

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
 FOR STATE STANDARDS, SEE SHEET NO. 2

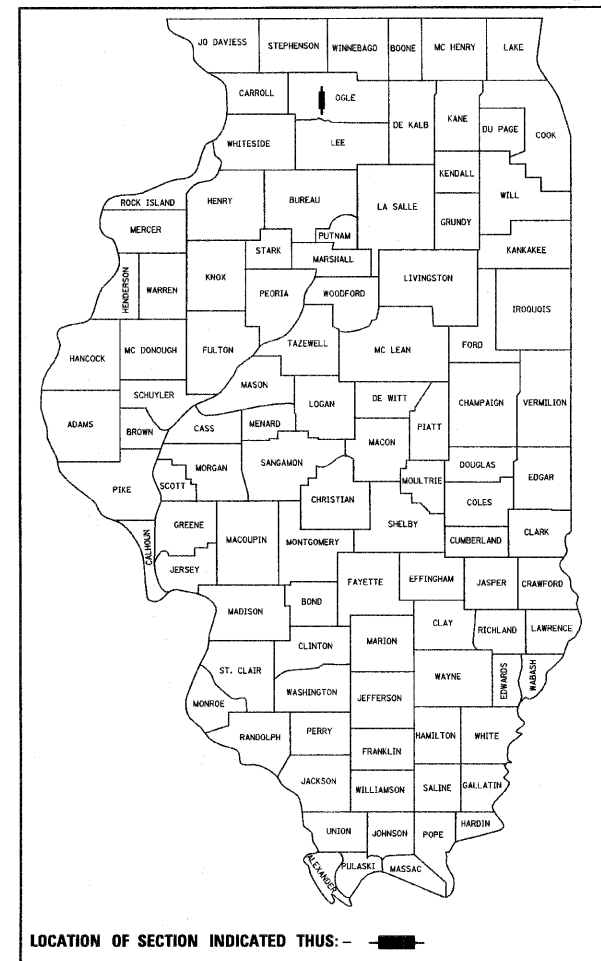
PROJECT LOCATED IN THE  
 CITY OF ROCHELLE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**PROPOSED  
 HIGHWAY PLANS**  
 FAP 740 (IL. RTE. 251)  
 4TH AVENUE TO WASHINGTON ST.  
 BRIDGE REHABILITATION  
 SECTION (108HVB)M  
 OGLE COUNTY  
 C-92-154-10

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HVB)M	OGLE	55*	1
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 64G24		

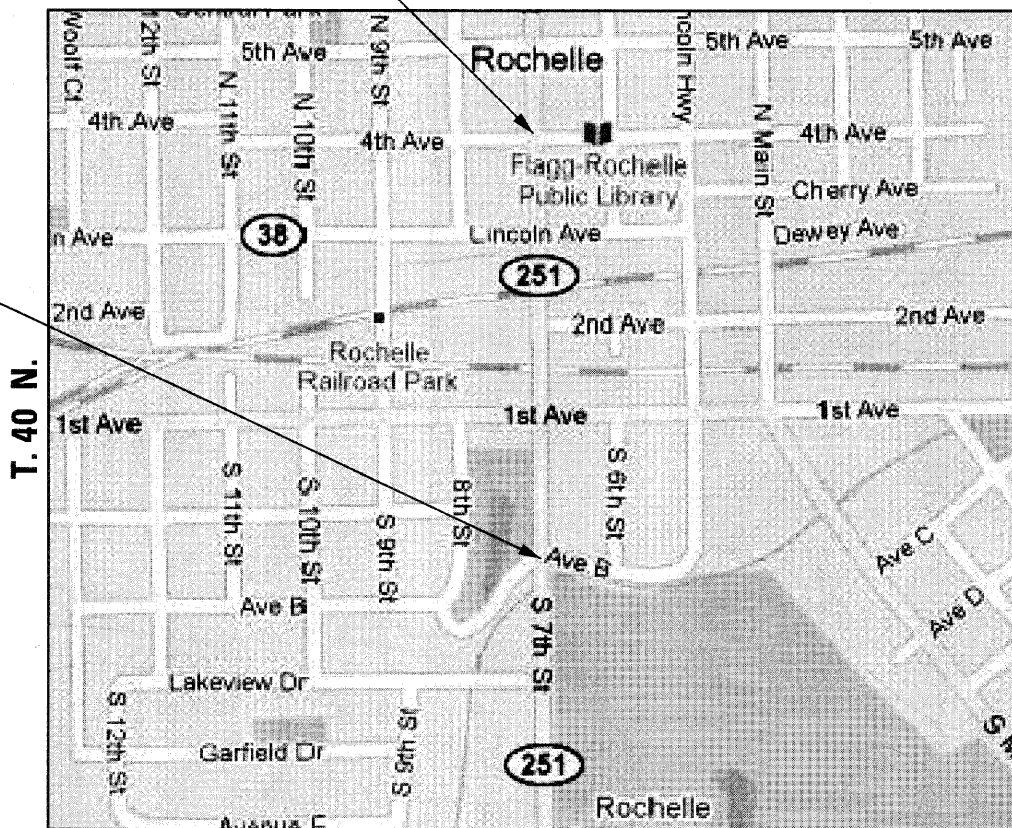
\*55 + 2 = 57

D-92-051-09



BEGIN PROJECT  
 STA. 848 + 00

END PROJECT  
 STA. 866 + 00

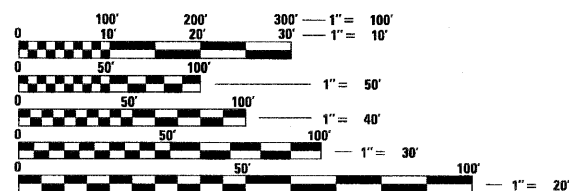


T. 40 N.

T. 40 N.

FLAGG TOWNSHIP  
 NOT TO SCALE

GROSS LENGTH OF PROJECT = 1,800 LIN. FT.  
 NET LENGTH OF PROJECT = 1,703 LIN. FT.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
 JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS  
 1-800-892-0123  
 OR 811

PROJECT MANAGER : MAHMOUD ETEMADI (815) 284-5393

CONTRACT NO. 64G24



Birinder S. Sachdeva  
 BIRINDER S. SACHDEVA, P.E.  
 EXPIRES: 11-30-2011



Bhadresh N. Shah  
 BHADRESH N. SHAH, S.E., P.E.  
 EXPIRES: 11-30-2010

CHRISTIAN-ROGE & ASSOCIATES, INC.  
 ENGINEERS - PLANNERS - SURVEYORS  
 211 W. WACKER DRIVE CHICAGO, IL. 60606  
 TELEPHONE: 312-372-2023

PRINTED BY THE AUTHORITY  
 OF THE STATE OF ILLINOIS

**SHEET NO. INDEX OF SHEETS**

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55	TYPICAL APPLICATION FOR ROAD CLOSURE

**STANDARD NO. LIST OF ILLINOIS DOT HIGHWAY STANDARDS DESCRIPTION**

001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-07	PAVEMENT JOINTS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
442101-07	CLASS B PATCHES
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701306-02	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS > 45 MPH
701311-03	LANE CLOSURE 2L, 2W, MOVING OPERATIONS-DAY ONLY
701701-06	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-01	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPE A AND B METAL POSTS (FOR SIGNS & MARKERS)
780001-02	TYPICAL PAVEMENT MARKINGS

**GENERAL NOTES**

1. THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE(S):	MAINLINE SURFACE
PG:	PG 64-22
DESIGN AIR Voids	4.0 @ 50 GYR.
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5
FRICTION AGGREGATE	D
20 YEAR ESAL	N/A
MIX UNIT WEIGHT	112 LBS/SY/IN

2. THE CONTRACTOR WILL BE REQUIRED TO FURNISH 140 MM (5 1/2") HIGH BRASS STENCILS AS APPROVED BY THE ENGINEER AND INSTALL STATIONING AT 250' INTERVALS. STATIONING SHALL BE PLACED ON BOTH LANES OF 2-LANE HIGHWAYS AND ON THE OUTSIDE LANES IN BOTH DIRECTIONS ON 4-LANE HIGHWAYS. THE STATIONS SHALL BE PLACED 150 MM (6") INSIDE THE PAVEMENT MARKING EDGE SO THEY CAN BE READ FROM THE SHOULDER. THIS WORK WILL BE INCLUDED IN THE COST OF THE FINAL PAVEMENT SURFACE.
3. ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.
4. REFLECTOR MARKERS TYPE B SHALL BE INSTALLED ON THE TOP OF BRIDGE PARAPET WALLS. THE MARKERS SHALL BE ACCORDING TO STANDARD 635011 AND THE COLOR AND SPACING ACCORDING TO STANDARD 635006, EXCEPT THE MINIMUM IS 2 PER SIDE.
5. PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:
  - A. ALL WORDS, SUCH AS ONLY, SHALL BE 2.4 M (8 FEET) HIGH.
  - B. ALL NON-FREEWAY ARROWS SHALL BE THE LARGE SIZE.
  - C. THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 200 MM (8"), NOT 180 MM (7") AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123. THE FOLLOWING LISTED UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS ARE MEMBERS OF JULIE:
7. THE APPLICABLE PORTIONS OF ARTICLE 105.07 OF THE STANDARD SPECIFICATION SHALL APPLY EXCEPT FOR THE FOLLOWING: THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE VERTICAL DEPTHS OF THE UNDERGROUND UTILITIES WHICH MAY INTERFERE WITH CONSTRUCTION OPERATIONS. THIS WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICE FOR THE ITEM OF CONSTRUCTION INVOLVED.
8. CADD DATA WILL BE AVAILABLE TO CONTRACTORS AND CONSULTANTS WORKING ON THIS PROJECT. THIS INFORMATION WILL BE PROVIDED UPON REQUEST AS MICROSTATION CADD FILES AND GEOPAK COORDINATE GEOMETRY FILES ONLY. IF DATA IS REQUIRED IN OTHER FORMATS IT WILL BE YOUR RESPONSIBILITY TO MAKE THESE CONVERSIONS. IF ANY DISCREPANCY OR INCONSISTENCY ARISES BETWEEN THE ELECTRONIC DATA AND THE INFORMATION ON THE HARD COPY, THE INFORMATION ON THE HARD COPY SHOULD BE USED. CONTACT THE DISTRICT'S PROJECT ENGINEER TO REQUEST THESE FILES.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE MUNICIPALITY TO DETERMINE APPROVED METHODS OF UTILITY STRUCTURE ADJUSTMENT. UTILITY STRUCTURES MAY INCLUDE, BUT ARE NOT LIMITED TO, MANHOLES, WATER VALVES, HANDHOLES, ETC. ALL MATERIALS AND WORK NECESSARY TO COMPLETE ADJUSTMENTS PER MUNICIPALITY REQUIREMENTS SHALL BE CONSIDERED INCLUDED IN THE COST OF THE ASSOCIATED ADJUSTMENT PAY ITEM.

FILE NAME = D264G24-shr-gennote.dgn  
 PLOT DATE = 9/28/2010  
 PLOT SCALE = 50.0000' / IN.



**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED - S.J.P.	REVISED -
DRAWN - A.C.S.	REVISED -
CHECKED - M.P.	REVISED -
DATE - SEPTEMBER, 2010	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, LIST OF ILLINOIS DOT HIGHWAY STANDARDS AND  
 GENERAL NOTES - IL. RTE. 251**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108VB) M	OGLE	55	2
CONTRACT NO. 64G24			FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT	

SUMMARY OF QUANTITIES				CONSTRUCTION CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITY	100% STATE URBAN 0014	
20200100	EARTH EXCAVATION	CU YD	378	378	
<del>3100910</del>	<del>SUBBASE GRANULAR MATERIAL, TYPE A 12"</del>	<del>SQ YD</del>	<del>737</del>	<del>737</del>	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	2	2	
40600300	AGGREGATE (PRIME COAT)	TON	9	9	
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	429	429	
40600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SQ YD	660	660	
42000300	PORTLAND CEMENT CONCRETE PAVEMENT 8"	SQ YD	680	680	
44213200	SAW CUTS	FOOT	814	814	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	48	48	
50102400	CONCRETE REMOVAL	CU YD	145.0	145.0	
50157300	PROTECTIVE SHIELD	SQ YD	5,024	5,024	
50300225	CONCRETE STRUCTURES	CU YD	86.1	86.1	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	124.4	124.4	
50300260	BRIDGE DECK GROOVING	SQ YD	3,350	3,350	
50300300	PROTECTIVE COAT	SQ YD	3,570	3,570	
<del>5030550</del>	<del>PROTECTIVE COAT (SPECIAL)</del>	<del>SQ YD</del>	<del>1,286</del>	<del>1,286</del>	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	31,060	31,060	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	175	175	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	41	41	
52100520	ANCHOR BOLTS, 1"	EACH	82	82	
58700300	CONCRETE SEALER	SQ FT	1,428	1,428	
59000200	EPOXY CRACK INJECTION	FOOT	3	3	
60255500	MANHOLES TO BE ADJUSTED	EACH	1	1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
67100100	MOBILIZATION	L SUM	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	681	681	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	840	840	
* 78001100	PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	296	296	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3938	3938	
* 78001140	PAINT PAVEMENT MARKING - LINE 8"	FOOT	40	40	
* 78001150	PAINT PAVEMENT MARKING - LINE 12"	FOOT	60	60	
* 78001180	PAINT PAVEMENT MARKING - LINE 24"	FOOT	126	126	
* 78008200	POLYUREA PAVEMENT MARKING TYPE I - LETTERS AND SYMBOLS	SQ FT	110	110	
* 78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	8,030	8,030	
* 78008240	POLYUREA PAVEMENT MARKING TYPE I - LINE 8"	FOOT	410	410	
* 78008250	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"	FOOT	45	45	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	50	50	
78100200	TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	EACH	18	18	
* 78200520	BARRIER WALL MARKERS, TYPE B	EACH	45	45	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	18	18	
<del>Z0018010</del>	<del>DRAINAGE SCUPPERS, DS-33</del>	<del>EACH</del>	<del>12</del>	<del>12</del>	

SUMMARY OF QUANTITIES				CONSTRUCTION CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITY	100% STATE URBAN 0014	
X0323359	WASHING AND CLEANING	L SUM	1	1	
X0324126	GALVANIC ANODE	EACH	122	122	
<del>Z0012755</del>	<del>STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)</del>	<del>SQ FT</del>	<del>155</del>	<del>155</del>	
<del>Z0012754</del>	<del>STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)</del>	<del>SQ FT</del>	<del>1,835</del>	<del>1,835</del>	
X0326444	SURFACE FILLER (SPECIAL)	GALLON	4	4	
X7013015	TRAFFIC CONTROL FOR ROAD CLOSURE	L SUM	1	1	
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	3,570	3,570	
Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	22	22	
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	3,570	3,570	
Z0010700	COLD MILLING	SQ YD	2591	2591	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	5	5	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	7	7	
Z0018800	DRAINAGE SYSTEM	L SUM	1	1	
Z0032300	JACKING EXISTING SUPERSTRUCTURE	L SUM	1	1	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	1	1	
<del>Z0001899</del>	<del>JACK AND REMOVE EXISTING BEARINGS</del>	<del>EACH</del>	<del>10</del>	<del>10</del>	

FILE NAME = 0264024-sht-300.dgn  
PLOT DATE = 8/12/2010  
PLOT SCALE = 50.0000' / IN.



DESIGNED - S.J.P.  
DRAWN - A.C.S.  
CHECKED - M.P.  
DATE - AUGUST 2010

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES  
IL. RTE. 251

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HV) M	OGLE	55	3
CONTRACT NO. 64G24			FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT	

IL ROUTE 251 PAVING SUMMARY	
LOCATION	HMA SURFACE COURSE MIX "D", N50 ( TON )
STATION - STATION	
849+49 - 851+49 (NORTH APPROACH)	90
861+39 - 863+39 (SOUTH APPROACH)	81
TOTAL	171

PCC SURFACE REMOVAL - BUTT JOINT	
STATION - STATION	(SQ. YD.)
849+49 - 850+19 (NORTH APPROACH)	340
862+69 - 863+39 (SOUTH APPROACH)	320
TOTAL	660

POLYUREA PAVEMENT MARKING TYPE 1, LETTER & SYMBOLS	
STATION - STATION	(SQ. FT.)
848 + 84 (RIGHT + ONLY)	36.4
849 + 84 (RIGHT + ONLY)	36.4
863 + 06 (LEFT + ONLY)	36.4
TOTAL	109.2
USE	110

POLYUREA PAVEMENT MARKING TYPE 1, LINE 4"	
STATION - STATION	(FOOT)
848+84 - 865+08 (DOUBLE YELLOW)	3,800
860+38 - 863+25 (DOUBLE YELLOW)	650
845+46 - 864+46 LT (WHITE EDGE LT.)	1,900
848+66 - 865+45 RT (WHITE EDGE RT.)	1,680
TOTAL	8,030

POLYUREA PAVEMENT MARKING TYPE 1, LINE 8"	
STATION - STATION	(FOOT)
848+46 - 849+92 (SOLID WHITE)	146
849+92 - 850+99 (SKIP DASH)	36
861+97 - 863+25 (SKIP DASH)	43
863+25 - 865+08 (SOLID WHITE)	183
TOTAL	408
USE	410

POLYUREA PAVEMENT MARKING TYPE 1, LINE 12"	
STATION - STATION	(FOOT)
860+38 - 863+25 (DIAGONAL LINE)	45
TOTAL	45

FILE NAME = D264G24-aht-schedule.dgn  
 PLOT DATE = 8/12/2010  
 PLOT SCALE = 50.0000' / IN.



**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED - S.J.P.	REVISED -
DRAWN - A.C.S.	REVISED -
CHECKED - M.P.	REVISED -
DATE - AUGUST 2010	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

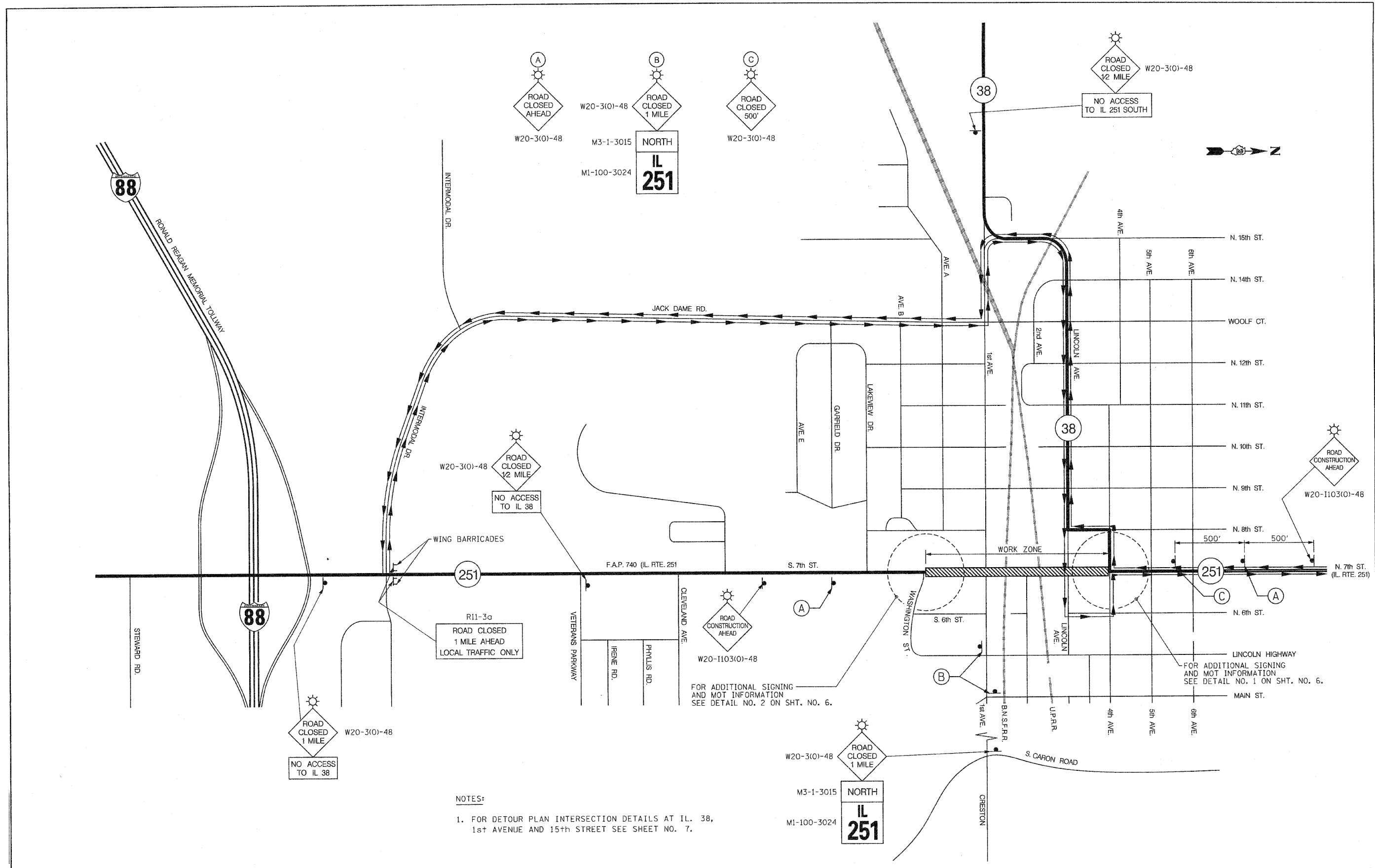
**SCHEDULE OF QUANTITIES  
 IL. RTE. 251**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HVB) M	OGLE	55	4
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT			CONTRACT NO. 64G24	

DATE	
BY	
FINAL SURVEY	
TEMPLE	
NO. BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
TEMPLE	
NO. BOOK	
AREAS CHECKED	



NOTES:  
 1. FOR DETOUR PLAN INTERSECTION DETAILS AT IL. 38,  
 1st AVENUE AND 15th STREET SEE SHEET NO. 7.

FILE NAME = 0264524-sht-detour-ALT2SHT.dwg  
 PLOT DATE = 9/28/2010  
 PLOT SCALE = 50.000' / IN.

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
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 211 WEST WACKER DRIVE  
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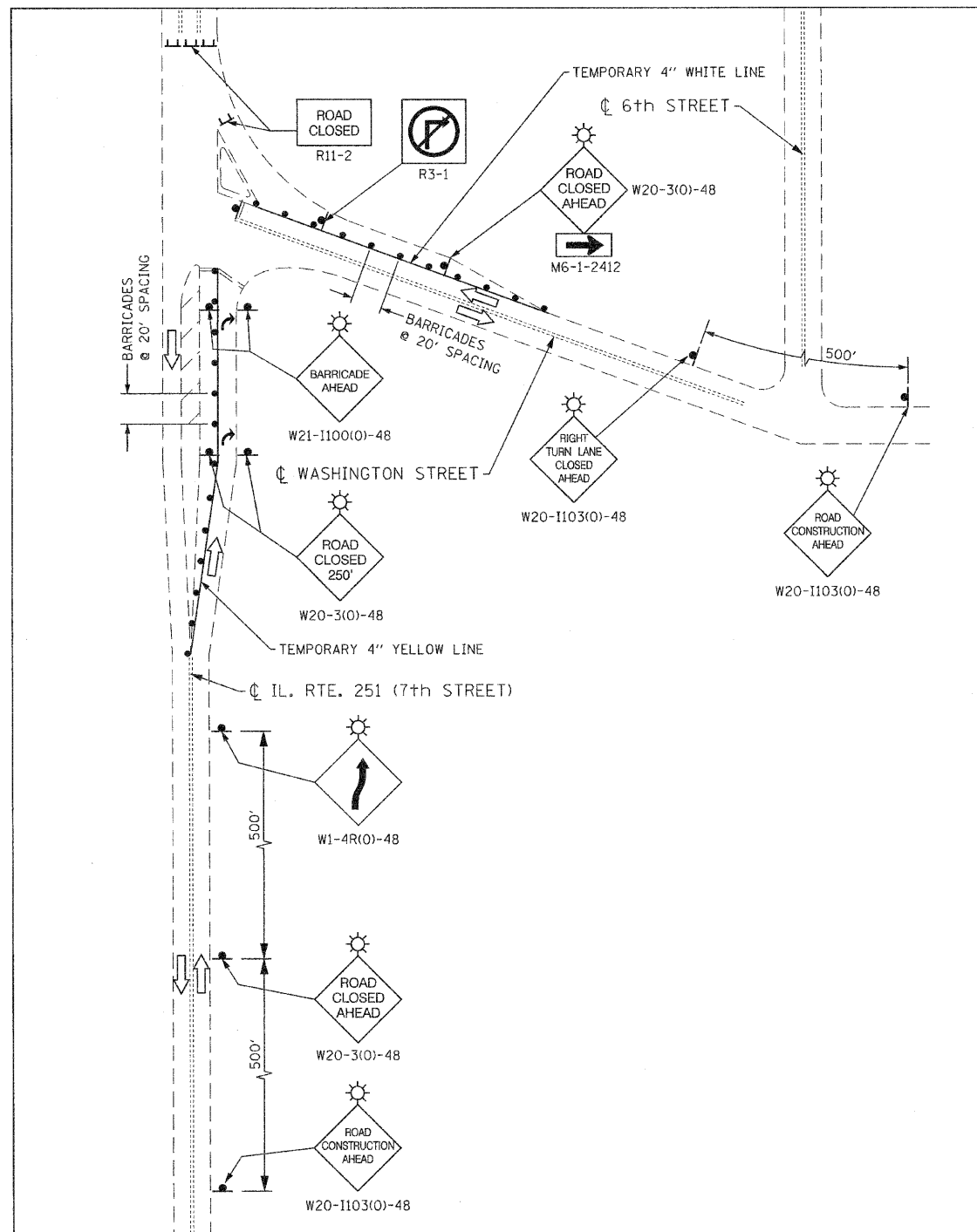
DESIGNED - D.L.  
 DRAWN - B.K.  
 CHECKED - E.J.M.  
 DATE - SEPTEMBER, 2010

REVISED -  
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 REVISED -  
 REVISED -

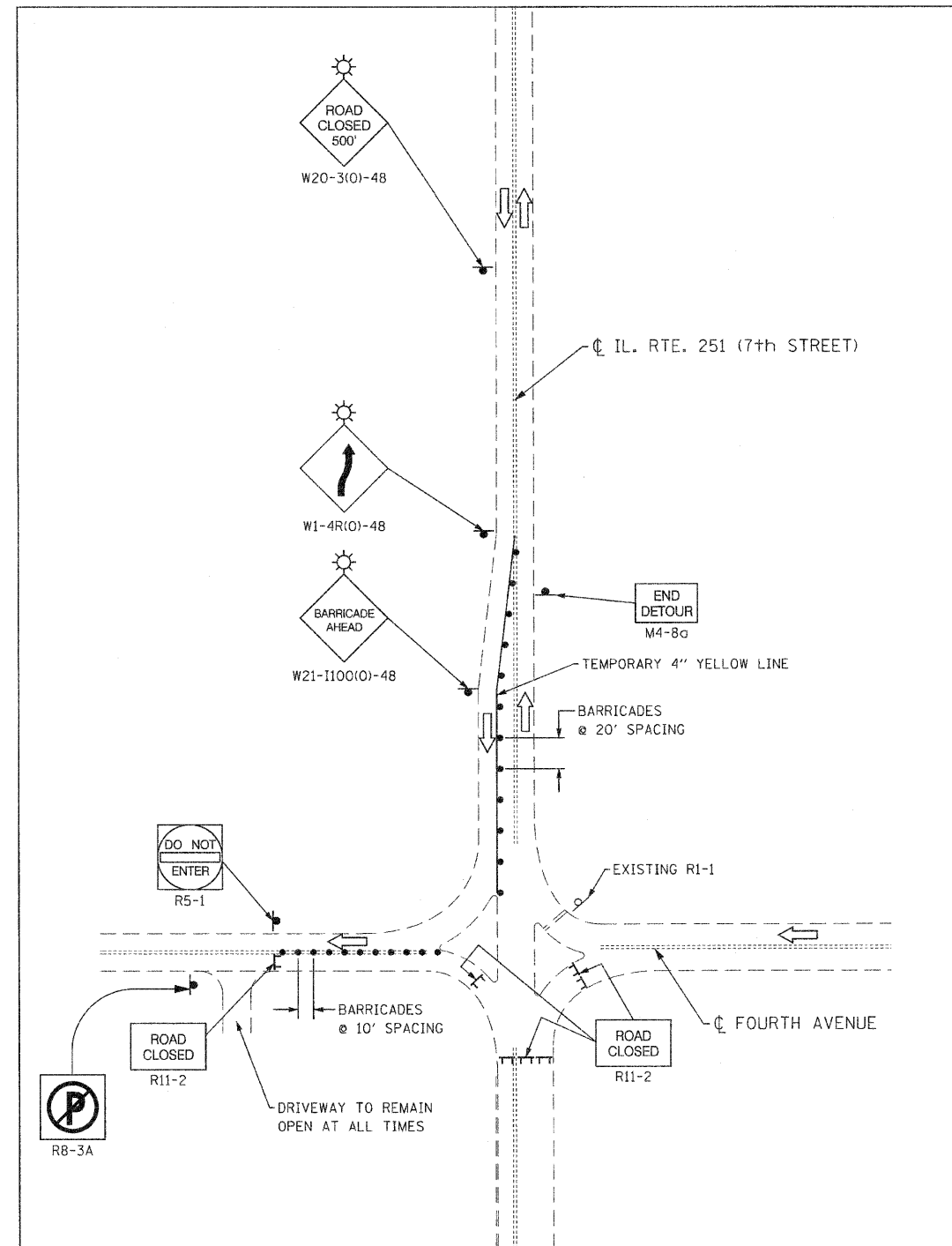
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DETOUR PLAN  
 F.A.P. 740 (IL RTE. 251)**  
 SCALE: NONE SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(10BHV) M	OGLE	55	5
CONTRACT NO. 64G24				
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT				



DETAIL NO. 2  
IL. RTE. 251 AT WASHINGTON STREET



DETAIL NO. 1  
IL. RTE. 251 AT FOURTH AVENUE

FILE NAME: 0264024-shc-detail1a1c2.dgn  
 PLOT DATE: 9/28/2010  
 PLOT SCALE: 50.000' / IN.

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED - D.L.	REVISED -
DRAWN - B.K.	REVISED -
CHECKED - E.J.M.	REVISED -
DATE - SEPTEMBER, 2010	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

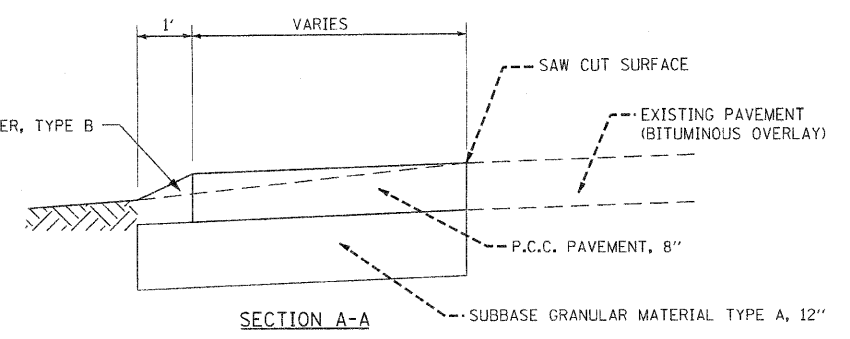
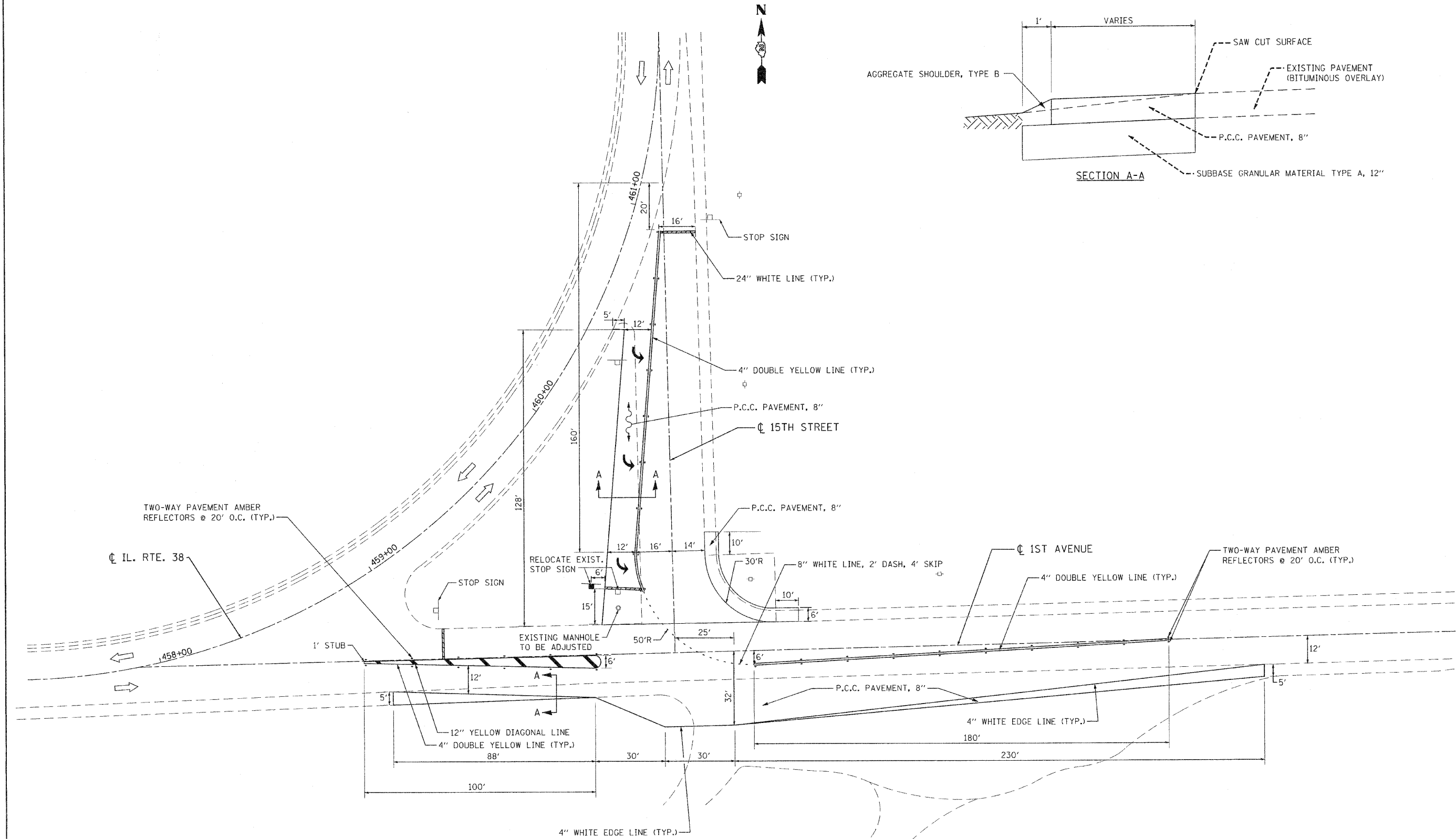
**DETOUR PLAN**  
**INTERSECTION CLOSURE DETAILS**  
**F.A.P. 740 (IL. RTE. 251)**  
 SCALE: NONE SHEET NO. 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE. 740	SECTION (108HV) M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 6
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT			CONTRACT NO. 64G24	



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FILE NAME = turndetourplan.dgn  
 PLOT DATE = 9/28/2010  
 PLOT SCALE = 20,000 / IN.

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED -	D.L.	REVISED -	
DRAWN -	J.V.	REVISED -	
CHECKED -	E.J.M.	REVISED -	
DATE -	SEPTEMBER, 2010	REVISED -	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DETOUR PLAN**  
**FIRST AVE AND 15TH STREET**

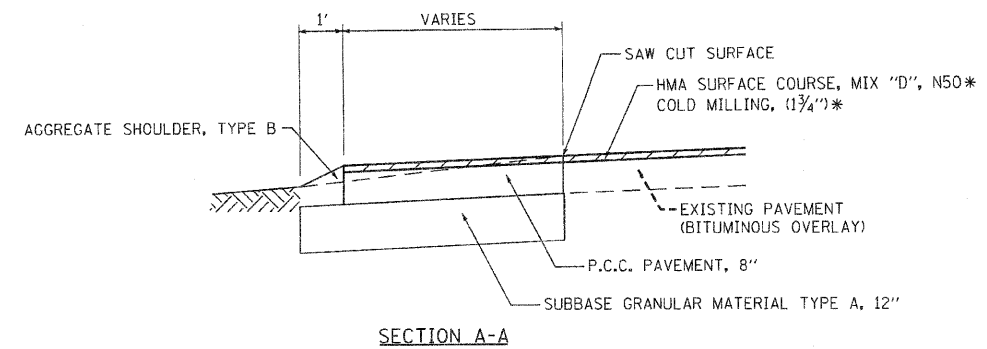
SCALE: 1" = 20'    SHEET NO. 1 OF 1 SHEETS    STA.    TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HV) M	OGLE	55	7
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT			CONTRACT NO. 64G24	

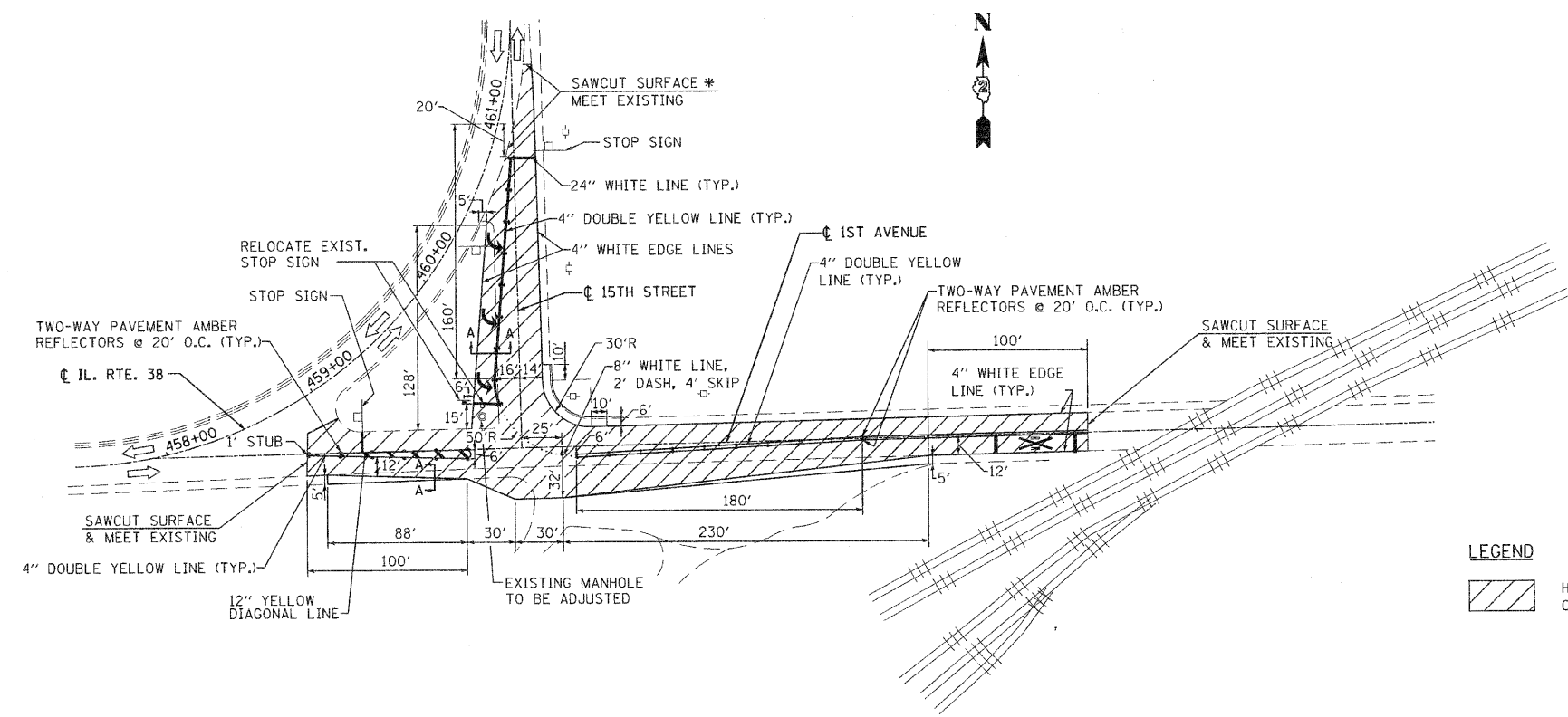


DATE	
BY	
FINAL SURVEY	
NOTED	
TEMPLATES	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
TEMPLATES	
NOTE BOOK	
AREAS CHECKED	
NO.	



\* THIS WORK SHALL BE DONE AFTER ILL. RTE. 251 IS OPEN TO TRAFFIC.



**LEGEND**  
 HMA SURFACE COURSE, MIX 'D', N50 & COLD MILLING, (1 3/4')

- NOTES:**
- 1) PAVEMENT MARKING IS PAINT UNLESS OTHERWISE NOTED.
  - 2) ON 15TH STREET BETWEEN ILL. RTE. 38 AND FIRST AVENUE, THE PAVEMENT MARKINGS SHALL BE REPLACED AFTER ILL. RTE. 251 IS OPEN TO TRAFFIC AND THE PAVEMENT HAS BEEN RESURFACED.
  - 3) MILLING TO BE COMPLETED IN SAME WORK DAY.

FILE NAME: foverlay detour rd.dgn  
 PLOT DATE: 9/28/2010  
 PLOT SCALE: 50.000' / IN.

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED - D.L.	REVISED -
DRAWN -	REVISED -
CHECKED - E.J.M.	REVISED -
DATE - SEPTEMBER, 2010	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**INTERSECTION IMPROVEMENT**  
**FIRST AVE AND 15TH STREET**  
 SCALE: 1" = 50' SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HV) M	OGLE	55	7A
CONTRACT NO. 64G24				
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**EXISTING STRUCTURE:**

S.N. 071-0066 was built in 1981 and consists of fifteen (15) simple spans of P.P.C. I-Beams. The Substructure consists of closed abutments and fourteen (14) hammerhead piers.

**SALVAGE:**

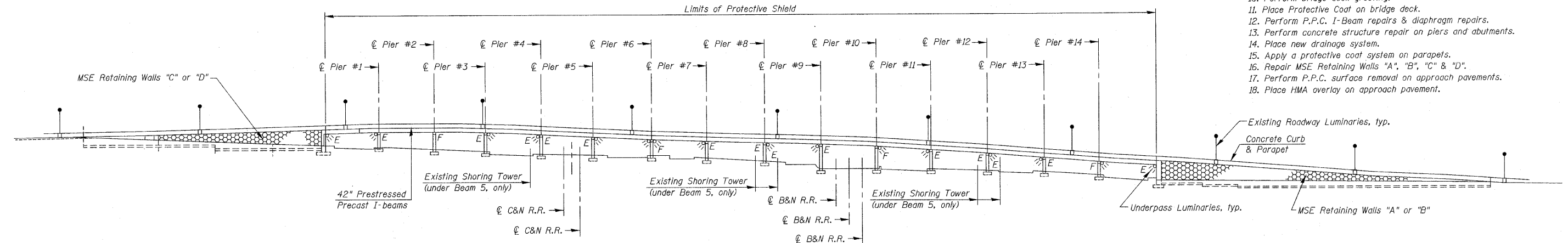
Shoring Towers shall be salvaged and returned to District 2 Bridge maintenance yard. Cost included with Concrete Removal.

**NOTE:**

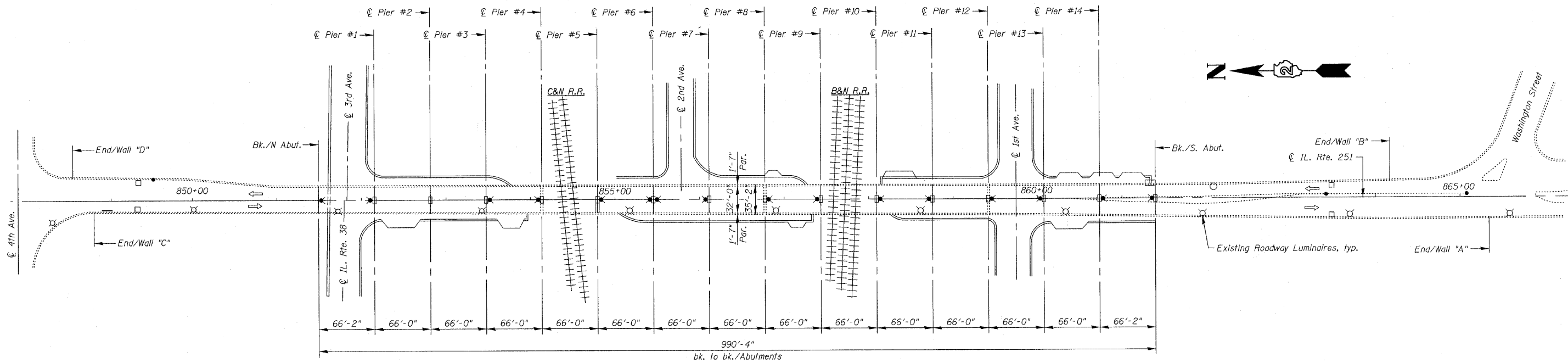
During bridge repairs, traffic will be detoured, see Detour Plans

**SCOPE OF WORK:**

1. Close bridge and detour traffic.
2. Jack beams & replace all bearings at N. Abutment & S. Abutment.
3. Install System to jack existing superstructure at Piers #4, #8 & #12.
4. Replace pier caps and install new bearings at Piers #4, #8 & #12.
5. Remove & replace all expansion joints.
6. Perform parapet repairs.
7. Perform bridge deck scarification.
8. Perform full depth deck repair & install new scuppers.
9. Place Microsilica overlay on bridge deck.
10. Perform bridge deck grooving.
11. Place Protective Coat on bridge deck.
12. Perform P.P.C. I-Beam repairs & diaphragm repairs.
13. Perform concrete structure repair on piers and abutments.
14. Place new drainage system.
15. Apply a protective coat system on parapets.
16. Repair MSE Retaining Walls "A", "B", "C" & "D".
17. Perform P.P.C. surface removal on approach pavements.
18. Place HMA overlay on approach pavement.



**ELEVATION**



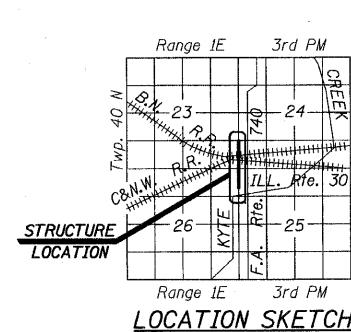
**PLAN**

**LOADING HS20-44**

**DESIGN SPECIFICATIONS**  
AASHTO 2002 Standard Specifications For Highway Bridges

**DESIGN STRESSES**

$f'_c = 3,500 \text{ psi}$   
 $f_y = 60,000 \text{ psi (Reinforcement)}$



**LOCATION SKETCH**



**Bhadresh N. Shah**  
03/16/2010  
BHADRESH N. SHAH  
LICENSED STRUCTURAL ENGINEER  
STATE OF ILLINOIS LIC. No. 081-004476  
EXPIRES: 11-30-10

**GENERAL PLAN & ELEVATION**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. S1	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 8
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

**CHRISTIAN-BOGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES:**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on the As-Built plans.

Existing reinforcement bars extending into the removal areas shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved Bar Splicer or Anchorage System. Cost is included with Concrete Removal.

All structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270, Grade 36, unless otherwise noted.

The Contractor shall provide support and/or shoring system for the slab and beam in the area of existing pier caps & existing bearing assembly removal and at other locations as required to maintain the existing deck profile. The support and/or shoring system shall be approved by the Engineer, however, such approval will not relieve the Contractor of his responsibility for the safety of the structure. See Special Provisions for "Jacking Existing Superstructure".

The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-Beams. Any damage done by the Contractor to the PPC I-Beams during concrete removal or Deck Slab Repair operations is to be repaired to the satisfaction of the Engineer at the Contractor's expense.

All exposed concrete edges shall be chamfered  $\frac{3}{4}$ ", unless otherwise noted.

Reinforcement Bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

All new structural steel shall be shop painted with an Inorganic Zinc Rich Primer per AASHTO M300, Type 1.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Portland Cement Concrete Surface Removal - Butt Joint	Sq Yd	660
Hot-Mix Asphalt Surface Course, Mix "D", N50	Ton	171
Concrete Removal	Cu Yd	145.0
Protective Shield	Sq Yd	5,024
Concrete Structures	Cu Yd	86.1
Concrete Superstructure	Cu Yd	124.4
Bridge Deck Grooving	Sq Yd	3,350
Protective Coat	Sq Yd	3,570
Protective Coat (Special)	Sq Yd	1,286
Reinforcement Bars, Epoxy Coated	Pound	31,060
Preformed Joint Strip Seal	Foot	175
Elastomeric Bearing Assembly, Type II	Each	41
Anchor Bolts, 1"	Each	82
Concrete Sealer	Sq Ft	1,428
Epoxy Crack Injection	Foot	3
Approach Slab Repair (Partial Depth)	Sq Yd	22
Bridge Deck Hydro-Scarification $\frac{1}{2}$ "	Sq Yd	3,570
Deck Slab Repair (Full Depth, Type I)	Sq Yd	5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	7
Drainage System	L Sum	1
Jacking Existing Superstructure	L Sum	1
Railroad Protective Liability Insurance	L Sum	1
*** Temporary Shoring and Cribbing	Each	1
** Drainage Scuppers, DS-33	Each	12
Washing and Cleaning	L Sum	1
Galvanic Anode	Each	122
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft	155
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	1,835
Surface Filler (Special)	Gallon	4
* Bridge Deck Microsilica Concrete Overlay $2\frac{1}{4}$ "	Sq Yd	3,570
* Jack and Remove Existing Bearings	Each	10

\* Includes bearings at abutments only. For removal of bearings on Piers #4, #7, #8 and #12 see Sheet S30 of S43.

\*\* For bearing replacement and substructure work at Pier 7.

\*\*\* For pier cap and bearing replacement at Piers 4, 8 and 12.

**INDEX OF SHEETS**

- S1 GENERAL PLAN & ELEVATION
- S2 GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
- S3 DECK CROSS SECTION
- S4 DECK REPAIRS-I
- S5 DECK REPAIRS-II
- S6 DECK REPAIRS-III
- S7 DECK REPAIRS-IV
- S8 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION AT PIERS #4, #8 & #12
- S9 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION DETAILS AT PIERS #4, #8 & #12
- S10 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION AT NORTH ABUTMENT
- S11 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION DETAILS AT NORTH ABUTMENT
- S12 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION AT SOUTH ABUTMENT
- S13 EXPANSION JOINT & DIAPHRAGM RECONSTRUCTION DETAILS AT SOUTH ABUTMENT
- S14 NORTH APPROACH SLAB PATCHING
- S15 SOUTH APPROACH SLAB PATCHING
- S16 EAST PARAPET REPAIRS-I
- S17 EAST PARAPET REPAIRS-II
- S18 WEST PARAPET REPAIRS-I
- S19 WEST PARAPET REPAIRS-II
- S20 NORTH APPROACH SLAB PARAPET REPAIRS
- S21 SOUTH APPROACH SLAB PARAPET REPAIRS
- S22 APPROACH SLAB PARAPET JOINT REPAIR DETAILS
- S23 DIAPHRAGM REPAIRS-I
- S24 DIAPHRAGM REPAIRS-II
- S25 DIAPHRAGM REPAIRS-III
- S26 DIAPHRAGM REPAIRS-IV
- S27 BEAM END REPAIRS-I
- S28 BEAM END REPAIRS-II
- S29 BEAM END REPAIRS-III
- S30 BEARING REPLACEMENT DETAILS
- S31 NORTH ABUTMENT REPAIRS
- S32 SOUTH ABUTMENT REPAIRS
- S33 PIERS #4, #8 & #12 CAP REPLACEMENT
- S34 PIER #4 REPAIRS
- S35 PIER #7 REPAIRS
- S36 PIER #14 REPAIRS
- S37 MSE RETAINING WALL "A" REPAIRS
- S38 MSE RETAINING WALLS "B" & "C" REPAIRS
- S39 MSE RETAINING WALL "D" REPAIRS
- S40 MSE RETAINING WALL TYPICAL PANEL DETAILS
- S41 DRAINAGE SYSTEM
- S42 DRAINAGE SCUPPER, DS-33
- S43 PREFORMED JOINT STRIP SEAL

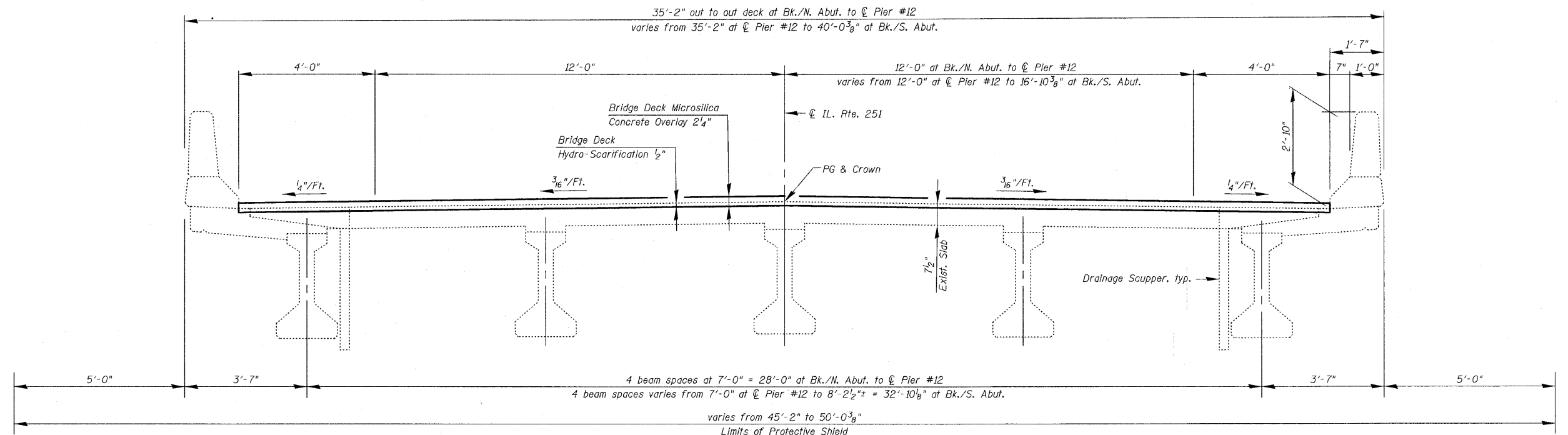
**GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED	2010
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES

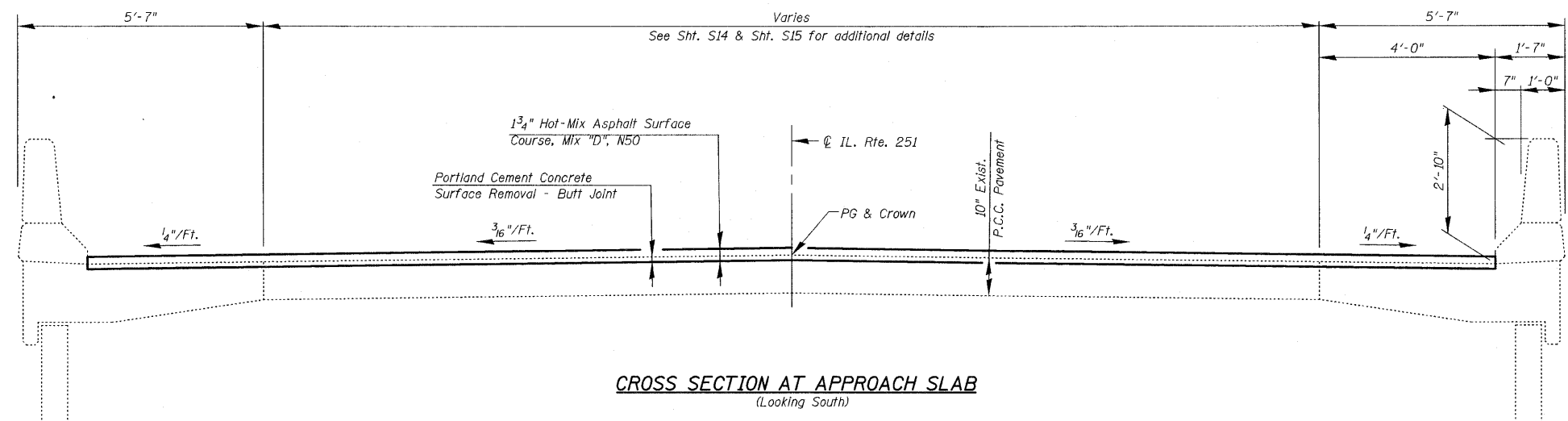
**CR**  
**CHRISTIAN-RODGE & ASSOCIATES, INC.**  
**ENGINEERS-PLANNERS-SURVEYORS**  
**211 WEST WACKER DRIVE**  
**CHICAGO, ILLINOIS 60606**  
**PHONE: (312)372-2023 FAX: (312)372-5274**

SHEET NO. S2	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 9
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DECK CROSS SECTION**  
(Looking South)



**CROSS SECTION AT APPROACH SLAB**  
(Looking South)

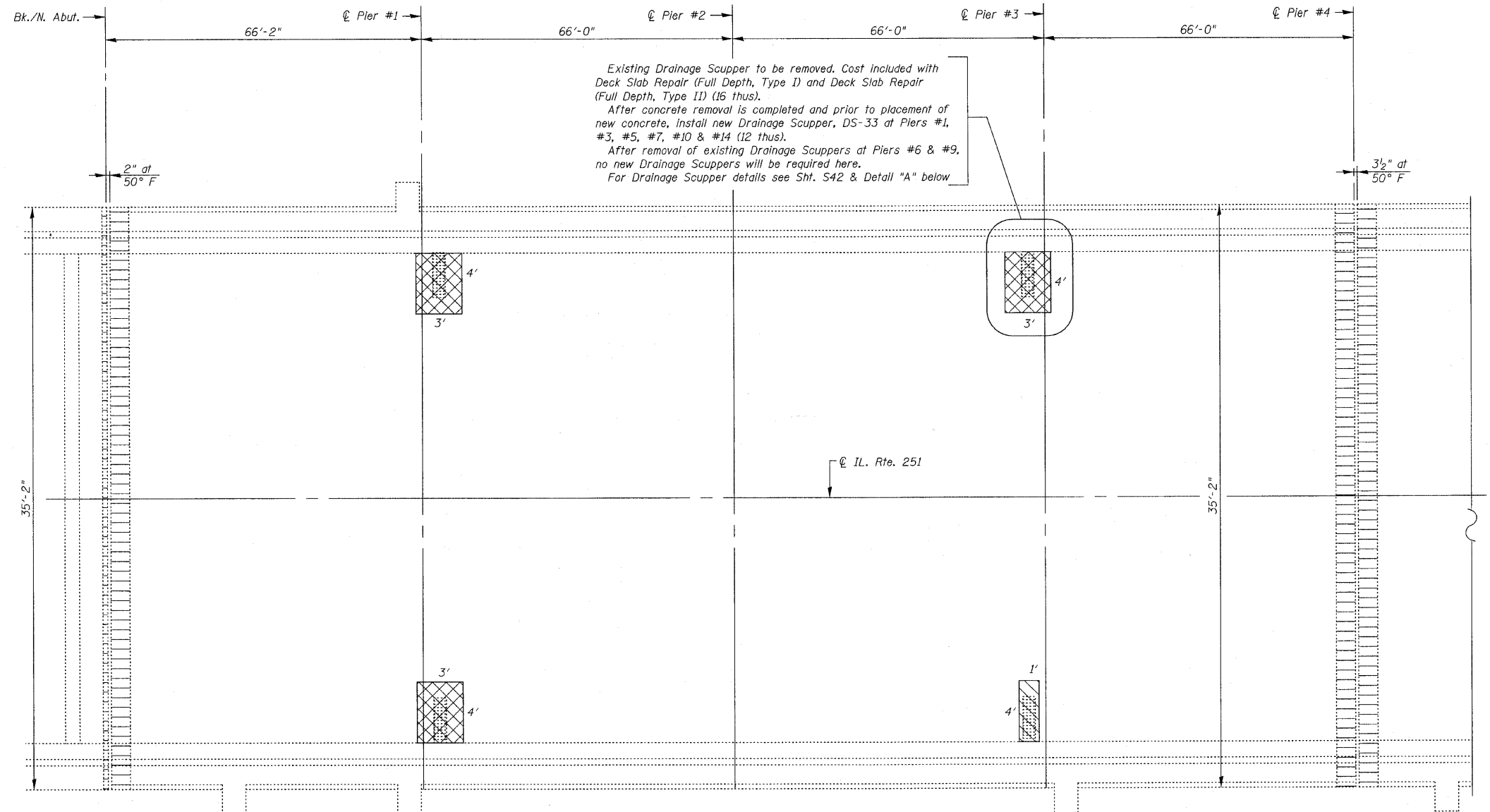
**DECK CROSS SECTION**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

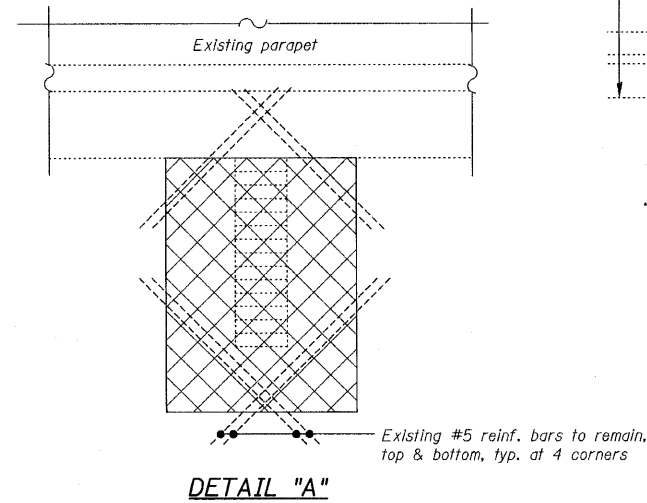
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S3	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 10
S43 SHEETS			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Existing Drainage Scupper to be removed. Cost included with Deck Slab Repair (Full Depth, Type I) and Deck Slab Repair (Full Depth, Type II) (16 thus).  
After concrete removal is completed and prior to placement of new concrete, install new Drainage Scupper, DS-33 at Piers #1, #3, #5, #7, #10 & #14 (12 thus).  
After removal of existing Drainage Scuppers at Piers #6 & #9, no new Drainage Scuppers will be required here.  
For Drainage Scupper details see Sht. S42 & Detail "A" below



**DECK REPAIRS**  
(Spans 1 thru 4)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Bridge Deck Grooving	Sq Yd	3,350
Protective Coat	Sq Yd	3,570
Bridge Deck Hydro-Scarification 1/2"	Sq Yd	3,570
Deck Slab Repair (Full Depth, Type I)	Sq Yd	5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	7
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq Yd	3,570

- LEGEND:**
- Deck Slab Repair (Full Depth, Type I)
  - Deck Slab Repair (Full Depth, Type II)
  - Expansion Joint Reconstruction

**DECK REPAIRS-I**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

**NOTES:**

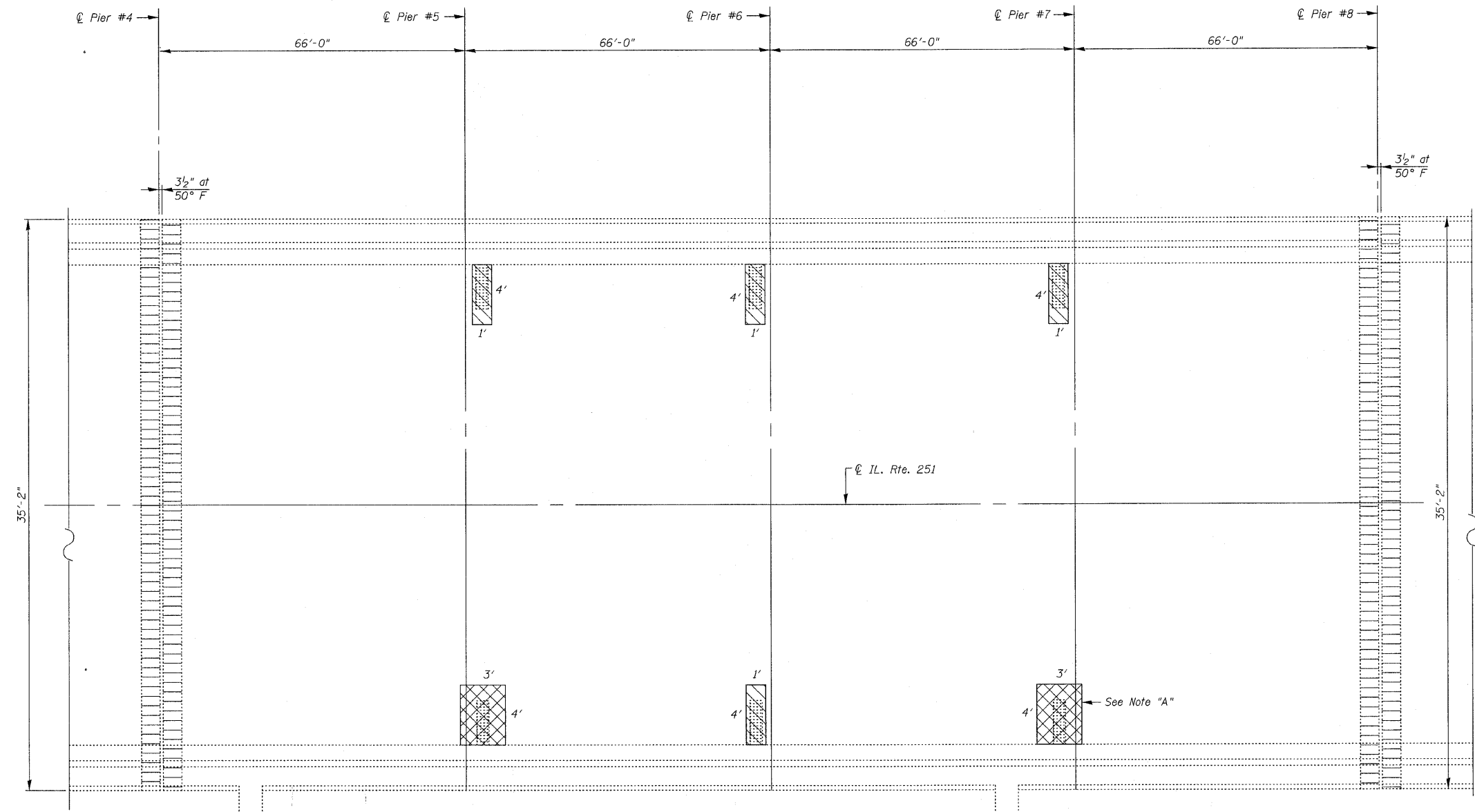
For Expansion Joint Reconstruction Details, See Sht's. S8 thru S13.  
For Approach Slab Repairs, see Sht's. S14 & S15.  
Areas of Deck Repairs shown are estimated. The Engineer shall show actual locations of Deck Repairs on As-Built Plans.  
During Full Depth Repair over Scuppers, the Contractor must not disturb or damage the existing beams beneath the drainage scuppers.

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S4	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 11
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DECK REPAIRS**  
(Spans 5 thru 8)

**NOTE "A"**

Four pipe hangers supporting the conduit connected to the bottom of the deck are within the repair area. These Pipe hangers shall be re-installed, either by reattachment prior to forming the concrete repair, or by relocation to a portion of the existing deck within two feet of the repair area. Cost included with Deck Slab Repair (Full Depth, Type II).

**LEGEND:**

- Deck Slab Repair (Full Depth, Type I)
- Deck Slab Repair (Full Depth, Type II)
- Expansion Joint Reconstruction

**NOTES:**

For Expansion Joint Reconstruction Details, See Sht's. S8 thru S13. For Approach Slab Repairs, see Sht's. S14 & S15. Areas of Deck Repairs shown are estimated. The Engineer shall show actual locations of Deck Repairs on As-Built Plans. During Full Depth Repair over Scuppers, the Contractor must not disturb or damage the existing beams beneath the drainage scuppers.

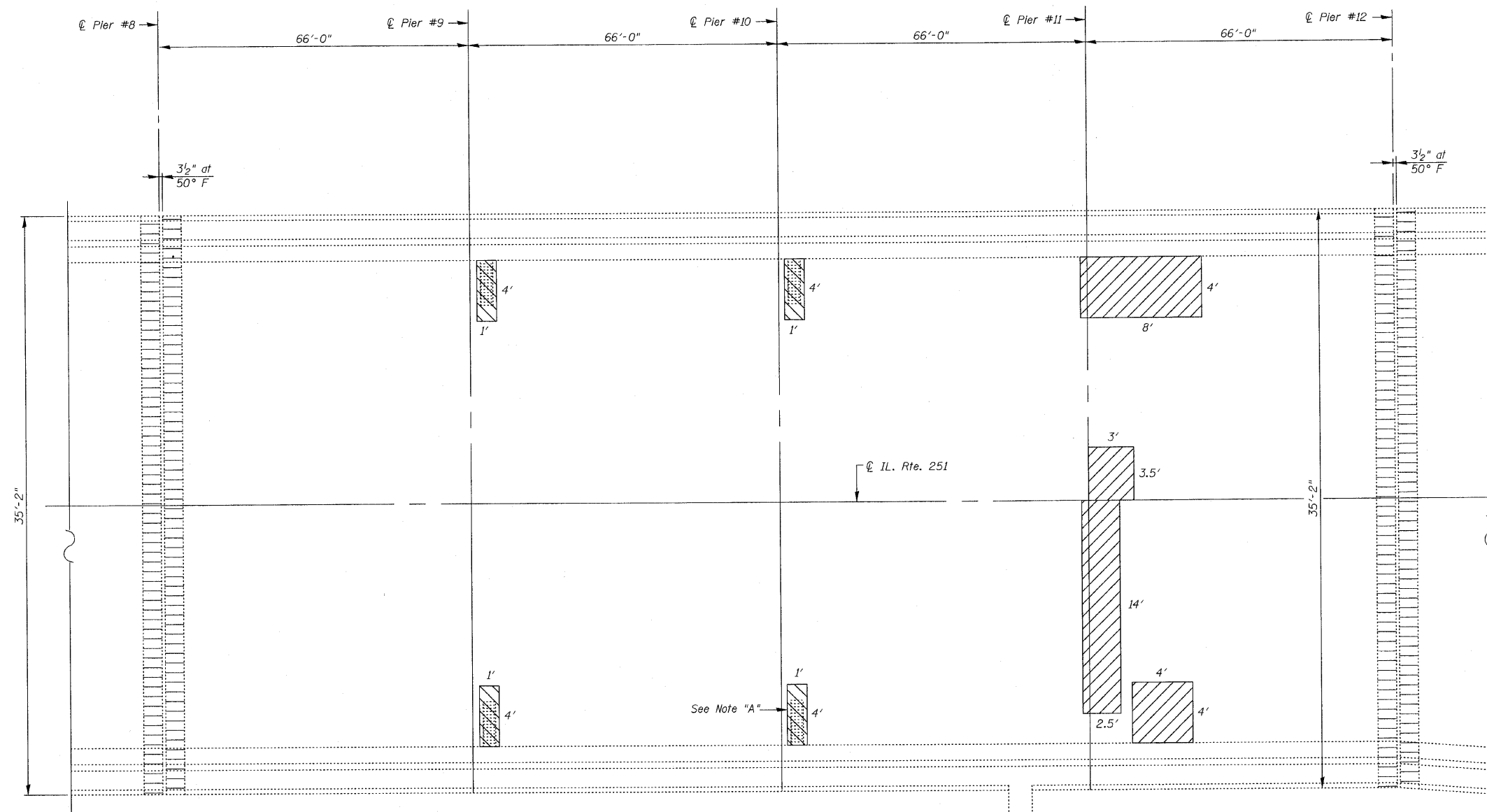
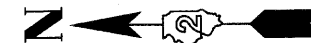
**DECK REPAIRS-II**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S5 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 12
	CONTRACT NO. 64G24				
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DECK REPAIRS**  
(Spans 9 thru 12)

**NOTE "A"**

Four pipe hangers supporting the conduit connected to the bottom of the deck are within the repair area. These Pipe hangers shall be re-installed, either by reattachment prior to forming the concrete repair, or by relocation to a portion of the existing deck within two feet of the repair area. Cost included with Deck Slab Repair (Full Depth, Type I).

**NOTES:**

For Expansion Joint Reconstruction Details, See Sht's. S8 thru S13.  
For Approach Slab Repairs, see Sht's. S14 & S15.  
Areas of Deck Repairs shown are estimated. The Engineer shall show actual locations of Deck Repairs on As-Built Plans.  
During Full Depth Repair over Scuppers, the Contractor must not disturb or damage the existing beams beneath the drainage scuppers.

**LEGEND:**

- Deck Slab Repair (Full Depth, Type I)
- Deck Slab Repair (Full Depth, Type II)
- \* Deck Slab Repair (Partial)
- Expansion Joint Reconstruction

\* For Information only

**DECK REPAIRS-III**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

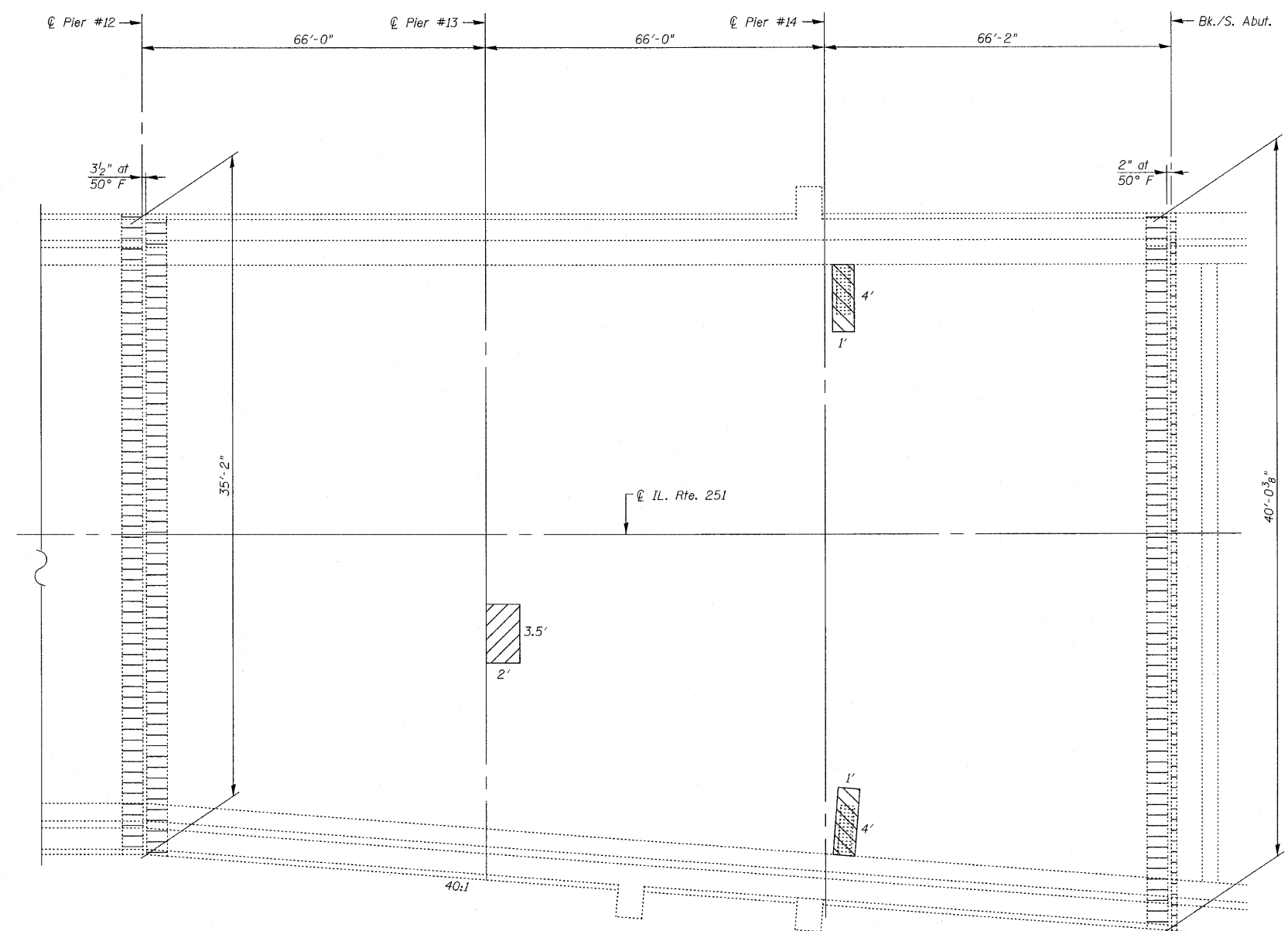
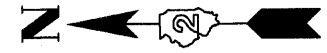
DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

EXAMINED	2010
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

**CR & A**  
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
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SHEET NO. S6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	13
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DECK REPAIRS**  
(Spans 13 thru 15)

**NOTES:**  
For Expansion Joint Reconstruction Details, See Sht's. S8 thru S13.  
For Approach Slab Repairs, see Sht's. S14 & S15.  
Areas of Deck Repairs shown are estimated. The Engineer shall show actual locations of Deck Repairs on As-Built Plans.  
During Full Depth Repair over Scuppers, the Contractor must not disturb or damage the existing beams beneath the drainage scuppers.

- LEGEND:**
- Deck Slab Repair (Full Depth, Type I)
  - Deck Slab Repair (Full Depth, Type II)
  - \* Deck Slab Repair (Partial)
  - Expansion Joint Reconstruction

\* For Information only

**DECK REPAIRS-IV**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

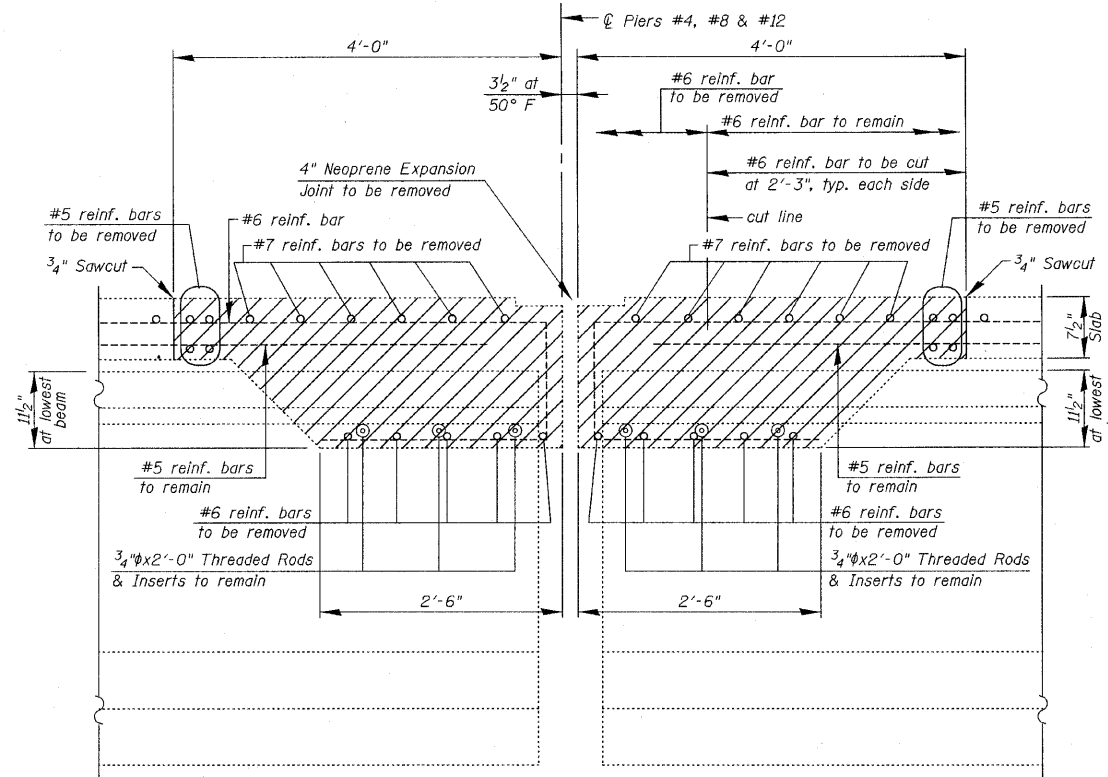
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
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SHEET NO. S7	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 14
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		





STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

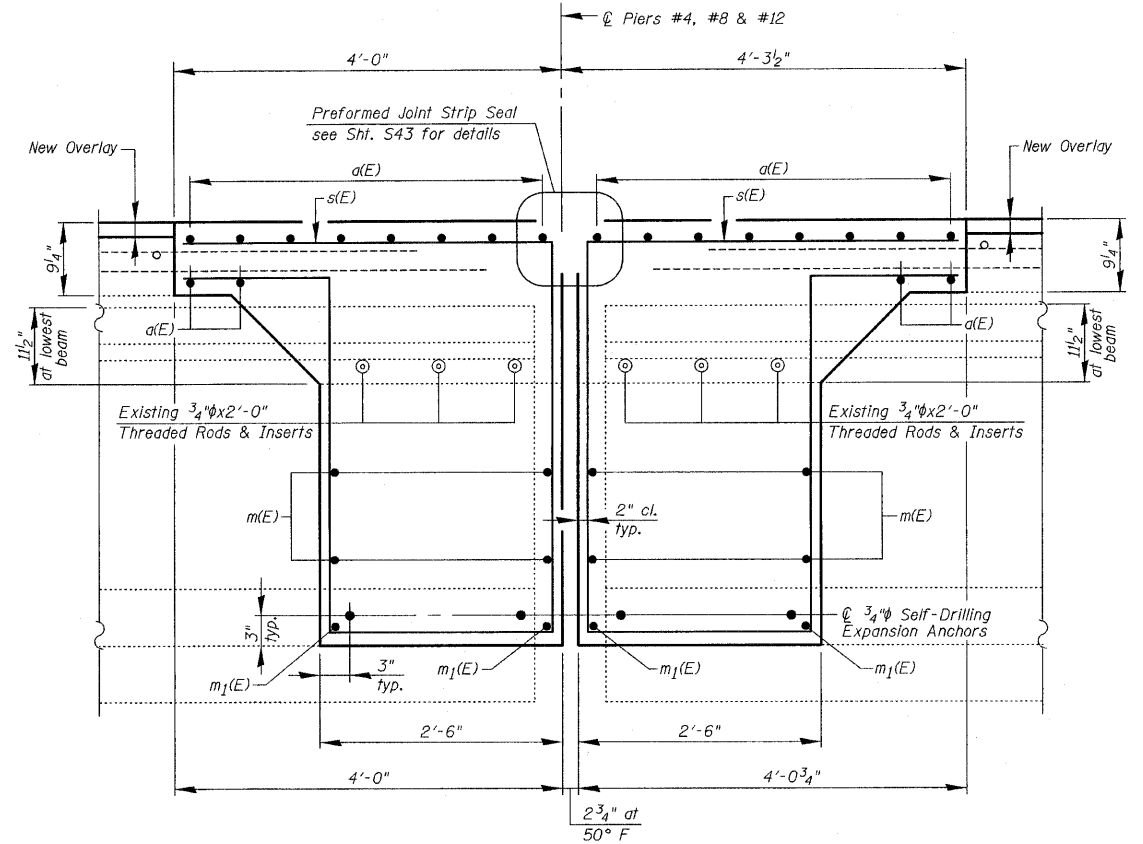


EXISTING

SECTION B-B  
(at Piers #4, #8 & #12)

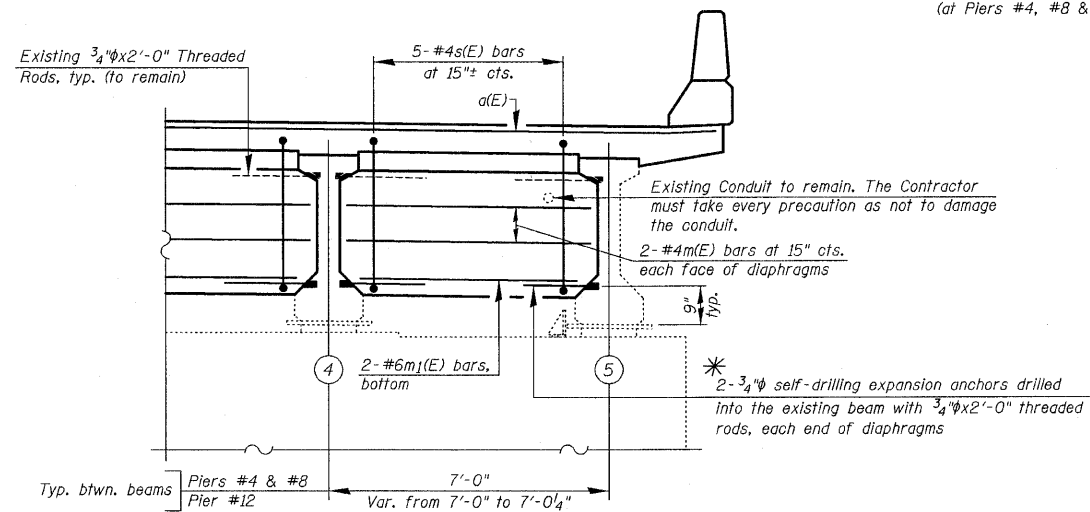
LEGEND:

Concrete Removal



PROPOSED

SECTION B-B  
(at Piers #4, #8 & #12)



PROPOSED

SECTION C-C  
(at Piers #4, #8 & #12)

\* Expansion Anchors shall be placed to avoid all reinforcement.  
Cost of Expansion Anchors is included with Reinforcement  
Bars, Epoxy Coated (32 per Joint = 96 total)

EXPANSION JOINT &  
DIAPHRAGM RECONSTRUCTION  
DETAILS AT PIERS #4, #8 & #12  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

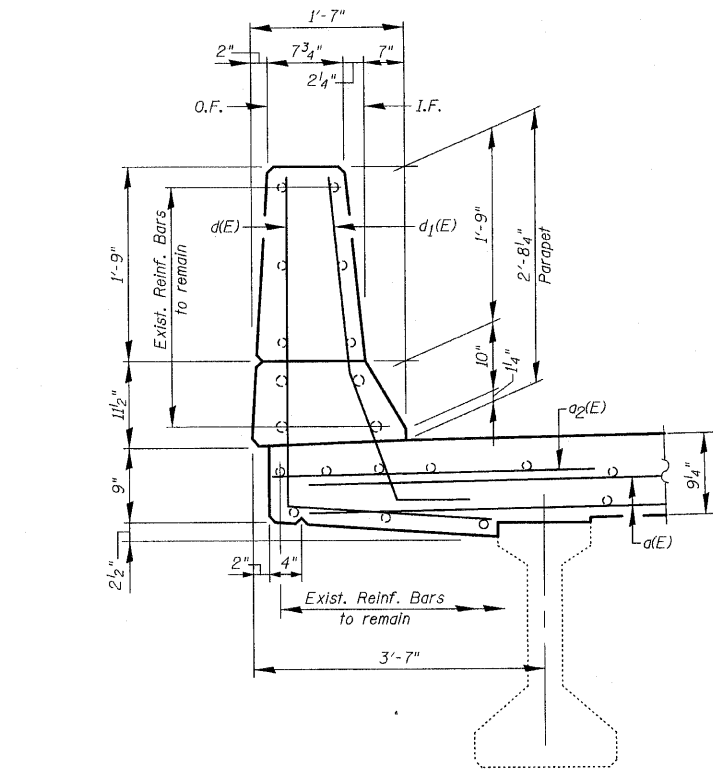
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S9	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 16
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

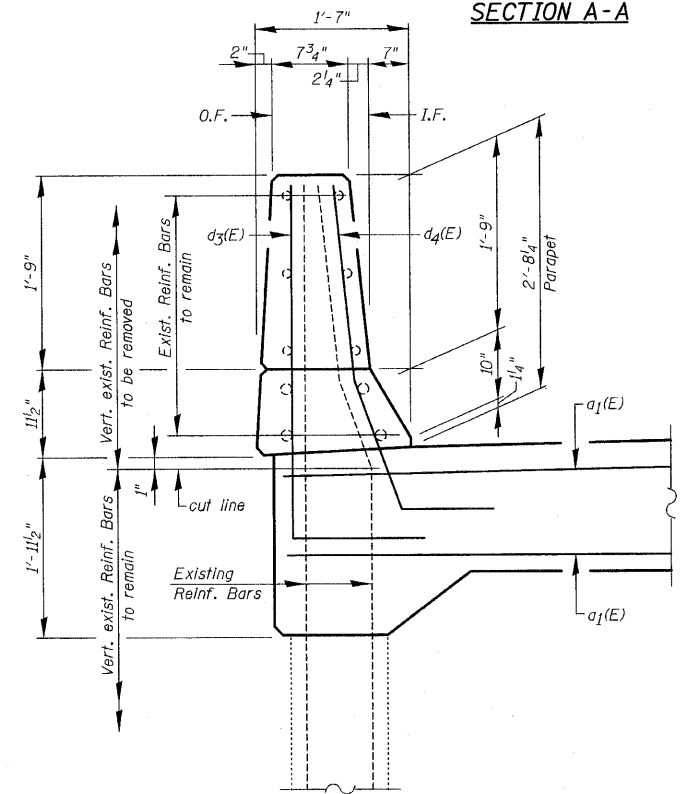
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIAL

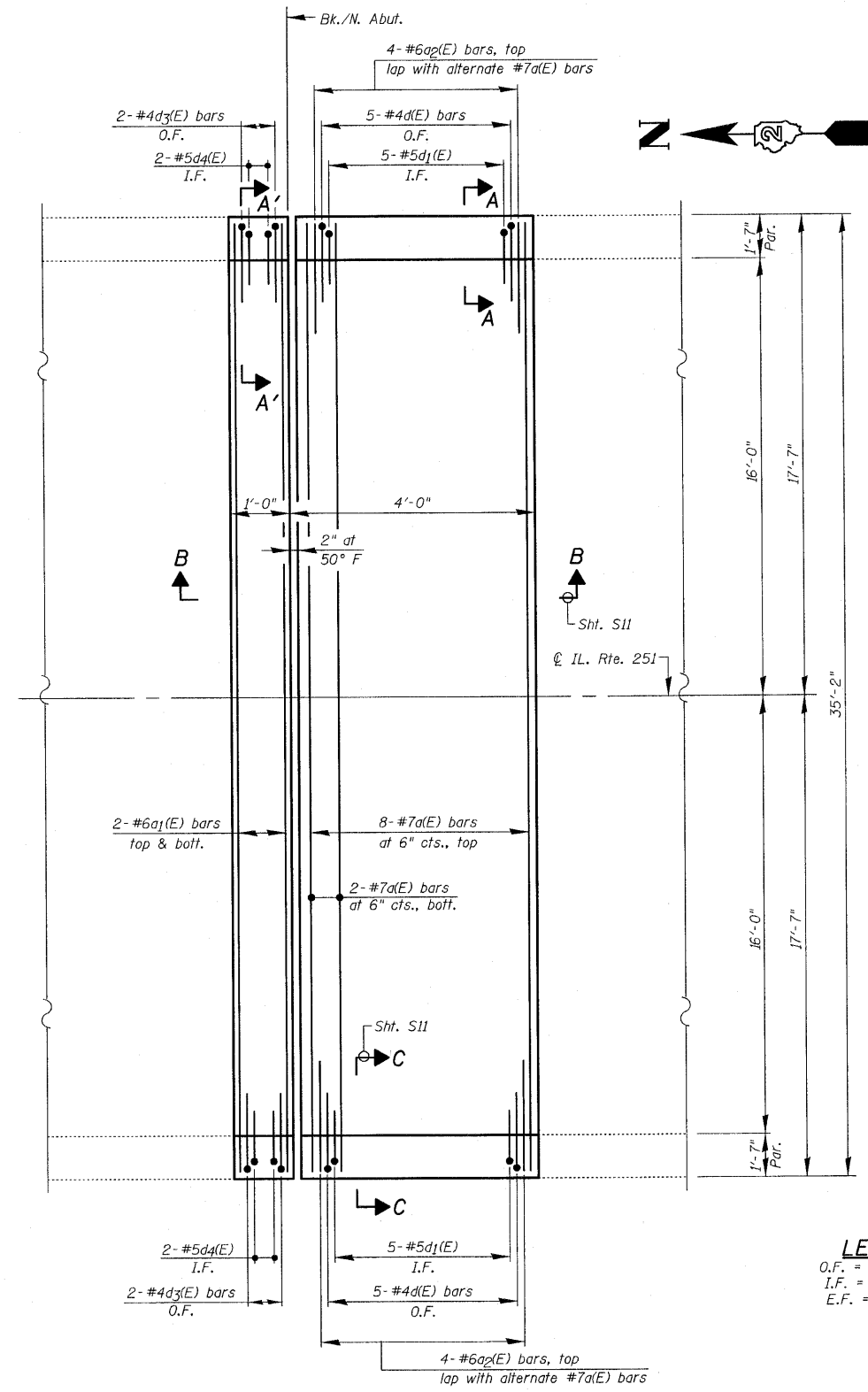
Bar	No.	Size	Length	Shape
$\alpha(E)$	10	#7	34'-4"	—
$d_1(E)$	4	#6	34'-4"	—
$d_2(E)$	8	#6	4'-7"	—
$d(E)$	10	#4	5'-8"	L
$d_1(E)$	10	#5	3'-11"	L
$d_3(E)$	4	#4	5'-0"	L
$d_4(E)$	4	#5	4'-5"	L
$m(E)$	16	#4	6'-4"	—
$m_1(E)$	8	#6	5'-0"	—
$s(E)$	20	#4	13'-8"	U
Reinforcement Bars, Epoxy Coated		Pound	1,380	
Concrete Removal		Cu Yd	9.1	
Concrete Superstructure		Cu Yd	14.9	



SECTION A-A

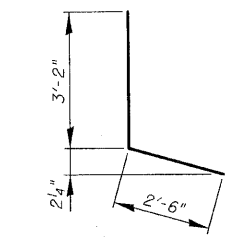


SECTION A'-A'

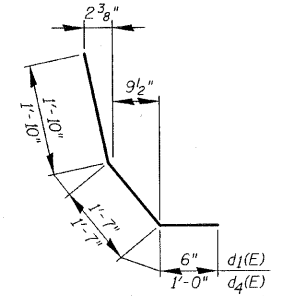


EXPANSION JOINT RECONSTRUCTION  
AT NORTH ABUTMENT

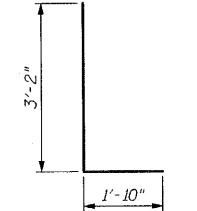
PLAN



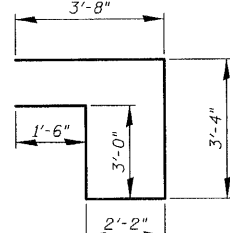
BAR d(E)



BARS d\_1(E) & d\_4(E)



BAR d\_3(E)



BAR s(E)

LEGEND:

O.F. = Outside Face  
I.F. = Inside Face  
E.F. = Each Face

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

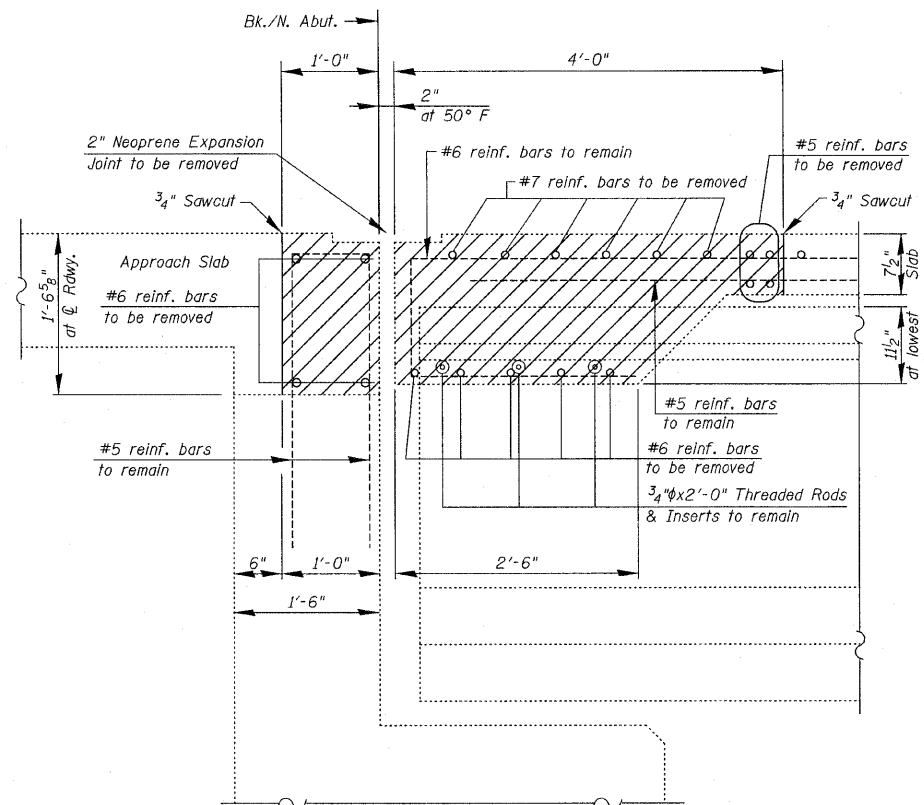
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

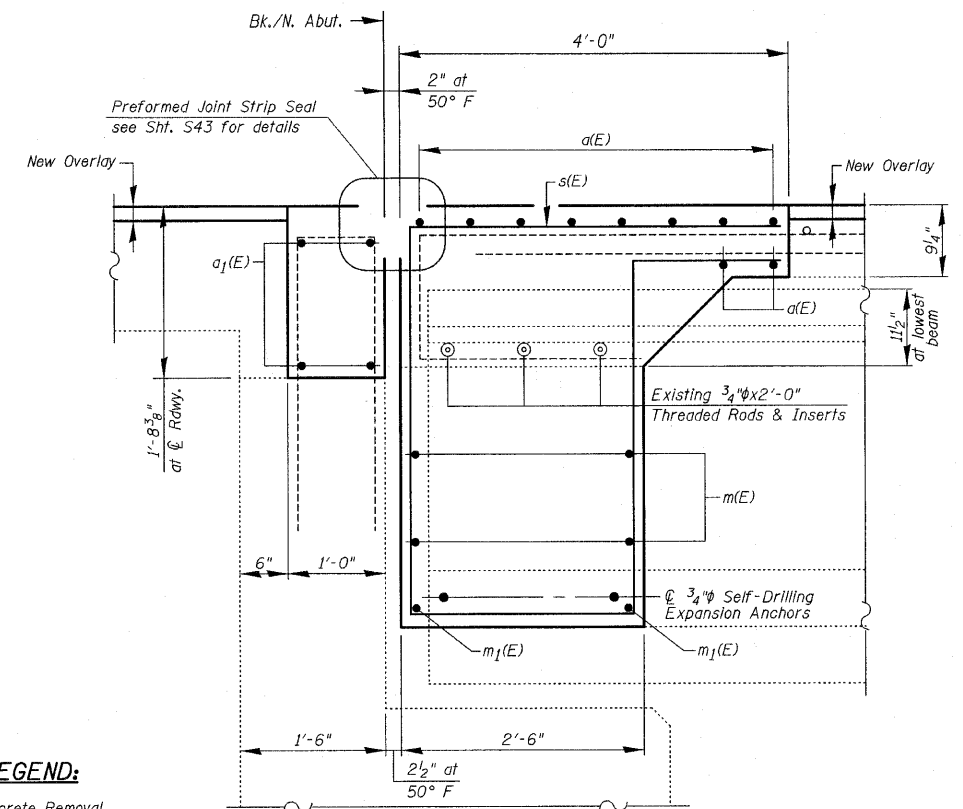
SHEET NO. S10	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 17
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

EXPANSION JOINT &  
DIAPHRAGM RECONSTRUCTION  
AT NORTH ABUTMENT  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

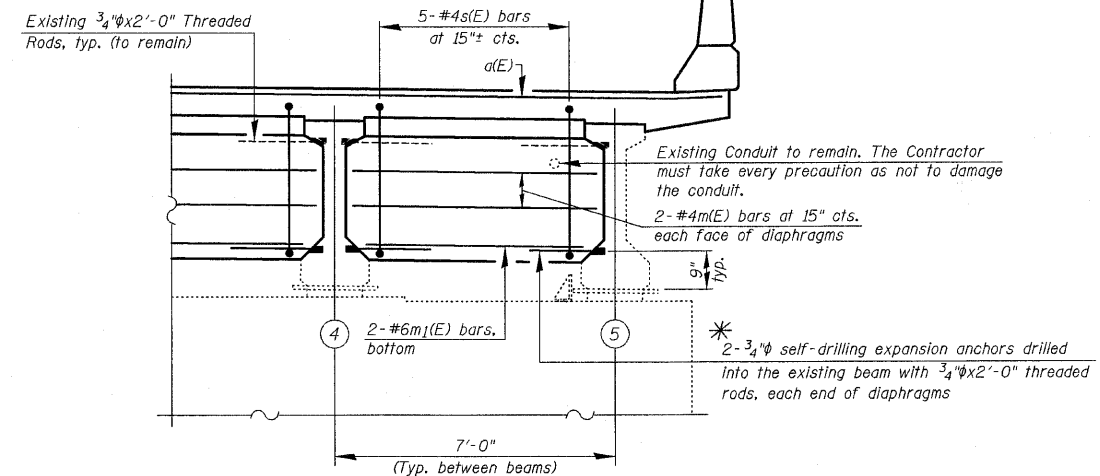
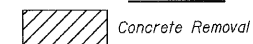


EXISTING  
SECTION B-B



PROPOSED  
SECTION B-B

LEGEND:



PROPOSED  
SECTION C-C

\* Expansion Anchors shall be placed to avoid all reinforcement. Cost of Expansion Anchors is included with Reinforcement Bars, Epoxy Coated (16 total)

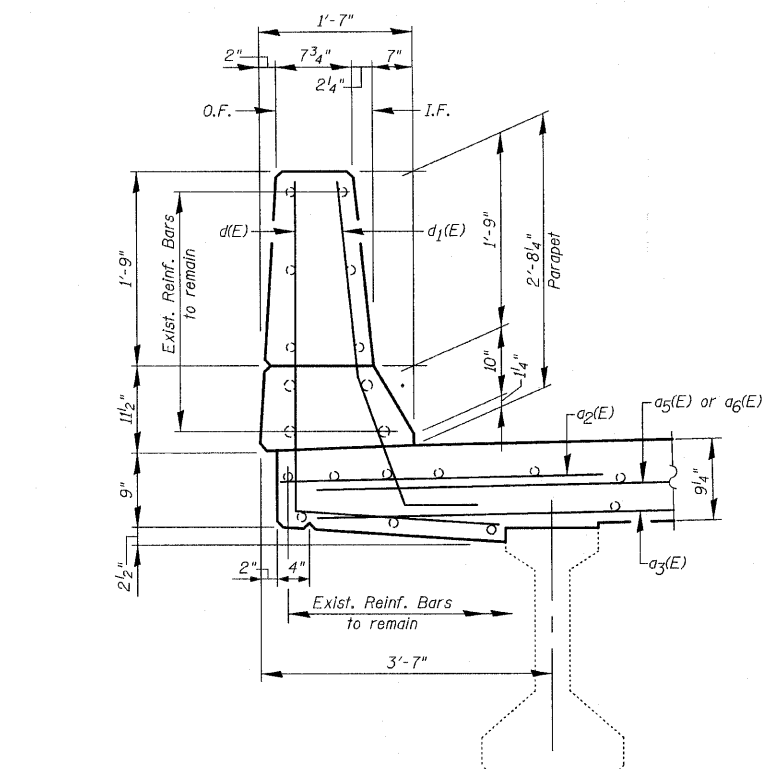
EXPANSION JOINT &  
DIAPHRAGM RECONSTRUCTION  
DETAILS AT NORTH ABUTMENT  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

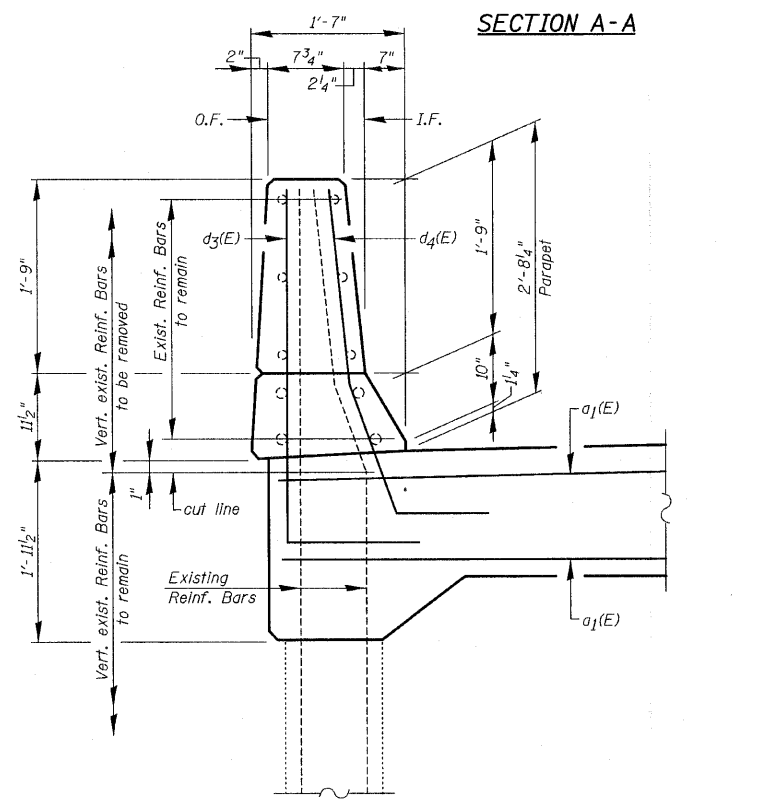
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S11	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 18
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

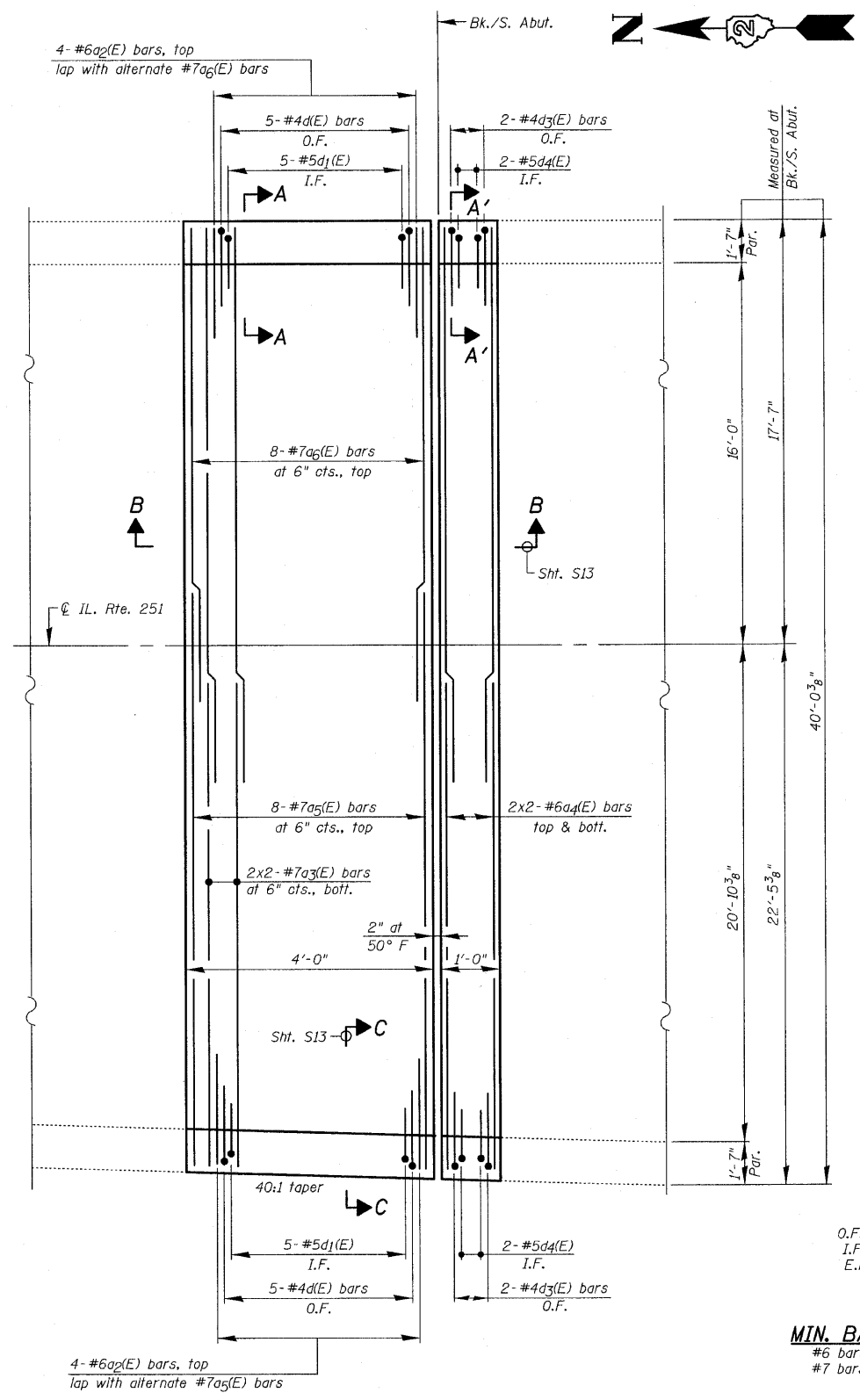
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SECTION A-A

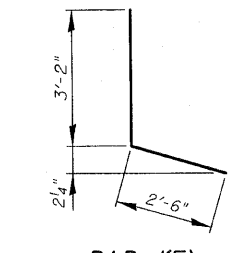


SECTION A'-A'

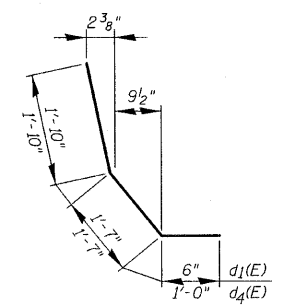


EXPANSION JOINT RECONSTRUCTION  
AT SOUTH ABUTMENT

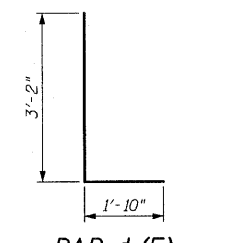
PLAN



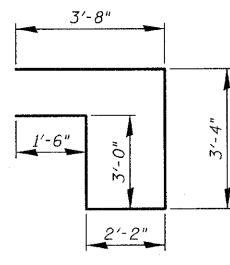
BAR d(E)



BARS d1(E) & d4(E)



BAR d3(E)



BAR s(E)

LEGEND:  
O.F. = Outside Face  
I.F. = Inside Face  
E.F. = Each Face

MIN. BAR LAP:  
#6 bars = 3'-6"  
#7 bars = 4'-2"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	8	#6	4'-7"	—
a3(E)	4	#7	21'-7"	—
a4(E)	8	#6	21'-7"	—
a5(E)	8	#7	24'-4"	—
a6(E)	8	#7	19'-6"	—
d(E)	10	#4	5'-8"	L
d1(E)	10	#5	3'-11"	L
d3(E)	4	#4	5'-0"	L
d4(E)	4	#5	4'-5"	L
m2(E)	16	#4	7'-6"	—
m3(E)	8	#6	6'-2"	—
s(E)	24	#4	13'-8"	U
Reinforcement Bars, Epoxy Coated		Pound	1,690	
Concrete Removal		Cu Yd	10.4	
Concrete Superstructure		Cu Yd	17.3	

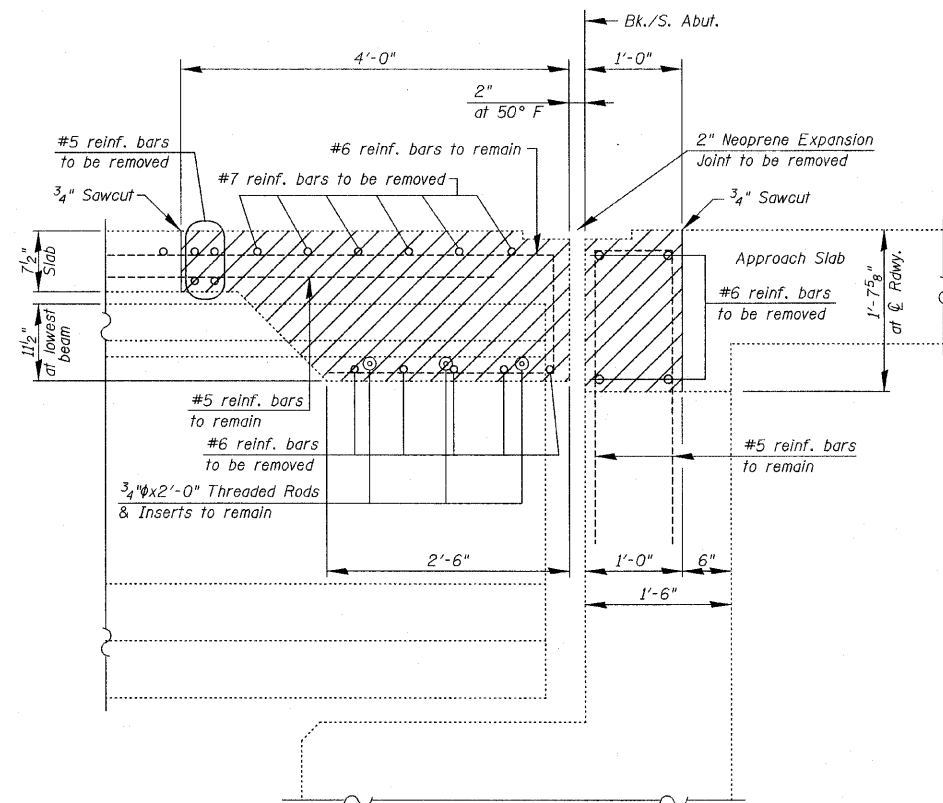
Bars indicated thus 2x2-#6 etc., indicates 2 lines of bars with 2 lengths per line

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

SHEET NO. S12	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 19
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

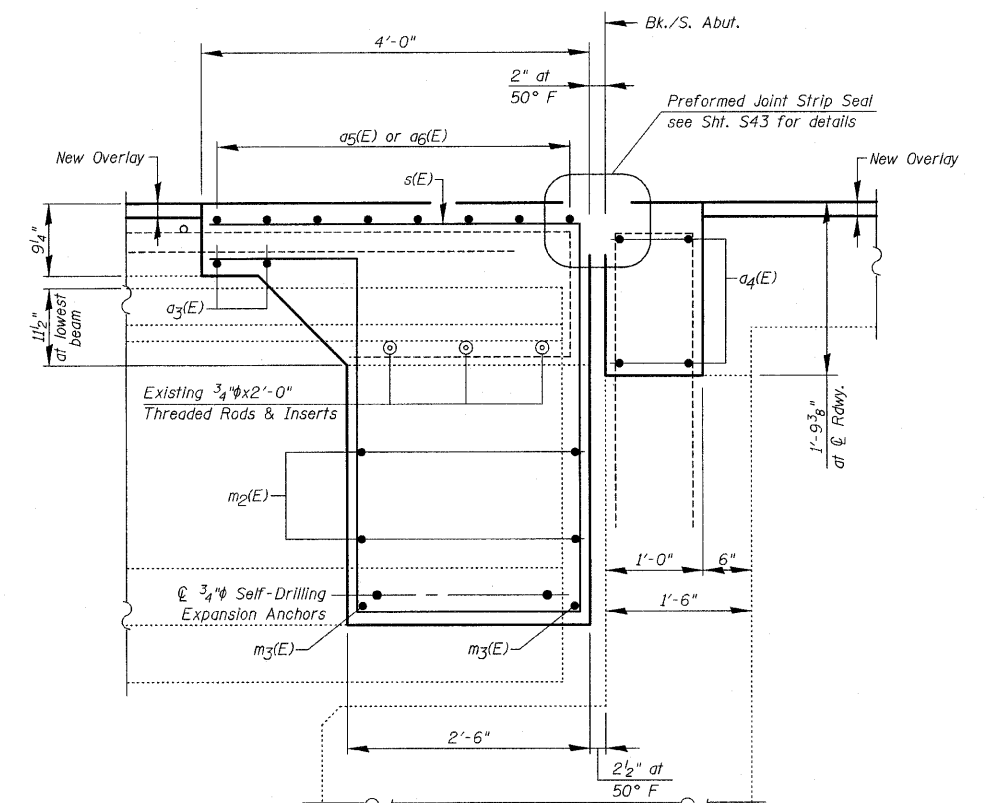
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

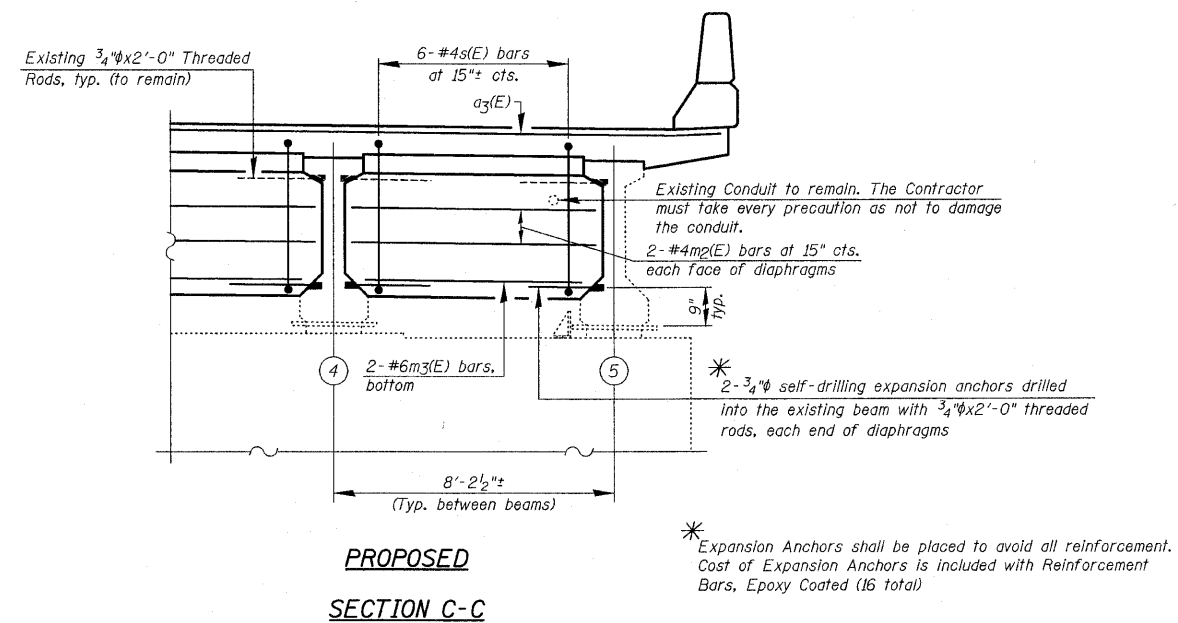


EXISTING  
SECTION B-B

LEGEND:  
Concrete Removal



PROPOSED  
SECTION B-B



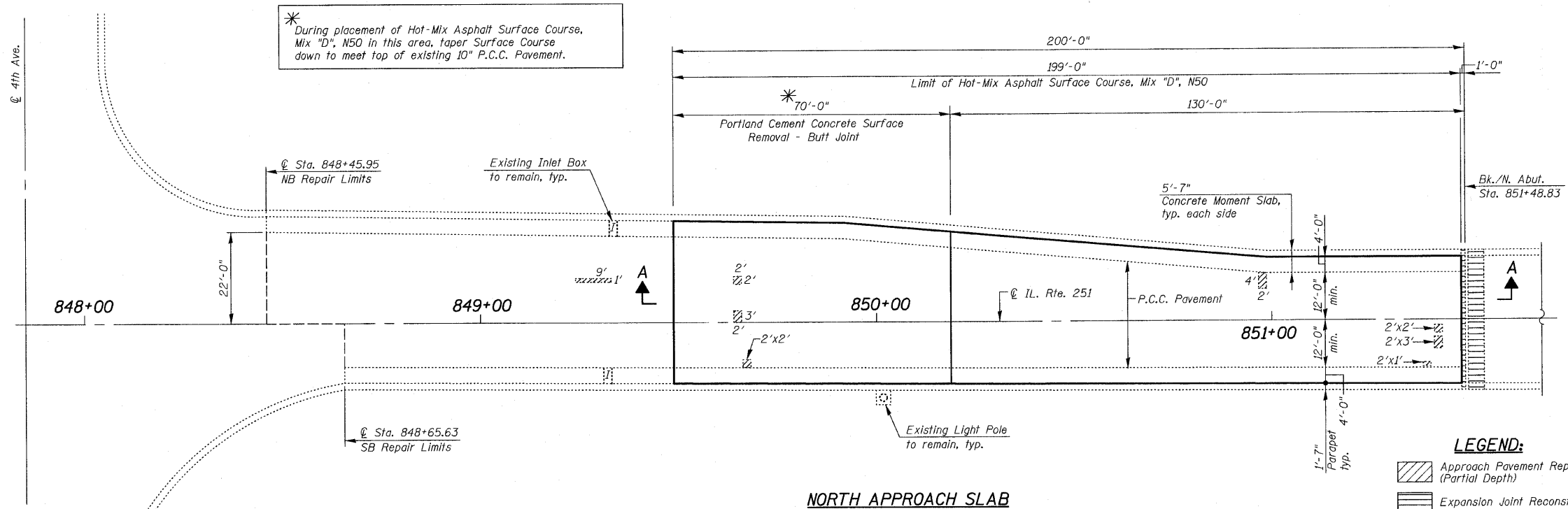
EXPANSION JOINT &  
DIAPHRAGM RECONSTRUCTION  
DETAILS AT SOUTH ABUTMENT  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

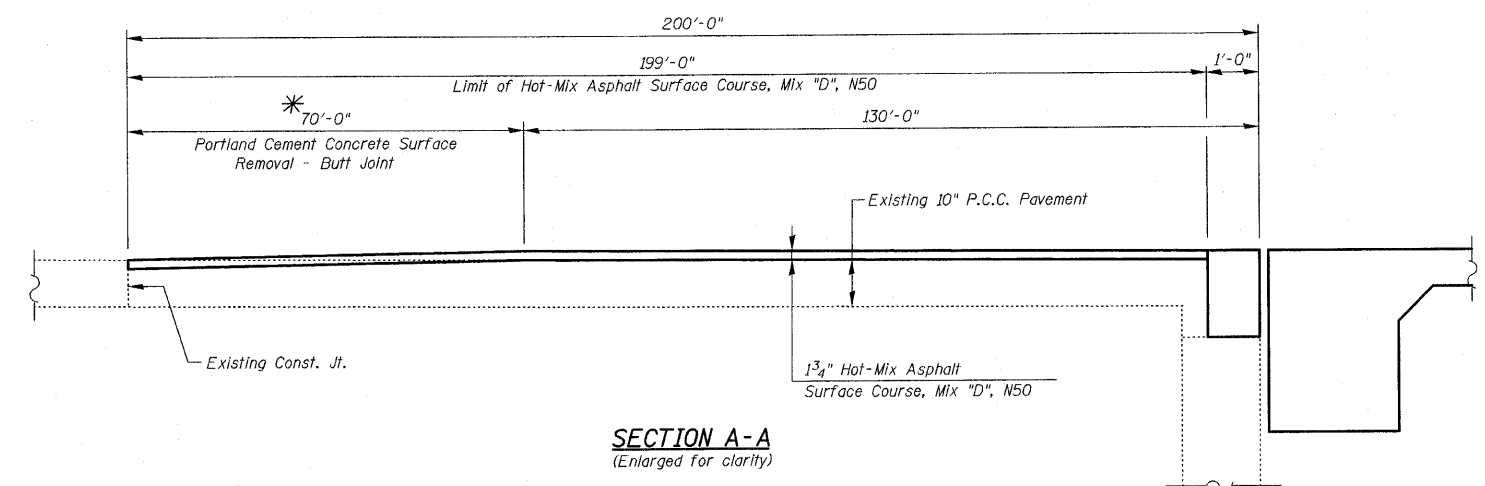
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S13	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 20
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**NORTH APPROACH SLAB**



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Approach Slab Repair (Partial Depth)	Sq Yd	5
Hot-Mix Asphalt Surface Course, Mix "D", N50	Ton	81
Portland Cement Concrete Surface Removal - Butt Joint	Sq Yd	320

\*\* All Approach Pavement Repair (Partial Depth) shall be paid for as Approach Slab Repair (Partial Depth)

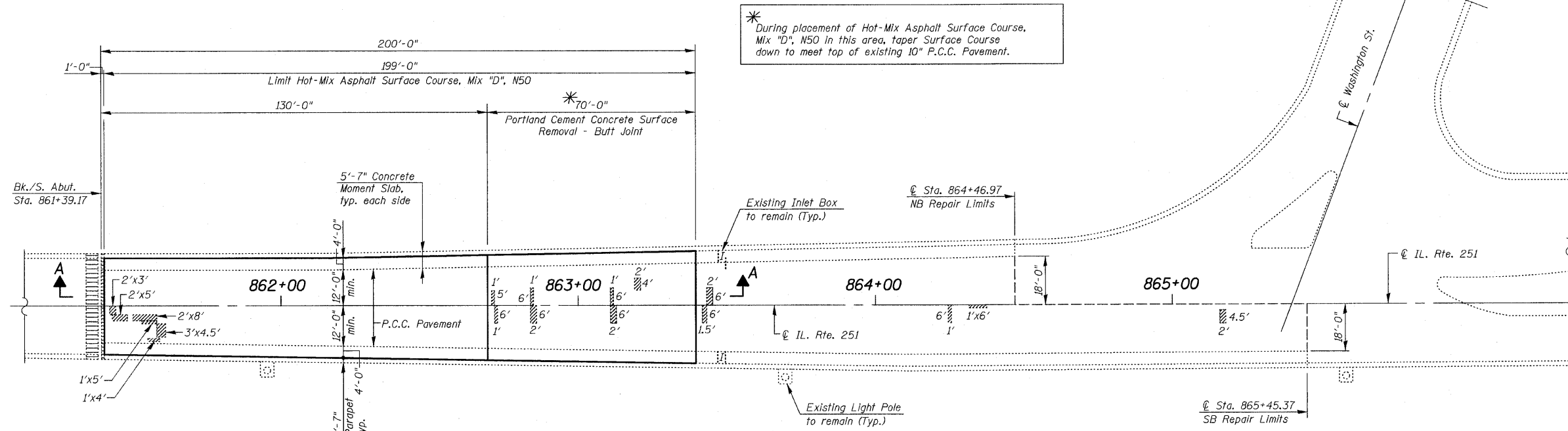
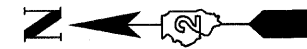
**NORTH APPROACH SLAB PATCHING**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

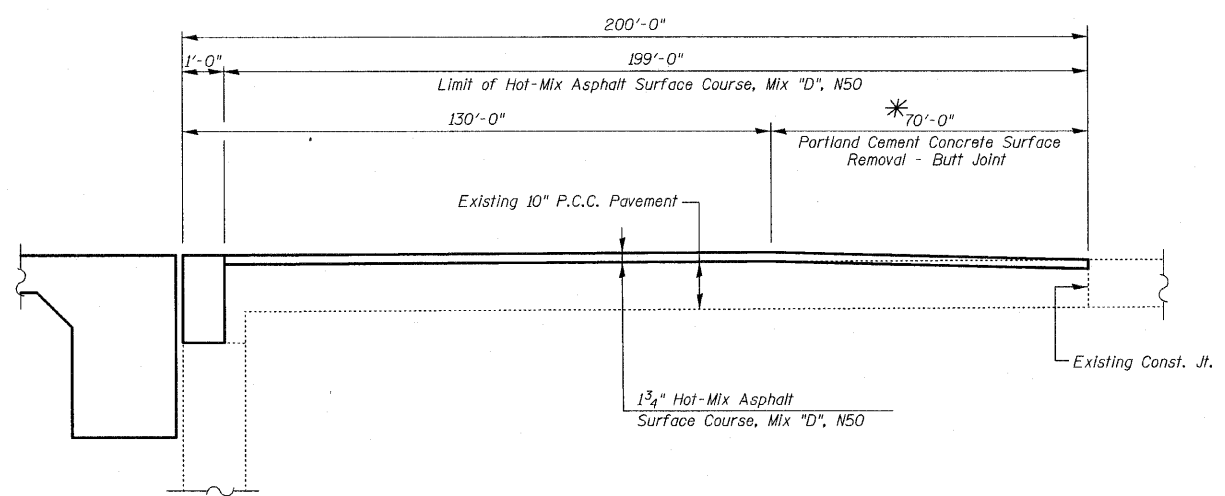
SHEET NO. S14	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 21
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



\* During placement of Hot-Mix Asphalt Surface Course, Mix "D", N50 in this area, taper Surface Course down to meet top of existing 10" P.C.C. Pavement.

**SOUTH APPROACH SLAB**



**SECTION A-A**  
(Enlarged for clarity)

**LEGEND:**  
 Approach Pavement Repair (Partial Depth)  
 Expansion Joint Reconstruction

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Approach Slab Repair (Partial Depth)	Sq Yd	17
Hot-Mix Asphalt Surface Course, Mix "D", N50	Ton	90
Portland Cement Concrete Surface Removal - Butt Joint	Sq Yd	340

\*\* All Approach Pavement Repair (Partial Depth) shall be paid for as Approach Slab Repair (Partial Depth)

**SOUTH APPROACH SLAB PATCHING**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

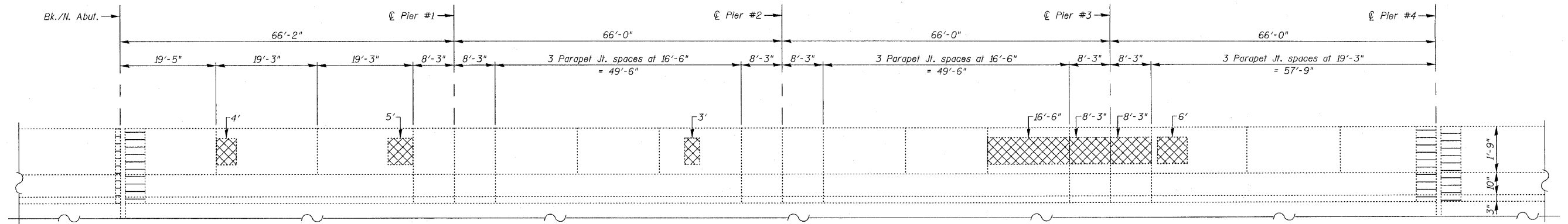
DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CR & A**  
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
**ENGINEERS-PLANNERS-SURVEYORS**  
**211 WEST WACKER DRIVE**  
**CHICAGO, ILLINOIS 60606**  
**PHONE: (312)312-2023 FAX: (312)312-5274**

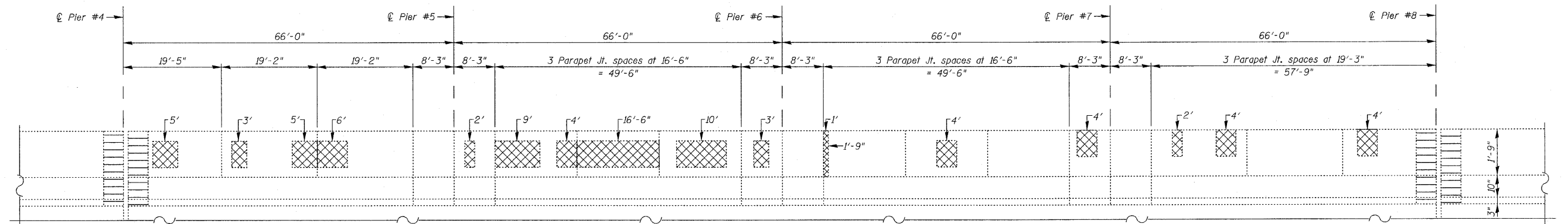
SHEET NO. S15	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	22
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**SPANS 1 THRU 4**



**SPANS 5 THRU 8**

**INSIDE ELEVATION OF EAST PARAPET**  
(Looking East)

- LEGEND:**
- Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
  - Expansion Joint Reconstruction

**NOTES:**  
All patches are 1'-0" high unless otherwise noted.  
See Sht's. S8 thru S13 for Expansion Joint Reconstruction details.

**BILL OF MATERIAL**  
(For East parapet)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	372
Protective Coat (Special)	Sq Yd	388
Surface Filler (Special)	Gallon	1

\* \*  
\*

\* The locations to apply Surface Filler (Special) to be determined by the Engineer in accordance with the Special Provisions.

\* \*  
\* To be applied to the top & inside face of entire parapet.

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

2010  
EXAMINED  
ENGINEER OF BRIDGE DESIGN  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

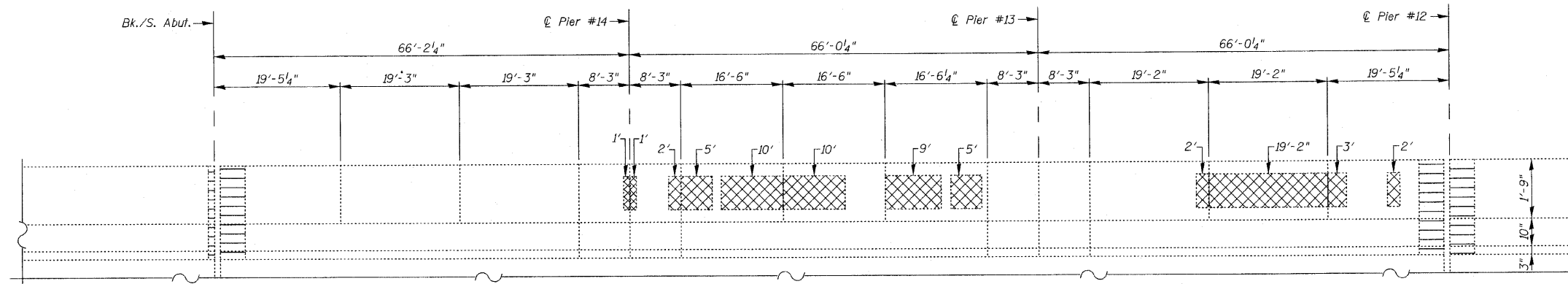
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S16	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 23
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

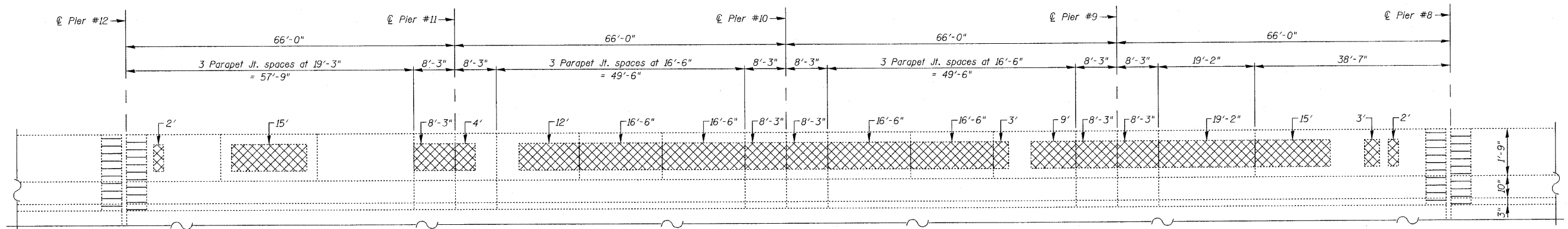
**EAST PARAPET REPAIRS-I**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION





SPANS 13 THRU 15



SPANS 9 THRU 12

INSIDE ELEVATION OF WEST PARAPET  
(Looking West)

- LEGEND:**
-  Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)
  -  Expansion Joint Reconstruction

**NOTES:**  
All patches are 1'-0" high unless otherwise noted.  
See Sht's. S8 thru S13 for Expansion Joint Reconstruction details.

**BILL OF MATERIAL**  
(For West parapet)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	510
Protective Coat (Special)	Sq Yd	388
Surface Filler (Special)	Gallon	1

\* \* \*  
The locations to apply Surface Filler (Special) to be determined by the Engineer in accordance with the Special Provisions.  
\* \* \*  
To be applied to the top & inside face of entire parapet.

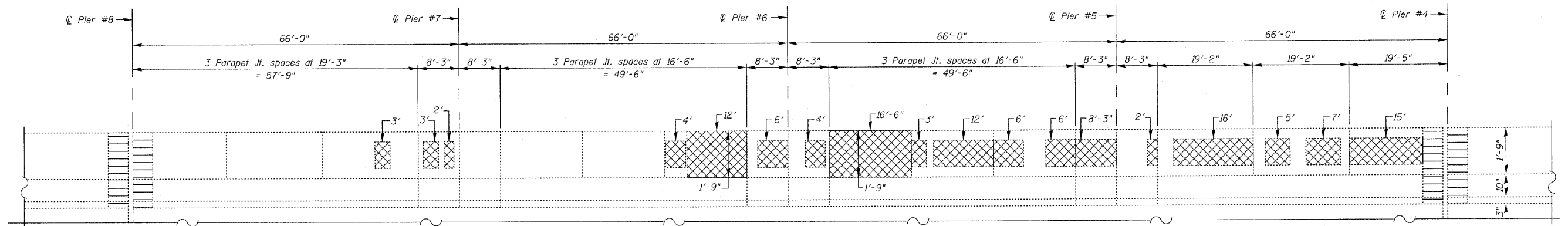
**WEST PARAPET REPAIRS-I**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
**SECTION (108HVB)M**  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

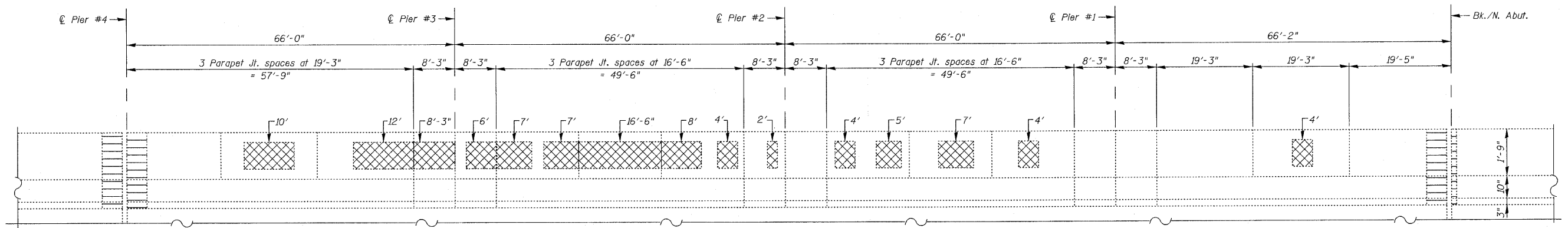
**CR & A**  
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S18 S43 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	25
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SPANS 5 THRU 8





SPANS 1 THRU 4

INSIDE ELEVATION OF WEST PARAPET  
(Looking West)

**NOTES:**

All patches are 1'-0" high unless otherwise noted.  
See Sht's. S8 thru S13 for Expansion Joint Reconstruction details.

**LEGEND:**

-  Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)
-  Expansion Joint Reconstruction

**WEST PARAPET REPAIRS-II**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

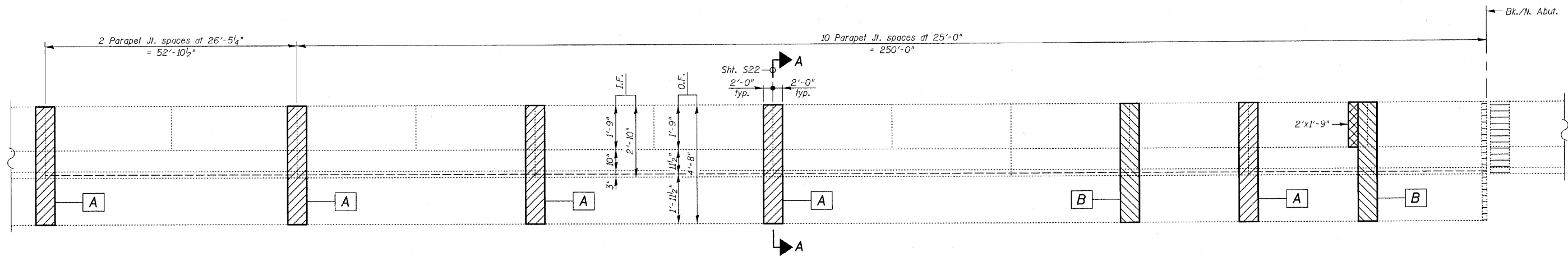
DESIGNED -
CHECKED -
DRAWN -
CHECKED -

2010
EXAMINED
PASSED
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

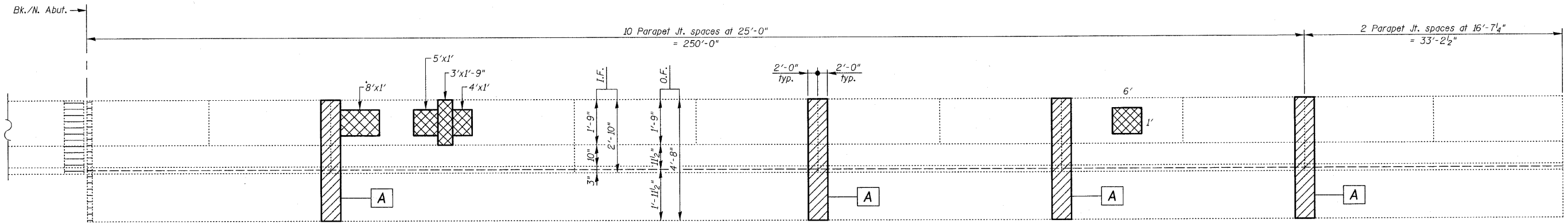
SHEET NO. S19 S43 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	26
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**ELEVATION**  
(Showing inside face of East Parapet above MSE Retaining Wall D)

**NOTE:**  
MSE Retaining Wall omitted for clarity



**ELEVATION**  
(Showing inside face of West Parapet above MSE Retaining Wall C)

**LEGEND:**  
I.F. = Inside Face  
O.F. = Outside Face

**LEGEND:**

- Approach Slab Parapet Joint Repair (Joint Type "A")
- Approach Slab Parapet Joint Repair (Joint Type "B")
- Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
- Bridge Deck Expansion Joint Reconstruction
- Joint Type

**NORTH APPROACH SLAB**

**NOTES:**  
See Sht's. S8 thru S13 for Bridge Deck Expansion Joint Reconstruction details.  
See Sht. S22 for Approach Slab Parapet Joint Repair details.  
Joint Type A has 1/8" Aluminum Sheet in base of Parapet.  
Joint Type B contains no Aluminum Sheet.

**BILL OF MATERIAL**  
(For East parapet)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	32
Protective Coat (Special)	Sq Yd	230
Surface Filler (Special)	Gallon	1

\* The locations to apply Surface Filler (Special) to be determined by the Engineer in accordance with the Special Provisions.  
\* \* To be applied to the top & inside face of entire parapet.

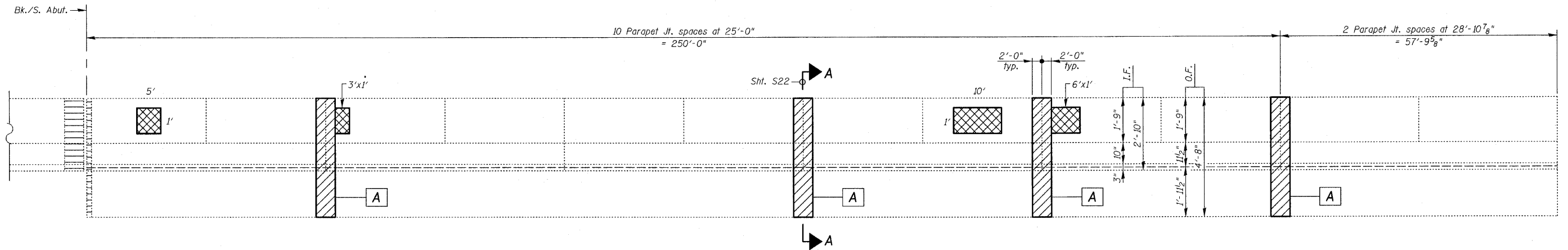
**NORTH APPROACH SLAB  
PARAPET REPAIRS  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CR & A**  
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

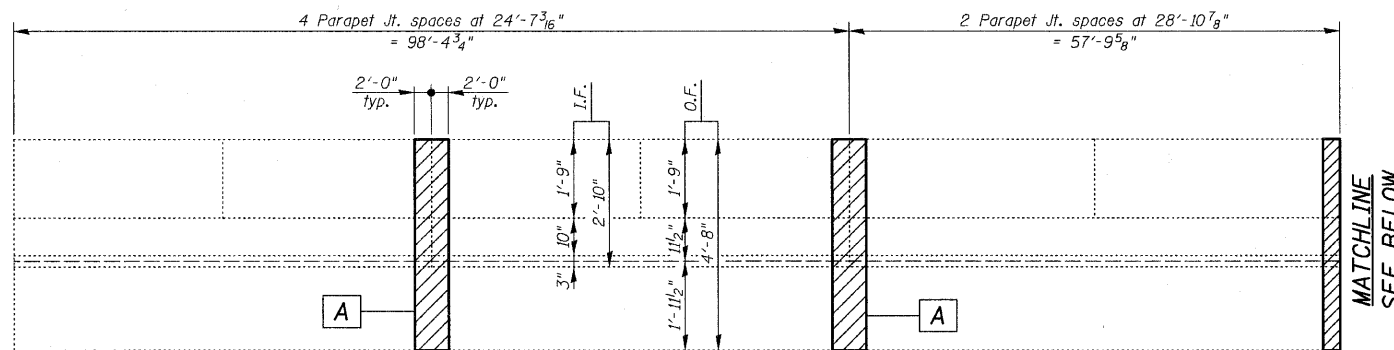
SHEET NO. S20	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 27
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**ELEVATION**  
(Showing inside face of East Parapet above MSE Retaining Wall B)

**NOTE:**  
MSE Retaining Wall omitted for clarity



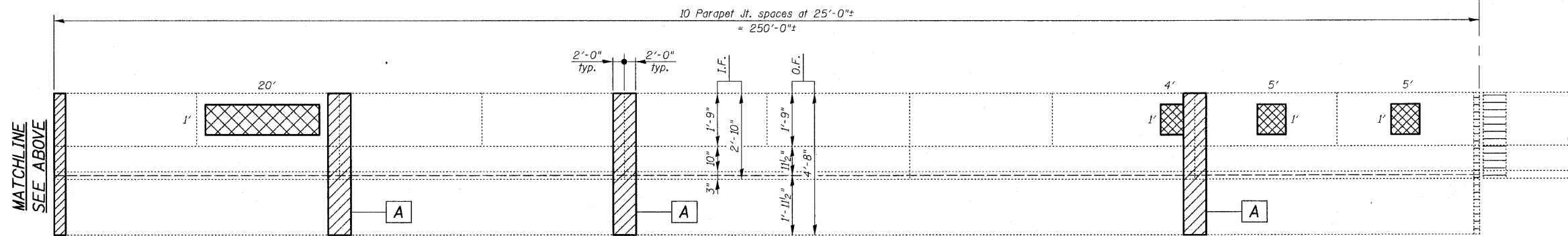
**ELEVATION**  
(Showing inside face of West Parapet above MSE Retaining Wall A)

**BILL OF MATERIAL**  
(For East parapet)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	58
Protective Coat (Special)	Sq Yd	280
Surface Filler (Special)	Gallon	1

\* The locations to apply Surface Filler (Special) to be determined by the Engineer in accordance with the Special Provisions.

\*\* To be applied to the top & inside face of entire parapet.



**ELEVATION**  
(Showing inside face of West Parapet above MSE Retaining Wall A)

**SOUTH APPROACH SLAB**

**LEGEND:**

**LEGEND:**

O.F. = Outside Face  
I.F. = Inside Face

- Approach Slab Parapet Joint Repair (Joint Type "A")
- Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
- Bridge Deck Expansion Joint Reconstruction
- Joint Type

**NOTES:**

See Sh's. S8 thru S13 for Bridge Deck Expansion Joint Reconstruction details.  
See Sh. S22 for Approach Slab Parapet Joint Repair details.  
Joint Type A has 1/8" Aluminum Sheet in base of Parapet.

**SOUTH APPROACH SLAB  
PARAPET REPAIRS**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

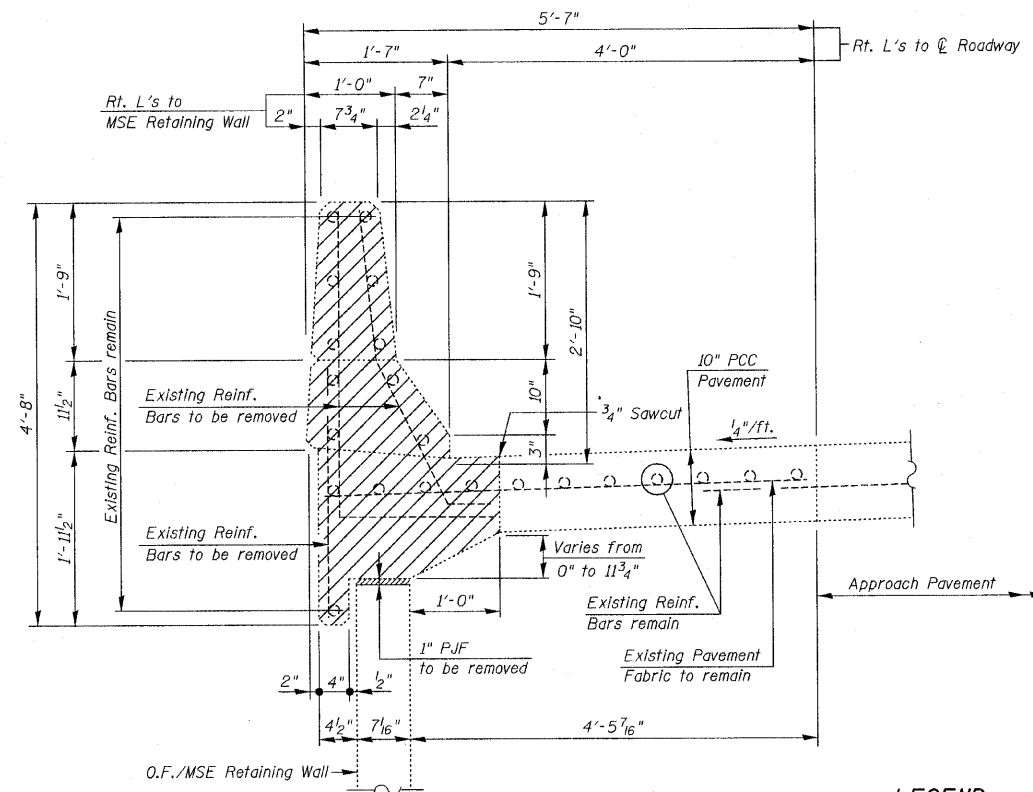
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S21	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 28
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

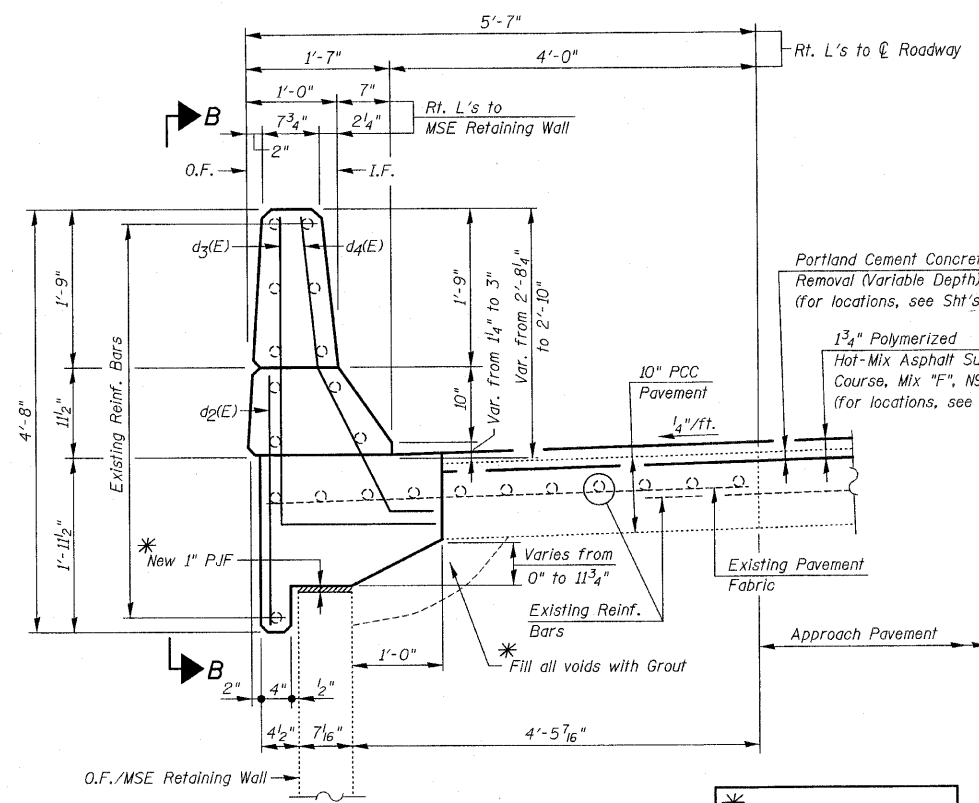
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	105	#4	2'-8"	—
d <sub>3</sub> (E)	105	#4	5'-0"	L
d <sub>4</sub> (E)	105	#5	4'-5"	L
Reinforcement Bars, Epoxy Coated		Pound	1,020	
Concrete Removal		Cu Yd	16.6	
Concrete Superstructure		Cu Yd	16.6	



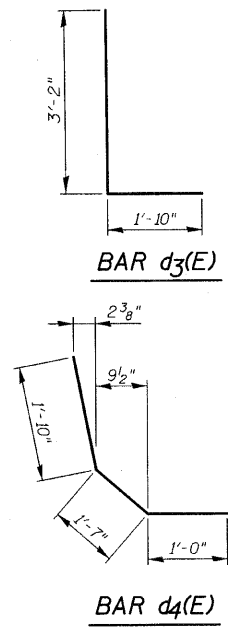
**EXISTING**  
**SECTION A-A**

**LEGEND:**  
Concrete Removal

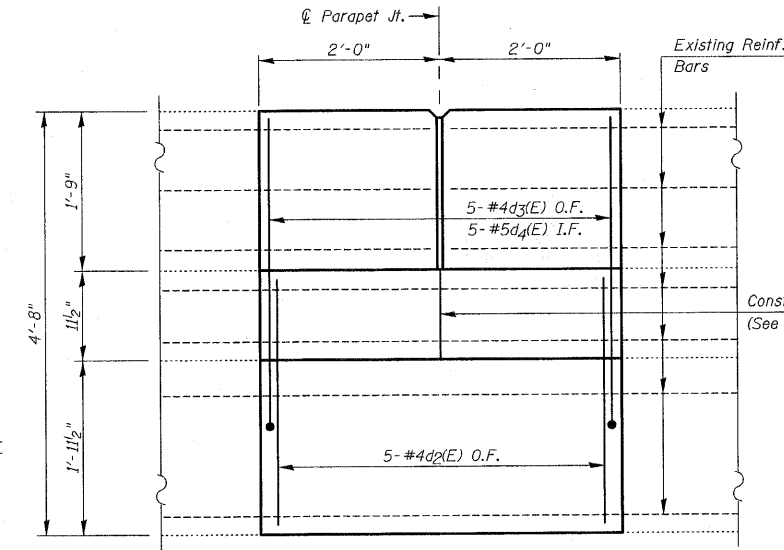


**PROPOSED**  
**SECTION A-A**

\* Cost Included with Concrete Superstructure

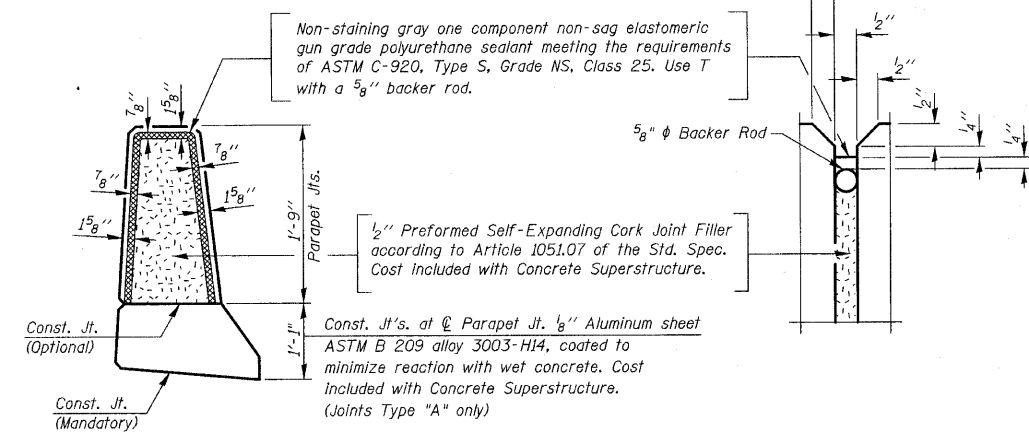


**LEGEND:**  
O.F. = Outside Face  
I.F. = Inside Face



**VIEW B-B**

**NOTE:**  
See Sht's. S20 & S21 for Parapet Joint Repair locations



**PARAPET JOINT DETAILS**

**APPROACH SLAB PARAPET JOINT REPAIR DETAILS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

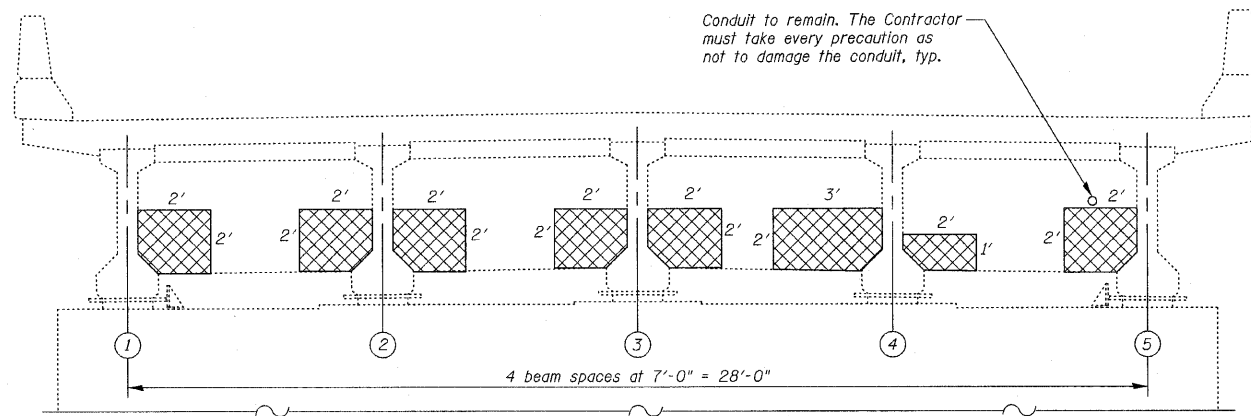
DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED	2010
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

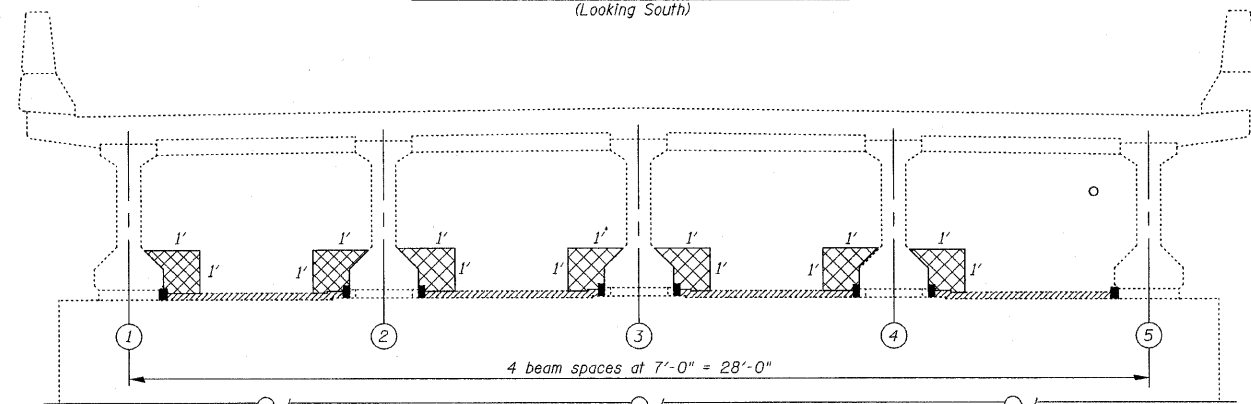
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S43 SHEETS	740	(108HVB)M	OGLE	55	29
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

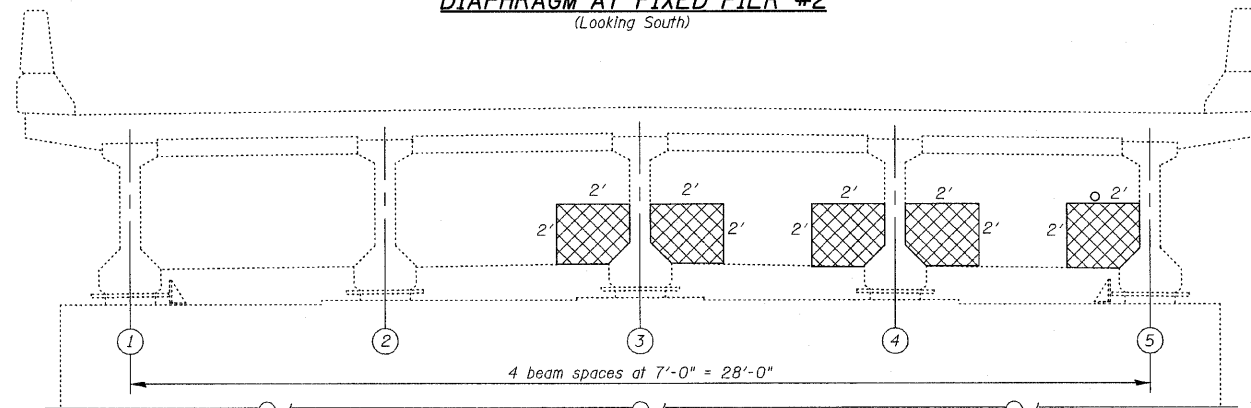
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



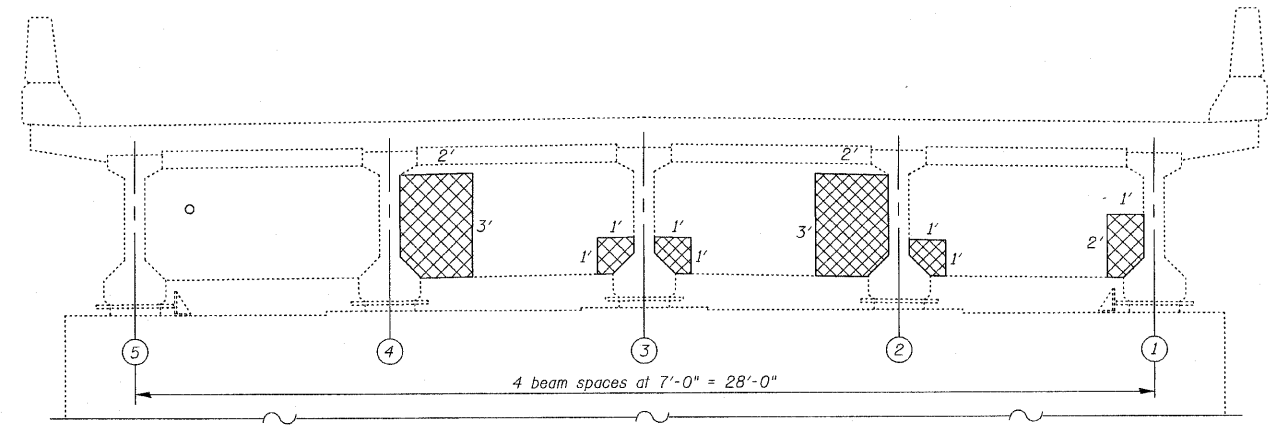
**DIAPHRAGM AT EXPANSION PIER #1**  
(Looking South)



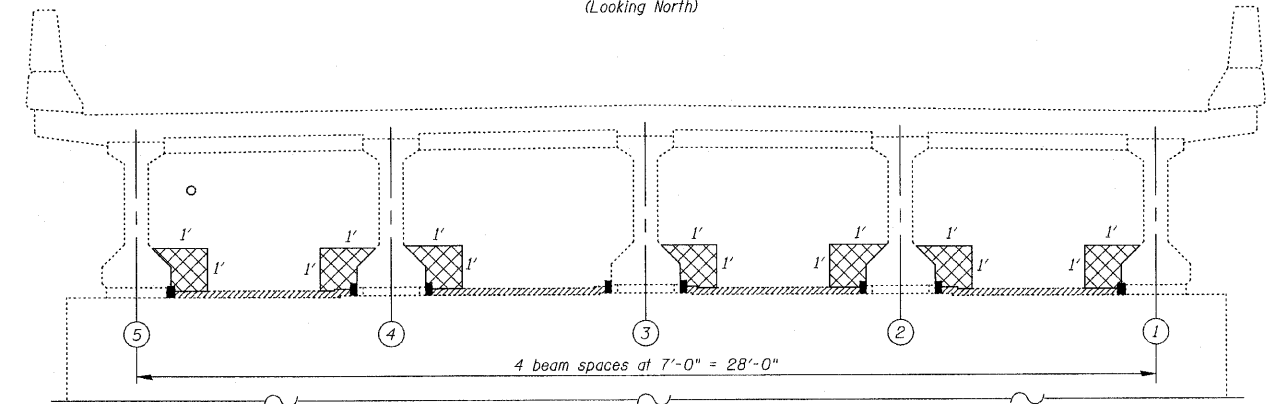
**DIAPHRAGM AT FIXED PIER #2**  
(Looking South)



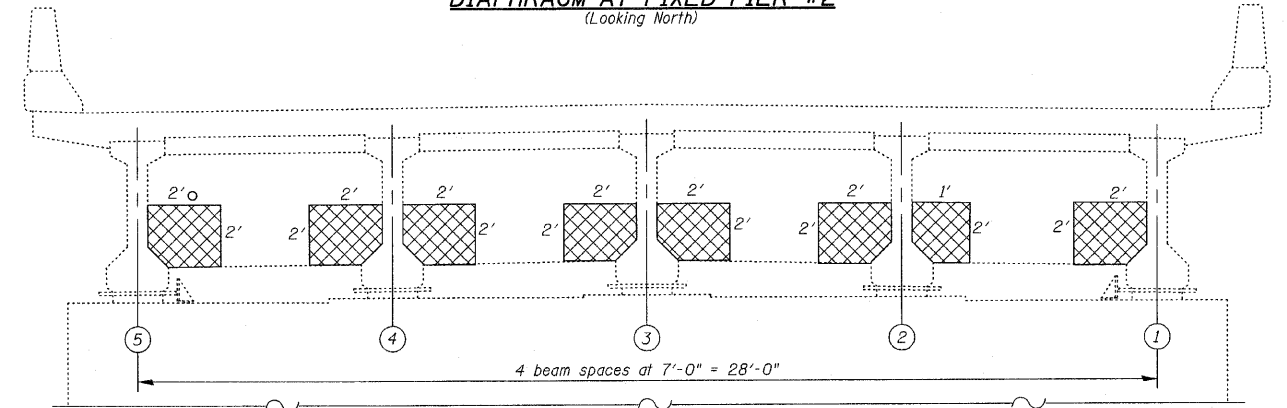
**DIAPHRAGM AT EXPANSION PIER #3**  
(Looking South)



**DIAPHRAGM AT EXPANSION PIER #1**  
(Looking North)



**DIAPHRAGM AT FIXED PIER #2**  
(Looking North)



**DIAPHRAGM AT EXPANSION PIER #3**  
(Looking North)

**DIAPHRAGM REPAIRS-I**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	113

**LEGEND:**  
 Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

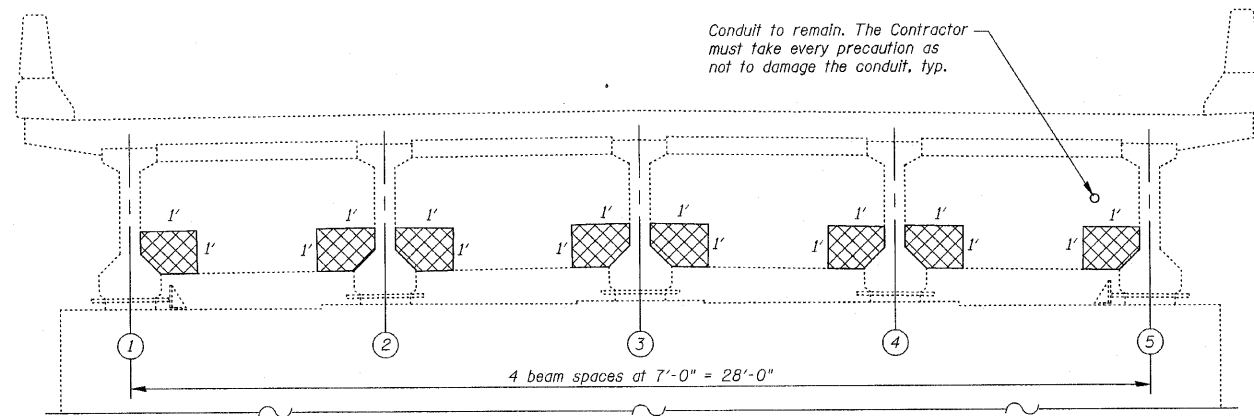
2010  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

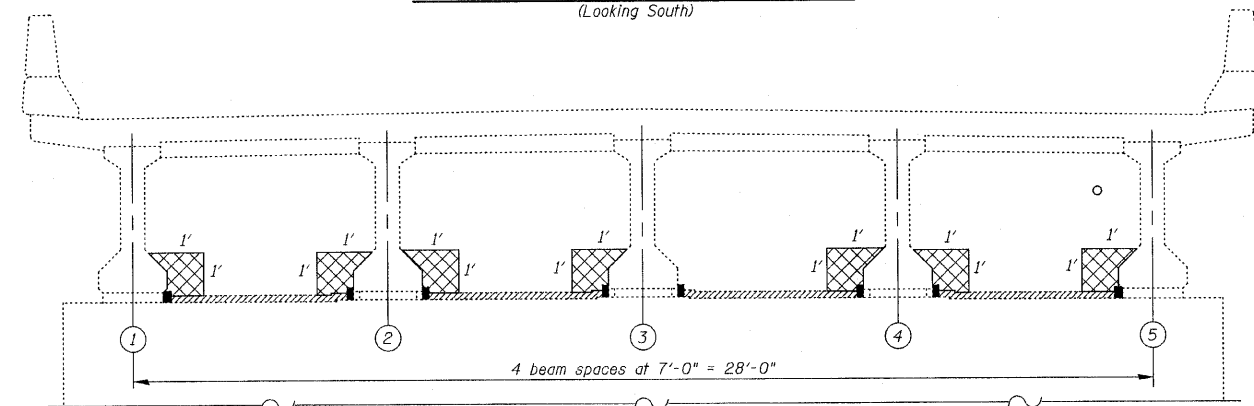
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S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		



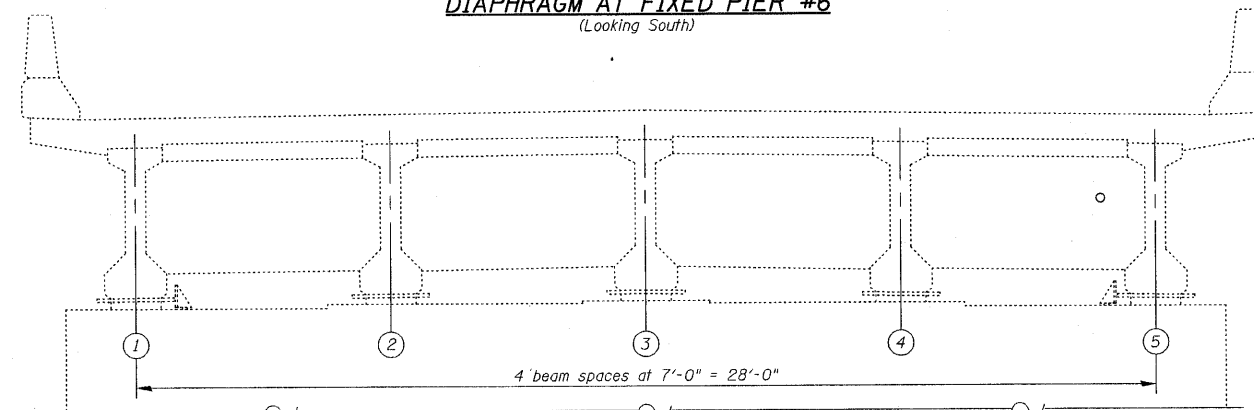
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



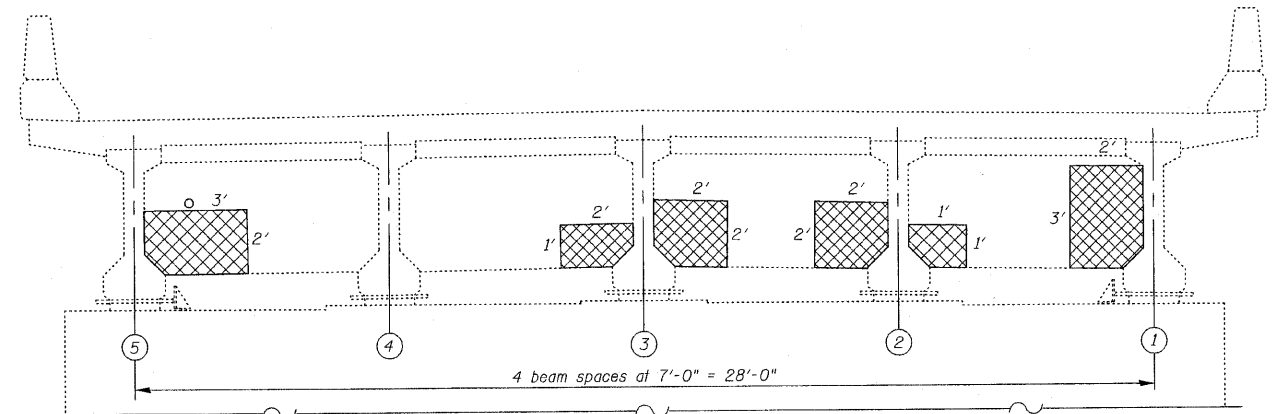
**DIAPHRAGM AT EXPANSION PIER #5**  
(Looking South)



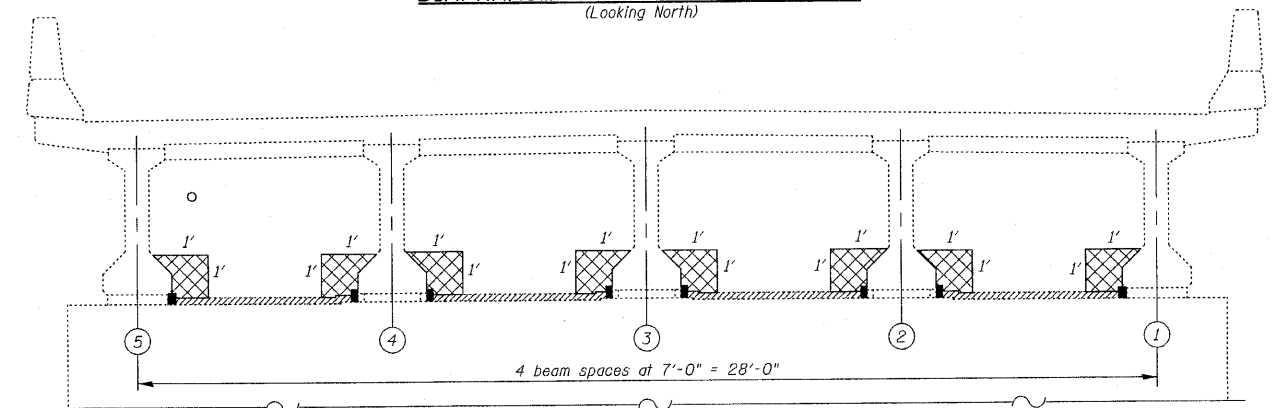
**DIAPHRAGM AT FIXED PIER #6**  
(Looking South)



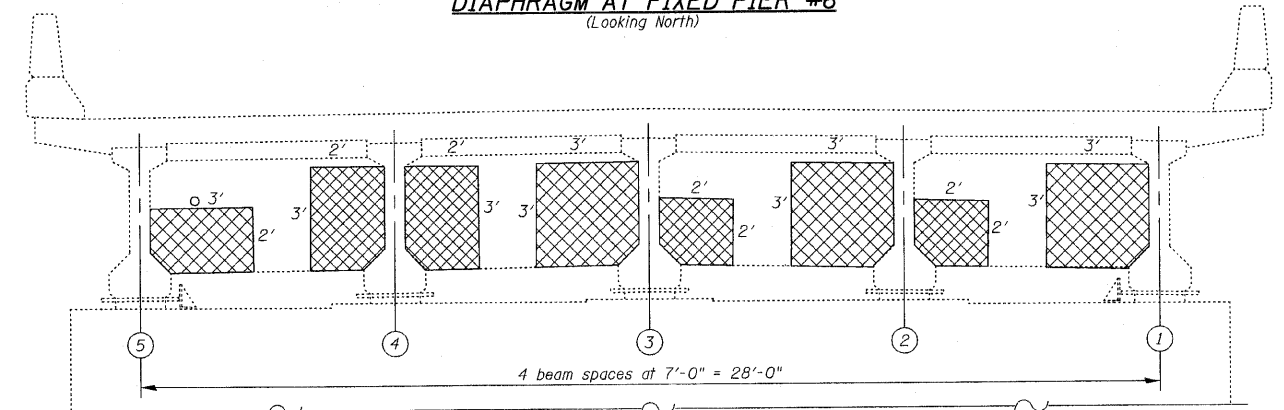
**DIAPHRAGM AT EXPANSION PIER #7**  
(Looking South)  
(No Repairs)



**DIAPHRAGM AT EXPANSION PIER #5**  
(Looking North)



**DIAPHRAGM AT FIXED PIER #6**  
(Looking North)



**DIAPHRAGM AT EXPANSION PIER #7**  
(Looking North)

**DIAPHRAGM REPAIRS-II**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	99

**LEGEND:**

Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

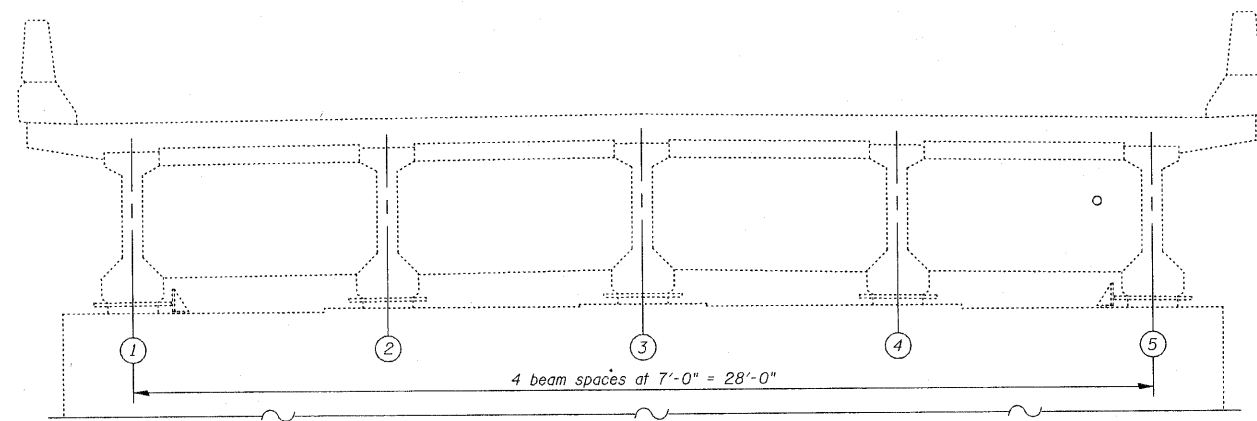
DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

2010  
EXAMINED \_\_\_\_\_  
PASSED \_\_\_\_\_  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

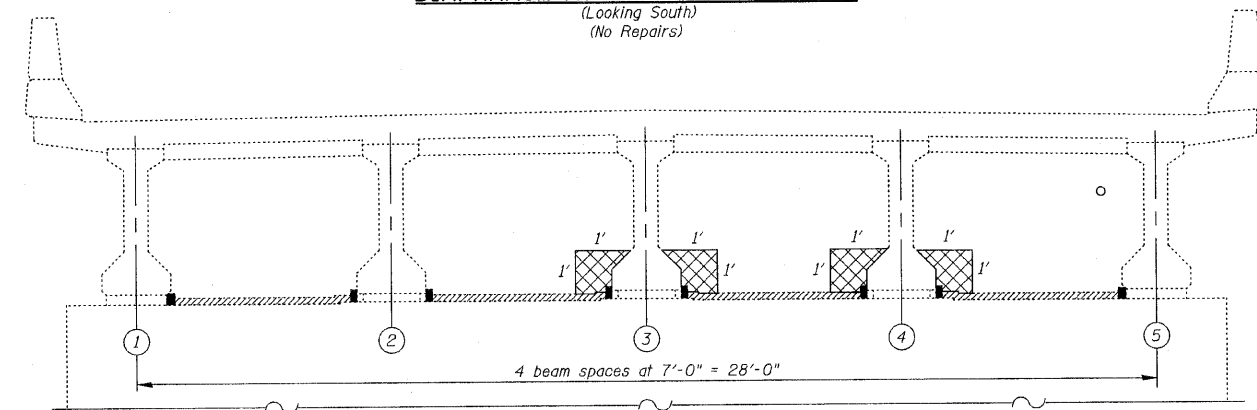
**CR** CHRISTIAN-ROCE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S24 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 31
	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

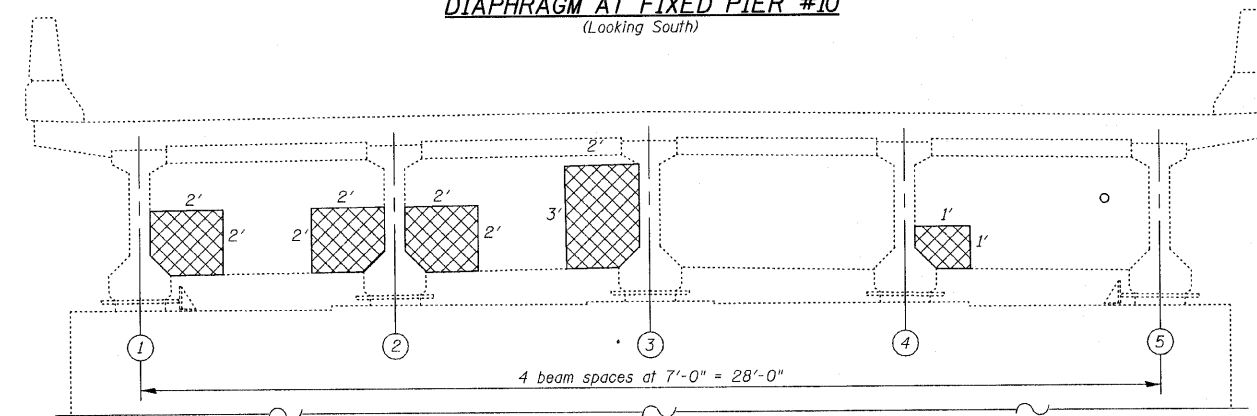
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



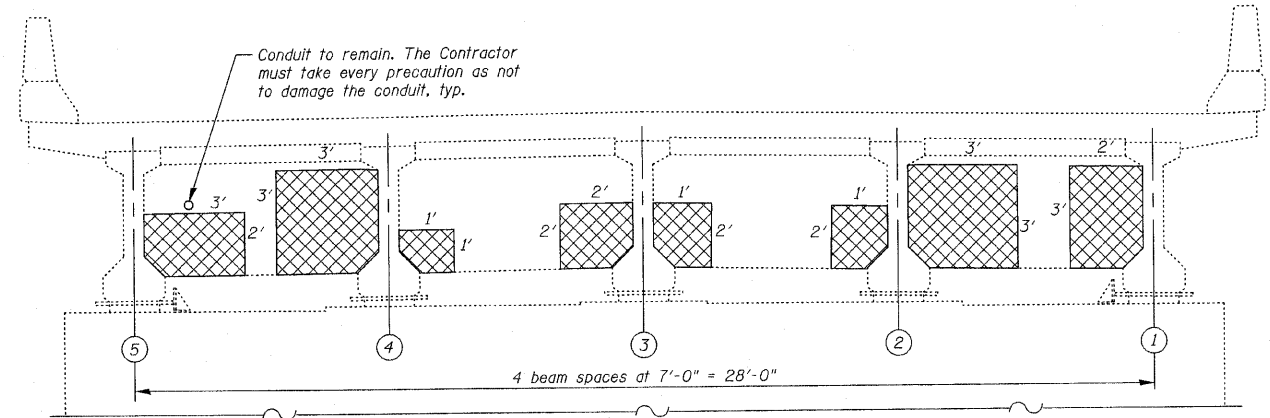
**DIAPHRAGM AT EXPANSION PIER #9**  
(Looking South)  
(No Repairs)



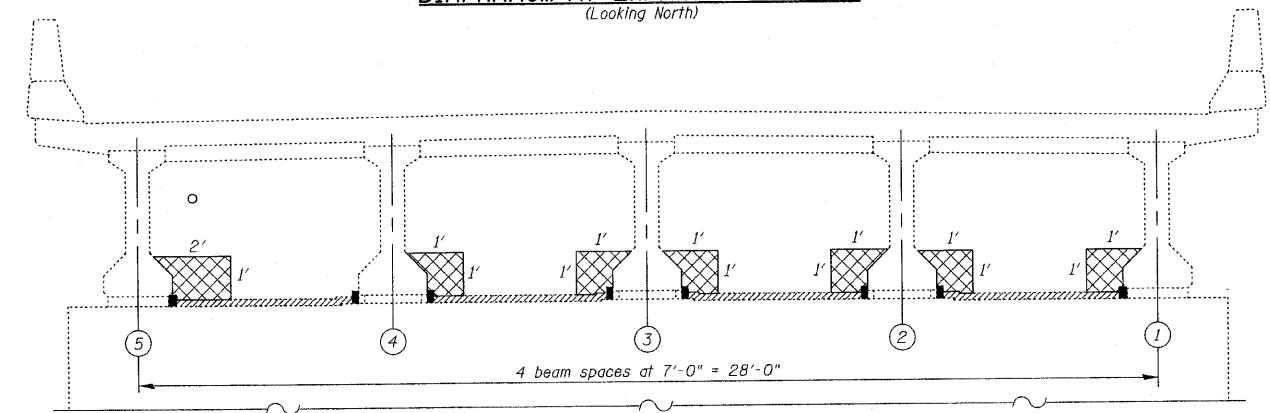
**DIAPHRAGM AT FIXED PIER #10**  
(Looking South)



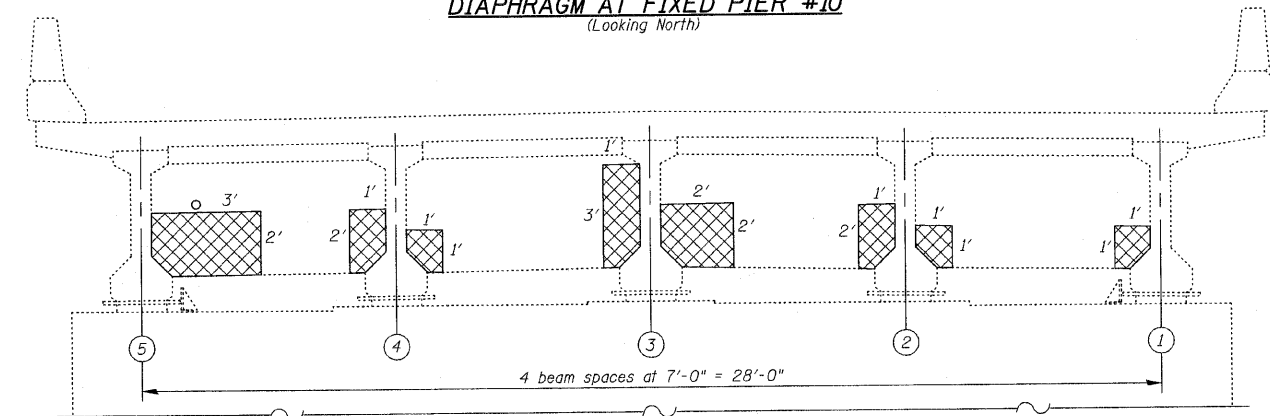
**DIAPHRAGM AT EXPANSION PIER #11**  
(Looking South)



**DIAPHRAGM AT EXPANSION PIER #9**  
(Looking North)



**DIAPHRAGM AT FIXED PIER #10**  
(Looking North)



**DIAPHRAGM AT EXPANSION PIER #11**  
(Looking North)

**DIAPHRAGM REPAIRS-III**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	90

**LEGEND:**  
 Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

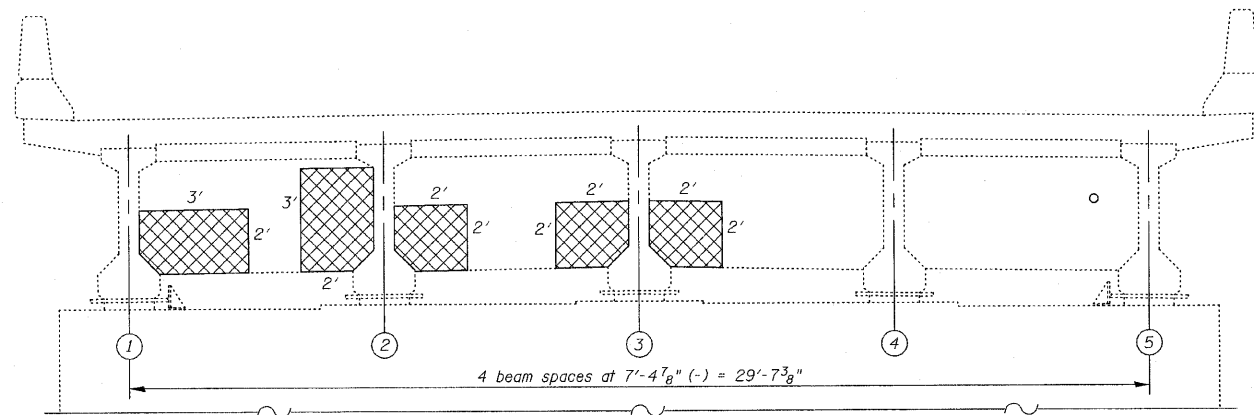
DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

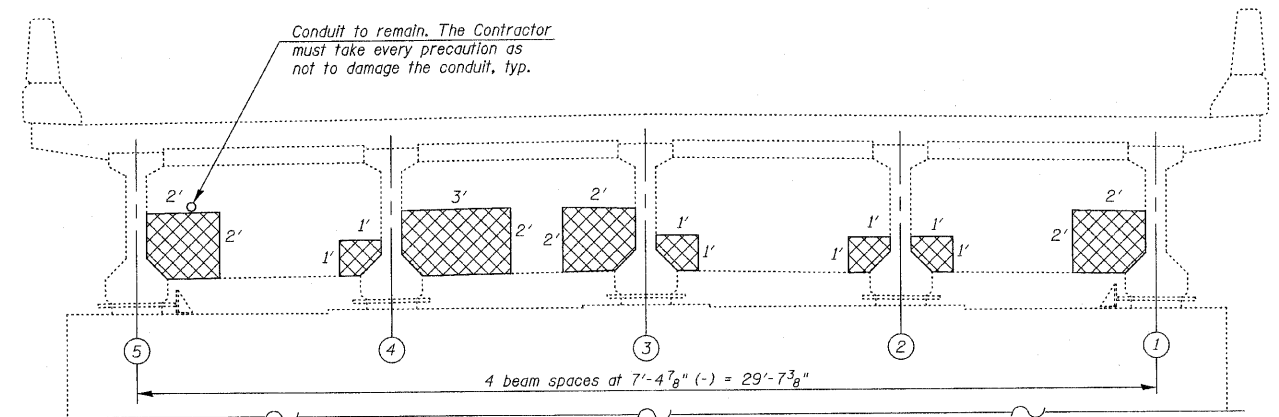
**CR & A** CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S25 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 32
	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

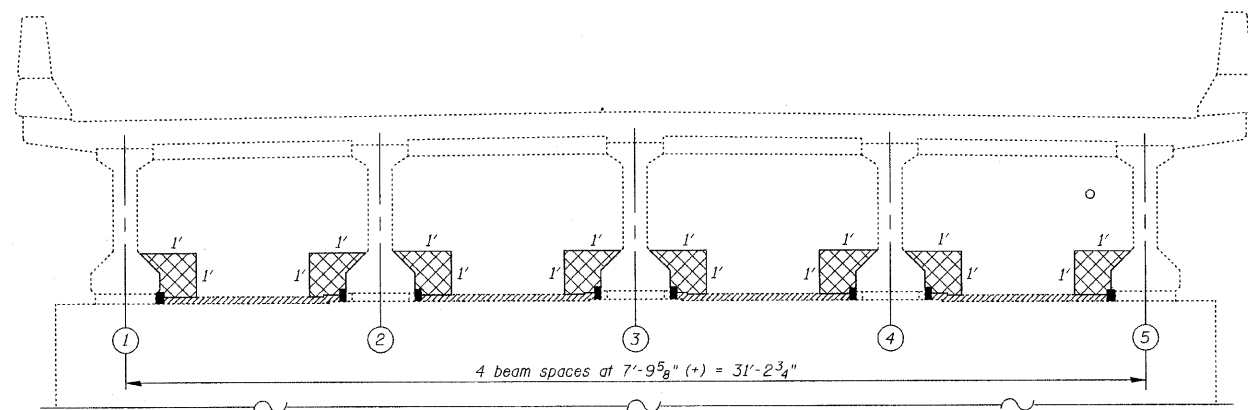
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



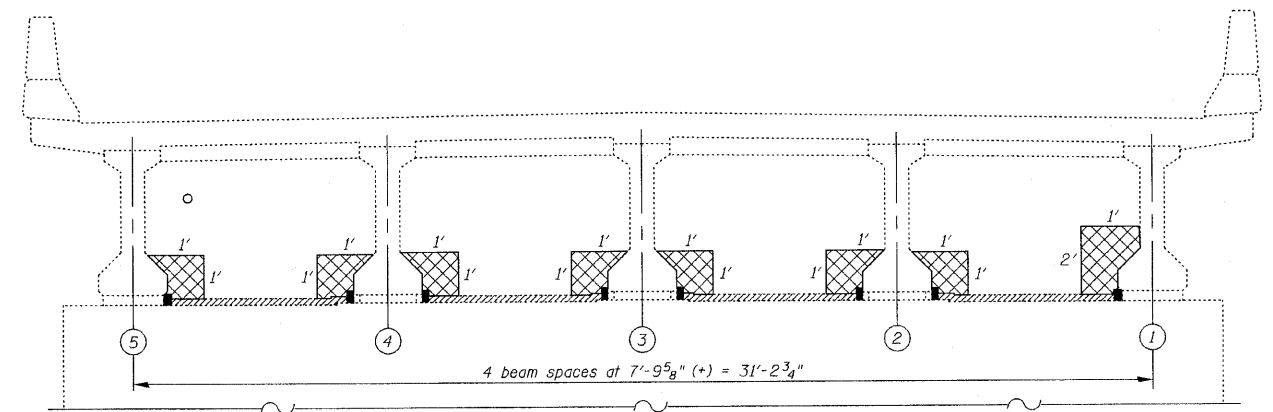
**DIAPHRAGM AT EXPANSION PIER #13**  
(Looking South)



**DIAPHRAGM AT EXPANSION PIER #13**  
(Looking North)



**DIAPHRAGM AT FIXED PIER #14**  
(Looking South)



**DIAPHRAGM AT FIXED PIER #14**  
(Looking North)

**LEGEND:**

Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	63

**DIAPHRAGM REPAIRS-IV**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
**SECTION (108HVB)M**  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

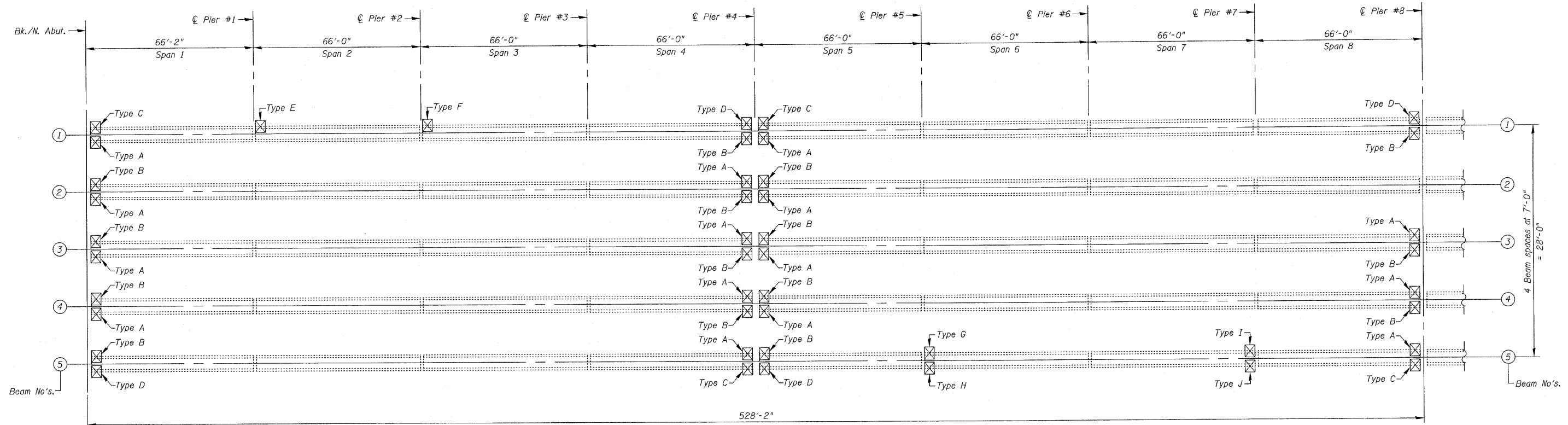
DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

2010  
EXAMINED  
PASSED  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S26 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 33
	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**FRAMING PLAN**  
(Spans 1 thru 8)

**LEGEND:**

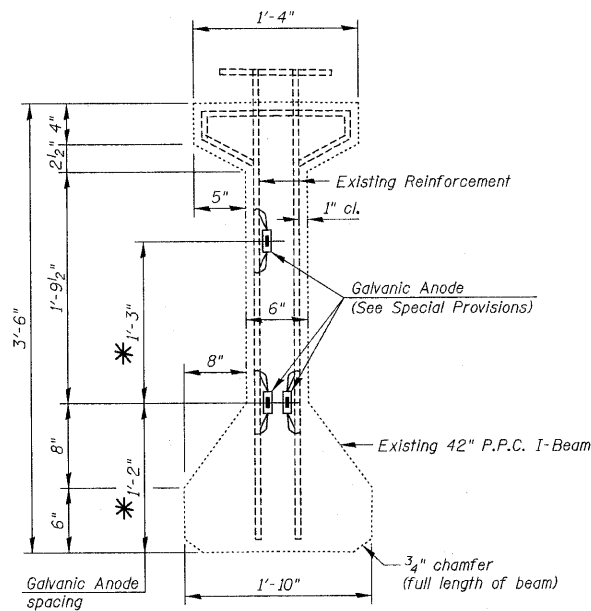
☒ Beam End Repair

**NOTES:**

For Beam End Repair Location Table, see Sht. S28.  
For Beam End Repair details, see Sht. S29.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	153
Epoxy Crack Injection	Foot	3
Galvanic Anode	Each	119



**GALVANIC ANODE DETAIL  
AT EACH BEAM END**

Install three Galvanic Anodes at 37 locations. At Beam #1 at Pier #1, install two Galvanic Anodes on east side only. There are no Galvanic Anodes at Beam #1 at Pier #2. (119 thus)

\* For Beam End Repairs Type "G", Type "H", Type "O" & Type "P" where repairs stop at the bottom of the web, increase the 1'-2" Galvanic Anode spacing to 1'-6" and decrease the 1'-3" Galvanic Anode spacing to 11".

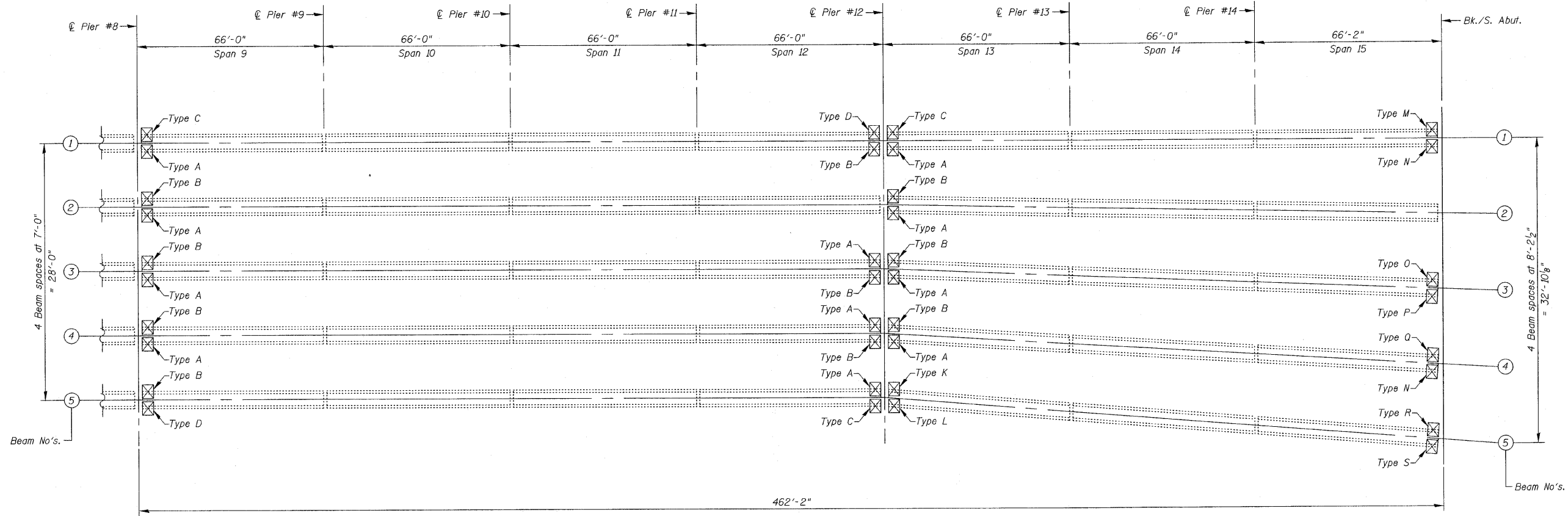
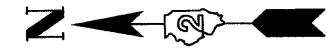
DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**BEAM END REPAIRS-I**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S27	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 34
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**FRAMING PLAN**  
(Spans 9 thru 15)

**LEGEND:**  
 Beam End Repair

**BEAM END REPAIR LOCATIONS**

BEAM REPAIR TYPE	LOCATION	FACE	BEAM NUMBERS	BEAM REPAIR TYPE	LOCATION	FACE	BEAM NUMBERS
A	NORTH ABUTMENT	WEST	1,2,3,4	D	NORTH ABUTMENT	WEST	5
A	PIER 4	EAST	2,3,4,5	D	PIER 4	EAST	1
A	PIER 4	WEST	1,2,3,4	D	PIER 4	WEST	5
A	PIER 8	EAST	3,4,5	D	PIER 8	EAST	1
A	PIER 8	WEST	1,2,3,4	D	PIER 8	WEST	5
A	PIER 12	EAST	3,4,5	D	PIER 12	EAST	1
A	PIER 12	WEST	1,2,3,4	E	PIER 1	EAST	1
B	NORTH ABUTMENT	EAST	2,3,4,5	F	PIER 2	EAST	1
B	PIER 4	WEST	1,2,3,4	G	PIER 5	EAST	5
B	PIER 4	EAST	2,3,4,5	H	PIER 5	WEST	5
B	PIER 8	WEST	1,3,4	I	PIER 7	EAST	5
B	PIER 8	EAST	2,3,4,5	J	PIER 7	WEST	5
B	PIER 12	WEST	1,3,4	K	PIER 12	EAST	5
B	PIER 12	EAST	2,3,4	L	PIER 12	WEST	5
C	NORTH ABUTMENT	EAST	1	M	SOUTH ABUTMENT	EAST	1
C	PIER 4	WEST	5	N	SOUTH ABUTMENT	WEST	1,4
C	PIER 4	EAST	1	O	SOUTH ABUTMENT	EAST	3
C	PIER 8	WEST	5	P	SOUTH ABUTMENT	WEST	3
C	PIER 8	EAST	1	Q	SOUTH ABUTMENT	EAST	4
C	PIER 12	WEST	5	R	SOUTH ABUTMENT	EAST	5
C	PIER 12	EAST	1	S	SOUTH ABUTMENT	WEST	5

**NOTE**  
For Beam End Repair details, see Sht. S29

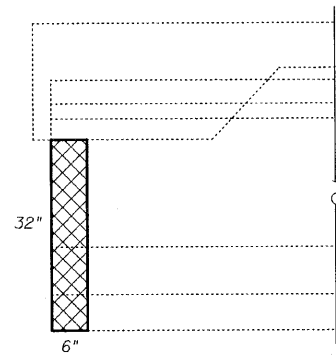
**BEAM END REPAIRS-II**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

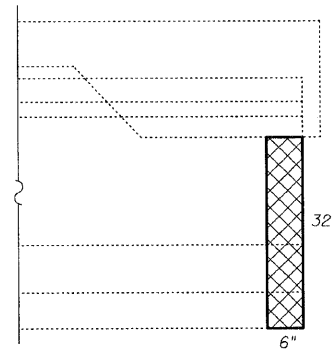
**CR & A**  
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
**ENGINEERS-PLANNERS-SURVEYORS**  
**211 WEST WACKER DRIVE**  
**CHICAGO, ILLINOIS 60606**  
**PHONE: (312)372-2023 FAX: (312)372-5274**

SHEET NO. S28	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	35
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

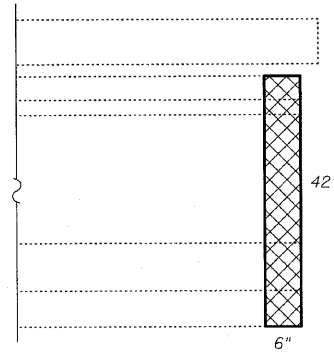
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



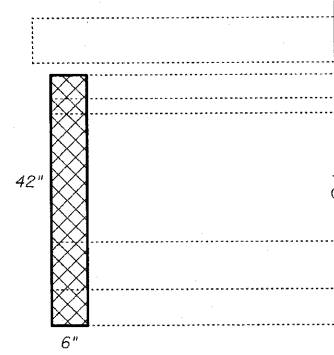
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TYPE "A"



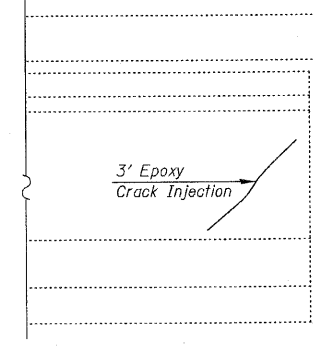
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TYPE "B"



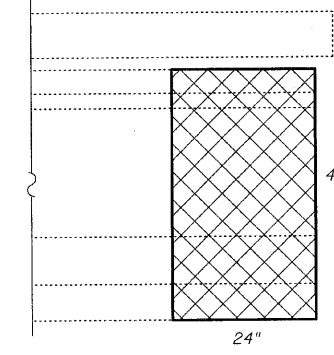
BEAM END REPAIR  
TYPE "C"



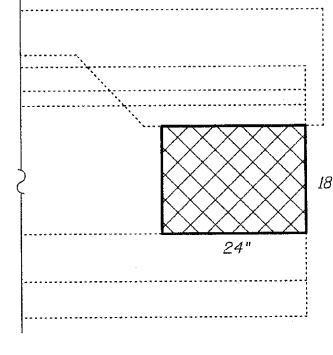
BEAM END REPAIR  
TYPE "D"



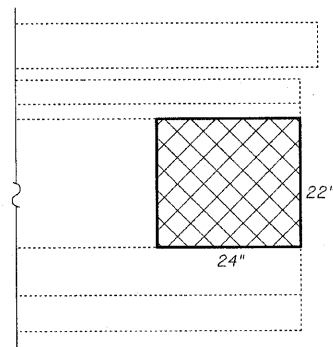
BEAM END REPAIR  
TYPE "E"



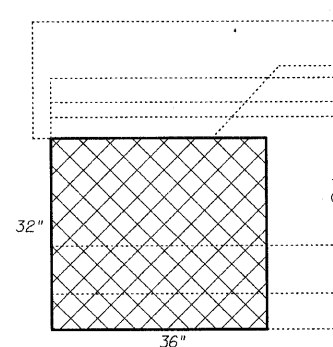
BEAM END REPAIR  
TYPE "F"



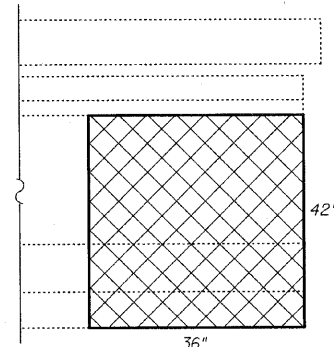
BEAM END REPAIR  
TYPE "G"



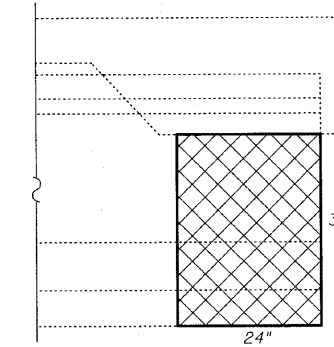
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TYPE "H"



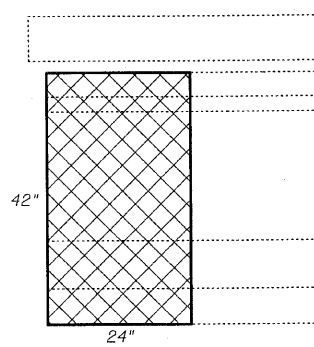
BEAM END REPAIR  
TYPE "I"



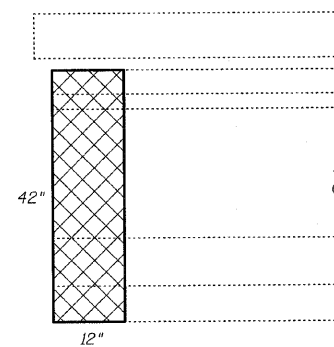
BEAM END REPAIR  
TYPE "J"



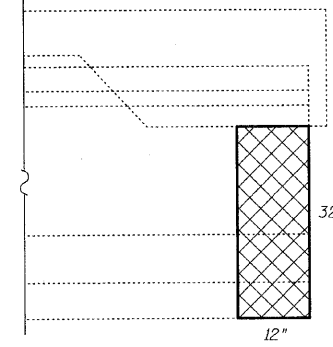
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TYPE "K"



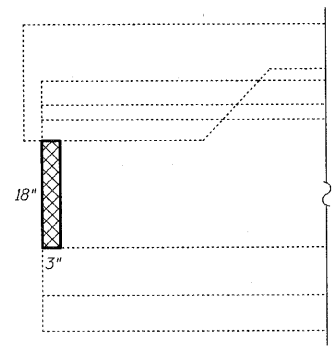
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TYPE "L"



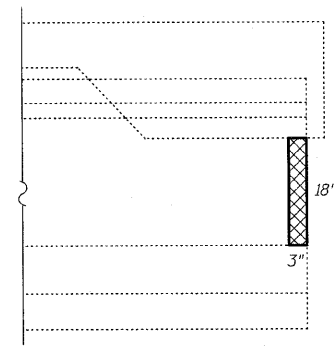
BEAM END REPAIR  
TYPE "M"



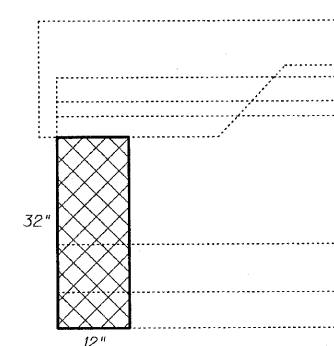
BEAM END REPAIR  
TYPE "N"



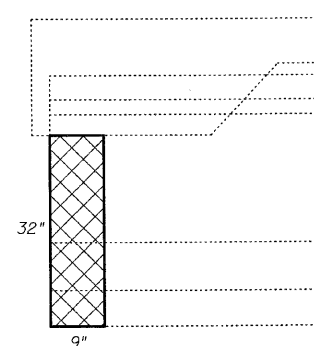
BEAM END REPAIR  
TYPE "O"



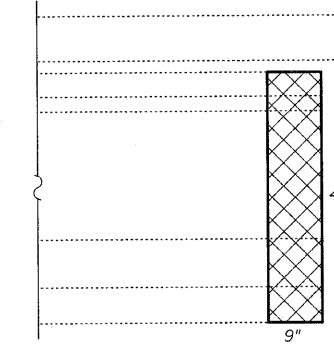
BEAM END REPAIR  
TYPE "P"





BEAM END REPAIR  
TYPE "Q"



BEAM END REPAIR  
TYPE "R"



BEAM END REPAIR  
TYPE "S"

**LEGEND:**  
 Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)  
 Epoxy Crack Injection

**BEAM END REPAIRS-III**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

EXAMINED	2010
PASSED	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

**NOTE:**  
 For locations of Beam End Repairs Type "A" thru Type "S", see Sht's. S27 & S28

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S29	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	36
S43 SHEETS	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified, ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts for Type II bearings shall be placed in holes in the concrete drilled through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.  
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.  
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.  
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

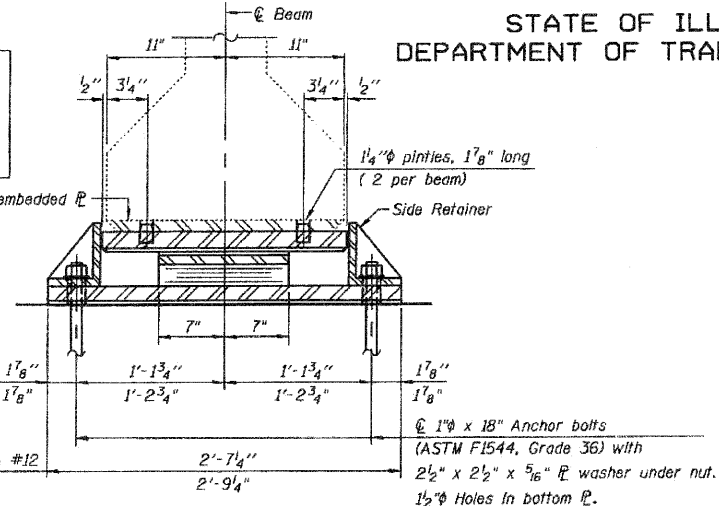
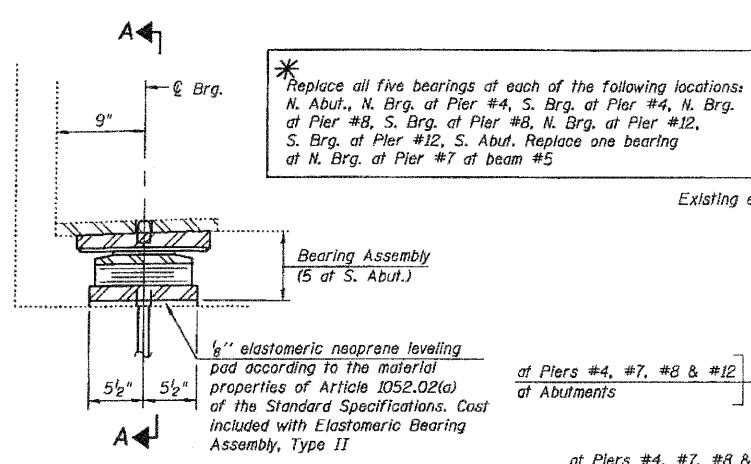
**BEARING REPLACEMENT NOTES:**

The Contractor shall submit plans for jacking the existing superstructure for approval by the Engineer prior to commencing any work with the bearings. The submittal shall be prepared and sealed by a Licensed Structural Engineer in Illinois. It shall be the Contractor's responsibility to verify all dimensions between the bottom of the bridge beams and the top of the bearing seat in the field prior to construction or ordering of materials.  
Jacking and Removing of existing bearings shall be done before the new overlay is poured.  
The Contractor shall supply additional shim plates, if required, to bring devices to grade. Cast included with Elastomeric Bearing Assembly, Type II.

**BEAM REACTION TABLE**

	N. Abut.	N. Brg. at Piers #4, #8 & #12	S. Brg. at Piers #4, #8 & #12	N. Brg. at Pier #7 Beam #5	S. Abut.
R <sub>0</sub>	(k)	45.4	45.4	45.4	49.6
R <sub>1</sub>	(k)	37.6	37.6	37.6	44.1
R <sub>2</sub>	(k)	9.8	9.8	9.8	11.5
R <sub>Total</sub>	(k)	92.8	92.8	92.8	105.2

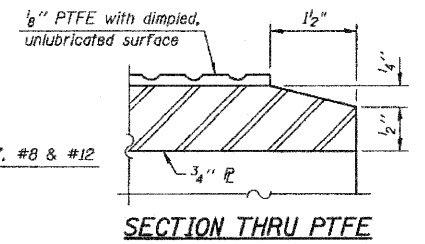
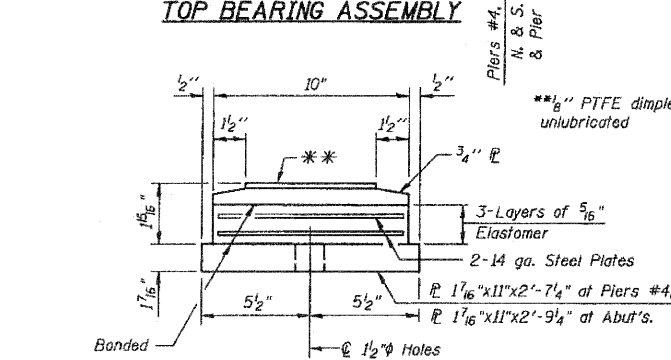
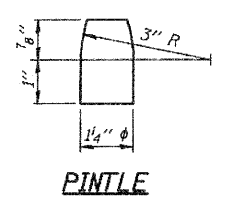
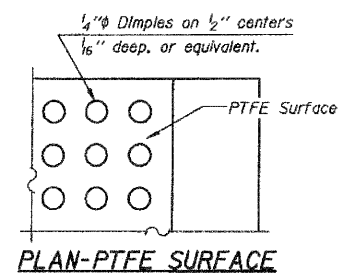
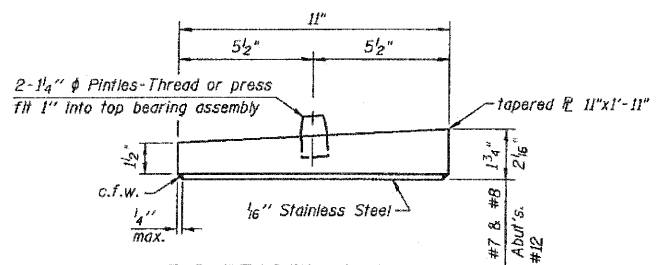
Minimum jack capacity at each bearing = 40 tons



**SECTION AT ABUT.**  
(similar at Piers #4, #7, #8 & #12)

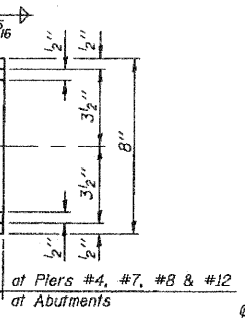
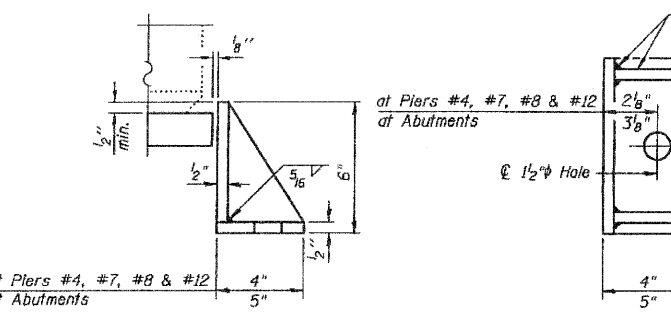
**SECTION A-A**

**TYPE II ELASTOMERIC EXP. BRG.**  
\*(41 required)

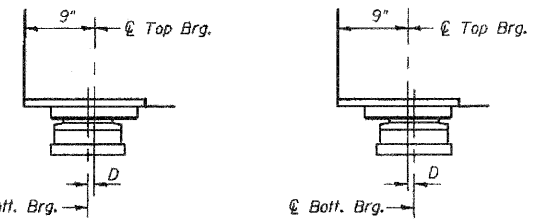


**BOTTOM BEARING ASSEMBLY**

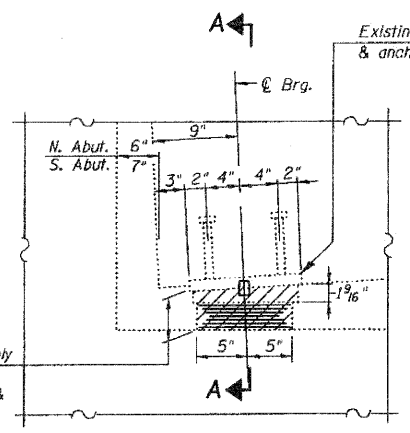
**SECTION THRU PTFE**



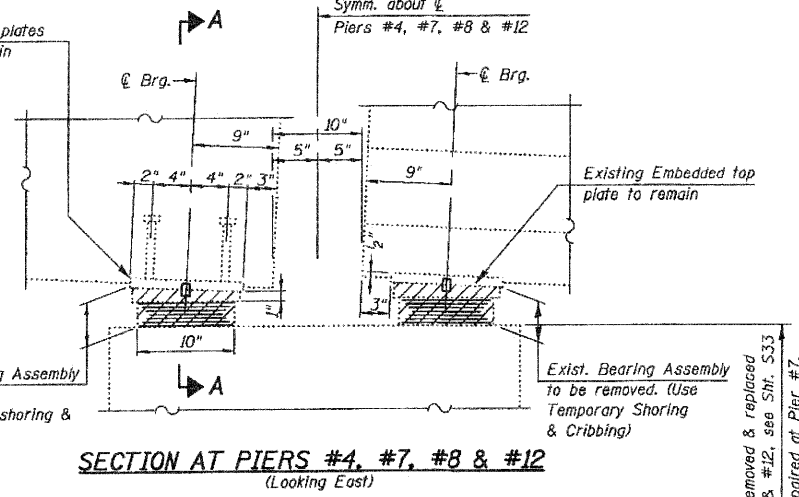
**SIDE RETAINER**  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



**SETTING ANCHOR BOLTS AT EXP. BRG.**  
D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



**SECTION AT ABUT.**  
(Looking East at N. Abut.)  
(Looking West at S. Abut.)



**SECTION AT PIERS #4, #7, #8 & #12**  
(Looking East)

**NOTE:**

The inside face of the exterior bearings, on the abutments, at Beams #1 & #5, the existing anchor bolts shall be burned flush with the existing concrete surface, grind smooth and sealed with epoxy.

**EXISTING BEARING REMOVAL DETAILS**

Cost of bearing removal at Pier #7 included with Structural Repair of Concrete (Depth Greater than 5 inches).  
Cost of bearing removal at Piers #4, #8 & #12 included with Concrete Removal.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	41
Anchor Bolts, 1"	Each	82
Jack and Remove Existing Bearings	Each	10

\*\*\* Includes bearings at abutments only.

**BEARING REPLACEMENT DETAILS**  
IL. RTE. 251 OVER IL. RTE. 38  
C&N W. R.R. AND B.N. R.R.  
E.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED	2010
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES

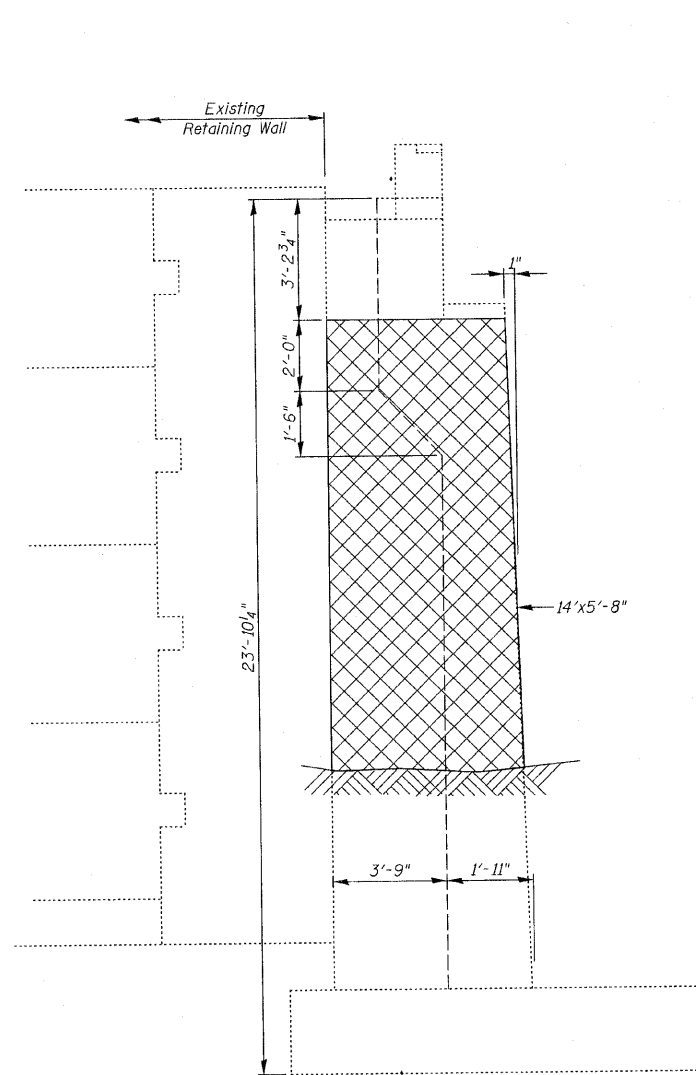
SHEET NO. S30	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 37
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

CHRISTIAN-ROGE & ASSOCIATES, INC.  
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CHICAGO, ILLINOIS 60606  
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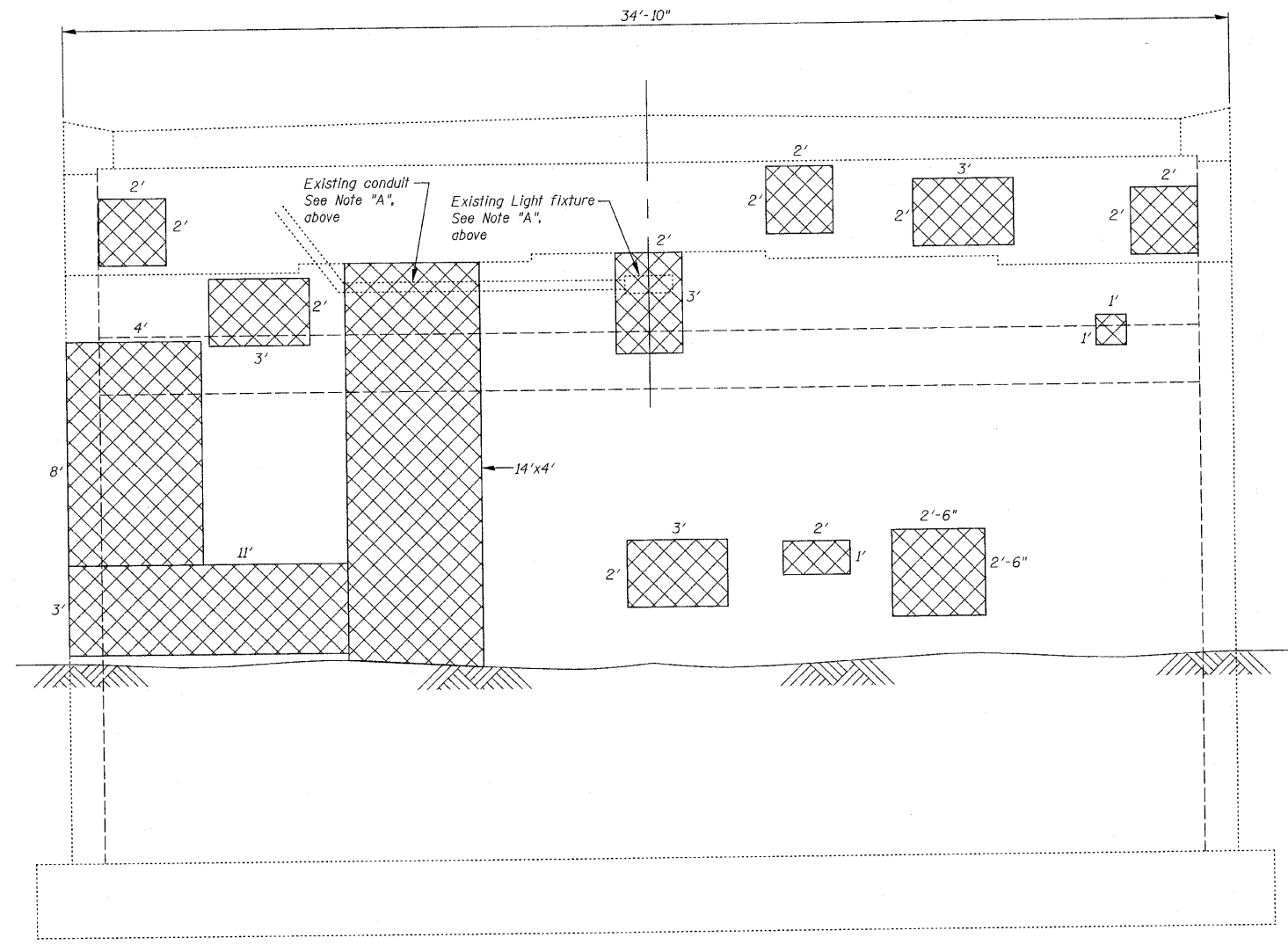
Pier caps to be removed & replaced at Piers #4, #8 & #12, see Sht. S33  
Pier cap to be repaired at Pier #7, see Sht. S35

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**NOTE "A"**  
Existing Light fixture and conduit to be removed and stored prior to doing any repair work. After the repair work is completed reattach light fixture and conduit in the same locations. Cost Included with Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)



**SIDE VIEW**  
(Looking West)



**ELEVATION-NORTH ABUTMENT**  
(Looking North)

**LEGEND:**  
[Cross-hatched box] Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	242

**NORTH ABUTMENT REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HV)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

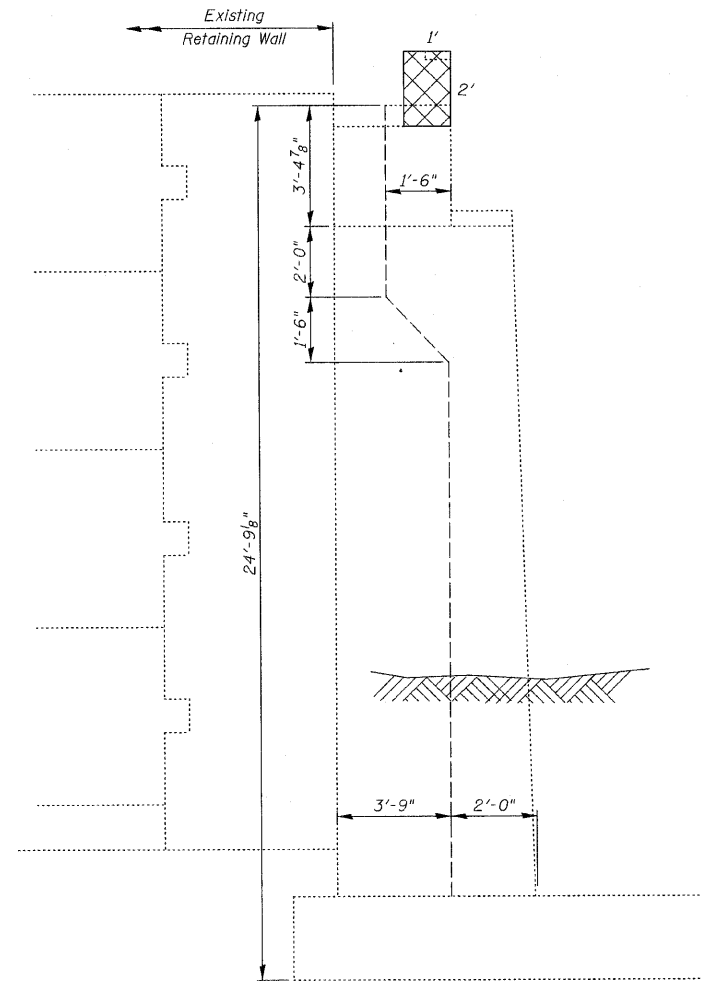
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

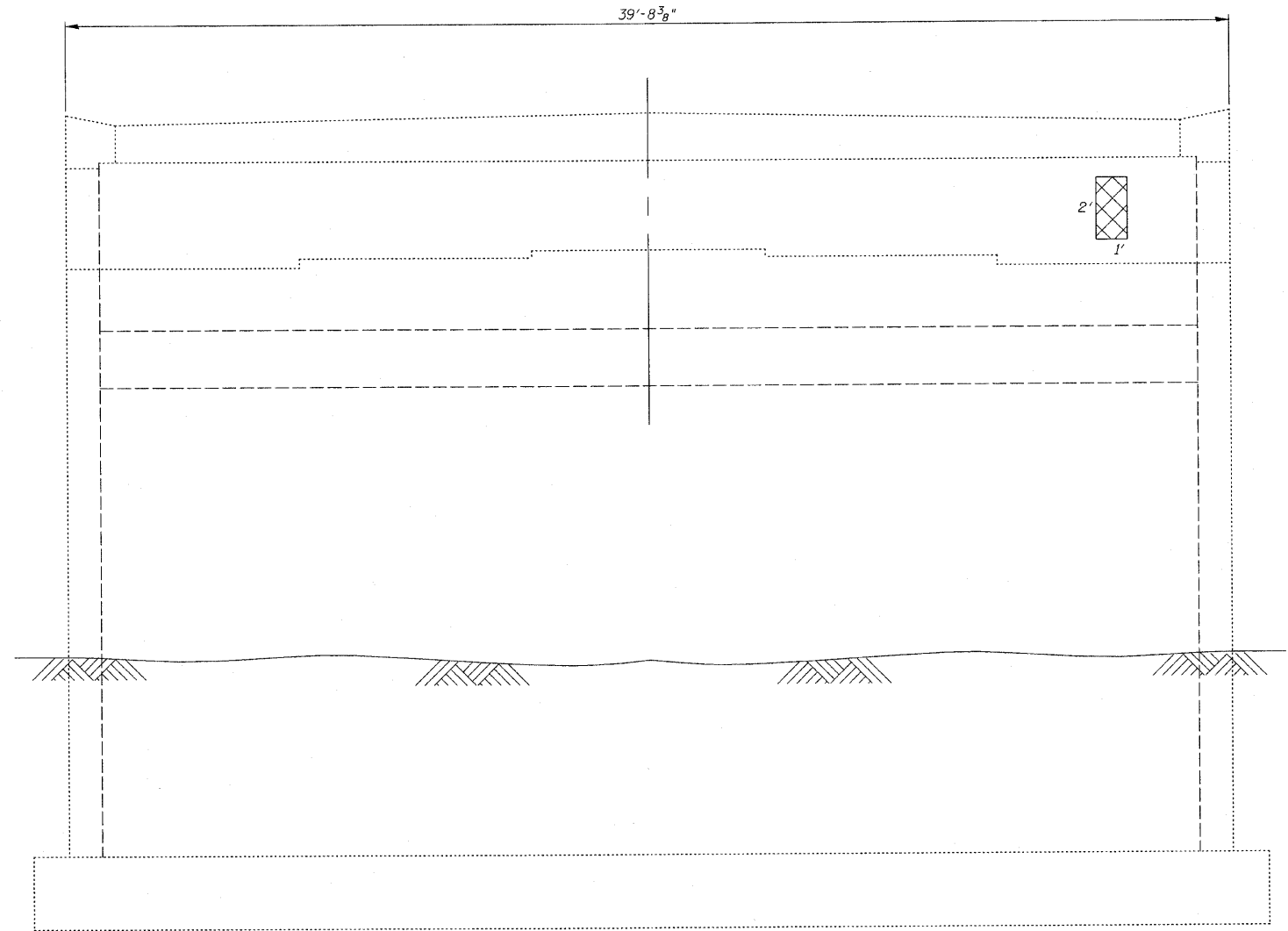
SHEET NO. S31 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HV)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 38
	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	




STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**SIDE VIEW**  
(Looking West)



**ELEVATION-SOUTH ABUTMENT**  
(Looking South)

**LEGEND:**  
 Structural Repair of Concrete  
 (Depth Equal To or Less Than 5 Inches)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	4

**SOUTH ABUTMENT REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CR & A**  
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
**ENGINEERS-PLANNERS-SURVEYORS**  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S32 S43 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	39
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

**NOTE:**  
Space reinforcement bars in cap to miss anchor bolts.  
Four steps monolithically with cap.

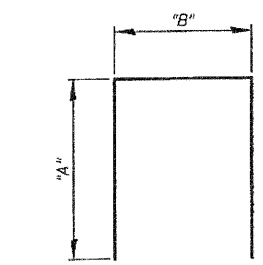
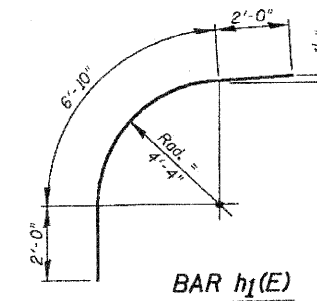
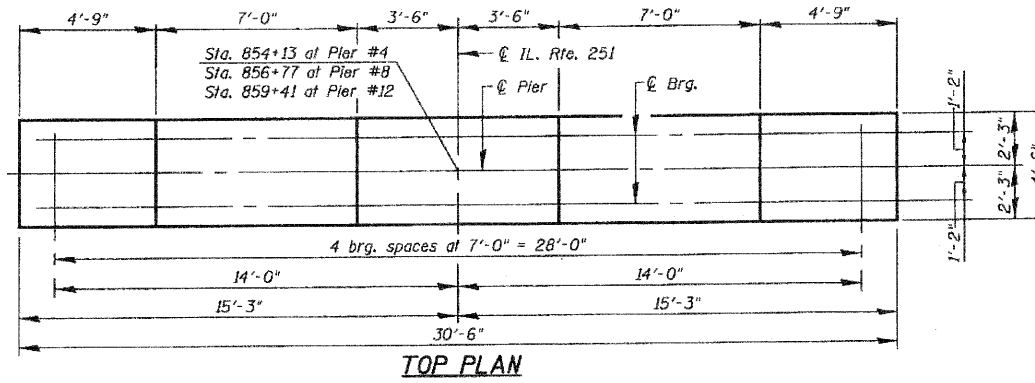
STATE OF ILLINOIS  
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**BILL OF MATERIAL**  
(For 1 Pier only - 3 required)  
(For Piers #4, #8 or #12)

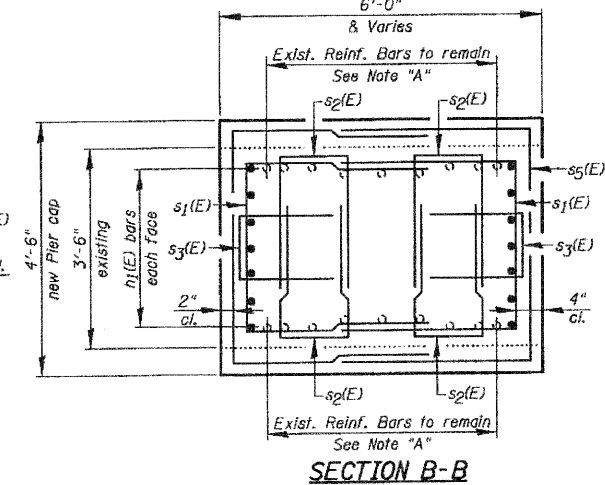
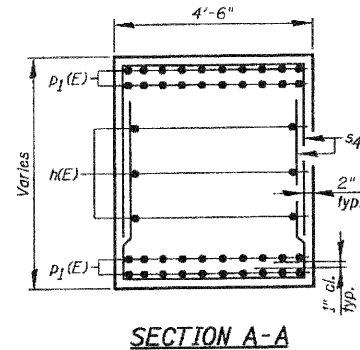
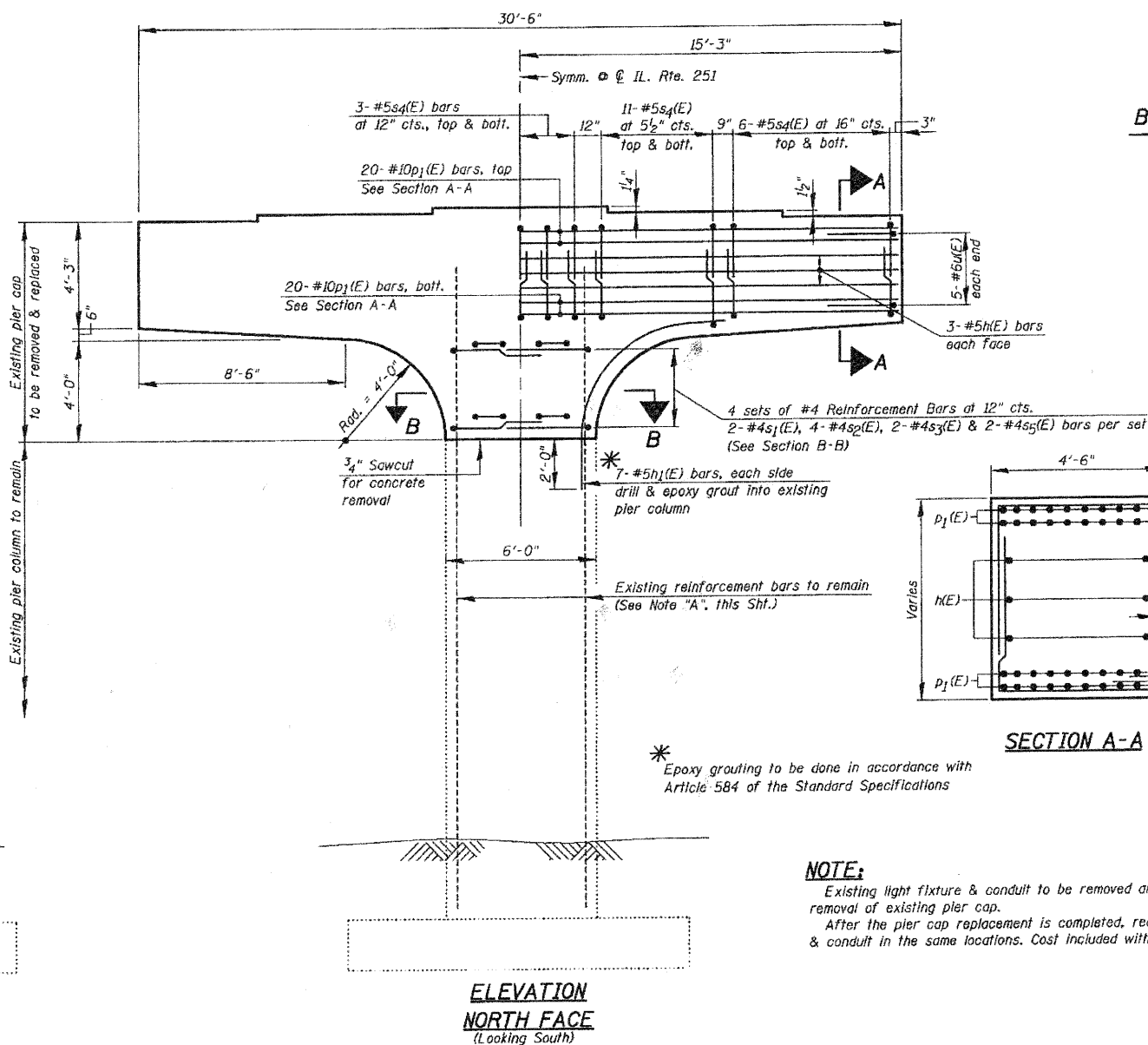
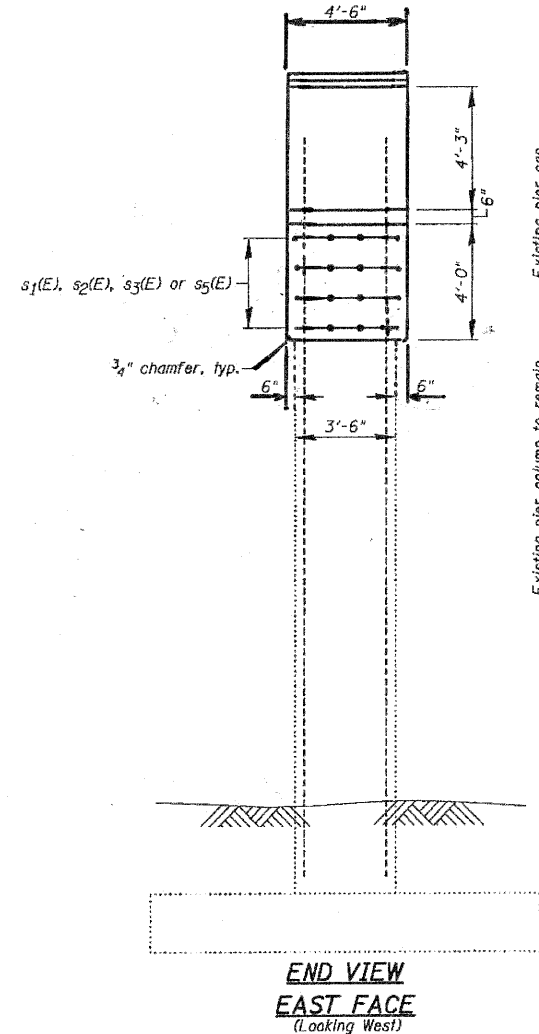
Bar	No.	Size	Length	Shape	
$h(E)$	6	#5	30'-3"	—	
$h_1(E)$	14	#5	10'-10"	┌	
$p_1(E)$	40	#10	30'-3"	—	
$s_1(E)$	8	#4	10'-4"	┐	
$s_2(E)$	16	#4	6'-1"	┐	
$s_3(E)$	8	#4	4'-8"	┐	
$s_4(E)$	78	#5	9'-10"	┐	
$s_5(E)$	8	#4	11'-4"	┐	
$u(E)$	10	#6	9'-1"	┐	
Reinforcement Bars, Epoxy Coated				Pound	6,700
Concrete Removal				Cu Yd	22.3
Concrete Structures				Cu Yd	28.7
Concrete Sealer				Sq Ft	476

**NOTE "A"**

Existing reinforcement bars projecting from the pier column to remain. The existing reinforcement bars shall be cleaned, straightened and incorporated into the new construction. Cost is included with "Concrete Removal".  
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with "Concrete Removal".



Bar	"A"	"B"
$s_1(E)$	3'-6"	3'-4"
$s_2(E)$	2'-5"	1'-3"
$s_3(E)$	1'-9"	1'-2"
$s_4(E)$	2'-10"	4'-2"
$s_5(E)$	3'-8"	4'-0"
$u(E)$	2'-6"	4'-1"



**NOTE:**  
Existing light fixture & conduit to be removed and stored prior to removal of existing pier cap.  
After the pier cap replacement is completed, reattach the light fixture & conduit in the same locations. Cost included with "Concrete Removal".

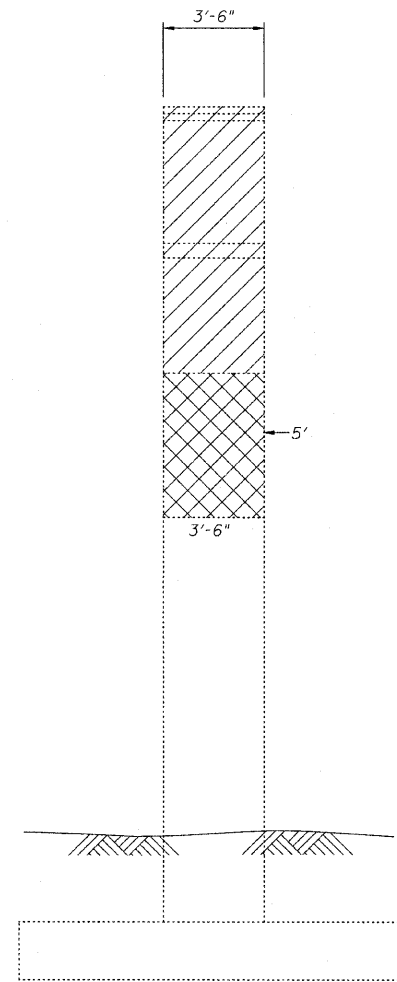
**PIERS #4, #8 & #12  
CAP REPLACEMENT  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066**

DESIGNED	2010
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES

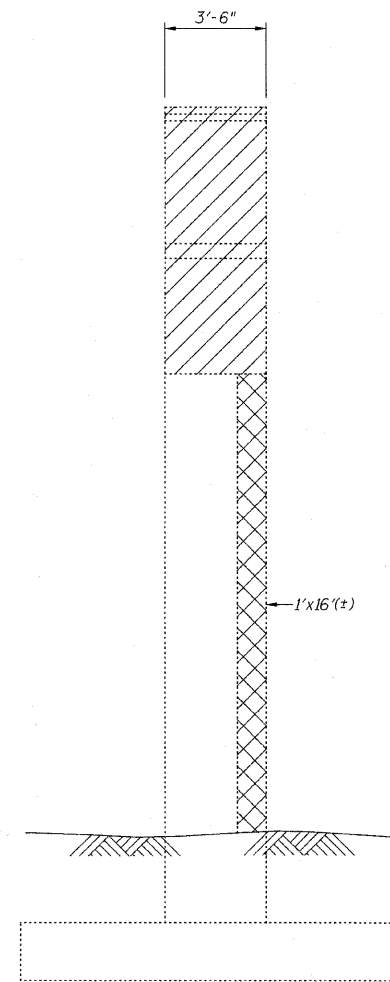
**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S33	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 40
S43 SHEETS			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

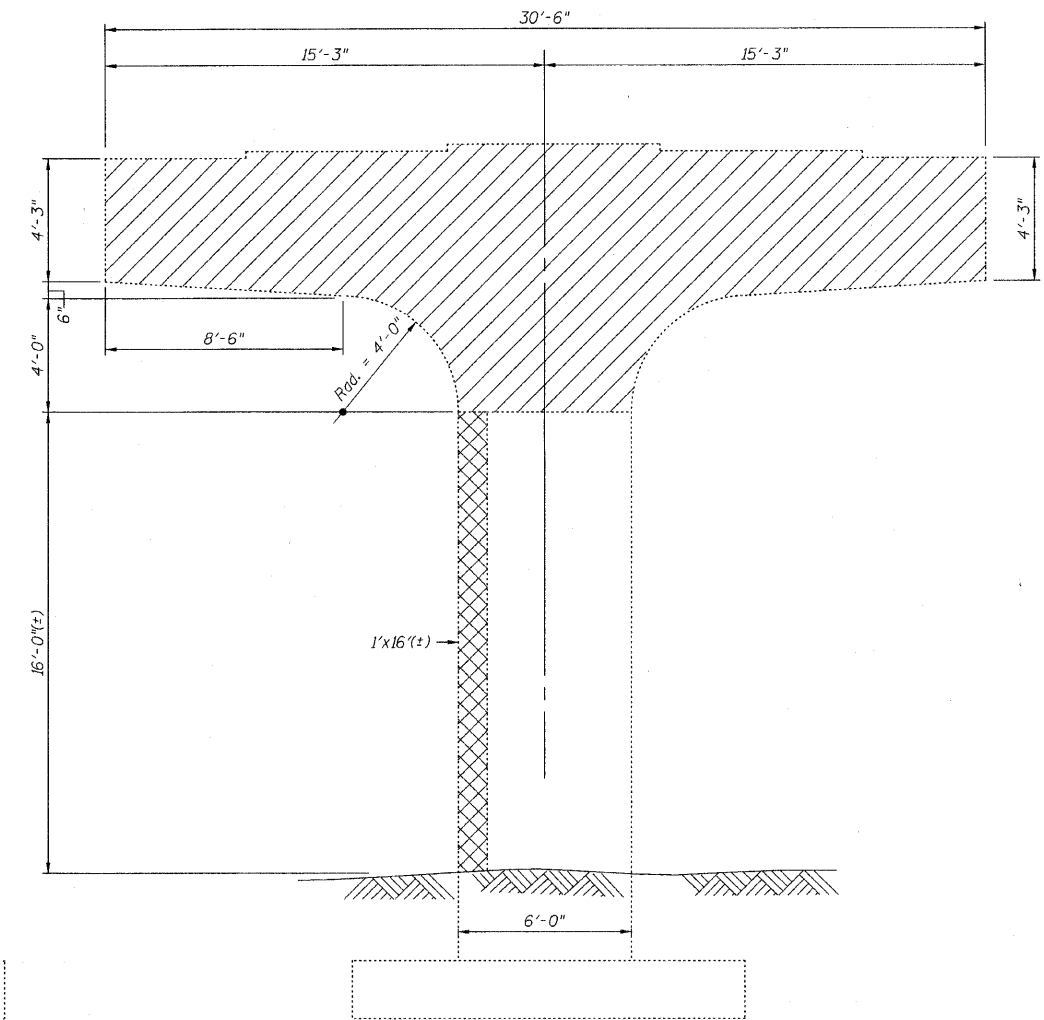
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**END VIEW  
EAST FACE**  
(Looking West)



**END VIEW  
WEST FACE**  
(Looking East)



**ELEVATION  
SOUTH FACE**  
(Looking North)

**NOTE:**  
See Sht. S33, for Pier Cap Replacement

**PIER #4**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	50

**LEGEND:**

Structural Repair of Concrete  
(Depth Equal To or Less Than 5 Inches)

Pier Cap Replacement

\* Structural repair of concrete operations shall be performed prior to rebuilding the pier cap

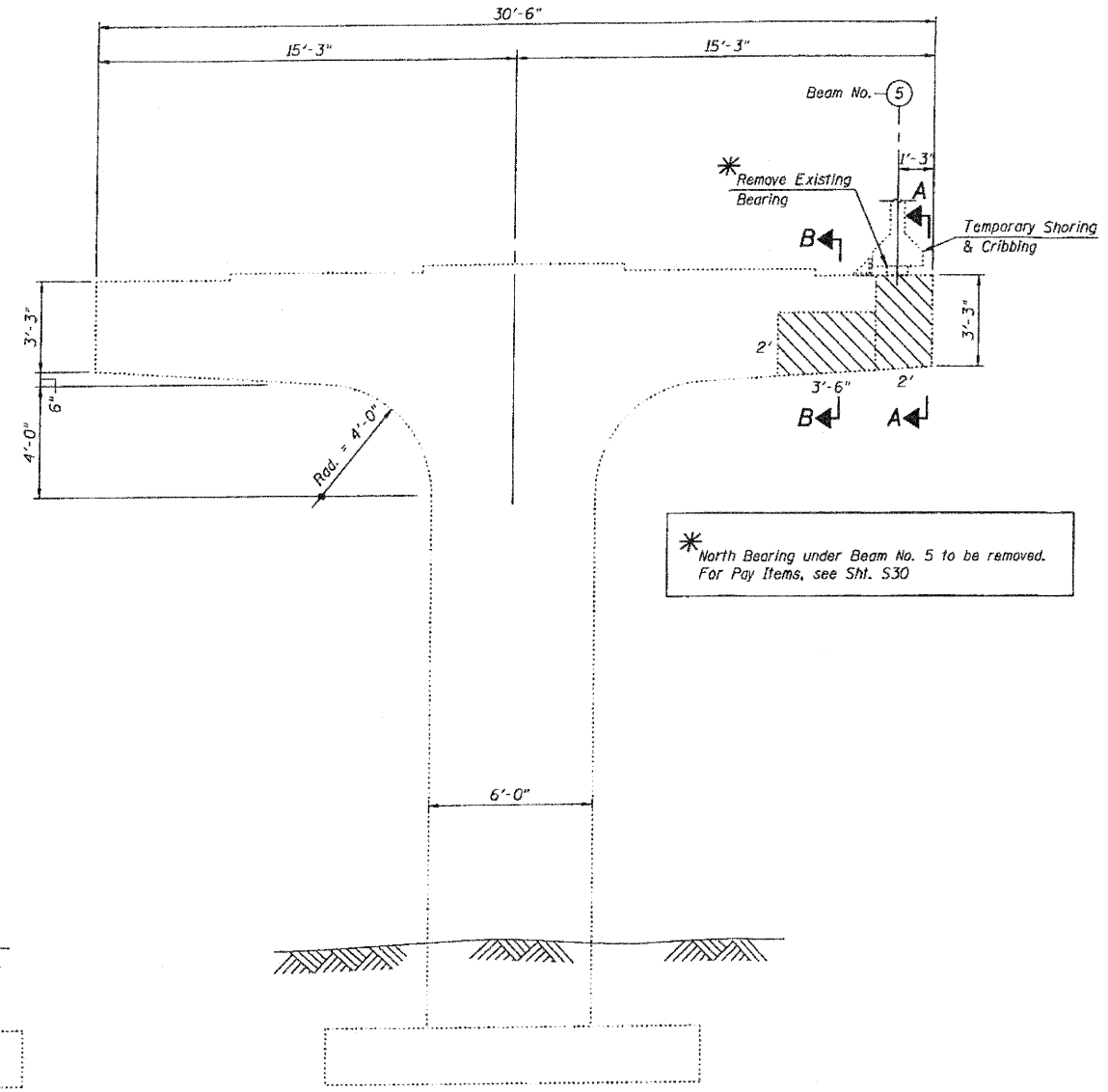
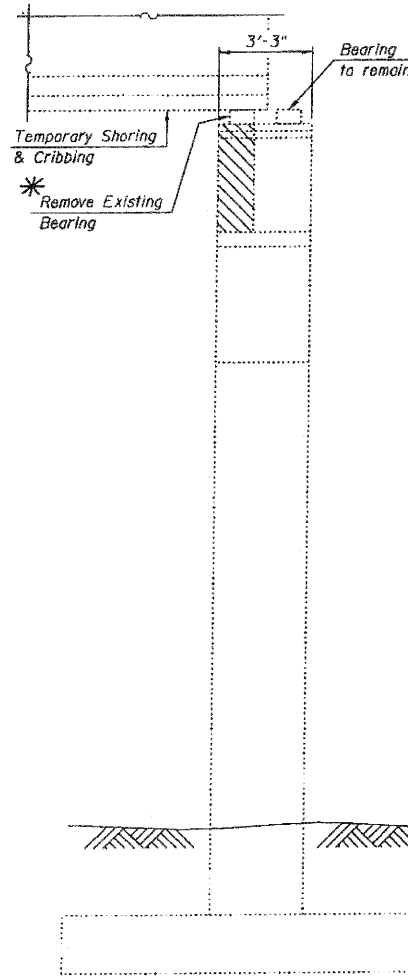
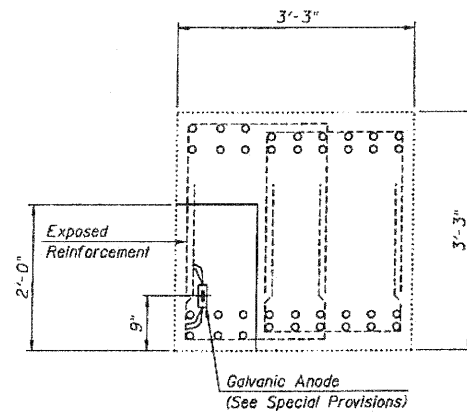
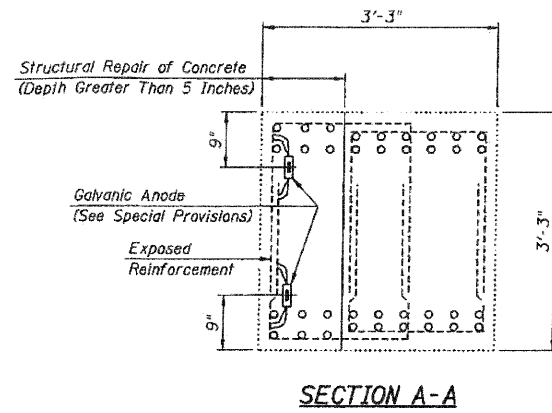
**PIER #4 REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S34	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 41
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



END VIEW  
WEST FACE  
(Looking East)

ELEVATION  
NORTH FACE  
(Looking South)

PIER #7

LEGEND:  
 Structural Repair of Concrete (Depth Greater Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Shoring and Cribbing	Each	1
Galvanic Anode	Each	3
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	14

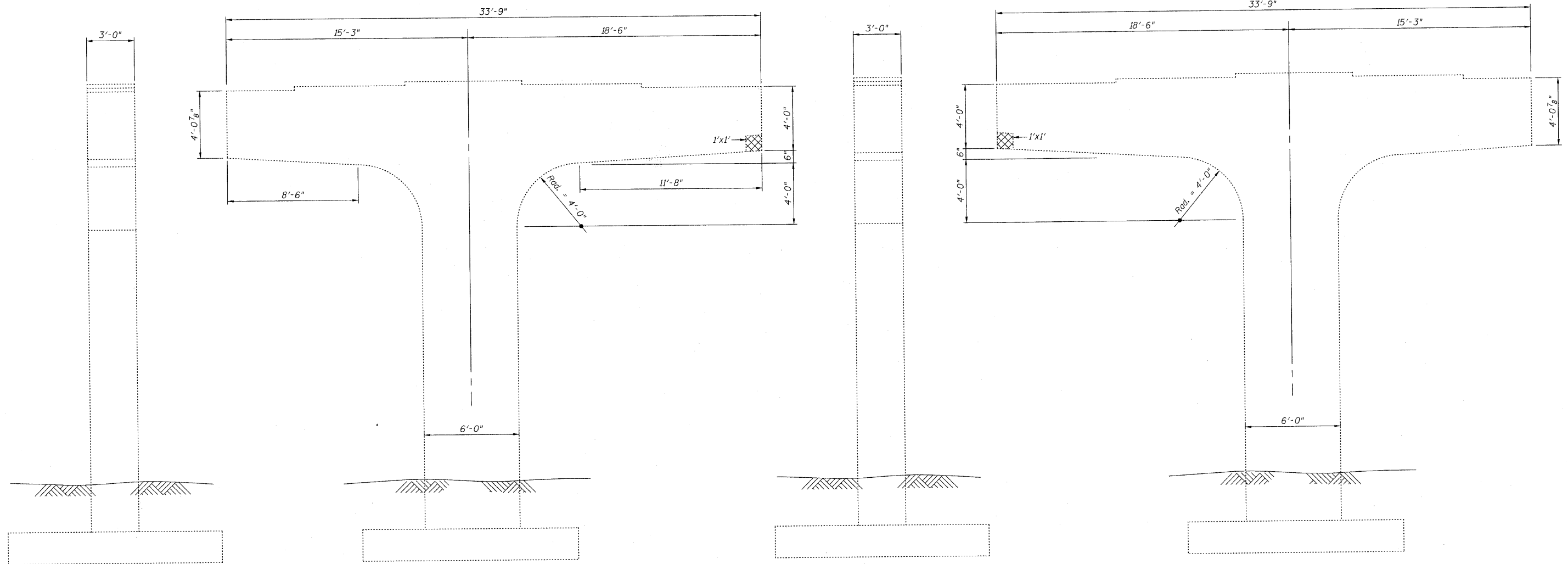
PIER #7 REPAIRS  
 IL. RTE. 251 OVER IL. RTE. 38  
 C&NW R.R. AND B.N. R.R.  
 F.A.P. RTE. 740 (IL. RTE. 251)  
 SECTION (108HVB)M  
 OGLE COUNTY  
 STA. 856+44.00  
 STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGE DESIGN
	ENGINEER OF BRIDGES AND STRUCTURES

CHRISTIAN-ROGE & ASSOCIATES, INC.  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2823 FAX: (312)372-5274

SHEET NO. S35	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 42
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION




**END VIEW  
EAST FACE**  
(Looking West)

**ELEVATION  
NORTH FACE**  
(Looking South)

**END VIEW  
WEST FACE**  
(Looking East)

**ELEVATION  
SOUTH FACE**  
(Looking North)

**PIER #14**

**LEGEND:**  
 Structural Repair of Concrete  
 (Depth Equal To or Less Than 5 Inches)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	2

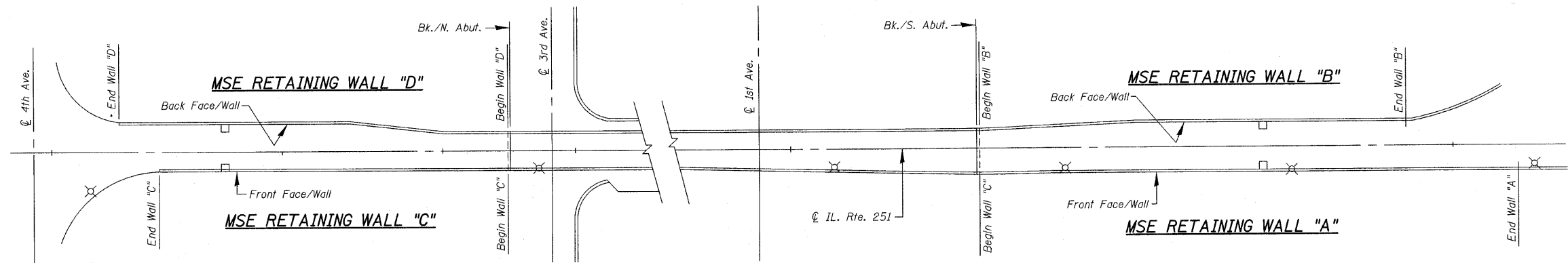
**PIER #14 REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HV)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

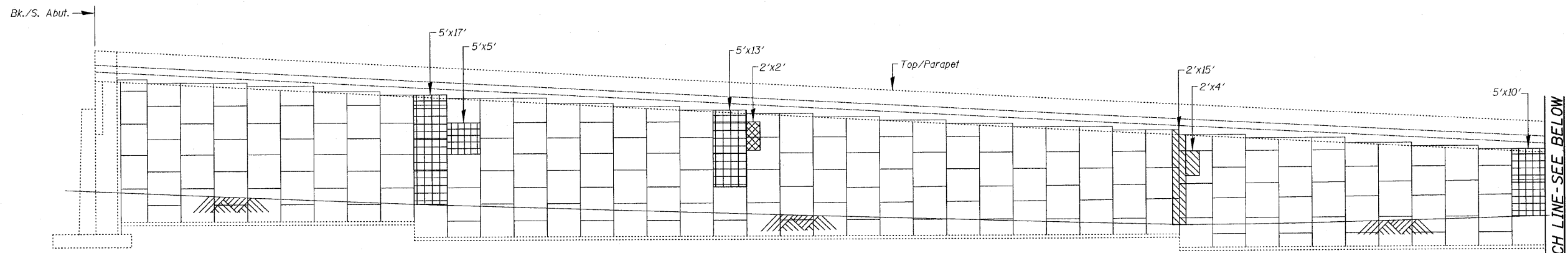
**CR & A**  
 CHRISTIAN-ROGE & ASSOCIATES, INC.  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S36 S43 SHEETS	F.A.P. RTE. 740	SECTION (108HV)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 43
	CONTRACT NO. 64G24			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



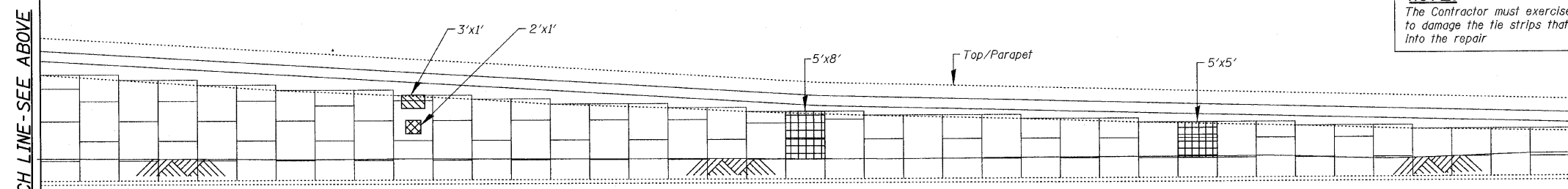
SITE PLAN



ELEVATION

MSE RETAINING WALL "A"  
(at Front Face)

**NOTE:**  
The Contractor must exercise extreme care as not to damage the tie strips that will be reincorporated into the repair



ELEVATION

MSE RETAINING WALL "A"  
(at Front Face)

**LEGEND:**

- Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
- Structural Repair of Concrete (Depth Greater Than 5 Inches)
- Washing and Cleaning

**NOTE:**

See Shr. S40 for typical panel details

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)	Sq Ft	47
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	141
Washing and Cleaning	L Sum	1

**MSE RETAINING WALL "A" REPAIRS**  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

\* Washing and Cleaning consists of Power Washing the discolored concrete surfaces as described in The Special Provisions.  
The Engineer shall determine actual areas of repair and Washing and Cleaning in the field.

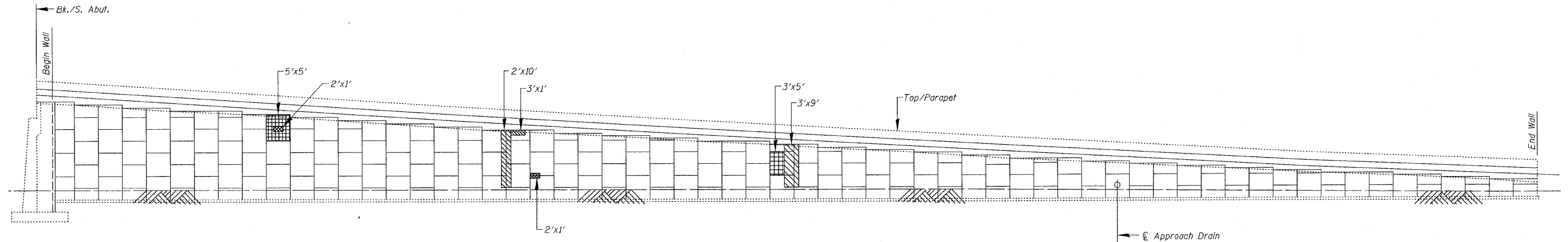
DESIGNED -	
CHECKED -	
DRAWN -	
CHECKED -	

2010  
EXAMINED  
ENGINEER OF BRIDGE DESIGN  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

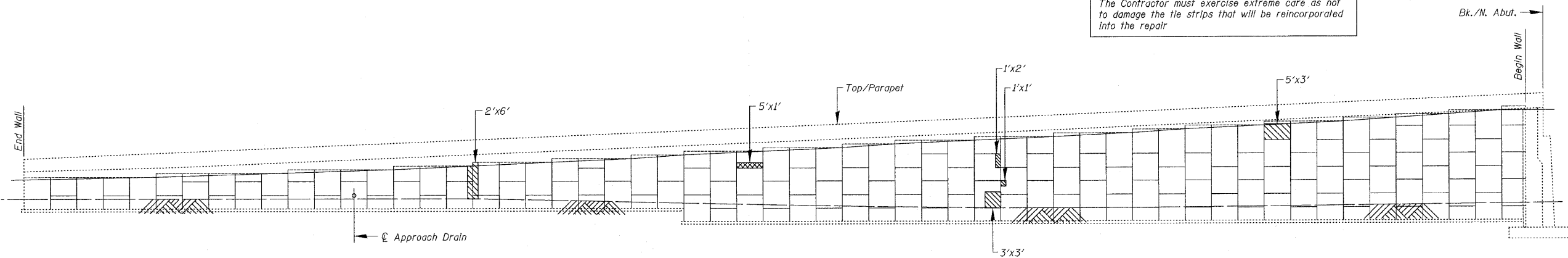
SHEET NO. S37	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 44
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**ELEVATION**  
**MSE RETAINING WALL "B"**  
(at Back Face)

**NOTE:**  
The Contractor must exercise extreme care as not to damage the tie strips that will be reincorporated into the repair



**ELEVATION**  
**MSE RETAINING WALL "C"**  
(at Front Face)

**NOTES:**  
See Site Plan, on Sht. S37 for location of MSE Retaining Walls "B" & "C".  
See Sht. S40 for typical panel details.

- LEGEND:**
- Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
  - Structural Repair of Concrete (Depth Greater Than 5 Inches)
  - Washing and Cleaning

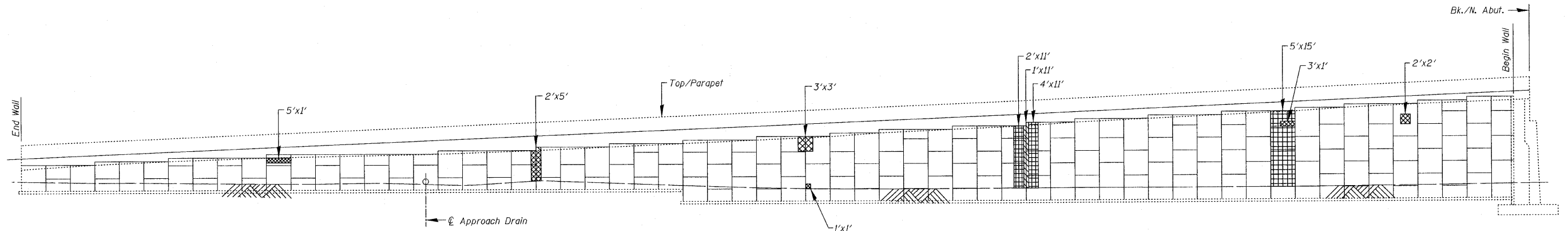
**MSE RETAINING WALLS "B" & "C"**  
**REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S38 S43 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	740	(108HVB)M	OGLE	55	45
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION






**ELEVATION**  
**MSE RETAINING WALL "D"**  
(at Back Face)

**NOTE:**  
The Contractor must exercise extreme care as not to damage the tie strips that will be reincorporated into the repair

**NOTES:**  
See Site Plan, on Sht. S37 for location of MSE Retaining Wall "D".  
See Sht. S40 for typical panel details.

**LEGEND:**

-  Structural Repair of Concrete (Depth Equal To or Less Than 5 Inches)
-  Structural Repair of Concrete (Depth Greater Than 5 Inches)
-  Washing and Cleaning

**MSE RETAINING WALL "D" REPAIRS**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

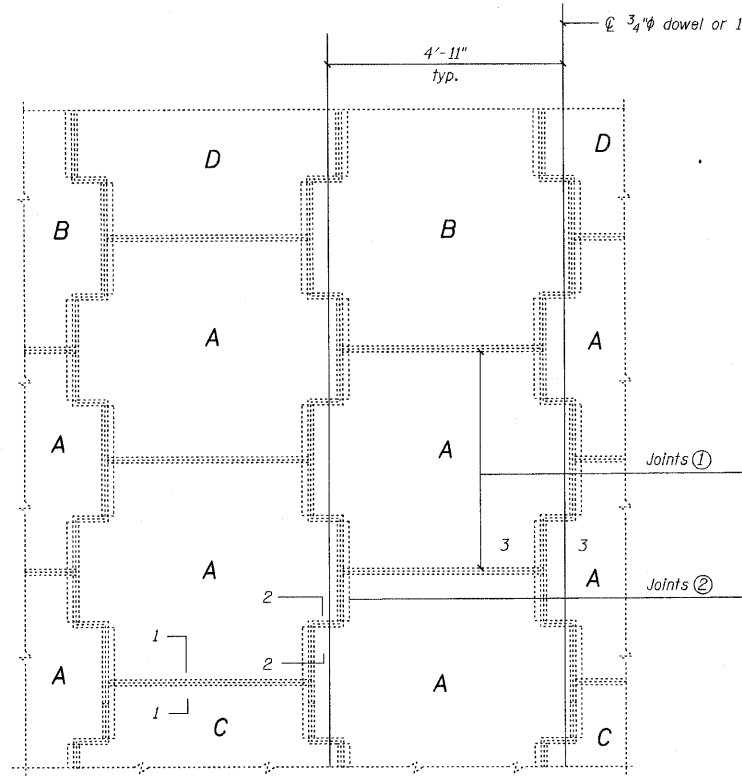
**CR & A**  
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S39	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 46
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

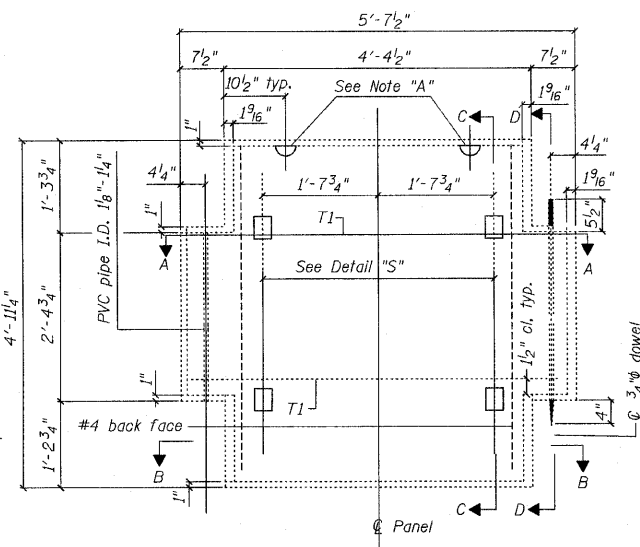


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

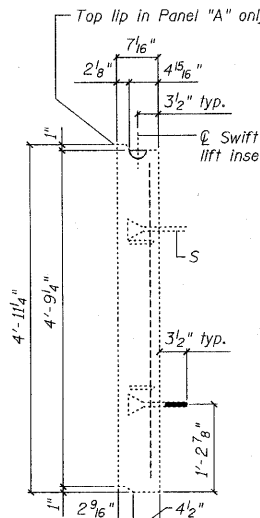
**NOTE "A"**  
One ton swift lift inserts  $\frac{3}{8} \times 3 \frac{3}{8}$ "



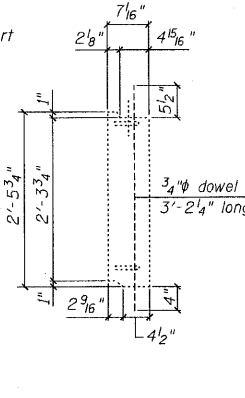
TYPICAL PANEL LAYOUT



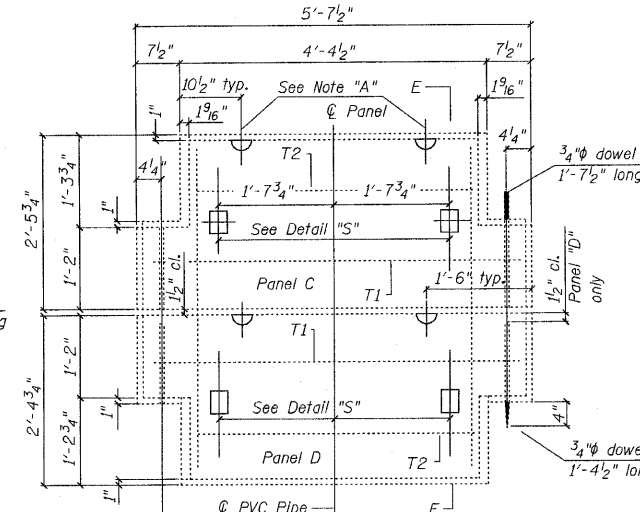
PANEL TYPE A & B  
Front view



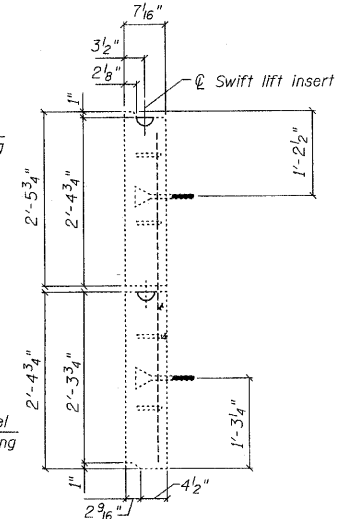
SECTION C-C



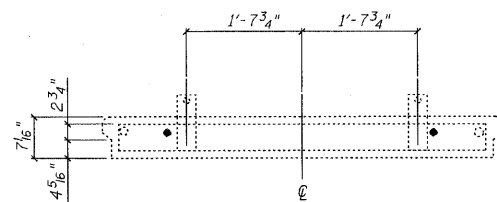
SECTION D-D



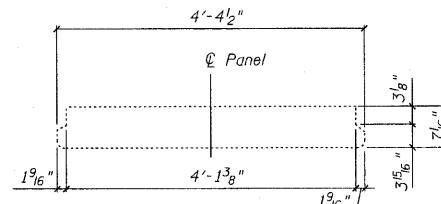
HALF PANELS C & D  
Front view



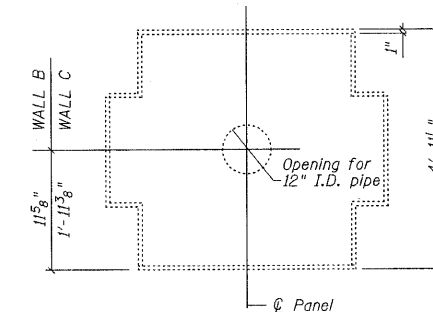
SECTION E-E



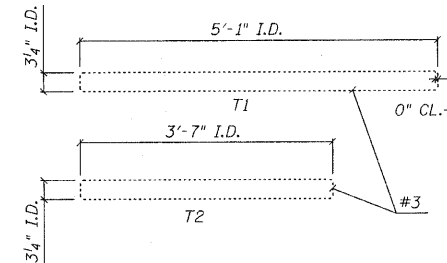
SECTION A-A



SECTION B-B

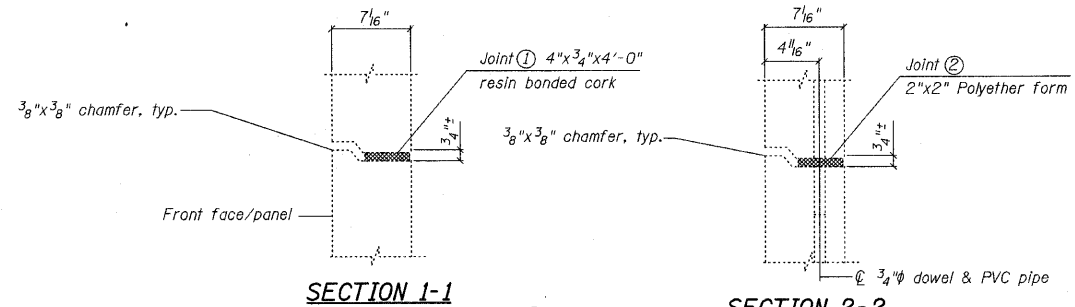


PANEL TYPE A-1  
Front view



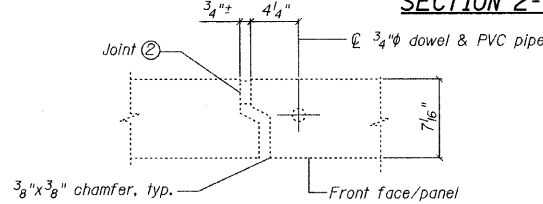
STIRRUP DETAILS

TYPICAL PANEL DETAILS



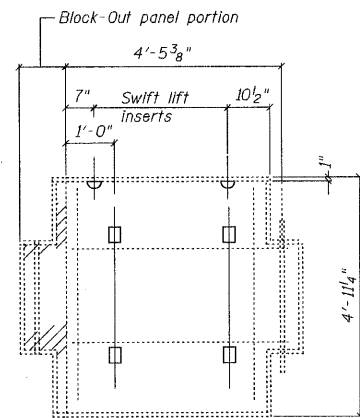
SECTION 1-1

SECTION 2-2

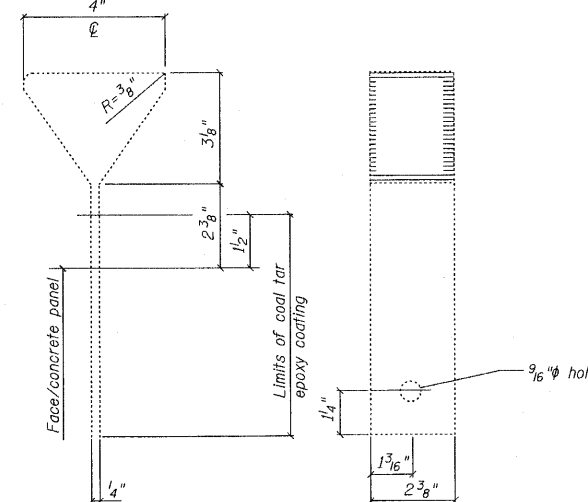


SECTION 3-3

**NOTE:**  
Panel Type "A-1" similar to Type "A" except for 12" hole for drain pipe



PANEL TYPE "AL"  
Front view



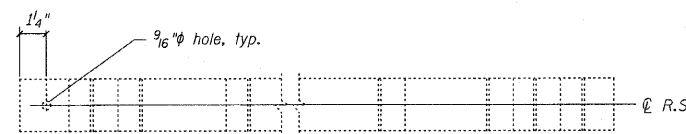
TIE STRIP DETAIL "S"  
With coal tar epoxy coating (see Special Provisions)

FOR INFORMATION ONLY

MSE RETAINING WALL  
TYPICAL PANEL DETAILS  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES



DETAIL OF REINFORCING STRIP

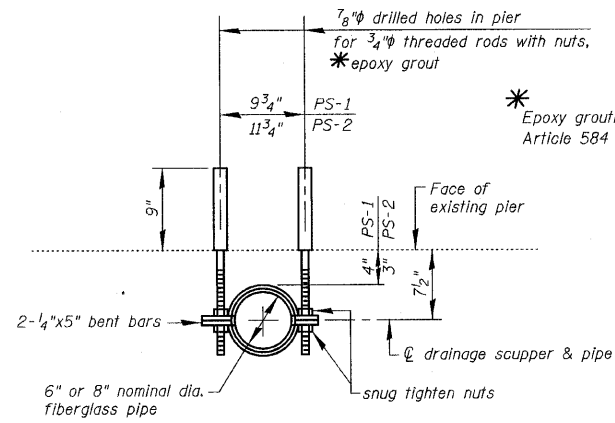
CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S40	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 47
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**NOTE "A"**

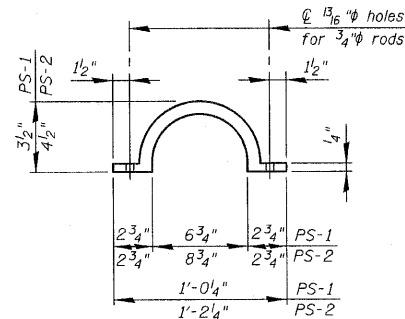
The drainage system shall be designed as an open system with allowances for the differential expansion and contraction expected between the superstructure and the substructure to which the drainage system is attached



**PIPE SUPPORT DETAIL**

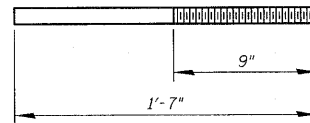
**PS-1 & PS-2**

No. required = 24 for PS-1  
No. required = 25 for PS-2



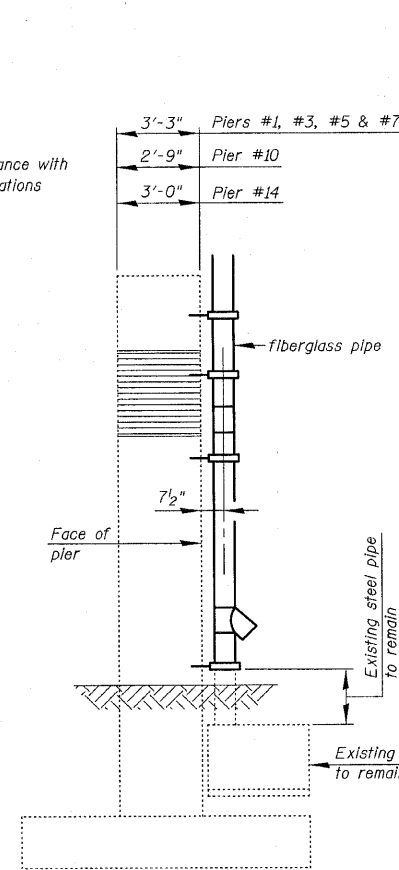
**1/4" x 5" BENT BARS**

No. required = 48 for PS-1  
No. required = 50 for PS-2

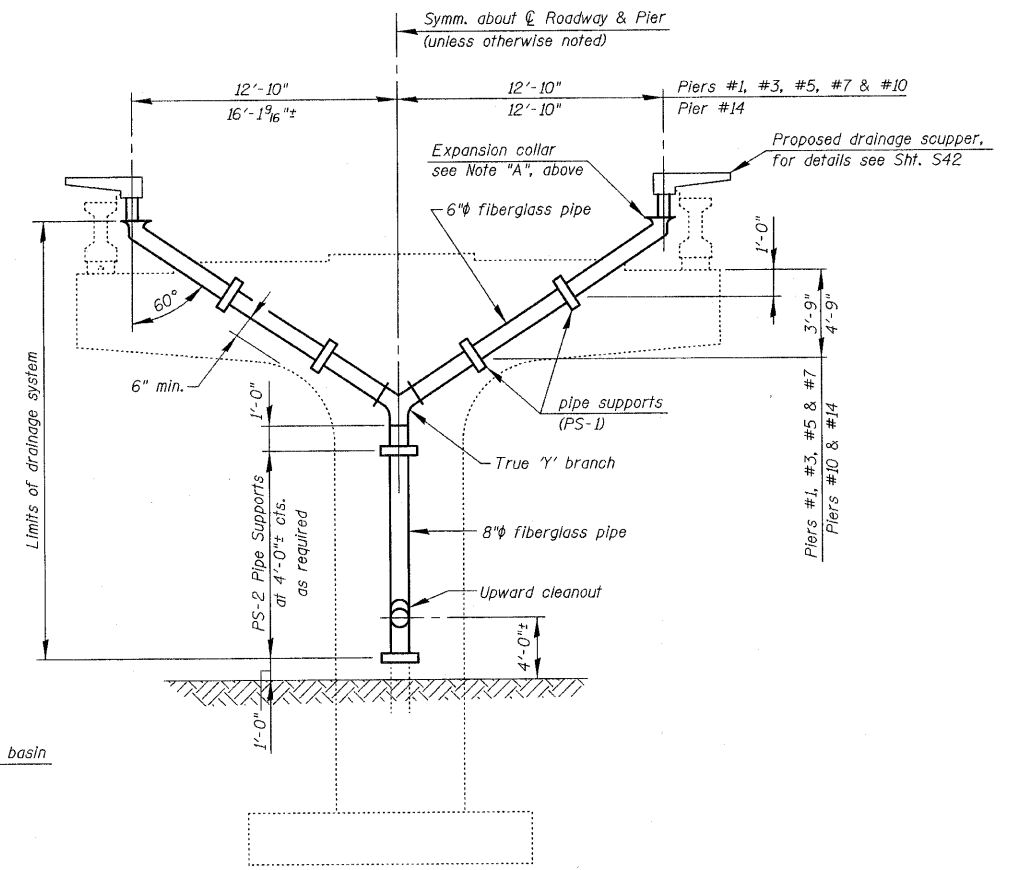


**3/4" THREADED RODS**

No. required = 48 for PS-1  
No. required = 50 for PS-2



**SIDE VIEW**



**ELEVATION**

(Showing Drainage System)  
Looking North at Piers #1, #5, #10 & #14  
Looking South at Piers #3 & #7

**LEGEND:**

PS-1 = Pipe Support-1  
PS-2 = Pipe Support-2

Notes:  
Remove approximately 240' of existing drain pipe and replace with approximately 180' of new drain pipe.  
Cost for work shown on this sheet & existing drain pipe removal is included with Drainage System.  
All materials shall be in accordance with the Special Provision for Drainage System.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage System	L. Sum	1

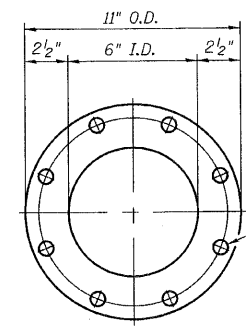
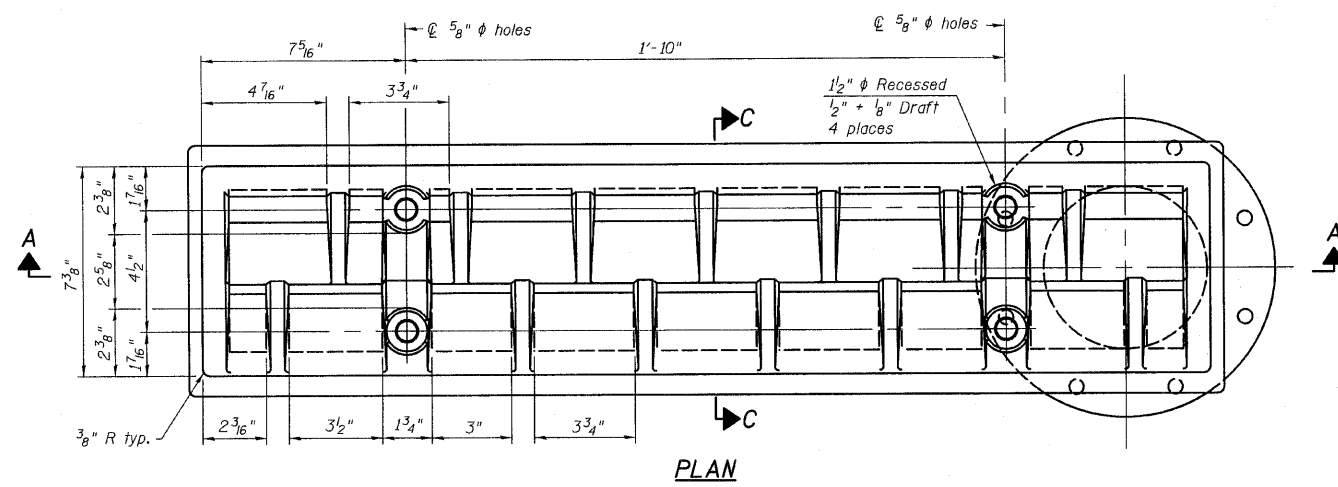
**DRAINAGE SYSTEM**  
**IL. RTE. 251 OVER IL. RTE. 38**  
**C&NW R.R. AND B.N. R.R.**  
**F.A.P. RTE. 740 (IL. RTE. 251)**  
**SECTION (108HVB)M**  
**OGLE COUNTY**  
**STA. 856+44.00**  
**STRUCTURE NO. 071-0066**

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

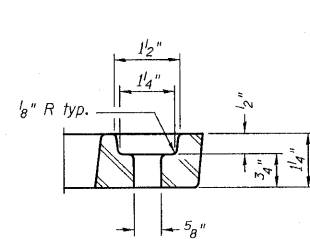
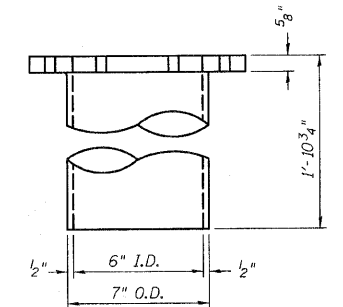
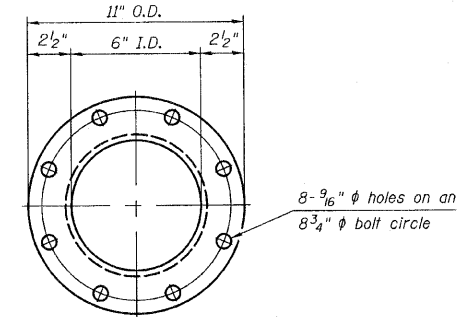
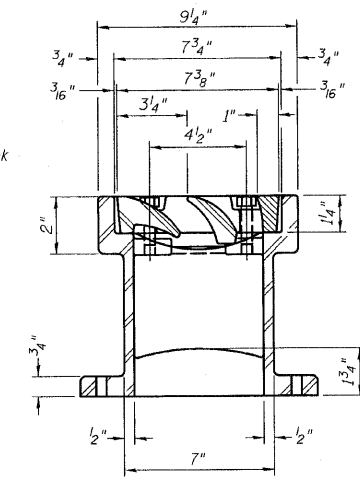
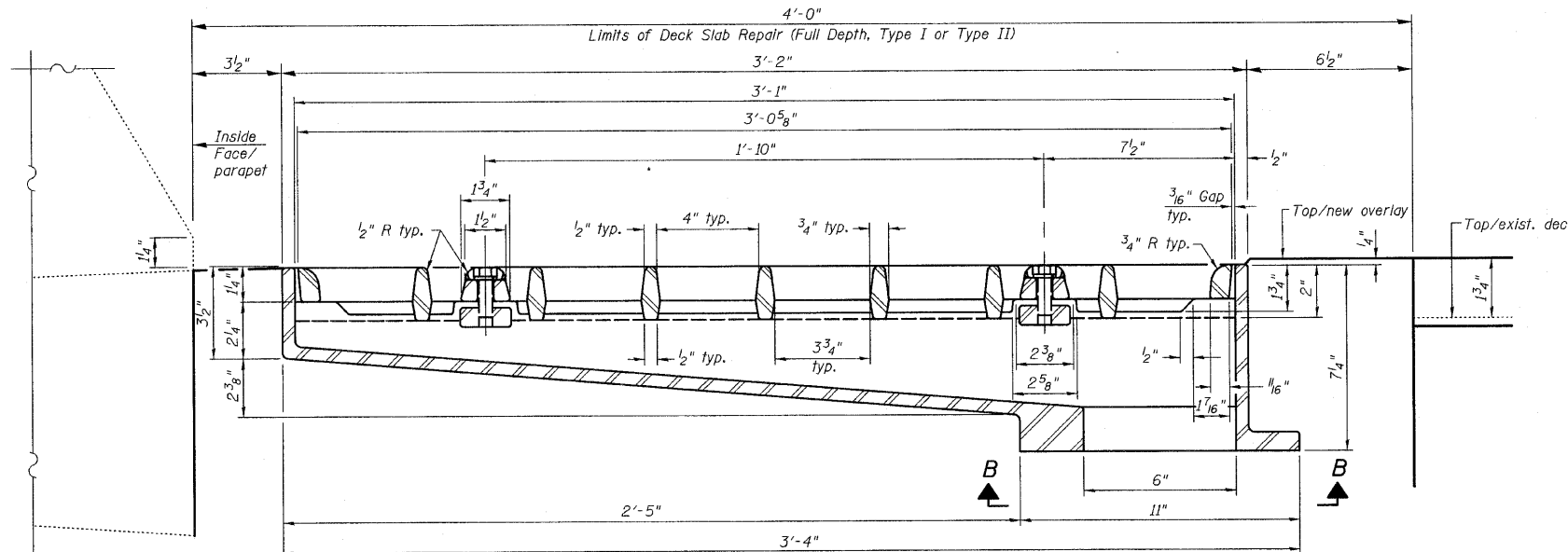
SHEET NO. S41	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 48
S43 SHEETS	CONTRACT NO. 64G24		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

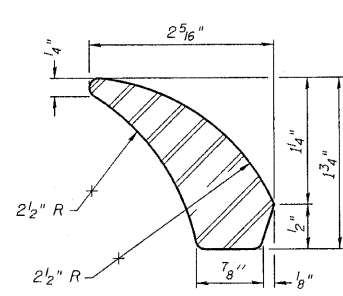
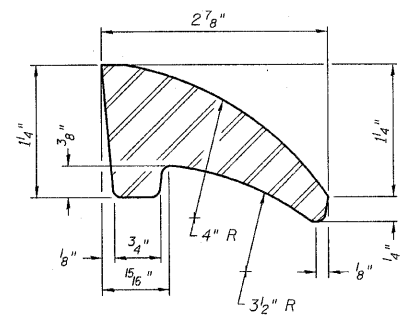


Drill and tap 8 holes for 3/4"-10 UNC bolts on 8 3/4" diameter bolt circle

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 M11.  
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.



SECTION A-A  
For details of deck slab repairs & scupper locations relative to piers, see Sht's. S4 thru S7



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	12

DRAINAGE SCUPPER, DS-33  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

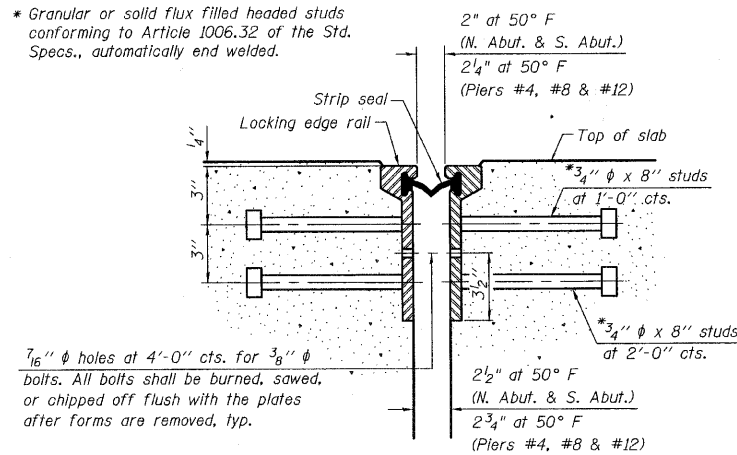
DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	ENGINEER OF BRIDGE DESIGN
CHECKED -	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

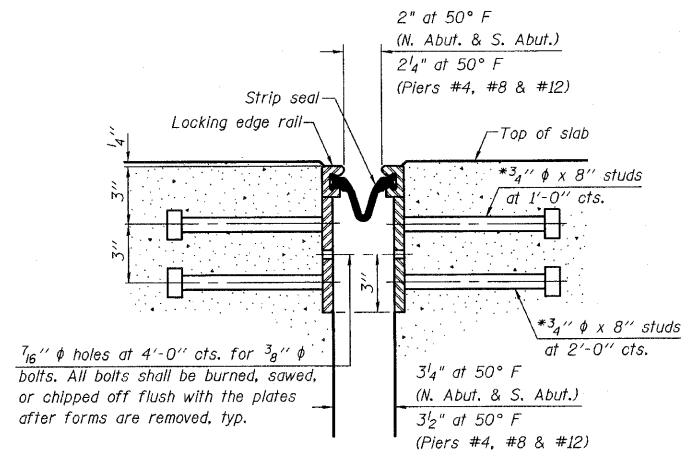
SHEET NO. S42	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S43 SHEETS	740	(108HVB)M	OGLE	55	49
			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

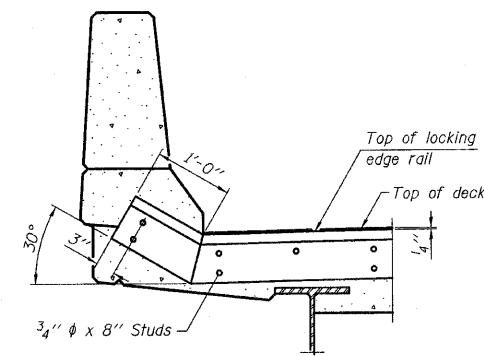
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



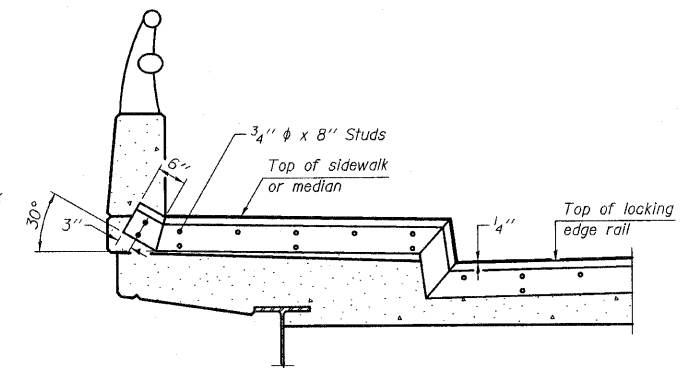
SECTION THRU  
ROLLED RAIL JOINT



SECTION THRU  
WELDED RAIL JOINT

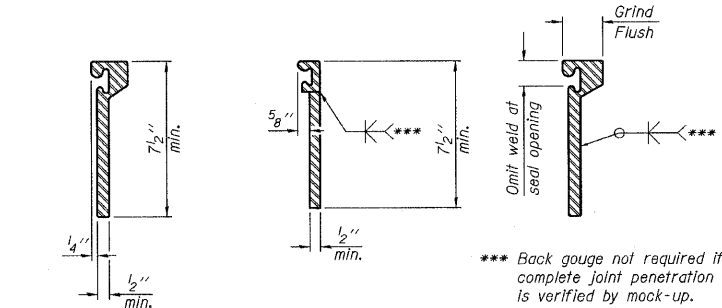


AT PARAPET  
See Section A-A for end treatment of skew > 30°.



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

TYPICAL END TREATMENTS



ROLLED  
EXTRUDED RAIL

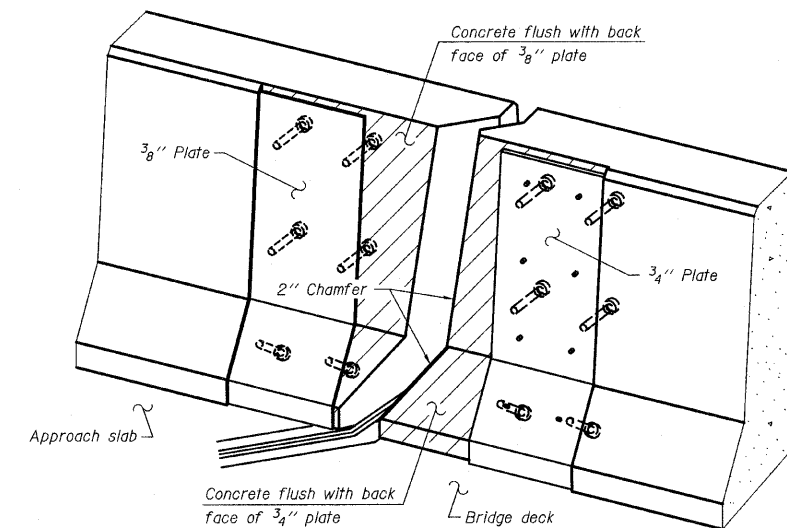
WELDED RAIL

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

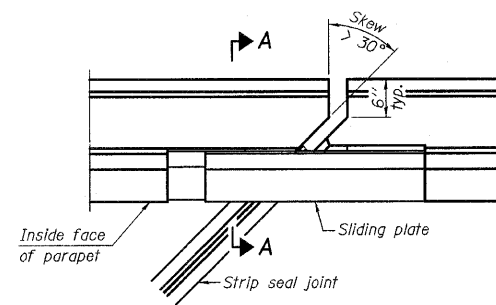
LOCKING EDGE  
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.

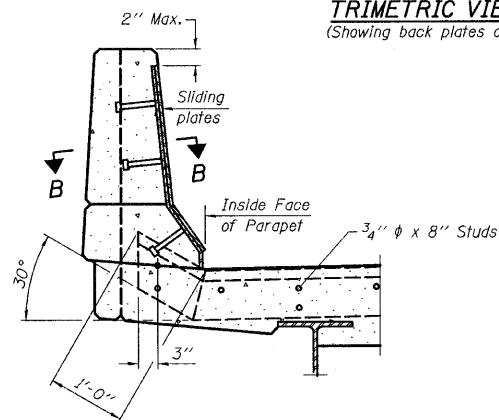
LOCKING EDGE RAILS



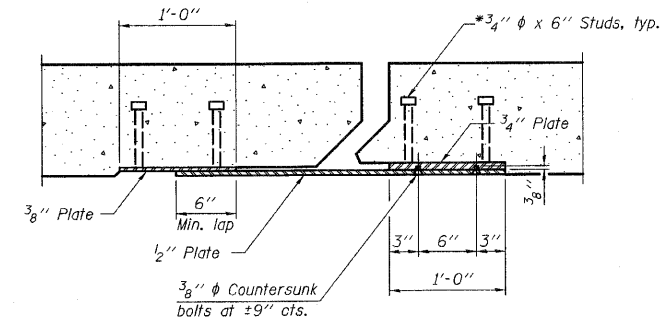
TRIMETRIC VIEW  
(Showing back plates only)



PLAN



SECTION A-A  
POINT BLOCK DETAILS  
(for skew > 30°)



SECTION B-B

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. 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 inch, sealed with a suitable sealant.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	175

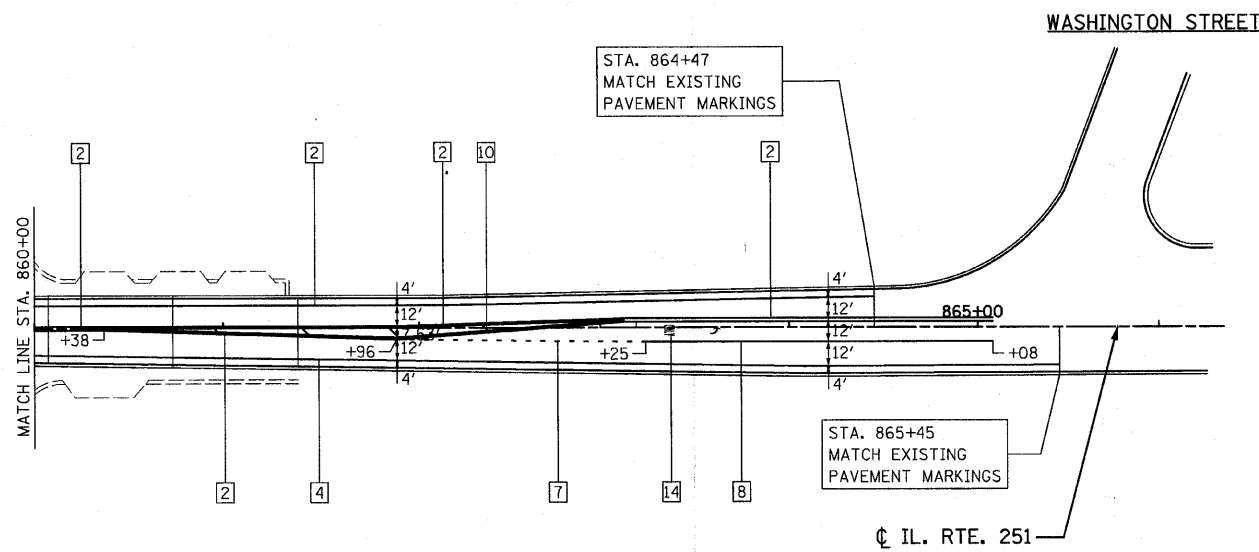
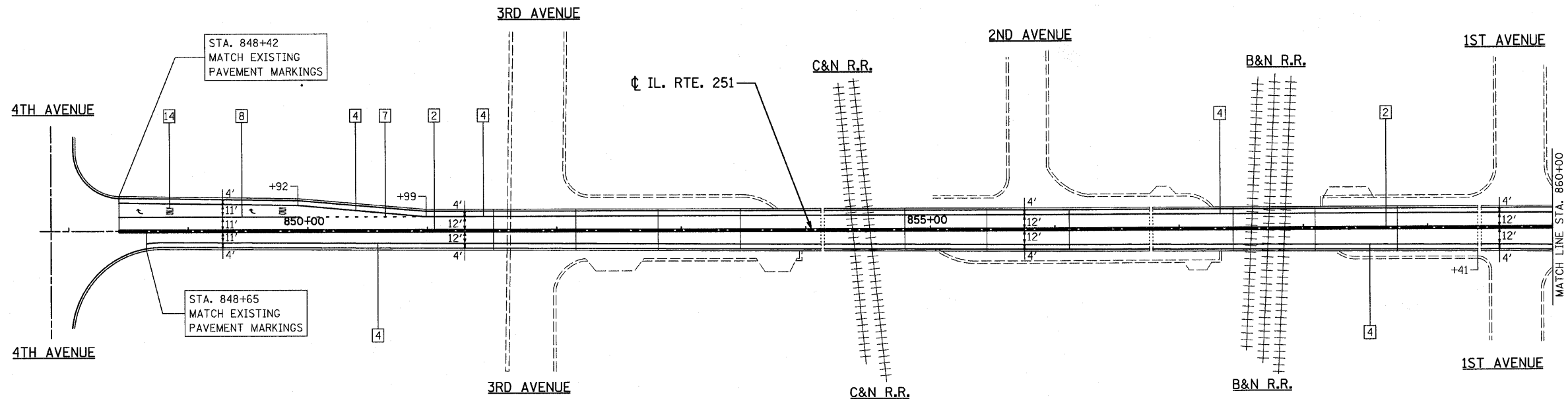
PREFORMED JOINT STRIP SEAL  
IL. RTE. 251 OVER IL. RTE. 38  
C&NW R.R. AND B.N. R.R.  
F.A.P. RTE. 740 (IL. RTE. 251)  
SECTION (108HVB)M  
OGLE COUNTY  
STA. 856+44.00  
STRUCTURE NO. 071-0066

DESIGNED -	2010
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES  
EJ-SSJ 11-1-09

CHRISTIAN-ROGE & ASSOCIATES, INC.  
ENGINEERS-PLANNERS-SURVEYORS  
211 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60606  
PHONE: (312)372-2023 FAX: (312)372-5274

SHEET NO. S43	F.A.P. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 50
S43 SHEETS			CONTRACT NO. 64G24		
ILLINOIS FED. AID PROJECT					



**LEGEND**

- |   |  |                                    |                               |
|---|--|------------------------------------|-------------------------------|
| 1 LINE 4" (YELLOW SOLID LINE)           | 5 LINE 4" (WHITE LANE LINE - 10' DASH, 30' SKIP) | 9 LINE 12" (YELLOW SOLID LINE)     | 13 LINE 24" (WHITE STOP BAR)  |
| 2 LINE 4" (DOUBLE YELLOW SOLID LINES)   | 6 LINE 6" (WHITE SOLID LINE)                     | 10 LINE 12" (YELLOW DIAGONAL LINE) | 14 LETTERS AND SYMBOLS (TYP.) |
| 3 LINE 4" (YELLOW - 10' DASH, 30' SKIP) | 7 LINE 8" (WHITE LANE LINE - 2' DASH, 4' SKIP)   | 11 LINE 12" (WHITE SOLID LINE)     |                               |
| 4 LINE 4" (WHITE SOLID LINE)            | 8 LINE 8" (WHITE SOLID LINE)                     | 12 LINE 12" (WHITE DIAGONAL LINE)  |                               |

NOTE: ALL PAVEMENT MARKINGS SHALL BE POLYUREA TYPE 1 UNLESS OTHERWISE NOTED.

FILE NAME = 0264624-shr-pv-marking.dgn  
 PLOT DATE = 8/12/2010  
 PLOT SCALE = 50.0000' / IN.

**CHRISTIAN-ROGE & ASSOCIATES, INC.**  
 ENGINEERS-PLANNERS-SURVEYORS  
 211 WEST WACKER DRIVE  
 CHICAGO, ILLINOIS 60606  
 PHONE: (312)372-2023 FAX: (312)372-5274

DESIGNED - G.F.L.	REVISED -
DRAWN - J.V.	REVISED -
CHECKED - E.J.M.	REVISED -
DATE - AUGUST 2010	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

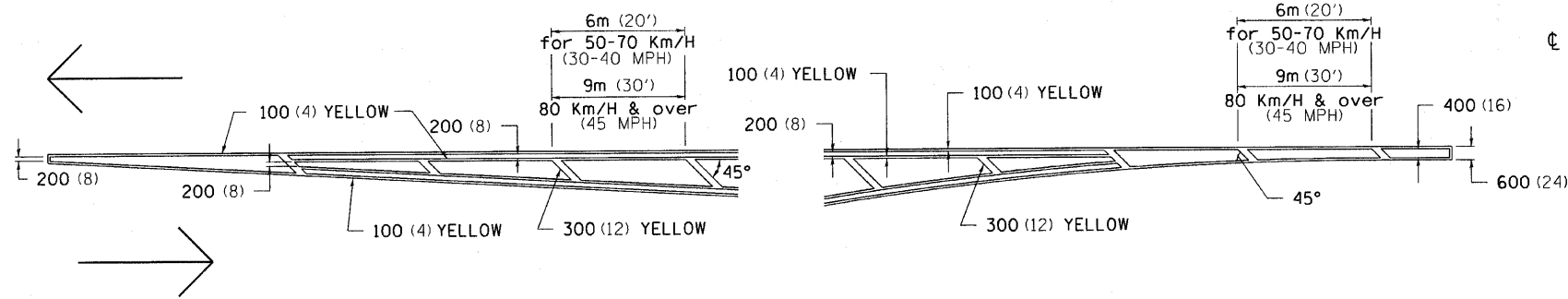
**PAVEMENT MARKING PLAN**  
**IL. RTE. 251 OVER IL. RTE. 38, C&N R.R. AND B.N.R.R.**

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

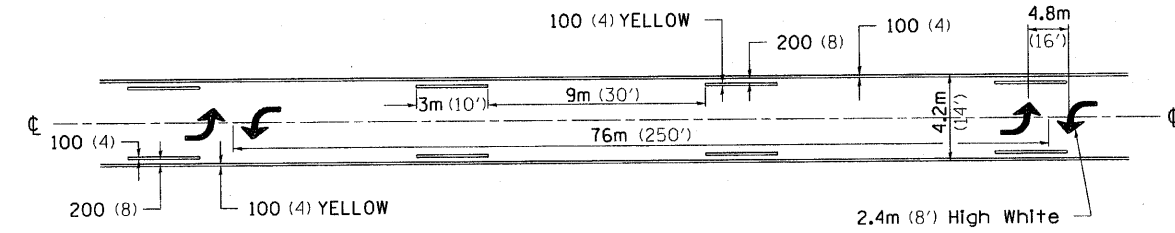
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
740	(108HV) M	OGLE	55	51
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT			CONTRACT NO. 64G24	

# TYPICAL PAVEMENT MARKINGS

## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

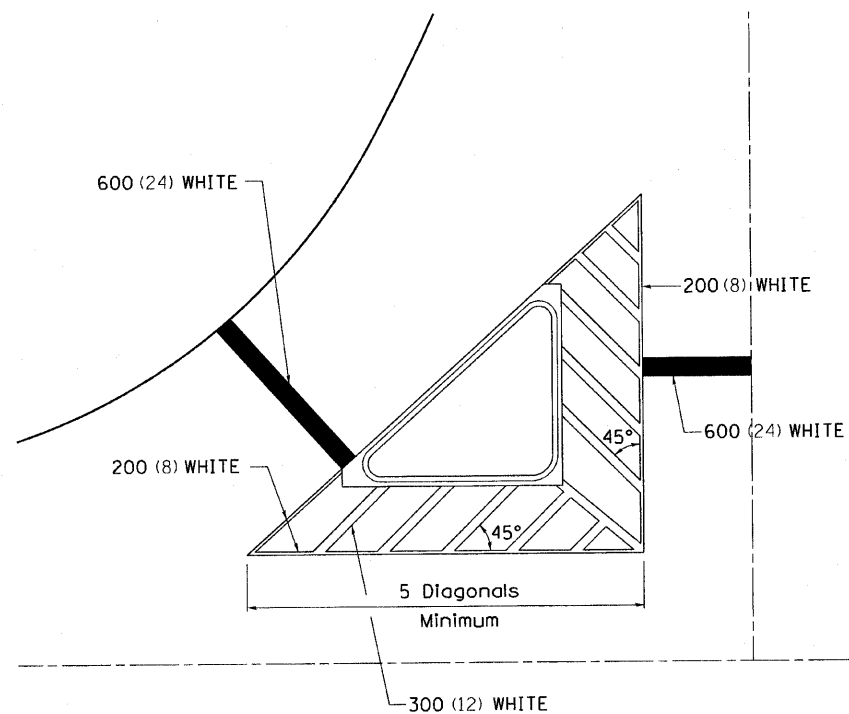


## MEDIAN PAVEMENT MARKING

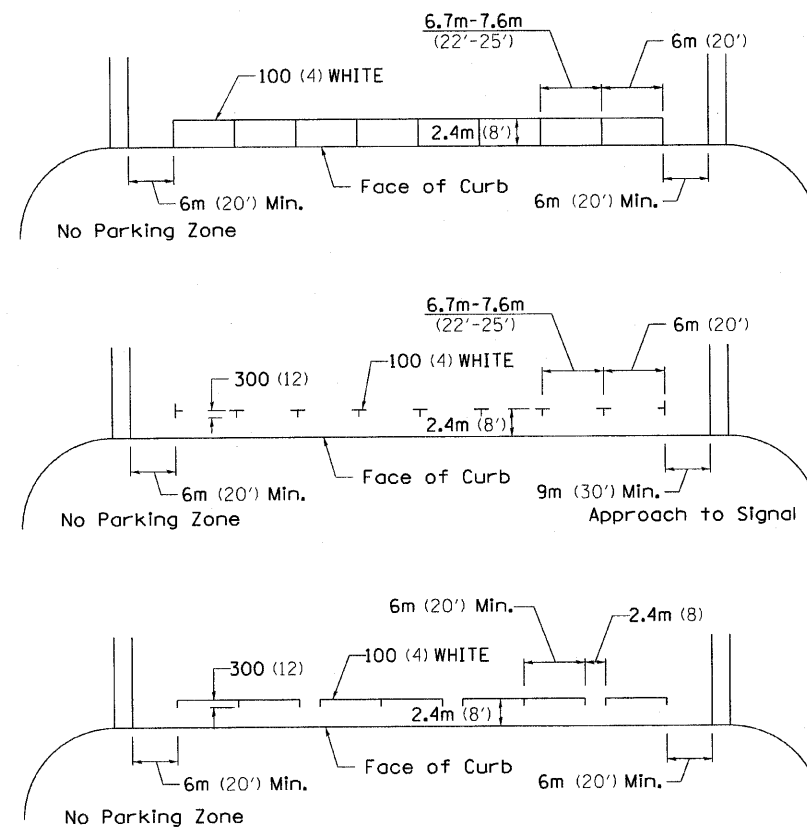


•• ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

## TYPICAL ISLAND OFFSET SHOULDER WIDTH

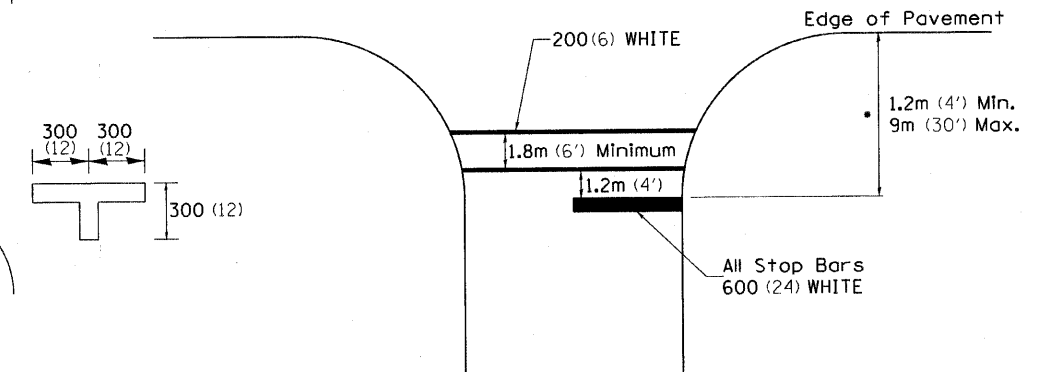


## TYPICAL PARKING SPACING



## STANDARD CROSSWALK MARKING

See Schedules for Locations

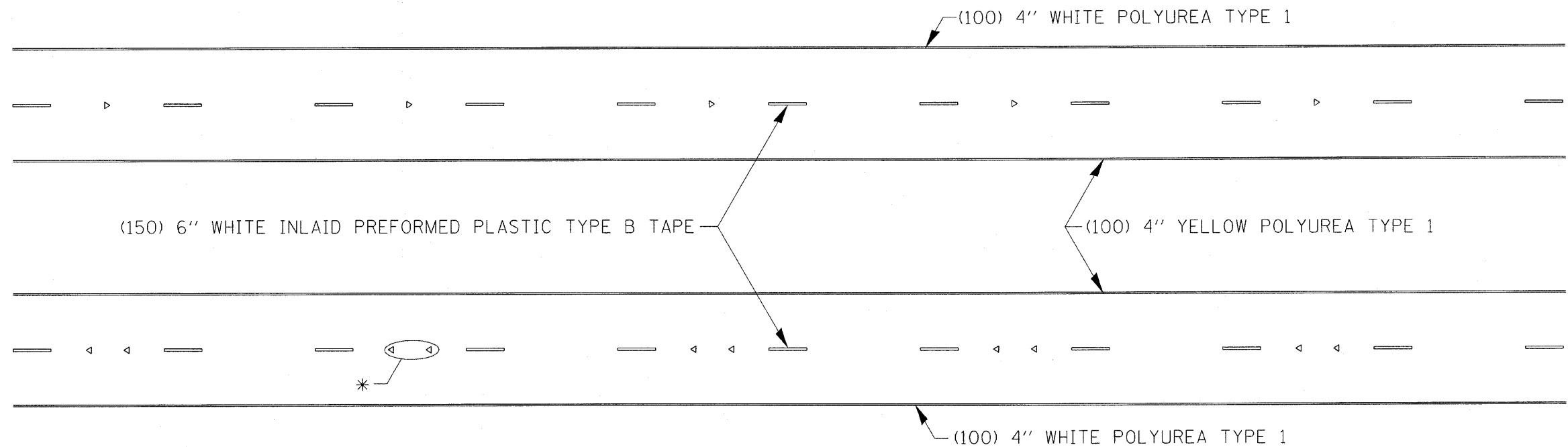


• Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

FILE NAME = District 2 Standard	USER NAME = IDOT/District 2	DESIGNED -	REVISED - 10-21-08	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REGION 2 / DISTRICT 2 STANDARD</b>				F.A. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 52
	PLOT SCALE = 1:00000' / IN.	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 64624	
	PLOT DATE = Fri Sep 18 09:27:09 2009	CHECKED -	REVISED -										
		DATE -	REVISED -										

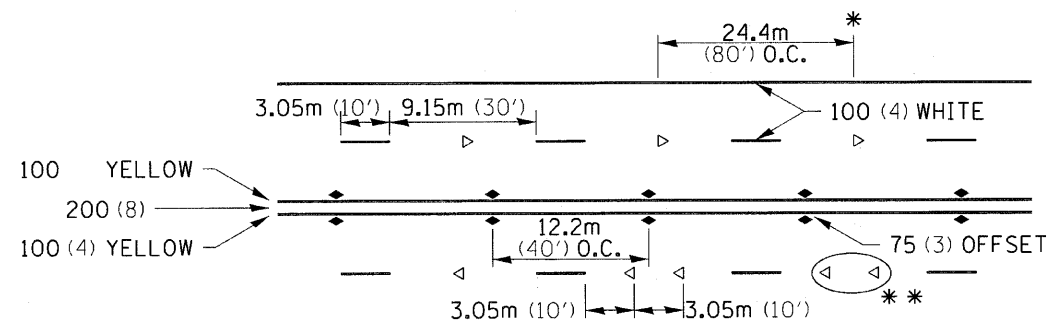


# TYPICAL PAVEMENT MARKINGS



\* SEE HIGHWAY STANDARD 781001 FOR SPACING DETAILS.  
USE DOUBLE MARKERS WHEN ADT  $\geq$  25,000.

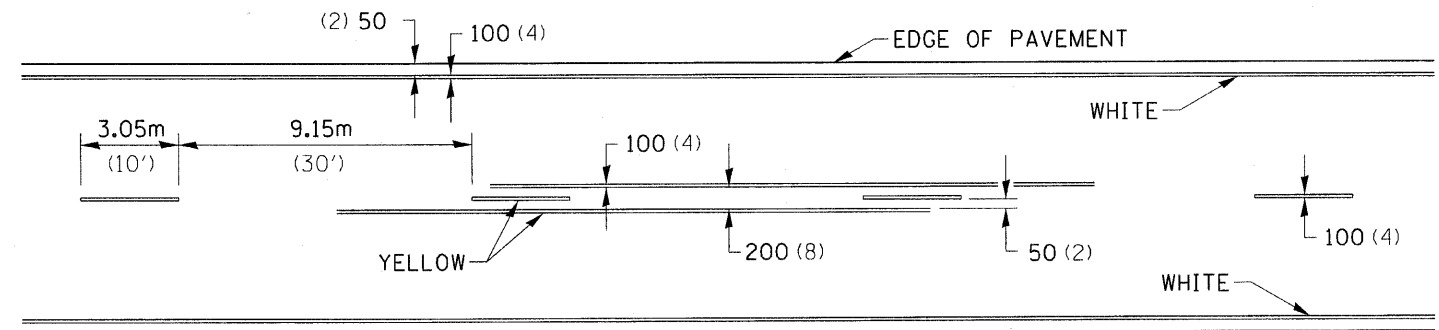
## MULTI-LANE / DIVIDED



- \* REDUCE TO 12.2m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 15Km/H (10MPH) LOWER THAN POSTED SPEEDS.
- \*\* USE DOUBLE MARKERS WHEN ADT  $\geq$  25,000

## MULTI-LANE / UNDIVIDED

## TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION - NO PASSING ZONES

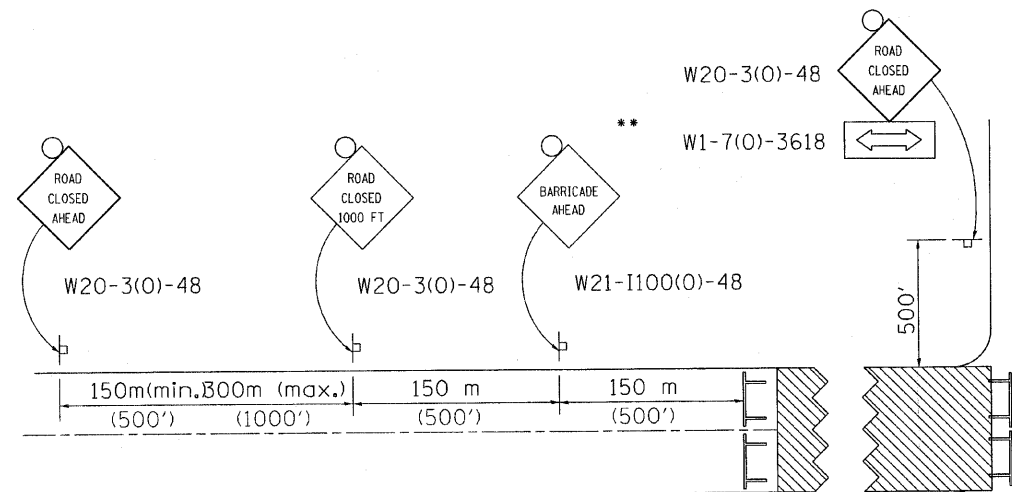


### SYMBOLS

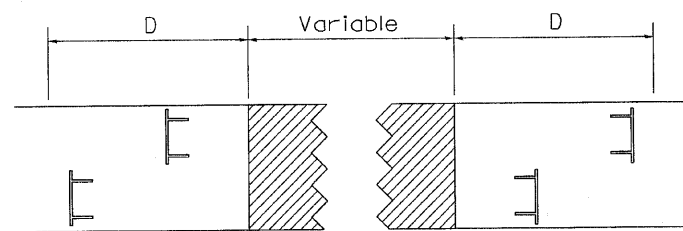
FILE NAME =	USER NAME = \$USERS	DESIGNED -	REVISED - 10-21-08	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REGION 2 / DISTRICT 2 STANDARD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C:\Projects\0202902\New Folder\02Standard.dwg	ds.cel	DRAWN -	REVISED -			740	(108HV/B)M	OGLE	55	54
PLOT SCALE = 1:8000' / IN.	CHECKED -	REVISED -	REVISED -			CONTRACT NO. 64624				
PLOT DATE = Tue Mar 23 07:24:47 2010	DATE -	REVISED -	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



# TRAFFIC CONTROL FOR ROAD CLOSURE



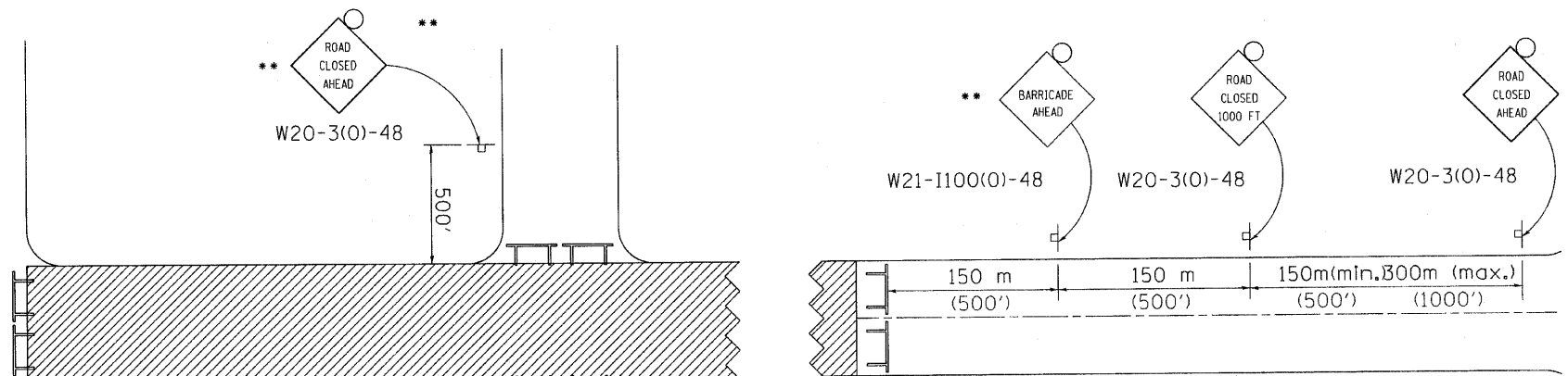
ROAD CLOSED TO THRU TRAFFIC BARRICADE SET UP



Type III Barricades and R11-4-4830 signs shall be as shown in "Road Closed To All Thru Traffic" detail on Highway Standard 701901. If the distance "D" exceeds 600 m (2000') an additional set of barricades and R11-4-4830 shall be placed at each end of the work area.

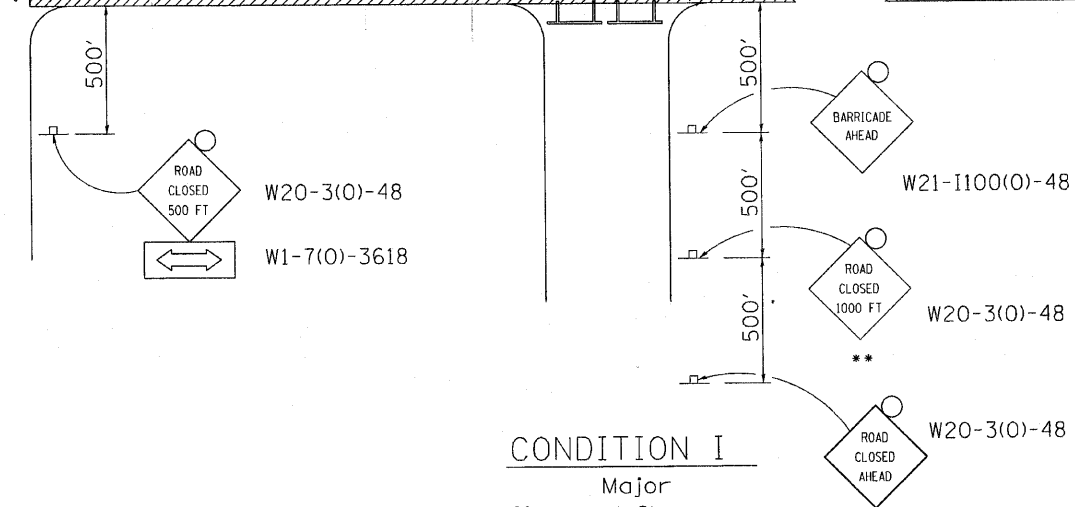
## CONDITION II

Minor Sideroad Closure






## CONDITION I

Major Sideroad Closure



## SYMBOLS

-  Work area
-  Type III Barricade with Flashers
-  Sign with flashing light

## GENERAL NOTES

Longitudinal dimensions may be adjusted to fit field conditions.

When speed limit is less than 45mph, change sign spacing to 250' and change ROAD CLOSED 1000 FT to ROAD CLOSED 500 FT.

Side roads requiring all three signs as shown in CONDITION I (Major Sideroad Closure), shall be listed in the special provision.

\*\* Where local access is to be maintained, barricades are to be set up as shown in Road Closed to thru traffic. Type III Barricades and R11-2-4830 signs shall be as shown in "Road Closed To All Traffic" detail on Highway Standard 701901.

All dimensions are in millimeters (inches) unless otherwise shown.

TYPICAL APPLICATION FOR ROAD CLOSURE

FILE NAME = District 2 Standard	USER NAME = IDOT/District 2	DESIGNED -	REVISED - 1-11-08	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REGION 2 / DISTRICT 2 STANDARD</b>				F.A. RTE. 740	SECTION (108HVB)M	COUNTY OGLE	TOTAL SHEETS 55	SHEET NO. 55
		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 64624
		CHECKED -	REVISED -										
		DATE -	REVISED -										