

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2010-075-1	COOK	33	1
FED ROAD DIST No. 1 ILLINOIS		CONTRACT No. 60L61		

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

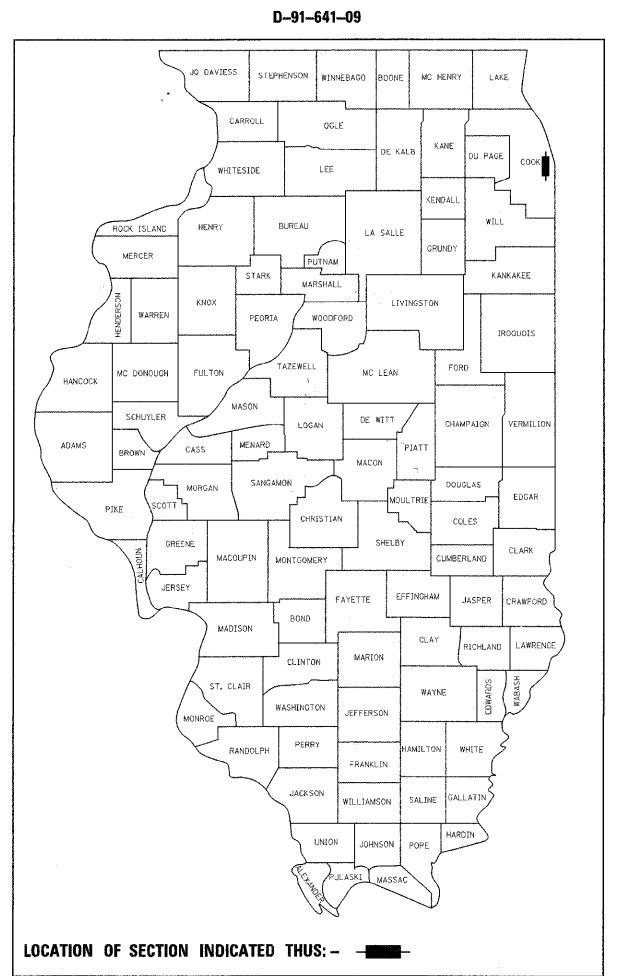
**PROPOSED**  
**HIGHWAY PLANS**

**FAI 90 /94 DAN RYAN PUMP STATION #26 (I-94)**  
**ROOSEVELT ROAD AT UNION ROAD**

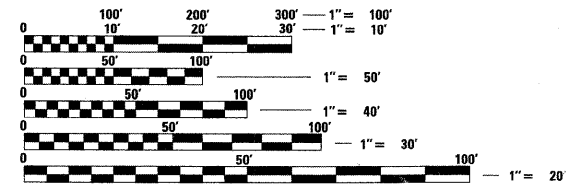
**RETAINING WALL AND TRUCK PARKING AREA**

**SECTION 2010-075-1**  
**PROJECT NO. -- --**  
**COOK COUNTY**  
**C-91-754-10**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

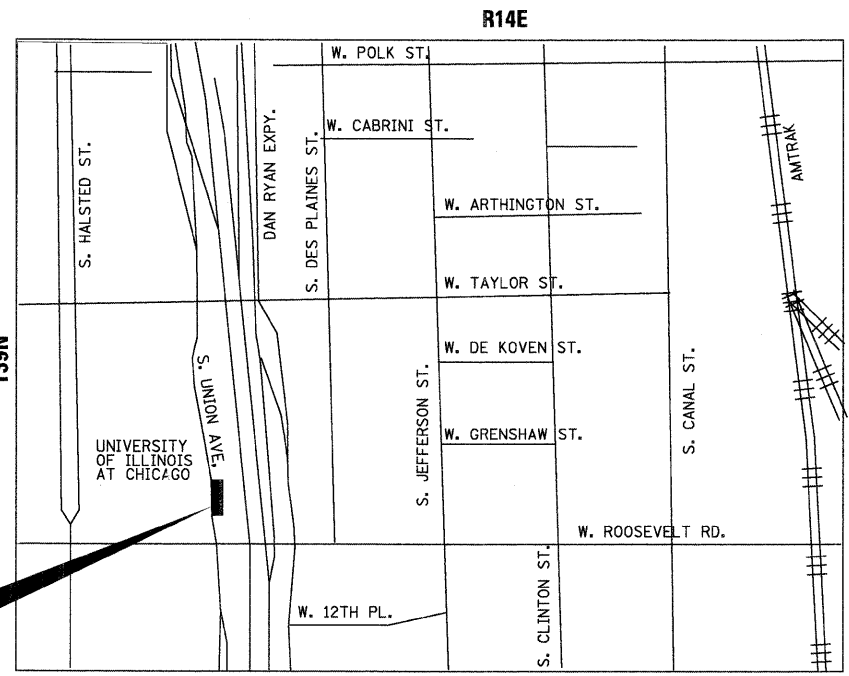


PROJECT IS LOCATED IN THE CITY OF CHICAGO



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 OR 811



PROJECT LOCATION DAN RYAN PUMP STATION #26

NOT TO SCALE LOCATION MAP



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED NOVEMBER 1, 2010  
Diana M. O'Keefe  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 10 2010  
Scott E. Stitt, P.E.  
 ACTING ENGINEER OF DESIGN AND ENVIRONMENT

December 10 2010  
Christine M. Reed  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS**

**PROJECT MANAGER RAJENDRA SHAH (847) 705-4555**  
**PROJECT ENGINEER MICHELLE AQUINO (847) 705-4606**  
**CONTRACT NO. 60L61**

100 S. WACKER DRIVE SUITE 700 CHICAGO IL 60606.  
 P:312-606-0910 F:312-606-0415

Ted W. Lachus  
 TED W. LACHUS, P.E.  
 EXPIRES 11-30-2011

10-29-2010  
 DATE

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- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
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  - 001006 DECIMAL OF AN INCH AND OF A FOOT
  - 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
  - 420701-02 PAVEMENT FABRIC
  - 606001-04 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
  - 630001-09 STEEL PLATE BEAM GUARDRAIL
  - 664001-02 CHAIN LINK FENCE
  - 701101-02 OFF-ROAD OPERATIONS, MULTI-LANE, 15' TO 24' FROM PAVEMENT EDGE
  - 701106-02 OFF-ROAD OPERATIONS, MULTI-LANE, MORE THAN 15' TO 24' AWAY
  - 701400-05 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
  - 701401-06 LANE CLOSURE, FREEWAY/EXPRESSWAY
  - 701406-06 LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
  - 701601-07 LANE CLOSURE, MULTILANE, 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
  - 701801-04 URBAN LANE CLOSURE, MULTILANE 1W OR 2W W/ NON-TRAVERSABLE MEDIAN
  - 701901-01 TRAFFIC CONTROL DEVICES
  - 704001-06 TEMPORARY CONCRETE BARRIER
  - 720001-01 SIGN PANEL MOUNTING DETAILS
  - 720006-02 SIGN PANEL ERECTION DETAILS
  - 720011-01 METAL POST FOR SIGNS, MARKERS AND DELINEATORS
  - 729001-01 APPLICATIONS OF TYPE A AND B METAL POST (FOR SIGNS AND MARKERS)
- 515001-03

**COMMITMENTS**

NONE

**GENERAL NOTES:**

1. THESE PLANS HAVE BEEN PREPARED FROM INFORMATION ACQUIRED FROM EXISTING PLANS AND INFORMATION RECEIVED FROM IDOT.
2. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO VARIATIONS FOUND IN THE FIELD. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. ANY ADJUSTMENTS PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED BASED UPON THE UNIT PRICE.
3. ALL GRADE ELEVATIONS SHOWN ARE BASED ON ELEVATIONS REFERRED TO AN ORIGINAL ROOSEVELT ROAD PUMPING STATION WHICH IS BASED ON CHICAGO CITY DATUM WHICH IS 579.88 FEET ABOVE MEAN SEA LEVEL, 1935 ADJUSTMENT.
4. UTILITY LOCATIONS SHOWN ON THESE PLANS MAY NOT BE CORRECT OR COMPLETE. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE RESPECTIVE UTILITIES OF THE CITY OF CHICAGO, BEFORE STARTING ANY EXCAVATION. THE CONTRACTOR SHALL CALL CUAN (CHICAGO UTILITY ALERT NETWORK): (312)744-4000 FOR UTILITY LOCATION INFORMATION.
5. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
6. SAW CUTTING PRIOR TO ANY REMOVAL ITEMS NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE CONSIDERED INCLUDED IN THE COST OF THE ITEMS BEING REMOVED.
7. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
8. THE CONTRACTOR SHALL USE CARE IN REMOVING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AS WELL AS ADJOINING RESIDENTIAL AREAS.
10. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, AS REQUIRED, PRIOR TO COMMENCING WITH CONSTRUCTION.
11. THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.
12. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OUTSIDE THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. ACCESS SHALL BE PROVIDED AT ALL TIMES TO PROPERTIES ABUTTING THE PROPOSED IMPROVEMENT.
14. ALL EXPOSED CORNERS ON STRUCTURAL CONCRETE SHALL BE CHAMFERED 3/4".
15. WHEN CUTTING THE EXISTING REINFORCEMENT OR EMBEDDED STEEL, CONTRACTOR SHALL OVERCUT THE EXISTING REINFORCEMENT OR EMBEDDED STEEL, SLIGHTLY AND APPLY EPOXY PATCHING COMPOUND OVER EXPOSED STEEL TO FORM A 1/8" OVERLAY IN ORDER TO PREVENT FUTURE CORROSION, UNLESS SHOWN OR NOTED OTHERWISE.
16. ANY SITE AREA DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER, AT NO ADDITIONAL COST.
17. ALL SHOP DRAWINGS; MATERIAL SAMPLES ETC. MUST BE SUBMITTED AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
18. 10 FOOT TRANSITION LENGTHS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURBS AND GUTTERS AND MEDIANS IN THE FIELD UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.
19. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THERE WILL BE NO GAP WITHIN THE PROPOSED FENCING OR BETWEEN WHERE PROPOSED FENCING TERMINATES AND EXISTING FENCE REMAINS IN PLACE. THE EXISTING FENCING SHALL BE REMOVED BACK TO THE NEXT EXISTING POST OUTSIDE THE PROPOSED FENCE LIMITS.
20. EXTREME CAUTION TO BE TAKEN TO ENSURE THAT NO FACILITY OWNED AND MAINTAINED BY THE CITY OF CHICAGO IS DAMAGED DURING CONSTRUCTION. IF ANY DAMAGE OCCURS TO ANY FACILITIES, THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE COST OF REPAIR OR REPLACEMENT OF THE DAMAGED FACILITY.

**TRAFFIC CONTROL NOTES:**

1. ALL TRAFFIC CONTROL AND PROTECTION WORK SHALL BE IN ACCORDANCE WITH I.D.O.T. STANDARDS FOR MAINTENANCE OF TRAFFIC AND THE CITY OF CHICAGO.
2. THE MAINTENANCE OF TRAFFIC CONTROL (MOT) STANDARD DRAWINGS SHALL SERVE AS A GUIDE FOR SAFE DIVERSION OF TRAFFIC DURING EXECUTION OF THIS CONTRACT. HOWEVER, THE CONTRACTOR MAY MODIFY THE MOT STANDARD DRAWINGS TO MEET CONSTRUCTION NEEDS BUT NOT AT THE EXPENSE OF PUBLIC SAFETY OR CONVENIENCE. ANY CHANGES TO THE MOT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
3. THE ENGINEER SHALL BE INFORMED 48 HOURS IN ADVANCE OF ANY CHANGE TO THE MOT LAYOUT.
4. ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC, AS DETAILED ON THE PLANS, OR HIGHWAY STANDARD SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS SPECIFIED IN MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
5. ALL DRUMS, VERTICAL PANELS AND BARRICADES ADJACENT TO THE EDGE OF TRAVELED WAY SHALL BE EQUIPPED WITH STEADY-BURNING LIGHTS.
6. ALL EXISTING SIGNS WITHIN THE LIMITS OF MAINTENANCE OF TRAFFIC WHICH ARE OBSCURED BY OR OTHERWISE INTERFERED WITH BY THE CONSTRUCTION OPERATIONS AND MAINTENANCE OF TRAFFIC, SHALL BE COVERED OR REMOVED BY THE CONTRACTOR UNLESS SPECIFIED IN THE PLANS OR WHEN DIRECTED BY THE ENGINEER. THIS WORK SHALL BE IN ACCORDANCE WITH ARTICLE 107.25 OF THE IDOT STANDARD SPECIFICATIONS.
7. TEMPORARY, OFF-PEAK HOUR LANE CLOSURES MUST BE REQUESTED THROUGH THE ENGINEER AND AS SPECIFIED IN THE SPECIAL PROVISIONS, WHEN OFF-PEAK HOUR OR WEEKEND LANE CLOSURES ARE REQUIRED, A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE WEEK PRIOR TO THE CLOSURE. THE MESSAGE SIGN WORDING AND LOCATION WILL BE DETERMINED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PLACE A CHANGEABLE MESSAGE SIGN AT EACH END OF THE PROJECT AND/OR AS DIRECTED BY THE ENGINEER TO INFORM MOTORISTS OF UPCOMING CONSTRUCTION ACTIVITIES. THE MESSAGE SIGNS WITH THE APPROPRIATE INFORMATION SHALL BE IN PLACED TWO WEEKS BEFORE START OF CONSTRUCTION ACTIVITY. THIS WORK IS TO BE PAID FOR AT THE CONTRACT UNIT PRICE PER CALENDAR MONTH, "CHANGEABLE MESSAGE SIGN".
9. ALL TEMPORARY INFORMATION SIGNS SHALL BE PAID FOR SEPARATELY AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR "TEMPORARY INFORMATION SIGNING".
10. THE CONTRACTOR IS REQUIRED TO SECURE A PERMIT FROM THE CITY OF CHICAGO FOR ANY WORK REQUIRING CHICAGO STREET LANE CLOSURES. QUESTIONS CONCERNING THIS PERMIT SHOULD BE REFERRED TO MR. MIKE SIMON, ROOM 905, CITY HALL, 121 NORTH LASALLE STREET, CHICAGO, IL. (312) 744-4625.
11. CONTRACTOR SHALL CONTACT THE I.D.O.T. TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470, A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICE.
12. ANY SIDEWALK CLOSURE SHALL BE IN ACCORDANCE WITH I.D.O.T. STANDARD 701801.
13. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH I.D.O.T. STANDARD 701901.

FILE NAME = #FILE#		DESIGNED NWS DRAWN SMQ CHECKED RJD DATE 10/29/2010	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DAN RYAN PUMP STATION #26</b> <b>RETAINING WALL AND TRUCK PARKING AREA</b> <b>INDEX OF SHEET, STATE STANDARDS, GENERAL NOTES AND COMMITMENTS</b>	F.A.I. RTE. 90/94	SECTION 2010-075-I	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 2	CONTRACT NO. 60L61
					SCALE: N.T.S. SHEET NO. 1 OF 1 SHEETS	ILLINOIS FED. AID PROJECT					

**SUMMARY OF QUANTITIES**

CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				URBAN BRIDGE 0040 100% STATE	
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	22	22	
20101100	TREE TRUNK PROTECTION	EACH	8	8	
20200100	EARTH EXCAVATION	CU YD	10	10	
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	10	10	
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	30	30	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	411	411	
25000210	SEEDING, CLASS 2A	ACRE	0.25	0.25	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	8	8	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	8	8	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	8	8	
25100630	EROSION CONTROL BLANKET	SQ YD	411	411	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	9	9	
28000400	PERIMETER EROSION BARRIER	FOOT	248	248	
31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	39	39	
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	4	4	
42001200	PAVEMENT FABRIC	SQ YD	29	29	
42001300	PROTECTIVE COAT	SQ YD	29	29	
42300600	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 10 INCH	SQ YD	29	29	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	89	89	
44004250	PAVED SHOULDER REMOVAL	SQ YD	37	37	

\* INDICATES SPECIALTY ITEMS

CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				URBAN BRIDGE 0040 100% STATE	
48203037	HOT-MX ASPHALT SHOULDERS, 10"	SQ YD	23	23	
50102400	CONCRETE REMOVAL	CU YD	8	8	
50300225	CONCRETE STRUCTURES	CU YD	129.9	129.9	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	198.1	198.1	
50400905	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 42 IN.	FOOT	350	350	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	112,170	112,170	
50800515	BAR SPLICERS	EACH	231	231	
50901750	PARAPET RAILING	FOOT	138	138	
51500100	NAME PLATES	EACH	1	1	
* 51603000	DRILLED SHAFT IN SOIL	CU YD	202.8	202.8	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	42	42	
* X6029000	JUNCTION BOX	L SUM	1	1	
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6-12	FOOT	69	69	
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	175	175	
* 66400405	CHAIN LINK FENCE, 7'	FOOT	20	20	
* X6640565	CHAIN LINK FENCE, 7' (SPECIAL)	FOOT	47	47	
* X6640300	CHAIN LINK GATES (SPECIAL)	EACH	3	3	
<del>66403705</del>	<del>CHAIN LINK GATES, 7' X 4' SINGLE, SPECIAL</del>	<del>EACH</del>	<del>1</del>	<del>1</del>	
<del>66404405</del>	<del>CHAIN LINK GATES, 7' X 10' DOUBLE, SPECIAL</del>	<del>EACH</del>	<del>1</del>	<del>1</del>	
<del>66405305</del>	<del>CHAIN LINK GATES, 7' X 12' DOUBLE, SPECIAL</del>	<del>EACH</del>	<del>1</del>	<del>1</del>	
X6640300	CHAIN LINK FENCE REMOVAL	FOOT	91	91	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5	

\* INDICATES SPECIALTY ITEMS

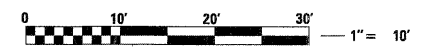
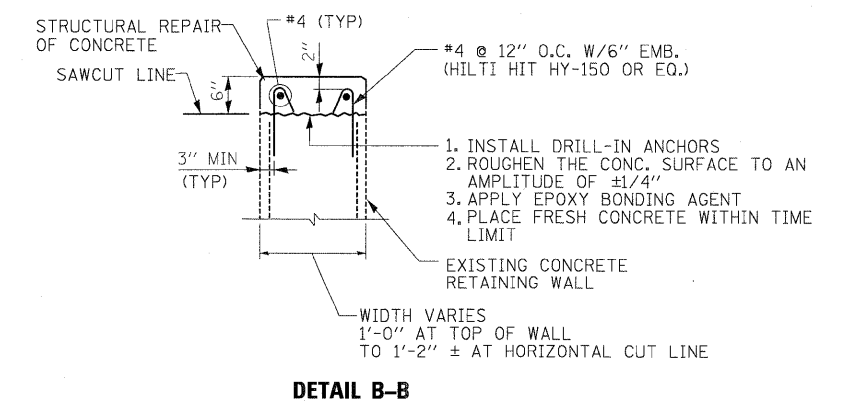
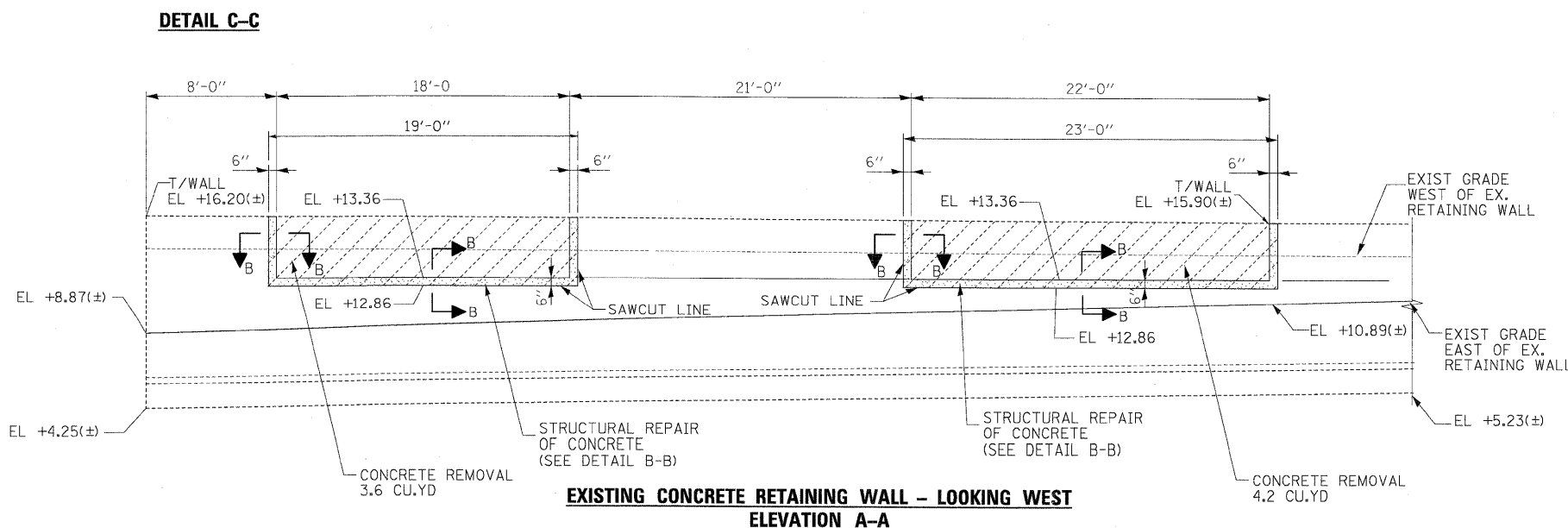
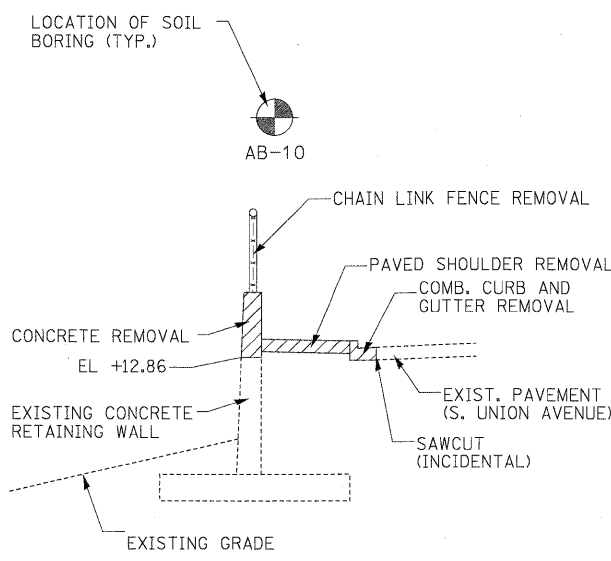
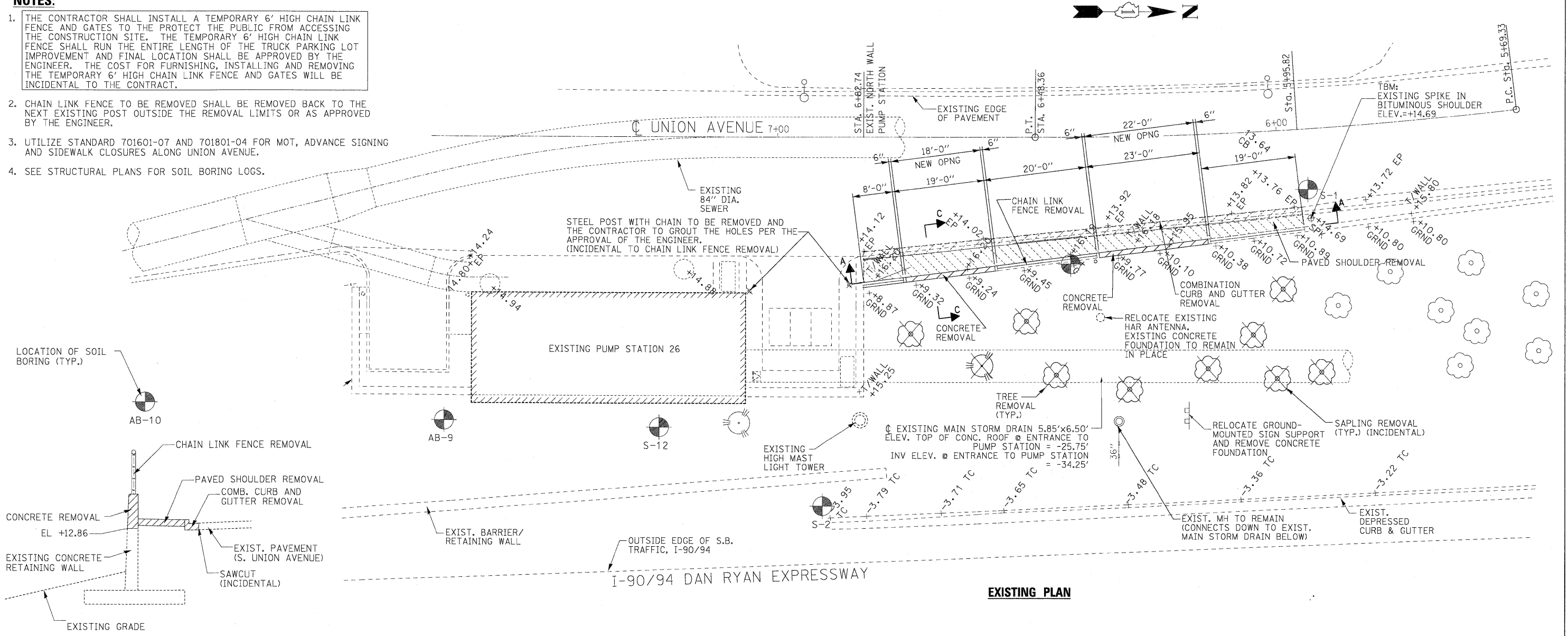
**SUMMARY OF QUANTITIES**

CODED PAY ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				URBAN BRIDGE 0040	100% STATE
67100100	MOBILIZATION	L SUM	1	1	
70104490	TRAFFIC CONTROL AND PROTECTION (SPECIAL), LOCATION 1	EACH	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	107	107	
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	10	10	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	25	25	
72000200	SIGN PANEL - TYPE 2	SQ FT	36	36	
73400100	CONCRETE FOUNDATIONS	CU YD	5	5	
73502000	RELOCATE GROUND-MOUNTED SIGN SUPPORT	EACH	1	1	
73700200	REMOVE CONCRETE FOUNDATION - GROUND MOUNT	EACH	2	2	
81012600	CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	39	39	
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	39	39	
X0326960	RELOCATE EXISTING HIGHWAY ADVISORY RADIO ANTENNA AND FOUNDATION	EACH	1	1	
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	1	
X7013820	TRAFFIC CONTROL SURVEILLANCE, EXPRESSWAYS	CAL DA	107	107	
Z0001050	AGGREGATE SUBGRADE 12"	SQ YD	29	29	
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	57	57	
Z0018004	DRAINAGE SCUPPERS, DS-12	EACH	2	2	
Z0018800	DRAINAGE SYSTEM	L SUM	1	1	
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	51	51	
Z0042002	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU YD	10	10	
Z0043900	PREFORMED JOINT FILLER	FOOT	25	25	
Z0005870	BONDED PREFORMED JOINT SEALER, 1 INCH	FOOT	68	68	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1	1	

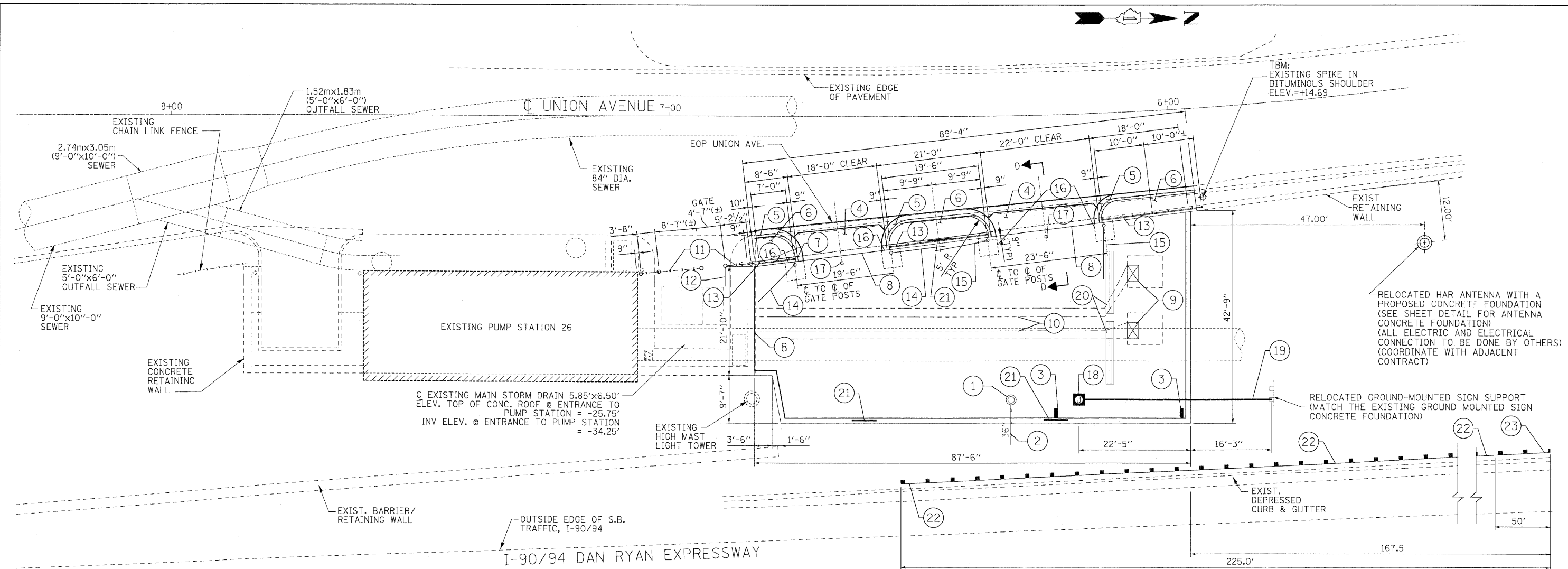
\* INDICATES SPECIALTY ITEMS

**NOTES:**

1. THE CONTRACTOR SHALL INSTALL A TEMPORARY 6' HIGH CHAIN LINK FENCE AND GATES TO PROTECT THE PUBLIC FROM ACCESSING THE CONSTRUCTION SITE. THE TEMPORARY 6' HIGH CHAIN LINK FENCE SHALL RUN THE ENTIRE LENGTH OF THE TRUCK PARKING LOT IMPROVEMENT AND FINAL LOCATION SHALL BE APPROVED BY THE ENGINEER. THE COST FOR FURNISHING, INSTALLING AND REMOVING THE TEMPORARY 6' HIGH CHAIN LINK FENCE AND GATES WILL BE INCIDENTAL TO THE CONTRACT.
2. CHAIN LINK FENCE TO BE REMOVED SHALL BE REMOVED BACK TO THE NEXT EXISTING POST OUTSIDE THE REMOVAL LIMITS OR AS APPROVED BY THE ENGINEER.
3. UTILIZE STANDARD 701601-07 AND 701801-04 FOR MOT, ADVANCE SIGNING AND SIDEWALK CLOSURES ALONG UNION AVENUE.
4. SEE STRUCTURAL PLANS FOR SOIL BORING LOGS.



FILE NAME = #FILE#		DESIGNED NWS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DAN RYAN PUMP STATION #26 RETAINING WALL AND TRUCK PARKING AREA EXISTING SITE PLAN	F.A.I. RTE. 90/94	SECTION 2010-075-I	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 5
		DRAWN NWS	REVISED -			SCALE: 1" = 10'	SHEET NO. 1 OF 1 SHEETS	CONTRACT NO. 60L61		ILLINOIS FED. AID PROJECT
		CHECKED RJD	REVISED -							
		DATE 10/29/2010	REVISED -							



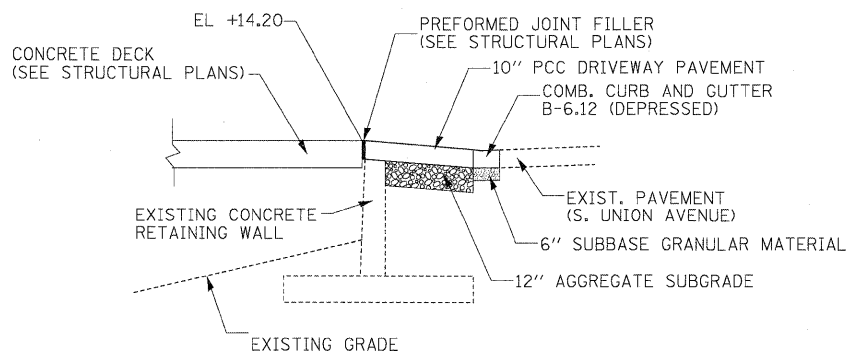
**PROPOSED PLAN**

**LEGEND:**

- ① MANHOLE (EXISTING)  
RIM. EL = -3.95  
INV EL (E) = -12.50± (EX.)
- ② 36" RCCP (EXISTING)  
(FROM I-90/94 DRAINAGE SYSTEM)
- ③ DRAINAGE SCUPPER, DS-12  
(SEE STRUCTURAL PLANS)
- ④ 10" PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT WITH PAVEMENT FABRIC AND 12" AGGREGATE SUBGRADE
- ⑤ COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 AND SUBBASE GRANULAR MATERIAL, TYPE B 6"
- ⑥ 10" HOT-MIX ASPHALT SHOULDERS AND SUBBASE GRANULAR MATERIAL, TYPE B 6"
- ⑦ STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5")
- ⑧ ¾" PREFORMED JOINT FILLER
- ⑨ TRANSFORMER PLATFORM (BY OTHERS)
- ⑩ ELECTRICAL CONDUIT HANGERS ATTACHED TO STRUCTURE FOR TRANSFORMER (HANGERS ARE INCIDENTAL TO PCC DECK SLAB) (ALL CONDUITS AND WIRES TO CONNECT THE TRANSFORMERS WILL BE INSTALLED BY OTHERS)
- ⑪ CHAIN LINK FENCE, 7' (W/ BARBED WIRE)
- ⑫ CHAIN LINK GATES, 7' x 4' SINGLE, SPECIAL (W/ BARBED WIRE)
- ⑬ CHAIN LINK FENCE, 7' SPECIAL (W/ BARBED WIRE)
- ⑭ CHAIN LINK GATES, 7' x 10' DOUBLE, SPECIAL (W/ BARBED WIRE)
- ⑮ CHAIN LINK GATES, 7' x 12' DOUBLE, SPECIAL (W/ BARBED WIRE)
- ⑯ GATE POST CONNECTION ADJACENT TO EXISTING CONCRETE RETAINING WALL (SEE STRUCTURAL DETAIL) (INCIDENTAL TO GATE PAY ITEMS)
- ⑰ PLUNGER ROD CUP EMBEDDED IN CONCRETE (TYPICAL AT MEETINGS AT DOUBLE GATES) (INCIDENTAL TO GATE PAY ITEMS)
- ⑱ JUNCTION BOX (WIRES TO BE SPICED AND BOX TO BE PLACE AT LOCATION OF EXISTING SIGN)
- ⑲ 2" PVC CONDUIT IN TRENCH AND TRENCH AND BACKFILL FOR ELECTRICAL WORK (ELECTRIC CABLE IN CONDUIT INCIDENTAL TO RELOCATE GROUND-MOUNTED SIGN SUPPORT)
- ⑳ CONCRETE BARRIER (PAID FOR AS TEMPORARY CONCRETE BARRIER)
- ㉑ SIGN PANEL, TYPE 2 (SEE DETAIL)
- ㉒ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS
- ㉓ TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

**NOTES:**

1. REFER TO DRAINAGE, EROSION CONTROL & LANDSCAPING PLAN FOR ADDITIONAL INFORMATION.
2. CONTRACTOR TO FIELD VERIFY THE PROPOSED GATE SIZES.
3. TEMPORARY CONCRETE BARRIER SHALL BE FURNISH AND INSTALLED FOR PERMANENT USE. THE LOCATION WILL BE DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER.
4. WARNING SIGNS SHALL BE INSTALLED AND MOUNTED TO THE CHAIN LINK FENCE AND/OR THE RAILING ON THE PARAPET WALL IN ACCORDANCE WITH IDOT STANDARD 720001-01. MOUNTING SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
5. UTILIZE STANDARD 701601-07 AND 701801-04 FOR MOT, ADVANCE SIGNING AND SIDEWALK CLOSURES ALONG UNION AVENUE.



**DETAIL D-D**

FILE NAME =  
#FILE#



DESIGNED	NWS	REVISED	-
DRAWN	NWS	REVISED	-
CHECKED	RJD	REVISED	-
DATE	10/29/2010	REVISED	-



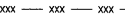
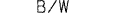

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

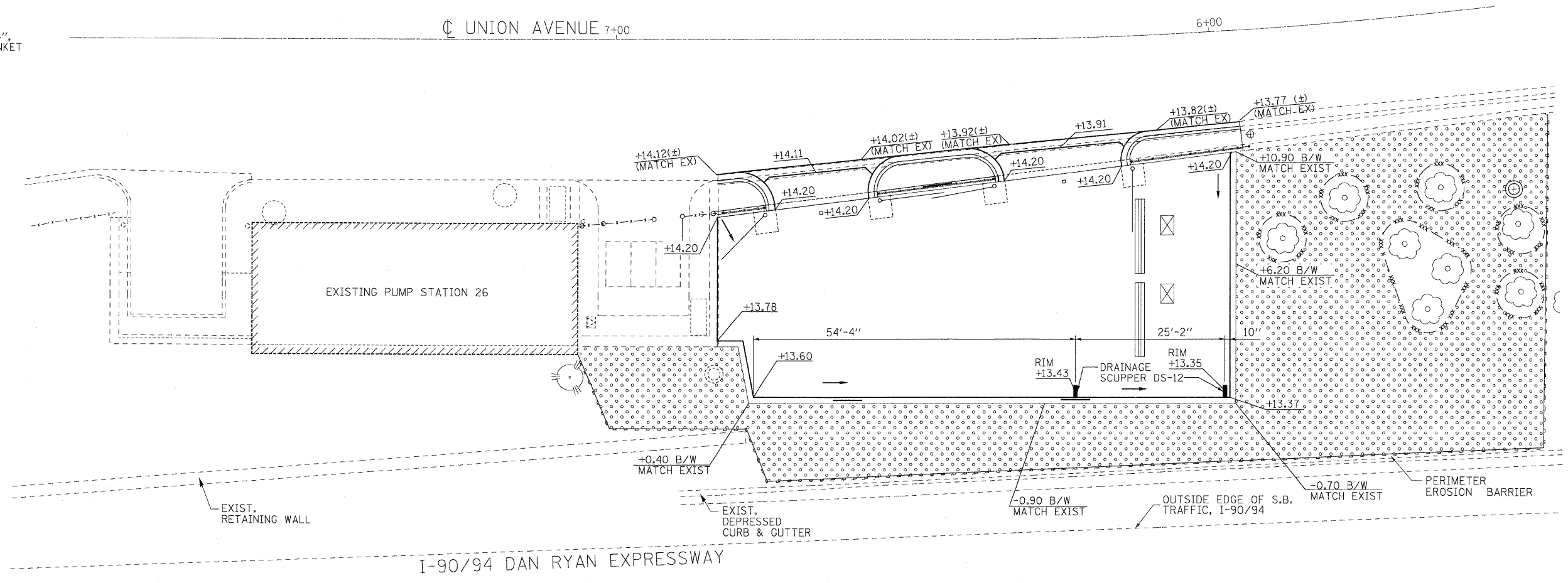
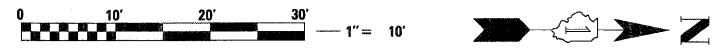
DAN RYAN PUMP STATION #26  
RETAINING WALL AND TRUCK PARKING AREA  
PROPOSED SITE PLAN

SCALE: 1" = 10' SHEET NO. 1 OF 1 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2010-075-I	COOK	33	6
			CONTRACT NO. 60L61	
ILLINOIS FED. AID PROJECT				

LEGEND:

-  PERIMETER EROSION BARRIER
-  SEEDING, CLASS 2A TOPSOIL FURNISH & PLACE 4" WITH EROSION CONTROL BLANKET
-  TREE TRUNK PROTECTION
-  BOTTOM OF WALL
-  DRAINAGE SCUPPER DS-12



**EROSION CONTROL NOTES:**

1. EROSION CONTROL ITEMS ARE CONSIDERED TO BE A HIGH PRIORITY ON THIS CONTRACT. THE ENGINEER WILL IMPLEMENT ALL PROVISIONS OF THE SPECIFICATION NECESSARY TO ASSURE THAT EROSION CONTROL ITEMS ARE CONSTRUCTED AND MAINTAINED IN A TIMELY WAY. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES.
2. THE EROSION CONTROL MEASURES SHOWN ARE BUT A GRAPHICAL REPRESENTATION OF SUGGESTED MEASURES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SOIL EROSION AND SEDIMENTATION CONTROL PLAN TO ENSURE THAT NO SEDIMENT LEAVES THE CONSTRUCTION SITE.
3. THE CONTRACTOR WILL BE REQUIRED TO IMPLEMENT AND MAINTAIN SEDIMENT CONTROL MEASURES PRIOR TO STRIPPING EXISTING VEGETATION.
4. TEMPORARY EROSION CONTROL SEEDING WILL BE APPLIED AT A RATE OF 100 POUNDS PER ACRE.
5. PROVIDE TEMPORARY INLET AND PIPE PROTECTION AT ALL DRAINAGE STRUCTURES WITH OPEN LIDS/GRATES WITH THE PROJECT LIMITS IN ACCORDANCE WITH IDOT STANDARDS AND SPECIFICATIONS.
6. CONTRACTOR SHALL PERFORM INSPECTION OF SOIL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.5 INCHES OF GREATER RAINFALL.
7. VEGETATIVE COVER SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT AND RE-SEEDED AS NECESSARY TO ESTABLISH GOOD GROWTH, INCLUDING ADEQUATE WATERING AND FERTIZER.

**DRAINAGE NOTES:**


1. REFER TO THE STRUCTURAL PLANS FOR THE DETAILS AND THE LAYOUT OF THE DRAINAGE SYSTEM.
2. CONNECT THE PROPOSED DRAINAGE SYSTEM TO THE EXISTING MANHOLE. THE CORING AND THE CONNECTION OF THE DRAINAGE SYSTEM SHALL BE INCIDENTAL THE DRAINAGE SYSTEM PAY ITEM.
3. ANY STORM SEWER AND STRUCTURES LOCATED WITHIN THE PROJECT LIMITS SHALL BE CLEANED AFTER THE CONSTRUCTION IS COMPLETE TO THE APPROVAL OF THE ENGINEER. STORM SEWERS LOCATED WITHIN THE PROJECT LIMITS THAT EXTEND BEYOND THE PROJECT LIMITS SHALL BE CLEANED UP TO THE FIRST UPSTREAM DRAINAGE STRUCTURE. THIS WORK WILL BE INCIDENTAL THE CONTRACT.

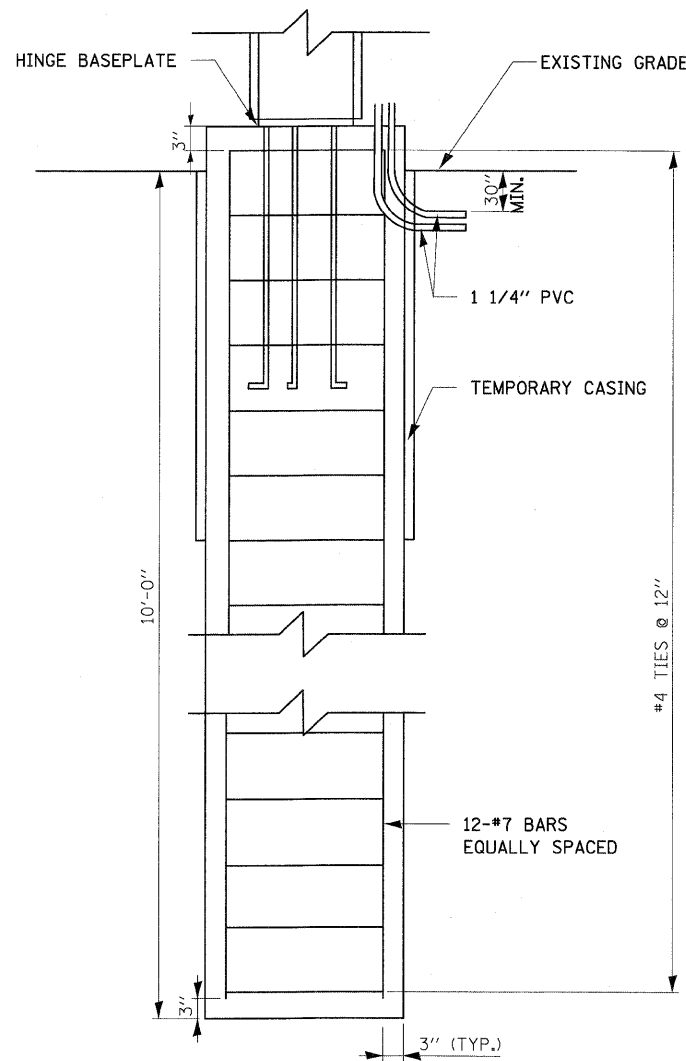
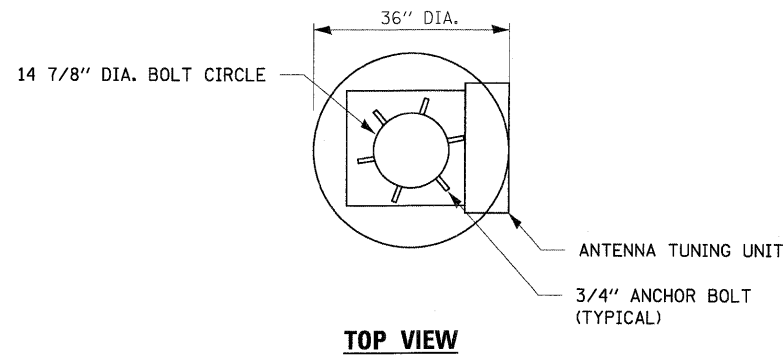
**LANDSCAPING NOTES:**

1. 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 THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE.
2. THE SEEDING DATES FOR BARE EARTH SEEDING OF MIXTURE CLASS 2A SHALL BE FROM APRIL 1 TO JUNE 1 AND FROM AUGUST 15 TO SEPTEMBER 30. ALL SEEDING NOT SHOWN ACCORDING TO THE SPECIFIED SEASONAL DATE SHALL REQUIRE PRIOR WRITTEN APPROVAL FROM THE ENGINEER. FAILURE TO SECURE SUCH APPROVAL SHALL RESULT IN REJECTION OF SEEDING AND REPLACEMENT BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF EXISTING PLANT MATERIAL FOR WHICH THE CONTRACT DOES NOT PROVIDE REMOVAL. THE PROTECTION OF THE EXISTING PLANT MATERIAL AND THE REPAIR OR REPLACEMENT OF EXISTING PLANT MATERIAL DAMAGED BY THE CONTRACTOR SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 201 OF THE STANDARD SPECIFICATIONS.

**GENERAL NOTES:**

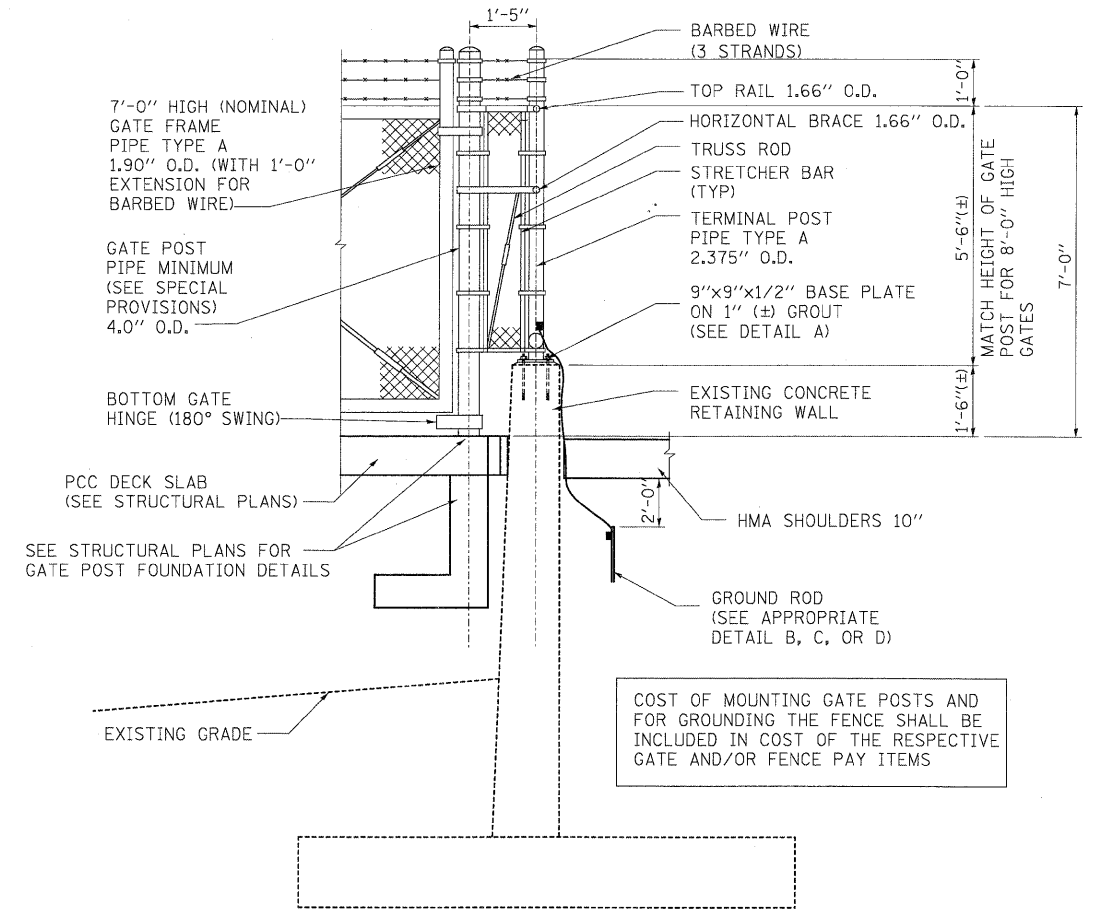
1. UTILIZE STANDARD 701601-07 AND 701801-04 FOR MOT, ADVANCE SIGNING AND SIDEWALK CLOSURES ALONG UNION AVENUE.

FILE NAME = \$FILEL\$		DESIGNED NWS DRAWN NWS CHECKED RJD DATE 10/29/2010	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DAN RYAN PUMP STATION #26 RETAINING WALL AND TRUCK PARKING AREA DRAINAGE, EROSION CONTROL & LANDSCAPING PLAN	F.A.I. RTE. 90/94	SECTION 2010-075-1	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 7	CONTRACT NO. 60L61 ILLINOIS FED. AID PROJECT
					SCALE: 1" = 10'	SHEET NO. 1 OF 1 SHEETS					

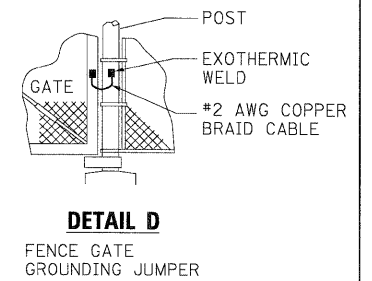
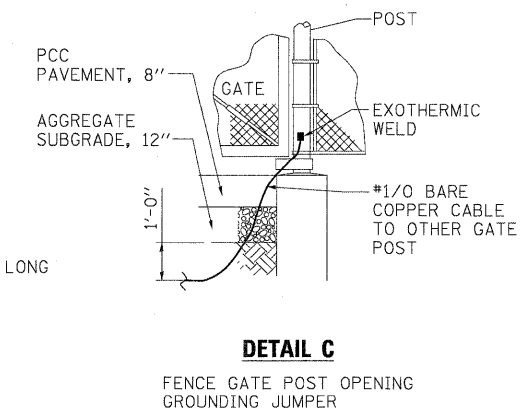
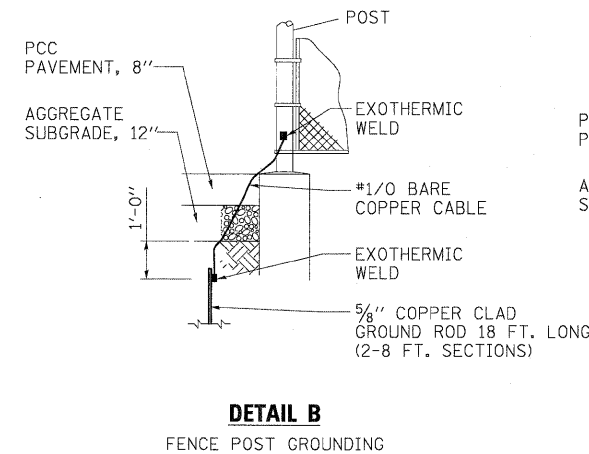
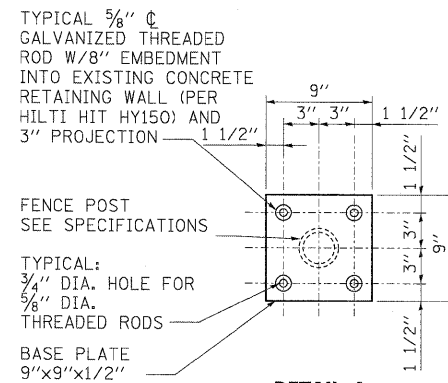


**HAR FOUNDATION NOTES:**

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
2. THE FOUNDATION SHALL BE A MONOLITHIC POUR. NO CONSTRUCTION JOINTS WILL BE ALLOWED.
3. ALL REINFORCEMENT AND DETAILING SHALL CONFORM TO ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
4. ALL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM & 615 GRADE 60 WITH  $F_y=60,000$  PSI.
5. 3" CONCRETE COVER SHALL BE PROVIDED.
6. A TEMPORARY CASING SHALL BE INSTALLED TO A DEPTH BELOW THE EXISTING GROUND LEVEL TO PREVENT SEEPAGE INTO THE SHAFT AND TO A DEPTH NECESSARY TO PREVENT COLLAPSE OF THE SHAFT SIDEWALLS. SEE SOIL BORING LOGS FOR GROUND WATER LEVELS AND SOIL STABILITY INFORMATION AT EACH LOCATION.
7. ANCHOR BOLTS AND ANTENNA TOWER SHALL BE AS PER ANTENNA MANUFACTURER. CONTRACTOR MUST ENSURE THAT THE ANCHOR BOLTS AND ANTENNA ARE ORIENTED SUCH THAT THE ANTENNA TOWER CAN ROTATE 90 DEGREES DURING INSTALLATION WITH OUT AFFECTING TRAFFIC MOVEMENTS.
8. THE FOUNDATION SHALL BE GROUNDED.
9. BACKFILL SHALL BE PLACED PER ARTICLE 502 OF THE STANDARD SPECIFICATIONS AND PRIOR TO ERECTION OF ANTENNA.



**TYPICAL GATE POST INSTALLATION ADJACENT TO WALK**



FILE NAME =  
#FILEL#



DESIGNED	NWS	REVISED	-
DRAWN	RJD	REVISED	-
CHECKED	RJD	REVISED	-
DATE	10/29/2010	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

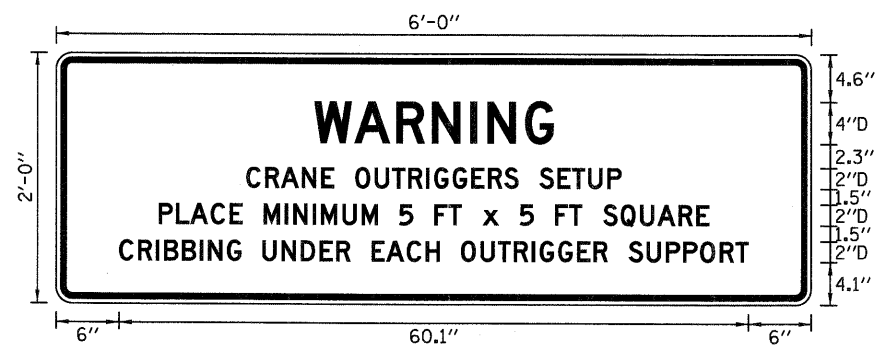
DAN RYAN PUMP STATION #26  
RETAINING WALL AND TRUCK PARKING AREA  
DETAILS

SCALE: N.T.S. SHEET NO. 1 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2010-075-1	COOK	33	8
CONTRACT NO. 60L61			ILLINOIS FED. AID PROJECT	



**SIGN DETAIL**  
1:10



SIGN NUMBER	WARNING
WIDTH x HGHT.	6'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: YELLOW
LEGEND/BORDER	TYPE: Reflective
	COLOR: BLACK

Panel Style: regulatory.ssi  
Dimensions are in inches.tenths

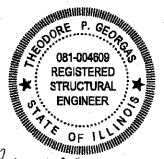
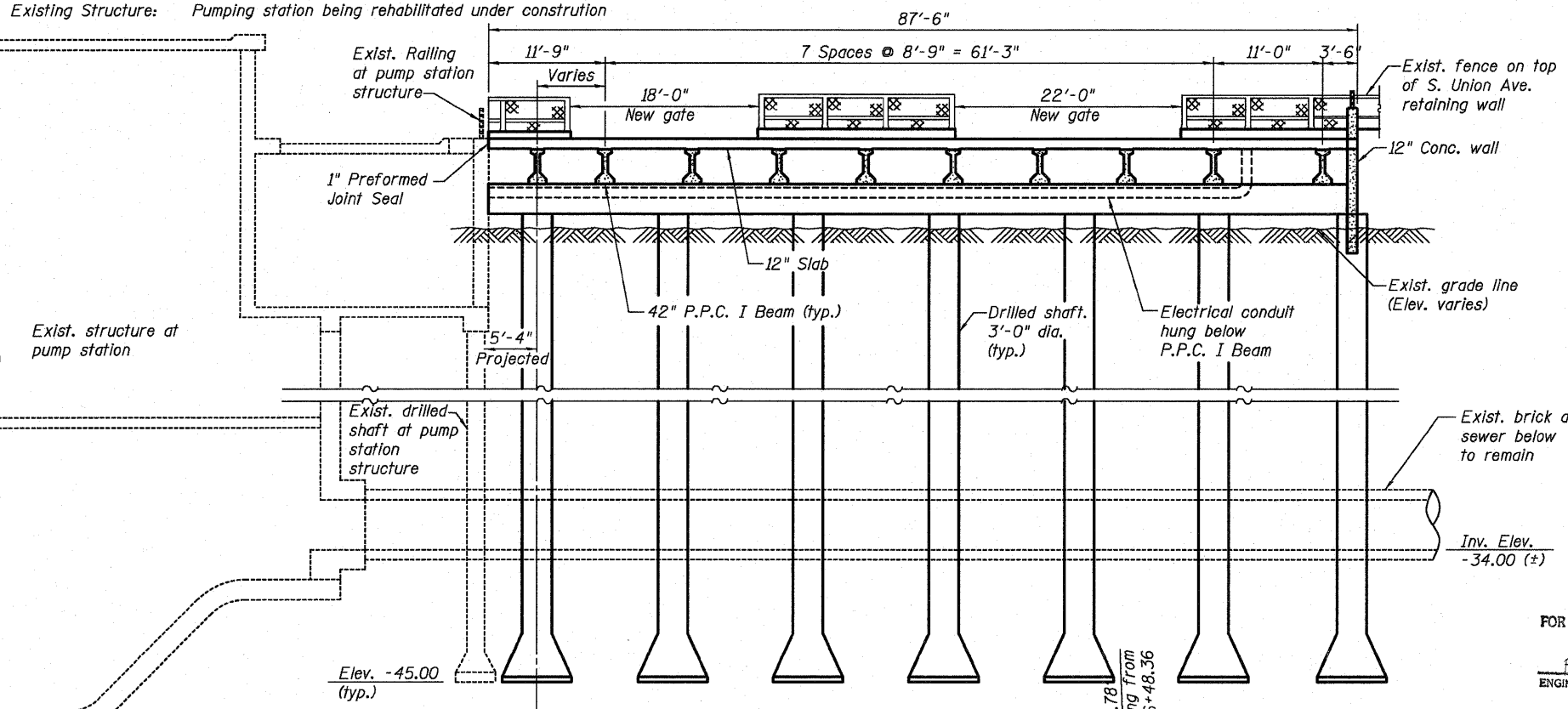
Letter locations are panel edge to lower left corner

SYMBOL	ROT	X	Y	WID	HT

**LETTER POSITIONS (X)**

LETTER POSITIONS (X)																																LENGTH	SERIESSIZE														
W	A	R	N	I	N	G																																		D 2000							
24.6	28.4	32.4	35.8	39.5	41.1	44.7																																		22.8	4						
C	R	A	N	E		O	U	T	R	I	G	G	E	R	S		S	E	T	U	P																					D 2000					
18.1	19.9	21.4	23.4	25.3	26.5	28.5	30.4	32	33.6	35.3	36	37.8	39.6	41.2	42.7	44.1	46.1	47.8	49.2	50.7	52.6																					35.8	2				
P	L	A	C	E		M	I	N	I	M	U	M	5		F	T		x		5		F	T		S	Q	U	A	R	E												D 2000					
9.7	11.4	12.8	14.7	16.5	17.8	19.8	21.8	22.6	24.4	25.2	27.3	29.1	30.7	32.7	34	36	37.4	38.6	40.6	42.2	44.2	45.6	47.6	48.9	50.2	52.2	53.8	55.7	57.3	59.3	61										52.5	21.5					
C	R	I	B	B	I	N	G		U	N	D	E	R		E	A	C	H		O	U	T	R	I	G	G	E	R		S	U	P	P	O	R	T											D 2000
6	7.8	9.5	10.3	12	13.7	14.5	16.3	17.6	19.6	21.5	23.3	25.1	26.7	28.1	30.1	31.5	33.4	35.2	36.6	38.6	40.4	42.1	43.6	45.3	46.1	47.9	49.7	51.2	52.6	54.6	56.3	58.1	59.8	61.4	63.3	64.8	60.1										2

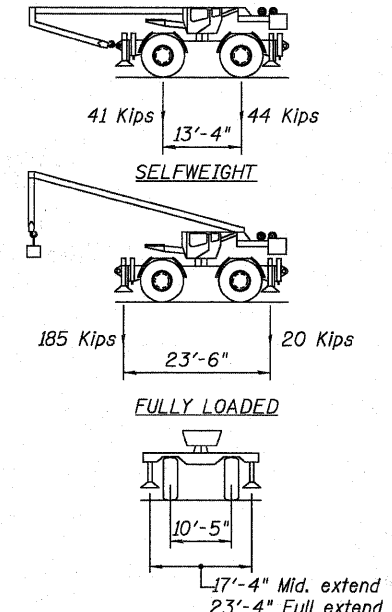
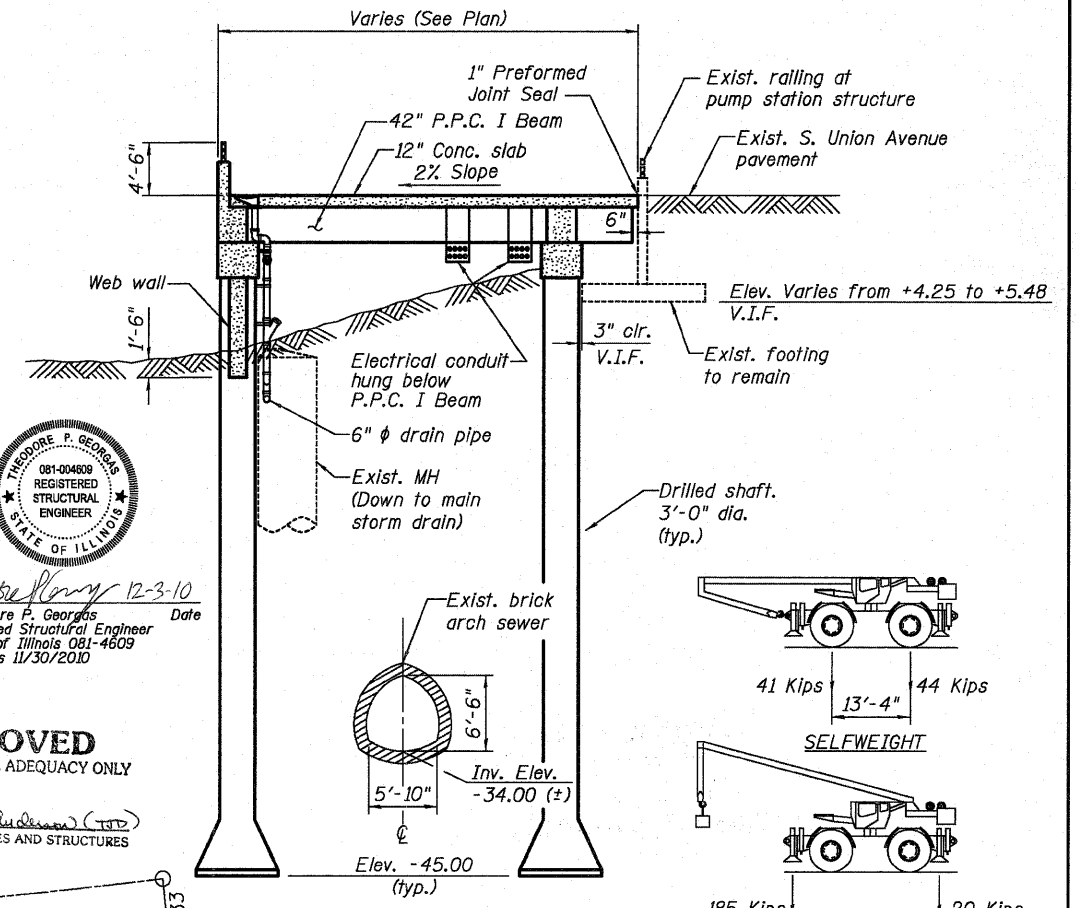
Benchmark: Existing spike in bituminous shoulder of S. Union Avenue.  
Sta. 5+94.11, offset 18.07 ft. Elev. +14.69 (Chicago City Datum).  
Existing Structure: Pumping station being rehabilitated under construction



Theodore P. Georgas  
Licensed Structural Engineer  
State of Illinois 081-4609  
Expires 11/30/2010

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

Robert E. Anderson (SE)  
ENGINEER OF BRIDGES AND STRUCTURES



**LOADING HL-93**  
Allow 50#/Sq. Ft. future wearing surface.  
**SPECIAL LOADING CRANE GROVE RT760E**  
Crane Capacity = 120 Kips  
Crane Selfweight = 85 Kips

**DESIGN SPECIFICATIONS**  
2010 AASHTO LRFD Bridge Design Specifications.

**DESIGN STRESSES**  
**FIELD UNITS**

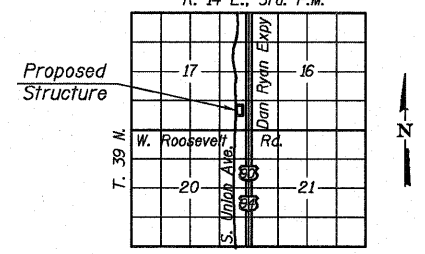
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
 $f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low relax. strands)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low relax. strands)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.085g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.143g  
Soil Site Class = D

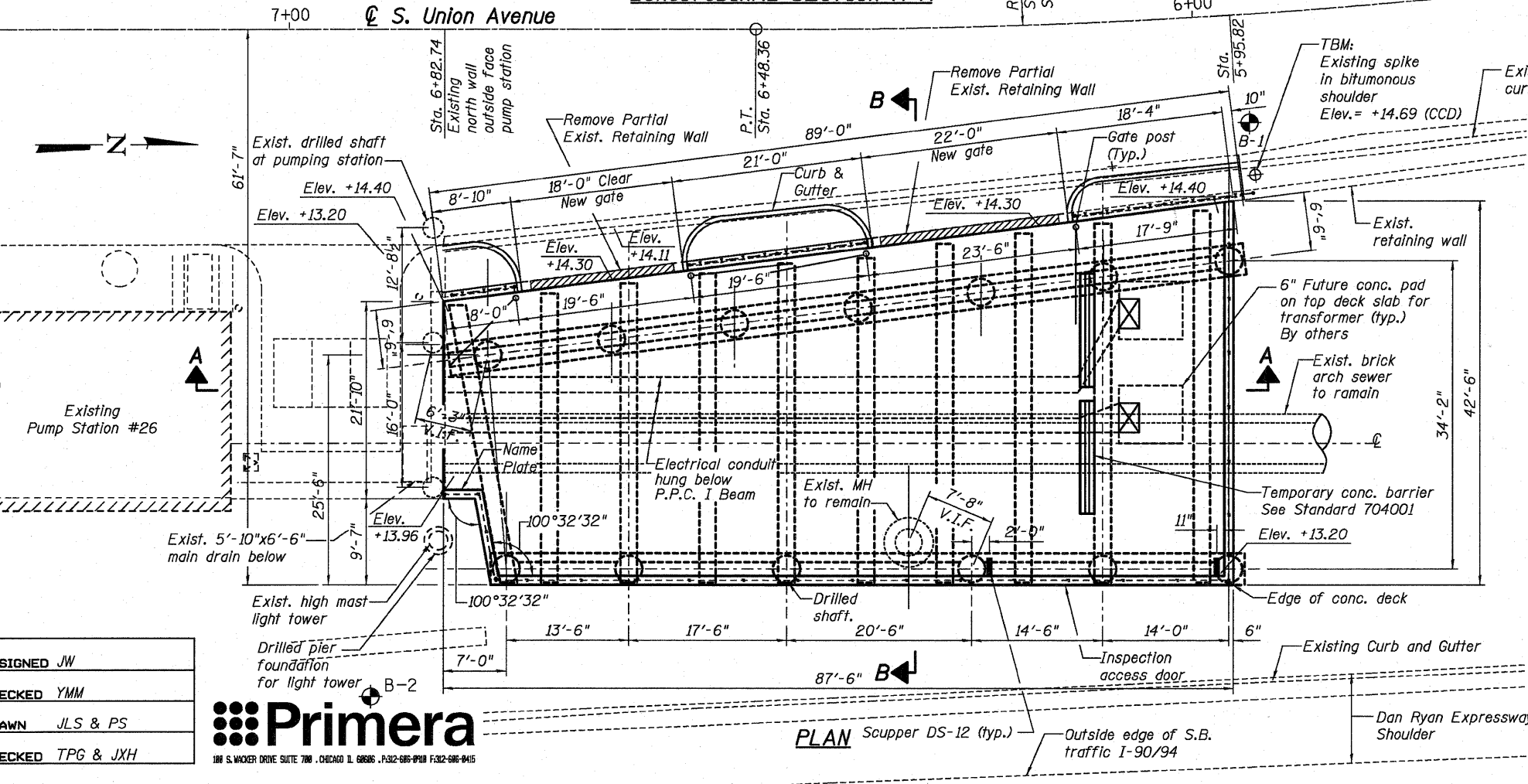
**60 TON CRANE LOADING**  
(GROVE RT760E)  
R. 14 E., 3rd. P.M.



**LOCATION SKETCH**

**GENERAL PLAN**

**I-90/94 DAN RYAN PUMP STATION #26**  
**ROOSEVELT ROAD AT S. UNION AVENUE**  
**RETAINING WALL TRUCK PARKING AREA**  
**STRUCTURE NUMBER 016-1308**



DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH



SHEET NO. SJ	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	10
S19 SHEETS	DATE: 12-03-10		ILLINOIS FED. AID PROJECT		
	CONTRACT NO. 60L61				

**INDEX OF SHEETS**

- S1 General Plan
- S2 Index of Sheets, General Notes & Bill of Materials
- S3 Top of Slab Elevations, Layout and Details
- S4 Top of Slab Elevations
- S5 Superstructure Plan and Bill of Materials
- S6 Superstructure Section and Details
- S7 Parapet Plan, Elevation and Details
- S8 Framing Plan and Diaphragm Details
- S9 Beam Elevations and Details
- S10 Beam Details
- S11 Foundation Plan and Details
- S12 West Pier Details
- S13 East Pier Details
- S14 Substructure Details
- S15 Joint Details
- S16 Railing Details
- S17 Drainage Scupper, DS-12
- S18 Soil Boring Log I
- S19 Soil Boring Log II

**GENERAL NOTES**

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. Belled drilled shafts should be based at a minimum El. -45 CCD in the very stiff silty clay to dense silty loam to silt soils and be designed for a factored bearing resistance of 10,800 pounds per square foot. An experienced, geotechnical engineer should be present during excavation to determine allowable bearing.
5. At the bearing stratum (-45 CCD), the two borings indicate varying soil strata (clay at B-1, silt at B-2). The contractor should be prepared for potential caving issues while belling if non-cohesive soils are encountered at the bearing stratum. If caving soils are encountered while belling, the "grout-method" for belling shall be employed. The "grout-method" involves excavating and overbelling the caving soils under slurry and then tremie-filling the over excavated bell area with controlled low-strength material (CLSM) grout and allowing the CLSM to set for one to two days. The drilled shaft is then redrilled through the CLSM and penetrating slightly into undisturbed natural soil. The bell is then re-excavated through the existing grout to maintain a stable sidewall and then concrete is placed to complete the shaft.
6. Full depth temporary steel casing shall be used for the drilled shafts and a slurry shall be introduced into the bored hole prior to El. -30 CCD to prevent "blow-in" of the saturated dense sands and potential undermining of the existing nearby sewer based at El. -34 CCD.
7. For the drilled shaft excavated close to the existing sewer line based at -34 CCD, probe boring shall be performed prior to construction to verify the exact location of the sewer line prior to drilling for drilled shafts. Distance of 2 times the shaft diameter shall be maintained between the sewer and drilled shaft and that temporary steel casing shall be utilized also through the soft clays that extend to approximately elevation -41 CCD.
8. All cost of furnishing and installing belled portions of the Drilled Shafts shall be included with "Drilled Shaft in Soil".
9. Slipforming of the parapets is not allowed.

**TOTAL BILL OF MATERIAL**

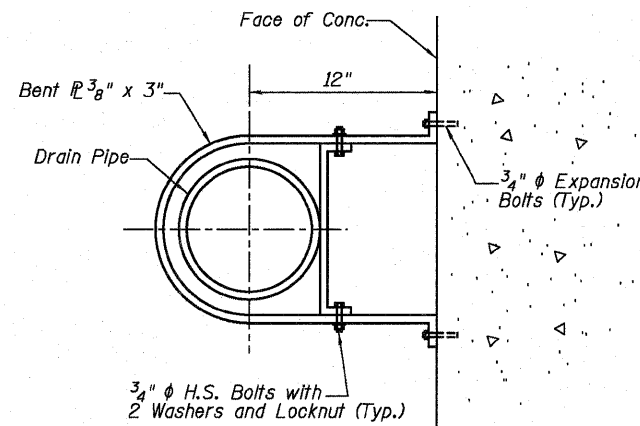
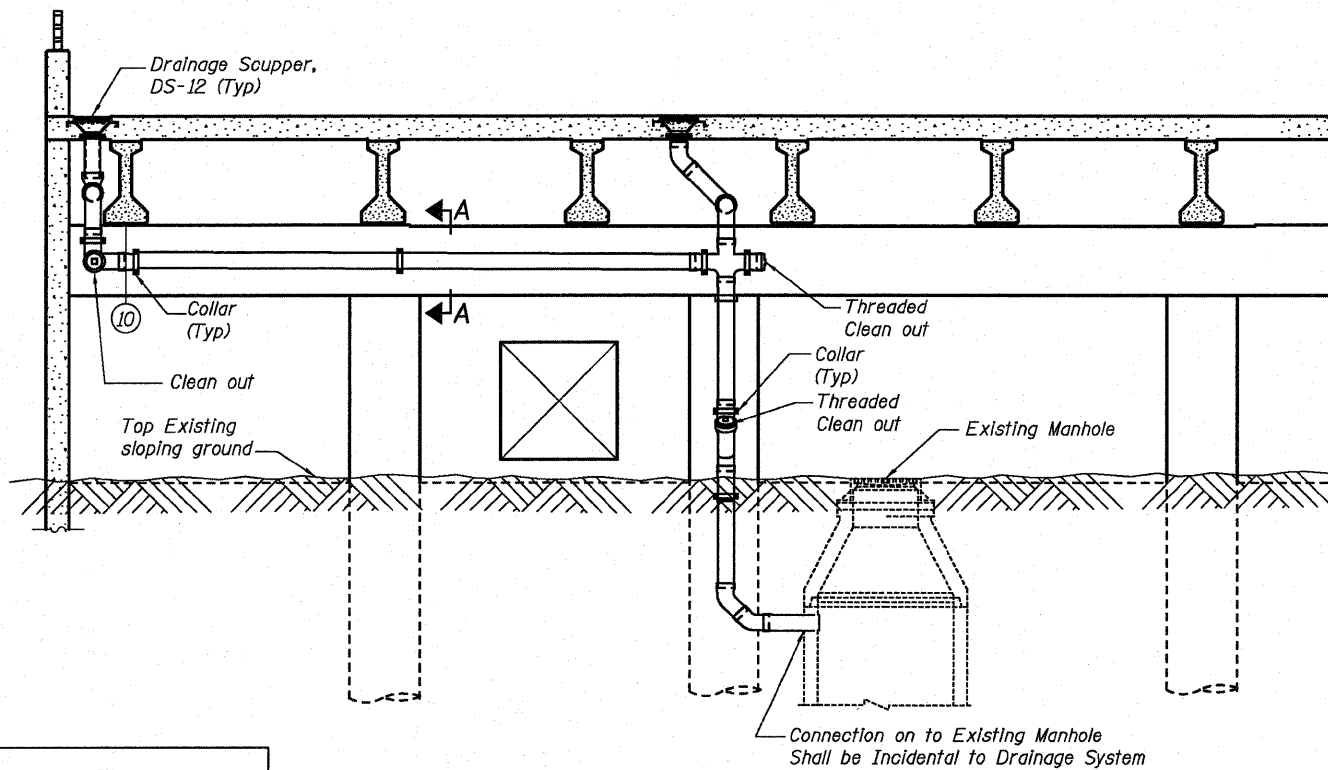
ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.	-	129.9	129.9
Concrete Superstructure	Cu. Yd.	198.1	-	198.1
Bar Splicers	Each	-	231	231
Furnishing and Erecting Precast Prestressed Concrete I-Beam, 42 in.	Foot	350	-	350
Reinforcement Bars, Epoxy Coated	Pound	49,330	62,840	112,170
Parapet Railing	Foot	138	-	138
Name Plates	Each	1	-	1
Drilled Shaft in Soil	Cu. Yd.	-	202.8	202.8
Preformed Joint Strip Seal	Foot	42	-	42
Drainage Scuppers, DS-12	Each	2	-	2
Drainage System	L. Sum	-	1	1
Bonded Preformed Joint Seal, 1"	Foot	68	-	68

**BUILT 201 BY  
STATE OF ILLINOIS  
F.A.I. 90/94  
SEC. 2010-075-I  
LOADING HL-93 AND  
60 TON CRANE  
STR. NO. 016-1308**

**NAME PLATE**  
See Standard 515001

**DRAINAGE SYSTEM NOTES**

1. The Pay Item " Drainage System" shall include providing and installing 6" Fiberglass pipe, Reducers, Elbows, Inserts, Anchors Hangers, Clamps, Drainage Structures, and all other items necessary to complete the underdeck drainage system. It also include connection to existing drainage structure.
2. The elevations for proposed pipe inverts for the bridge drainage system shall be determined by the contractor in the field prior to fabrication and construction.
3. Areas disturbed by the installation of the bridge drainage system shall be restored in kind and the cost included with the Drainage System.
4. Locate anchors to miss existing reinforcement.
5. Bolts, nuts and washers for "Drainage System" shall conform to the requirement of ASTM A307.
6. Fiberglass pipe shall conform to ASTM D 2996 with short time rupture strength hoop tensile stress of 30,000 psi, minimum.
7. The surface of the fiberglass shall be free of bond inhibiting agents.
8. The cost of pipe support channel and installation are included in the cost of drainage system.



**DETAIL A-A**

**BILL OF MATERIAL**

Item	Unit	Quantity
Drainage System	L. Sum	1

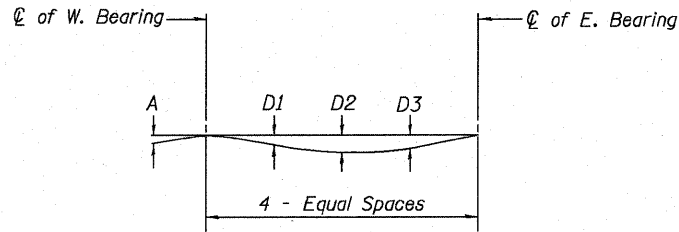
**INDEX OF SHEETS, GENERAL NOTES  
& BILL OF MATERIALS  
STRUCTURE NUMBER 016-1308**

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



**ELEVATION - DRAINAGE SYSTEM**  
(Looking East)

SHEET NO. S2	F.A.I. RTE. 90/94	SECTION 2010-075-I	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 11
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-09-10		ILLINOIS FED. AID PROJECT			



**DEAD LOAD DEFLECTION DIAGRAM**

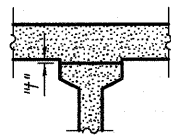
(Includes weight of concrete, excluding beams).

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 below and on sheet No. S4.

All dimensions are inches (in) except as noted.

All elevations and offsets shown in the "Top of slab Elevations Table" are in feet.



To determine "h" After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at interval shown below. These elevations subtracted from the Theoretical Grade Elevations Adjusted for Dead Load Deflection" minus slab thickness, equals the fillet heights "h" above top flange of beams.

**FILLET HEIGHTS**

**SOUTH EDGE OF DECK SLAB**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+30.15	34+58	14.20	14.20
☉ West Bearing	0+36.67	34.58	14.07	14.07
A	0+49.82	34.58	13.80	13.80
☉ East Bearing	0+59.82	34.58	13.78	13.78
Inside Face of East Parapet	0+60.57	34.58	13.78	13.78

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+29.97	33.13	14.20	14.20
☉ West Bearing	0+36.42	32.58	14.07	14.07
B	0+40.16	31.24	13.99	14.00
A	0+49.99	29.41	13.80	13.80
☉ East Bearing	0+59.82	27.58	13.59	13.59
Inside Face of East Parapet	0+60.57	27.44	13.58	13.58

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+28.56	22.08	14.20	14.20
☉ West Bearing	0+35.09	22.08	14.07	14.07
B	0+39.82	22.08	13.98	13.99
A	0+49.82	22.08	13.78	13.78
☉ East Bearing	0+59.82	22.08	13.58	13.58
Inside Face of East Parapet	0+60.57	22.08	13.56	13.56

**BEAM 3**

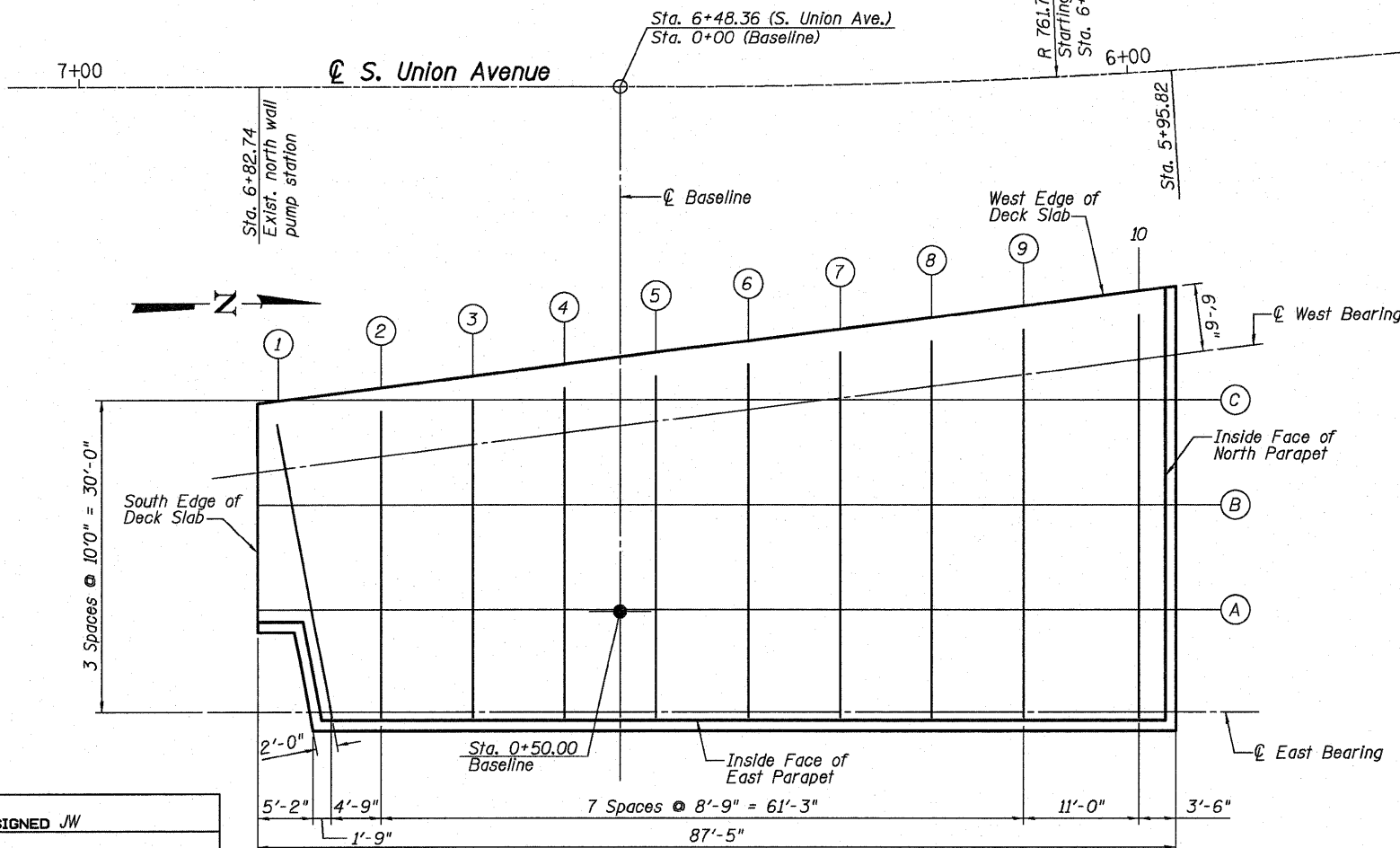
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+27.54	14.08	14.20	14.20
☉ West Bearing	0+34.07	14.08	14.07	14.07
B	0+39.82	14.08	13.95	13.96
A	0+49.82	14.08	13.75	13.76
☉ East Bearing	0+59.82	14.08	13.55	13.56
Inside Face of East Parapet	0+60.57	14.08	13.54	13.54

**BEAM DEAD LOAD DEFLECTION**

	A	D1	D2	D3
Beam 1	0	0	0	0
Beam 2	0	0	0	0
Beam 3	0	0	0	0
Beam 4	0	0	0	0
Beam 5	0	0	1/8	0
Beam 6	0	0	1/8	0
Beam 7	0	0	1/8	0
Beam 8	0	1/16	1/8	1/16
Beam 9	0	1/16	1/8	1/16
Beam 10	0	1/16	1/8	1/16

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+26.43	5.33	14.20	14.20
☉ West Bearing	0+32.96	5.33	14.07	14.07
B	0+39.82	5.33	13.93	13.94
A	0+49.82	5.33	13.73	13.74
☉ East Bearing	0+59.82	5.33	13.53	13.53
Inside Face of East Parapet	0+60.57	5.33	13.51	13.51



**TOP OF SLAB ELEVATIONS, LAYOUT AND DETAILS  
STRUCTURE NUMBER 016-1308**

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



**PLAN**

SHEET NO. S3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	12
S19 SHEETS	CONTRACT NO. 60L61				
	DATE: 12-03-10	ILLINOIS FED. AID PROJECT			

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+25.32	-3.42	14.20	14.20
⊕ West Bearing	0+31.85	-3.42	14.07	14.07
B	0+39.82	-3.42	13.91	13.92
A	0+49.82	-3.42	13.71	13.72
⊕ East Bearing	0+59.82	-3.42	13.51	13.51
Inside Face of East Parapet	0+60.57	-3.42	13.50	13.50

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+24.21	-12.17	14.20	14.20
⊕ West Bearing	0+30.73	-12.17	14.07	14.07
B	0+39.82	-12.17	13.88	13.89
A	0+49.82	-12.17	13.68	13.69
⊕ East Bearing	0+59.82	-12.17	13.18	13.48
Inside Face of East Parapet	0+60.57	-12.17	13.47	13.47

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+23.10	-20.92	14.20	14.20
⊕ West Bearing	0+29.62	-20.92	14.07	14.07
B	0+39.82	-20.92	13.86	13.87
A	0+49.82	-20.92	13.66	13.67
⊕ East Bearing	0+59.82	-20.92	13.46	13.46
Inside Face of East Parapet	0+60.57	-20.92	13.45	13.45

**BEAM 8**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+21.98	-29.67	14.20	14.20
⊕ West Bearing	0+28.51	-29.67	14.07	14.07
B	0+39.82	-29.67	13.84	13.85
A	0+49.82	-29.67	13.64	13.65
⊕ East Bearing	0+59.82	-29.67	13.44	13.44
Inside Face of East Parapet	0+60.57	-29.67	13.43	13.43

**BEAM 9**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+20.87	-38.42	14.20	14.20
⊕ West Bearing	0+23.90	-38.42	14.07	14.07
B	0+39.82	-38.42	13.82	13.84
A	0+49.82	-38.42	13.62	13.63
⊕ East Bearing	0+59.82	-38.42	13.42	13.42
Inside Face of East Parapet	0+60.57	-38.42	13.41	13.41

**BEAM 10**

Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+19.47	-49.42	14.20	14.20
⊕ West Bearing	0+26.00	-49.42	14.07	14.07
B	0+39.82	-49.42	13.79	13.80
A	0+49.82	-49.42	13.59	13.60
⊕ East Bearing	0+59.82	-49.42	13.39	13.39
Inside Face of East Parapet	0+60.57	-49.42	13.38	13.38

**INSIDE FACE OF NORTH PARAPET**

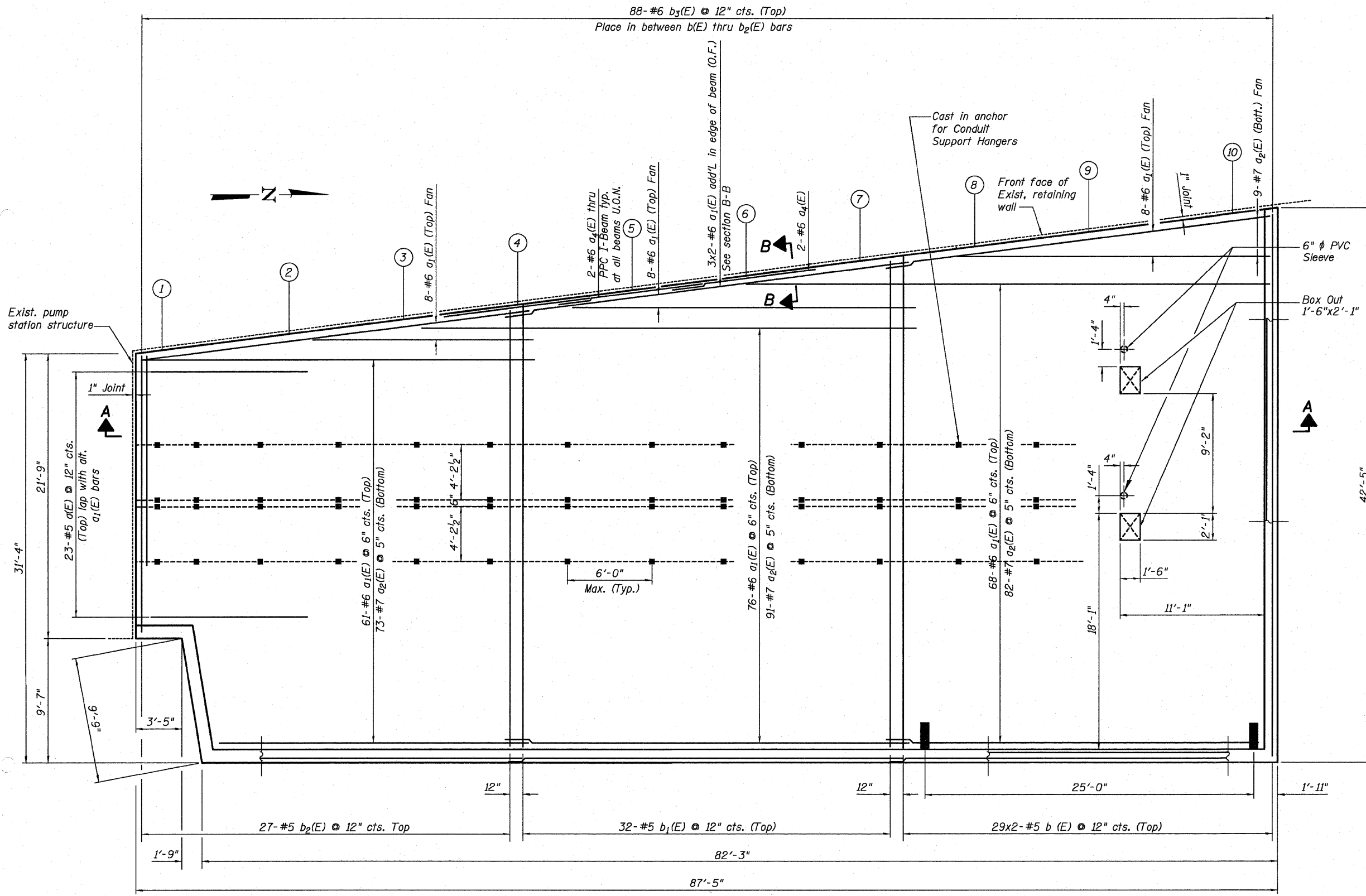
Location	Station	Offset	Theoretical Grade Elevation	Theoretical Grade Elevation Adjusted For Dead Load Deflection
West Edge of Deck	0+19.16	-51.92	14.20	14.20
C	0+29.82	-51.92	14.06	14.06
B	0+39.82	-51.92	13.78	13.78
A	0+49.82	-51.92	13.58	13.58
⊕ East Bearing	0+59.82	-51.92	13.38	13.38
Inside Face of East Parapet	0+60.57	-51.92	13.37	13.37

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



**TOP OF SLAB ELEVATIONS  
STRUCTURE NUMBER 016-1308**

SHEET NO. 54	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	13
S/9 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			



PLAN

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a (E)	23	#5	12'-0"	—	
a <sub>1</sub> (E)	239	#6	31'-8"	—	
a <sub>2</sub> (E)	259	#7	32'-7"	—	
a <sub>3</sub> (E)	32	#5	2'-0"	—	
a <sub>4</sub> (E)	20	#6	11'-6"	—	
b (E)	58	#5	22'-6"	—	
b <sub>1</sub> (E)	32	#5	37'-5"	—	
b <sub>2</sub> (E)	27	#5	33'-8"	—	
b <sub>3</sub> (E)	88	#6	20'-0"	—	
b <sub>4</sub> (E)	5	#6	30'-0"	—	
b <sub>5</sub> (E)	13	#6	31'-8"	—	
b <sub>6</sub> (E)	12	#6	32'-10"	—	
b <sub>7</sub> (E)	12	#6	34'-10"	—	
b <sub>8</sub> (E)	12	#6	35'-0"	—	
b <sub>9</sub> (E)	12	#6	36'-2"	—	
b <sub>10</sub> (E)	12	#6	37'-3"	—	
b <sub>11</sub> (E)	12	#6	38'-5"	—	
b <sub>12</sub> (E)	12	#6	39'-6"	—	
b <sub>13</sub> (E)	40	#6	22'-7"	—	
c (E)					
d (E)	223	#5	5'-0"	—	
d <sub>1</sub> (E)	57	#5	5'-3"	—	
d <sub>2</sub> (E)	57	#5	4'-0"	—	
d <sub>3</sub> (E)	306	#5	6'-0"	—	
d <sub>4</sub> (E)	44	#5	6'-2"	—	
d <sub>5</sub> (E)	44	#5	5'-6"	—	
e (E)	8	#5	3'-6"	—	
e <sub>1</sub> (E)	8	#5	9'-9"	—	
e <sub>2</sub> (E)	32	#5	20'-3"	—	
e <sub>3</sub> (E)	16	#5	21'-0"	—	
f (E)					
g (E)					
h (E)					
i (E)					
j (E)					
k (E)					
l (E)					
m (E)	42	#5	8'-2"	—	
m <sub>1</sub> (E)	42	#5	6'-10"	—	
m <sub>2</sub> (E)	12	#5	31'-4"	—	
m <sub>3</sub> (E)	2	#5	4'-3"	—	
m <sub>4</sub> (E)	4	#5	8'-8"	—	
m <sub>5</sub> (E)	4	#5	7'-4"	—	
m <sub>6</sub> (E)	6	#5	10'-4"	—	
m <sub>7</sub> (E)	6	#5	9'-2"	—	
m <sub>8</sub> (E)	6	#5	2'-6"	—	
n (E)					
x (E)	89	#4	7'-9"	□	
Item				Unit	Total
Reinforcement Bars, Epoxy Coated				Pound	49,330
Concrete Superstructure				Cu. Yd.	198.1

**MIN. BAR LAP.**

- #5 = 3'-3"
- #6 = 3'-10"
- #7 = 5'-2"

**NOTES:**

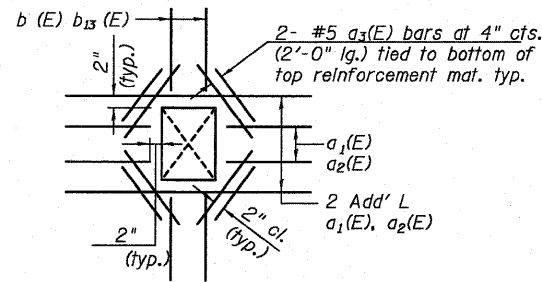
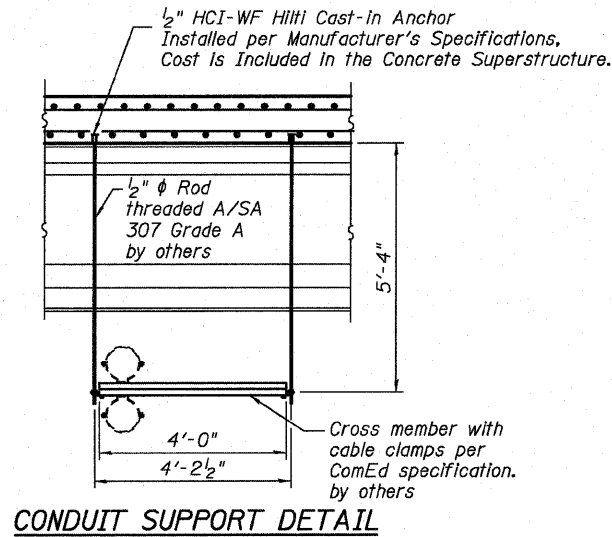
For Sections A-A and B-B see Sheet S6.  
See Sheet S7 for joint types and locations at the edge of slab and see Sheet S15 for joint details.

**SUPERSTRUCTURE PLAN AND BILL OF MATERIALS  
STRUCTURE NUMBER 016-1308**

DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH

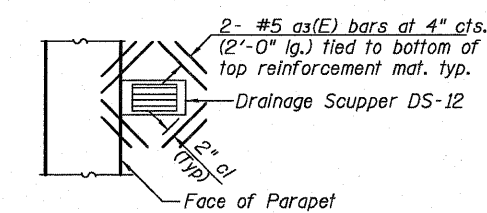


SHEET NO. S5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	14
S/S9 SHEETS		CONTRACT NO. 60L61			
DATE: 12-09-10		ILLINOIS FED. AID PROJECT			



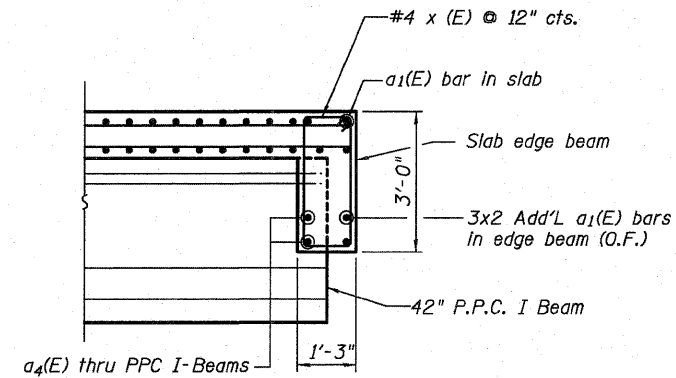
**PARTIAL PLAN AT OPENING**

Field cut  $a_1(E)$ ,  $a_2(E)$ ,  $b(E)$  and  $b_{13}(E)$  at opening. Provide additional  $a_1(E)$  and  $a_2(E)$  at both sides of opening for compensation. Field adjust bar location to avoid PVC sleeve.

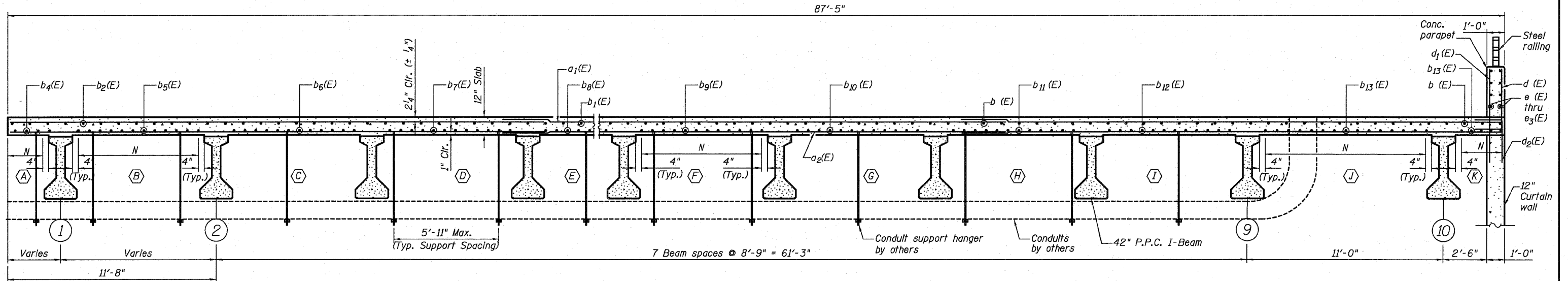
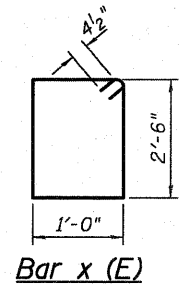


**PARTIAL PLAN AT SCUPPER**

Order  $b_1(E)$ ,  $b_2(E)$  thru  $b_{12}(E)$  bars in full size. Cut bars in field to fit deck shape



**SECTION B-B**

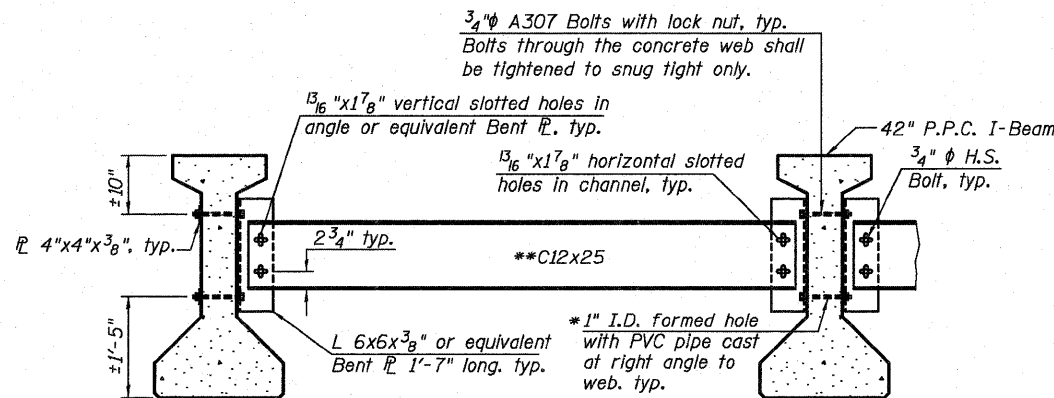


**SECTION A-A**

BAY	N
A	5-#6 $b_4(E)$ @ 8" cts. -Fan, (Bott.)
B	13-#6 $b_5(E)$ @ 8" cts. -Fan, (Bott.)
C	12-#6 $b_6(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
D	12-#6 $b_7(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
E	12-#6 $b_8(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
F	12-#6 $b_9(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
G	12-#6 $b_{10}(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
H	12-#6 $b_{11}(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
I	12-#6 $b_{12}(E)$ @ 7 $\frac{3}{8}$ " cts. (Bott.)
J	15x2-#6 $b_{13}(E)$ @ 7 $\frac{3}{4}$ " cts. (Bott.)
K	5x2-#6 $b_{13}(E)$ @ 7" cts. (Bott.)

**BRACING DETAIL NOTES:**

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes. All holes shall be  $\frac{15}{16}$ "  $\phi$  unless otherwise noted.  $\frac{5}{16}$ "x3"x3" plate washers are required over all slotted holes. All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection. Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.



**PERMANENT BRACING DETAIL**

Note:  
See Sheet SB of S19 for the permanent bracing location between P.P.C. I-Beams.

\* Fabricator shall locate to miss strands within permissible tolerances.

\*\* Alternate C12x30 channels are permitted to facilitate material acquisition

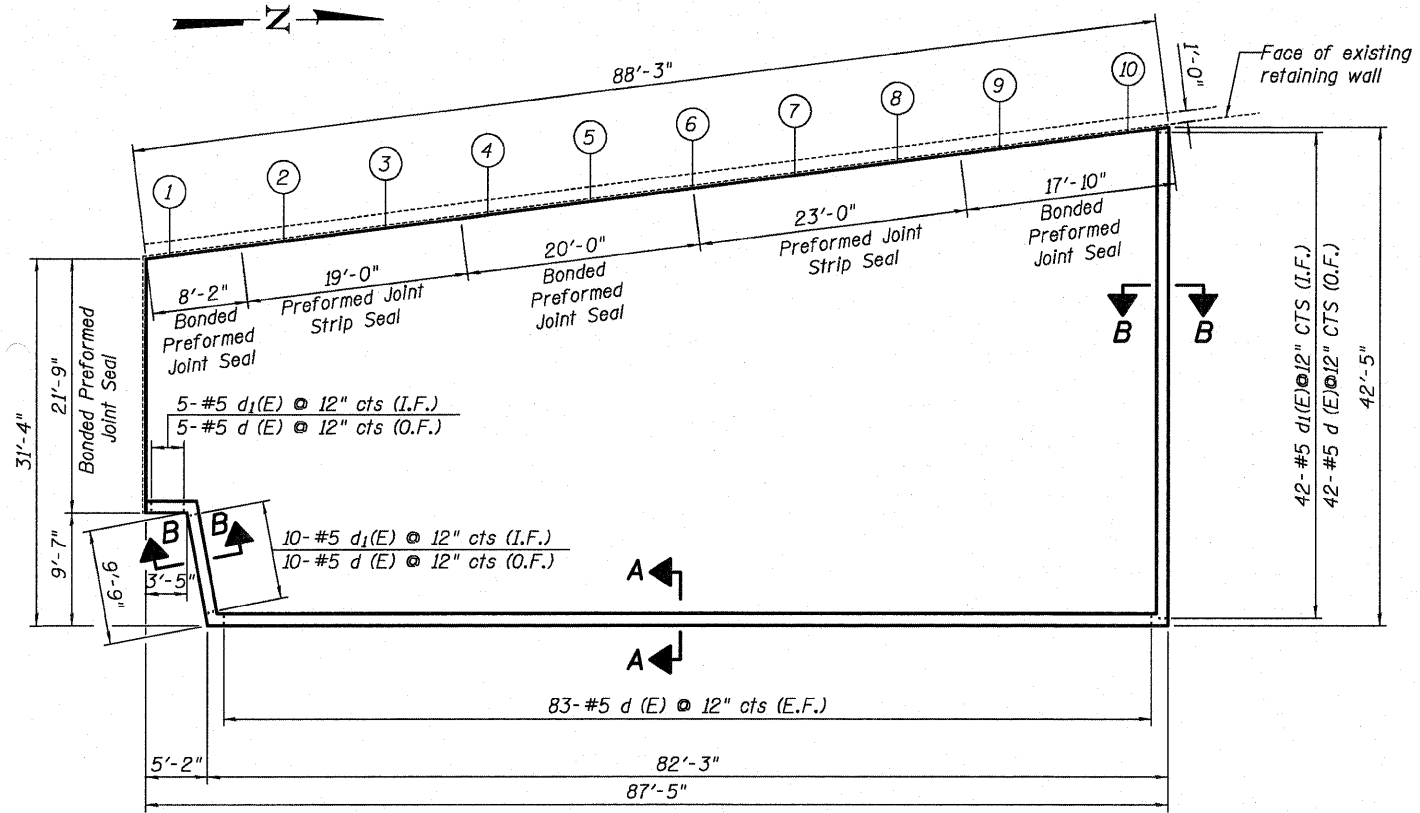
**SUPERSTRUCTURE SECTION AND DETAILS**

**STRUCTURE NUMBER 016-1308**

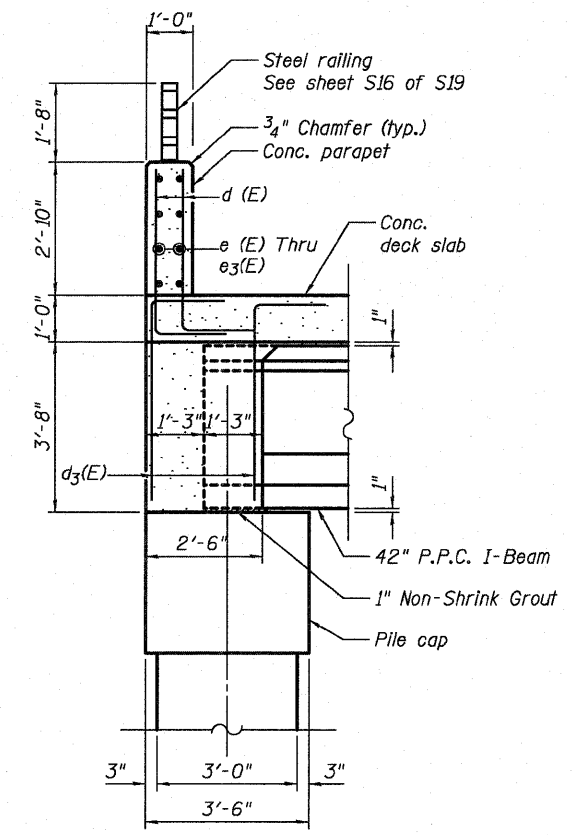
DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH

**Primera**  
100 S. WACKER DRIVE, SUITE 700, CHICAGO, IL 60605 . P.312-686-8800 F.312-686-0415

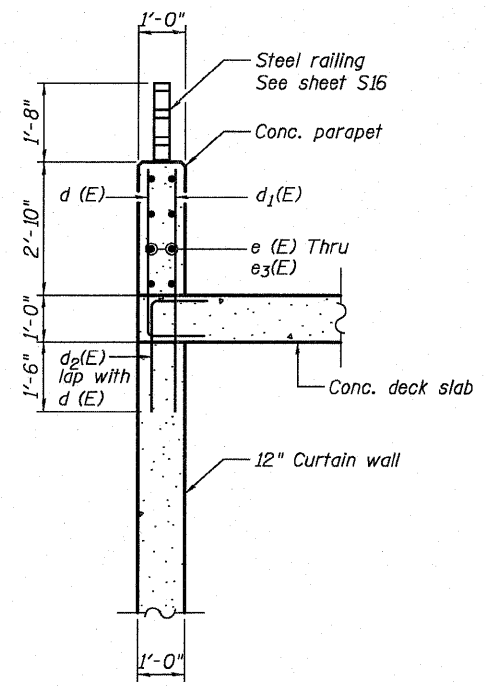
SHEET NO. S6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94		2010-075-I	COOK	33	15
S19 SHEETS			CONTRACT NO. 60L61		
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			



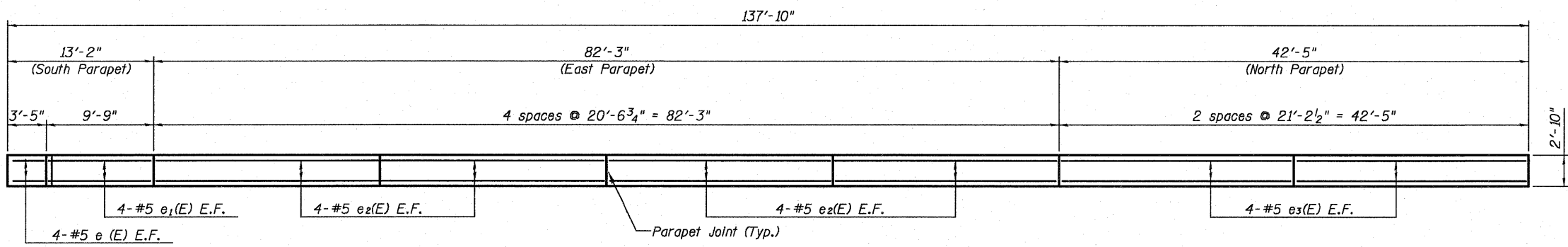
PARAPET PLAN



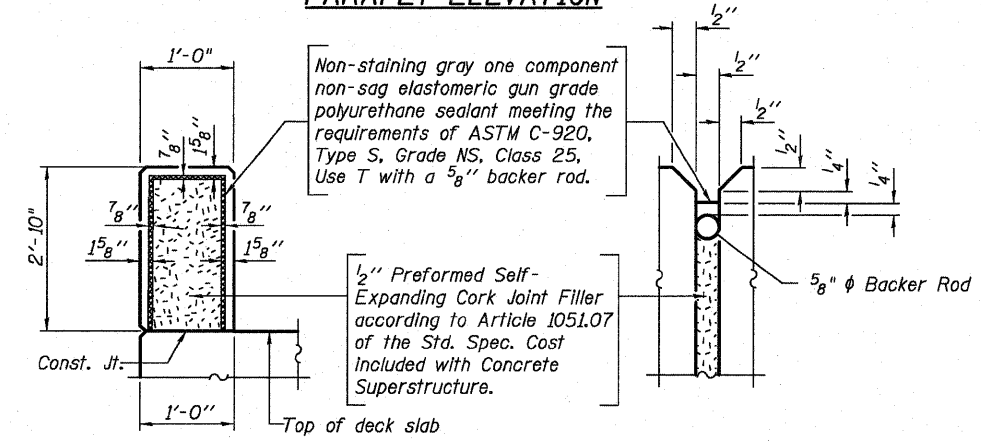
SECTION A-A



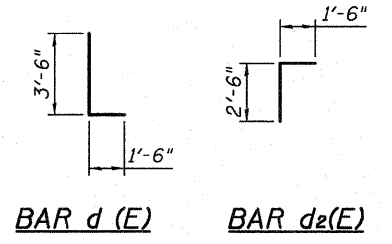
SECTION B-B



PARAPET ELEVATION



PARAPET JOINT DETAILS



Note:  
 E.F. = Each Face  
 I.F. = Inside Face  
 O.F. = Outside Face  
 See sheet S15 for joint details

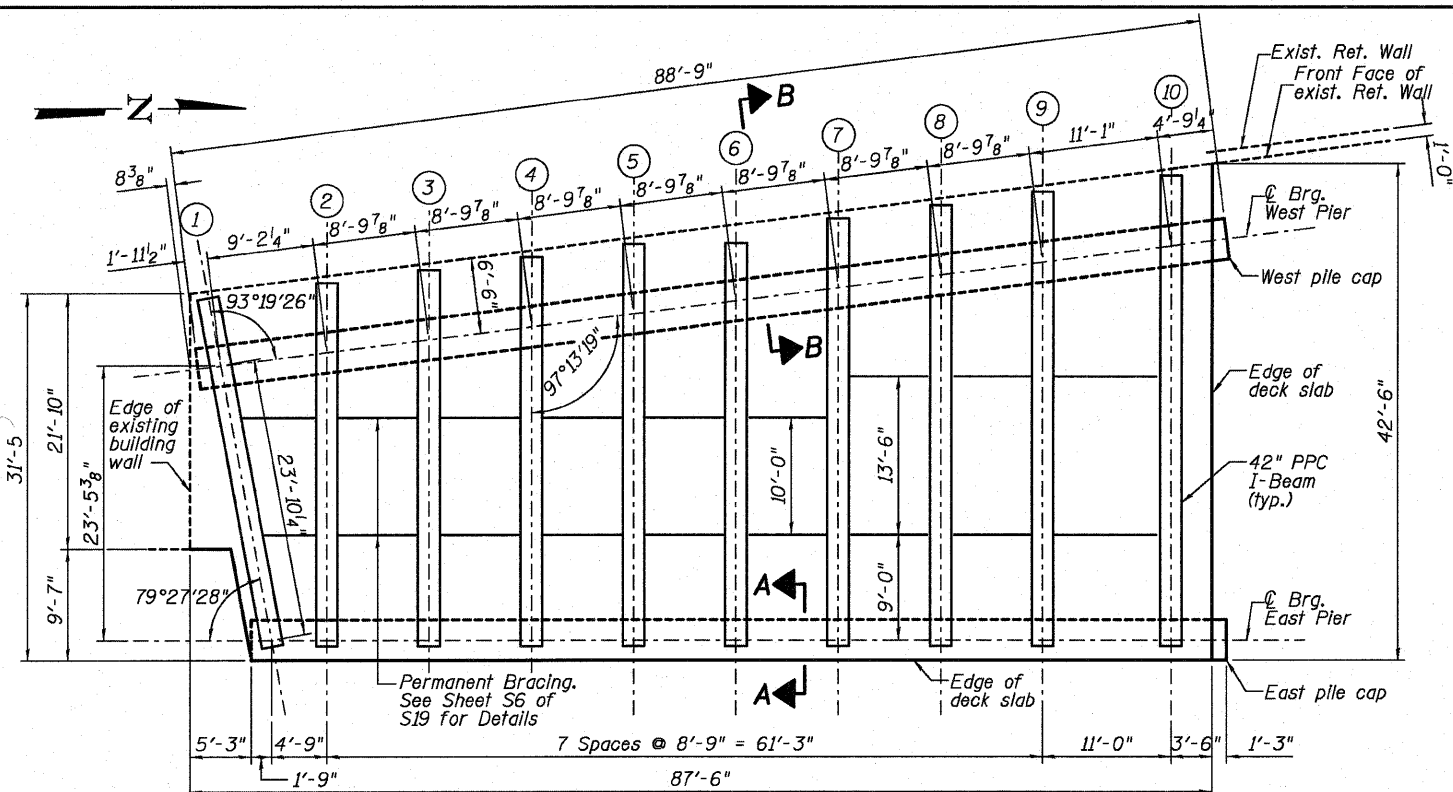
DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



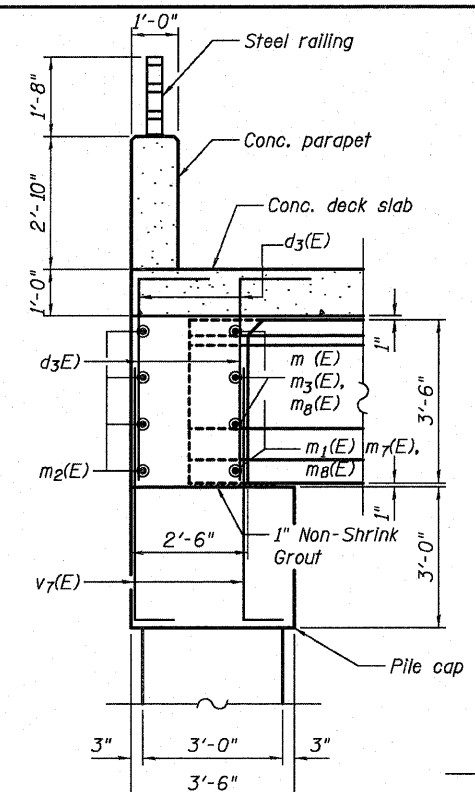
PARAPET PLAN, ELEVATION AND DETAILS  
 STRUCTURE NUMBER 016-1308

SHEET NO. S7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	16
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			

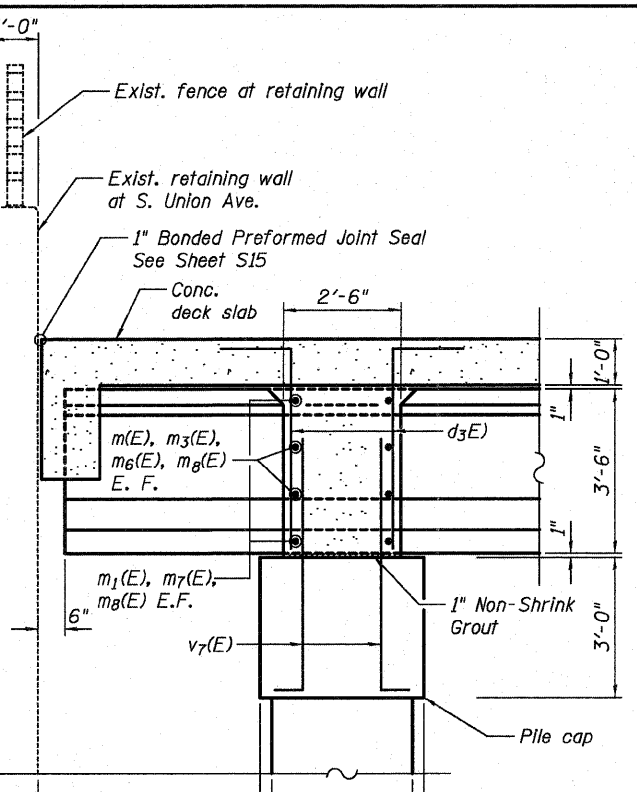




**FRAMING PLAN**



**SECTION A-A**

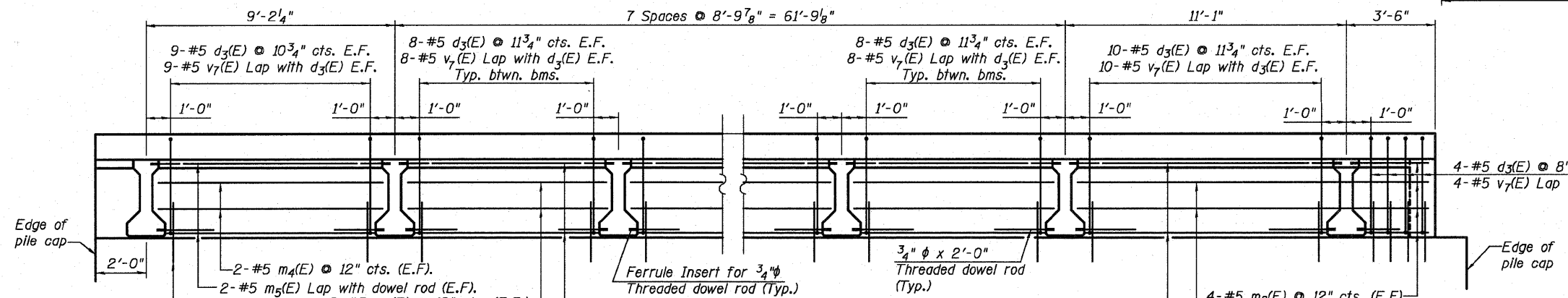


**SECTION B-B**

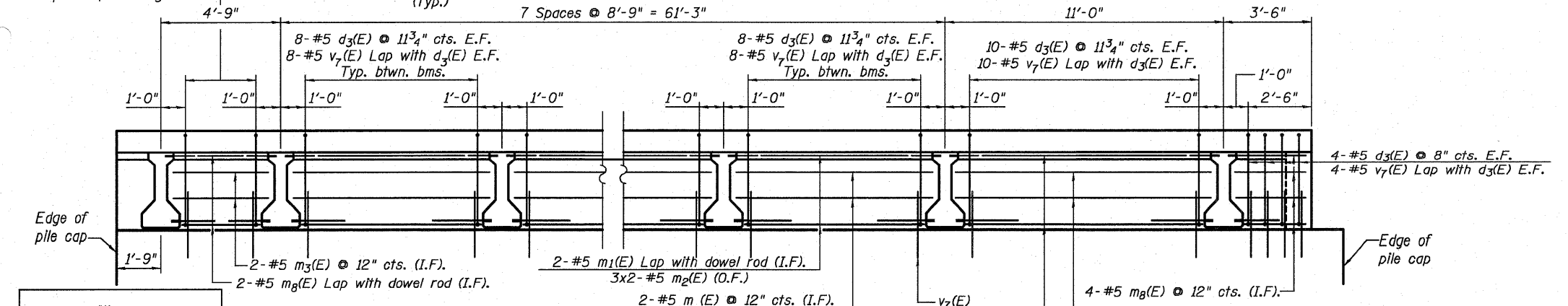
TYPICAL INTERIOR BEAM MOMENT TABLE		
	0.5 Sp. 1	℄ W. Pier
I (in <sup>4</sup> )	90956	90956
I' (in <sup>4</sup> )	391078	-
S <sub>b</sub> (in <sup>3</sup> )	5152	5152
S <sub>b'</sub> (in <sup>3</sup> )	10259	-
S <sub>t</sub> (in <sup>3</sup> )	3735	3735
S <sub>t'</sub> (in <sup>3</sup> )	100786	-
DCI (k/')	1.81	1.81
MDCI (k')	275	60
DW (k/')	0.44	0.44
M <sub>DW</sub> (k')	66	10
M <sub>℄ + IM</sub> (k)	1257	380

INTERIOR BEAM REACTION TABLE		
	East Pier	West Pier
R <sub>DCI</sub> (k)	25	40
R <sub>DW</sub> (k)	6	10
R <sub>℄ + IM</sub> (k)	123	130
R <sub>Total</sub> (k)	154	180

- I: Non-composite moment of inertia of beam section (in.<sup>4</sup>).
- I': Composite moment of inertia of beam section (in.<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>b'</sub>: Composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t'</sub>: Composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- DCI: Un-factored non-composite dead load (kips/ft.).
- MDCI: Un-factored moment due to non-composite dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>℄ + IM</sub>: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).



**DIAPHRAGM AT WEST PIER**



**DIAPHRAGM AT EAST PIER**

**MIN. BAR LAP.**  
 #4 = 2'-7"  
 #5 = 3'-3"

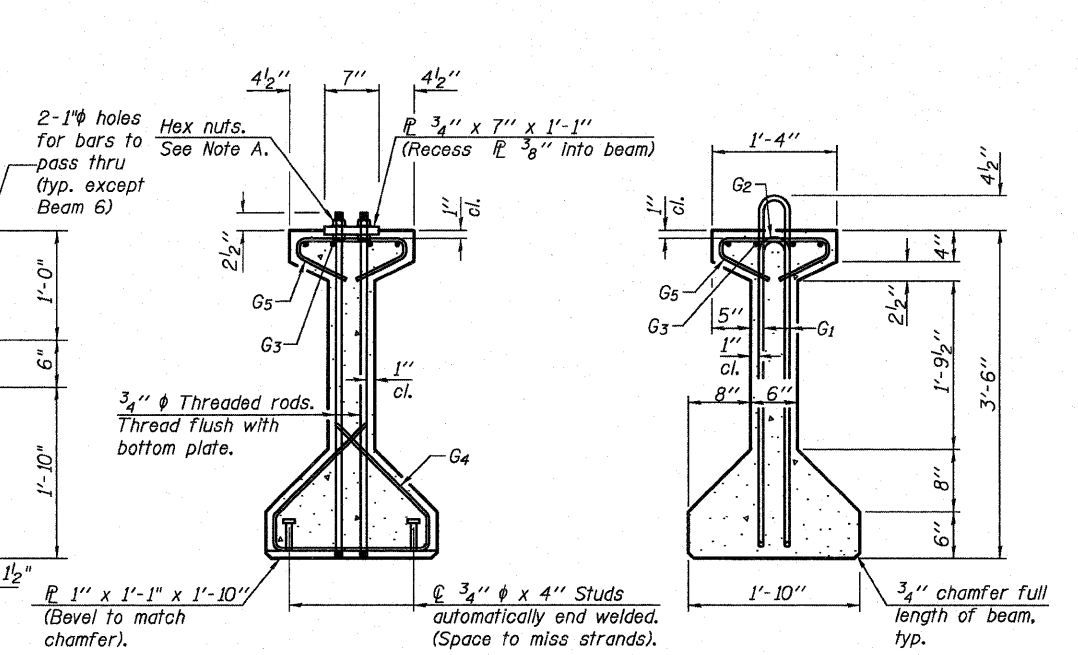
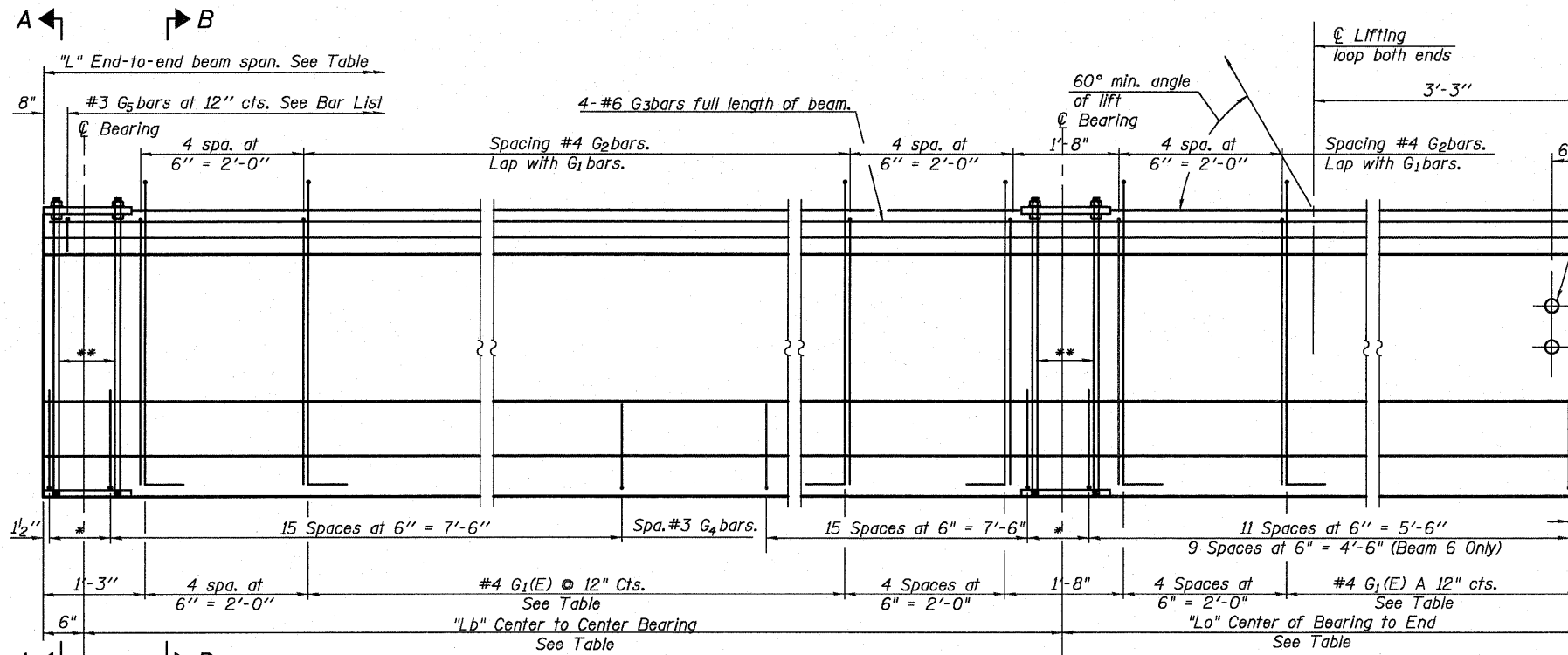
**BAR d3(E)**

DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH



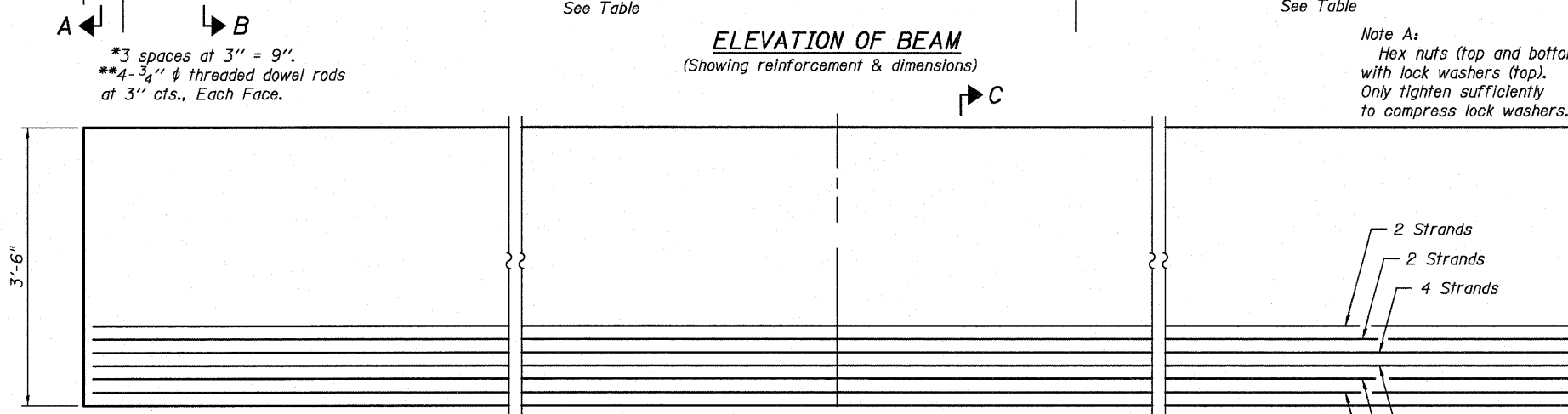
**FRAMING PLAN AND DIAPHRAGM DETAILS  
 STRUCTURE NUMBER 016-1308**

SHEET NO. S8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	17
S19 SHEETS		CONTRACT NO. 60L61			
DATE: 12-09-10		ILLINOIS FED. AID PROJECT			

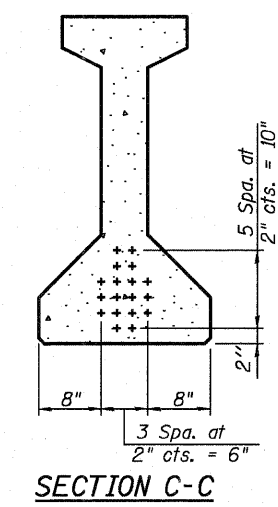


**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION C-C**

**BEAM SPAN LENGTH**

Beam	Span "L"	Bearing "Lb"	Overhang "Lo"
Beam 1	30'-4 1/4"	23'-10 1/4"	6'-0"
Beam 2	31'-1 1/4"	24'-7 1/4"	6'-0"
Beam 3	32'-2 1/2"	25'-8 1/2"	6'-0"
Beam 4	33'-3 3/8"	26'-9 3/8"	6'-0"
Beam 5	34'-5 1/8"	27'-11 1/8"	6'-0"
Beam 6	34'-6 1/2"	29'-0 1/2"	5'-0"
Beam 7	36'-7 3/4"	30'-1 3/4"	6'-0"
Beam 8	37'-9 1/8"	31'-3 1/8"	6'-0"
Beam 9	38'-10 3/8"	32'-4 3/8"	6'-0"
Beam 10	40'-3"	33'-9"	6'-0"

**\*\*\*BAR LIST - BEAM 1**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	35	#4	8'-5"	∩L
G <sub>2</sub>	35	#4	6'-8"	∩
G <sub>3</sub>	4	#6	30'-2"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	31	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 2**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	36	#4	8'-5"	∩L
G <sub>2</sub>	36	#4	6'-8"	∩
G <sub>3</sub>	4	#6	29'-11"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	32	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 3**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	37	#4	8'-5"	∩L
G <sub>2</sub>	37	#4	6'-8"	∩
G <sub>3</sub>	4	#6	32'-0"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	33	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 4**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	38	#4	8'-5"	∩L
G <sub>2</sub>	38	#4	6'-8"	∩
G <sub>3</sub>	4	#6	33'-1"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	34	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 5**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	39	#4	8'-5"	∩L
G <sub>2</sub>	39	#4	6'-8"	∩
G <sub>3</sub>	4	#6	34'-3"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	35	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 6**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	39	#4	8'-5"	∩L
G <sub>2</sub>	39	#4	6'-8"	∩
G <sub>3</sub>	4	#6	34'-4"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	35	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 7**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	41	#4	8'-5"	∩L
G <sub>2</sub>	41	#4	6'-8"	∩
G <sub>3</sub>	4	#6	36'-5"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	37	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 8**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	42	#4	8'-5"	∩L
G <sub>2</sub>	42	#4	6'-8"	∩
G <sub>3</sub>	4	#6	37'-7"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	38	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 9**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	43	#4	8'-5"	∩L
G <sub>2</sub>	43	#4	6'-8"	∩
G <sub>3</sub>	4	#6	38'-8"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	39	#3	2'-6"	⊔

**\*\*\*BAR LIST - BEAM 10**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	45	#4	8'-5"	∩L
G <sub>2</sub>	45	#4	6'-8"	∩
G <sub>3</sub>	4	#6	40'-1"	—
G <sub>4</sub>	44	#3	4'-11"	⊔
G <sub>5</sub>	41	#3	2'-6"	⊔

\*\*\*For information only.

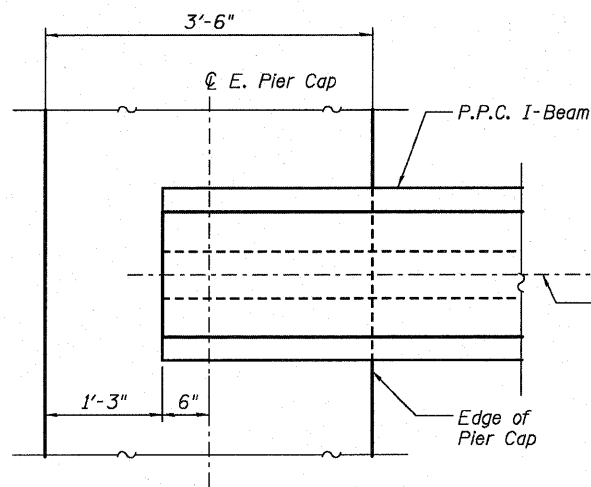
Notes:  
See sheet S10 of S19 for additional details and Bill of Material.  
Required release strength, f'cl, shall be 5000 psi.

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH

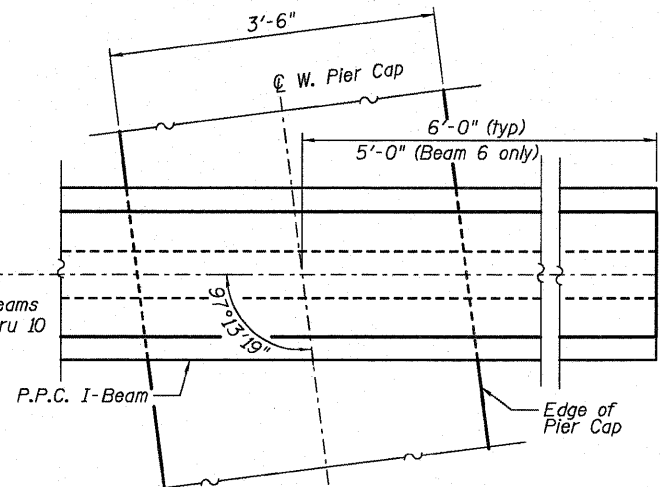


**BEAM ELEVATIONS AND DETAILS**  
**STRUCTURE NUMBER 016-1308**

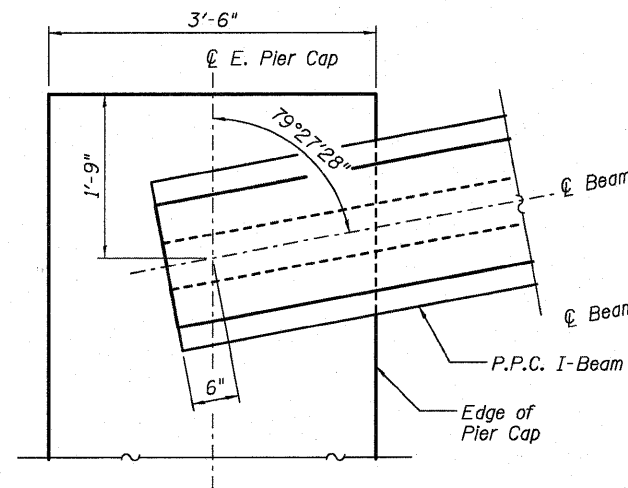
SHEET NO. S9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	18
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			



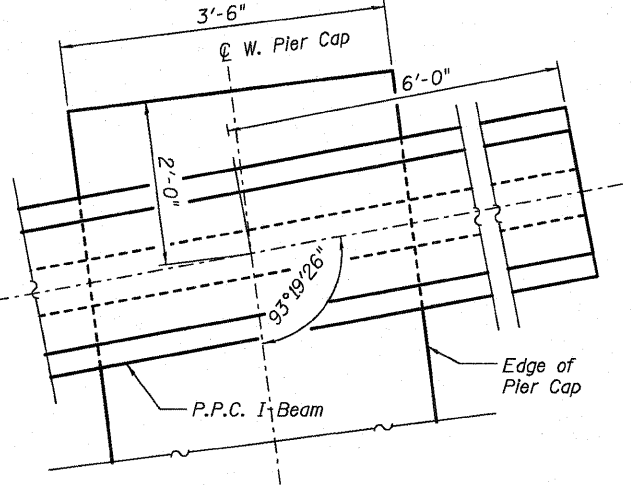
**PLAN OF BEAM AT EAST PIER CAP**  
Beams 2 thru 10



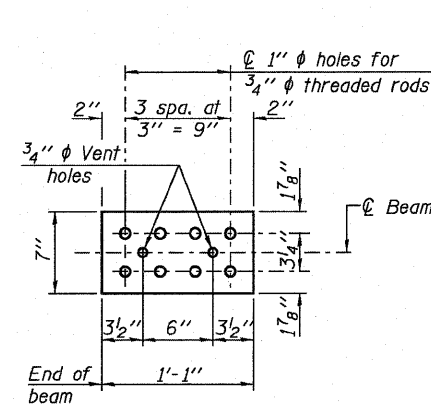
**PLAN OF BEAM AT WEST PIER CAP**  
Beams 2 thru 10



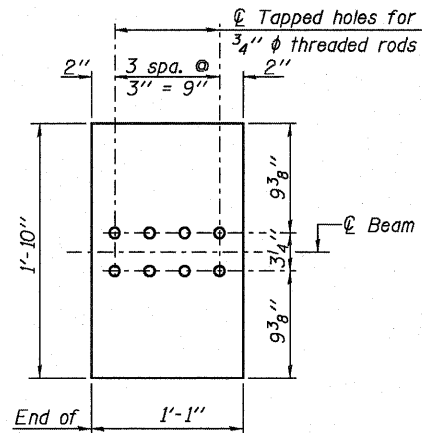
**PLAN OF BEAM AT EAST PIER CAP**  
Beam 1 only



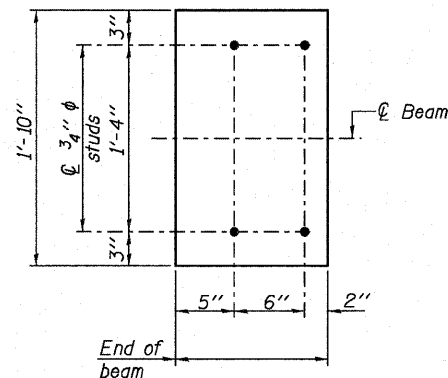
**PLAN OF BEAM AT WEST PIER CAP**  
Beam 1 only



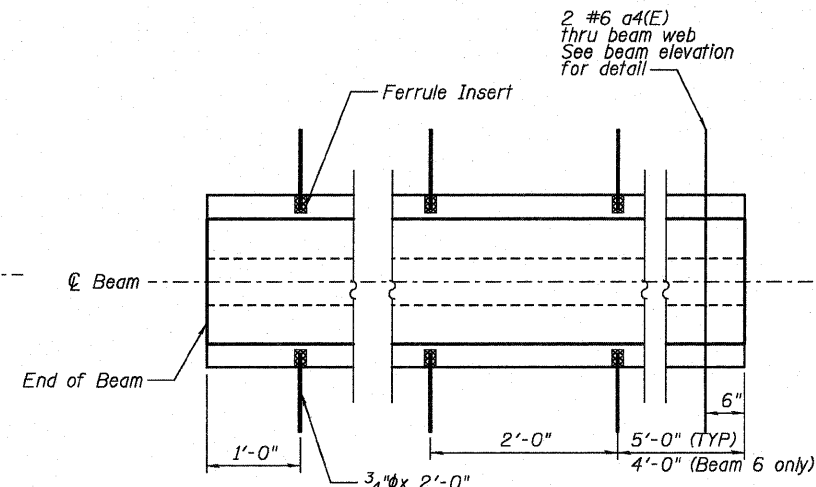
**TOP PLATE**



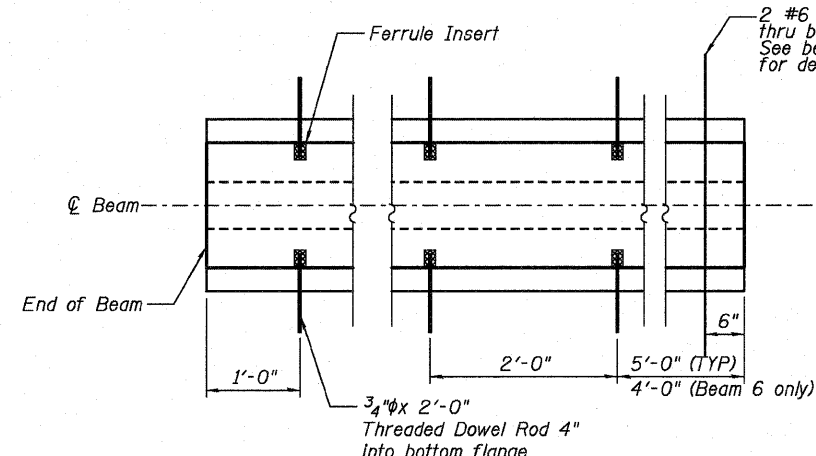
**BOTTOM PLATE**  
(Showing threaded rods)



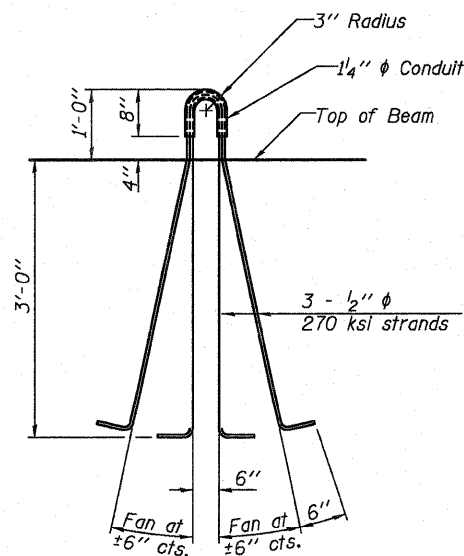
**BOTTOM PLATE**  
(Showing studs)



**DOWEL ROD AT BOTTOM FLANGE**



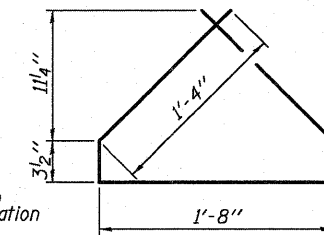
**DOWEL ROD AT TOP FLANGE**



**LIFTING LOOP DETAIL**

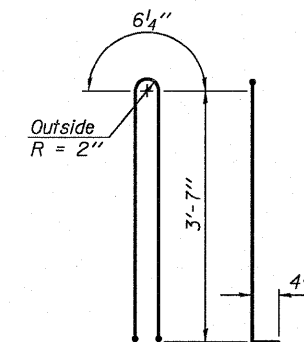
**NOTES**

Inserts for 3/4"  $\phi$  threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). A minimum 2 1/2"  $\phi$  lifting pin shall be used to engage the lifting loops during handling. The top and bottom plates shall be AASHTO M270 Grade 50. The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized. Threaded rods shall be ASTM F 1554 Grade 55.

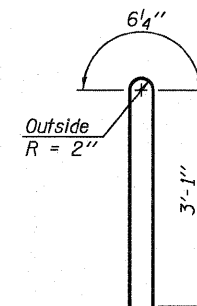


**BAR G5**

**BAR G4**



**BAR G1**



**BAR G2**

**BILL OF MATERIAL**

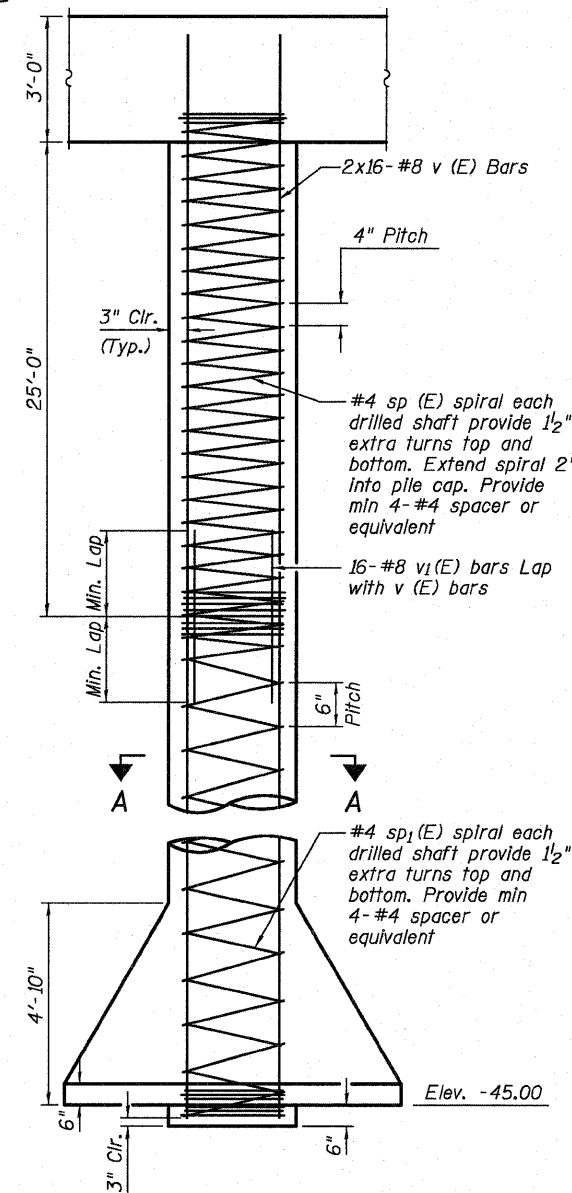
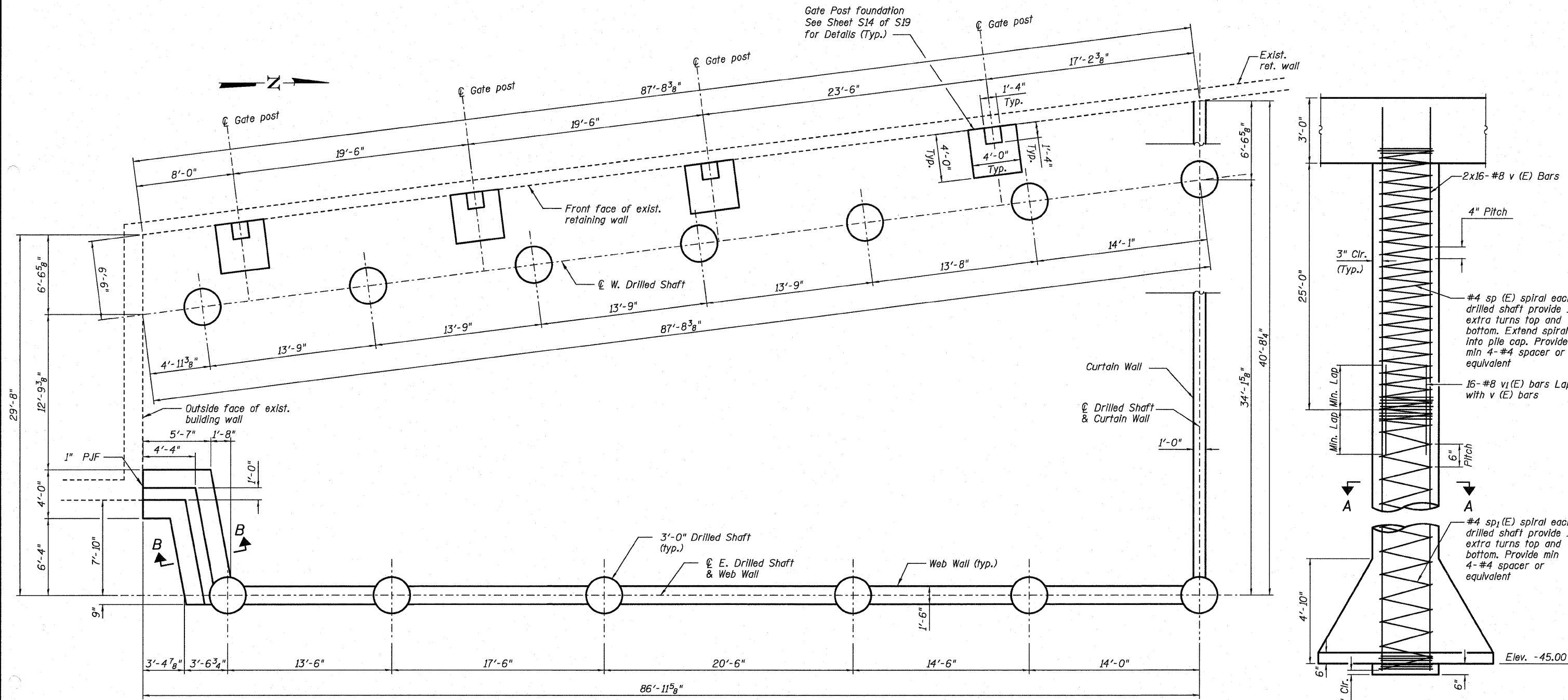
Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	Foot	350

**BEAM DETAILS**  
**STRUCTURE NUMBER 016-1308**

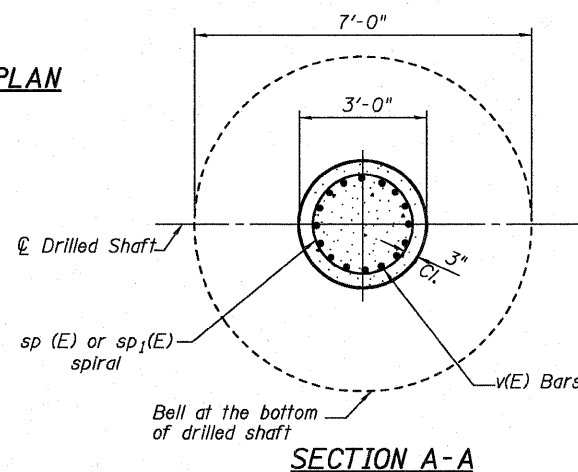
DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



SHEET NO. S10	F.A.I. RTE. 90/94	SECTION 2010-075-I	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 19
S19 SHEETS	DATE: 12-03-10		ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 60L61		



**FOUNDATION PLAN**



**MIN. BAR LAP**

- #5 = 3'-3"
- #6 = 3'-10"
- #7 = 5'-2"
- #8 = 6'-9"

**Notes:**

See Sheet S14 for Section B-B.

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH



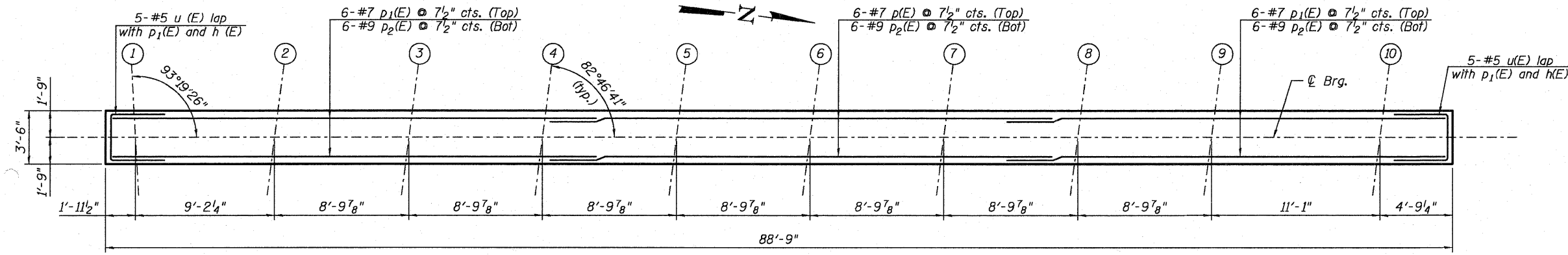
**FOUNDATION PLAN AND DETAILS  
STRUCTURE NUMBER 016-1308**

SHEET NO. S1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S19 SHEETS	90/94	2010-075-I	COOK	33	20
			CONTRACT NO. 60L61		
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			

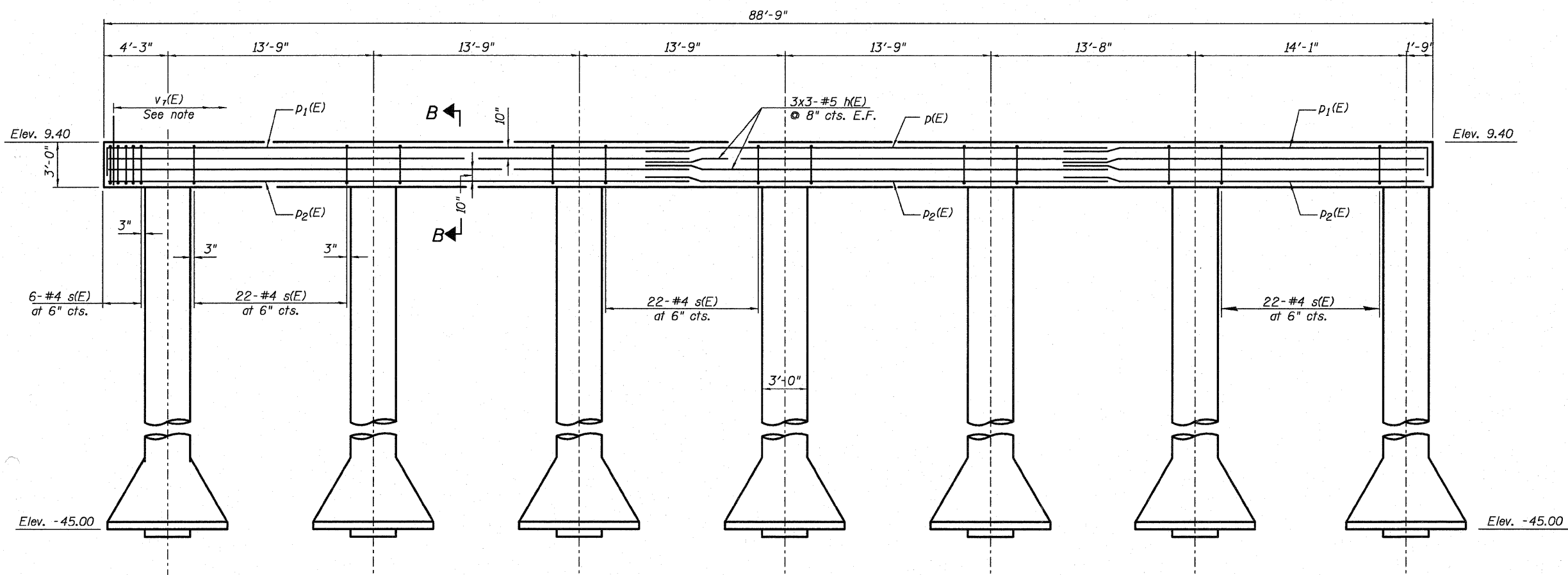
**WEST PIER  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	18	#5	31'-8"	—
p(E)	6	#7	33'-0"	—
p <sub>1</sub> (E)	12	#7	35'-8"	└
p <sub>2</sub> (E)	18	#9	35'-4"	—
s(E)	138	#4	12'-4"	□
* sp(E)	7	#5	26'-0"	⋈
* sp <sub>1</sub> (E)	7	#5	28'-0"	⋈
u(E)	10	#5	9'-2"	┘
v(E)	224	#8	31'-6"	—
v <sub>1</sub> (E)	112	#8	14'-0"	—
v <sub>7</sub> (E)	158	#5	5'-4"	└
Concrete Structures		Cu. Yd.	34.5	
Reinforcement Bars, Epoxy Coated		Pound	29,570	
Drilled Shaft in Soil		Cu. Yd.	114.8	

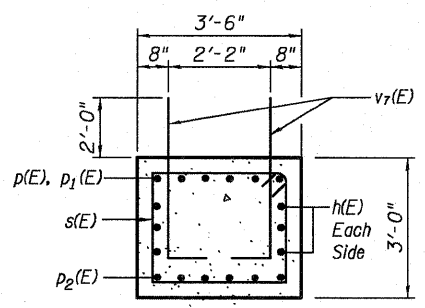
\* Length is height of spiral



**TOP PLAN**



**ELEVATION**

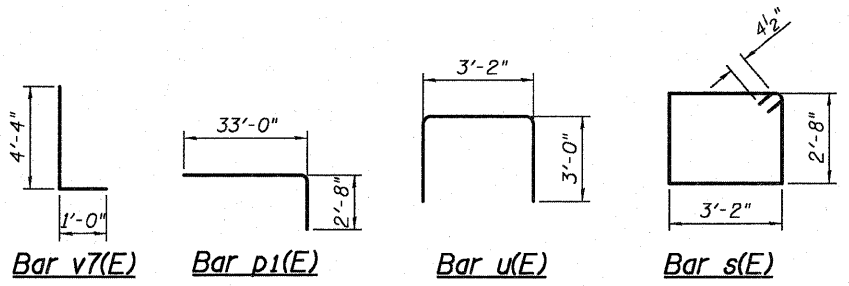


**SECTION B-B**

**NOTES:**

See Diaphragm elevations on Sheet S8 of S19 for location and spacing of v<sub>7</sub>(E).  
See Sheet S11 for Drilled Shaft reinforcement details.

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH

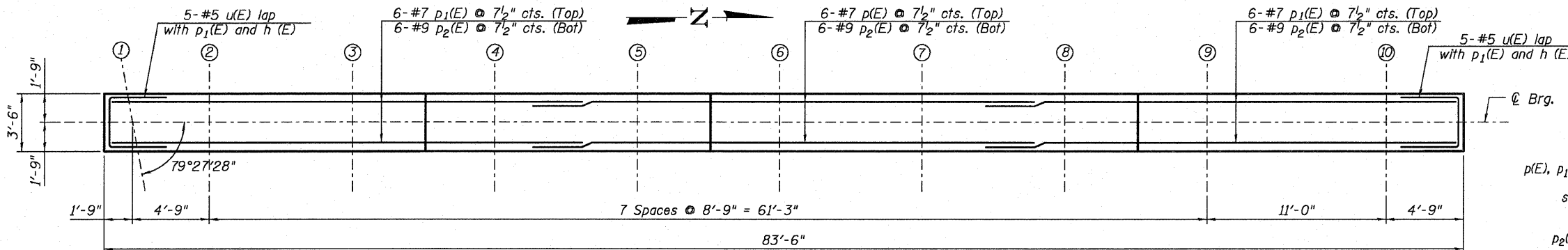


**MIN. BAR LAP**

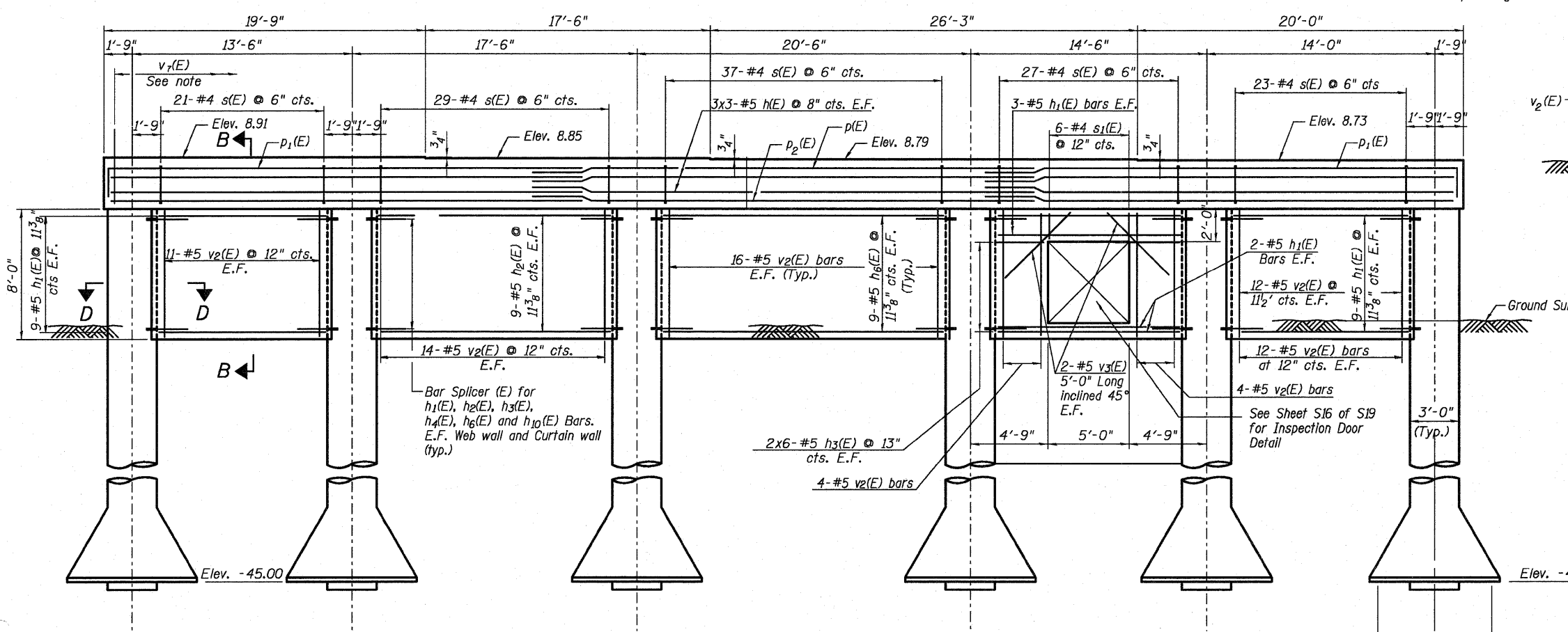
- #5 = 3'-3"
- #6 = 3'-10"
- #7 = 5'-2"
- #8 = 6'-9"

**WEST PIER DETAILS  
STRUCTURE NUMBER 016-1308**

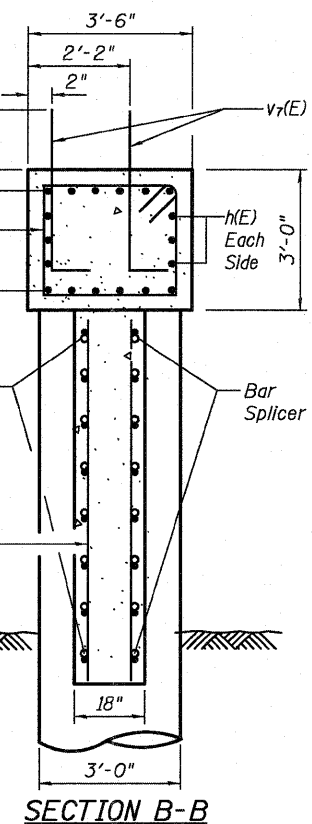
SHEET NO. S12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	21
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			



**TOP PLAN**



**ELEVATION**



**SECTION B-B**

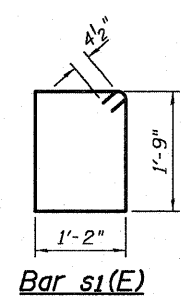
**EAST PIER  
BILL OF MATERIAL**

Bar No.	Size	Length	Shape
h(E)	18 #5	31'-8"	—
h1(E)	46 #5	10'-6"	—
h2(E)	18 #5	14'-0"	—
h3(E)	24 #5	3'-0"	—
h6(E)	18 #5	17'-6"	—
p(E)	6 #7	33'-0"	—
p1(E)	12 #7	35'-8"	└
p2(E)	18 #9	35'-4"	—
s(E)	137 #4	12'-4"	□
s1(E)	6 #4	6'-7"	□
sp(E)	6 #5	26'-0"	≡
sp1(E)	6 #5	28'-0"	≡
u(E)	10 #5	9'-2"	└
v(E)	192 #8	31'-6"	—
v1(E)	96 #8	14'-0"	—
v2(E)	122 #5	7'-8"	—
v3(E)	4 #5	5'-0"	—
v7(E)	148 #5	5'-4"	└
Concrete Structures	Cu. Yd.	69.1	
Reinforcement Bars, Epoxy Coated	Pound	28,360	
Bar Splicers	Each	180	
Drilled Shaft in Soil	Cu. Yd.	88.0	

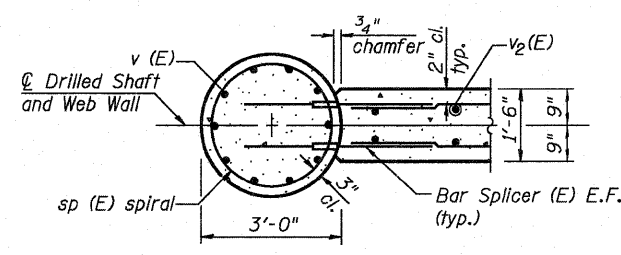
\* Length is height of spiral

**NOTES:**

- See Diaphragm elevations on Sheet S8 of S19 for location and spacing of v7(E).
- See Sheet S11 for Drilled Shaft reinforcement details.
- See Sheet S12 for Bars v7(E), p1(E), u(E) and s(E) details.
- See Sheet S14 for additional Bar Splicers in Drilled Shafts for Curtain Walls.



**Bar s1(E)**



**SECTION D-D**

**MIN. BAR LAP**

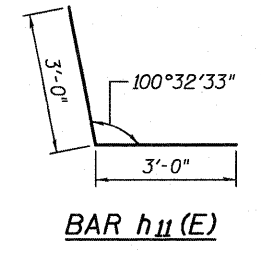
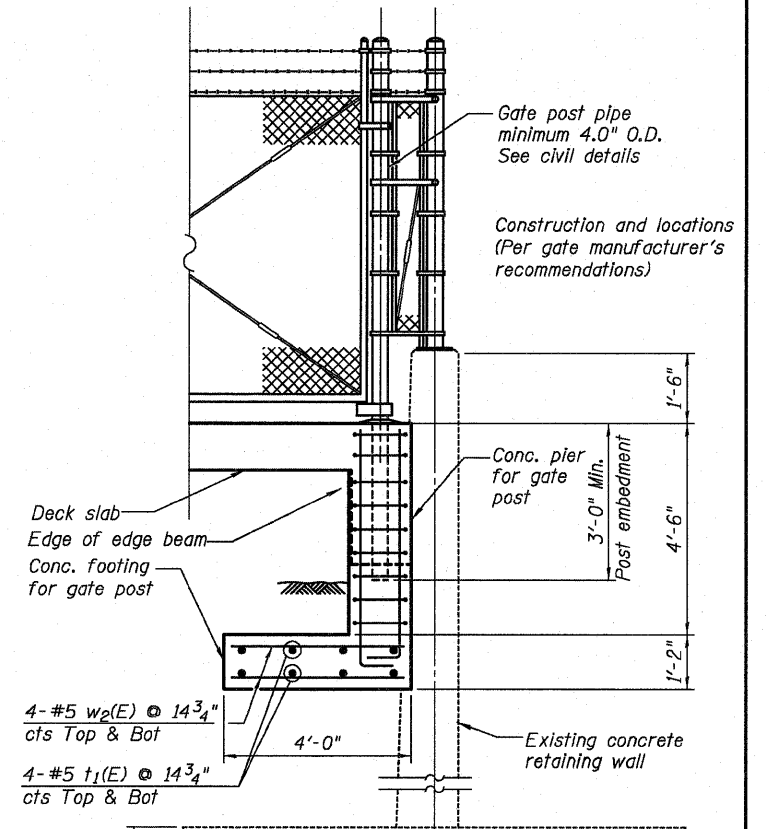
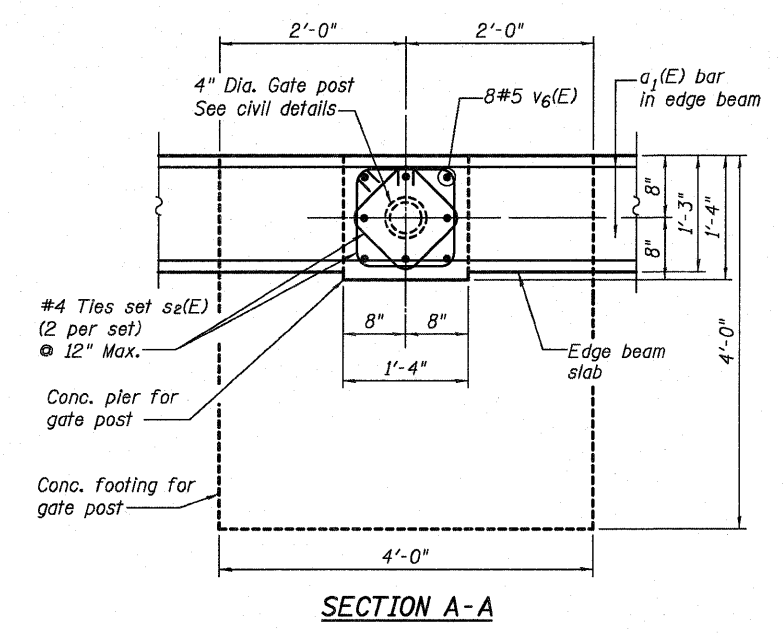
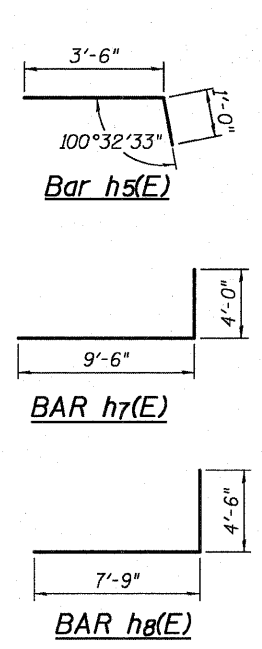
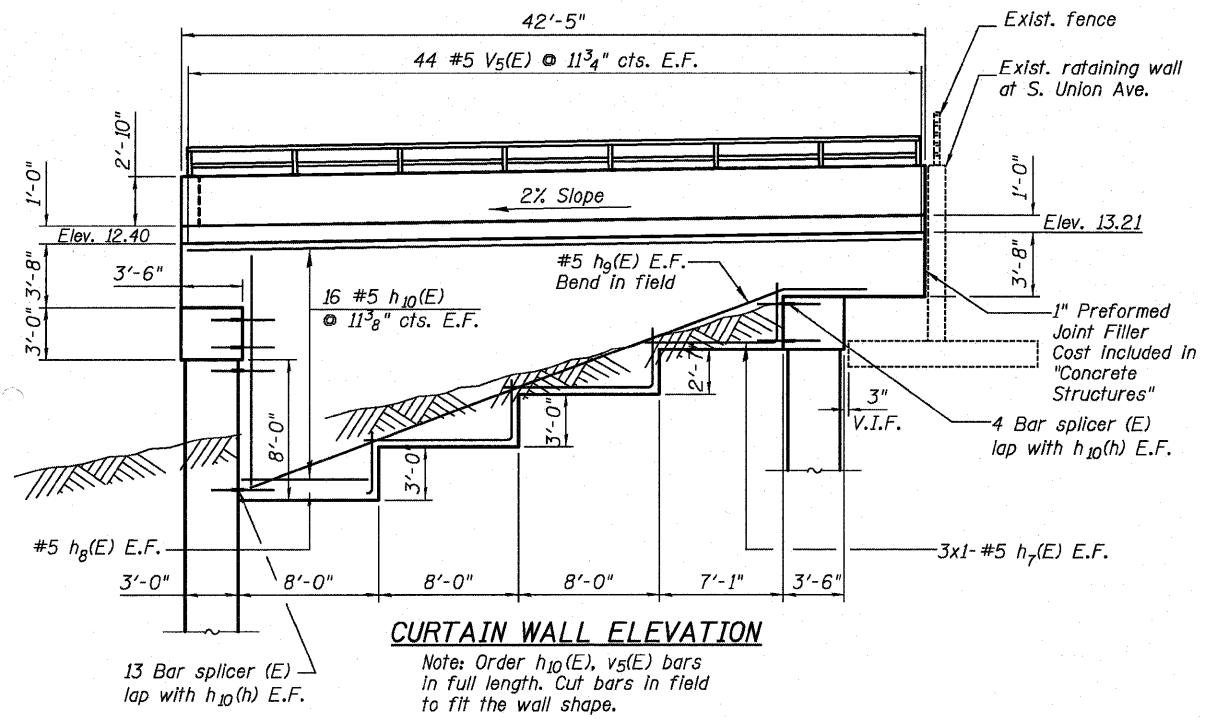
- #5 = 3'-3"
- #6 = 3'-10"
- #7 = 5'-2"
- #8 = 6'-9"

DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH



**EAST PIER DETAILS  
STRUCTURE NUMBER 016-1308**

SHEET NO. S13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	22
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			

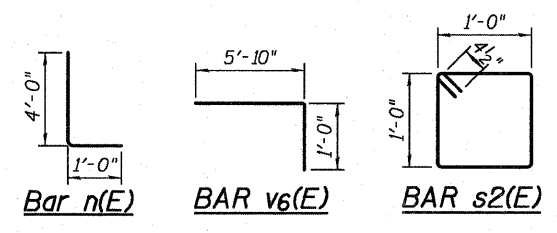


Elev. Varies From +4.25 to +5.48

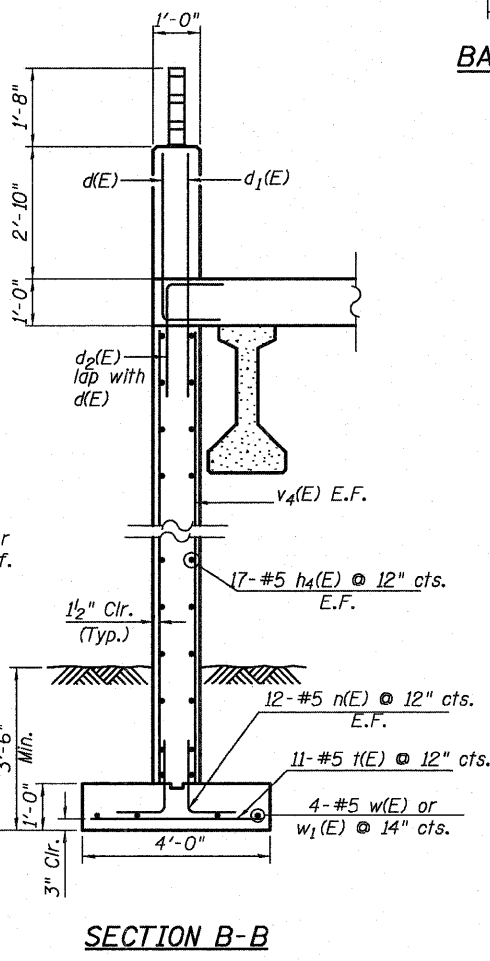
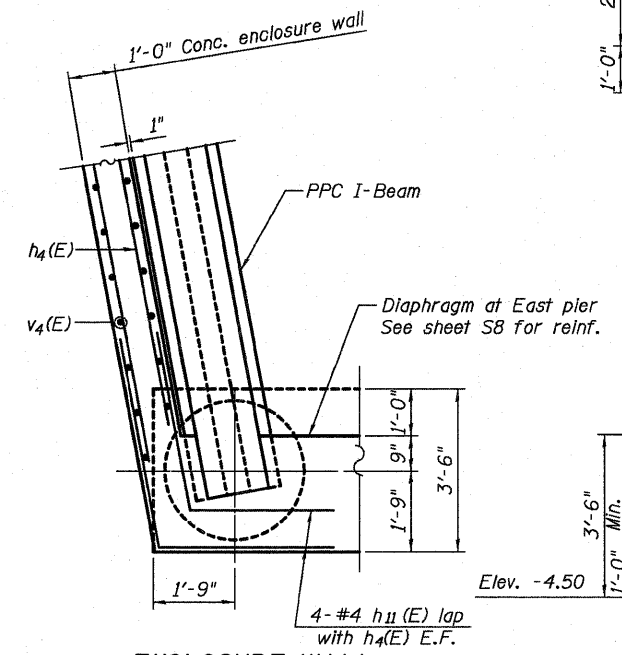
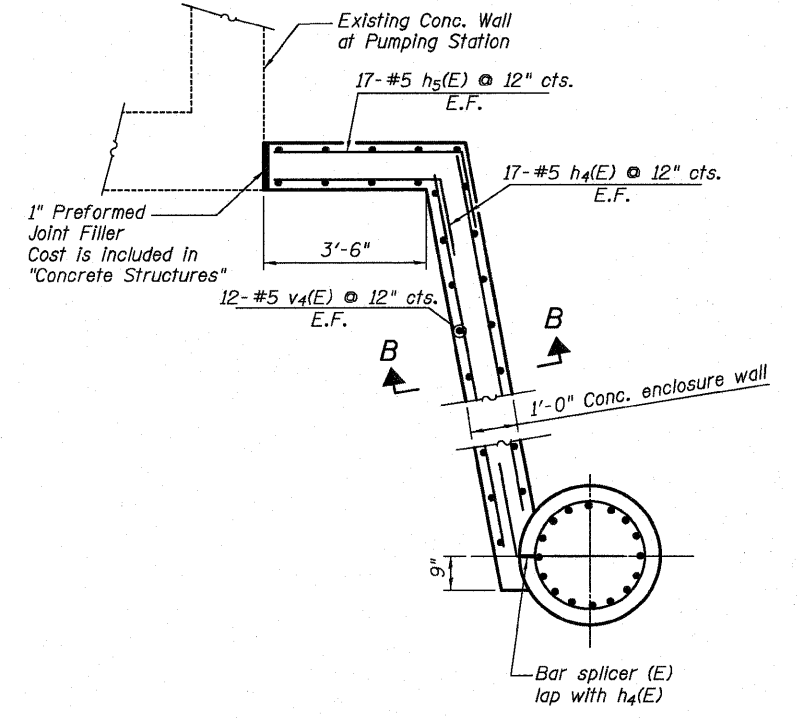
**SUBSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>4</sub> (E)	34	#5	8'-0"	—
h <sub>5</sub> (E)	34	#5	4'-6"	—
h <sub>7</sub> (E)	6	#5	13'-6"	—
h <sub>8</sub> (E)	2	#5	12'-3"	—
h <sub>9</sub> (E)	2	#5	39'-6"	—
h <sub>10</sub> (E)	32	#5	42'-3"	—
h <sub>11</sub> (E)	8	#5	6'-0"	—
h <sub>12</sub> (E)	8	#5	7'-0"	—
h <sub>13</sub> (E)	8	#5	6'-0"	—
n (E)	24	#5	5'-0"	—
t (E)	11	#5	3'-6"	—
t <sub>1</sub> (E)	32	#5	3'-8"	—
s <sub>2</sub> (E)	48	#4	4'-9"	□
v <sub>4</sub> (E)	24	#5	18'-10"	—
v <sub>5</sub> (E)	88	#5	14'-2"	—
v <sub>6</sub> (E)	32	#5	6'-10"	—
v <sub>7</sub> (E)	16	#5	5'-4"	—
w(E)	4	#5	9'-0"	—
w <sub>1</sub> (E)	4	#5	4'-0"	—
w <sub>2</sub> (E)	32	#5	3'-8"	—
Concrete Structures		Cu. Yd.	26.2	
Reinforcement Bars, Epoxy Coated		Pound	4910	
Bar Splicers		Each	51	

**SUBSTRUCTURE DETAILS STRUCTURE NUMBER 016-1308**



Note: See Sheet S11 for location of Section B-B.

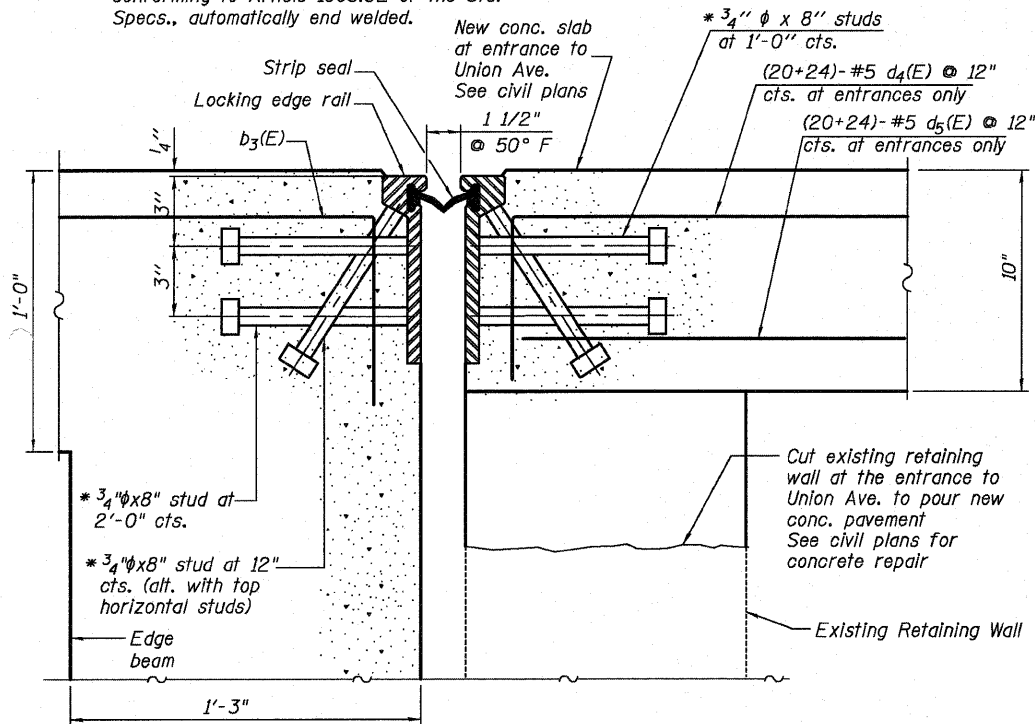


DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH

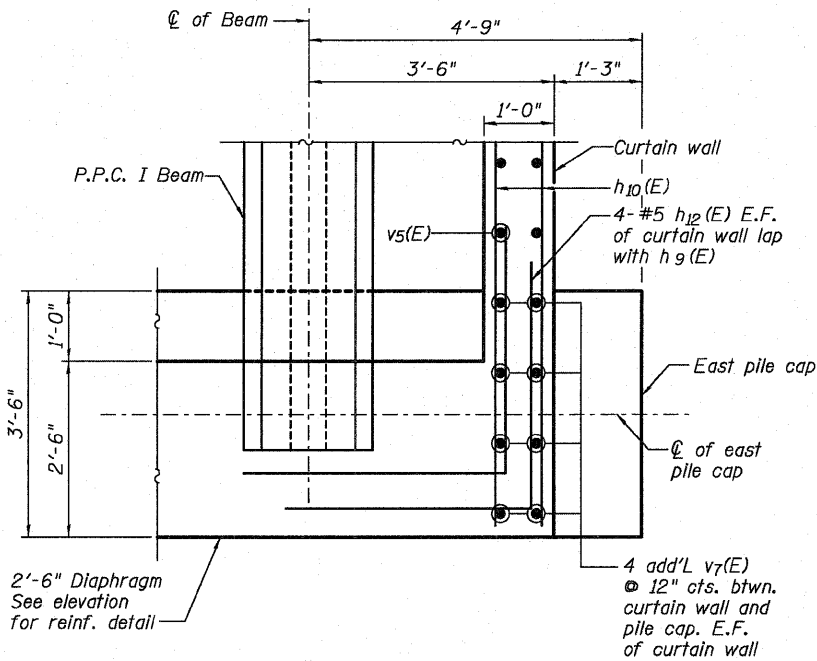


SHEET NO. S/4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	23
S/9 SHEETS	DATE: 12-03-10		ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 60L61		

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

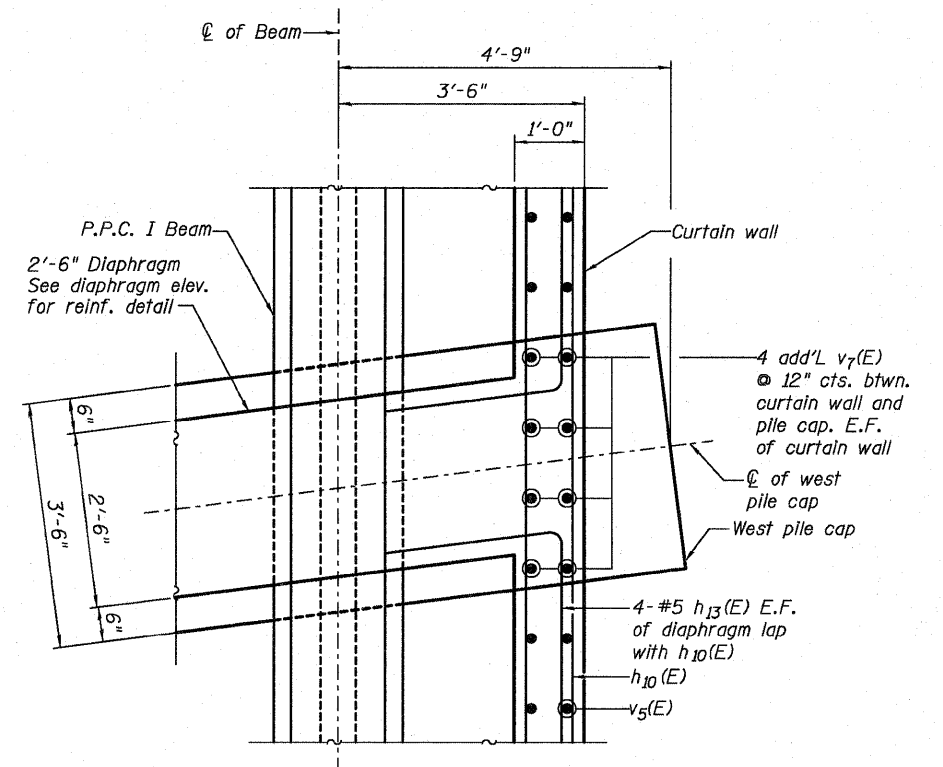


**JOINT AT PARKING DECK ENTRANCE**



**CURTAIN WALL SUPPORT DETAIL**

(at East Pier Cap)



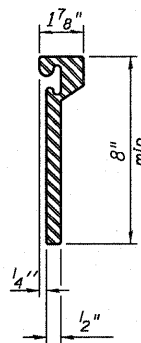
**CURTAIN WALL SUPPORT DETAIL**

(at West Pier Cap)

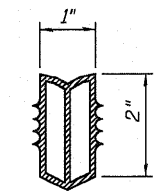
**Notes:**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

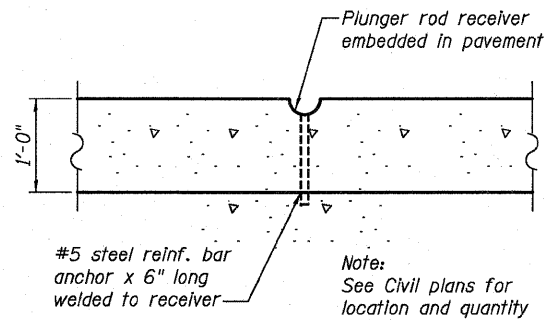
The manufacturer's recommended installation methods shall be followed. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.



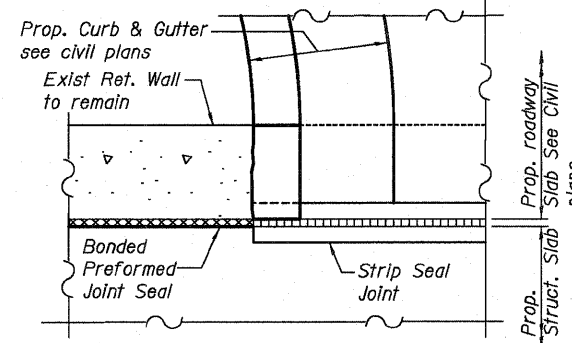
**ROLLED EXTRUDED RAIL**



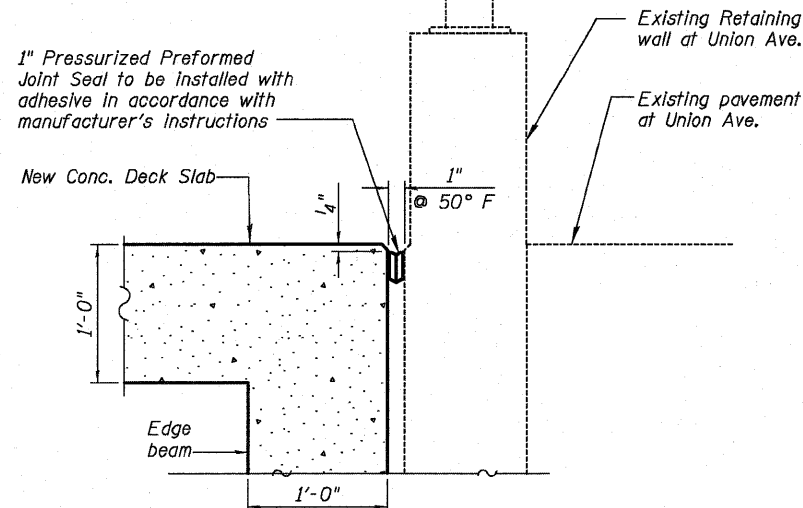
**PREFORMED PRESSURIZED JOINT SEAL**



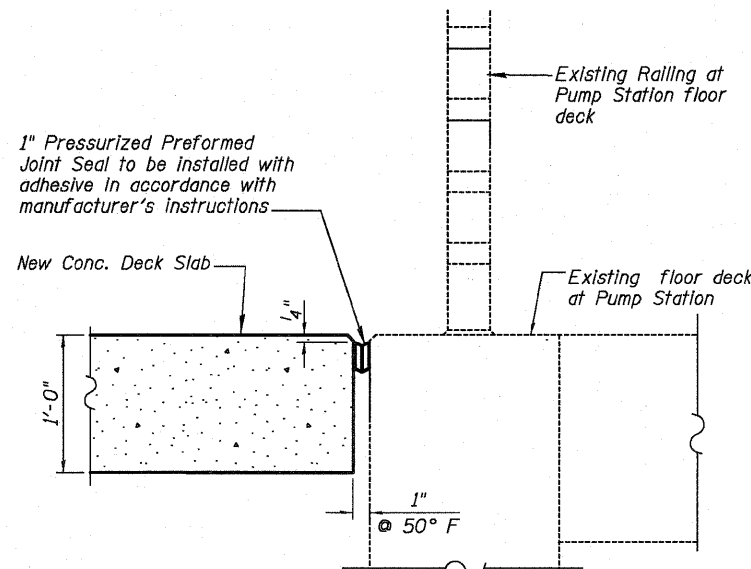
**TYPICAL GATE PLUNGER ROD RECEIVER FOR CAST IN PLACE PLUNGER**



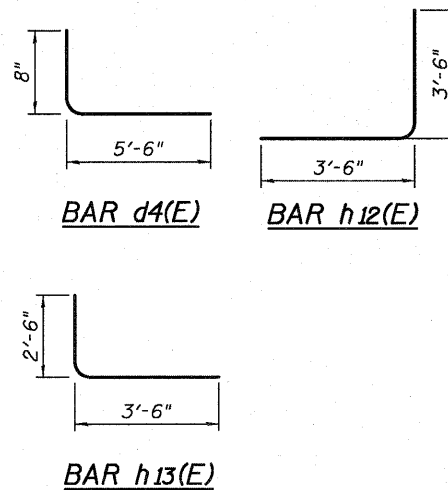
**PLAN VIEW - JOINT TRANSITION DETAIL**



**SECTION THRU JOINT BETWEEN NEW DECK AND EXISTING RETAINING WALL**



**SECTION THRU JOINT BETWEEN NEW DECK AND EXISTING PUMP STATION STRUCTURE**



**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	42
Bonded Preformed Joint Seal	Foot	68

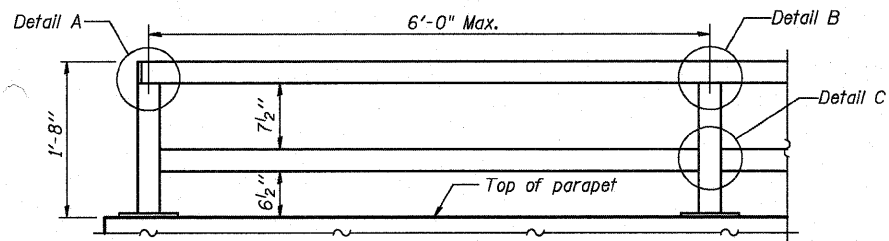
**JOINT DETAILS STRUCTURE NUMBER 016-1308**

DESIGNED JW
CHECKED YMM
DRAWN JLS & PS
CHECKED TPG & JXH

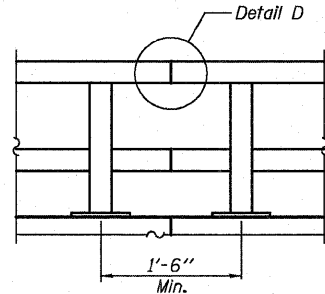


SHEET NO. S15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	24
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			

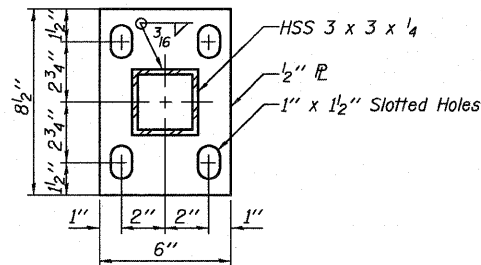




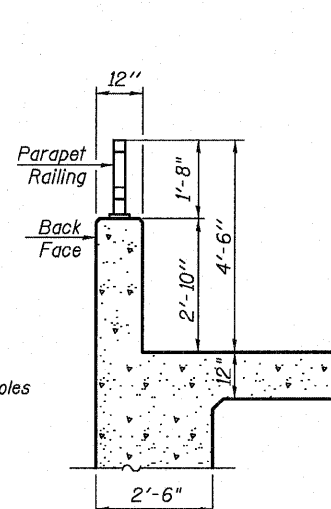
**PARAPET RAILING  
ELEVATION**  
(Inside Face of Two Element Rail)



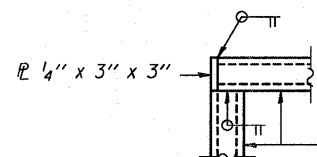
**PARAPET RAILING  
ELEVATION AT EXPANSION JOINT**  
(Two Element Rail Shown - Three Element Rail Similar)



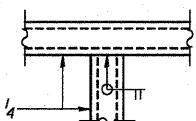
**BASE P**



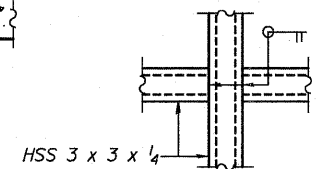
**SECTION THRU DECK**



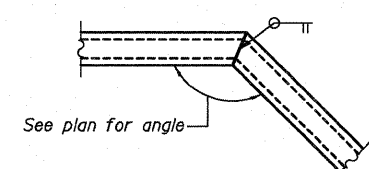
**DETAIL A**



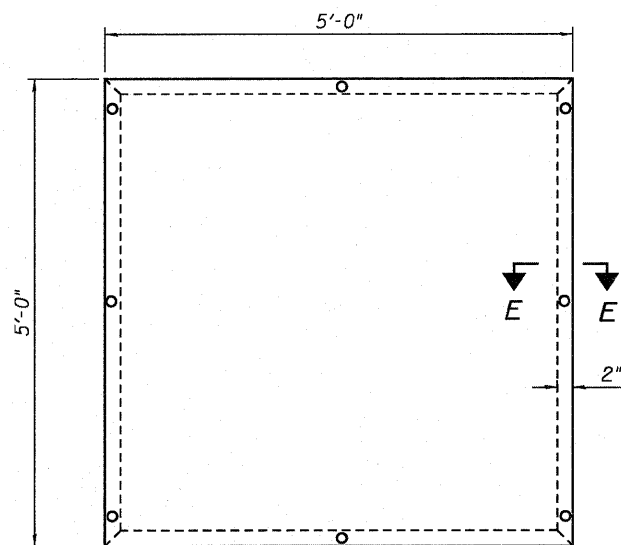
**DETAIL B**



**DETAIL C**

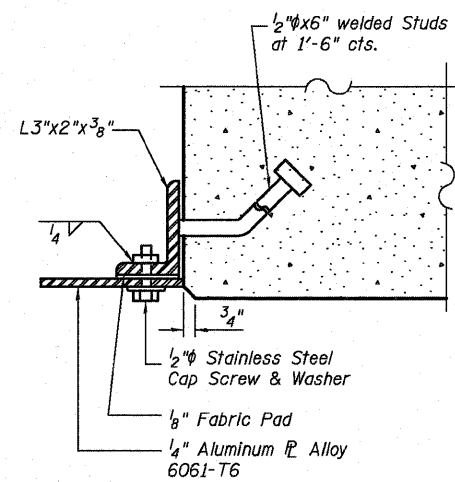


**DETAIL D**  
(See plan for angle and location)

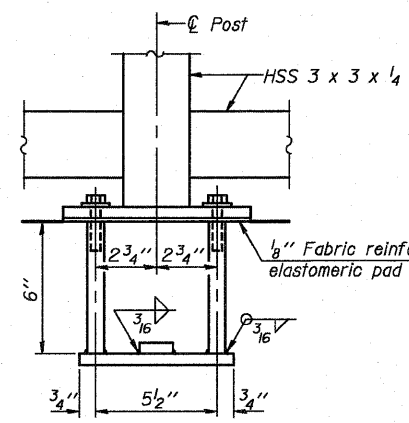


**INSPECTION ACCESS DOOR ELEVATION**

Cost of door and frame are included with "Concrete Structures"

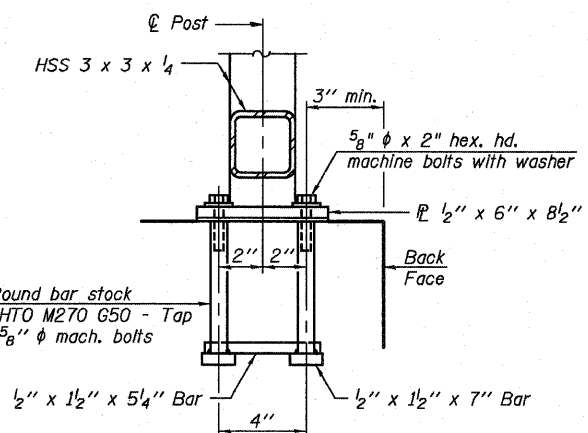


**SECTION E-E**



**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8"  $\phi$  anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



**BILL OF MATERIAL**

Item	Unit	Quantity
Parapet Railing	Foot	138

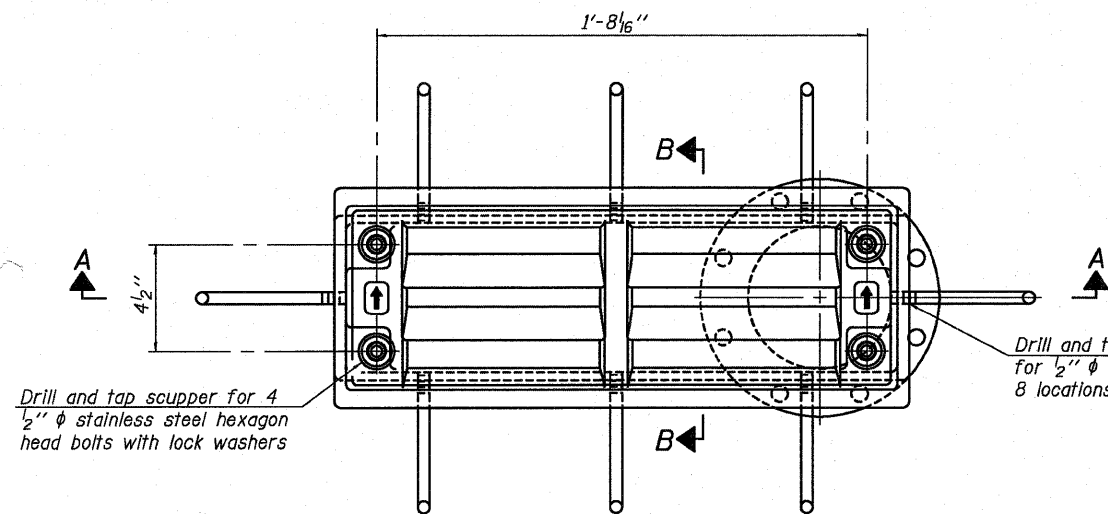
DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH



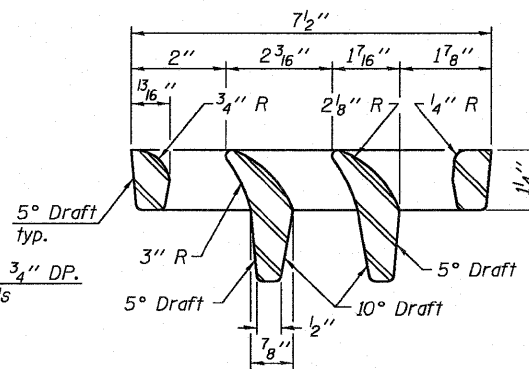
100 S. WACKER DRIVE SUITE 700, CHICAGO, IL 60606, P.312-586-8700 F.312-586-0415

**RAILING DETAILS  
STRUCTURE NUMBER 016-1308**

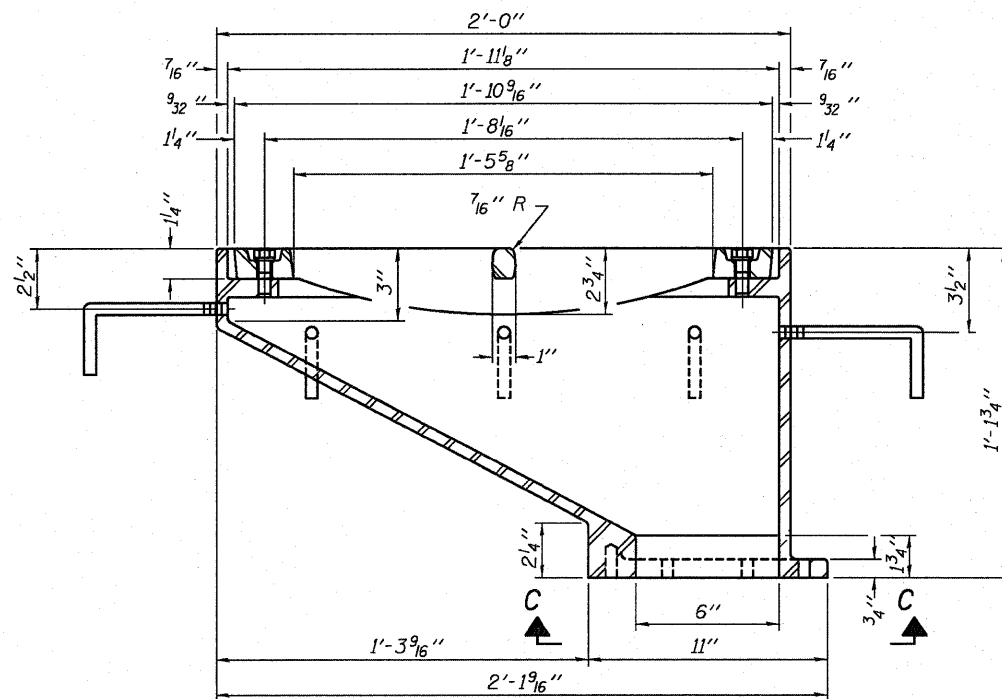
SHEET NO. S16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S19 SHEETS	90/94	2010-075-I	COOK	33	25
DATE: 12-03-10			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60L61					



PLAN

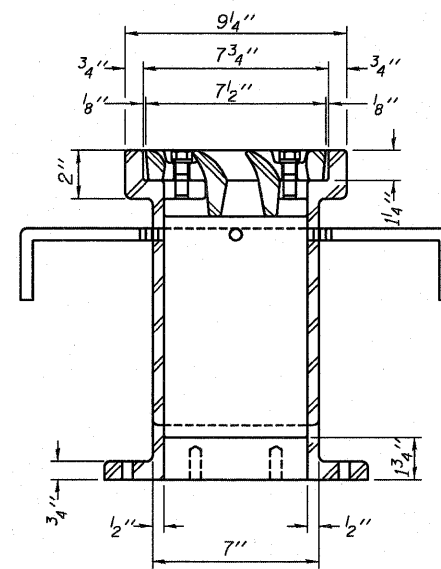


VANE GRATE DETAIL

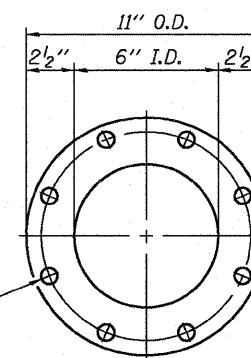


SECTION A-A

See sheet S5 for S19 per location relative to parapet.



SECTION B-B



VIEW C-C

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

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.

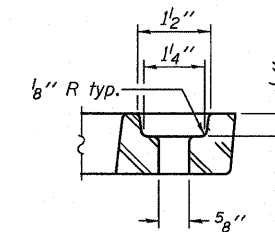
Anchor studs, washers and nuts shall be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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.

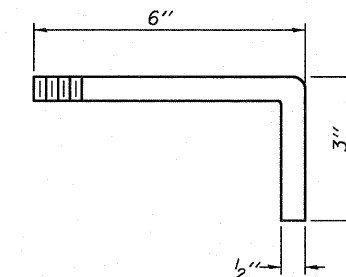
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

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-12.

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.



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	2

DRAINAGE SCUPPER DS-12  
STRUCTURE NUMBER 016-1308

DESIGNED	JW
CHECKED	YMM
DRAWN	JLS & PS
CHECKED	TPG & JXH



SHEET NO. S17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90/94	2010-075-I	COOK	33	26
S19 SHEETS	CONTRACT NO. 60L61				
DATE: 12-03-10		ILLINOIS FED. AID PROJECT			

PAGE 1 of 2

**SOIL BORING LOG**

DATE 4/19/2010  
 LOGGED BY MD  
 GSI JOB No. 10047

Geo Services Inc.  
 Geotechnical, Environmental & Civil Engineering  
 805 Archer Court, Suite 204  
 Naperville, Illinois 60565  
 (830) 355-2838

ROUTE FAI Route 90/94 DESCRIPTION Pump Station 26 Rehabilitation IDOT Project No. C-91-411-99  
 SECTION 1999-161-1 LOCATION Township 39 N, Range 14 E, SW 1/4 of SW 1/4 Section 16  
 COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. XX Station XX  
 BORING NO. B-1 Station: 5+94 Union Avenue  
 Offset: 12.0' Left  
 Ground Surface Elev. +13.8 CCD

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	Surface Water Elev.		Stream Bed Elev.		Groundwater Elevation:	
				(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0				n/a	n/a	n/a	n/a	n/a	n/a
10									
7	NP	4							
6									
11									
8	NP	5							
3	NP	17							
4									
3									
5									
3	NP	6							
4									
4	3.5B	25							
1			106						
2									
15	1	0.7B	22						
0									
0									
20	0	0.25F	42						

3.0" ASPHALT, 6.0" CONCRETE +13.0 CCD  
 CRUSHED STONE-medium dense (Fill)  
 CRUSHED STONE-loose (Fill)  
 CLAY-gray-very stiff (A-6)  
 CLAY-gray-very soft to medium stiff (A-6)  
 Torvane @ -15.0' Shear Strength=942 psf  
 Torvane @ -20.0' Shear Strength=154 psf

Vane Shear @ -21.0' Shear Strength=938 psf  
 CLAY-gray-very soft to medium stiff (A-6)  
 Torvane @ -25.0' Shear Strength=287 psf  
 Vane Shear @ -26.0' Shear Strength=180 psf  
 Torvane @ -27.5' Shear Strength=287 psf  
 Vane Shear @ -31.0' Shear Strength=220 psf  
 Vane Shear @ -36.0' Shear Strength=256 psf  
 Torvane @ -40.0' Shear Strength=614 psf

ST @ 0.25F 19  
 ST @ 0.25F 20  
 ST @ 0.25F 24  
 ST @ 0.25F 24  
 ST @ 0.25F 21  
 ST @ 0.25F 42

End Of Boring @ -60.0'  
 Hollow Stem Augers To -15.0'  
 Rotary Drilling To Completion  
 CME Automatic Hammer  
 15.0' of 4.0" Casing Used -46.2 CCD -60.12 3.0P 19

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)  
 NR-No Recovery

PAGE 2 of 2

**SOIL BORING LOG**

DATE 4/19/2010  
 LOGGED BY MD  
 GSI JOB No. 10047

Geo Services Inc.  
 Geotechnical, Environmental & Civil Engineering  
 805 Archer Court, Suite 204  
 Naperville, Illinois 60565  
 (830) 355-2838

ROUTE FAI Route 90/94 DESCRIPTION Pump Station 26 Rehabilitation IDOT Project No. C-91-411-99  
 SECTION 1999-161-1 LOCATION Township 39 N, Range 14 E, SW 1/4 of SW 1/4 Section 16  
 COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. XX Station XX  
 BORING NO. B-1 Station: 5+94 Union Avenue  
 Offset: 12.0' Left  
 Ground Surface Elev. +13.8 CCD

DEPTH (ft)	BLOW COUNT (blows/ft)	UCS (tsf)	MOISTURE (%)	Surface Water Elev.		Stream Bed Elev.		Groundwater Elevation:	
				(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0				n/a	n/a	n/a	n/a	n/a	n/a
10									
7	NP	4							
6									
11									
8	NP	5							
3	NP	17							
4									
3									
5									
3	NP	6							
4									
4	3.5B	25							
1			106						
2									
15	1	0.7B	22						
0									
0									
20	0	0.25F	42						

3.0" ASPHALT, 6.0" CONCRETE +13.0 CCD  
 CRUSHED STONE-medium dense (Fill)  
 CRUSHED STONE-loose (Fill)  
 CLAY-gray-very stiff (A-6)  
 SAND-gray-medium dense (A-3)  
 SILT-gray-medium dense (A-4)  
 CLAY-gray-very stiff (A-6)  
 Torvane @ -15.0' Shear Strength=942 psf  
 Torvane @ -20.0' Shear Strength=154 psf

Vane Shear @ -41.0' Shear Strength=277 psf  
 CLAY-gray-very soft to medium stiff (A-6)  
 Torvane @ -45.0' Shear Strength=901 psf  
 SAND-gray-medium dense (A-3)  
 SILT-gray-medium dense (A-4)  
 CLAY-gray-very stiff (A-6)

ST @ 0.25F 19  
 ST @ 0.25F 20  
 ST @ 0.25F 24  
 ST @ 0.25F 24  
 ST @ 0.25F 21  
 ST @ 0.25F 42

End Of Boring @ -60.0'  
 Hollow Stem Augers To -15.0'  
 Rotary Drilling To Completion  
 CME Automatic Hammer  
 15.0' of 4.0" Casing Used -46.2 CCD -60.12 3.0P 19

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test  
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)  
 NR-No Recovery

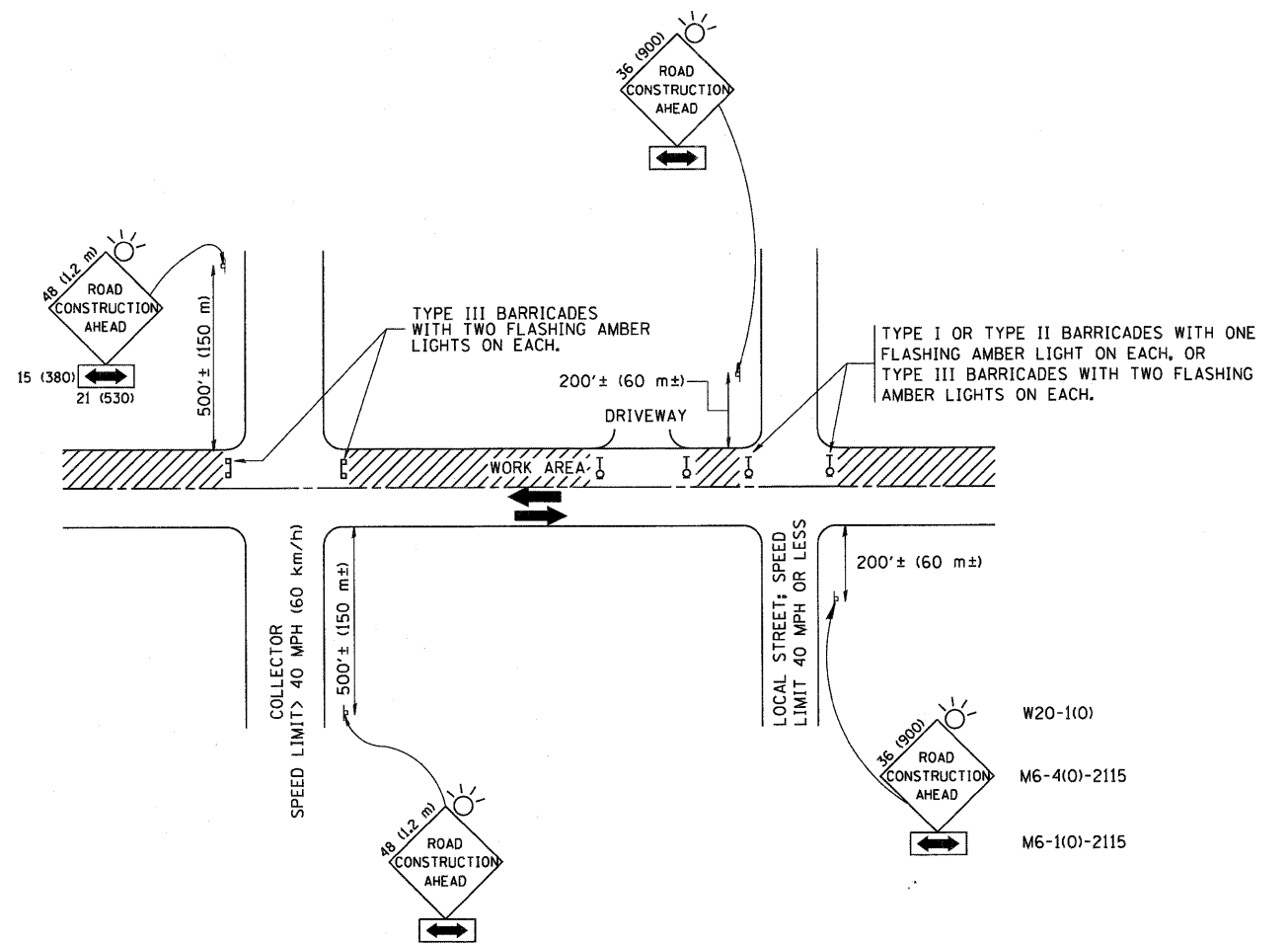
DESIGNED JW  
 CHECKED YMM  
 DRAWN JLS & PS  
 CHECKED TPG & JXH



**SOIL BORING LOG 1**  
**STRUCTURE NUMBER 016-1308**

SHEET NO. <u>S18</u>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	<u>90/94</u>	<u>2010-075-I</u>	<u>COOK</u>	<u>33</u>	<u>27</u>
S19 SHEETS		CONTRACT NO. <u>60L61</u>			
DATE: <u>12-03-10</u>		ILLINOIS FED. AID PROJECT			





TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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



USER NAME = geglienobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
	DRAWN -	REVISED - A. HOUSEH 03-06-96
PLOT SCALE = 50,000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

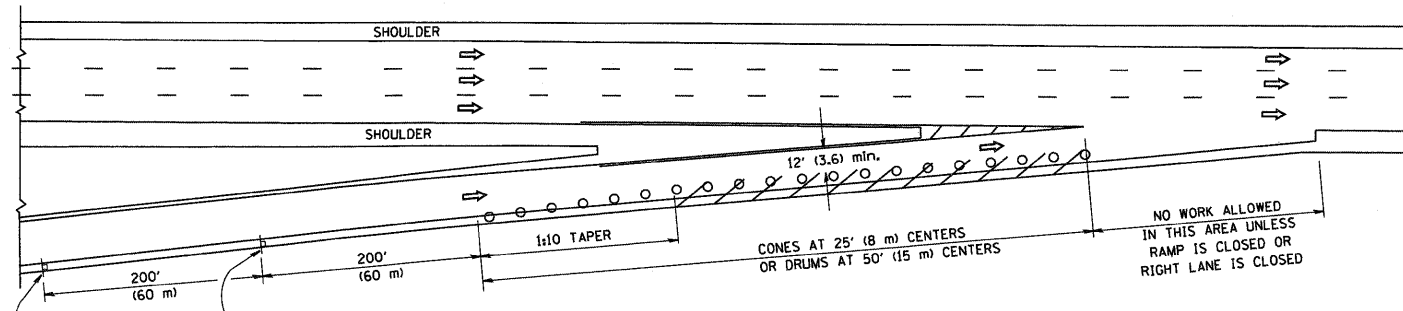
TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

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

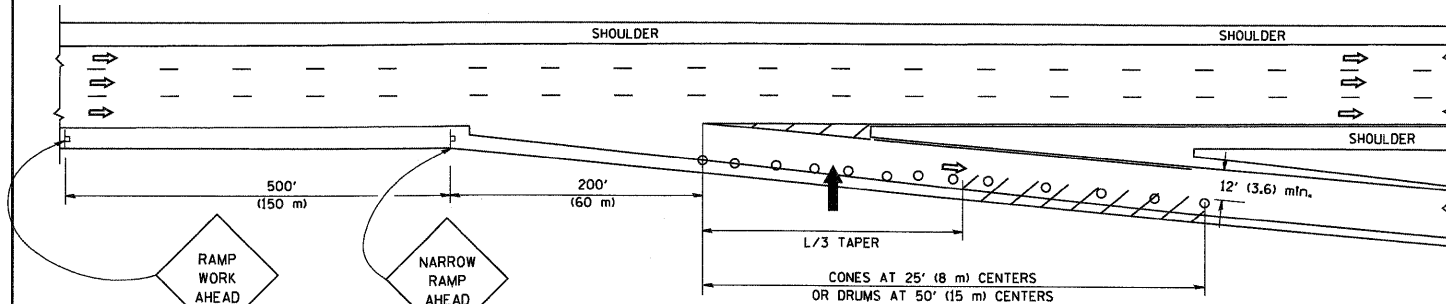
F.A.I. RTE. 90/94	SECTION 2010-075-01	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 29
TC-10		CONTRACT NO. 60L61		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

PARTIAL RAMP CLOSURE DETAILS

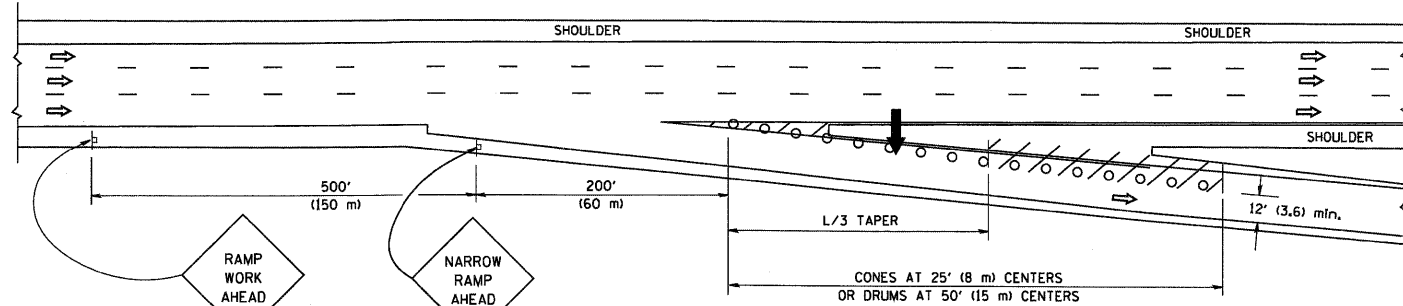
SHOULDER CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

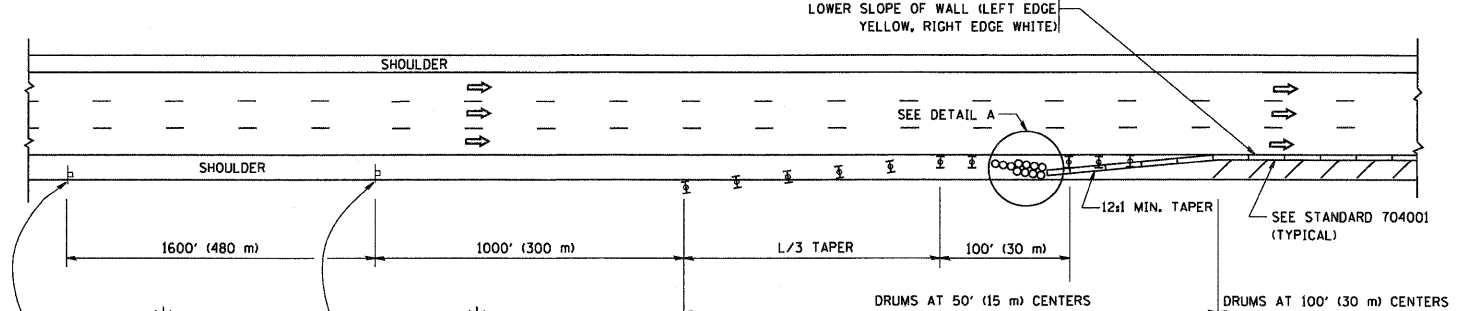
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

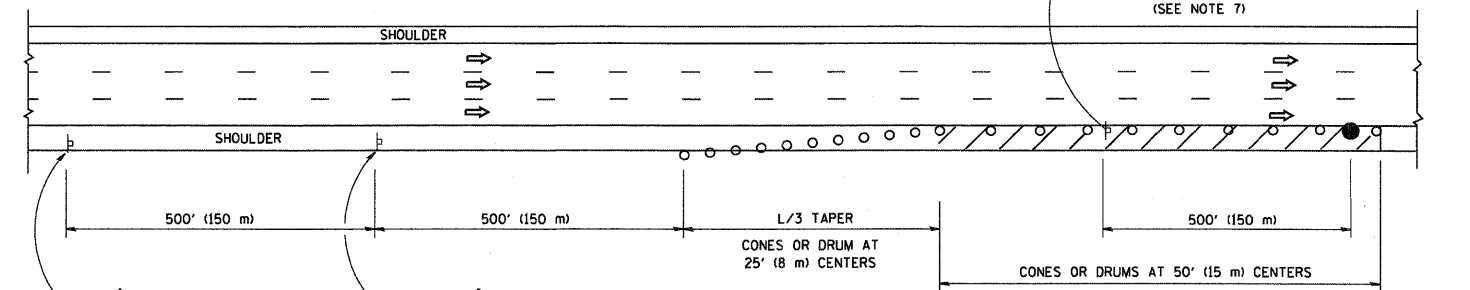
1. THE "L" DISTANCE EQUALS:
 

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER	METRIC: $L=0.65(W)(S)$ ENGLISH: $L=(W)(S)$

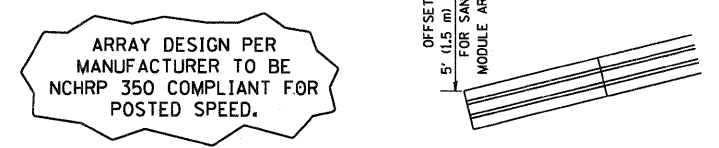
W = WIDTH OF OFFSET IN FEET (METERS)  
S = NORMAL POSTED SPEED MPH (KM/H)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE



DETAIL "A" IMPACT ATTENUATOR, TEMPORARY (SEE NOTE 5)

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

FILE NAME = W:\dststd\22x34\col7.dgn	USER NAME = gaglionob	DESIGNED -	REVISED - J.A.F. 12-02
		DRAWN - D.W.S.	REVISED - 04-03
	PLOT SCALE = 50,0000 "/ IN.	CHECKED -	REVISED - J.A.F. 12-06
	PLOT DATE = 1/4/2008	DATE - 11-96	REVISED - S.P.B. 01-07

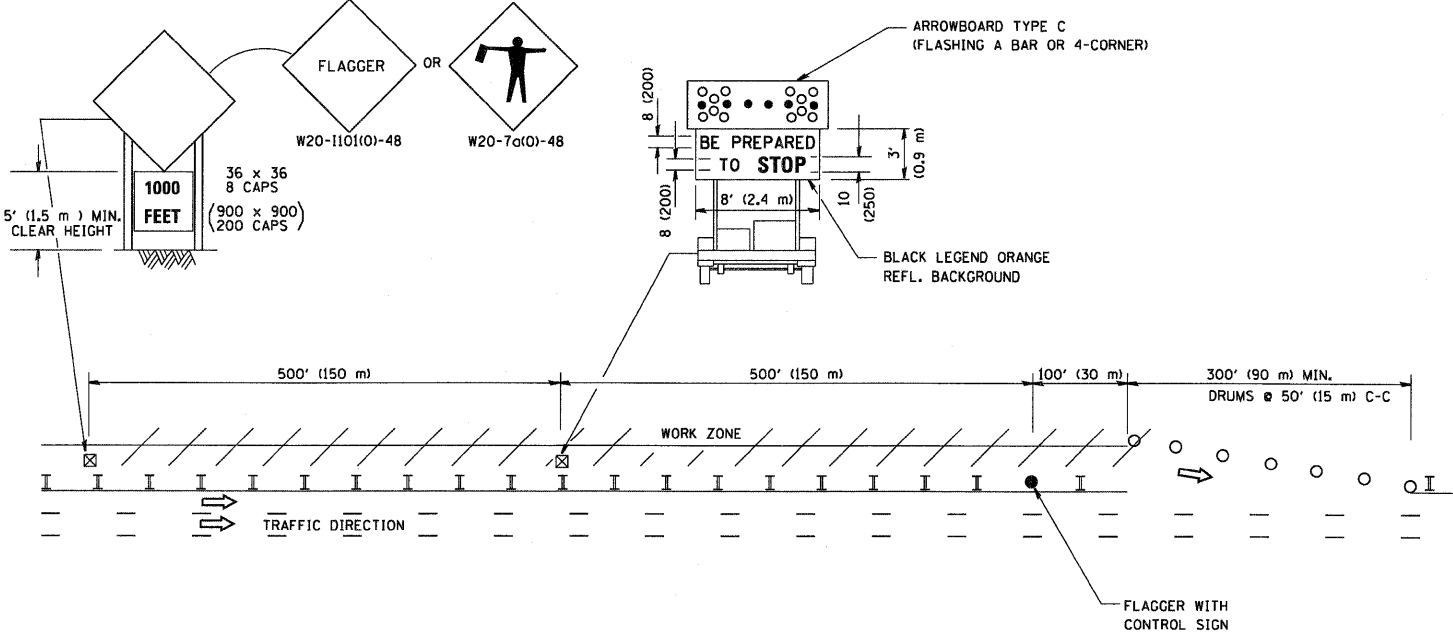
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

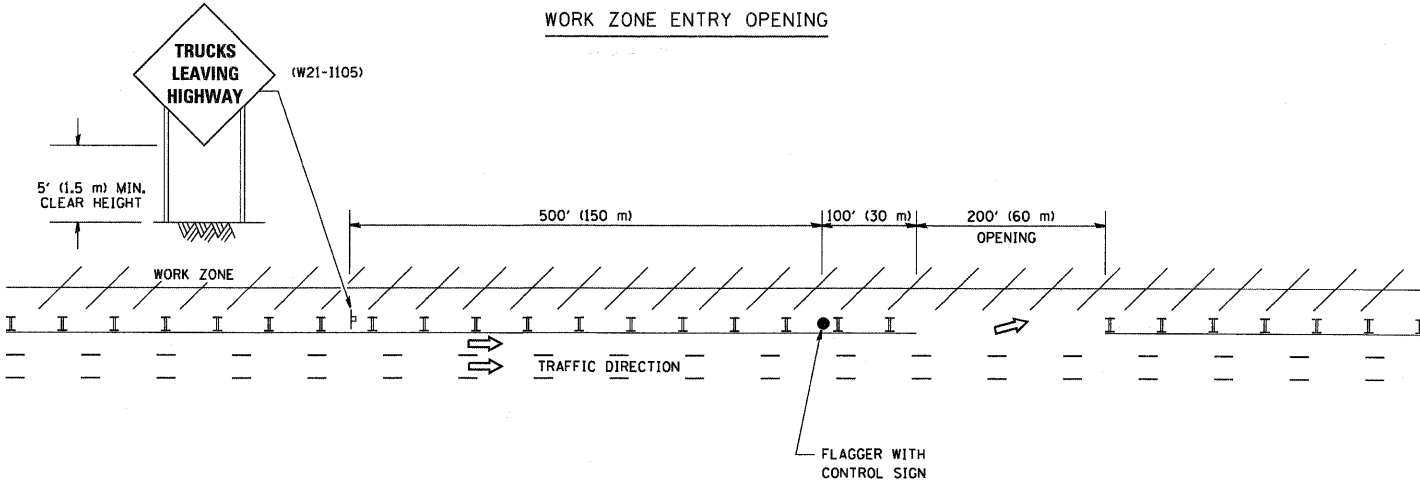
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2010-075-01	COOK	33	30
TC-17		CONTRACT NO. 60L61		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



- NOTES:
1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
  2. Work Zone Exit Openings should be a minimum of one half mile apart.
  3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
  4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

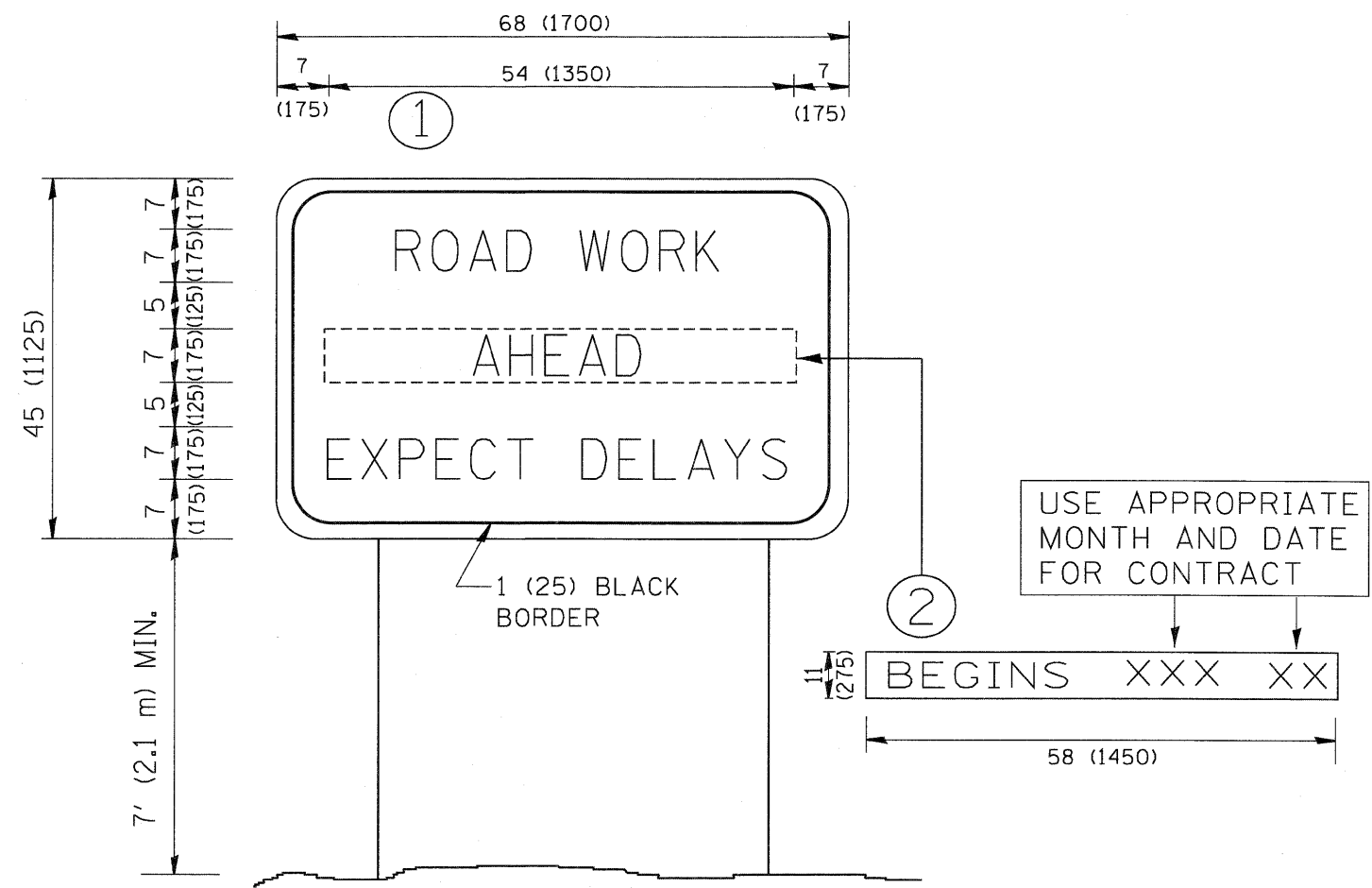
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME = W:\diststd\22x34\tbl8.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - D.W.S. 08-98
	PLOT SCALE = 50,000' / IN.	DRAWN -	REVISED - J.A.F. 04-03
	PLOT DATE = 1/4/2008	CHECKED -	REVISED - J.A.F. 02-06
		DATE -	REVISED - S.P.B. 01-07

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS  
AT WORK ZONE OPENINGS  
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2010-075-01	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 31
TC-18		CONTRACT NO. 60L61		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

	USER NAME = geglienobt	DESIGNED -	REVISED - R. MIRS 09-15-97	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ARTERIAL ROAD INFORMATION SIGN</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50,000' / IN.	DRAWN -	REVISED - R. MIRS 12-11-97			90/94	2010-075-1	COOK	33	32
	PLOT DATE = 1/4/2008	CHECKED -	REVISED - T. RAMMACHER 02-02-99			<b>TC-22</b>		<b>CONTRACT NO. 60L61</b>		
			DATE -	REVISED - C. JUCIUS 01-31-07	SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	



VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001  
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) \*\*

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SODDING SALT TOLERANT WITH TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

T/2 \*

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

3" (75) MIN.

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

\* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

\*\* IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY.

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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



USER NAME = drivakosgn	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96
24.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97
PLOT SCALE = 50,000' / 1"	CHECKED -	REVISED - M. GOMEZ 01-22-01
PLOT DATE = 12/15/2009	DATE - 03-11-94	REVISED - R. BORO 12-15-09

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CURB OR CURB AND GUTTER  
REMOVAL AND REPLACEMENT

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

F.A.I. RTE. 90/94	SECTION 2010-075-1	COUNTY COOK	TOTAL SHEETS 33	SHEET NO. 33
BD600-06 (BD-24)		CONTRACT NO. 60L61		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				