

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

IL ROUTE 78 OVER KICKAPOO CREEK
F.A.P. ROUTE 22 (IL ROUTE 78)
SECTION 48[(B-1)BR;CR]
PROJECT STP-5ZIU (018)
BRIDGE AND CULVERT REPLACEMENT &
ROADWAY RECONSTRUCTION
KNOX COUNTY
C-94-137-07

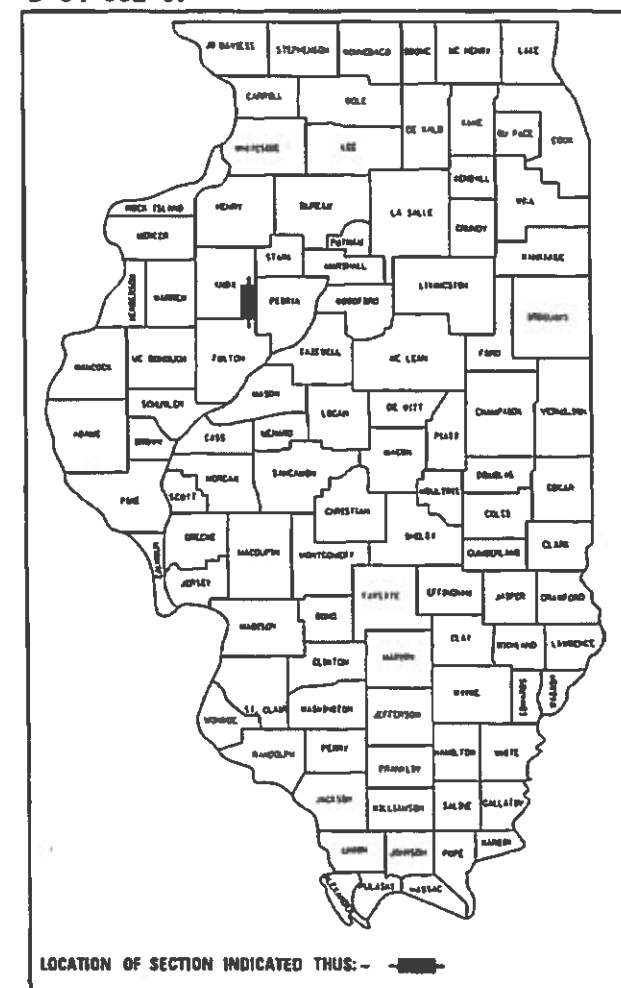
F.A.P. R.F.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CR	KNOX	94	1
FED. ROAD DIST. NO. 4		ILLINOIS	CONTRACT NO. 68758	

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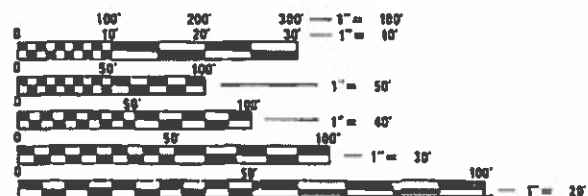
FOR A LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

D-94-092-07



FUNCTIONAL CLASSIFICATION

RURAL MINOR ARTERIAL
2015 ADT = 1700
P.V. = 90.6% S.U. = 5.3% M.U. = 4.1%



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

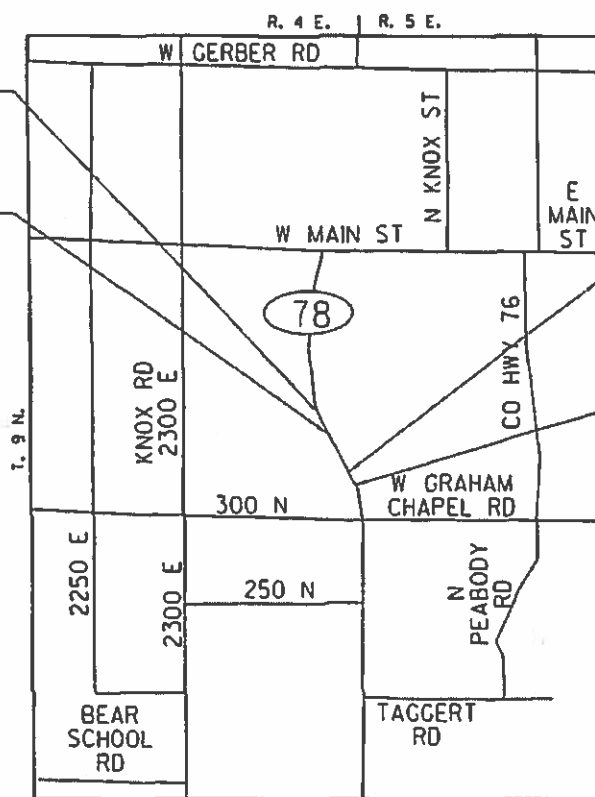
DISTRICT 4 NO. (309) 671-3460
PROJECT ENGINEER: MIKE JACOBS
PROJECT MANAGER: RICH DOTSON
CONTRACT NO: 68758
CATALOG NO: 033597-00D

CHRISTOPHER A. SIEFERT
062-02008
EXPIRES 11/30/2019
SIGNATURE: *[Signature]*
DATE: 6/11/2019

MARY COSME BLOSCH
43309
EXPIRES 11/30/2019
SIGNATURE: *[Signature]*
DATE: 06-07-18

CHASTAIN & ASSOCIATES LLC
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END IMPROVEMENT
STA 1445+00

BRIDGE REPLACEMENT
STA 1440+89.93
EXIST SN 048-0018
PROP SN 048-0095

CULVERT REPLACEMENT
STA 1428+55.16
EXIST SN 048-1000
PROP SN 048-2502

BEGIN IMPROVEMENT
STA 1426+75

ELMWOOD TOWNSHIP
(NOT TO SCALE)
GROSS LENGTH OF PROJECT = 1.825 LIN. FT. = 0.35 MILES
NET LENGTH OF PROJECT = 1.825 LIN. FT. = 0.35 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: May 10, 2019
[Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 28, 2019
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

June 28, 2019
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

SOIL REPORT AVAILABILITY

THE SOILS REPORT AND ALL SOILS DATA COLLECTED AND PROCESSED IN CONJUNCTION WITH THE DESIGN OF THIS IMPROVEMENT IS ON FILE AT THE DISTRICT OFFICE WHERE IT IS AVAILABLE FOR INSPECTION BY CONTRACTORS OR PROSPECTIVE BIDDERS. BY SUBMITTING A BID, THE CONTRACTOR ACKNOWLEDGES THAT THE SOILS REPORT AND DATA HAVE BEEN MADE AVAILABLE, THAT THE CONTRACTOR IS AWARE OF THE REPORT CONTENTS AND APPENDICES, AND THAT THE SOILS REPORT IS PART OF THE CONTRACT DOCUMENTS.

AVAILABILITY OF ELECTRONIC FILES

MICRO STATION AND GEOPAK FILES OF THIS PROJECT WILL BE MADE AVAILABLE TO THE CONTRACTOR AFTER CONTRACT AWARD. IF THERE IS A CONFLICT BETWEEN THE ELECTRONIC FILES AND THE PRINTED CONTRACT PLANS AND DOCUMENTS, THE PRINTED CONTRACT PLANS AND DOCUMENTS SHALL TAKE PRECEDENCE OVER THE ELECTRONIC FILES. THE CONTRACTOR SHALL ACCEPT ALL RISK ASSOCIATED WITH USING THE ELECTRONIC FILES AND SHALL HOLD THE DEPARTMENT HARMLESS FOR ANY ERRORS OR OMISSIONS IN THE ELECTRONIC FILES AND THE DATA CONTAINED THEREIN. ERRORS OR DELAYS RESULTING FROM THE USE OF THE ELECTRONIC FILES BY THE CONTRACTOR SHALL NOT RESULT IN AN EXTENSION OF TIME FOR ANY INTERIM OR FINAL COMPLETION DATE OR SHALL NOT BE CONSIDERED CAUSE FOR ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL NOT USE, SHARE, OR DISTRIBUTE THESE ELECTRONIC FILES EXCEPT FOR THE PURPOSE OF CONSTRUCTING THIS CONTRACT. ANY CLAIMS BY THIRD PARTIES DUE TO USE OR ERRORS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL INCLUDE THIS DISCLAIMER WITH THE TRANSFER OF THESE ELECTRONIC FILES TO ANY OTHER PARTIES AND SHALL INCLUDE APPROPRIATE LANGUAGE BINDING THEM TO SIMILAR RESPONSIBILITIES.

PLAN ELEVATIONS - NAVD83 MEAN SEA LEVEL DATUM

ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM NAVD83 MEAN SEA LEVEL DATUM.

COMMITMENTS

COMMITMENTS ARE NOT TO BE ALTERED WITHOUT THE WRITTEN APPROVAL OF ALL PARTIES TO WHICH THE COMMITMENT WAS MADE.

PROPERTY OWNER ACCESS REQUIREMENTS

ACCESS MUST BE MAINTAINED TO ALL EXISTING PROPERTIES DURING CONSTRUCTION PER ARTICLE 107.09 UNLESS ARRANGEMENTS ARE MADE IN WRITING BY THE CONTRACTOR WITH THE PROPERTY OWNERS WITH A COPY TO THE ENGINEER FOR SHORT-TERM CLOSURES.

CRITICAL PATH WORK SCHEDULE REQUIREMENT

THE CONTRACTOR WILL SUBMIT TO THE ENGINEER A SATISFACTORY PROGRESS SCHEDULE AND CRITICAL PATH SCHEDULE WHICH SHALL SHOW THE PROPOSED SEQUENCE OF WORK AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.

EARTH EXCAVATION - INCIDENTAL TO CURB, GUTTER, & DRIVEWAY

EARTH EXCAVATION AND BACKFILL FOR PROPOSED CURB AND GUTTER AND DRIVEWAY PAVEMENTS SHALL BE INCLUDED IN THE UNIT COST OF THE VARIOUS ITEMS.

ENVIRONMENTAL REVIEWS

PRIOR TO THE USE OF ANY PROPOSED BORROW AREAS, USE AREAS (TEMPORARY ACCESS ROADS, DETOURS, RUN-AROUNDS, ETC.) AND/OR WASTE AREAS, THE CONTRACTOR SHALL FILE THE REQUIRED ENVIRONMENTAL RESOURCE REQUEST SURVEYS ACCORDING TO SECTION 107.22 OF THE STANDARD SPECIFICATIONS. THESE SURVEYS ARE REQUIRED IN ORDER FOR THE DEPARTMENT TO CONDUCT CULTURAL AND BIOLOGICAL RESOURCE SURVEYS FOR THE PROPOSED SITE.

PRIOR TO ANY WASTE MATERIALS BEING REMOVED FROM THE CONSTRUCTION SITE THE REQUIRED ENVIRONMENTAL RESOURCE SURVEYS WILL NEED TO BE OBTAINED AND FILED BY THE CONTRACTOR. EXCESS WASTE PRODUCTS REMOVED FROM THE CONSTRUCTION SITE SHALL BE DISPOSED OF AS REQUIRED IN SECTION 202.03 OF THE STANDARD SPECIFICATIONS.

ANY PROTRUDING METAL BARS SHALL BE REMOVED PRIOR TO THE DISPOSAL OF BROKEN CONCRETE AT APPROVED DISPOSAL SITES.

THE REQUIRED ENVIRONMENTAL RESOURCE DOCUMENTATION SHALL INCLUDE THE FOLLOWING:

- BDE FORM 2289 (ENVIRONMENTAL SURVEY REQUEST)
- BDE FORM 2290 (WASTE/USE AREA REVIEW)
- A LOCATION MAP SHOWING THE SIZE LIMITS AND LOCATION OF THE USE AREA
- COLOR PHOTOGRAPHS DEPICTING THE USE AREA
- BORROW AREA ENTRY AGREEMENT FORM-D4 P10101

PLEASE NOTE THAT A MINIMUM OF FOUR WEEKS SHALL BE ALLOWED FOR THE DISTRICT TO OBTAIN THE REQUIRED ENVIRONMENTAL CLEARANCES AND SIX WEEKS FOR THE REQUIRED BORROW SITE ENVIRONMENTAL CLEARANCES.

SEEDING - SIDE SLOPE RIPPING

ALL SLOPES STEEPER THAN 3 TO 1 AND OVER 15 FT IN HEIGHT SHALL BE RIPPED. THIS SHALL CONSIST OF RIPPING BETWEEN 18 INCHES TO 24 INCHES DEEP NORMAL TO THE SLOPE. THE INTERVAL OF RIPPING ALONG THE SLOPE SHALL BE 12 FT. THIS WORK SHALL BE DONE AFTER THE SEED BED HAS BEEN PREPARED BUT BEFORE ANY FERTILIZER OR SEED HAS BEEN APPLIED. THE FERTILIZER AND SEED SHALL BE APPLIED WITHIN A 24-HOUR PERIOD AFTER THE RIPPING HAS BEEN DONE. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE VARIOUS ITEMS OF SEEDING INVOLVED.

HMA MIXTURE REQUIREMENTS

The following mixture requirements are applicable for this project:

Mixture Use(s):	Polymer Surface 1.5" & Shoulder Surface 1.5"	Polymer Level Blinder 3/4"	Full Depth HMA Lower Blinder Courses (1 3/4" & 2 1/4")	Full Depth HMA Bottom Blinder Course & Class D Patch	HMA Shoulders Lower Lifts (4" & 2.5")	HMA Detour Widening (4" & 3")	Side Road Surface 2" & Incidental Surface
AC/PG:	SBS or SBR 76-28	SBS or SBR 76-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22
Design Air Voids:	4.0% @ N=50	4.0% @ N=50	4.0% @ N=50	4.0% @ N=50	4.0% @ N=50	4.0% @ N=50	4.0% @ N=50
Mixture Composition: (Mixture Gradation):	IL 9.5	IL 4.75	IL 9.5	IL 19.0	IL 19.0	IL 19.0	IL 9.5
Friction Aggregate:	Mix D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Quality Management Program:	QCQA	QCQA	QCQA	QCQA	QCQA	QCQA	QCQA

Note: 1) Individual lift thickness of each mix type will be no less than 3 times nominal maximum aggregate size and no more than 6 times nominal maximum aggregate size, unless otherwise approved by the Engineer.
 2) For design purposes, mixture weight for all mixes is determined to be 112.0 lb/s.y.in., unless otherwise noted.
 3) Sublot sizes for PFP and QCP mixes will be 1000 tons, unless otherwise agreed to by the Engineer and the paving contractor.

PAVEMENT STATIONING NUMBERS & PLACEMENT

THE CONTRACTOR SHALL PROVIDE LABOR AND MATERIALS REQUIRED TO IMPRINT PAVEMENT STATION NUMBERS IN THE FINISHED SURFACE OF THE PAVEMENT AND/OR OVERLAY. THE NUMBERS SHALL BE APPROXIMATELY 3/4 INCH WIDE, 5 INCHES HIGH AND 5/8 INCH DEEP.

THE PAVEMENT STATION NUMBERS SHALL BE INSTALLED AS SPECIFIED HEREIN:

INTERVAL - 200 FEET

BOTTOM OF NUMBERS - 6 INCHES (150 MM) FROM THE INSIDE EDGE OF THE PAVEMENT MARKING

LOCATION:

- 2,3, & 5 LANE PAVEMENTS - RIGHT EDGE OF PAVEMENT IN DIRECTION OF INCREASING STATIONS
- MULTI-LANE DIVIDED ROADWAYS - OUTSIDE EDGE OF PAVEMENT IN BOTH DIRECTIONS
- RAMPS - ALONG BASELINE EDGE OF PAVEMENT

POSITION - STATIONS SHALL BE PLACED SO THEY CAN BE READ FROM THE ADJACENT SHOULDER

FORMAT - ENGLISH PAVEMENT STATIONS SHALL USE THIS FORMAT "XXX+XX WHERE X REPRESENTS THE PAVEMENT STATION

THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCLUDED IN THE COST OF THE ASSOCIATED PAVEMENT AND/OR OVERLAY PAY ITEMS.

PAVING SURFACE COURSE

CONTINUOUS PAVING OPERATIONS ON THE MAIN ROADWAY SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION OF THE HOT-MIX ASPHALT SURFACE. NO INTERRUPTIONS FOR ENTRANCES WILL BE ALLOWED.

FINAL FINISH ON P.C. CONCRETE PAVEMENT, TYPE B

A TYPE "B" FINAL FINISH, OBTAINED IN ACCORDANCE WITH ARTICLE 420.09(E)(2) OF THE STANDARD SPECIFICATIONS, SHALL BE PROVIDED FOR THE PORTLAND CEMENT CONCRETE PAVEMENT.

ORDERING LENGTH CONFIRMATION - DRAINAGE ITEMS

THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTH OF THE BOX/PIPE CULVERTS, STORM SEWERS, AND/OR PIPE DRAINS REQUIRED PRIOR TO ORDERING THESE ITEMS.

TRANSITION PAYMENT METHOD - NEW/OLD CONSTRUCTION

10 FT. TRANSITIONS SHALL BE USED TO MATCH PROPOSED ITEMS OF WORK TO EXISTING ITEMS IN THE FIELD UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEM OF WORK SPECIFIED.

RIGHT-OF-WAY MARKERS

WHEN INSTALLING RIGHT-OF-WAY MARKERS, CARE SHALL BE TAKEN TO NOT DISTURB ANY EXISTING PROPERTY/RIGHT-OF-WAY PINS. IF A PROPERTY/RIGHT-OF-WAY PIN IS FOUND AT THE LOCATION OF A PROPOSED RIGHT-OF-WAY MARKER, THE MARKER SHALL BE PLACED ONE (1) FOOT IN FRONT OF THE PIN.

ENGINEERS FIELD OFFICE

ADD THE FOLLOWING SENTENCE TO THE END OF PARAGRAPH 670.02 (i) AND 670.04 (e):
 ALL OF THE TELEPHONE LINES PROVIDED SHALL HAVE UNPUBLISHED NUMBERS.

NO PASSING ZONE VERIFICATION

THE RESIDENT SHALL CONTACT OPERATIONS TO VERIFY THE LOCATION OF NO PASSING ZONES PRIOR TO PLACEMENT OF CENTERLINE STRIPING.

UTILITY LOCATIONS

THE LOCATIONS OF EXISTING WATER MAINS, GAS MAINS, SEWERS, ELECTRICAL POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THEY ARE NOT GUARANTEED UNLESS ELEVATIONS ARE SHOWN. ALL UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED ON THE APPROXIMATE DEPTH SUPPLIED BY THE UTILITY COMPANY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION.

TREE REMOVAL MAY BE NECESSARY PRIOR TO UTILITY COMPANIES BEING ABLE TO RELOCATE THEIR FACILITIES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR SHOULD COORDINATE ANY CONTRACT TREE REMOVAL ACTIVITIES WITH THE UTILITY COMPANIES TO ELIMINATE CONFLICTS AND POTENTIAL DELAYS CAUSED BY UTILITY TREE REMOVAL ACTIVITIES OR INCOMPLETE UTILITY RELOCATIONS.

PROJECT SPECIFIC GENERAL NOTES

PROPOSED PAVEMENT MARKING PLANS ARE NOT INCLUDED. PAVEMENT MARKINGS SHALL BE PLACED PER DISTRICT STANDARD 780001-D4 AND HIGHWAY STANDARD 780001

THE PERMANENT SURVEY MARKERS, IF POSSIBLE, SHALL BE INSTALLED AT THE BEGINNING OF THE JOB AND PROTECTED THROUGHOUT THE PROJECT.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A DESCRIPTION OF LOCATION, ELEVATION, AND COORDINATES FOR EACH PERMANENT SURVEY MARKER. THE HORIZONTAL COORDINATES MUST BE DERIVED BY GPS AND THE ELEVATION DERIVED USING AN ELECTRONIC LEVEL. THE ENGINEER SHALL SUBMIT THIS INFORMATION TO THE DISTRICT CHIEF OF SURVEYS.

HIGHWAY STANDARDS

000001	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001	TEMPORARY EROSION CONTROL SYSTEMS
420001	PAVEMENT JOINTS
420401	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
420701	PAVEMENT WELDED WIRE REINFORCEMENT
482001	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001	NAME PLATE FOR BRIDGES
542401	METAL END SECTION FOR PIPE CULVERTS
630001	STEEL PLATE BEAM GUARDRAIL
630201	PCC HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031	TRAFFIC BARRIER TERMINAL, TYPE 6
666001	RIGHT OF WAY MARKERS
701001	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701311	LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
701901	TRAFFIC CONTROL DEVICES
720001	SIGN PANEL MOUNTING DETAILS
720006	SIGN PANEL ERECTION DETAILS
720011	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
725001	OBJECT AND TERMINAL MARKERS
780001	TYPICAL PAVEMENT MARKINGS
781001	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
B.L.R. 21	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON LOCAL RURAL HIGHWAYS
B.L.R. 22	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON LOCAL RURAL HIGHWAYS
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45MPH

DISTRICT 4 STANDARDS

205001-D4	SLOPE STEPS DETAIL
406101-D4	BUTT JOINTS
406301-D4	RURAL ENTRANCES FOR 3R PROJECTS
420401-D4	BRIDGE APPROACH DETAIL
540000-D4	DETAIL OF EXCAVATION AND BACKFILL FOR BOX CULVERTS
606101-D4	CONCRETE GUTTER, TYPE A, (SPECIAL) INLET, OUTLET & ENTRANCE
630101-D4	GUARDRAIL EROSION CONTROL TREATMENTS
667101-D4	PERMANENT SURVEY TIE & PERMANENT SURVEY MARKERS TY, I-TY, II
780001-D4	TYPICAL PAVEMENT MARKINGS

STATUS OF UTILITIES

NAME/ADDRESS OF UTILITY COMPANY	TYPE	LOCATION OF CONFLICT	ESTIMATED DATE OF RELOCATION
FRONTIER NORTH, INC.	FIBER OPTIC	RELOCATE FROM	UNKNOWN
111 SOUTH MAIN STREET KEWANEE, IL 61443 MR. TERRY SPURGEON	COMMUNICATIONS	RT STA 1426+00 TO RT STA 1445+00	
AMEREN ILLINOIS 8420 NORTH UNIVERSITY STREET PEORIA, IL 61615 MR. KENT KOWALSKE	6" BURIED GAS	RELOCATE FROM	UNKNOWN
AMEREN ILLINOIS 8420 NORTH UNIVERSITY STREET PEORIA, IL 61615 MR. JON REICK	AERIAL ELECTRIC	CAUTION FROM	UNKNOWN
	7.2 kV POWER	LT STA 1426+00 TO LT STA 1445+00	

(217) 422-8544
 SCHAUMBURG
 (631) 714-0050
 ROCKFORD
 (815) 489-0050
 184-001397

CHASTAIN
 & ASSOCIATES LLC
 CONSULTING ENGINEERS

FILE NAME :	USER NAME : jacobsmr	DESIGNED - CHASTAIN	REVISED -
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Default	PLOT SCALE = 40.0000' / in.	DATE - 10/16	REVISED -
	PLOT DATE = 5/9/2019		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS & GENERAL NOTES
ILLINOIS ROUTE 78

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
							22	48(B-1BR;CRJ)	KNOX	94	2
CONTRACT NO. 68758											
ILLINOIS FED. AID PROJECT											

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				ROADWAY	BRIDGE	
				0004	0010	
				RURAL	S. N. 048-0095	
				KNOX	KNOX	
28000400	PERIMETER EROSION BARRIER	FOOT	3607	3607		
28000500	INLET AND PIPE PROTECTION	EACH	3	3		
28100107	STONE RIPRAP, CLASS A4	SQ YD	2179	2179		
28100125	STONE RIPRAP, CLASS B3	SQ YD	204	204		
28100127	STONE RIPRAP, CLASS B4	SQ YD	34	34		
28200200	FILTER FABRIC	SQ YD	2322	2322		
31100100	SUB-BASE GRANULAR MATERIAL, TYPE A	TON	1440	1440		
40200700	AGGREGATE SURFACE COURSE, TYPE A 8"	SQ YD	100	100		
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	7655	7655		
40603200	POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL - 4.75, N 50	TON	261	261		
40600982	HOT - MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	280.7	280.7		
40600990	TEMPORARY RAMP	SQ YD	149	149		
40603080	HOT - MIX ASPHALT BINDER COURSE, IL - 19.0, N50	TON	35	35		
40604050	HOT - MIX ASPHALT SURFACE COURSE, IL 9.5 MIX C, N50	TON	60	60		

USER NAME = jacobsnr	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/10/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	48(B-1)BR(CR)	KNOX	94	4
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				ROADWAY	BRIDGE	
				0004	0010	
				RURAL	S. N. 048-0095	
				KNOX	KNOX	
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1		1	
50200100	STRUCTURE EXCAVATION	CU YD	69		69	
50200300	COFFERDAM EXCAVATION	CU YD	369		369	
50201121	COFFERDAM (TYPE 2) (LOCATION - 1)	EACH	1		1	
50201122	COFFERDAM (TYPE 2) (LOCATION - 2)	EACH	1		1	
50300225	CONCRETE STRUCTURES	CU YD	156.1		156.1	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	146.8		146.8	
50300260	BRIDGE DECK GROOVING	SQ YD	565		565	
50300265	SEAL COAT CONCRETE	CU YD	92.4		92.4	
50300300	PROTECTIVE COAT	SQ YD	723		723	
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	99		99	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1	
50500505	STUD SHEAR CONNECTORS	EACH	3402		3402	
50800105	REINFORCEMENT BARS	POUND	1220	1220		

USER NAME = jacobsmr	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/10/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	48(B-1)BR(CR)	KNOX	94	6
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				ROADWAY	BRIDGE	
				0004	0010	
				RURAL	S. N. 048-0095	
				KNOX	KNOX	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	76630		76630	
51201600	FURNISHING STEEL PILES HP 12 X 53	FOOT	310		310	
51201610	FURNISHING STEEL PILES HP 12 X 63	FOOT	320		320	
51202305	DRIVING PILES	FOOT	630		630	
51203600	TEST PILE STEEL HP 12 X 53	EACH	2		2	
51203610	TEST PILE STEEL HP 12 X 63	EACH	2		2	
51500100	NAME PLATES	EACH	2	1	1	
52100505	ANCHOR BOLTS, 5/8"	EACH	24		24	
52100520	ANCHOR BOLTS, 1"	EACH	24		24	
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	1	1		
54003000	CONCRETE BOX CULVERTS	CU YD	6.4	6.4		
54010705	PRECAST CONCRETE BOX CULVERT 7' X 5'	FOOT	102	102		
54260315	TRAVERSABLE PIPE GRATE FOR CONCRETE END SECTION	FOOT	57	57		
54262718	METAL FLARED END SECTIONS 18"	EACH	2	2		

USER NAME = jacobsmr	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/10/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	48(B-1)BR(CR)	KNOX	94	7
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				ROADWAY	BRIDGE	
				0004	0010	
				RURAL	S. N. 048-0095	
				KNOX	KNOX	
54262724	METAL FLARED END SECTIONS 24"	EACH	4	4		
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	19	19		
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	68	68		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	66		66	
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	800	800		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2		
63200310	GUARDRAIL REMOVAL	FOOT	1237	1237		
* 66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	12	12		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8		
67100100	MOBILIZATION	L SUM	1	1		
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	182.5	182.5		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	60	60		
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	2	2		

*= SPECIALTY ITEM

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	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -
PLOT DATE = 5/10/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	48(B-1)BR(CR)	KNOX	94	8
			CONTRACT NO. 68758	
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				ROADWAY	BRIDGE	
				0004	0010	
				RURAL	S. N.	048-0095
				KNOX	KNOX	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	4138	4138		
* 78001180	PAINT PAVEMENT MARKING - LINE 24"	FOOT	12	12		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	16	16		
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	9	9		
* 78200010	BARRIER WALL REFLECTORS, TYPE B	EACH	4	4		
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	2903	2903		
X4810200	AGGREGATE SHOULDER REMOVAL	CU YD	14	14		
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	70		70	
X6060097	CLASS SI CONCRETE (OUTLET), SPECIAL	CU YD	25	25		
X6062700	CONCRETE GUTTER, TYPE A (SPECIAL)	FOOT	830	830		
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1		
Z0001002	GUARDRAIL AGGREGATE EROSION CONTROL	TON	218	218		
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	24		24	
Z0004638	PAVEMENT BREAKING	SQ YD	634	634		

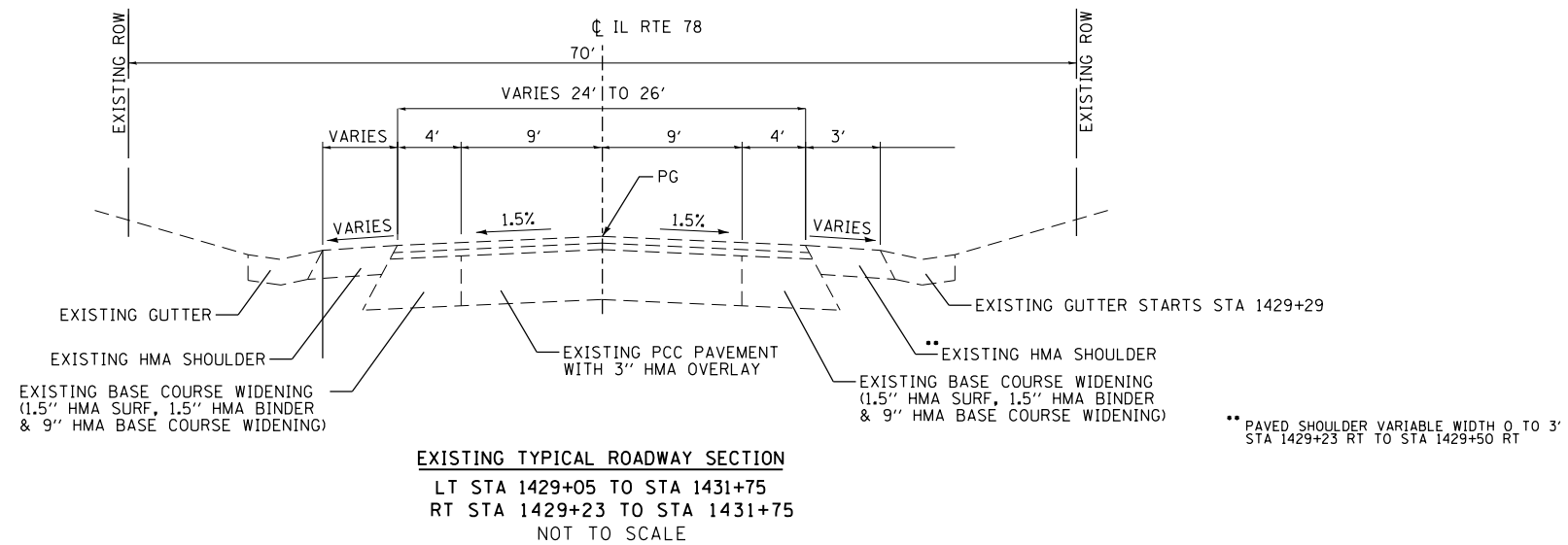
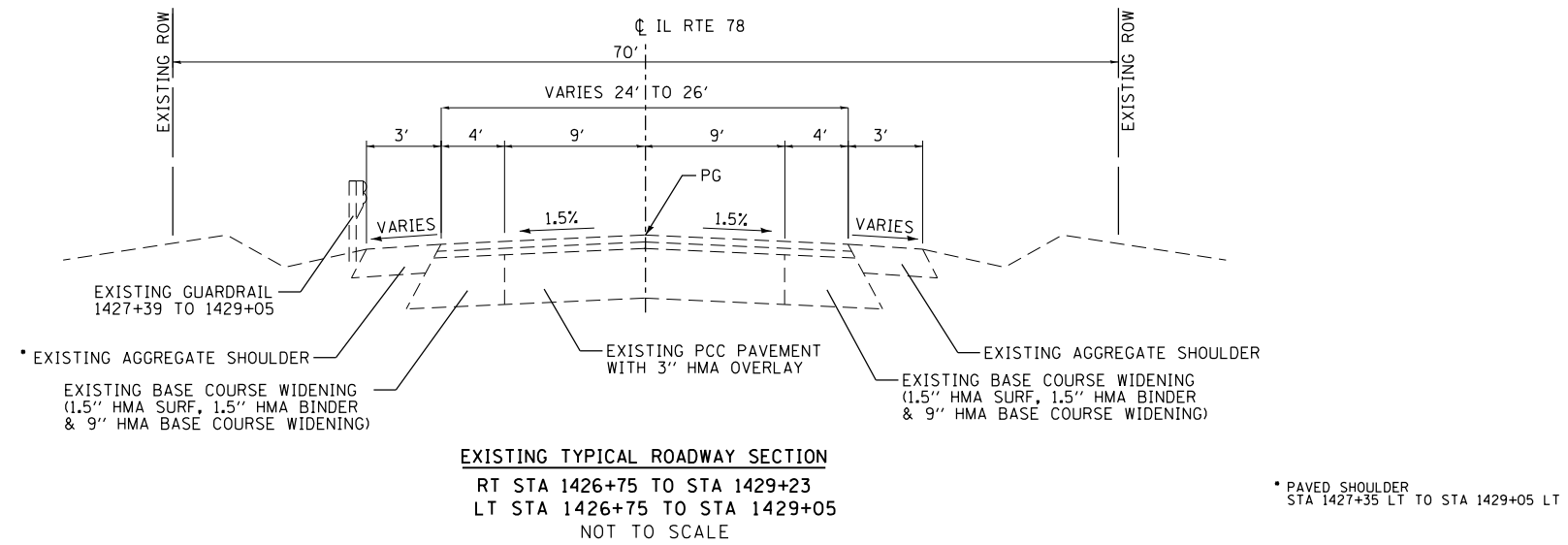
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PLOT DATE = 5/10/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	48(B-1)BR(CR)	KNOX	94	9
			CONTRACT NO. 68758	
ILLINOIS FED. AID PROJECT				



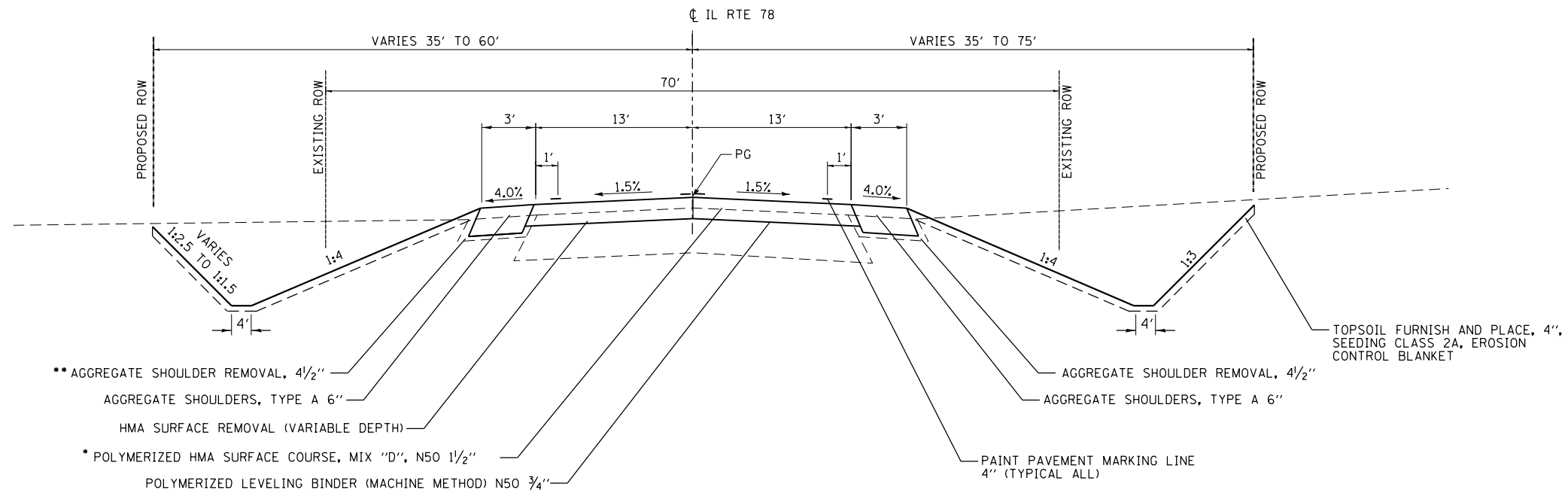
FEHR GRAHAM ILLINOIS
 ENGINEERING & ENVIRONMENTAL IOWA
 WISCONSIN
ILLINOIS DESIGN FIRM NO. 184-003525

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FEHR GRAHAM PROJECT NUMBER: 09004-3	PLOT DATE = 5/9/2019	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS	
ILLINOIS ROUTE 78	
SCALE:	SHEET 1 OF 3 SHEETS STA. 1426+75.00 TO STA. 1431+75.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	11
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				



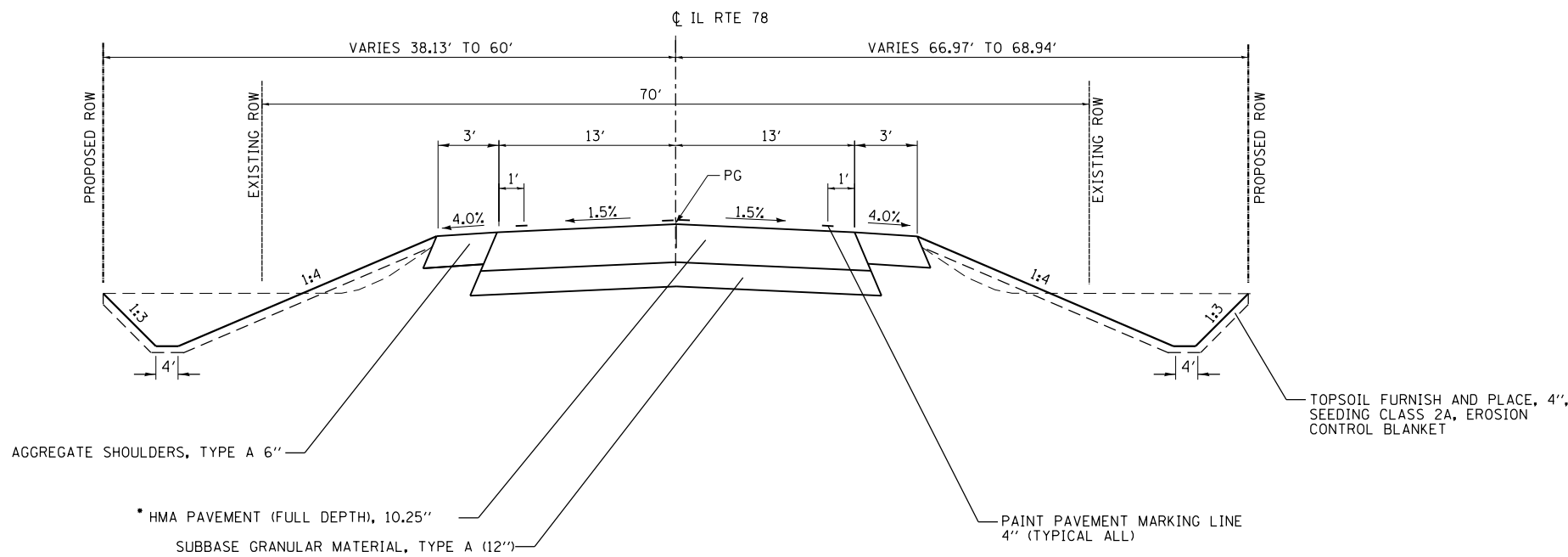
- ** AGGREGATE SHOULDER REMOVAL, 4 1/2"
- AGGREGATE SHOULDERS, TYPE A 6"
- HMA SURFACE REMOVAL (VARIABLE DEPTH)
- * POLYMERIZED HMA SURFACE COURSE, MIX "D", N50 1 1/2"
- POLYMERIZED LEVELING BINDER (MACHINE METHOD) N50 3/4"
- AGGREGATE SHOULDER REMOVAL, 4 1/2"
- AGGREGATE SHOULDERS, TYPE A 6"
- PAINT PAVEMENT MARKING LINE 4" (TYPICAL ALL)

PROPOSED TYPICAL ROADWAY SECTION

STA 1426+75 TO 1428+20
 RT STA 1428+90 TO 1429+50
 LT STA 1428+90 TO 1429+05
 NOT TO SCALE

- * HMA PAVEMENT (FULL DEPTH), 10.25" CONSISTS OF POLYMERIZED HMA SURFACE COURSE, MIX "D", N50, 1 1/2"; POLYMERIZED HMA LEVELING BINDER, (MACHINE METHOD) N50, 2 1/4" AND HMA BINDER COURSE, IL 19.0, N50, 6 1/2".

- ** EXISTING PAVED SHOULDER REMOVAL STA 1427+35 LT TO 1429+05 LT



- * HMA PAVEMENT (FULL DEPTH), 10.25"
- SUBBASE GRANULAR MATERIAL, TYPE A (12")
- PAINT PAVEMENT MARKING LINE 4" (TYPICAL ALL)

PROPOSED TYPICAL ROADWAY SECTION

STA 1428+20 TO STA 1428+90
 (PAVEMENT REMOVAL AND RECONSTRUCTION)
 NOT TO SCALE

FEHR GRAHAM ILLINOIS
 ENGINEERING & ENVIRONMENTAL IOWA
 WISCONSIN
ILLINOIS DESIGN FIRM NO. 184-003525

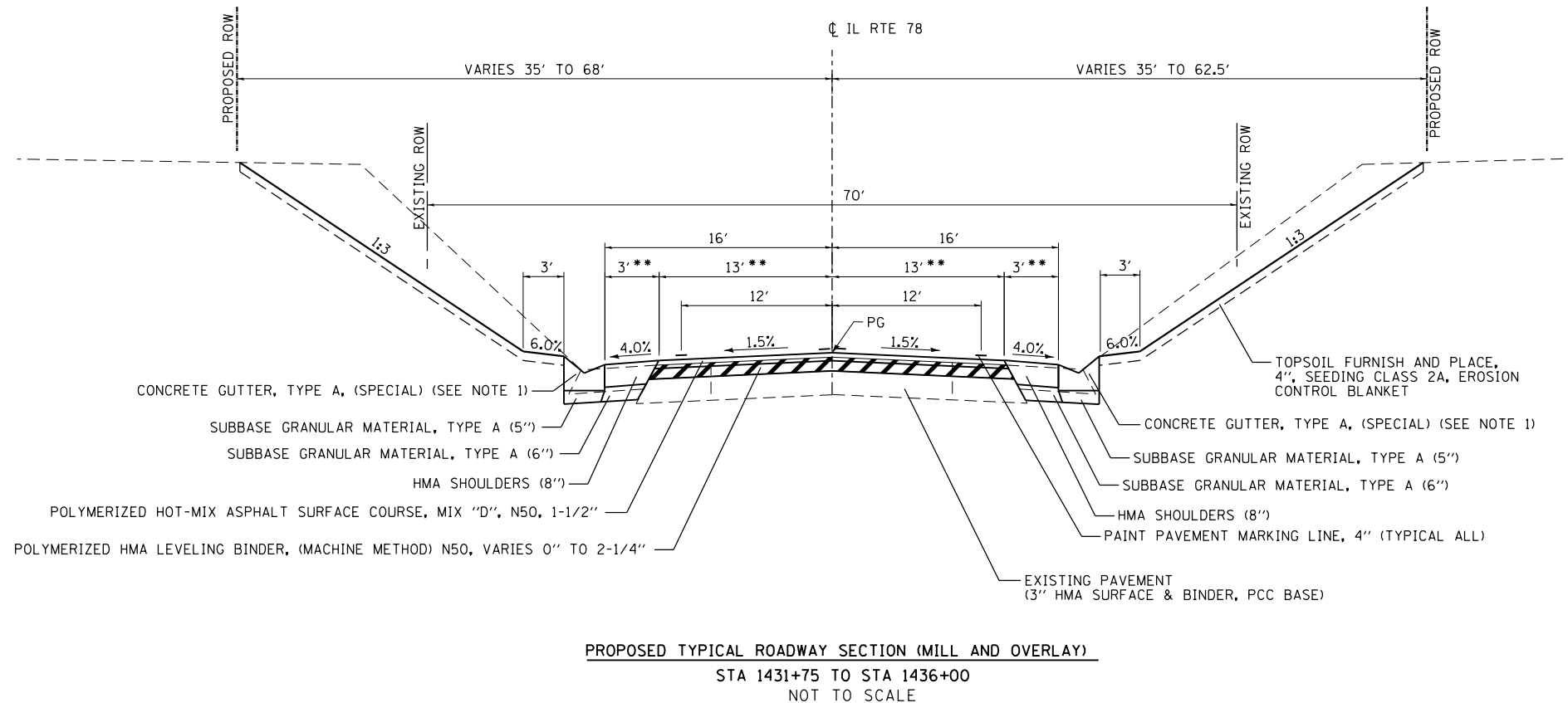
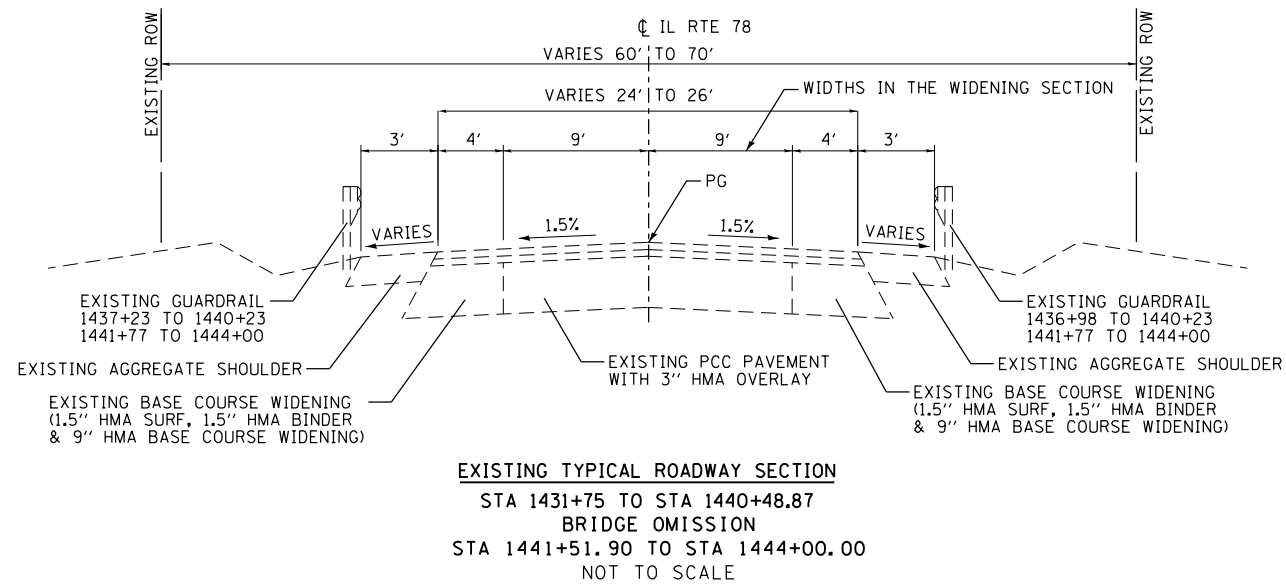
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**




**TYPICAL SECTIONS
 ILLINOIS ROUTE 78**

SCALE: SHEET 2 OF 3 SHEETS STA. 1426+75.00 TO STA. 1429+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	12
			CONTRACT NO. 68758	
ILLINOIS FED. AID PROJECT				



- NOTES:
- CONCRETE GUTTER, TYPE A STARTS DIVERTING AWAY FROM PAVEMENT AT STA 1434+48
 - HMA PAVEMENT (FULL DEPTH), 10.25" CONSISTS OF POLYMERIZED HMA SURFACE COURSE, MIX "D", N50, 1-1/2"; POLYMERIZED HMA LEVELING BINDER, (MACHINE METHOD) N50, 2-1/4" AND HMA BINDER COURSE, IL 19.0, N50, 6-1/2"
 - MATCH EXISTING PAVEMENT WIDTH FROM STA 1431+75 TO STA 1434+48. SHOULDER WIDTH VARIES WITH PAVEMENT WIDTH.

-  HMA SURFACE REMOVAL (VARIABLE DEPTH)
-  PAVEMENT REMOVAL
-  PAVEMENT BREAKING

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 ROCKFORD (815) 499-0050
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CHASTAIN & ASSOCIATES, LLC
 CONSULTING ENGINEERS

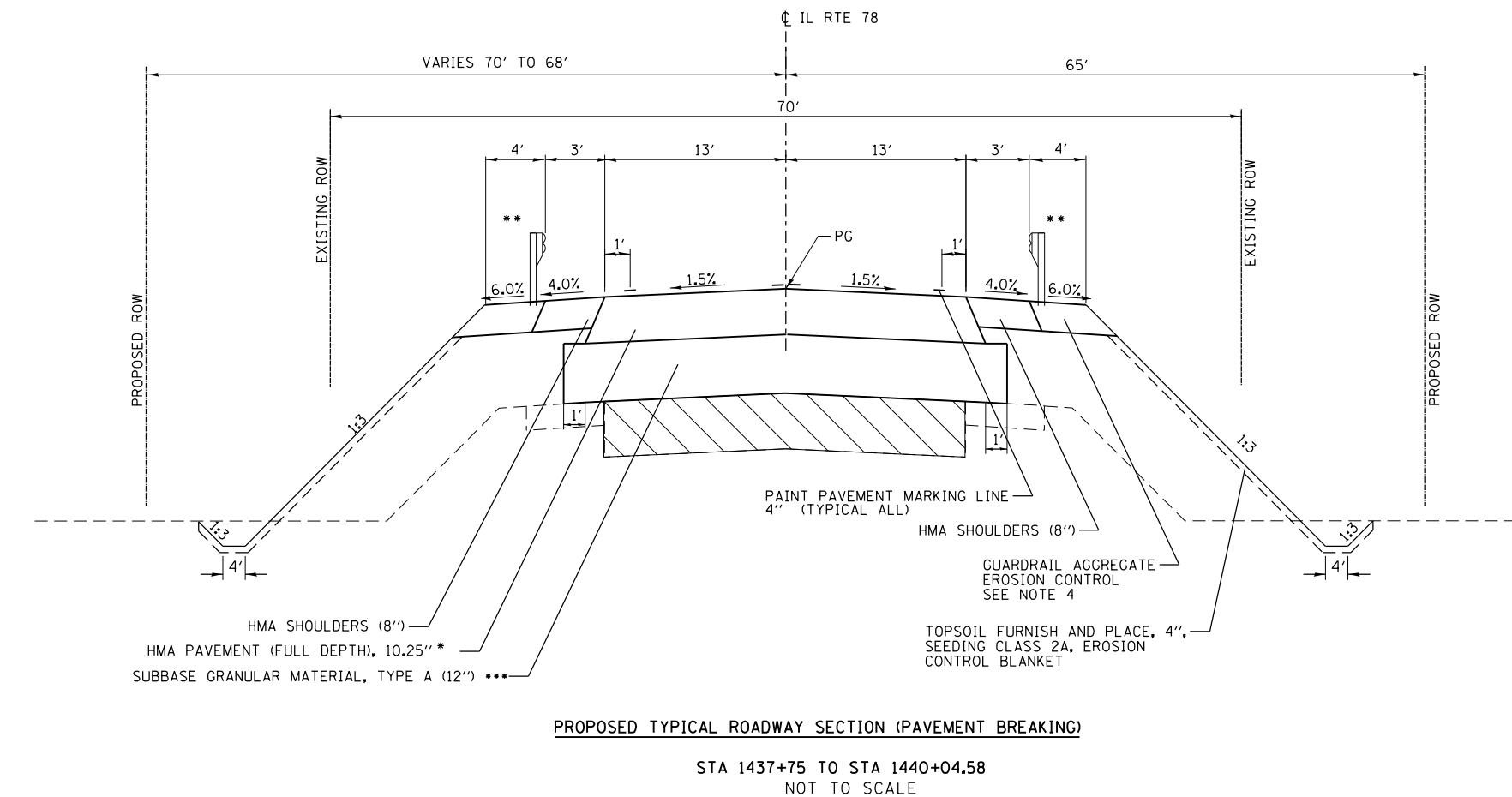
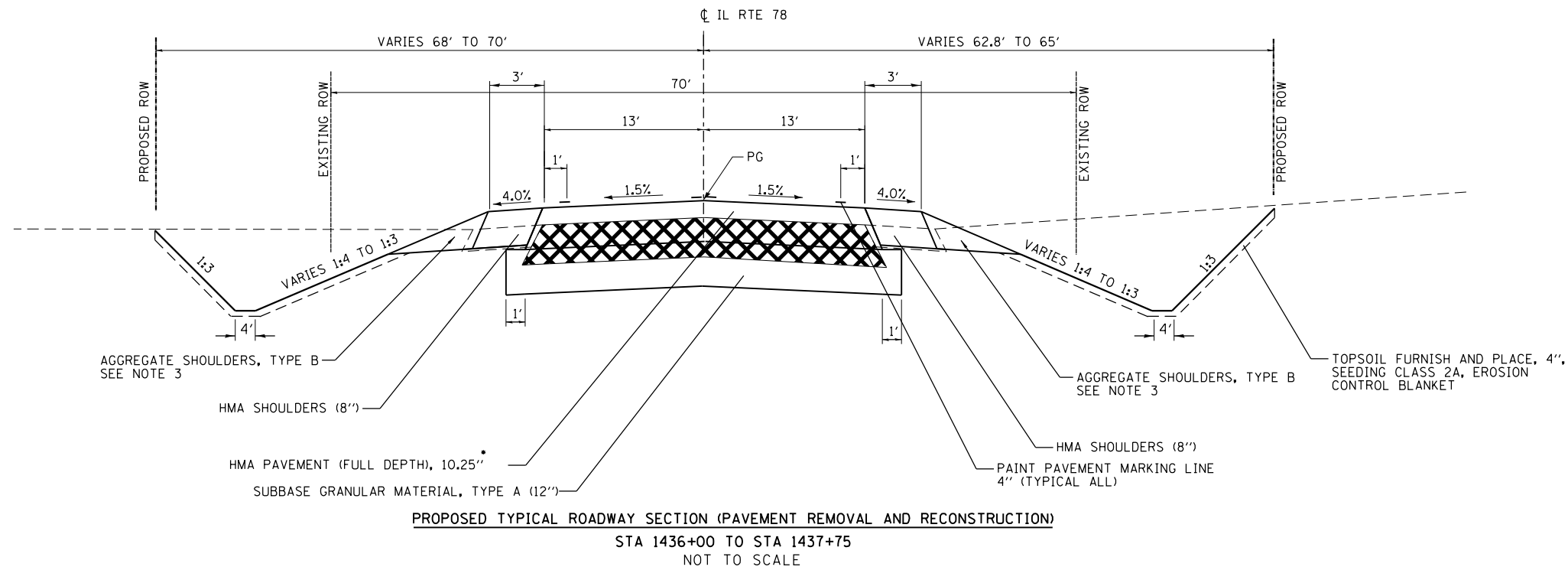
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
 ILLINOIS ROUTE 78

SCALE: NONE SHEET NO. 1 OF 3 SHEETS STA. 1431+75 TO STA. 1444+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	14
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				



- NOTES:
- BRIDGE APPROACH PAVEMENT CONNECTOR SHALL BE LOCATED FROM STA 1439+94.58 TO STA 1440+04.58 AND FROM STA 1441+75.08 TO STA 1441+85.08
 - THE PROPOSED BRIDGE STRUCTURE SHALL BE LOCATED FROM STA 1440+04.58 TO STA 1441+75.08
 - AGGREGATE SHOULDERS, TYPE B END AT:
LT STA 1438+86.18
RT STA 1438+23.58
 - GUARDRAIL AGGREGATE EROSION CONTROL BEGINS AT:
LT STA 1438+86.18
RT STA 1438+23.58
- * HMA PAVEMENT (FULL DEPTH), 10.25" CONSISTS OF POLYMERIZED HMA SURFACE COURSE, MIX "D", N50, 1-1/2"; POLYMERIZED HMA LEVELING BINDER, (MACHINE METHOD) N50, 2-1/4" AND HMA BINDER COURSE, IL 19.0, N50, 6-1/2"
- ** PROPOSED GUARDRAIL LIMITS ARE 1438+01.43 TO 1444+00.00
- *** VARY DEPTH OF SUBBASE GRANULAR MATERIAL, TYPE A, 12" MINIMUM FOR PROFILE RAISE

- HMA SURFACE REMOVAL (VARIABLE DEPTH)
- PAVEMENT REMOVAL
- PAVEMENT BREAKING

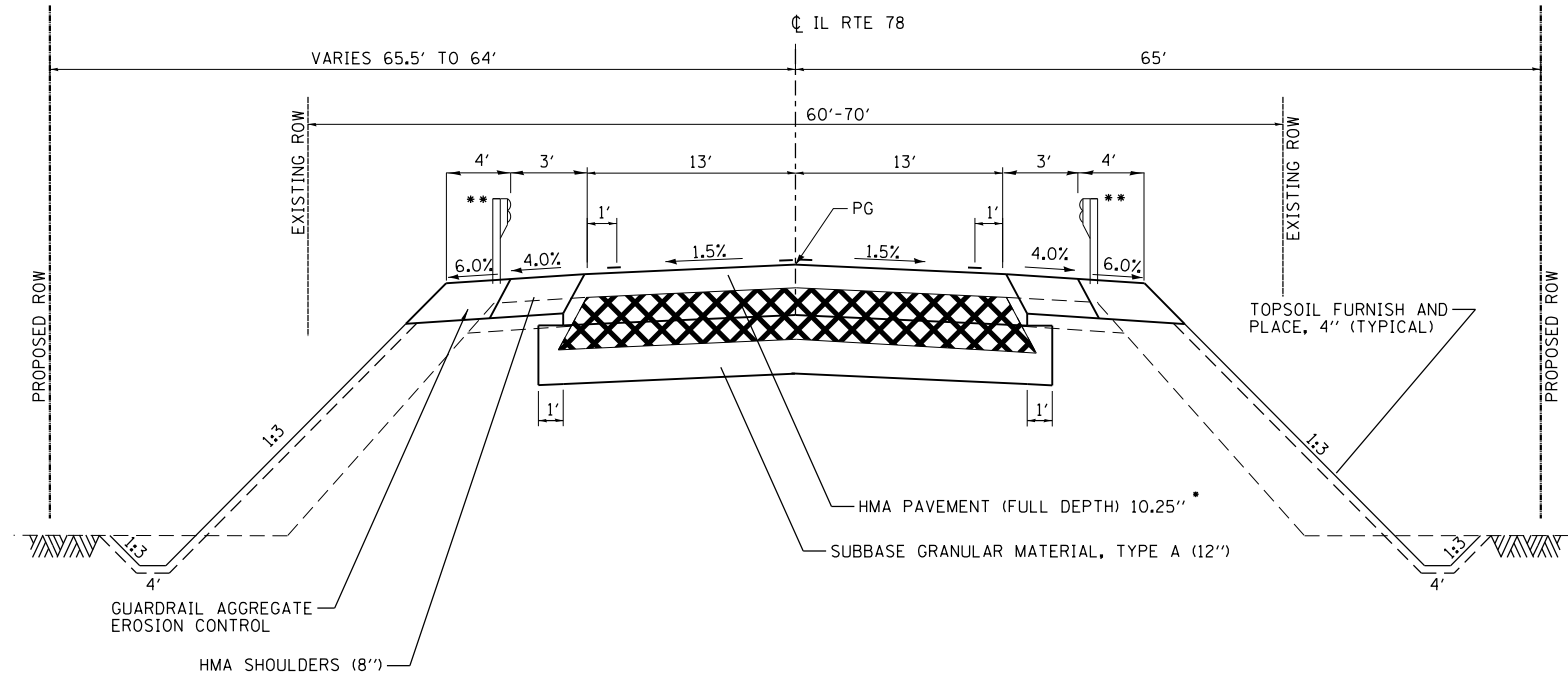
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 SCHAUMBURG
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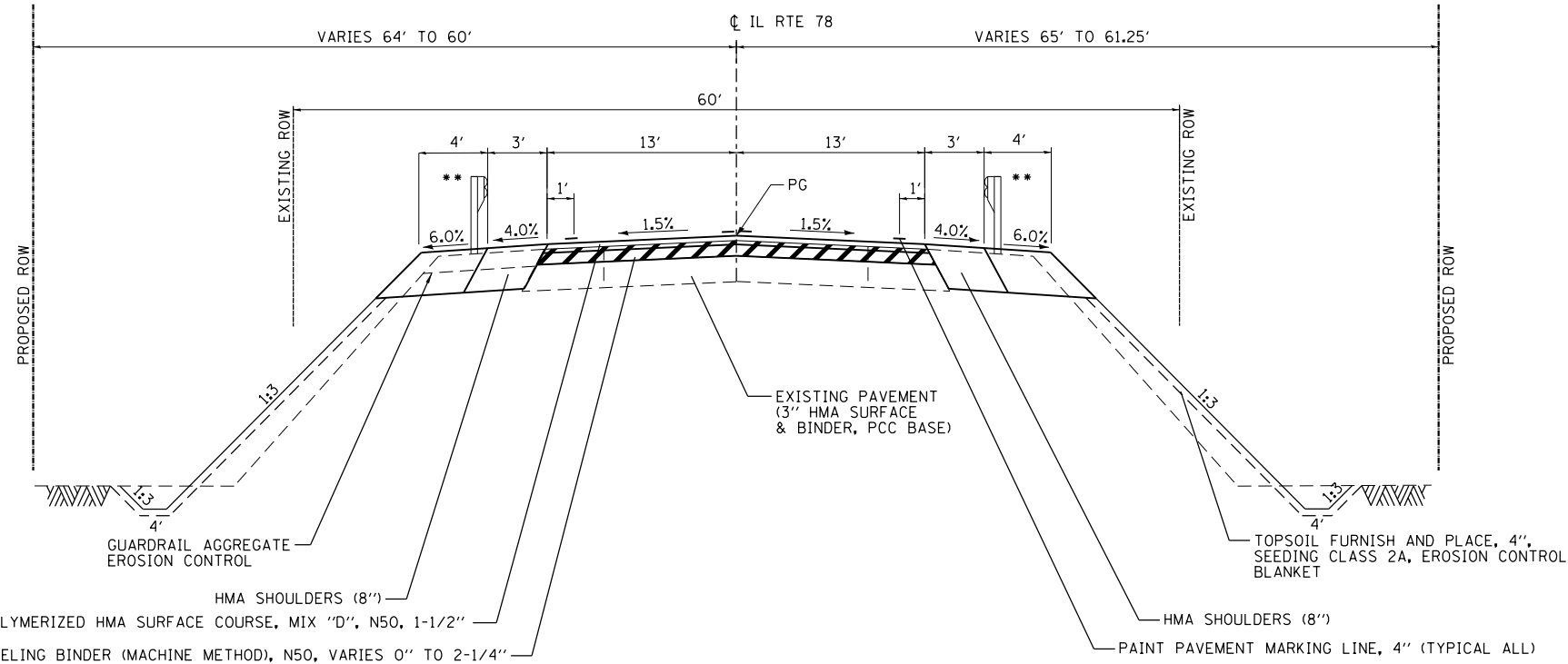
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS	
ILLINOIS ROUTE 78	
SCALE: NONE	SHEET NO. 2 OF 3 SHEETS
STA. 1436+00	TO STA. 1439+94.58

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	15
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				



PROPOSED TYPICAL ROADWAY SECTION (PAVEMENT REMOVAL AND RECONSTRUCTION)
 STA 1441+75.08 TO STA 1442+50
 NOT TO SCALE



PROPOSED TYPICAL ROADWAY SECTION (MILL AND OVERLAY)
 STA 1442+50 TO STA 1444+00
 NOT TO SCALE

NOTES:

- BRIDGE APPROACH PAVEMENT CONNECTOR SHALL BE LOCATED FROM STA 1439+94.58 TO STA 1440+04.58 AND FROM STA 1441+75.08 TO STA 1441+85.08
- THE PROPOSED BRIDGE STRUCTURE SHALL BE LOCATED FROM STA 1440+04.58 TO STA 1441+75.08
- HMA PAVEMENT (FULL DEPTH), 10.25" CONSISTS OF POLYMERIZED HMA SURFACE COURSE, MIX "D", N50, 1-1/2"; POLYMERIZED HMA LEVELING BINDER, (MACHINE METHOD) N50, 2-1/4" AND HMA BINDER COURSE, IL 19.0, N50, 6-1/2"
- PROPOSED NORTHBOUND AND SOUTHBOUND GUARDRAILS SHALL BE CONNECTED TO EXISTING GUARDRAILS THAT CONTINUE BEYOND THE PROJECT TERMINI.

- HMA SURFACE REMOVAL (VARIABLE DEPTH)
- PAVEMENT REMOVAL
- PAVEMENT BREAKING

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTIONS
 ILLINOIS ROUTE 78**

SCALE: NONE SHEET NO. 3 OF 3 SHEETS STA. 1441+85.08 TO STA. 1444+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	16
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

EARTHWORK SCHEDULE

LOCATION	1	2	3	4	5
	20200100 EARTH EXCAVATION (CU YD)	*EXCAVATION TO BE USED IN EMBANKMENT (ADJUSTED FOR SHRINKAGE) (COL 1 X 0.75) (CU YD)	*EMBANKMENT (FILL) (CU YD)	*20400800 FURNISHED EXCAVATION (COL 2 - COL 3) (CU YD)	20200500 EARTH EXCAVATION (WIDENING) (CU YD)
IL RTE 78					
STA1426+75 TO STA 1444+00	5906	4430	5002	572	
GRAHAM CHAPEL/WILEY					17.5
TOTAL	5906	4430	5002	572	

EARTH EXCAVATION SHRINKAGE FACTOR ASSUMED TO BE 25%

ITEMS MARKED WITH AN ASTERISK (*) ARE FOR INFORMATIONAL PURPOSES ONLY

POSITIVE FURNISHED EXCAVATION QUANTITY = WASTE AND NOT MEASURED FOR PAYMENT

TOPSOIL - SEEDING - NUTRIENT SCHEDULE

STATION	TO	STATION	21101615		25000210		25000400		25000500		25000600	
			TOPSOIL FURNISH AND PLACE, 4"		SEEDING CLASS 2A		NITROGEN FERTILIZER NUTR.		PHOSPHORUS FERTILIZER NUTR.		POTASSIUM FERTILIZER NUTR.	
			LT/RT	SO YD	LT/RT	ACRE	LT/RT	POUND	LT/RT	POUND	LT/RT	POUND
1426+75.00	TO	1431+75.00	LT	1035	LT	0.3	LT	19	LT	19	LT	19
1426+75.00	TO	1431+75.00	RT	940	RT	0.2	RT	18	RT	18	RT	18
1431+75.00	TO	1440+25.58	LT	3610.6	LT	0.8	LT	67.1	LT	67.1	LT	67.1
1431+75.00	TO	1440+25.58	RT	2962.1	RT	0.7	RT	55.1	RT	55.1	RT	55.1
1441+55.08	TO	1444+00.00	LT	880.3	LT	0.3	LT	16.4	LT	16.4	LT	16.4
1441+55.08	TO	1444+00.00	RT	652.8	RT	0.2	RT	12.1	RT	12.1	RT	12.1
GRAHAM CHAPEL/WILEY				331.0		0.07		6.3		6.3		6.3
TOTAL				10412		2.57		194.3		194.3		194.3

GUARDRAIL SCHEDULE

LOCATION		63000001		63100085		63100167	
STATION	TO	STATION	LT/RT	FOOT	STATION	TO	STATION
1438+00.00	TO	1439+82.68	RT	187.5	1439+82.68	TO	1444+09.48
1438+00.00	TO	1439+82.68	LT	187.5	1444+09.48	TO	1444+09.48
1441+96.98	TO	1444+09.48	RT	212.5	1444+09.48	TO	1444+09.48
1441+96.98	TO	1444+09.48	LT	212.5			
1439+82.68			RT	1			
1439+82.68			LT	1			
1441+96.98			RT	1			
1441+96.98			LT	1			
1437+50.00						RT	1
1437+50.00						LT	1
TOTALS				800.0			4

PAVEMENT MARKING SCHEDULE

LOCATION					78001110	78100100
STATION	TO	STATION	LT/RT	COLOR	PAINT PAVEMENT MARKING LINE - 4"	RAISED REFLECTIVE PAVEMENT MARKER
1426+75.00	TO	1431+75.00	LT	WHITE	500	
1426+75.00	TO	1431+75.00	RT	WHITE	500	
1426+75.00	TO	1431+75.00	CL	YELLOW	125	7
1431+75.00	TO	1444+00.00	LT	WHITE	1225	
1431+75.00	TO	1444+00.00	RT	WHITE	1225	
1431+75.00	TO	1444+00.00	CL	YELLOW	300	16
TOTALS					3875	23

SHORT TERM PAVEMENT MARKING SCHEDULE

70300100	70300150
SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL
FOOT	SQ FT
182.5	60
STA 1426+75 TO STA 1445+00	

TREE REMOVAL SCHEDULE

LOCATION					20100110	20100500
STATION	TO	STATION	OFF SET	LT/RT	TREE REMOVAL (6 TO 15 UNITS DIAMETER) UNIT	TREE REMOVAL ACRES
1428+68.56			31.61	LT	8.0	
1428+71.46			32.32	LT	10.0	
1428+73.64			33.19	LT	8.0	
1431+75.00		1445+00.00		LT/RT		0.4
TOTALS					26.0	0.4

DRAINAGE SCHEDULE

LOCATION				54010705	542D0223	542D0229	54215553	54215559
STATION	TO	STATION	LT/RT	PRECAST CONCRETE BOX CULVERTS 7' X 5'	PIPE CULVERTS CLASS D TYPE 1 18"	PIPE CULVERTS CLASS D TYPE 1 24"	METAL END SECTIONS 18"	METAL END SECTIONS 24"
1428+55.16				102.0				
1427+17.89	TO	1427+36.39	LT		19		2	
1428+05.58	TO	1428+11.38	LT			23		2
1436+42.17	TO	1436+86.91	RT			45		2
TOTALS				102.0	19.0	68.0	2	4

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES
ILLINOIS ROUTE 78

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-BR;CRJ)	KNOX	94	17
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

REMOVAL SCHEDULE

STATION	TO	STATION	40600982		44000100		44000157	X4401198		44000400		44004250		50105220		63200310		78300200		X4810200		Z0004638	
			HMA SURFACE REMOVAL BUTT JOINT		PAVEMENT REMOVAL		HMA SURF REM 2"	HOT-MIX ASPHALT SURFACE REMOVAL, VAR DEPTH		GUTTER REMOVAL		PAVED SHOULDER REMOVAL		PIPE CULVERT REMOVAL		GUARDRAIL REMOVAL		RAISED REFL PVMT MARKER REMOVAL		AGGREGATE SHOULDER REMOVAL		PAVEMENT BREAKING	
			LT/RT	SO YD	LT/RT	SO YD	SO YD	LT/RT	SO YD	LT/RT	FOOT	LT/RT	SO YD	LT/RT	FOOT	LT/RT	FOOT	CL	EACH	LT/RT	CU YD	LT/RT	SO YD
1426+75.00	TO	1427+05.00	LT/RT	87																			
1426+75.00	TO	1431+75.00															CL	7					
1426+75.00	TO	1428+20.00					RT	209															
1426+75.00	TO	1428+20.00					LT	209															
1428+90.00	TO	1431+75.00					RT	412															
1428+90.00	TO	1431+75.00					LT	412															
1426+75.00	TO	1427+35.00																		LT	3		
1426+75.00	TO	1429+23.00																		RT	10		
1429+23.00	TO	1429+50.00																		RT	1		
1427+16.20															22.6'	LT	24						
1428+05.00															82.3'	LT	31						
1426+75.00																							
1428+20.00																							
1428+90.00																							
1427+39.04	TO	1429+04.73															LT	166					
1427+35.00	TO	1431+75.00										LT	147										
1429+23.00	TO	1429+50.00										RT	4										
1429+50.00	TO	1431+75.00										RT	75										
1428+20.00	TO	1428+90.00				LT	101																
1428+20.00	TO	1428+90.00				RT	101																
1429+05.00	TO	1431+75.00									LT	270											
1429+05.00	TO	1431+75.00									RT	270											
1431+75.00	TO	1436+00.00																					
1431+75.00	TO	1436+00.00					RT	613.9															
1431+75.00	TO	1436+00.00					LT	613.9															
1431+75.00	TO	1444+00.00																CL	16				
1436+00.00	TO	1437+75.00				RT	252.8																
1436+00.00	TO	1437+75.00				LT	252.8																
1436+57.00															23.3'	RT	20						
1436+97.46	TO	1440+23.36															RT	325.9					
1437+22.64	TO	1440+23.59															LT	300.9					
1437+75.00	TO	1439+94.58																				RT	317.2
1437+75.00	TO	1439+94.58																				LT	317.2
1439+94.58	TO	1440+04.58				RT	14.4																
1439+94.58	TO	1440+04.58				LT	14.4																
1441+75.08	TO	1441+85.08				RT	14.4																
1441+75.08	TO	1441+85.08				LT	14.4																
1441+77.82	TO	1444+00.00															RT	222.2					
1441+77.82	TO	1444+00.00															LT	222.2					
1441+85.08	TO	1442+50.00				RT	93.8																
1441+85.08	TO	1442+50.00				LT	93.8																
1441+71.13	TO	1445+00.00																					
1442+50.00	TO	1444+00.00																					
1442+50.00	TO	1444+00.00																					
1443+70.00	TO	1444+00.00	LT/RT	87																			
GRAHAM CHAPEL/WILEY				106.7																			
TOTALS				280.7		953		395.0				2903		540		226							

DECATUR (217) 422-8544
 SCHAUMBURG (631) 714-0050
 ROCKFORD (815) 499-0050
 184-001397

CHASTAIN & ASSOCIATES, LLC
 CONSULTING ENGINEERS

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Default	PLOT DATE = 5/9/2019	DATE - 10/16	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SCHEDULES			
ILLINOIS ROUTE 78			
SCALE:	SHEET	OF	SHEETS
		STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	18
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

EROSION CONTROL SCHEDULE

STATION	TO	STATION	25100630		25100635		28000305		28000400		28000500		28100125		28100107		28100127		28200200	
			EROSION CONTROL BLANKET		HD EROSION CONTROL BLANKET		TEMPORARY DITCH CHECKS		PERIMETER EROSION BARRIER		INLET AND PIPE PROTECTION		STONE RIPRAP, CLASS B3		STONE RIPRAP, CLASS A4		STONE RIPRAP, CLASS B4		FILTER FABRIC	
			LT/RT	SQ YD	LT/RT	SQ YD	LT/RT	FOOT	LT/RT	FOOT	O/S	EACH	LT/RT	SQ YD	LT/RT	SQ YD	LT/RT	SQ YD	LT/RT	SQ YD
1426+75.00	TO	1431+75.00	LT	1036					LT	588										
1426+75.00	TO	1431+75.00	RT	940					RT	499										
1428+22.40													LT	46					LT	46
1428+96.40													RT	41					RT	41
1427+15.00											LT	1								
1428+05.00											LT	1								
1429+00.00	TO	1429+50.00															RT	34	RT	34
1427+00.00	TO	1427+15.00											LT	11					LT	11
1427+40.00	TO	1428+05.00											LT	47					LT	47
1428+30.00	TO	1429+00.00											LT	51					LT	51
1427+50.00	TO	1429+00.00											RT	95					RT	95
1431+75.00	TO	1439+94.54	LT/RT	6366					LT/RT	1640										
1439+94.54	TO	1440+25.58			LT/RT	207			LT/RT	60										
1441+55.08	TO	1441+85.08			LT/RT	197			LT/RT	60										
1441+85.08	TO	1445+00.00	LT/RT	1337					LT/RT	630										
1434+75.00	TO	1436+38.30												RT	73.2				RT	73.2
1434+75.00	TO	1440+25.58												LT	244.7				LT	244.7
1436+42.17										38.5' RT	1									
1436+90.05	TO	1438+50.00												RT	71.1				RT	71.1
BRIDGE														LT/RT	1703				LT/RT	1703
1439+00.00							LT	10.4												
1440+00.00							LT	10.4												
1441+50.00							LT	10.4												
1442+50.00							LT	10.4												
1443+50.00							LT	10.4												
GRAHAM CHAPEL/WILEY										130										
TOTAL				9679		404		52		3477		3		204		2179		34		2417

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 SCHLAUBURG (773) 744-0000
 ROCKFORD (815) 489-0050
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CHASTAIN & ASSOCIATES LLC
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	PLOT DATE = 5/9/2019	DATE - 10/16	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SCHEDULES
ILLINOIS ROUTE 78**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	19
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

PAVING SCHEDULE

LOCATION				31100100	40200700	40600825	40603535	40701886	40800050	42000080	40603080	40603310	44200050	44201796	44300200	48100500	48101200	48203100	X6062700	X6060097	Z0001002	40600295	
STATION	TO	STATION	OFFSET	SUBBASE GRANULAR MATERIAL TYPE A (TON)	AGGREGATE SURFACE COURSE TYPE A, 8" (SQ YD)	POLYMERIZED LEVELING BINDER (MACHINE METHOD) N50 (TON)	POLYMERIZED HMA SURFACE COURSE MIX "D", N50 (TON)	HMA (FULL DEPTH) 10 1/4" (SQ YD)	INCIDENTAL HMA SURFACING 6" (TON)	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB (SQ YD)	HMA BINDER COURSE IL-19, 0, N50 (TON)	HMA SURFACE COURSE MIX "C", N50 (TON)	WELDED WIRE REINF. (SQ YD)	CLASS D PATCHES, TYPE IV 12 INCH (SQ YD)	STRIP REFLECTIVE CRACK CONTROL TREATMENT (FOOT)	AGGREGATE SHOULDERS TYPE A 6 INCH (SQ YD)	AGGREGATE SHOULDERS TYPE B (TON)	HOT-MIX ASPHALT SHOULDERS (TON)	CONCRETE GUTTER TYPE A (FOOT)	CLASS S1 CONCRETE (OUTLET) SPECIAL (CU YD)	GUARDRAIL AGGREGATE EROSION CONTROL (TON)	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) (POUND)	
1426+75.00	TO	1428+20.00	RT			9																	150.8
1426+75.00	TO	1428+20.00	LT			9																	150.8
1428+90.00	TO	1431+75.00	RT			17																	296.4
1428+90.00	TO	1431+75.00	LT			17																	296.4
1429+50.00	TO	1430+00.00	LT										6.5								5.5		
1429+50.00	TO	1430+00.00	RT										6.5								5.5		
1429+50.00	TO	1431+75.00	LT																225				
1430+00.00	TO	1431+75.00	RT																175				
1429+05.00	TO	1431+75.00	LT																				
1429+50.00	TO	1431+75.00	RT																				
1428+20.00	TO	1428+90.00	LT											101									
1428+20.00	TO	1428+90.00	RT											101									
1428+20.00			LT/RT																				
1428+90.00			LT/RT																				
1426+75.00	TO	1429+05.00	LT																				
1426+75.00	TO	1429+50.00	RT																				
1426+75.00	TO	1431+75.00	RT				60.5																520.0
1426+75.00	TO	1431+75.00	LT				60.5																520.0
1431+75.00	TO	1436+00.00	RT	51.9		77.4	51.6																442.0
1431+75.00	TO	1436+00.00	LT	51.9		77.4	51.6																442.0
1431+75.00	TO	1434+48.00	RT	27.8																			
1431+75.00	TO	1434+48.00	LT	27.8																			
1436+00.00	TO	1439+94.58	RT	637.3																			
1436+00.00	TO	1439+94.58	LT	637.3																			
1436+64.30			RT		100				19.0														
1436+00.00	TO	1439+94.58	RT					570.0															1643.2
1436+00.00	TO	1439+94.58	LT					570.0															1643.2
1439+94.58	TO	1440+04.58	RT							17.8													
1439+94.58	TO	1440+04.58	LT							17.8													
1441+75.08	TO	1441+85.08	RT							17.8													
1441+75.08	TO	1441+85.08	LT							17.8													
1441+85.08	TO	1442+50.00	RT	79.3				94.0															270.4
1441+85.08	TO	1442+50.00	LT	79.3				94.0															270.4
1442+50.00	TO	1444+00.00	RT			27.3	18.2																312.0
1442+50.00	TO	1444+00.00	LT			27.3	18.2																312.4
1434+48.08	TO	1437+25.00	LT																				
1437+25.00	TO	1438+86.18	LT																				
1434+48.08	TO	1436+31.30	RT																				
1436+97.30	TO	1437+25.00	RT																				
1437+25.00	TO	1438+23.58	RT																				
1431+75.00	TO	1433+90.00	RT																				
1431+75.00	TO	1433+90.00	LT																				
1433+90.00	TO		RT																				
1433+90.00	TO		LT										12.5										
1437+15.90	TO	1437+39.90	RT																				
1437+39.90	TO	1440+04.58	RT																				
1437+16.00	TO	1437+40.18	LT																				
1437+40.18	TO	1440+04.58	LT																				
1441+75.08	TO	1444+00.00	LT																				
1441+75.08	TO	1444+00.00	RT																				
GRAHAM CHAPEL/WILEY											35	60											385.7
TOTALS				1593	100	261	261	1328	19	71	35	60	38	202	52	168	50	315	830	25	158		7655

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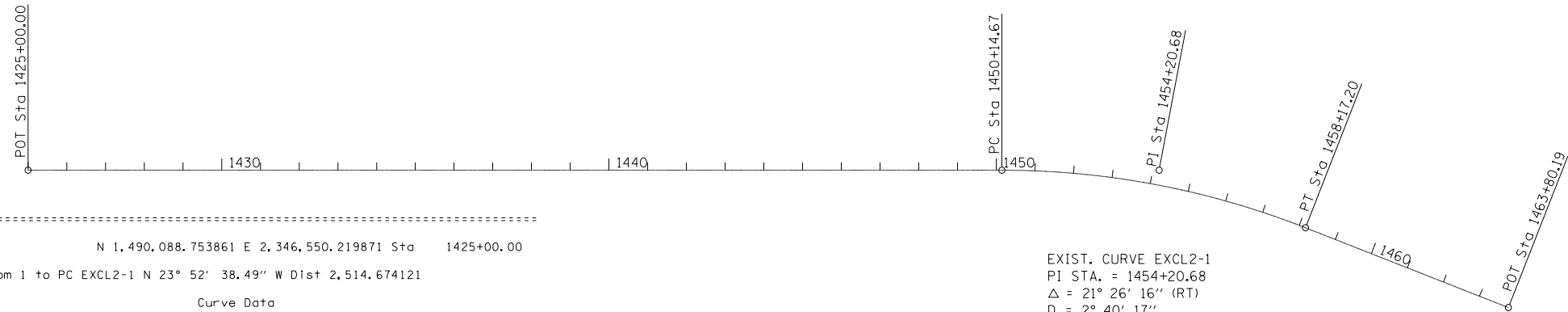
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES
ILLINOIS ROUTE 78

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1BR;CR)	KNOX	94	20
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				



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Point 1          N 1,490,088.753861 E 2,346,550.219871 Sta 1425+00.00
Course from 1 to PC EXCL2-1 N 23° 52' 38.49" W Dist 2,514.674121

Curve Data
-----
Curve EXCL2-1
P. I. Station    1454+20.68 N 1,492,759.468270 E 2,345,367.984583
Delta           21° 26' 16.02" (RT)
Degree          2° 40' 16.66"
Tangent         406.010000
Length          802.524552
Radius          2,144.870577
External        38.089320
Long Chord      797.851490
Mtd. Ord.       37.424720
P. C. Station   1450+14.67 N 1,492,388.207048 E 2,345,532.329418
P. T. Station   1458+17.20 N 1,493,165.110290 E 2,345,350.702461
C. C.           1,493,256.408325 E 2,347,493.629072
Back            = N 23° 52' 38.49" W
Ahead           = N 2° 26' 22.47" W
Chord Bear     = N 13° 09' 30.48" W

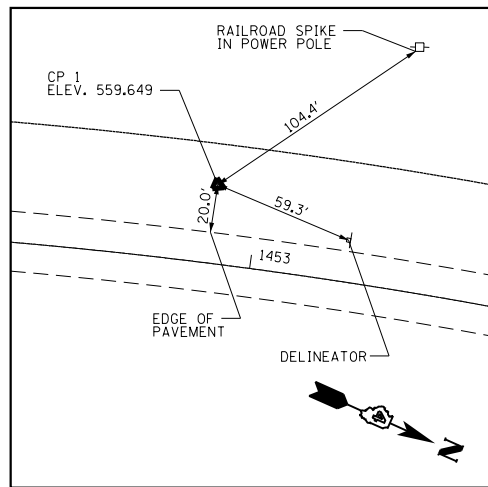
Course from PT EXCL2-1 to 2 N 2° 26' 22.47" W Dist 562.991568
Point 2          N 1,493,727.591600 E 2,345,326.738300 Sta 1463+80.19
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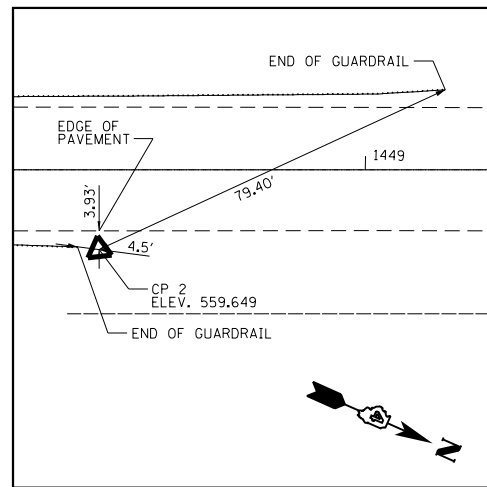
EXIST. CURVE EXCL2-1
PI STA. = 1454+20.68
Δ = 21° 26' 16" (RT)
D = 2° 40' 17"
R = 2,144.87'
T = 406.01'
L = 802.52'
E = 38.09'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. = 1450+14.67
P.T. STA. = 1458+17.20

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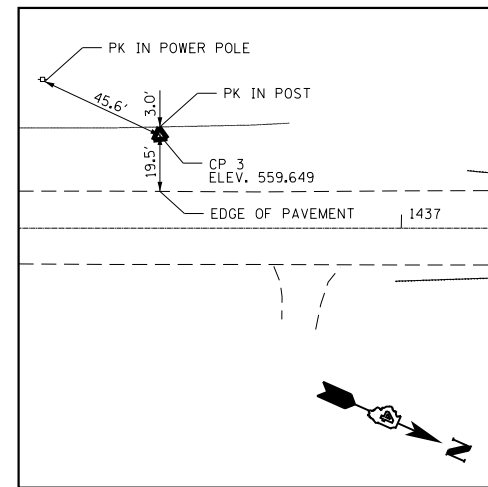
CONTROL POINT 1

SET IRON PIN WITH HLC CAP
 STA. 1452+82.48, 32.91' LT.
 N. 1,492,629.7461
 E. 2,345,407.9614
 ELEV. 631.60



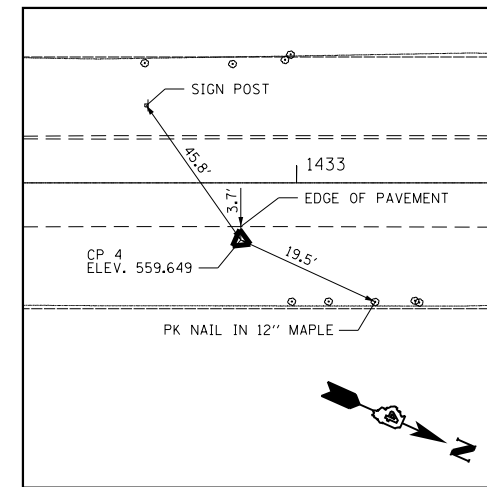
CONTROL POINT 2

SET IRON PIN WITH HLC CAP
 STA. 1448+44.54, 16.62' RT.
 N. 1,492,239.3590
 E. 2,345,616.3970
 ELEV. 612.59



CONTROL POINT 3

SET IRON PIN WITH HLC CAP
 STA. 1436+16.18, 32.30' LT.
 N. 1,491,096.3320
 E. 2,346,068.8740
 ELEV. 628.41



CONTROL POINT 4

SET IRON PIN WITH HLC CAP
 STA. 1432+84.53, 15.84' RT.
 N. 1,490,812.5059
 E. 2,346,247.0015
 ELEV. 635.42

BENCHMARK 3

ELEV. 635.30
 RAILROAD SPIKE IN POWER POLE
 0.6 MILES SOUTH OF RAILROAD BRIDGE
 OVER RTE 78, WEST SIDE OF RTE 78.

BENCHMARK 4

ELEV. 610.54
 CHISLED SQUARE ON NORTHEAST
 WINGWALL AT BRIDGE ON RTE 78
 OVER KICKAPOO CREEK.

BENCHMARK 5

ELEV. 610.64
 CHISLED SQUARE ON SOUTHWEST
 WINGWALL AT BRIDGE ON RTE 78
 OVER KICKAPOO CREEK.

BENCHMARK 6

ELEV. 647.24
 RAILROAD SPIKE IN POWER POLE
 0.3 MILES SOUTH OF BRIDGE ON RTE 78
 OVER KICKAPOO CREEK, EAST SIDE OF RTE 78.

DECATUR (217) 422-8544
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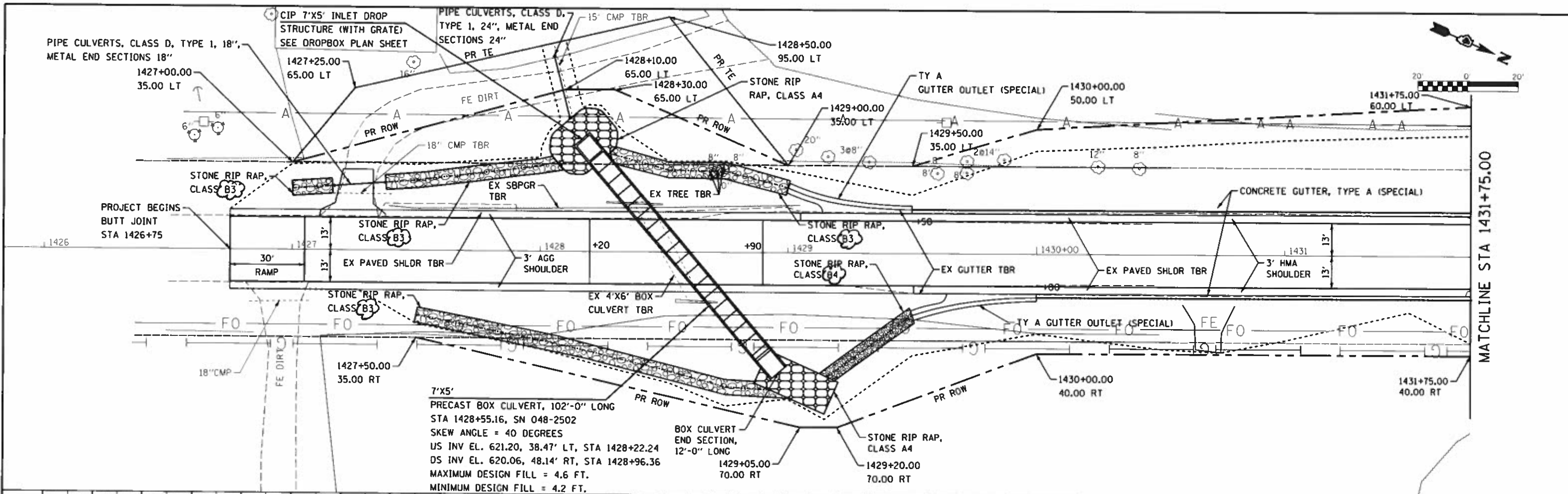
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ALIGNMENT, TIES AND BENCHMARKS
ILLINOIS ROUTE 78**

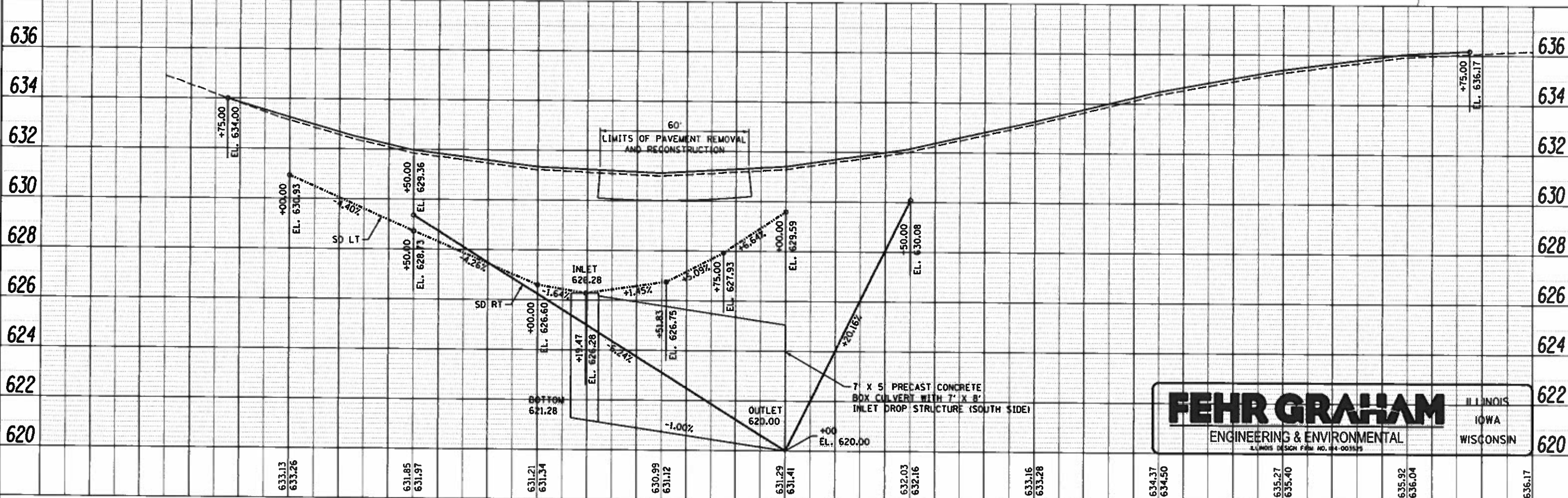
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	21
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

PLAN	SUBMITTED	DATE	
	PLOTTED	BY	
	ALIGNED/REVISED		
	NOTE BOOK		
	NO.		
	DATE		
	FILE NAME		



PROFILE	SUBMITTED	DATE	
	PLOTTED	BY	
	ALIGNED/REVISED		
	NOTE BOOK		
	NO.		
	DATE		
	FILE NAME		



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FEHR GRAHAM PROJECT NO 15-10048	PLOT DATE = 7/24/2019	DATE		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
ILLINOIS ROUTE 78

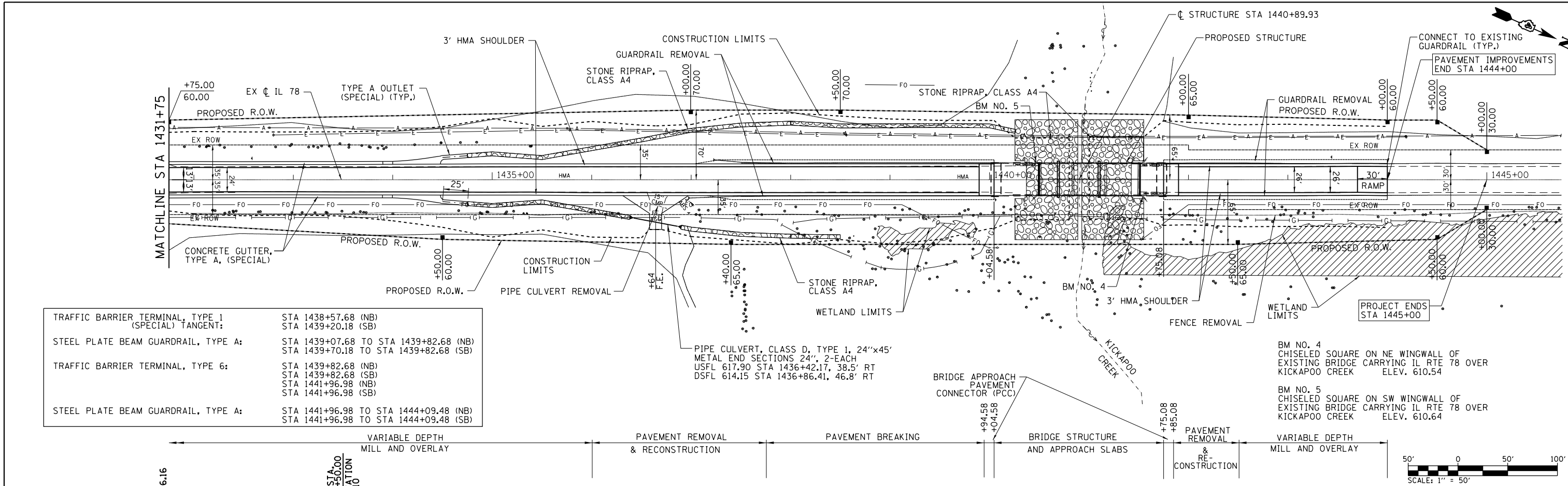
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-11)R2CR	KNOX	88	22
CONTRACT NO. 68758				

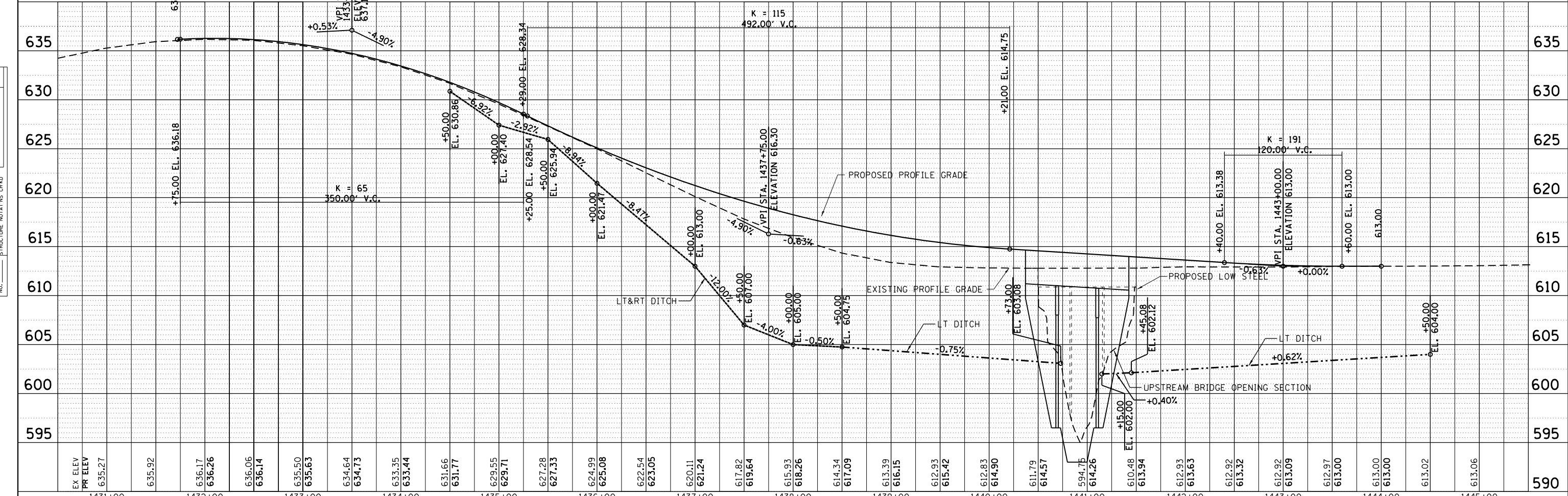
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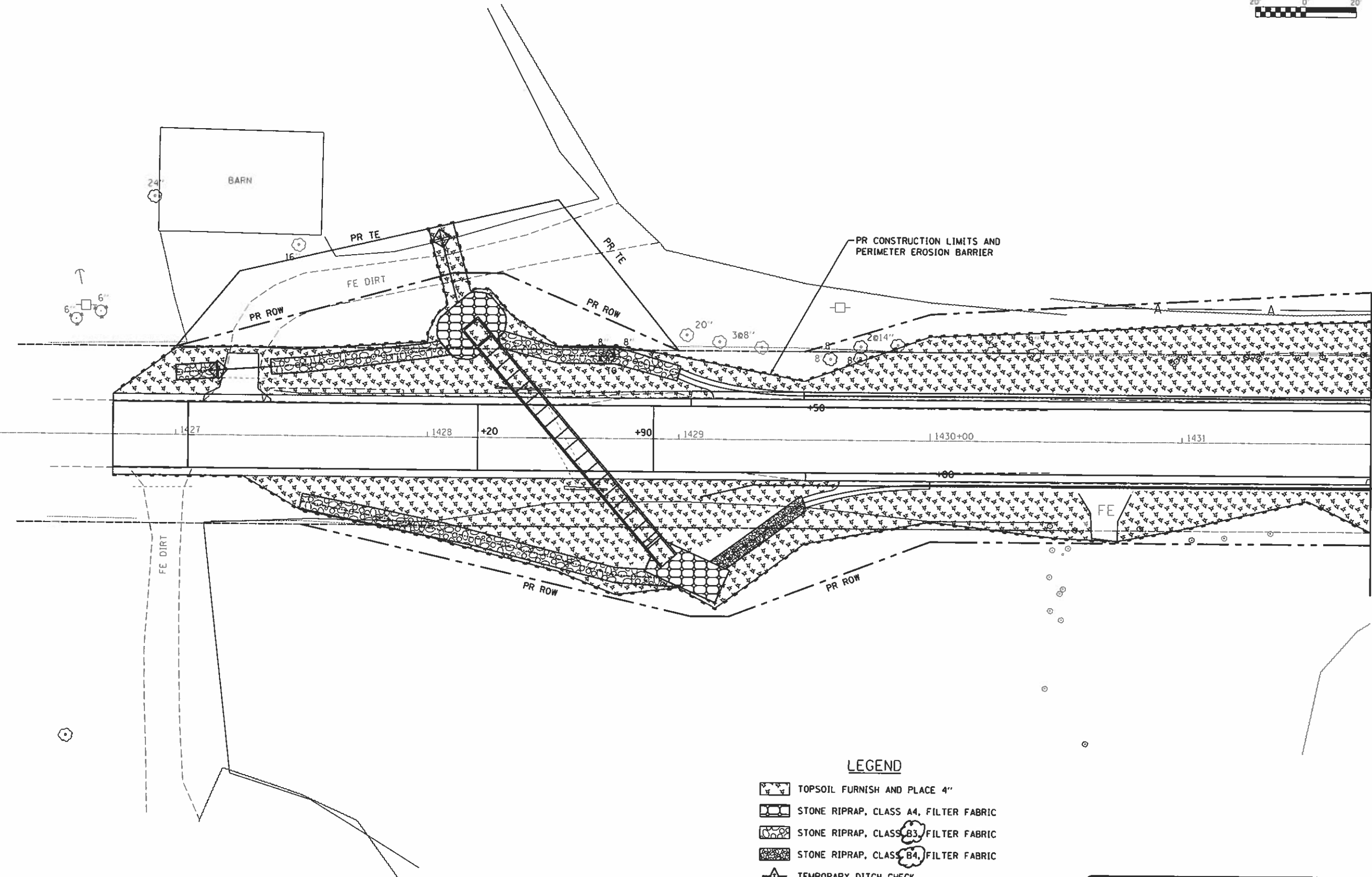
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	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	FILE NAME		



TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT:	STA 1438+57.68 (NB) STA 1439+20.18 (SB)
STEEL PLATE BEAM GUARDRAIL, TYPE A:	STA 1439+07.68 TO STA 1439+82.68 (NB) STA 1439+70.18 TO STA 1439+82.68 (SB)
TRAFFIC BARRIER TERMINAL, TYPE 6:	STA 1439+82.68 (NB) STA 1439+82.68 (SB) STA 1441+96.98 (NB) STA 1441+96.98 (SB)
STEEL PLATE BEAM GUARDRAIL, TYPE A:	STA 1441+96.98 TO STA 1444+09.48 (NB) STA 1441+96.98 TO STA 1444+09.48 (SB)



FILE NAME =	USER NAME = jacobsmr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE ILLINOIS ROUTE 78	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default		CHECKED -	REVISED -			22	48(B-1BR;CRJ)	KNOX	88	23	
		DATE -	REVISED -			CONTRACT NO. 68758					
						ILLINOIS FED. AID PROJECT					



MATCHLINE STA 1431+75.00

LEGEND

- TOPSOIL FURNISH AND PLACE 4"
- STONE RIPRAP, CLASS A4, FILTER FABRIC
- STONE RIPRAP, CLASS B3, FILTER FABRIC
- STONE RIPRAP, CLASS B4, FILTER FABRIC
- TEMPORARY DITCH CHECK
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER

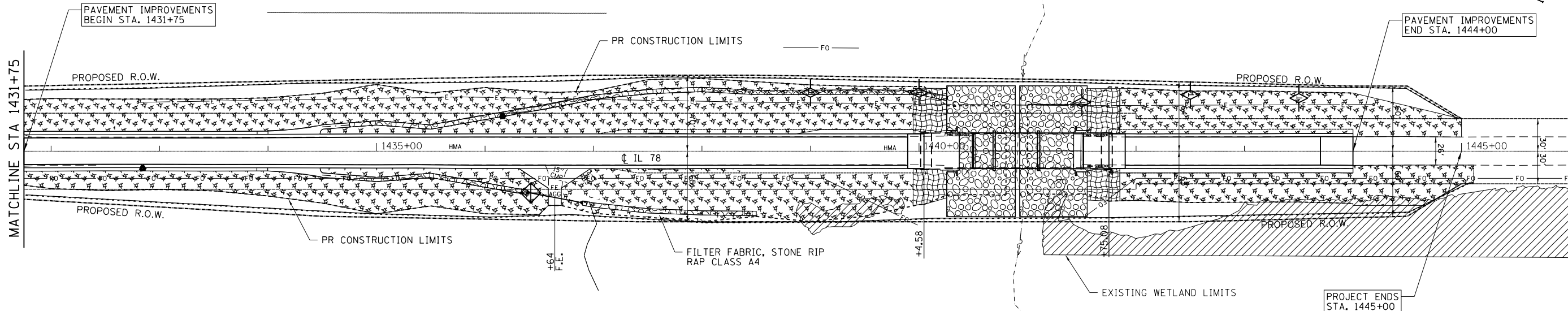
FEHR GRAHAM ILLINOIS
 ENGINEERING & ENVIRONMENTAL IOWA
 WISCONSIN
ILLINOIS DESIGN FIRM NO. 184-003525

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EROSION CONTROL PLAN
 ILLINOIS ROUTE 78

FILE NAME *	USER NAME * jacobsm	DESIGNED - MCB	REVISED -
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FEHR GRAHAM PROJECT NUMBER: 15-0048	PLOT DATE = 7/24/2019	DATE -	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	4B(1B-1)BR(CR)	KNOX	88	24
CONTRACT NO. 68758			ILLINOIS FED. AID PROJECT	

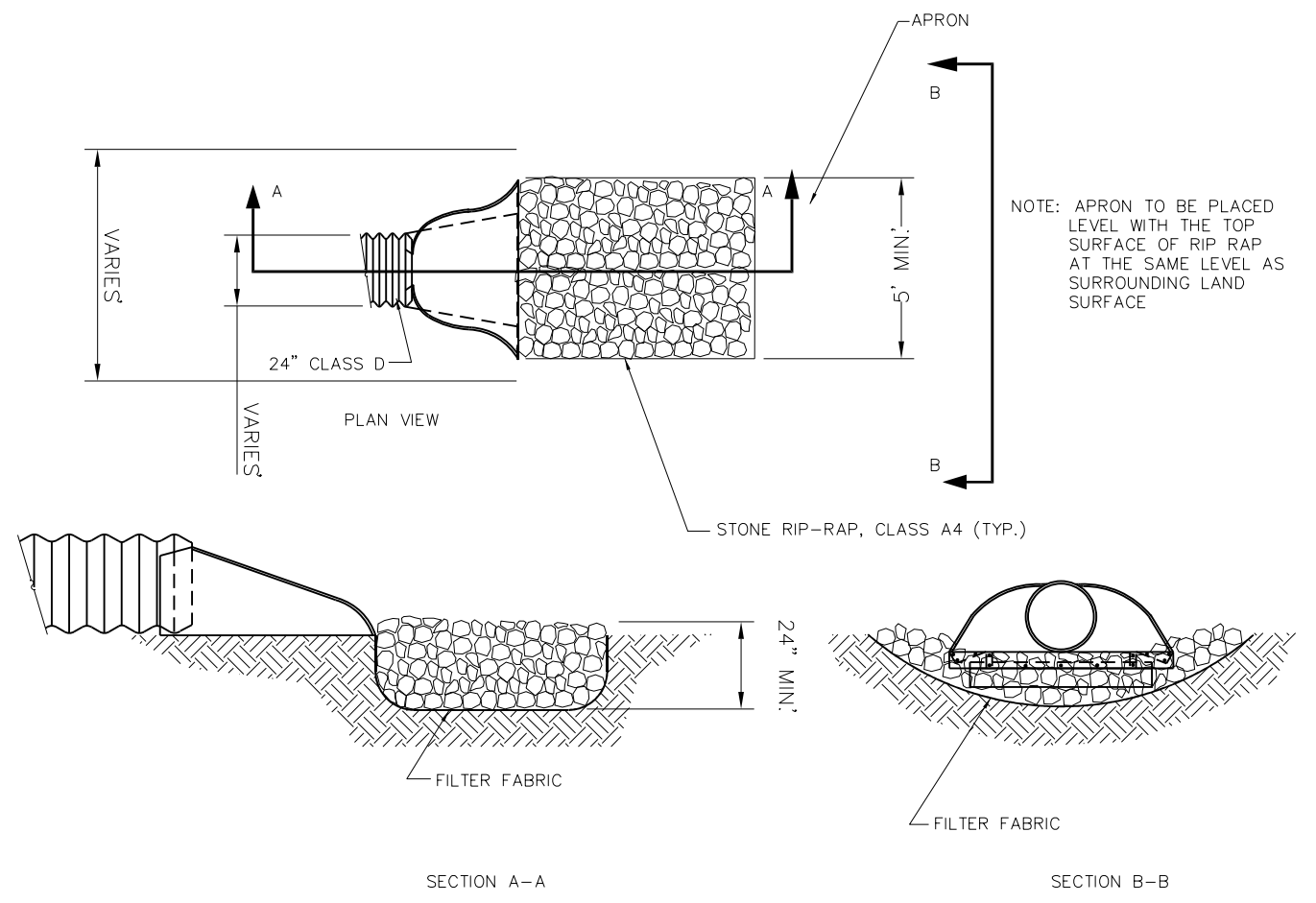


LEGEND

- TOPSOIL FURNISH AND PLACE, 4", SEEDING CLASS 2A, EROSION CONTROL BLANKET
- TOPSOIL FURNISH AND PLACE, 4", SEEDING CLASS 2A, HEAVY DUTY EROSION CONTROL BLANKET
- FILTER FABRIC, STONE RIP RAP CLASS A4
- TEMPORARY DITCH CHECK (SEE SCHEDULES FOR ACTUAL LOCATIONS)
- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER

SWPPP NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING STORM WATER PROTECTION MEASURES IDENTIFIED IN THESE PLANS.
2. STORAGE OF MATERIALS AND PRODUCTS ON SITE NOT TO BE ALLOWED UNLESS PROPERLY PROTECTED IN ACCORDANCE WITH THE WRITTEN PORTION OF THE STORMWATER POLLUTION PREVENTION PLAN.
3. TEMPORARY DITCH CHECKS INSTALLED AND MAINTAINED UNTIL PLACEMENT OF RIPRAP.



NOTE: APRON TO BE PLACED LEVEL WITH THE TOP SURFACE OF RIP RAP AT THE SAME LEVEL AS SURROUNDING LAND SURFACE

OUTLET STABILIZATION
NOT TO SCALE

(217) 422-8544
 SCHAUMBURG
 ROCKFORD
 184-001397

CHASTAIN & ASSOCIATES, LLC
 CONSULTING ENGINEERS

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EROSION CONTROL PLAN
ILLINOIS ROUTE 78**

SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	25
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

CONSTRUCTION STAGING

STAGE I - LOCATE AND SET CHANGEABLE MESSAGE SIGNS 2 WEEKS PRIOR TO ESTABLISHING DETOUR ROUTE. INSTALL DETOUR ROUTE SIGNAGE, SET TYPE III BARRICADES FOR THROUGH TRAFFIC CLOSURE AND CLOSE BRIDGE FOR RECONSTRUCTION LOCAL TRAFFIC, EMERGENCY VEHICLE AND PROPERTY ACCESS MUST BE MAINTAINED FROM BOTH DIRECTIONS UP TO FULL CLOSURE LOCATION. IF DETOUR SIGNAGE IS INSTALLED PRIOR TO CLOSURE, SIGNS SHALL BE COVERED UNTIL NECESSARY.

STAGE II - REMOVE EXISTING PAVEMENT, BRIDGE, AND GUARDRAIL. INSTALL NEW BRIDGE, COMPLETE EMBANKMENT GRADING, CONSTRUCT NEW SHOULDERS, COMPLETE PAVEMENT RESURFACING AND INSTALL NEW GUARDRAIL.

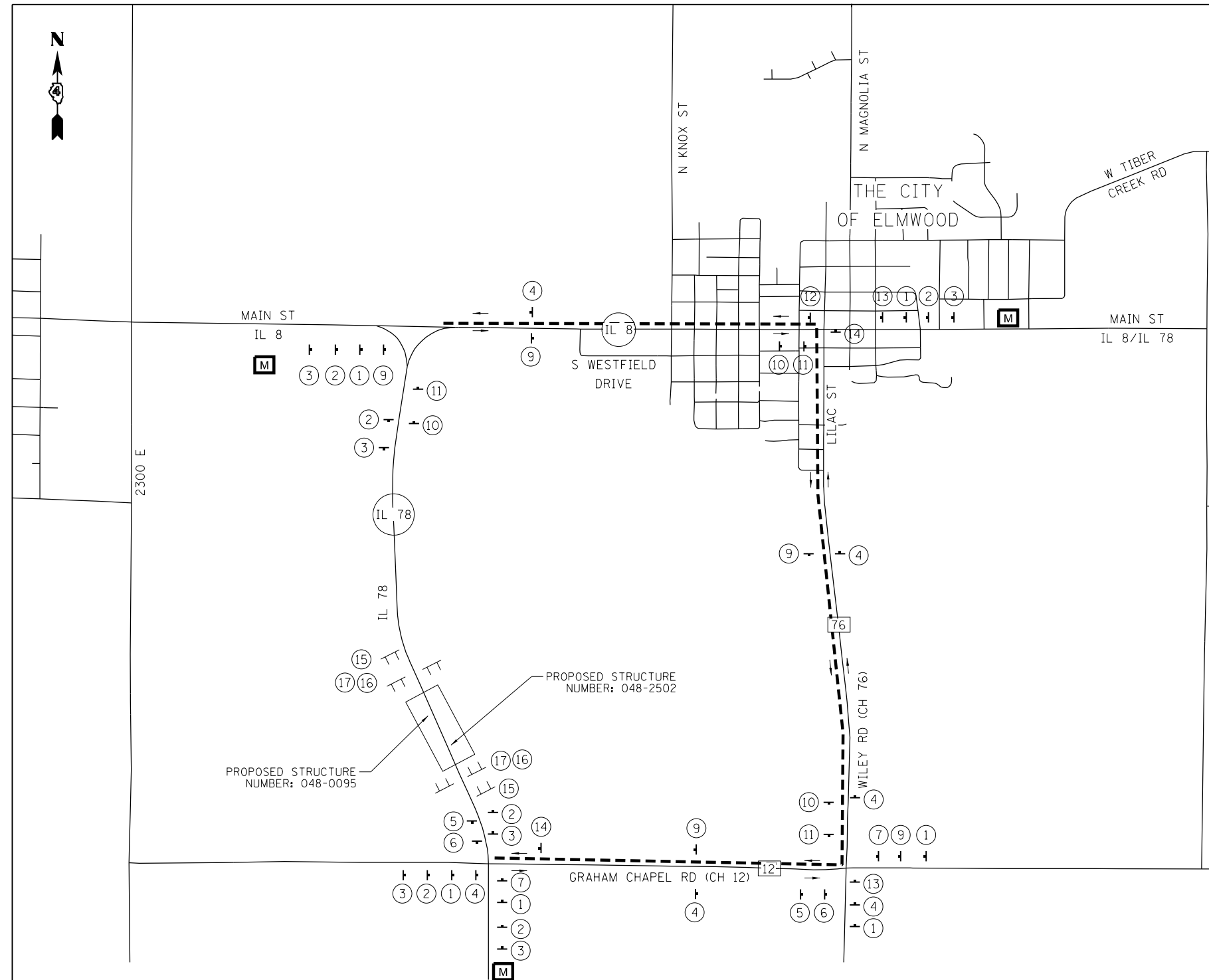
STAGE III - INSTALL FINAL PAVEMENT MARKING, EMBANKMENT SEEDING, PLACE EROSION BLANKET AND PROVIDE FINAL CLEAN-UP. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES AFTER FINAL SEEDING. MAINTENANCE OF EROSION CONTROL MEASURES IS REQUIRED UNTIL VEGETATION IS ESTABLISHED. REMOVE DETOUR ROUTE SIGNAGE.

FINAL SEEDING AND EROSION CONTROL BLANKET MUST BE PLACED WITHIN 7 DAYS OF FINAL GRADING.

TRAFFIC CONTROL NOTES

1. DETOUR ROUTE SHALL BE ESTABLISHED AS OUTLINED IN THE SPECIAL PROVISIONS.
2. SEE THE PLAN AND PROFILE SHEETS FOR LOCATION OF TYPE III BARRICADES WITH "ROAD CLOSED" SIGNAGE FOR FULL CLOSURE.
3. CONTRACTOR SHALL COMPLETE ALL STAGES OF CONSTRUCTION FOR THE BRIDGE WITHIN ESTABLISHED TIME LIMIT AS STATED IN THE PROJECT SPECIAL PROVISIONS.

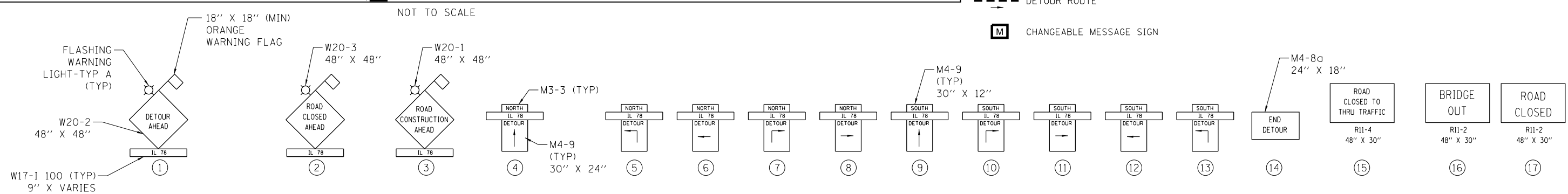
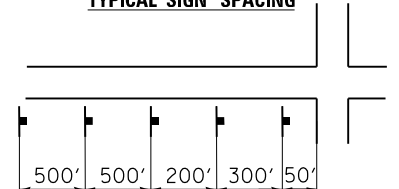
A TRAFFIC CONTROL AUTHORIZATION REQUEST (IDOT FORM OPER 725) MUST BE SUBMITTED NO LESS THAN FIVE (5) BUSINESS DAYS PRIOR TO THE INSTALLATION OF THE DETOUR SIGNS. THE FORM MUST LIST THE CONTACT INFORMATION FOR, AT A MINIMUM, THE RESIDENT ENGINEER FOR THE CONTRACT AND THE TRAFFIC CONTROL COMPANY RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF THE SIGNS AND BARRICADES.



TRAFFIC CONTROL LEGEND

- || INDICATES TYPE III BARRICADE WITH SIGN UNLESS OTHERWISE NOTED PER STANDARD 701901. (WITH TWO WARNING LIGHTS EACH BARRICADE)
- +— INDICATES DESIGNATED SIGN POST- MOUNTED IN GROUND PER ARTICLE 701.14 & STANDARD 701901 (SEE SIGN DETAIL BELOW)
- +--- DETOUR ROUTE
- [M] CHANGEABLE MESSAGE SIGN

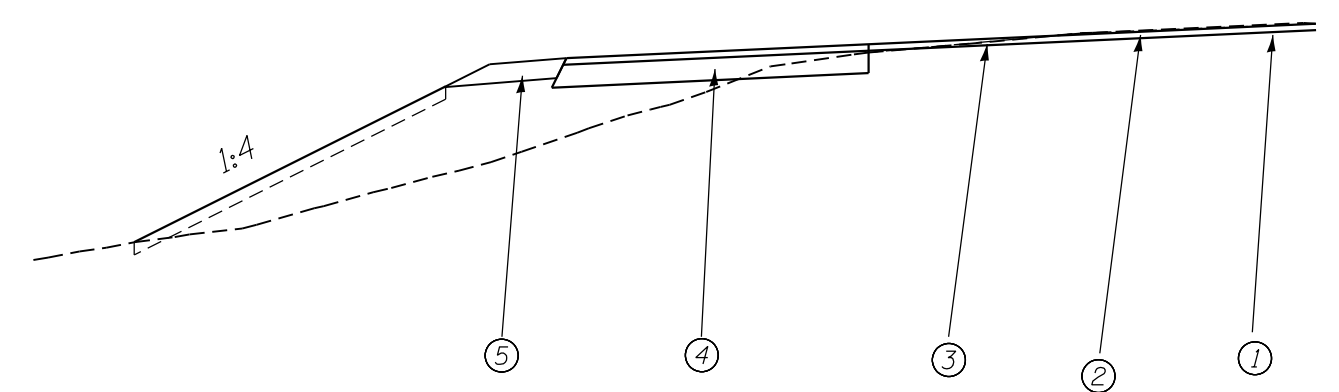
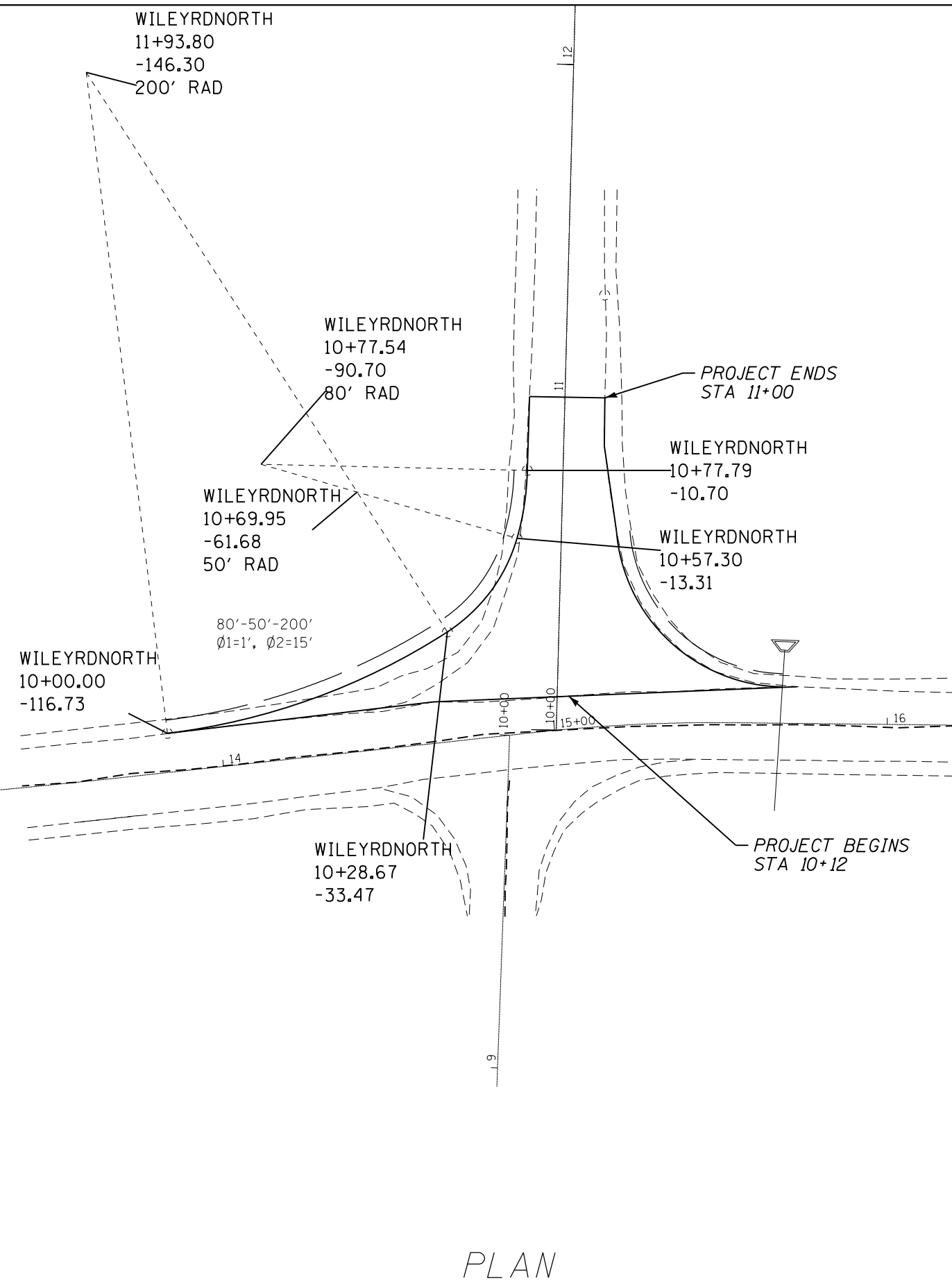
TYPICAL SIGN SPACING



CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 (217) 422-8544
 SCHAUMBURG
 (630) 714-0050
 ROCKFORD
 (815) 499-0050
 184-001397

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LEGEND

- ① EXISTING HMA OVERLAYS
- ② HMA SURF REM - 2"
- ③ PROPOSED HMA SURF CSE, N 50, MIX C, 2"
- ④ PROPOSED HMA BINDER CSE, N 50, 7"
- ⑤ PROPOSED AGGREGATE SHOULDER, TY A

TYPICAL SECTION

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DRAWN -	REVISED -	
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PLOT DATE = 5/9/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GRAHAM CHAPEL /WILEY RDS
WIDENING DETAIL

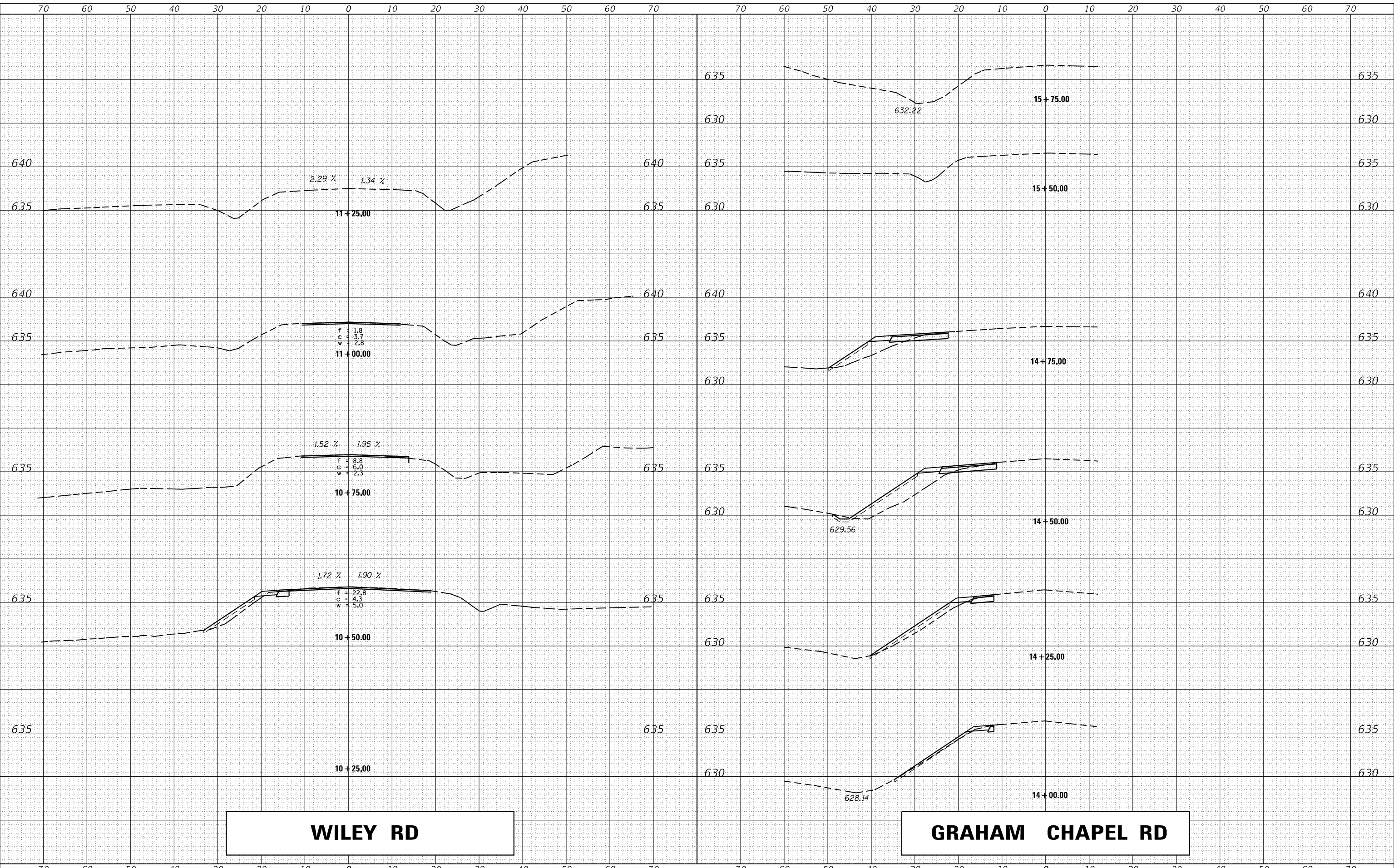
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48[(B-1)BR:CRJ]	KNOX/PEORIA	94	27
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED

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WILEY RD

GRAHAM CHAPEL RD

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PLOT DATE = 5/9/2019	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

DETOUR WIDING CROSS SECTIONS			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE. 22	SECTION 48[(B-1)BR:CRJ]	COUNTY KNOX	TOTAL SHEETS 88	SHEET NO. 28
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

Existing Structure Number 048-0018:
The existing structure is a three span consisting of a PPC deck beam superstructure on closed abutments and solid wall piers. The total structure length is 99.5' back-to-back abutments and the width is 33.0' out to out. The superstructure consists of 17" PPC deck beams with approximately 3" of bituminous overlay. The closed abutments are founded on spread footings that are supported by untreated timber piling. Abutment caps were added to the original closed abutments in 1977 to provide ample bearing surface for the new deck beams. The caps are longer than the existing abutment wall due to the wider deck. The closed abutments are approximately 16' tall with 2.25' thick footings. The solid wall piers are supported by HP8x36 piles and were added in 1977 when the truss bridge was removed. Road will be closed and traffic detoured during construction.

All components of temporary beam shoring shall be salvaged and delivered to IDOT Maintenance Yard. IDOT will provide means to unload.

Bench Mark BM4:
Chiseled "C" on NE wing at IL78 bridge.
Elev 610.54

Bench Mark BM6:
RR spike in power pole 0.3 mi south of
IL78 bridge of east side of road.
Elev 647.24

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

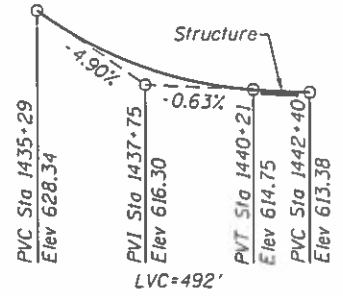
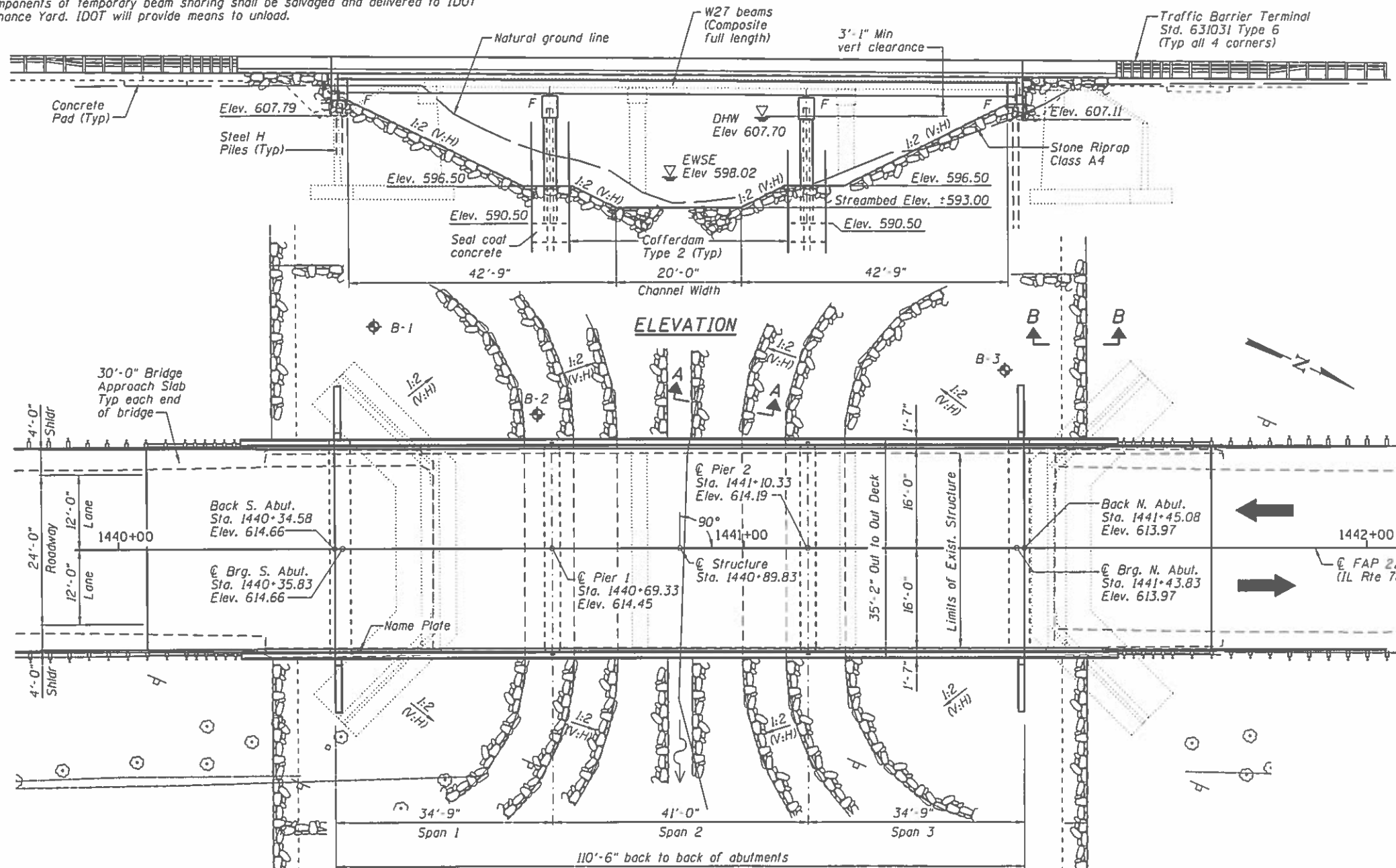
DESIGN SPECIFICATIONS
2012 AASHTO LRFD Bridge Design
Specifications, 6th Edition with 2013 Interims

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fs = 50,000 psi (M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 Sec. (Sa1) = 0.077 g
Design Spectral Acceleration at 0.2 Sec. (Sas) = 0.124 g
Soil Site Class = C



PROFILE GRADE
(Along C.Rdwy)

DESIGN SCOUR ELEVATION TABLE

Event / Limit	Design Scour Elevations (ft.)				
	S. Abut.	Pier 1	Pier 2	N. Abut.	Item 113
0100	607.79	583.34	583.34	607.11	5
0200	607.79	579.39	579.39	607.11	
Design	607.79	579.34	579.34	607.11	
Check	607.79	579.39	579.39	607.11	

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Jeremy Buening
ENGINEER OF BRIDGES AND STRUCTURES



Jeremy Buening 4/23/19
Jeremy Buening, P.E., S.E. Date
License Expires 11/30/20

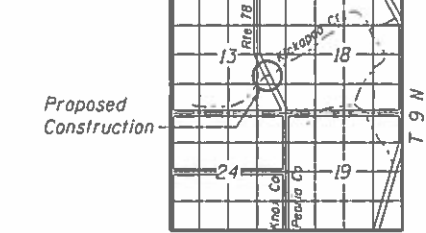
WATERWAY INFORMATION

Drainage Area = 17.4 sq mi Low Grade Elev. 613.00 @ Sta. 1443+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	50	4,420	506	827	607.70	2.40	1.20	610.10	608.90
Base	100	5,180	549	924	608.20	3.50	1.40	611.70	609.60
Max. Calc.	500	7,020	639	1020	609.20	3.50	1.90	612.70	611.10

10 year velocity through existing bridge = 6.9 fps
10 year velocity through proposed bridge = 3.7 fps

R 4 E 4th P.M. R 5 E



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

**IL ROUTE 78 OVER
KICKAPOO CREEK
F.A.P. ROUTE 22
SECTION 48(B-1)BR:CRJ
KNOX COUNTY
STATION 1440+89.93
STRUCTURE NUMBER 048-0095**

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-401397

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 048-0095
SHEET NO. 1 OF 24 SHEETS**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR:CRJ	KNOX	94	29

CONTRACT NO. 68758
ILLINOIS FED. AID PROJECT

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Structure Data
- 3 Top of Deck Elevations
- 4 Top of Deck Elevations
- 5 Top of South Approach Slab Elevations
- 6 Top of North Approach Slab Elevations
- 7 Superstructure (Plan And Cross Section)
- 8 Superstructure Details
- 9 Integral Abutment Diaphragm Details
- 10 Bridge Approach Slab Details
- 11 Bridge Approach Slab Details
- 12 Framing Plan and Details
- 13 Framing Details
- 14 Moment Tables
- 15 Bearing Details
- 16 South Abutment Details
- 17 North Abutment Details
- 18 Pier 1 Details
- 19 Pier 2 Details
- 20 Steel HP Pile Details
- 21 Bar Splicer Assembly And Mechanical Splicer Details
- 22 Subsurface Data Profile

GENERAL NOTES:

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ " ϕ , holes $\frac{15}{16}$ " ϕ , unless otherwise noted.

Calculated weight of Structural Steel = 60,490 lb (AASHTO M270 Grade 50)
 Calculated weight of Structural Steel = 6,410 lb (AASHTO M270 Grade 36)

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

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

Reinforcement bars designated (E) shall be epoxy coated.

LAYOUT OF THE slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Seal coat thickness design is based on the Estimated Water Surface Elevation (EWSE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

All structural steel shall be galvanized according to the Special Provision "Hot Dip Galvanizing of Structural Steel." Cost included with Furnishing and Erecting Structural Steel.

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with a reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

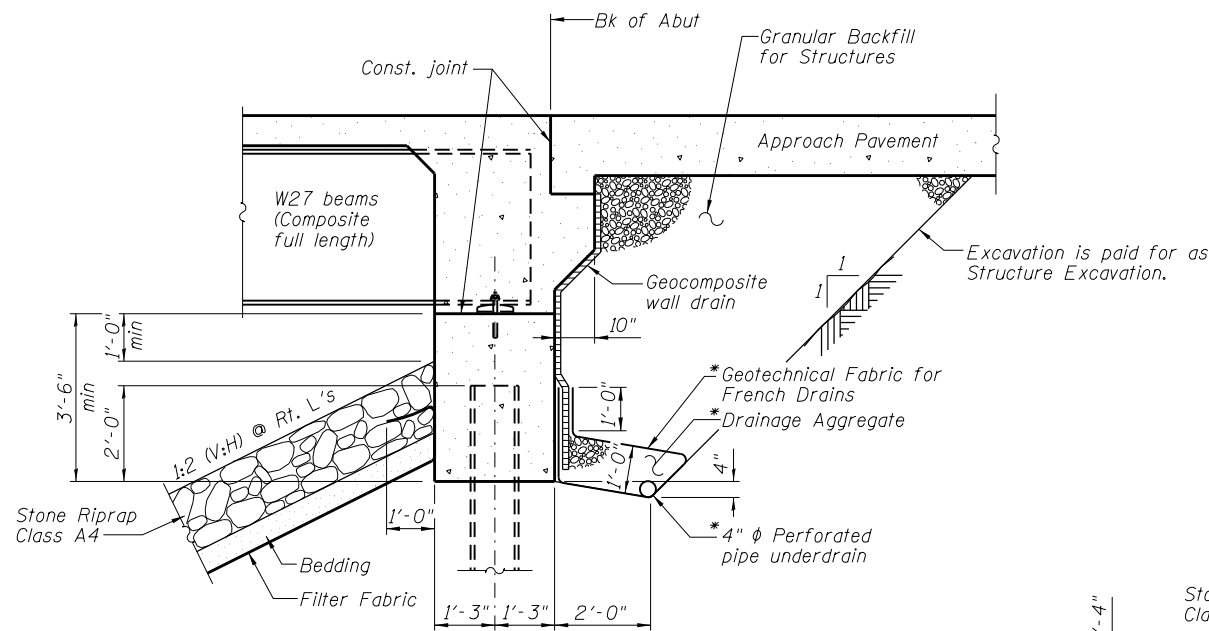
If the Contractor's procedures for existing deck beam removal involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures No. 2.

The finishing machine rails shall be placed on the top of the top flange of the exterior beams within the deck pour. Beam blocks shall be placed between beams at all tie locations in each bay for the full width of the deck pour.

Slipforming of parapets is not allowed.

TOTAL BILL OF MATERIAL

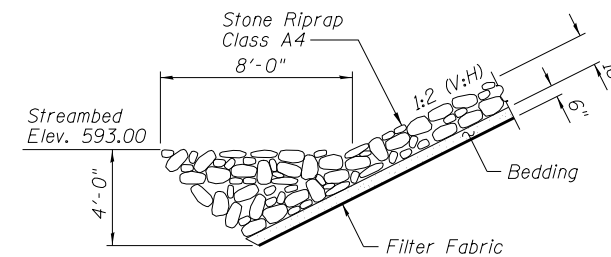
Item	Unit	Super	Sub	Total
Granular Backfill for Structures	Cu. Yd.	---	70	70
Stone Riprap, Class A4	Sq. Yd.	---	1703	1703
Filter Fabric	Sq. Yd.	---	1703	1703
Removal of Existing Structures No. 2	Each	1	---	1
Structure Excavation	Cu. Yd.	---	69	69
Cofferdam Excavation	Cu. Yd.	---	369	369
Cofferdam (Type 2) (Location - 1)	Each	---	1	1
Cofferdam (Type 2) (Location - 2)	Each	---	1	1
Concrete Structures	Cu. Yd.	---	156.1	156.1
Concrete Superstructure	Cu. Yd.	146.8	---	146.8
Bridge Deck Grooving	Sq. Yd.	565	---	565
Seal Coat Concrete	Cu. Yd.	---	92.4	92.4
Protective Coat	Sq. Yd.	723	---	723
Concrete Superstructure (Approach Slab)	Cu. Yd.	99.0	---	99.0
Furnishing and Erecting Structural Steel	L. Sum	1	---	1
Stud Shear Connectors	Each	3402	---	3402
Reinforcement Bars, Epoxy Coated	Pound	62,210	14,420	76,630
Furnishing Steel Piles HP12x53	Foot	---	310	310
Furnishing Steel Piles HP12x63	Foot	---	320	320
Driving Piles	Foot	---	630	630
Test Pile Steel HP12x53	Each	---	2	2
Test Pile Steel HP12x63	Each	---	2	2
Name Plates	Each	1	---	1
Anchor Bolts, 5/8"	Each	---	24	24
Anchor Bolts, 1"	Each	---	24	24
Geocomposite Wall Drain	Sq. Yd.	---	66	66
Asbestos Bearing Pad Removal	Each	---	24	24
Pipe Underdrains for Structures 4"	Foot	---	133	133



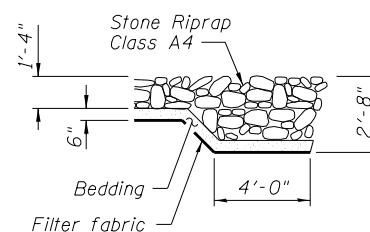
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

* Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

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



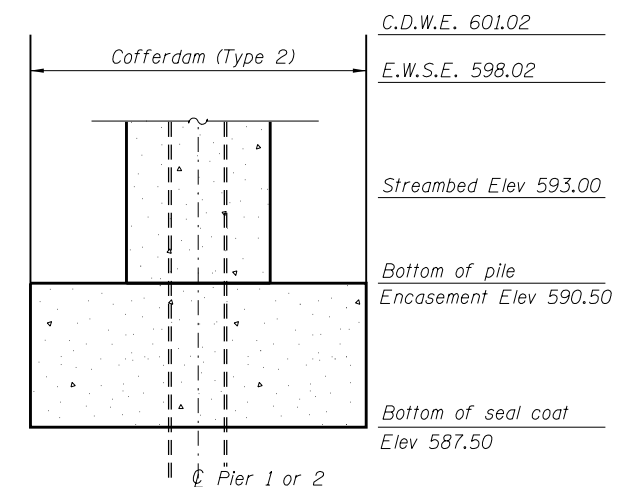
SECTION A-A



SECTION B-B

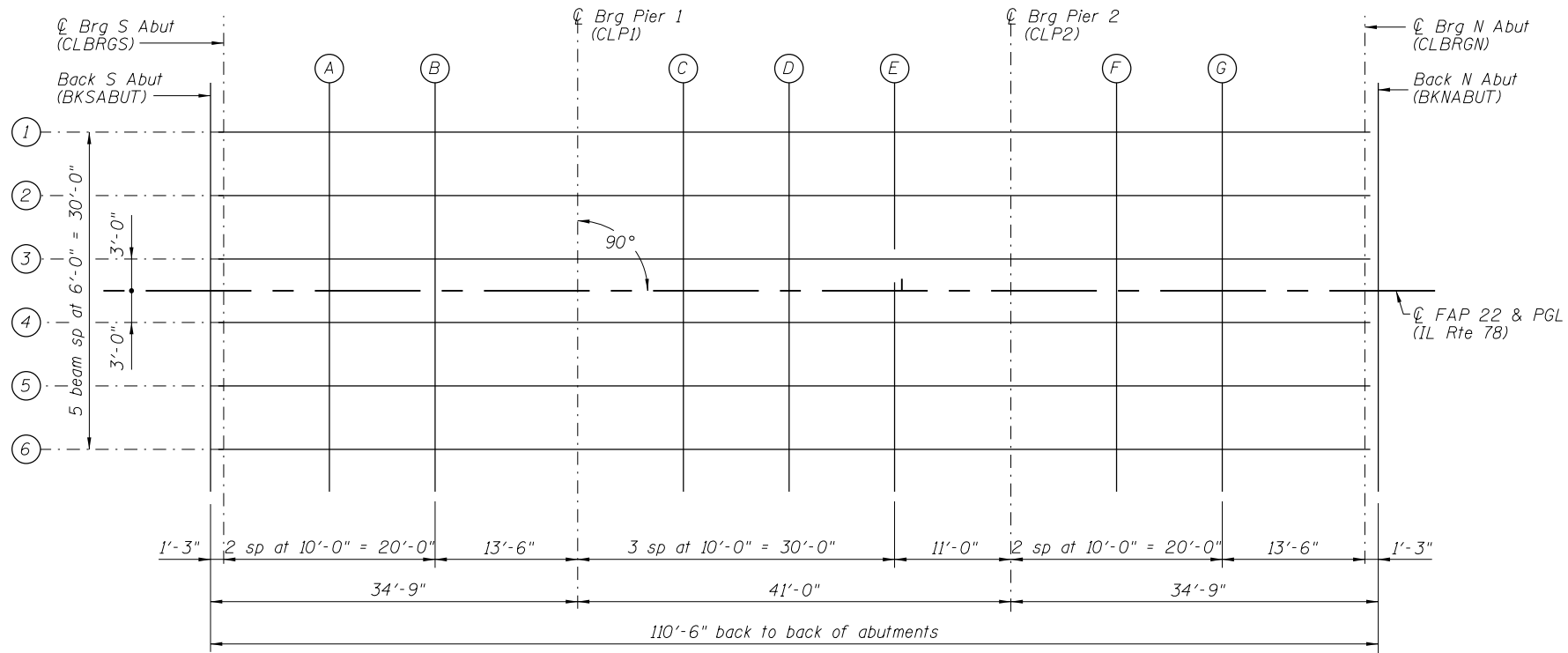
STATION 1440+89.83
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. RTE 22 SEC 48(B-1)BR:CRJ
 LOADING HL-93
 STR. NO. 048-0095

NAME PLATE
See Std. 515001

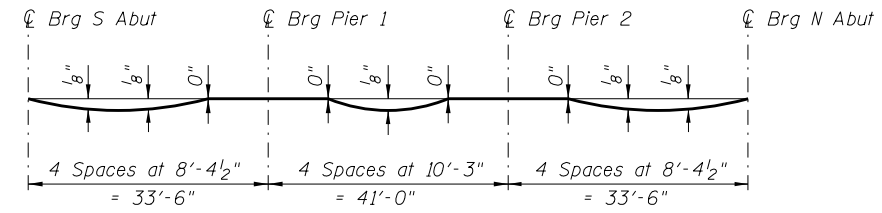


COFFERDAM DETAILS

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DECK ELEVATION LAYOUT

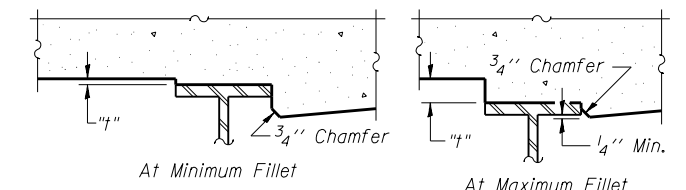


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in the tables on Sheets 3 & 4 of 22.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown in the tables. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 3 & 4 of 22, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	-15.00	614.41	614.41
CLBRGS	1440+35.83	-15.00	614.41	614.41
A	1440+45.83	-15.00	614.34	614.35
B	1440+55.83	-15.00	614.28	614.29
CLP1	1440+69.33	-15.00	614.20	614.20
C	1440+79.33	-15.00	614.13	614.14
D	1440+89.33	-15.00	614.07	614.08
E	1440+99.33	-15.00	614.01	614.01
CLP2	1441+10.33	-15.00	613.94	613.94
F	1441+20.33	-15.00	613.87	613.88
G	1441+30.33	-15.00	613.81	613.82
CLBRGN	1441+43.83	-15.00	613.73	613.73
BKNABUT	1441+45.08	-15.00	613.72	613.72

BEAM 2				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	-9.00	614.52	614.52
CLBRGS	1440+35.83	-9.00	614.52	614.52
A	1440+45.83	-9.00	614.45	614.46
B	1440+55.83	-9.00	614.39	614.40
CLP1	1440+69.33	-9.00	614.31	614.31
C	1440+79.33	-9.00	614.24	614.25
D	1440+89.33	-9.00	614.18	614.19
E	1440+99.33	-9.00	614.12	614.12
CLP2	1441+10.33	-9.00	614.05	614.05
F	1441+20.33	-9.00	613.98	613.99
G	1441+30.33	-9.00	613.92	613.93
CLBRGN	1441+43.83	-9.00	613.84	613.84
BKNABUT	1441+45.08	-9.00	613.83	613.83

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PLOT DATE = 5/9/2019	CHECKED - JMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS
STRUCTURE NO. 048-0095

SHEET NO. 3 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	31
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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BEAM 3				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	-3.00	614.62	614.62
CLBRGS	1440+35.83	-3.00	614.61	614.61
A	1440+45.83	-3.00	614.55	614.55
B	1440+55.83	-3.00	614.48	614.49
CLP1	1440+69.33	-3.00	614.40	614.40
C	1440+79.33	-3.00	614.34	614.34
D	1440+89.33	-3.00	614.27	614.28
E	1440+99.33	-3.00	614.21	614.22
CLP2	1441+10.33	-3.00	614.14	614.14
F	1441+20.33	-3.00	614.08	614.08
G	1441+30.33	-3.00	614.01	614.02
CLBRGN	1441+43.83	-3.00	613.93	613.93
BKNABUT	1441+45.08	-3.00	613.92	613.92

PGL				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	0.00	614.66	614.66
CLBRGS	1440+35.83	0.00	614.66	614.66
A	1440+45.83	0.00	614.59	614.60
B	1440+55.83	0.00	614.53	614.54
CLP1	1440+69.33	0.00	614.45	614.45
C	1440+79.33	0.00	614.38	614.39
D	1440+89.33	0.00	614.32	614.33
E	1440+99.33	0.00	614.26	614.26
CLP2	1441+10.33	0.00	614.19	614.19
F	1441+20.33	0.00	614.12	614.13
G	1441+30.33	0.00	614.06	614.07
CLBRGN	1441+43.83	0.00	613.98	613.98
BKNABUT	1441+45.08	0.00	613.97	613.97

BEAM 4				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	3.00	614.62	614.62
CLBRGS	1440+35.83	3.00	614.61	614.61
A	1440+45.83	3.00	614.55	614.55
B	1440+55.83	3.00	614.48	614.49
CLP1	1440+69.33	3.00	614.40	614.40
C	1440+79.33	3.00	614.34	614.34
D	1440+89.33	3.00	614.27	614.28
E	1440+99.33	3.00	614.21	614.22
CLP2	1441+10.33	3.00	614.14	614.14
F	1441+20.33	3.00	614.08	614.08
G	1441+30.33	3.00	614.01	614.02
CLBRGN	1441+43.83	3.00	613.93	613.93
BKNABUT	1441+45.08	3.00	613.92	613.92

BEAM 5				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	9.00	614.52	614.52
CLBRGS	1440+35.83	9.00	614.52	614.52
A	1440+45.83	9.00	614.45	614.46
B	1440+55.83	9.00	614.39	614.40
CLP1	1440+69.33	9.00	614.31	614.31
C	1440+79.33	9.00	614.24	614.25
D	1440+89.33	9.00	614.18	614.19
E	1440+99.33	9.00	614.12	614.12
CLP2	1441+10.33	9.00	614.05	614.05
F	1441+20.33	9.00	613.98	613.99
G	1441+30.33	9.00	613.92	613.93
CLBRGN	1441+43.83	9.00	613.84	613.84
BKNABUT	1441+45.08	9.00	613.83	613.83

BEAM 6				
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
BKSABUT	1440+34.58	15.00	614.41	614.41
CLBRGS	1440+35.83	15.00	614.41	614.41
A	1440+45.83	15.00	614.34	614.35
B	1440+55.83	15.00	614.28	614.29
CLP1	1440+69.33	15.00	614.20	614.20
C	1440+79.33	15.00	614.13	614.14
D	1440+89.33	15.00	614.07	614.08
E	1440+99.33	15.00	614.01	614.01
CLP2	1441+10.33	15.00	613.94	613.94
F	1441+20.33	15.00	613.87	613.88
G	1441+30.33	15.00	613.81	613.82
CLBRGN	1441+43.83	15.00	613.73	613.73
BKNABUT	1441+45.08	15.00	613.72	613.72



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS
 STRUCTURE NO. 048-0095

SHEET NO. 4 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	32
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr.	1440+04.58	-16.00	614.59
A1	1440+14.58	-16.00	614.52
A2	1440+24.58	-16.00	614.46
N. End of S. Appr.	1440+34.58	-16.00	614.39

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr.	1440+04.58	-12.00	614.68
A1	1440+14.58	-12.00	614.60
A2	1440+24.58	-12.00	614.54
N. End of S. Appr.	1440+34.58	-12.00	614.48

CL FAP 22 & PGL

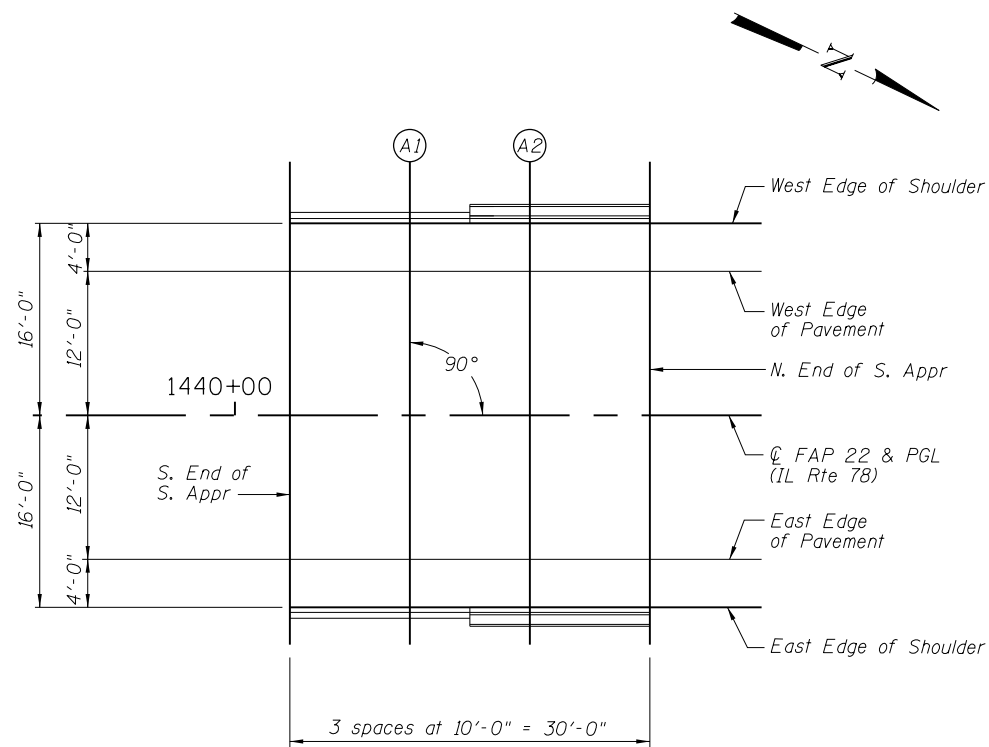
Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr.	1440+04.58	0.00	614.87
A1	1440+14.58	0.00	614.79
A2	1440+24.58	0.00	614.73
N. End of S. Appr.	1440+34.58	0.00	614.66

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr.	1440+04.58	12.00	614.68
A1	1440+14.58	12.00	614.60
A2	1440+24.58	12.00	614.54
N. End of S. Appr.	1440+34.58	12.00	614.48

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr.	1440+04.58	16.00	614.59
A1	1440+14.58	16.00	614.52
A2	1440+24.58	16.00	614.46
N. End of S. Appr.	1440+34.58	16.00	614.39



PLAN

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WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr.	1441+45.08	-16.00	613.70
A3	1441+55.08	-16.00	613.63
A4	1441+65.08	-16.00	613.57
N. End of N. Appr.	1441+75.08	-16.00	613.51

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr.	1441+45.08	-12.00	613.78
A3	1441+55.08	-12.00	613.72
A4	1441+65.08	-12.00	613.65
N. End of N. Appr.	1441+75.08	-12.00	613.59

CL FAP 22 & PGL

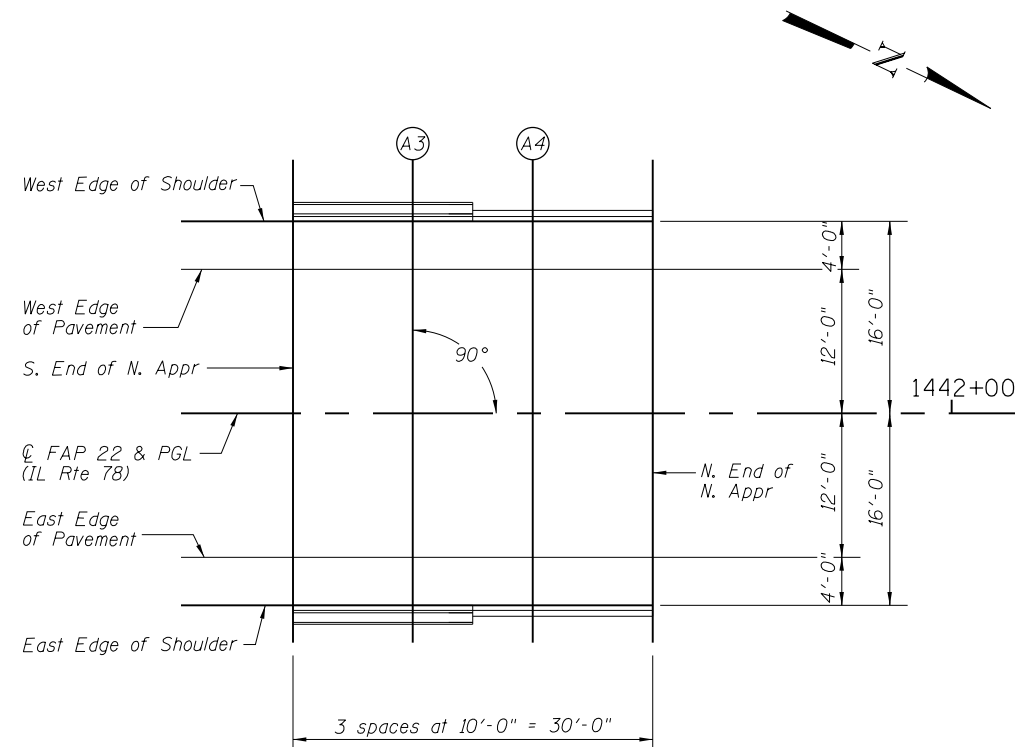
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A3	1441+55.08	0.00	613.91
A4	1441+65.08	0.00	613.84
N. End of N. Appr.	1441+75.08	0.00	613.78

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr.	1441+45.08	12.00	613.78
A3	1441+55.08	12.00	613.72
A4	1441+65.08	12.00	613.65
N. End of N. Appr.	1441+75.08	12.00	613.59

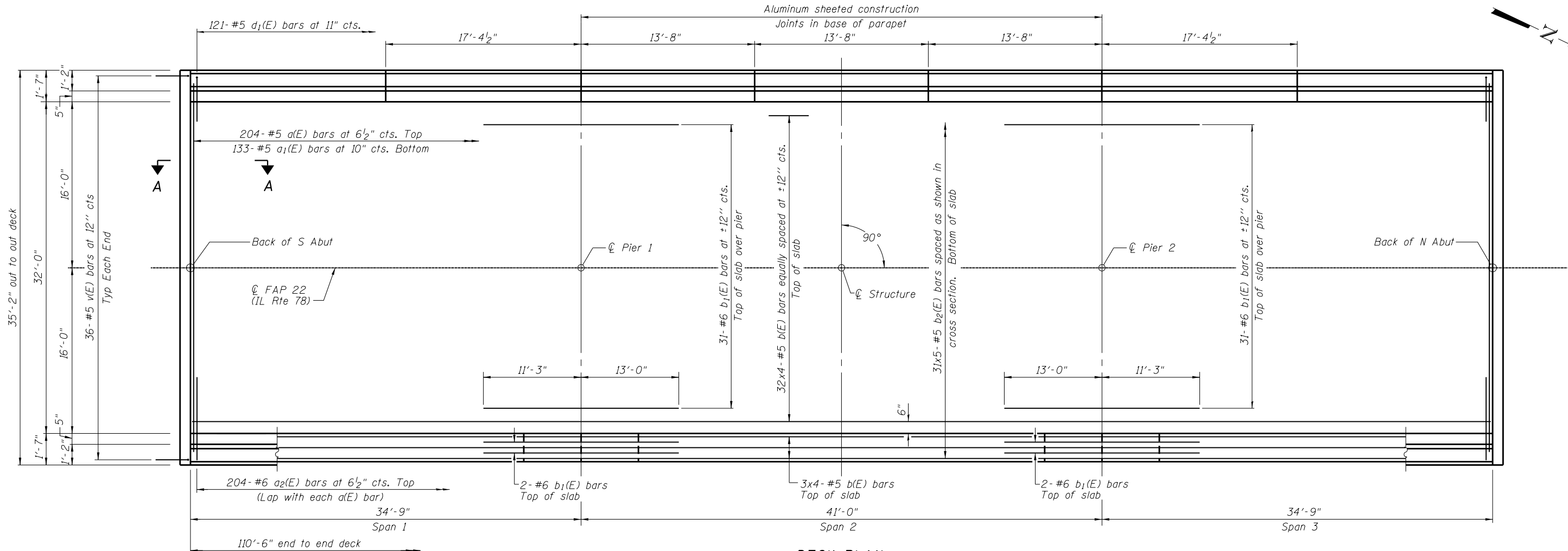
EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr.	1441+45.08	16.00	613.70
A3	1441+55.08	16.00	613.63
A4	1441+65.08	16.00	613.57
N. End of N. Appr.	1441+75.08	16.00	613.51

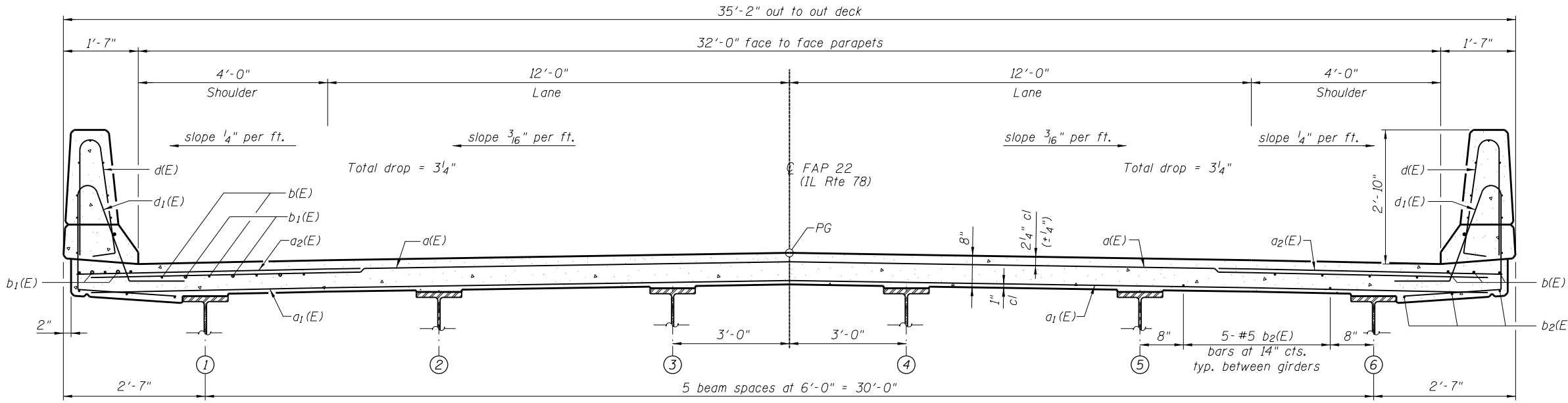


PLAN

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DECK PLAN



CROSS SECTION
(Looking Up Station)

MIN BAR LAP
(Deck)
#5 bar = 3'-6"

Notes:
See Sheet 8 of 22 for superstructure details and Bill of Material.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 8 of 22 for parapet reinforcement.
See Sheet 9 of 22 for Section A-A.

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CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

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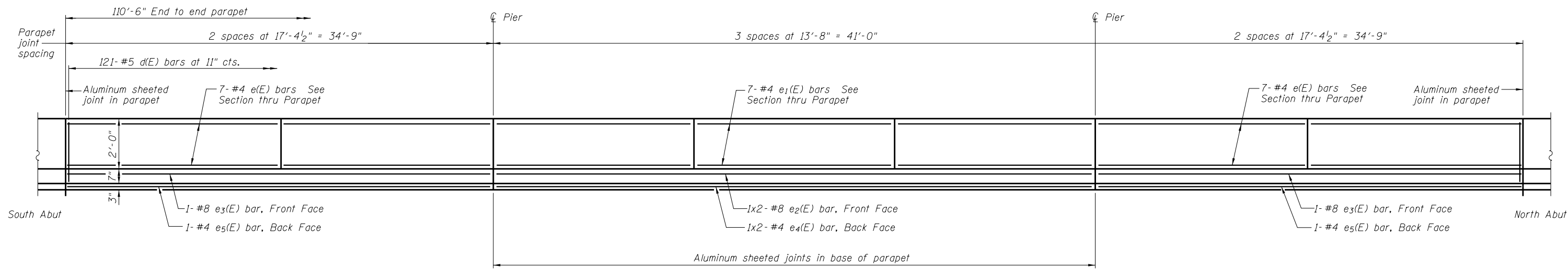
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE (PLAN AND CROSS SECTION)
STRUCTURE NO. 048-0095

SHEET NO. 7 OF 24 SHEETS

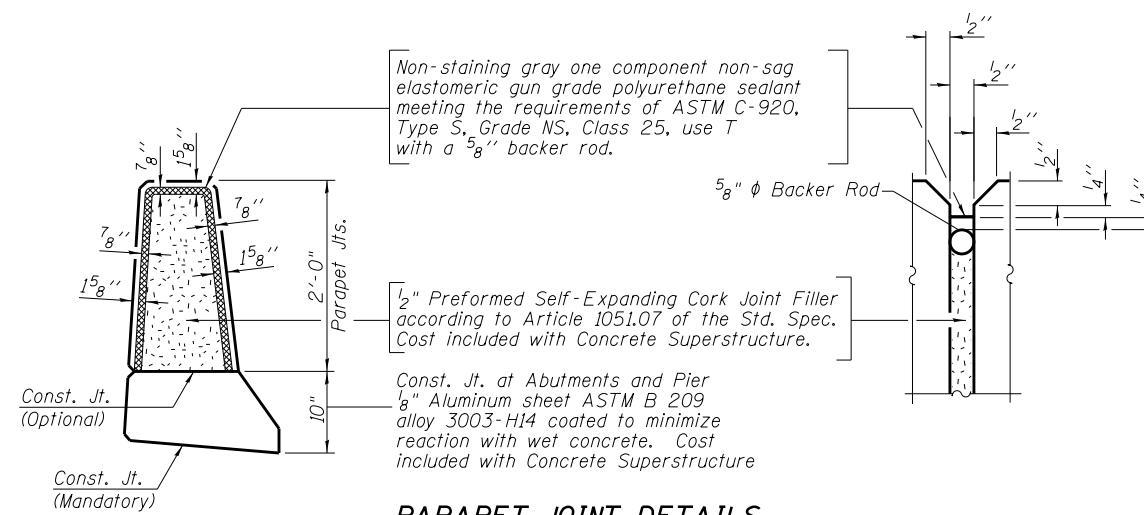
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-B-1)BR(CR)	KNOX	94	35
CONTRACT NO. 68758				

ILLINOIS FED. AID PROJECT

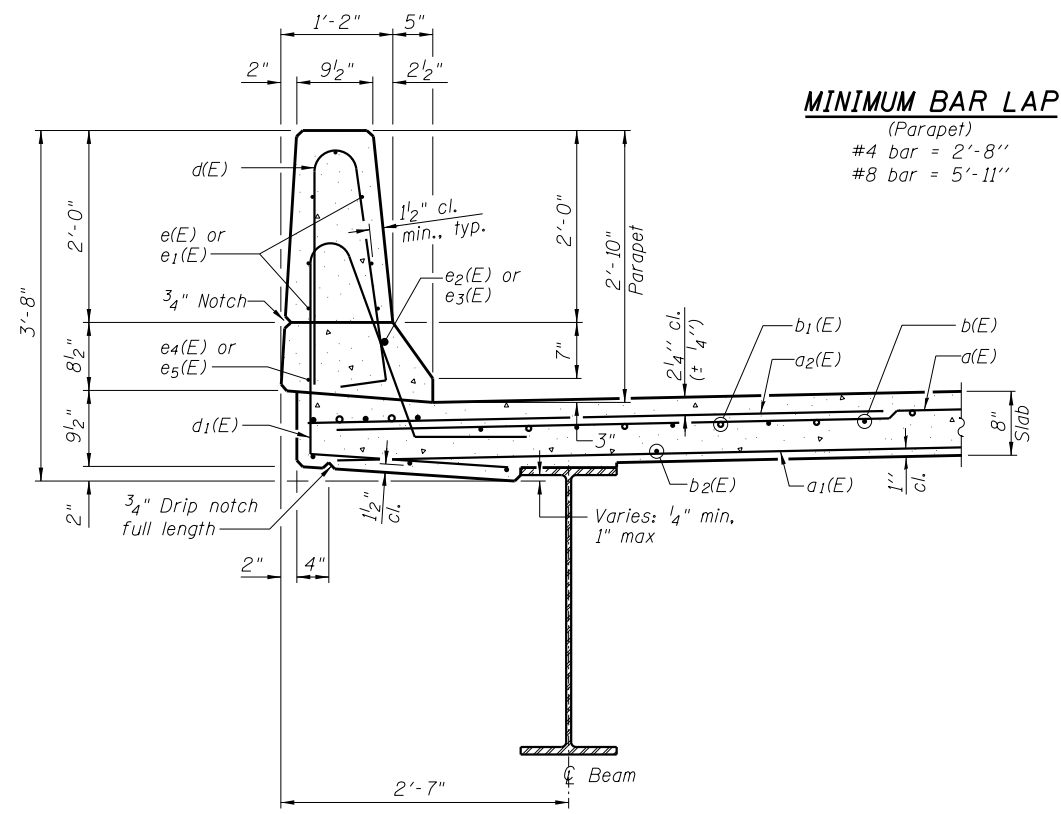


INSIDE ELEVATION OF PARAPET

West parapet shown (East parapet similar by mirror image)



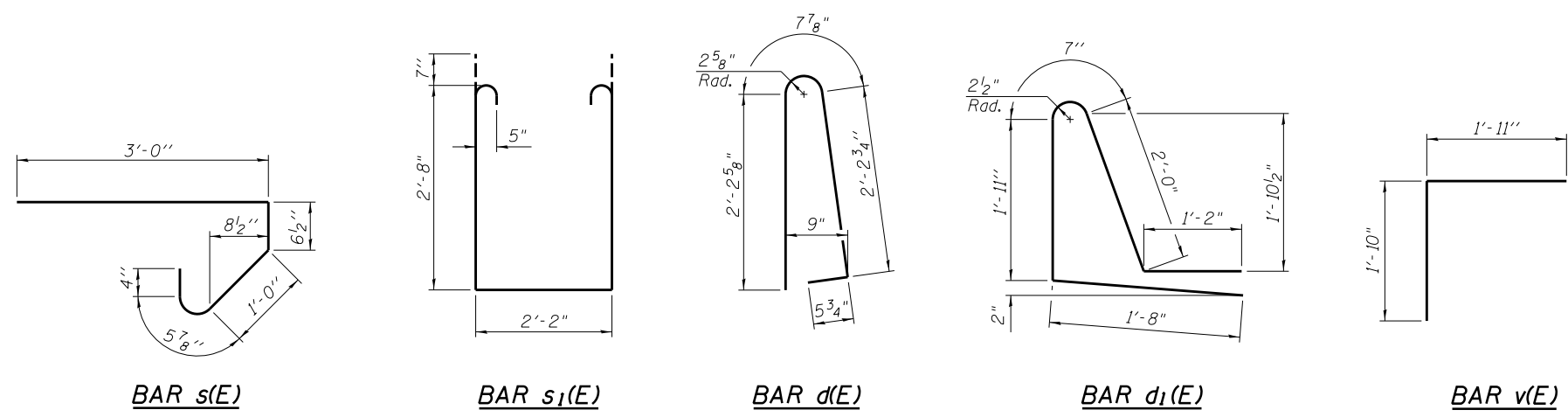
PARAPET JOINT DETAILS



MINIMUM BAR LAP

(Parapet)
 #4 bar = 2'-8"
 #8 bar = 5'-11"

SECTION THRU PARAPET



SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	204	#5	34'-6"	—
a1(E)	133	#5	33'-10"	—
a2(E)	408	#6	6'-6"	—
b(E)	152	#5	30'-2"	—
b1(E)	70	#6	24'-3"	—
b2(E)	155	#5	24'-10"	—
d(E)	242	#5	5'-7"	⌒
d1(E)	242	#5	7'-4"	⌒
e(E)	56	#4	17'-0"	—
e1(E)	42	#4	13'-4"	—
e2(E)	4	#8	23'-4"	—
e3(E)	4	#8	34'-5"	—
e4(E)	4	#4	21'-8"	—
e5(E)	4	#4	34'-5"	—
m(E)	10	#6	34'-10"	—
m1(E)	24	#6	9'-0"	—
m2(E)	10	#6	5'-8"	—
m3(E)	4	#6	2'-3"	—
s(E)	72	#5	5'-5"	⌒
s1(E)	72	#5	8'-8"	⌒
v(E)	72	#5	3'-9"	⌒
Reinforcement Bars, Epoxy Coated		Pound	34690	
Concrete Superstructure		Cu. Yd.	140.1	
Bridge Deck Grooving		Sq. Yd.	367	
Protective Coat		Sq. Yd.	485	

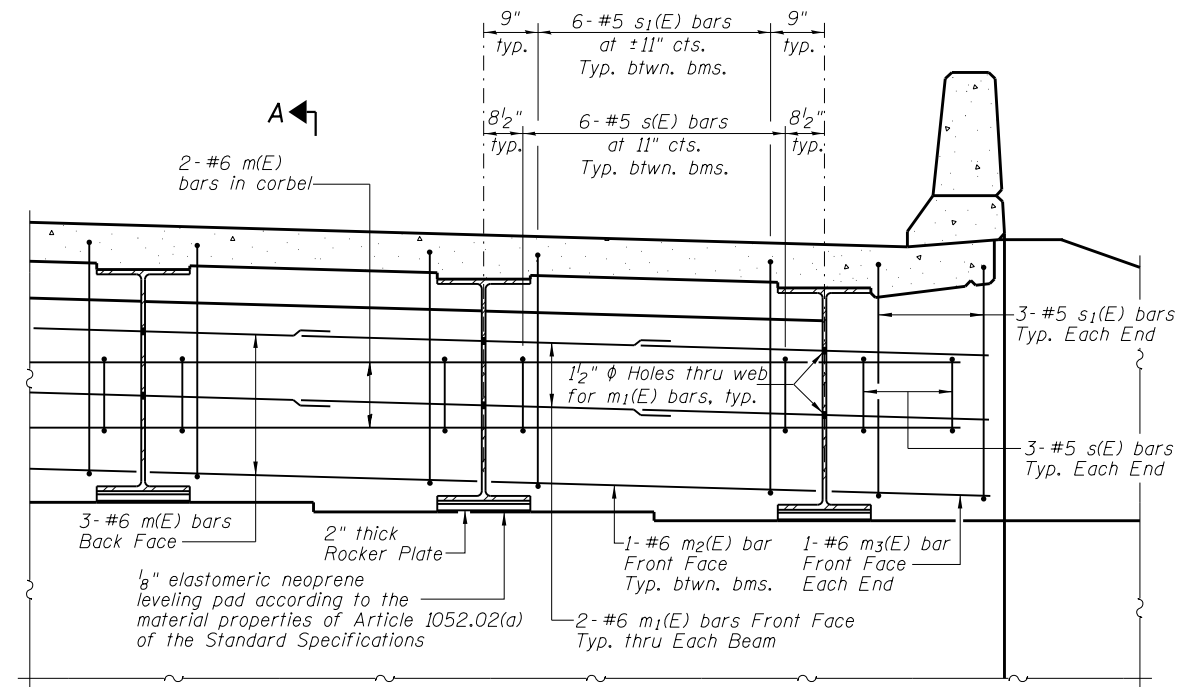
Bars indicated thus 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	36
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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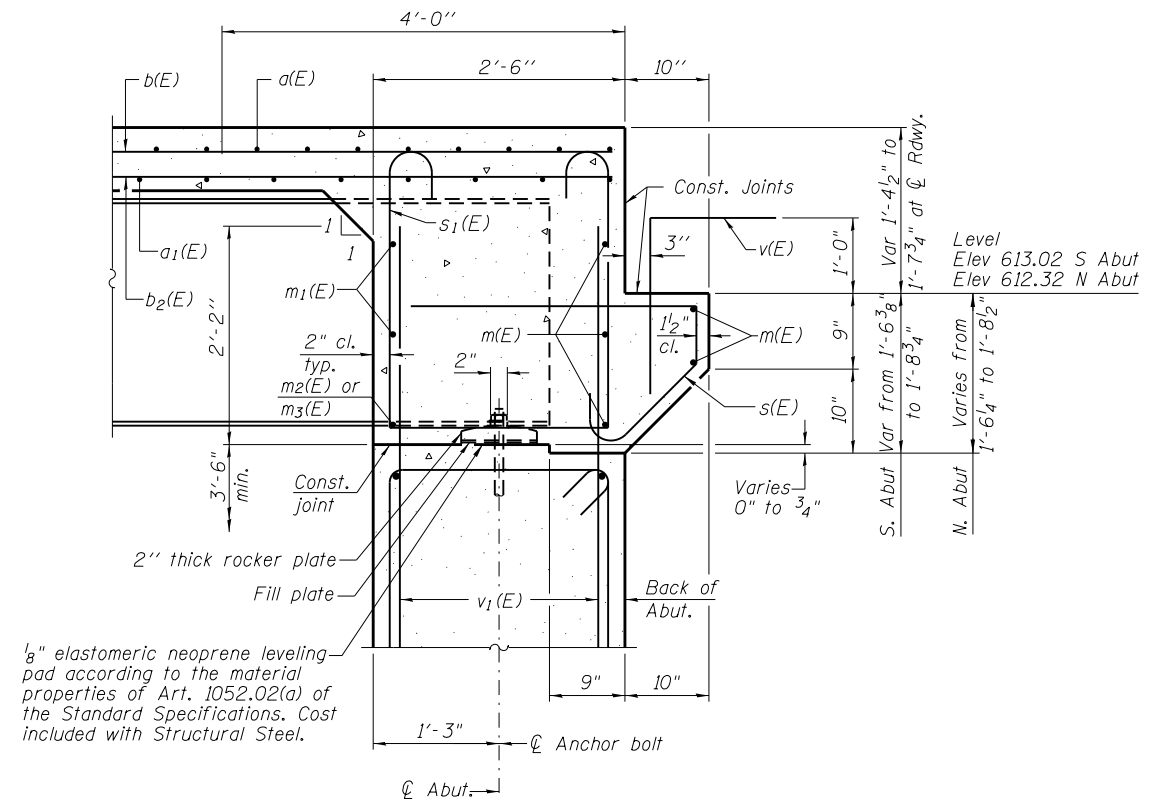


DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 22
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 22
 For details of bars s(E) & s1(E) see sheet 8 of 22
 The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

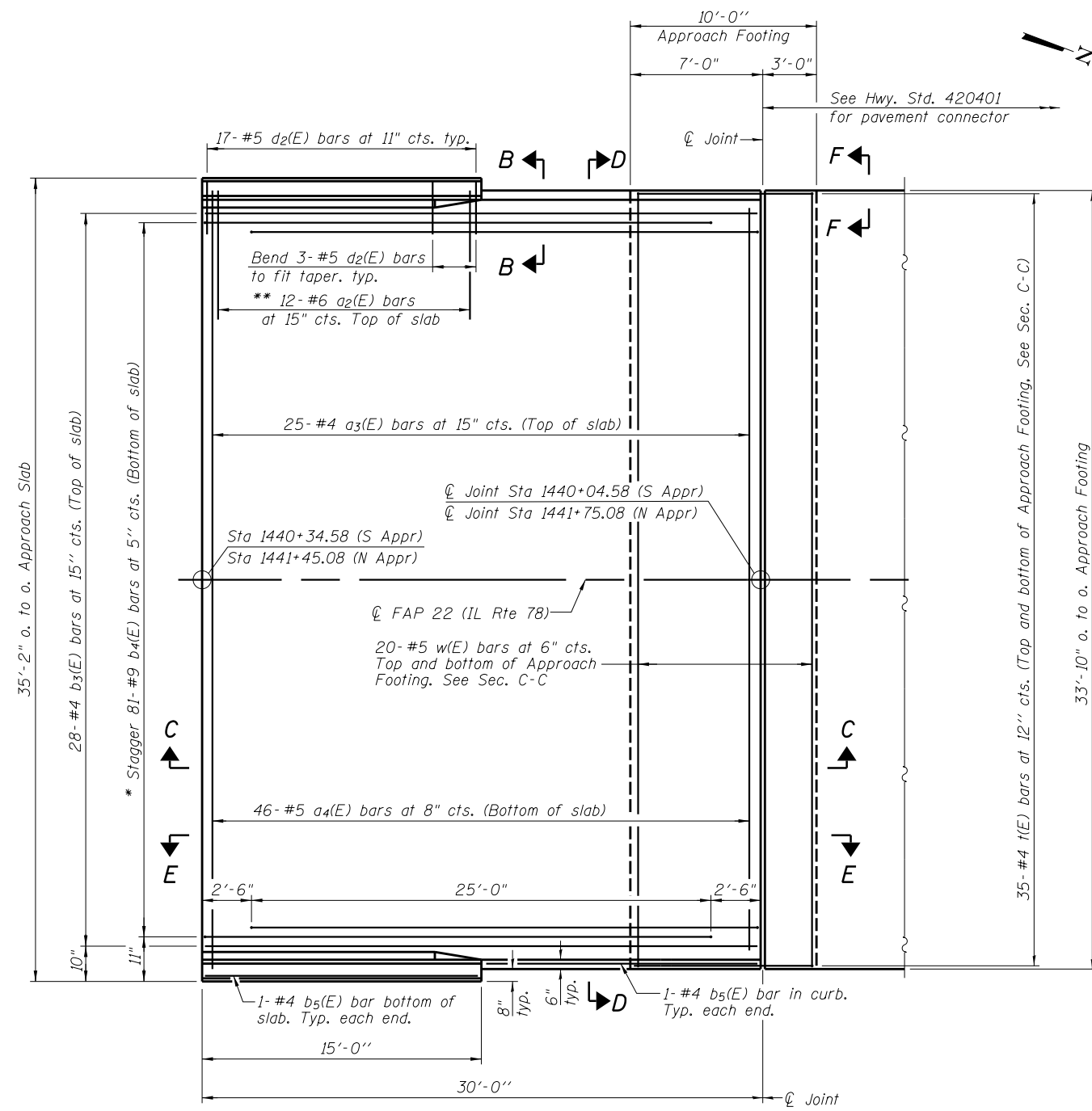
MINIMUM BAR LAP

#6 Bar = 3'-4"



SECTION A-A

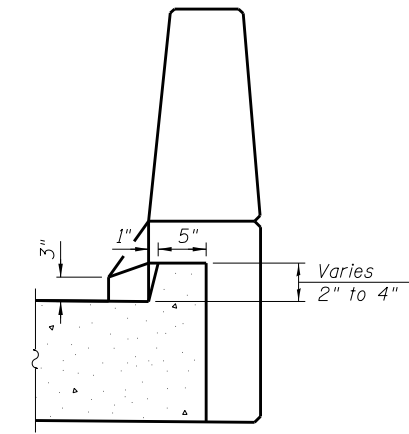
Notes:
See sheet 11 of 22 for Sections C-C & D-D and View E-E.
a₃(E) and a₄(E) bar spacings measured along \varnothing Rdwy.



PLAN

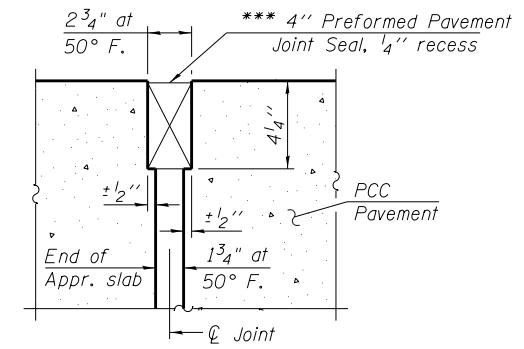
North approach shown (South approach similar)

* Tilt #9 b₄(E) bars as required to maintain clearance.
** Space between a₃(E) bars, typ. ea. parapet.

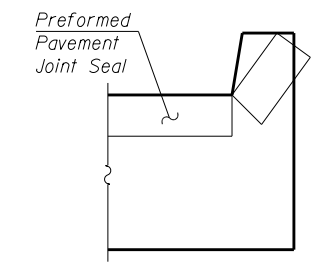


VIEW B-B

*** Cost included with Concrete Superstructure (Approach Slab).



RIGID PAVEMENT



VIEW F-F

Angle Preformed Pavement Joint Seal at 45° at curbs when req'd for drainage.

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BA-0

7-1-10

(Sheet 1 of 2)

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

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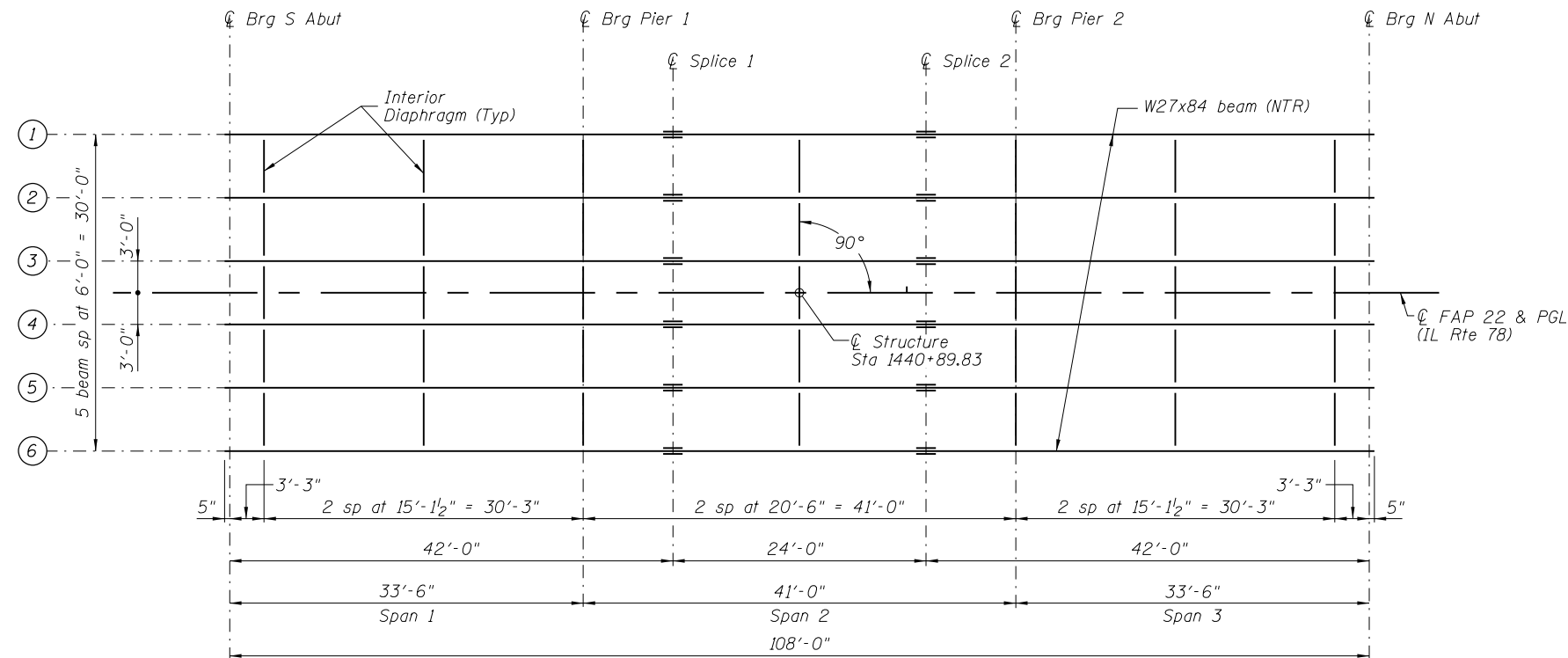
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 048-0095

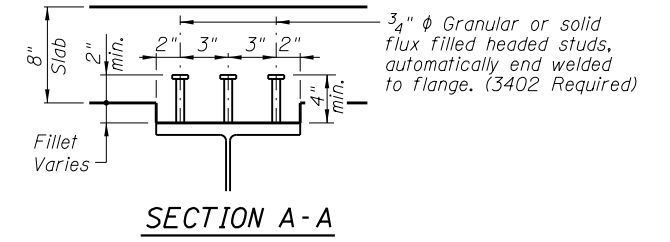
SHEET NO. 10 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	38
CONTRACT NO. 68758				

ILLINOIS FED. AID PROJECT



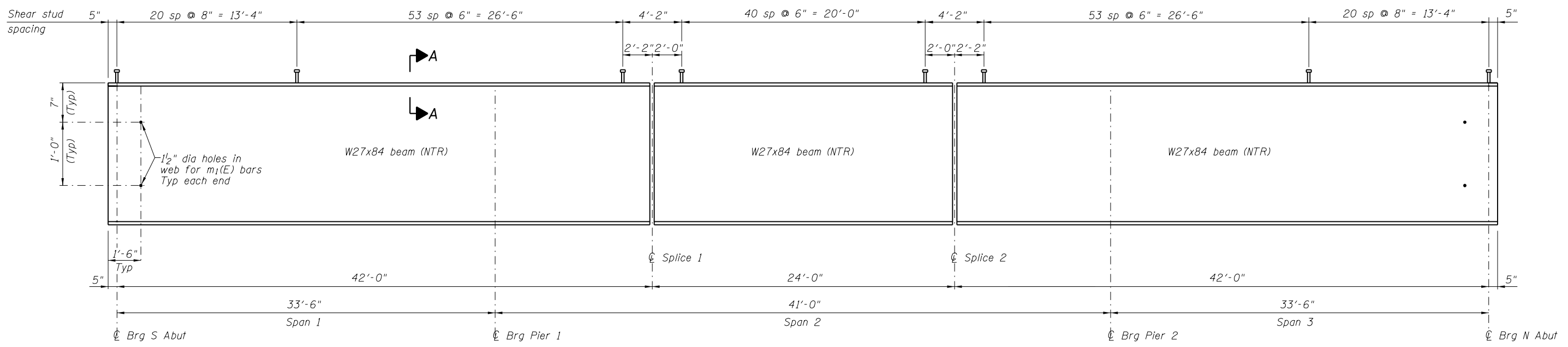
FRAMING PLAN



SECTION A-A

NOTES:

All beams and splice plates shall be AASHTO M270 Grade 50.
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



BEAM ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

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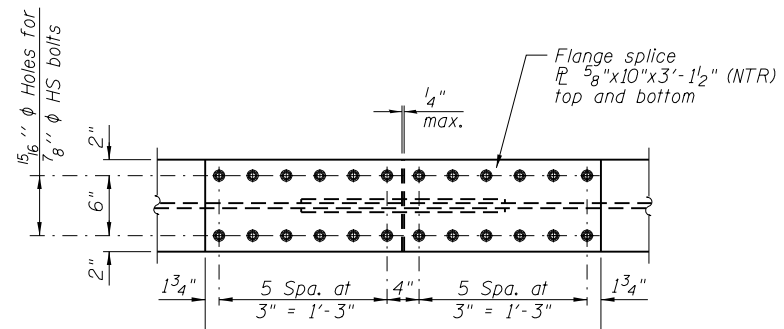
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN AND DETAILS
 (STRUCTURE NO. 048-0095)**

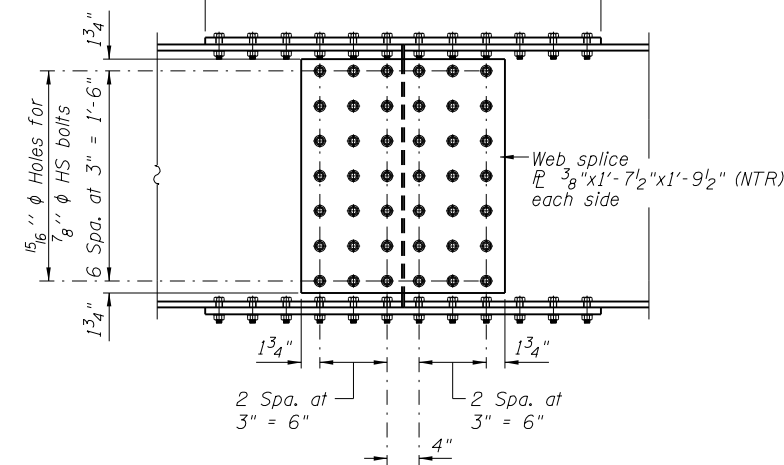
SHEET NO. 12 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-B-1)BR(CR)	KNOX	94	30
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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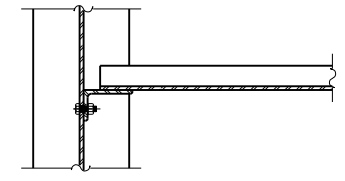


PLAN

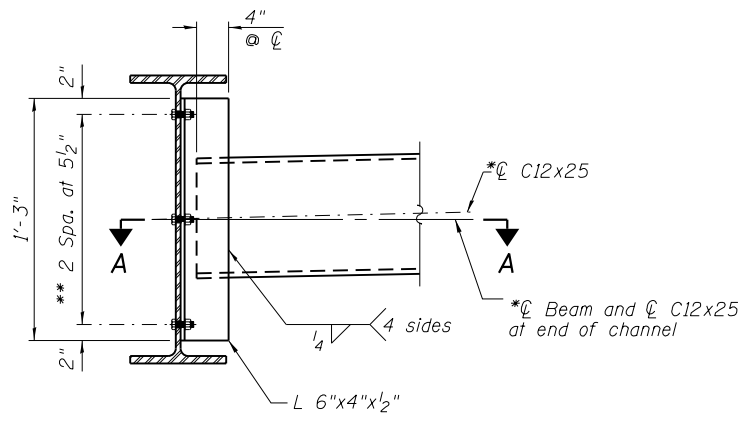


ELEVATION

SPLICE DETAIL
(12 Required)



SECTION A-A



INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
** 3/4 inch diameter HS bolts, 15/16 inch diameter holes

*** Top of Beam Elevations						
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
CL Brg at S. Abut	613.69	613.80	613.90	613.90	613.80	613.69
CL Brg at Pier 1	613.44	613.55	613.65	613.65	613.55	613.44
CL Splice 1	613.37	613.48	613.58	613.58	613.48	613.37
CL Splice 2	613.22	613.33	613.43	613.43	613.33	613.22
CL Brg at Pier 2	613.18	613.29	613.39	613.39	613.29	613.18
CL Brg at N. Abut	613.01	613.12	613.21	613.21	613.12	613.01

*** For fabrication only

NOTES

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

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INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴)	2850	2850	2850
$I_c(n)$	(in ⁴)	8992	8992	8992
$I_c(3n)$	(in ⁴)	6733	6733	6733
$I_c(cr)$	(in ⁴)	-	-	-
S_s	(in ³)	213.5	213.5	213.5
$S_c(n)$	(in ³)	340.5	340.5	340.5
$S_c(3n)$	(in ³)	308.1	308.1	308.1
$S_c(cr)$	(in ³)	-	-	-
DC1	(k/')	0.70	0.70	0.70
M_{DC1}	('k)	56	98	50
DC2	(k/')	0.15	0.15	0.15
M_{DC2}	('k)	12	21	10
DW	(k/')	0.27	0.27	0.27
M_{DW}	('k)	24	42	21
$M_{\xi} + IM$	('k)	274	227	259
M_u (Strength I)	('k)	601	609	560
$\phi_r M_n$	('k)	1776	1110	1782
f_s DC1	(ksi)	3.1	5.5	2.8
f_s DC2	(ksi)	0.5	0.8	0.4
f_s DW	(ksi)	0.9	1.6	0.8
f_s ($\xi + IM$)	(ksi)	9.7	8.0	9.1
f_s (Service II)	(ksi)	17.1	18.4	15.9
$0.95R_n F_y f$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	-	-
$\phi_r F_n$	(ksi)	-	-	-
V_f	(k)	17.2	17.3	16.9

INTERIOR GIRDER REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
R_{DC1}	(k)	9.5	29.1	29.1	9.5
R_{DC2}	(k)	1.9	6.2	6.2	1.9
R_{DW}	(k)	3.4	11.1	11.1	3.4
$R_{\xi} + IM$	(k)	50.1	76.8	76.8	50.1
R_{Total}	(k)	64.9	123.2	123.2	64.9

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

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

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).
 M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
 M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
 M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 $M_{\xi} + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\xi} + IM$
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
 f_s ($\xi + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
 $M_{\xi} + IM / S_c(n)$ or $M_{LL} + IM / S_c(cr)$ as applicable.
 f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (\xi + IM)$
 $0.95R_n F_y f$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (\xi + IM)$
 $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
 V_f : Maximum factored shear range in span computed according to Article 6.10.10.

Note:
 M_{ξ} and R_{ξ} include the effects of centrifugal force and superelevation.



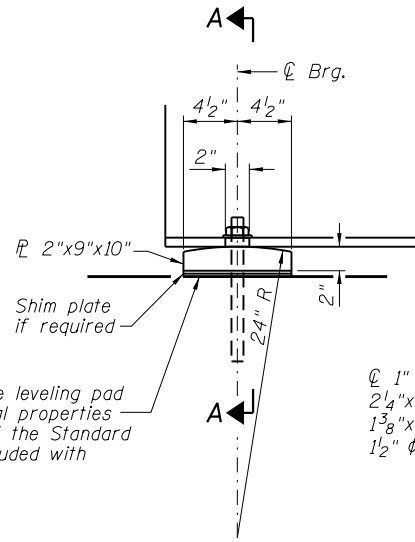
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT TABLES
 STRUCTURE NO. 048-0095
 SHEET NO. 14 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-B-1)BR(CR)	KNOX	94	42
CONTRACT NO. 68758			ILLINOIS FED. AID PROJECT	

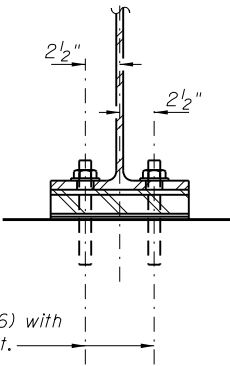
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ELEVATION AT ABUTMENT

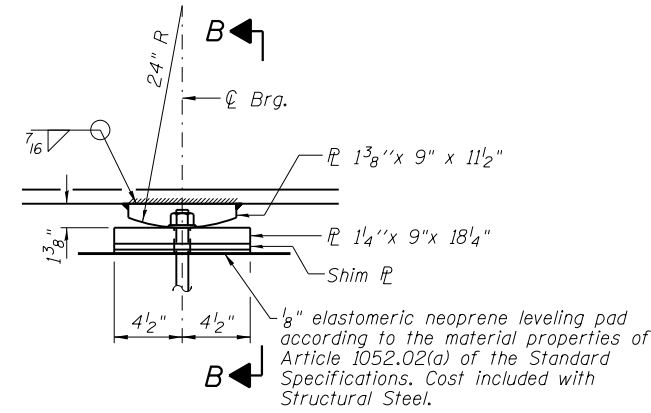
1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

1" ϕ x 12" anchor bolts (Grade 36) with 2 1/4" x 2 1/4" x 5/16" PL washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" ϕ holes in bearing plate.



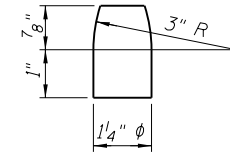
SECTION A-A

FIXED BEARING
(12 Required)

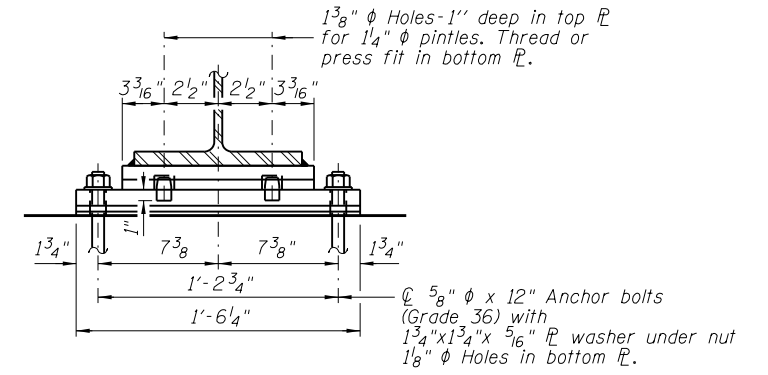


ELEVATION AT PIER

FIXED BEARING
(12 Required)



PINTLE



SECTION B-B

1 3/8" ϕ Holes-1" deep in top PL for 1 1/4" ϕ pintles. Thread or press fit in bottom PL.

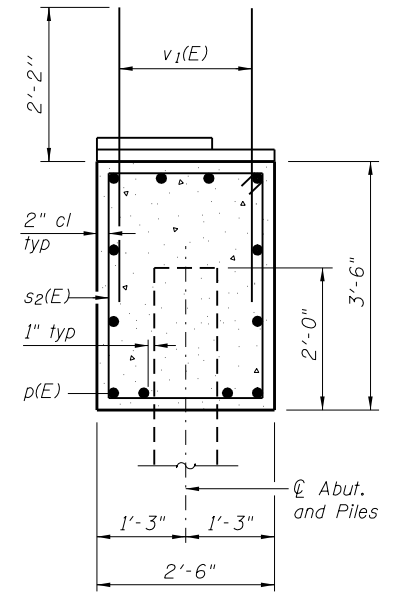
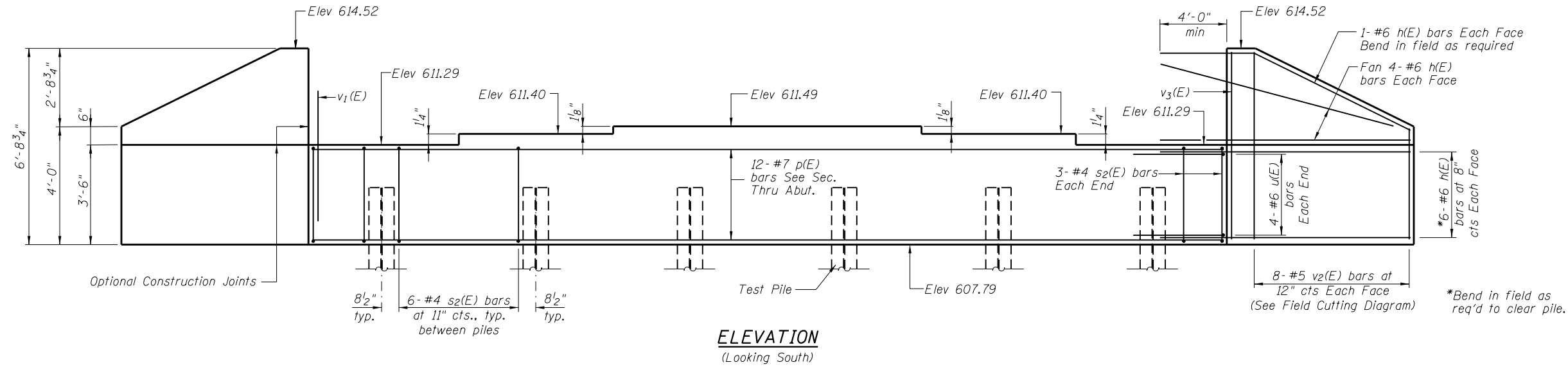
1 3/8" ϕ x 12" Anchor bolts (Grade 36) with 1 3/4" x 1 3/4" x 5/16" PL washer under nut 1 1/2" ϕ Holes in bottom PL.

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
The structural steel plates of the Bearing Assembly shall be galvanized and conform to the requirements of AASHTO M 270 Grade 50.
Two 3/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

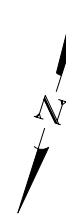
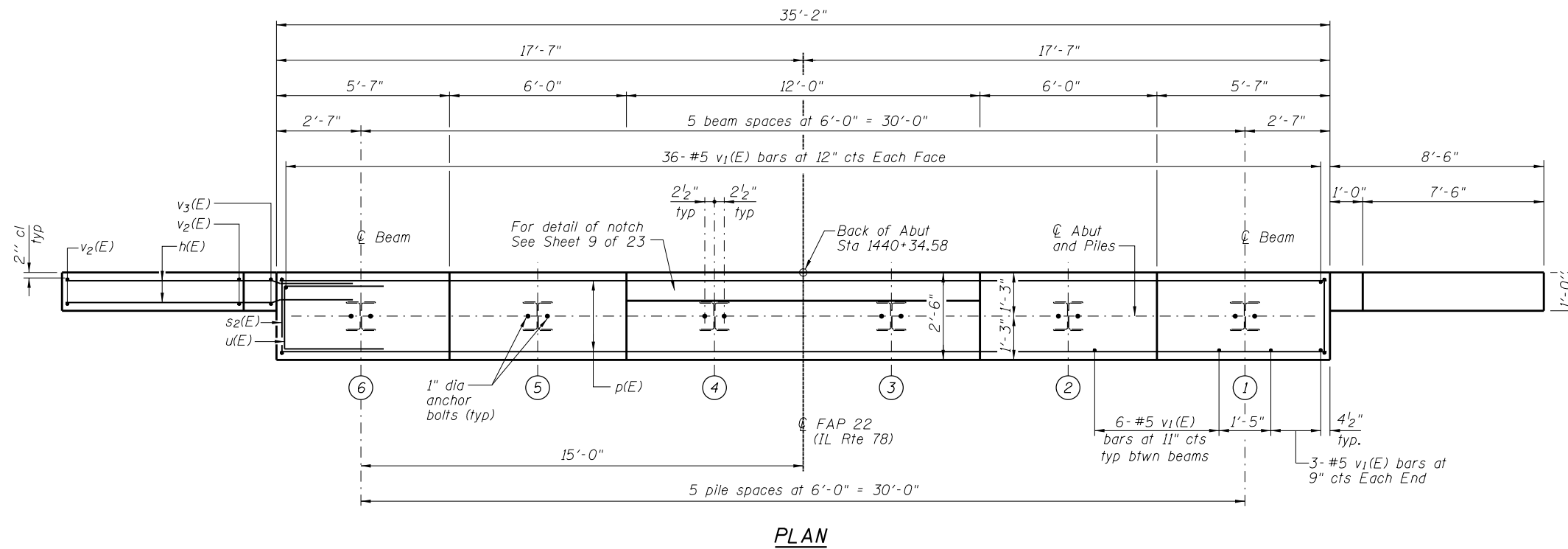
BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 5/8"	Each	24
Anchor Bolts, 1"	Each	24

Notes: Four steps monolithically with cap.



SEC. THRU ABUT.



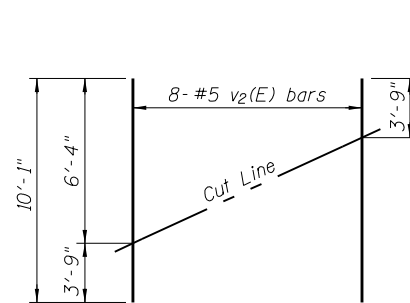
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	44	#6	12'-10"	—
p(E)	12	#7	34'-10"	—
s ₂ (E)	36	#4	11'-5"	□
u(E)	8	#6	8'-7"	□
v ₁ (E)	72	#5	4'-4"	—
v ₂ (E)	16	#5	10'-1"	—
v ₃ (E)	4	#5	6'-5"	—
Structure Excavation		Cu. Yd.	65	
Concrete Structures		Cu. Yd.	15.2	
Reinforcement Bars, Epoxy Coated		Pound	2600	
Furnishing Steel Piles HP12x53		Foot	155	
Driving Piles		Foot	155	
Test Pile Steel HP12x53		Each	1	

For details of piles see sheet 20 of 22.

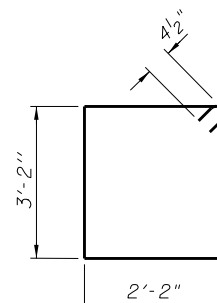
PILE DATA

Type: HP12x53
 Nominal Required Bearing: 174 k
 Factored Resistance Available: 95 k
 Est. Length: 31'
 No. Production Piles: 5
 No. Test Piles: 1

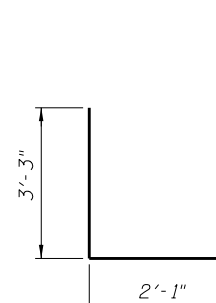


FIELD CUTTING DIAGRAM

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



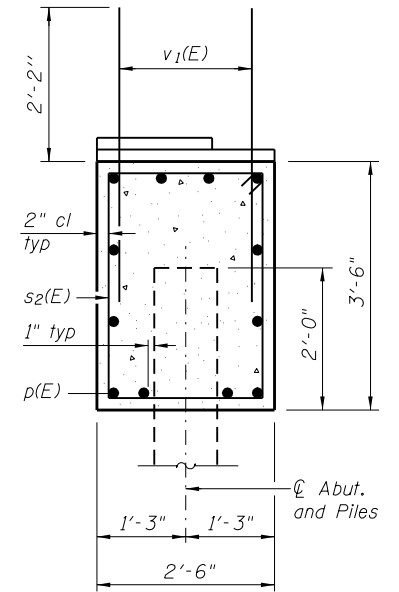
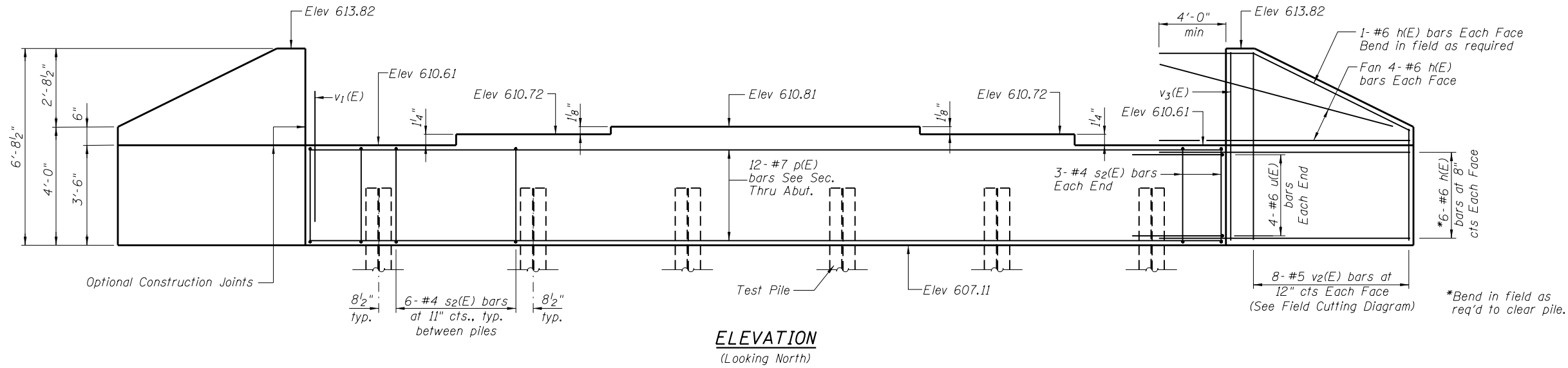
BAR s₂(E)



BAR u(E)

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Notes: Four steps monolithically with cap.

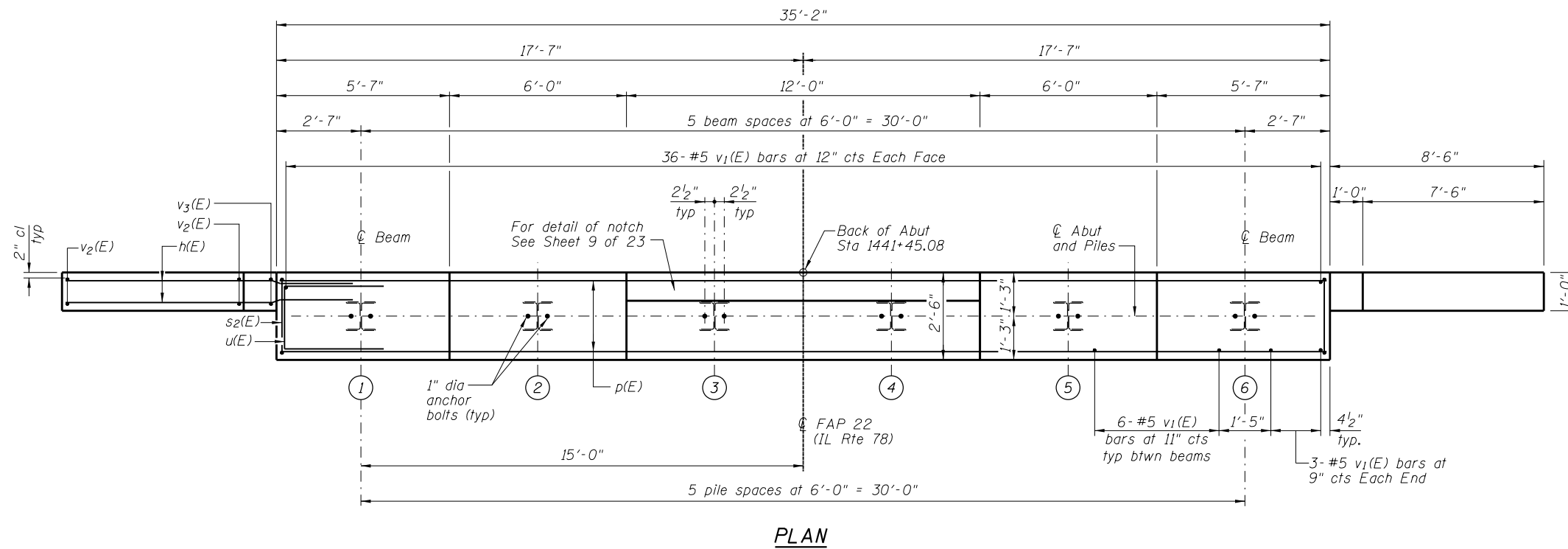


SEC. THRU ABUT.

BILL OF MATERIAL

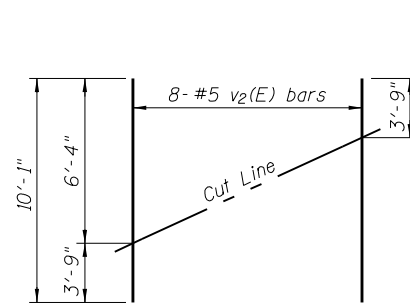
Bar	No.	Size	Length	Shape
h(E)	44	#6	12'-10"	—
p(E)	12	#7	34'-10"	—
s2(E)	36	#4	11'-5"	□
u(E)	8	#6	8'-7"	□
v1(E)	72	#5	4'-4"	—
v2(E)	16	#5	10'-1"	—
v3(E)	4	#5	6'-5"	—
Structure Excavation		Cu. Yd.	4	
Concrete Structures		Cu. Yd.	15.2	
Reinforcement Bars, Epoxy Coated		Pound	2600	
Furnishing Steel Piles HP12x53		Foot	155	
Driving Piles		Foot	155	
Test Pile Steel HP12x53		Each	1	

For details of piles see sheet 20 of 22.



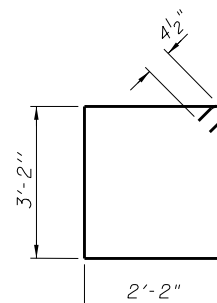
PILE DATA

Type: HP12x53
 Nominal Required Bearing: 174 k
 Factored Resistance Available: 95 k
 Est. Length: 31'
 No. Production Piles: 5
 No. Test Piles: 1

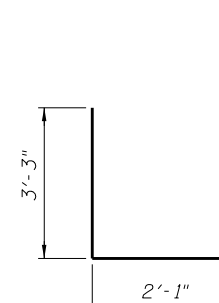


FIELD CUTTING DIAGRAM

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



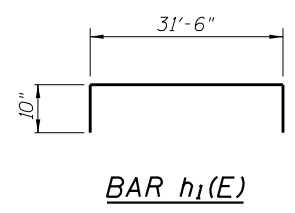
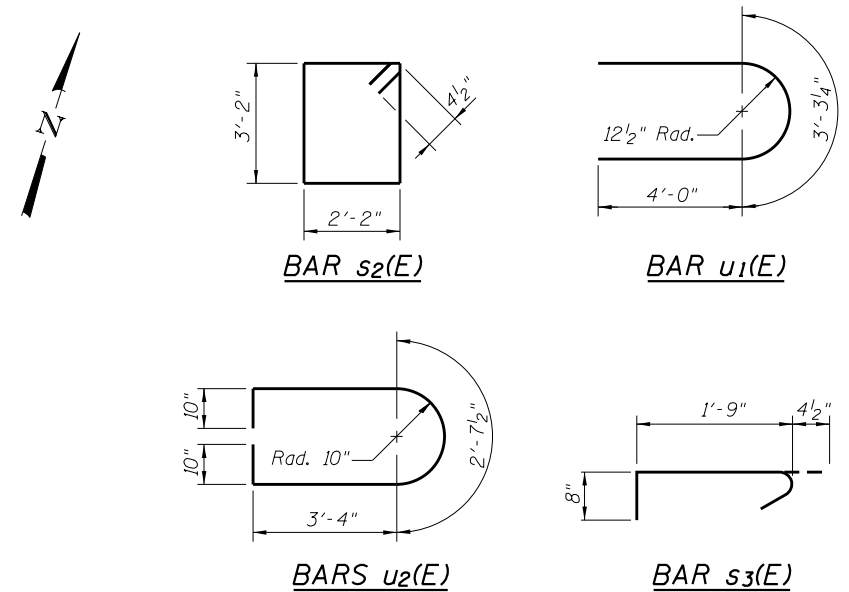
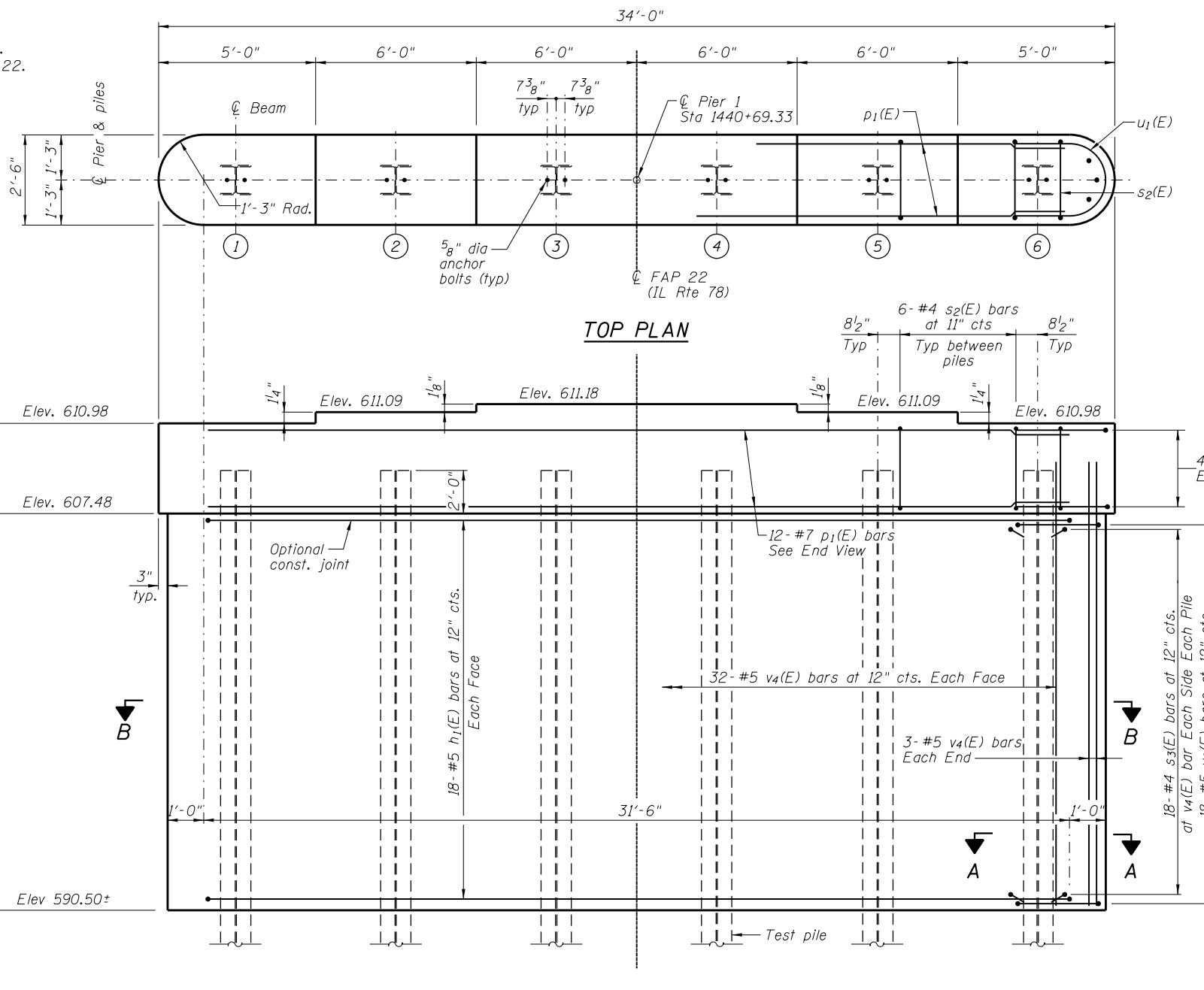
BAR s2(E)



BAR u(E)

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Notes:
 For details of piles, see sheet 20 of 22.
 For detail of cofferdam, see sheet 2 of 22.
 Pour steps monolithically with cap.
 Space reinforcement in pier cap to miss anchor bolts.



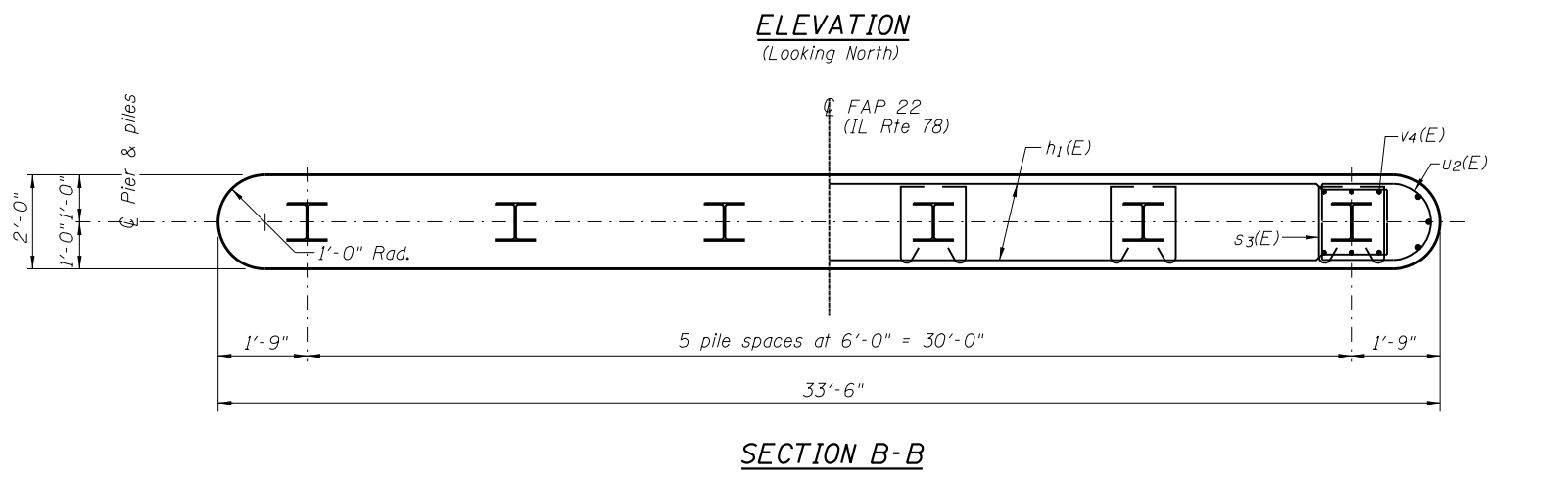
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h ₁ (E)	36	#5	33'-2"	U
p ₁ (E)	12	#7	31'-6"	—
s ₂ (E)	32	#4	11'-5"	□
s ₃ (E)	216	#4	2'-10"	U
u ₁ (E)	8	#6	11'-3"	U
u ₂ (E)	36	#5	11'-0"	U
v ₄ (E)	70	#5	19'-2"	—
Concrete Structures			Cu. Yd.	52.7
Reinforcement Bars, Epoxy Coated			Pound	4620
Furnishing Steel Piles HP12x63			Foot	160
Driving Piles			Foot	160
Test Pile Steel HP12x63			Each	1
Cofferdam (Type 2) (Location-1)			Each	1
Cofferdam Excavation			Cu. Yd.	223
Seal Coat Concrete			Cu. Yd.	46.2

END VIEW

PILE DATA

Type: HP12x63
 Nominal Required Bearing: 446k
 Factored Resistance Available: 241k
 Est. Length: 32' min
 No. Production Piles: 5
 No. Test Piles: 1



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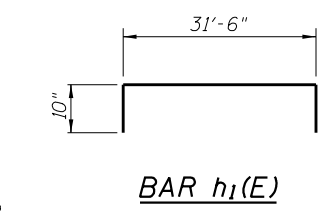
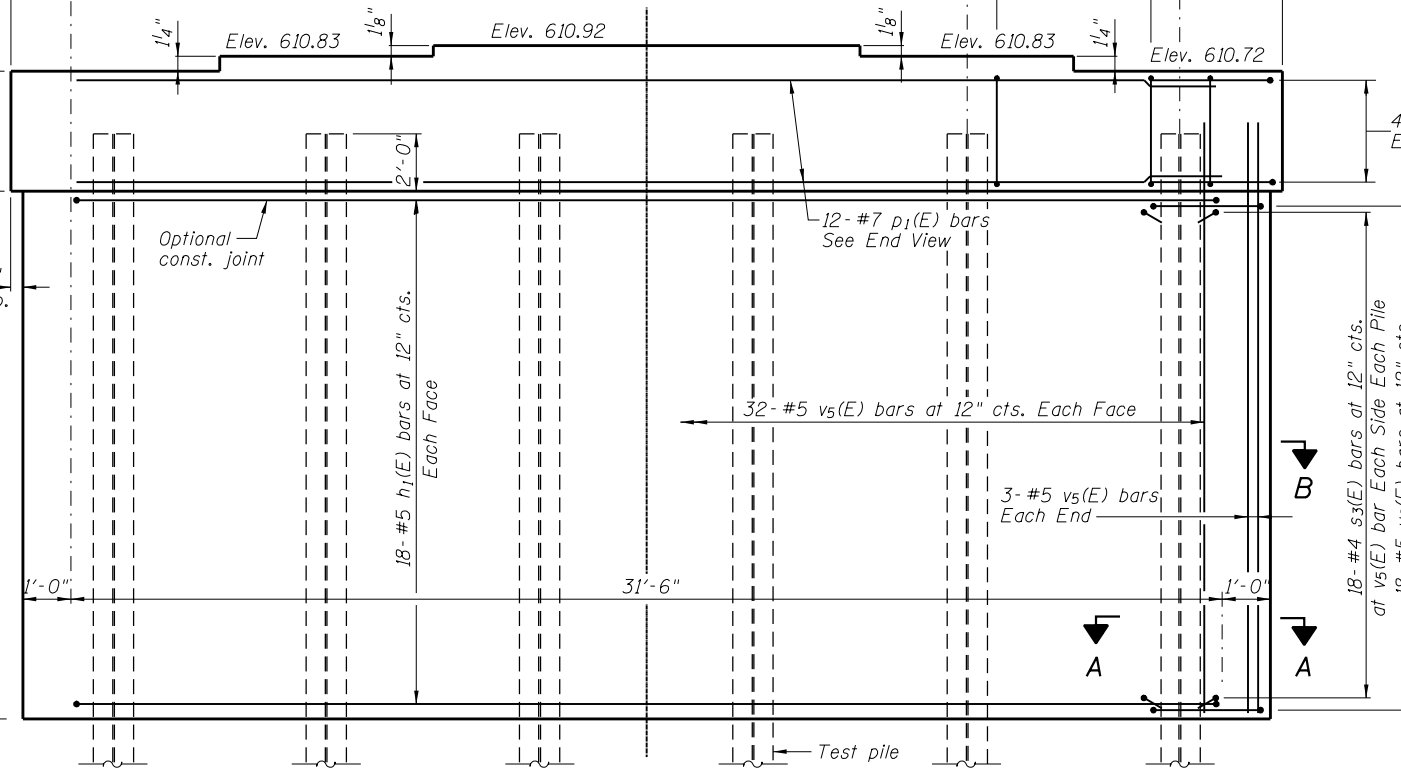
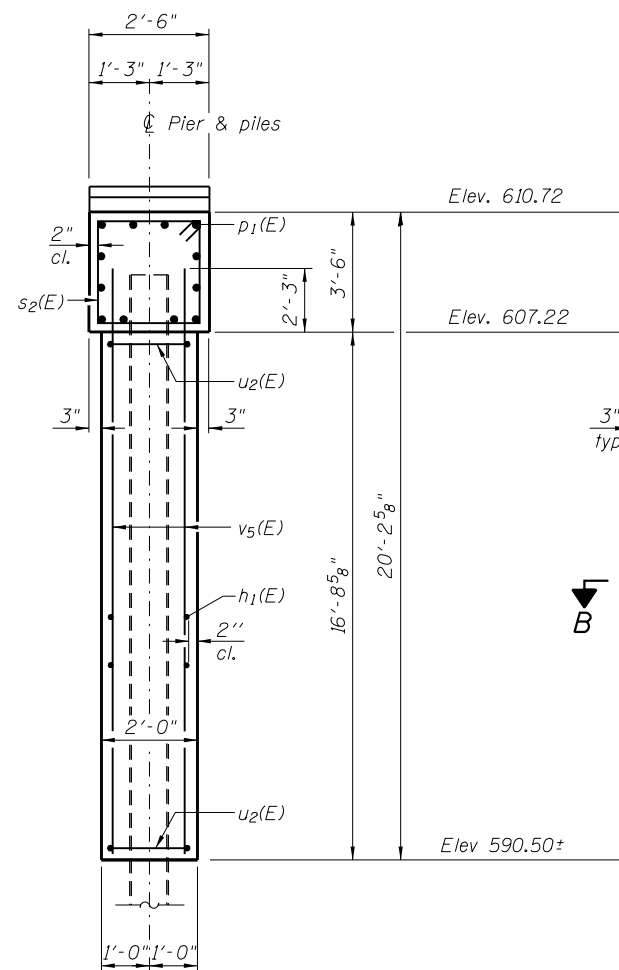
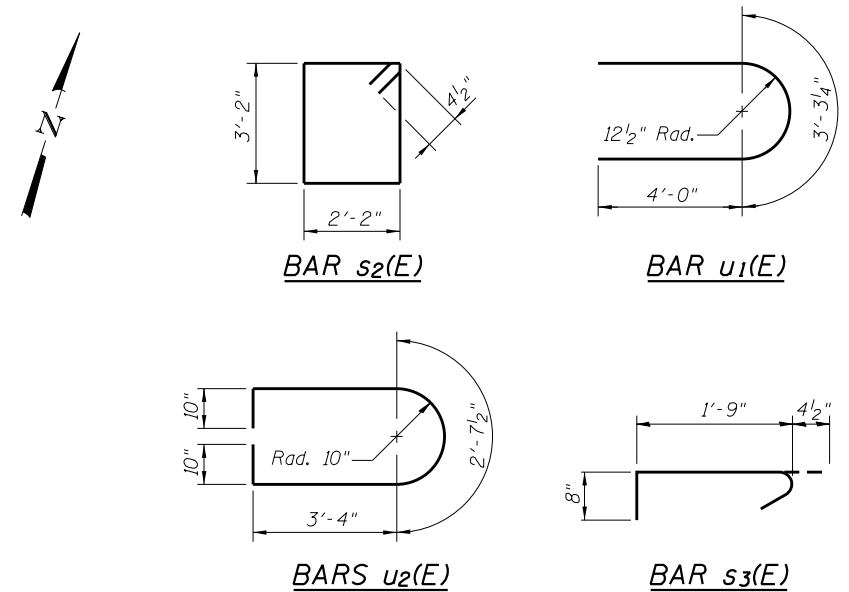
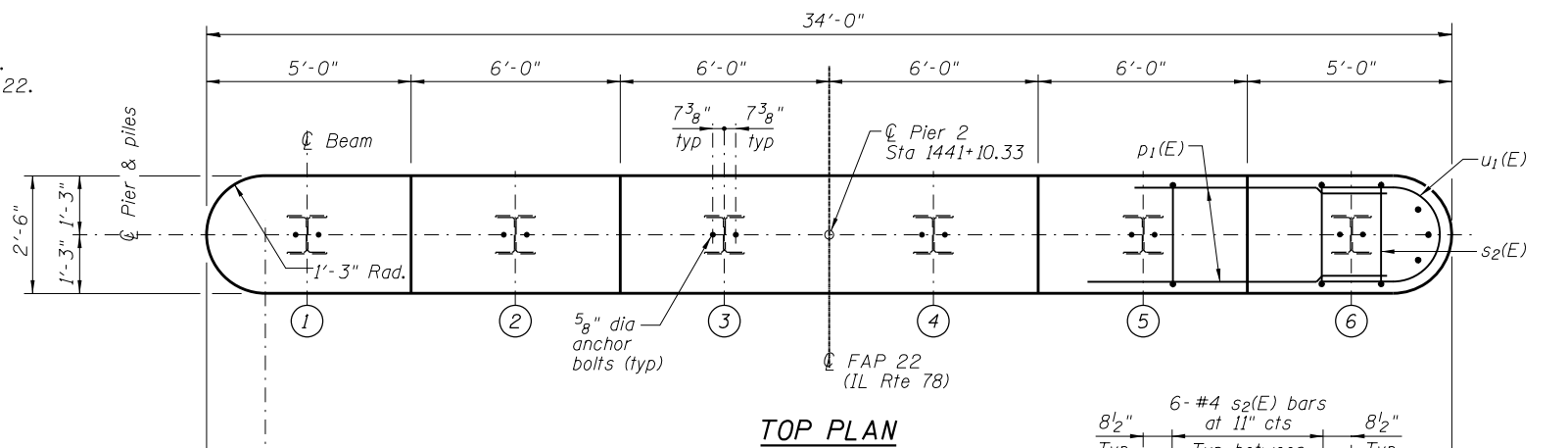
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 DETAILS
 STRUCTURE NO. 048-0095
 SHEET NO. 18 OF 24 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-B)BR(CR)	KNOX	94	46
CONTRACT NO. 68758				

ILLINOIS FED. AID PROJECT

Notes:
 For details of piles, see sheet 20 of 22.
 For detail of cofferdam, see sheet 2 of 22.
 Pour steps monolithically with cap.
 Space reinforcement in pier cap to miss anchor bolts.

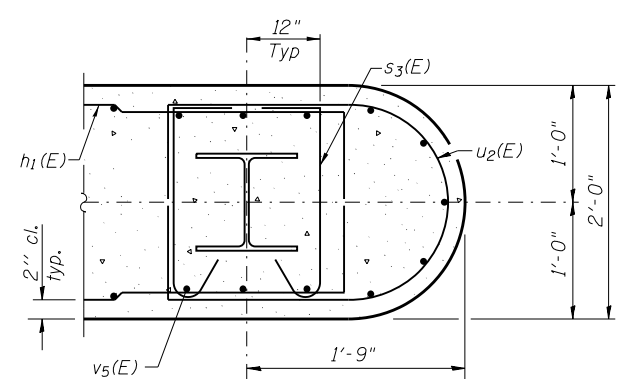
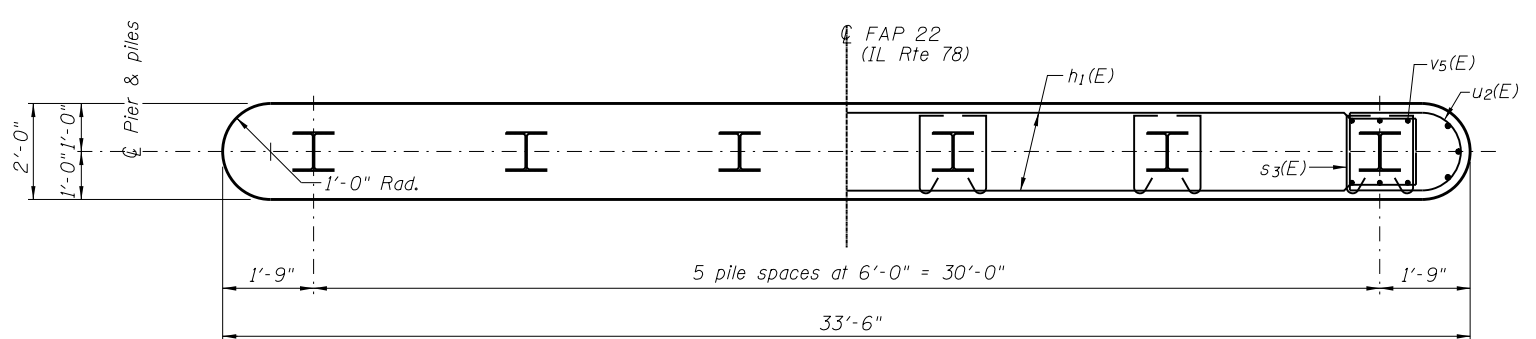


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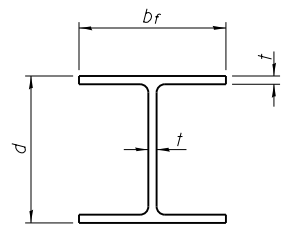
Bar	No.	Size	Length	Shape
h ₁ (E)	36	#5	33'-2"	U
p ₁ (E)	12	#7	31'-6"	—
s ₂ (E)	32	#4	11'-5"	□
s ₃ (E)	216	#4	2'-10"	U
u ₁ (E)	8	#6	11'-3"	U
u ₂ (E)	36	#5	11'-0"	U
v ₅ (E)	70	#5	18'-11"	—
Concrete Structures			Cu. Yd.	52.1
Reinforcement Bars, Epoxy Coated			Pound	4600
Furnishing Steel Piles HP12x63			Foot	160
Driving Piles			Foot	160
Test Pile Steel HP12x63			Each	1
Cofferdam (Type 2) (Location-2)			Each	1
Cofferdam Excavation			Cu. Yd.	146
Seal Coat Concrete			Cu. Yd.	46.2

PILE DATA

Type: HP12x63
 Nominal Required Bearing: 491k
 Factored Resistance Available: 247k
 Est. Length: 32' min
 No. Production Piles: 5
 No. Test Piles: 1

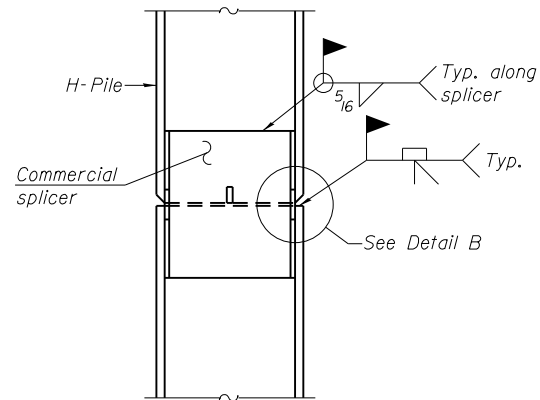


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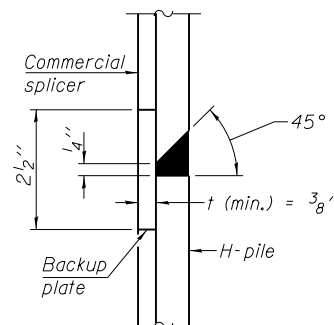


STEEL PILE TABLE

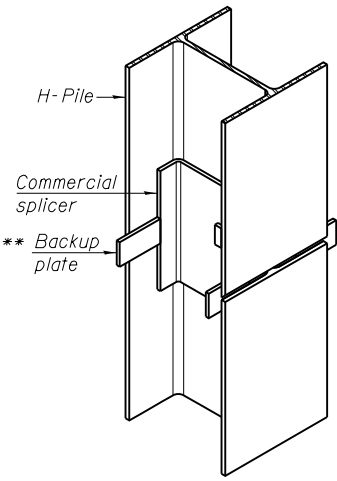
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



ELEVATION

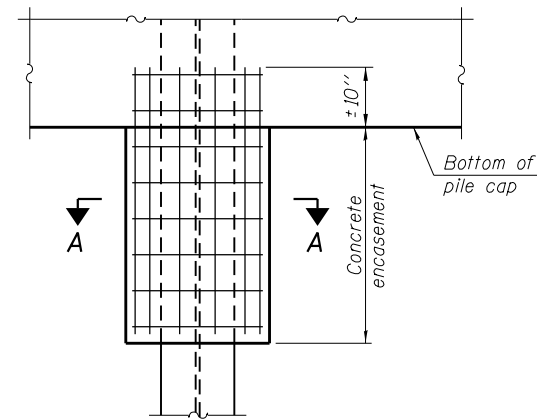


DETAIL "B"



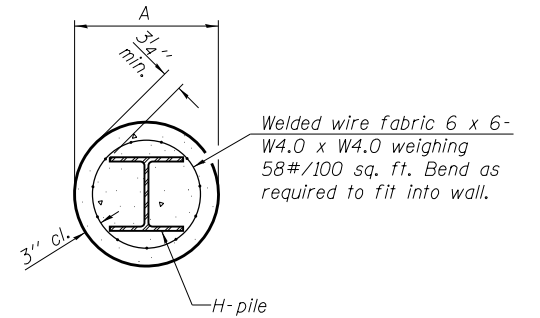
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



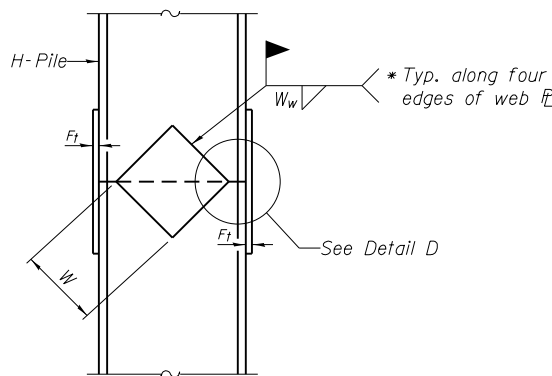
ELEVATION

PILE ENCASEMENT



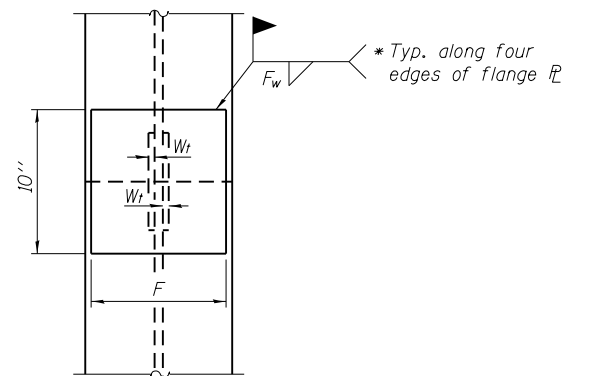
SECTION A-A

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



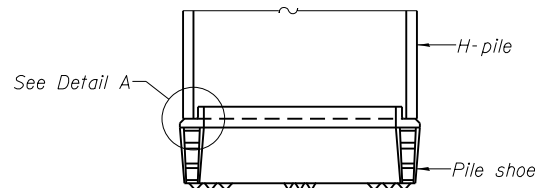
ELEVATION

DETAIL D

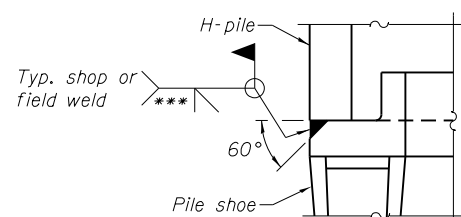


END VIEW

WELDED PLATE FIELD SPLICE

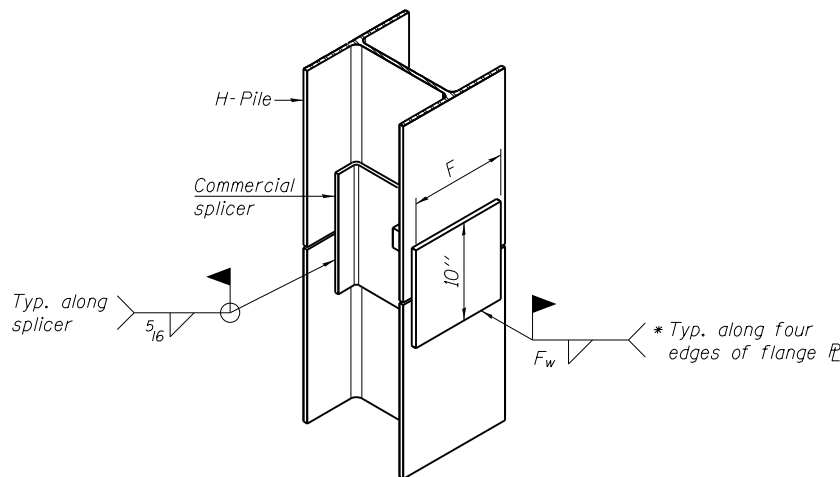


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

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

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

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CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

USER NAME = jbuening
PLOT TIME = 11:09:49 AM
PLOT SCALE = 2.0000' / in.
PLOT DATE = 6/10/2019

DESIGNED - ACB
CHECKED - JMB
DRAWN - RLK
CHECKED - JMB

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

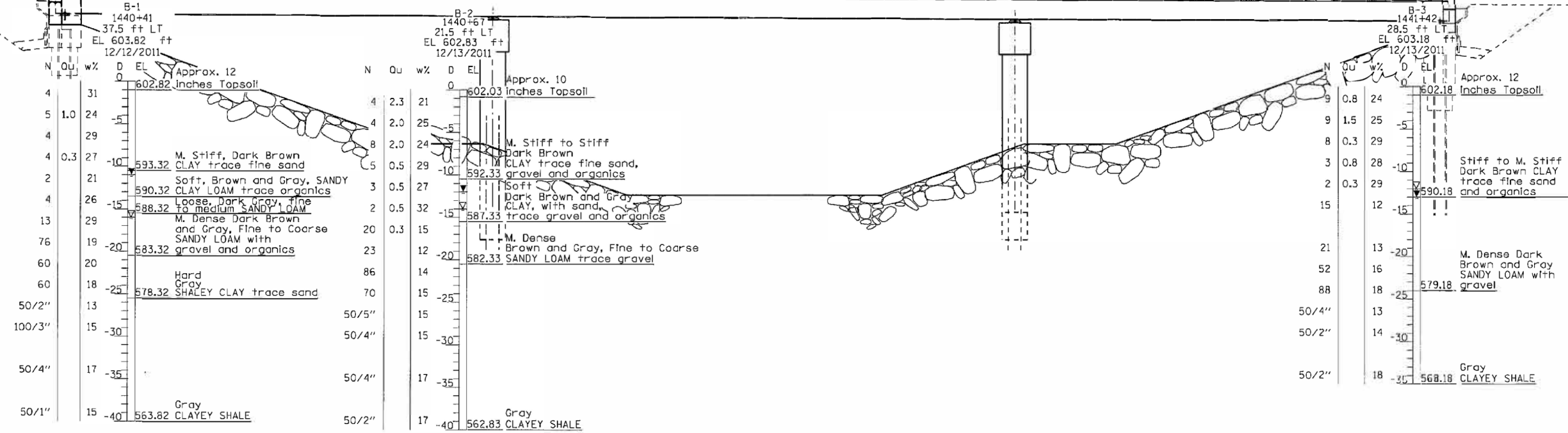
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 048-0095**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	49
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

BRIDGE OMISSION STA 1440+34.58 TO STA 1441+45.08

PROPOSED GRADE

EXISTING GRADE



NOT TO SCALE

LEGEND

EL = Elevation (ft)
 D = Depth Below Existing Ground Surface (ft)
 N = SPT N-Value (AASHTO T206)
 Qu = Unconfined compressive Strength (tsf)
 Failure Mode (B= Bulge, S= shear, P= penetrometer)
 w% = Moisture Content Percentage

WATER TABLE LEGEND

▽ = Groundwater Level First Encountered
 ▽ = Groundwater Level Upon Completion
 ▹ = Groundwater Level After ... hours

SUBSURFACE DATA PROFILE
 IL78 OVER KICKAPOO CREEK
 FAP ROUTE 22
 SECTION (48B-1) BR
 KNOX COUNTY
 STATION 1440+89.93
 STRUCTURE NO. (EXISTING) 048-0018
 STRUCTURE NO. (PROPOSED) 048-0095



USER NAME = LNF	DESIGNED -	REVISED -
PLT SCALE = 48.0000' / in.	DRAWN -	REVISED -
PLT DATE = 2/15/2012	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBSURFACE DATA PROFILE
 IL 78 OVER KICKAPOO CREEK

F.A.P. RTE. 22	SECTION (48B-1)BR	COUNTY KNOX	TOTAL SHEETS 94	SHEET NO. 50
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUBSURFACE DATA PROFILE
 STRUCTURE NO. 048-0095

F.A.P. RTE. 22	SECTION 48(B-1)BR;CRJ	COUNTY KNOX	TOTAL SHEETS 94	SHEET NO. 50
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

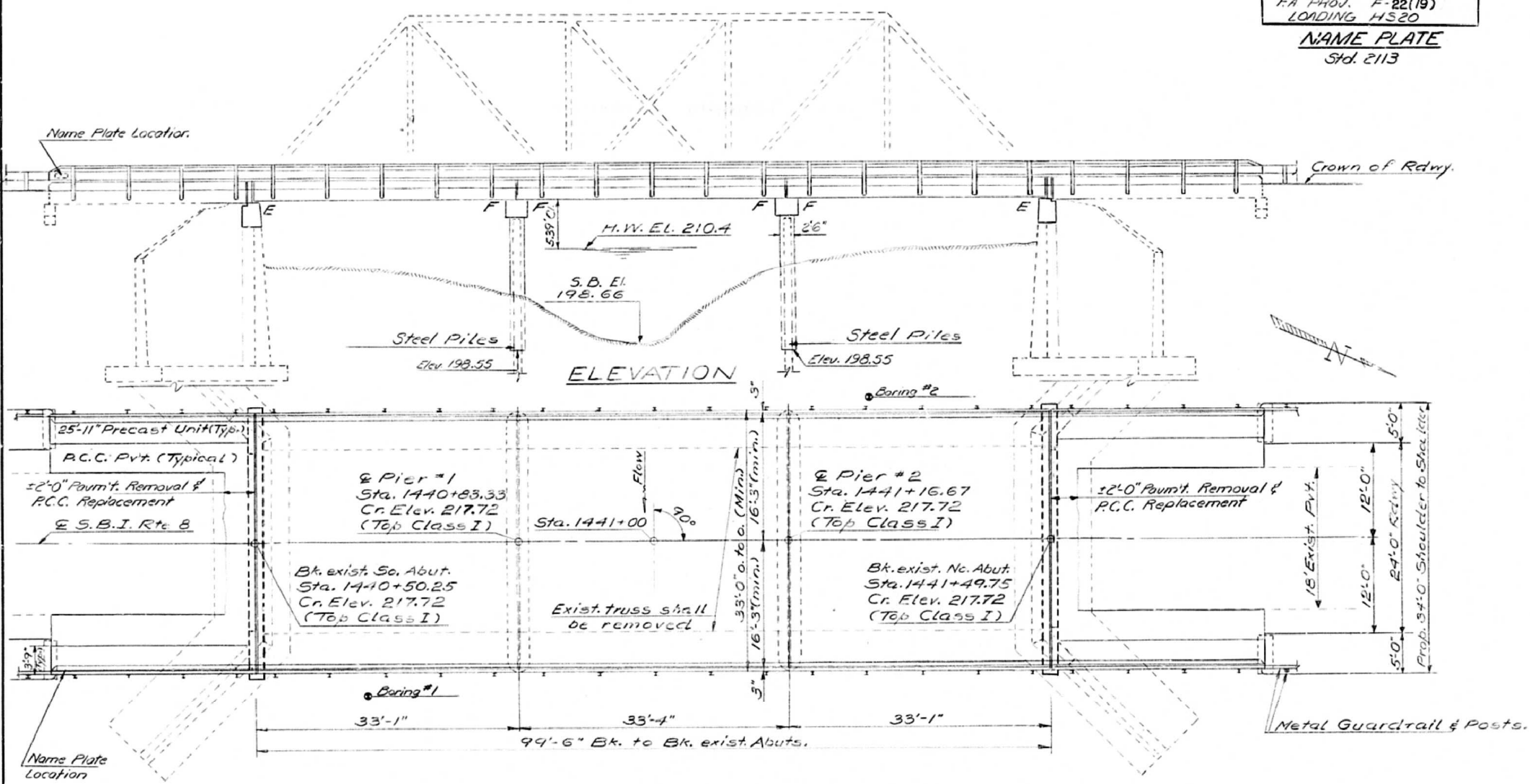
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
F.A. 22	48B-1	KNOX	13	5	7 SHEETS

GENERAL NOTES

All reinforcement bars shall be lapped 2d diameters unless otherwise shown.
The Contractor shall drive one steel HP36x36 test pile in a permanent location at Pier 1 as directed by the Engineer before ordering the remainder of piles.
All structural steel shall be shop painted with two coats of basic lead silico chromate paint.
It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
Expansion Bolts shall consist of self drilling expansion anchors and 3/4" x 12" hooked bolts.
Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.
Limits of Waterproofing Membrane System shall be three feet no inches beyond end of deck beams and out to out of deck.
For barings see proposal.

STATION 1441+00.00
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 22 SEC. 48B-1
FA PROJ. F-22(19)
LOADING HS20
NAME PLATE
Std. 2113

B.M. : Top of Northeast corner south wing wall Elev. 217.37.
Existing structure : Built as SBI Rte. 8, Sec. 47 B & C sta. 1441+00 in 1925. The contractor shall remove the existing superstructure and replace with a new wider superstructure. Widen the existing substructure and provide two new piers. Structure No. 048-0018. Traffic shall be detoured. No Salvage.



TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bituminous Concrete Surface Course, Class I	Ton	36		36
Portland Cement Concrete Pavement (10")	Sq. Yd.	43		43
Pavement Fabric	Sq. Yd.	43		43
Concrete Removal	Cu. Yd.		16	16
Steel Piles HP36x36	Lin. Ft.		342	342
Class X Concrete	Cu. Yd.	12.4	100.2	112.6
Precast Concrete Bridge Slab	Sq. Ft.	389		389
Precast Prestressed Concrete Deck Beams (17")	Sq. Ft.	3292		3292
Steel Railing, Type 1	Lin. Ft.	308		308
Reinforcement Bars	Pound	600	11,620	12,220
Pavement Removal & P.C.C. Replacement, Type 2 (10")	Sq. Yd.	8		8
Removal of Existing Superstructures	Each	1		1
* Waterproofing Membrane System	Sq. Yd.	368		368
Name Plates	Each	1		1
* Preformed Joint Sealer (2")	Lin. Ft.	66		66
* Structure Excavation	Cu. Yd.		90	90
Protective Coat	Sq. Yd.	32		32
* Structural Steel	Pound	4350		4350
Portland Cement Mortar Fairing Course	Lin. Ft.	998		998
Expansion Bolts 3/4"	Each	68		68
Test Pile (Steel HP36x36)			1	1

* See Special Provisions

PLAN

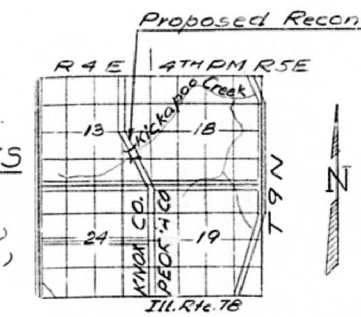
WATERWAY INFORMATION

Drainage area 17.8 Sq. Miles
Present opening 560 aft.
Required opening 560 aft.
Proposed opening (50yr. fl. freq) 560 aft.
H.W. El. = 210.4 ft.
Q(50) = 4200 cfs.

PRECAST UNITS FIELD UNITS PRECAST PRESTRESSED UNITS

f'c = 4,500 psi f'c = 1,400 psi (Sub.) f'c = 5,000 psi
 f'c = 1,800 psi f's = 20,000 psi (Reint.) f'ci = 4,000 psi
 f's = 20,000 psi f's = 20,000 psi (Struct.) f's = 270,000 psi (7 Strands)
 n = 8 n = 10 f'si = 185,700 psi (16 Strands)

Loading HS20-44
Allow 25#/Sq. Ft for future W.S.



GENERAL PLAN & ELEVATION

FA RTE. 9 OVER KICKAPOO CREEK
FA RTE. 9 SECTION 48B-1
PROJECT F-22 (19)
KNOX COUNTY
STA. 1441 + 00.00

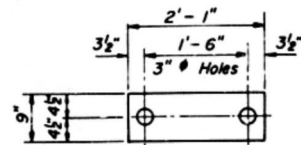
DESIGNED	John A. Meuris	EXAMINED	MARCH 4 1925
CHECKED	Joe Sutherland	PASSED	
DRAWN	Joe Sutherland	APPROVED	
CHECKED	J.E. & J.A.M.		



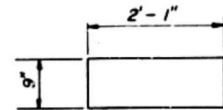
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

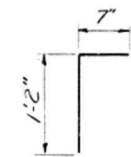
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
22	48B	KNOX	8	6	7 SHEETS



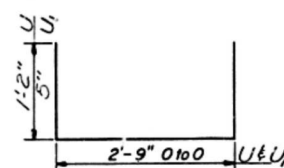
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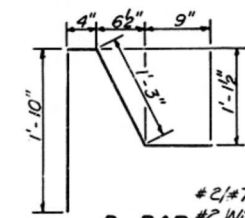
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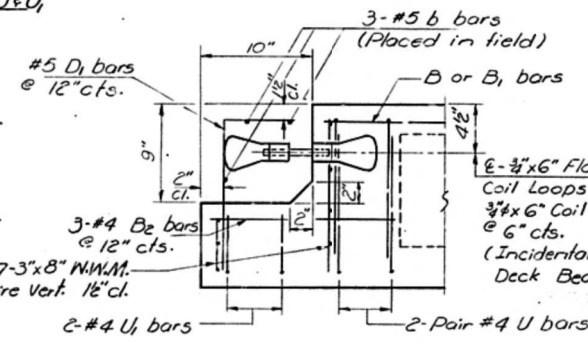
BAR D1



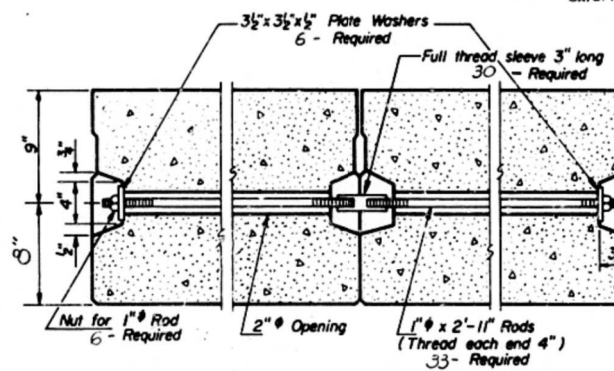
U & U BAR



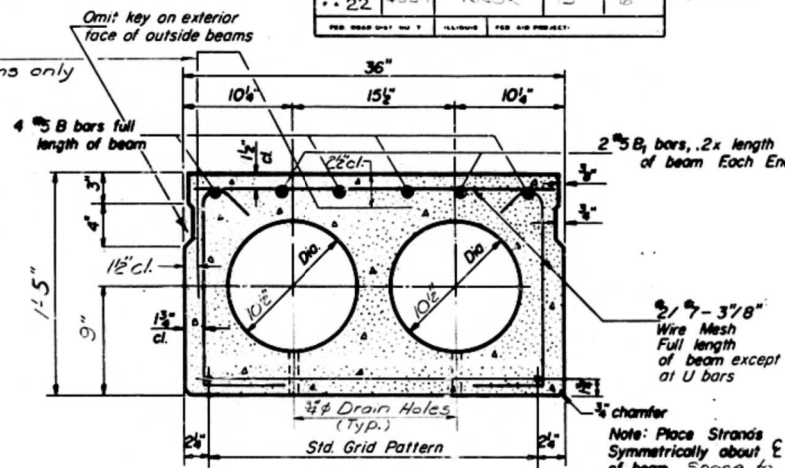
D BAR



END OF BEAM DETAIL
(Expansion End)

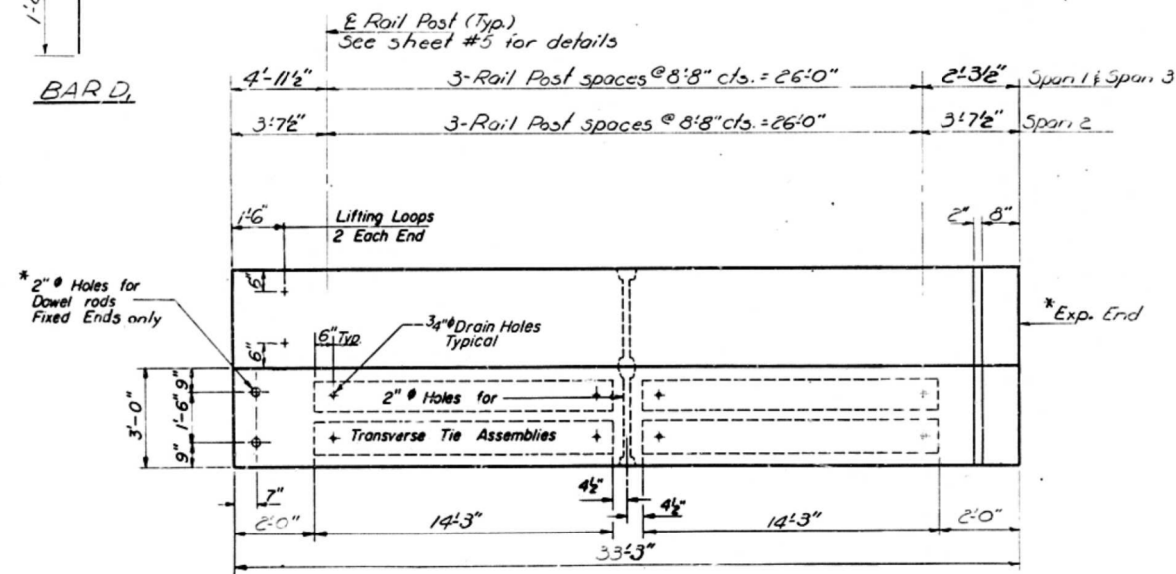


TYPICAL TRANSVERSE TIE ASSEMBLY

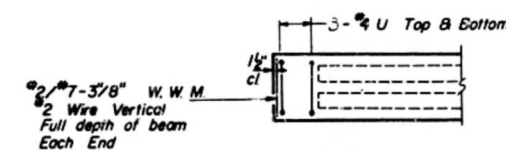


TYPICAL SECTION

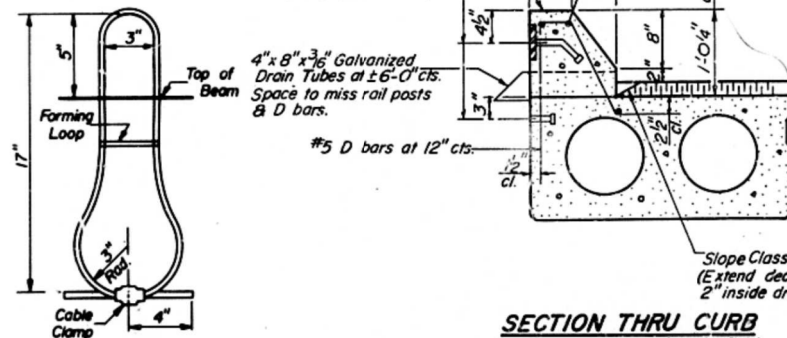
7/8" Strands Each Strand Stressed to 21,700 lbs.
10-Strands 1 3/4" up



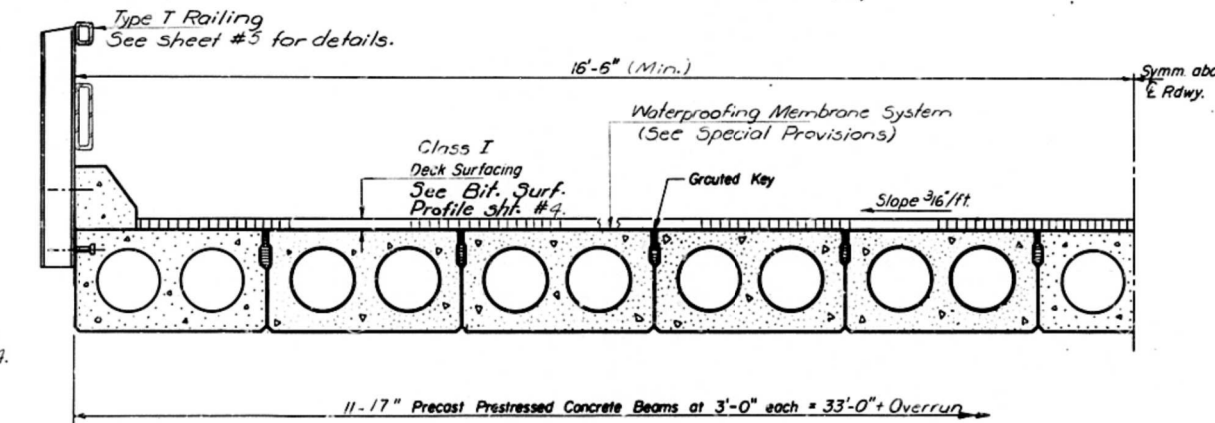
PLAN



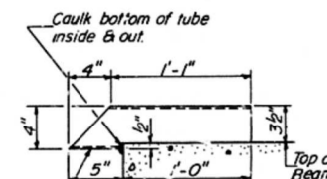
END PLAN
(Fixed End)



LIFTING LOOP DETAIL



HALF CROSS SECTION



DRAIN DETAIL
(Cast Incidental)

GENERAL NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 7/8" and the nominal cross-sectional area shall be 0.115 sq. in.. Lifting loops shall be 1/2" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 21,000 lbs. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside beam shall be filled with grout after transverse tie assembly is in place. Longitudinal shear keys shall be packed with a very dry mix of 2-1 sand and P.C. mortar. After beams have been erected, holes for the dowel anchors shall be drilled into the sub-structure and the anchor dowels shall be grouted in place. Dowel rods shall be A.S.T.M. A-306 or A.S.T.M. A-615. Transverse tie rods shall be A.S.T.M. A-306, Grade 70-80. After fabrication the transverse tie assemblies (tie rods, nuts, washers and sleeves) shall be hot-dipped galvanized in accordance with A.S.T.M. Designation: A153. Cost of reinforcement and accessories cast into the beam, of bearing pads, of dowel rods, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

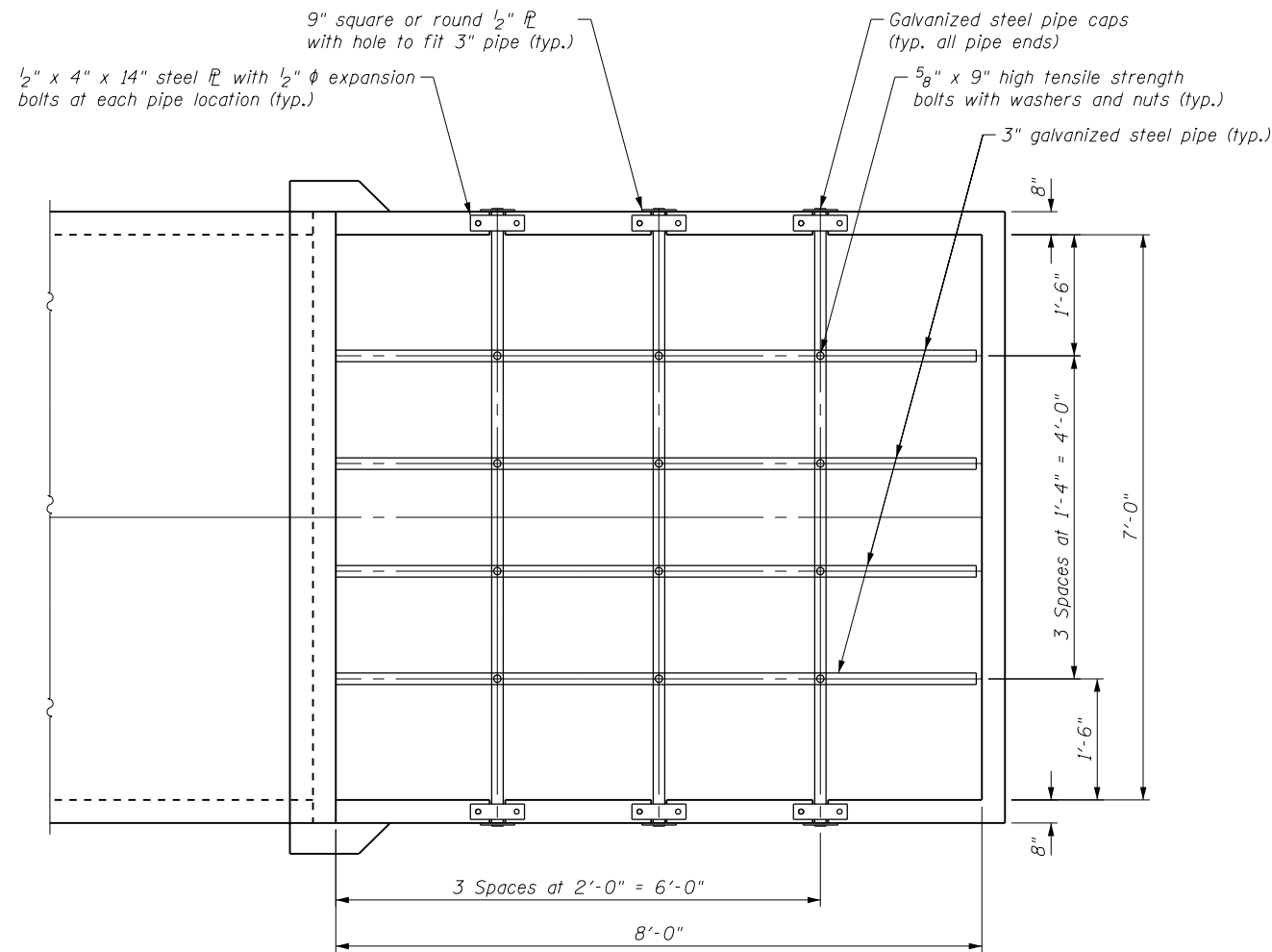
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b	6	#5	32'-9"	
Precast Prestressed Concrete Deck Beams		Sq. Ft.	3292	
Class X Concrete		Cu. Yd.	1.5	
Reinforcement Bars		Pound	200	

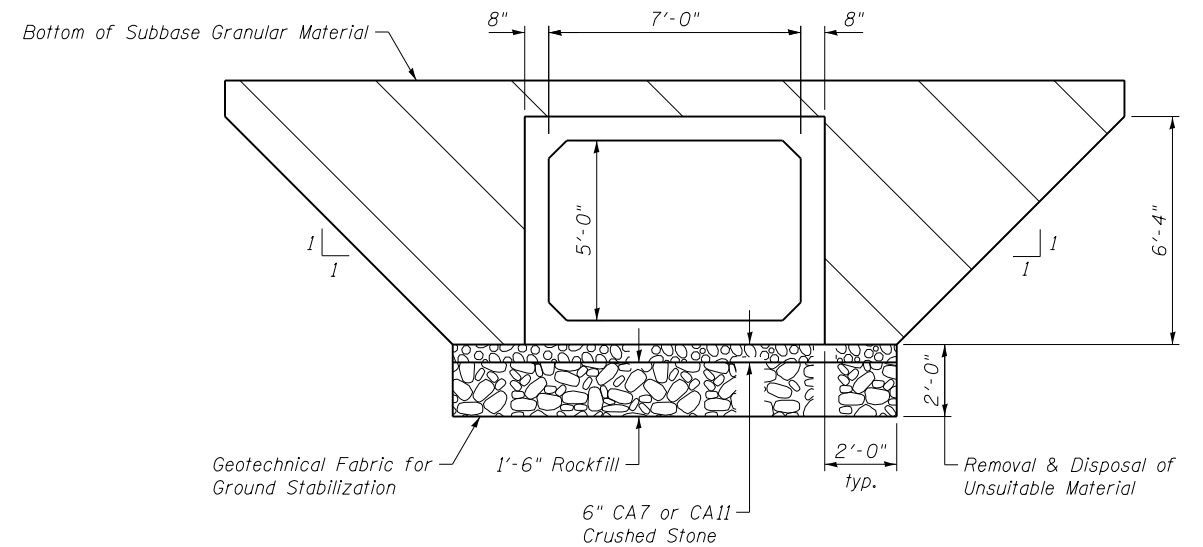
SUPERSTRUCTURE
S.B.I. RT. 8 SEC. 48B-1
KNOX COUNTY
STA. 1441+00.00

DESIGNED	John A. Morris	EXAMINED	March 4 1975
CHECKED	R. Doty	PASSED	
DRAWN	R. Doty	APPROVED	
CHECKED	R. Doty		

W-SR-1 (11-15-71)

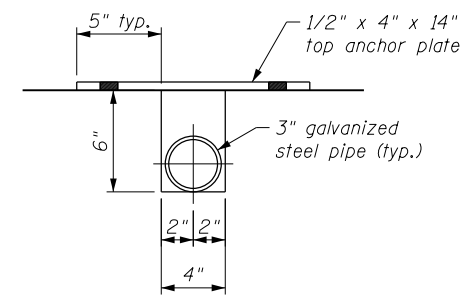


PIPE GRATE PLAN VIEW

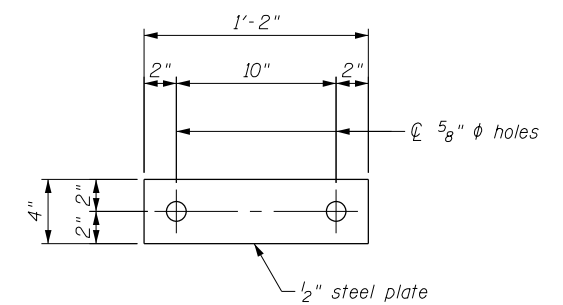


SECTION THRU PRECAST CULVERT

Note:
Hatched Area Indicates Width Limits of Porous Granular Embankment.
See Standard 540000-04 for Roadway Cross Section View.



DETAIL A



TOP ANCHOR PLATE DETAIL

GENERAL NOTES

Steel pipe shall conform to ASTM A53 (Type E or S) Grade B Schedule 40 and shall be galvanized conforming to ASTM A120.

Steel plate shall conform to AASHTO M-183 and shall be galvanized conforming to AASHTO M-111.

Bolts, nuts and washers shall be in accordance with Article 1006.08 of the Standard Specifications and shall be galvanized.

All materials and installation required for the Pipe Grate is included in the cost of Traversable Pipe Grate.

FILE NAME: c:\p\harrcom\ds\illinois\p\m\DOT\Documents\DOT_Offices\District 4\Projects\0482502-68758-002-pipe-grate.dgn

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PLOT DATE = 5/10/2019	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

F.A.P. RTE. 22	SECTION 48(I-B-1)BR(CR)	COUNTY KNOX	TOTAL SHEETS 94	SHEET NO. 54
				CONTRACT NO. 68758
ILLINOIS FED. AID PROJECT				

STATION 1428+55.16
 BUILT 20__ BY
 STATE OF ILLINOIS
 F.A.P. RTE 22 SEC. (48 B-1) BR
 LOADING HL-93
 STR. NO. 048-2502

NAME PLATE
 See Std. 515001

* Precast box culvert end section joints with a total vertical height less than 8'-0" shall only require one culvert tie placed at midheight.

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. This work will be measured for payment as each, with each end of each culvert being one each. End sections will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Elevation is for example only. Length and number of precast box sections required to construct Box Culvert End Sections shall be determined by the Contractor.

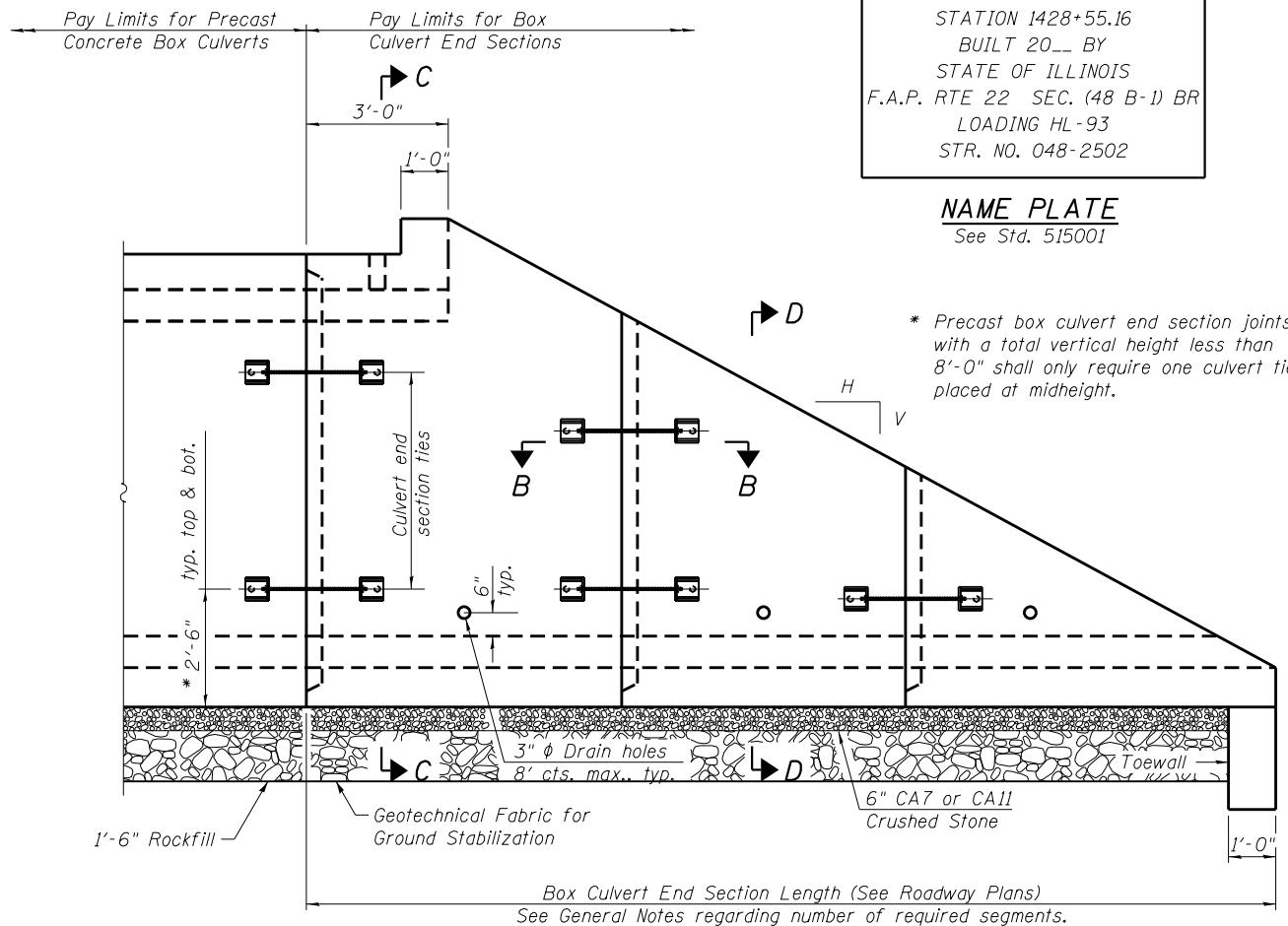
See roadway plans for embankment slope (V:H).

1" φ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional 1/2 turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

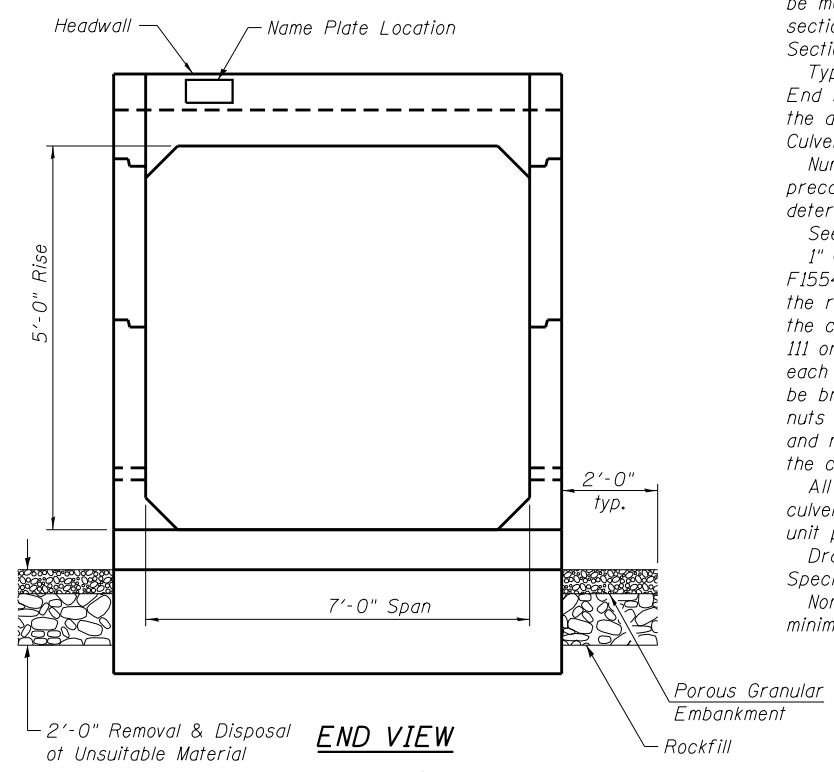
All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..



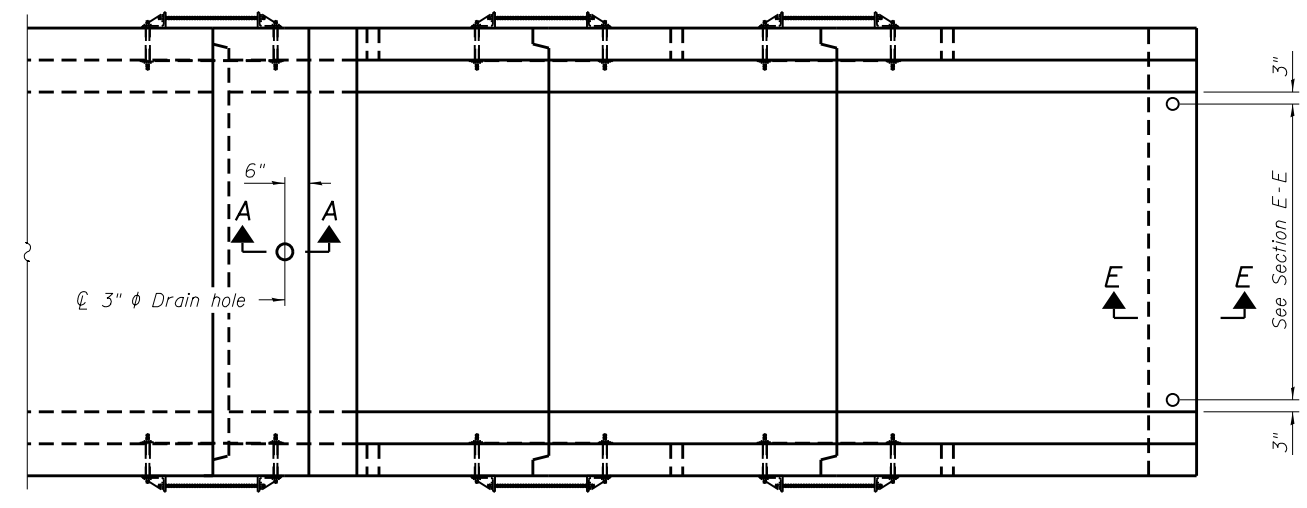
ELEVATION



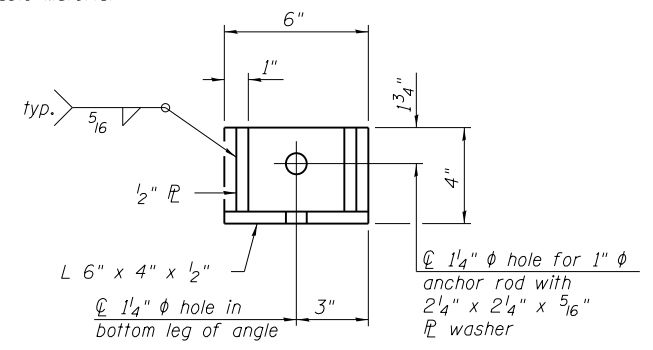
END VIEW

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Box Culvert End Sections, Culvert No. 1	Each	1
Name Plate	Each	1



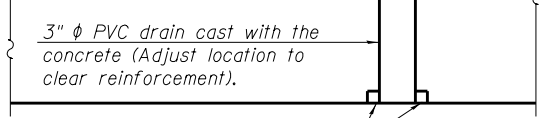
PLAN



RESTRAINT ANGLE DETAIL

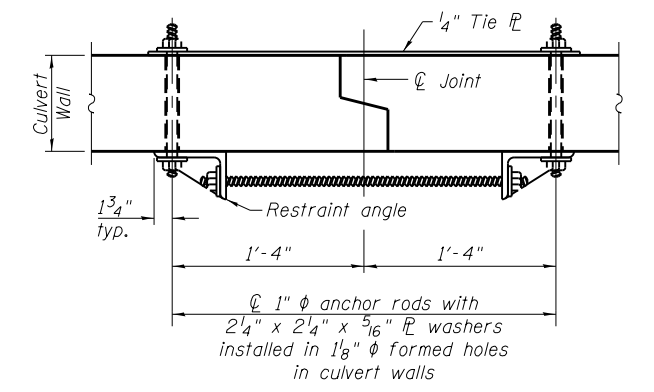
12" x 12" x 6" block of CA5, CA7, or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.



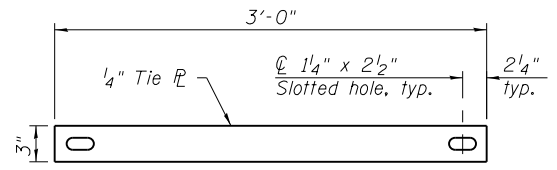
SECTION A-A

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)



SECTION B-B

(Showing end section tie details)



TIE PLATE DETAIL

SCB-TES

10-15-2016

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = jacobsmr	DESIGNED - MCB	REVISED -
PLOT SCALE = 0:2.000000 '1' / in.	CHECKED - ARK	REVISED -
PLOT DATE = 5/10/2019	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SINGLE CELL PRECAST BOX CULVERT TAPERED END SECTIONS
 ILLINOIS ROUTE 78 - SN 048-2502

SHEET NO. 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1BR)CRJ	KNOX	94	55
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

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 PLOT ORIGIN = 0.0000, 0.0000
 PLOT CENTER = 11.0000, 17.0000
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 PLOT SHEET NO. = 55
 PLOT TOTAL SHEETS = 94
 PLOT CONTRACT NO. = 68758
 PLOT PROJECT NO. = 1428+55.16

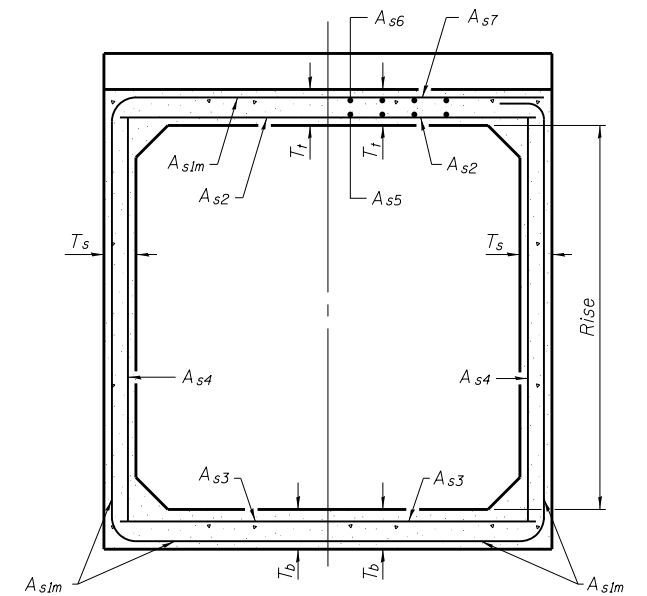
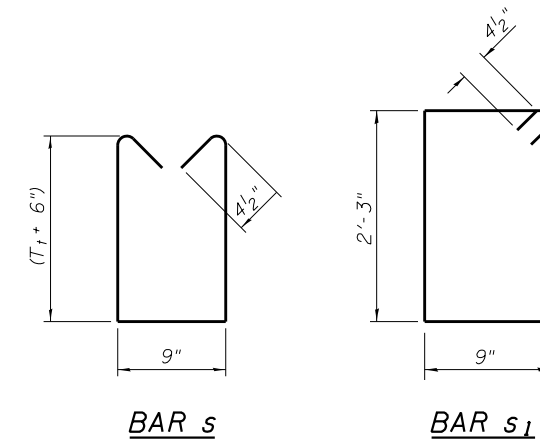
		As1m REINFORCEMENT										
		(in. ² / ft)										
Ts (in.)	Rise (ft)	2	3	4	5	6	7	8	9	10	11	12
	4	0.19	0.17									
5	0.26	0.21	0.18									
6	0.22	0.26	0.23	0.22								
7	0.25	0.33	0.59	0.27	0.28							
8	0.40	0.35	0.43	0.39	0.36	0.34	0.40					
9	0.44	0.39	0.35	0.43	0.40	0.37	0.36	0.48				
10	0.48	0.42	0.38	0.47	0.44	0.41	0.38	0.42	0.56			
11	0.52	0.45	0.54	0.50	0.46	0.44	0.41	0.46	0.50	0.65		
12	0.55	0.49	0.58	0.54	0.50	0.48	0.45	0.46	0.46	0.61	0.75	

(As1m reinforcement based upon welded wire reinforcement conforming to AASHTO M 55 or M 221).

Notes:
 Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.
 The size and spacing of the v₂ bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(As1m). v₂ bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.
 Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

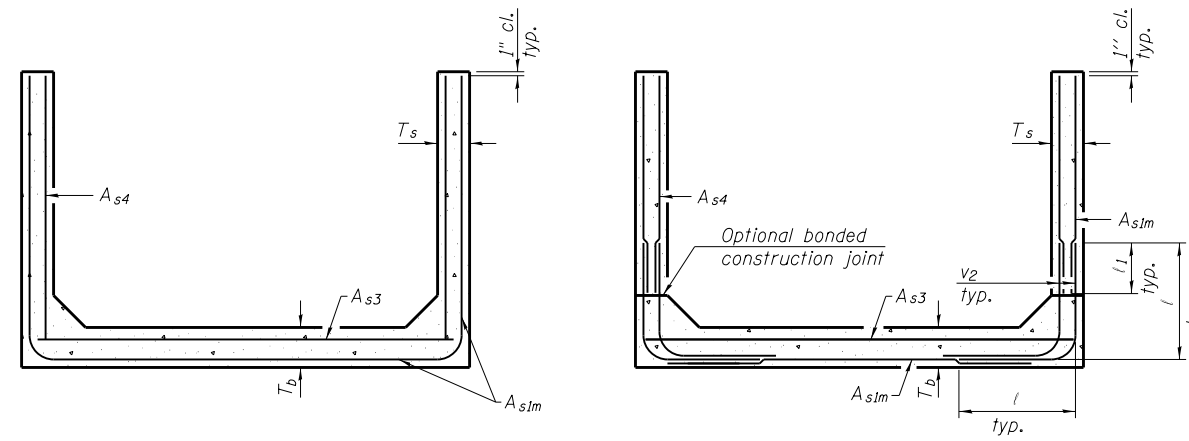
l₁ DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"



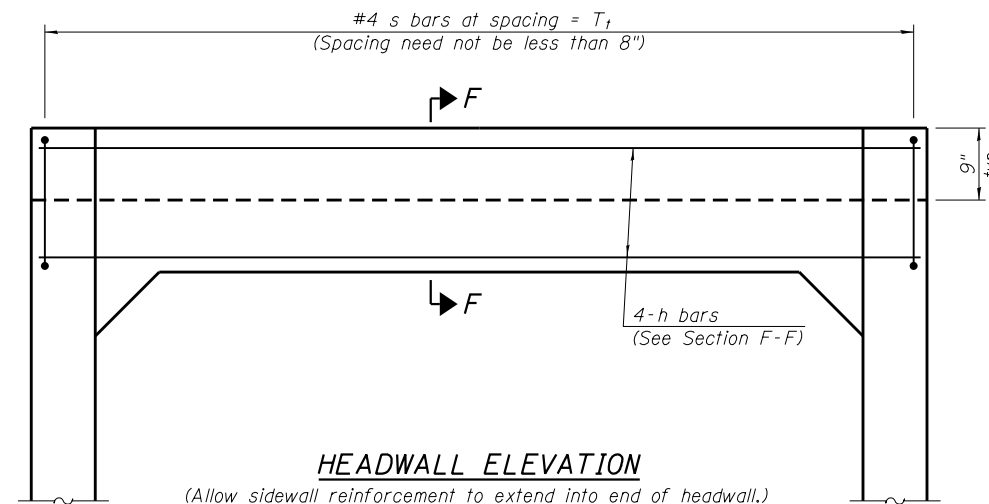
(Design Earth Cover ≥ 2 ft) (Design Earth Cover < 2 ft)

SECTION C-C



SECTION D-D

ALTERNATE SECTION D-D



HEADWALL ELEVATION

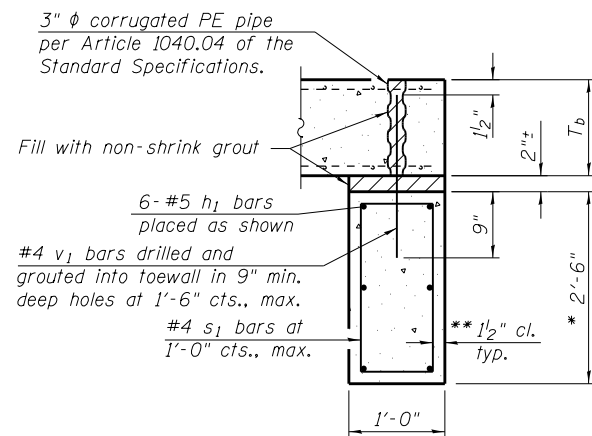
(Allow sidewall reinforcement to extend into end of headwall.)

TOEWALL CONSTRUCTION SEQUENCE

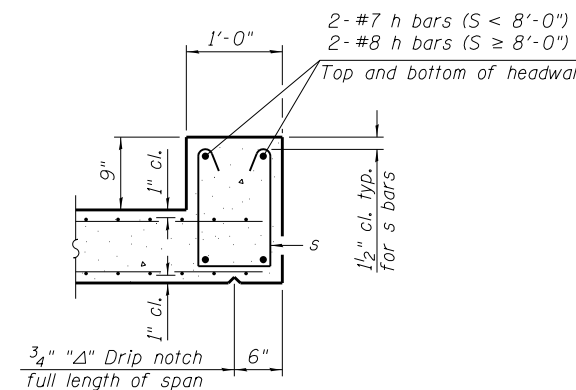
1. Perform excavation and construct toewall.
2. Backfill according to the applicable paragraphs of Article 502.10 of the Standard Specifications and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling the method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



SECTION E-E



SECTION F-F

SCB-TES

10-15-2016

(Sheet 2 of 2)

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = jacobsmr	DESIGNED - MCB	REVISED -
PLOT SCALE = 0:2.000000 '1' / in.	CHECKED - ARK	REVISED -
PLOT DATE = 5/10/2019	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SINGLE CELL PRECAST BOX CULVERT TAPERED END SECTIONS
 ILLINOIS ROUTE 78 - SN 048-2502

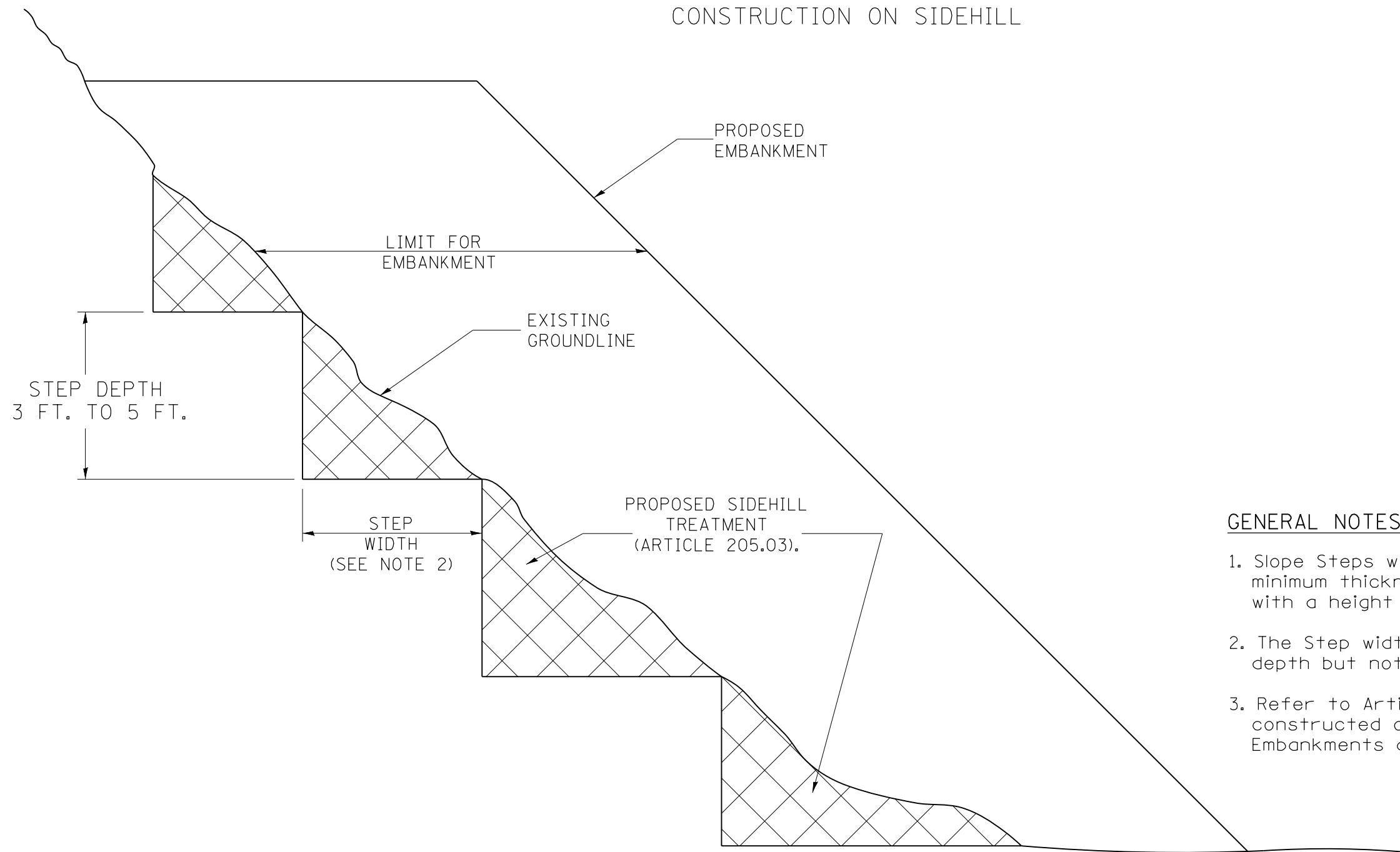
SHEET NO. 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(I-B)R(CR)	KNOX	94	56
CONTRACT NO. 68758				
ILLINOIS FED. AID PROJECT				

FILE NAME = C:\Users\jacobsmr\Documents\1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 FILE NO. = 1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 PROJECT NO. = 1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 SHEET NO. = 1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 DATE = 5/10/2019
 TIME = 10:15:2016
 USER = jacobsmr
 PROJECT = 1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 SHEET = 1001 - Off\Projects\0482502-68758-003-endr-sec2.dgn
 DRAWN = CFC
 CHECKED = ARK
 DESIGNED = MCB
 PLOT DATE = 5/10/2019
 PLOT SCALE = 0:2.000000 '1' / in.
 FEHR GRAHAM PROJECT NUMBER: 15-1004B

SLOPE STEPS DETAIL

TYPICAL CROSS-SECTION EMBANKMENT CONSTRUCTION ON SIDEHILL



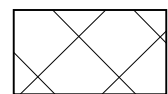
GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "sliver fills" and on all fills with a height of 10 feet or greater.
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

DESIGNER NOTE:

1. EACH PROJECT SHOULD BE REVIEWED INDEPENDENTLY FOR TREATMENT REQUIRED.
2. REFER TO THIS DETAIL WITH NOTE ON APPLICABLE TYPICAL SECTIONS.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT
(IN ACCORDANCE WITH
205 OF THE STANDARD SPECIFICATION).

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

1-1-97	RENUM. L-5.03, NEW REVISION BOX, REVISED TITLE BOX, REVISED GENERAL NOTES.	T.P.
10-16-06	REVISED TO 2007 SPEC.	M.A.
5-30-18	MINOR CORRECTION	R.D.

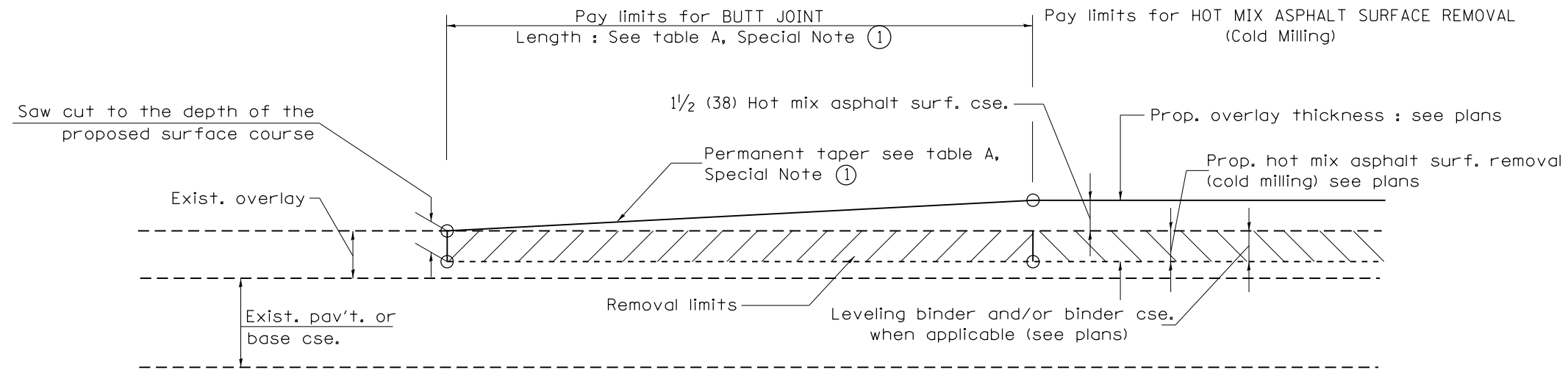
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SLOPE STEPS DETAIL

NOT TO SCALE

CADD STD. 205001-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	57
CONTRACT NO. 68758				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



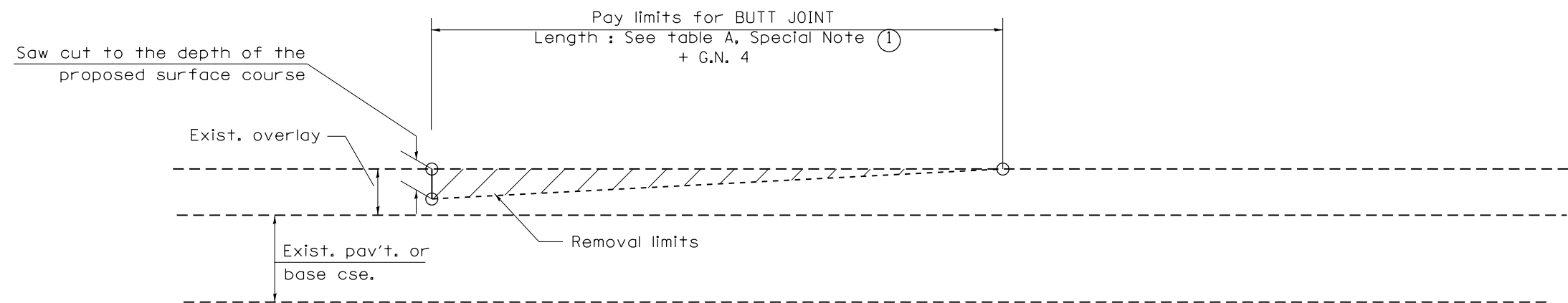
CASE 1 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

**TABLE A
TAPER RATES**

SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	BUTT JOINT TAPER RATE	1:480	1:240
②	TEMPORARY RAMP TAPER RATE	1:80	1:40

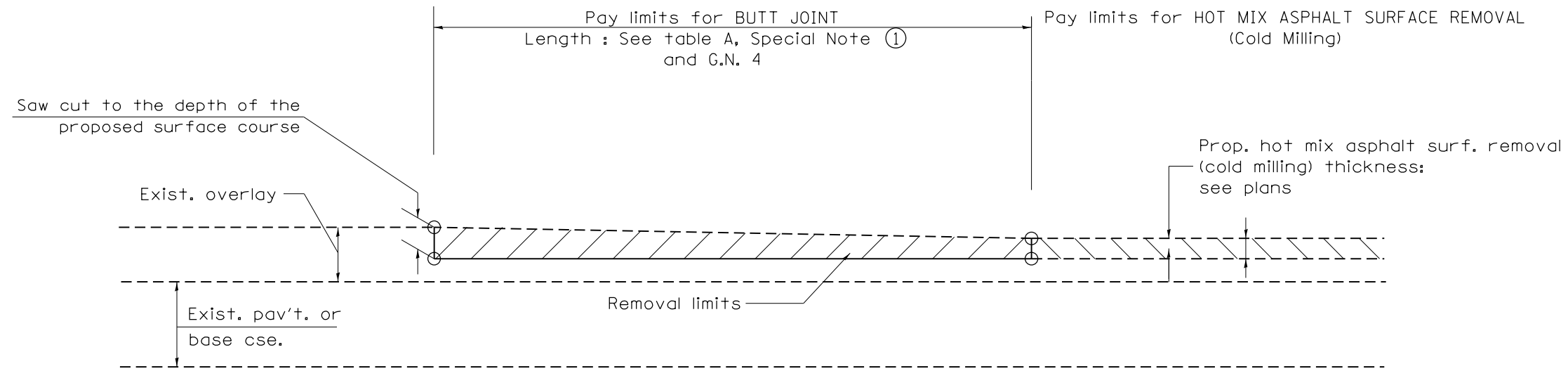
GENERAL NOTES

1. The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
2. The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
3. The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.
4. The length of butt joint is based on the taper rate times change in cold milling depth within the butt joint pay limits, unless otherwise indicated.
5. Temporary ramps are paid for separately and not included in the cost of the butt joints.

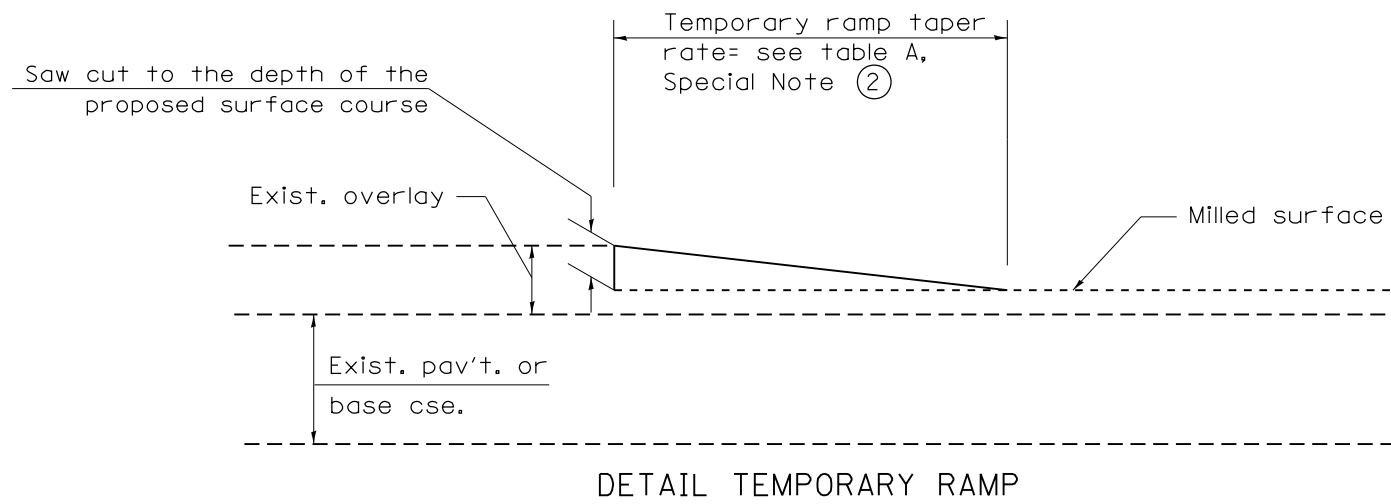


CASE 2 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

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

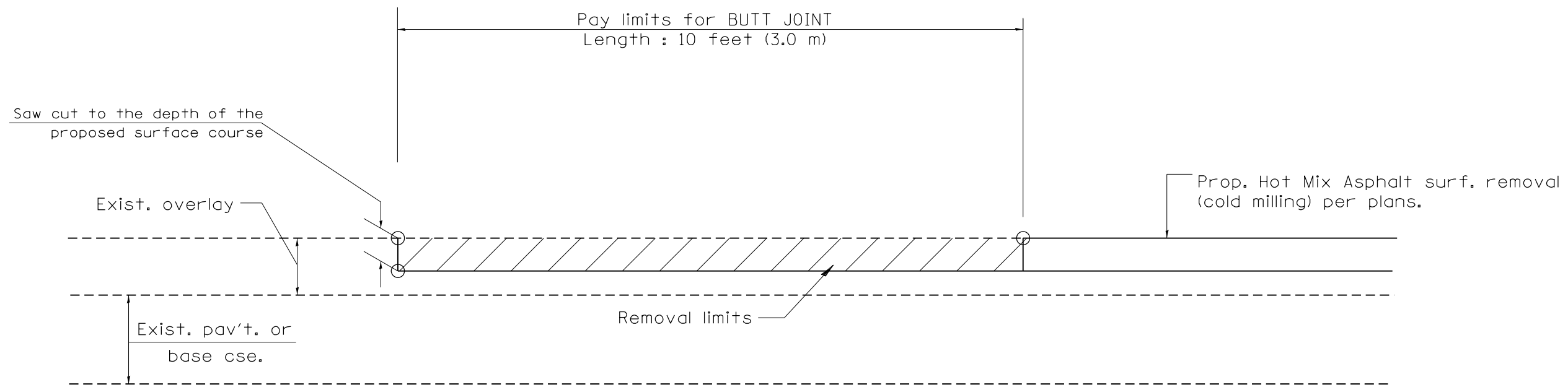


CASE 3 : HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER



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

				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		BUTT JOINTS		SHT. 2 OF 3 CADD STD. 406101-D4	
				NOT TO SCALE				CONTRACT NO. 68758	
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
22	48(B-1)BR;CRJ	KNOX	94	59					
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT							



CASE 4 : SINGLE LIFT OVERLAY WITH EQUIVALENT DEPTH
HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER

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

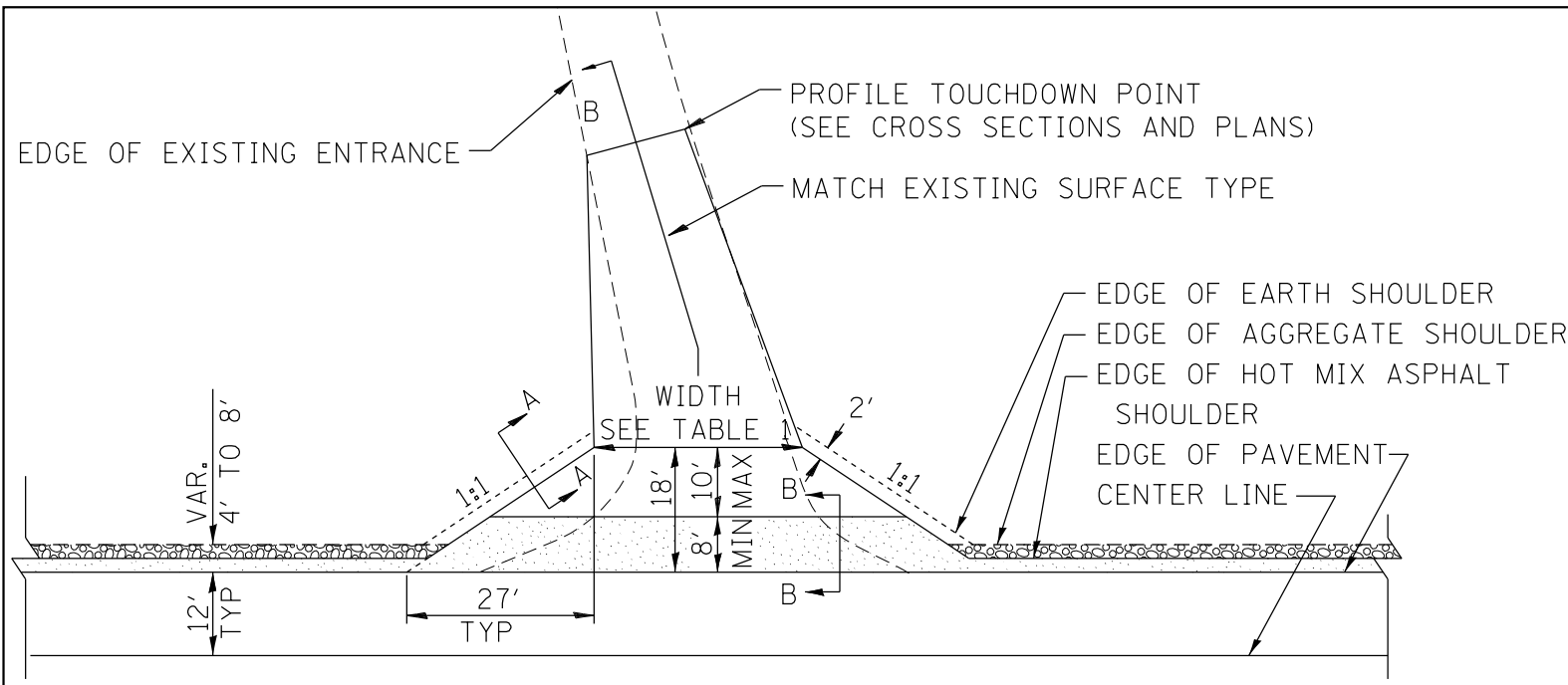
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

BUTT JOINTS

SHT. 3 OF 3
CADD STD. 406101-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	60
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 68758	



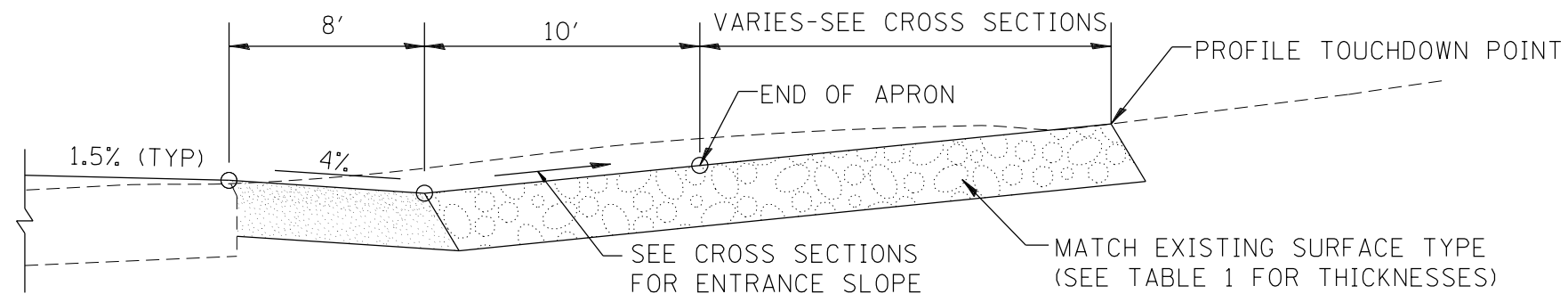
HOT MIX ASPHALT SHOULDER, 8"
 AGGREGATE SHOULDER, TYPE B, 6"

PLAN

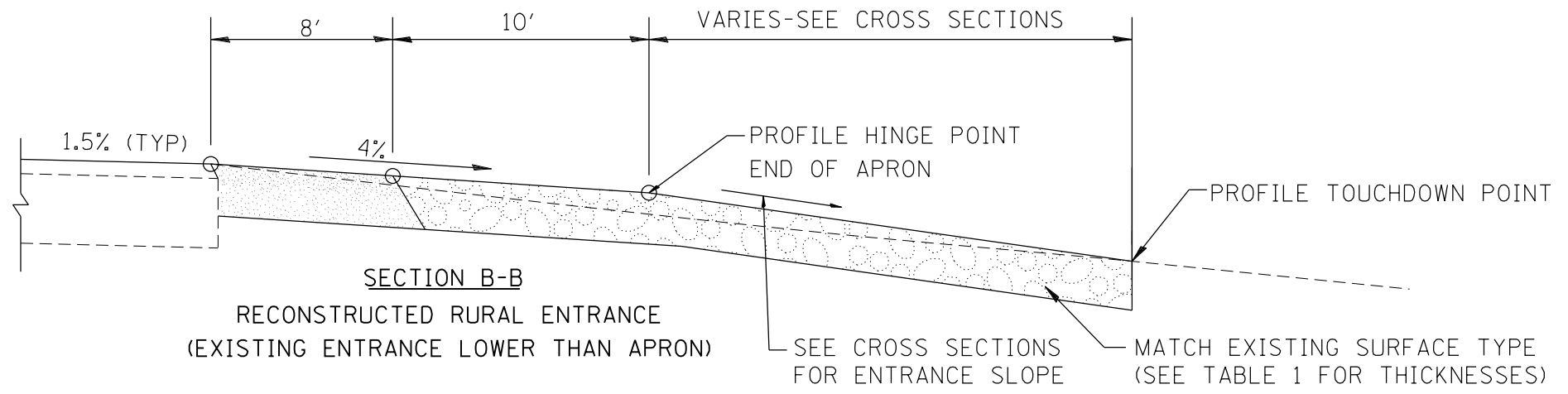
COMMERCIAL / FARM-RELATED ENTRANCE

TABLE 1					
RURAL ENTRANCE DESIGN					
ELEMENT	NON-COMMERCIAL		NON-COMMERCIAL W/ LARGE FARM EQUIPMENT	COMMERCIAL	
	12'(3.6m) Min.	24'(7.2m) Max.	20' (6.1m)Min.	30'(9.0m)Max.	
WIDTH (W)	12'(3.6m) Min.	24'(7.2m) Max.	20' (6.1m)Min.	30'(9.0m)Max.	14'(4.3m) Min., 24'(7.2m) Max., 24'(7.2m) Min., 35'(10.7m) Max.
FLARE	1:1.5				
MAX. GRADE (G)	12%		12%		10%

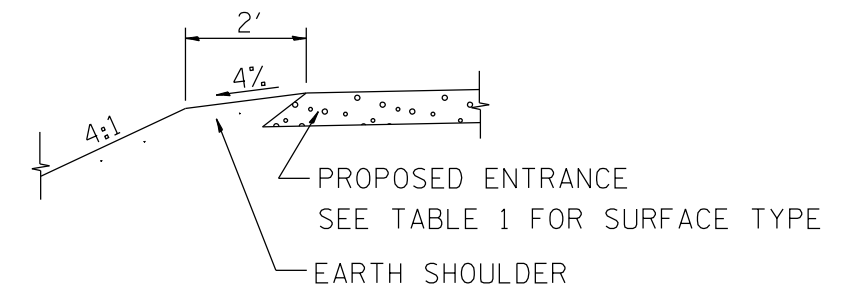
SURFACE TYPE			
INCIDENTAL HOT MIX ASPHALT SURFACING	6"	—	8"
AGGREGATE SURFACE COURSE	6"	8"	—
PCC DRIVEWAY PAVEMENT	6"	—	7"



SECTION B-B
RECONSTRUCTED RURAL ENTRANCE
(EXISTING ENTRANCE HIGHER THAN APRON)



SECTION B-B
RECONSTRUCTED RURAL ENTRANCE
(EXISTING ENTRANCE LOWER THAN APRON)



SECTION A-A
SHOULDER TREATMENT FOR RURAL ENTRANCES

GENERAL NOTES

- ENTRANCES SHALL SLOPE AWAY FROM THE PAVEMENT AT A RATE EQUAL TO THE SHOULDER SLOPE FOR A MINIMUM DISTANCE OF 8'.
- A MINIMUM 8' PAVED SHOULDER SHALL BE CONSTRUCTED BETWEEN LOCATIONS WHERE THE RURAL ENTRANCE IS LESS THAN 50' FROM AN ADJACENT SIDEROAD, ENTRANCE OR MAILBOX TURNOUT.
- A TAPER RATE OF 5:1 IS DESIRABLE WHEN TRANSITING FROM THE RURAL ENTRANCE WIDTH SHOWN IN TABLE 1, TO THE EXISTING ENTRANCE WIDTH.

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

01-01-97	RENUM. C-103.06, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
07-01-97	REVISE DESIGNER NOTES	J.A.	9-15-15	UPDATED TABLE 1	R.D.
01-17-03	ADJUST DESIGN, CHANGE ENTRANCE	JATR	2-29-16	MINOR CORRECTIONS	R.D.
09-15-05	RADIUS FOR FLARE	M.M.A.	5-9-17	CHANGED TAPER RATE	R.D.

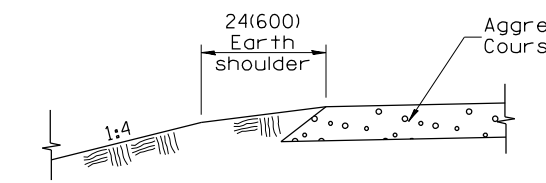
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

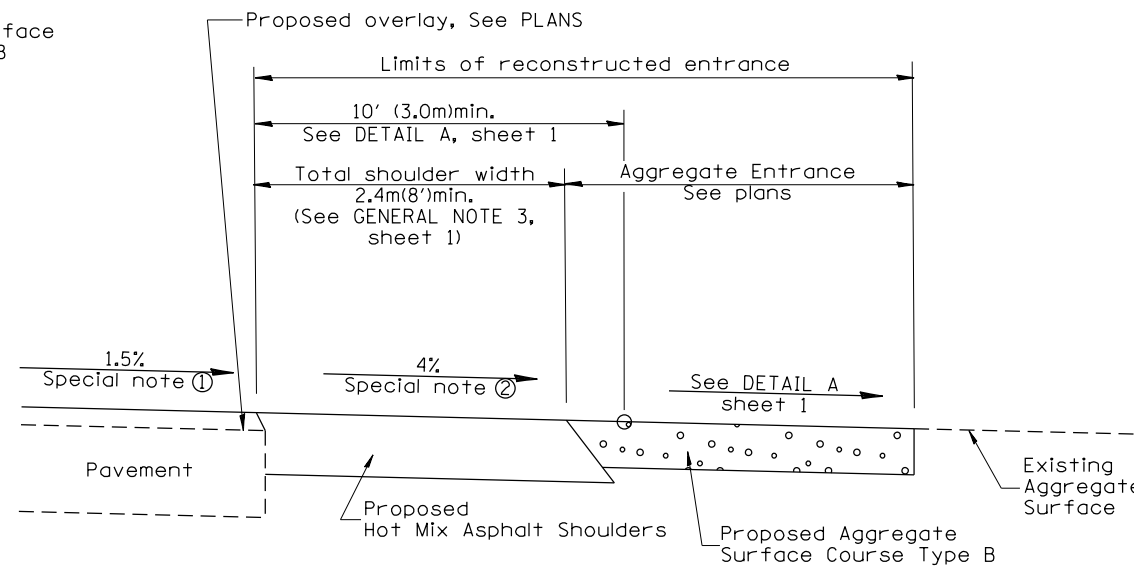
RURAL ENTRANCES FOR "3R" PROJECTS

SHT. 1 OF 2
CADD STD. 406301-D4

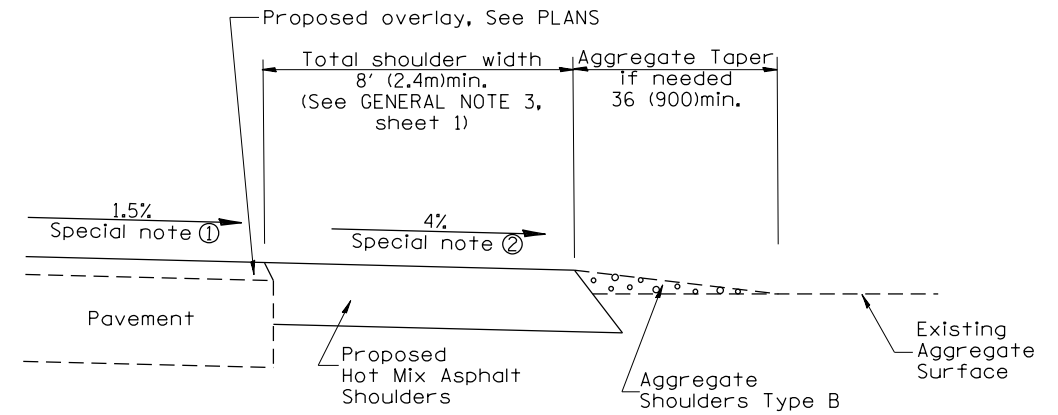
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	61
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	



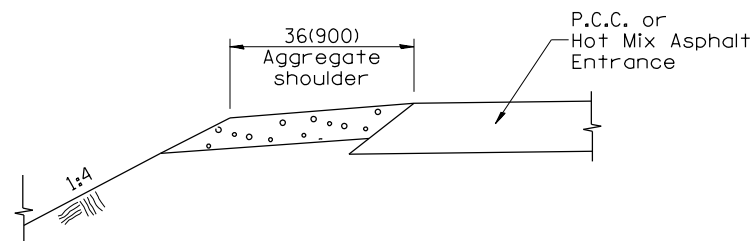
SECTION A-A
SHOULDER TREATMENT FOR AGGREGATE ENTRANCES



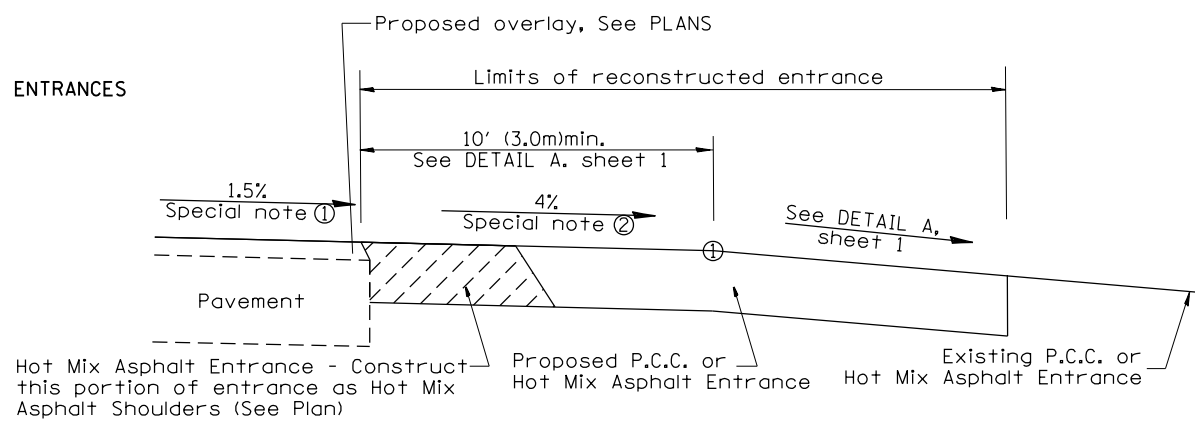
SECTION B-B
RECONSTRUCTED AGGREGATE ENTRANCE



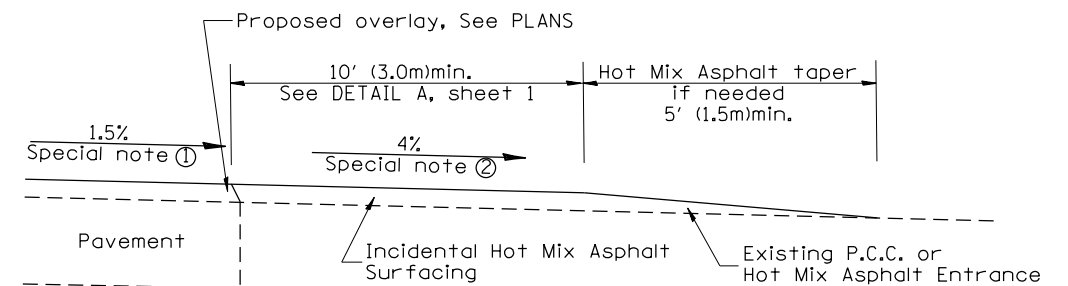
SECTION B-B
EXISTING AGGREGATE ENTRANCE



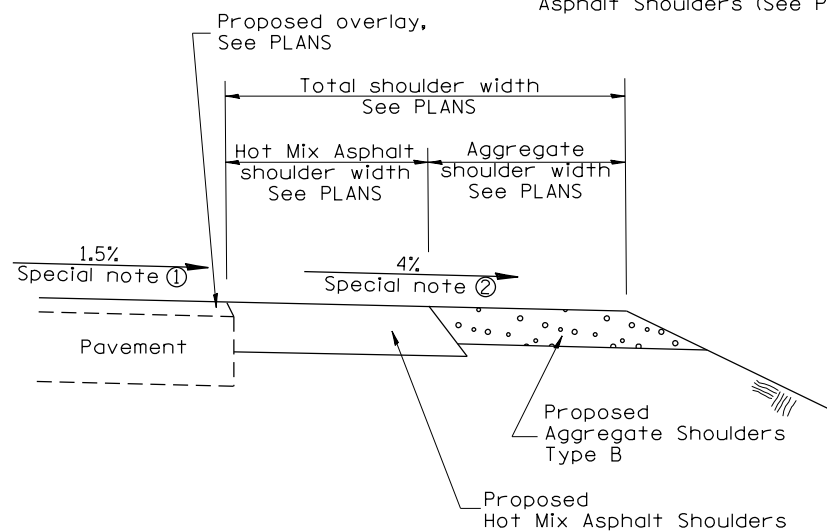
SECTION C-C
SHOULDER TREATMENT FOR P.C.C. OR HOT MIX ASPHALT ENTRANCES



SECTION D-D
RECONSTRUCTED P.C.C. OR HOT MIX ASPHALT ENTRANCE



SECTION D-D
EXISTING P.C.C. OR HOT MIX ASPHALT ENTRANCE



SECTION E-E
MAINLINE SHOULDER TREATMENT

SPECIAL NOTES

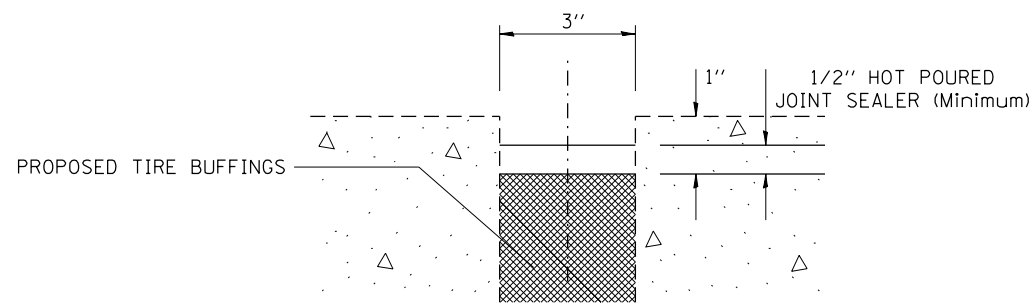
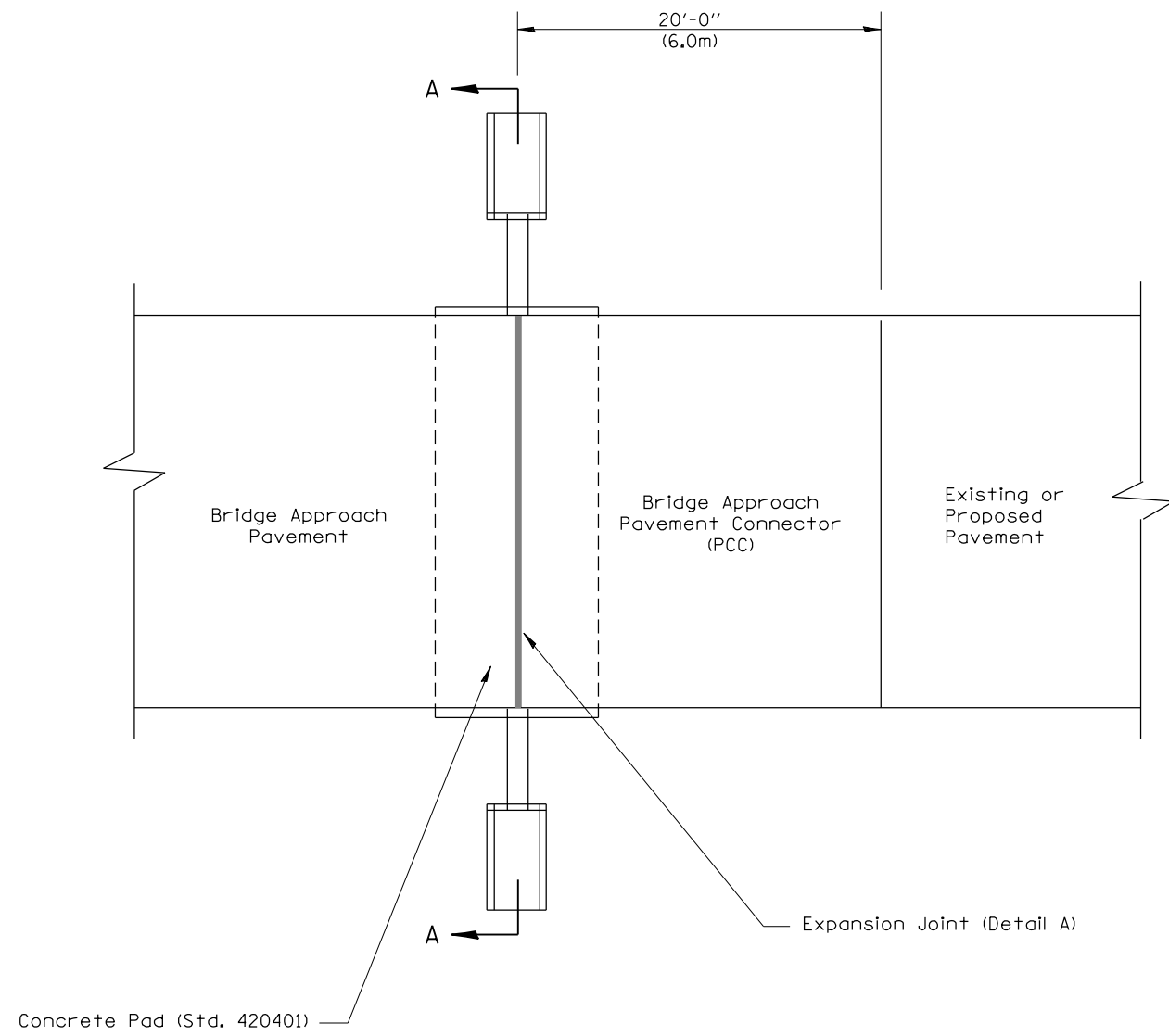
- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on super-elevated horizontal curves.
- ② The shoulder slope shall control the entrance profile for a distance of 10' (3.0m) minimum from the pavement edge. The shoulder cross-slope is 4% for tangent alignment. Through super-elevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6' (1.8m) and wider and 12% for shoulders 4' (1.2m) and less. Where 12' (366cm) paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.

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

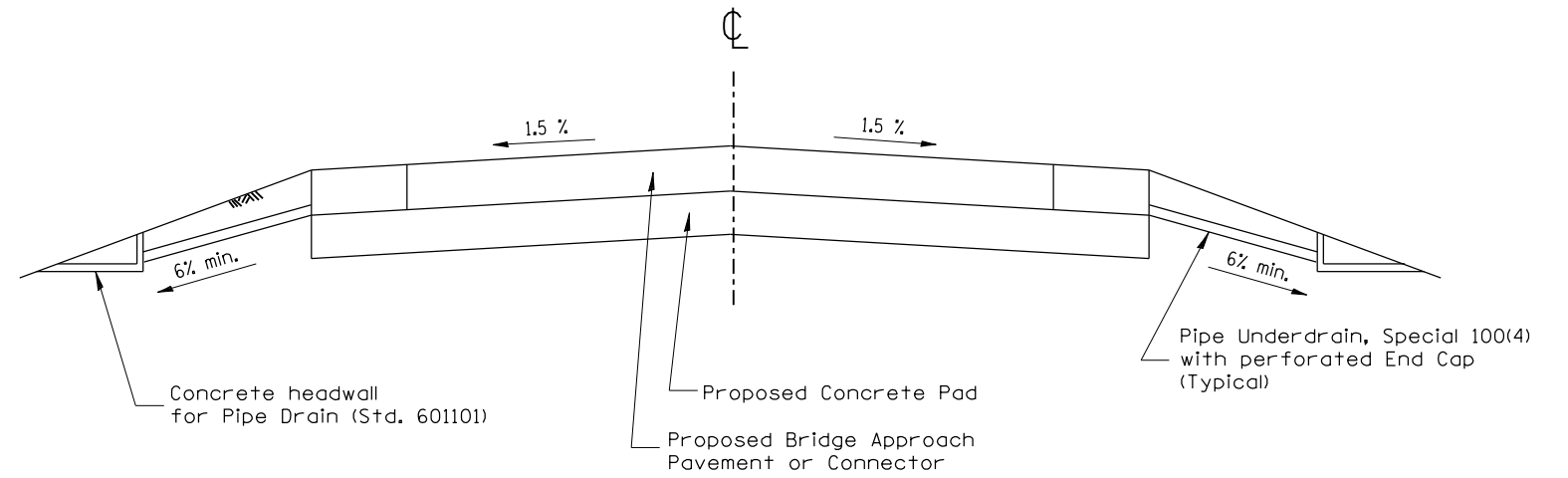
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				RURAL ENTRANCES FOR "3R" PROJECTS				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
								22	48(B-1)BR;CRJ	KNOX	94	62
NOT TO SCALE				SHT. 2 OF 2 CADD STD. 406301-D4				CONTRACT NO. 68758				
								FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DESIGNER NOTE:

1. Include Standards 420001, 601101 and 420401 in plans.
2. Use on bridge projects with PCC connector.
3. Pay for headwalls and UD (spl) 4".



JOINT DETAIL



SECTION A-A

GENERAL NOTES:

1. All work shall be done as directed by the Engineer.
2. All work shall be done in accordance with Standard 420401 except as shown herein.
3. The concrete headwalls and pipe underdrain special will be in accordance with Section 601.
4. The bridge approach pavement connector (pcc) shall be constructed similar to section G-G for existing construction rigid pavement as shown Standard 420401. Adjacent to PCC base course or pavement deformed bars will be required. Adjacent to bituminous pavement deformed bars will not be required. Use buffings from the tire retreading industry.
5. This work will be paid for in feet of PIPE UNDERDRAIN, SPECIAL, 4", and each of CONCRETE HEADWALL FOR PIPE DRAIN. The cost of providing and installing the tire buffings and hot-poured joint sealer is included in the cost of the Approach Pavement Connector.
6. Use buffings from the tire retreading industry.
7. Ensure tire buffings are clean, dry, and without any contamination.
8. Remove existing material and replace tire buffings.
9. Place loose buffings and strike off level.
10. Compact buffings by spading with a square-nose shovel.
11. Use hot-poured joint sealer that meets the requirement of Article 1050.02 and according to the applicable section of Article 420.12 of the Standard Specifications.
12. Avoid guardrail posts when constructing shoulders.

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

01-01-97	RENUM. H-6.09, NEW REVISION BOX, NOTES	T.P.	08-12-12	UPDATED JOINT MATERIAL TO BUFFINGS	R.D.
02-22-97	REVISED SECTION A-A				
03-01-97	CORRECT STD. NO. IN NOTES	J.A.			
10-16-06	REVISED TO 2007 SPEC.	M.A.			

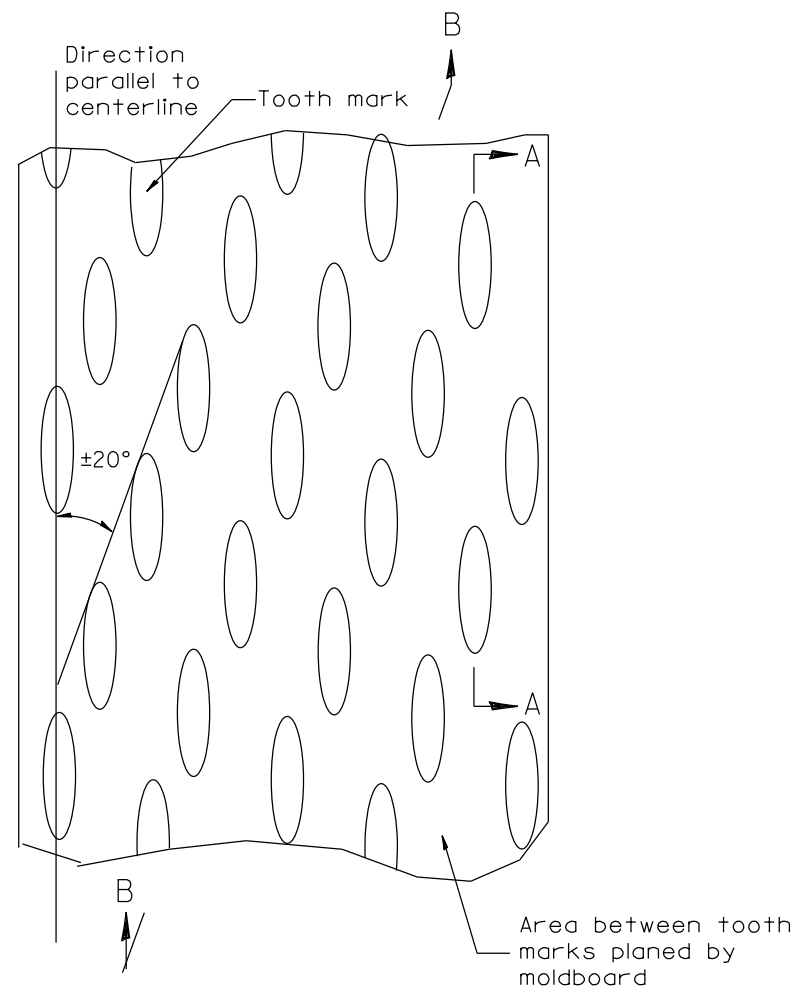
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE APPROACH DETAIL

NOT TO SCALE

CADD STD. 420401-D4

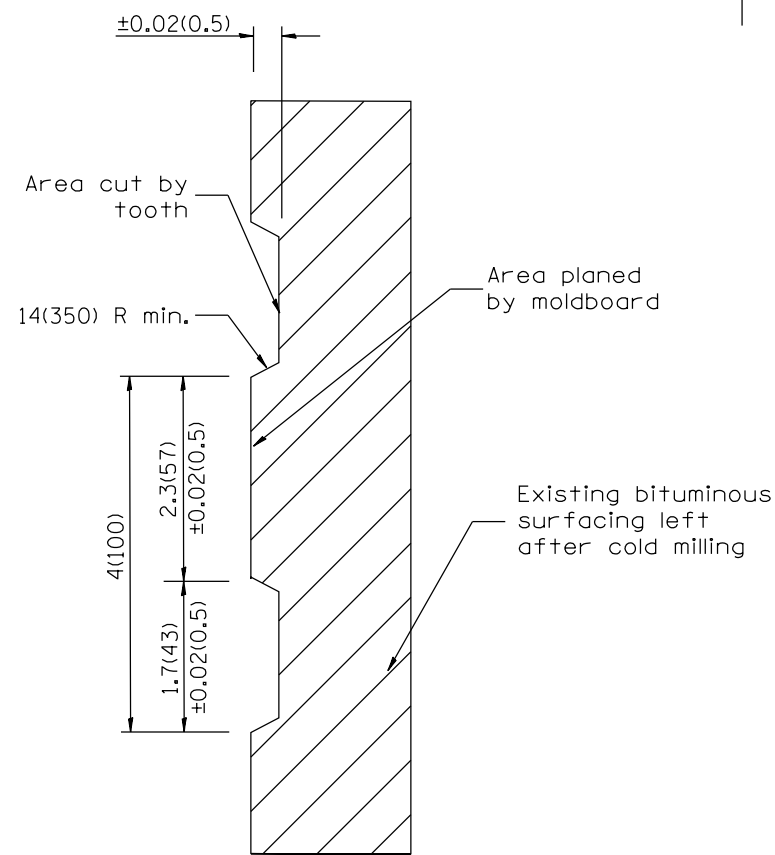
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	63
CONTRACT NO. 68758				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



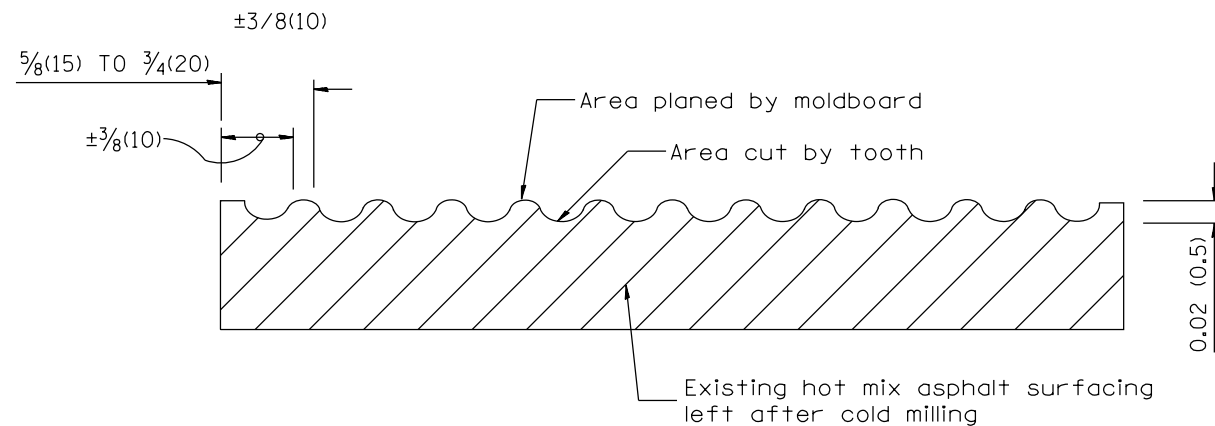
PLAN

General notes:

1. Coldmilling shall consist of two processes: Cutting with carbide teeth mounted on a rotating drum, and planing with a moldboard mounted immediately behind the cutting drum.
2. Other similar patterns will be acceptable if they consist of a smooth, flat, planed surface interspersed with a pattern of discontinuous longitudinal striations.



SECTION A-A



SECTION B-B PROJECTED
PERPENDICULAR TO CENTERLINE

DESIGNER NOTES:
1. INCLUDE DISTRICT SPECIAL PROVISION, IF APPLICABLE.

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

01-01-97	RENUM. C-104.01, NEW REVISION BOX	T.P.
04-20-98	REMOVED MILLING DETAIL FROM STANDARD	J.A.
09-08-98	CORRECT NOTE LEADER PLACEMENT	R.W.
10-16-06	REVISED TO 2007 SPEC.	M.A.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

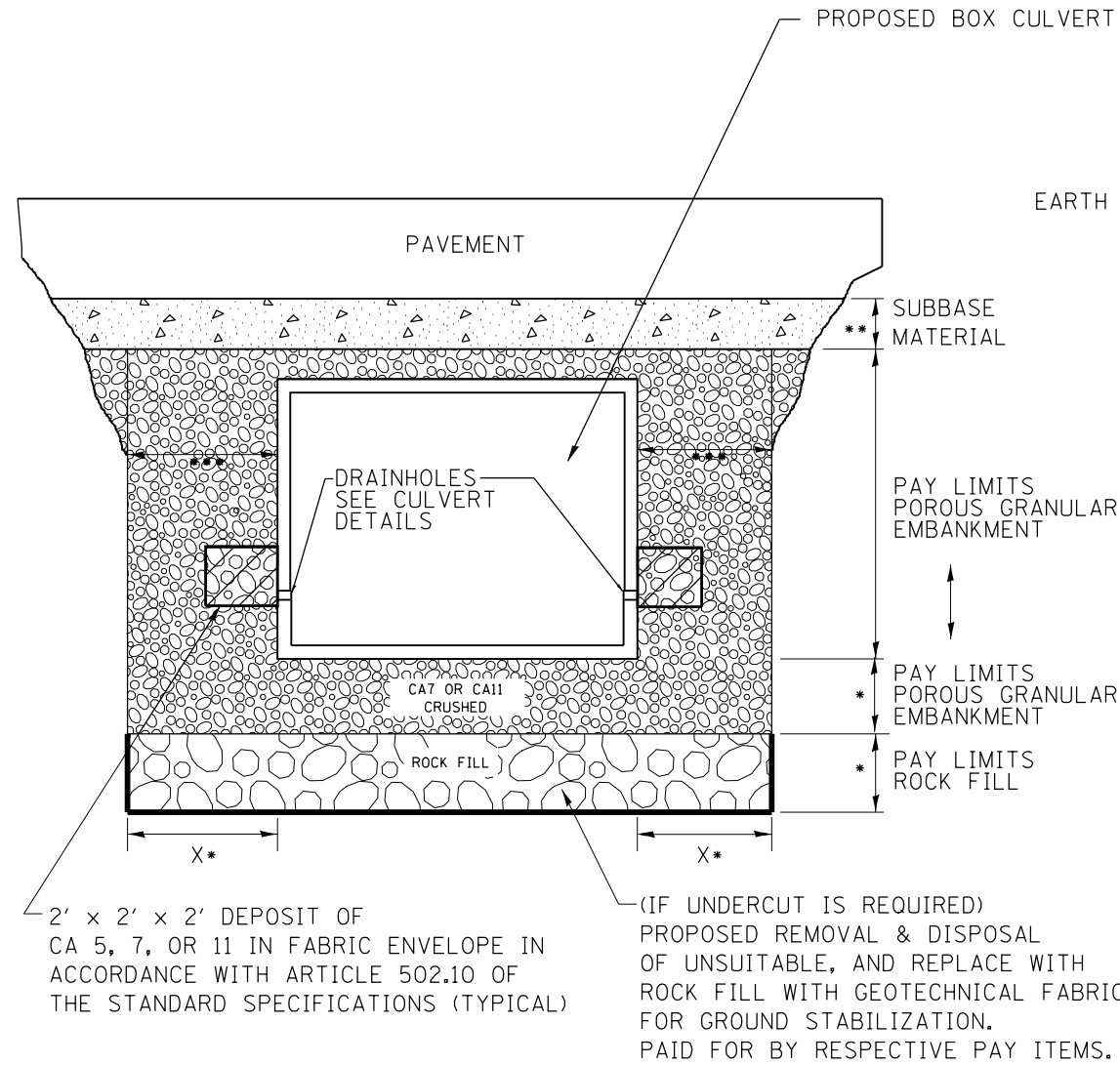
NOT TO SCALE

CADD STD. 440001-D4

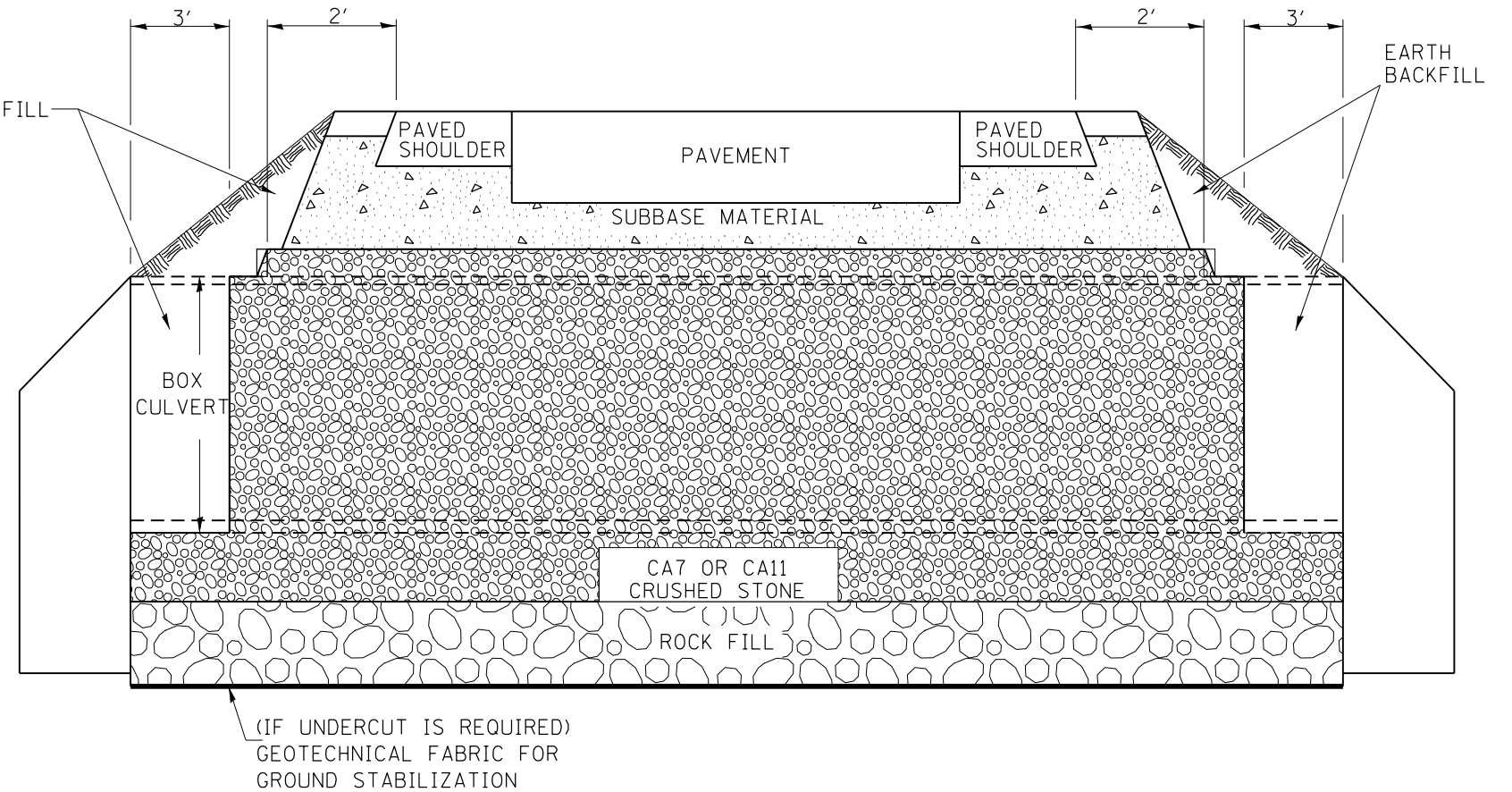
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	64
CONTRACT NO. 68758				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

1. IF DESIGN FILL IS < 2 FEET, CONTINUE PGE UP TO THE SUBBASE.
 2. IF DESIGN FILL IS ≥ 2 FEET AND ≤ 8 FEET OR DEPTH OF FILL ≤ SPAN OF LARGEST BOX IN CONFIGURATION, CONTINUE BACKFILLING WITH PGE.

ROADWAY PROFILE VIEW



ROADWAY CROSS SECTION VIEW



- * IF APPLICABLE, SEE UNDERCUT DETAIL FOR DEPTHS AND WIDTHS. IF THERE IS NO UNDERCUT, X = 2 FEET AND SEE NOTE 3 THIS SHEET.
- ** SUBBASE SHALL BE 6" MINIMUM LAYER OF CA6 CRUSHED STONE OR OTHER MATERIAL AS SPECIFIED IN THE PLANS.
- *** PAY LIMITS OF POROUS GRANULAR EMBARKMENT SHALL BE 2 FEET UNLESS OTHERWISE SHOWN IN THE PLANS.

NOTES:

1. EXCEPT AS SPECIFIED IN THIS DETAIL, THE PLACEMENT AND COMPACTION OF BACKFILL SHALL BE IN ACCORDANCE WITH ARTICLE 502.10 OF THE STANDARD SPECIFICATIONS.
2. POROUS GRANULAR EMBARKMENT SHALL BE PLACED IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS.
3. IF NO UNDERCUT IS REQUIRED, A 6" MINIMUM LAYER OF POROUS GRANULAR EMBARKMENT SHALL BE PLACED BELOW THE ELEVATION OF THE BOTTOM OF BOX CULVERT.

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

6-12-12	CREATED NEW STD.	R.D.			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

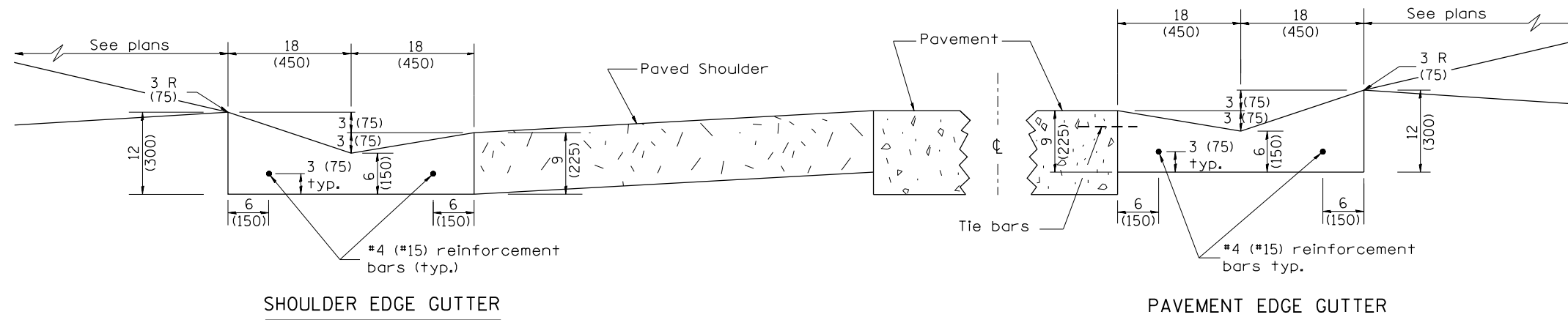
DETAIL OF EXCAVATION AND BACKFILL FOR BOX CULVERTS

NOT TO SCALE

CADD STD. 540000-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	65
CONTRACT NO. 68758				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

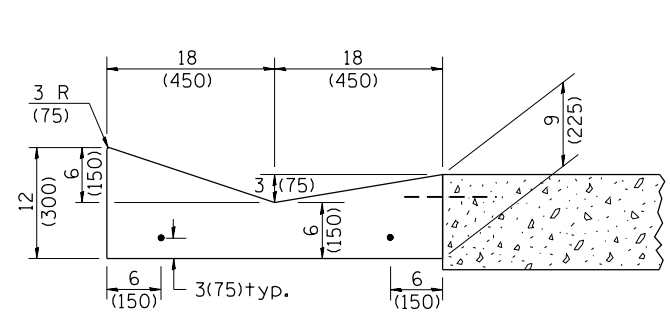
DESIGNER NOTES:
 1. INCLUDE STATE STANDARD 420001.
 2. PAY ITEM FOR INLETS, OUTLETS, AND ENTRANCES IS X6060097 CLASS SI CONCRETE (OUTLET), SPECIAL



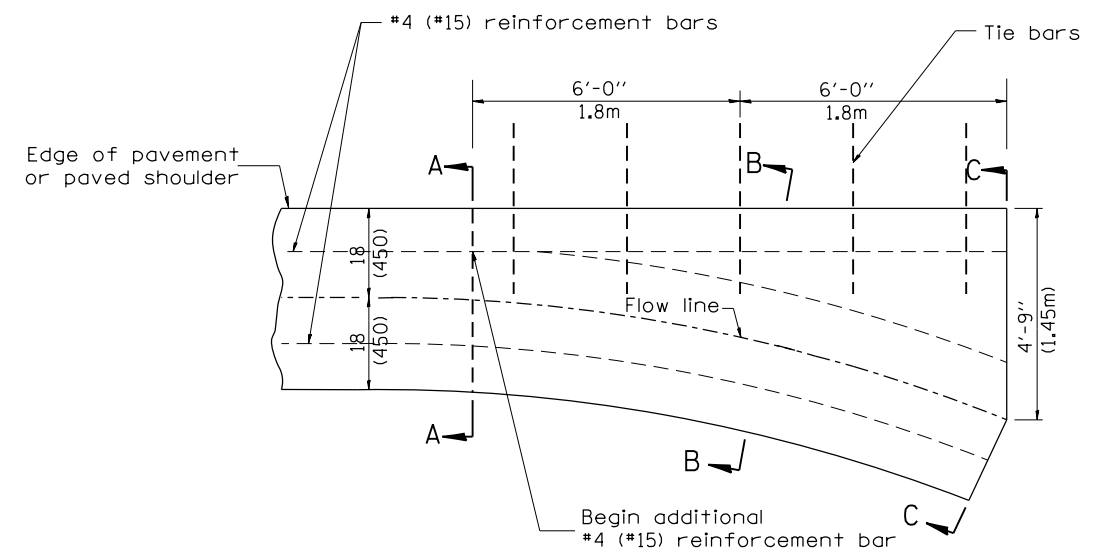
SHOULDER EDGE GUTTER

PAVEMENT EDGE GUTTER

CONCRETE GUTTER, TYPE A, (SPECIAL)

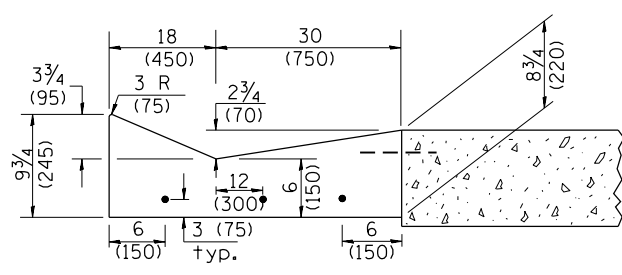


SECTION A-A

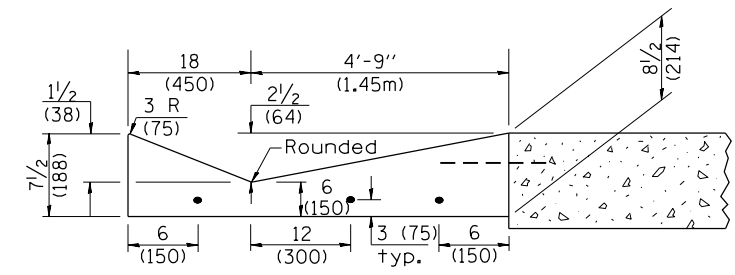


PLAN

QUANTITY
 Section C-C to A-A= 1.2 cu. yd.
 (0.92 m³) concrete.



SECTION B-B



SECTION C-C

INLET

GENERAL NOTES:

1. CONCRETE GUTTER, TYPE A, (SPECIAL) shall conform to the applicable portions of Section 606.
2. Tie bars shall be No. 6x24 (No. 19x600) at 36" (900mm) centers unless otherwise shown.
3. Gutter, gutter inlets, gutter outlets, and gutter entrances shall be tied to rigid pavement in accordance with details shown on Standard 420001.
4. Joints shall be constructed in accordance with Article 606.06.
5. Welded wire fabric shall conform to Article 1006.10(c)(1), and shall not be less than 58 lbs/100 sq.ft. (2.83 kg/m²).

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

QUANTITIES	
CALC. BY:	DATE:
CHECKED BY:	DATE:
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION	

NO.	DATE	DESCRIPTION	BY
01-01-97		RENUM. A-1.02, NEW REVISION BOX, ELIMINATED	T.P.
11-16-07		EXPANSION ANCHOR TIES	M.A.
02-28-02		ENTRANCE TYPICALS REVISED	M.A.
10-16-06		REVISED TO 2007 SPEC.	M.A.
01-10-07		REVISED QUANTITY	M.A.
11-16-07		REVISED QUANTITY	M.A.
02-15-11		CHANGED MODIFIED TO SPECIAL	R.D.
01-31-18		REVISED TIE BAR SIZE & SPACING	R.D.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

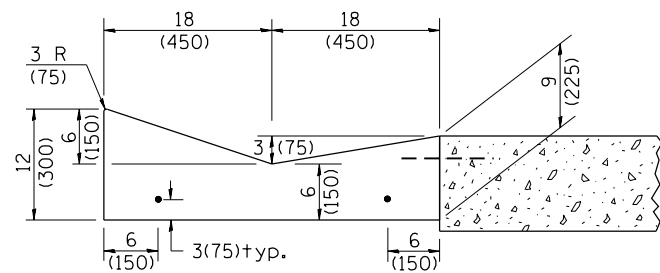
CONCRETE GUTTER, TYPE A, (SPECIAL)
 (INLET, OUTLET & ENTRANCE)

NOT TO SCALE

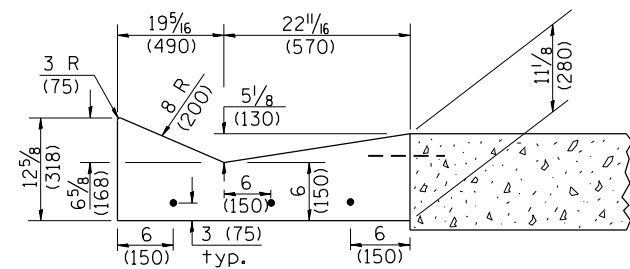
SHT. 1 OF 3
 CADD STD. 606101-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	66
CONTRACT NO. 68758				

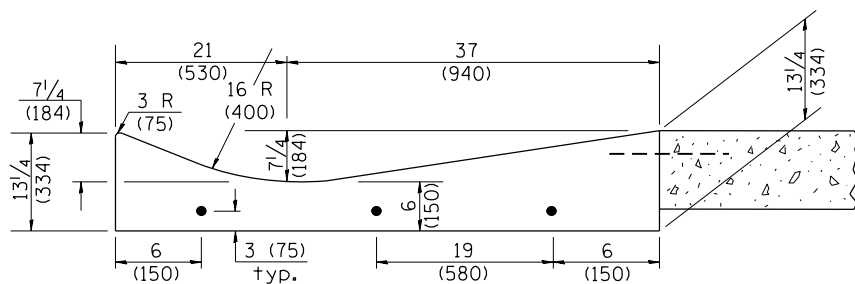
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



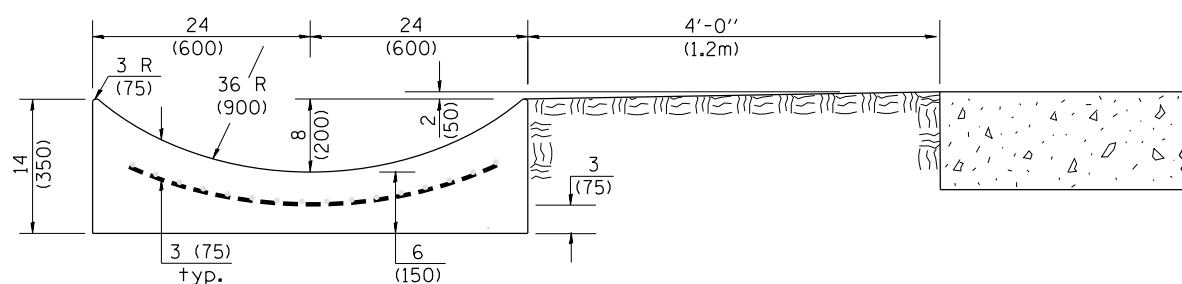
SECTION A-A



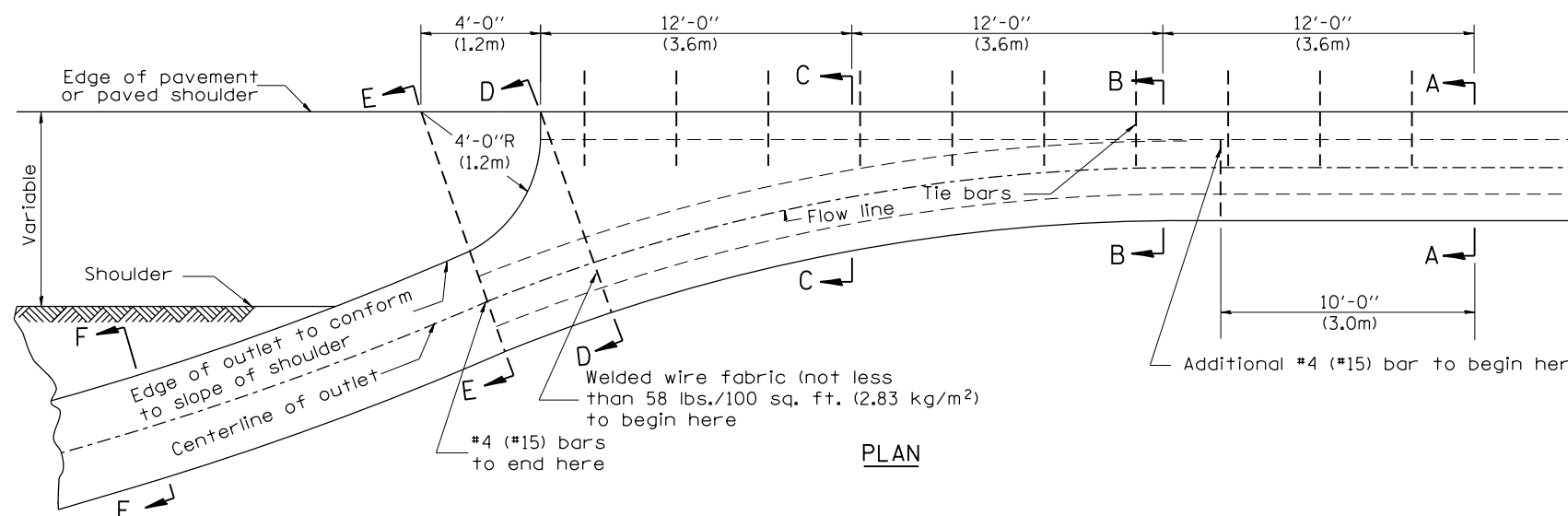
SECTION B-B



SECTION C-C



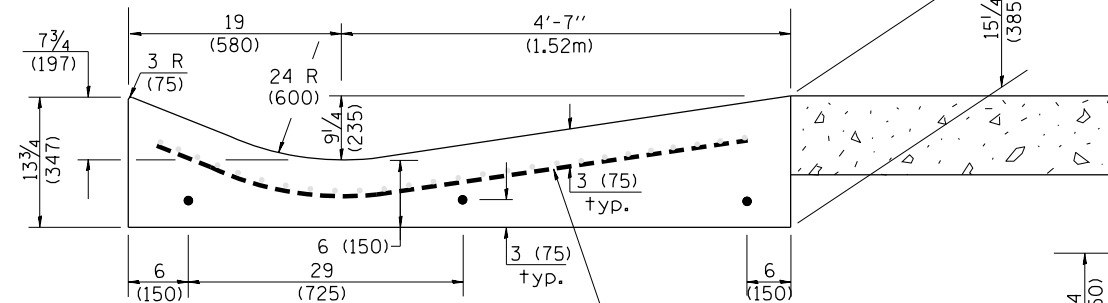
SECTION E-E



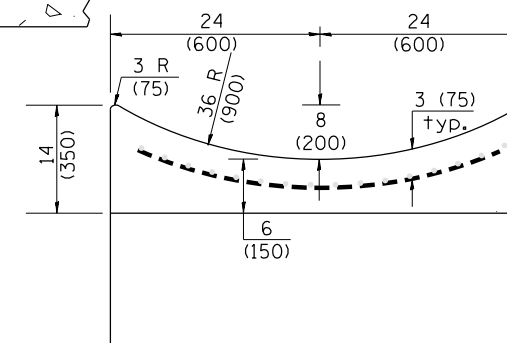
PLAN

QUANTITY
 Section A-A to E-E = 4.5 cu. yd. (3.36 m³) concrete.
 Section E-E to F-F = 0.10 cu. yd./ft. (0.26 m³/m) concrete.

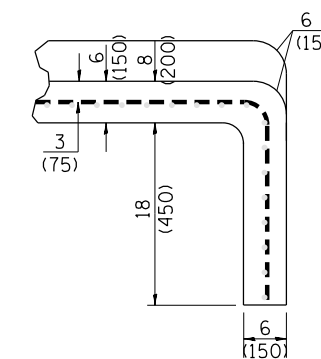
If the average grade of pavement for the distance from section A-A to section D-D exceeds 2%, this distance shall be increased 6 ft. (1.8 m) for each 1% increase in grade. A quantity adjustment is required.



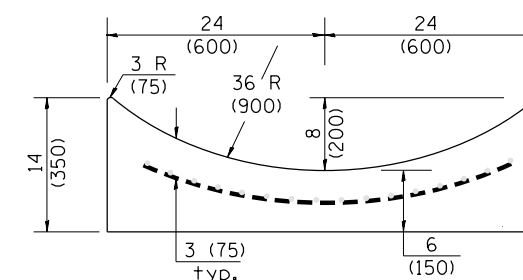
SECTION D-D



SECTION F-F



SECTIONS AT END OF OUTLET
(CURTAIN WALL)



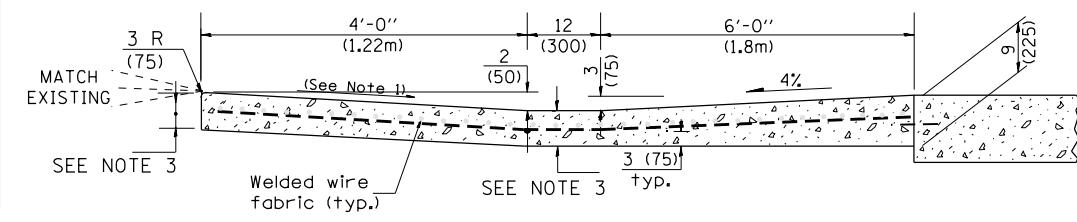
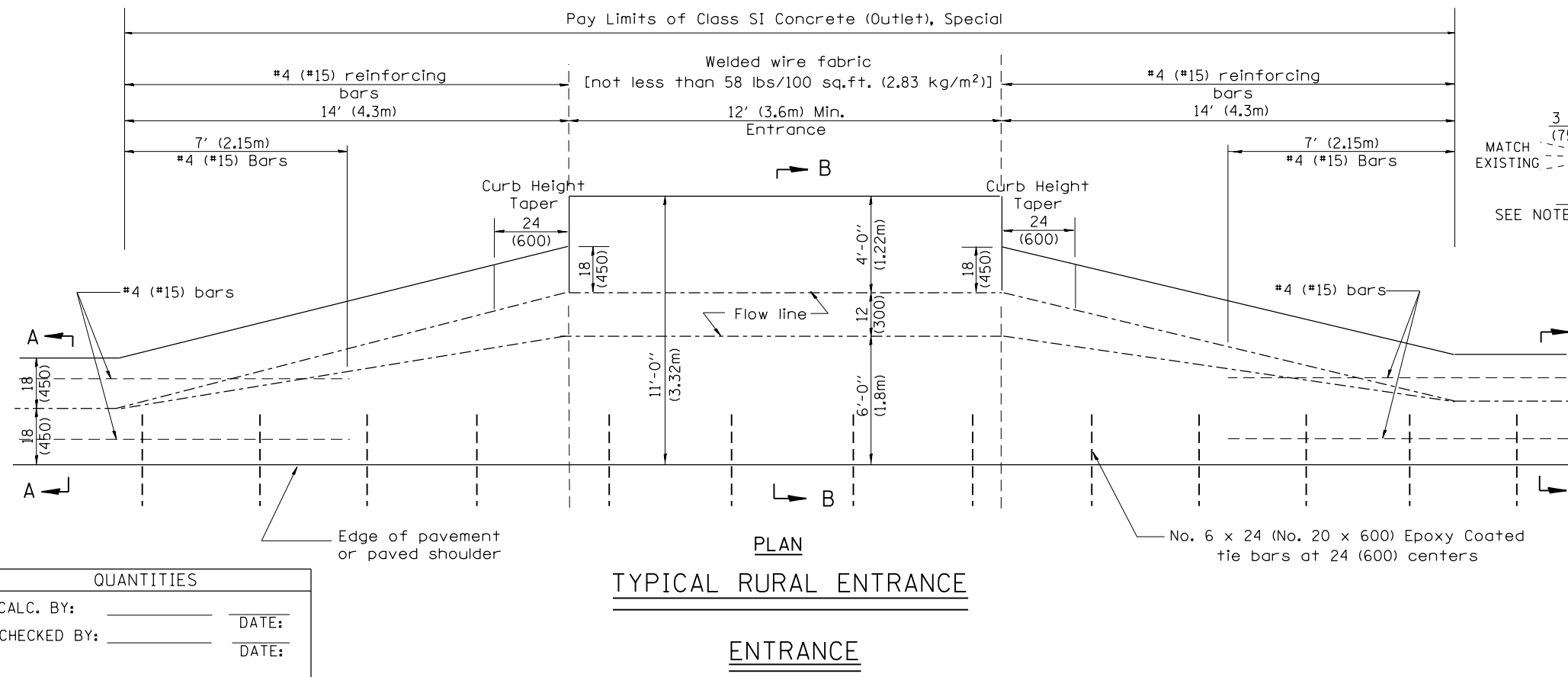
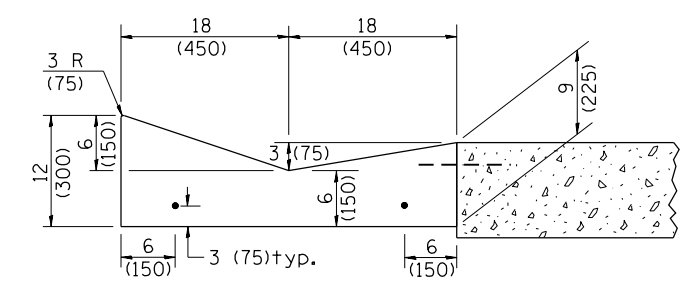
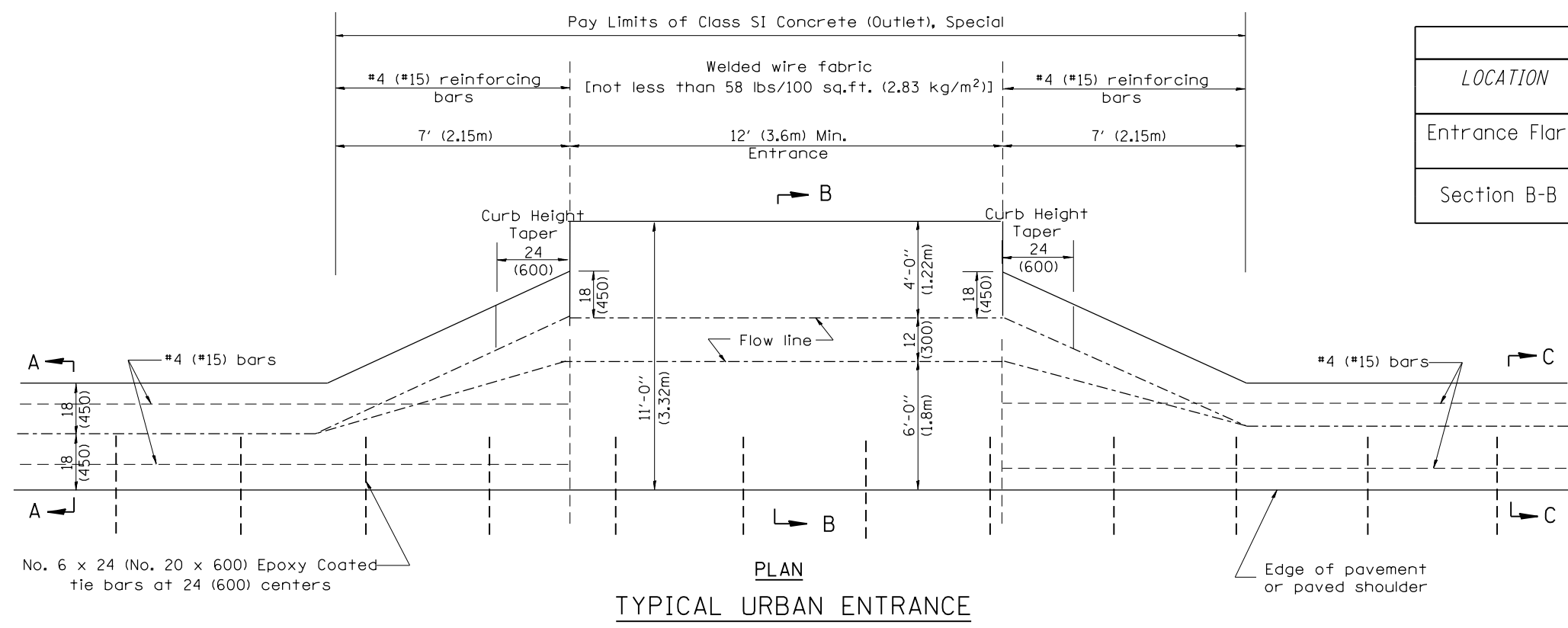
QUANTITY
 Curtain Wall = 0.1 cu. yd. (0.08 m³) concrete.

QUANTITIES
 CALC. BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION

OUTLET

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR(CR)	KNOX	94	67
CONTRACT NO. 68758				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

QUANTITY CALCULATION			
LOCATION	LENGTH	NON-COMMERCIAL 6 (150)	COMMERCIAL ENTRANCE 8 (200)
Entrance Flare	7 Ft (2.15 m) Urban 14 Ft (4.30 m) Rural	0.15 Cu Yd / Ft (0.37 Cu M / M)	0.18 Cu Yd / Ft (0.45 Cu M / M)
Section B-B	See Plans	0.23 Cu Yd / Ft (0.57 Cu M / M)	0.28 Cu Yd / Ft (0.70 Cu M / M)



- GENERAL NOTES
- 1.) Slope may be increased from 4% (min.) to 6% (max.) in order to match the existing.
 - 2.) The cross-slope is to be constructed as given in the plans from back turnout to where driveway matches existing.
 - 3.) For Non-Commercial Entrances the driveway thickness shall be 6 (150). For Commercial Entrances the driveway thickness shall be 8 (200).

QUANTITIES

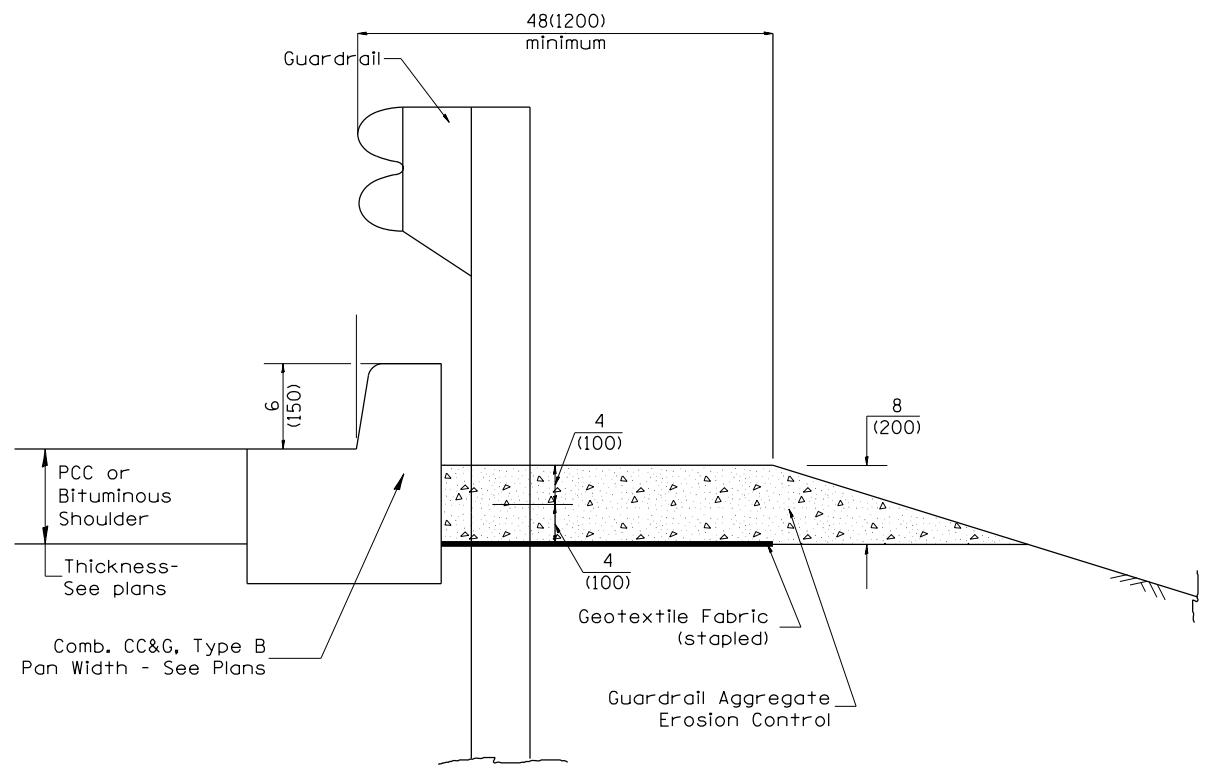
CALC. BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____

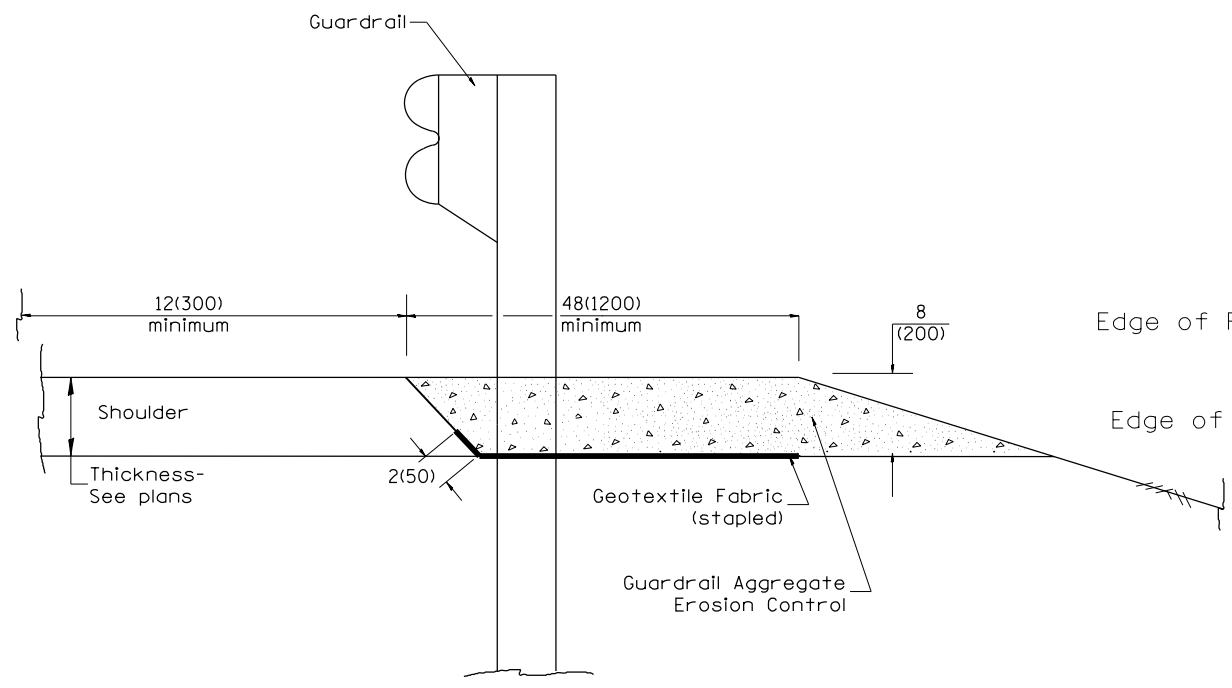
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION

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

CONSIDER USING A "B" CURB PAY ITEM AT GUARDRAIL INSTALLATIONS WHERE GRADES ARE EQUAL TO OR GREATER THAN 1% AND AT INLETS. (INCLUDE DISTRICT SPECIAL PROVISION
 1. USE "GUARDRAIL AGGREGATE EROSION CONTROL" AT GUARDRAIL INSTALLATIONS WHERE GRADES ARE LESS THAN 1% (INCLUDE DISTRICT SPECIAL PROVISION).
 2. INCLUDE STATE STANDARD 610001, IF APPLICABLE.
 3. INCLUDE THE FOLLOWING DISTRICT CADD STANDARDS AS NEEDED: SLOPE DRAINS FOR EXPOSED PIPES; SLOPE DRAINS FOR BURIED PIPES; SEE PAGE COLLARS FOR BURIED PIPES
 4. SEE PAGE COLLARS FOR EXPOSED PIPES; CONCRETE THRUST BLOCKS AND PIPE ELBOW.
 5. INCLUDE DISTRICT SPECIAL PROVISION - "AGGREGATE QUALITY" FOR PROJECTS LOCATED IN THE WESTERN AREA OF THE DISTRICT - APPROX. DIVIDING LINE IS IL 97.
 6. DELETE DESIGNER NOTES WHEN INSERTING INTO PLAN FILES.
 7. OPERATIONS PREFERS USE OF PIPE OUTLETTING ONTO FORESLOPE WITH RIPRAP. USE NON-METALLIC PIPE WHEN POSSIBLE BECAUSE OF FUTURE CORROSION ISSUES.
 8. IF NO OTHER SEEDING IS PAID FOR ON THE CONTRACT, USE DISTRICT SPECIAL PROVISION FOR SEEDING, MINOR AREAS



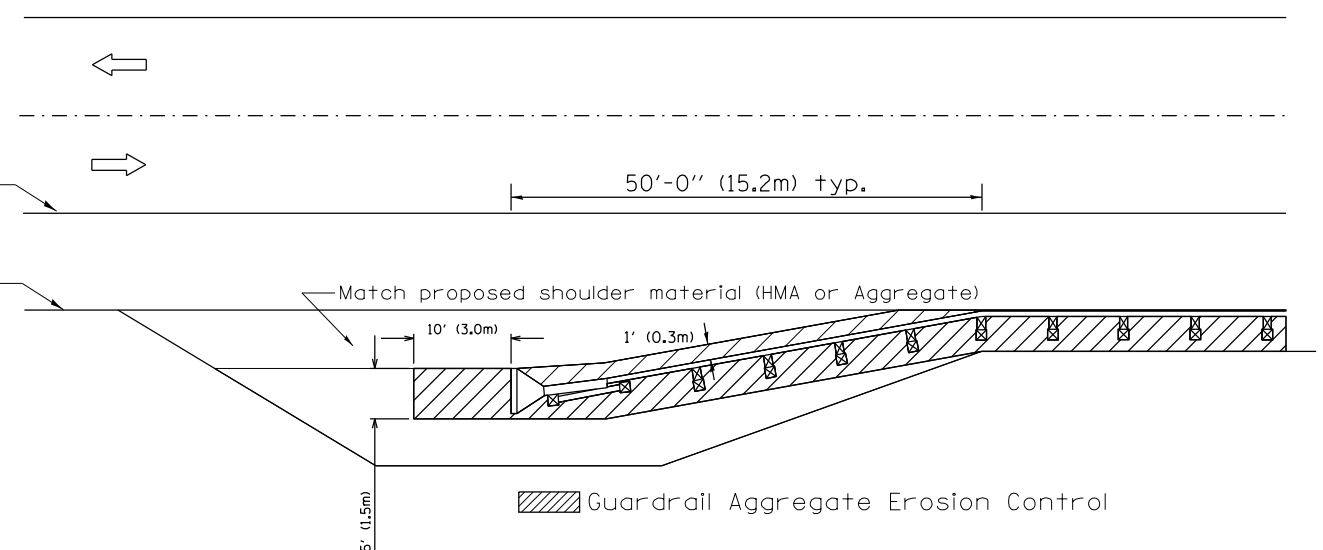
TYPICAL SECTION WITH COMBINATION CONCRETE CURB & GUTTER



TYPICAL SECTION WITHOUT EROSION CONTROL CURB

GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL

1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 12(300) minimum overlap. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet the following requirements:
 - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
 - B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.



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

DESIGNER NOTES:

03-07-11	ADDED DETAIL SHOWING PLAN VIEW	R.D.	5-30-18	CHANGE B CURB TO CC&G	R.D.
08-10-12	REVISED CURB "B" AND AGGREGATE	R.D.			
07-15-15	ADDRESSED SHOULDER INLET CURB	R.D.			
01-26-17	REVISED	R.D.			

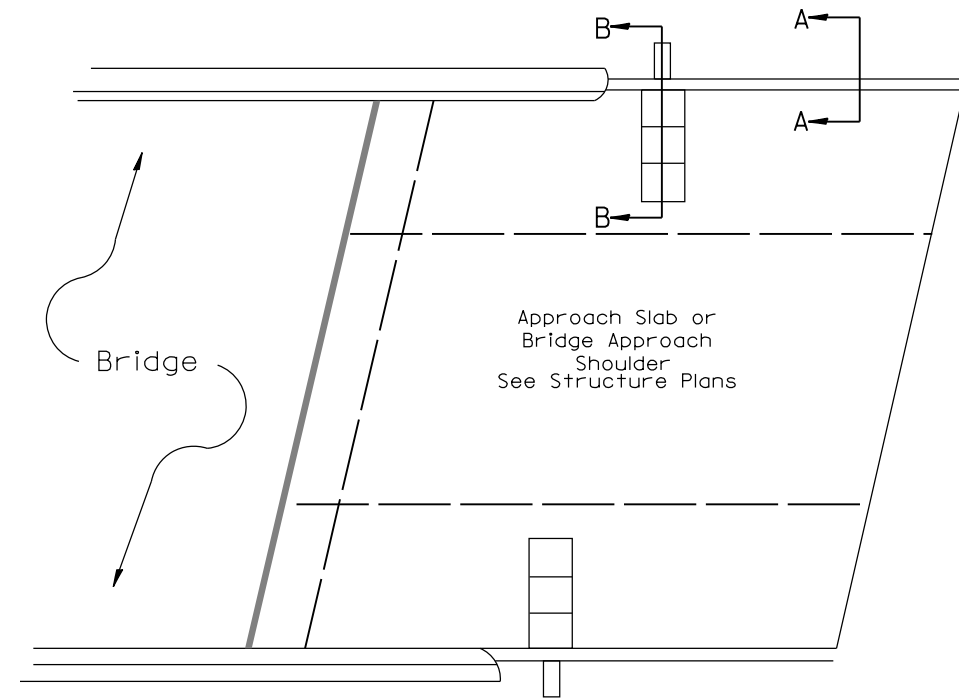
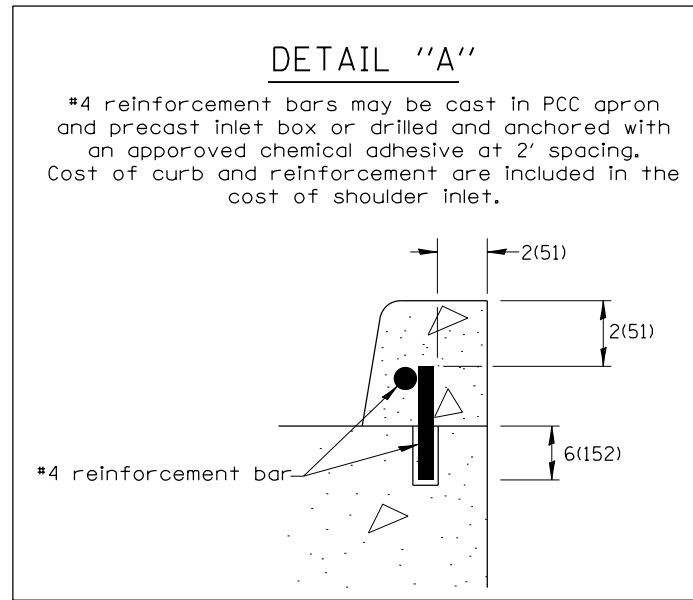
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GUARDRAIL EROSION CONTROL TREATMENTS

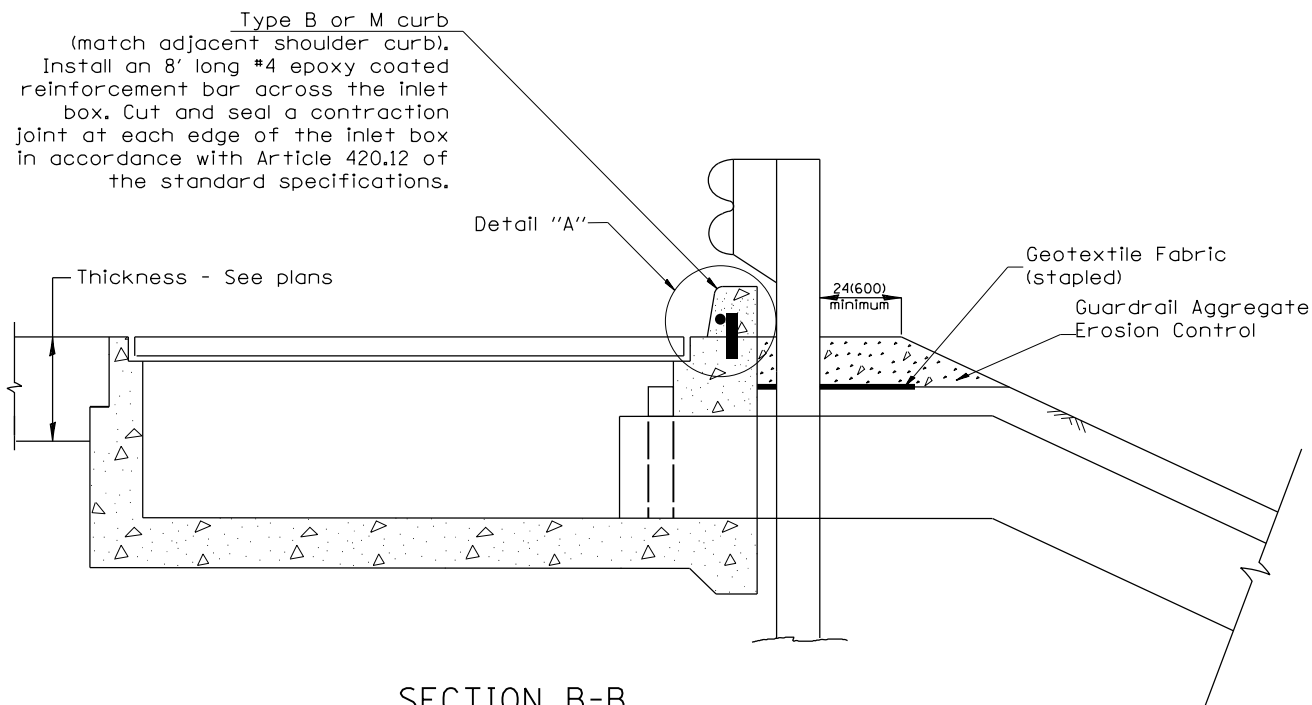
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SHT. 1 OF 2
CADD STD. 630101-D4

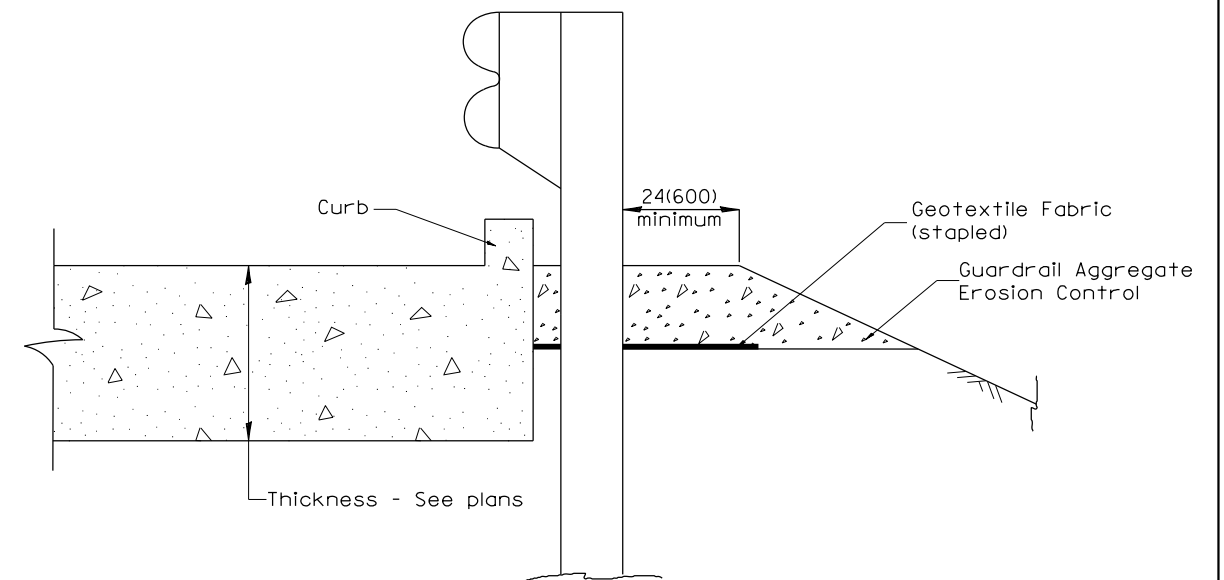
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48(B-1)BR;CRJ	KNOX	94	69
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68758	



PLAN VIEW
APPROACH SLAB OR SHOULDER PLACEMENT



SECTION B-B
TYPICAL SECTION AT INLETS
TYPE E, F & G (HIGHWAY STANDARD 610001)



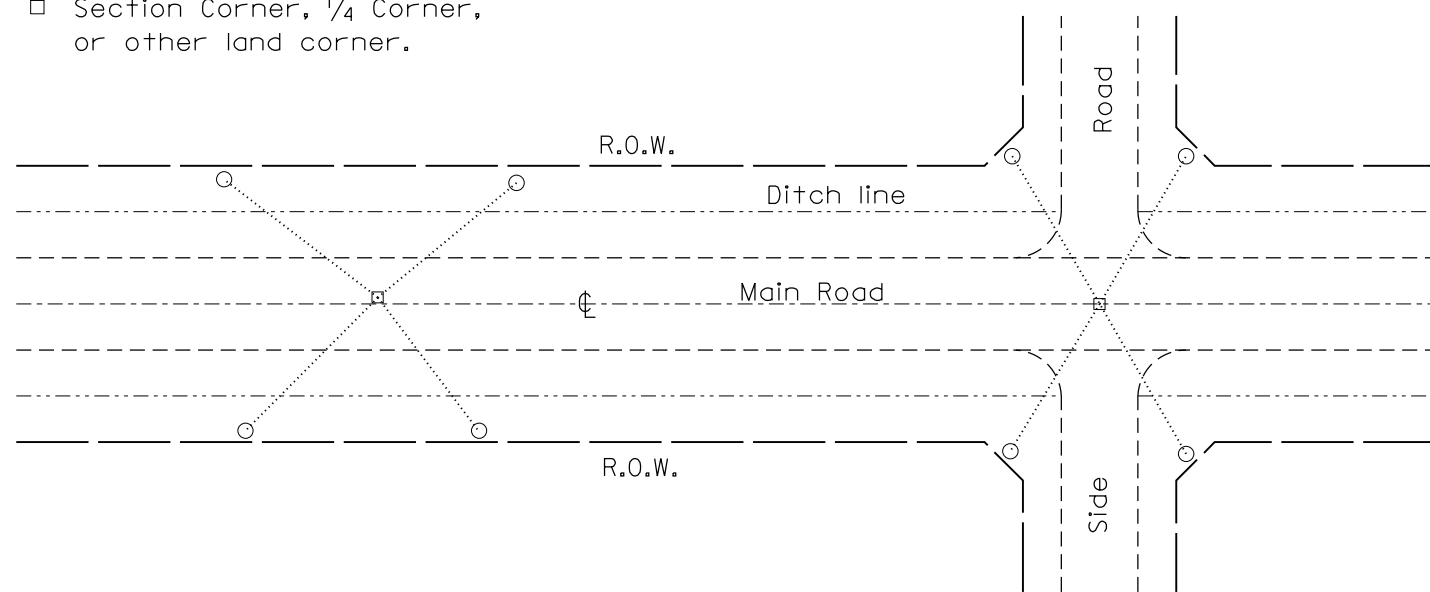
SECTION A-A
TYPICAL SECTION WITH BRIDGE APPROACH CURB

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

STATE OF ILLINOIS				GUARDRAIL EROSION CONTROL TREATMENTS				SHT. 2 OF 2	
DEPARTMENT OF TRANSPORTATION				NOT TO SCALE				CADD STD. 630101-D4	
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
22	48(B-1)BR(CR)	KNOX	94	70	CONTRACT NO. 68758				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT							

PERMANENT SURVEY TIES

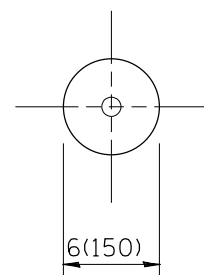
- Permanent Survey Tie
- Section Corner, 1/4 Corner, or other land corner.



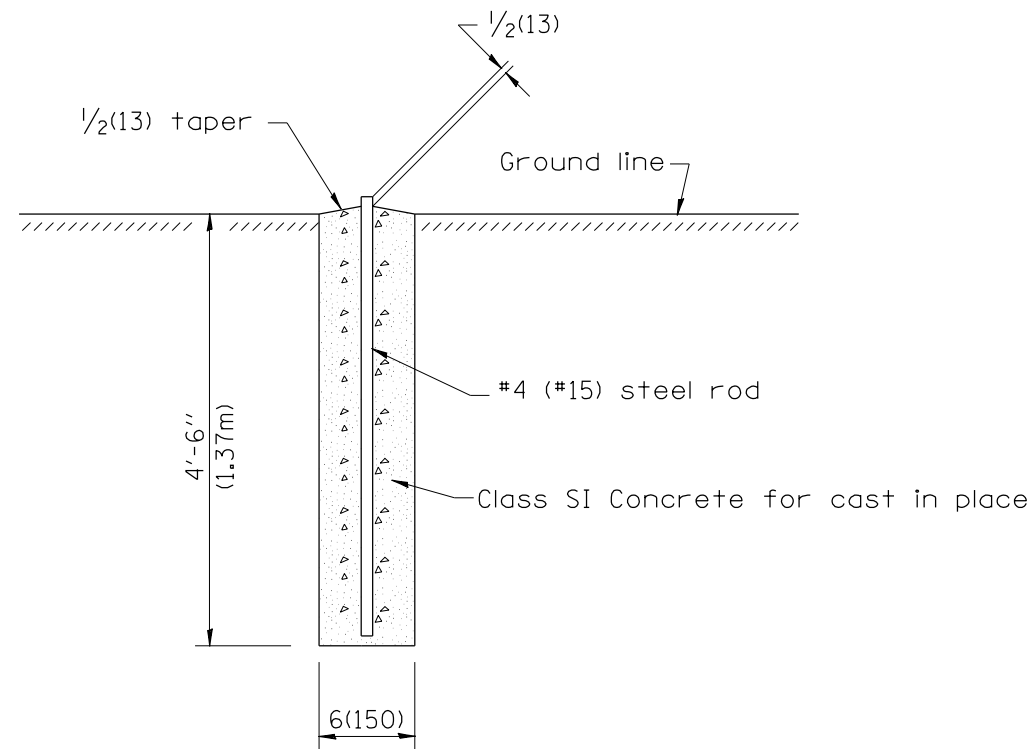
TYPICAL APPLICATION

GENERAL NOTES

1. The marker shall be cast in place of Class SI Concrete.
2. Tie marker shall be installed after the final seeding has been completed unless otherwise specified by the Engineer.
3. The tie distances to the section corner shall be measured and recorded by the surveyor setting the PSM. All ties shall be turned over to the IDOT Chief of Surveys or Chief of Plats for recordation.
4. All documentation shall be performed by a PLS

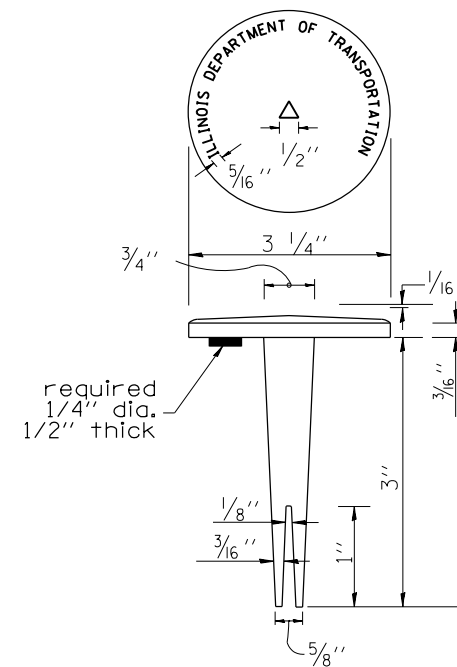


PLAN

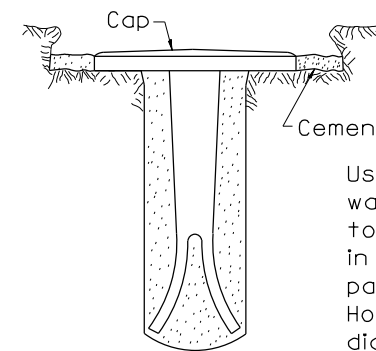


SECTION

PERMANENT SURVEY MARKERS



BRASS TABLET

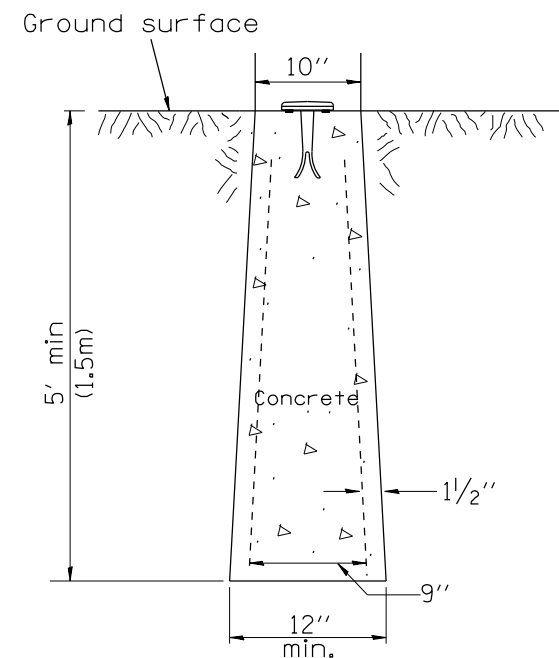


Tablet constructed in rock ledge or concrete.

TYPE I

GENERAL NOTES

1. All type II markers shall be cast in place, and precast markers will not be allowed.
2. Two permanent magnets, each having a diameter of 3/4 (19) and a thickness of 1/4 (6), or equivalent, shall be attached to the underside of the tablet with an approved epoxy bonding agent.
3. The location of the markers shall be in accordance with the plans in general, the markers will be placed at the P.T.'s, P.C.'s, and P.I.'s located within the R.O.W. of horizontal curves and spaces along the tangents in a way that a minimum of two markers are always inter-visible, and not to exceed 1000' (300m).
4. The markers shall be placed under the direction of the Engineer and shall be installed in a workmanlike manner in order that there will be no further settlement or horizontal shifting. The monuments shall be placed in a way that the survey point will fall within the portion of the plaque provided for that purpose.
5. The project designation, the centerline station, the survey point, and the elevation shall be permanently marked by the use of metal dies after marker has been installed.



**TYPE II
CAST-IN-PLACE MARKER**

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

DESIGNER NOTES:
 1. ADD DISTRICT SPECIAL PROVISION IF PLACING A TYPE I MARKER ON A STRUCTURE.
 2. MODIFIES STATE STD 667101. DON'T USE STATE STD IF USING CADD STANDARD
 3. PERMANENT SURVEY MARKERS SHALL BE PLACED TO PERPETUATE THE SURVEY LINES OF DIVIDED HIGHWAYS AND THE CENTERLINE OF ALL OTHERS WHERE THESE LINES HAVE BEEN ESTABLISHED BY SURVEY.
 4. PERMANENT SURVEY MARKERS SHALL BE PLACED AT ALL LAND SECTION CORNERS WITHIN THE STATE R.O.W. WHERE THE MONUMENTS HAVE BEEN FOUND OR RELOCATED BY SURVEY.

01-01-97	RENUM. D-3.01, NEW REVISION BOX, REVISED	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
	TITLE BOX, ADD DESIGNER NOTE		01-04-11	REVISED FOR CORRECTIONS	R.D.
07-07-98	ADD DESIGNER NOTE	J.A.	08-21-13	CHANGED MIN. DIAMETER	R.D.
05-24-06	REMOVED GEN. NOTE UNDER TIES	M.A.	08-25-15	REVISED MATERIAL	R.D.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

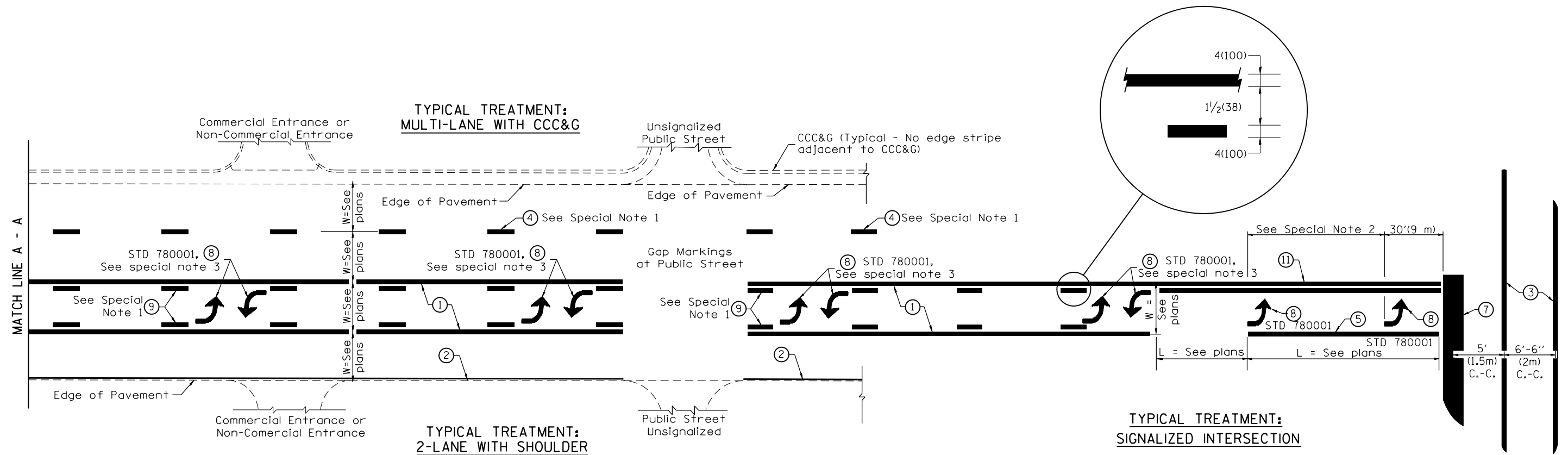
NOT TO SCALE

**PERMANENT SURVEY TIE &
PERMANENT SURVEY MARKERS TY.I - TY.II**

CADD STD. 667101-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48E(B-1)BR(CR)	KNOX	94	71
CONTRACT NO. 68758				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DESIGNER NOTES:
1. Include State Standard 780001 (Typical Pavement Markings)



FLUSH PAVED MEDIAN: TWO-WAY LEFT TURN LANE WITH ONE-WAY LEFT TURN LANE AT SIGNALIZED INTERSECTION

TYPICAL PAVEMENT MARKING LEGEND

(Note: This is a District Standard Legend. Some elements may not apply to specific project.)

- ① 4(100) Solid (Yellow)
- ② 4(100) Solid (White)
- ③ 2-6(150) Crosswalk @ 6'-6" (2m)min C.-C. (White)
2-8(200) Crosswalk @ 6'-6" (2m)min C.-C. (White) (When traffic signals are present.)
- ④ 6(150) Skip-Dash (White) (See Special Note 1)
- ⑤ 8(200) Solid (White)
- ⑥ 12(300) Diagonal (White) (Item ⑥ is shown on Std. 780001)
- ⑦ 24(600) Stop Bar (White)
- ⑧ Letters & Arrows (See Std. 780001 and Special Notes 2 & 3)
- ⑨ 4(100) Skip-Dash (Yellow) (See Special Note 1)
- ⑩ 12(300) Diagonal (Yellow) (See Table A) 45°
- ⑪ 4(100) Double Solid (Yellow) 11(280) C.-C. See Table A

SPECIAL NOTES

1. Skip-Dash markings will be centered between both ends of city blocks and shall be placed in alignment transversely across the pavement.
2. The following shall apply to arrows located in one-way left turn lanes:
 - A. A minimum of two (2) arrows is required.
 - B. The maximum spacing between arrows is 80' (24 m).
 - C. Arrows shall be evenly spaced if three (3) or more are required.
3. The following shall apply to arrow pairs located in two-way left turn lanes:
 - A. A minimum of two (2) arrow pairs is required.
 - B. The maximum spacing between arrow pairs is 200' (61 m).
 - C. Arrow pairs shall be evenly spaced if three (3) or more are required.
 - D. The spacing between Bi Directional Left Turn Arrows is 33' (10 m).

GENERAL NOTES

1. Refer to State Standard 780001 for additional Pavement Markings including letters & arrows.
2. See Plans for Pavement Markings adjacent to curbed islands and medians, and through lane reductions.
3. Refer to Article 780.13 for letter, number and symbol areas (sq. ft.)
4. Areas are grooved 1" beyond each edge for the following symbols:
 - Through Arrow= 14.8 sq. ft.
 - Large Left or Right Arrow= 21.9 sq. ft.
 - 2 Arrow Combination Left (or Right) and Through= 34.9 sq. ft.
 - Wrong Way Arrow= 29.5 sq. ft.
 - Railroad Crossing Symbol= 69.8 sq. ft.
 (For further information, refer to BDE Special Provision: Grooving for Recessed Pavement Markings)

01-01-97	RENUM. F-8.03, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	
02-07-97	ADD BI DIRECTIONAL DIMENSION	J.A.	2/29/16	ADDED GROOVING AREAS	R.D.
10-97	CORRECT BI DIRECTIONAL DIMENSION	J.A.			
08-02	ADD CROSSWALK DMNS. WITH T.S.	M.A.			

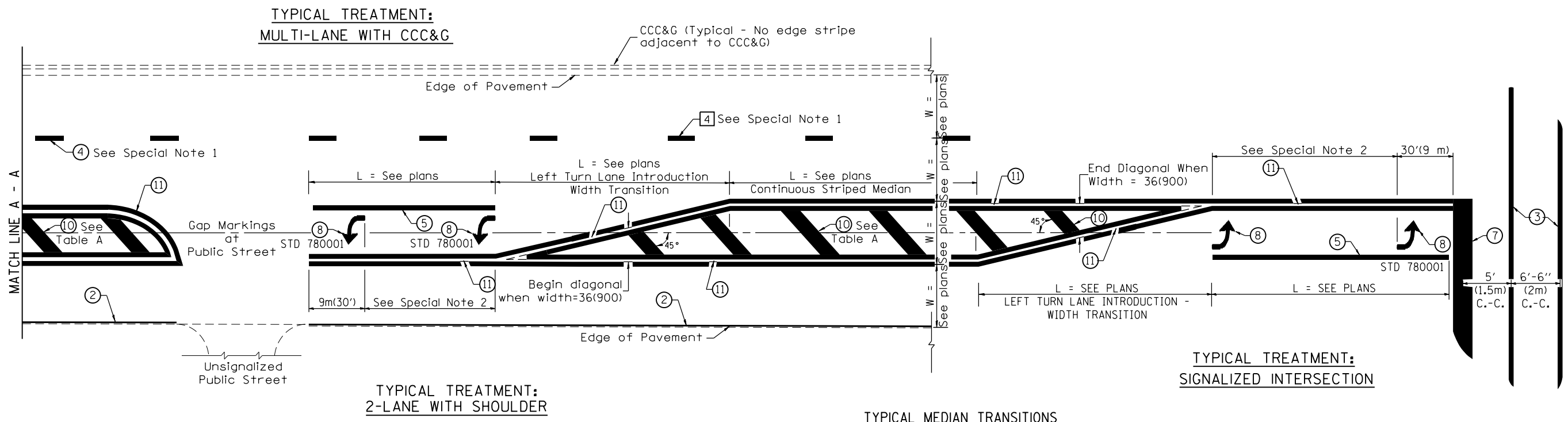
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

TYPICAL PAVEMENT MARKINGS

SHT. 1 OF 2
CADD STD. 780001-D4

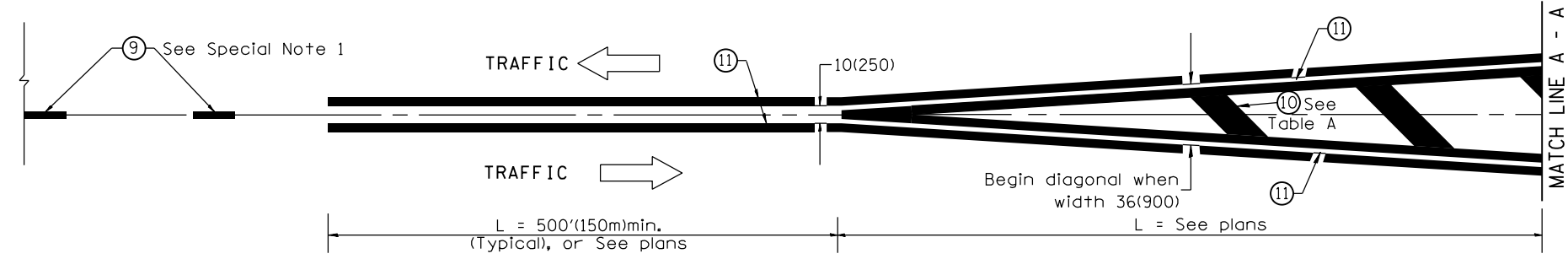
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	48E(B-1)BR(CR)	KNOX	94	72
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68758	



FLUSH PAVED MEDIAN: RESTRICTED LEFT TURN LANE

TABLE A
RECOMMENDED SPACING BETWEEN DIAGONAL LINES

SPEED LIMIT RANGE	INTERSECTION CHANNELIZATION (Includes Width Transitions for Median and Left Turn Lane Introductions)	
	CONTINUOUS	
Less Than 30 mph (50 km/h)	50' (15m)	15' (5m)
30 - 45 mph (50 - 70 km/h)	75' (23m)	20' (6m)
Over 45 mph (70 km/h)	150' (46m)	30' (9m)

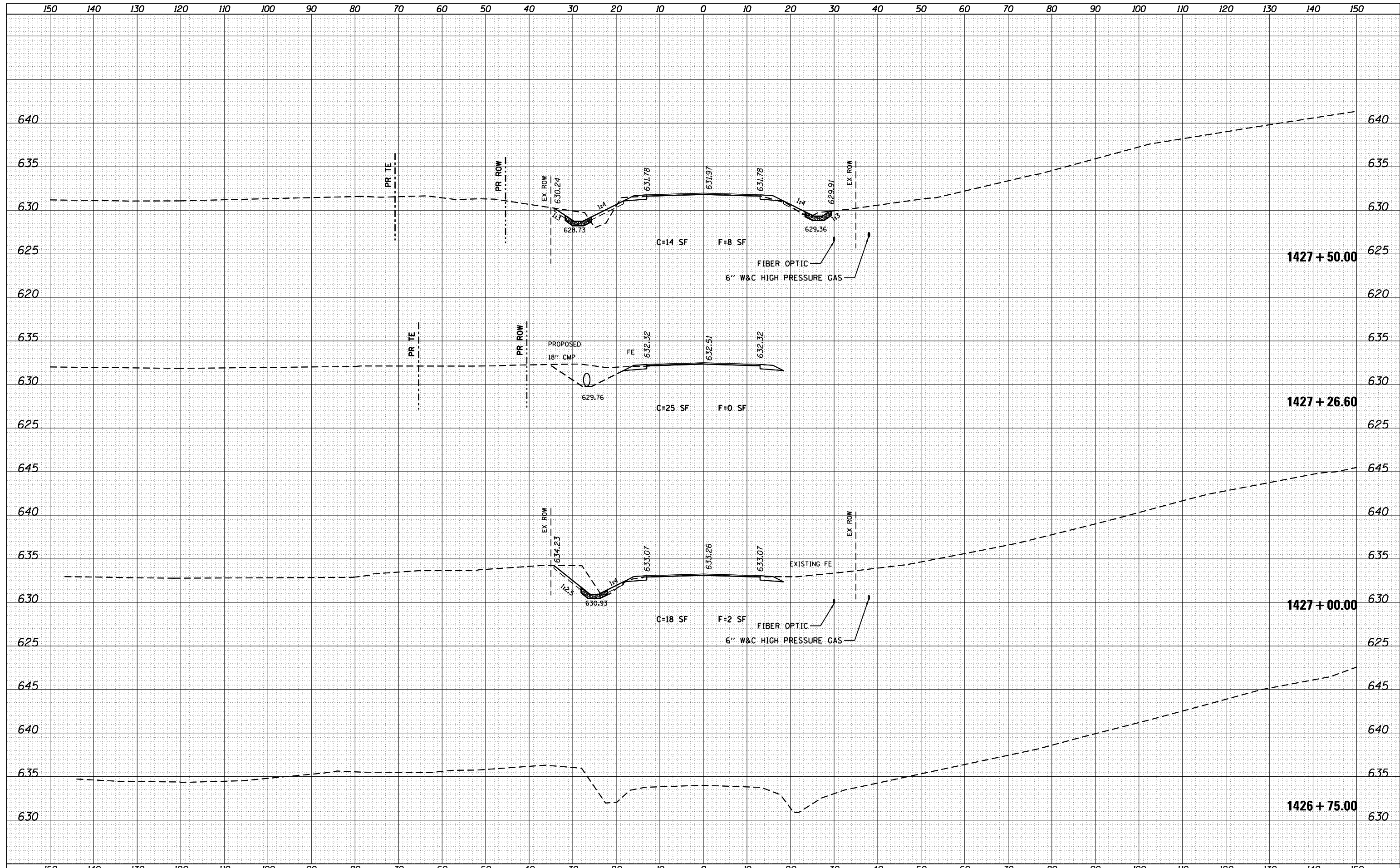


MEDIAN INTRODUCTION - WIDTH TRANSITIONS

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

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

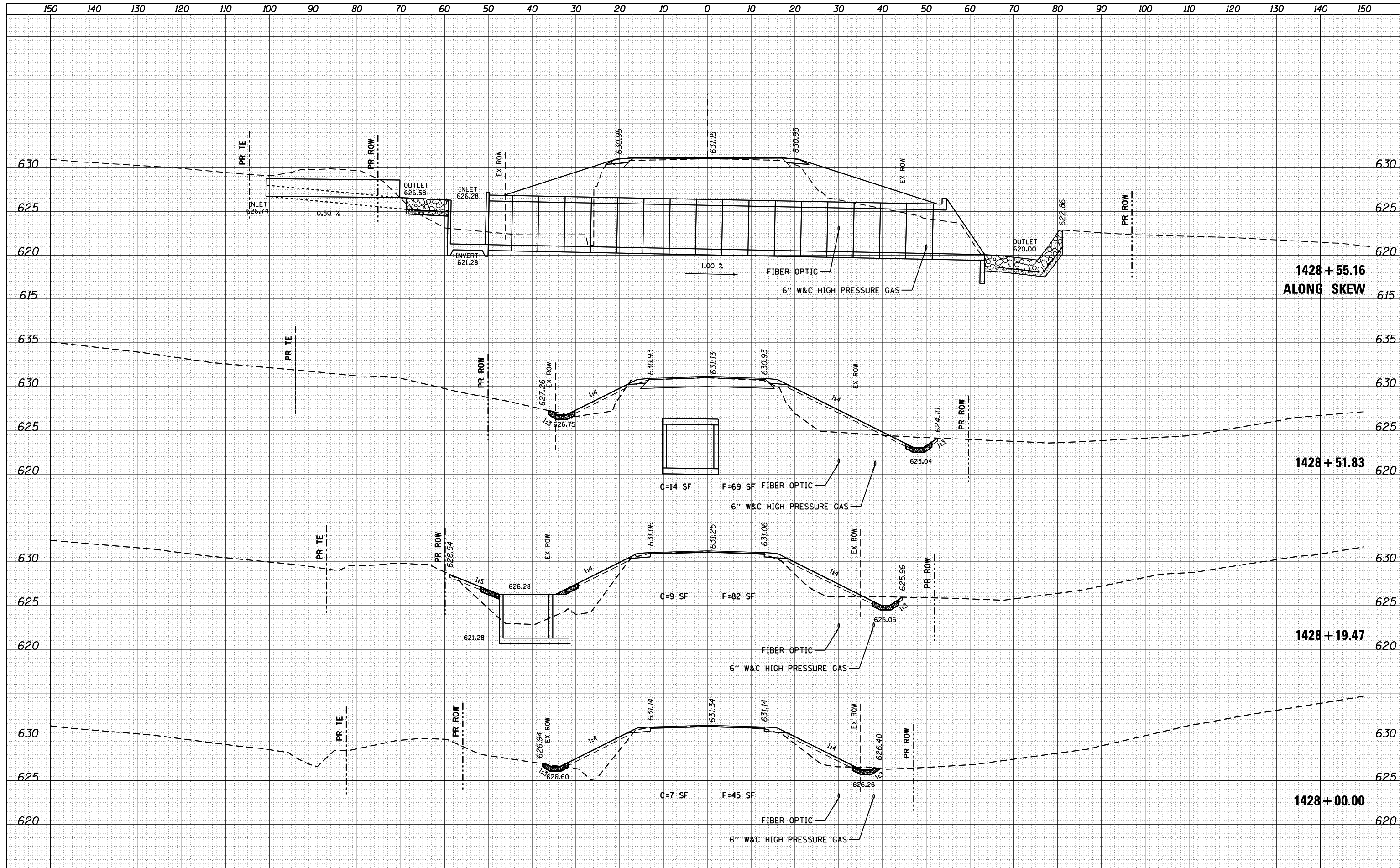
DATE	
BY	
SURVEYED	
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TEMPLATE	
AREAS	
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NO.	



FILE NAME =	USER NAME = jacobsmr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Drawings\Fehr_Graham - IDOT Copies\1426-069-001.dgn	CHECKED -	REVISED -					22	48(B-1)BR;CRJ	KNOX	94	74
FEHR GRAHAM PROJECT NO 15-1004B	PLOT SCALE = 20.000000' / in.	DATE -	REVISED -		CONTRACT NO. 68758							
	PLOT DATE = 5/10/2019				SCALE:	SHEET	OF	SHEETS	STA. 1426+75.00	TO STA. 1427+50.00	ILLINOIS FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

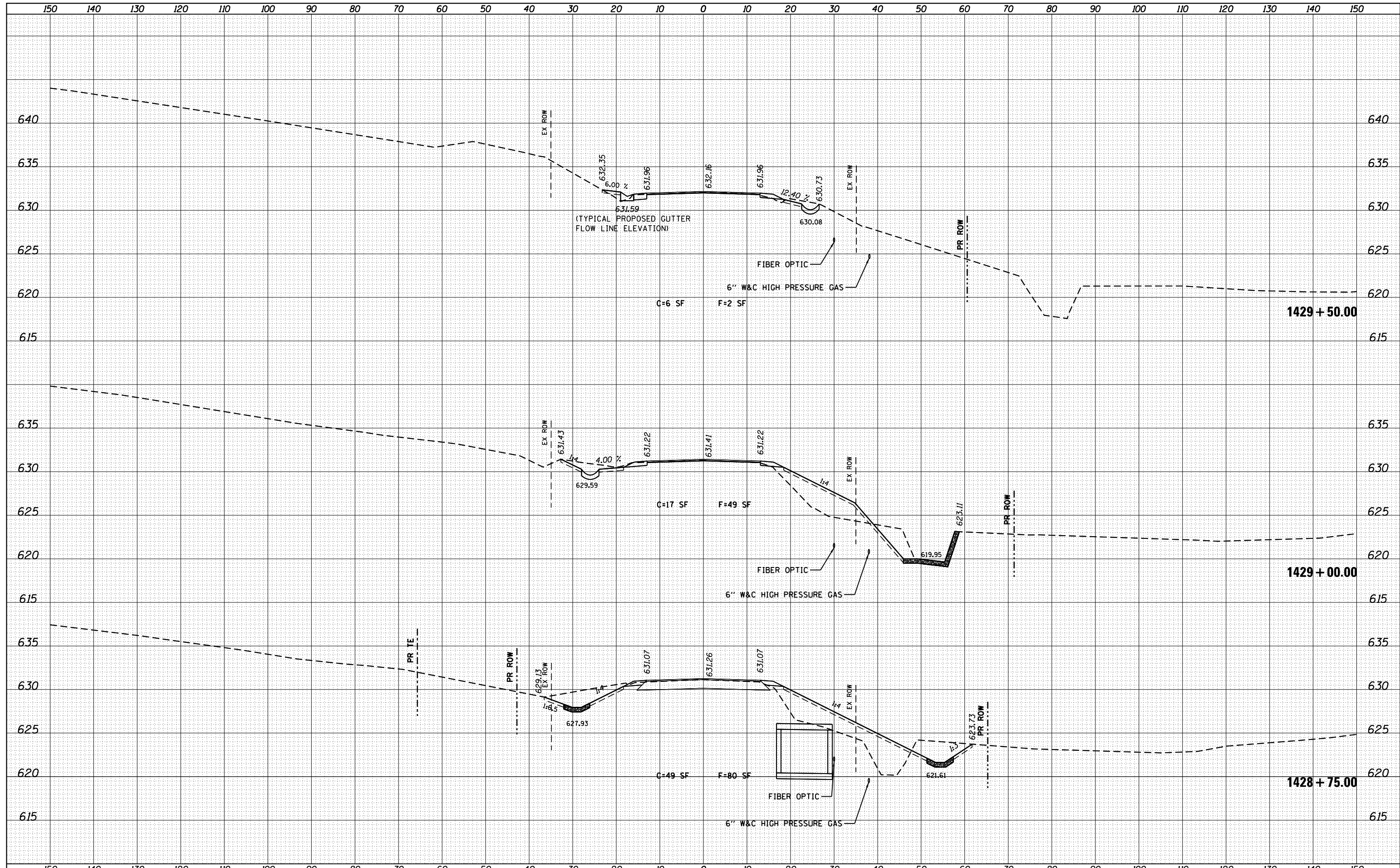
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FILE NAME =	USER NAME = jacobsmr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78	F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	DOT Offices\District 4\Projects\D4_68758\CAD\DRAWING\Sheets\Fehr_Graham - IDOT Copies\1428-065-069-xs.dgn	CHECKED -	REVISED -			22	48(B-1)BR;CRJ	KNOX	94	75	
FEHR GRAHAM PROJECT NO 15-10048	PLOT SCALE = 20.000000 / in.	DATE -	REVISED -			CONTRACT NO. 68758					
PLOT DATE = 5/10/2019					SCALE: SHEET OF SHEETS STA. 1426+75.00 TO STA.					ILLINOIS FED. AID PROJECT	

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

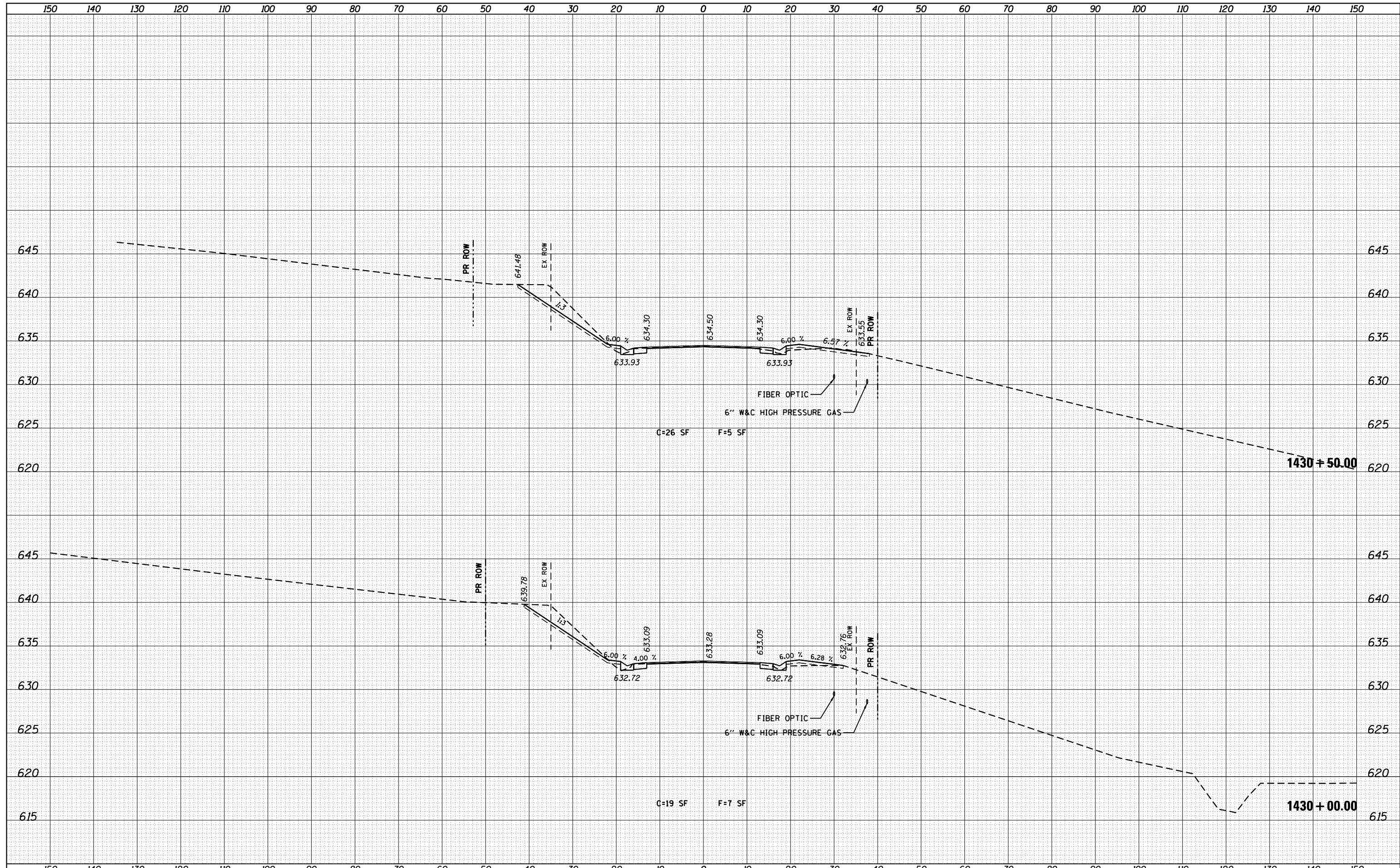
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



FILE NAME =	USER NAME = jacobsmr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom\dotillinois.gov\IDOT\Documents\IDOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Sheets\Fehr_Graham - IDOT Copies\1428-75.dgn		CHECKED -	REVISED -		22	48(B-1)BR;CRJ	KNOX	94	76		
Default		PLOT SCALE = 20.000000' / in.	REVISED -		CONTRACT NO. 68758						
FEHR GRAHAM PROJECT NO 15-10048		PLOT DATE = 5/10/2019	REVISED -		SCALE:	SHEET	OF	SHEETS	STA. 1428+75.00 TO STA. 1429+50.00	ILLINOIS FED. AID PROJECT	

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
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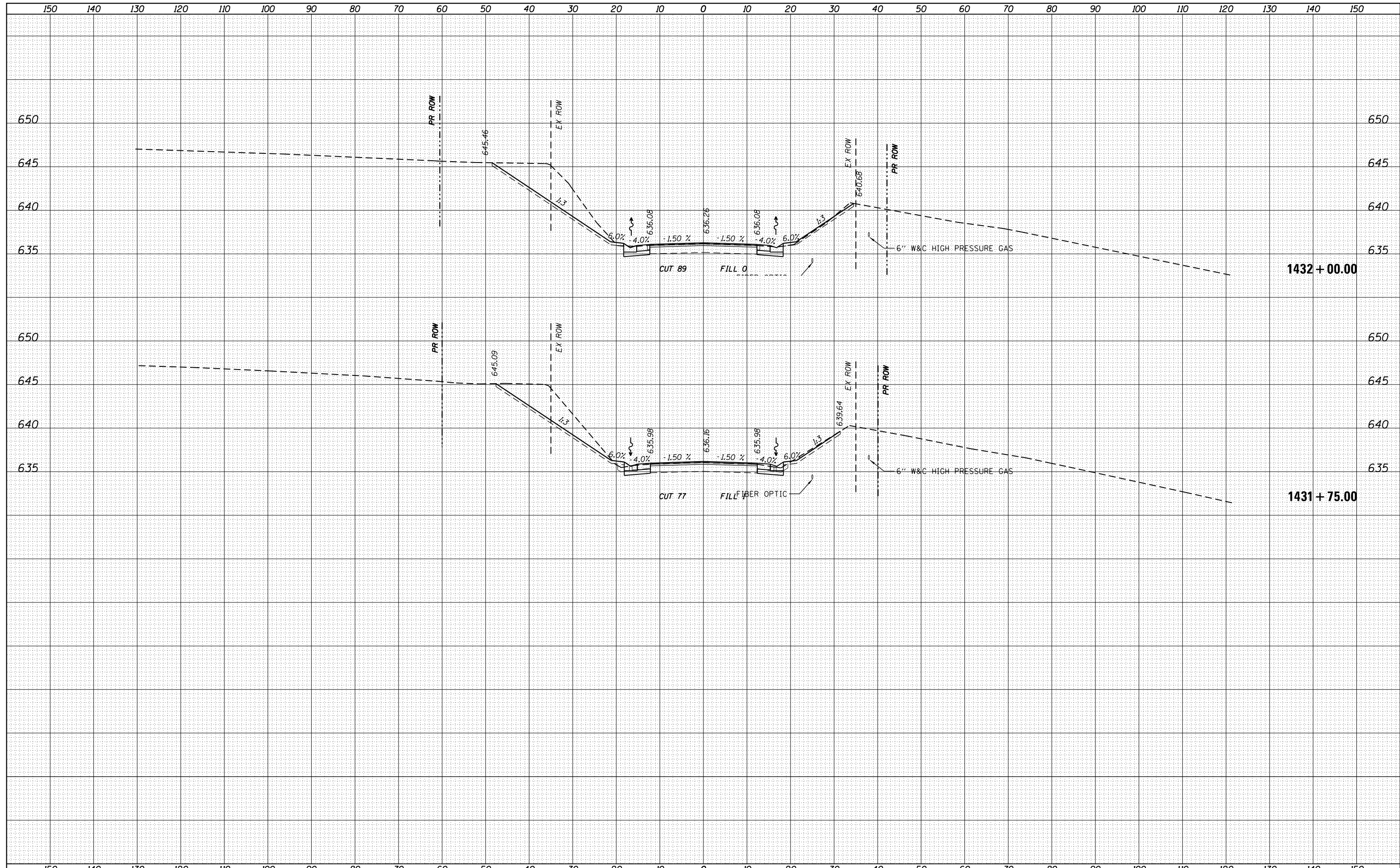
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



FILE NAME =	USER NAME = jacobsmr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 20.000000' / in.	CHECKED -	REVISED -		22	48(B-1)BR(CR)	KNOX	94	77			
FEHR GRAHAM PROJECT NO 15-10048	PLOT DATE = 5/10/2019	DATE -	REVISED -		CONTRACT NO. 68758							
					SCALE:	SHEET	OF	SHEETS	STA. 1430+00.00 TO STA. 1430+50.00	ILLINOIS FED. AID PROJECT		

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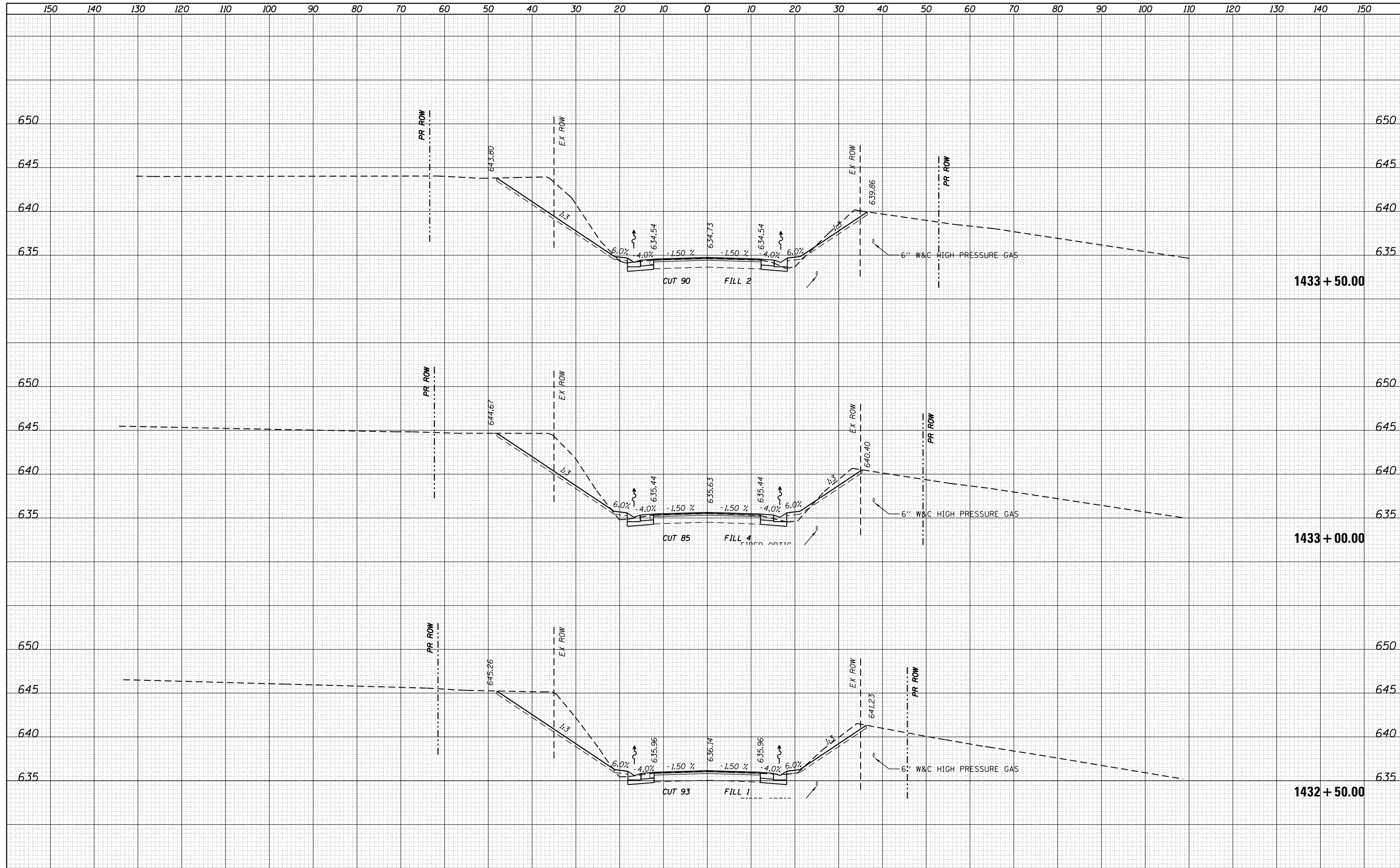
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - CAS	REVISED -			22	48(B-1)BR;CRJ	KNOX	94	79	
		DATE - 5/17	REVISED -			CONTRACT NO. 68758					
						ILLINOIS FED. AID PROJECT					
PLOT SCALE = 20.0000' / in.				SCALE:	SHEET	OF	SHEETS	STA. 1431+50.00	TO STA. 1432+00.00		

DATE	
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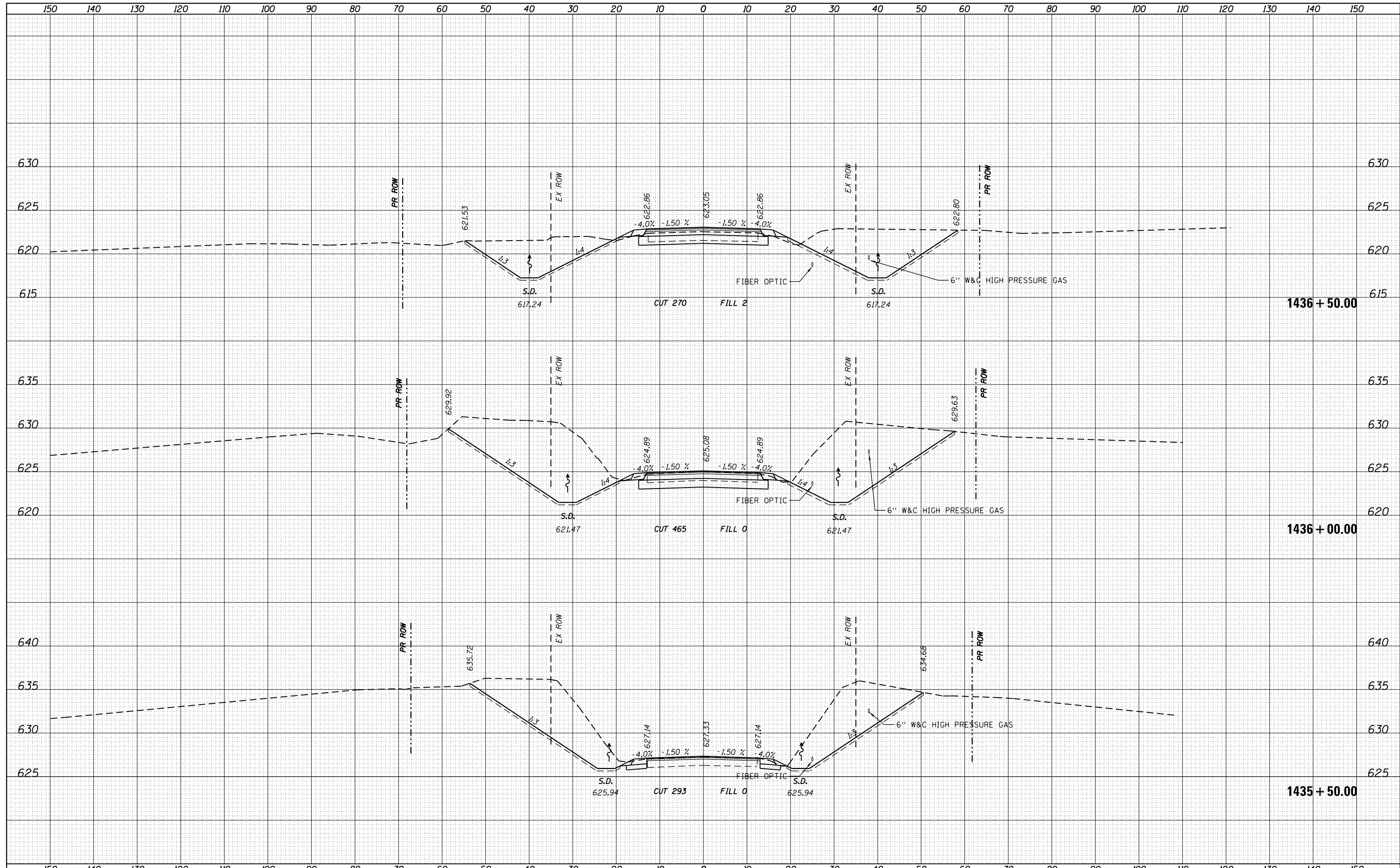
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom\dotillinois.gov\PI\DOT\Documents\DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Sheets\Chastain\DOT\D468758-sht-xssh1	DRAWN - CHASTAIN	CHECKED - CAS	REVISED -		22	48(B-1)BR(CR)	KNOX	94	80			
PLOT SCALE = 20.0000' / in.		DATE - 5/17	REVISED -		CONTRACT NO. 68758							
PLOT DATE = 5/10/2019			REVISED -		ILLINOIS FED. AID PROJECT							
Default				SCALE:	SHEET	OF	SHEETS	STA. 1432+50.00	TO	STA. 1433+50.00		

DATE	
BY	
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PLOTTED	
TEMPLATE	
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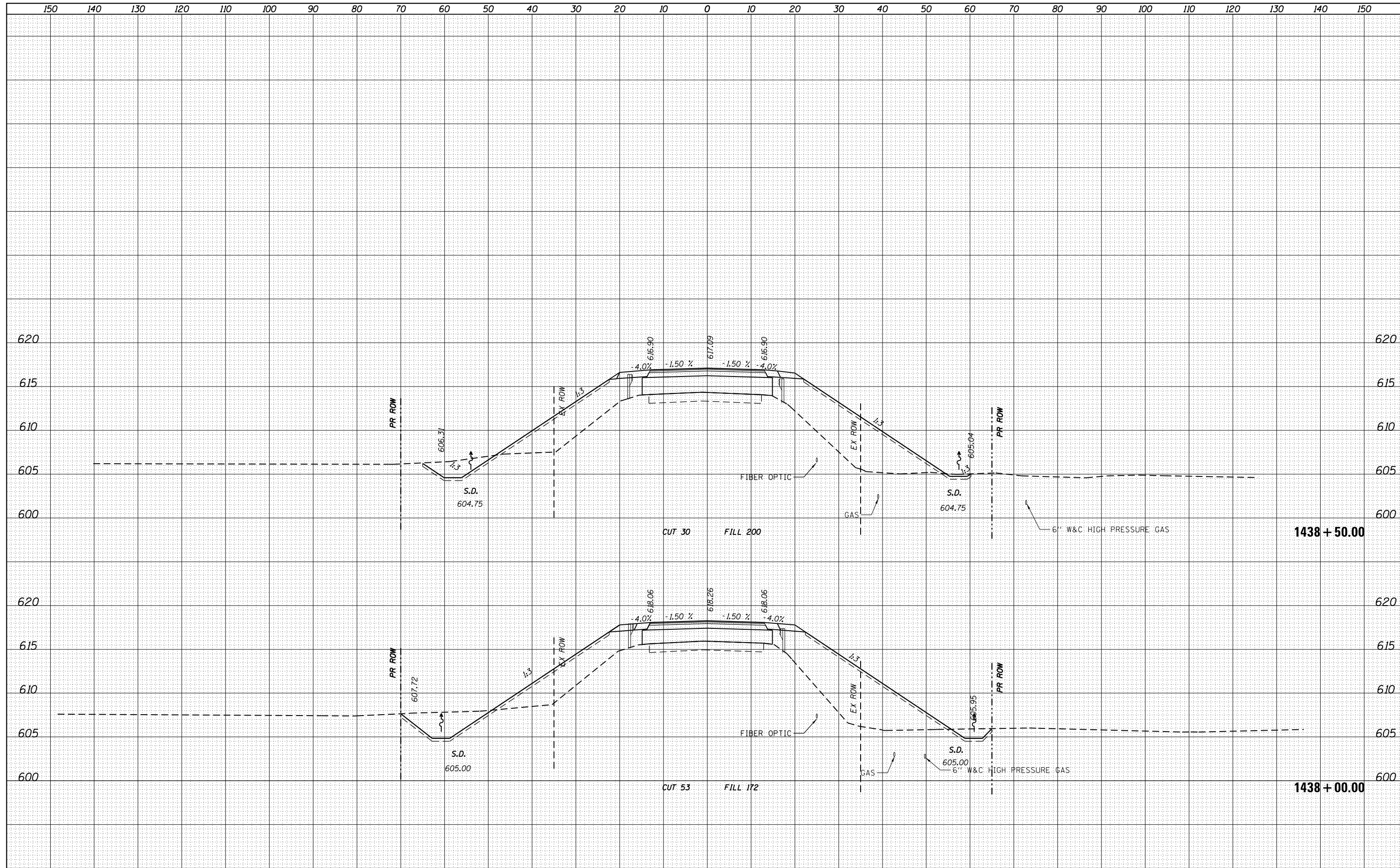
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AREAS	
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ORIGINAL SURVEY	
NOTE BOOK	
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom.dot\illinois.gov\DOT\Documents\DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Sheets\Chastain\1435+50.00\1435+50.00.dwg	DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Sheets\Chastain\1435+50.00\1435+50.00.dwg	CHECKED - CAS	REVISED -		22	48(B-1)BR(CR)	KNOX	94	82			
Default	PLOT SCALE = 20.0000' / in.	DATE - 5/17	REVISED -		SCALE:	SHEET	OF	SHEETS	STA. 1435+50.00 TO STA. 1436+50.00	CONTRACT NO. 68758		
	PLOT DATE = 5/10/2019		REVISED -							ILLINOIS FED. AID PROJECT		

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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

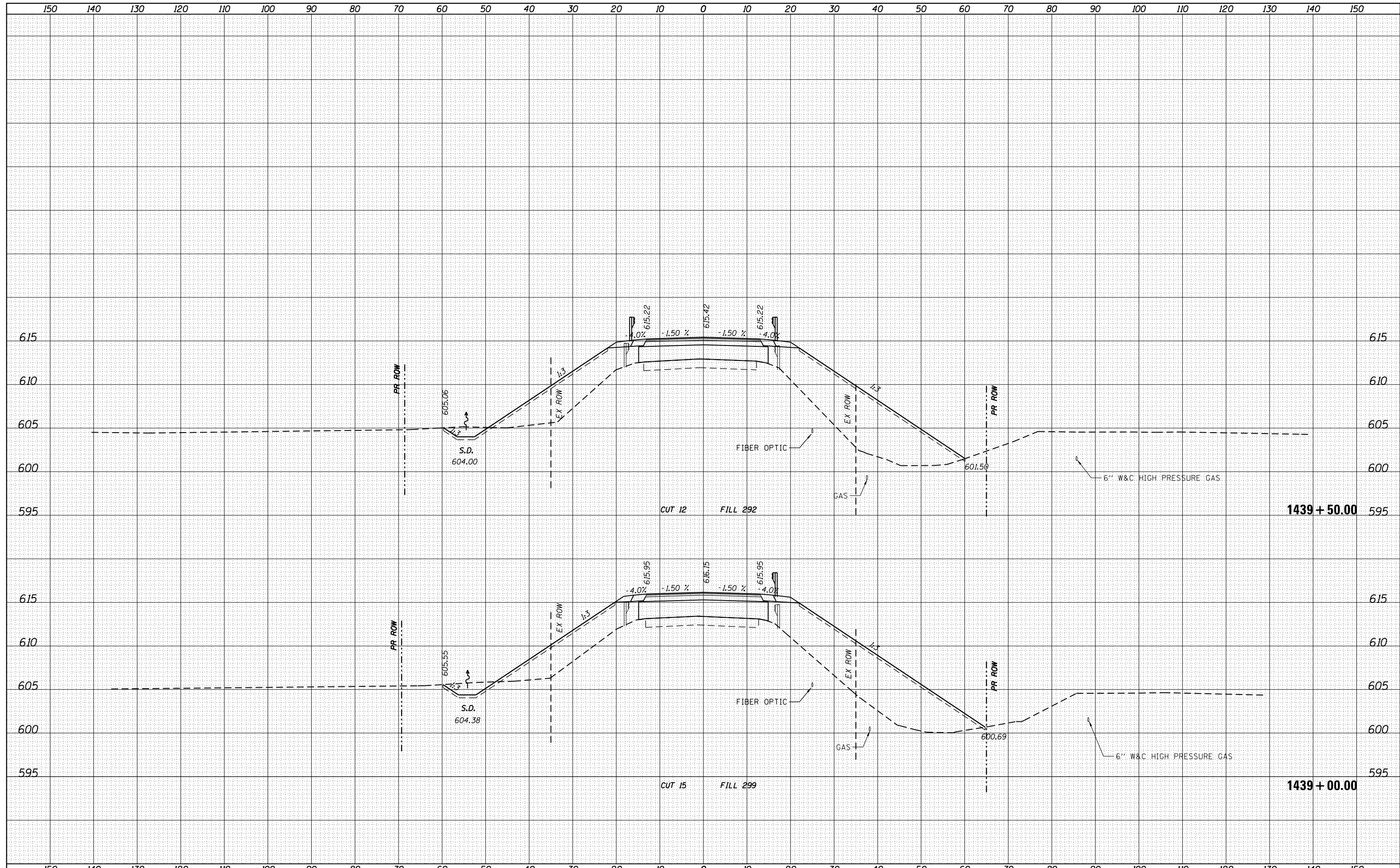
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom.dot\illinois.gov\PI\DOT\Documents\DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\Sheets\Chastain\1438+00.00\1438+00.00.dwg	PROJECT = D4_68758	CHECKED - CAS	REVISED -		22	48(B-1)BR(CR)	KNOX	94	84			
PLOT SCALE = 20.0000' / in.	DATE = 5/17	DATE = 5/10/2019	REVISED -		CONTRACT NO. 68758							
Default			REVISED -		SCALE: SHEET OF SHEETS STA. 1438+00.00 TO STA. 1438+50.00			ILLINOIS FED. AID PROJECT				

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

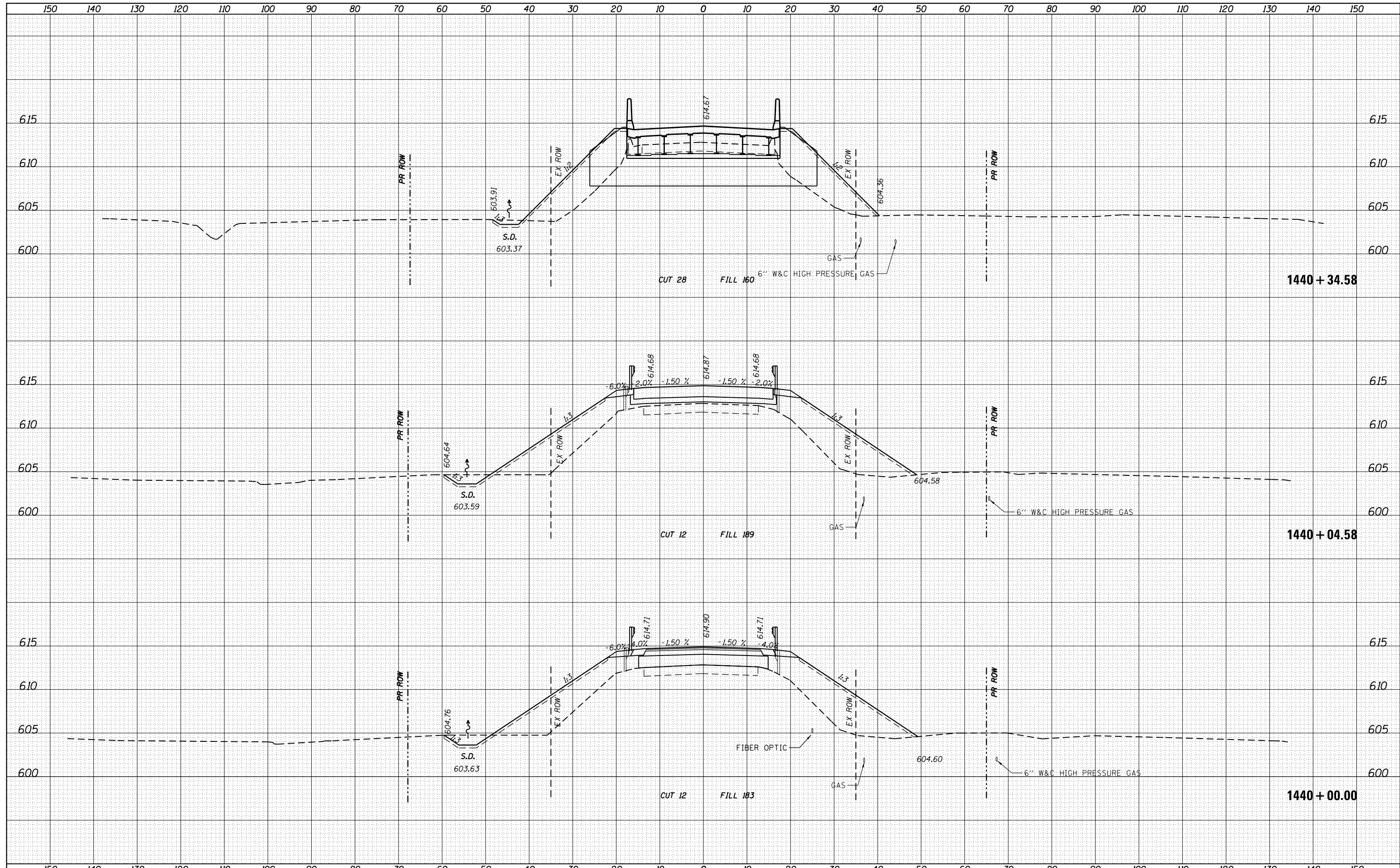
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - CAS	REVISED -		22	48(B-1)BR;CRJ	KNOX	94	85			
		DATE - 5/17	REVISED -		CONTRACT NO. 68758							
					ILLINOIS FED. AID PROJECT							
PLOT SCALE = 20.0000' / in. PLOT DATE = 5/10/2019				SCALE: SHEET OF SHEETS STA. 1439+00.00 TO STA. 1439+50.00								

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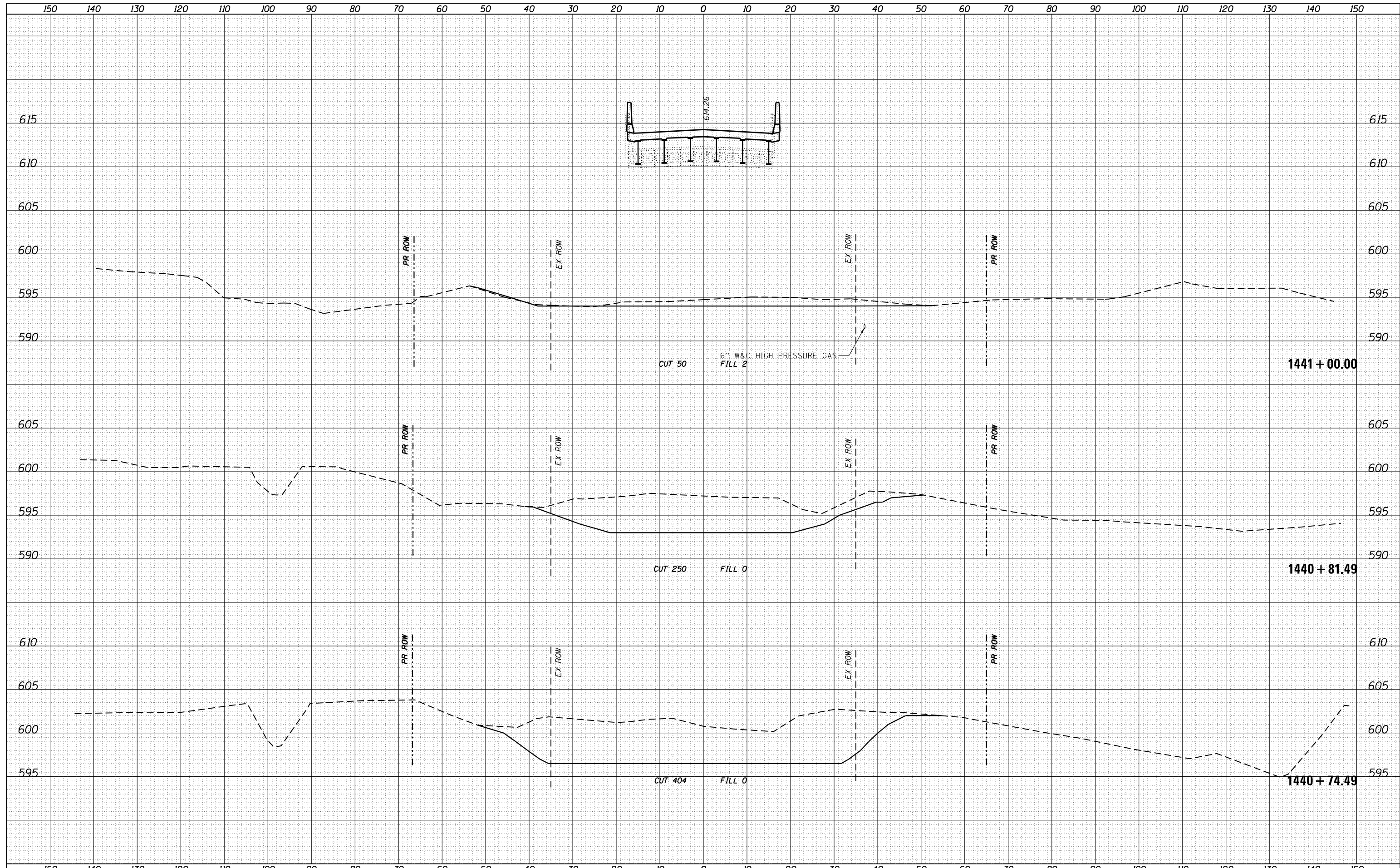
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom\dotillinois.gov\PI\DOT\Documents\DOT Offices\District 4\Projects\D4_68758\CAD\Drawings\Sheets\Chastain\1440+00.00\1440+00.00.dwg	PROJECT = D4_68758-1440+00.00	CHECKED - CAS	REVISED -			22	48(B-1)BR(CR)	KNOX	94	86
PLOT SCALE = 20.0000' / in.	DATE = 5/17	DATE = 5/17	REVISED -			CONTRACT NO. 68758				
PLOT DATE = 5/10/2019						ILLINOIS FED. AID PROJECT				

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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

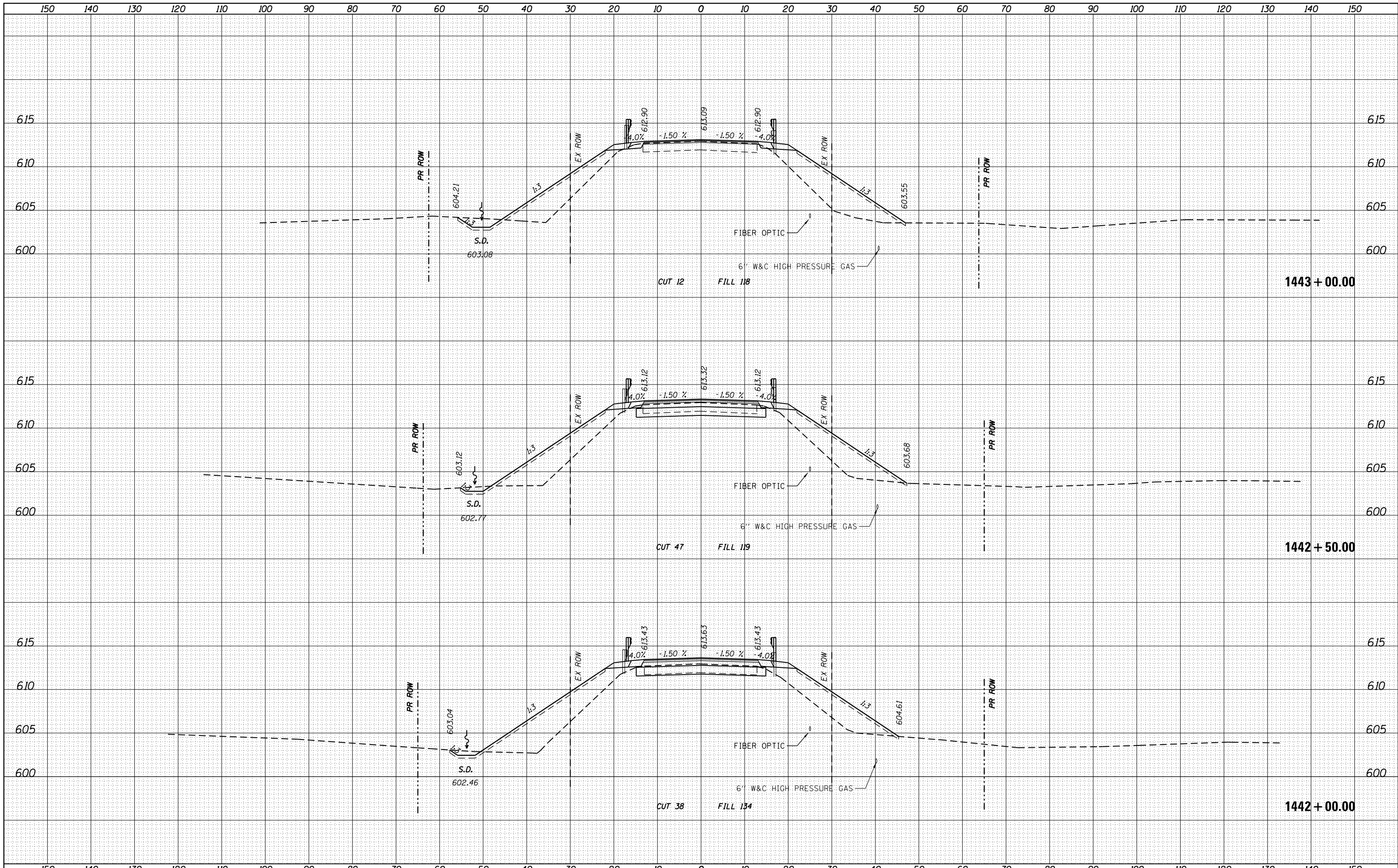
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = 20.0000' / in.	DATE - 5/17	REVISED -		CONTRACT NO. 68758							
	PLOT DATE = 5/10/2019		REVISED -		SCALE:	SHEET	OF	SHEETS	STA. 1440+74.49 TO STA. 1441+00.00	ILLINOIS FED. AID PROJECT		

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AREAS CHECKED	
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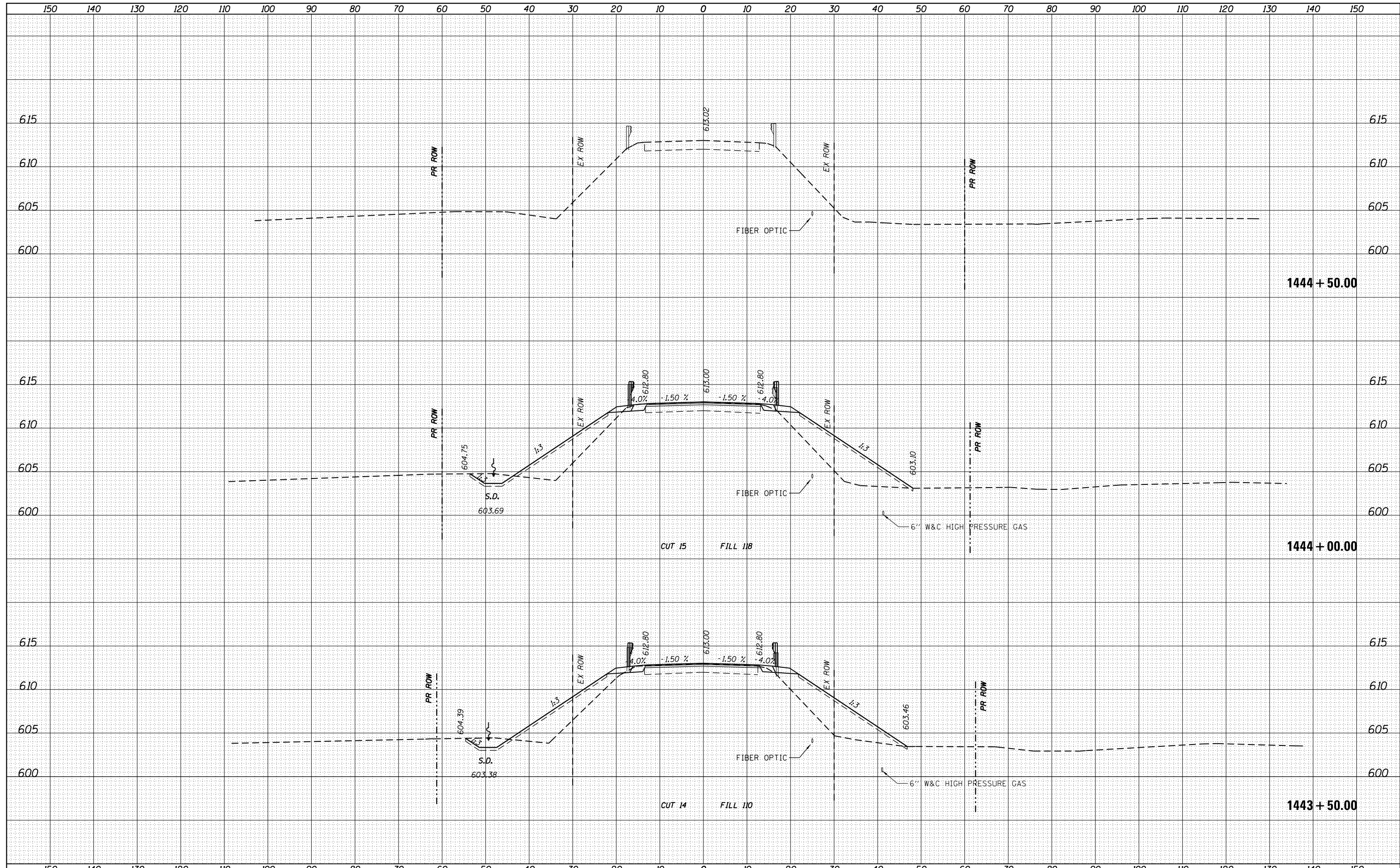
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - CAS	REVISED -					22	48(B-1)BR;CRJ	KNOX	94	92
		DATE - 5/17	REVISED -					CONTRACT NO. 68758				
		PLOT DATE = 5/10/2019	REVISED -					ILLINOIS FED. AID PROJECT				
				SCALE:				SHEET OF SHEETS STA. 1442+00.00 TO STA. 1443+00.00				

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FINAL SURVEY	
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NOTE BOOK	
AREAS CHECKED	
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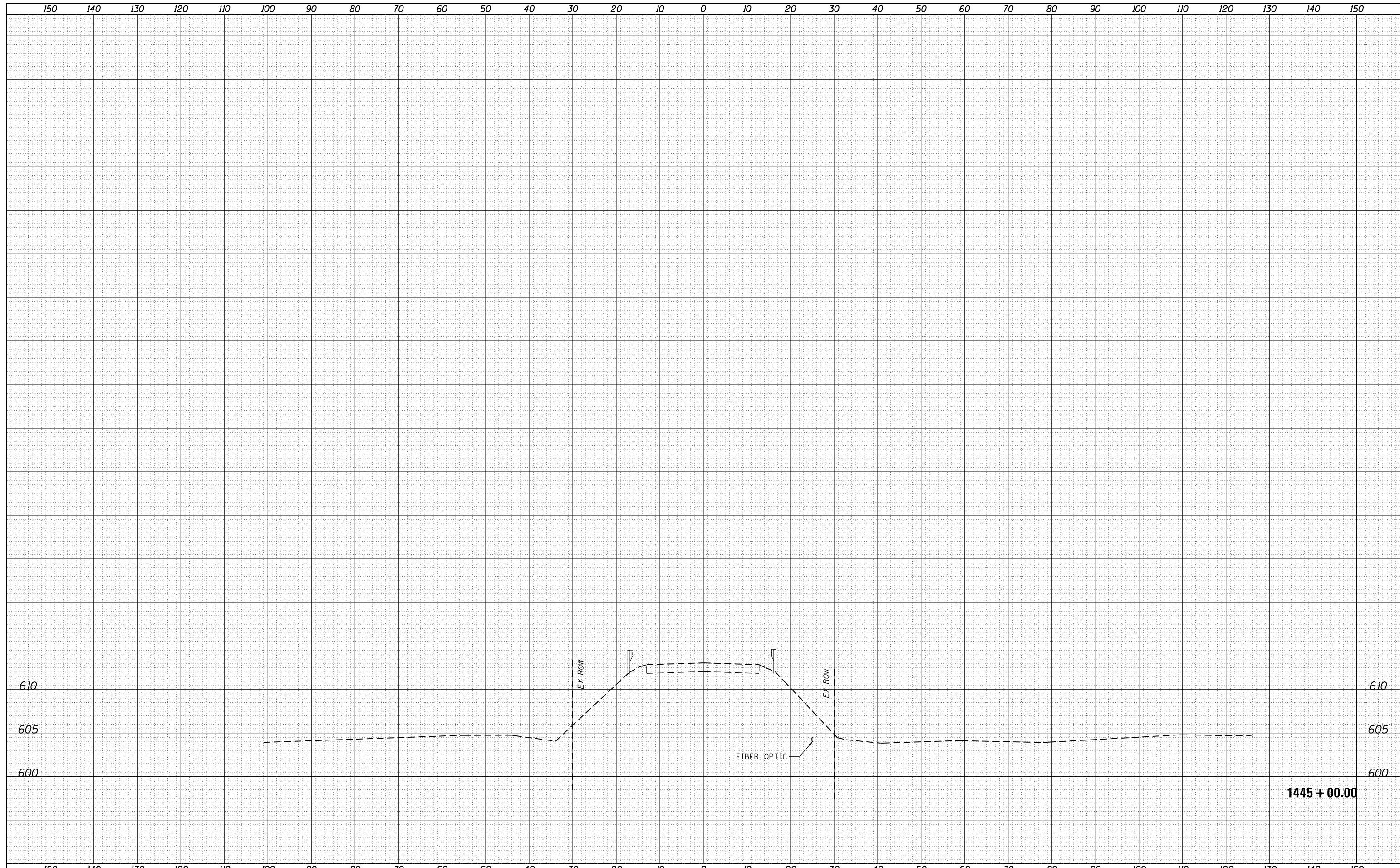
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NOTE BOOK	
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FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\planroom.dot\illinois.gov\PI\DOT\Documents\DOT Offices\District 4\Projects\D4_68758\CAD\DRAWINGS\sheets\Chastain\D468758-sht-xssh	PLLOT SCALE = 20.0000' / in.	CHECKED - CAS	REVISED -			22	48(B-1)BR;CRJ	KNOX	94	93
Default	PLLOT DATE = 5/10/2019	DATE - 5/17	REVISED -			CONTRACT NO. 68758			ILLINOIS FED. AID PROJECT	
SCALE:		SHEET OF SHEETS				STA. 1443+50.00 TO STA. 1444+50.00				

DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
	CHECKED



FILE NAME =	USER NAME = jacobsmr	DESIGNED - CHASTAIN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS ILLINOIS ROUTE 78	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default	PLOT SCALE = 20.0000' / in.	DATE - 5/17	REVISED -			CONTRACT NO. 68758				
	PLOT DATE = 5/10/2019					ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. 1445+00.00 TO STA. 1446+00.00