

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	102B-1	HAMILTON	52	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 78067		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

F.A.P. ROUTE 776 (IL ROUTE 242)  
SECTION 102B-1  
PROJECT **BRF-0776(028)**  
HAMILTON COUNTY  
C-99-053-08  
STRUCTURE REPLACEMENT  
OVER BRANCH OF BIG CREEK

**INDEX OF SHEETS**

**SHEET NO. DESCRIPTION**

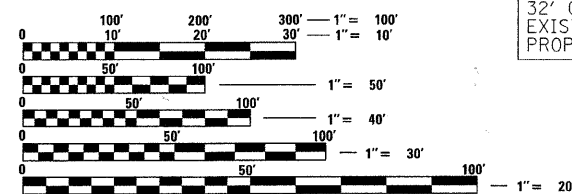
1. COVER SHEET
2. GENERAL NOTES AND STANDARDS
3. SUMMARY OF QUANTITIES
- 4.-5. TYPICAL SECTIONS
- 6.-7. SCHEDULES OF QUANTITIES
8. ALIGNMENT TIES AND BENCHMARK
- 9.-10. PLAN AND PROFILE
11. STAGE I CONSTRUCTION
12. STAGE II CONSTRUCTION
13. MISCELLANEOUS DETAILS
- 14.-15. SHOULDER INLET WITH CURB DETAILS
16. EROSION CONTROL PLAN
17. PAVEMENT MARKINGS
18. PAVED SHOULDER LAYOUT
19. GUARDRAIL LAYOUT
20. WIDE LOAD DETOUR
21. ROW SHEET
- 22.-23. STANDARD DETAILS DISTRICT 9
- 24.-43. STRUCTURE PLANS
- 44.-45. SOIL BORINGS
- 46.-52. STATION CROSS SECTIONS

**UTILITIES**

HAMILTON COUNTY WATER  
P.O. BOX 220  
MCLEANSBORO, IL 62859  
ATTN: DALE BIGGERSTAFF

WAYNE-WHITE COUNTIES ELECTRIC  
P.O. BOX DRAWER E  
FAIRFIELD, IL 62837  
ATTN: ERIN HALLEY

HAMILTON COUNTY TELEPHONE  
HIGHWAY 142  
P.O. BOX 40  
DAHLGREN, IL 62828  
ATTN: KEVIN PYLE



**SOUTH CROUCH TOWNSHIP**

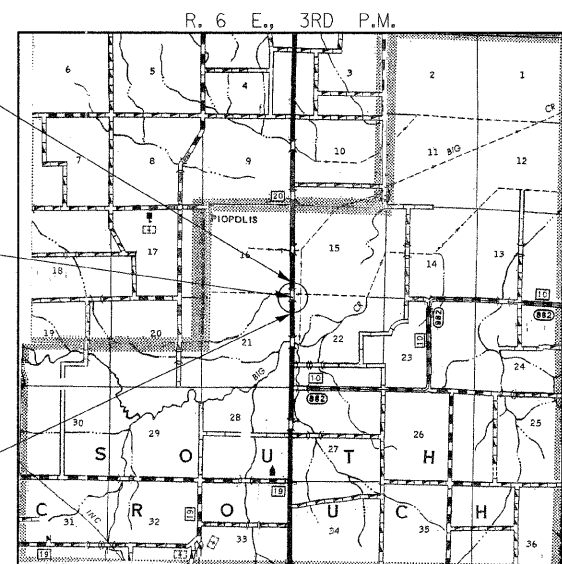
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

STA. 712+80  
SINGLE SPAN STEEL WIDE FLANGE BEAM BRIDGE  
78' BK TO BK ABUTMENTS  
32' CLEAR WIDTH; SKEW = 0°  
EXISTING STRUCTURE NO. 033-0029  
PROPOSED STRUCTURE NO. 033-0054

IMPROVEMENT BEGINS  
STATION 709+62.38

IMPROVEMENT ENDS  
STATION 715+97.62



**LOCATION MAP**

APPROXIMATE SCALE: 0 1 MILE  
NET LENGTH OF PROJECT = 634.25 FEET = 0.120 MILES  
GROSS LENGTH OF PROJECT = 634.25 FEET = 0.120 MILES  
ROADWAY LENGTH = 556.25 FEET = 0.105 MILES  
BRIDGE LENGTH = 78.00 FEET = 0.015 MILES

**HAMPTON, LENZINI AND RENWICK, INC.**  
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
217.546.3400 www.hlrengineering.com



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

<b>TRAFFIC DATA</b>	
FUNCTIONAL CLASSIFICATION:	MINOR ARTERIAL (NON URBAN)
DESIGN SPEED:	55 MPH
POSTED SPEED:	55 MPH
ADT:	1320 (2008)
PV:	84.47%
TRUCKS:	15.53%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 12, 2011  
Scott E. Stett, P.E.  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13, 2011  
Scott E. Stett, P.E.  
acting ENGINEER OF DESIGN AND ENVIRONMENT

May 13, 2011  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

DATE: 2/23/2011

EXPIRES: 11/30/2011

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

PROJECT ENGINEER: DAVID PICHE (618) 351-5277

CONTRACT NO. 78067

**GENERAL NOTES**

- 1 IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL EXISTING FIELD DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
- 2 WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- 3 ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.
- 4 PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK. THE CONTRACTOR, HOWEVER, WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE FOR THE WORK. CONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT OFFICE.
- 5 THE THICKNESS OF HOT MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT MIX ASPHALT MIXTURE IS PLACED.
- 6 ALL OBSTRUCTIONS WHICH ARE WITHIN THE CLEAR ZONE SHOWN ON THE TYPICAL SECTION, ARE NOT SHIELDED BY THE PROPOSED GUARDRAIL, SHALL BE REMOVED BETWEEN STATION 709+17.38 AND STATION 716+42.63. TYPICAL OBSTRUCTIONS ARE HEADWALLS, FOUNDATIONS, ETC. WHICH PROJECT 100 mm (4 IN.) OR MORE ABOVE THE GROUND LINE, AND TREES WHICH WILL MATURE TO A DIAMETER OF 100 mm (4 IN.) OR GREATER.
- 7 IF SO DIRECTED BY THE ENGINEER, DITCHES ADJACENT TO EMBANKMENTS SHALL BE CONSTRUCTED PRIOR TO STARTING THE CONSTRUCTION OF THE EMBANKMENT FILL.
- 8 FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:  
  
ALL HOT MIX ASPHALT - 2.016 TONS/CU.YD. (112 LBS/SQ.YD./INCH OF THICKNESS)  
ALL AGGREGATE 2.05 TONS/CU.YD.  
BITUMINOUS MATERIALS:  
ON PAVEMENT - 0.1 GAL./SQ.YD.  
INTERMEDIATE LIFTS (FOG COAT) - 0.04 GAL./SQ.YD.  
ON AGGREGATE SURFACE - 0.32 GAL./SQ.YD.  
AGGREGATE (PRIME COAT) - 0.002 TONS/SQ.YD.  
  
RIPRAP - 1.5 TONS/CU.YD.
- 9 TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.
- 10 TRIM EDGES OF EXISTING HOT MIX ASPHALT SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.
- 11 EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.
- 12 THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE SURFACE COURSE, AND LEVELING BINDER COURSE.
- 13 WHEN WIDENING FLEXIBLE BASE PAVEMENT, THE CONTRACTOR SHALL TRIM EXISTING SURFACE AND BASE TO A FIRM, NEAR VERTICAL PLANE BEFORE CONSTRUCTING THE WIDENING. THE COST OF THIS REQUIREMENT IS INCLUDED IN THE UNIT PRICE BID FOR THE BASE COURSE WIDENING.
- 14 AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

- 15 THE MINIMUM VERTICAL CLEARANCE FOR PERMANENT SIGNS PLACED ON BACKSLOPES SHALL BE 0.914 m (3 FT.) MEASURED FROM A POINT DIRECTLY BENEATH THE FAR EDGE OF THE SIGN.
- 16 THE LIMITS OF ROCK AND EARTH SLOPES SHOWN IN THE CROSS SECTIONS ARE APPROXIMATE. THE ACTUAL SLOPE USED SHALL BE DETERMINED BY THE MATERIAL CLASSIFICATION AS DEFINED IN ARTICLE 202.04, AND AS DIRECTED BY THE ENGINEER.
- 17 QUANTITIES SHOWN IN THE PLANS FOR BRIDGE DECK GROOVING AND PROTECTIVE COAT INCLUDE THE BRIDGE, THE BRIDGE APPROACH PAVEMENT, AND THE BRIDGE APPROACH CONNECTORS (PCC).
- 18 PROTECTIVE COAT SHALL BE APPLIED TO THE BRIDGE, THE BRIDGE APPROACH PAVEMENT, AND THE BRIDGE APPROACH CONNECTORS (PCC), IN ACCORDANCE WITH ARTICLE 503.19 OF THE STANDARD SPECIFICATIONS. THE SEASONAL EXCEPTION SHALL NOT APPLY. THE PROTECTIVE COAT SHALL BE APPLIED REGARDLESS OF THE CURING METHOD USED. THE RATE OF APPLICATION FOR EACH COAT IN SAW CUT GROOVED AREAS SHALL BE 25 SQUARE YARDS PER GALLON OF MIXTURE.
- 19 PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.
- 20 IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 21 THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- 22 THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND AT TENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.
- 23 VERTICAL PANELS SHOWN ON STANDARD 701321 WILL NOT BE REQUIRED ON THE STAGE II NEW BRIDGE PARAPET. THE BARRIER WALL REFLECTORS SHALL BE INSTALLED PRIOR TO OPENING TO TRAFFIC.
- 24 ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OFF OR COVERED
- 25 ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE LEFT IN PLACE UNTIL REMOVAL IS REQUIRED TO CONSTRUCT FINAL GRADE LINES.
- 26 THE HOT-MIX ASPHALT BASE COURSE WIDENING, 10 3/4" CONSTRUCTED IN PRE-STAGE 1 MAY BE INCORPORATED IN INTO THE FINAL HOT-MIX ASPHALT SHOULDERS, 8" DURING STAGE 2 CONSTRUCTION IF APPROVED BY THE ENGINEER. SUCH CHANGE WILL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION, BUT THE CONTRACTOR WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- 27 COMMITMENTS: NONE AS OF 3/25/2011

**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 420001-07 PAVEMENT JOINTS
- 420401-08 BRIDGE APPROACH PAVEMENT CONNECTOR
- 515001-03 NAME PLATE FOR BRIDGES
- 542401-01 METAL END SECTION FOR PIPE CULVERTS
- 601101-01 CONCRETE HEADWALL FOR PIPE DRAIN
- 609001-05 BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
- 609006-05 BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)
- 610001-05 SHOULDER INLET WITH CURB
- 630001-09 STEEL PLATE BEAM GUARDRAIL
- 630201-06 PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-05 SHOULDER WIDENING FOR TYPE 1, (SPECIAL) GUARDRAIL TERMINALS
- 631031-09 TRAFFIC BARRIER TERMINAL, TYPE 6
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 666001-01 RIGHT-OF-WAY MARKERS
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 4.5M (15') AWAY
- 701006-03 OFF-ROAD OPERATIONS 2L, 2W, 4.5M (15') TO 600 MM (24") FROM PAVEMENT EDGE
- 701011-02 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701321-11 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-04 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING FOR SPEEDS ≥ 45 MPH
- 701901-01 TRAFFIC CONTROL DEVICES
- 704001-06 TEMPORARY CONCRETE BARRIER
- 780001-02 TYPICAL PAVEMENT MARKINGS
- 781001-03 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

Prepared By: Joe Zdaniewicz  
DISTRICT STUDIES & PLANS ENGINEER

Examined By: Thomas Lewis Emery  
DISTRICT LAND ACQUISITION ENGINEER

Examined By: Carrie Nuber  
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: Keith Wiley  
DISTRICT OPERATIONS ENGINEER

Examined By: K. L. S.  
DISTRICT CONSTRUCTION ENGINEER

Examined By: Brian W. Peltz  
DISTRICT MATERIALS ENGINEER

Approved By: My C. Lami  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER


DATE: March 17 2011

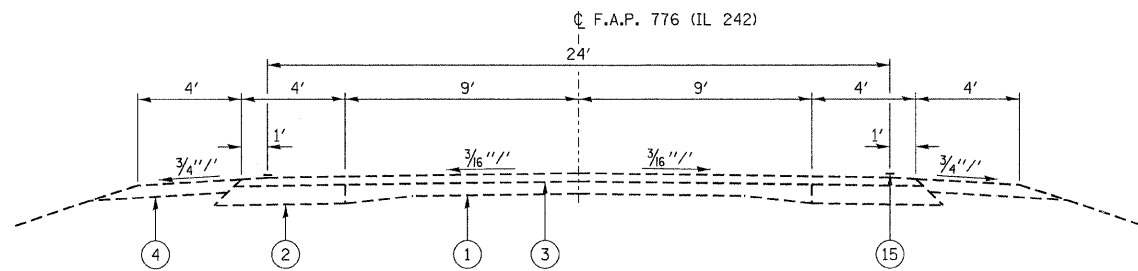
FILE NAME = 092039-shr-notes.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLR	GENERAL NOTES AND HIGHWAY STANDARDS IL. 242			F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - T.W.K.	REVISED -			776	102B-1	HAMILTON	52	2			
PLOT DATE = 2/22/2011	CHECKED - J.W.F.	REVISED -	REVISED -	SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		
	DATE - 11/30/10	REVISED -	REVISED -								CONTRACT NO. 78067		

SUMMARY OF QUANTITIES			
	ITEM	UNIT	HBP FUNDING 80% FEDERAL 20% STATE SN 033-0054 0011
	20200100	EARTH EXCAVATION	CU YD 51
	20300100	CHANNEL EXCAVATION	CU YD 570
*	25000200	SEEDING, CLASS 2	ACRE 0.20
*	25000350	SEEDING, CLASS 7	ACRE 0.20
*	25000400	NITROGEN FERTILIZER NUTRIENT	POUND 25
*	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND 17
*	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND 17
*	25000700	AGRICULTURAL GROUND LIMESTONE	TON 0.39
*	25100115	MULCH, METHOD 2	ACRE 0.35
	25100630	EROSION CONTROL BLANKET	SQ YD 812
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND 77
	28000400	PERIMETER EROSION BARRIER	FOOT 1279
	28100107	STONE RIPRAP, CLASS A4	SQ YD 658
	28200200	FILTER FABRIC	SQ YD 658
	35600719	HOT-MIX ASPHALT BASE COURSE WIDENING, 10 3/4"	SQ YD 168
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON 166
	40600300	AGGREGATE (PRIME COAT)	TON 3
	40600645	LEVELING BINDER (MACHINE METHOD), N90	TON 63
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD 174
	40600990	TEMPORARY RAMP	SQ YD 72
	40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON 154
	42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD 44
	44000100	PAVEMENT REMOVAL	SQ YD 314
	48100700	AGGREGATE SHOULDERS, TYPE A - 8"	SQ YD 191
	48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD 355
	48300300	PORTLAND CEMENT CONCRETE SHOULDERS 8"	SQ YD 12.5
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH 1
	50200100	STRUCTURE EXCAVATION	CU YD 214
	50300100	FLOOR DRAINS	EACH 8
	50300225	CONCRETE STRUCTURES	CU YD 51.2
	50300255	CONCRETE SUPERSTRUCTURE	CU YD 214.8
	50300260	BRIDGE DECK GROOVING	SQ YD 460
	50300280	CONCRETE ENCASEMENT	CU YD 4.0
	50300300	PROTECTIVE COAT	SQ YD 597
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM 1
	50500505	STUD SHEAR CONNECTORS	EACH 1044
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND 54930
	50800515	BAR SPLICERS	EACH 566
	51201400	FURNISHING STEEL PILES HP10X42	FOOT 680
	51202305	DRIVING PILES	FOOT 680
	51203400	TEST PILE STEEL HP10X42	EACH 2

\* SPECIALTY ITEM

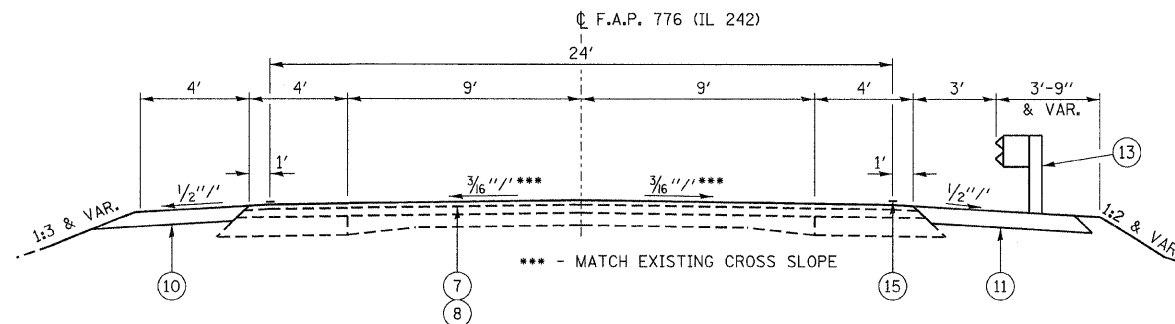
SUMMARY OF QUANTITIES			
	ITEM	UNIT	HBP FUNDING 80% FEDERAL 20% STATE SN 033-0054 0011
	51500100	NAME PLATES	EACH 1
	52100520	ANCHOR BOLTS, 1"	EACH 24
	54215547	METAL END SECTIONS 12"	EACH 3
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD 66
	60100945	PIPE DRAINS 12"	FOOT 15
*	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A 6 FOOT POSTS	FOOT 400
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH 3
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH 3
	63200310	GUARDRAIL REMOVAL	FOOT 309
	66201120	CONCRETE SHOULDER CURB	FOOT 27
	66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH 8
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO 10
	67100100	MOBILIZATION	L SUM 1
	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH 1
	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM 1
	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM 1
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA 6
	70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH 1
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO 1
	70300100	SHORT TERM PAVEMENT MARKING	FOOT 152
	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT 1676
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT 553
	70400100	TEMPORARY CONCRETE BARRIER	FOOT 400
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT 350
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT 1676
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH 8
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH 2
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH 14
	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH 3
	78300100	PAVEMENT MARKING REMOVAL	SQ FT 509
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH 10
	86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH 1
	X0325446	SHOULDER INLET WITH CURB (4 FT SHOULDER)	EACH 3
	X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD 105
*	X6310218	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH 1
	Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH 8
	Z0026407	TEMPORARY SHEET PILING	SQ FT 964
	Z0030250	IMPACT AT TENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH 2
	Z0030350	IMPACT AT TENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH 2
	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT 136

FILE NAME = 092039-sht-summary.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>SUMMARY OF QUANTITIES IL 242</b>		F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE =	CHECKED - J.W.F.	REVISED -	776			102B-1	HAMILTON	52	3			
PLOT DATE = 2/22/2011	DATE - 12/01/10	REVISED -	SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 78067						
								FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



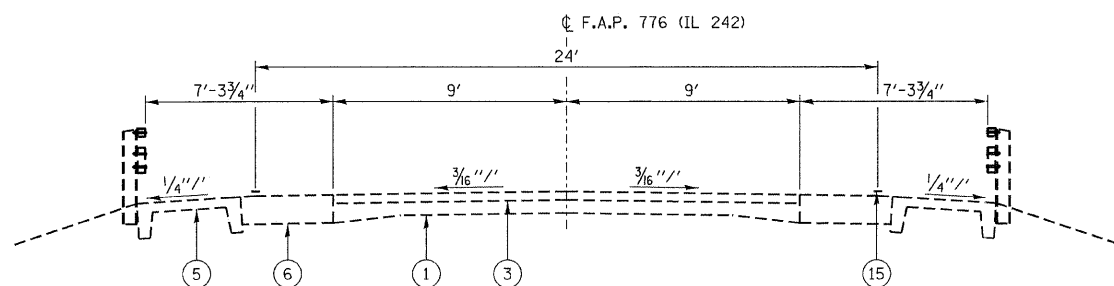
**EXISTING TYPICAL CROSS SECTION**

STA. 709+17.38 TO STA. 712+36.08  
STA. 713+23.92 TO STA. 716+42.63



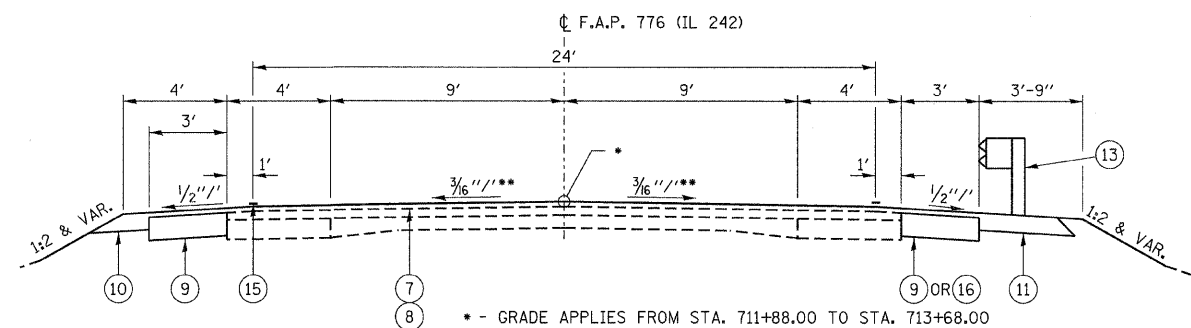
**PROPOSED TYPICAL CROSS SECTION**

STA. 709+17.38 TO STA. 710+94.00



**EXISTING TYPICAL CROSS SECTION**

STA. 712+36.08 TO STA. 712+55.00  
STA. 713+04.00 TO STA. 713+23.92



**PROPOSED TYPICAL CROSS SECTION**

STA. 710+94.00 TO STA. 712+05.00

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 242 WIDENING
MIXTURE USE(S):	HOT-MIX ASPHALT BASE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 19.0
FRICTION AGGREGATE:	NONE
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

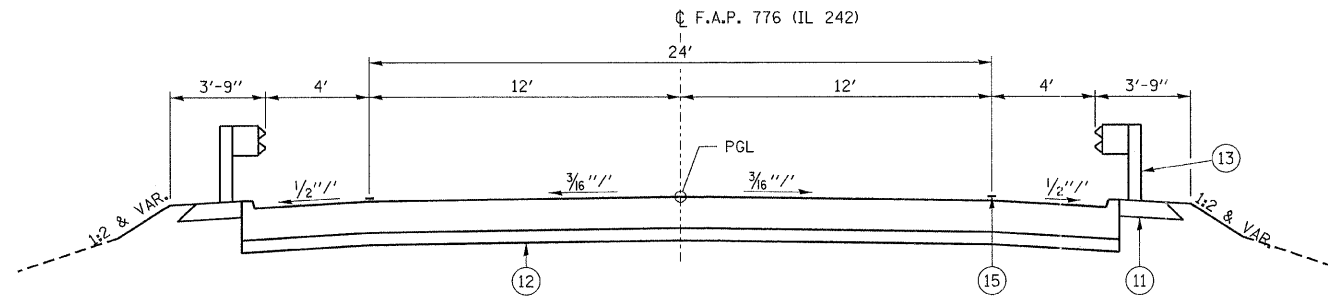
MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 242 SURFACE
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 9.5 OR IL 12.5
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 242 LEVELING BINDER
MIXTURE USE(S):	LEVEL BINDER (MACHINE METHOD), N90
AC/PG:	PG 64-22
RAP % (MAX):	10%
DESIGN AIR VOIDS:	4% @ Ndes 90
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 9.5 OR IL 12.5
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

MIXTURE REQUIREMENTS	
LOCATION(S):	IL RTE 242 HMA SHOULDERS
MIXTURE USE(S):	HOT-MIX ASPHALT SHOULDERS, 8"
AC/PG:	PG 58-22
RAP % (MAX):	50%
DESIGN AIR VOIDS:	2% @ Ndes 30
MIXTURE COMPOSITION: (GRADATION MIXTURE):	HMA SHOULDERS
FRICTION AGGREGATE:	NONE
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

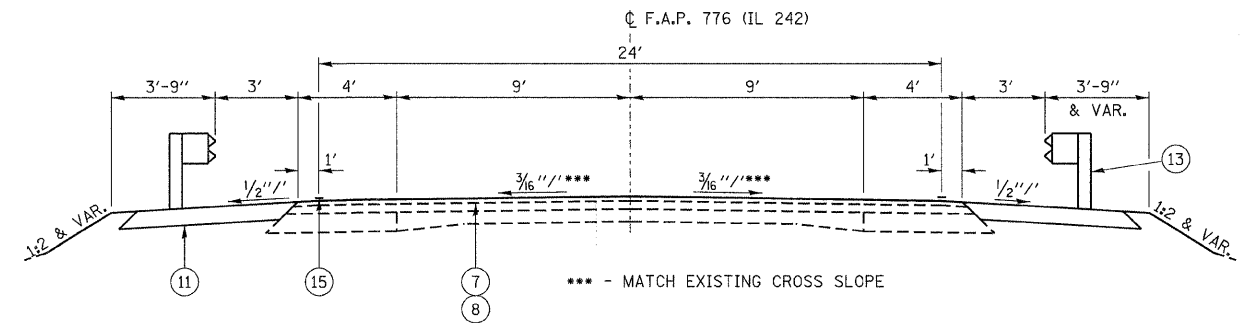
**LEGEND**

- ① EXIST CONCRETE PAVEMENT
- ② EXISTING BASE COURSE WIDENING
- ③ EXISTING HMA OVERLAY
- ④ EXISTING AGGREGATE SHOULDERS
- ⑤ EXISTING PRECAST CONCRETE UNITS
- ⑥ EXISTING PCC PAVEMENT 10"
- ⑦ LEVELING BINDER (MACHINE METHOD), N90 (3/4" MIN)
- ⑧ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2" MIN)
- ⑨ HMA BASE COURSE WIDENING 10 3/4"
- ⑩ AGGREGATE SHOULDERS TYPE A 8"
- ⑪ HMA SHOULDERS TYPE A 8"
- ⑫ BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)
- ⑬ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
- ⑭ TRAFFIC BARRIER TERMINAL, TYPE 6
- ⑮ PAVEMENT MARKING
- ⑯ PCC SHOULDERS 8"



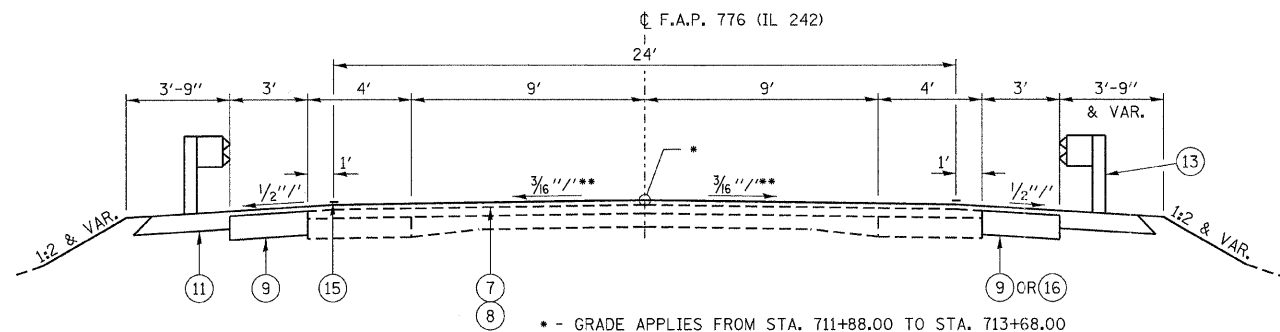
**PROPOSED TYPICAL CROSS SECTION**

STA. 712+05.00 TO STA. 712+11.00 (PCC CONNECTOR)  
 STA. 712+11.00 TO STA. 712+41.00 (APPROACH SLAB)  
 STA. 713+19.00 TO STA. 713+49.00 (APPROACH SLAB)  
 STA. 713+49.00 TO STA. 713+55.00 (PCC CONNECTOR)



**PROPOSED TYPICAL CROSS SECTION**

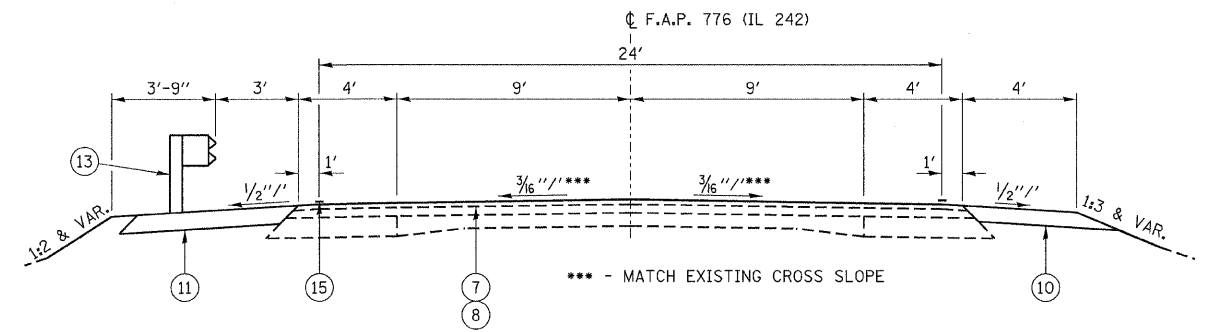
STA. 714+65.00 TO STA. 715+02.13



**PROPOSED TYPICAL CROSS SECTION**

STA. 713+55.00 TO STA. 714+65.00

• - GRADE APPLIES FROM STA. 711+88.00 TO STA. 713+68.00  
 \*\*\* - MATCH EXISTING CROSS SLOPE FROM STA. 713+55.00 TO STA. 713+68.00



**PROPOSED TYPICAL CROSS SECTION**

STA. 715+02.13 TO STA. 715+89.63

**LEGEND**

- ① EXIST CONCRETE PAVEMENT
- ② EXISTING BASE COURSE WIDENING
- ③ EXISTING HMA OVERLAY
- ④ EXISTING AGGREGATE SHOULDERS
- ⑤ EXISTING PRECAST CONCRETE UNITS
- ⑥ EXISTING PCC PAVEMENT 10"
- ⑦ LEVELING BINDER (MACHINE METHOD), N90 (3/4" MIN)
- ⑧ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2" MIN)
- ⑨ HMA BASE COURSE WIDENING 10 3/4"
- ⑩ AGGREGATE SHOULDERS TYPE A 8"
- ⑪ HMA SHOULDERS TYPE A 8"
- ⑫ BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)
- ⑬ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
- ⑭ TRAFFIC BARRIER TERMINAL, TYPE 6
- ⑮ PAVEMENT MARKING
- ⑯ PCC SHOULDERS 8"

FILE NAME = 092039-shl-typesections.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>TYPICAL SECTIONS IL 242</b>	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - T.W.K.	REVISED -				776	102B-1	HAMILTON	52	5
		CHECKED - J.W.F.	REVISED -				CONTRACT NO. 78067				
		DATE - 10/09/09	REVISED -				ILLINOIS FED. AID PROJECT				
PLOT SCALE =		DATE - 10/09/09		SCALE:		SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.			

PAVEMENT MARKING SCHEDULE										
LOCATION	TEMPORARY		PAINT PAVEMENT MARKING PERMANENT		SHORT TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL
	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE	4" SINGLE WHITE EDGE LINE	4" SKIPPED DASHED YELLOW CENTERLINE						
	70300220	70300220	78001110	78001110						
	70300220	70300220	78001110	78001110	70300100	70301000	78300100	78100100	78100105	78300200
	FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT	SQ FT	EACH	EACH	EACH
FAP 776 IL 242										
CL. STA 709+00 TO CL. STA 716+45							62			10
LT. STA 709+00 TO LT. STA 716+45							199			
RT. STA 709+00 TO RT. STA 716+45							248			
CL. STA 709+00 TO CL. STA 716+45		186		186	152	61		8	2	
LT. STA 709+00 TO LT. STA 716+45	745		745			246				
RT. STA 709+00 TO RT. STA 716+45	745		745			246				
SUBTOTAL	1490	186	1490	186	152	553	509	8	2	10
TOTAL		1676		1676	152	553	509	8	2	10

GUARDRAIL SCHEDULE							
LOCATION	GUARDRAIL REMOVAL	STEEL PLATE BEAM GUARD RAIL TYPE A 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL TYPE 6	TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL TYPE 6 (SPECIAL)	TERMINAL MARKER DIRECT APPLIED	GUARDRAIL MARKERS TYPE A
	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH
STAGE I							
LT. STA 712+09 TO LT. STA 712+36	27						
LT. STA 713+24 TO LT. STA 714+25	101						
LT. STA 712+15 TO LT. STA 712+28.50					1		
LT. STA 713+31.50 TO LT. STA 715+89.63		162.5	1	1		1	
LT. STA 712+15 TO LT. STA 715+89.63							6
STAGE II							
RT. STA 712+09 TO RT. STA 712+36	80						
RT. STA 713+24 TO RT. STA 714+25	101						
RT. STA 709+70.38 TO RT. STA 712+28.50		162.5	1	1		1	
RT. STA 713+31.50 TO LT. STA 715+02.13		75	1	1		1	
RT. STA 709+70.38 TO RT. STA 715+02.13							8
TOTAL	309	400	3	3	1	3	14

SEEDING SCHEDULE								
LOCATION	SEEDING CLASS 2 SPECIAL	SEEDING CLASS 7	TEMPORARY EROSION CONTROL SEEDING *	NITROGEN FERTILIZER NUTRIENT**	PHOSPHORUS FERTILIZER NUTRIENT 90 LBS/ACRE	POTASSIUM FERTILIZER NUTRIENT 90 LBS/ACRE	AGRICULTURAL GROUND LIMESTONE 2 TONS/ACRE	MULCH METHOD 2 APPL
	25000200	25000350	28000250	25000400	25000500	25000600	25000700	25100115
	ACRE	ACRE	LBS	LBS	LBS	LBS	TONS	ACRE
FAP 776 IL 242								
STAGE I								
709+17.38 TO 712+41.00	0.05	0.05	20	6	4	4	0.10	0.10
713+19.00 TO 716+42.63	0.07	0.07	28	9	6	6	0.14	0.14
STAGE II								
709+17.38 TO 712+41.00	0.03	0.03	11	4	2	2	0.06	0.01
713+19.00 TO 716+42.63	0.05	0.05	18	6	5	5	0.09	0.10
TOTAL	0.20	0.20	77	25	17	17	0.39	0.35

\* 100 LBS/ACRE FOR 4 APPLICATIONS

\*\* 90 LBS/ACRE FOR SEEDING CLASS 2 AND 40 LBS/ACRE FOR SEEDING CLASS 7

EROSION CONTROL SCHEDULE				
LOCATION	EROSION CONTROL BLANKET	PERIMETER EROSION BARRIER	STONE RIPRAP CLASS A4	FILTER FABRIC
	25100630	28000400	28100107	28200200
	SQ YD	FOOT	SQ YD	SQ YD
FAP 776 IL 242				
STAGE I				
LT. STA 709+17.38 TO LT. STA 712+41.00	20	308		
LT. STA 713+19.00 TO LT. STA 716+42.63	219	321	6	6
STAGE II				
RT. STA 709+17.38 TO RT. STA 712+41.00	231	311	6	6
RT. STA 713+00.00 TO RT. STA 716+42.63	342	339	6	6
TOTAL	812	1279	18	18

ROADWAY SCHEDULE												
LOCATION	HOT-MIX ASPHALT SURFACE COURSE MIX C. N90 1 1/2"	LEVELING BINDER (MACHINE METHOD) N90	HOT-MIX ASPHALT BASE COURSE WIDENING 10 3/4"	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	BITUMINOUS MATERIAL PRIME COAT	AGGREGATE PRIME COAT	HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT	TEMPORARY RAMP	PAVEMENT REMOVAL	PORTLAND CEMENT CONCRETE SHOULDERS 8"	HOT-MIX ASPHALT SHOULDERS 8"	AGGREGATE SHOULDERS TYPE A 8"
	40603320	40600645	35600719	42001420	40600100	40600300	40600982	40600990	44000100	48300300	48100500	48100700
	SQ YD	SQ YD	SQ YD	SQ YD	GAL	TON	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD
FAP 776 IL RTE 242												
STAGE I												
LT STA 709+17.38 TO LT 716+42.63			74	22					170	4.2	146	110
RT STA 709+17.38 TO RT 716+42.63			94									
STAGE II												
RT STA 709+17.38 TO RT 716+42.63				22					144	8.3	209	81
CL STA 709+17.38 TO CL STA 712+11.00	77	31			83	1.5	87	36				
CL STA 713+49.00 TO CL STA 716+42.63	77	32			83	1.5	87	36				
TOTAL	154	63	168	44	166	3	174	72	314	12.5	355	191

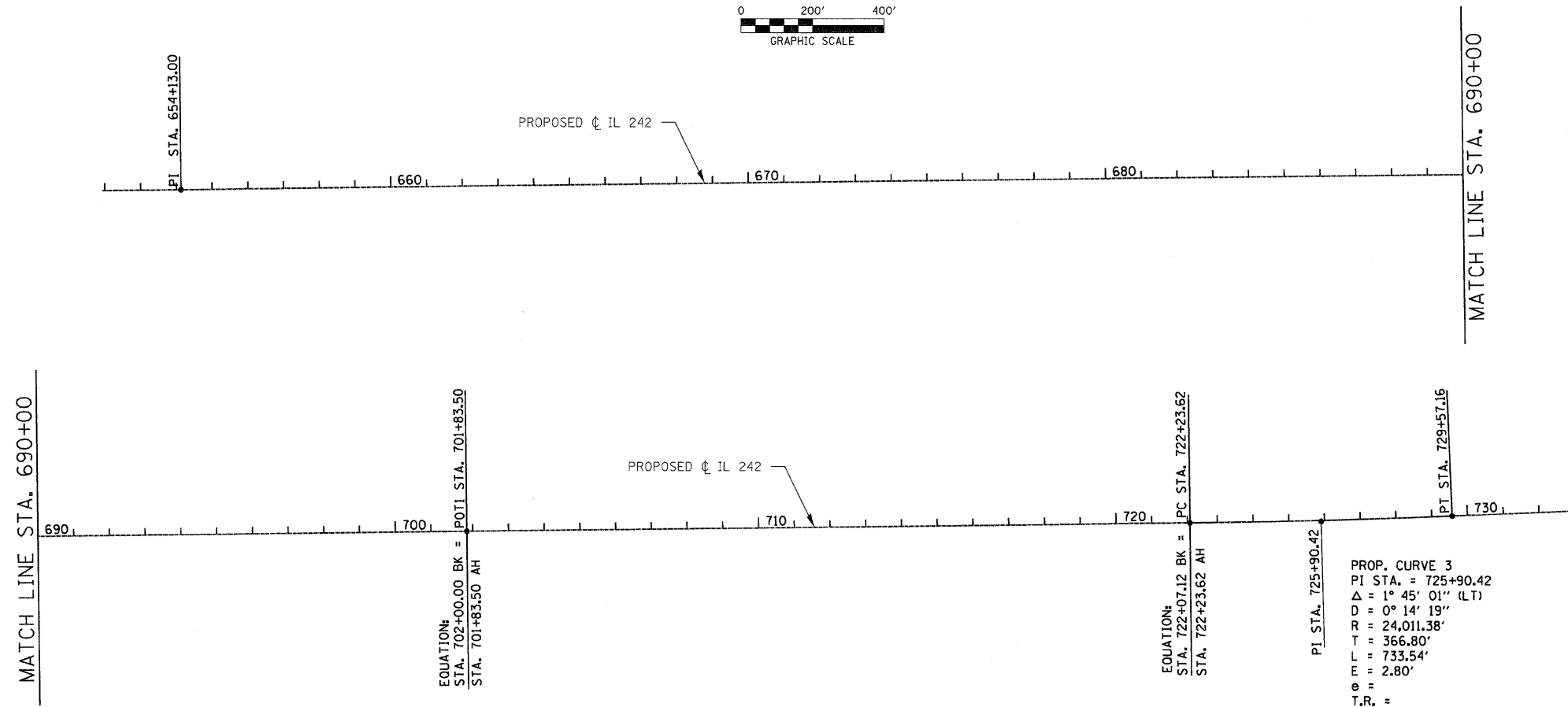
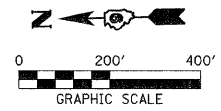
RIGHT OF WAY MARKER SCHEDULE	
LOCATION	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS
	66600105 EACH
FAP 776 IL 242	
STAGE I	
30' RT. STA 709+00	1
50' RT. STA 709+00	1
30' LT. STA 711+50	1
40' LT. STA 711+50	1
40' LT. STA 714+50	1
50' LT. STA 714+50	1
50' RT. STA 716+25	1
30' RT. STA 716+25	1
TOTAL	8

INLET AND CULVERT SCHEDULE			
LOCATION	SHOULDER INLET WITH CURB (4 FT SHOULDER)	PIPE DRAINS 12"	METAL END SECTIONS 12"
	X0325446	60100945	54215547
	EACH	FOOT	EACH
FAP 776 IL RTE 242			
RT STA 712+00.31	1	5	1
RT STA 713+59.69	1	5	1
LT STA 713+59.69	1	5	1
TOTAL	3	15	3

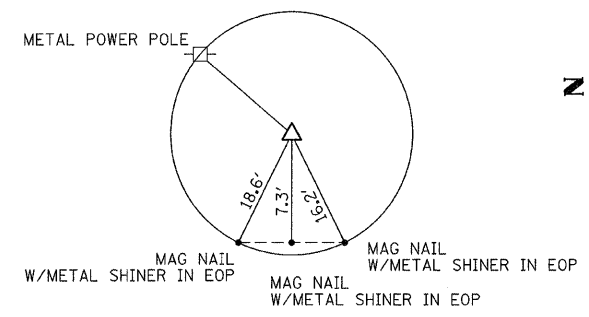
66201120 CONCRETE SHOULDER CURB	
LOCATION	CONCRETE SHOULDER CURB
	66201120
	FOOT
FAP 776 IL RTE 242	
RT STA 711+95.63 TO RT STA 712+05	9
RT STA 713+55 TO RT STA 713+64.38	9
LT STA 713+55 TO LT STA 713+64.38	9
TOTAL	27

MAINTENANCE OF TRAFFIC					
LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	BRIDGE TRAFFIC SIGNALS	IMPACT ATTENUATORS TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	IMPACT ATTENUATORS RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3
	70400100	70400200	70106500	Z0030250	Z0030350
	FOOT	FOOT	EACH	EACH	EACH
FAP 776 IL RTE 242					
STAGE I					
STA 692-06.25 TO STA 733+47.75	400		1	2	
STAGE II					
STA 692-06.25 TO STA 733+47.75		350			2
TOTAL	400	350	1	2	2

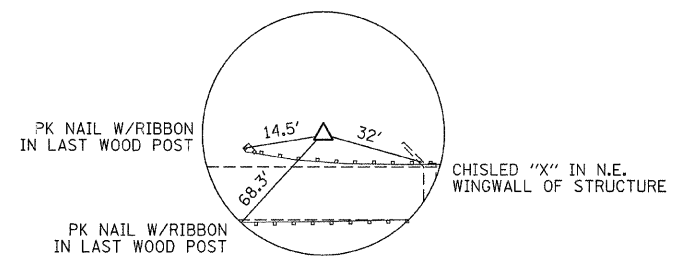
EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	ADDITIONAL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD			CUBIC YARD	CUBIC YARD	CUBIC YARD
FAP 776 IL 242							
STAGE I							
709+17.38 TO 712+41.00	26		25.00%	100.00%	20	0	20
713+19.00 TO 716+42.63	6		25.00%	100.00%	5	47	-42
STAGE II							
709+17.38 TO 712+41.00	12		25.00%	100.00%	9	41	-32
713+19.00 TO 716+42.63	7		25.00%	100.00%	5	53	-48
CHANNEL EXCAVATION		570	25.00%	50.00%	214	0	214
	51	570			253	141	112
WASTE EXCAVATION =						112	CU.YD.



PROP. CURVE 3  
 PI STA. = 725+90.42  
 $\Delta$  = 1° 45' 01" (LT)  
 D = 0° 14' 19"  
 R = 24,011.38'  
 T = 366.80'  
 L = 733.54'  
 E = 2.80'  
 e =  
 T.R. =  
 S.E. RUN =  
 P.C. STA. = 722+23.62  
 P.T. STA. = 729+57.16



IRON PIN W/YELLOW  
 IDOT CAP  
 N. 548823.320  
 E. 925237.224  
 19.85' LT. STA. 695+66.42



IRON PIN W/YELLOW  
 IDOT CAP  
 N. 547151.568  
 E. 925235.176  
 29' LT. STA. 712+21.65

IL 242 CENTERLINE			
DESCRIPTION	STATION	NORTHING	EASTING
POB	654+13.00	552,976.7689	925,248.6530
POB STAEQ BK=	702+00.00	548,189.9009	925,213.7479
POB STAEQ AH=	701+83.50	548,189.9009	925,213.7479
POE	722+07.12	546,166.3355	925,198.9924

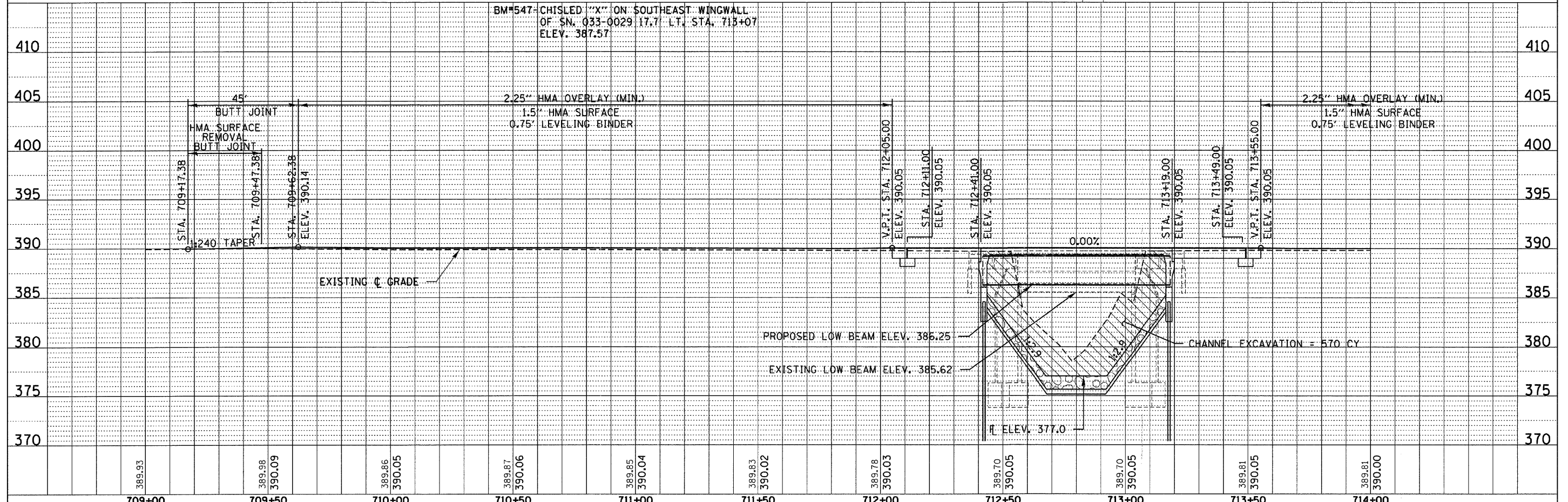
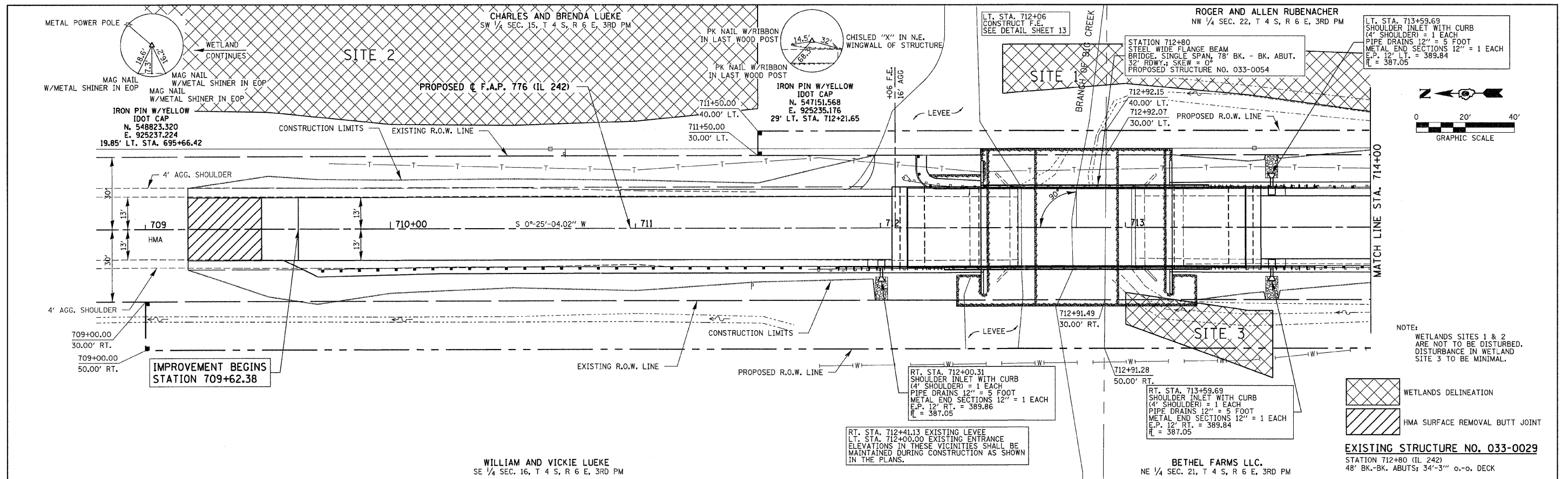
CONTROL POINTS					
POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	ELEVATION
D91003	695+66.42	19.86' LT.	548823.320	925238.224	386.865
330608	712+21.65	29.00 LT.	547151.586	925235.176	389.996

**BENCHMARKS**  
 BM#547- CHISLED "X" ON SOUTHEAST WINGWALL  
 OF SN. 033-0029 17.7' LT. STA. 713+07  
 ELEV. 387.57



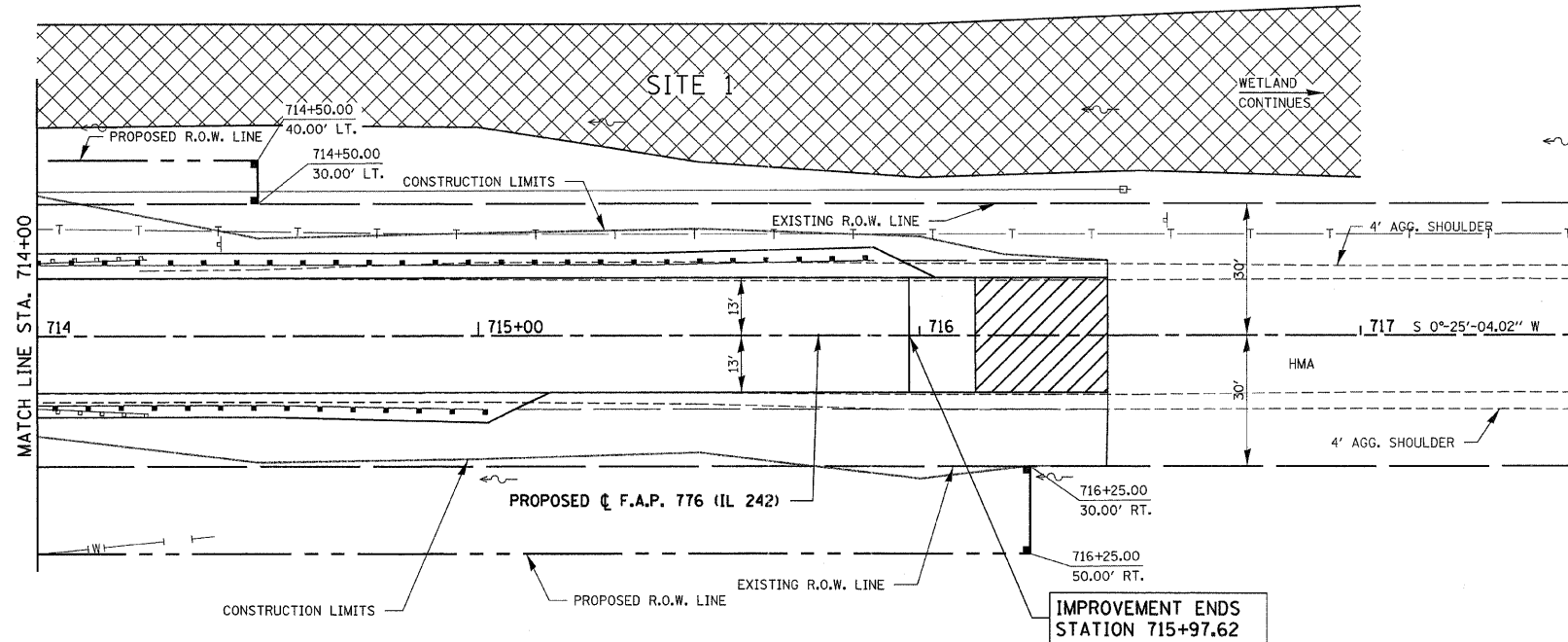
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	DATE	
	NOTE BOOK	
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	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
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	NOTE BOOK	
	FILE NAME	
	NO.	

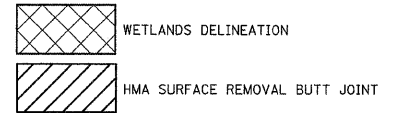


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PLOT SCALE =	CHECKED - J.W.F.	DATE - 10/06/09	REVISED -	CONTRACT NO. 78067		SHEET NO. 1 OF 2 SHEETS	STA. 709+17.38 TO STA. 714+00.00		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

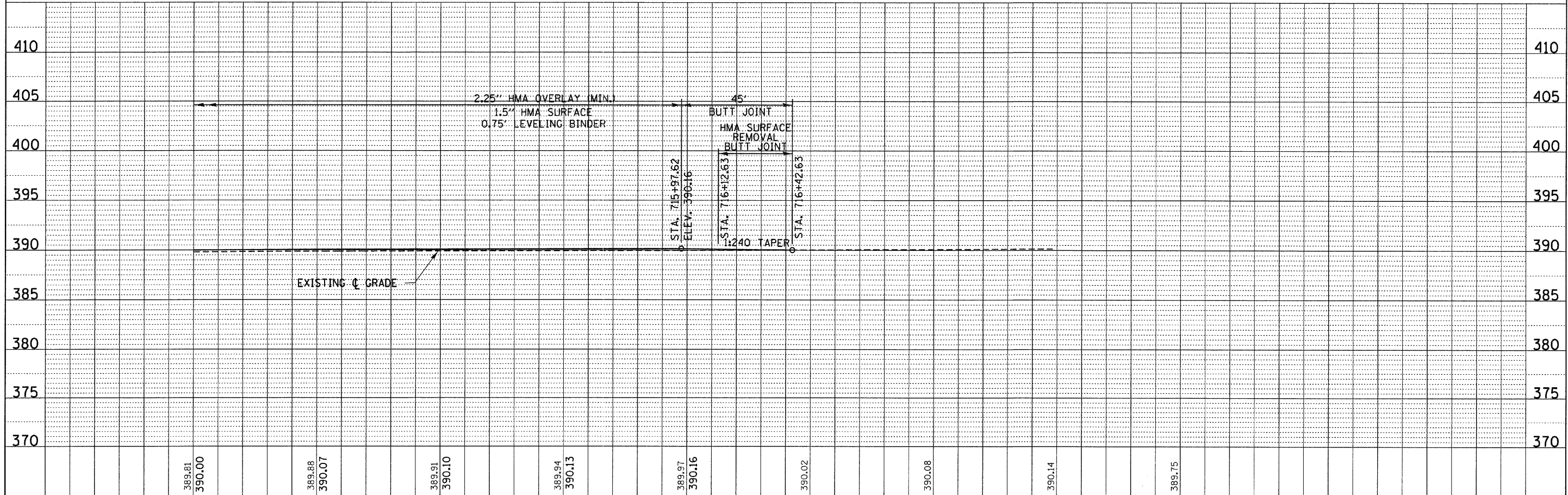
ROGER AND ALLEN RUBENACHER  
NW 1/4 SEC. 22, T 4 S, R 6 E, 3RD PM



NOTE:  
WETLANDS SITES 1 & 2  
ARE NOT TO BE DISTURBED.  
DISTURBANCE IN WETLAND  
SITE 3 TO BE MINIMAL.



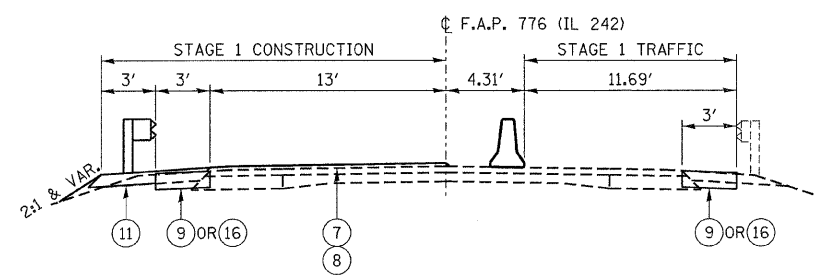
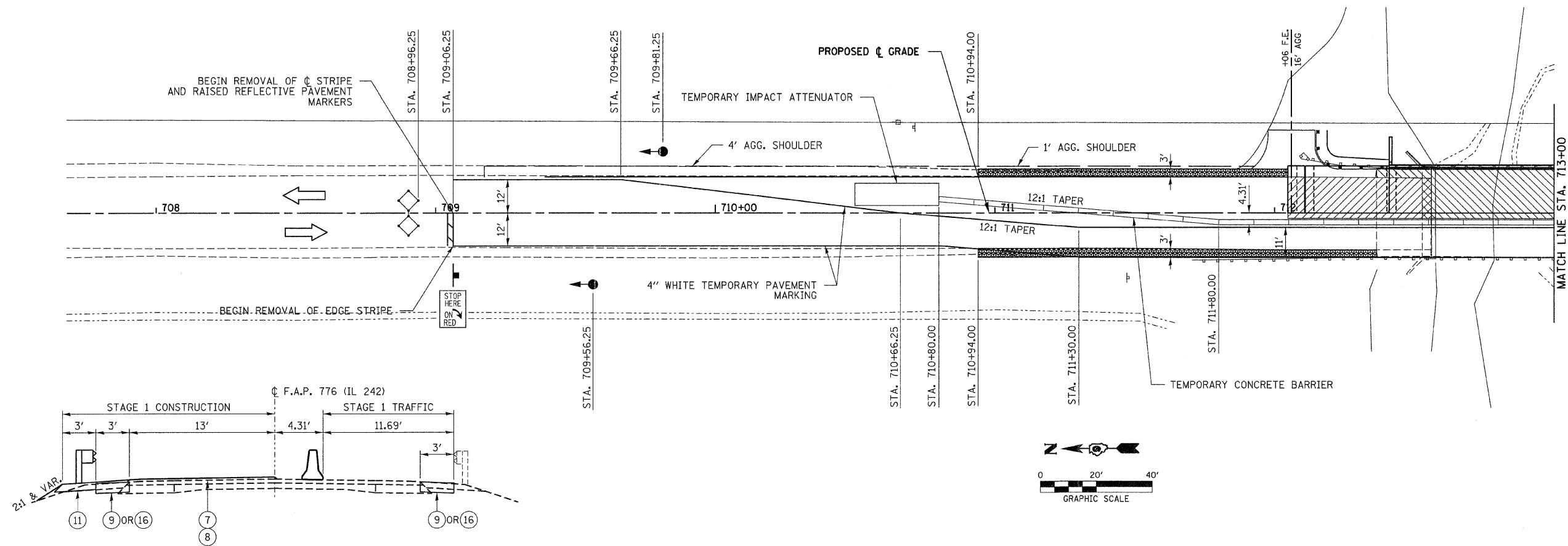
BETHEL FARMS LLC.  
NE 1/4 SEC. 21, T 4 S, R 6 E, 3RD PM



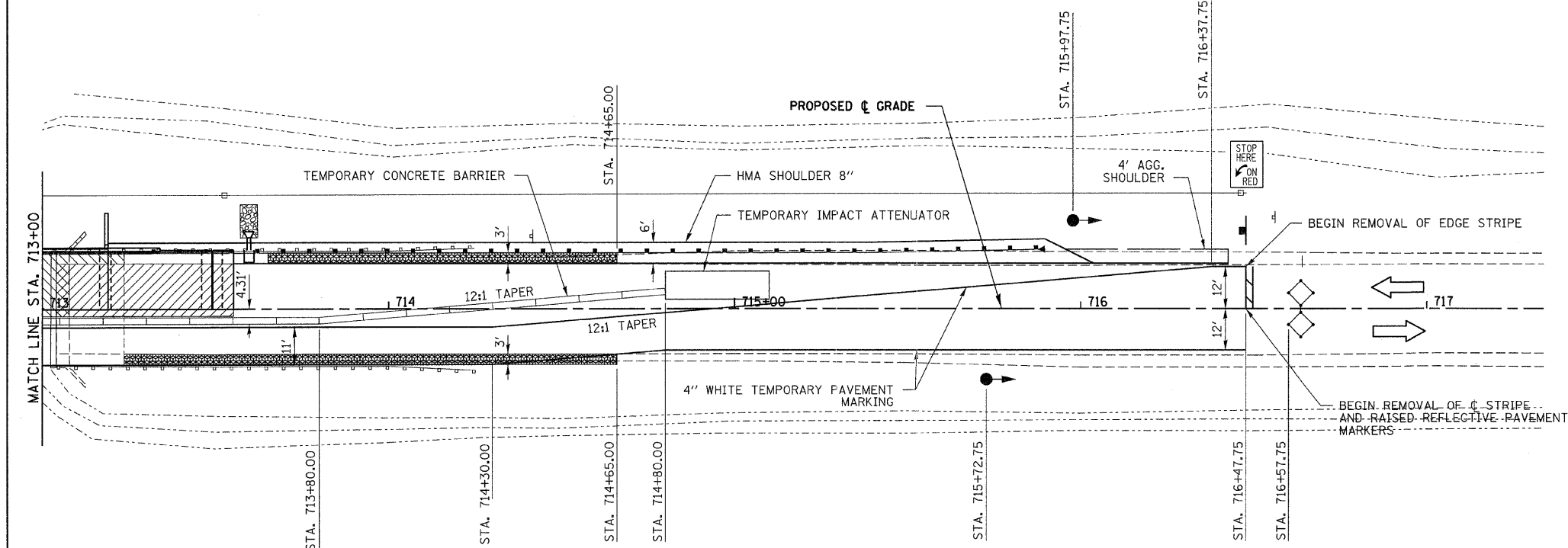
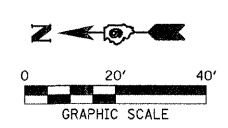
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PLOT SCALE =	CHECKED - J.W.F.	REVISED -	CONTRACT NO. 78067										
PLOT DATE = 2/22/2011	DATE - 10/06/09	REVISED -	SCALE: H1:20 V1:5										
			SHEET NO. 2 OF 2 SHEETS										

PLAN	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
NO.	RT. OF WAY CHECKED	
	CADD FILE NAME	

PROF. ILE	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
	RT. OF WAY CHECKED	
	STRUCTURE NOTATION CHKD	

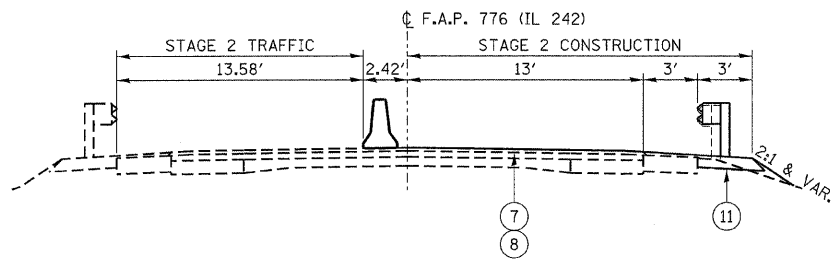
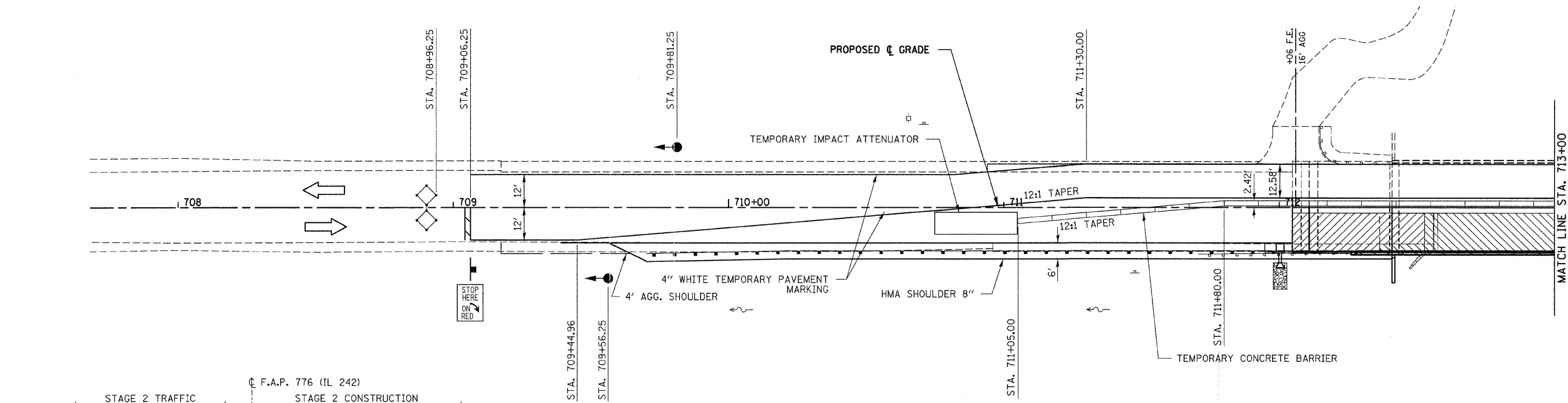


TYPICAL STAGE 1 CONSTRUCTION CROSS SECTION

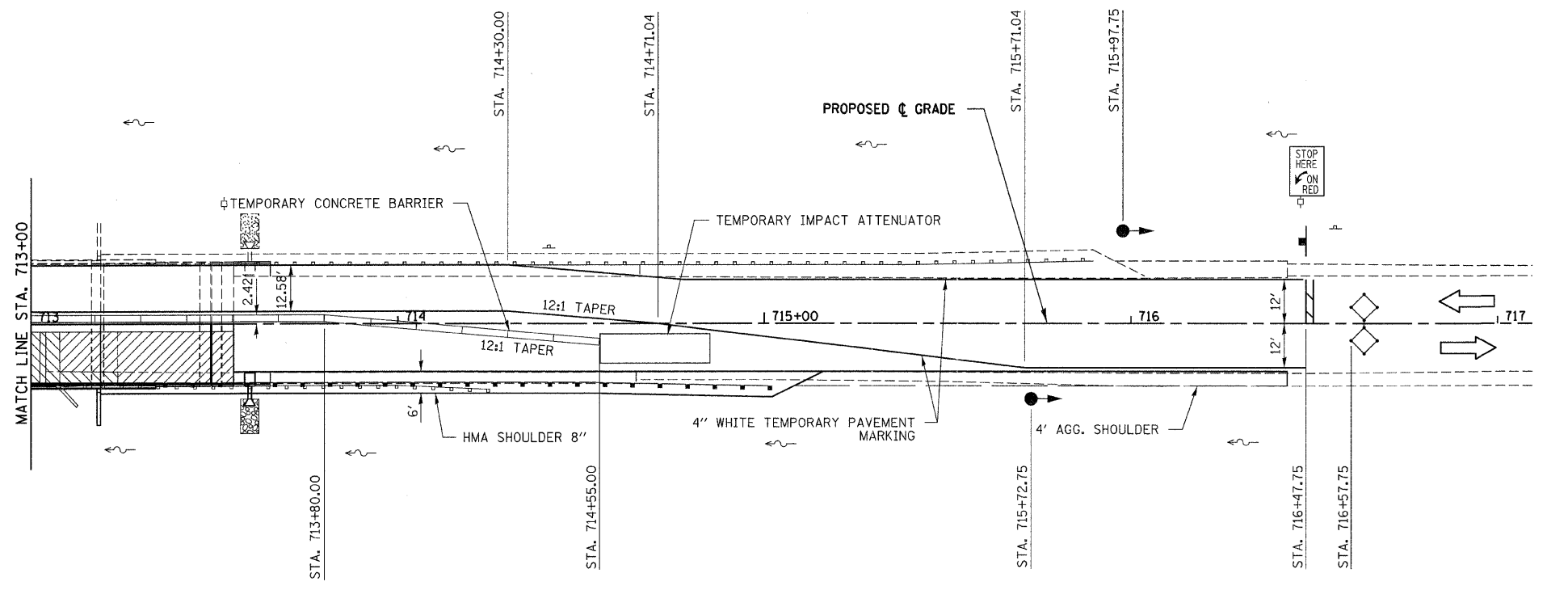
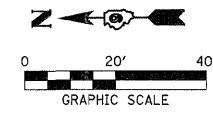


- LEGEND**
- EXISTING STRUCTURE REMOVAL
  - EXISTING PAVEMENT REMOVAL
  - BASE COURSE WIDENING (10 3/4")
  - ① EXIST CONCRETE PAVEMENT
  - ② EXISTING BASE COURSE WIDENING
  - ③ EXISTING HMA OVERLAY
  - ④ EXISTING AGGREGATE SHOULDERS
  - ⑤ EXISTING PRECAST CONCRETE UNITS
  - ⑥ EXISTING PCC PAVEMENT 10"
  - ⑦ LEVELING BINDER (MACHINE METHOD), N90 (3/4" MIN)
  - ⑧ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2" MIN)
  - ⑨ HMA BASE COURSE WIDENING 10 3/4"
  - ⑩ AGGREGATE SHOULDERS TYPE A 8"
  - ⑪ HMA SHOULDERS TYPE A 8"
  - ⑫ BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)
  - ⑬ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
  - ⑭ TRAFFIC BARRIER TERMINAL, TYPE 6
  - ⑮ PAVEMENT MARKING
  - ⑯ PCC SHOULDER

FILE NAME = 0902039-sh1-stages.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>STAGE 1 PLAN VIEW IL 242</b>	F.A.P. 776	SECTION 102B-1	COUNTY HAMILTON	TOTAL SHEETS 52	SHEET NO. 11
PLOT SCALE =	CHECKED - J.W.F.	REVISED -	SCALE: 1:20				SHEET NO. 1 OF 2 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		
PLOT DATE = 2/22/2011	DATE - 10/07/09	REVISED -									
							<b>CONTRACT NO. 78067</b>				



TYPICAL STAGE 2 CONSTRUCTION CROSS SECTION



- LEGEND**
- EXISTING STRUCTURE REMOVAL
  - EXISTING PAVEMENT REMOVAL
  - BASE COURSE WIDENING (10 3/4")
  - ① EXIST CONCRETE PAVEMENT
  - ② EXISTING BASE COURSE WIDENING
  - ③ EXISTING HMA OVERLAY
  - ④ EXISTING AGGREGATE SHOULDERS
  - ⑤ EXISTING PRECAST CONCRETE UNITS
  - ⑥ EXISTING PCC PAVEMENT 10"
  - ⑦ LEVELING BINDER (MACHINE METHOD), N90 (3/4" MIN)
  - ⑧ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90 (1 1/2" MIN)
  - ⑨ HMA BASE COURSE WIDENING 10 3/4"
  - ⑩ AGGREGATE SHOULDERS TYPE A 8"
  - ⑪ HMA SHOULDERS TYPE A 8"
  - ⑫ BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)
  - ⑬ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
  - ⑭ TRAFFIC BARRIER TERMINAL, TYPE 6
  - ⑮ PAVEMENT MARKING
  - ⑯ PCC SHOULDER

FILE NAME = 0920239-ah2stages.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -
		DRAWN - T.W.K.	REVISED -
	PLOT SCALE =	CHECKED - J.W.F.	REVISED -
	PLOT DATE = 2/22/2011	DATE - 10/07/09	REVISED -

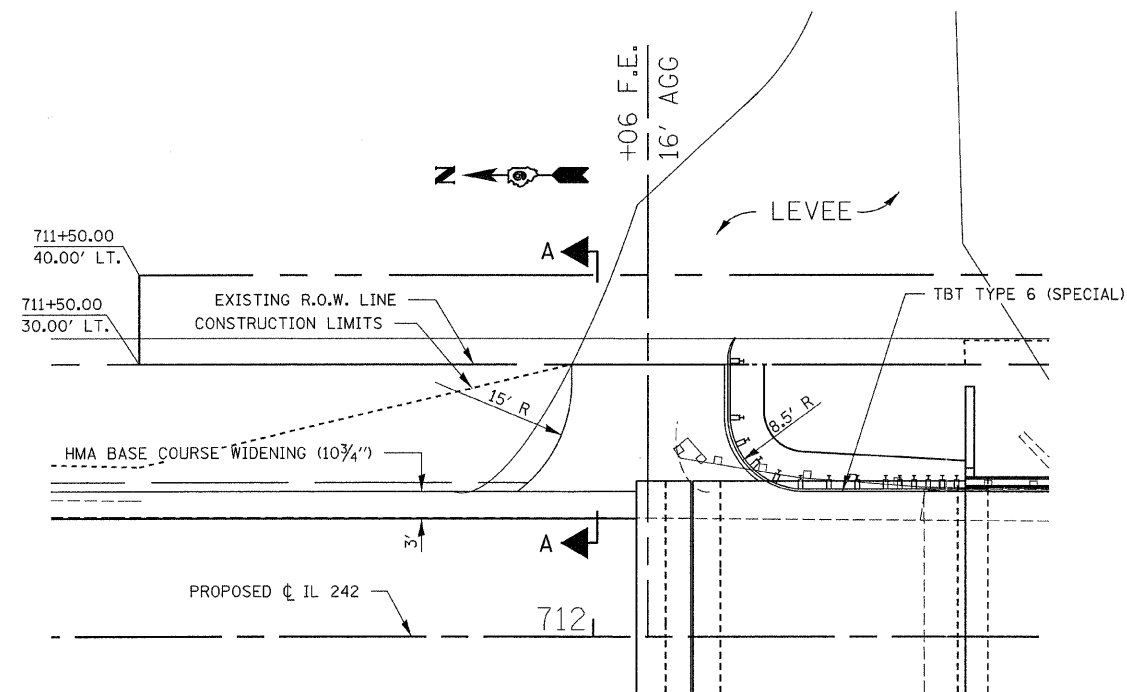
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**HLR**

**STAGE 2 PLAN VIEW  
IL 242**

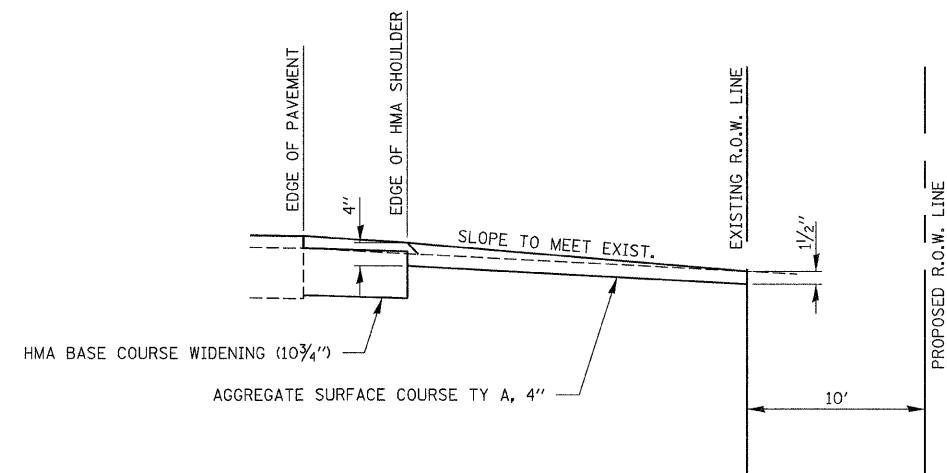
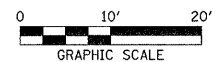
SCALE: 1:20      SHEET NO. 2 OF 2 SHEETS      STA.      TO STA.

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	102B-1	HAMILTON	52	12
CONTRACT NO. 78067				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



**ENTRANCE AND GUARDRAIL DETAIL**

LT. STA. 712+06



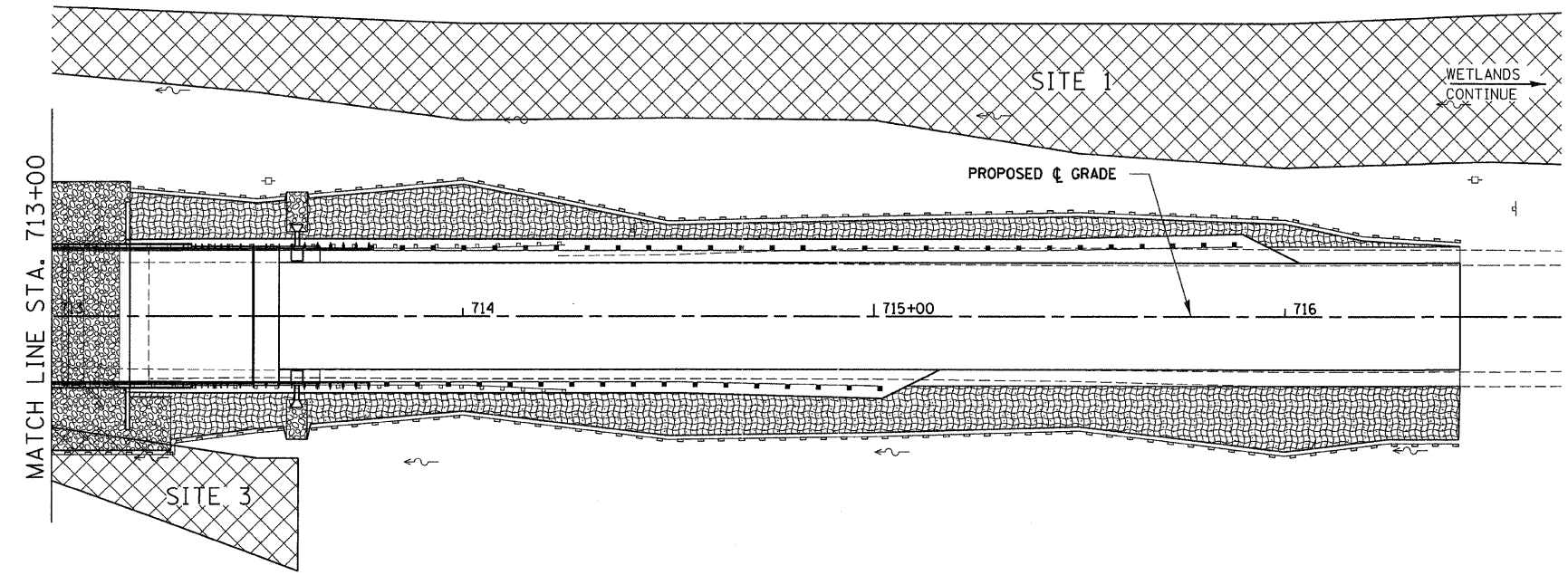
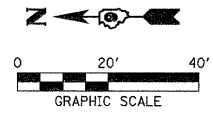
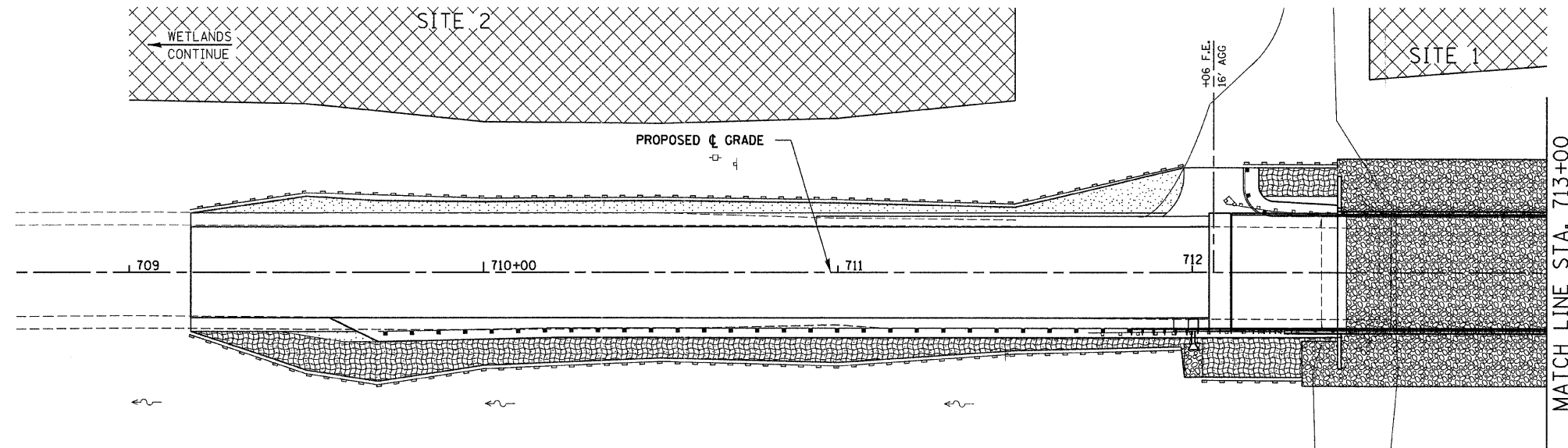
**SECTION A-A**

NO SCALE





FILE NAME = 090039-ahf-miscdet.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>MISCELLANEOUS DETAILS IL 242</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - T.W.K.	REVISED -	776				102B-1	HAMILTON	52	13	
	CHECKED - J.W.F.	REVISED -	<b>CONTRACT NO. 78067</b>								
	DATE - 10/12/09	REVISED -	ILLINOIS FED. AID PROJECT								
PLOT SCALE =	DATE - 2/22/2011			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.		







NOTE:  
 WETLANDS SITES 1 & 2  
 ARE NOT TO BE DISTURBED.  
 DISTURBANCE IN WETLAND  
 SITE 3 TO BE MINIMAL.

- LEGEND**
-  RIPRAP CLASS A4
  -  EROSION CONTROL BLANKET AND SEEDING
  -  PERIMETER EROSION BARRIER
  -  SEEDING

FILE NAME = 090039-shr-erosion.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -
		DRAWN - T.W.K.	REVISED -
		CHECKED - J.W.F.	REVISED -
		DATE - 10/12/09	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

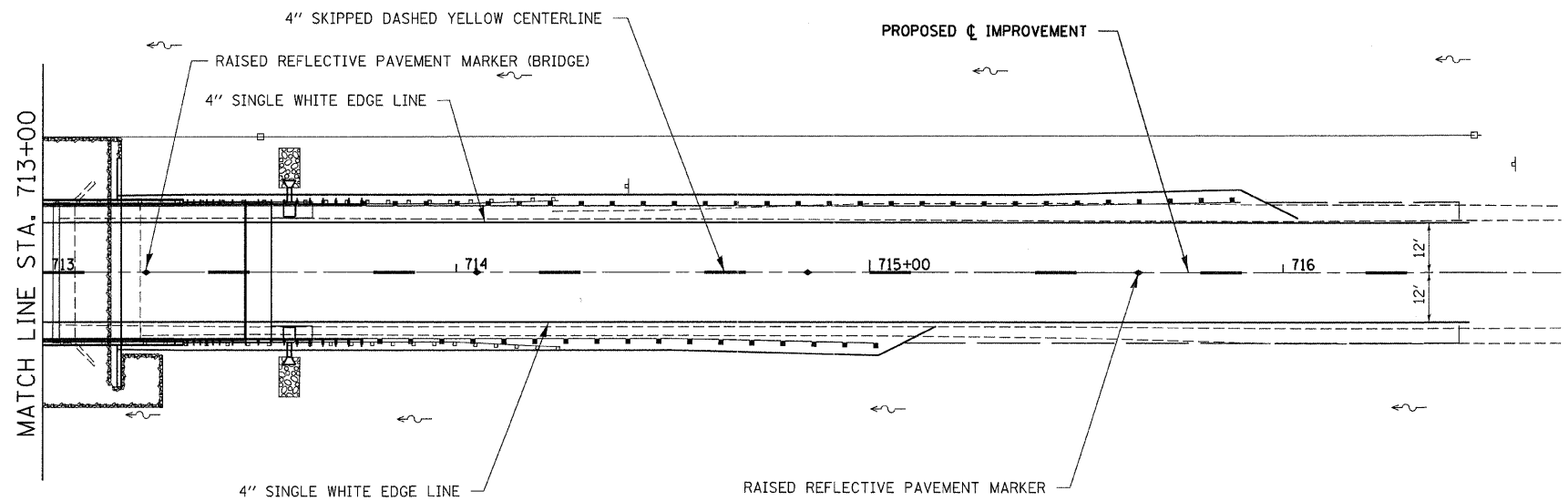
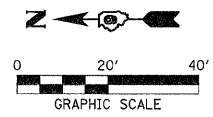
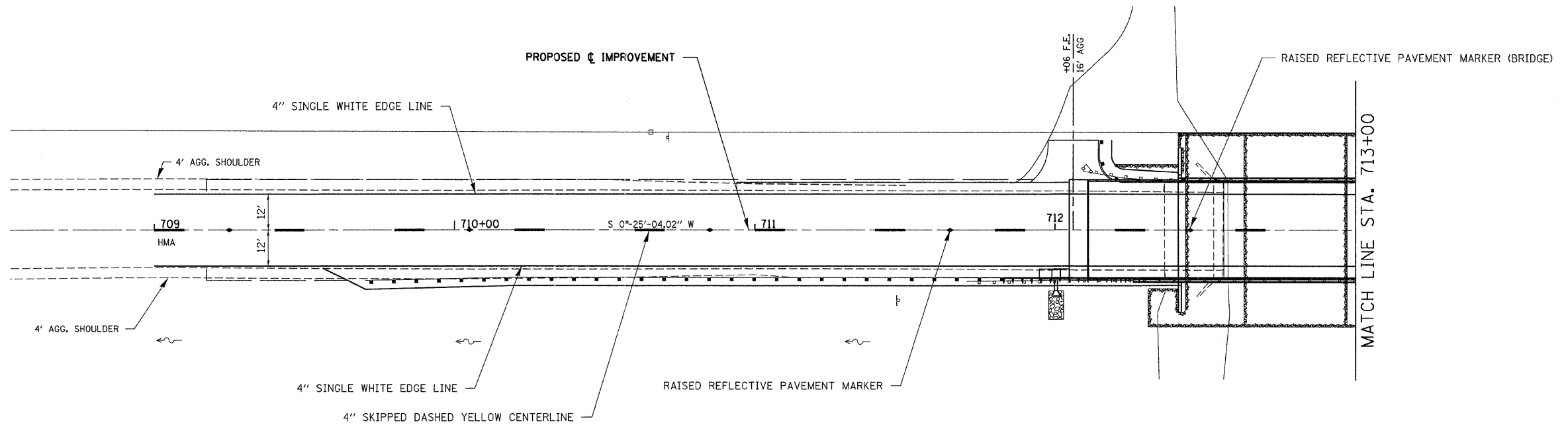
**HLR**

**EROSION CONTROL  
 IL 242**

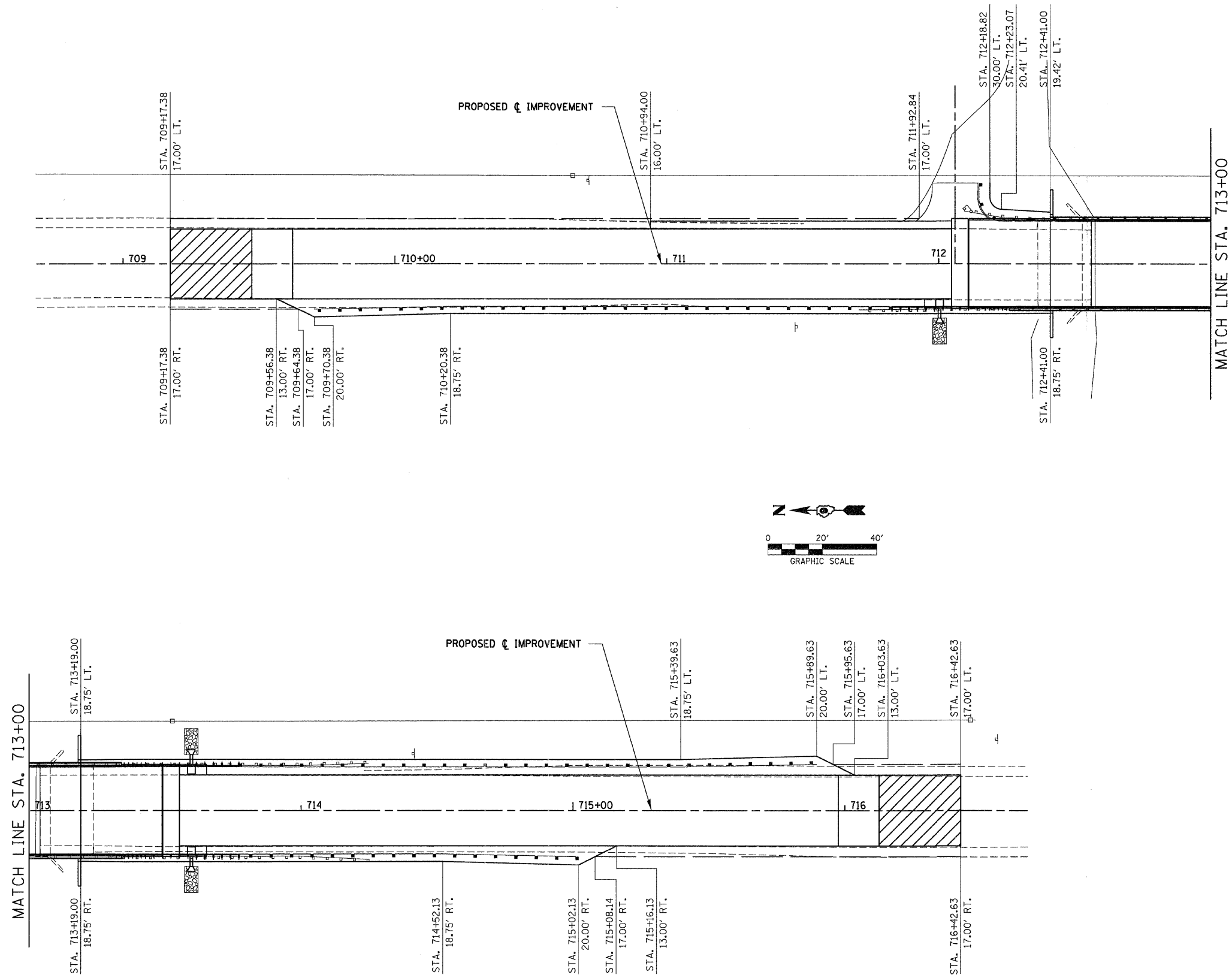
SCALE: 1:20    SHEET NO.    OF    SHEETS    STA.    TO STA.

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	102B-1	HAMILTON	52	16
CONTRACT NO. 78067				
ILLINOIS FED. AID PROJECT				

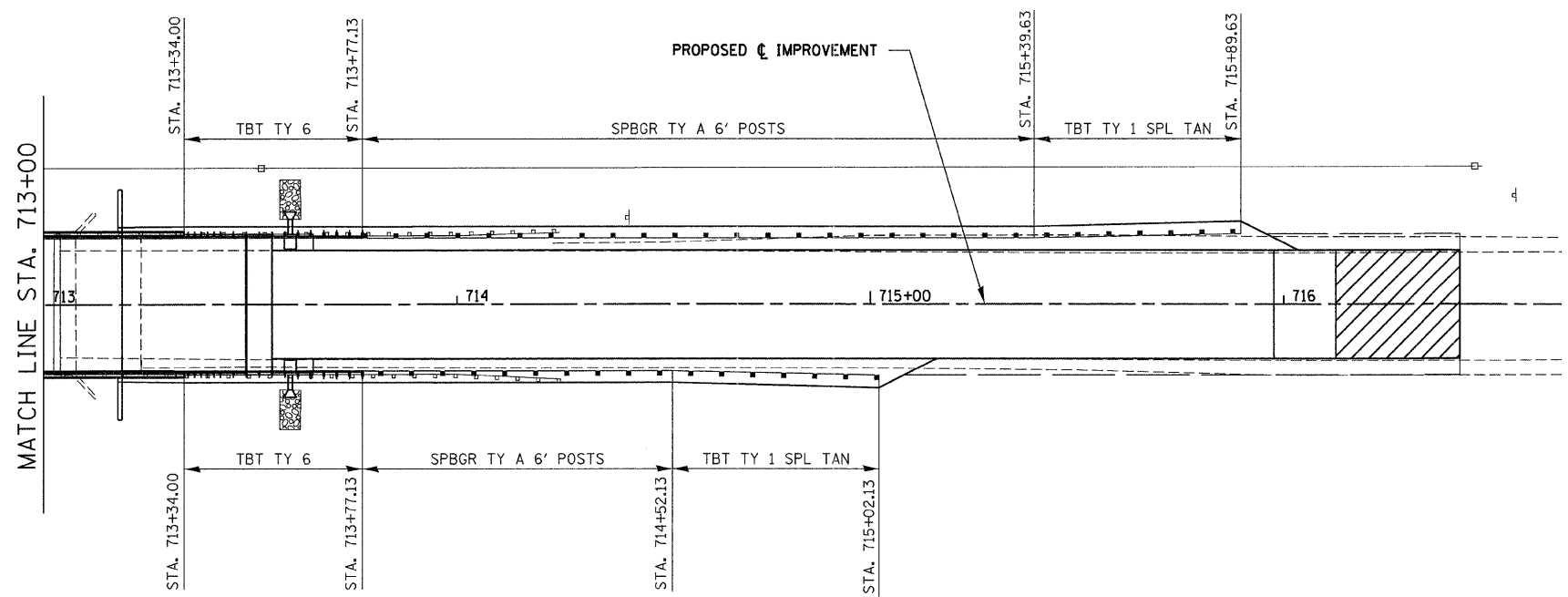
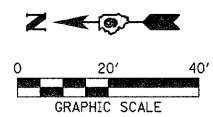
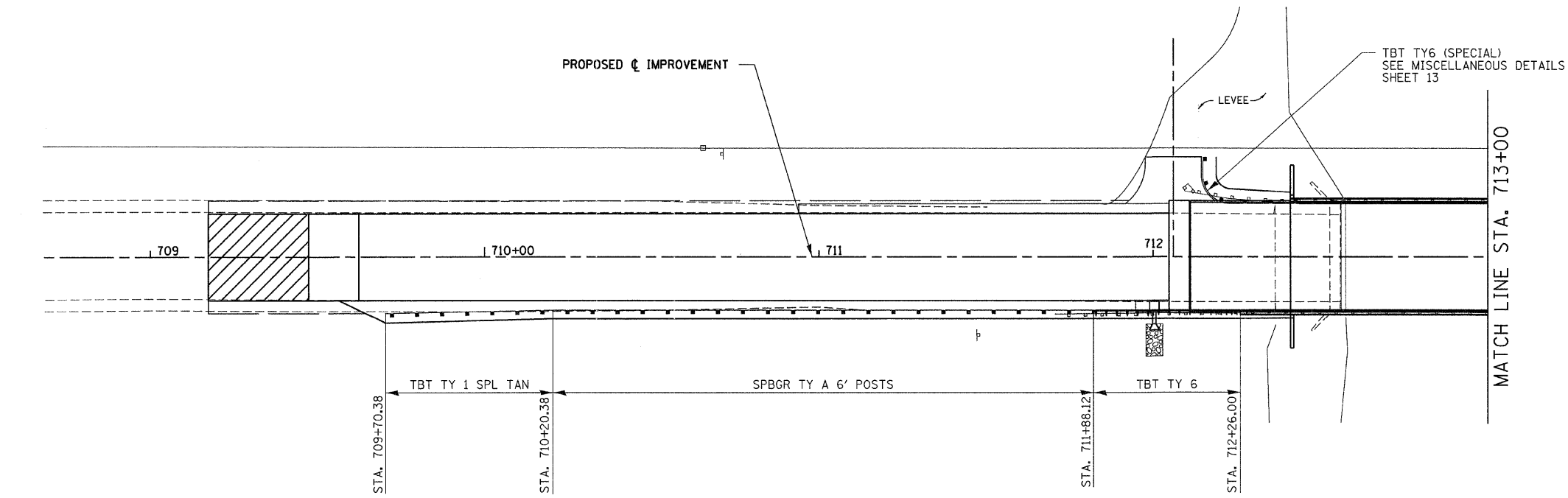




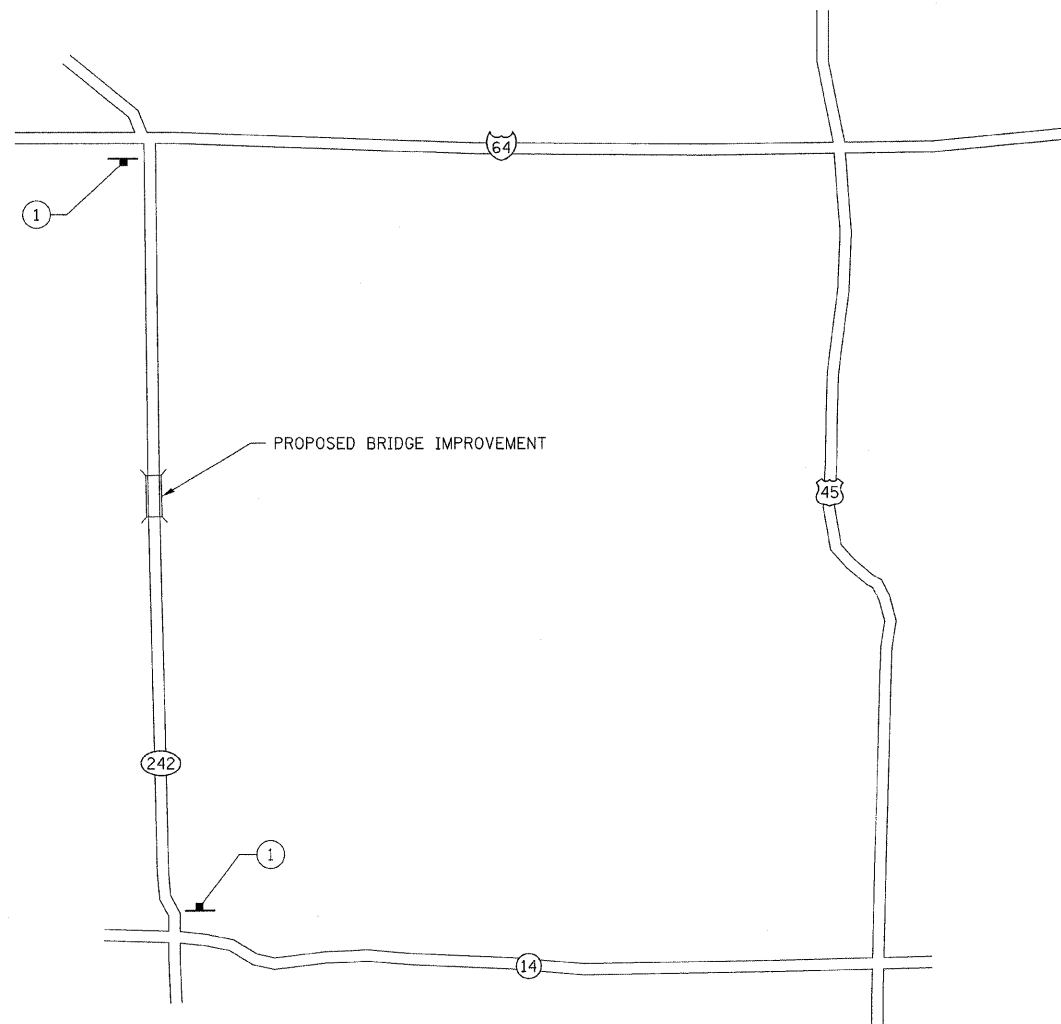
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	PLOT SCALE =	DRAWN - T.W.K.	REVISED -				776	102B-1	HAMILTON	52	17
	PLOT DATE = 2/22/2011	CHECKED - J.W.F.	REVISED -				<b>CONTRACT NO. 78067</b>				
		DATE - 10/12/09	REVISED -				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
					SCALE: 1:20	SHEET NO. OF SHEETS	STA. TO STA.				



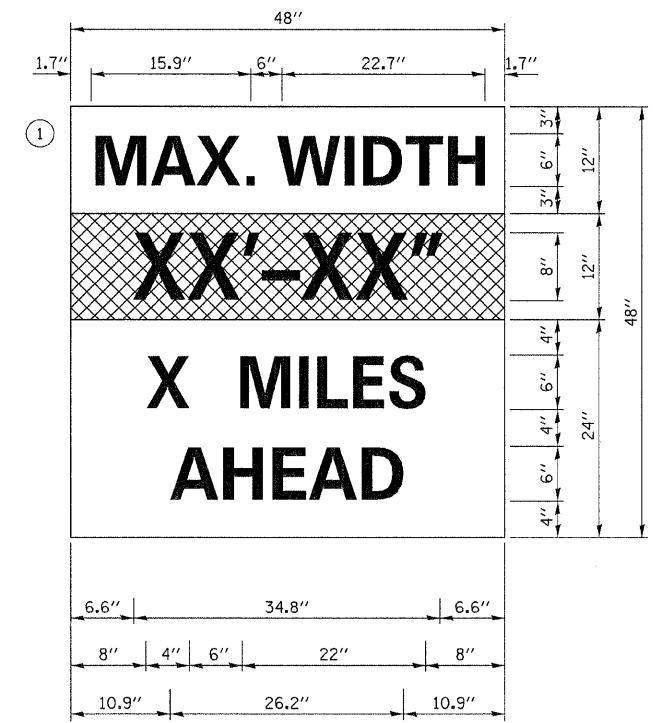
FILE NAME = 090239-ght-shoulders.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>PAVED SHOULDER LAYOUT IL 242</b>		F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - T.W.K.	REVISED -					776	102B-1	HAMILTON	52	18
		CHECKED -	REVISED -					CONTRACT NO. 78067				
		DATE - 10/12/09	REVISED -					ILLINOIS FED. AID PROJECT				
PLOT SCALE =				SCALE: 1:20		SHEET NO. OF SHEETS STA. TO STA.						
PLOT DATE = 2/22/2011												



FILE NAME = 0902039-shr-guardrail.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>GUARDRAIL LAYOUT IL 242</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - T.W.K.	REVISED -				776	102B-1	HAMILTON	52	19
PLOT DATE = 2/22/2011	CHECKED - J.W.F.	REVISED -	CONTRACT NO. 78067								
	DATE - 10/12/09	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								
					SCALE: 1:20	SHEET NO. OF SHEETS	STA. TO STA.				



SIGN LEGEND



W12-I103

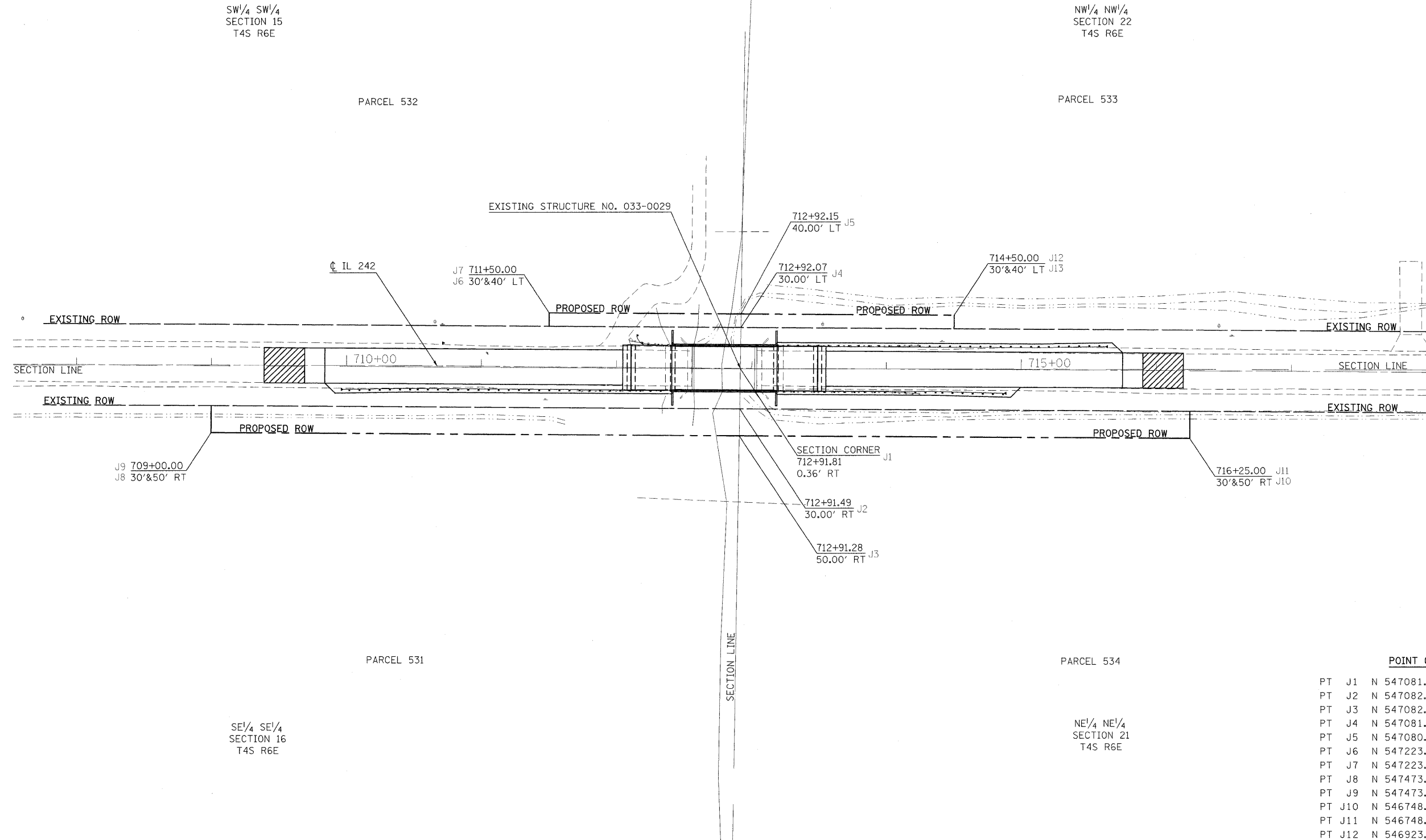
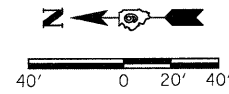
W12-I103 (WIDTH IS 80)  
 NO BORDER, BLACK ON WHITE:  
 "MAX WIDTH" D:  
 NO BORDER, BLACK ON ORANGE:  
 "XX'-XX'" D:  
 NO BORDER, BLACK ON WHITE:  
 "X MILES" D: "AHEAD" D:

DETOUR NOTES

1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATION DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK, INCLUDING SIGN, POSTS, HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE. EACH, FOR TRAFFIC CONTROL AND PROTECTION. STD. 701321 AND NO OTHER COMPENSATION WILL BE ALLOWED.
3. THE WIDTH SHOWN ON THE W12-I103 SIGN SHALL BE 10'-6" FOR STAGE I, AND 12'-0" FOR STAGE II, OR AS DIRECTED BY THE ENGINEER. THE "X" AHEAD WILL BE DETERMINED BY THE ENGINEER.

FILE NAME = 0902039-ah-t-detour.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>WIDE LOAD DETOUR IL 242</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		DRAWN - T.W.K.	REVISED -				776	102B-1	HAMILTON	52	20		
		CHECKED - J.W.F.	REVISED -				<b>CONTRACT NO. 78067</b>						
		DATE - 10/12/09	REVISED -				ILLINOIS FED. AID PROJECT						
				SCALE:		SHEET NO. OF SHEETS STA.		TO STA.					

PARCEL NO.	PROPERTY OWNER	PURPOSE	ACREAGE
531	WILLIAM AND VICKIE LUEKE	ROW	0.180
532	CHARLES AND BRENDA LUEKE	ROW	0.033
533	ROGER AND ALLEN RUBENBACKER	ROW	0.036
534	BETHEL FARMS, LLC	ROW	0.153

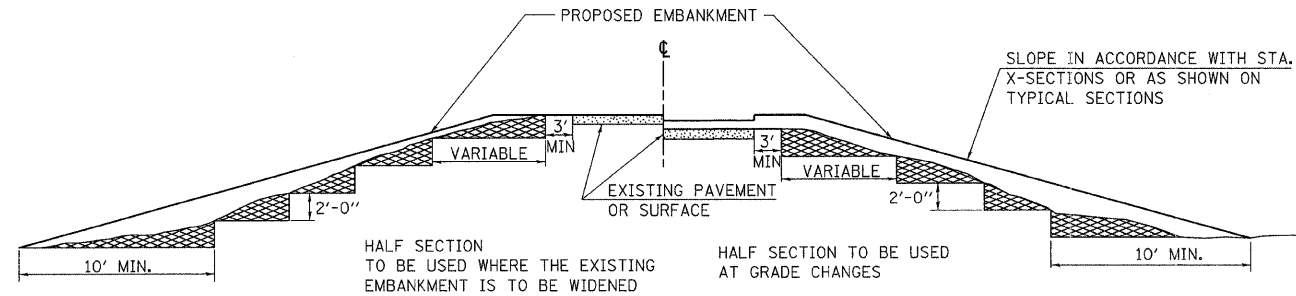



**POINT COORDINATES**

PT J1	N	547081.6233	E	925205.3025
PT J2	N	547082.1580	E	925175.6696
PT J3	N	547082.5189	E	925155.6717
PT J4	N	547081.1423	E	925235.6638
PT J5	N	547080.9839	E	925245.6629
PT J6	N	547223.1349	E	925246.6995
PT J7	N	547223.2079	E	925236.6997
PT J8	N	547473.7846	E	925158.5248
PT J9	N	547473.6387	E	925178.5243
PT J10	N	546748.8038	E	925153.2383
PT J11	N	546748.6580	E	925173.2378
PT J12	N	546923.2158	E	925234.5123
PT J13	N	546923.1429	E	925244.5120

FILE NAME c:\pw\work\pwwdot\dckerson\m\dms49916\02308_sht.row.dgn	USER NAME = needhamim	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IL 242 RIGHT OF WAY PLAN</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
	PLOT SCALE = 40,0000' / IN.	DRAWN -	REVISED -		PROJECT	JOB NO. R-99-023-08	776	102B	HAMILTON	52	21				
	PLOT DATE = 3/14/2011	CHECKED -	REVISED -		SHEET NO. OF SHEETS	STA. 708+00.00 TO STA. 717+00.00	CONTRACT NO. 78067								
SCALE: 1"=40'												FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

### TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL



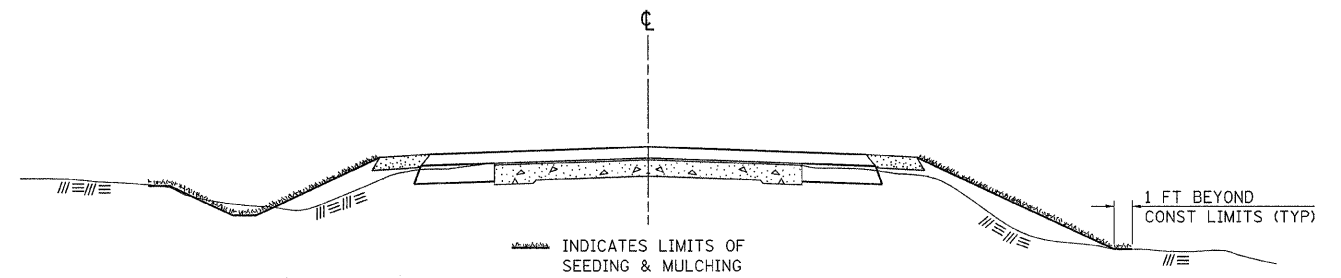
 MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
CHECKED	6-3-99
RESIZED	5-7-08

STD. 9-16

### SEEDING & MULCHING



#### GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

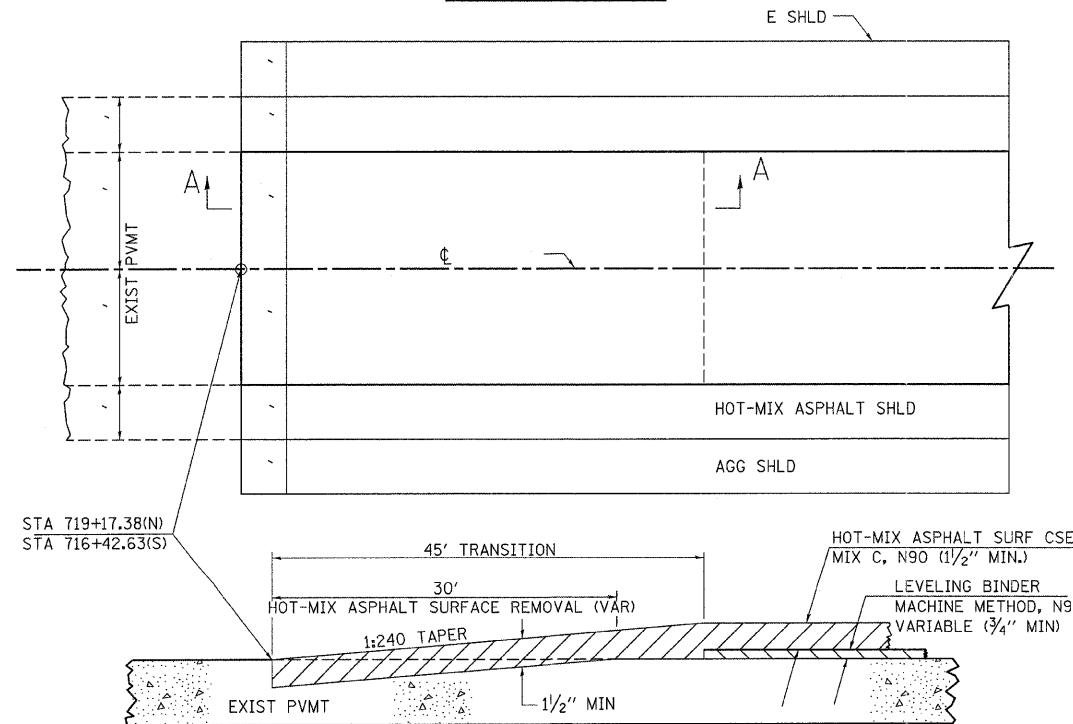
SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08

STD. 9-12

### BUTT JOINT



SECTION A-A

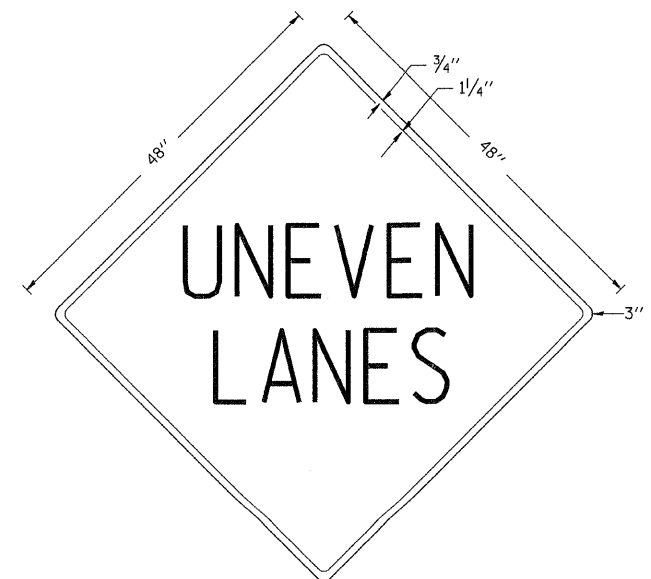
REVISIONS

DRAWN	10-17-90
REVISED	01-11-07
REVISED	3-25-08
REVISED	

STD. 9-86

### UNEVEN LANES SIGN

W8-11 (48" x 48")



COLORS:  
LEGEND AND BORDER - BLACK NON-REFLECTORIZED  
BACKGROUND - ORANGE REFLECTORIZED

NOTE: PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED OR BEFORE RESURFACING OPERATIONS BEGIN, THE CONTRACTOR SHALL HAVE ERECTED "UNEVEN PAVEMENT" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "UNEVEN PAVEMENT" SIGNS UNTIL THE RESURFACING OPERATIONS ARE COMPLETED.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS

DRAWN	2-15-89
REVISED	4-6-93
RESIGNED	7-23-04
RESIZED	5-8-08

STD. 9-41

FILE NAME = 090039-shl-standards-df9.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -
		DRAWN - T.W.K.	REVISED -
		CHECKED - J.W.F.	REVISED -
		DATE - 06/08/10	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

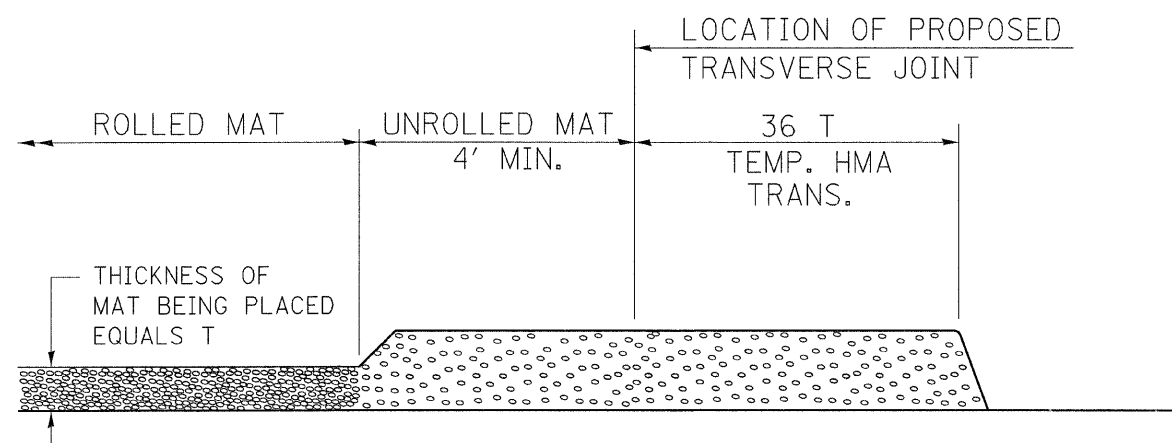


STANDARD DETAILS  
IL 242

SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.

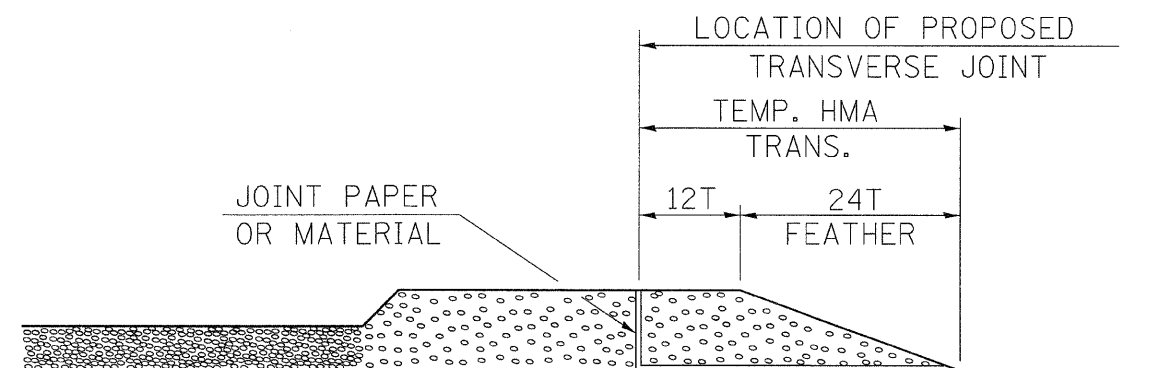
F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	102B-1	HAMILTON	52	22
CONTRACT NO. 78067				
ILLINOIS FED. AID PROJECT				

# TEMPORARY HOT-MIX ASPHALT TRANSITIONS



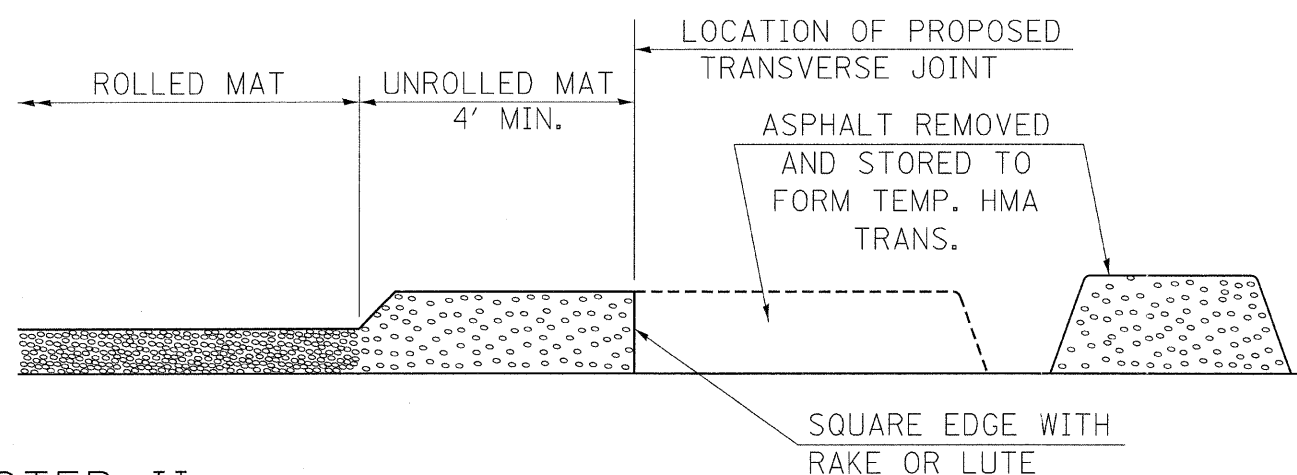
## STEP I

1. PLACE HOT-MIX ASPHALT MAT, LENGTH 36 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES.
2. EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



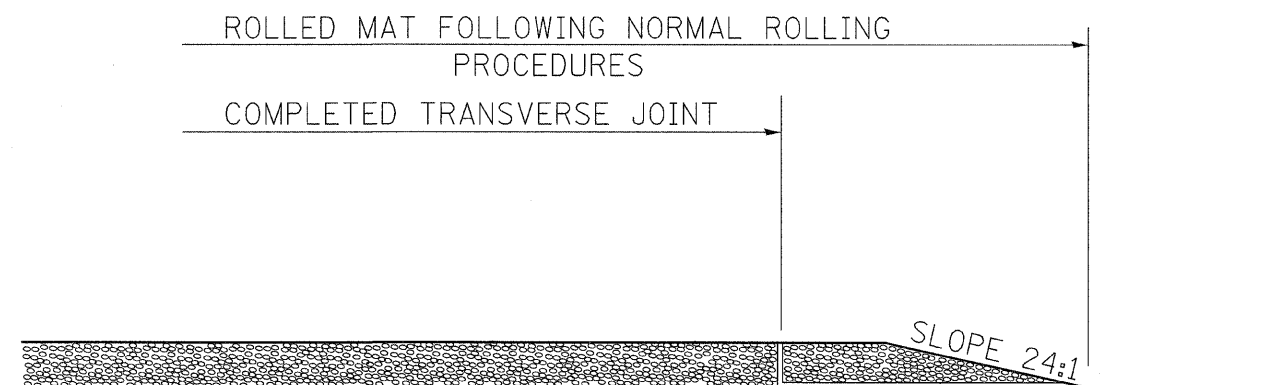
## STEP III

1. JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
2. NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



## STEP II

1. MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY HOT-MIX ASPHALT TRANSITION.
2. SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
3. NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



## STEP IV

1. COMPLETE TEMPORARY TRANSITION BY ROLLING.
2. TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
3. CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY IN ACCORDANCE WITH ARTICLE 406.14 OF THE STANDARD SPECIFICATIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-16-94
REVISED	01-09-07
RESIZED	05-8-08

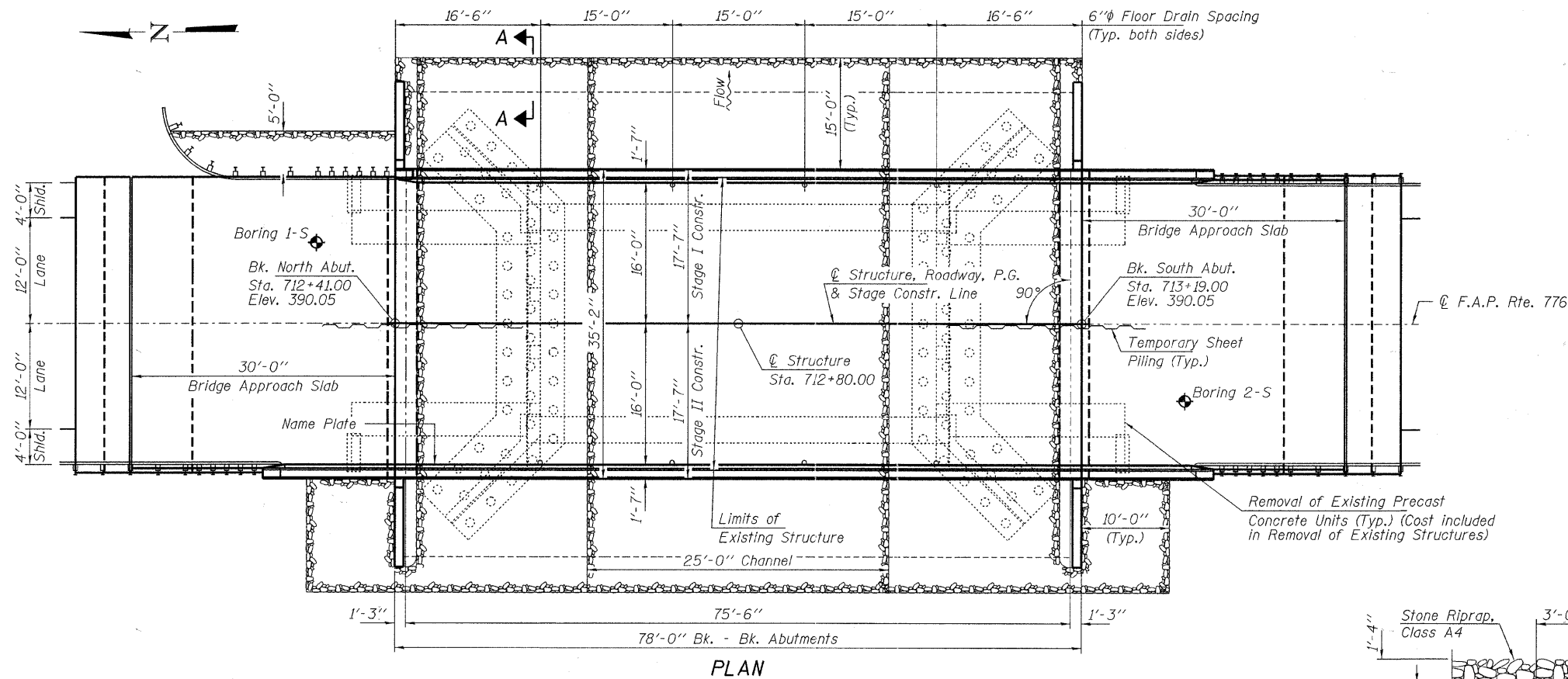
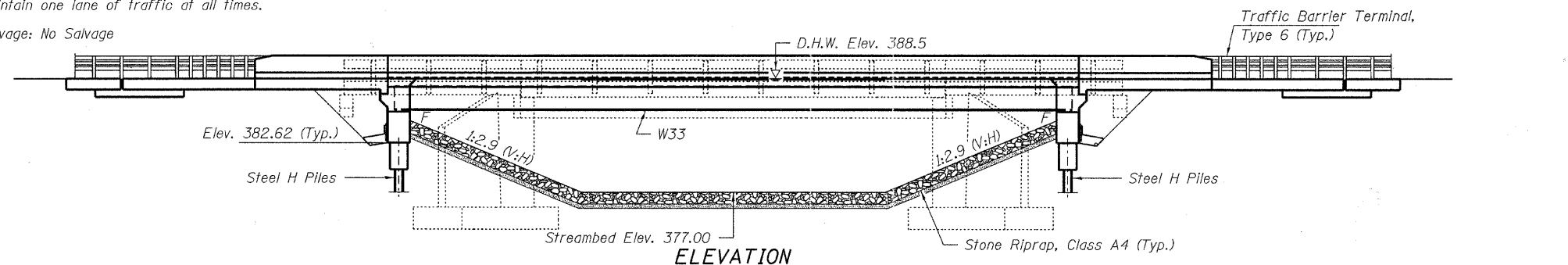
STD. 9-26

FILE NAME = 092039-ahh-standards-d9.dgn	USER NAME =	DESIGNED - L.F.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HLR</b>	<b>STANDARD DETAILS IL 242</b>	F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - T.W.K.	REVISED -				776 102B-1	HAMILTON	52	23
	PLOT SCALE =	CHECKED - J.W.F.	REVISED -		SCALE:	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.	CONTRACT NO. 78067	
	PLOT DATE = 2/22/2011	DATE - 06/08/10	REVISED -				FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

BENCHMARK: Chiseled "X" on southeast wingwall of SN 033-0029. Elev. 387.57

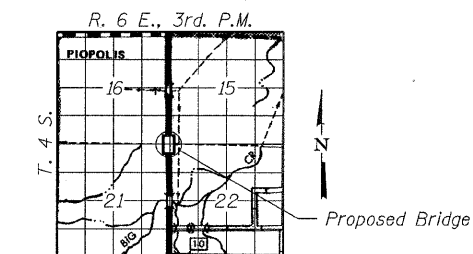
EXISTING STRUCTURE: SN 033-0029 was originally built in 1928 as a 1-span RC T-beam bridge on closed abutments. The structure was widened in 1977 by adding 2-PPC deck beams to each side of the existing superstructure. The bridge is currently 48'-0" bk.-bk. and 33'-1/2" o.-o. Structure is to be removed and replaced using stage construction to maintain one lane of traffic at all times.

Salvage: No Salvage

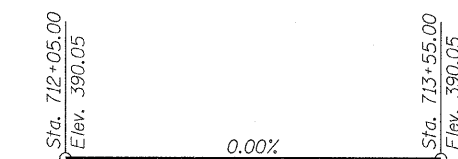


**INDEX OF STRUCTURE SHEETS**

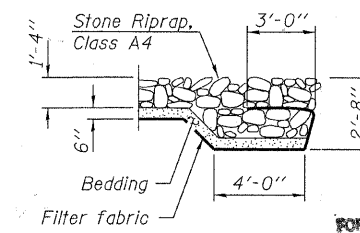
1. General Plan & Elevation
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier for Stage Construction
- 5.-6. Top of Slab Elevations
7. Top of North Approach Slab Elevations
8. Top of South Approach Slab Elevations
9. Superstructure
- 10.-11. Superstructure Details
- 12.-13. South Bridge Approach Slab Details
- 14.-15. North Bridge Approach Slab Details
16. Structural Steel
17. Structural Steel Details
18. Abutments
19. Bar Splicer Assembly and Mechanical Splicer Details
20. HP Pile Details
- 21.-22. Borings



**LOCATION SKETCH**

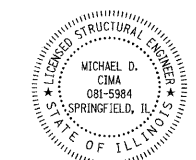


**PROFILE GRADE**  
(along  $\phi$  roadway)



**SECTION A-A**

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY  
*Michael D. Cima*  
ENGINEER OF BRIDGES AND STRUCTURES



**GENERAL PLAN AND ELEVATION**  
**ILLINOIS ROUTE 242**  
**OVER BIG CREEK**  
**FAP ROUTE 776 - SECTION 102B-1**  
**HAMILTON COUNTY**  
**STATION 712+80.00**  
**STRUCTURE NO. 033-0054**

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

**LOADING HL-93**

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

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)  
 $f_y = 50,000$  psi (Structural Steel) (M270 GR. 50)  
 $f_y = 36,000$  psi (M270 Grade 36)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 3  
Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.306g  
Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.731g  
Soil Site Class = D

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	N. Abut.	S. Abut.
	382.6	382.6

**WATERWAY INFORMATION**

Drainage Area = 52.7 Sq. Mi.		Proposed Low Grade Elev. 389.99 @ Sta. 713+50										
Flood	Freq. Yr.	Structure Number	Q (cfs)		Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
	10	033-0029	1195	2293	320	501	387.1	1.6	1.5	388.7	388.6	
		033-0054	5223	4125	955	955						
		Total	6418	1275	1456							
Base	50	033-0029	413	828	320	501	388.5	2.8	2.9	391.3	391.4	
		033-0054	4418	4703	1127	1127						
		Overtopping	5317	4617								
		Total	10148	1447	1628							
Overtopping	17	033-0029	710	1348	320	501	387.6	1.9	2.0	389.5	389.7	
		033-0054	6790	6403	1015	1028						
		Total	7500	7750	1335	1529						
		Total	7500	7750	1335	1529						

FILE NAME = 090039-sht-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - C.C.S.	REVISED -
1035 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62703		CHECKED - M.D.C.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM	PLOT SCALE =		
151 P.E. CDIP - 184-000989	PLOT DATE = 2/22/2011		

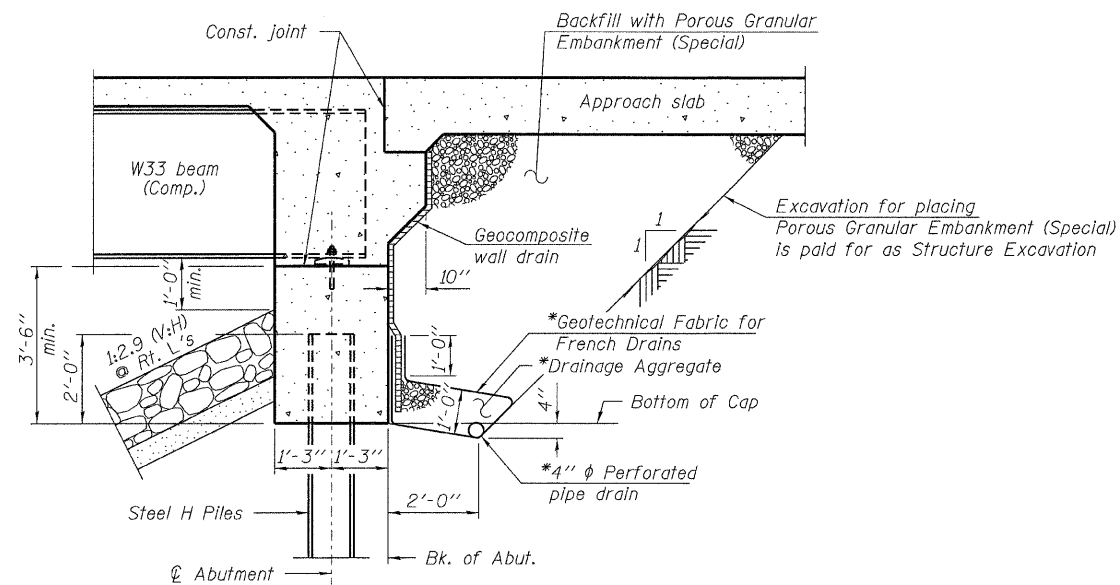
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 033-0054

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
776	102B-1	HAMILTON	52	24
CONTRACT NO. 78067			ILLINOIS FED. AID PROJECT	

SHEET NO. 1 OF 22 SHEETS





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

\*Included in the cost of Pipe Underdrains for Structures.

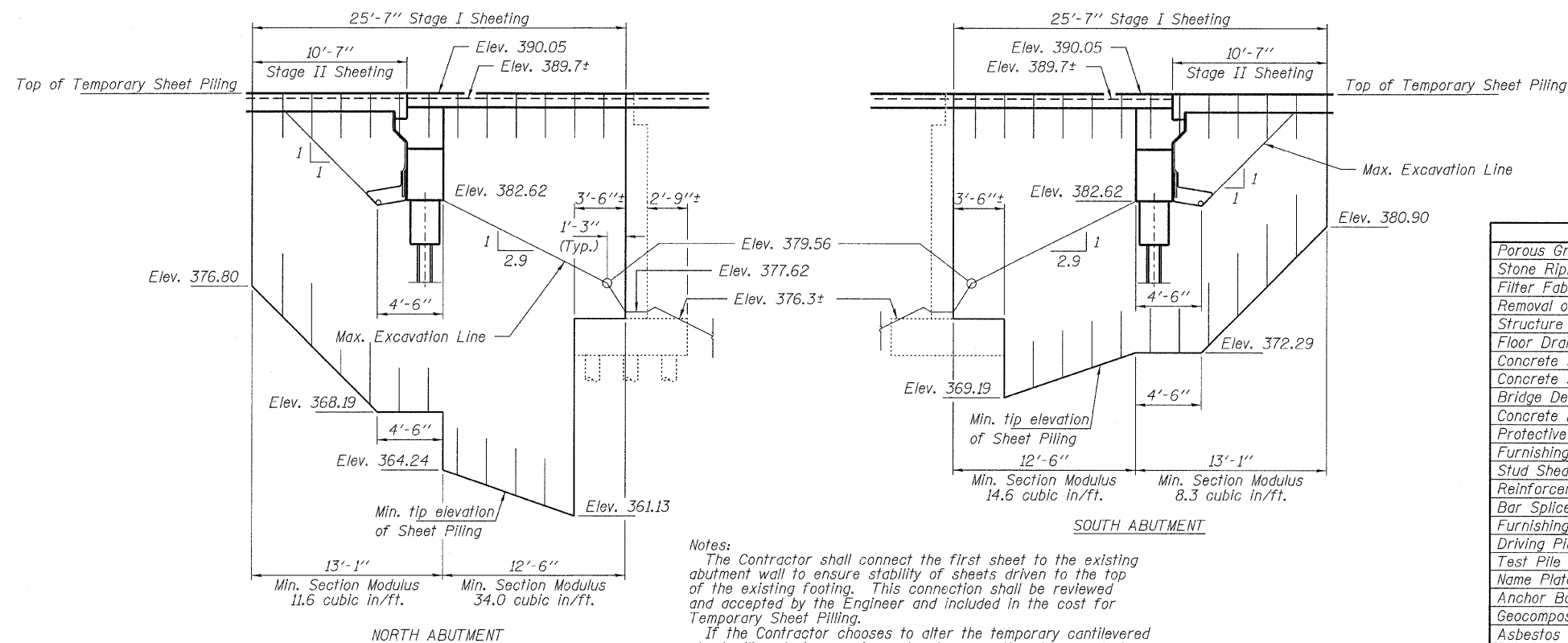
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 3/4"φ, holes 5/8"φ, unless otherwise noted.  
Calculated weight of Structural Steel = 67,770 lbs. (Grade 50) and 3,920 lbs. (Grade 36).  
No field welding is permitted except as specified in the contract documents.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
Reinforcement bars designated (E) shall be epoxy coated.  
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".  
Layout of slope protection system may be varied to suite ground conditions as directed by the Engineer.  
Slip forming of the parapets is not allowed.

STATION 712+80  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.P. RTE. 776 SEC. 102B-1  
LOADING HL-93  
STR. NO. 033-0054

**NAME PLATE**  
See Std. 515001



Notes:  
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.  
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

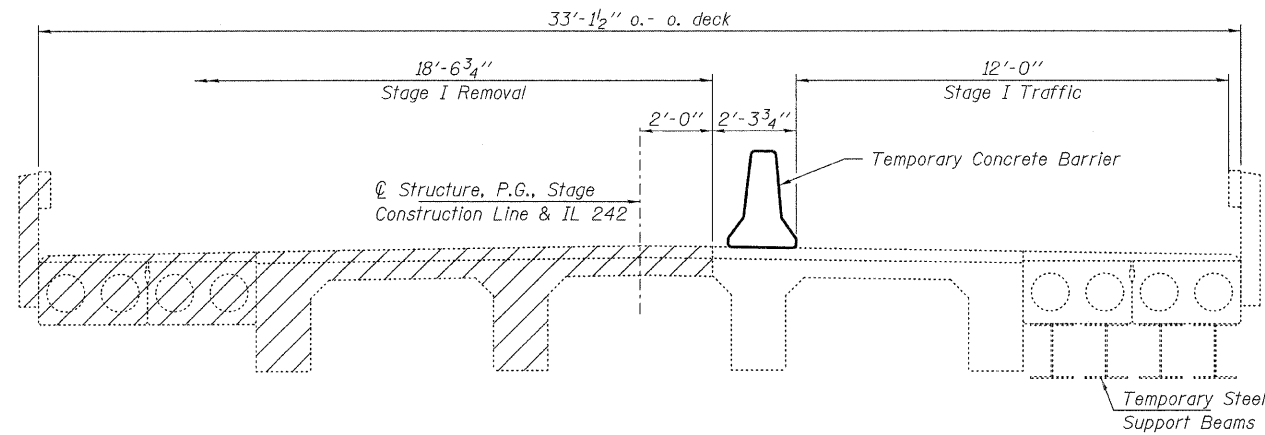
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.			105
Stone Riprap, Class A4	Sq. Yd.			640
Filter Fabric	Sq. Yd.			640
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.			214
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		51.2	51.2
Concrete Superstructure	Cu. Yd.	214.8		214.8
Bridge Deck Grooving	Sq. Yd.	460		460
Concrete Encasement	Cu. Yd.		4.0	4.0
Protective Coat	Sq. Yd.	581	16	597
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,044		1,044
Reinforcement Bars, Epoxy Coated	Pound	49,330	5,600	54,930
Bar Splicers	Each	450	116	566
Furnishing Steel Piles HP10x42	Foot		680	680
Driving Piles	Foot		680	680
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each		1	1
Anchor Bolts, 1"	Each		24	24
Geocomposite Wall Drain	Sq. Yd.		66	66
Asbestos Bearing Pad Removal	Each		8	8
Temporary Sheet Piling	Sq. Ft.		964	964
Pipe Underdrains for Structures 4"	Foot			136

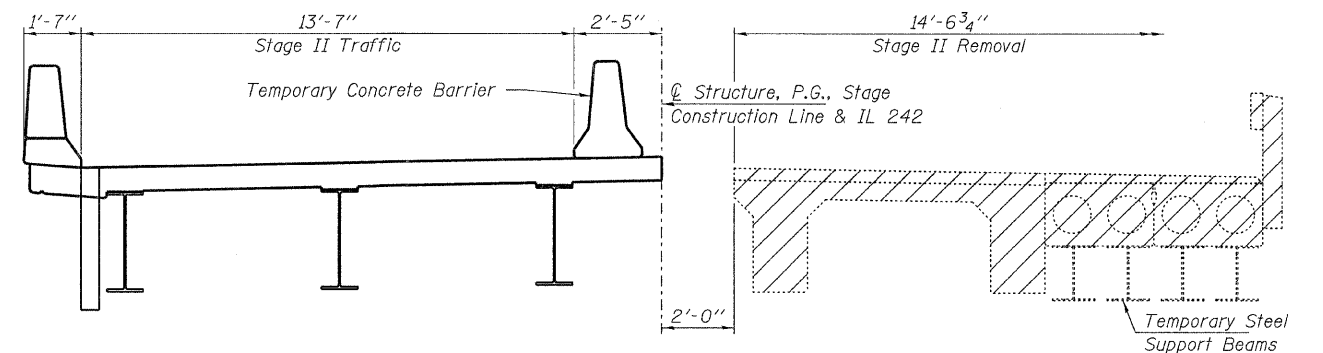
**TEMPORARY SHEET PILING AND AT ABUTMENTS**

FILE NAME = 890039-ah-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL DATA STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 2085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	25	
PLOT DATE = 2/22/2011	DRAWN - D.A.B.	CHECKED - M.D.C.	REVISED -			<b>CONTRACT NO. 78067</b>					
						SHEET NO. 2 OF 22 SHEETS					

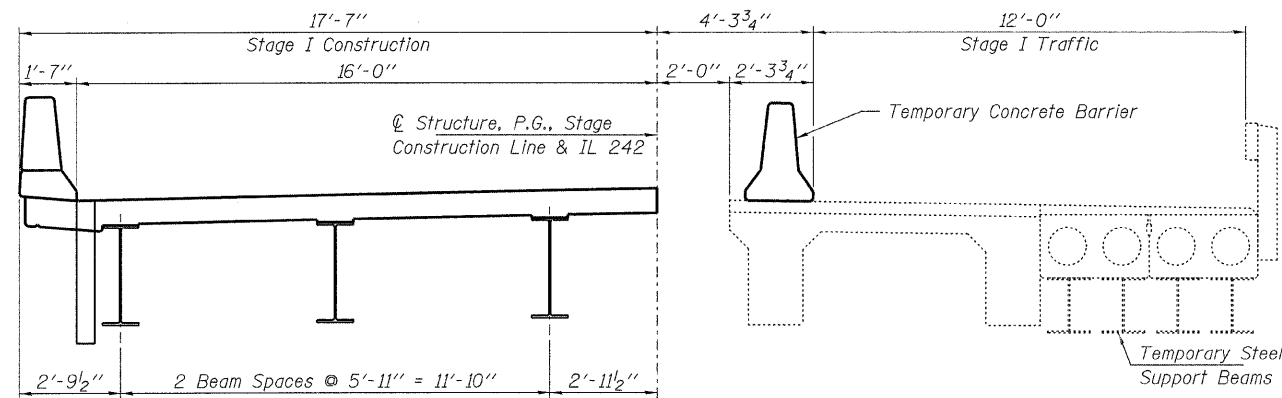
ILLINOIS FED. AID PROJECT



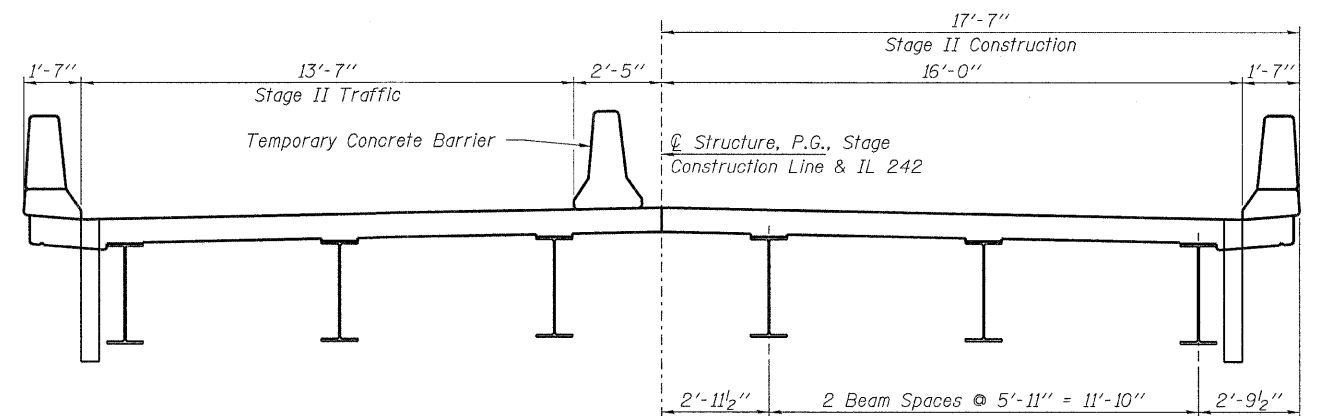
**STAGE I REMOVAL**



**STAGE II REMOVAL**



**STAGE I CONSTRUCTION**

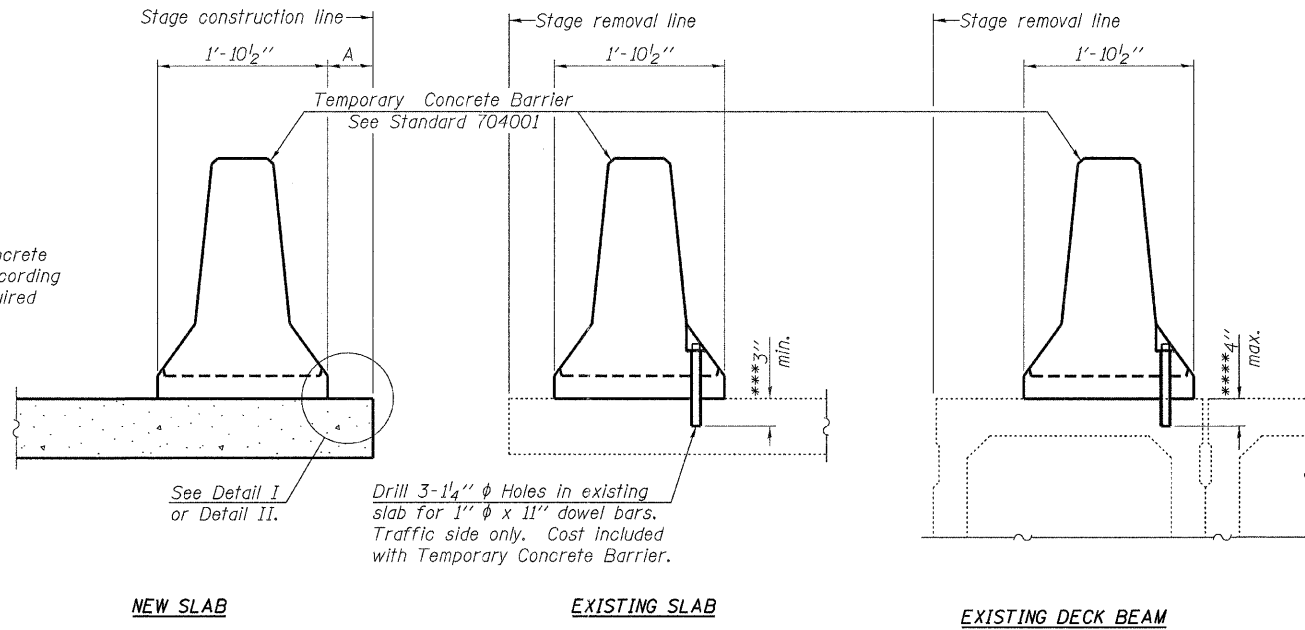


**STAGE II CONSTRUCTION**

Notes:  
 All sections are looking South.  
 Hatched areas indicate removal.  
 For Temporary Concrete Barrier quantities  
 see Roadway Plans.

FILE NAME = 090039-shr-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE CONSTRUCTION DETAILS STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 2035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	26	
ILLINOIS PROFESSIONAL DESIGN FIRM LS/PE/SE CORP. 184.000899	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					
						SHEET NO. 3 OF 22 SHEETS					

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



**NOTES**

Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

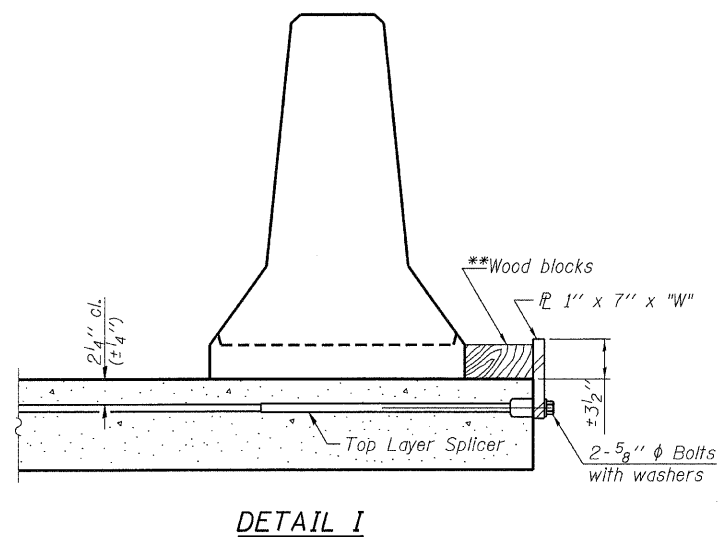
Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

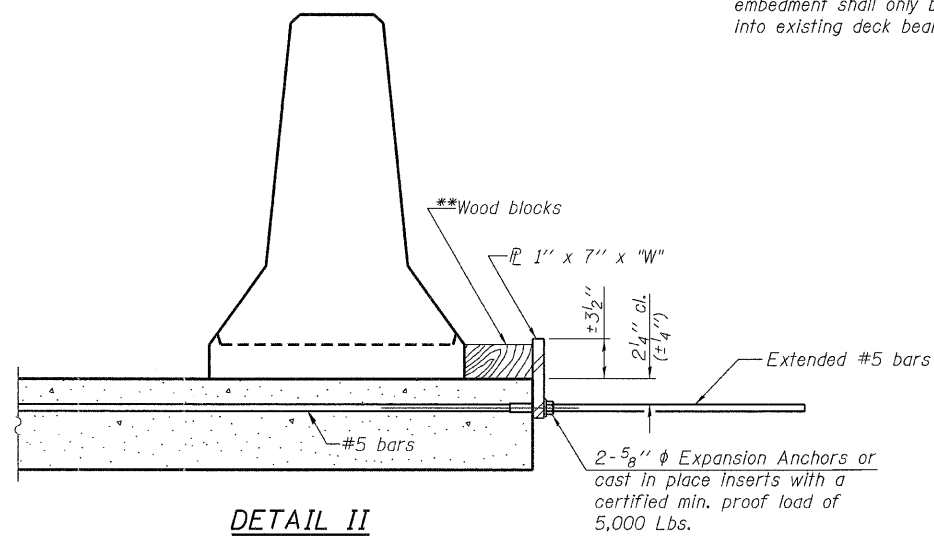
**SECTIONS THRU SLAB OR DECK BEAM**

\*\*\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

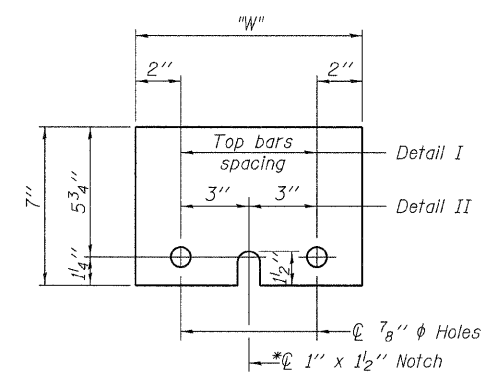
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



**STEEL RETAINER  $\bar{L}$  1" x 7" x "W"**

\* Required only with Detail II

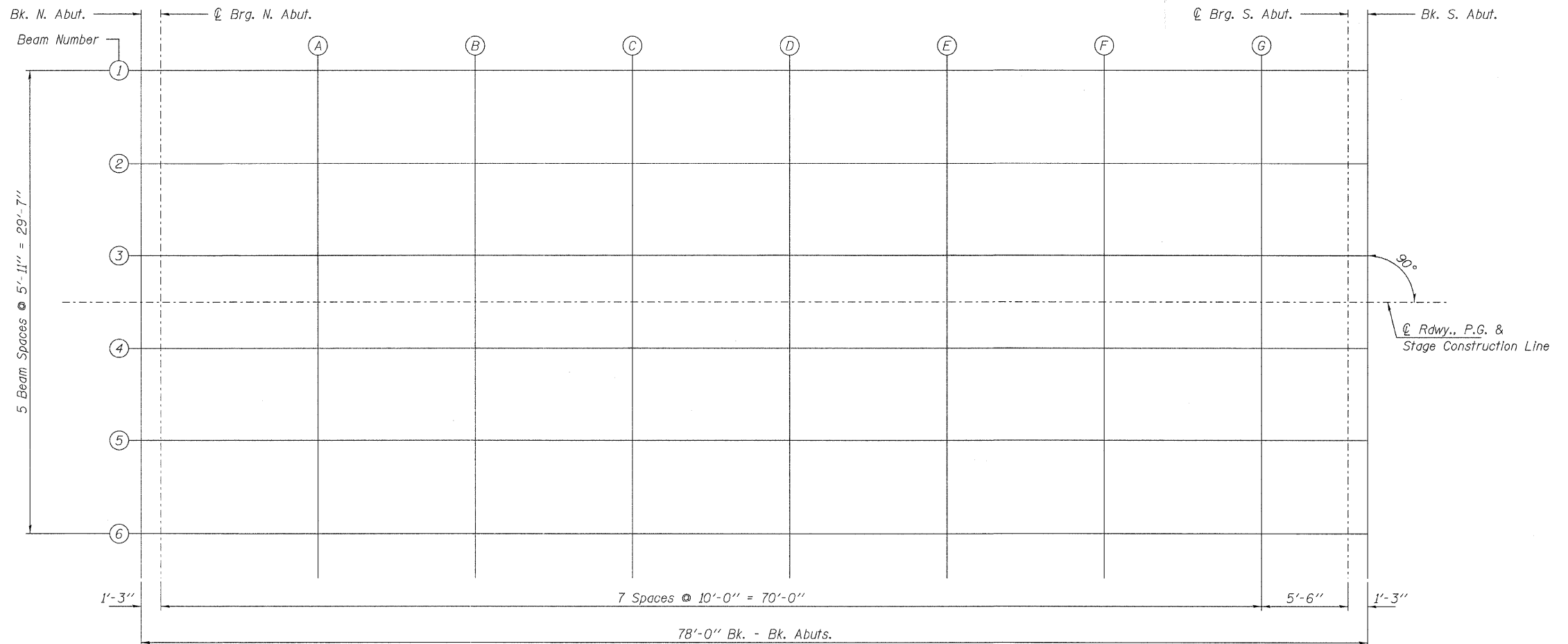
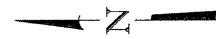
\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27

7-1-10

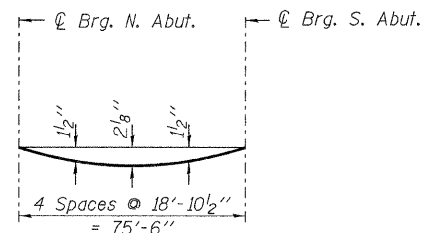
FILE NAME = 090239-sht-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3005 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62765	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	27	
ILR ILLINOIS PROFESSIONAL DESIGN FIRM 18 / PE / SE CORP 164-00269	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					
SHEET NO. 4 OF 22 SHEETS											



**PLAN**

**BEAM 1**

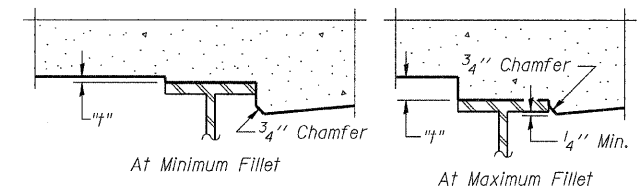
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	-14.79	389.80	389.80
☉ Brg. N. Abut.	712+42.25	-14.79	389.80	389.80
A	712+52.25	-14.79	389.80	389.88
B	712+62.25	-14.79	389.80	389.94
C	712+72.25	-14.79	389.80	389.98
D	712+82.25	-14.79	389.80	389.98
E	712+92.25	-14.79	389.80	389.96
F	713+02.25	-14.79	389.80	389.91
G	713+12.25	-14.79	389.80	389.85
☉ Brg. S. Abut.	713+17.75	-14.79	389.80	389.80
Bk. S. Abut.	713+19.00	-14.79	389.80	389.80



**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 on sheets 5 & 6 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 above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted For Dead Load Deflection" shown on sheets 5 & 6 of 22, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	-8.88	389.91	389.91
☉ Brg. N. Abut.	712+42.25	-8.88	389.91	389.91
A	712+52.25	-8.88	389.91	389.99
B	712+62.25	-8.88	389.91	390.05
C	712+72.25	-8.88	389.91	390.08
D	712+82.25	-8.88	389.91	390.09
E	712+92.25	-8.88	389.91	390.07
F	713+02.25	-8.88	389.91	390.02
G	713+12.25	-8.88	389.91	389.95
☉ Brg. S. Abut.	713+17.75	-8.88	389.91	389.91
Bk. S. Abut.	713+19.00	-8.88	389.91	389.91

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	-2.96	390.00	390.00
☉ Brg. N. Abut.	712+42.25	-2.96	390.00	390.00
A	712+52.25	-2.96	390.00	390.08
B	712+62.25	-2.96	390.00	390.14
C	712+72.25	-2.96	390.00	390.18
D	712+82.25	-2.96	390.00	390.18
E	712+92.25	-2.96	390.00	390.16
F	713+02.25	-2.96	390.00	390.11
G	713+12.25	-2.96	390.00	390.05
☉ Brg. S. Abut.	713+17.75	-2.96	390.00	390.00
Bk. S. Abut.	713+19.00	-2.96	390.00	390.00

**☉, P.G. & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	0.00	390.05	390.05
☉ Brg. N. Abut.	712+42.25	0.00	390.05	390.05
A	712+52.25	0.00	390.05	390.12
B	712+62.25	0.00	390.05	390.18
C	712+72.25	0.00	390.05	390.22
D	712+82.25	0.00	390.05	390.23
E	712+92.25	0.00	390.05	390.21
F	713+02.25	0.00	390.05	390.16
G	713+12.25	0.00	390.05	390.09
☉ Brg. S. Abut.	713+17.75	0.00	390.05	390.05
Bk. S. Abut.	713+19.00	0.00	390.05	390.05

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	2.96	390.00	390.00
☉ Brg. N. Abut.	712+42.25	2.96	390.00	390.00
A	712+52.25	2.96	390.00	390.08
B	712+62.25	2.96	390.00	390.14
C	712+72.25	2.96	390.00	390.18
D	712+82.25	2.96	390.00	390.18
E	712+92.25	2.96	390.00	390.16
F	713+02.25	2.96	390.00	390.11
G	713+12.25	2.96	390.00	390.05
☉ Brg. S. Abut.	713+17.75	2.96	390.00	390.00
Bk. S. Abut.	713+19.00	2.96	390.00	390.00

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	8.88	389.91	389.91
☉ Brg. N. Abut.	712+42.25	8.88	389.91	389.91
A	712+52.25	8.88	389.91	389.99
B	712+62.25	8.88	389.91	390.05
C	712+72.25	8.88	389.91	390.08
D	712+82.25	8.88	389.91	390.09
E	712+92.25	8.88	389.91	390.07
F	713+02.25	8.88	389.91	390.02
G	713+12.25	8.88	389.91	389.95
☉ Brg. S. Abut.	713+17.75	8.88	389.91	389.91
Bk. S. Abut.	713+19.00	8.88	389.91	389.91

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	712+41.00	14.79	389.80	389.80
☉ Brg. N. Abut.	712+42.25	14.79	389.80	389.80
A	712+52.25	14.79	389.80	389.88
B	712+62.25	14.79	389.80	389.94
C	712+72.25	14.79	389.80	389.98
D	712+82.25	14.79	389.80	389.98
E	712+92.25	14.79	389.80	389.96
F	713+02.25	14.79	389.80	389.91
G	713+12.25	14.79	389.80	389.85
☉ Brg. S. Abut.	713+17.75	14.79	389.80	389.80
Bk. S. Abut.	713+19.00	14.79	389.80	389.80

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Slab	712+11.00	-16.42	389.77
A	712+21.00	-16.42	389.77
B	712+31.00	-16.42	389.77
Bk. N. Abutment	712+41.00	-16.42	389.77

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Slab	712+11.00	-12.00	389.86
A	712+21.00	-12.00	389.86
B	712+31.00	-12.00	389.86
Bk. N. Abutment	712+41.00	-12.00	389.86

☉ STRUCTURE & STAGE CONSTRUCTION LINE

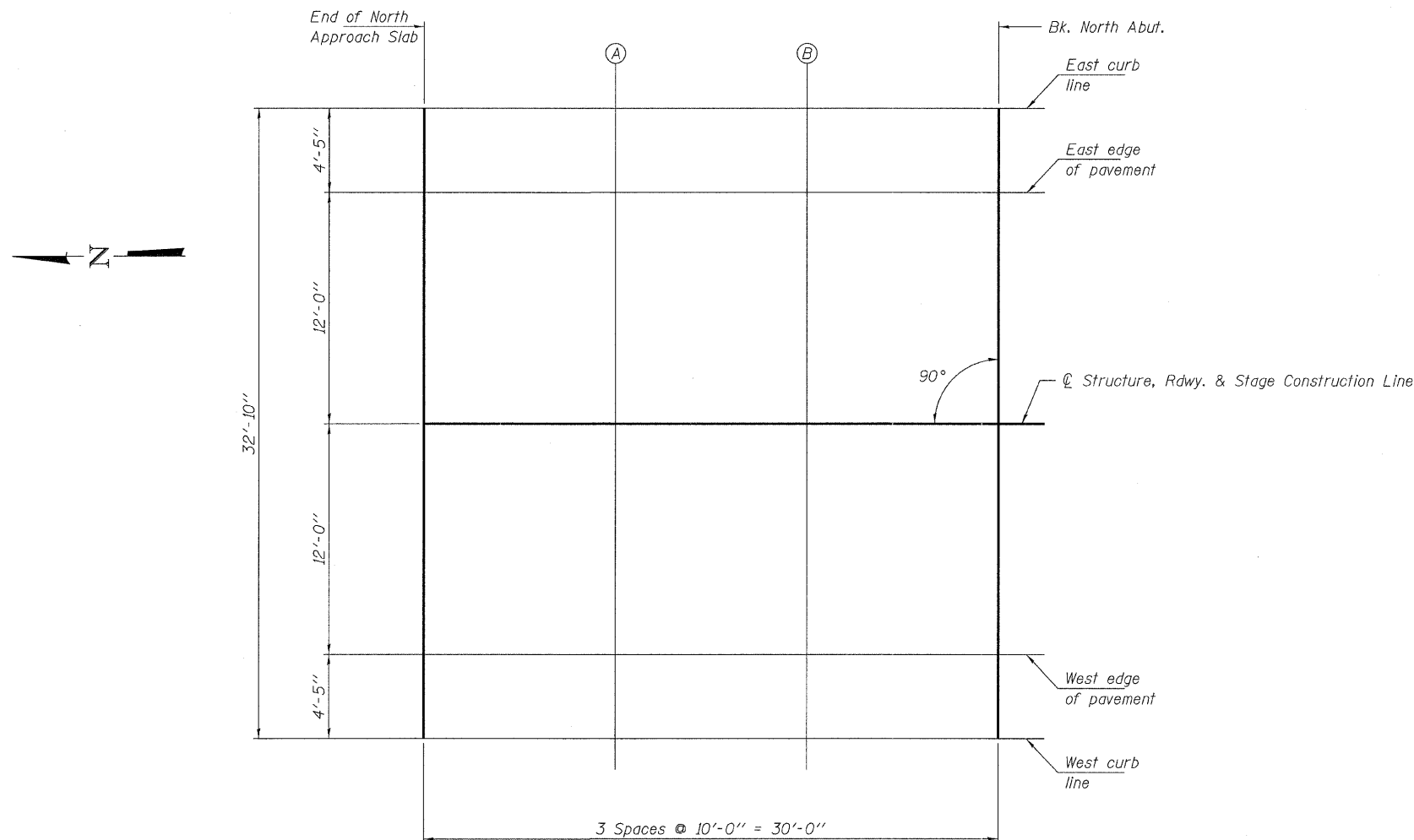
Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Slab	712+11.00	0.00	390.05
A	712+21.00	0.00	390.05
B	712+31.00	0.00	390.05
Bk. N. Abutment	712+41.00	0.00	390.05

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Slab	712+11.00	12.00	389.86
A	712+21.00	12.00	389.86
B	712+31.00	12.00	389.86
Bk. N. Abutment	712+41.00	12.00	389.86

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End of N. Approach Slab	712+11.00	16.42	389.77
A	712+21.00	16.42	389.77
B	712+31.00	16.42	389.77
Bk. N. Abutment	712+41.00	16.42	389.77



NORTH APPROACH SLAB - PLAN

**EAST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	713+19.00	-16.42	389.77
A	713+29.00	-16.42	389.77
B	713+39.00	-16.42	389.77
End of S. Approach Slab	713+49.00	-16.42	389.77

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	713+19.00	-12.00	389.86
A	713+29.00	-12.00	389.86
B	713+39.00	-12.00	389.86
End of S. Approach Slab	713+49.00	-12.00	389.86

**☉ STRUCTURE & STAGE CONSTRUCTION LINE**

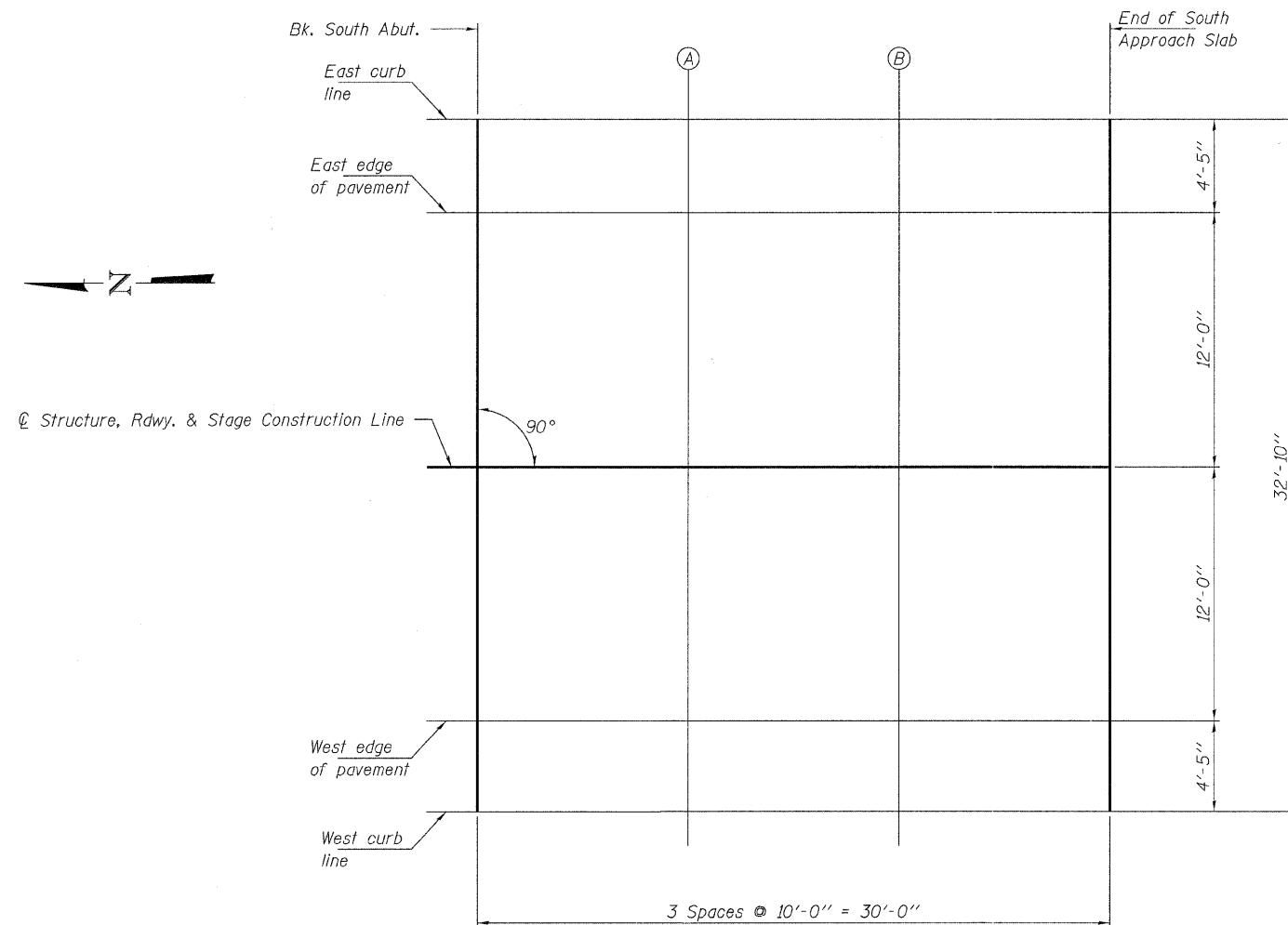
Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	713+19.00	0.00	390.05
A	713+29.00	0.00	390.05
B	713+39.00	0.00	390.05
End of S. Approach Slab	713+49.00	0.00	390.05

**WEST EDGE OF PAVEMENT**

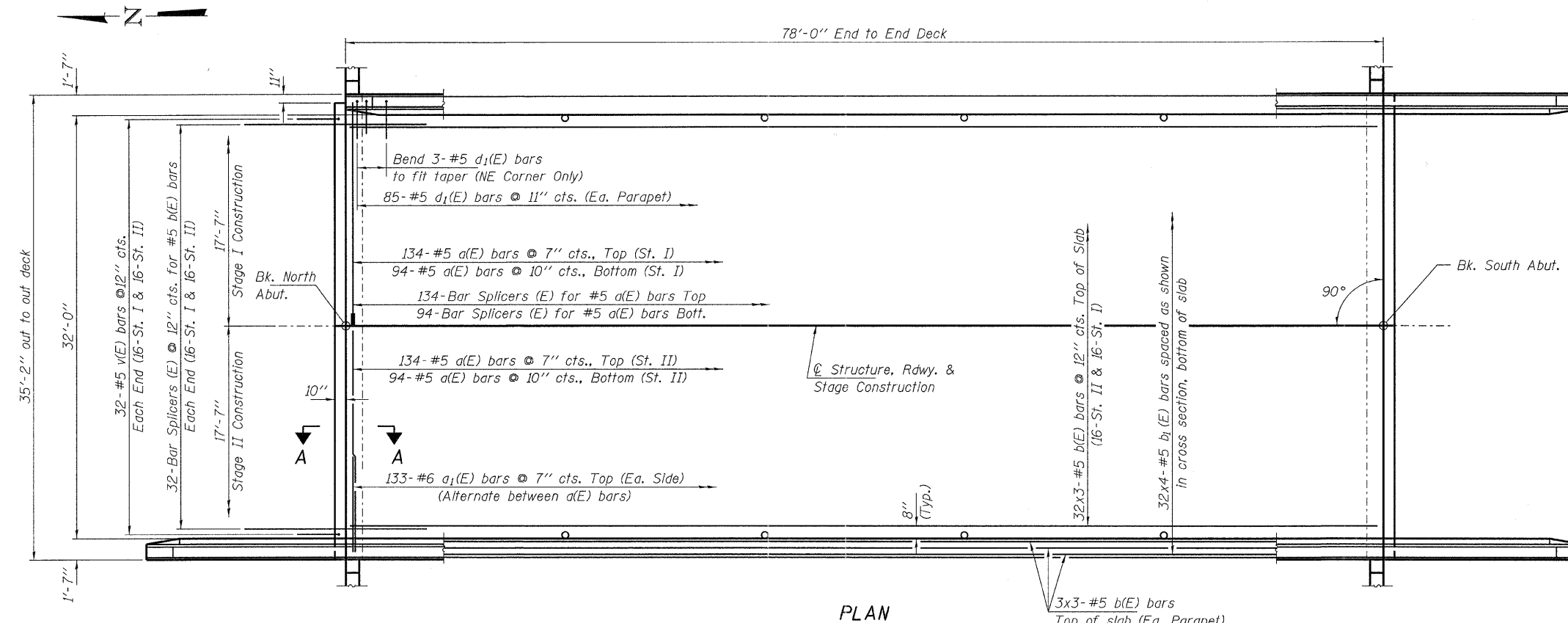
Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	713+19.00	12.00	389.86
A	713+29.00	12.00	389.86
B	713+39.00	12.00	389.86
End of S. Approach Slab	713+49.00	12.00	389.86

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abutment	713+19.00	16.42	389.77
A	713+29.00	16.42	389.77
B	713+39.00	16.42	389.77
End of S. Approach Slab	713+49.00	16.42	389.77

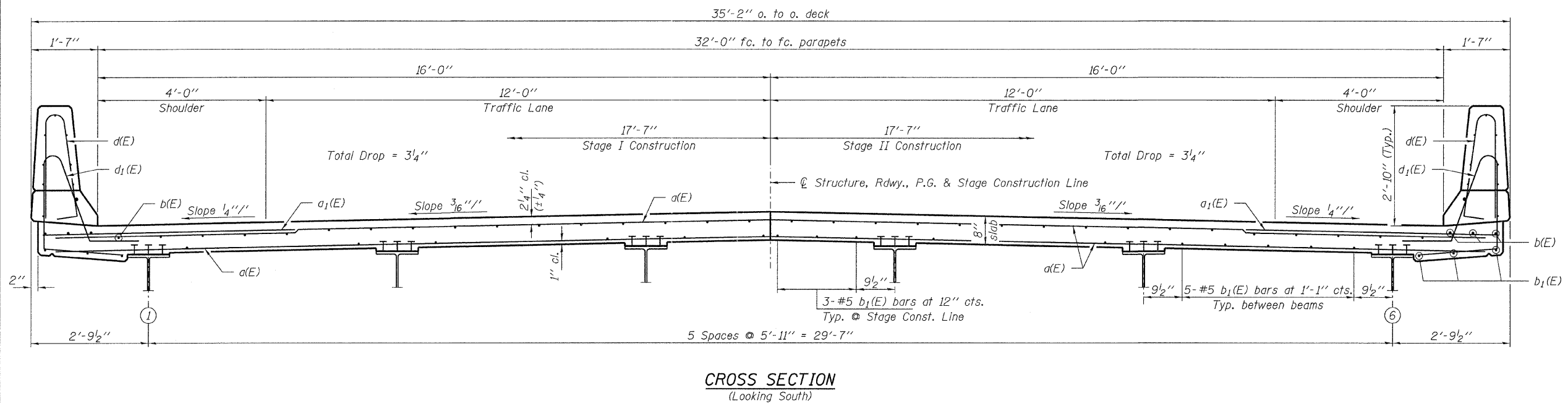


**SOUTH APPROACH SLAB - PLAN**



Notes:  
 See sheets 10 & 11 of 22 for superstructure details and Bill of Material.  
 Bars indicated thus 32x3-#5 etc. indicates 32 lines of bars with 3 lengths per line.  
 See sheet 10 of 22 for parapet reinforcement.  
 See sheet 11 of 22 for Section A-A.  
 See sheet 19 of 22 for Bar Splicer Details.

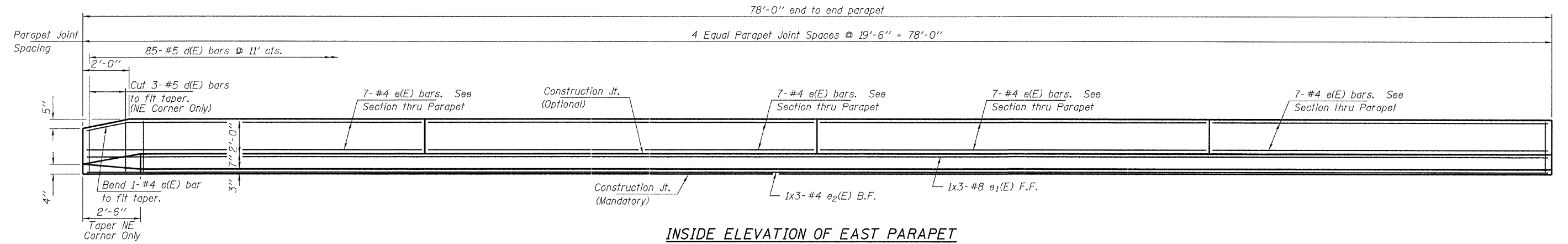
**MIN. BAR LAP**  
 #5 bars = 2'-7"



FILE NAME = 090039-shr-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUPERSTRUCTURE STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	32	
ILLINOIS PROFESSIONAL DESIGN FIRM L.B./P.E./S.E. CORP. 184-300889	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			<b>CONTRACT NO. 78067</b>					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					

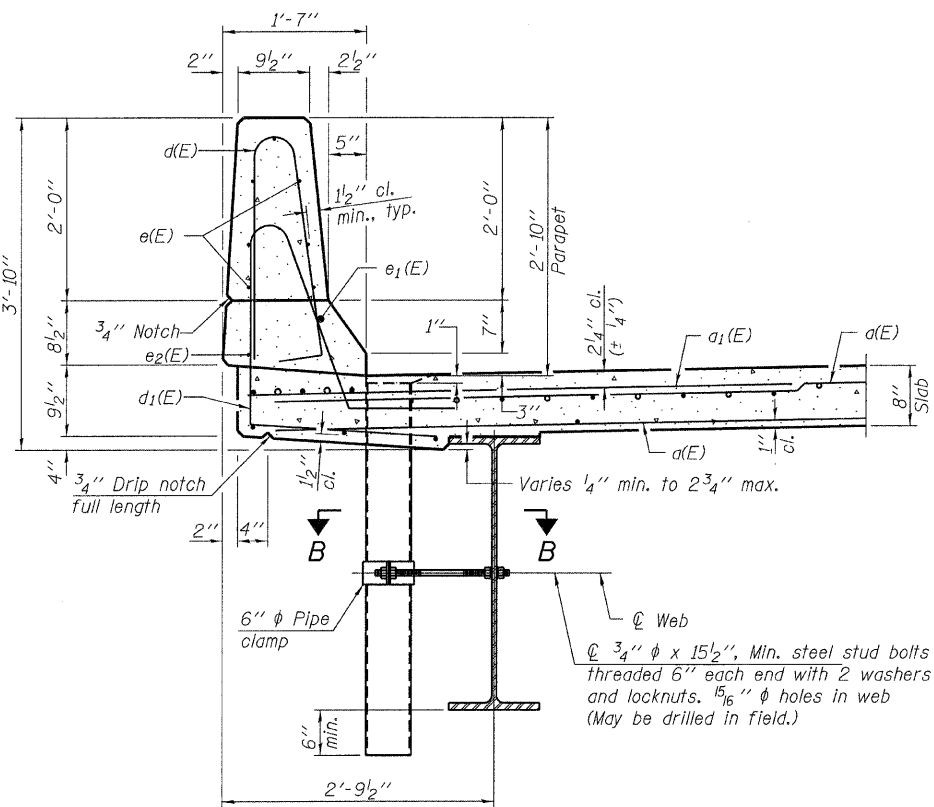
SHEET NO. 9 OF 22 SHEETS



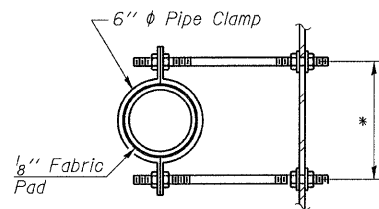


**INSIDE ELEVATION OF EAST PARAPET**  
(Looking East)

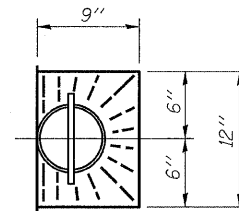
**MIN. BAR LAP**  
(Parapet)  
#4 bars = 2'-0"  
#8 bars = 5'-2"



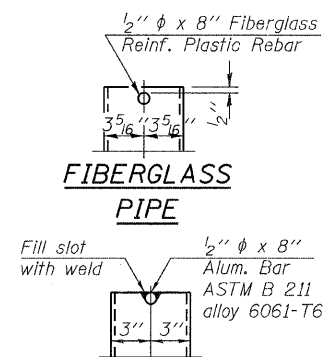
**SECTION THRU PARAPET**



**SECTION B-B**  
\*Dimension as required by Pipe Clamp

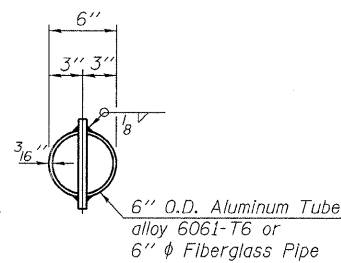


**TOP PLAN**

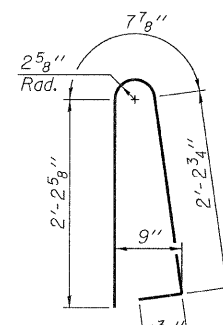


**FIBERGLASS PIPE**

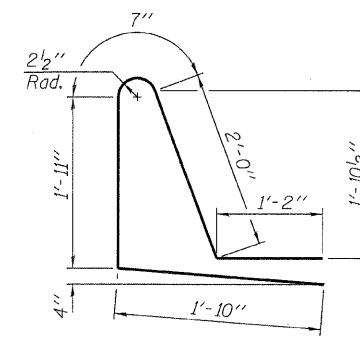
**ALUMINUM TUBE**



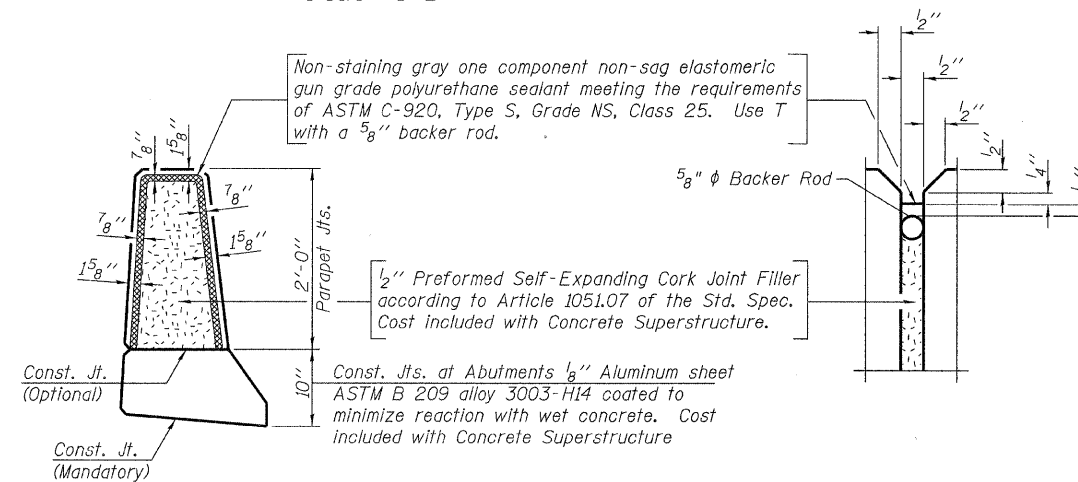
**TOP PLAN (Showing Aluminum Tube)**



**BAR d(E)**



**BAR d1(E)**



**PARAPET JOINT DETAILS**

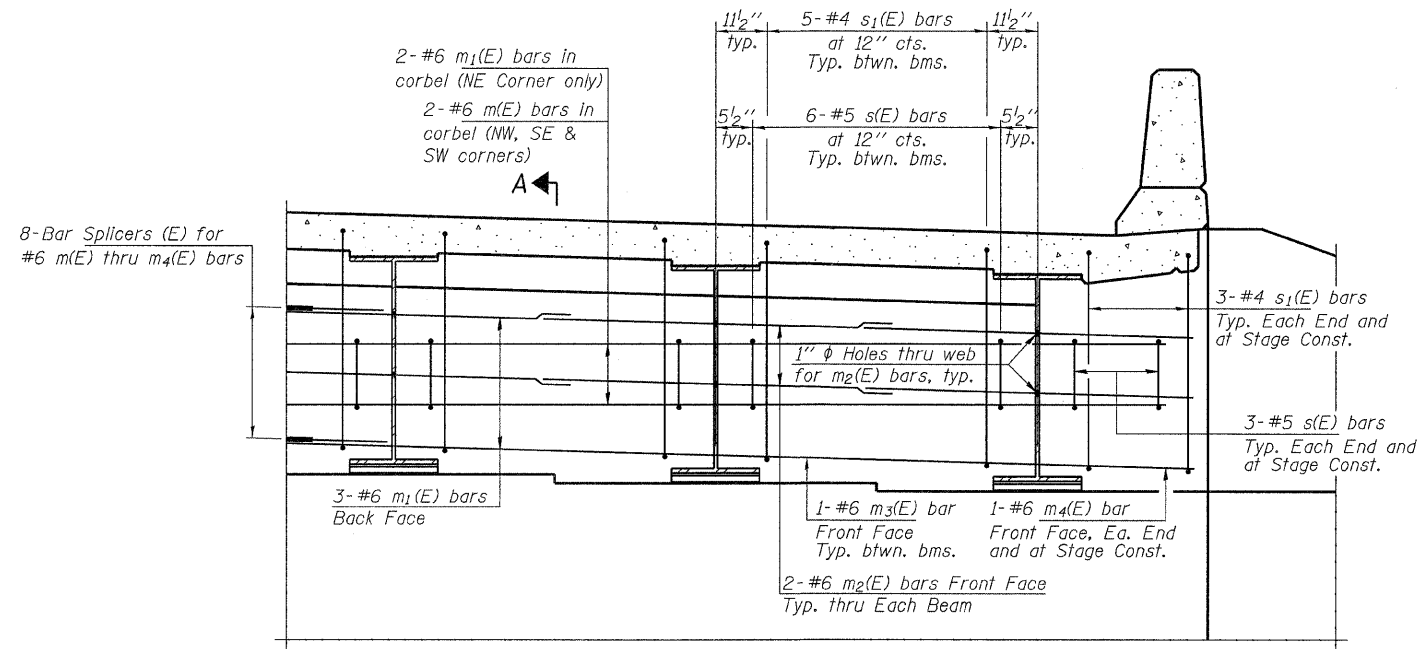
**Notes:**  
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SP1 prior to painting.  
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

**SUPERSTRUCTURE BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
d(E)	456	#5	17'-1"	—
a1(E)	266	#6	6'-6"	—
b(E)	114	#5	27'-7"	—
b1(E)	128	#5	21'-4"	—
d(E)	170	#5	5'-7"	⌋
d1(E)	170	#5	7'-6"	⌋
e(E)	56	#4	19'-2"	—
e1(E)	6	#8	29'-4"	—
e2(E)	6	#4	27'-2"	—
m(E)	18	#6	17'-3"	—
m1(E)	2	#6	16'-6"	—
m2(E)	24	#6	9'-3"	—
m3(E)	8	#6	5'-6"	—
m4(E)	8	#6	2'-6"	—
s(E)	72	#5	6'-10"	⌋
s1(E)	64	#4	9'-6"	⌋
v(E)	64	#5	3'-9"	⌋
Concrete Superstructures			Cu. Yd.	111.4
Reinforcement Bars, Epoxy Coated			Pound	22,580
Bar Splacers			Each	308

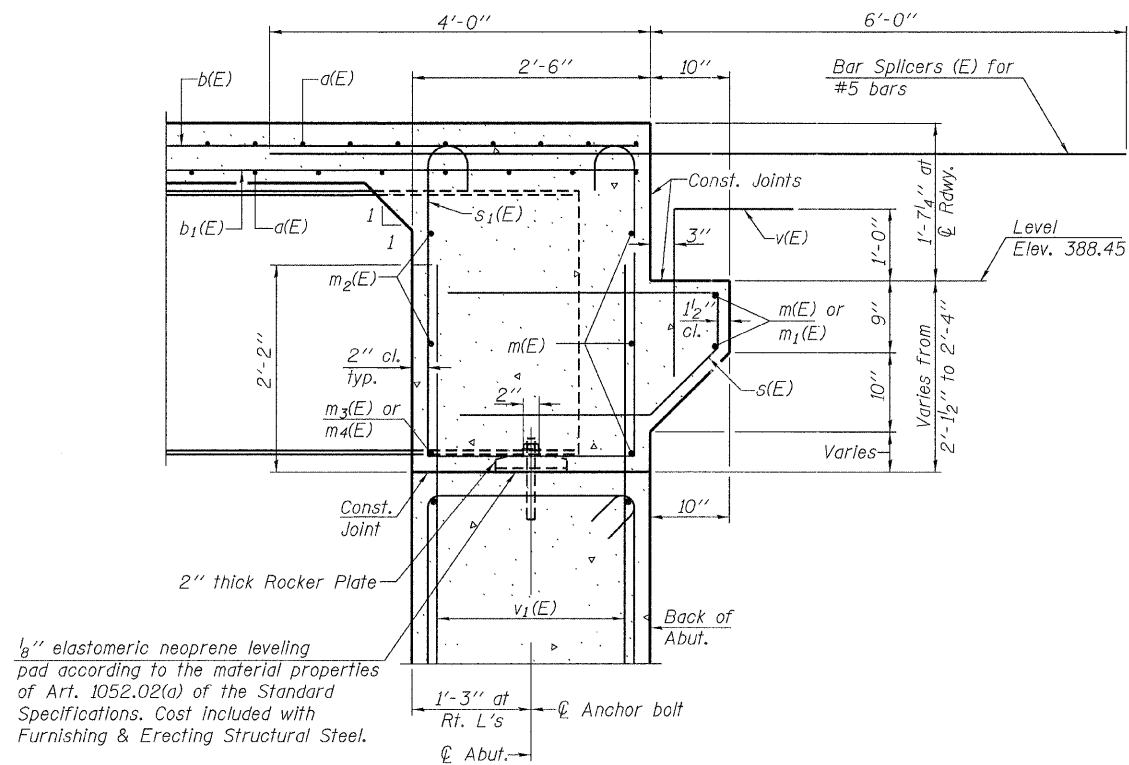
Bars indicated thus 1x3-#4 etc. indicates 1 line of bars with 3 lengths per line.

Notes:  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 22.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 22.  
 The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
 For Bar Splicer details see sheet 19 of 22.

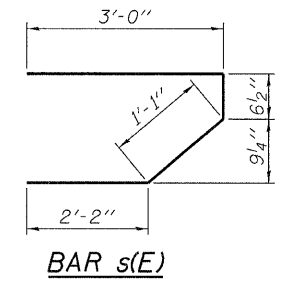


**DIAPHRAGM ELEVATION AT ABUTMENT**

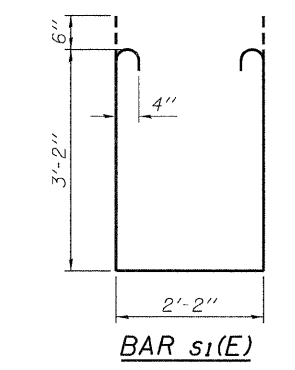
**MIN. BAR LAP**  
 #6 bar = 3'-4"



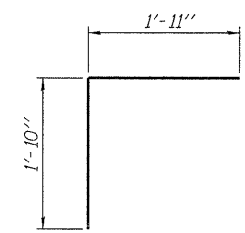
**SECTION A-A**  
 Dimensions at right angles to abutment, except as shown.



**BAR s(E)**

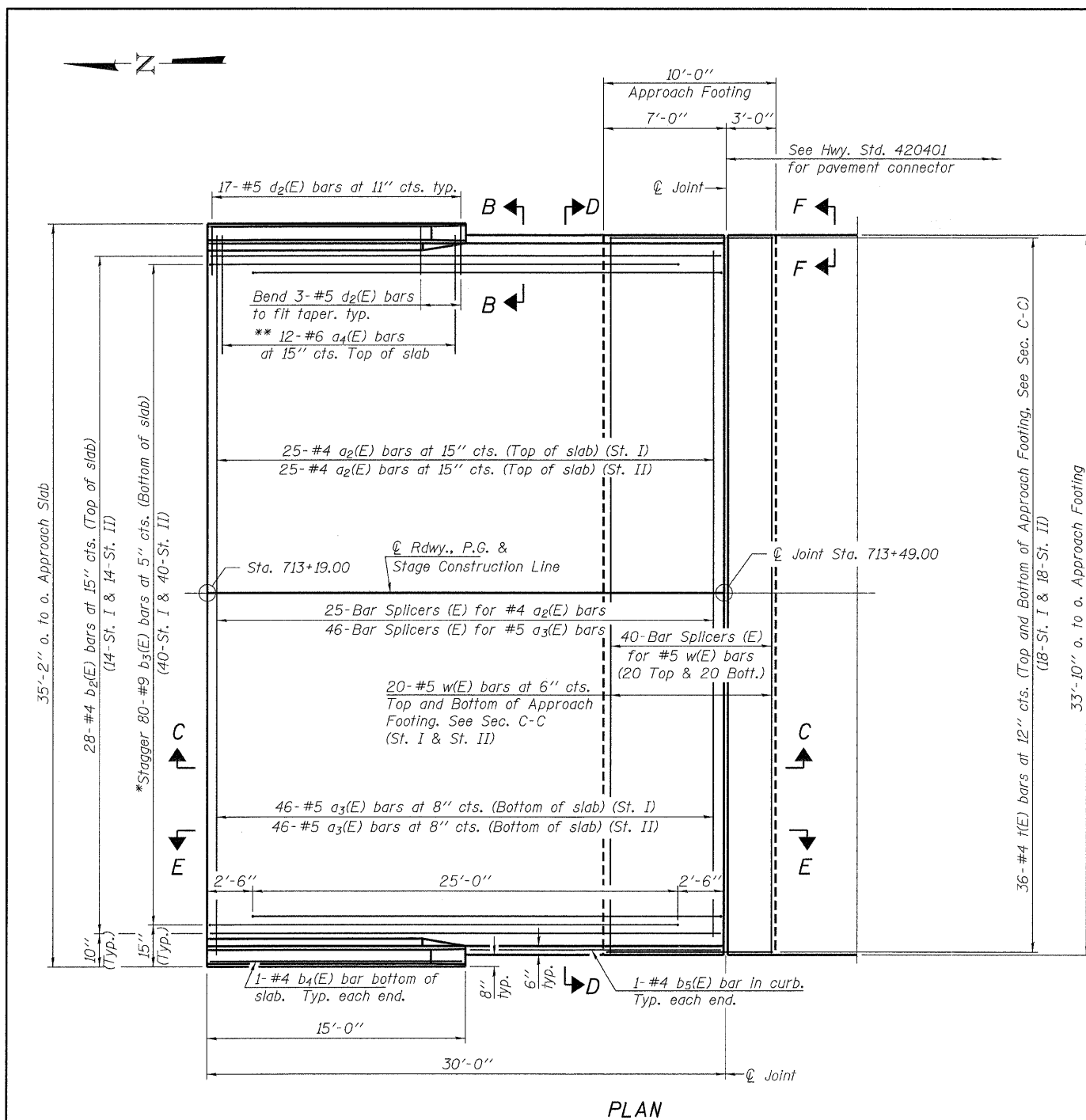


**BAR s1(E)**



**BAR v(E)**

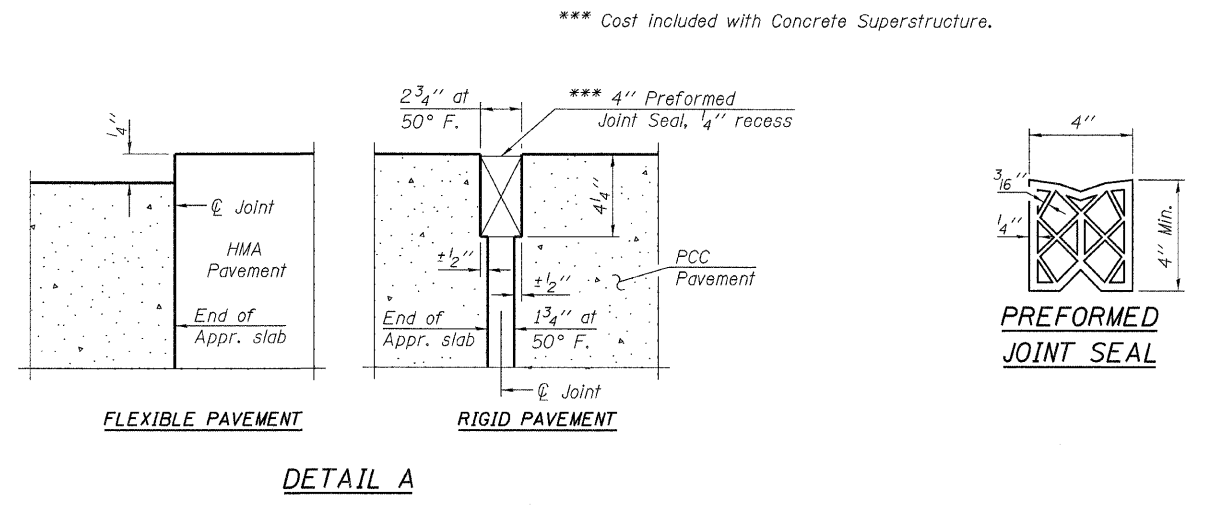
FILE NAME = 090239-sht-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUPERSTRUCTURE DETAILS STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 2008 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	34	
ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E. SE CORP. 184300959	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					
						SHEET NO. 11 OF 22 SHEETS					



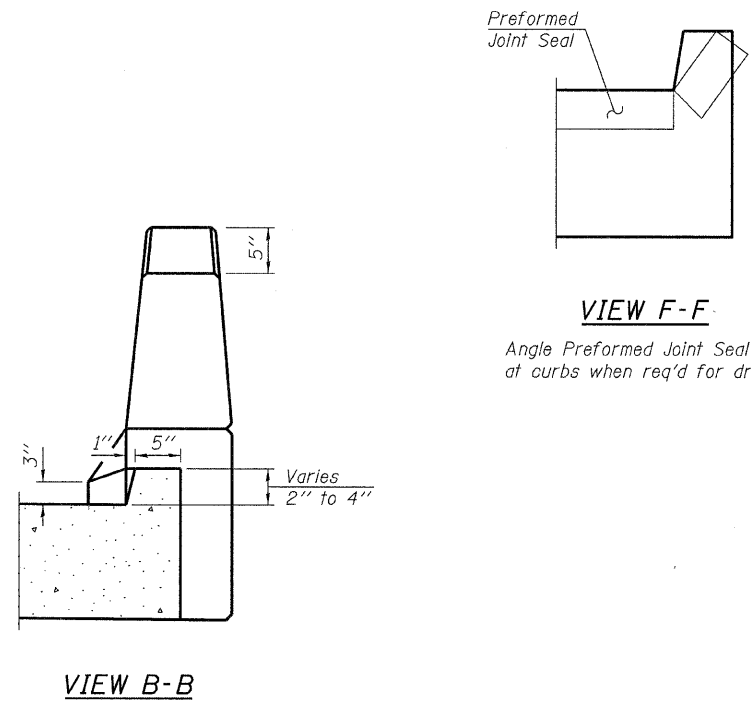
**PLAN**

\* Tilt #9 b3(E) bars as required to maintain clearance.  
 \*\* Space between a2(E) bars, typ. ea. parapet.

Notes:  
 See sheet 13 of 22 for Sections C-C & D-D and View E-E.  
 a2(E) and a3(E) bar spacings measured along  $\phi$  Rdwy.  
 See sheet 13 of 22 for additional details.



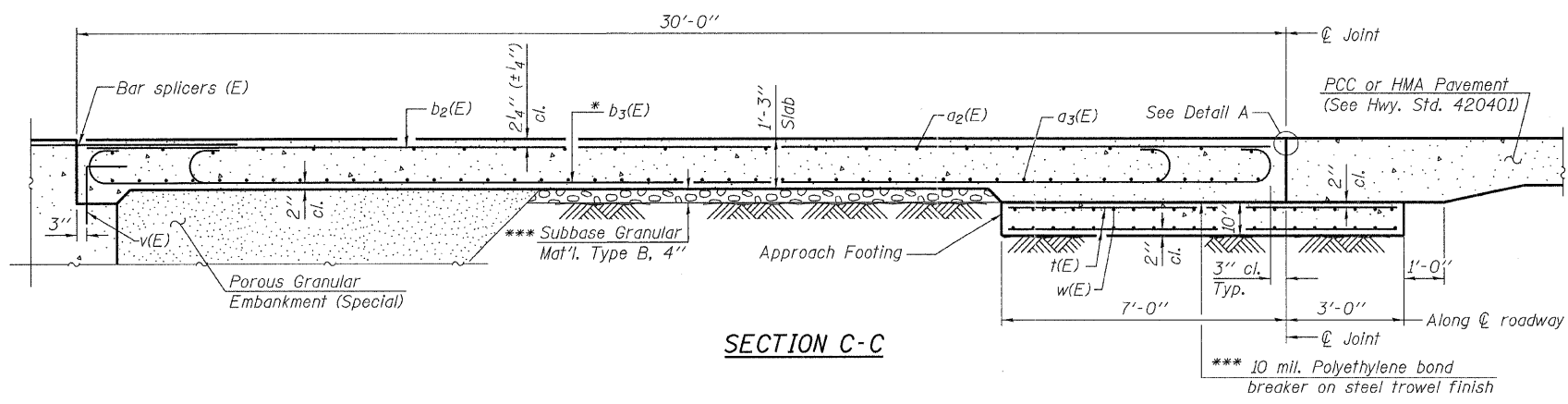
**DETAIL A**



**VIEW B-B**

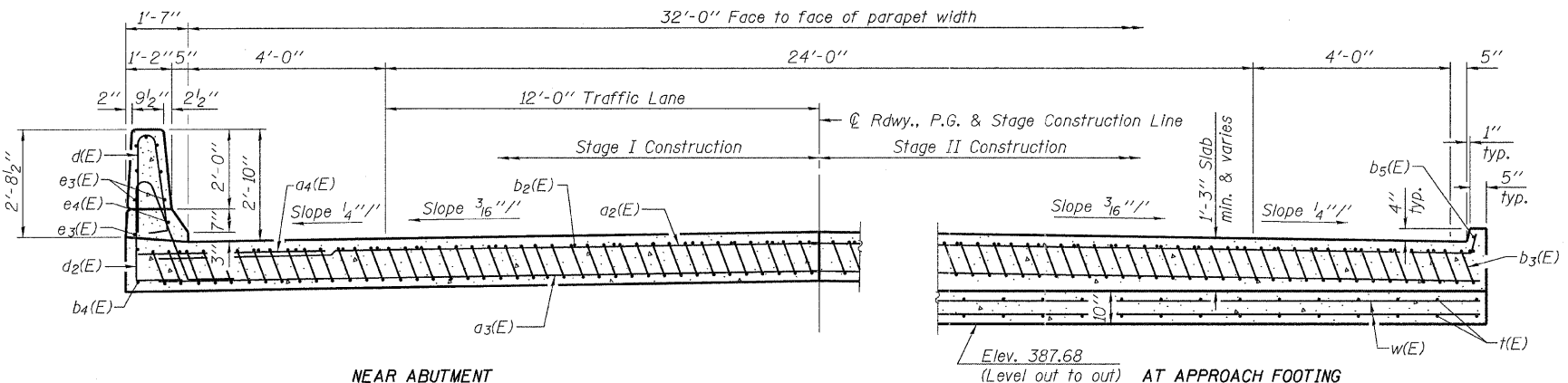
(Sheet 1 of 2)

FILE NAME = 890039-ah-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SOUTH BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	35	
<b>HLR</b> ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184.000959	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			SHEET NO. 12 OF 22 SHEETS					
						ILLINOIS FED. AID PROJECT					

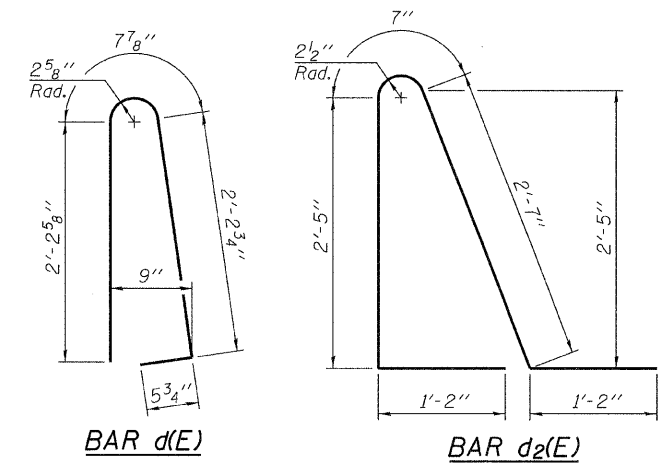


**SECTION C-C**

Notes:  
 See sheet 12 of 22 for Detail A and View B-B.  
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For v(E) bar details, see sheet 11 of 22.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 19 of 22.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 22.  
 For additional parapet details, see sheet 10 of 22.



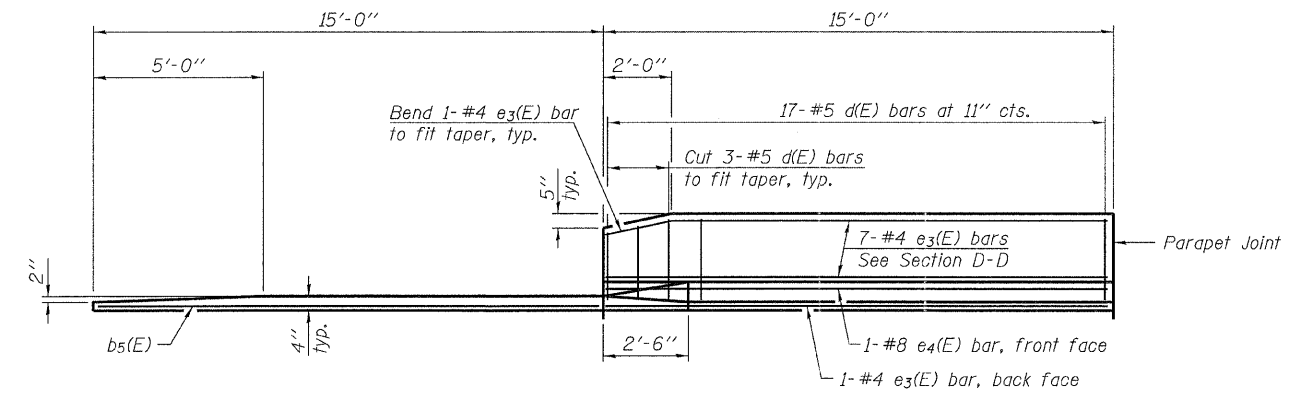
**SECTION D-D**



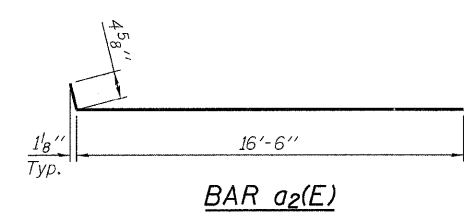
**BAR d(E)**

**BAR d2(E)**

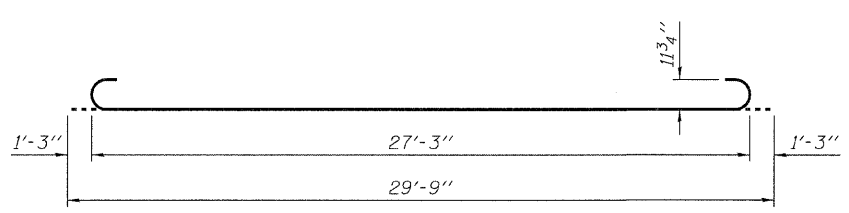
\* Tilt #9 b3(E) bars as required to maintain clearance.  
 \*\*\* Cost included with Concrete Superstructure.



**VIEW E-E**



**BAR a2(E)**

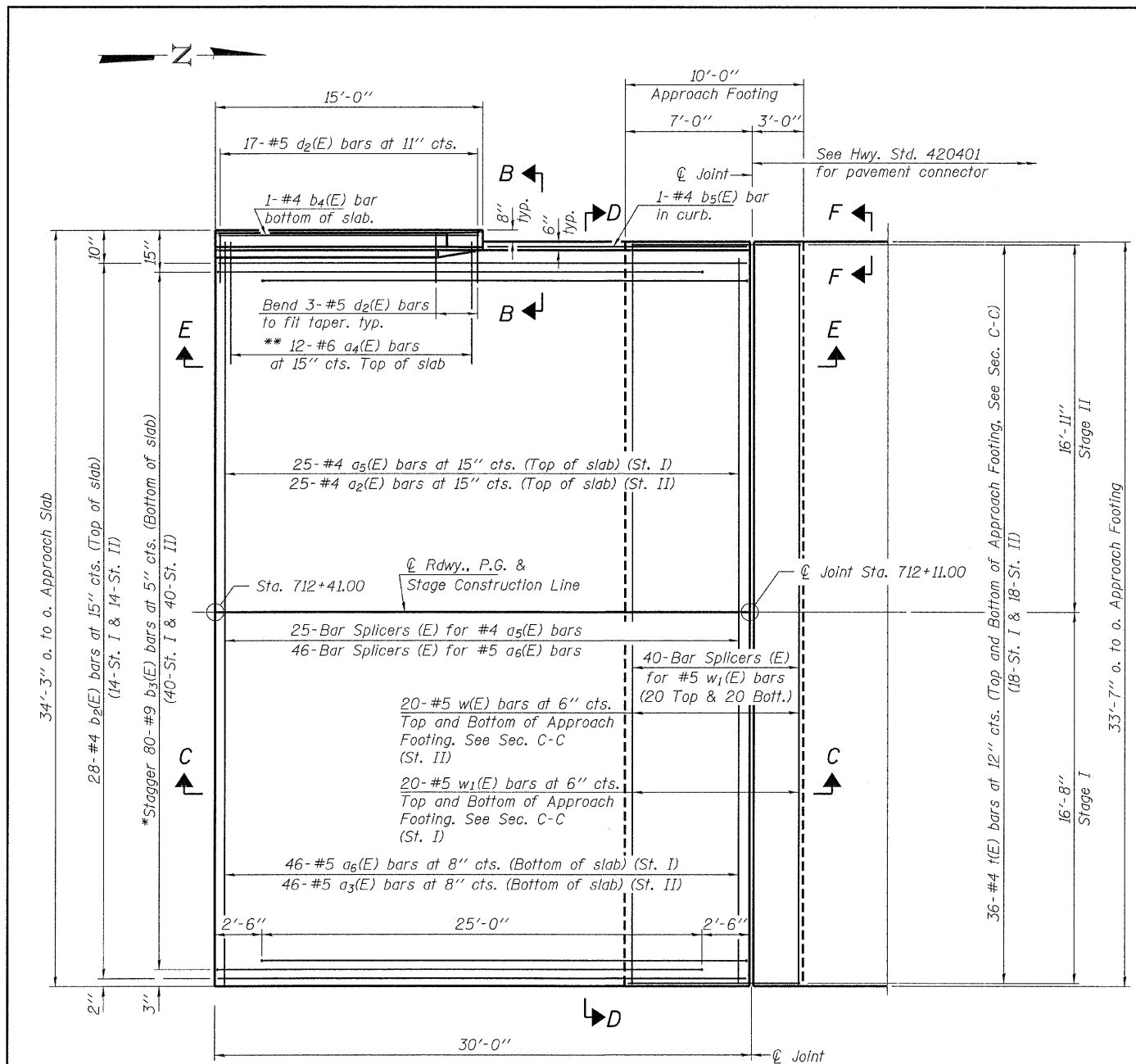


**BAR b3(E)**

**SOUTH APPROACH  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a2(E)	50	#4	16'-11"	—
a3(E)	92	#5	16'-7"	—
a4(E)	24	#6	6'-6"	—
b2(E)	28	#4	29'-8"	—
b3(E)	80	#9	29'-9"	—
b4(E)	2	#4	14'-8"	—
b5(E)	2	#4	14'-8"	—
d(E)	34	#5	5'-7"	—
d2(E)	34	#5	7'-11"	—
e3(E)	16	#4	14'-8"	—
e4(E)	2	#8	14'-8"	—
t(E)	72	#4	9'-8"	—
w(E)	80	#5	16'-7"	—
Concrete Superstructure		Cu. Yd.	53.0	
Concrete Structures		Cu. Yd.	10.4	
Reinforcement Bars, Epoxy Coated		Pound	13,640	
Bar Splicers		Each	111	

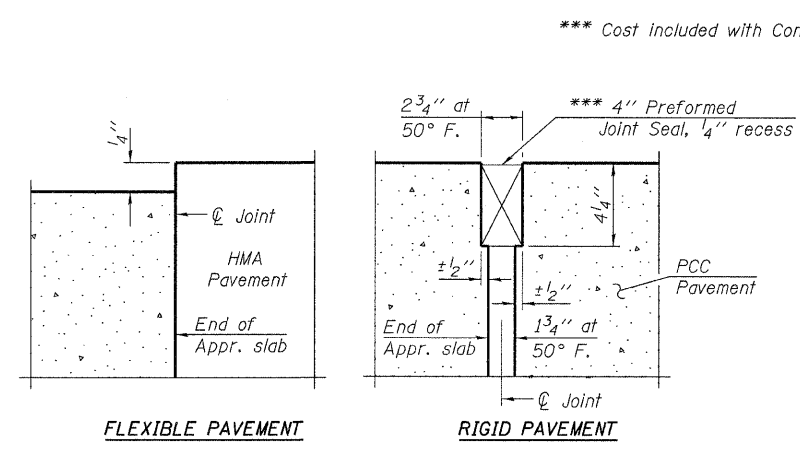
(Sheet 2 of 2)



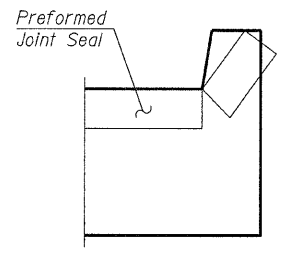
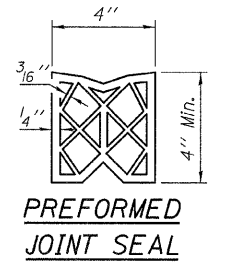
**PLAN**

\* Tilt #9 b<sub>3</sub>(E) bars as required to maintain clearance.  
 \*\* Space between a<sub>4</sub>(E) bars.

Notes:  
 See sheet 15 of 22 for Sections C-C & D-D and View E-E.  
 a<sub>2</sub>(E), a<sub>3</sub>(E), a<sub>5</sub>(E) and a<sub>6</sub>(E) bar spacings measured along  $\hat{C}$  Rdwy.  
 See sheet 15 of 22 for additional details.

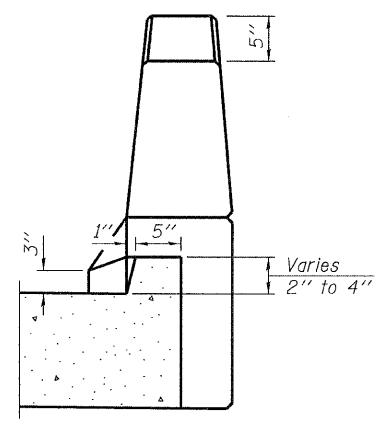


**DETAIL A**



**VIEW F-F**

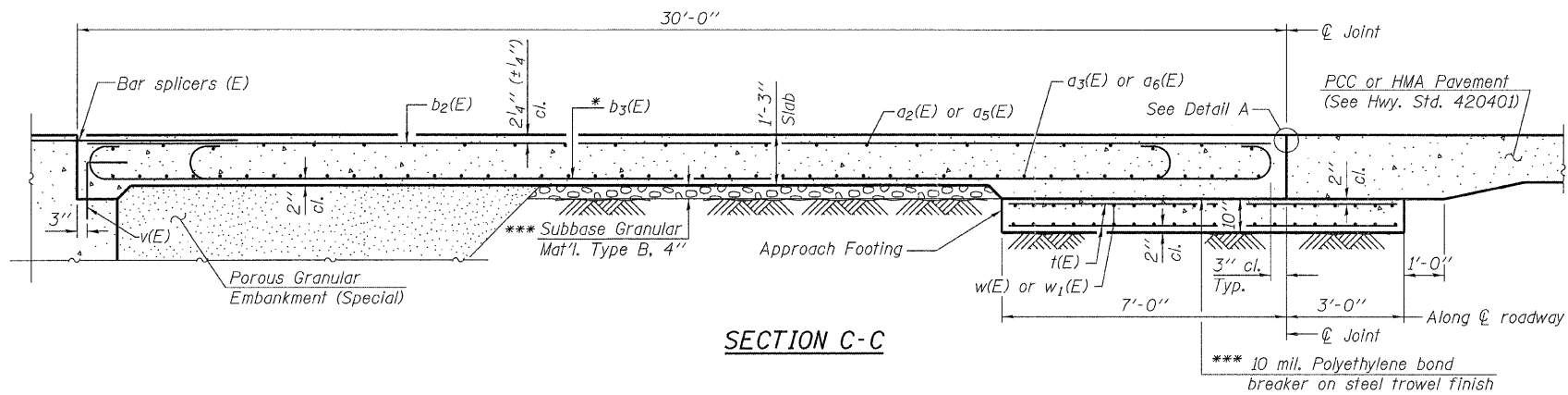
Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



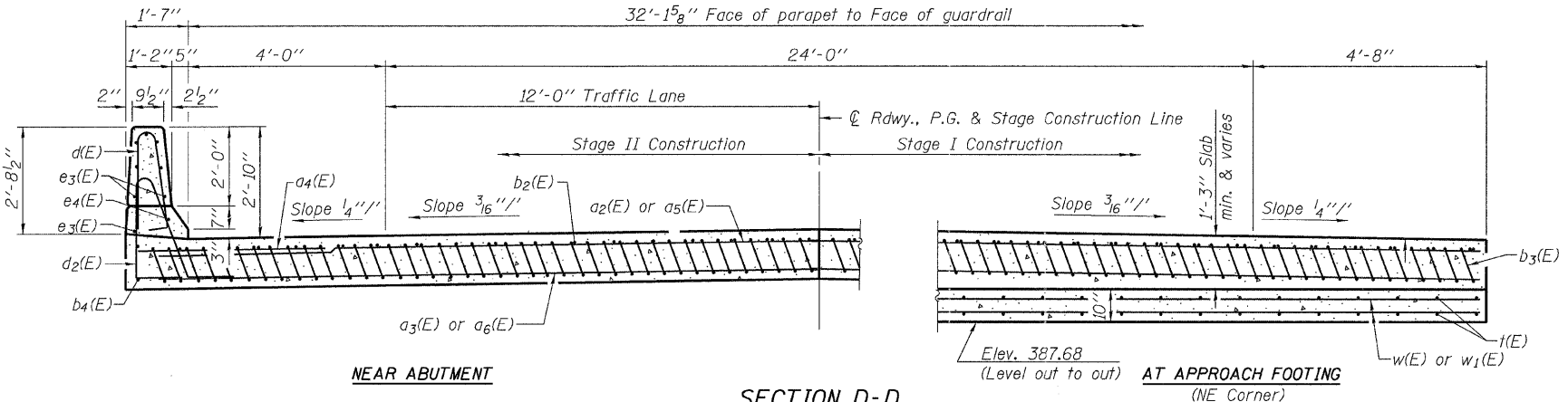
**VIEW B-B**

(Sheet 1 of 2)

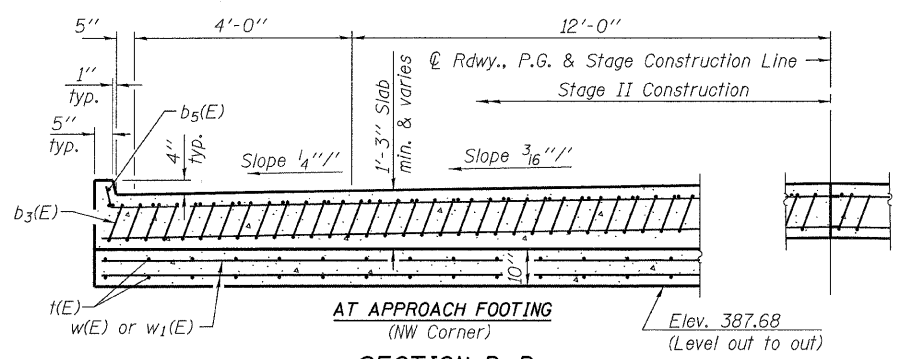
FILE NAME = 090039-ght-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>NORTH BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	37	
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184-000659	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					
						SHEET NO. 14 OF 22 SHEETS					



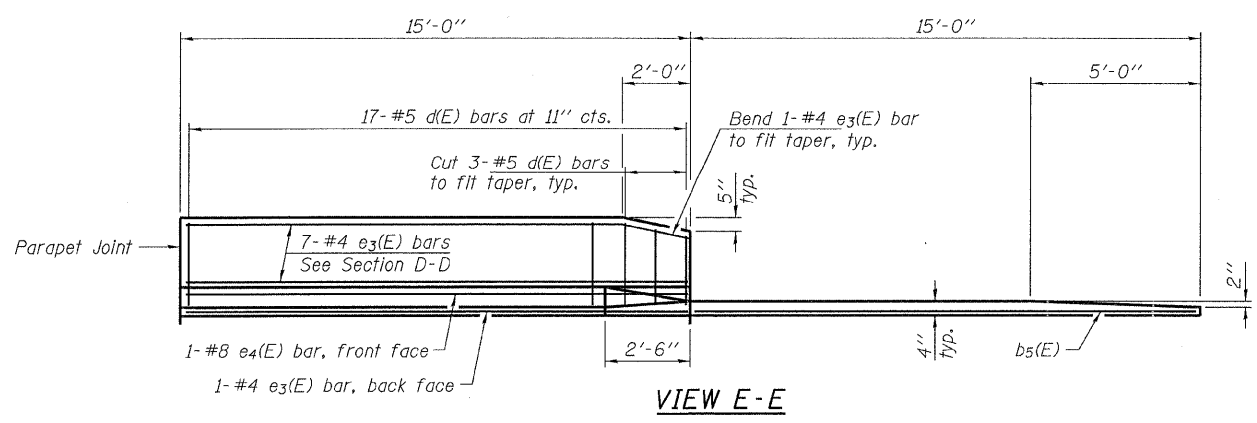
SECTION C-C



SECTION D-D

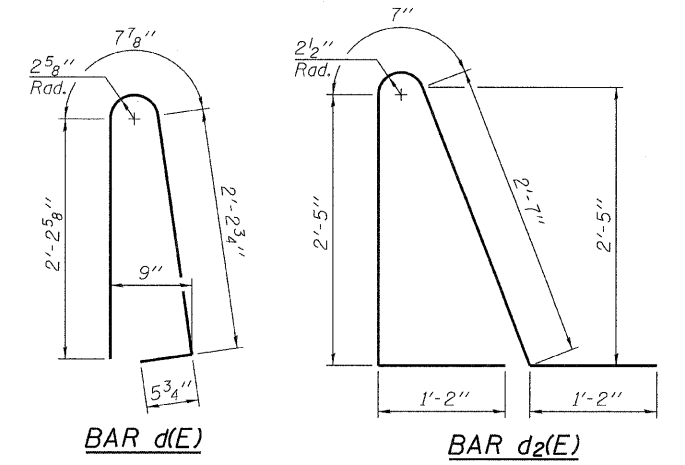


SECTION D-D



VIEW E-E

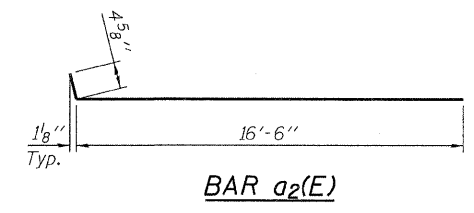
Notes:  
 See sheet 14 of 22 for Detail A and View B-B.  
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For v(E) bar details, see sheet 11 of 22.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 19 of 22.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 22.  
 For additional parapet details, see sheet 10 of 22.



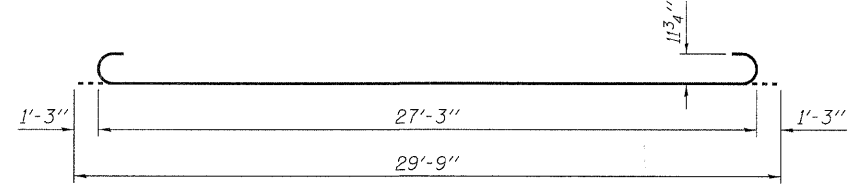
\* Tilt #9 b3(E) bars as required to maintain clearance.  
 \*\*\* Cost included with Concrete Superstructure.

NORTH APPROACH  
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	25	#4	16'-11"	—
a3(E)	46	#5	16'-7"	—
a4(E)	12	#6	6'-6"	—
a5(E)	25	#4	16'-4"	—
a6(E)	46	#5	16'-4"	—
b2(E)	28	#4	29'-8"	—
b3(E)	80	#9	29'-9"	—
b4(E)	1	#4	14'-8"	—
b5(E)	1	#4	14'-8"	—
d(E)	17	#5	5'-7"	⤴
d2(E)	17	#5	7'-11"	⤴
e3(E)	8	#4	14'-8"	—
e4(E)	1	#8	14'-8"	—
t(E)	72	#4	9'-8"	—
w(E)	40	#5	16'-7"	—
w1(E)	40	#5	16'-4"	—
Concrete Superstructure		Cu. Yd.	50.4	
Concrete Structures		Cu. Yd.	10.4	
Reinforcement Bars, Epoxy Coated		Pound	13,110	
Bar Splicers		Each	111	

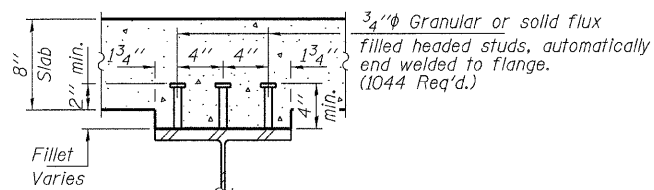
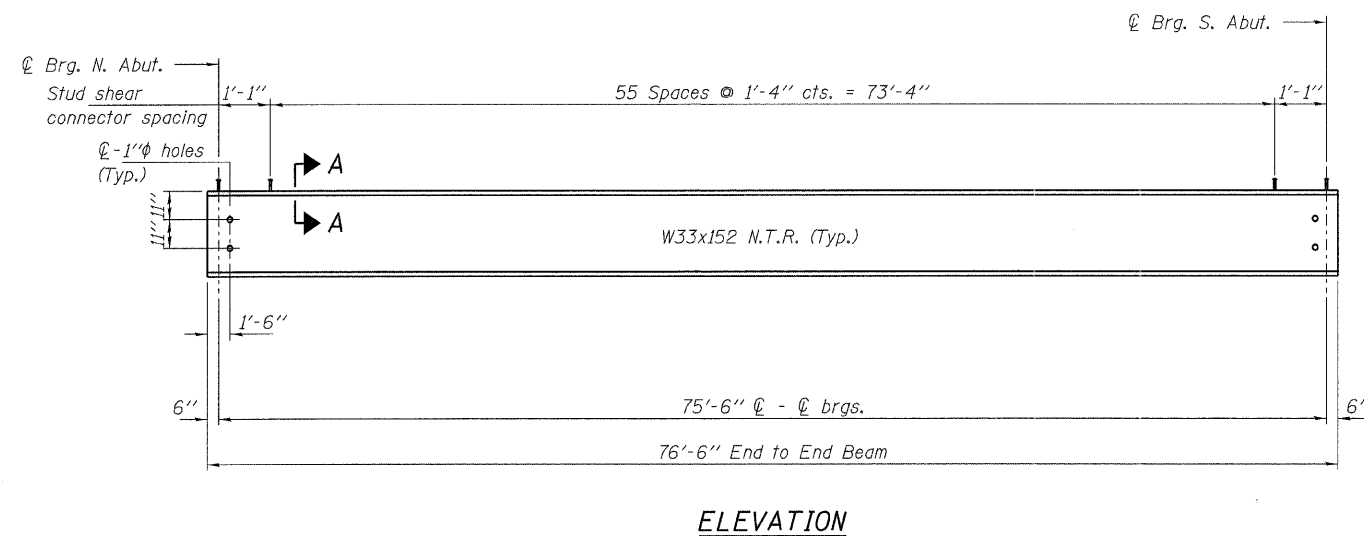
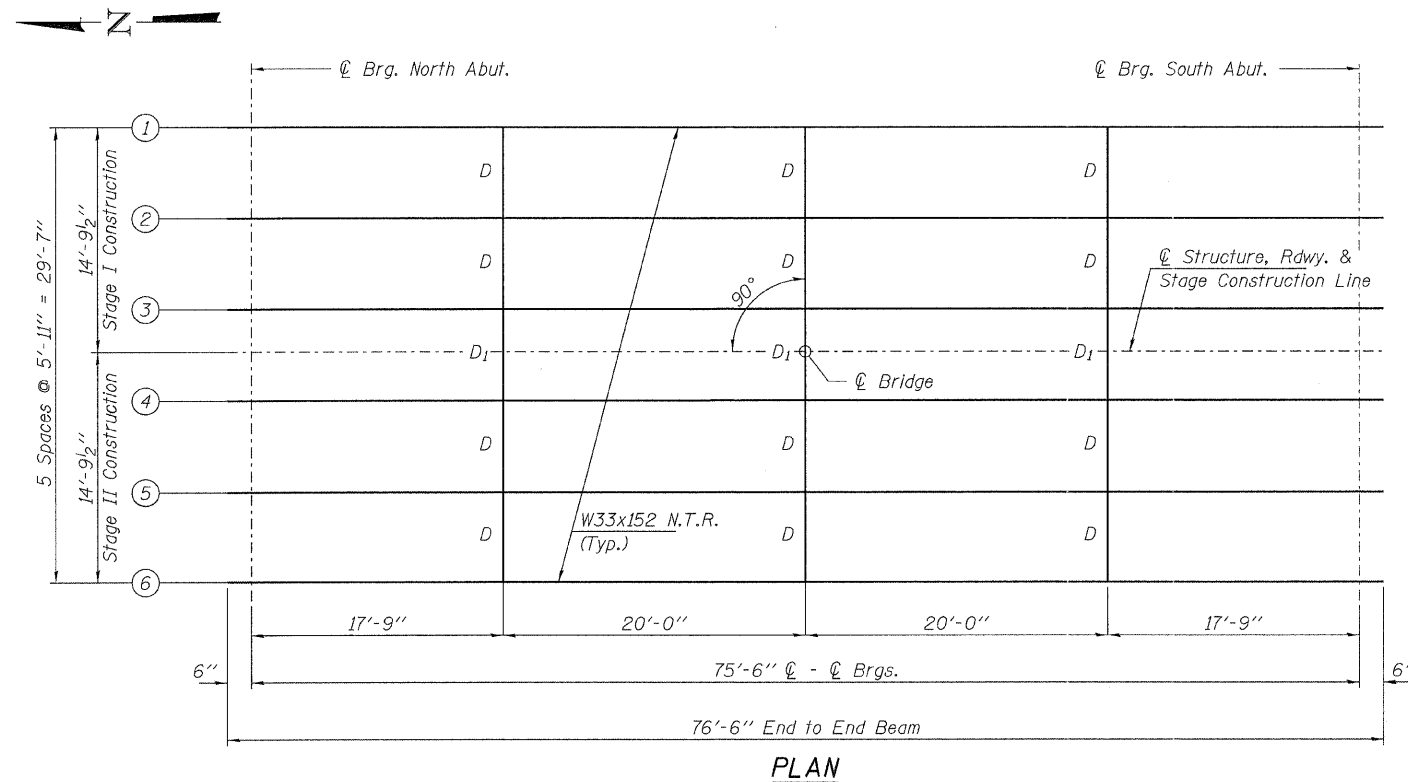


BAR a2(E)



BAR b3(E)

(Sheet 2 of 2)



SECTION A-A

Location	℄ Brg. N. Abut.	℄ Brg. S. Abut.
BEAM 1	389.10	389.10
BEAM 2	389.20	389.20
BEAM 3	389.30	389.30
BEAM 4	389.30	389.30
BEAM 5	389.20	389.20
BEAM 6	389.10	389.10

TOP OF BEAM ELEVATIONS  
(For fabrication only)  
(Does not include Dead Load Deflections)

INTERIOR GIRDER MOMENT TABLE		0.5 Sp. 1
$I_s$	(in <sup>4</sup> )	8,160
$I_c(n)$	(in <sup>4</sup> )	20,616
$I_c(3n)$	(in <sup>4</sup> )	14,987
$S_s$	(in <sup>3</sup> )	487
$S_c(n)$	(in <sup>3</sup> )	699
$S_c(3n)$	(in <sup>3</sup> )	629
DC1	(k/')	0.797
M <sub>DC1</sub>	(k)	568
DC2	(k/')	0.150
M <sub>DC2</sub>	(k)	107
DW	(k/')	0.296
M <sub>DW</sub>	(k)	211
$M_L + IM$	(k)	1,015
$M_u$ (Strength I)	(k)	2,937
$\phi_r M_n, \phi_r M_{nc}$	(k)	3,322
$f_s$ DC1	(ksi)	14.0
$f_s$ DC2	(ksi)	2.0
$f_s$ DW	(ksi)	4.0
$f_s$ 1.3(L+IM)	(ksi)	22.7
$f_s$ (Service II)	(ksi)	42.7
$V_r$	(k)	23.4

\* Compact sections

INTERIOR GIRDER REACTION TABLE		Abut.
R <sub>DC1</sub>	(k)	30.1
R <sub>DC2</sub>	(k)	5.7
R <sub>DW</sub>	(k)	11.2
R <sub>L + IM</sub>	(k)	71.8
R <sub>Total</sub>	(k)	118.8

$I_s, S_s$ : 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 (In.4 and In.3).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (In.4 and In.3).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (In.4 and In.3).

DC1: Un-factored non-composite dead load (kips/ft.).

M<sub>DC1</sub>: 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<sub>DC2</sub>: 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<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

$M_u$  (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

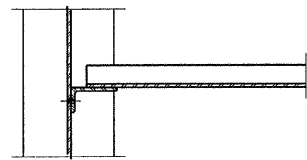
$f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).

$f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).

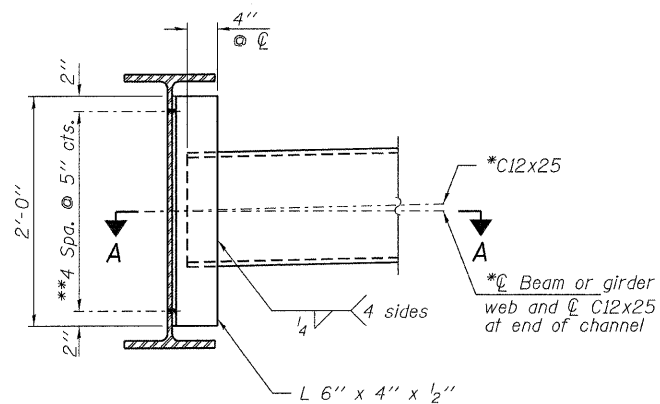
$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

$V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

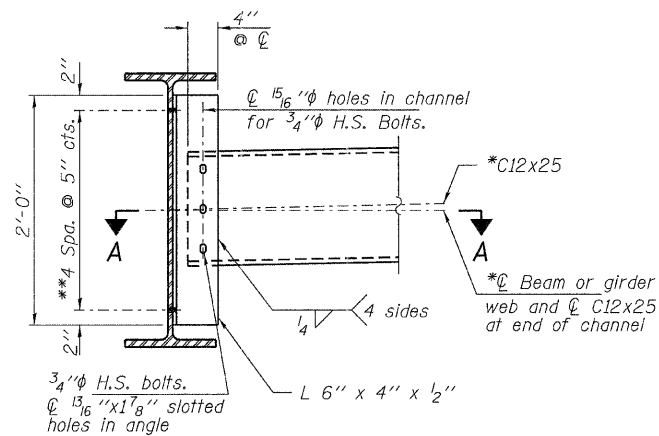
Notes:  
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.  
All steel beams shall be M270 Grade 50. All other structural steel shall be M270 Grade 36.  
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
For Structural Steel details see sheet 17 of 22.



SECTION A-A



INTERIOR DIAPHRAGM D  
(12 Required)



INTERIOR DIAPHRAGM D<sub>1</sub>  
(3 Required)

Note:

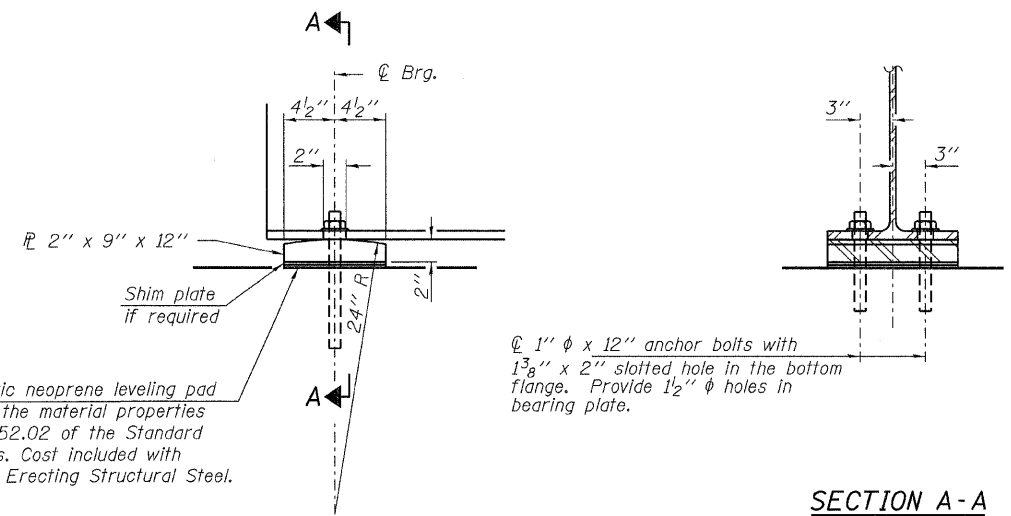
Two hardened washers required for each set of oversized holes.

\*Alternate channels (C12x30) 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"  $\phi$  HS bolts, 1 5/16"  $\phi$  holes

Bolts in slots shall be finger tight until the second stage pour is complete and fully tightened after completion of the deck pour for Stage II Construction. Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load, allowing maximum displacement without laterally stressing main members.



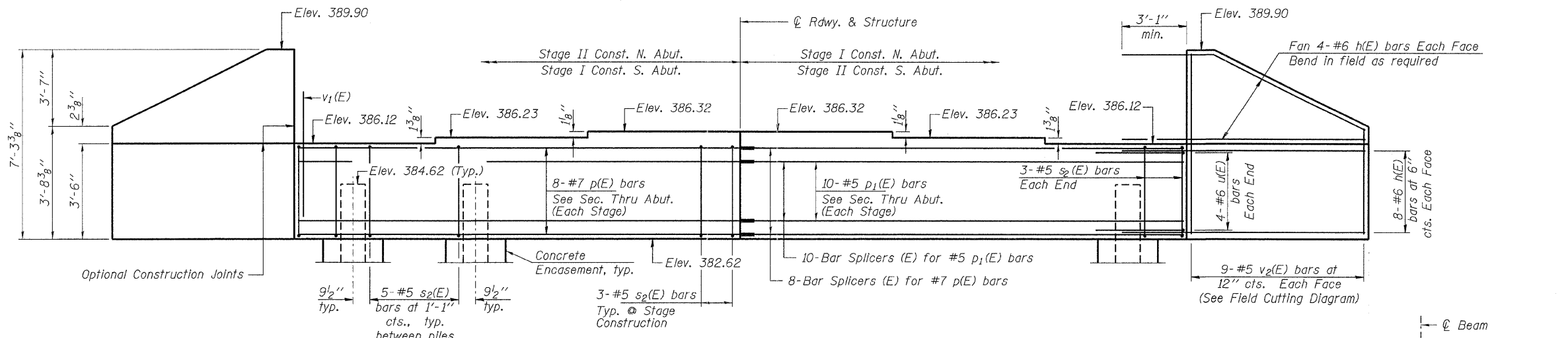
ELEVATION

FIXED BEARING AT ABUTMENT  
(12 required)

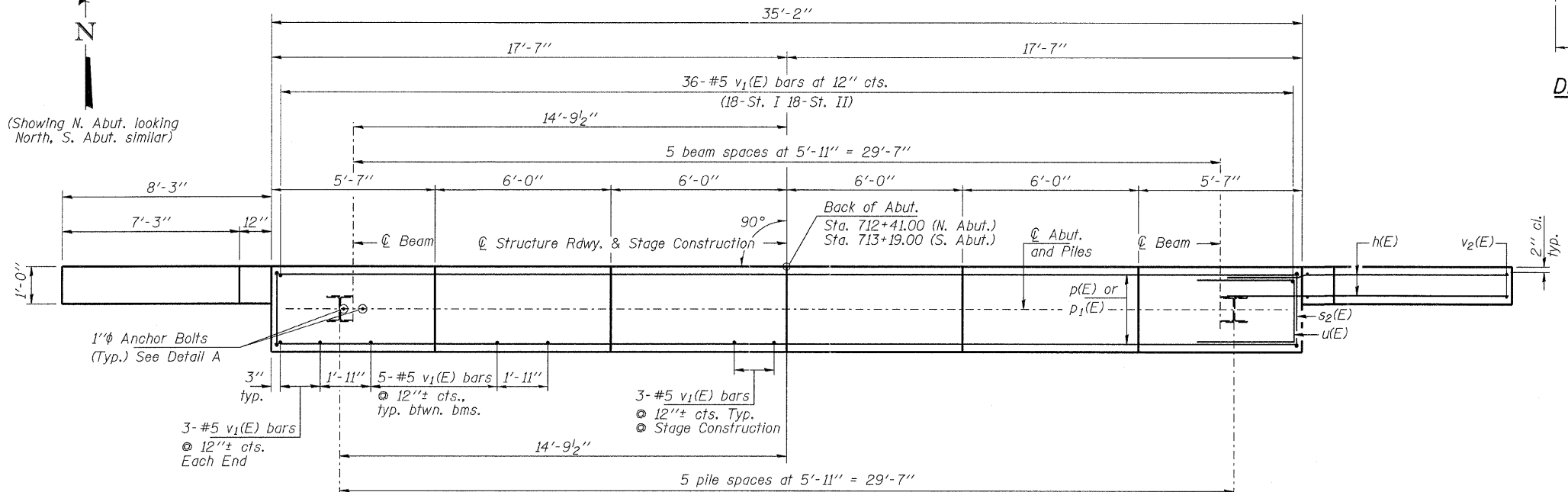
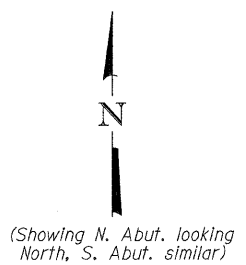
SECTION A-A

FILE NAME = 092039-shr-bridge.dgn	USER NAME =	DESIGNED - S.M.S.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURAL STEEL DETAILS STRUCTURE NO. 033-0054</b>	F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 2435 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62765	PLOT SCALE =	CHECKED - C.C.S.	REVISED -			776	102B-1	HAMILTON	52	40	
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184 000959	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISED -			CONTRACT NO. 78067					
		CHECKED - M.D.C.	REVISED -			ILLINOIS FED. AID PROJECT					
						SHEET NO. 17 OF 22 SHEETS					





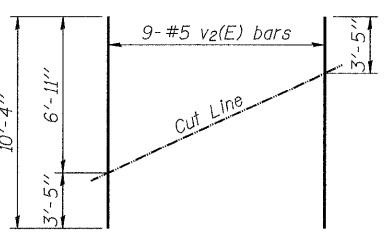
**ELEVATION**  
(Showing N. Abut. looking North, S. Abut. similar)



**PLAN**

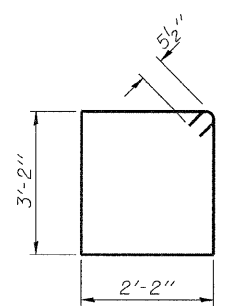
**PILE DATA**

Type: Steel HP10x42  
 Nominal Required Bearing: 335 Kips/pile  
 Factored Resistance Available: 184 Kips/pile  
 Est. Length: 68'  
 No. Production Piles: 10  
 No. Test Piles: 2 (1-NA, 1-SA)

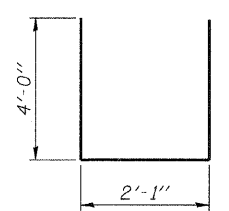


**FIELD CUTTING DIAGRAM**

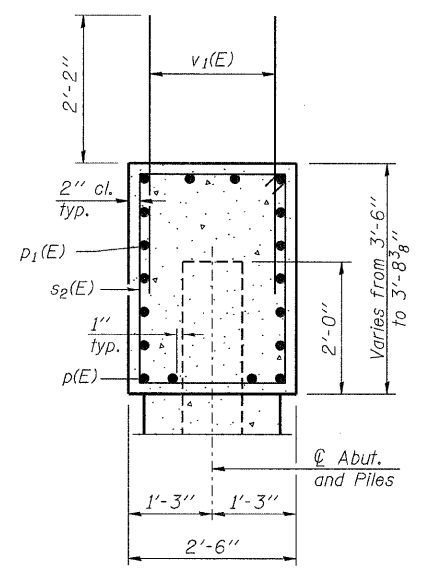
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



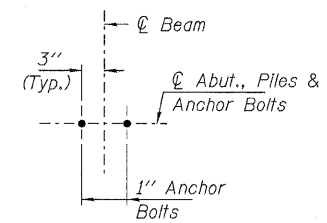
**BAR s2(E)**



**BAR u(E)**



**SEC. THRU ABUT.**

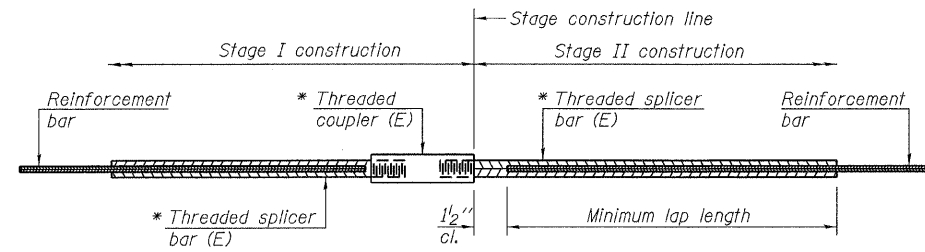


**DETAIL A**

**BILL OF MATERIAL**  
(2 ABUTMENTS)

Bar	No.	Size	Length	Shape
h(E)	96	#6	12'-0"	—
p(E)	32	#7	17'-3"	—
p1(E)	40	#5	17'-3"	—
s2(E)	64	#5	11'-7"	□
u(E)	16	#6	10'-1"	—
v1(E)	136	#5	4'-4"	—
v2(E)	36	#5	10'-4"	—
Structure Excavation		Cu. Yd.	214	
Concrete Structures		Cu. Yd.	30.4	
Concrete Encasement		Cu. Yd.	4.0	
Reinforcement Bars, Epoxy Coated		Pound	5,600	
Bar Splicers		Each	36	
Furnishing Steel Piles HP10x42		Foot	680	
Driving Piles		Foot	680	
Test Pile Steel HP10x42		Each	2	

Notes:  
 Pour steps monolithically with cap.  
 Space reinforcement in cap to miss anchor bolts.  
 For details of Bar Splicers, see sheet 19 of 22.  
 For details of piles and Concrete Encasement, see sheet 20 of 22.



**STANDARD BAR SPLICER ASSEMBLY**

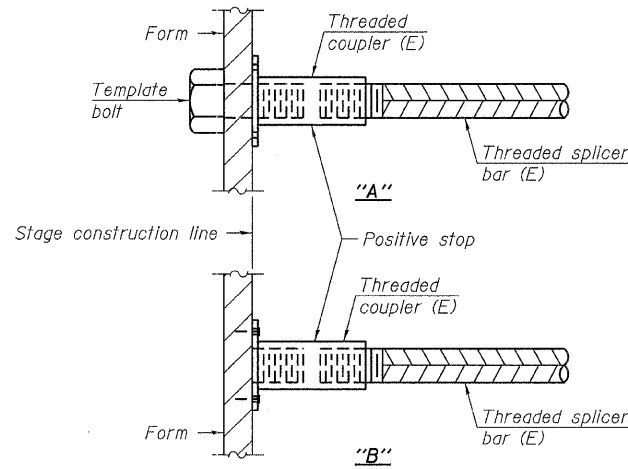
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

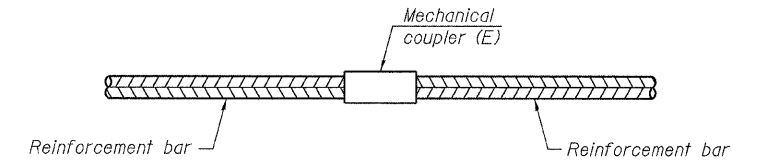
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	228	2'-11"
Diaphragm	#6	16	3'-1"
Approach Slab	#4	50	2'-4"
Approach Slab	#5	172	2'-11"
Abutments	#7	16	4'-2"
Abutments	#5	20	2'-7"



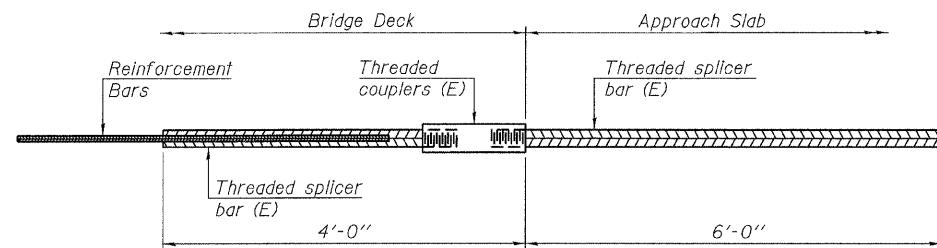
**INSTALLATION AND SETTING METHODS**

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



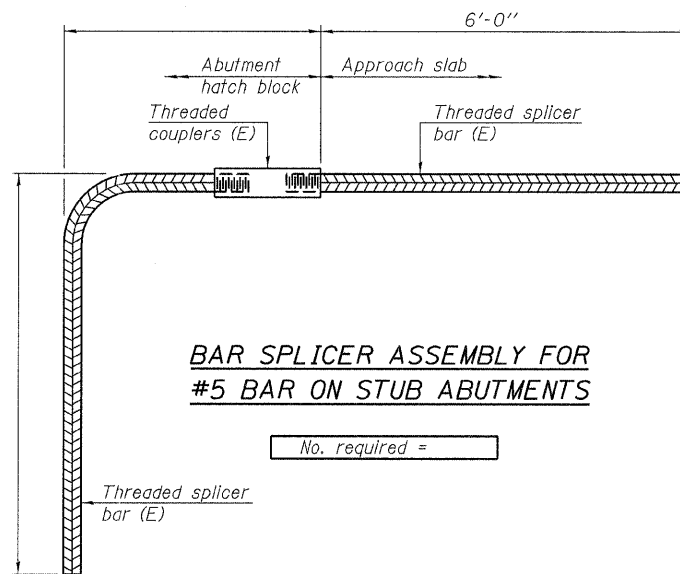
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required = 64



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

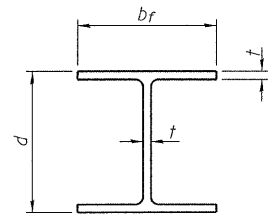
No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See special provision for Mechanical Splicers.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

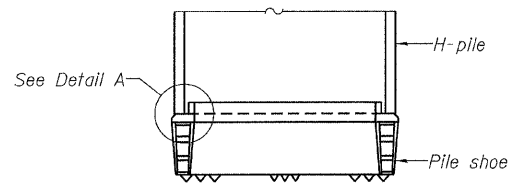
BSD-1

7-1-10

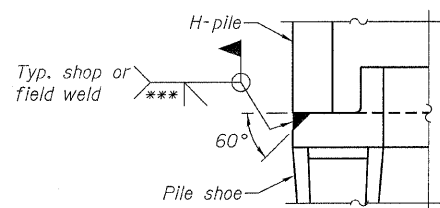


**STEEL PILE TABLE**

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"

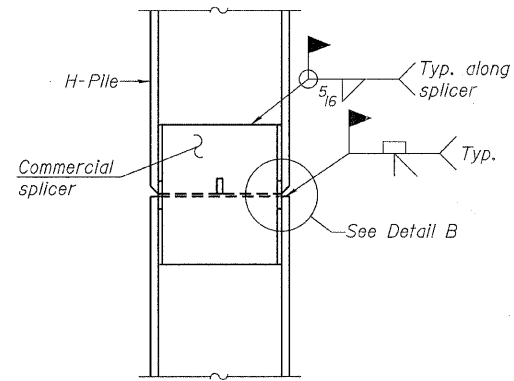


**ELEVATION**

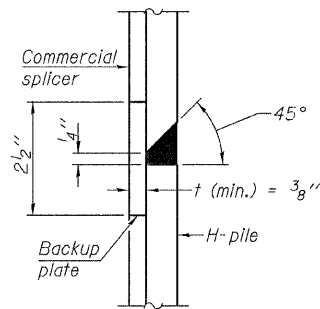


**DETAIL A**

**H-PILE SHOE ATTACHMENT**

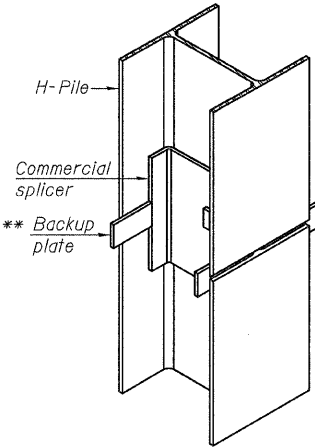


**ELEVATION**

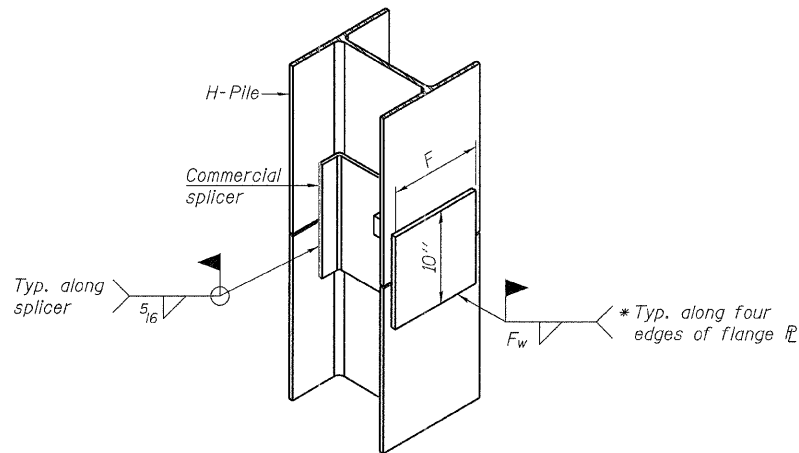


**DETAIL "B"**

**WELDED COMMERCIAL SPLICE**



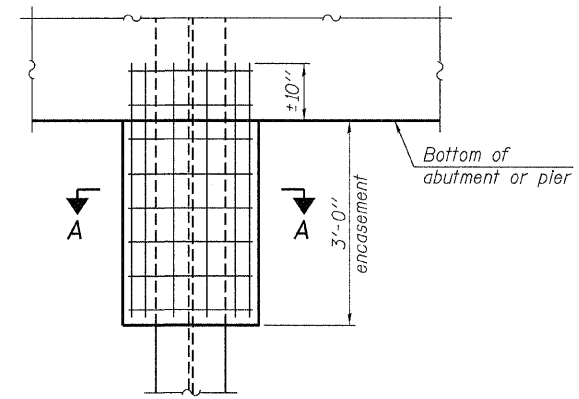
**ISOMETRIC VIEW**



**ISOMETRIC VIEW**

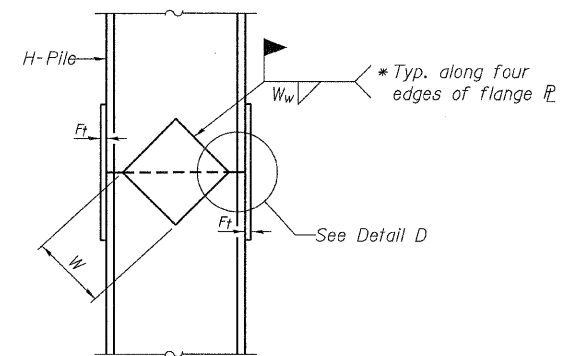
**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* 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.).

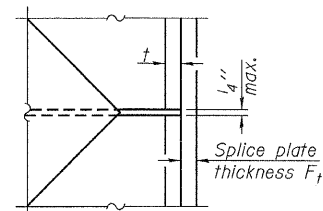


**ELEVATION**

**PILE ENCASEMENT**

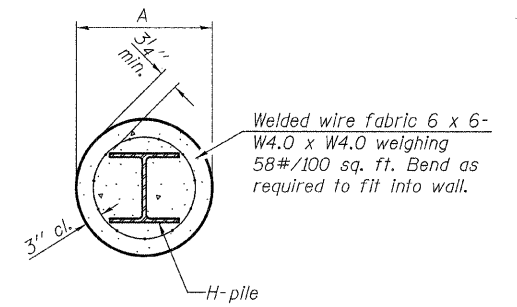


**ELEVATION**



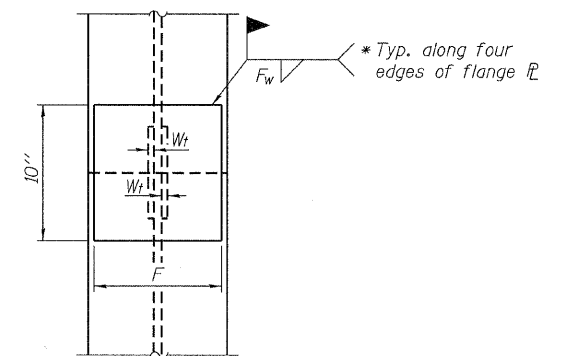
**DETAIL D**

**WELDED PLATE FIELD SPLICE**



**SECTION A-A**

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



**END VIEW**

Designation	F	Ft	Fw	W	Wt	Ww
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"

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

F-HP 7-1-10

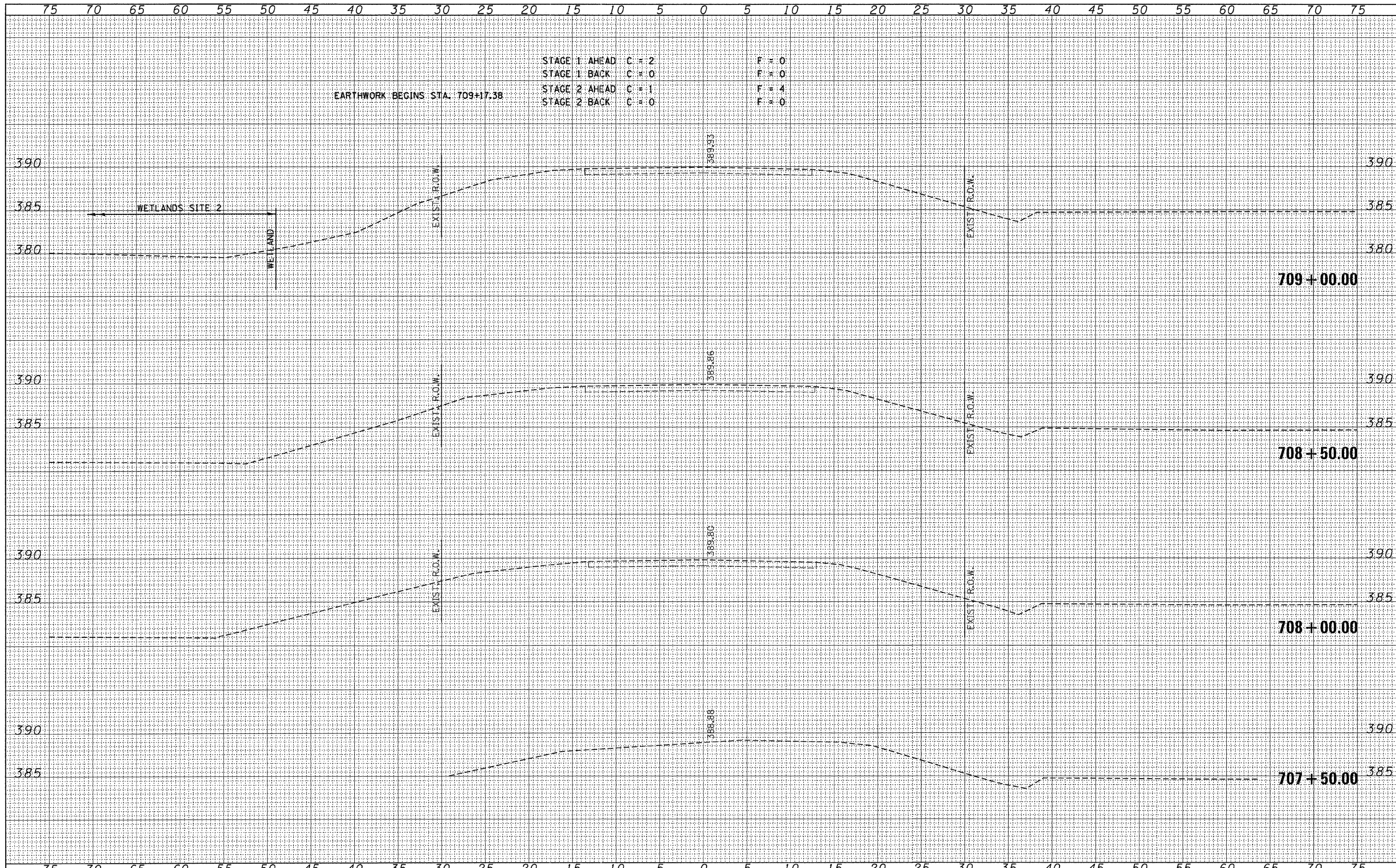
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - C.C.S.	REVISD -			776	102B-1	HAMILTON	52	43	
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184 300958	PLOT DATE = 2/22/2011	DRAWN - D.A.B.	REVISD -			CONTRACT NO. 78067					
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						SHEET NO. 20 OF 22 SHEETS					



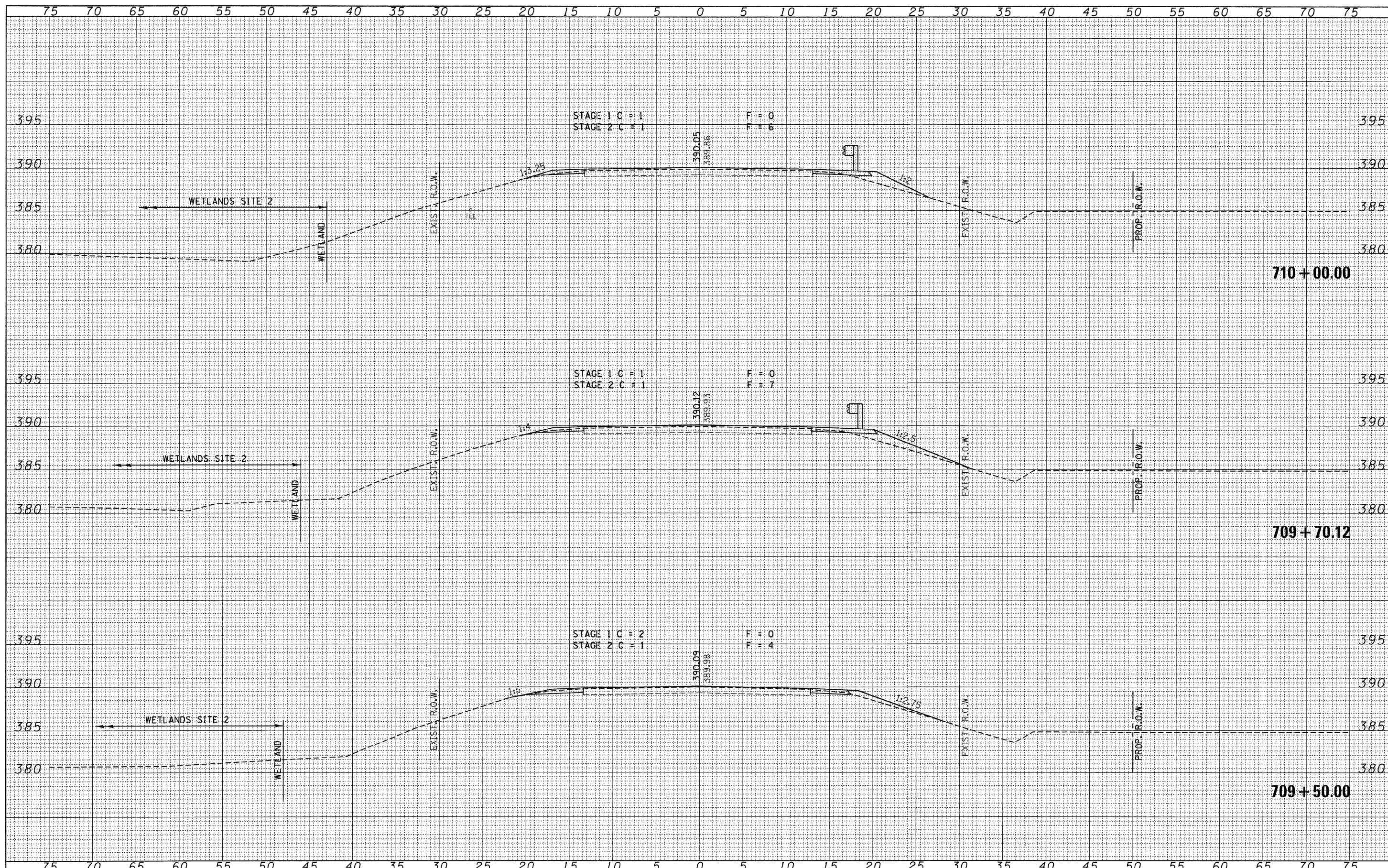


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NO.	TEMPLATE
	AREAS CHECKED

DATE	
BY	
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
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PLOT DATE = 2/22/2011	DATE - 10/08/09	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									
SCALE: SHEET NO. OF SHEETS		STA. 707+50.00 TO STA. 709+00.00										



BY	DATE

BY	DATE

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 PLOT DATE = 2/22/2011

DESIGNED - L.F.S.	REVISED -
DRAWN - T.W.K.	REVISED -
CHECKED - S.W.M.	REVISED -
DATE - 10/08/09	REVISED -

STATE OF ILLINOIS  
 COUNTY HIGHWAY DEPARTMENT

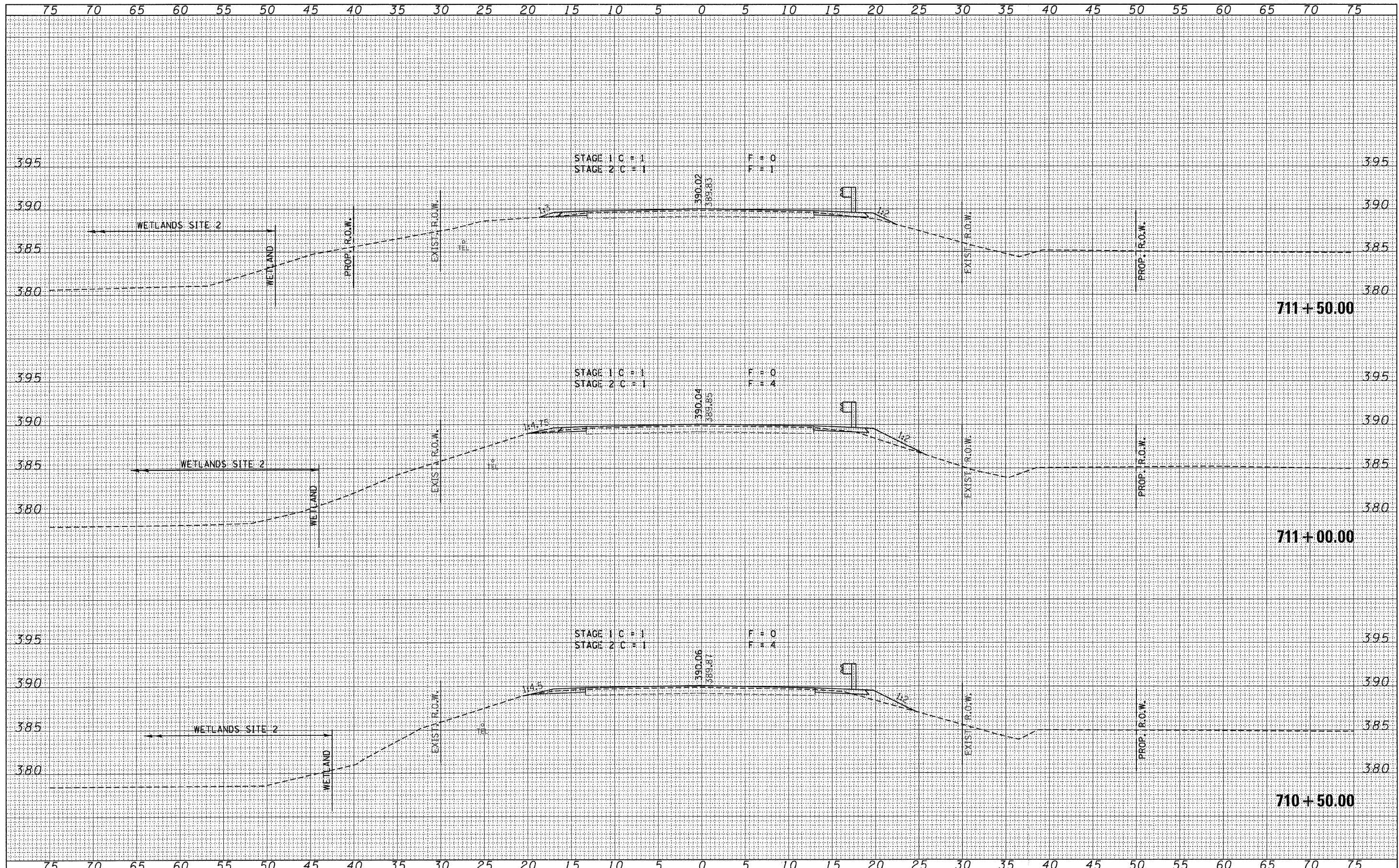


IL 242  
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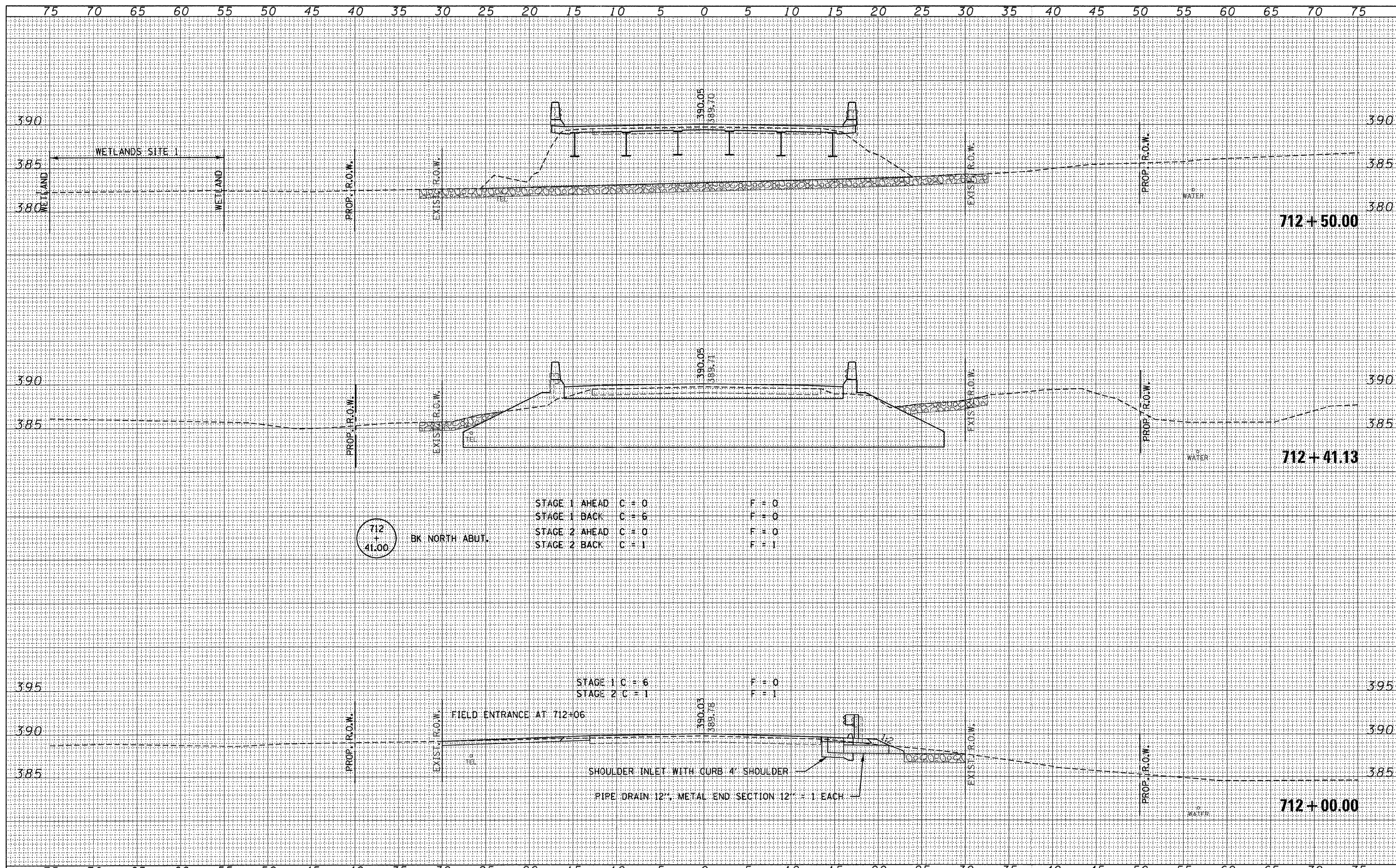
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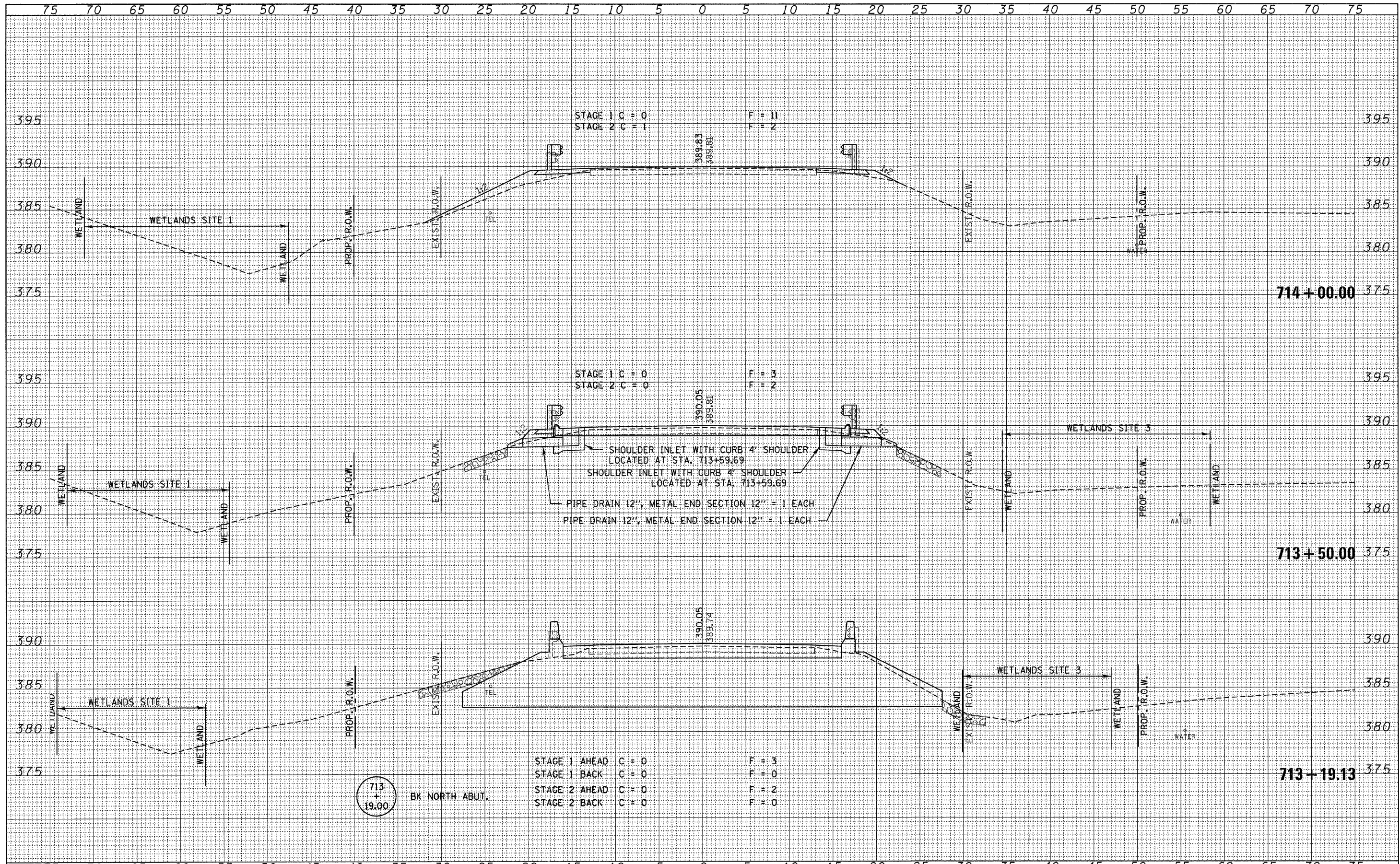


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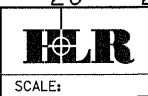
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	CHECKED - S.W.M.
	DATE - 10/08/09

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STATE OF ILLINOIS  
COUNTY HIGHWAY DEPARTMENT



IL 242  
CROSS SECTIONS

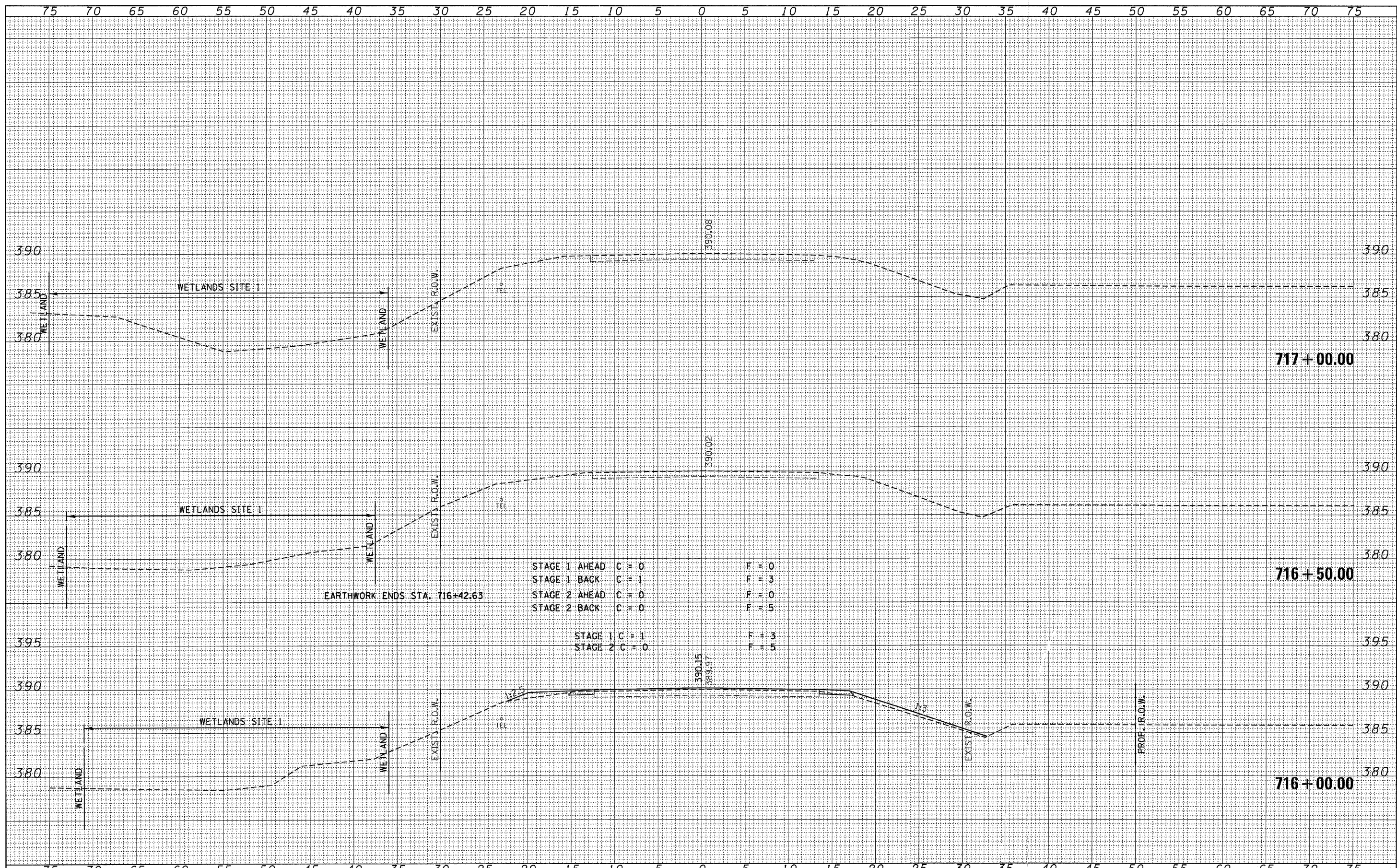
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ROAD DISTRICT	CONTRACT NO. 78067			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



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DATE	BY
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FILE NAME = 092039-ah-t-xa.dgn

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DESIGNED - L.F.S.

DRAWN - T.W.K.

CHECKED - S.W.M.

DATE - 10/08/09

REVISIED -

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STATE OF ILLINOIS  
COUNTY HIGHWAY DEPARTMENT



IL 242  
CROSS SECTIONS

SCALE: SHEET NO. OF SHEETS STA. 716+00.00 TO STA. 717+00.00

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776	102B-1	HAMILTON	52	52
ROAD DISTRICT		CONTRACT NO. 78067		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		