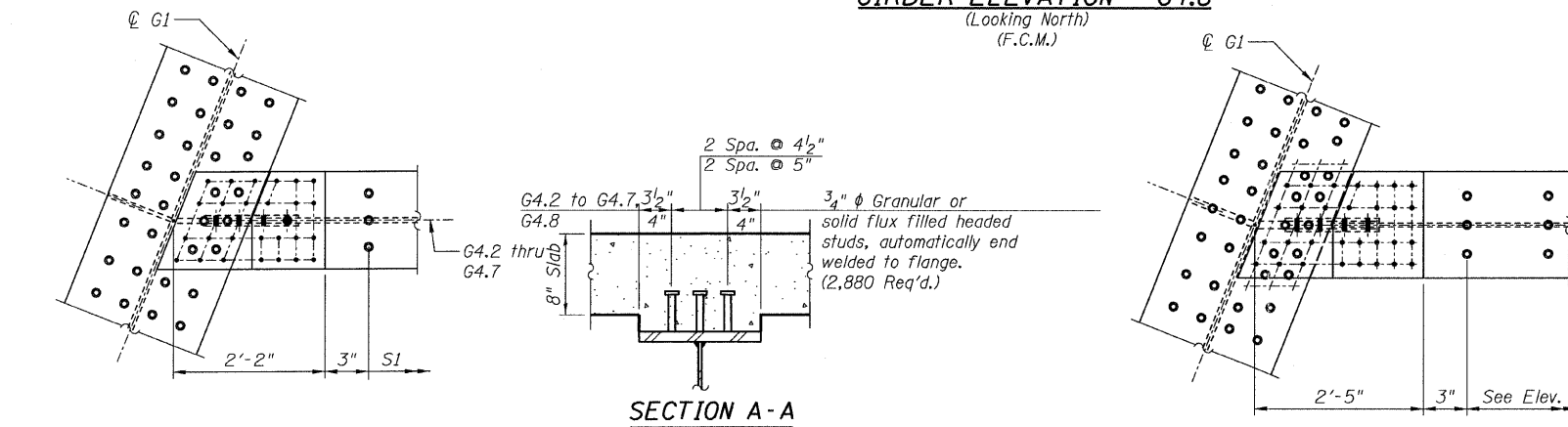
SHEAR STUD SPACINGS
(Girder G4.2 thru G4.7)

	S1	S2	S3
G4.2	51 Spa. @ 12" = 51'-0"	7 Spa. @ 15" = 8'-9"	24'-11 1/2"
G4.3	57 Spa. @ 12" = 57'-0"	3"	24'-10 9/16"
G4.4	50 Spa. @ 9" = 37'-6"	16 Spa. @ 12" = 16'-0"	26'-0 3/16"
G4.5	50 Spa. @ 9" = 37'-6"	13 Spa. @ 12" = 13'-0"	26'-5 9/16"
G4.6	50 Spa. @ 9" = 37'-6"	8 Spa. @ 15" = 10'-0"	26'-10 1/16"
G4.7	57 Spa. @ 9" = 42'-9"	2 Spa. @ 12" = 2'-0"	27'-0 5/8"

GIRDER ELEVATION - G4.2 THRU G4.7
(Looking North)



GIRDER ELEVATION - G4.8
(Looking North)
(F.C.M.)



CONN. P DETAIL G4.8
CONN. P DETAIL G4.2
BEARING STIFFENER
* 3/4" x 7 3/4" (G4.2 to G4.7)
1" x 8 5/8" (G4.8)

- NOTES:**
1. Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
 2. F.C. denotes Fracture Critical material, AASHTO Zone II.
 3. For Field Splice details, See Sheet 188.
 4. N.F. denotes Near Face.
 5. F.F. denotes Far Face.
 6. Girder G4.8 does not require camber.

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G4.8
Centerline G1		628.30
Fieldsplice		626.66
Centerline Crosshead		626.05
Centerline Bearing R4-Abut.		624.19

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G4.2	G4.3	G4.4	G4.5	G4.6	G4.7
Centerline G1		628.16	628.19	628.23	628.26	628.23	628.27
Centerline Crosshead		626.66	626.56	626.46	626.36	626.27	626.17
Centerline Bearing R4-Abut.		624.79	624.70	624.60	624.50	624.40	624.31

GIRDER ELEVATIONS 2
RAMP 4 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 172	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	496
	DRAWN - EKH, JMA, PK				239 SHEETS	CONTRACT NO. 60999			
	CHECKED - AMD,				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
	DATE - 03/25/2011								

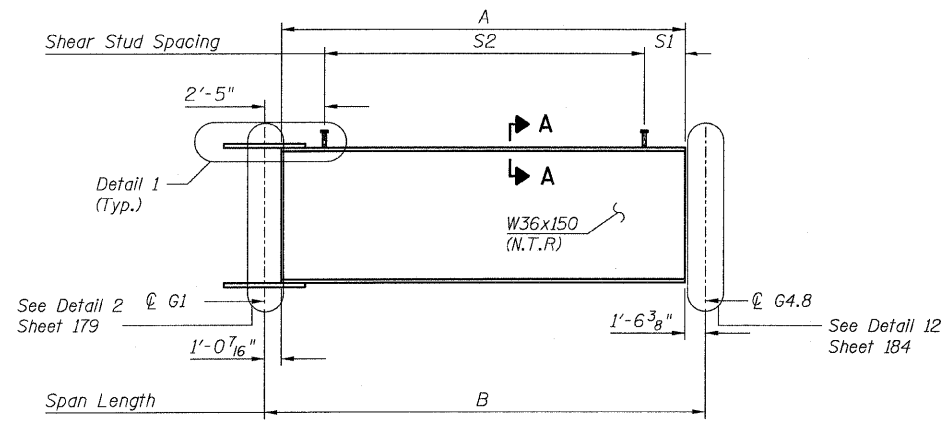
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER DIMENSIONS

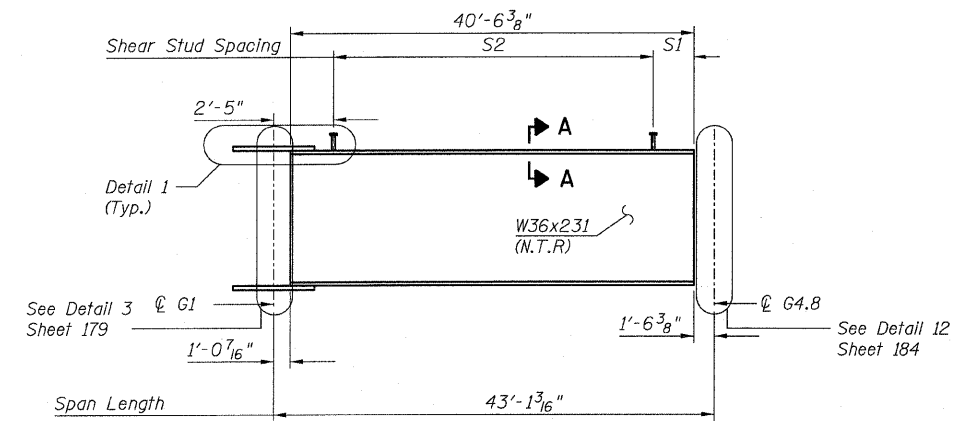
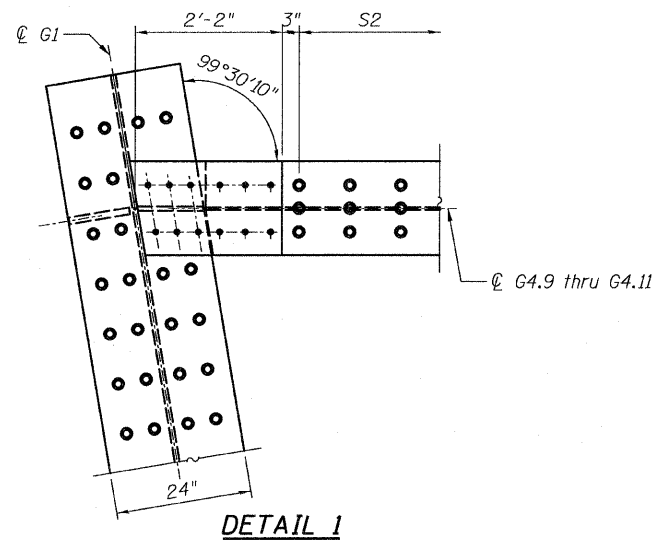
Girder	A	B
G4.9	8'-2 ⁵ / ₁₆ "	10'-9 ¹ / ₈ "
G4.10	18'-11 ¹ / ₁₆ "	21'-6 ¹ / ₂ "
G4.10A	29'-9"	32'-3 ⁵ / ₁₆ "

SHEAR STUD SPACING

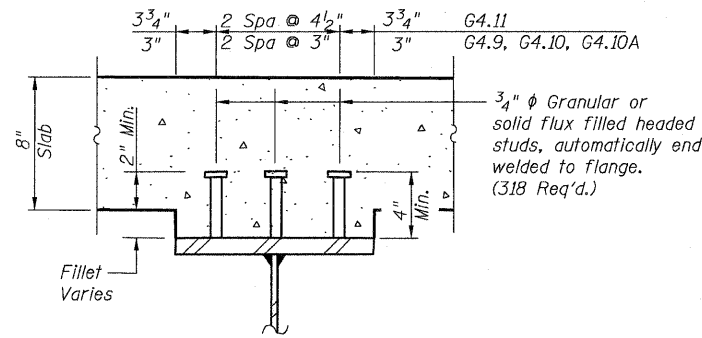
Girder	S1	S2
G4.9	9 ³ / ₄ "	3 Spa. @ 24" = 6'-0"
G4.10	1'-7 ¹ / ₈ "	8 Spa. @ 24" = 16'-0"
G4.10A	4 ¹ / ₁₆ "	14 Spa. @ 24" = 28'-0"
G4.11	7 ¹ / ₈ "	77 Spa. @ 6" = 38'-6"



GIRDER ELEVATION - G4.9, G4.10 AND G4.10A
(Looking South)



GIRDER ELEVATION - G4.11
(Looking South)



SECTION A-A

NOTES:

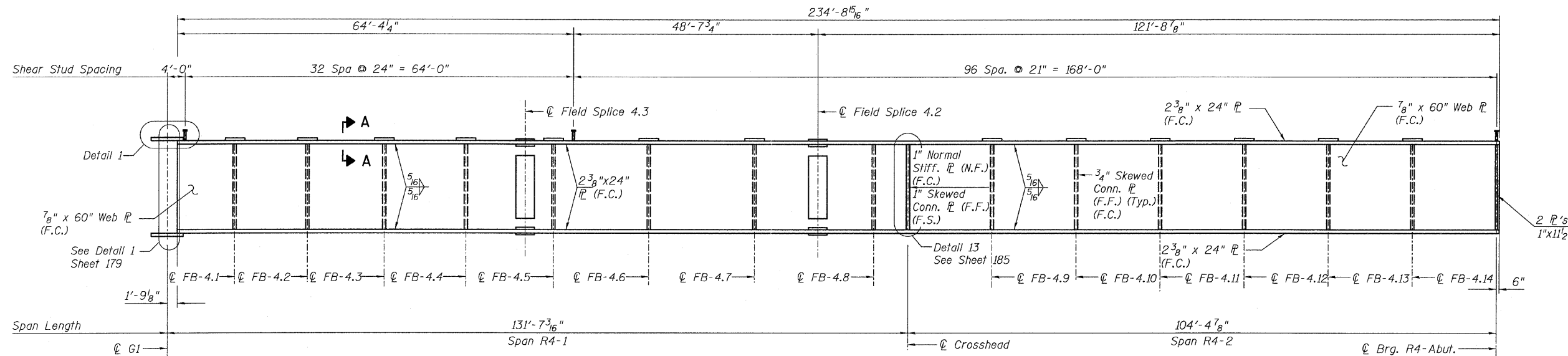
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. - denotes Near Face.

GIRDER ELEVATIONS 3
RAMP 4 FLARE
S.N. 016-0724

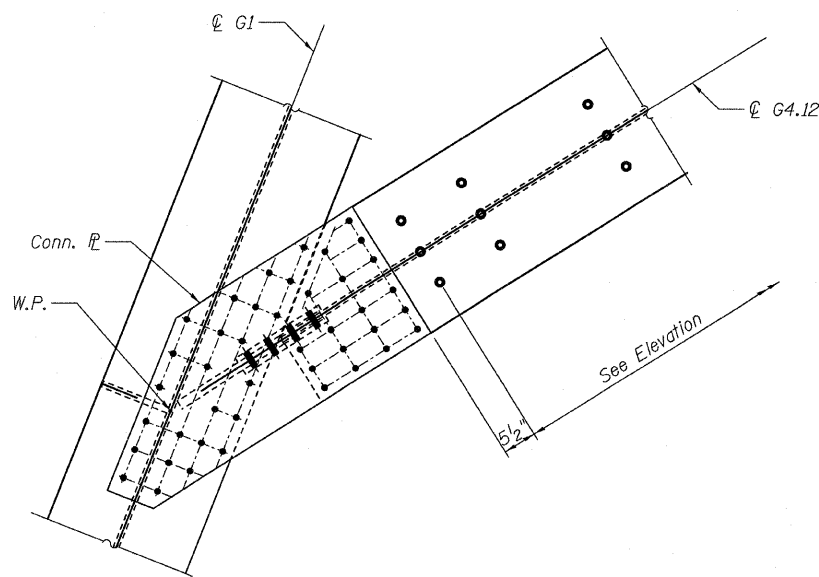
TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 173	F.A.I. RTE. 55	SECTION 0711.2R & 1011.1BR	COUNTY COOK	TOTAL SHEETS 741	SHEET NO. 497
	CHECKED - AMD,	NAME	DATE						
	DRAWN - EKH, JMA, PK								
	CHECKED - AMD,								
	DATE - 03/25/2011								
				239 SHEETS	CONTRACT NO. 60999				
				FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

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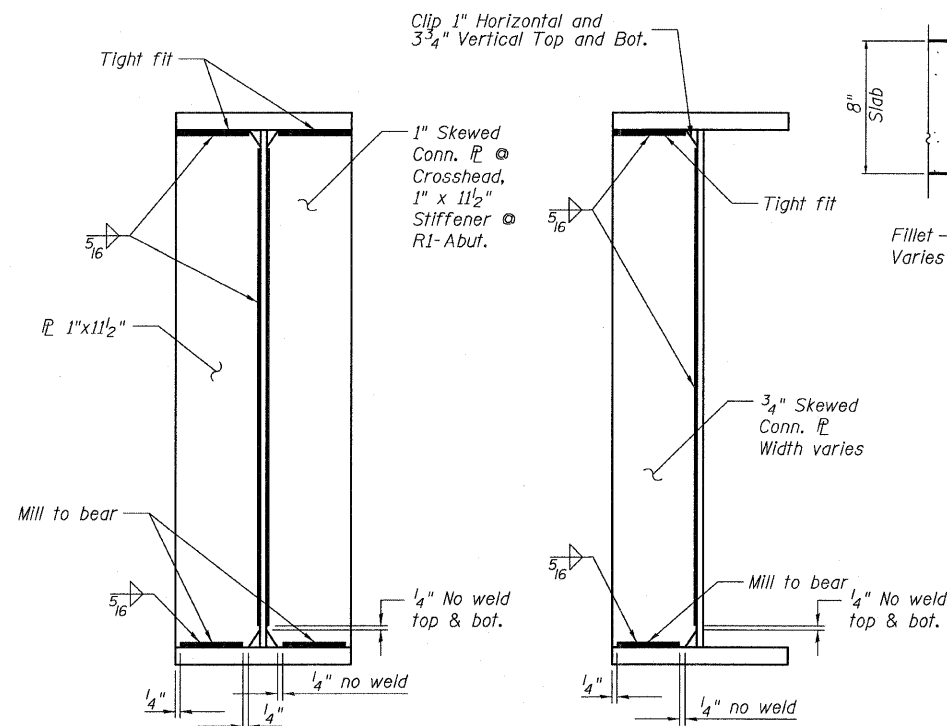
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



GIRDER ELEVATION - G4.12 (F.C.M)
(Looking South)

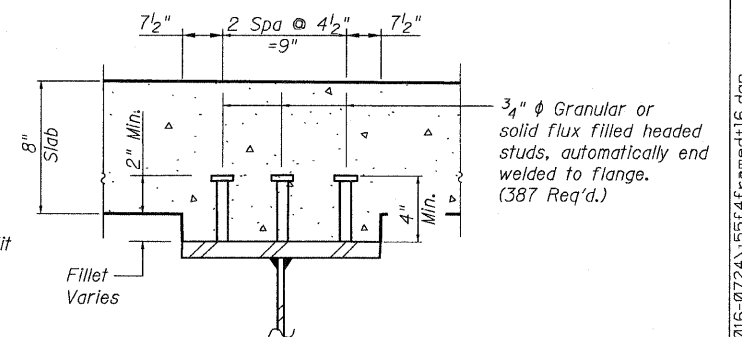


DETAIL 1



BEARING STIFFENERS

CONNECTION P



SECTION A-A

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Girder	G4.12
Centerline G1		627.69
Field Splice 4.3		627.68
Field Splice 4.2		627.26
Centerline Crosshead		626.86
Centerline Bearing R4-Abut.		624.77

NOTES:

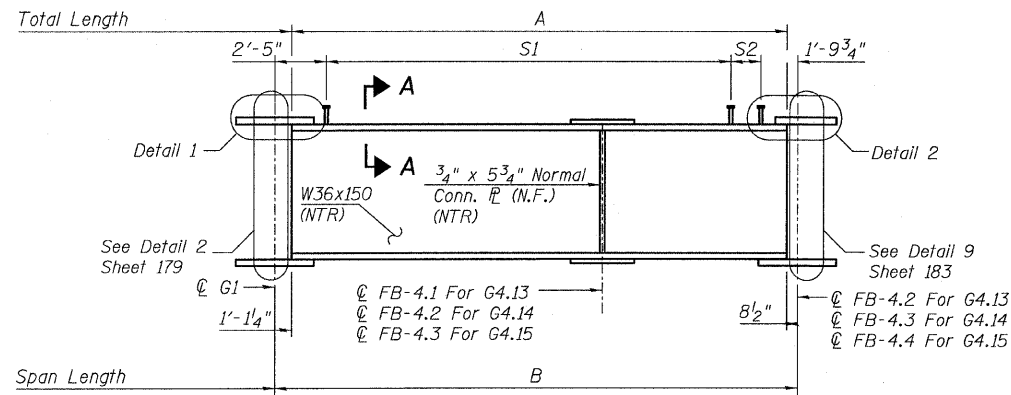
- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- For Field Splice details, See Sheet 188.
- FCM denotes Fracture Critical Member.
- F.C. denotes Fracture Critical Material, AASHTO Zone II.
- N.F. denotes Near Face.
- F.F. denotes Far Face.
- Girder G4.12 shall not be cambered.

TYLIN INTERNATIONAL

DESIGNED	EKH, JMA, PK	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA, PK		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 174	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	0711.2R & 1011.1BR	COOK	741	498
239 SHEETS	CONTRACT NO. 60999				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

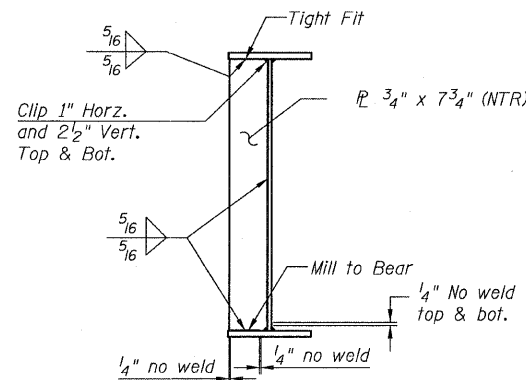


GIRDER ELEVATION - G4.13 THRU G4.15
(Looking South)

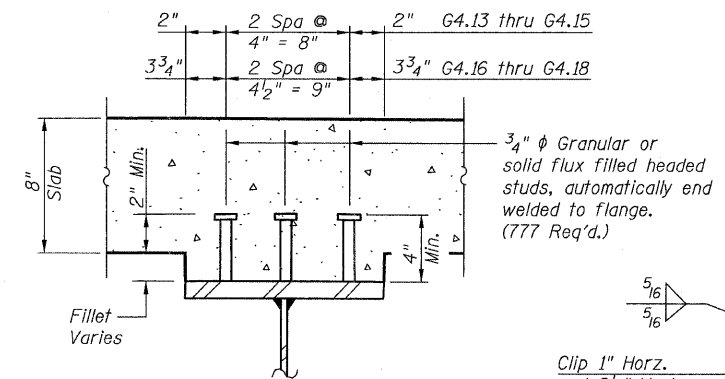
GIRDER DIMENSIONS

(Girders G4.13 thru G4.15)

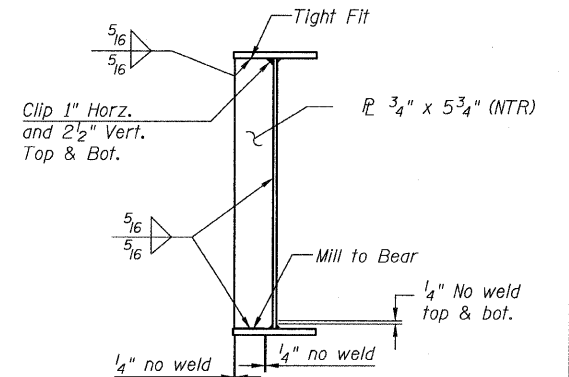
	A	B	S1	S1	S2
G4.13	12'-1 1/16"	13'-11 1/16"	4 Spa. @ 24" = 8'-0"		1'-8 1/16"
G4.14	21'-6 3/4"	23'-4 1/2"	9 Spa. @ 24" = 18'-0"		1'-1 3/4"
G4.15	33'-11 3/4"	35'-9 1/2"	16 Spa. @ 24" = 32'-0"		1'-11 3/4"



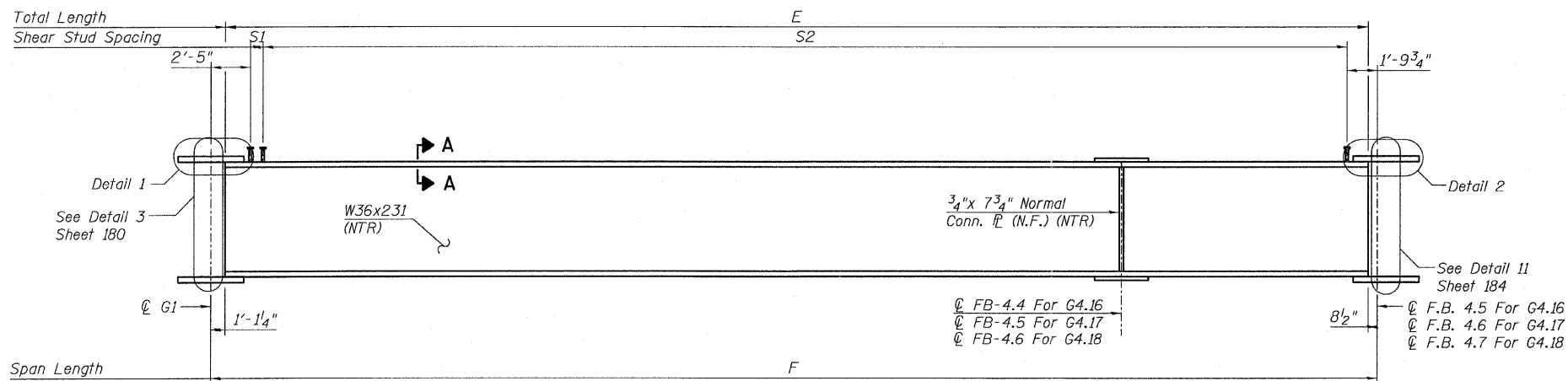
CONN. P DETAIL G4.16 THRU G4.18
(Floor beams & Cross frames)



SECTION A-A



CONN. P DETAIL G4.13 THRU G4.15
(Floor beams)



GIRDER ELEVATION - G4.16 THRU G4.18
(Looking South)

SHEAR STUD SPACINGS

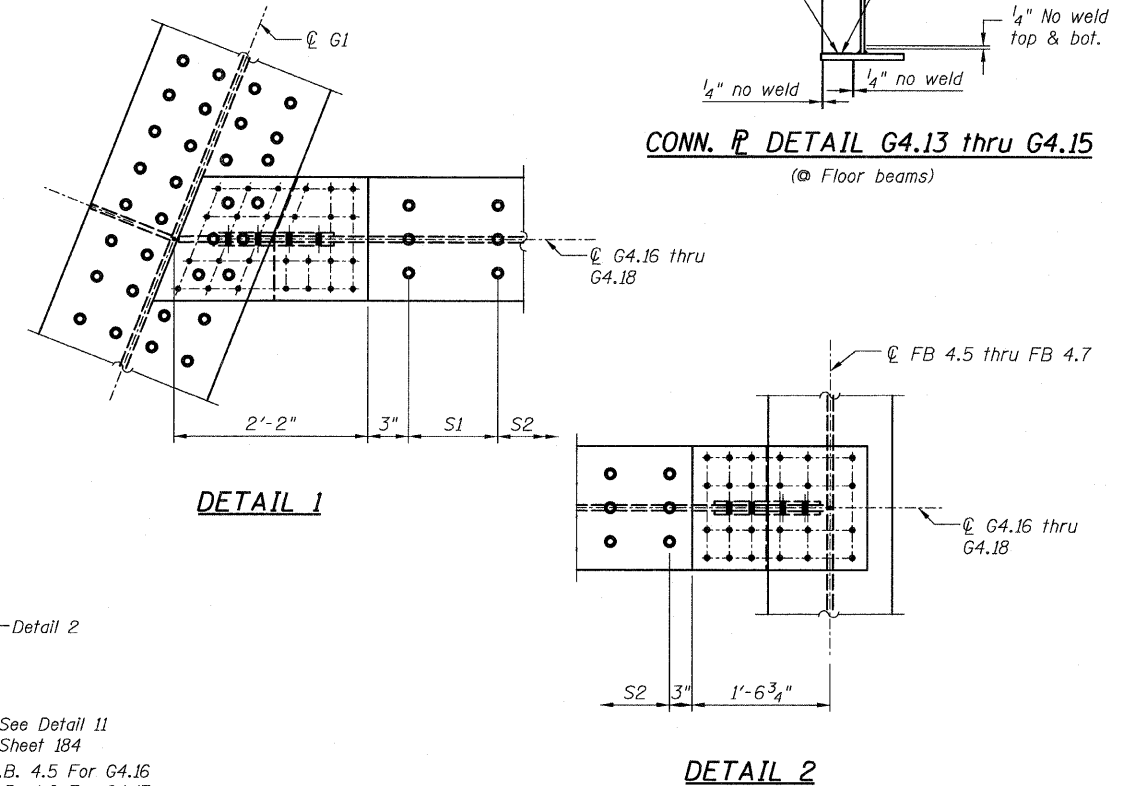
(Girders G4.16 thru G4.18)

	S1	S2
G4.16	5 7/8"	58 Spa. @ 9" = 43'-6"
G4.17	1 1/8"	75 Spa. @ 9" = 56'-3"
G4.18	6 7/8"	91 Spa. @ 9" = 68'-3"

GIRDER DIMENSIONS

(Girders G4.16 thru G4.18)

	E	F
G4.16	46'-4 1/8"	48'-2 5/8"
G4.17	58'-9 1/8"	60'-7 5/8"
G4.18	71'-2 1/8"	73'-0 5/8"



NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. denotes Near Face.

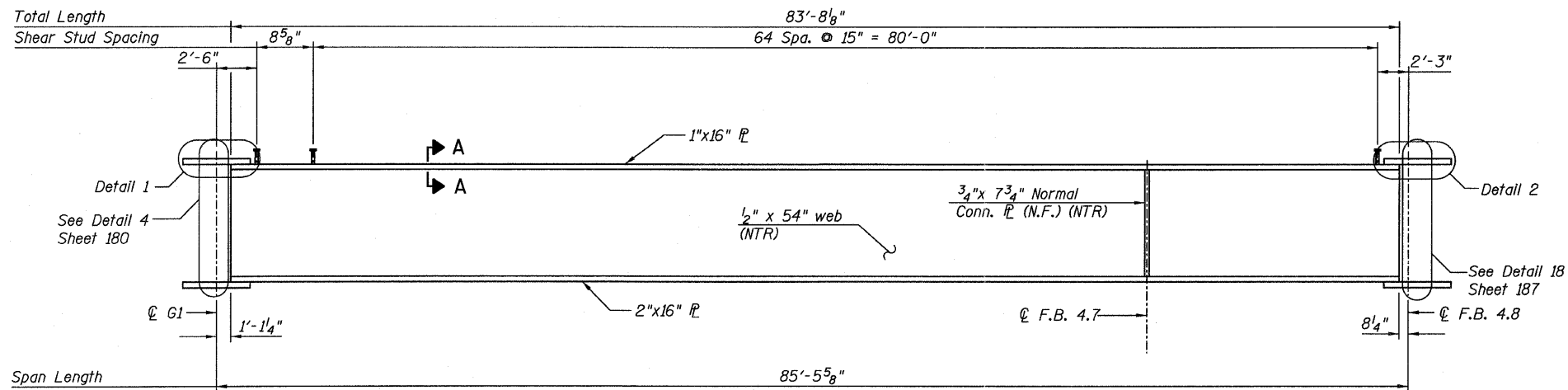
**GIRDER ELEVATIONS 5
RAMP 4 FLARE
STRUCTURE NO. 016-0724**

TYLIN INTERNATIONAL

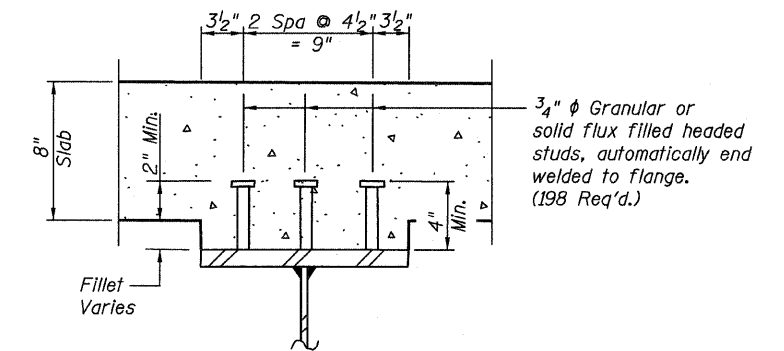
DESIGNED	EKH, JMA, PK	REVISIONS	
CHECKED	AMD,	NAME	DATE
DRAWN	EKH, JMA, PK		
CHECKED	AMD,		
DATE	03/25/2011		

SHEET NO. 175	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
239 SHEETS	55	0711.2R & 1011.1BR	COOK	741	499
CONTRACT NO. 60999					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					

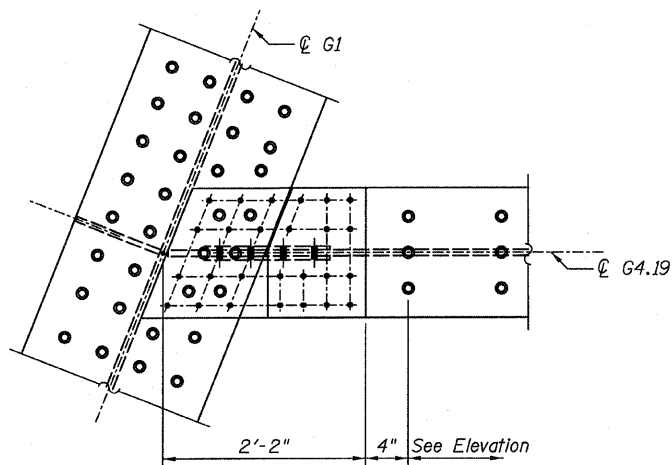
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



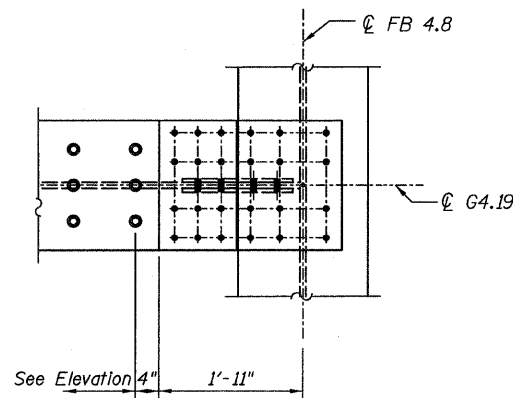
GIRDER ELEVATION - G4.19
(Looking South)



SECTION A-A



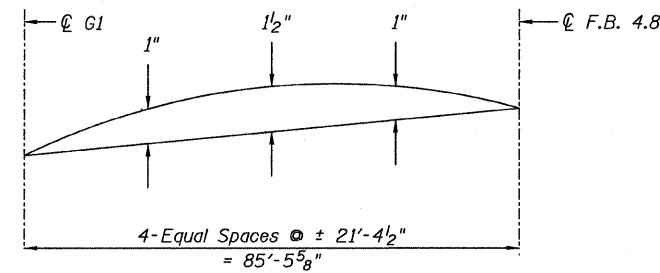
DETAIL 1



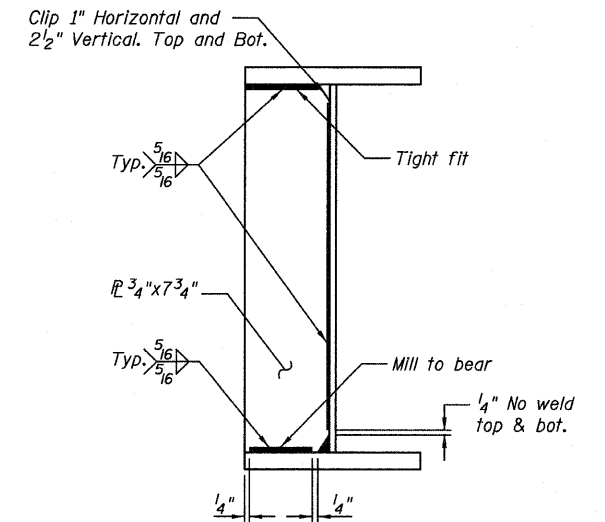
DETAIL 2

TOP OF WEB ELEVATIONS
(For Fabrication Only)

Location	Elevation
Centerline G1	628.06
Centerline F.B. 4.8	627.43



CAMBER DIAGRAMS



TYPICAL CONN. P DETAIL
(Floor beams)

NOTES:

- All steel shown on this sheet shall conform to the requirements of AASHTO M270 GR 50.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.
- N.F. denotes Near Face.

GIRDER ELEVATIONS 6
RAMP 4 FLARE
STRUCTURE NO. 016-0724

TYLIN INTERNATIONAL	DESIGNED - EKH, JMA, PK	REVISIONS		SHEET NO. 176	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - AMD,	NAME	DATE		55	0711.2R & 1011.1BR	COOK	741	500
	DRAWN - EKH, JMA, PK				239 SHEETS	CONTRACT NO. 60999			
	CHECKED - AMD,					FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	
	DATE - 03/25/2011								