CONTRACT NO. 83951

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	1

41 + 1 = (42)

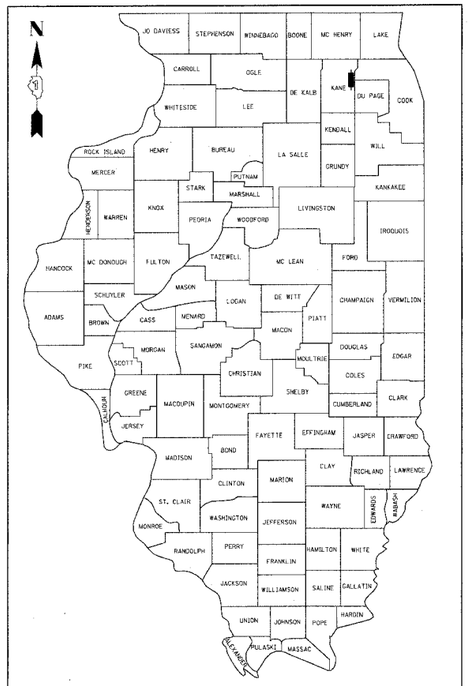
1-18-08 Letting, Item 087

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FAP ROUTE 361 (COUNTY HIGHWAY 19 – DUNHAM ROAD)
SECTION 06-00214-07-BR
NEW BRIDGE CONSTRUCTION
PROJECT RS-HPP-1527(025)
KANE COUNTY
C-91-188-07

FOR INDEX OF SHEETS, SEE SHEET NO. 2

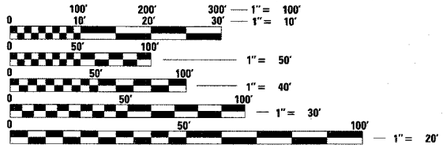


LOCATION OF SECTION INDICATED THUS: –■–

DESIGN DESIGNATION & TRAFFIC DATA

FUTURE DUNHAM ROAD:
DESIGN SPEED 45 MPH
FUNCTIONAL CLASSIFICATION: OTHER PRINCIPAL ARTERIAL
2020 ADT 35,000

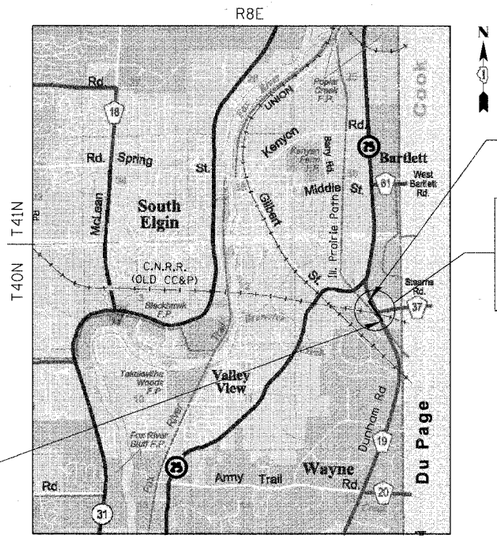
PROJECT LOCATED IN VILLAGE OF WAYNE



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 LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 83951



BRIDGE EMBANKMENT BEGINS
STA. 260+60

BRIDGE EMBANKMENT ENDS
STA. 265+80

PROPOSED NEW DUNHAM ROAD
STRUCTURES OVER THE CN (OLD CC&P) RAILROAD
(STA. 262+90.93)
STRUCTURE NO. 045-3169 (NB)/045-3170 (SB)

LOCATION PLAN

MAP SOURCE: KANE COUNTY DOT MAP REV. JUNE 2006
GROSS AND NET LENGTH OF PROJECT = 520 FT.

LOUIS BOWMAN, JR.
2043
REGISTERED PROFESSIONAL ENGINEER
OF
ILLINOIS

DATE: OCTOBER 12, 2007

LICENSE EXPIRES NOVEMBER 30, 2007

KANE COUNTY
DIVISION OF TRANSPORTATION

APPROVED OCTOBER 12 20 07
COUNTY ENGINEER

PASSED NOVEMBER 6 2007
CHRISTOPHER HOLT
DISTRICT 1 ENGINEER OF LOCAL ROADS AND STREETS

RELEASED FOR BID BASED ON LIMITED REVIEW NOV. 7 20 07
Diane O'Keefe /af
DEPUTY DIRECTOR OF HIGHWAYS, REGION 1 ENGINEER

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com
Job No. 896

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

FEDERAL AID DESIGN ENGINEER: JESSICA FELICIANO (847)705-4487

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default

CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	2
STA. 260+60	TO STA. 265+80			

INDEX OF SHEETS

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
420401-06	BRIDGE APPROACH PAVEMENT
515001-02	NAME PLATE FOR BRIDGES
601101	CONCRETE HEADWALL FOR PIPE DRAIN
606001-03	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
606201-01	TYPE B GUTTER (INLET, OUTLET & ENTRANCE)
704001-04	TEMPORARY CONCRETE BARRIER
701901	TRAFFIC CONTROL DEVICES

DISTRICT 1 STANDARDS

BD-51	BENCHING DETAIL FOR EMBANKMENT WIDENING

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REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
INDEX OF SHEETS
AND STANDARDS

SCALE: VERT. NONE HORIZ. NONE
DATE: 10-12-07
DRAWN BY: BDC
CHECKED BY: BAK

CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	3
STA. 260+60	TO STA. 265+80			

GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT 1-800-892-0123 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOUR NOTIFICATION IS REQUIRED).

2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITES WITH UTILITY COMPANIES.

3. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2007 (HEREIN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS). THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2007, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (LATEST EDITION), AREMA "MANUAL FOR RAILWAY ENGINEERING" 2000 EDITION, THE LASTEST I.D.O.T. STANDARDS, THE RAILROAD DOCUMENTS, THE SPECIAL PROVISIONS IN THE CONTRACT DOCUMENTS AND ALL INFORMATION SHOWN IN THE PLANS.

4. THE LOCATIONS OF THE EXISTING UTILITIES, AS SHOWN ON THE DRAWINGS, REPRESENT DATA RECEIVED FROM VARIOUS SOURCES. IT IS NOT GUARANTEED TO BE CORRECT OR ALL INCLUSIVE. THE CONTRACTOR SHALL CONDUCT HIS OWN INVESTIGATIONS INTO THE LOCATION, SIZE, DEPTH, AND NATURE OF ANY AND ALL EXISTING UTILITIES WHICH MAY INTERFERE WITH THE WORK UNDER THIS CONTRACT. ANY EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE SHALL BE FULLY PROTECTED BY THE CONTRACTOR AND ANY DAMAGE CAUSED BY THE CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED AT NO ADDITIONAL COST TO THE COUNTY. THE CONTRACTOR SHALL COOPERATE WITH KANE COUNTY D.O.T. AND ANY UTILITY COMPANIES REGARDING UTILITY CONSTRUCTION/RELOCATION ACTIVITIES SO THAT THE UTILITIES AND THEIR APPURTENANCES MAY BE LOCATED, ADJUSTED OR MOVED, IF NECESSARY, PRIOR TO THE START OF ANY AND ALL CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF UNDERGROUND AND SURFACE FACILITIES, EVEN THOUGH THEY MAY NOT BE IDENTIFIED ON THE PLANS.

5. UTILITY ADJUSTMENTS FOR PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENT SHALL BE MADE BY THE RESPECTIVE OWNERS.

6. IF EXISTING DRAINAGE FACILITIES ARE DAMAGED OR DISTURBED BY THE CONTRACTOR, HE SHALL PROVIDE TEMPORARY OUTLETS AND CONNECTIONS FOR PRIVATE AND PUBLIC DRAINS, SEWERS, AND CATCH BASINS. HE SHALL ALSO PROVIDE FACILITIES TO TAKE AND DISCHARGE ALL STORM WATER RECEIVED BY THOSE DAMAGED DRAINS AT NO EXTRA COMENSATION UNTIL PERMANENT CONNECTIONS ARE IN PLACE.

7. WHEN, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN DRAINAGE STRUCTURES AND THE FLOW OF WATER IS OBSTRUCTED, IT SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES (NEW AND EXISTING) SHALL BE FREE FROM ALL DIRT AND DEBRIS. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

8. THE CONTRACTOR SHALL NOT REMOVE ANY TREES OTHER THAN THOSE DESIGNATED FOR REMOVAL ON THE PLANS UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.

9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT.

10. WHERE SECTION, SUBSECTION, SUBDIVISION, OR PROPERTY MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.

11. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE LATEST EDITION.

12. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON PRIVATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE OWNERS.

13. NOT USED

14. THE CONTRACTOR, AS REQUIRED, SHALL OBTAIN ALL NECESSARY PERMITS FROM AGENCIES INVOLVED PRIOR TO COMMENCING WITH CONSTRUCTION. SPECIAL ATTENTION IS CALLED TO THE REQUIREMENTS OF A NPDES/EROSION CONTROL PERMIT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND COST TO PREPARE AND SUBMIT THE PLAN AND PERMIT IN ACCORDANCE WITH THE EROSION CONTROL SPECIFICATIONS.

15. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE RAILROAD AGREEMENTS AND ALL OTHER PERMITS REQUIRED.

16. THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH ALL STATE REGULATIONS REGARDING AIR, WATER, AND NOISE POLLUTION.

17. THE CONTRACTOR'S OPERATIONS AND TEMPORARY STORAGE ACTIVITIES SHALL BE LIMITED TO THE WORK AREA. ANY ADDITIONAL STAGING AREAS ADJACENT TO THE PROJECT ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER. NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR COMPLIANCE WITH THE ABOVE.

18. THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATING NEAR ANY AND ALL EXISTING ITEMS WHICH WILL NOT BE REMOVED. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED BY HIM AT HIS OWN EXPENSE.

19. ALL CONSTRUCTION PERSONNEL WILL BE REQUIRED TO WEAR STRONG YELLOW/GREEN VESTS HAVING FLUORESCENT ORANGE STRIPES AND HARD HATS AT ALL TIMES WHILE ON THE CONSTRUCTION SITE. COMPLIANCE WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

20. TEMPORARY EASEMENT AREAS, EXCEPT WHERE NOTED OTHERWISE, SHALL BE FULLY RESTORED BY THE CONTRACTOR AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE RESTORATION OF THE EASEMENT AREAS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE EARTHWORK AND SEEDING OF THE CONTRACT.

21. PGL INDICATES THE PROFILE GRADE LINE.

22. CONTRACTOR SHALL OBTAIN ALL PERMITS FOR CONSTRUCTION BY CONTRACTOR FORCES WITHIN THE CC&P RAILROAD RIGHT-OF-WAY. PERMIT APPLICATIONS AND INSURANCE VERIFICATION TO BE SUBMITTED TO JACQUELINE MODER AT (715) 345-2501.

23. RAILROAD FLAGGING SHALL BE ARRANGED BY THE CONTRACTOR AS DETAILED IN THE SPECIFICATIONS. CONTACT TOM TUCKER AT (248) 740-6227. PAYMENT FOR FLAGGING SERVICES SHALL BE MADE FROM A FORCE ACCOUNT HELD BY THE COUNTY.

24. DURING CONSTRUCTION, OSHA REQUIRES THAT A MINIMUM THIRTEEN (13) FEET WORKING CLEARANCE DISTANCE MUST BE MAINTAINED BETWEEN THE BOOMS, ARMS OR OTHER PARTS THAT CAN BE RAISED ON THE EQUIPMENT FOR THE COUNTY'S CONTRACTOR AND COMED'S EXISTING 138,000 VOLT ELECTRIC TRANSMISSION CONDUCTORS. UNDER NO CIRCUMSTANCES SHOULD TRUCK BEDS BE RAISED DIRECTLY UNDERNEATH COMED TRANSMISSION LINES.

25. THE EXPOSED SURFACES OF 'FURNISHED EXCAVATION' SHALL BE SUITABLE FOR APPLICATION OF TEMPORARY EROSION CONTROL SEEDING AS DETERMINED BY THE ENGINEER.

26. THE ENGINEER'S FIELD OFFICE WILL BE PROVIDED BY THE COUNTY, BUT THE CONTRACTOR SHALL FURNISH THE NECESSARY OFFICE EQUIPMENT NOTED IN THE SPECIAL PROVISIONS AS DIRECTED BY THE ENGINEER.

27. UNUSED RAILROAD TIES ALONG THE RAILROAD ROW THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE MOVED OR REMOVED AT NO ADDITIONAL COST AS DIRECTED BY THE ENGINEER.

28. THE CONTRACTOR MUST KEEP ALL EQUIPMENT AT LEAST TEN (10) FEET CLEAR OF ALL OVERHEAD WIRES AT ALL TIMES. COMED HIGHLY RECOMMENDS THAT APPLICABLE PORTIONS OF THEIR WIRES BE COVERED WITH RUBBER SHEATHING. TO REQUEST INSTALLATION OF THIS SHEATHING BY COMED FORCES, CALL 1-800-EDISON1.

29. THE ENTIRE EMBANKMENT MUST BE PLACED AND COMPACTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

30. COMED POLES WITH 34KV AND 12 KV WIRES ATTACHED ALONG THE NORTH SIDE OF THE RAILROAD ARE TO BE RELOCATED BY OTHERS BEFORE THE LETTING DATE FOR THE CONTRACT. THE CONTRACTOR SHALL INCLUDE THE EFFECTS TO CONSTRUCTION OF THE RELOCATED POLES AND WIRES IN THE BID PRICE FOR THE VARIOUS ITEMS OF WORK AFFECTED BY THE POLE AND WIRE LOCATIONS.

EXISTING LEGEND

- EXISTING ROW
- PROPOSED ROW
- TEMPORARY EASEMENT
- FENCE
- TREE LINE
- BUSH LINE
- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- GAS MAIN
- AMERITECH UNDERGROUND
- AMERITECH AERIAL
- AT&T BROADBAND CABLE
- COMMONWEALTH EDISION LINES
- TELEPHONE POLE
- POWERPOLE
- COMB. LIGHT & POWER POLE
- TREE
- SIGN
- BUFFALO BOX WATER
- FIRE HYDRANT
- RAILROAD SIGNAL
- CATCH BASIN
- INLET
- LIGHT POLE
- TELEPHONE TUB
- LIGHT JUNCTION BOX
- TRAFFIC SIGNAL
- ELECTRIC HANDHOLE
- MANHOLE
- GAS VALVE
- MAILBOX

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSFORTATION

DUNHAM ROAD OVER CC&P RAILROAD
GENERAL NOTES

SCALE: VERT. NONE
HORIZ. NONE
DATE: 10-12-07

DRAWN BY: BDC
CHECKED BY: BAK

10/11/2007 6:23:15 PM
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CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	4
STA. 260+60	TO STA. 265+80			

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	X171-2A	Y007
20100500	TREE REMOVAL	ACRE	0.7	0.7	
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	2600	2600	
20400800	FURNISHED EXCAVATION	CU YD	16,289	16,289	
20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD	212	212	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	2,160	2,160	
25000210	SEEDING, CLASS 2A	ACRE	0.45	0.45	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	41	41	
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	41	41	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	41	41	
25100630	EROSION CONTROL BLANKET	SQ YD	2,500	2,500	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	1,000	1,000	
28000400	PERIMETER EROSION BARRIER	FOOT	1,900	1,900	
28100107	STONE RIPRAP, CLASS A4	SQ YD	23	23	
28200200	FILTER FABRIC	SQ YD	23	23	
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	380	380	
50157300	PROTECTIVE SHIELD	SQ YD	702	702	
50200100	STRUCTURE EXCAVATION	CU YD	927	927	
50300225	CONCRETE STRUCTURES	CU YD	306.1	306.1	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	482	482	
50300260	BRIDGE DECK GROOVING	SQ YD	1196	1196	
50300280	CONCRETE ENCASEMENT	CU YD	8.4	8.4	
50300300	PROTECTIVE COAT	SQ YD	1,634	1,634	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1	
50500505	STUD SHEAR CONNECTORS	EACH	5,712	5,712	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	136,390	136,390	
50800515	BAR SPLICERS	EACH	116	116	
51100100	SLOPE WALL 4"	SQ YD	176	176	
51100500	BITUMINOUS COATED AGGREGATE SLOPEWALL 6"	SQ YD	2135	2135	
51201600	FURNISHING STEEL PILES HP12X53	FOOT	1,245	1,245	
51202305	DRIVING PILES	FOOT	1,245	1,245	
51203600	TEST PILE STEEL HP12X53	EACH	4	4	
51204650	PILE SHOES	EACH	24	24	
51500100	NAME PLATES	EACH	2	2	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	8	8	
52100520	ANCHOR BOLTS, 1"	EACH	32	32	
52100540	ANCHOR BOLTS, 1 1/2"	EACH	32	32	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	115	115	
60109580	PIPE UNDERDRAINS FOR STRUCTURES, 4"	FOOT	276	276	
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	80	80	
67100100	MOBILIZATION	L SUM	1	1	
XX004056	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	663		663
XX005916	TEMPORARY CONCRETE BARRIER, FURNISH AND INSTALL	FOOT	120	120	
X0323830	DRAINAGE SCUPPERS, DS-11	EACH	2		

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	X171-2A	Y007
X0324777	FIELD OFFICE EQUIPMENT	CAL MO	12	12	
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Δ Z0076600	TRAINEES	HOUR	1000	1000	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	

Δ Y080

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Job No. 896

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
SUMMARY OF QUANTITIES

SCALE: VERT. NONE
HORIZ. NONE
DATE: 10-12-07

DRAWN BY: BDC
CHECKED BY: BAK

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10/11/2007
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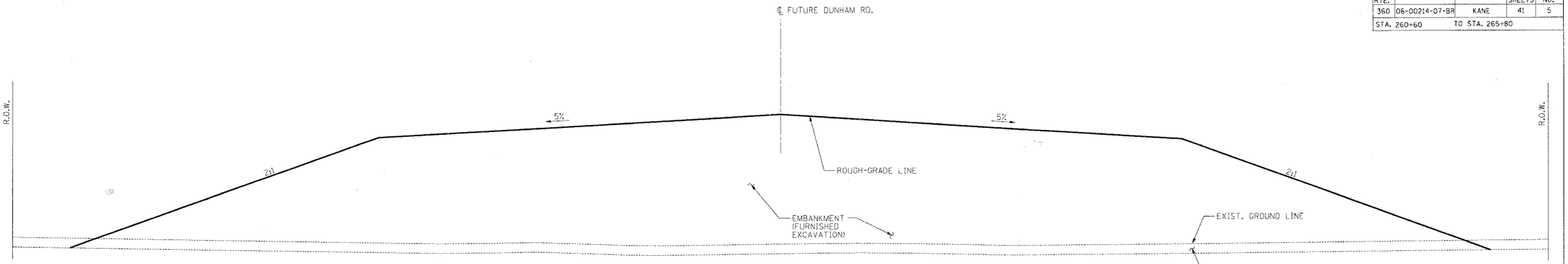
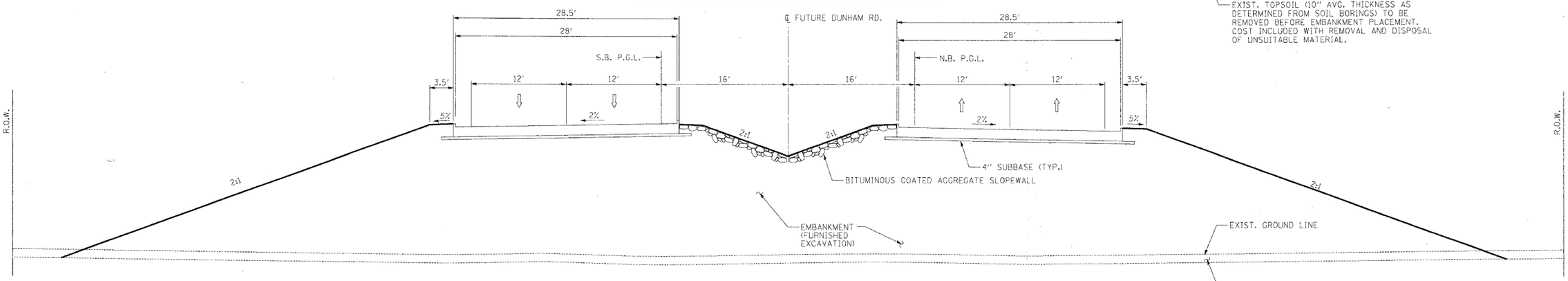
CONTRACT NO. 83951

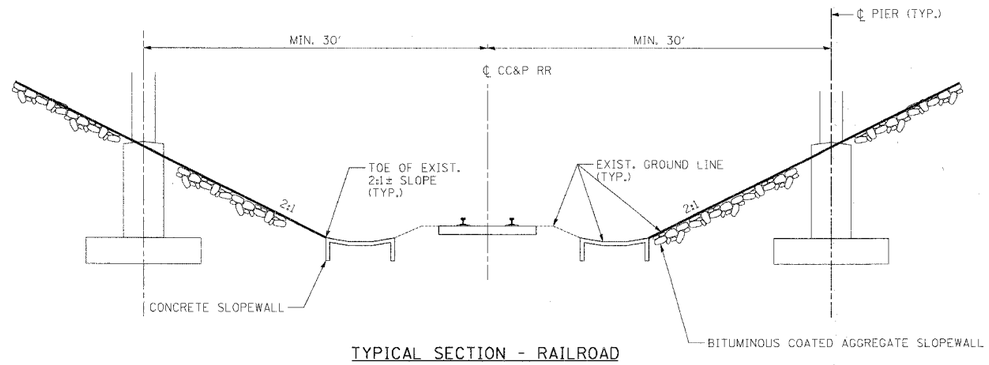
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	08-00214-07-BR	KANE	41	5
STA. 260+60	TO STA. 265+80			



TYPICAL SECTION - BEYOND APPROACH PAVEMENT



TYPICAL SECTION - APPROACH PAVEMENT



TYPICAL SECTION - RAILROAD

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
TYPICAL SECTIONS

SCALE: VERT. NONE
HORIZ. NONE
DATE: 10-12-07

DRAWN BY: BDC
CHECKED BY: BAK

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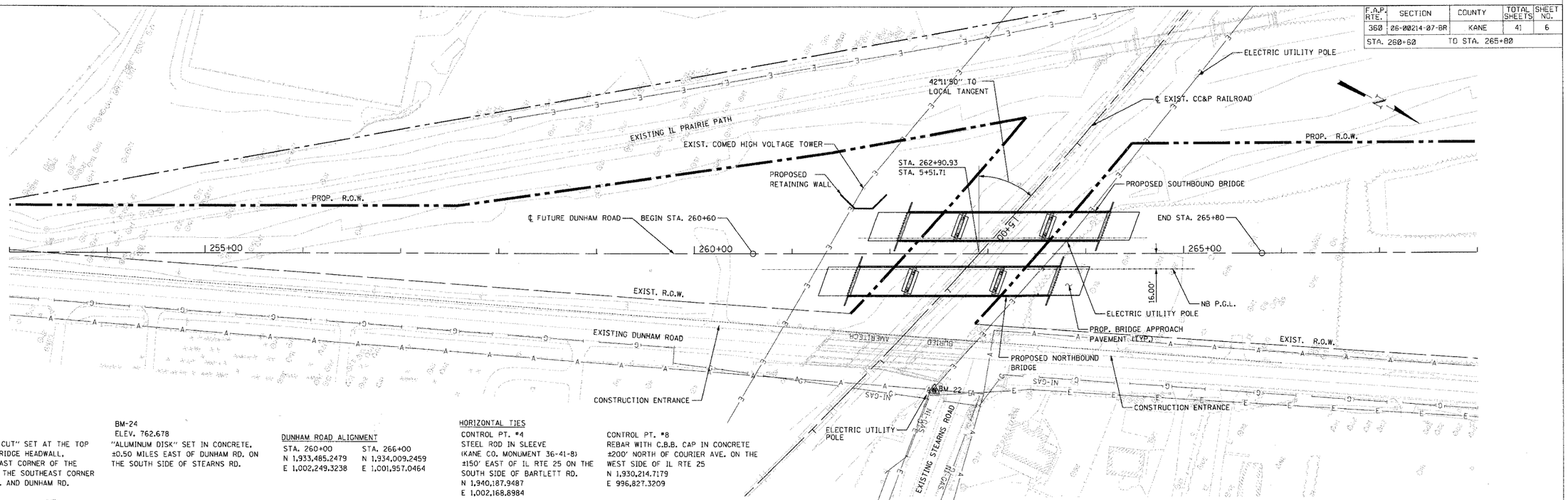
CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	26-00214-07-BR	KANE	41	6
STA. 260+60		TO STA. 265+80		



BENCHMARKS

BM-22
ELEV. 767.353
"CHISELED BOX CUT" SET AT THE TOP OF CONCRETE BRIDGE HEADWALL, AT THE NORTHEAST CORNER OF THE BRIDGE AND AT THE SOUTHEAST CORNER OF STEARNS RD. AND DUNHAM RD.

BM-24
ELEV. 762.678
"ALUMINUM DISK" SET IN CONCRETE, ±0.50 MILES EAST OF DUNHAM RD. ON THE SOUTH SIDE OF STEARNS RD.

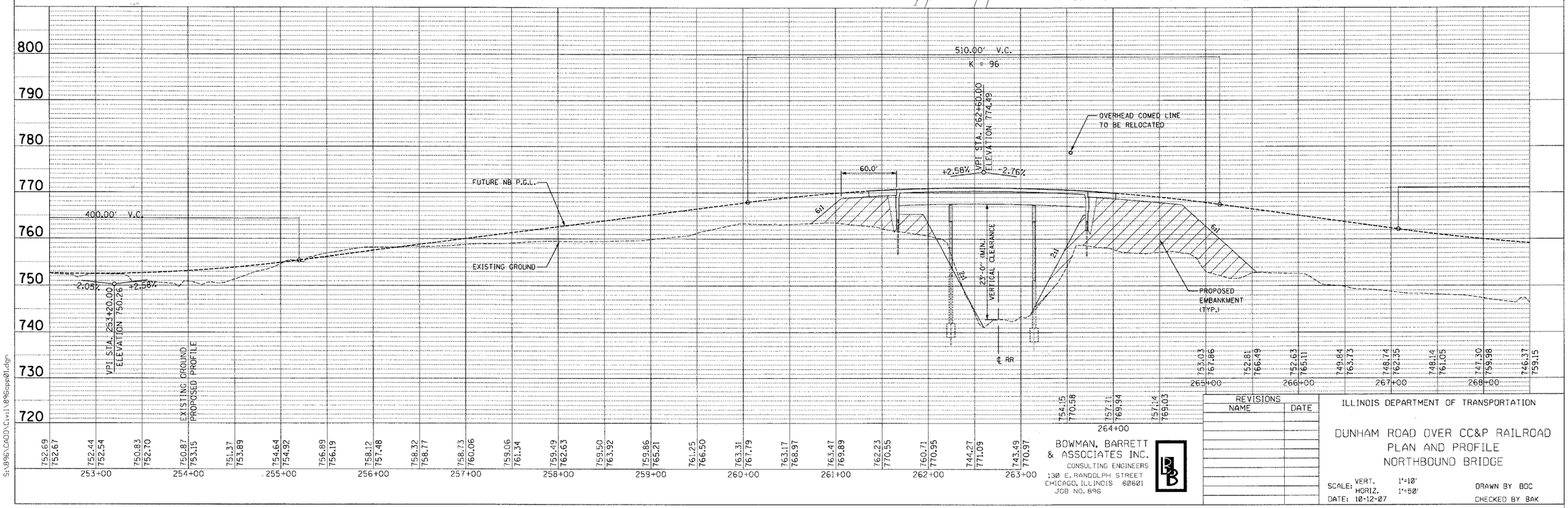
DUNHAM ROAD ALIGNMENT

STA. 260+00	STA. 266+00
N 1,933,485.2479	N 1,934,009.2459
E 1,002,249.3238	E 1,001,957.0464

HORIZONTAL TIES

CONTROL PT. #4
STEEL ROD IN SLEEVE
(KANE CO. MONUMENT 36-41-8)
±150' EAST OF IL RTE 25 ON THE SOUTH SIDE OF BARTLETT RD.
N 1,940,187.9487
E 1,002,168.8984

CONTROL PT. #8
REBAR WITH C.B.B. CAP IN CONCRETE
±200' NORTH OF COURIER AVE. ON THE WEST SIDE OF IL RTE 25
N 1,930,214.7179
E 996,827.3209



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
PLAN AND PROFILE
NORTHBOUND BRIDGE

SCALE: VERT. 1"=10'
HORIZ. 1"=50'
DATE: 10-12-07

DRAWN BY BDC
CHECKED BY BAK

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
130 E. RANDOLPH STREET
CHICAGO, ILLINOIS 60601
JOB NO. 896

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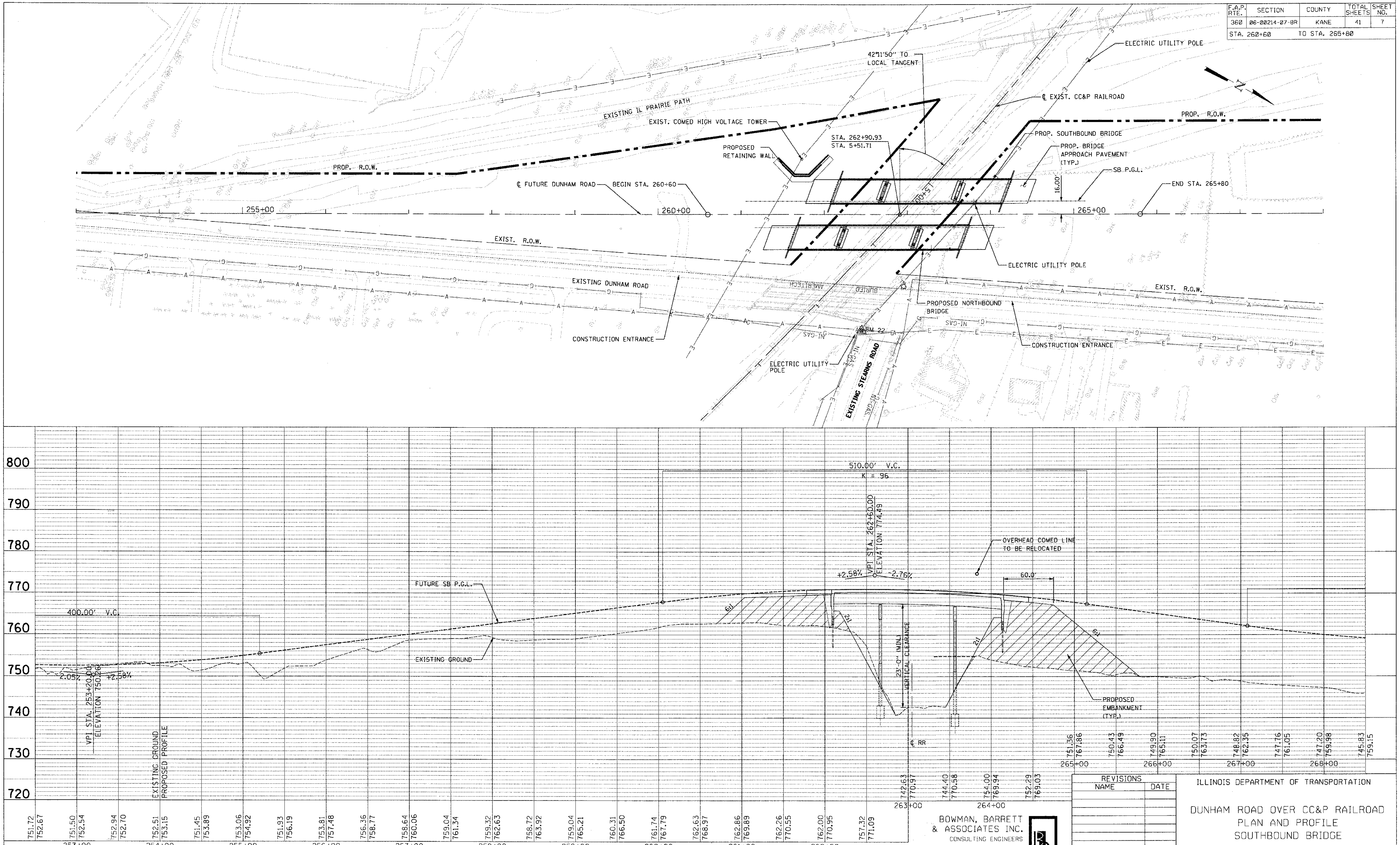
CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	7
STA. 260+60	TO STA. 265+80			



REVISIONS

NAME	DATE

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
130 E. RANDOLPH STREET
CHICAGO, ILLINOIS 60601
JOB NO. 896

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
PLAN AND PROFILE
SOUTHBOUND BRIDGE

SCALE: VERT. 1"=10'
HORIZ. 1"=50'
DATE 10-12-07

DRAWN BY BDC
CHECKED BY BAK

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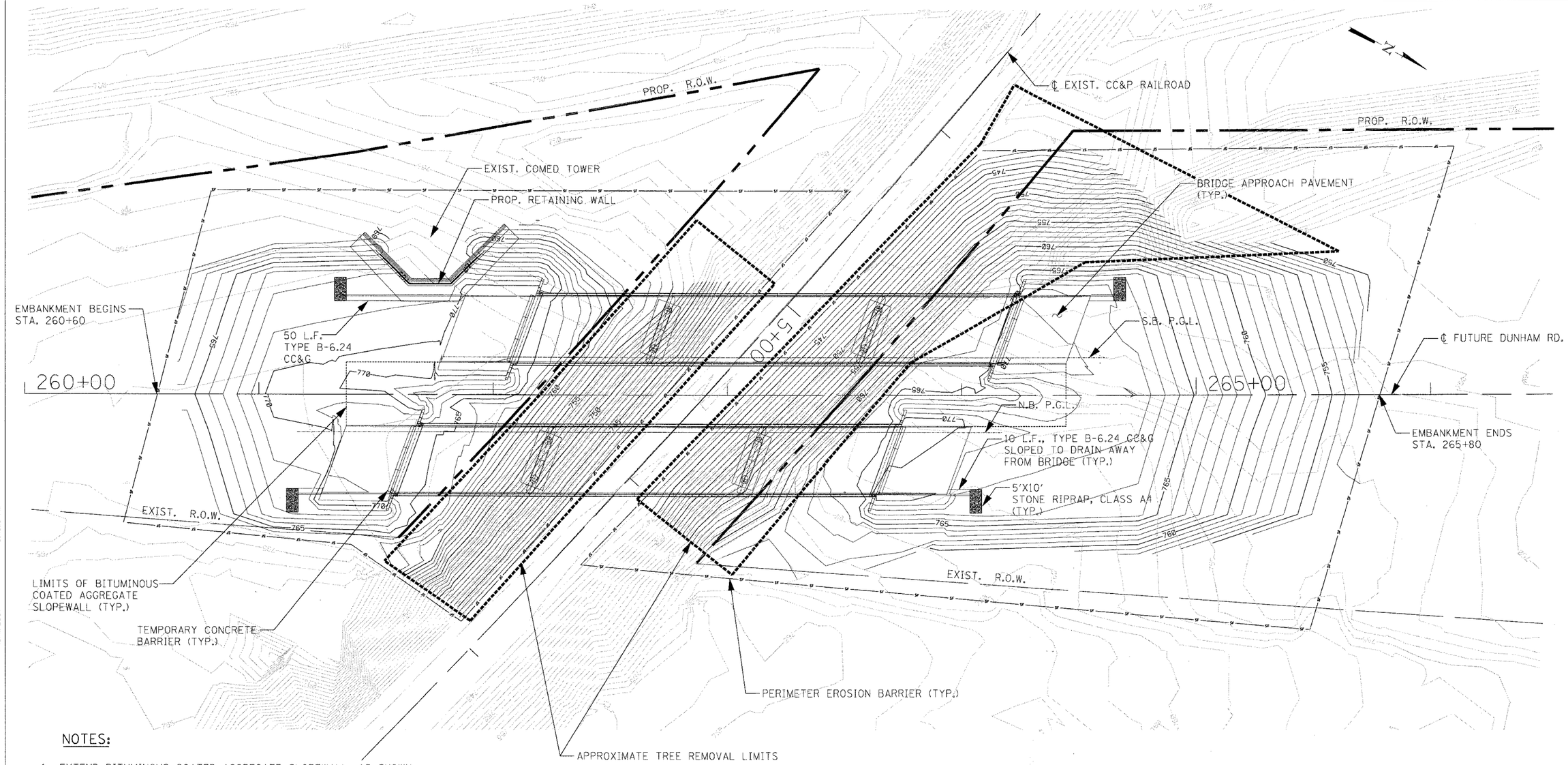
CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	06-00214-07-BR	KANE	41	8
STA. 260+60		TO STA. 265+80		



NOTES:

1. EXTEND BITUMINOUS COATED AGGREGATE SLOPEWALL, AS SHOWN ON THE BRIDGE PLANS, BETWEEN THE BRIDGES TO THE END OF THE FARTHEST APPROACH PAVEMENT.
2. PLACE PERMANENT TOPSOIL AND SEEDING, CLASS 2A ALONG THE SIDES OF THE BRIDGE/FUTURE ROADWAY.
3. PLACE TEMPORARY EROSION CONTROL SEEDING AND EROSION CONTROL BLANKET ON 6:1 AND FLATTER SLOPES BEHIND EACH BRIDGE APPROACH PAVEMENT.
4. TEMPORARY CONCRETE BARRIERS SHALL BE LEFT IN PLACE AT BOTH ENDS OF BOTH BRIDGES WHEN CONSTRUCTION IS COMPLETE IN ORDER TO RESTRICT ACCESS TO THE BRIDGES UNTIL THE FUTURE ROADWAY IS CONSTRUCTED BY OTHERS.

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
GRADING PLAN

SCALE: VERT. NONE
HORIZ. NONE
DATE: 10-12-07

DRAWN BY: BDC
CHECKED BY: BAK

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CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	9
STA. 260+60		TO STA. 265+80		

STORM WATER POLLUTION PREVENTION PLAN

THE FOLLOWING PLAN IS ESTABLISHED AND INCORPORATED IN THE PROJECT TO DIRECT THE CONTRACTOR IN THE PLACEMENT OF TEMPORARY EROSION CONTROL SYSTEMS AND TO PROVIDE A STORM SEWER WATER POLLUTION PREVENTION PLAN FOR COMPLIANCE UNDER NPDES.

THE PURPOSE OF THIS PLAN IS TO MINIMIZE EROSION WITHIN THE CONSTRUCTION SITE AND TO LIMIT SEDIMENTS FROM LEAVING THE CONSTRUCTION SITE BY UTILIZING PROPER TEMPORARY EROSION CONTROL SYSTEMS AND PROVIDING GROUND COVER WITHIN A REASONABLE AMOUNT OF TIME.

CERTAIN EROSION CONTROL FACILITIES SHALL BE INSTALLED BY THE CONTRACTOR AT THE BEGINNING OF CONSTRUCTION. OTHER ITEMS SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER ON A CASE-BY-CASE SITUATION, DEPENDING ON THE CONTRACTOR'S SEQUENCE OF ACTIVITIES, TIME OF YEAR, AND EXPECTED WEATHER CONDITIONS.

THE CONTRACTOR SHALL INSTALL PERMANENT EROSION CONTROL SYSTEMS AND SEEDING WITHIN A TIME FRAME SPECIFIED HEREIN AND AS DIRECTED BY THE ENGINEER, THEREFORE MINIMIZING THE AMOUNT OF AREA SUSCEPTIBLE TO EROSION AND REDUCING THE AMOUNT OF TEMPORARY SEEDING. THE ENGINEER WILL DETERMINE IF ANY TEMPORARY EROSION CONTROL SYSTEMS SHOWN IN THE PLAN CAN BE DELETED AND IF ANY ADDITIONAL TEMPORARY EROSIONS CONTROL SYSTEMS, WHICH ARE NOT INCLUDED IN THIS PLAN, SHALL BE ADDED. THE CONTRACTOR SHALL PERFORM ALL WORK AS DIRECTED BY THE ENGINEER AND AS SHOWN IN STANDARD 280001 OF THE PLANS.

SECTION 280, TEMPORARY EROSION CONTROL, OF THE STANDARD SPECIFICATIONS ADDITIONALLY SUPPLEMENTS THIS PLAN.

SITE DESCRIPTION

DESCRIPTION OF CONSTRUCTION ACTIVITY

1. THE PROJECT CONSISTS OF CONSTRUCTING TWO BRIDGES, APPROACH PAVEMENTS, A RETAINING WALL AND SUFFICIENT EMBANKMENT FOR THE CONSTRUCTION OF SUCH, IN ORDER TO ACCOMODATE THE FUTURE ALIGNMENT AND PROFILE OF DUNHAM ROAD.

2. CONSTRUCTION INCLUDES FURNISHING AND COMPACTING EMBANKMENT AND OTHER TYPICAL BRIDGE ITEMS OF CONSTRUCTION.

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. EMBANKMENT PLACEMENT ON EACH SIDE OF THE RAILROAD ALONG WITH RETAINING WALL CONSTRUCTION.

2. PLACEMENT, MAINTENANCE, REMOVAL AND PROPER CLEAN-UP OF THE TEMPORARY EROSION CONTROL ITEMS PERIMETER EROSION CONTROL BARRIER AND TEMPORARY SEEDING.

3. BRIDGE PIER AND ABUTMENT CONSTRUCTION.

4. PLACEMENT OF THE PERMANENT EROSION CONTROL ITEMS SEEDING, FERTILIZER AND BITUMINOUS COATED AGGREGATE SLOPEWALL.

5. APPROACH PAVEMENT CONSTRUCTION.

AREA OF CONSTRUCTION SITE:

THE TOTAL AREA OF THE CONSTRUCTION SITE IS ESTIMATED TO BE 2.0 ACRES OF WHICH 1.5 ACRES WILL BE DISTURBED BY EMBANKMENT AND BRIDGE CONSTRUCTION.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

1. INFORMATION OF THE SOILS AND TERRAIN WITHIN THE SITE WAS OBTAINED FROM TOPOGRAPHIC SURVEYS AND SOIL BORINGS THAT WERE UTILIZED FOR THE DEVELOPMENT OF THE PROPOSED TEMPORARY EROSION CONTROL SYSTEMS.

2. PROJECT PLAN DOCUMENTS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND PLAN DRAWINGS INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER GRADING ACTIVITIES WERE UTILIZED FOR THE PROPOSED PLACEMENT OF THE TEMPORARY EROSION CONTROL SYSTEMS.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROL

DESCRIPTION OF STABILIZATION PRACTICES AT THE BEGINNING OF CONSTRUCTION:

1. THE DRAWINGS, SPECIFICATIONS AND SPECIAL PROVISIONS WILL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED. STABILIZATION PRACTICES INCLUDE: TEMPORARY SEEDING, PERMANENT SEEDING, BITUMINOUS COATED AGGREGATE SLOPEWALL AND OTHER APPROPRIATE MEASURES AS DIRECTED BY THE ENGINEER. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

   a. AREAS OF EXISTING VEGETATION (WOOD AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED BY THE ENGINEER FOR PRESERVING AND SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITY.

   b. DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER, ALONG WITH REQUIRED TREE REMOVAL.

   c. AS SOON AS REASONABLE ACCESS IS AVAILABLE TO ALL LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, PERIMETER EROSION BARRIER SHALL BE INSTALLED AS CALLED OUT IN THIS PLAN AND DIRECTED BY THE ENGINEER.

   d. BARE AND SPARSELY VEGETATED GROUND IN HIGH ERODABLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE BEGINNING OF CONSTRUCTION WHERE NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN DAYS.

   e. IMMEDIATELY AFTER TREE REMOVAL IS COMPLETED, AREAS WHICH ARE HIGHLY ERODABLE AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN DAYS.

   f. AT LOCATIONS WHERE A SIGNIFICANT AMOUNT OF WATER DRAINS INTO THE CONSTRUCTION ZONE FROM OUTSIDE AREAS (ADJACENT LANDOWNERS), TEMPORARY DITCH CHECKS WILL BE UTILIZED TO LOCALLY DIVERT WATER, REDUCE FLOW RATES, AND COLLECT OUTSIDE SILTATION INSIDE THE RIGHT-OF-WAY LINE.

2. ESTABLISHMENT OF THE TEMPORARY EROSION CONTROL MEASURES WILL HAVE ADDITIONAL BENEFITS TO THE PROJECT. DESIRABLE GRASS SEED WILL BECOME ESTABLISHED IN THE AREAS AND WILL SPREAD SEEDS ONTO THE CONSTRUCTION SITE UNTIL PERMANENT SEEDING/MOWING AND OVERSEEDING CAN BE COMPLETED.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED. THE CONTRACTOR SHALL NOT USE THIS AREA FOR STAGING (EXCEPT AS DESCRIBED ON THE PLANS AND DIRECTED BY THE ENGINEER), PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.

   a. WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION.

   b. EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.

   c. AS CONSTRUCTION PROCEEDS, THE CONTRACTOR SHALL INSTITUTE THE FOLLOWING AS DIRECTED BY THE ENGINEER:

      i. PLACE TEMPORARY EROSION CONTROL FACILITIES AT LOCATIONS SHOWN ON THE PLANS.

      ii. TEMPORARILY SEED ERODABLE BARE EARTH ON A WEEKLY BASIS TO MINIMIZE THE AMOUNT OF ERODABLE SURFACE AREA WITHIN THE CONTRACT LIMITS.

      iii. CONTINUE BUILDING UP THE EMBANKMENT TO THE PROPOSED GRADE WHILE AT THE SAME TIME, PLACING PERMANENT EROSION CONTROL SYSTEMS AND CONDUCTING FINAL SHAPING TO THE SLOPES.

   d. EXCAVATED AREAS AND EMBANKMENT SHALL BE PERMANENTLY SEEDED IMMEDIATELY AFTER FINAL GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDED IF NO CONSTRUCTION ACTIVITY IN THE AREA IN PLANNED FOR 7 DAYS.

   e. CONSTRUCTION EQUIPMENT SHALL BE STORED AND FUELED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR OTHER POLLUTANT IN ACCORDANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.

   f. THE RESIDENT ENGINEER SHALL INSPECT THE PROJECT DAILY DURING CONSTRUCTION. INSPECTION SHALL ALSO BE DONE WEEKLY AND AFTER RAINS OF ½ INCH OR GREATER OR EQUIVALENT SNOWFALL AND DURING ANY WINTER SHUTDOWN PERIOD. THE PROJECT SHALL ADDITIONALLY BE INSPECTED BY THE CONSTRUCTION FIELD ENGINEER ON A BI-WEEKLY BASIS TO DETERMINE THAT EROSION CONTROL EFFORTS ARE IN PLACE AND EFFECTIVE AND IF OTHER EROSION CONTROL WORK IS NECESSARY.

   g. SEDIMENT COLLECTED DURING CONSTRUCTION OF THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER. THE COST OF THIS MAINTENANCE AND ANY ASSOCIATED CLEANING SHALL BE INCLUDED IN THE RESPECTIVE EROSION CONTROL PAY ITEM.

   h. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AFTER USE IS NO LONGER NEEDED OR WHEN NO LONGER FUNCTIONING. THE COST OF THIS REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR VARIOUS TEMPORARY EROSION CONTROL PAY ITEMS.

DESCRIPTION OF STABILIZATION PRACTICES AT THE END OF CONSTRUCTION:

1. TEMPORARY EROSION CONTROL SYSTEMS SHALL BE LEFT IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY AND ALL PROPOSED TURF AREAS SEEDED AND ESTABLISHED.

2. ONCE PERMANENT EROSION CONTROL SYSTEMS AS PROPOSED IN THE PLANS ARE FUNCTIONAL AND ESTABLISHED, TEMPORARY ITEMS SHALL BE REMOVED AND CLEANED UP, AND DISTURBED TURF RESEEDED.

MAINTENANCE AFTER CONSTRUCTION:

1. CONSTRUCTION IS COMPLETE AFTER ACCEPTANCE BY IDOT FINAL INSPECTION. MAINTENANCE UP TO THIS DATE WILL BE BY THE CONTRACTOR.

MISCELLANEOUS:

1. TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS/ACRE.

2. ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO THE APPROVAL AND USE OF THE PRODUCT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

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Chicago, Illinois
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Job No. 896

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DUNHAM ROAD OVER CC&P RAILROAD
STORM WATER POLLUTION
PREVENTION PLAN

SCALE: VERT. NONE HORIZ. NONE
DATE: 10-12-07
DRAWN BY: MTR
CHECKED BY: BAK

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CONTRACT NO. 83951

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
360	06-00214-07-BR	KANE	41	10
STA. 260+60		TO STA. 265+80		

CONTINUATION OF STORM WATER POLLUTION PREVENTION PLAN

THIS PLAN HAS BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF THE NPDES PERMIT NUMBER ILR10, ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ON MAY 30, 2003 FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

CARL SCHOEDEL
NAME

COUNTY ENGINEER
TITLE

KANE COUNTY D.O.T.
AGENCY

SIGNATURE

OCTOBER 12, 2007
DATE

CONTRACTOR CERTIFICATION STATEMENT

THIS CERTIFICATION STATEMENT IS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT, IN ACCORDANCE WITH NPDES PERMIT NUMBER ILR10 ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ON MAY 30, 2003.

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (ILR10) THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION. I HAVE READ AND UNDERSTAND ALL OF THE INFORMATION AND REQUIREMENTS STATED IN THE STORM WATER POLLUTION PREVENTION PLAN FOR THE ABOVE MENTIONED PROJECT. I HAVE PROVIDED ALL DOCUMENTATION REQUIRED TO BE IN COMPLIANCE WITH THE ILR10 AND STORM WATER POLLUTION PREVENTION PLAN AND WILL PROVIDE TIMELY UPDATES TO THESE DOCUMENTS AS NECESSARY.

__ CONTRACTOR

__ SUBCONTRACTOR

PRINTED NAME — SIGNATURE

TITLE — DATE

NAME OF FIRM — TELEPHONE

STREET ADDRESS — CITY/STATE/ZIP

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Chicago, Illinois
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Job No. 896

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

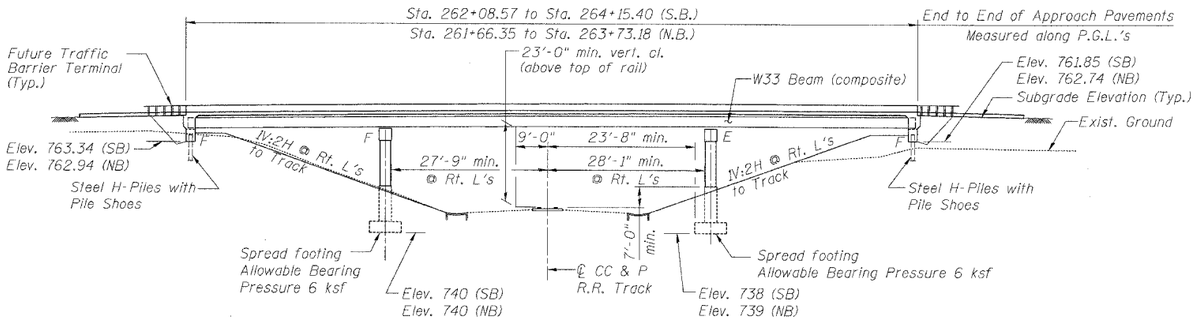
DUNHAM ROAD OVER CC&P RAILROAD
STORM WATER POLLUTION
PREVENTION PLAN

SCALE: VERT. NONE
HORIZ. NONE
DATE: 10-12-07

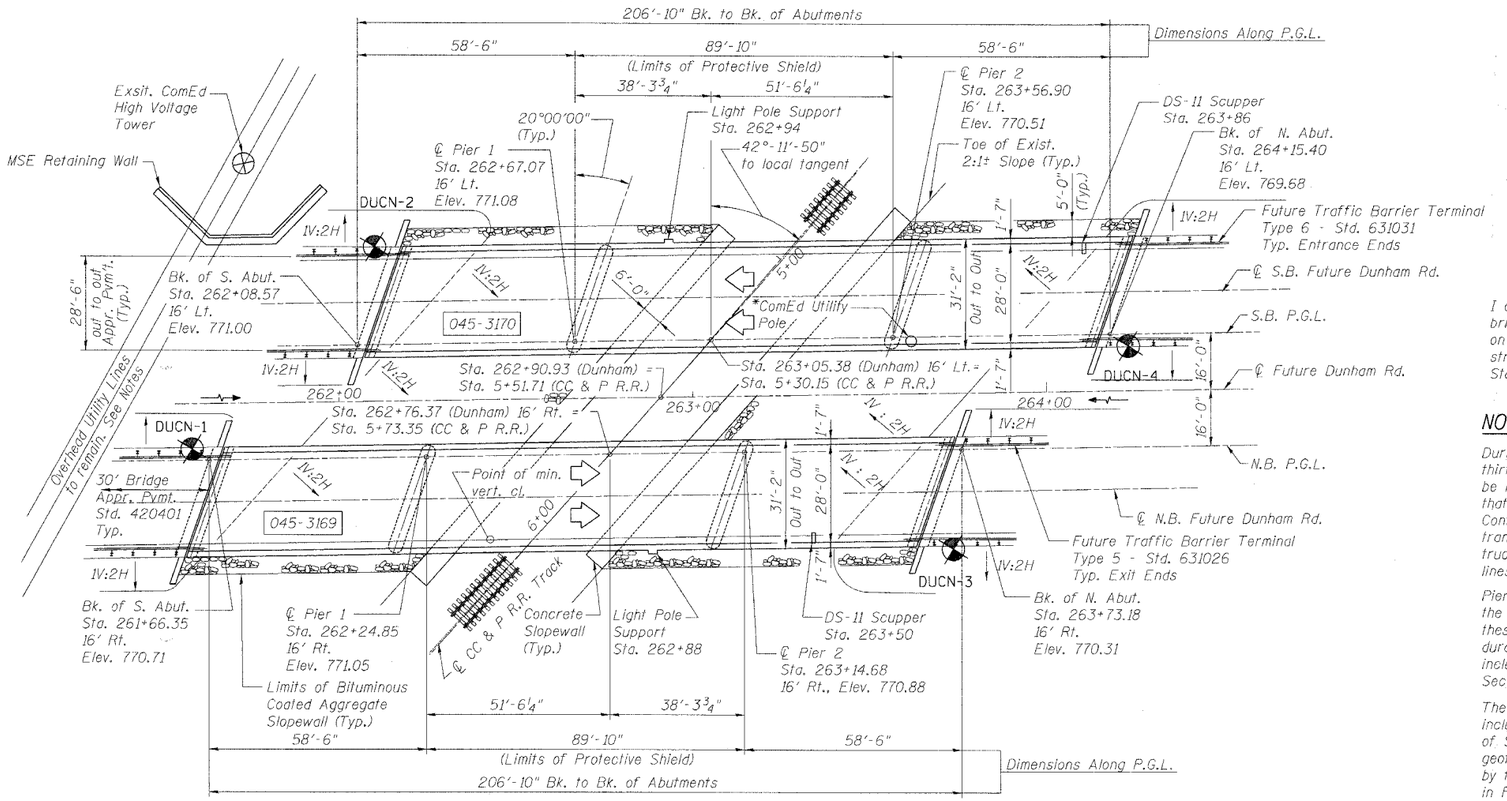
DRAWN BY: MTR
CHECKED BY: BAK

Benchmark: BM-22, "Chiseled Box Cut" set at the top of concrete bridge headwall, at the northeast corner of bridge and at the southeast corner of Stearns Road and Dunham Road. El. 767.353

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

LEGEND

- Soil Boring

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

* ComEd poles with 34kv and 12kv wires attached to be relocated by others before the letting date for this contract. The Contractor shall include the effects to construction of the relocated poles and wires in the bid price for the various items of work affected by the pole and wire locations.

STATION 262+90.93
BUILT BY
STATE OF ILLINOIS
LOADING HS20
STRUCTURE NO. 045-3169

NAME PLATE - N.B. BRIDGE

See Std. 515001

STATION 262+90.93
BUILT BY
STATE OF ILLINOIS
LOADING HS20
STRUCTURE NO. 045-3170

NAME PLATE - S.B. BRIDGE

See Std. 515001

STATE OF ILLINOIS
SANDOR FERENCZI
81-3253
CHICAGO, IL
LICENSED STRUCTURAL ENGINEER

Sandor Ferenczi

EXPIRES: 11/30/2008
DATE: 05/31/2007

I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

NOTES:

During construction, OSHA requires that a minimum thirteen (13) feet working clearance distance must be maintained between the booms, arms or other parts that can be raised on the equipment for the County's Contractor and ComEd's existing 138,000 volt electric transmission conductors. Under no circumstances, should truck beds be raised directly underneath ComEd transmission lines.

Pier footing and crashwall construction may occur beneath the water table in permeable soil. Therefore, excavation at these locations may require continuous pumping for the duration of construction. Any pumping required shall be included in the cost of Structure Excavation as noted in Section 502 of the Std. Specs.

The quantity of Removal and Disposal of Unsuitable Material includes the removal of fill material present in the top 10 feet of Soil Boring DUCN-4 according to recommendations in the geotechnical report. The actual quantity shall be determined by the Engineer. The quantity of replacement material, included in Furnished Excavation, shall be suitable for driving of abutment piles.

The Contractor must keep all equipment at least ten (10) feet clear of all overhead wires at all times. ComEd highly recommends that applicable portions of their wires be covered with rubber sheathing. To request installation of this sheathing by ComEd forces, Call 1-800-EDISON1.

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Job No. 896

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Std. Specs. for Highway Bridges

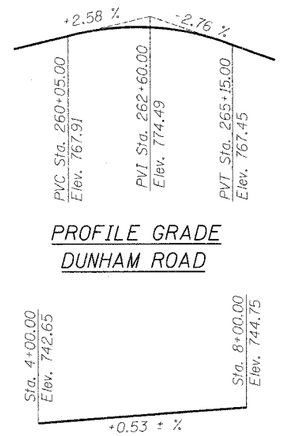
DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (Struct. Steel) M270 Gr. 50W

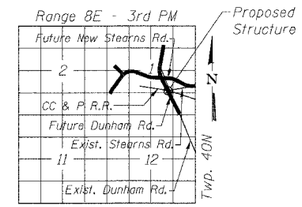
SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.037 g
Site Coefficient (S) = 1



PROFILE GRADE DUNHAM ROAD

TOP OF RAIL ELEVATIONS CC & P R.R.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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GENERAL NOTES

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

Calculated weight of Structural Steel = 283,470 lbs.

All structural steel shall be AASHTO M 270 Grade 50W.

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

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

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{2}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2 OF 31 SHEETS

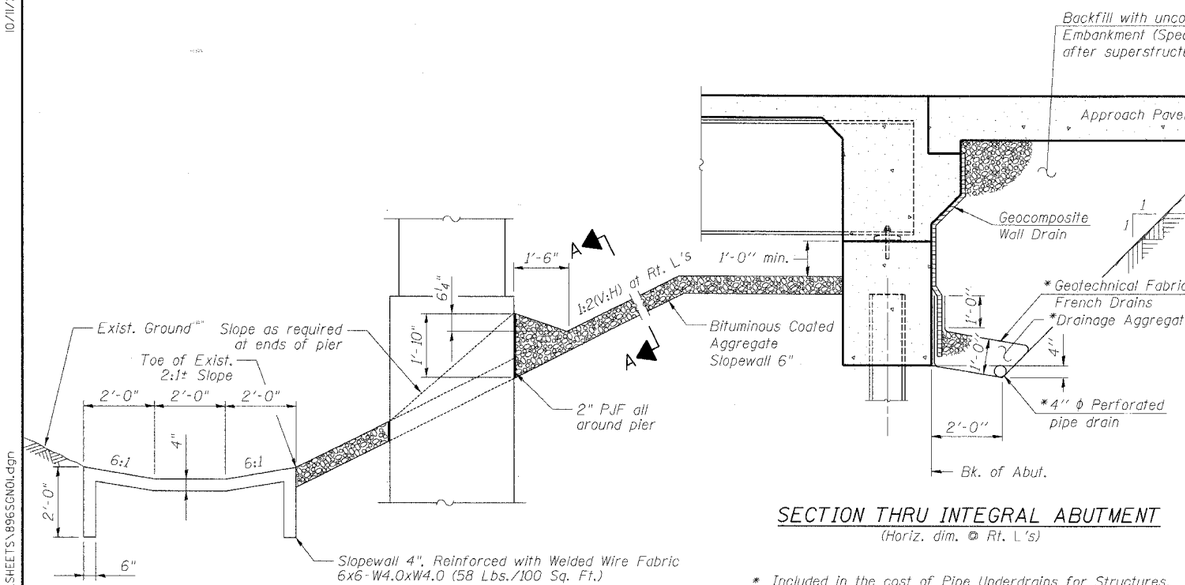
Contract # 83951 * 06-00214-07-BR

INDEX OF STRUCTURAL SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.		700	700
Porous Granular Embankment (Special)	Cu. Yd.		212	212
Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.		2135	2135
Slopewall 4"	Sq. Yd.		176	176
Structure Excavation	Cu. Yd.		927	927
Concrete Structures	Cu. Yd.		306.1	306.1
Concrete Superstructure	Cu. Yd.	482		482
Bridge Deck Grooving	Sq. Yd.	1196		1196
Concrete Encasement	Cu. Yd.		8.4	8.4
Protective Coat	Sq. Yd.	1634		1634
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	5712		5712
Reinforcement Bars, Epoxy Coated	Pound	105,910	30,480	136,390
Bar Splicers	Each	116		116
Furnishing Steel Piles HP12x53	Foot		1245	1245
Driving Piles	Foot		1245	1245
Test Pile Steel HP12x53	Each		4	4
Pile Shoes	Each		24	24
Name Plates	Each	2		2
Elastomeric Bearing Assembly, Type I	Each	8		8
Anchor Bolt 1"ϕ	Each	32		32
Anchor Bolt 1½"ϕ	Each	32		32
Geocomposite Wall Drain	Sq. Yd.		115	115
Pipe Underdrains for Structures, 4"	Foot		276	276
Drainage Scupper, DS-11	Each	2		2
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.		663	663
Protective Shield	Sq. Yd.	702		702

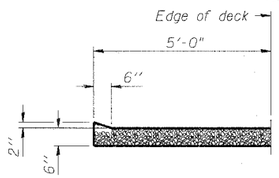
*** Sheeting is not required when excavating for the pier footings. If the Contractor chooses to install sheeting as part of his means and methods, the cost of such sheeting shall be included in the cost of Structure Excavation as noted in Section 502 of the Standard Specifications.



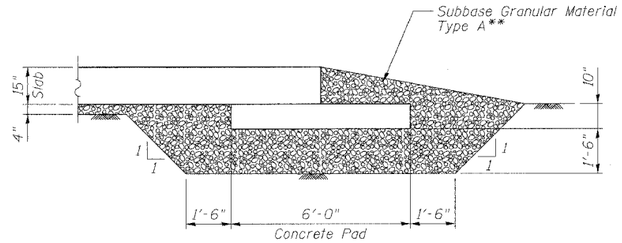
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION A-A



END OF APPROACH PAVEMENT TREATMENT

** Included in the cost of Bridge Approach Pavement

Note: Construct Approach Pavement according to Highway Standard 420401 except as noted.

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

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GENERAL NOTES &
TOTAL BILL OF MATERIAL
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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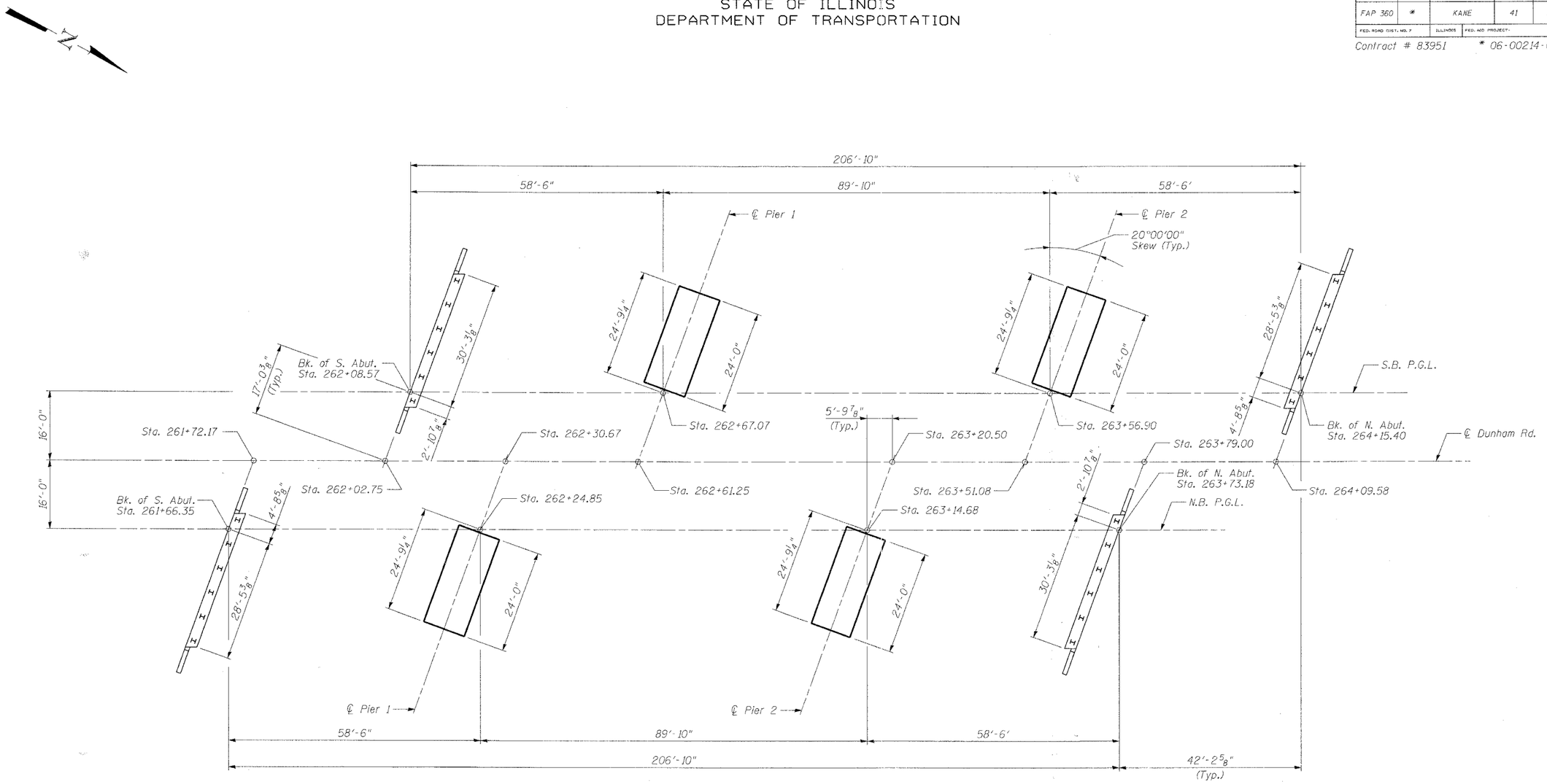
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	13
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



SUBSTRUCTURE LAYOUT

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

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SUBSTRUCTURE LAYOUT
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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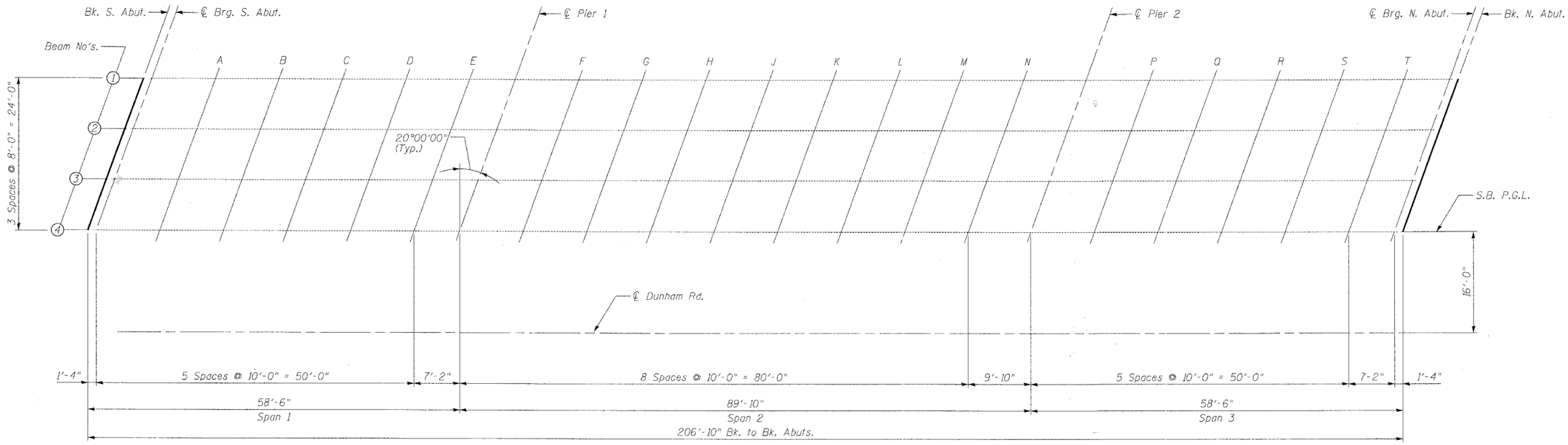
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

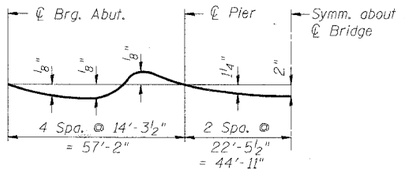
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	14
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



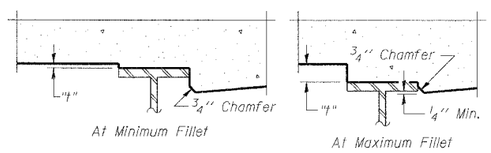
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections shown.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the intervals shown. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection", minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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TOP OF SLAB ELEVATION LAYOUT - S.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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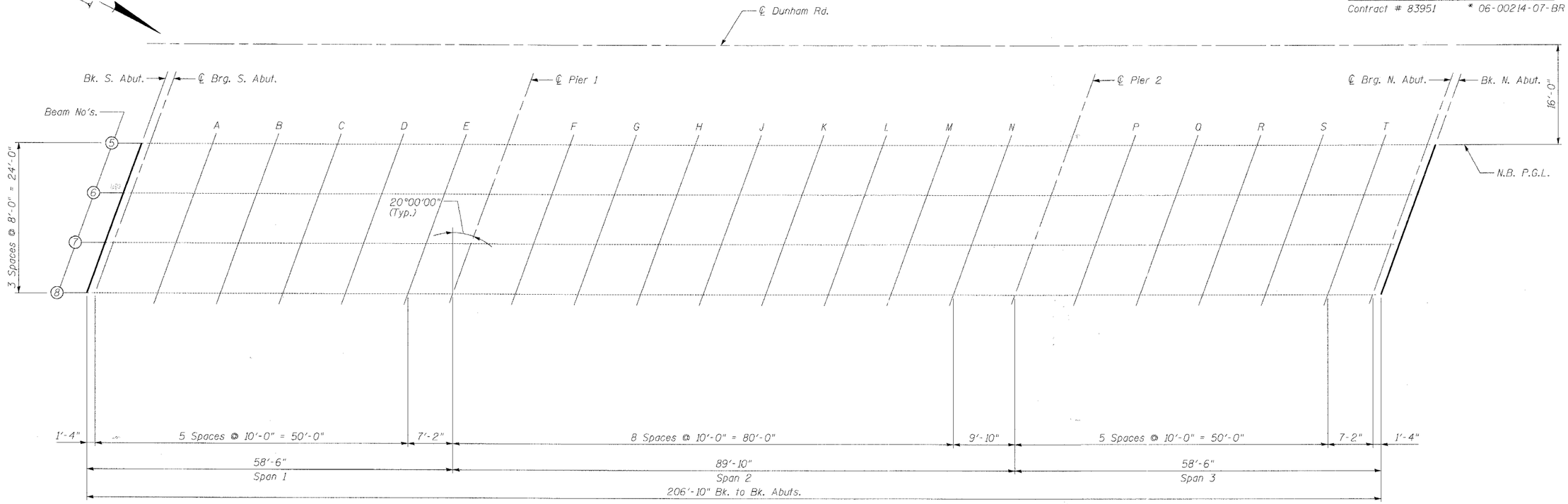
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 5 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



PLAN

Note:

See Sheet 4 of 31 for Dead Load Deflection Diagram and fillet height information.

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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CONSULTING ENGINEERS
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Job No. 896

TOP OF SLAB ELEVATION LAYOUT - N.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	16
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 6 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	262+17.30	-40.00	770.55	770.55
℄ Brg. S. Abut.	262+18.63	-40.00	770.55	770.55
A	262+28.63	-40.00	770.58	770.59
B	262+38.63	-40.00	770.60	770.61
C	262+48.63	-40.00	770.61	770.61
D	262+58.63	-40.00	770.61	770.60
E	262+68.63	-40.00	770.59	770.59
℄ Pier 1	262+75.80	-40.00	770.58	770.58
F	262+85.80	-40.00	770.55	770.59
G	262+95.80	-40.00	770.51	770.60
H	263+05.80	-40.00	770.45	770.59
J	263+15.80	-40.00	770.39	770.56
K	263+25.80	-40.00	770.32	770.48
L	263+35.80	-40.00	770.24	770.37
M	263+45.80	-40.00	770.14	770.23
N	263+55.80	-40.00	770.04	770.08
℄ Pier 2	263+65.64	-40.00	769.93	769.93
P	263+75.64	-40.00	769.80	769.79
Q	263+85.64	-40.00	769.67	769.66
R	263+95.64	-40.00	769.52	769.53
S	264+05.64	-40.00	769.36	769.38
T	264+15.64	-40.00	769.20	769.20
℄ Brg. N. Abut.	264+22.81	-40.00	769.07	769.07
Bk. N. Abut.	264+24.14	-40.00	769.05	769.05

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	262+14.39	-32.00	770.70	770.70
℄ Brg. S. Abut.	262+15.72	-32.00	770.70	770.70
A	262+25.72	-32.00	770.74	770.74
B	262+35.72	-32.00	770.76	770.77
C	262+45.72	-32.00	770.77	770.77
D	262+55.72	-32.00	770.77	770.76
E	262+65.72	-32.00	770.76	770.75
℄ Pier 1	262+72.89	-32.00	770.75	770.75
F	262+82.89	-32.00	770.72	770.75
G	262+92.89	-32.00	770.68	770.76
H	263+02.89	-32.00	770.63	770.76
J	263+12.89	-32.00	770.57	770.73
K	263+22.89	-32.00	770.50	770.66
L	263+32.89	-32.00	770.42	770.55
M	263+42.89	-32.00	770.33	770.42
N	263+52.89	-32.00	770.23	770.27
℄ Pier 2	263+62.72	-32.00	770.12	770.12
P	263+72.72	-32.00	770.00	769.99
Q	263+82.72	-32.00	769.87	769.86
R	263+92.72	-32.00	769.72	769.73
S	264+02.72	-32.00	769.57	769.58
T	264+12.72	-32.00	769.41	769.41
℄ Brg. N. Abut.	264+19.89	-32.00	769.28	769.28
Bk. N. Abut.	264+21.22	-32.00	769.26	769.26

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	262+11.48	-24.00	770.85	770.85
℄ Brg. S. Abut.	262+12.81	-24.00	770.85	770.85
A	262+22.81	-24.00	770.89	770.89
B	262+32.81	-24.00	770.91	770.92
C	262+42.81	-24.00	770.93	770.93
D	262+52.81	-24.00	770.93	770.92
E	262+62.81	-24.00	770.92	770.91
℄ Pier 1	262+69.98	-24.00	770.91	770.91
F	262+79.98	-24.00	770.89	770.92
G	262+89.98	-24.00	770.85	770.94
H	262+99.98	-24.00	770.81	770.94
J	263+09.98	-24.00	770.75	770.90
K	263+19.98	-24.00	770.68	770.84
L	263+29.98	-24.00	770.61	770.73
M	263+39.98	-24.00	770.52	770.60
N	263+49.98	-24.00	770.42	770.46
℄ Pier 2	263+59.81	-24.00	770.31	770.31
P	263+69.81	-24.00	770.20	770.19
Q	263+79.81	-24.00	770.07	770.06
R	263+89.81	-24.00	769.93	769.93
S	263+99.81	-24.00	769.78	769.79
T	264+09.81	-24.00	769.62	769.62
℄ Brg. N. Abut.	264+16.98	-24.00	769.49	769.49
Bk. N. Abut.	264+18.31	-24.00	769.47	769.47

BEAM 4 & S.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	262+08.57	-16.00	770.99	770.99
℄ Brg. S. Abut.	262+09.90	-16.00	771.00	771.00
A	262+19.90	-16.00	771.04	771.05
B	262+29.90	-16.00	771.07	771.08
C	262+39.90	-16.00	771.08	771.09
D	262+49.90	-16.00	771.09	771.08
E	262+59.90	-16.00	771.09	771.08
℄ Pier 1	262+67.07	-16.00	771.08	771.08
F	262+77.07	-16.00	771.06	771.09
G	262+87.07	-16.00	771.02	771.11
H	262+97.07	-16.00	770.98	771.12
J	263+07.07	-16.00	770.93	771.09
K	263+17.07	-16.00	770.86	771.03
L	263+27.07	-16.00	770.79	770.93
M	263+37.07	-16.00	770.71	770.79
N	263+47.07	-16.00	770.61	770.65
℄ Pier 2	263+56.90	-16.00	770.51	770.51
P	263+66.90	-16.00	770.39	770.38
Q	263+76.90	-16.00	770.27	770.26
R	263+86.90	-16.00	770.13	770.14
S	263+96.90	-16.00	769.98	769.99
T	264+06.90	-16.00	769.82	769.83
℄ Brg. N. Abut.	264+14.07	-16.00	769.70	769.70
Bk. N. Abut.	264+15.40	-16.00	769.68	769.68

BEAM 5 & N.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	261+66.35	16.00	770.71	770.71
℄ Brg. S. Abut.	261+67.68	16.00	770.72	770.72
A	261+77.68	16.00	770.81	770.81
B	261+87.68	16.00	770.88	770.89
C	261+97.68	16.00	770.94	770.94
D	262+07.68	16.00	770.99	770.98
E	262+17.68	16.00	771.03	771.02
℄ Pier 1	262+24.85	16.00	771.05	771.05
F	262+34.85	16.00	771.08	771.11
G	262+44.85	16.00	771.09	771.18
H	262+54.85	16.00	771.09	771.22
J	262+64.85	16.00	771.08	771.24
K	262+74.85	16.00	771.06	771.22
L	262+84.85	16.00	771.03	771.17
M	262+94.85	16.00	770.99	771.08
N	263+04.85	16.00	770.94	770.98
℄ Pier 2	263+14.68	16.00 16.00	770.88	770.88
P	263+24.68	16.00	770.81	770.80
Q	263+34.68	16.00	770.73	770.72
R	263+44.68	16.00	770.63	770.64
S	263+54.68	16.00	770.53	770.54
T	263+64.68	16.00	770.42	770.42
℄ Brg. N. Abut.	263+71.85	16.00	770.33	770.33
Bk. N. Abut.	263+73.18	16.00	770.31	770.31

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	261+63.44	24.00	770.52	770.52
℄ Brg. S. Abut.	261+64.77	24.00	770.54	770.54
A	261+74.77	24.00	770.62	770.63
B	261+84.77	24.00	770.70	770.71
C	261+94.77	24.00	770.76	770.77
D	262+04.77	24.00	770.82	770.81
E	262+14.77	24.00	770.86	770.85
℄ Pier 1	262+21.94	24.00	770.88	770.88
F	262+31.94	24.00	770.91	770.95
G	262+41.94	24.00	770.92	771.01
H	262+51.94	24.00	770.93	771.06
J	262+61.94	24.00	770.92	771.08
K	262+71.94	24.00	770.91	771.06
L	262+81.94	24.00	770.88	771.01
M	262+91.94	24.00	770.84	770.93
N	263+01.94	24.00	770.80	770.83
℄ Pier 2	263+11.77	24.00	770.74	770.74
P	263+21.77	24.00	770.67	770.66
Q	263+31.77	24.00	770.59	770.59
R	263+41.77	24.00	770.50	770.51
S	263+51.77	24.00	770.40	770.41
T	263+61.77	24.00	770.29	770.30
℄ Brg. N. Abut.	263+68.94	24.00	770.21	770.21
Bk. N. Abut.	263+70.27	24.00	770.19	770.19

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	261+60.53	32.00	770.34	770.34
℄ Brg. S. Abut.	261+61.86	32.00	770.35	770.35
A	261+71.86	32.00	770.44	770.45
B	261+81.86	32.00	770.52	770.53
C	261+91.86	32.00	770.58	770.59
D	262+01.86	32.00	770.64	770.64
E	262+11.86	32.00	770.69	770.68
℄ Pier 1	262+19.03	32.00	770.71	770.71
F	262+29.03	32.00	770.74	770.78
G	262+39.03	32.00	770.76	770.85
H	262+49.03	32.00	770.77	770.90
J	262+59.03	32.00	770.77	770.92
K	262+69.03	32.00	770.75	770.91
L	262+79.03	32.00	770.73	770.86
M	262+89.03	32.00	770.70	770.78
N	262+99.03	32.00	770.65	770.69
℄ Pier 2	263+08.86	32.00	770.60	770.60
P	263+18.86	32.00	770.53	770.52
Q	263+28.86	32.00	770.46	770.45
R	263+38.86	32.00	770.37	770.38
S	263+48.86	32.00	770.27	770.28
T	263+58.86	32.00	770.17	770.17
℄ Brg. N. Abut.	263+66.03	32.00	770.08	770.08
Bk. N. Abut.	263+67.36	32.00	770.07	770.07

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	261+57.61	40.00	770.15	770.15
℄ Brg. S. Abut.	261+58.94	40.00	770.16	770.16
A	261+68.94	40.00	770.25	770.26
B	261+78.94	40.00	770.33	770.35
C	261+88.94	40.00	770.41	770.41
D	261+98.94	40.00	770.47	770.46
E	262+08.94	40.00	770.52	770.51
℄ Pier 1	262+16.11	40.00	770.54	770.54
F	262+26.11	40.00	770.58	770.61
G	262+36.11	40.00	770.60	770.69
H	262+46.11	40.00	770.61	770.74
J	262+56.11	40.00	770.61	770.77
K	262+66.11	40.00	770.60	770.76
L	262+76.11	40.00	770.58	770.71
M	262+86.11	40.00	770.55	770.64
N	262+96.11	40.00	770.50	770.54
℄ Pier 2	263+05.95	40.00	770.45	770.45
P	263+15.95	40.00	770.39	770.38
Q	263+25.95	40.00	770.32	770.32
R	263+35.95	40.00	770.24	770.24
S	263+45.95	40.00	770.14	770.15
T	263+55.95	40.00	770.04	770.04
℄ Brg. N. Abut.	263+63.12	40.00	769.96	769.96
Bk. N. Abut.	263+64.45	40.00	769.94	769.94

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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CONSULTING ENGINEERS
Chicago, Illinois
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Job No. 896

TOP OF SLAB ELEVATIONS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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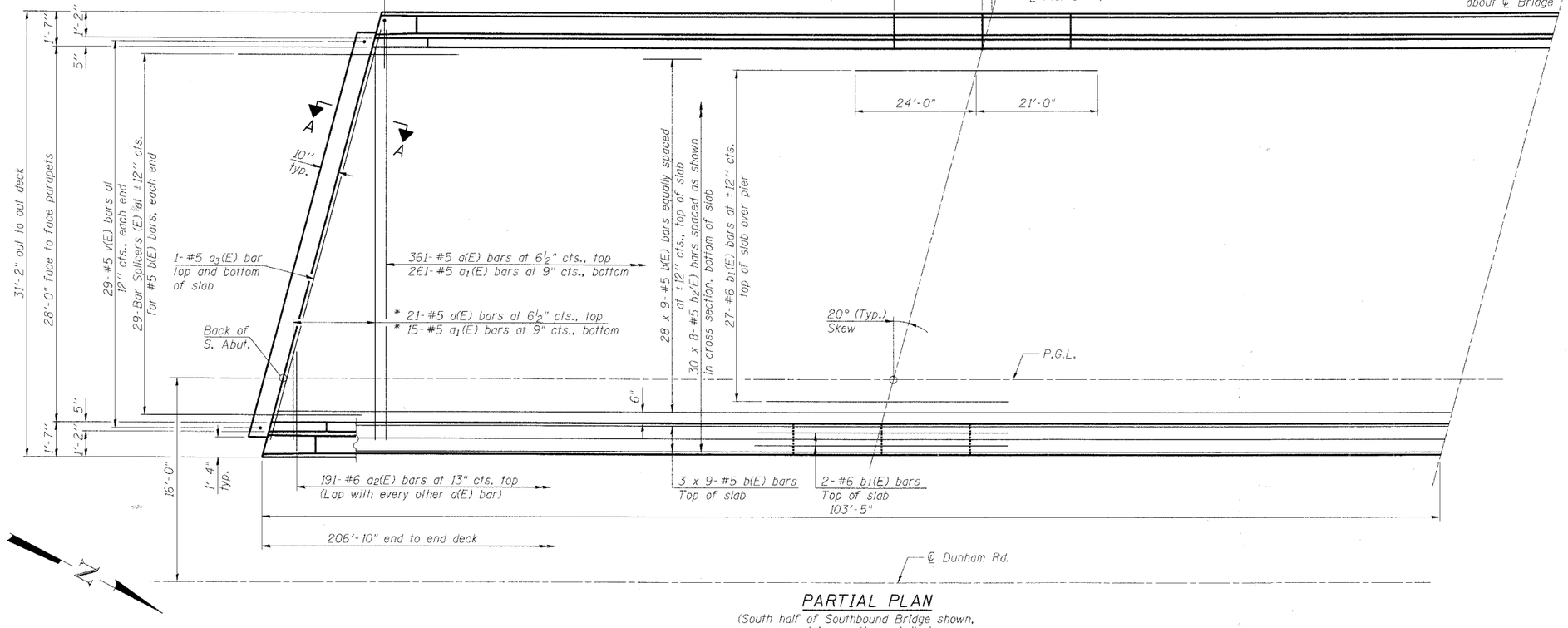
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

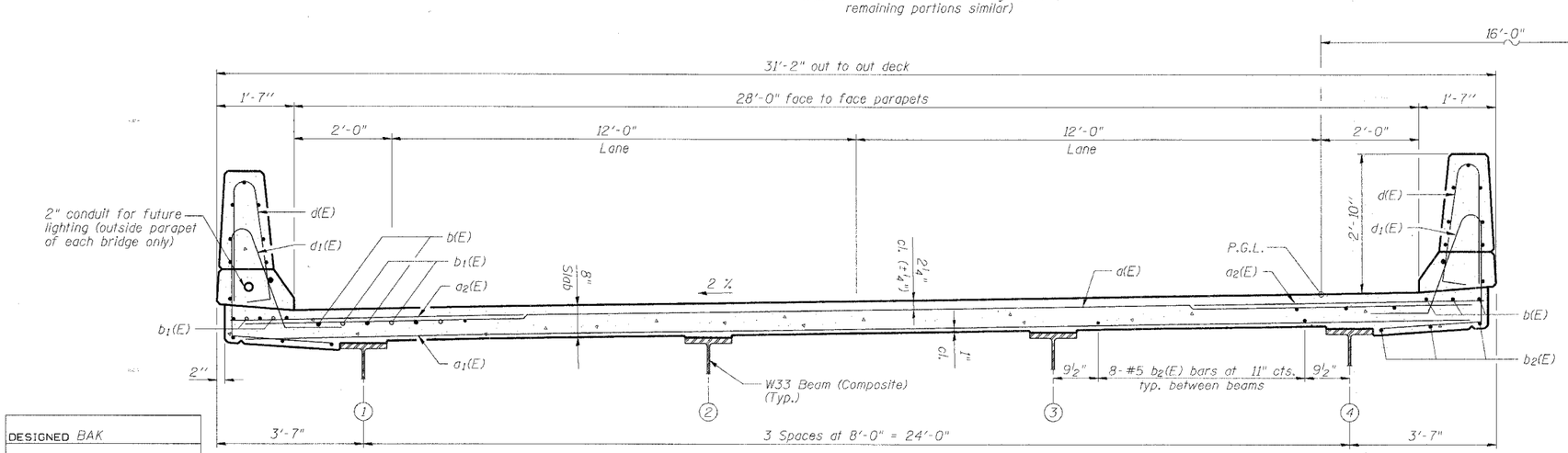
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

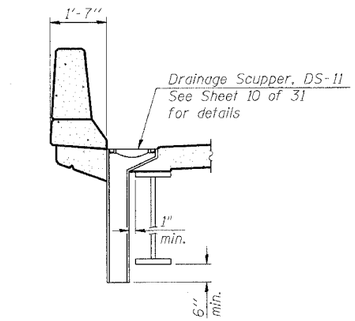


PARTIAL PLAN
(South half of Southbound Bridge shown, remaining portions similar)

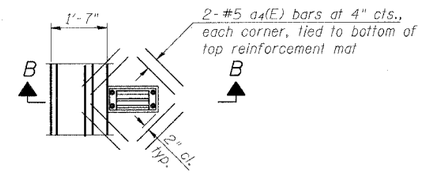


NEAR PIER NEAR MIDSPAN

CROSS SECTION
(Looking Upstation)



SECTION B-B



PLAN AT SCUPPER

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

MIN. BAR LAP
#5 bar = 2'-2"

Notes:
See Sheet 9 of 31 for superstructure details, parapet reinforcement and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 8 of 31 for Section A-A.
See Sheet 1 of 31 for light pole support and drainage scupper stations.

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

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SUPERSTRUCTURE PLAN AND CROSS-SECTION DUNHAM ROAD OVER THE CC&P RAILROAD SECTION 06-00214-07-BR KANE COUNTY STATION 262+90.93 STR. NO. 045-3169 (NB) / 045-3170 (SB)

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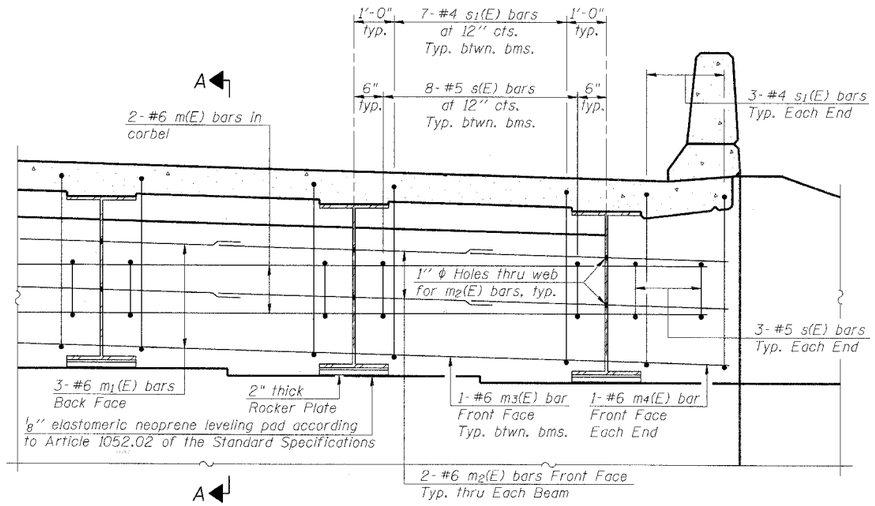
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

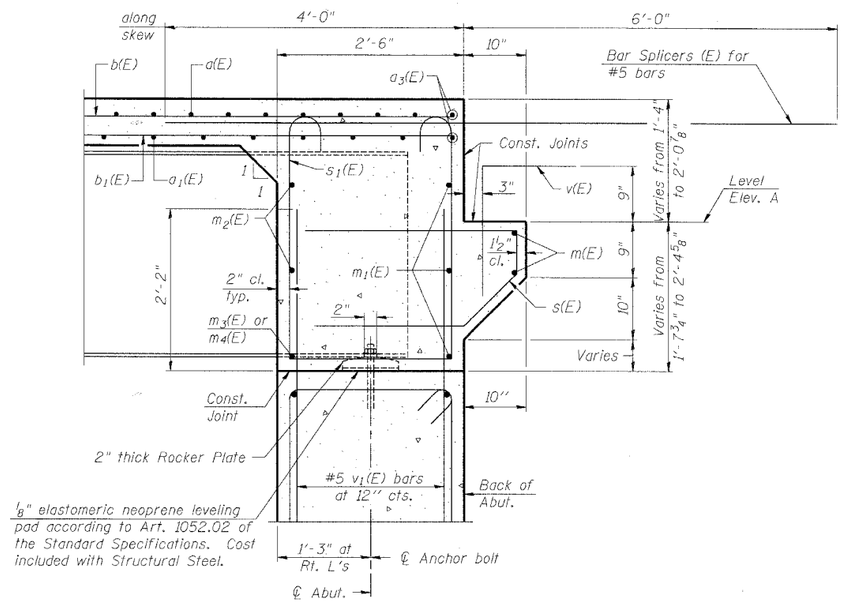
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 8 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



DIAPHRAGM ELEVATION AT ABUTMENT



SECTION A-A

Dimensions at right angles to abutment, except as shown.

LOCATION	ELEV. A
S. Abut., S.B. Lanes	769.18
S. Abut., N.B. Lanes	768.77
N. Abut., S.B. Lanes	767.66
N. Abut., N.B. Lanes	768.58

Notes:

Reinforcement bars in diaphragm are billed with superstructure on Sheet 9 of 31.

Concrete in diaphragm is included with Concrete Superstructure on Sheet 9 of 31.

For details of bars s(E) & s_1(E) see Sheet 9 of 31.

The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

MIN. BAR LAP

#6 bar = 2'-9"

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

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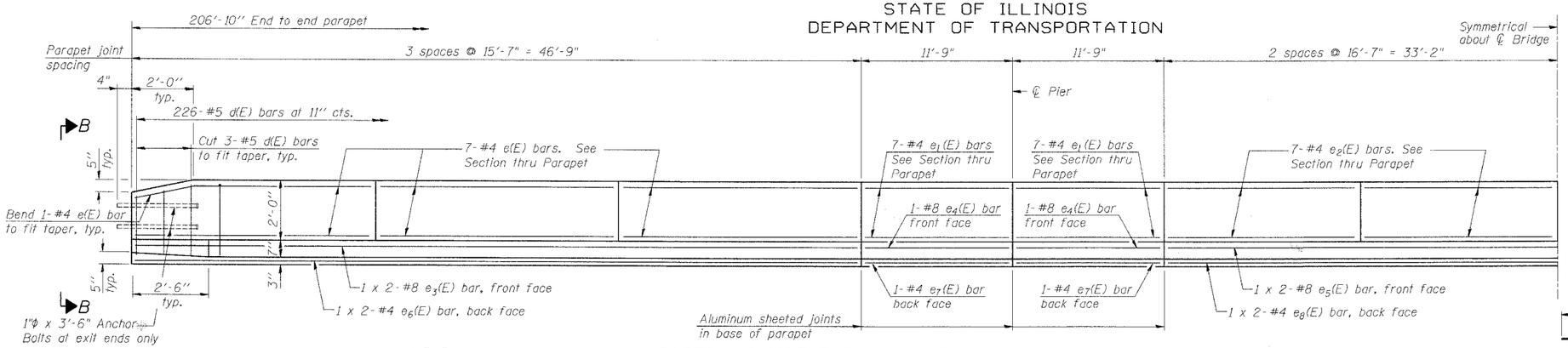
ABUTMENT DIAPHRAGM DETAILS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	19
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 9 OF 31 SHEETS

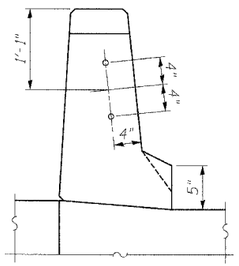
Contract # 83951 * 06-00214-07-BR



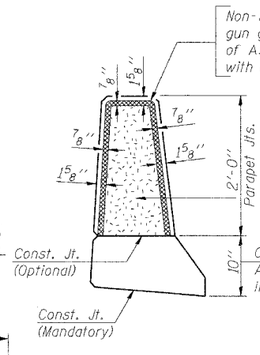
MINIMUM BAR LAP

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"

PARTIAL INSIDE ELEVATION OF PARAPET

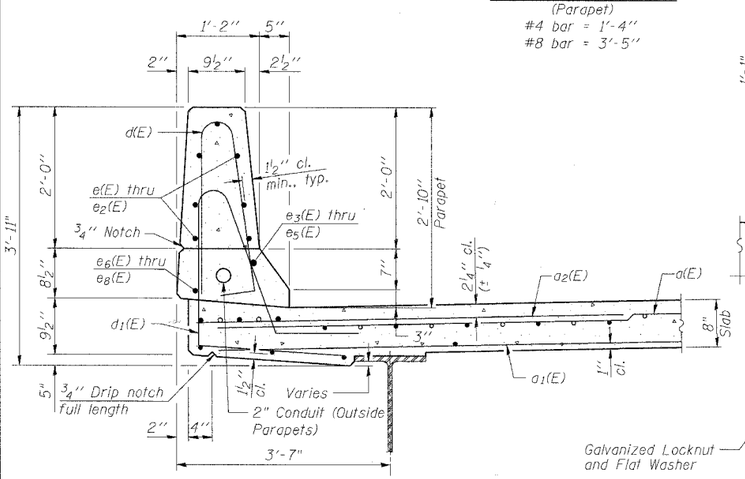


VIEW B-B



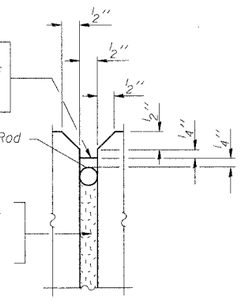
1"ϕ ANCHOR BOLT

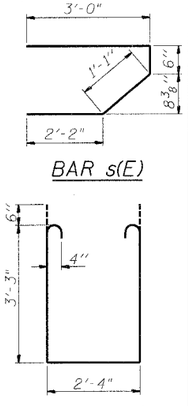
(ASTM F 1554 Grade 105)
(8 Required)



SECTION THRU PARAPET

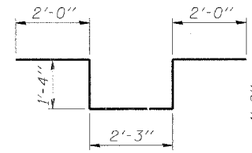
PARAPET JOINT DETAILS



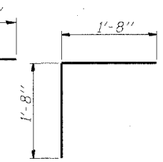


BAR s(E)

BAR s1(E)



BAR d3(E)

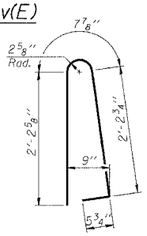


BAR v(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	764	#5	30'-6"	
a1(E)	552	#5	29'-6"	
a2(E)	764	#6	6'-0"	
a3(E)	8	#5	32'-10"	
a4(E)	16	#5	1'-6"	
b(E)	612	#5	24'-11"	
b1(E)	62	#6	45'-0"	
b2(E)	480	#5	27'-9"	
d(E)	904	#5	5'-7"	
d1(E)	904	#5	8'-3"	
d2(E)	6	#6	4'-5"	
d3(E)	10	#6	8'-11"	
e(E)	168	#4	15'-3"	
e1(E)	112	#4	11'-5"	
e2(E)	112	#4	16'-3"	
e3(E)	16	#8	24'-11"	
e4(E)	16	#8	11'-5"	
e5(E)	8	#8	34'-9"	
e6(E)	16	#4	23'-11"	
e7(E)	16	#4	11'-5"	
e8(E)	8	#4	33'-8"	
m(E)	8	#6	30'-0"	
m1(E)	12	#6	32'-10"	
m2(E)	32	#6	10'-4"	
m3(E)	12	#6	8'-2"	
m4(E)	8	#6	3'-5"	
s(E)	120	#5	6'-9"	
s1(E)	108	#4	9'-10"	
v(E)	116	#5	3'-4"	
Reinforcement Bars, Epoxy Coated			Pound	105,910
Concrete Superstructure			Cu. Yd.	482

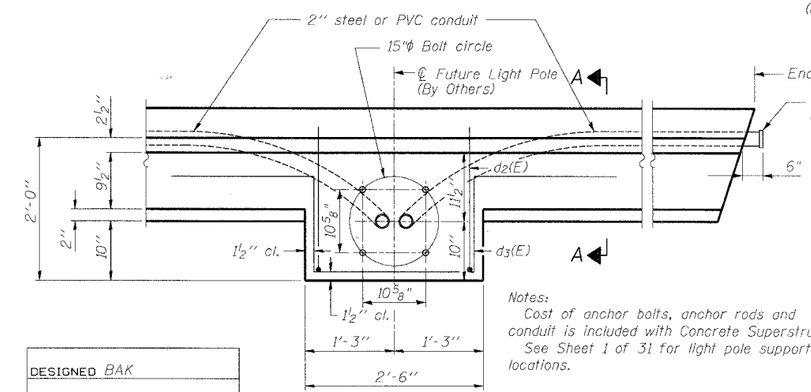
Bars indicated thus 1 x 2 -#5 etc. indicates 1 line of bars with 2 lengths per line.



BAR d2(E)

BAR d(E)

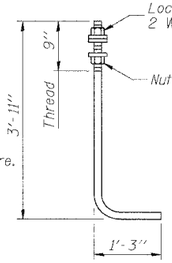
BAR d1(E)



Notes:
Cost of anchor bolts, anchor rods and conduit is included with Concrete Superstructure.
See Sheet 1 of 31 for light pole support locations.

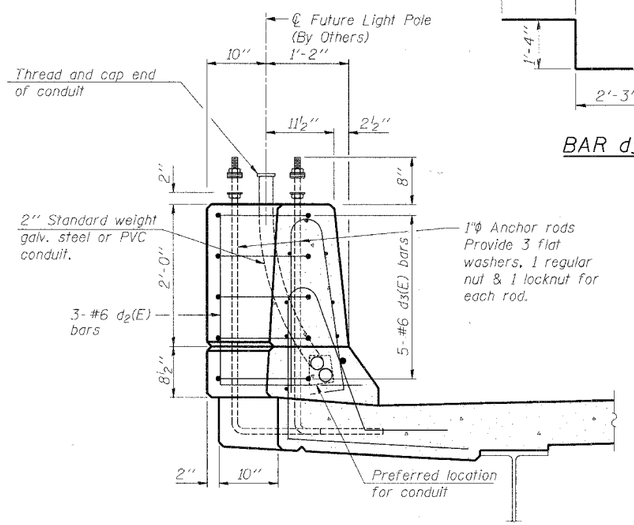
DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

PLAN - LIGHT POLE SUPPORT



1"ϕ ANCHOR ROD

(ASTM F 1554 Grade 105)
(8 Required)



SECTION A-A

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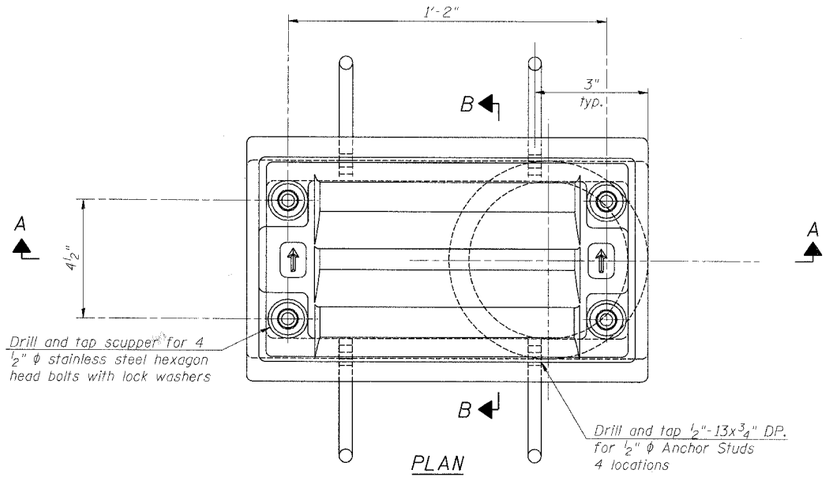
SUPERSTRUCTURE DETAILS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

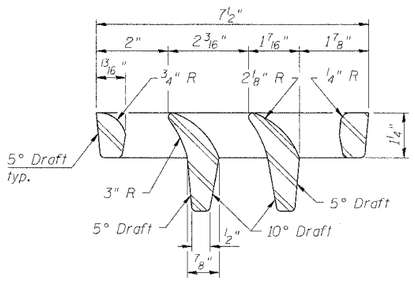
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	20
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 10 OF 31 SHEETS

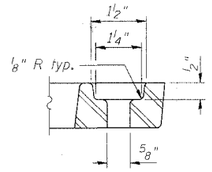
Contract # 83951 * 06-00214-07-BR



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

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

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

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

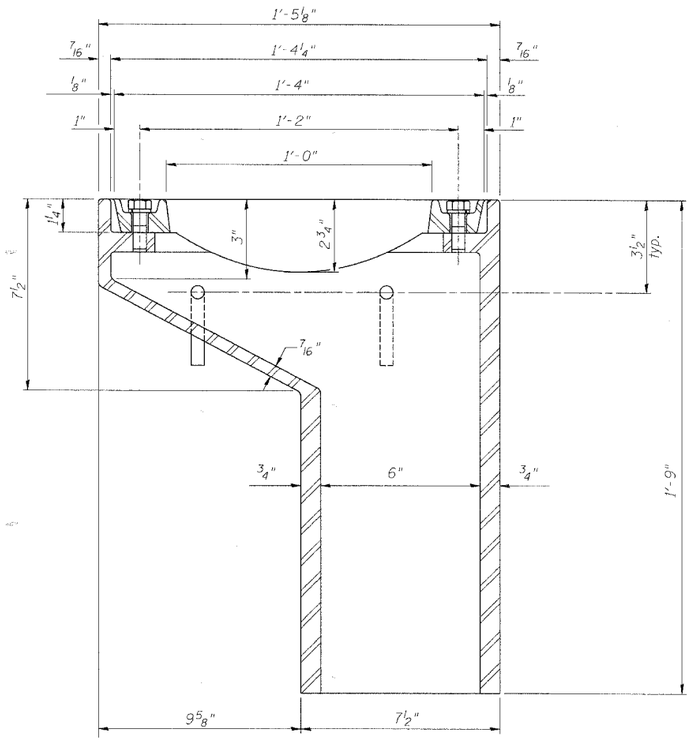
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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

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

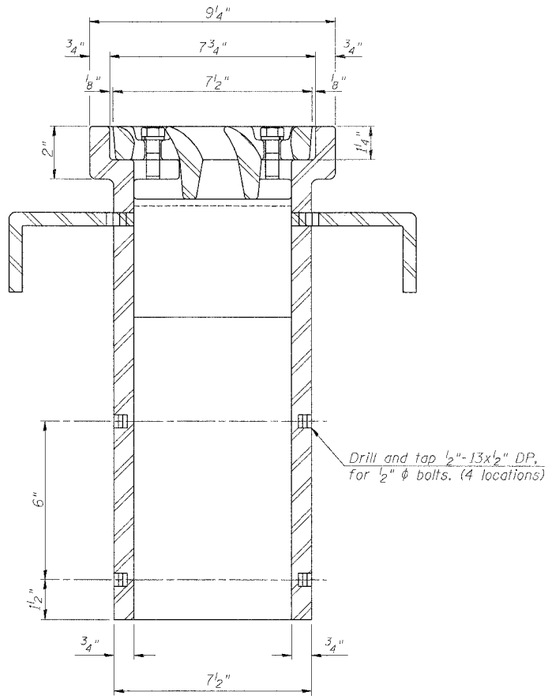
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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

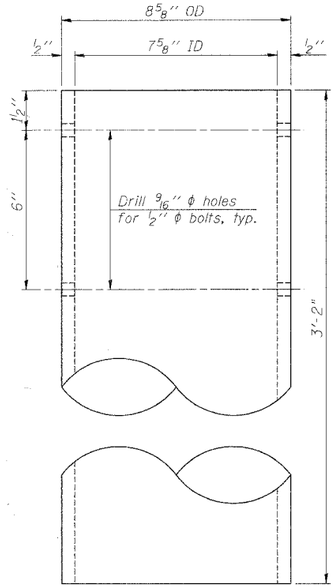


SECTION A-A

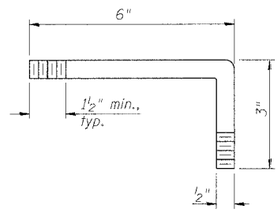
See Sheet 7 of 31 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

DS-11 11-1-06

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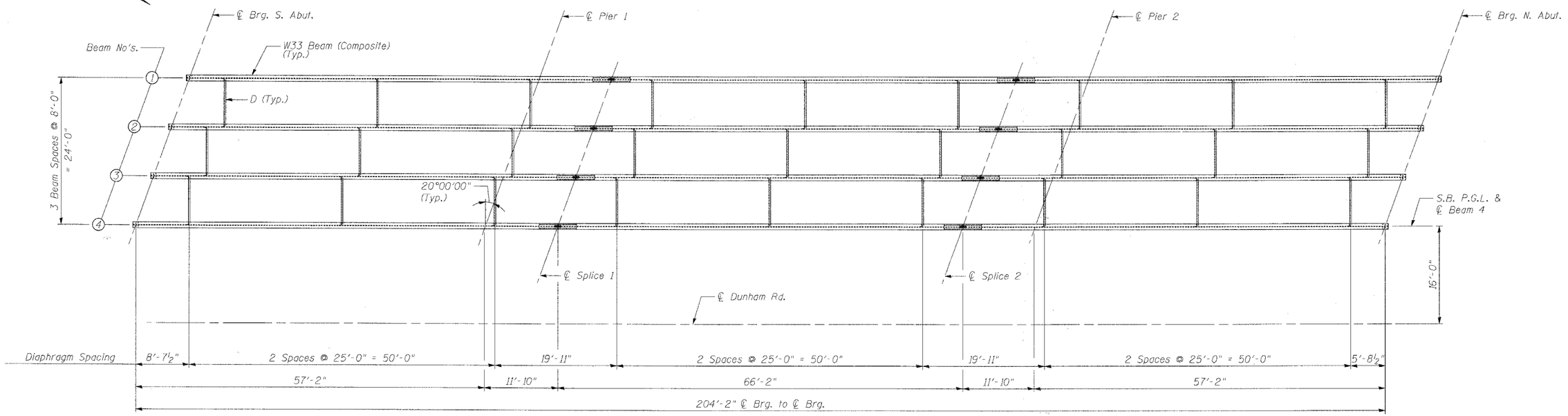
DRAINAGE SCUPPER, DS-11
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	21
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 11 OF 31 SHEETS

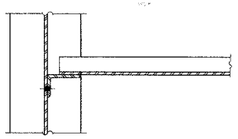
Contract # 83951 * 06-00214-07-BR



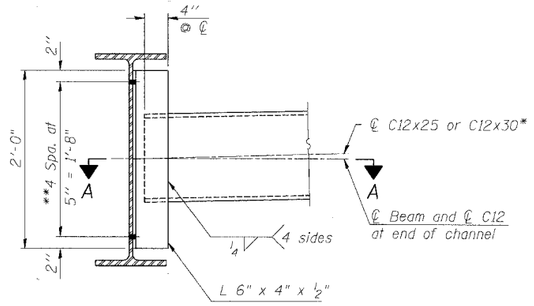
S.B. FRAMING PLAN

TOP OF BEAM ELEVATIONS
(For fabrication use only)

Beam No.	℄ Brg. S. Abut.	℄ Pier 1	℄ Splice 1	℄ Splice 2	℄ Pier 2	℄ Brg. N. Abut.
1	769.84	769.77	769.76	769.28	769.12	768.35
2	769.99	769.94	769.93	769.47	769.32	768.57
3	770.13	770.11	770.10	769.66	769.51	768.78
4	770.28	770.27	770.27	769.85	769.70	768.99



SECTION A-A



DIAPHRAGM D

DESIGNED	BAK
CHECKED	IYL
DRAWN	MTR
CHECKED	SF

* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
** ¾" ϕ HS bolts, 15/16" ϕ holes

Notes:

Two hardened washers required for each set of oversized holes.

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

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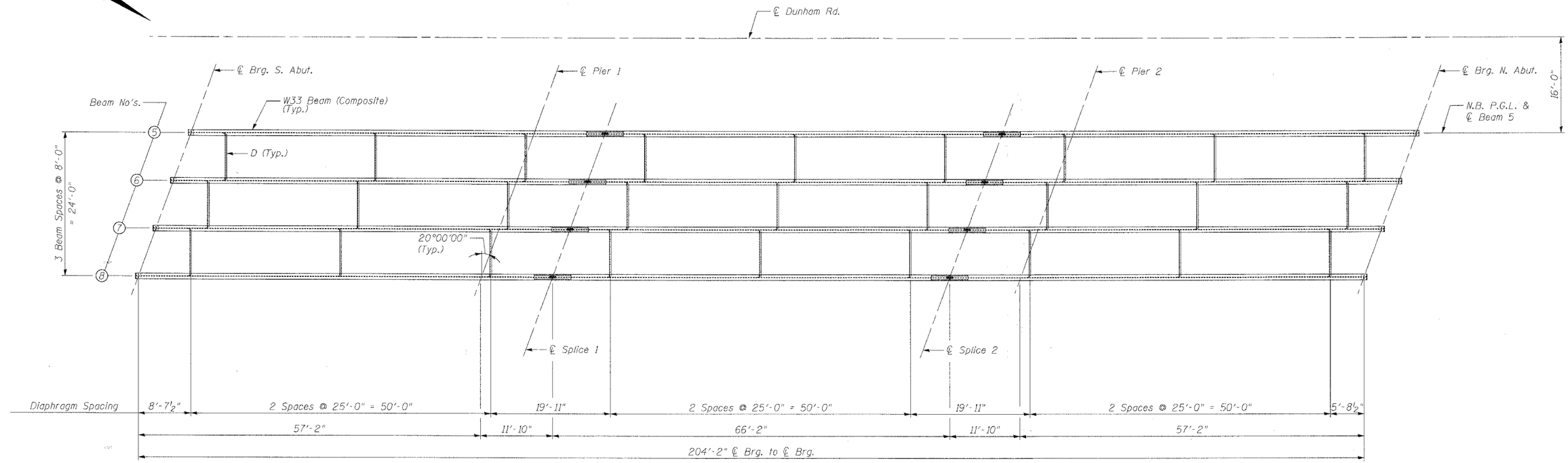
FRAMING PLAN - S.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	22
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 12 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



N.B. FRAMING PLAN

TOP OF BEAM ELEVATIONS

(For fabrication use only)

Beam No.	℄ Brg. S. Abut.	℄ Pier 1	℄ Splice 1	℄ Splice 2	℄ Pier 2	℄ Brg. N. Abut.
5	770.00	770.25	770.30	770.17	770.07	769.61
6	769.82	770.08	770.13	770.03	769.93	769.49
7	769.63	769.91	769.97	769.88	769.79	769.36
8	769.44	769.74	769.80	769.73	769.65	769.24

Note:
See Sheet 11 of 31 for Diaphragm D details.

DESIGNED	BAK
CHECKED	IYL
DRAWN	MTR
CHECKED	SF

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FRAMING PLAN - N.B.
DUNHAM ROAD OVER
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SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
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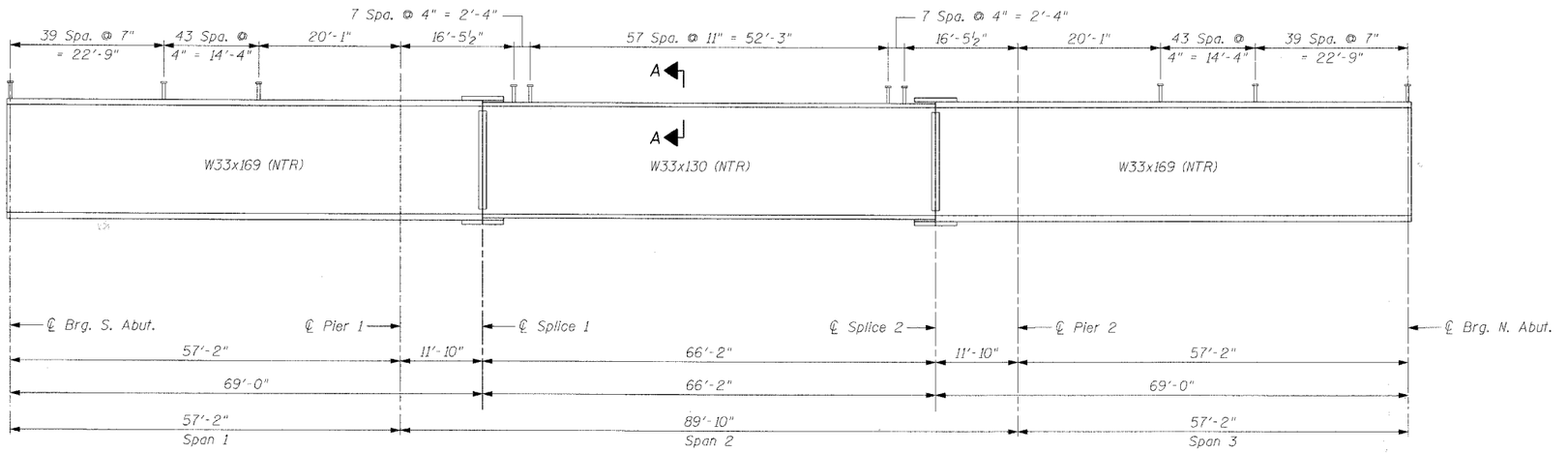
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	23
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 13 OF 31 SHEETS

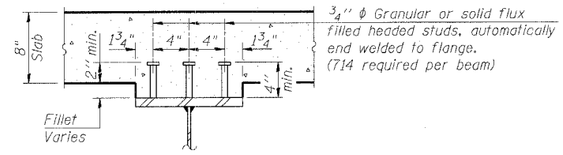
Contract # 83951 * 06-00214-07-BR



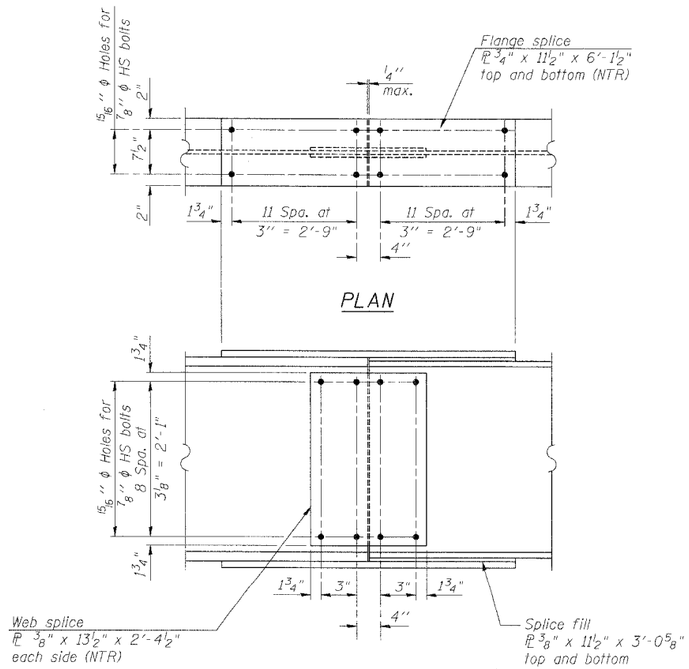
BEAM ELEVATION

Note:

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.



SECTION A-A



ELEVATION

SPLICE DETAIL
(16 Required)

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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Job No. 896

BEAM DETAILS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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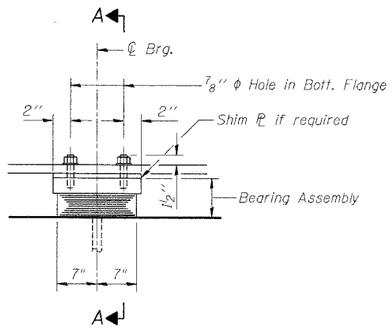
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

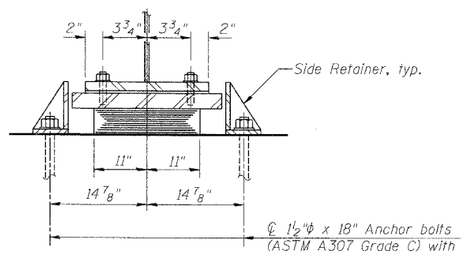
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

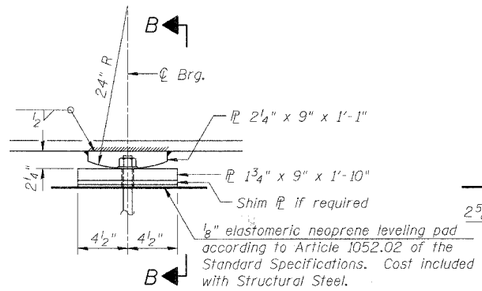


ELEVATION

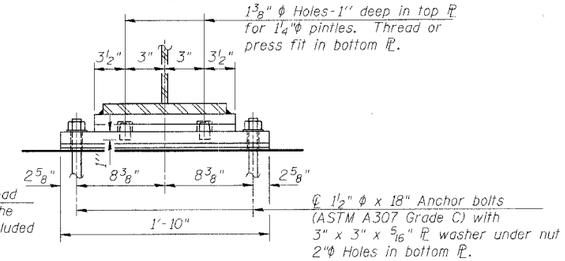


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. AT PIER 2

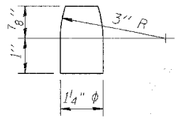


ELEVATION

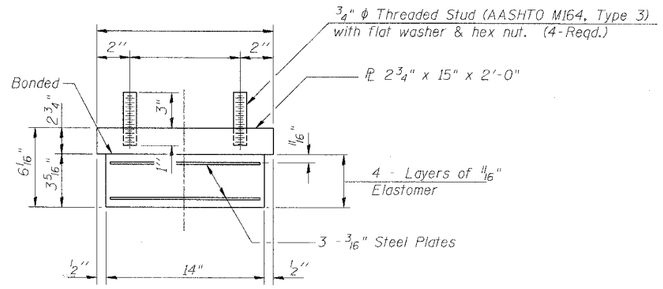


SECTION B-B

FIXED BEARING AT PIER 1



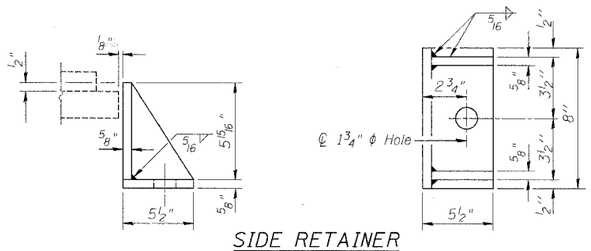
PINTLE



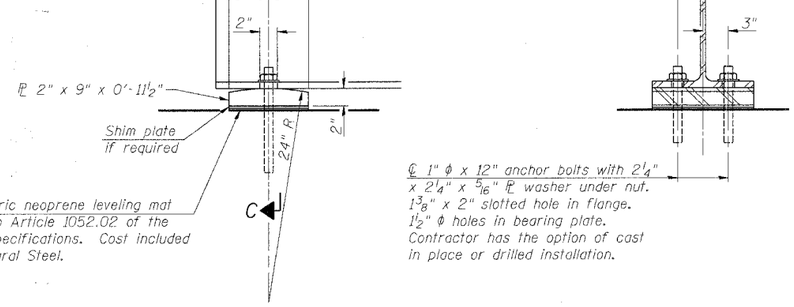
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

Notes:
ASTM F1554 or AASHTO M314 all-thread anchor bolts may be used in lieu of ASTM A307 Grade C.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
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 I.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



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



ELEVATION

SECTION C-C

FIXED BEARING AT ABUTMENTS

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	8
Anchor Bolts 1" ϕ	Each	32
Anchor Bolts 1 1/2" ϕ	Each	32

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BEARING DETAILS
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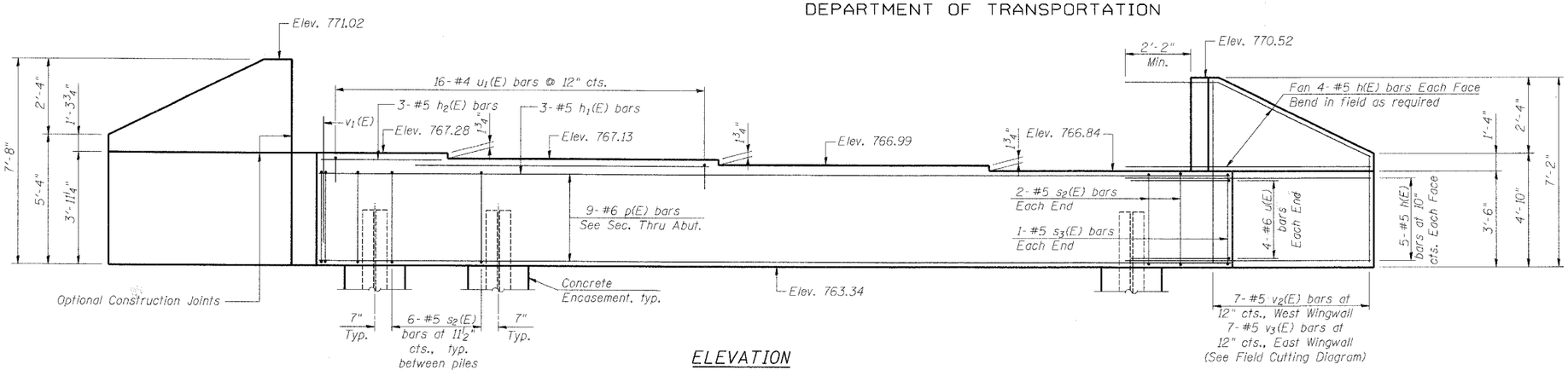
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	25
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

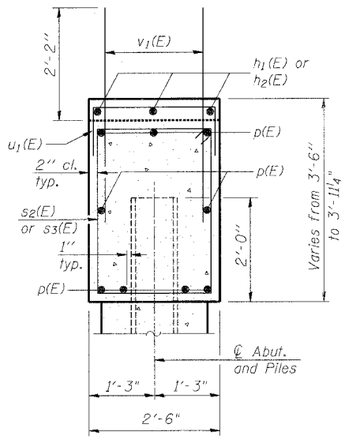
SHEET NO. 15 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



ELEVATION

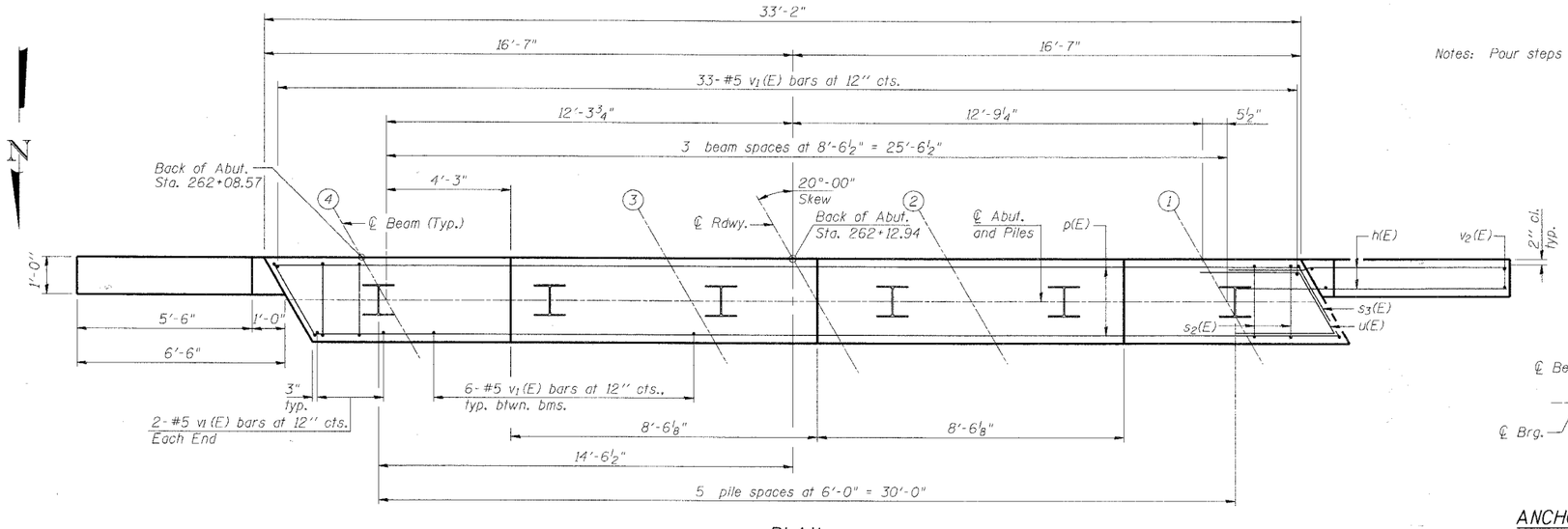
Notes: Pour steps monolithically with cap.



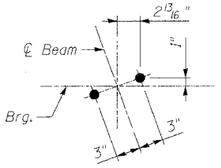
SEC. THRU ABUT.
(Looking West)

MIN. BAR LAP

#5 - 2'-2"
#6 - 2'-7"



PLAN



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

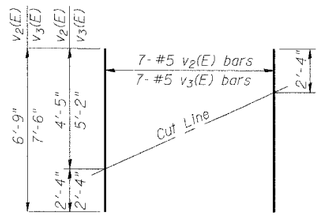
Bar	No.	Size	Length	Shape
h(E)	36	#5	8'-9"	
h1(E)	3	#5	11'-0"	
h2(E)	3	#5	7'-3"	
p(E)	3	#6	32'-9"	
s2(E)	34	#5	11'-7"	
s3(E)	2	#5	11'-11"	
u(E)	8	#6	7'-4"	
u1(E)	16	#4	5'-8"	
v1(E)	55	#5	4'-4"	
v2(E)	7	#5	6'-9"	
v3(E)	7	#5	7'-6"	
Structure Excavation		Cu. Yd.	50	
Concrete Structures		Cu. Yd.	14.4	
Reinforcement Bars, Epoxy Coated		Pound	1,470	
Furnishing Steel Piles HP12x53		Foot	335	
Driving Piles		Foot	335	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

For details of piles and Concrete Encasement, see Sheet 19 of 31.

PILE DATA

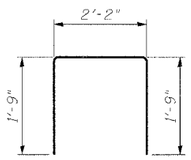
Type: Steel HP12x53 with Pile Shoes
Nominal Required Bearing: 300 kips
Allowable Resistance Available: 100 kips
Est. Length: 67'
No. Production Piles: 5
No. Test Piles: 1

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

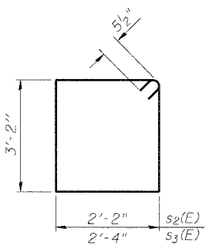


FIELD CUTTING DIAGRAM

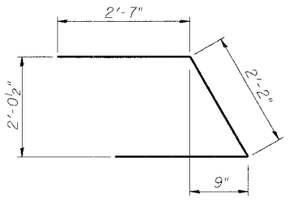
Order v2(E) & v3(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR u1(E)



BARS s2(E) & s3(E)



BAR u(E)

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DUNHAM ROAD OVER
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SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

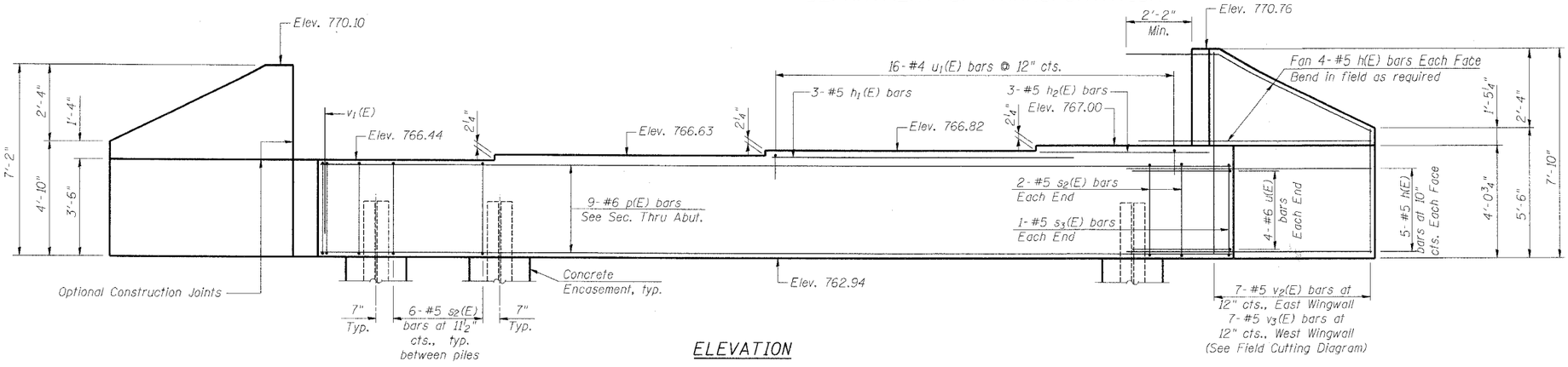
10/11/2007 6:52:14 PM
S:\896\CADD\Structural\SHEETS\896SAB03.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HWY'S NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 350	*	KANE	41	26
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

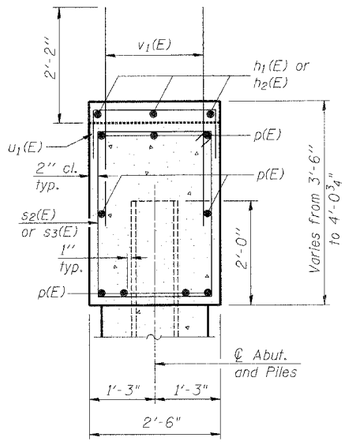
SHEET NO. 16 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



ELEVATION

Notes: Pour steps monolithically with cap.

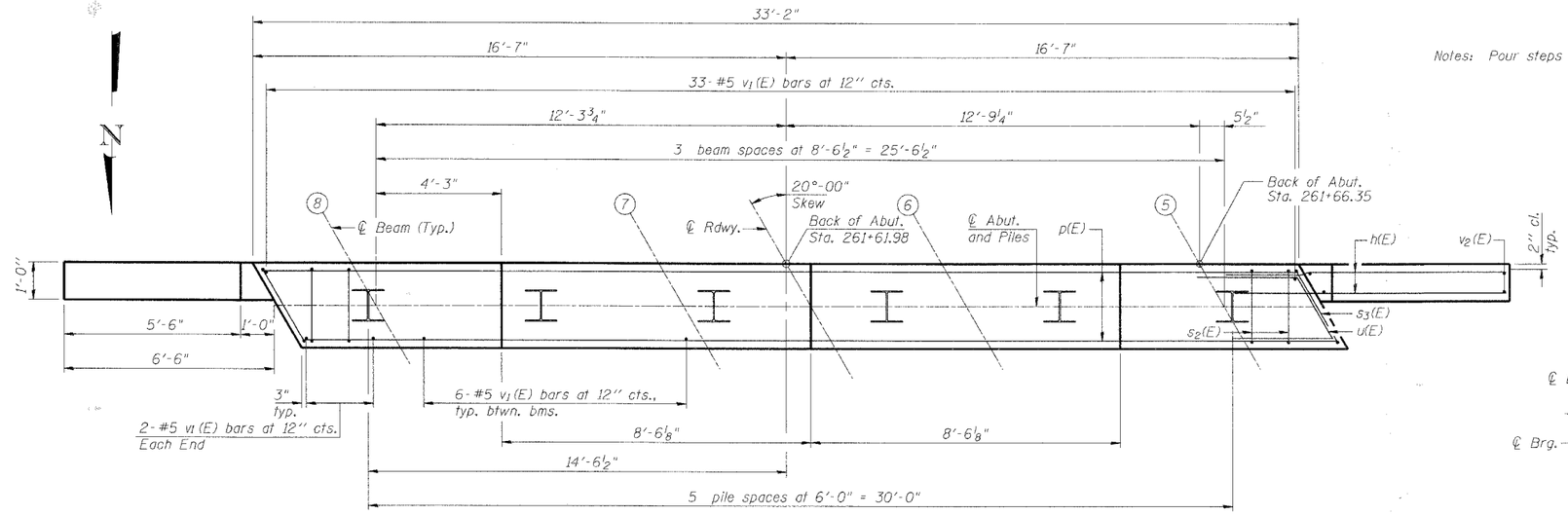


SEC. THRU ABUT.

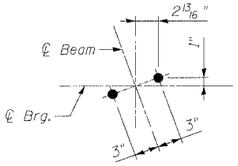
(Looking East)

MIN. BAR LAP

#5 - 2'-2"
#6 - 2'-7"



PLAN



ANCHOR BOLT LAYOUT

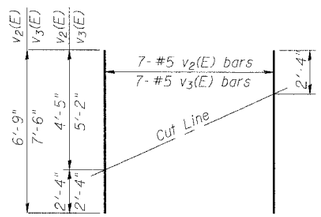
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	36	#5	8'-9"	
h_1(E)	3	#5	11'-0"	
h_2(E)	3	#5	7'-3"	
p(E)	3	#6	32'-9"	
s_2(E)	34	#5	11'-7"	
s_3(E)	2	#5	11'-11"	
u(E)	8	#6	7'-4"	
u_1(E)	16	#4	5'-8"	
v_1(E)	55	#5	4'-4"	
v_2(E)	7	#5	6'-9"	
v_3(E)	7	#5	7'-6"	
Structure Excavation		Cu. Yd.	50	
Concrete Structures		Cu. Yd.	14.6	
Reinforcement Bars, Epoxy Coated		Pound	1,470	
Furnishing Steel Piles HP12x53		Foot	305	
Driving Piles		Foot	305	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

For details of piles and Concrete Encasement, see Sheet 19 of 31.

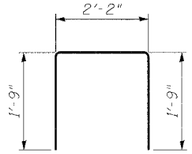
PILE DATA

Type: Steel HP12x53 with Pile Shoes
Nominal Required Bearing: 300 kips
Allowable Resistance Available: 100 kips
Est. Length: 61'
No. Production Piles: 5
No. Test Piles: 1

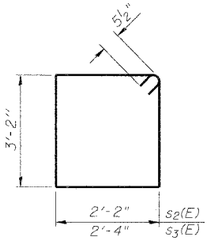


FIELD CUTTING DIAGRAM

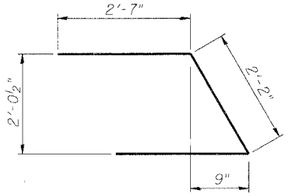
Order v_2(E) & v_3(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR u_1(E)



BARS s_2(E) & s_3(E)



BAR u(E)

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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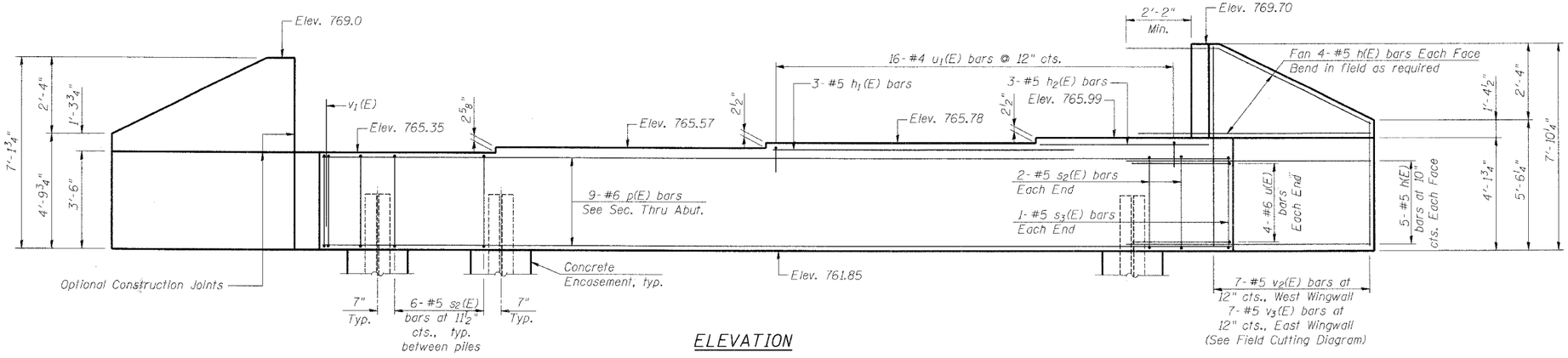
SOUTH ABUTMENT - N.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	27
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

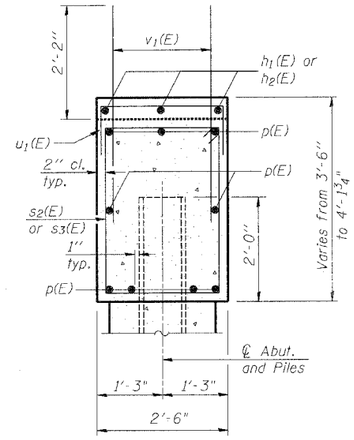
SHEET NO. 17 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



ELEVATION

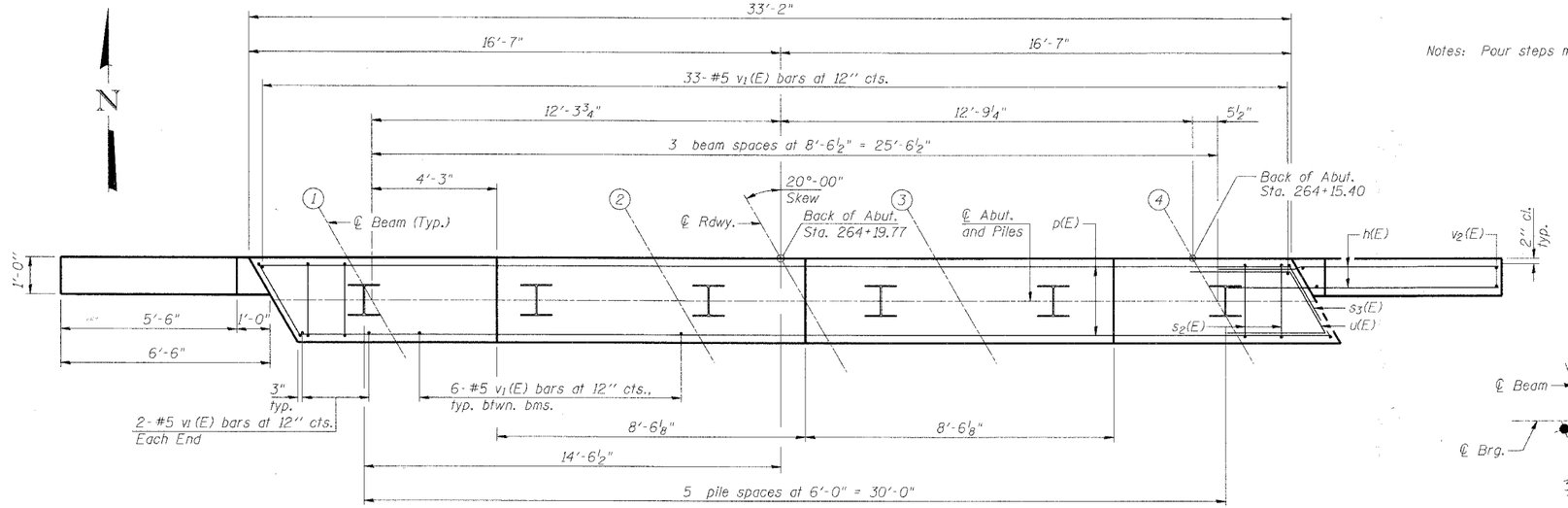
Notes: Pour steps monolithically with cap.



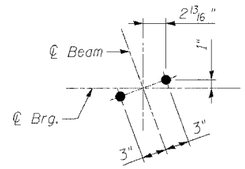
SEC. THRU ABUT.
(Looking West)

MIN. BAR LAP

#5 - 2'-2"
#6 - 2'-7"



PLAN



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

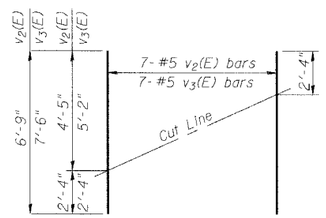
Bar	No.	Size	Length	Shape
h(E)	36	#5	8'-9"	
h1(E)	3	#5	11'-0"	
h2(E)	3	#5	7'-3"	
p(E)	3	#6	32'-9"	
s2(E)	34	#5	11'-7"	
s3(E)	2	#5	11'-11"	
u(E)	8	#6	7'-4"	
u1(E)	16	#4	5'-8"	
v1(E)	55	#5	4'-4"	
v2(E)	7	#5	6'-9"	
v3(E)	7	#5	7'-6"	
Structure Excavation		Cu. Yd.	50	
Concrete Structures		Cu. Yd.	14.8	
Reinforcement Bars, Epoxy Coated		Pound	1,470	
Furnishing Steel Piles HP12x53,		Foot	315	
Driving Piles		Foot	315	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

For details of piles and Concrete Encasement, see Sheet 19 of 31.

PILE DATA

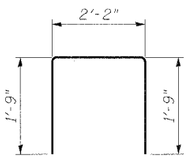
Type: Steel HP12x53 with Pile Shoes
Nominal Required Bearing: 300 kips
Allowable Resistance Available: 100 kips
Est. Length: 63'
No. Production Piles: 5
No. Test Piles: 1

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

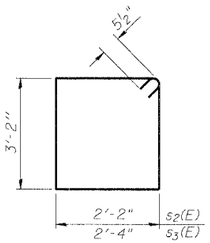


FIELD CUTTING DIAGRAM

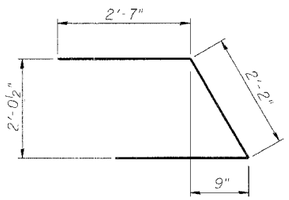
Order v2(E) & v3(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR u1(E)



BARS s2(E) & s3(E)



BAR u(E)

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NORTH ABUTMENT - S.B.
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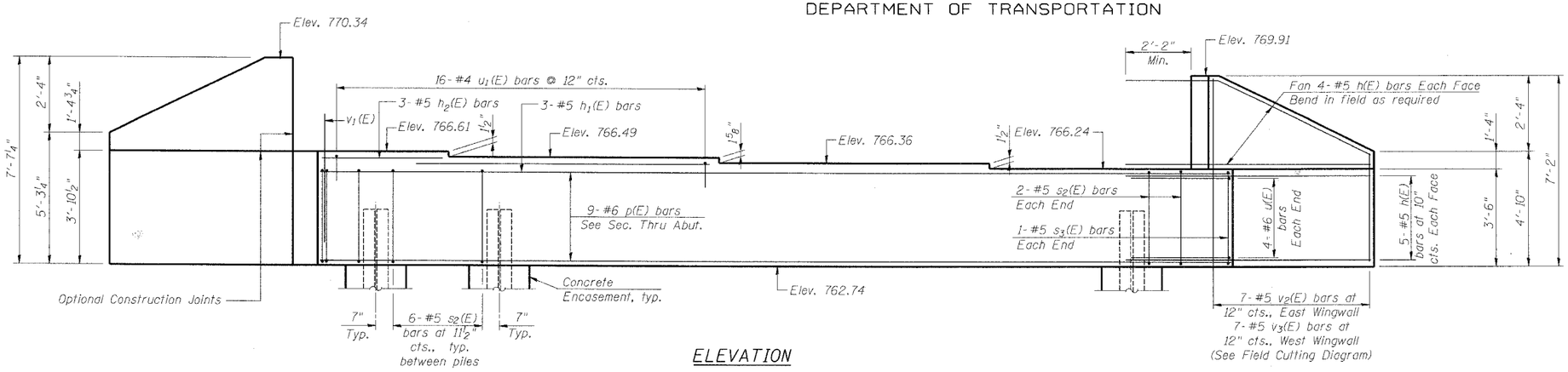
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

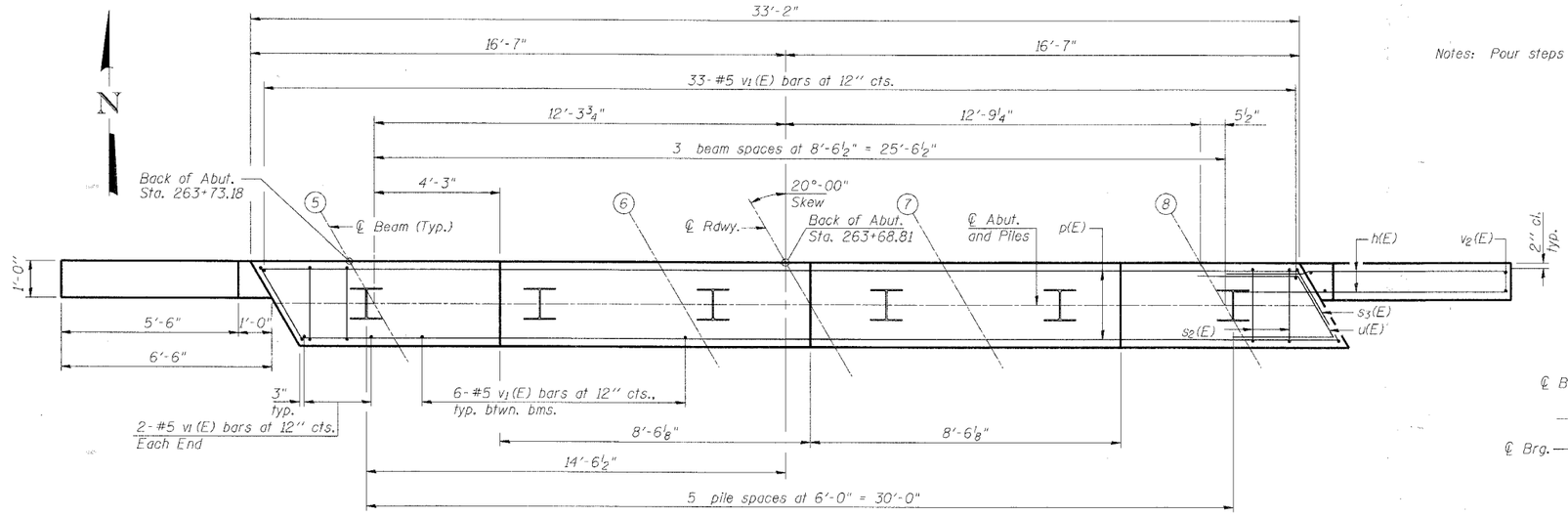
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	28
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT:	

SHEET NO. 18 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

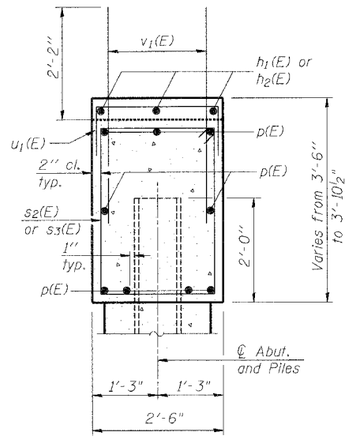


ELEVATION



PLAN

Notes: Pour steps monolithically with cap.



SEC. THRU ABUT.
(Looking East)

MIN. BAR LAP

#5 - 2'-2"
#6 - 2'-7"

BILL OF MATERIAL

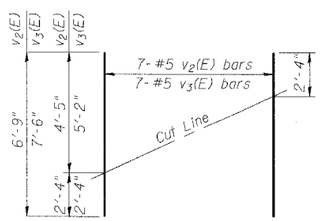
Bar	No.	Size	Length	Shape
h(E)	36	#5	8'-9"	
h1(E)	3	#5	11'-0"	
h2(E)	3	#5	7'-3"	
p(E)	3	#6	32'-9"	
s2(E)	34	#5	11'-7"	
s3(E)	2	#5	11'-11"	
u(E)	8	#6	7'-4"	
u1(E)	16	#4	5'-8"	
v1(E)	55	#5	4'-4"	
v2(E)	7	#5	6'-9"	
v3(E)	7	#5	7'-6"	
Structure Excavation		Cu. Yd.	50	
Concrete Structures		Cu. Yd.	14.3	
Reinforcement Bars, Epoxy Coated		Pound	1,470	
Furnishing Steel Piles HP12x53		Foot	290	
Driving Piles		Foot	290	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

For details of piles and Concrete Encasement, see Sheet 19 of 31.

PILE DATA

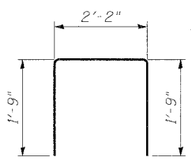
Type: Steel HP12x53 with Pile Shoes
Nominal Required Bearing: 300 kips
Allowable Resistance Available: 100 kips
Est. Length: 58'
No. Production Piles: 5
No. Test Piles: 1

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

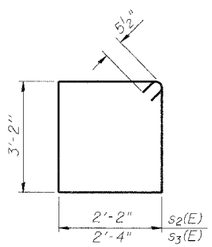


FIELD CUTTING DIAGRAM

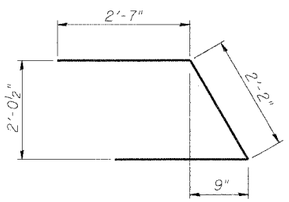
Order v2(E) & v3(E) full length. Cut as shown and use remainder of bars in opposite face.



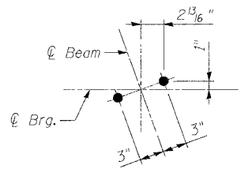
BAR u1(E)



BARS s2(E) & s3(E)



BAR u(E)



ANCHOR BOLT LAYOUT

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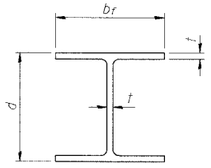
NORTH ABUTMENT - N.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	29
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

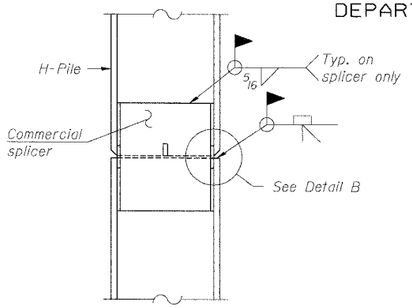
SHEET NO. 19 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

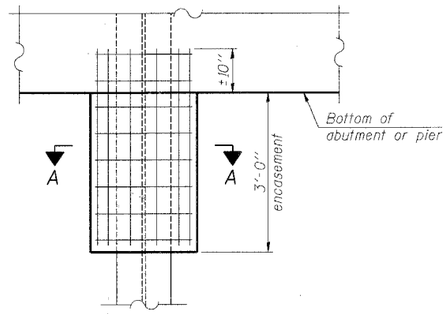


STEEL PILE TABLE

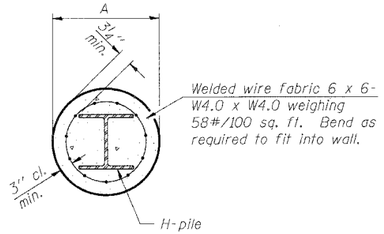
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



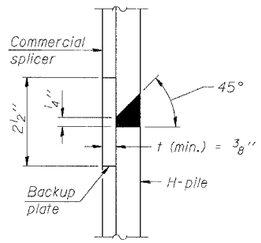
ELEVATION



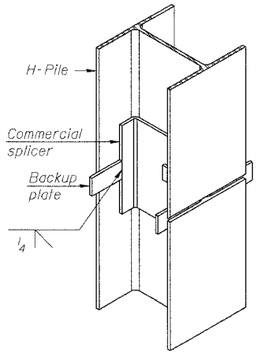
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

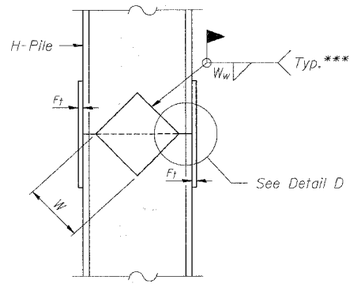


DETAIL "B"

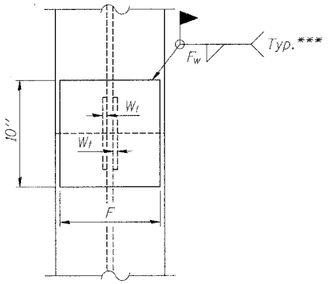


ISOMETRIC VIEW

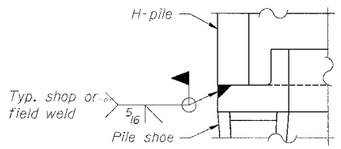
WELDED COMMERCIAL SPLICE



ELEVATION

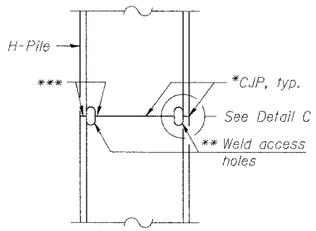


END VIEW

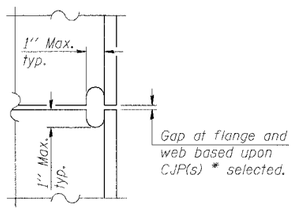


DETAIL A

H-PILE SHOE ATTACHMENT

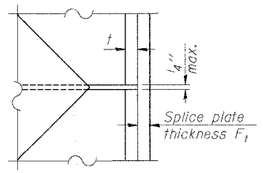


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

*** Interrupt welds 1/4" from end of each pile.

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

F-HP 11-1-06

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H-PILE DETAILS
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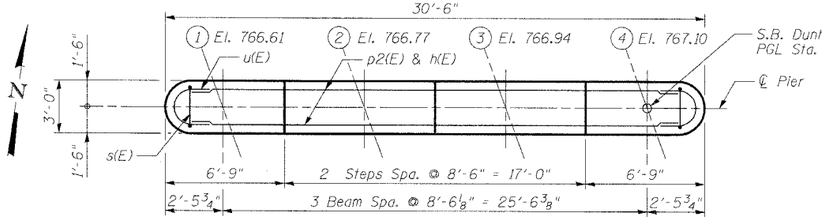
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

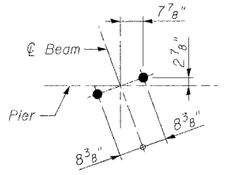
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	30
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 20 OF 31 SHEETS

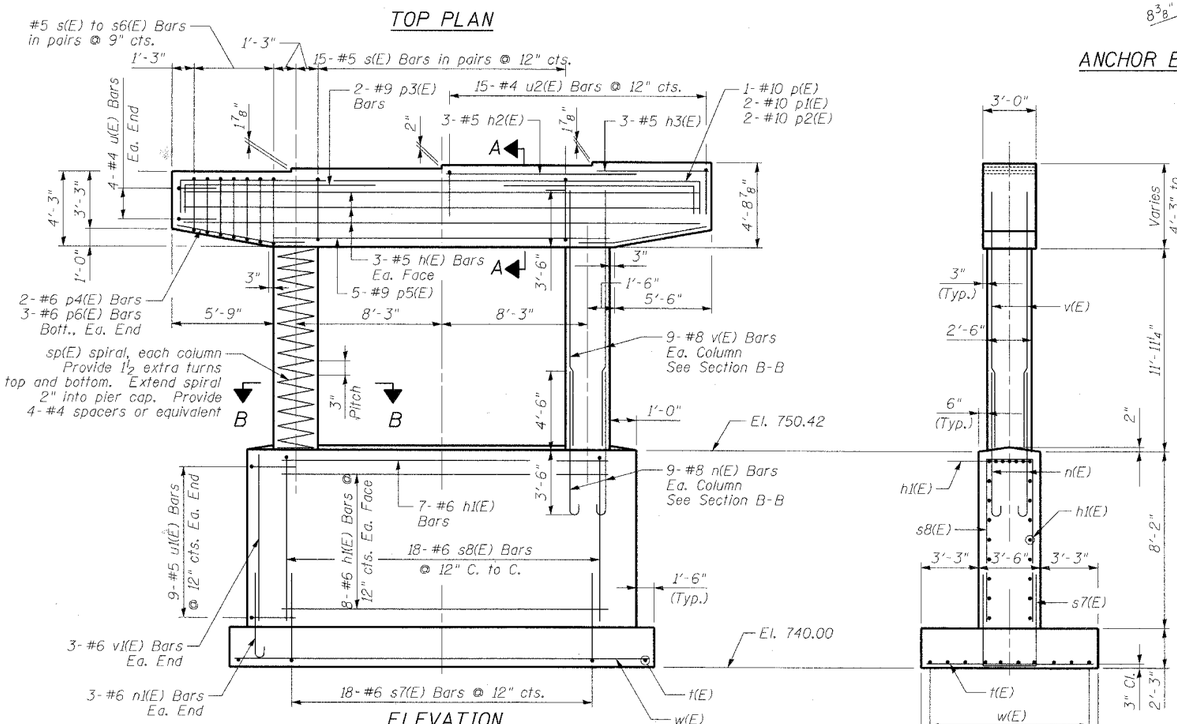
Contract # 83951 * 06-00214-07-BR



TOP PLAN

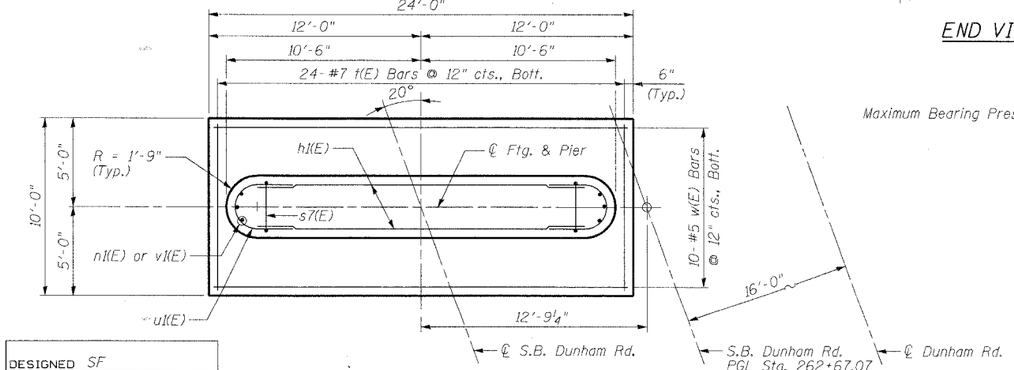


ANCHOR BOLT LAYOUT



ELEVATION
(Looking North)

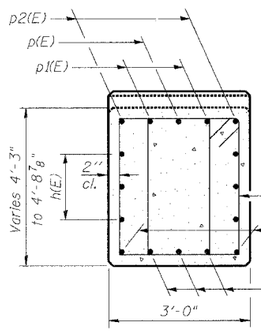
END VIEW



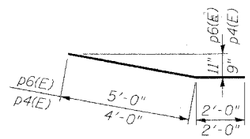
FOOTING PLAN

Maximum Bearing Pressure = 5.5 KSF

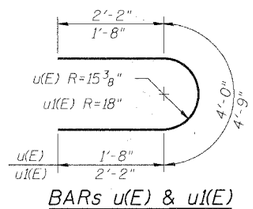
DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF



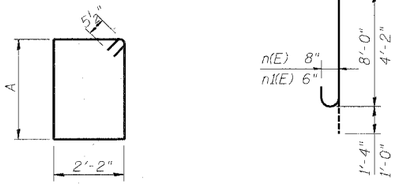
SECTION A-A



BARS p6(E) & p4(E)

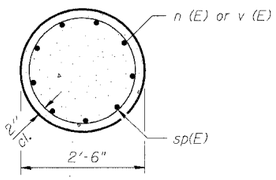


BARs u(E) & u1(E)

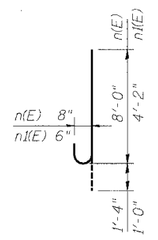


BARS s(E) Thru s6(E)

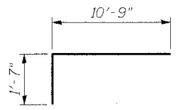
Bar	A
s(E)	3'-11"
s1(E)	3'-10"
s2(E)	3'-8 1/4"
s3(E)	3'-6 3/4"
s4E)	3'-5"
s5(E)	3'-3 1/4"
s6(E)	3'-1 3/4"



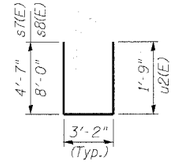
SECTION B-B



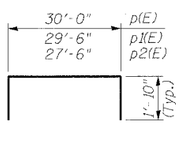
BARS n(E) & n1(E)



BAR p3(E)



BARS s7(E), s8(E) & U2(E)



BARS p(E) Thru p2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	27'-6"	
h1(E)	23	#6	18'-0"	
h2(E)	3	#5	10'-6"	
h3(E)	3	#5	5'-1"	
n(E)	18	#8	9'-4"	
n1(E)	6	#6	5'-2"	
p(E)	1	#10	33'-8"	
p1(E)	2	#10	33'-2"	
p2(E)	2	#10	31'-2"	
p3(E)	4	#9	12'-4"	
p4(E)	4	#6	6'-0"	
p5(E)	5	#9	18'-0"	
p6(E)	6	#6	7'-0"	
s(E)	34	#5	13'-1"	
s1(E)	4	#5	12'-11"	
s2(E)	4	#5	12'-7 1/2"	
s3(E)	4	#5	11'-9"	
s4(E)	4	#5	12'-1"	
s5(E)	4	#5	11'-9 1/2"	
s6(E)	4	#5	11'-6 1/2"	
s7(E)	18	#6	12'-4"	
s8(E)	18	#6	19'-2"	
** sp(E)	2	#3	12'-9"	
u(E)	8	#4	7'-4"	
u1(E)	18	#5	9'-1"	
u2(E)	15	#4	6'-8"	
v(E)	18	#8	15'-5"	
v1(E)	6	#6	8'-0"	
w(E)	10	#5	23'-8"	
t(E)	24	#7	9'-8"	
Structure Excavation		Cu. Yd.	160	
Concrete Structures		Cu. Yd.	60.4	
Reinforcement Bars, Epoxy Coated		Pound	6,130	

** Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

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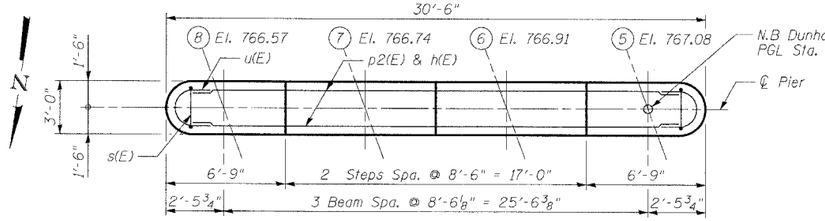
PIER 1 DETAILS - S.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

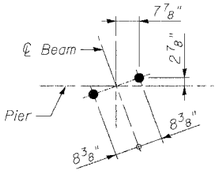
SHEET NO. 21 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

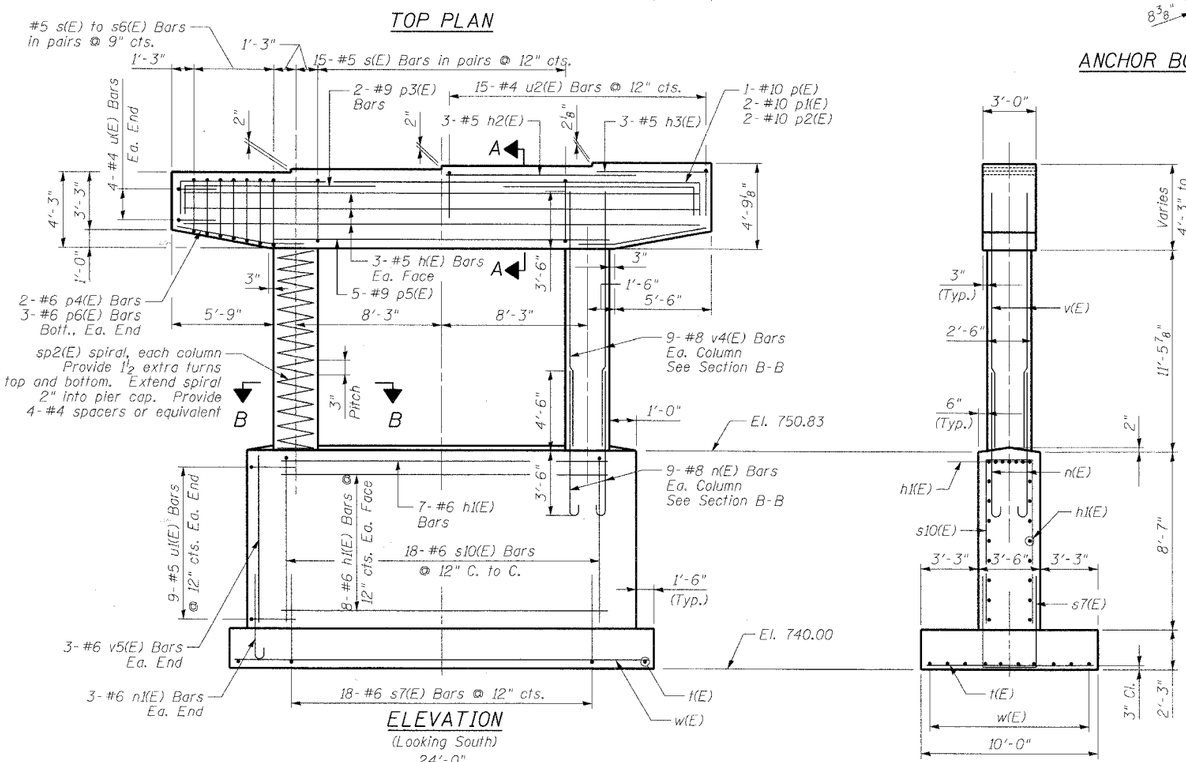
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN

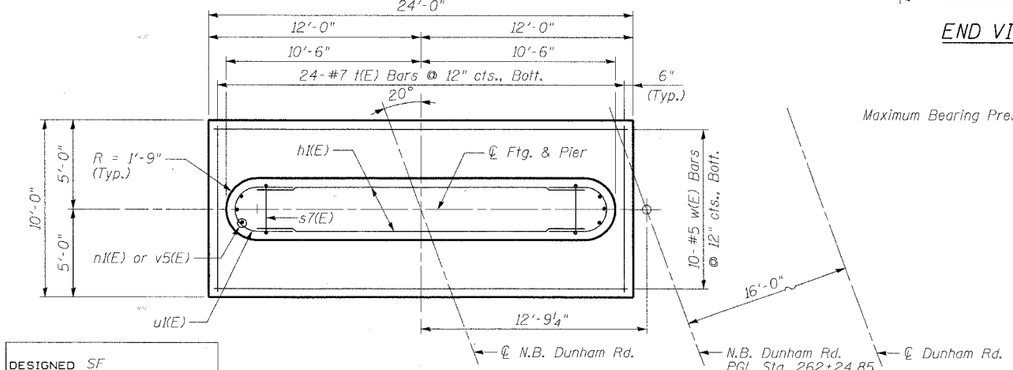


ANCHOR BOLT LAYOUT



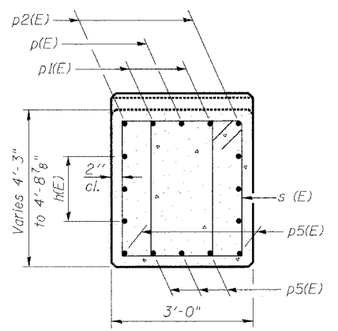
ELEVATION
(Looking South)

END VIEW

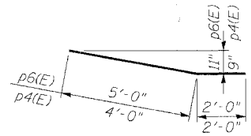


FOOTING PLAN

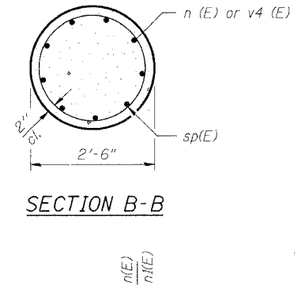
Maximum Bearing Pressure = 5.5 KSF



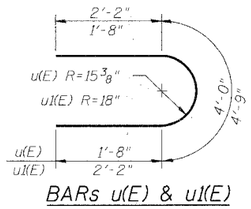
SECTION A-A



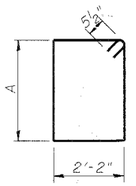
BARS p6(E) & p4(E)



SECTION B-B

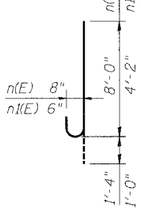


BARs u(E) & u1(E)

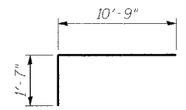


BARS s(E) Thru s6(E)

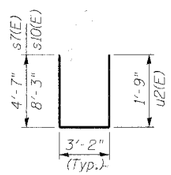
Bar	A
s(E)	3'-11"
s1(E)	3'-10"
s2(E)	3'-8 1/4"
s3(E)	3'-6 3/4"
s4E)	3'-5"
s5(E)	3'-3 1/4"
s6(E)	3'-1 3/4"



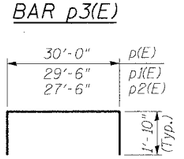
BARS n(E) & n1(E)



BAR p3(E)



BARS s7(E), s10(E) & U2(E)



BARS p(E) Thru p2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	27'-6"	
h1(E)	23	#6	18'-0"	
h2(E)	3	#5	10'-6"	
h3(E)	3	#5	5'-1"	
n(E)	18	#8	9'-4"	
n1(E)	6	#6	5'-2"	
p(E)	1	#10	33'-8"	
p1(E)	2	#10	33'-2"	
p2(E)	2	#10	31'-2"	
p3(E)	4	#9	12'-4"	
p4(E)	4	#6	6'-0"	
p5(E)	5	#9	18'-0"	
p6(E)	6	#6	7'-0"	
s(E)	34	#5	13'-1"	
s1(E)	4	#5	12'-11"	
s2(E)	4	#5	12'-7 1/2"	
s3(E)	4	#5	11'-9"	
s4(E)	4	#5	12'-1"	
s5(E)	4	#5	11'-9 1/2"	
s6(E)	4	#5	11'-6 1/2"	
s7(E)	18	#6	12'-4"	
s10(E)	18	#6	19'-8"	
** sp2(E)	2	#3	12'-3"	
u(E)	8	#4	7'-4"	
u1(E)	18	#5	9'-1"	
u2(E)	15	#4	6'-8"	
v4(E)	18	#8	15'-0"	
v5(E)	6	#6	8'-3"	
w(E)	10	#5	23'-8"	
t(E)	24	#7	9'-8"	
Structure Excavation		Cu. Yd.	189	
Concrete Structures		Cu. Yd.	61.3	
Reinforcement Bars, Epoxy Coated		Pound	6,130	

** Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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CONSULTING ENGINEERS
Chicago, Illinois
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Job No. 896

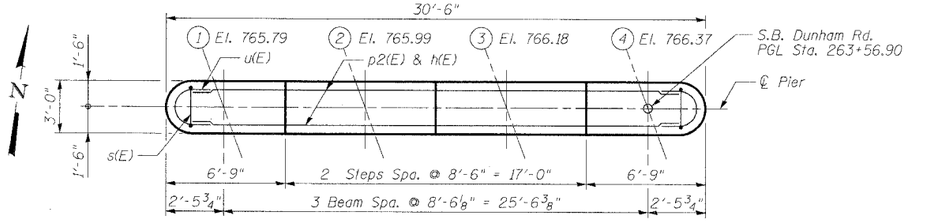
PIER 1 DETAILS - N.B. DUNHAM ROAD OVER THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

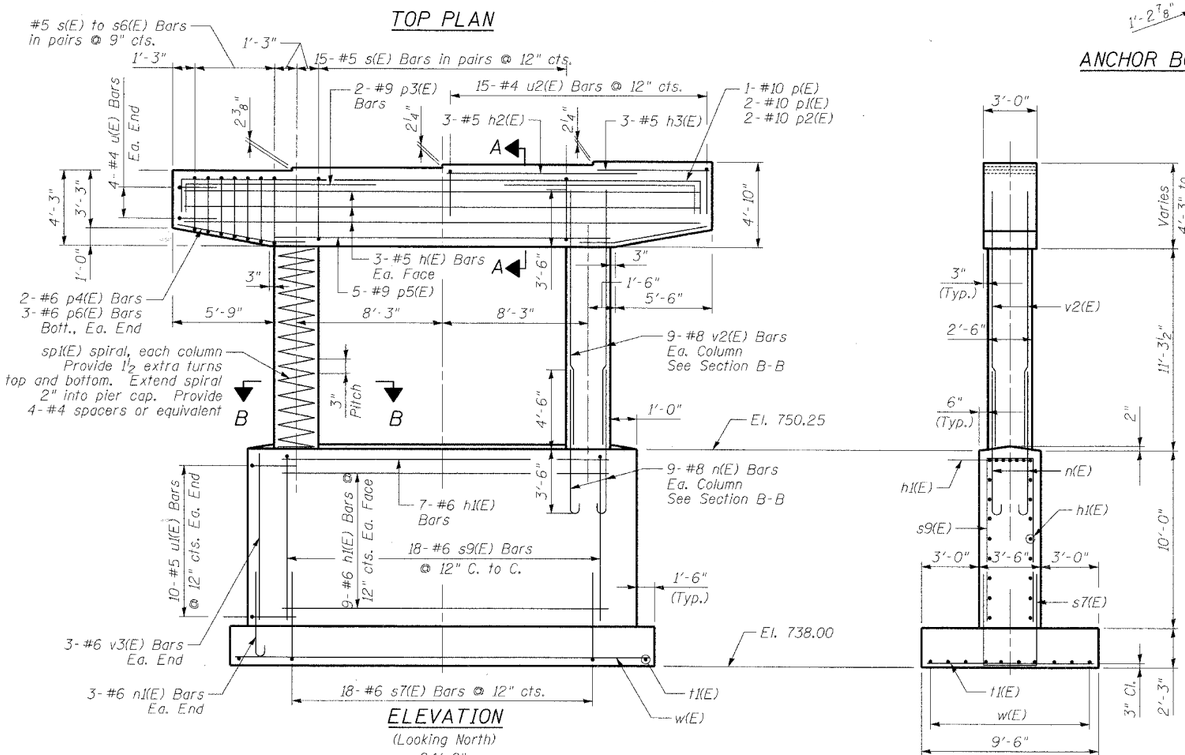
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

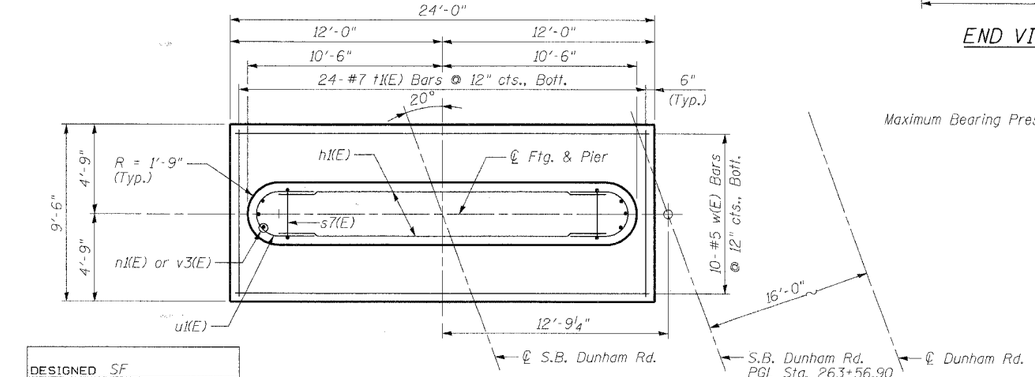


TOP PLAN



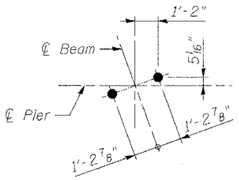
ELEVATION
(Looking North)

END VIEW

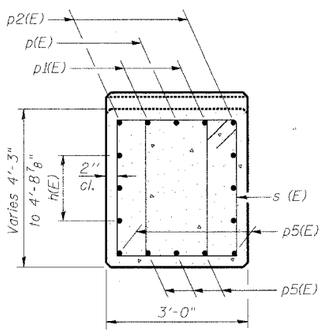


FOOTING PLAN

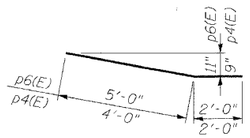
Maximum Bearing Pressure = 5.0 KSF



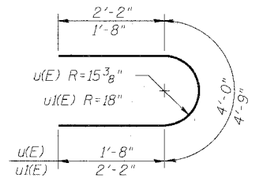
ANCHOR BOLT LAYOUT



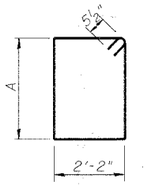
SECTION A-A



BARS p6(E) & p4(E)

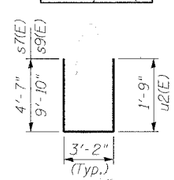


BARs u(E) & u1(E)

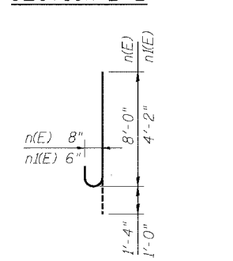


BARS s(E) Thru s6(E)

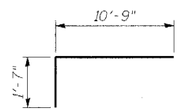
Bar	A
s(E)	3'-11"
s1(E)	3'-10"
s2(E)	3'-8 1/4"
s3(E)	3'-6 3/4"
s4(E)	3'-5"
s5(E)	3'-3 1/4"
s6(E)	3'-1 3/4"



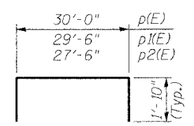
BARS s7(E), s9(E) & U2(E)



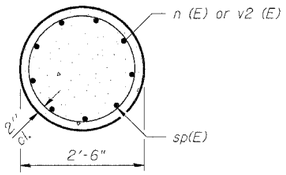
BARS n(E) & n1(E)



BAR p3(E)



BARS p(E) Thru p2(E)



SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	27'-6"	
h1(E)	25	#6	18'-0"	
h2(E)	3	#5	10'-6"	
h3(E)	3	#5	5'-1"	
n(E)	18	#8	9'-4"	
n1(E)	6	#8	5'-2"	
p(E)	1	#10	33'-8"	
p1(E)	2	#10	33'-2"	
p2(E)	2	#10	31'-2"	
p3(E)	4	#9	12'-4"	
p4(E)	4	#6	6'-0"	
p5(E)	5	#9	18'-0"	
p6(E)	6	#6	7'-0"	
s(E)	34	#5	13'-1"	
s1(E)	4	#5	12'-11"	
s2(E)	4	#5	12'-7½"	
s3(E)	4	#5	11'-9"	
s4(E)	4	#5	12'-1"	
s5(E)	4	#5	11'-9½"	
s6(E)	4	#5	11'-6½"	
s7(E)	18	#6	12'-4"	
s9(E)	18	#6	22'-10"	
** sp1(E)	2	#3	12'-3"	
u(E)	8	#4	7'-4"	
u1(E)	20	#5	9'-1"	
u2(E)	15	#4	6'-8"	
v2(E)	18	#8	14'-9"	
v3(E)	6	#6	9'-10"	
w(E)	10	#5	23'-8"	
t1(E)	24	#7	9'-2"	
Structure Excavation		Cu. Yd.	189	
Concrete Structures		Cu. Yd.	64.1	
Reinforcement Bars, Epoxy Coated		Pound	6,180	

** Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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CONSULTING ENGINEERS
Chicago, Illinois
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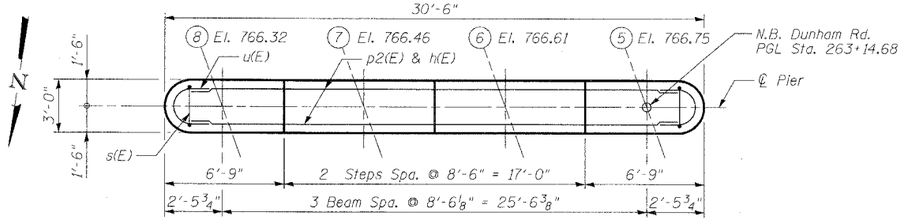
PIER 2 DETAILS - S.B. DUNHAM ROAD OVER THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

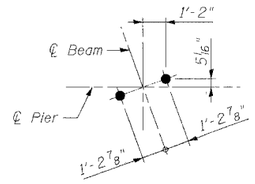
SHEET NO. 23 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

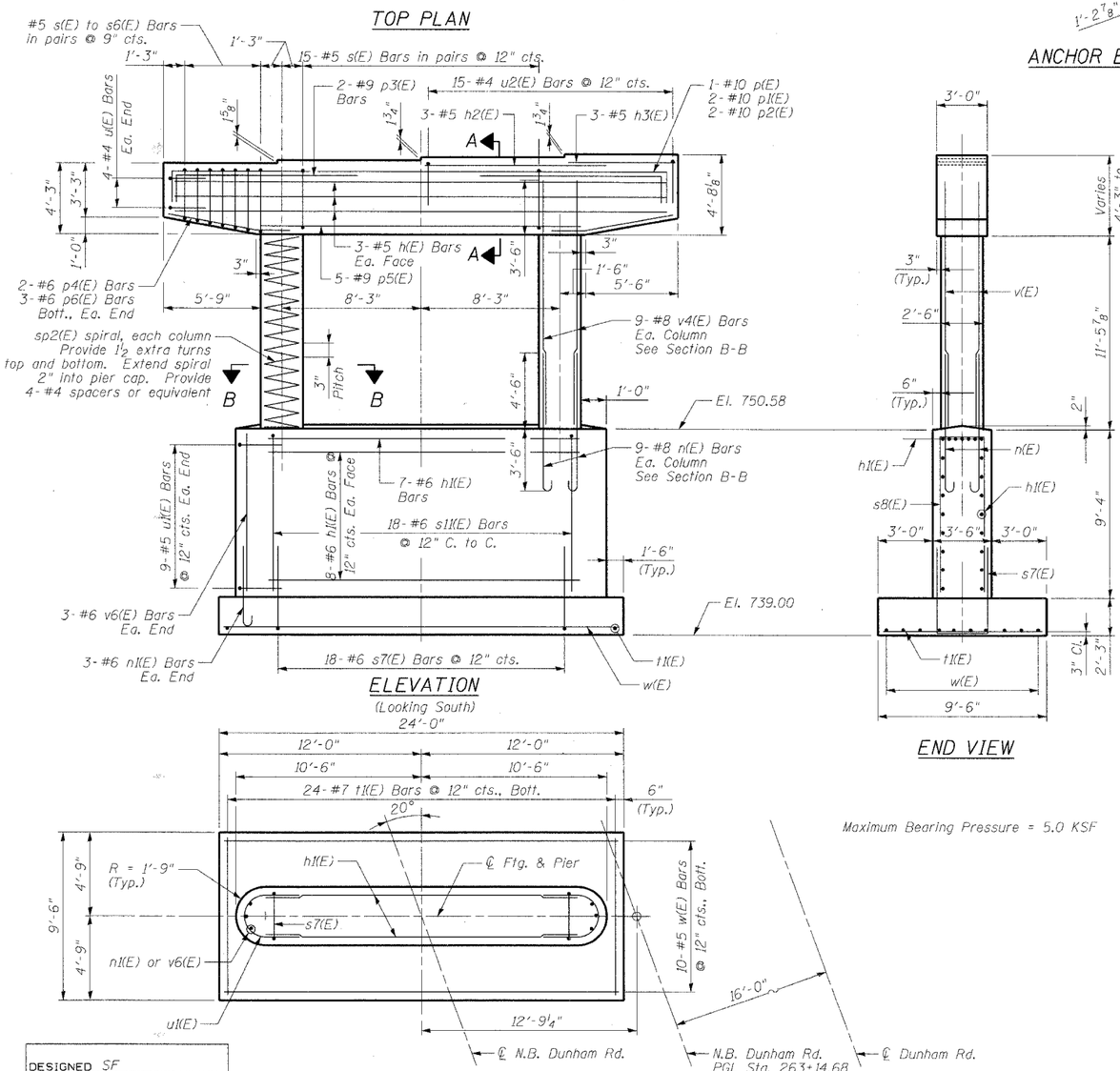
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN



ANCHOR BOLT LAYOUT

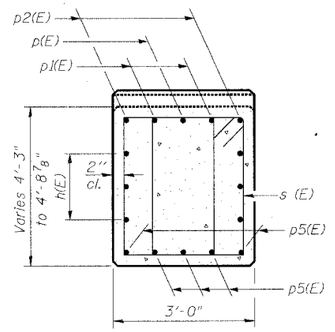


ELEVATION
(Looking South)

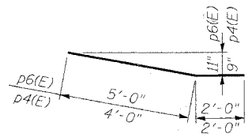
END VIEW

FOOTING PLAN

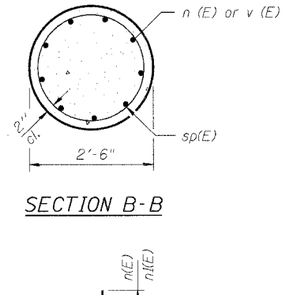
Maximum Bearing Pressure = 5.0 KSF



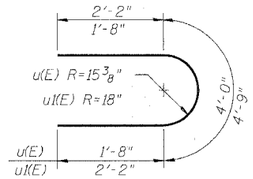
SECTION A-A



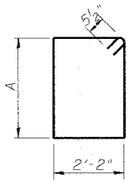
BARS p6(E) & p4(E)



SECTION B-B



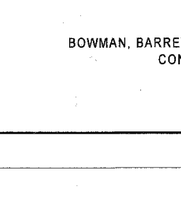
BARs u(E) & u1(E)



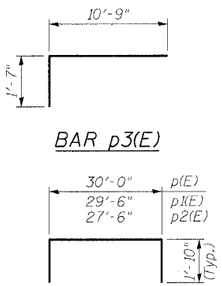
BARS s(E) Thru s6(E)

Bar	A
s(E)	3'-11"
s1(E)	3'-10"
s2(E)	3'-8 1/4"
s3(E)	3'-6 3/4"
s4(E)	3'-5"
s5(E)	3'-3 1/4"
s6(E)	3'-1 3/4"

BARS n(E) & n1(E)



BARS s7(E), s11(E) & U2(E)



BAR p3(E)

BARS p(E) Thru p2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#5	27'-6"	
h1(E)	23	#6	18'-0"	
h2(E)	3	#5	10'-6"	
h3(E)	3	#5	5'-1"	
n(E)	18	#8	9'-4"	
n1(E)	6	#6	5'-2"	
p(E)	1	#10	33'-8"	
p1(E)	2	#10	33'-2"	
p2(E)	2	#10	31'-2"	
p3(E)	4	#9	12'-4"	
p4(E)	4	#6	6'-0"	
p5(E)	5	#9	18'-0"	
p6(E)	6	#6	7'-0"	
s(E)	34	#5	13'-1"	
s1(E)	4	#5	12'-11"	
s2(E)	4	#5	12'-7 1/2"	
s3(E)	4	#5	11'-9"	
s4(E)	4	#5	12'-1"	
s5(E)	4	#5	11'-9 1/2"	
s6(E)	4	#5	11'-6 1/2"	
s7(E)	18	#6	12'-4"	
s11(E)	18	#6	21'-6"	
** sp2(E)	2	#3	12'-3"	
u(E)	8	#4	7'-4"	
u1(E)	18	#5	9'-1"	
u2(E)	15	#4	6'-8"	
v4E)	18	#8	15'-0"	
v6(E)	6	#6	9'-0"	
w(E)	10	#5	23'-8"	
t1(E)	24	#7	9'-2"	
Structure Excavation			Cu. Yd.	189
Concrete Structures			Cu. Yd.	62.2
Reinforcement Bars, Epoxy Coated			Pound	6,160

** Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

DESIGNED	SF
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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Job No. 896

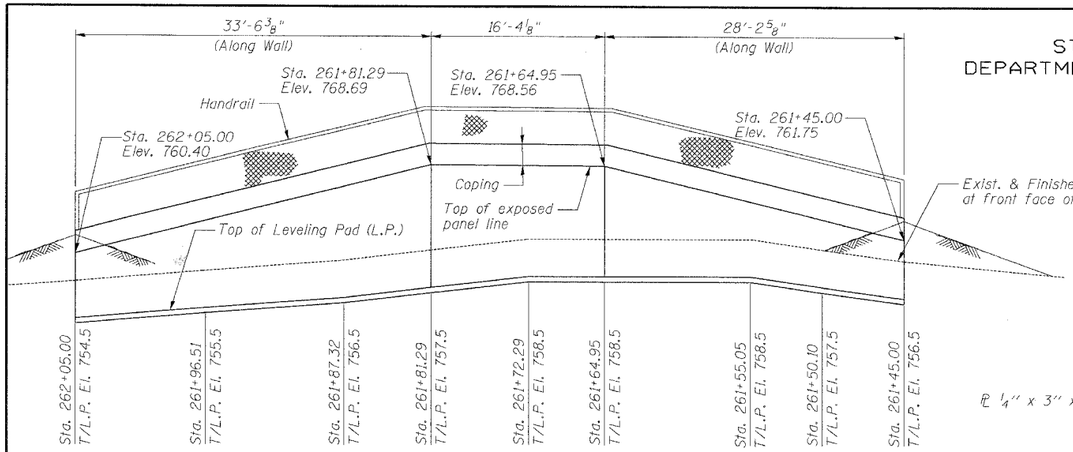
PIER 2 DETAILS - N.B.
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

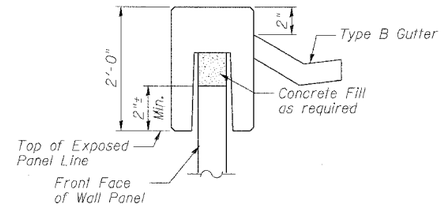
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24 OF 31 SHEETS

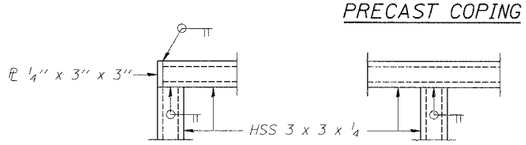
Contract # 83951 * 06-00214-07-BR



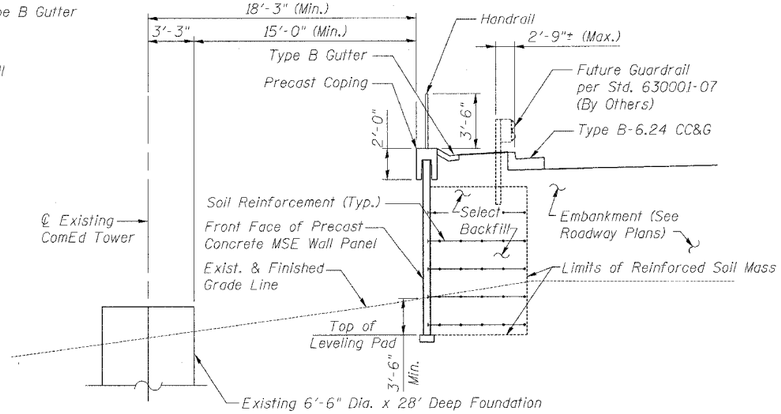
ELEVATION
(Looking East)



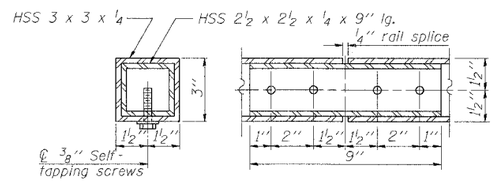
PRECAST COPING



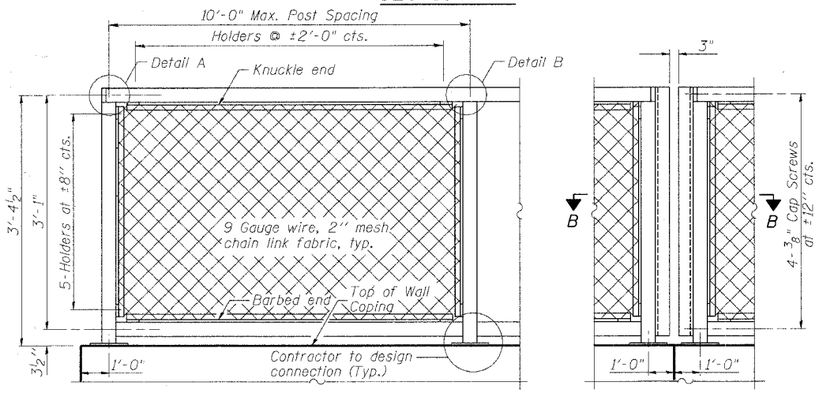
DETAIL A DETAIL B



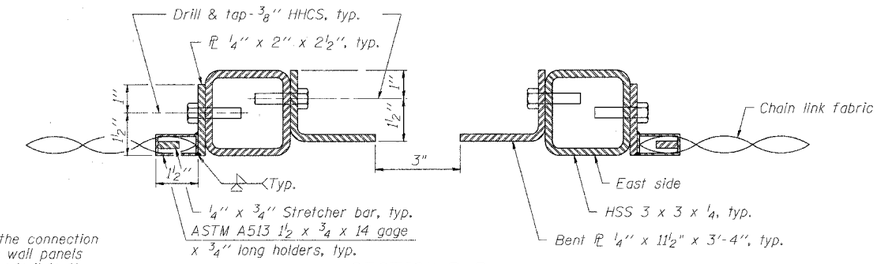
SECTION A-A



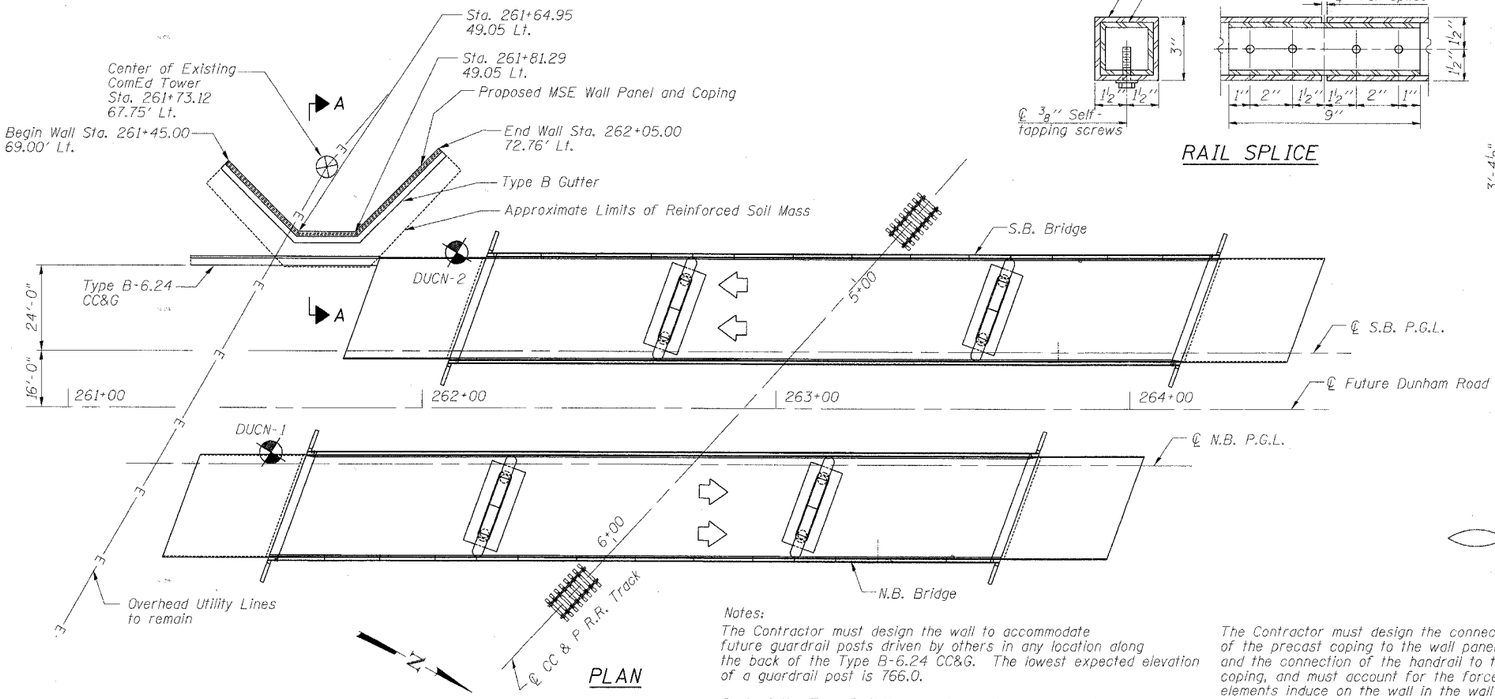
RAIL SPLICE



HANDRAIL ELEVATION ELEVATION AT WALL KINKS



SECTION B-B



PLAN

LEGEND

- Soil Boring

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

Notes:

The Contractor must design the wall to accommodate future guardrail posts driven by others in any location along the back of the Type B-6.24 CC&G. The lowest expected elevation of a guardrail post is 766.0.

Cost of the Type B Gutter and handrail along the entire wall length is included in the cost of Mechanically Stabilized Earth Retaining Wall.

Stations and offsets are measured from ℄ Future Dunham Road to the front face of MSE wall panel.

The Contractor may use precast coping sections with a constant height other than the 2'-0" height shown, subject to approval of the Engineer, although no adjustment in the quantity of Mechanically Stabilized Earth Retaining Wall to accommodate an alternate coping height will be allowed.

The Contractor must design the connection of the precast coping to the wall panels and the connection of the handrail to the coping, and must account for the forces these elements induce on the wall in the wall design.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

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MSE RETAINING WALL
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

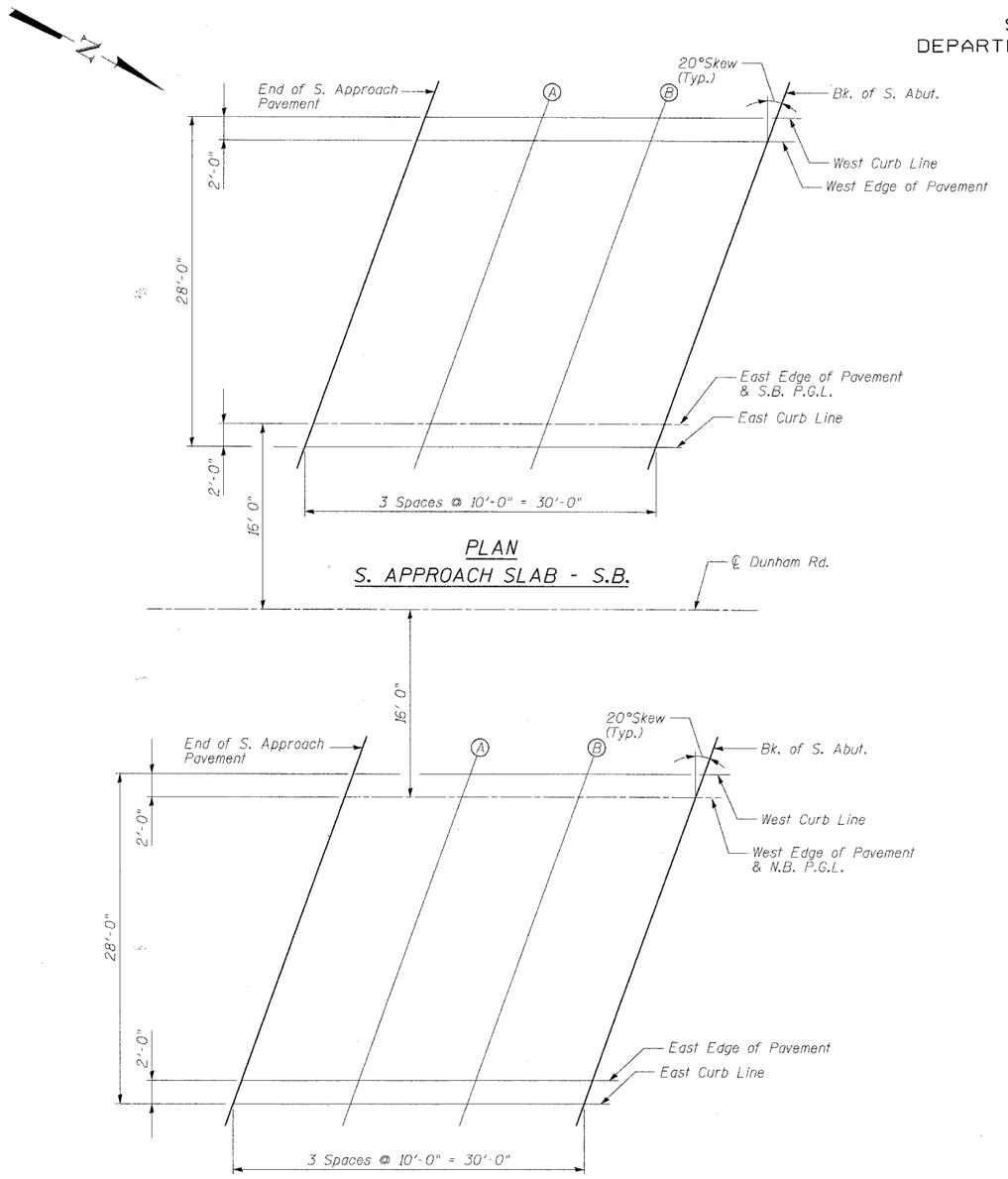
10/11/2007 6:49:43 PM
S:\896\CADD\Structural\SHEETS\896SRW01.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	35
FED. ROAD DIST. NO. 7		ILLINOIS	FED. RD. PROJECT-	

SHEET NO. 25 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



PLAN
S. APPROACH SLAB - S.B.

PLAN
S. APPROACH SLAB - N.B.

S. APPROACH SLAB S.B. LANES

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+88.03	-42.00	770.36
A	261+98.03	-42.00	770.42
B	262+08.03	-42.00	770.47
Bk. S. Abut.	262+18.03	-42.00	770.51

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+87.30	-40.00	770.39
A	261+97.30	-40.00	770.46
B	262+07.30	-40.00	770.51
Bk. S. Abut.	262+17.30	-40.00	770.55

EAST EDGE OF PAVEMENT & S.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+78.57	-16.00	770.81
A	261+88.57	-16.00	770.88
B	261+98.57	-16.00	770.94
Bk. S. Abut.	262+08.57	-16.00	770.99

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+77.84	-14.00	770.85
A	261+87.84	-14.00	770.92
B	261+97.84	-14.00	770.98
Bk. S. Abut.	262+07.84	-14.00	771.03

S. APPROACH SLAB N.B. LANES

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+37.08	14.00	770.45
A	261+47.08	14.00	770.56
B	261+57.08	14.00	770.66
Bk. S. Abut.	261+67.08	14.00	770.76

WEST EDGE OF PAVEMENT & N.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+36.35	16.00	770.40
A	261+46.35	16.00	770.51
B	261+56.35	16.00	770.62
Bk. S. Abut.	261+66.35	16.00	770.71

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+27.61	40.00	769.81
A	261+37.61	40.00	769.93
B	261+47.61	40.00	770.05
Bk. S. Abut.	261+57.61	40.00	770.15

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End S. Appr. Pav't.	261+26.88	42.00	769.76
A	261+36.88	42.00	769.88
B	261+46.88	42.00	770.00
Bk. S. Abut.	261+56.88	42.00	770.10

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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Job No. 896

TOP OF SOUTH APPROACH
SLAB ELEVATIONS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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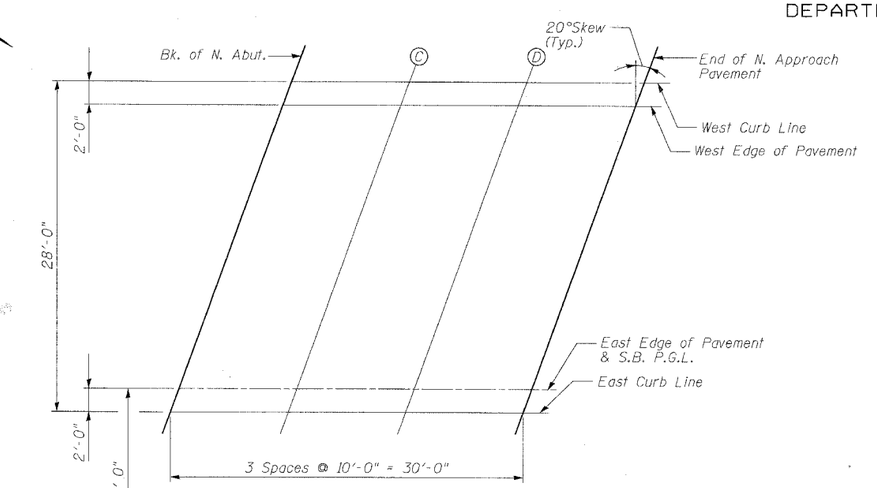
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	36
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 26 OF 31 SHEETS

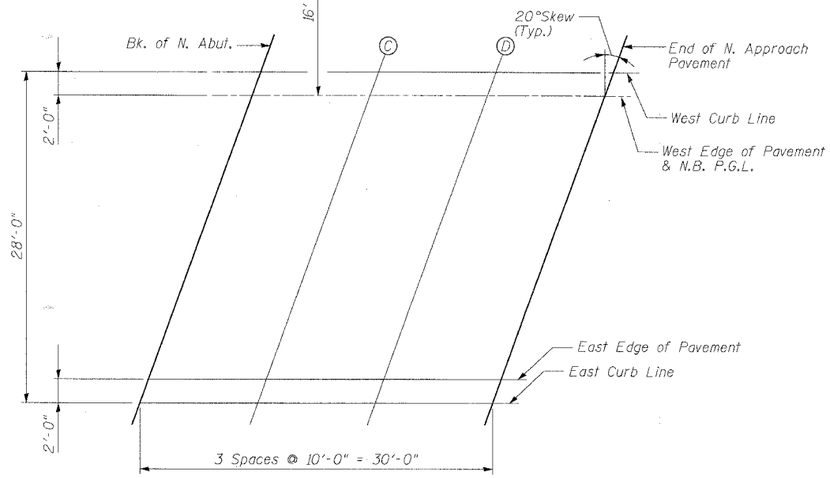
Contract # 83951 * 06-00214-07-BR



PLAN
N. APPROACH SLAB - S.B.

℄ Dunham Rd.

16' 0"



PLAN
N. APPROACH SLAB - N.B.

N. APPROACH SLAB S.B. LANES

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	264+24.87	-42.00	768.99
C	264+34.87	-42.00	768.81
D	264+44.87	-42.00	768.61
End N. Appr. Pav't.	264+54.87	-42.00	768.40

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	264+24.14	-40.00	769.05
C	264+34.14	-40.00	768.86
D	264+44.14	-40.00	768.66
End N. Appr. Pav't.	264+54.14	-40.00	768.46

EAST EDGE OF PAVEMENT & S.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	264+15.40	-16.00	769.68
C	264+25.40	-16.00	769.50
D	264+35.40	-16.00	769.32
End N. Appr. Pav't.	264+45.40	-16.00	769.12

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	264+14.67	-14.00	769.73
C	264+24.67	-14.00	769.56
D	264+34.67	-14.00	769.37
End N. Appr. Pav't.	264+44.67	-14.00	769.17

N. APPROACH SLAB N.B. LANES

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	263+73.91	14.00	770.34
C	263+83.91	14.00	770.21
D	263+93.91	14.00	770.07
End N. Appr. Pav't.	264+03.91	14.00	769.91

WEST EDGE OF PAVEMENT & N.B. P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	263+73.18	16.00	770.31
C	263+83.18	16.00	770.18
D	263+93.18	16.00	770.04
End N. Appr. Pav't.	264+03.18	16.00	769.88

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	263+64.45	40.00	769.94
C	263+74.45	40.00	769.82
D	263+84.45	40.00	769.68
End N. Appr. Pav't.	263+94.45	40.00	769.54

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. N. Abut.	263+63.72	42.00	769.91
C	263+73.72	42.00	769.79
D	263+83.72	42.00	769.65
End N. Appr. Pav't.	263+93.72	42.00	769.51

DESIGNED	SLV
CHECKED	BAK
DRAWN	MTR
CHECKED	SF

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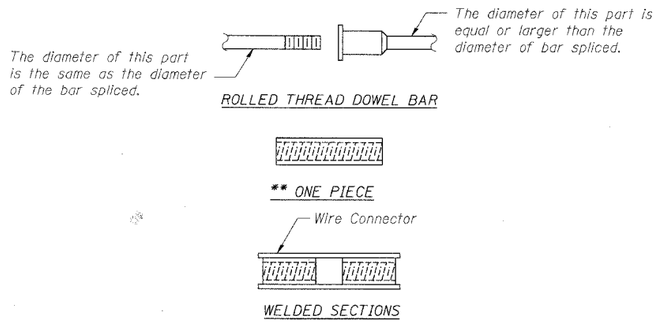
TOP OF NORTH APPROACH SLAB ELEVATIONS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	37
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

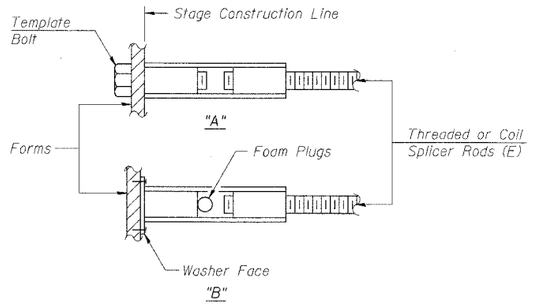
SHEET NO. 27 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

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

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

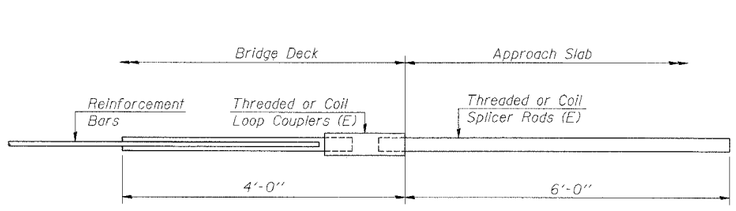
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times fy \times A_t$

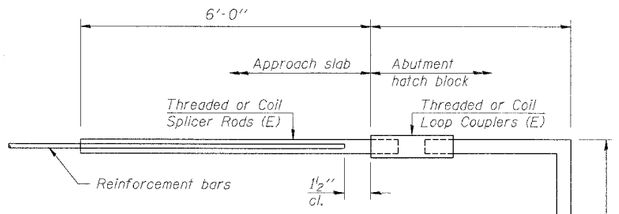
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



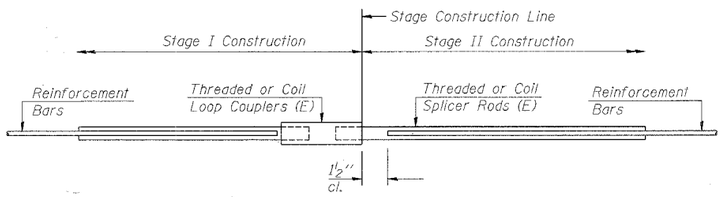
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 116



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

BSD-1 11-1-06

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BAR SPLICER ASSEMBLY DETAILS
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 28 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 2
Date Started 8/17/04
Date Completed 8/17/04

ROUTE F.A.P. 360 DESCRIPTION Dunham Road Bridge over CC & P Railroad
SECT. 98-00214-02-BR STRUCT. NO. 045-3169 DRILLED BY TSC L-60,393
COUNTY Kane LOCATION West End NB South Abutment S 1 - SE 1/4 , TWP. 40 N , RNG. 8 E

Boring No. DUCN-1
Station 261+57
Offset 12.00ft RT
Surface Elev. 762.50 ft

Surface Water Elev. —
Groundwater Elev.:
when drilling 736.5
at Completion 741.5
after — Hrs. —

DEPTH	BLOWS	Qu tsf	W %
Dark brown clayey Topsoil			
761.50			
	3 5 6	P 4.5	16.3
Hard brown CLAY LOAM, trace gravel, moist A-6			
	3 5 7	P 4.5	15.3
757.50 -5			
	12 17 18		3.2
	6 16 21		3.7
-10 Dense brown SAND and GRAVEL, damp A-1-a			
	6 16 20		3.2
	30 21 30		5.7
-15			
	6 12 20		3.4
744.50			
Medium dense to dense brown fine SAND, damp A-3	40 12 15		3.3
-20 742.00			
Dense brown SAND, little to some gravel, saturated A-1-b	16 17 20		12.0
739.50			
Medium dense brown SAND, trace gravel, saturated A-1-b	16 8 9		9.0
737.50 -25			

DEPTH	BLOWS	Qu tsf	W %
Medium dense brown SAND and GRAVEL, saturated A-1-a	6 6 12		9.3
734.50			
Very stiff brown CLAY LOAM, trace gravel, moist A-4/A-6	23 10 12	B 2.5 15%	11.2
-30 732.00			
Stiff gray CLAY LOAM, trace gravel, moist A-6	3 3 4	B 1.8 15%	11.0
729.50			
	6 5 8	B 3.3 15%	14.4
-35			
Very stiff gray CLAY, trace gravel, moist A-6	7 8 15	B 3.4 15%	13.9
	6 8 15	B 3.9 15%	12.9
-40			
	9 11 15	B 3.1 15%	13.3
719.50			
	9 12 15	B 4.6 15%	13.3
-45 Hard gray CLAY, trace gravel, moist A-6			
	9 12 14	B 6.0 15%	12.0
714.50			
Very stiff gray CLAY, trace gravel, moist A-6	3 8 12	B 3.5 15%	12.6
-50 712.50			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 2 of 2
Date Started 8/17/04
Date Completed 8/17/04

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Boring No. DUCN-1
Station 261+57
Offset 12.00ft RT
Elevation 712.50 ft

DEPTH	BLOWS	Qu tsf	W %
-65	10 17 26	B 4.5 15%	13.3
Hard gray CLAY, trace gravel, moist A-6			
-60	8 11 16	B 5.4 15%	12.3
	9 17 20	B 4.0 15%	13.1
-65			
	9 21 23	B 4.5 15%	12.9
-70 689.50			
Stiff dark gray CLAY, trace organic, moist to very moist A-6/A-7-6	6 11 13	B 1.2 15%	23.1
-75			

Elevation 687.50 ft

DEPTH	BLOWS	Qu tsf	W %
Stiff dark gray CLAY, trace organic, moist to very moist A-6/A-7-6			
685.50			
Medium dense dark gray and brown silty SAND and GRAVEL, trace organic, saturated A-1	5 7 9		11.2
-80 682.00			
Very dense to dense brown silty SAND and GRAVEL, occasional Cobbles, (rock fragments recovered), saturated A-1/A-2	50/4"		19.9
	6 12 24		15.4
677.50 -85			
End of Boring at 85.0'			
CME 850 Track ATV Drill Rig (#127)			
CME Automatic Hammer			
3.25" (83 mm) ID HSA			
-90			
-95			
-100			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

BORING DUCN-1

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Job No. 896

SOIL BORING LOGS 1
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	39
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 29 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 2
Date Started 8/18/04
Date Completed 8/19/04

ROUTE F.A.P. 360 DESCRIPTION Dunham Road Bridge over CC & P Railroad
SECT. 98-00214-02-BR STRUCT. NO. 045-3169 DRILLED BY TSC L-60,393
COUNTY Kane LOCATION West End SB South Abutment S. 1 - SE 1/4 , TWP. 40 N. , RNG. 8 E

Boring No. DUCN-2
Station 262+10
Offset 44.00ft LT
Surface Elev. 759.60 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 735.6
at Completion 735.6
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %
Dark brown clayey Topsoil 759.10			
Medium dense brown clayey SAND, damp A-2-4	4 7 7		7.3
756.60			
	5 7 10		2.8
-5			
Medium dense brown SAND and GRAVEL, damp A-1-a	7 11 13		2.8
	8 11 14		3.4
-10			
	5 11 12		2.8
746.60			
	7 11 20		3.3
-15			
Dense brown SAND and GRAVEL, damp A-1-a	10 10 20		3.8
	12 21 17		3.5
739.10 -20			
Dense to medium dense brown SAND and GRAVEL, moist to saturated A-1-a	7 14 20		4.4
	9 12 15		7.0
734.60 -25			

DEPTH	BLOWS	Qu tsf	W %
Hard brown and gray CLAY, trace gravel, moist A-6	10 8 10	S 4.7 10%	16.8
731.10			
Loose gray SANDY LOAM, moist to very moist A-2-4	11 3 3	B 0.3 15%	12.0
-30 729.10			
Very stiff gray CLAY, trace gravel, moist A-6	7 10 12	B 2.2 15%	14.9
726.60			
	7 10 15	B 4.4 15%	13.8
-35			
	9 10 16	B 3.5 15%	13.5
Very stiff to hard gray CLAY and CLAY LOAM, trace gravel, moist A-6	8 13 20	B 5.8 15%	13.3
-40			
	8 16 20	B 3.9 15%	13.2
	5 10 16	B 4.1 15%	9.9
-45			
	6 14 20	B 4.1 15%	12.4
	12 18 25	B 4.0 15%	12.0
709.60 -50			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 2 of 2
Date Started 8/18/04
Date Completed 8/19/04

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Boring No. DUCN-2
Station 262+10
Offset 44.00ft LT
Elevation 709.60 ft

DEPTH	BLOWS	Qu tsf	W %
Hard gray CLAY and CLAY LOAM, trace gravel, moist A-6	15 20 28	B 4.5 15%	12.8
-55			
	9 20 30	B 4.3 15%	12.2
-60			
697.60			
Dense brown and gray SAND and GRAVEL, saturated A-1-a	11 16 21		9.6
-65			
692.60			
Hard gray CLAY, trace gravel, moist A-6	9 22 25	B 8.2 15%	11.6
-70			
687.60			
Very stiff brown and gray CLAY, trace gravel, moist A-6	8 8 15	B 3.3 15%	17.3
684.60 -75			

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Elevation 684.60 ft

DEPTH	BLOWS	Qu tsf	W %
Medium stiff to stiff dark gray CLAY, trace organic, very moist A-7-6	5 10 12	P 1.0	21.1
681.60			
Dense brown SAND and GRAVEL, saturated A-1-a	10 16 36		15.2
-80 677.60			
Dense brown silty SAND and GRAVEL, saturated A-1-a	7 12 20		16.0
-85 672.60			
Medium dense brown and gray clayey SAND and GRAVEL, moist A-1-b	6 8 10		17.6
-90 668.60			
BOULDER 667.60			
Stiff brown and gray CLAY, trace gravel, moist A-6	13 50/4"	P 1.25	23.3
665.60 -95			
Possible fractured bedrock 663.60			
Auger Refusal at 96.0'			
CME 850 Track ATV Drill Rig (#127) CME Automatic Hammer			
3.25" (83 mm) ID HSA			
-100			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

BORING DUCN-2

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Job No. 896

SOIL BORING LOGS 2
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	40
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT -	

SHEET NO. 30 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date Started 7/2/04
Date Completed 7/2/04

ROUTE F.A.P. 360 DESCRIPTION Dunham Road Bridge over CC & P Railroad
SECT. 98-00214-02-BR STRUCT. NO. 045-3169 DRILLED BY TSC L-60,393
COUNTY Kane LOCATION East End NB North Abutment S. 1 - SE 1/4 , TWP. 40 N. , RNG. 8 E.

Boring No. DUCN-3
Station 263+72
Offset 44.00ft RT
Surface Elev. 758.90 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 740.4
at Completion 727.4
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %
758.90			
Dark brown and black clayey Topsoil			
	5 7 7	7.2	
	8 10 12	6.0	
-5			
Medium dense brown fine to medium SAND with some gravel, damp A-1			
	6 6 11	6.4	
750.90			
	12 12 16	3.3	
-10			
	12 14 18	3.9	
Medium dense to dense brown fine to medium SAND with some gravel, damp to moist A-1			
	8 12 15	3.8	
-15			
	11 13 16	4.3	
740.90			
	15 16 18	7.8	
-20			
Dense brown SAND and GRAVEL, saturated A-1-a			
	14 15 25	9.3	
735.90			
Very stiff brownish-gray CLAY and CLAY LOAM, moist A-6	13 16 19 B 3.1 15%	12.7	
-25			

DEPTH	BLOWS	Qu tsf	W %
Very stiff brownish-gray CLAY and CLAY LOAM, trace gravel, moist A-6	16 18 19 B 3.0 15%	14.2	
730.90			
Stiff brown CLAY LOAM, trace gravel, moist to very moist A-4/A-6	14 17 19 B 1.2 15%	13.1	
-30			
728.40			
	22 28 33 B 6.3 15%	11.7	
	13 16 18 B 5.0 15%	13.1	
-35			
	15 18 22 B 6.2 15%	13.8	
Hard brownish-gray CLAY and CLAY LOAM, trace gravel, moist A-6			
	14 16 23 B 6.4 15%	13.0	
-40			
	14 17 22 B 6.3 15%	12.7	
	15 18 25 B 5.2 15%	11.9	
-45			
	14 22 26 B 6.1 15%	12.5	
	20 20 20 B 8.5 15%	11.9	
708.90 -50			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date Started 7/2/04
Date Completed 7/2/04

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Boring No. DUCN-3
Station 263+72
Offset 44.00ft RT
Elevation 708.90 ft

DEPTH	BLOWS	Qu tsf	W %
	16 22 25 B 9.6 15%	12.1	
-55			
	18 23 28 B 9.2 15%	12.4	
-60			
Hard to very hard brownish-gray CLAY and CLAY LOAM, trace gravel, damp to moist A-6			
	14 19 26 B 6.6 15%	11.8	
-65			
	25 33 43 B 9.1 15%	13.4	
-70			
687.90			
Very dense Cobbles, Boulders and fractured Rock			
684.90	100/1"	8.8	
Auger Refusal at 74.0'			
-75			

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Elevation 683.90 ft

DEPTH	BLOWS	Qu tsf	W %
-80			
-85			
-90			
-95			
-100			

Diedrich D-120 Truck Rig (#282)
CME Automatic Hammer

3.25" (83 mm) ID HSA

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

BORING DUCN-3

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com
Job No. 896

SOIL BORING LOGS 3
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 360	*	KANE	41	41
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 31 OF 31 SHEETS

Contract # 83951 * 06-00214-07-BR

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 2
Date Started 6/21/04
Date Completed 6/21/04

ROUTE F.A.P. 360 DESCRIPTION Dunham Road Bridge over CC & P Railroad
SECT. 98-00214-02-BR STRUCT. NO. 045-3169 DRILLED BY TSC L-60,393
COUNTY Kane LOCATION East End SB North Abutment S. 1 - SE 1/4 , TWP. 40 N , RNG. 8 E

Boring No. DUCN-4
Station 264+22
Offset 12.00ft LT
Surface Elev. 753.10 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 740.1
at Completion 743.1
after ____ Hrs. ____

DEPTH	BLOWS		Qu tsf	W %
		FILL - Dark brown sandy Topsoil, moist		
751.80				
	3 3 4	P	0.5	15.1 20.3
		FILL - Brown SANDY LOAM, trace gravel, very moist A-2-4/A-4		
750.10				
	4 4 5	B	1.1	23.0
-5		FILL - Brown CLAY LOAM, trace organic, trace gravel, moist A-6	15%	
747.60				
	3 3 3	B	0.8	31.3
		FILL - Brown CLAY LOAM, some black clay, trace wood, very moist A-6/A-7-6	15%	
	3 3 4	B	0.7	22.0 16.4
743.60			15%	
-10		Loose brown and black clayey SAND, little gravel, moist A-1-b		
742.60				
	10 10 12			13.3
		Medium dense brown SAND and GRAVEL, saturated A-1		
	8 10 16			13.5
-15				
737.60				
	8 10 12	B	3.7	12.8
		Very stiff to hard brownish-gray CLAY and CLAY LOAM, trace gravel, moist A-6	15%	
	8 12 15	B	4.3	13.0
-20			15%	
	10 13 18	B	4.3	14.1
			15%	
	13 10 16	B	4.1	13.9
-25			15%	

DEPTH	BLOWS		Qu tsf	W %
		Very stiff to hard brownish-gray CLAY and CLAY LOAM, trace gravel, moist A-6		
-30				
	12 15 19	B	3.7	14.0
			15%	
	10 12 19	B	3.7	12.5
			15%	
	12 16 19	B	4.9	13.9
			15%	
	10 12 16	B	7.1	13.0
-35			15%	
	10 14 15	B	4.9	14.3
			15%	
	10 13 16	B	4.3	12.3
-40			15%	
712.60				
	12 18 28	B	8.6	14.4
		Hard to very hard CLAY and CLAY LOAM, trace gravel, damp to moist A-6	15%	
	15 28 26	B	10.3	10.7
-45			15%	
	18 29 25	B	9.1	12.8
			15%	
	15 17 28	B	7.4	13.3
-50			15%	
703.10				

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Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 2 of 2
Date Started 6/21/04
Date Completed 6/21/04

STRUCTURE NO. 045-3169
ROUTE F.A.P. 360
SECTION 98-00214-02-BR
COUNTY Kane

Boring No. DUCN-4
Station 264+22
Offset 12.00ft LT
Elevation 703.10 ft

DEPTH	BLOWS		Qu tsf	W %
	12 18 28	B	6.8	13.0
		Hard to very hard CLAY and CLAY LOAM, trace gravel, moist A-6	15%	
-55				
696.10				
	46 35 44			13.7
-60		Very dense brown and gray SAND and GRAVEL, occasional Cobbles, trace silt, wet A-1-a		
691.60				
	100/0"			
		Probable fractured and broken Dolomite, hard drilling		
689.10				
-65		End of Boring at 64.0'		
-70				
-75				

Elevation 678.10 ft

DEPTH	BLOWS	Qu tsf	W %
-80			
-85			
-90			
-95			
-100			

Diedrich D-120 Truck Rig (#282)
CME Automatic Hammer
4.5" (114 mm) SFA to 13 feet
3.25" (83 mm) ID HSA below 13 feet

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DESIGNED	BAK
CHECKED	SF
DRAWN	MTR
CHECKED	BAK

BORING DUCN-4

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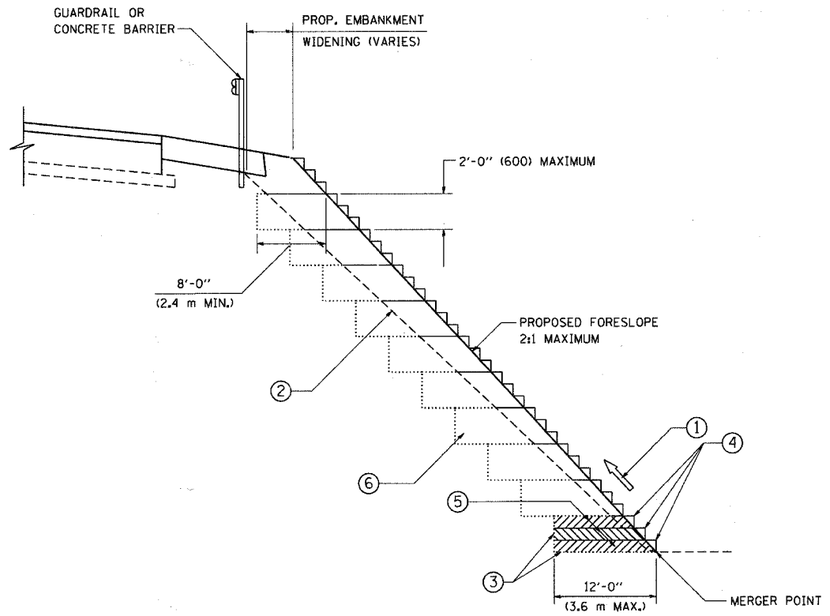
SOIL BORING LOGS 4
DUNHAM ROAD OVER
THE CC&P RAILROAD
SECTION 06-00214-07-BR
KANE COUNTY
STATION 262+90.93
STR. NO. 045-3169 (NB) / 045-3170 (SB)

S:\896\CADD\Structural\SHEETS\896SSB04.dgn 10/11/2007 6:11:59 PM

CONTRACT NO. 83951

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	[illegible]	[illegible]		42
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

REVISIONS NAME	DATE
	06/16/04

ILLINOIS DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT
WIDENING

SCALE: VERT. NONE
HORIZ.

DRAWN BY: CADD
CHECKED BY: S.E.B.

BD-51

PLOT DATE = 3/6/2007
FILE NAME = K:\dirsstd\bd51.dgn
PLOT SCALE = 50.0000 '/ IN.
USER NAME = baumdl