

06-14-13 LETTING ITEM 173

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
LASALLE COUNTY
SECTION 13-00726-00-BR
F.A.S. 174 (CH 9) OVER BUCK CREEK
PROJECT NO. BRS-0174(119)
JOB NUMBER C-93-062-13

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
174	13-00726-00-BR	LASALLE	16	1
FED. ROAD DIST. NO. 7	ILLINOIS	CONTRACT NO. 87557		

INDEX OF SHEETS

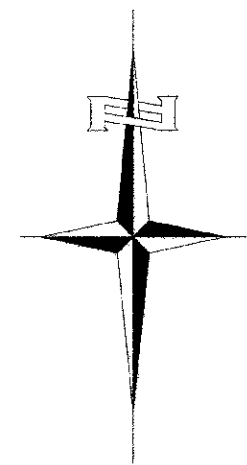
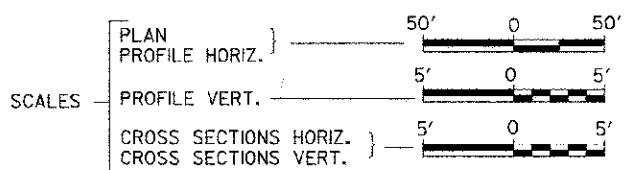
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, TYPICAL SECTIONS
3.	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4.	TRAFFIC CONTROL PLAN
5.	EROSION CONTROL PLAN
6.	PLAN AND PROFILE
7.-10.	STRUCTURE PLANS AND SOIL BORING LOGS
11.-13.	EXISTING STRUCTURE PLANS
14.-16.	CROSS SECTIONS

REQUIRED HIGHWAY STANDARDS

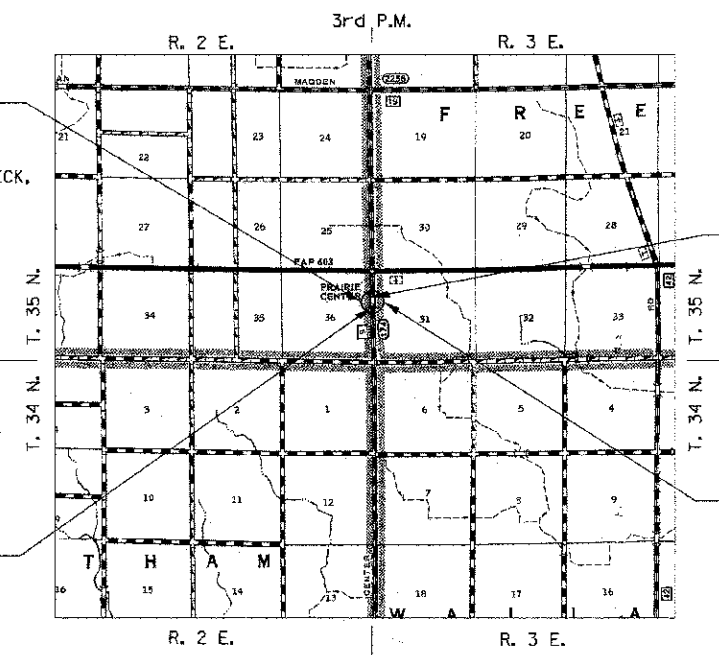
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-02	TRAFFIC CONTROL DEVICES
780001-03	TYPICAL PAVEMENT MARKINGS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



LOCATION OF SECTION INDICATED THUS: - [Black Box] -



EXISTING STRUCTURE SN 050-3003
 SINGLE SPAN PCC DECK BEAM BRIDGE
 ON CONCRETE SPILL THRU ABUTMENTS
 SUPPORTED BY TIMBER PILES
 ±41'-0" BK TO BK, AND ±26'-0" O TO O DECK,
 NO SKEW (TO BE REMOVED)



PROPOSED STRUCTURE SN 050-3608
 DOUBLE 12'X6' REINFORCED CONCRETE
 BOX CULVERT, 47'-0" O TO O HEADWALLS,
 NO SKEW

UTILITY COMPANIES

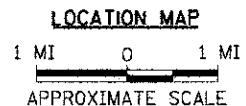
NICOR
 OTTAWA, ILLINOIS

COMMONWEALTH EDISON CO.
 JOLIET, ILLINOIS

AT&T
 JOLIET, ILLINOIS

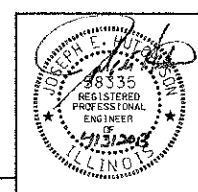
J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
 1-800-892-0123
 OR 811

CONTRACT NO. 87557



NET LENGTH OF PROJECT = 240.00 FEET = 0.046 MILES
 DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 DESIGN ADT: 500 (33)
 DESIGN SPEED: 50 MPH

Hutchison Engineering, Inc.
 JACKSONVILLE-SHOREWOOD-PEORIA



Lic. Exp. 11/30/2013
 SIGNATURE

ENGINEERS SEAL

PLANS DESIGNED IN ACCORDANCE WITH BUREAU
 OF LOCAL ROADS AND STREETS MANUAL GUIDELINES
 FOR TWO LANE RURAL COLLECTORS - RECONSTRUCTION

APPROVED April 4, 2013
James J. King
 LA SALLE COUNTY ENGINEER

PASSED 4-8 2013
David B. E.
 DISTRICT THREE ENGINEER OF
 LOCAL ROADS & STREETS

Released For
 Bld Based on
 Limited Review 4-8 2013
Paul A. Hutchison
 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION TWO ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

3282E-001

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	HMA BINDER	HMA SURFACE
PG GRADE	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION	1L-19.0	1L-9.5
FRICITION AGGREGATE		MIXTURE C
DENSITY TEST METHOD	CORES	CORES

- * MATERIAL SHALL BE COMPACTED TO 93.0-97.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY, EXCEPT THAT WHEN PLACED AS FIRST LIFT ON AN UNIMPROVED SUBGRADE THE MINIMUM PERCENT COMPACTION SHALL BE 92.0 PERCENT. THE MAXIMUM THEORETICAL DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE AS SPECIFIED IN THE QC/OA SPECIFICATION.
- ** WHEN MORE THAN 20% RAP IS USED, A SOFTER ASPHALT BINDER (PG 58-22) MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

**STRUCTURAL DESIGN INFORMATION
COUNTY HIGHWAY 9**

ROAD CLASSIFICATION: CLASS III 80,000 LB./20 YEAR DESIGN
 STRUCTURAL DESIGN TRAFFIC:
 PV = 422 SU = 34 MU = 24
 PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
 P = 88% S = 7% M = 5%
 MINIMUM SUBGRADE SUPPORT RATING: FAIR
 FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.13
 ASPHALT PAVEMENT THICKNESS: 4 1/4"***
 AGGREGATE BASE COURSE, TYPE A: 8"

*** 9" HMA PAVEMENT UTILIZED TO MATCH ADJACENT EXISTING PAVEMENT

GENERAL NOTES

THE REMOVAL OF EXISTING ASPHALT SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

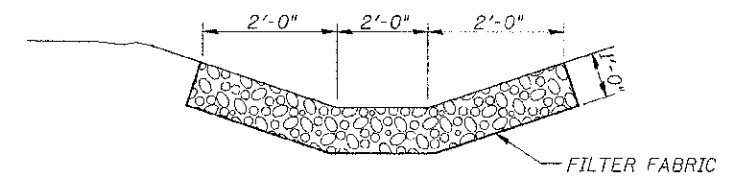
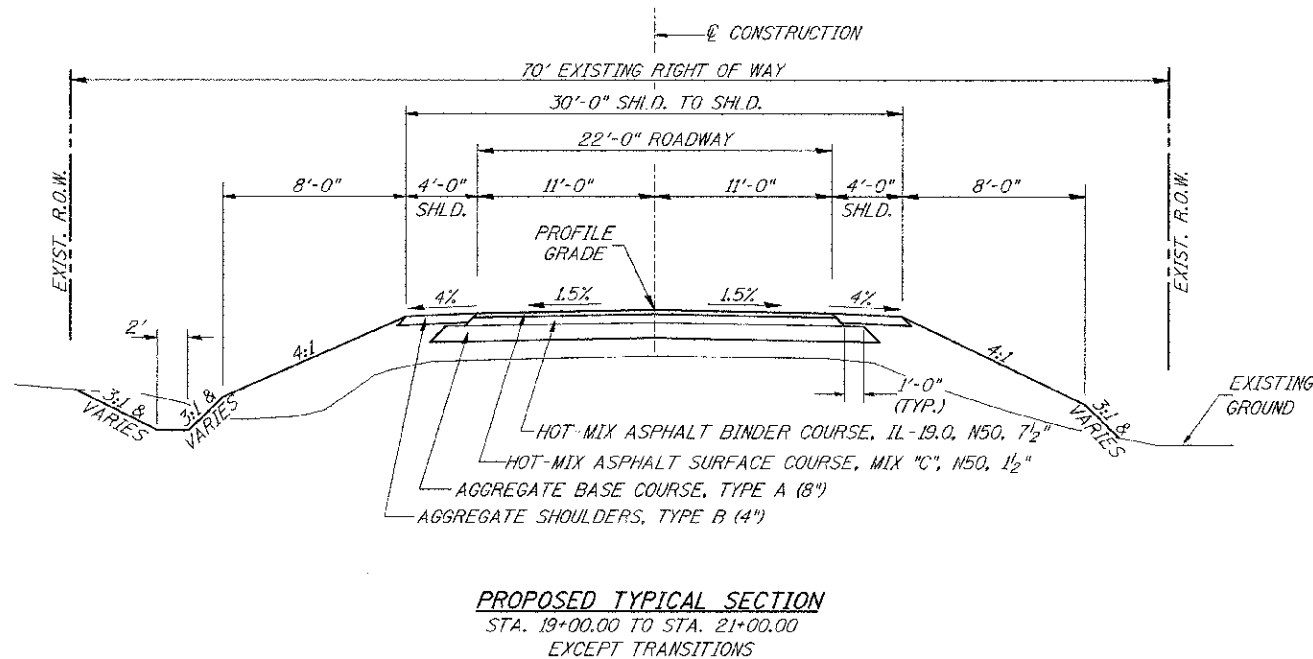
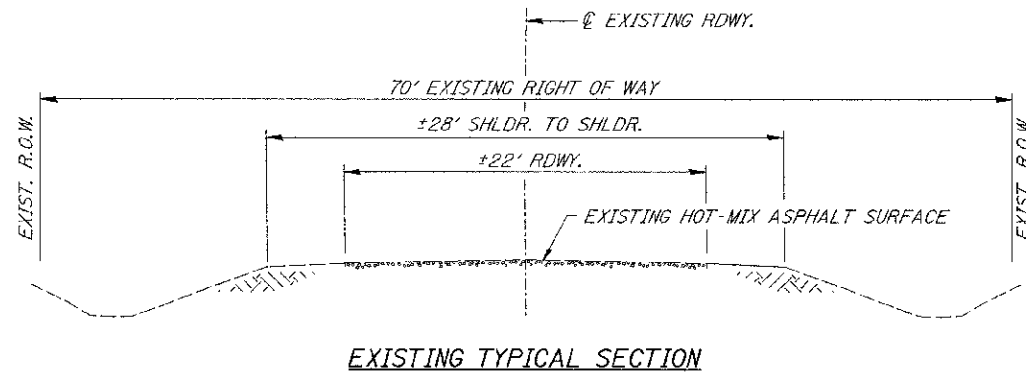
THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

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

THE FINAL SURFACE OF ALL DISTURBED/EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE COHESIVE VEGETATION SUSTAINING SOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING VEGETATION SUSTAINING SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. TOPSOIL MAY BE STRIPPED AND STOCKPILED FROM THE SITE OR HAULED IN FROM AN ALTERNATE LOCATION AS APPROVED BY THE ENGINEER.

ALL ELEVATIONS SHOWN REFER TO AN U.S.G.S. MEAN SEA LEVEL DATUM.



DETAIL OF AGGREGATE DITCH
SEE ARTICLE 283.03 FOR FILTER FABRIC PLACEMENT

FILE NAME = V:\Bridge\3262-LoSelle\3262.dwg	USER NAME = cthomas	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 9 OVER BUCK CREEK	GENERAL NOTES, DETAILS, TYPICAL SECTIONS	F.A.S. RTE. 174	SECTION 13-00726-00-BR	COUNTY LASALLE	TOTAL SHEETS 16	SHEET NO. 2	
PLOT SCALE = 1.0000' / in.	CHECKED -	REVISED -	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS	STA. 18+80.00 TO STA. 21+20.00	FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT BR5-0174(19)	
PLOT DATE = 2/26/2013	DATE -	REVISED -									

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	255
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	50
20400800	FURNISHED EXCAVATION	CU YD	120
① 20700220	POROUS GRANULAR EMBANKMENT	CU YD	270
25100630	EROSION CONTROL BLANKET	SQ YD	1,025
28000305	TEMPORARY DITCH CHECKS	FOOT	60
28000400	PERIMETER EROSION BARRIER	FOOT	80
28100107	STONE RIPRAP, CLASS A4	SQ YD	125
28200200	FILTER FABRIC	SQ YD	145
28300400	AGGREGATE DITCH	TON	11
35100100	AGGREGATE BASE COURSE, TYPE A	TON	246
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	215
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	41
40800010	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	284
48101200	AGGREGATE SHOULDERS, TYPE B	TON	34
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50800105	REINFORCEMENT BARS	POUND	20,510
51500100	NAME PLATES	EACH	1
54003000	CONCRETE BOX CULVERTS	CU YD	143.3
63200310	GUARDRAIL REMOVAL	FOOT	400
67100100	MOBILIZATION	L SUM	1
② 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	650
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2
① X5012502	CONCRETE REMOVAL (SPECIAL)	CU YD	10
① X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
① Z0013798	CONSTRUCTION LAYOUT	L SUM	1
① XX004633	FIELD TILE ADJUSTMENT	EACH	2

① SEE SPECIAL PROVISIONS
② SPECIALTY ITEMS

CONSTRUCTION CODE TYPE: 0011

EROSION CONTROL BLANKET

STATION TO STATION	SIDE	WIDTH	LENGTH	AREA (SQ YD)
18+80 - 21+20	LEFT	VARIES	240'	545
18+80 - 21+20	RIGHT	VARIES	240'	480
TOTAL				1,025

TEMPORARY DITCH CHECKS

STATION	SIDE	FOOT
19+50	RIGHT	12
19+81	RIGHT	12
19+81	LEFT	12
20+19	LEFT	12
20+19	RIGHT	12
TOTAL		60

AGGREGATE DITCH**

STATION TO STATION	SIDE	WIDTH	TON	FILTER FABRIC (SQ YD)
19+50 - 19+81	RIGHT	6'	11	21
TOTAL				21

** Aggregate Ditch shall conform to material type A-4 of the Standard Specifications

PAVEMENT SCHEDULE

STATION TO STATION	WIDTH	LENGTH	AGGREGATE BASE COURSE, TYPE A	PRIME COAT GALLON 0.50 GAL/SQ YD	HOT-MIX ASPHALT SURF CSE, MIX "C", N50 TON 112#/SQ YD/IN	HOT-MIX ASPHALT BIND CSE, IL-19.0, N50 TON 112#/SQ YD/IN
19+00.00 - 19+50.00	26.29' AVG.	50.00'	62			
19+50.00 - 20+50.00	26.17'	100.00'	123			
20+50.00 - 21+00.00	26.22' AVG.	50.00'	61			
19+00.00 - 19+50.00	25.62' AVG.	50.00'		71		
19+50.00 - 20+50.00	25.50'	100.00'		142		
20+50.00 - 21+00.00	25.55' AVG.	50.00'		71		
19+00.00 - 19+50.00	22.25' AVG.	50.00'			10	
19+50.00 - 20+50.00	22.13'	100.00'			21	
20+50.00 - 21+00.00	22.17' AVG.	50.00'			10	
19+00.00 - 19+50.00	23.01' AVG.	50.00'				54
19+50.00 - 20+50.00	22.88'	100.00'				107
20+50.00 - 21+00.00	22.93' AVG.	50.00'				54
TOTAL			246	284	41	215

EARTHWORK SUMMARY

STATION TO STATION	EARTH EXCAVATION	FILL	WASTE (SHORTAGE)	
			CU YD	CU YD
RDWY 19+00.00 - 19+87.25	133	53	47	
SEE SPECIAL PROVISIONS FOR STRUCTURE AREA EXCAVATION				
FILL OVER CULVERT	0	40	(40)	
RDWY 20+12.75 - 21+00.00	124	76	17	
TOTAL		257	169	24
USE		255	-	25*

* FURNISHED EXCAVATION WILL BE REQUIRED TO MEET TOPSOIL REQUIREMENTS.

(@ 25% SHRINKAGE)

PERIMETER EROSION BARRIER

STATION TO STATION	SIDE	FOOT
18+80 - 19+00	LEFT	20
18+80 - 19+00	RIGHT	20
21+00 - 21+20	LEFT	20
21+00 - 21+20	RIGHT	20
TOTAL		80

AGGREGATE SHOULDERS, TYPE B

STATION TO STATION	SIDE	WIDTH	LENGTH	TON
19+00.00 - 19+50.00	LEFT	3.12' AVG.	50.00'	4
19+00.00 - 19+50.00	RIGHT	3.32' AVG.	50.00'	4
19+50.00 - 20+50.00	LEFT	4.00'	100.00'	9
19+50.00 - 20+50.00	RIGHT	4.00'	100.00'	9
20+50.00 - 21+00.00	LEFT	3.25' AVG.	50.00'	4
20+50.00 - 21+00.00	RIGHT	3.62' AVG.	50.00'	4
TOTAL				34

GUARDRAIL REMOVAL

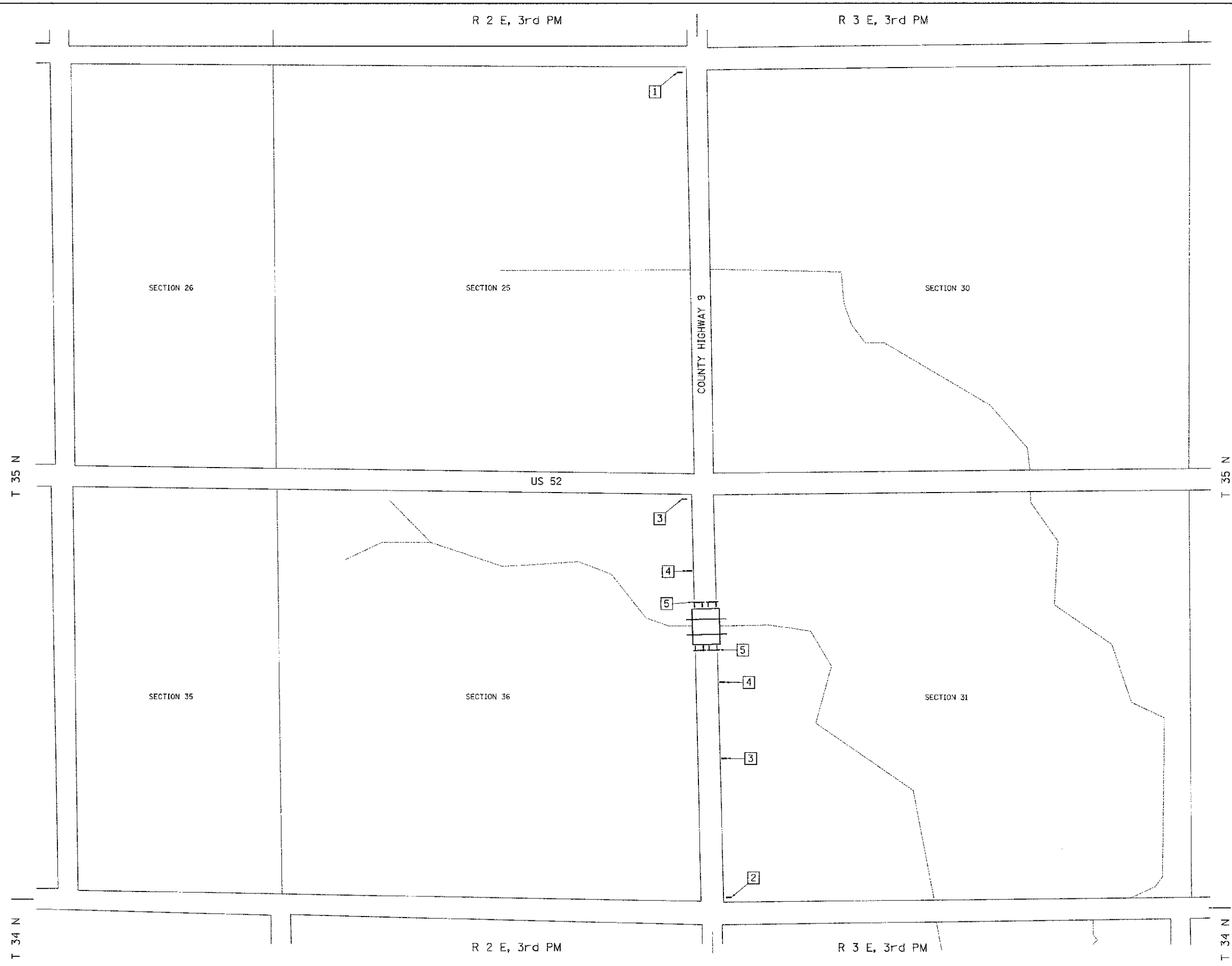
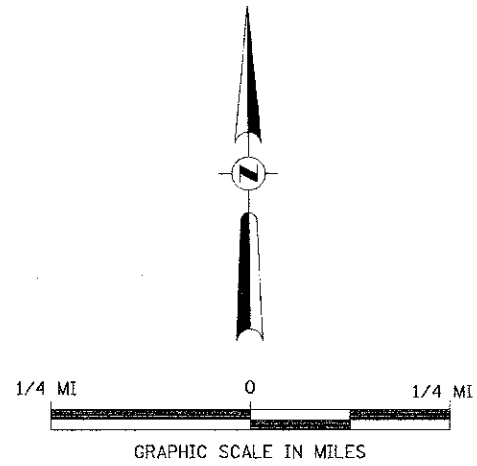
STATION TO STATION	SIDE	FOOT
18+80 - 19+80	LEFT	100
18+80 - 19+80	RIGHT	100
20+20 - 21+20	LEFT	100
20+20 - 21+20	RIGHT	100
TOTAL		400

PAINT PAVEMENT MARKING - LINE 4"

STATION TO STATION	SIDE	DESCRIPTION	FOOT
19+00.00 - 21+00.00	LEFT	WHITE EDGE LINE	200
19+00.00 - 21+00.00	Q-NORTH BOUND	YELLOW SKIP-DASH	50
19+00.00 - 21+00.00	Q-SOUTH BOUND	YELLOW SOLID LINE	200
19+00.00 - 21+00.00	RIGHT	WHITE EDGE LINE	200
TOTAL			650

CONCRETE REMOVAL, SPECIAL

STATION TO STATION	SIDE	WIDTH	LENGTH	CU YD
19+84 - 20+17	LEFT	14.5' AVG.	33'	10
TOTAL				10



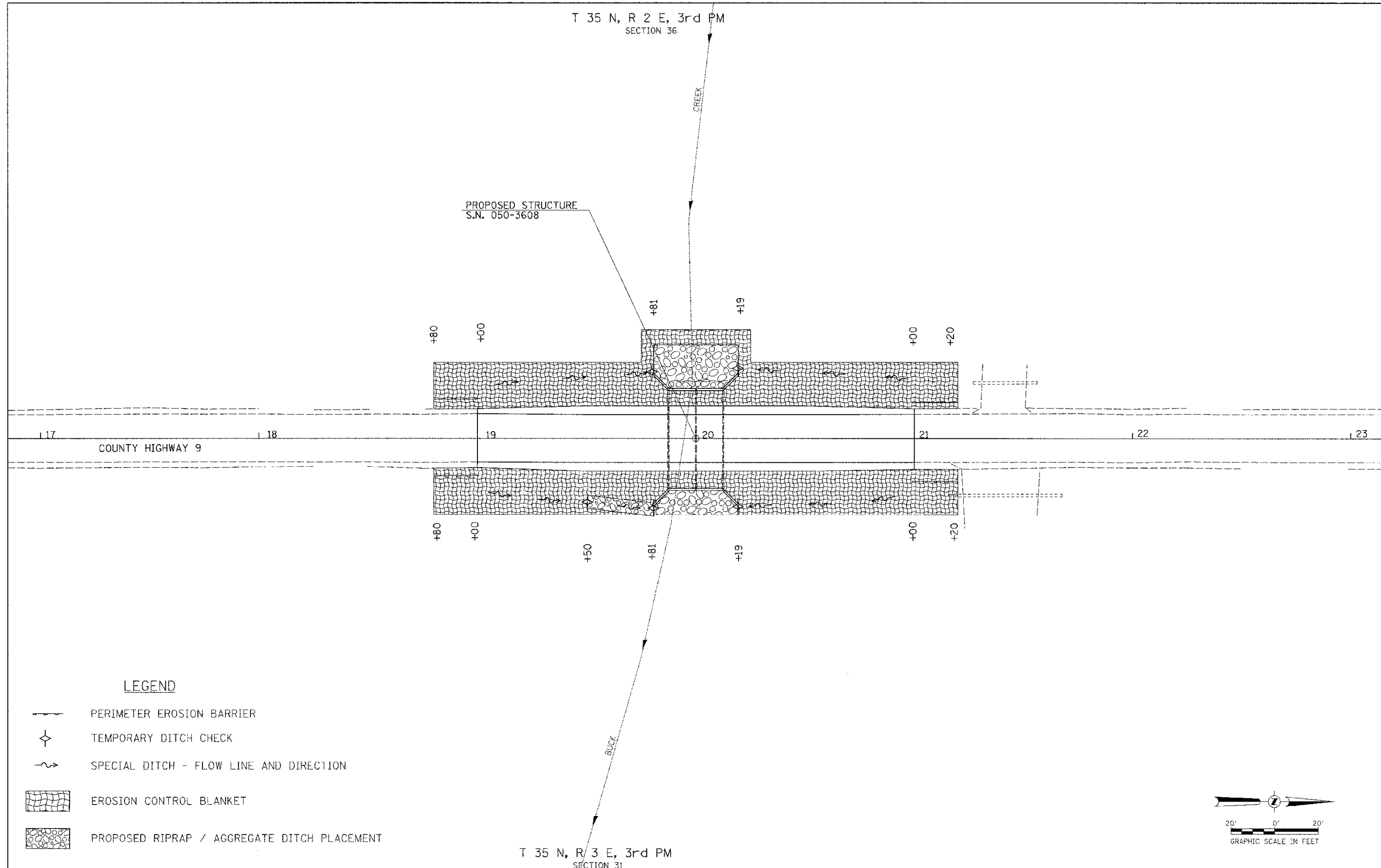
- 1 ROAD CLOSED 1 1/4 MILES AHEAD LOCAL TRAFFIC ONLY
ROAD CLOSED 1 1/4 MILES AHEAD LOCAL TRAFFIC ONLY
R11-3
- 2 ROAD CLOSED 3/4 MILE AHEAD LOCAL TRAFFIC ONLY
ROAD CLOSED 3/4 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3
- 3 ROAD CLOSED AHEAD
ROAD CLOSED AHEAD
W20-3
- 4 ROAD CLOSED 500 FT
ROAD CLOSED 500 FT
W20-3
- 5 TYPE III BARRICADES

SEE STANDARD BLR 21 AND SPECIAL PROVISIONS






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PLOT DATE = 3/26/2013	DATE -	REVISED -	REVISED -									

T 35 N, R 2 E, 3rd PM
SECTION 36

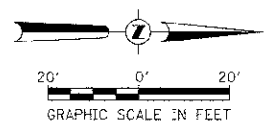
PROPOSED STRUCTURE
S.N. 050-3608



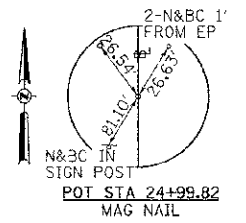
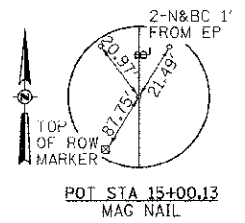
LEGEND

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  EROSION CONTROL BLANKET
-  PROPOSED RIPRAP / AGGREGATE DITCH PLACEMENT

T 35 N, R 3 E, 3rd PM
SECTION 31



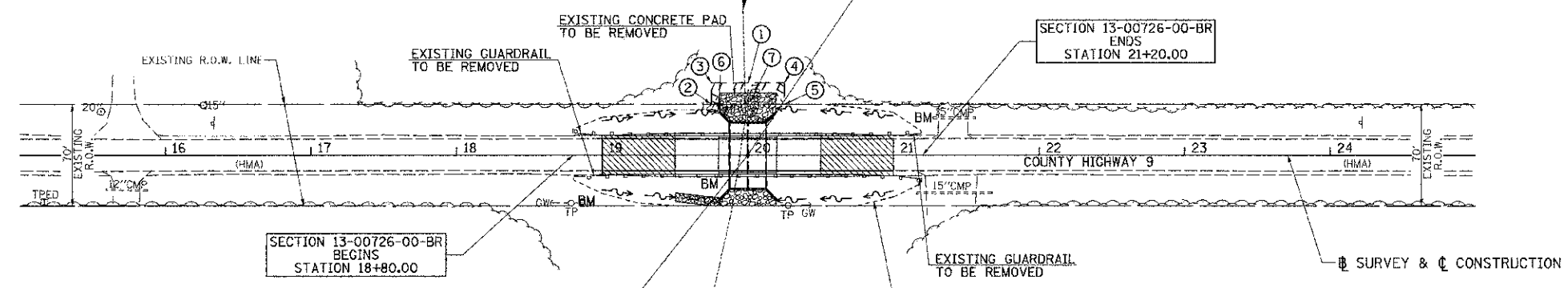
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		DRAWN -	REVISED -		SCALE: 1"=20'	SHEET NO. 1 OF 1 SHEETS	STA. 18+80.00 TO STA. 21+20.00	174	13-00726-00-BR	LASALLE	16	5
		CHECKED -	REVISED -					CONTRACT NO. 87557				
		DATE -	REVISED -					FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-0174019				



- ① TEMPORARY EASEMENT FOR PURPOSE OF CONCRETE REMOVAL AND RIPRAP PLACEMENT
- ② STA 19+75 35' LT
- ③ STA 19+75 50' LT
- ④ STA 20+25 50' LT
- ⑤ STA 20+25 35' LT
- ⑥ 12" CMP FIELD TILE (TO BE ADJUSTED)
- ⑦ 18" CMP FIELD TILE (TO BE ADJUSTED)

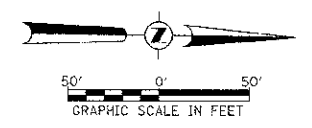
ROBERT D. MCLACHLAN

PROPOSED STRUCTURE SN 050-3608
STATION 20+00.00
SEE SHEET #7 THRU #10 FOR DETAILS
SEE SHEET #7 FOR HYDRAULICS

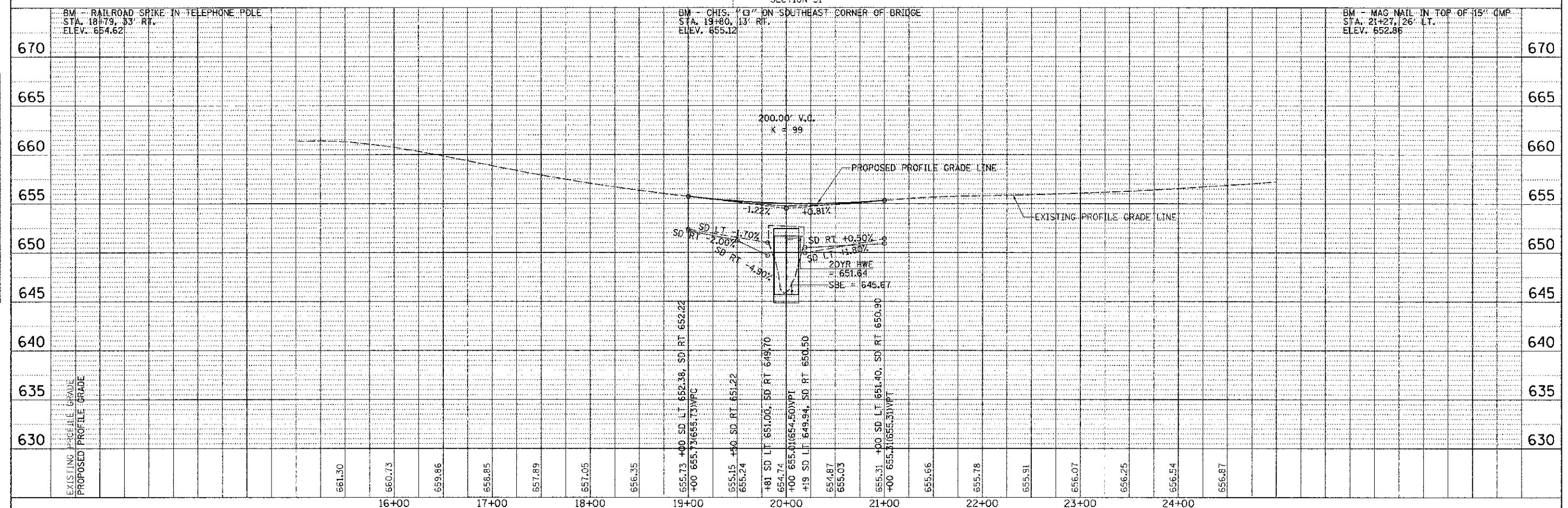


LEGEND

- TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
- PROPOSED RIPRAP PLACEMENT / AGGREGATE DITCH PLACEMENT
- SPECIAL DITCH WITH FLOW DIRECTION



T 35 N, R 3 E, 3rd PM
SECTION 31



DATE	
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REVISIONS	
NO.	
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REVISIONS	
NO.	

FILE NAME: \\sbridge\3282-Lasalle\3282p001.cgn	USER NAME: cthomas	DESIGNED: -	REVISED: -	LASALLE COUNTY COUNTY HIGHWAY 9 OVER BUCK CREEK	PLAN AND PROFILE	F.A.S. RTE. 174	SECTION 13-00726-00-BR	COUNTY LASALLE	TOTAL SHEETS 16	SHEET NO. 6	
PLCT SCALE: 1/8"=1'-0"	CHECKED: -	REVISED: -	SCALE: 1"=50'			SHEET 1 OF 1	SHEETS: STA. 18+80.00 TO STA. 21+20.00	CONTRACT NO. 87557		FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT ERS-0174019
PLOT DATE: 3/26/2013	DATE: -	REVISED: -									

B.M.: RR Spike in Telephone Pole
Sta. 18+79, 33' Rt.
Elev. 654.62

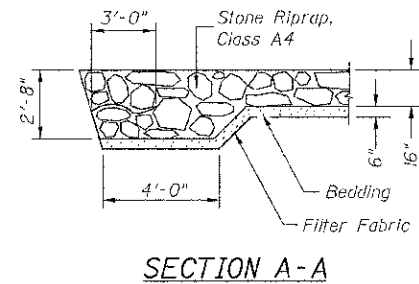
B.M.: Mag Nail in Top of 15" CMP
Sta. 21+27, 26' Lt.
Elev. 652.86

Existing Structure:
Single span PPC Deck Beam bridge on reinforced concrete abutments supported by timber piles. The structure is ±41' back to back of abutments, ±26' out to out of deck, and is not skewed.
Str. No. 050-3003

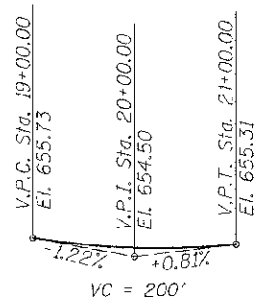
Salvage: None

Road to be closed to traffic during construction.

*Unsuitable Material Removal and Replacement with P.G.E. Limits are 2' outside the bottom slab and extends the length of the barrel.



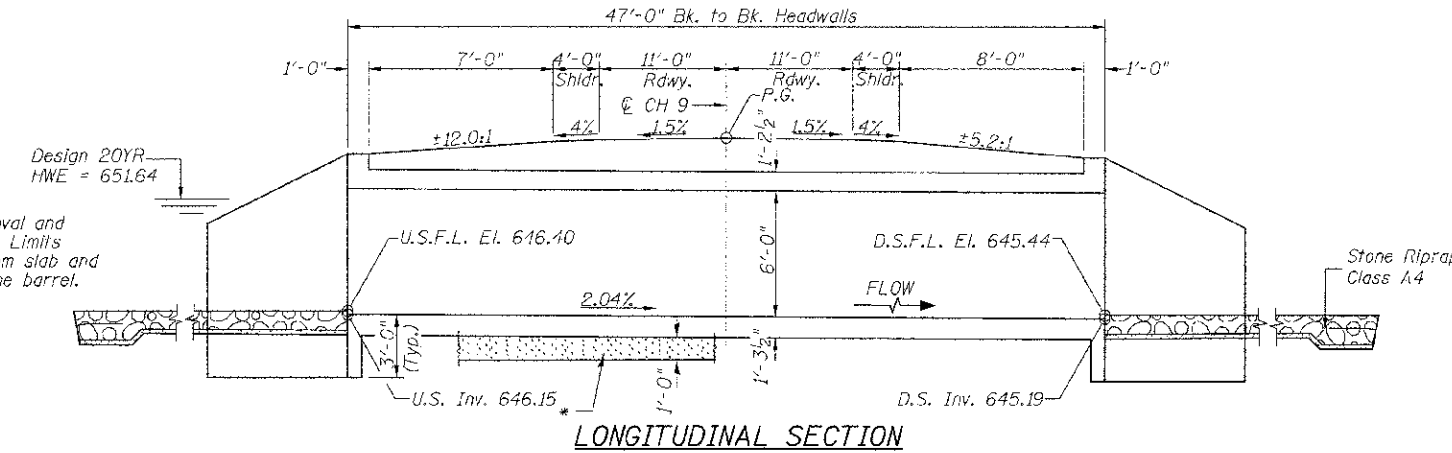
SECTION A-A



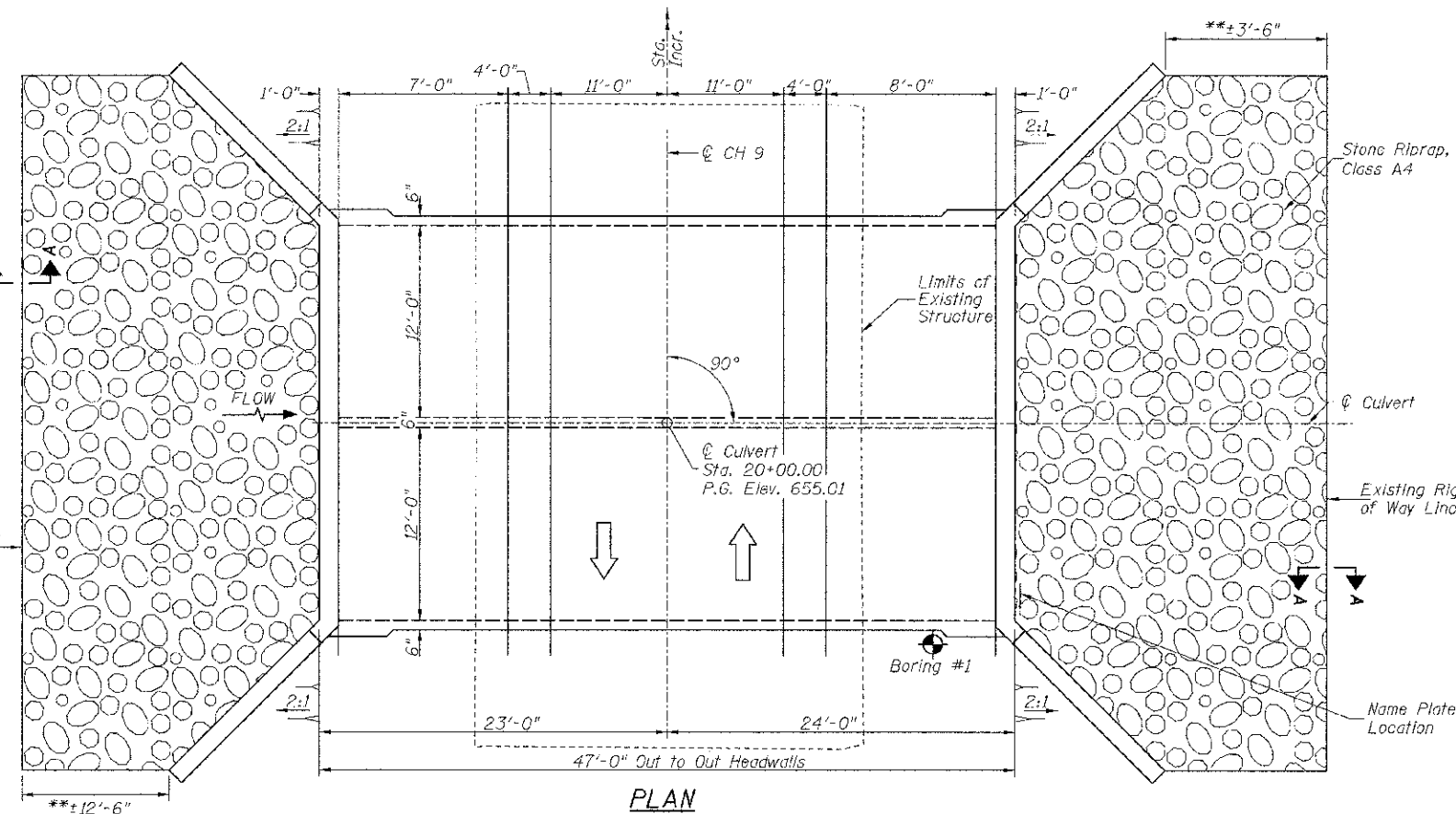
PROFILE GRADE

**Riprap dimensions are for estimating quantities only.

Proposed Limits of Construction



LONGITUDINAL SECTION



PLAN

GENERAL NOTES

Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60.
All construction joints shall be bonded.
Exposed concrete edges shall have a 3/4" chamfer unless otherwise noted.
Precast culvert option will not be allowed.
Layout of stone riprap may be varied in the field to suit ground conditions as directed by the Engineer.
A distance of half the length of the wingwall, but not less than 6 feet of the barrel shall be poured monolithically with the wingwall.
All excavation required for construction of the culvert in accordance with the Standard Specifications shall be included in the cost of Concrete Box Culverts.
Areas of excavation required for removal of the existing structure or construction of the new culvert shall be backfilled with Porous Granular Embankment up to the top of slab elevation. See Special Provisions for more detailed information.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Box Culverts	CU YD	143.3
Reinforcement Bars	POUND	20,510
① Removal of Existing Structures	EACH	1
Name Plates	EACH	1
Stone Riprap, Class A4	SQ YD	125
Filter Fabric	SQ YD	125
Removal & Disposal of Unsuitable Material	CU YD	50
② Porous Granular Embankment	CU YD	270

① See Special Provisions

DESIGN SCOUR TABLE

Location	Upstream	Downstream
Design Scour Elevation	646.15	645.19

BUCK CREEK
BUILT 201 BY
LASALLE COUNTY
SEC. 13-00726-00-BR
F.A.S. RTE. 174 STATION 20+00.00
F.A. PROJ. BRS-0174(119)
STR. NO. 050-3608 LOADING HL-93

NAME PLATE

Locate Name Plate at East Headwall
S.E. Corner of Culvert (See Std. 515001)

WATERWAY INFORMATION

Drainage Area = 1.09 Sq. Mi. Low Grade Elev. = 654.99 @ Sta. 20+20.47

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	20	231	132	143	651.64	0.00	0.00	651.64	651.64
Base	100	331	144	144	652.00	0.00	0.00	652.00	652.00

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications

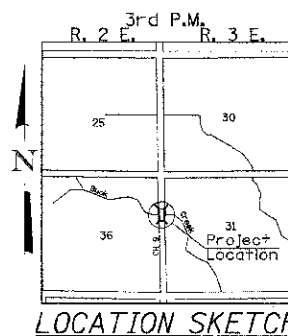
DESIGN STRESSES

FIELD UNITS

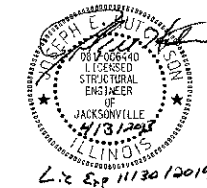
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

LOADING HL-93

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



LOCATION SKETCH



Exp 11/30/2014

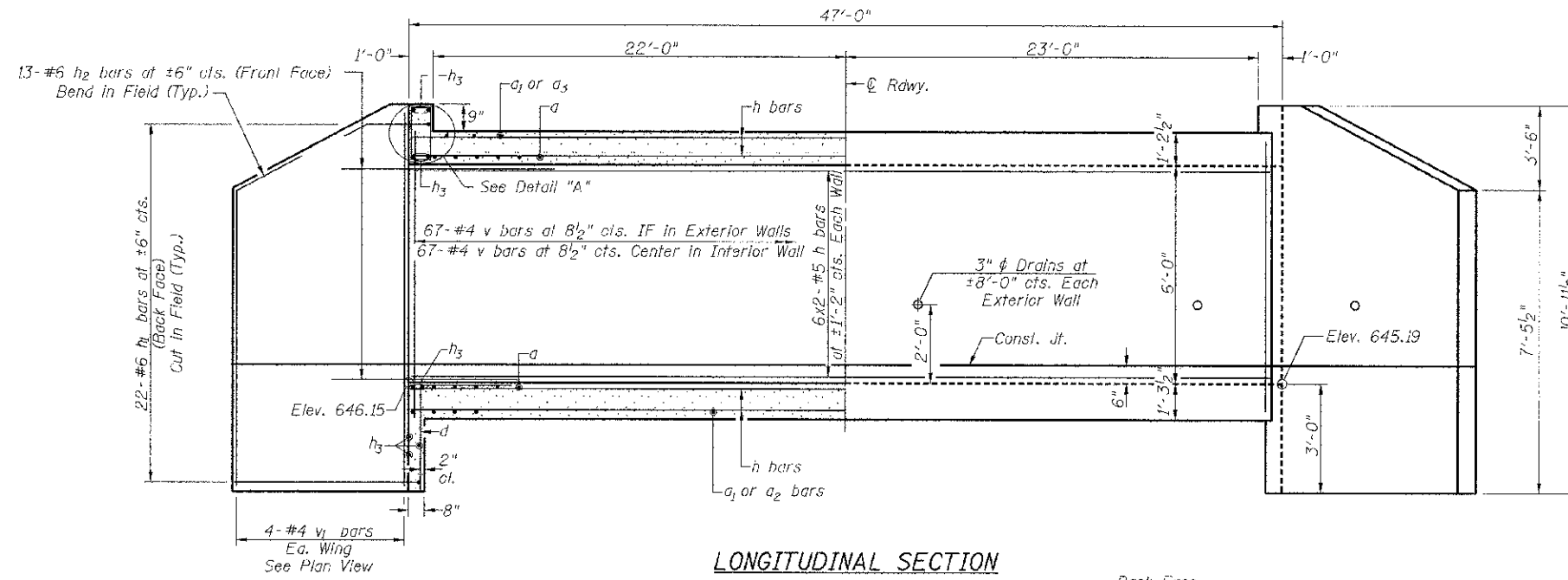
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

Joseph E. Smith
4/13/2013
Illinois Structural No. 6440
Expires 11/30/2014

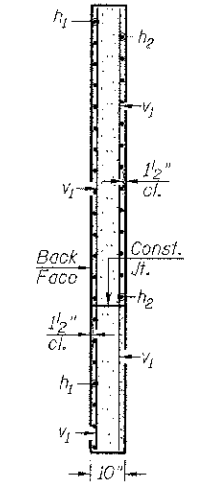
GENERAL PLAN & ELEVATION

SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4 SHEETS	174	13-00726-00-BR	LASALLE	16	7
S.N. 050-3608			CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

Bars indicated thus 29x2-#5 etc. indicates 29 lines of bars with 2 lengths per line.

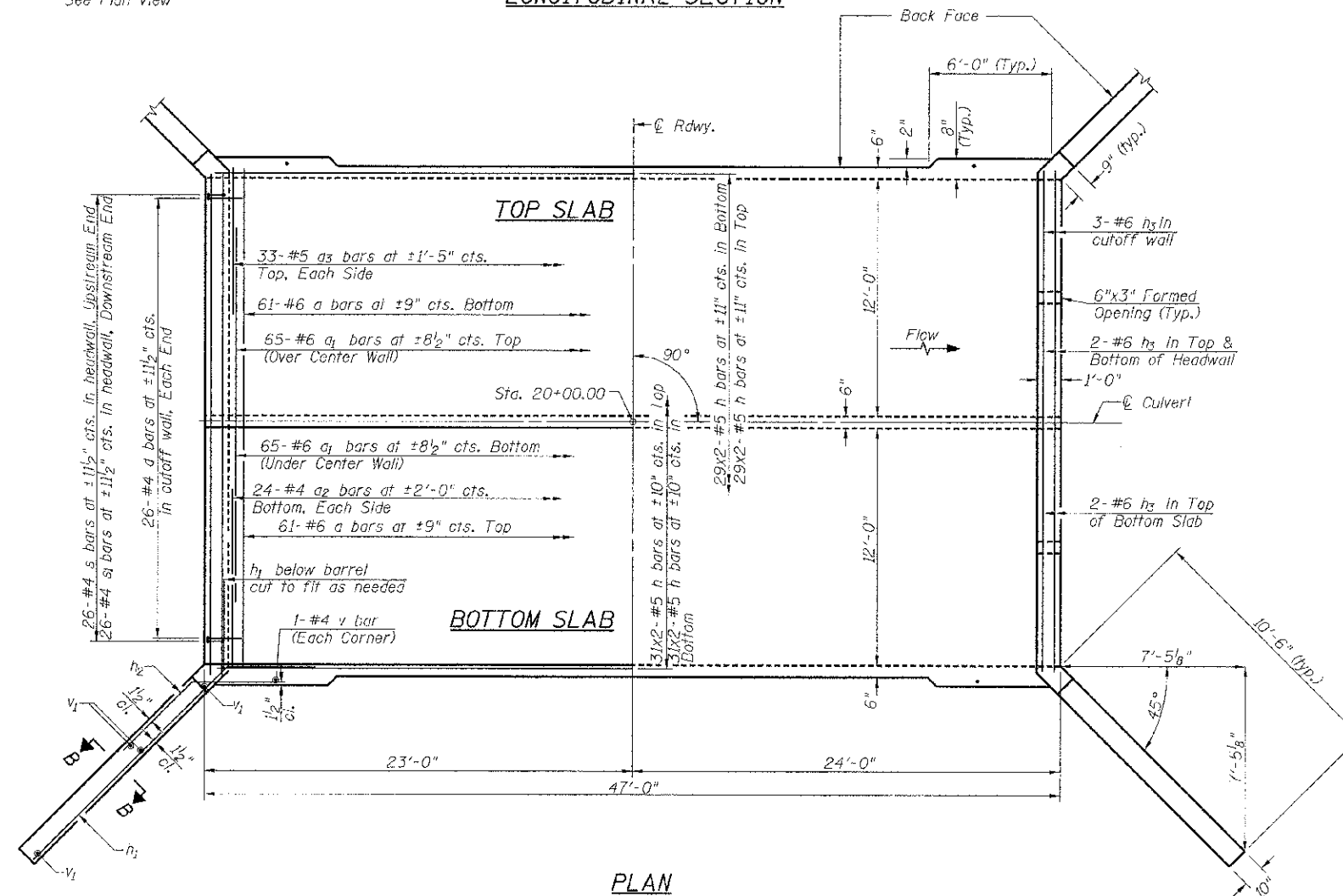


LONGITUDINAL SECTION

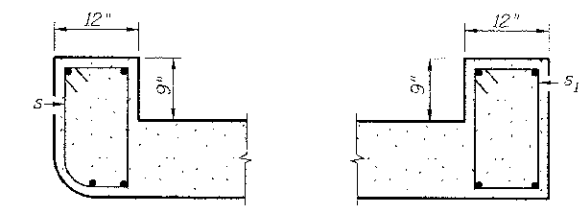


SECTION B-B

Notes:
IF = Inner Face



PLAN



WEST HEADWALL EAST HEADWALL

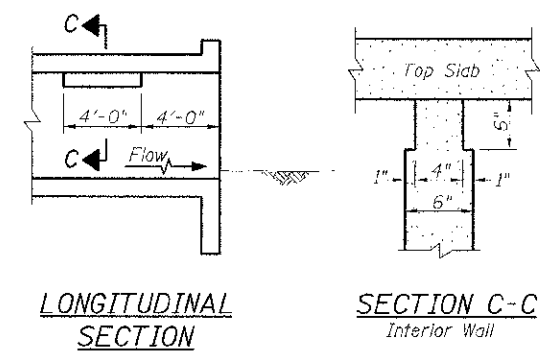
DETAIL A

MIN. BAR LAP

#5 = 1'-8"
#6 = 2'-6"

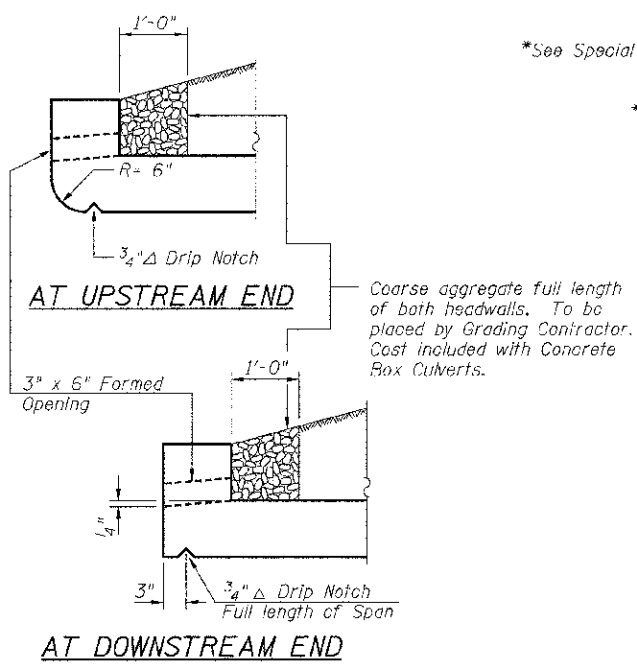
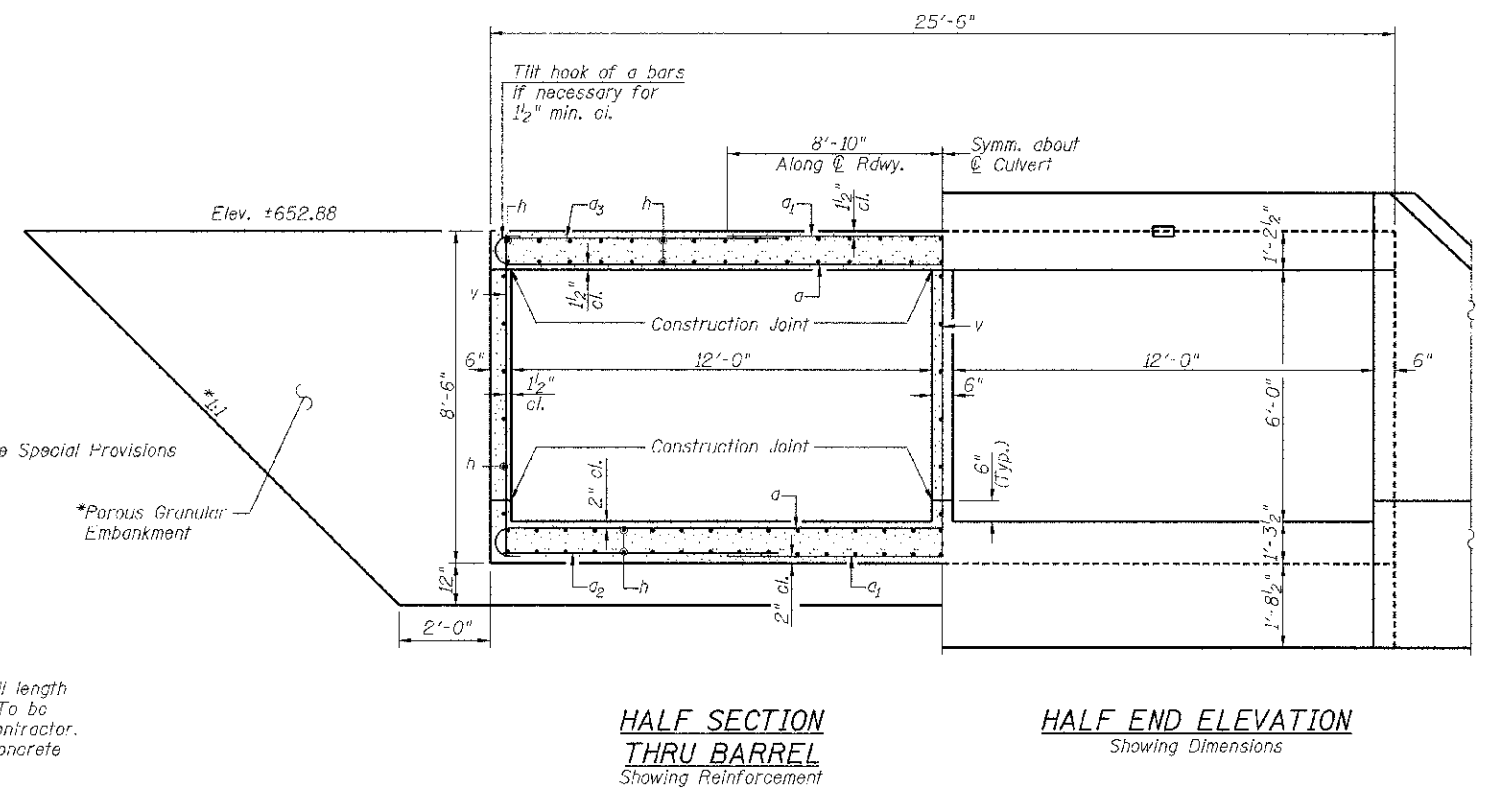
CULVERT DETAILS

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4 SHEETS	174	13-00726-00-BR	LASALLE	16	8
S.N. 050-3608			CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		



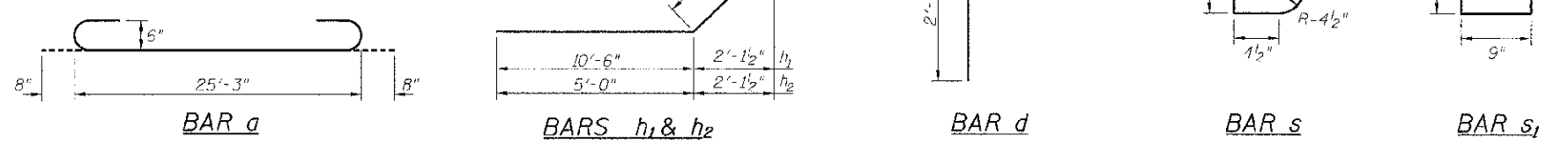
Note: Notch by rough-finished board attached to and removed with formwork, each interior wall. (Do not chamfer)

PHOEBE NESTING SITE DETAIL
(Downstream End Only - Cost included with Concrete Box Culverts)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	122	#6	26'-7"	U
a1	130	#6	17'-8"	—
a2	48	#4	5'-2"	—
a3	66	#5	5'-6"	—
d	52	#4	4'-6"	—
h	276	#5	24'-3"	—
h1	88	#6	13'-6"	—
h2	52	#6	8'-0"	—
h3	18	#6	24'-9"	—
s	26	#4	5'-6"	□
s1	26	#4	5'-8"	□
v	205	#4	8'-2"	—
v1	15	#4	10'-8"	—
Concrete Box Culverts			CU YD	143.3
Reinforcement Bars			POUND	20,510



CULVERT DETAILS

SHEET NO. 3 4 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	174	13-00726-00-BR	LASALLE	16	9
S.N. 050-3608			CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

	Midwest Testing Services, Inc.	BORING LOG	Phone: 815-223-6696
	3705 Progress Blvd. Peru, IL 61354		Fax: 815-223-6659 e-mail: mts37@comcast.net
Client: <u>Hutchison Engineering, Inc.</u>		Boring No. <u>B-1</u>	
Project Name: <u>Section 13-00726-00-BR</u>		Surface Elev. <u>650.90</u>	
Project Site: <u>CH-9 Over Buck Creek</u>		Auger Depth <u>36'</u> Rotary Depth <u>NA</u>	
<u>LaSalle County, Illinois</u>		Start Date <u>02/19/13</u> Finish Date <u>02/19/13</u>	

Location: 20' Right of Station 19+86

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
650.90										Randy Safranski CME-55	
649.90	Stiff Brown Clay		1								
648.90			2								
647.90			3	1	SS	1.6	7	B	19		
646.90	Very Stiff Brownish Gray Clay Till With Sand Seams		4								
645.90			5	2	SS	2.3	13	B	18		
644.90			6								
643.90	Very Stiff Gray Clay Till		7								
642.90			8	3	SS	2.0	11	B	20		
641.90			9								
640.90	Very Stiff Gray Clay Till		10								
639.90			11	4	SS	2.7	14	B	19		
638.90			12								
637.90	Medium Gray Fine To Loose Sand		13	5	SS	3.1	16	B	17		
636.90			14								
635.90			15	6	SS	2.8	18	B	17		
634.90		16									
633.90		17									
632.90		18	7	SS	--	16	--	--			
631.90		19									
630.90		20	8	SS	--	18	--	--			

Groundwater Data: Static water at elevation 635.0
Comments:

	Midwest Testing Services, Inc.	BORING LOG	Phone: 815-223-6696
	3705 Progress Blvd. Peru, IL 61354		Fax: 815-223-6659 e-mail: mts37@comcast.net
Client: <u>Hutchison Engineering, Inc.</u>		Boring No. <u>B-1</u>	
Project Name: <u>Section 13-00726-00-BR</u>		Surface Elev. <u>650.90</u>	
Project Site: <u>CH-9 Over Buck Creek</u>		Auger Depth <u>36'</u> Rotary Depth <u>NA</u>	
<u>LaSalle County, Illinois</u>		Start Date <u>02/19/13</u> Finish Date <u>02/19/13</u>	

Location: 20' Right of Station 19+86

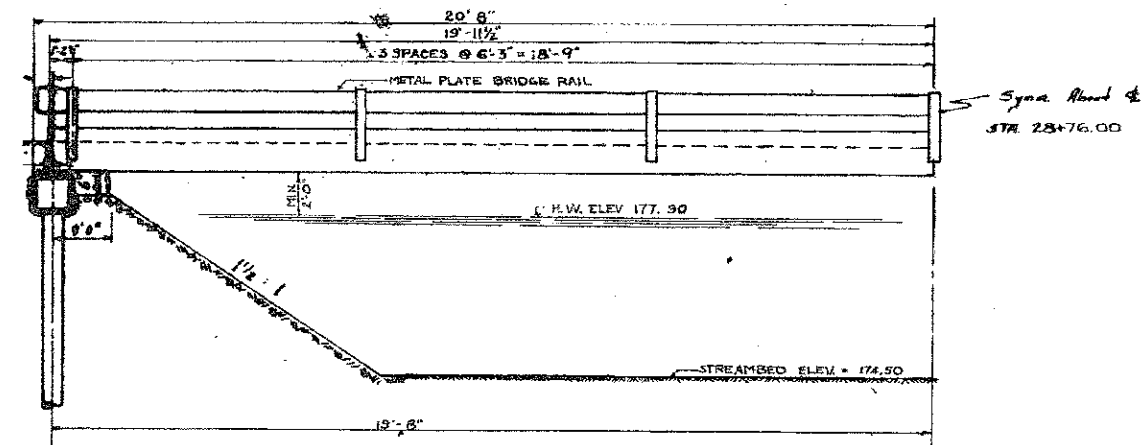
(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
629.90										Randy Safranski CME-55	
628.90	Very Stiff Gray Clay Till		22								
627.90			23	9	SS	2.5	14	B	18		
626.90			24								
625.90			25	10	SS	2.2	13	B	19		
624.90			26								
623.90			27								
622.90			28	11	SS	2.7	14	B	18		
621.90			29								
620.90			30	12	SS	3.1	18	B	16		
619.90			31								
618.90			32								
617.90			33	13	SS	2.5	16	B	16		
616.90			34								
615.90			35	14	SS	2.9	18	S	17		
614.90		36									
613.90		37									
612.90		38									
611.90		39									
610.90		40									
609.90		41									

Groundwater Data:
Comments:

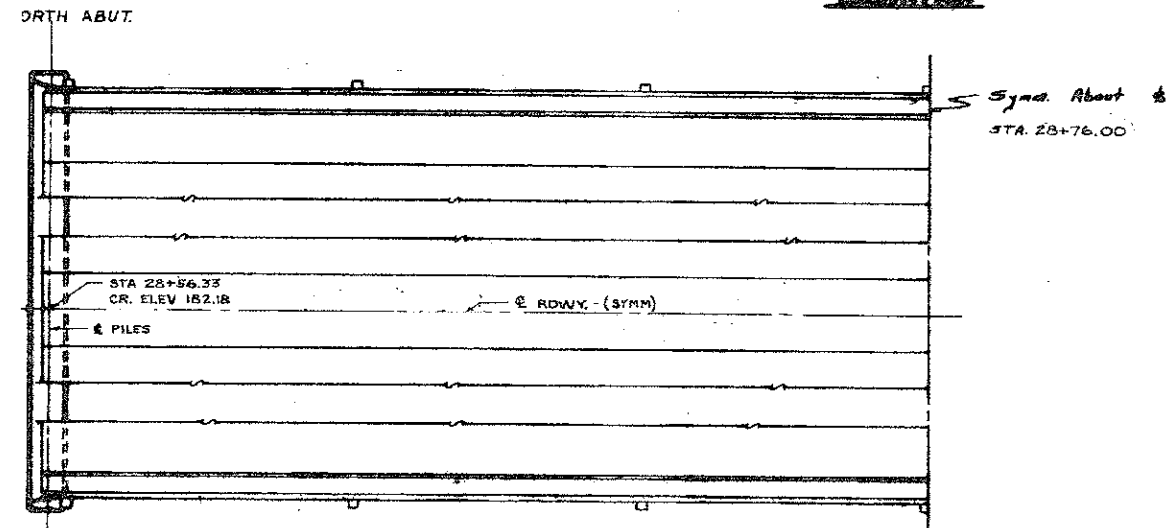
SOIL BORING LOGS

SHEET NO. 4	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	174	13-00726-00-BR	LASALLE	16	10
4 SHEETS	S.N. 050-3608		CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

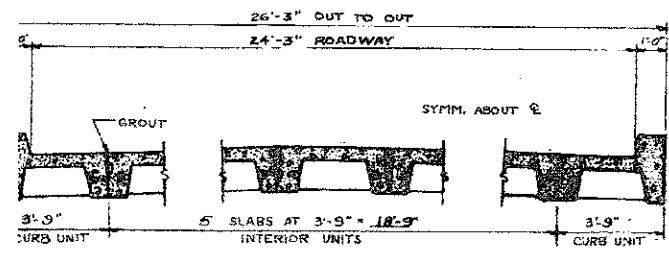
174
LASALLE CO. ILL. 73



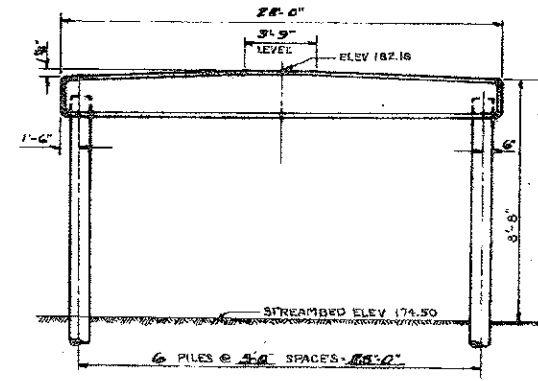
ELEVATION



PLAN



CROSS SECTION



ELEVATION OF ABUTMENT

WATERWAY INFORMATION

DRAINAGE AREA	1000 ACRES
EXISTING OPENING	68.58 FT.
REQUIRED OPENING	53.46 FT.
PROPOSED OPENING	70.58 FT.
SCOUR INDEX	0.30
STREAMBED ELEV.	174.50

PILE DATA

TYPE	12" x 12" CROSOATED TIMBER
NO. REQ'D.	11 + 1 TEST PILE
EST. LENGTH	30'-0"
MIN. CAP	ABUT. PILE = 18 Tons/Axle

PILE SET-OFF

NORTH ABUT.	178.60
SOUTH ABUT.	178.60

STATIONING

1. DES. NORTH ABUT.	STA. 28+56.33	CR. ELEV. = 182.18
2. STRUCTURE	STA. 28+76.00	CR. ELEV. = 182.18
3. BRG SOUTH ABUT.	STA. 28+95.67	CR. ELEV. = 182.18

GENERAL NOTES

SEE SPECIAL PROVISIONS FOR ITEM "PRECAST CONCRETE CAPS AND METAL PLATE BRIDGE RAIL"

CONTRACTOR TO DRIVE 1 TEST PILE AS DIRECTED BY THE ENGINEER BEFORE ORDERING REMAINDER OF PILES.

ALL PILES AND LUMBER SHALL BE CROSOATED. CONTRACTORS MAY USE EITHER PRECAST CURBS PLACED IN THE FIELD OR CURBS PRECAST INTEGRALLY WITH EXTERIOR BEAMS. CURBS SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BRIDGE SLAB. SEE SPECIAL PROVISIONS FOR ITEM "PRECAST CURBS". THE TEST PILE SHALL BE DRIVEN IN A PERMANENT LOCATION.

TOTAL BILL OF MATERIALS

PRECAST CONCRETE BRIDGE SLAB	30 FT	1060
PRECAST CONCRETE CAPS	EACH	2
METAL PLATE BRIDGE RAIL	LN FT	75
CROSOATED TIMBER PILES	LN FT	330
TEST PILE	EACH	1
NAME PLATE	EACH	1
REMOVAL OF EXISTING STRUCTURE	EACH	1
CHANNEL EXCAVATION	CU YDS	200

STATION 28+76.00
BUILT 1962
FAS R-174 SEC. 90-G
FA PROJ. S-174 1(1)
LOADING H 15-S 12

NAME PLATE
See 514 2113

STRESSES
F_c = 4,500 p.s.i.
F_s = 1,800 p.s.i.
F_s = 50,000 p.s.i.
1" = 8'

LOADING H 15-S 12-44

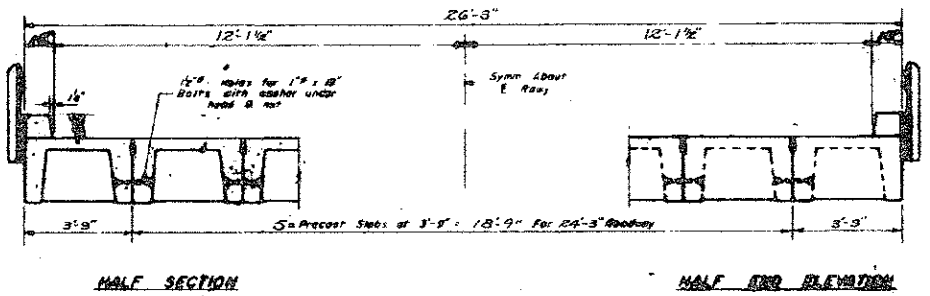
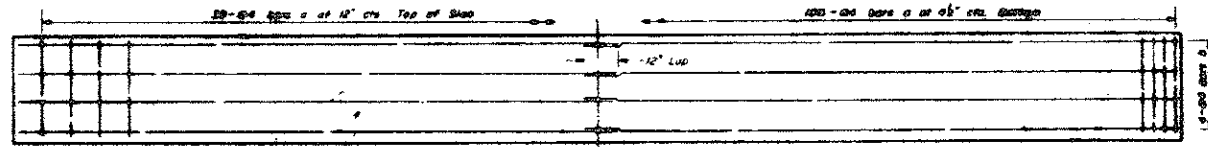
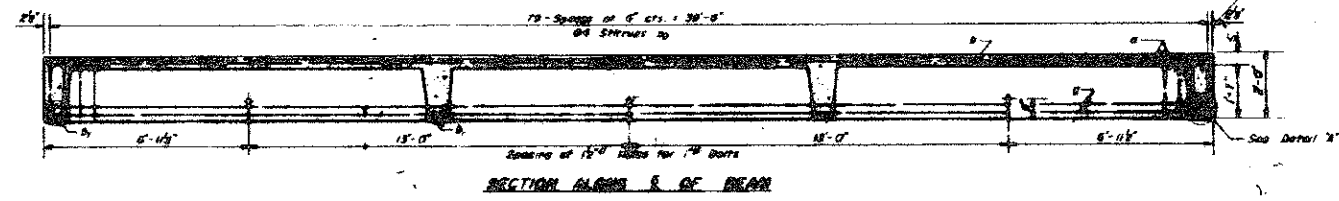
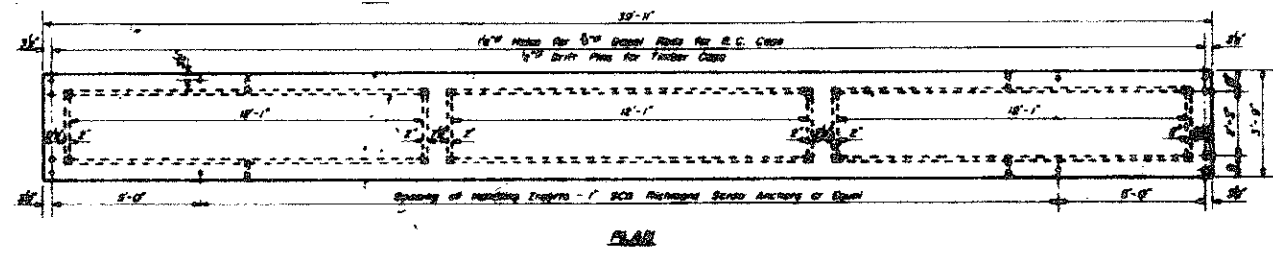
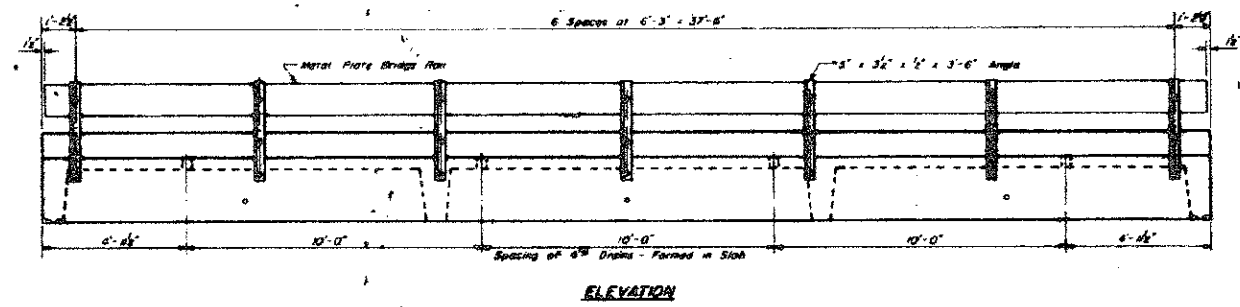
PRECAST CONCRETE SLAB BRIDGE SPILLTHRU ABUTMENT-PRECAST CAPS

LASALLE COUNTY
FAS RT 174 SECTION 90G
STATION 28+76

EXISTING STRUCTURE PLANS

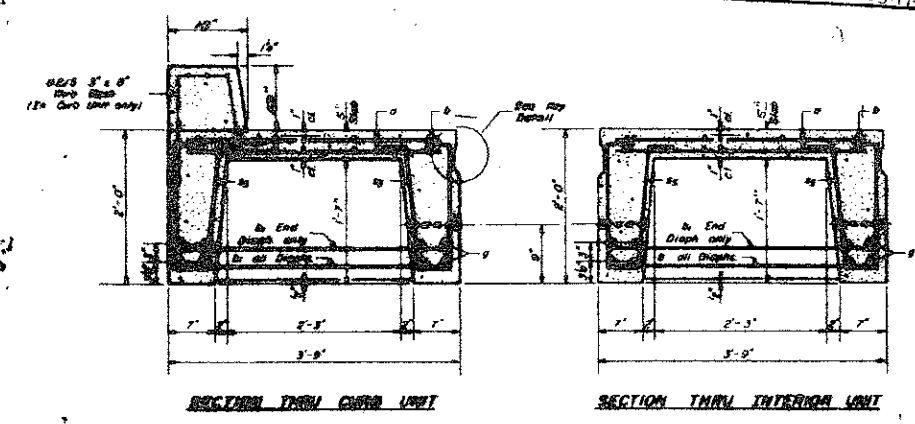
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	174	13-00726-00-BR	LASALLE	16	11
	S.N. 050-3608		CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

174 900 LASALLE 73 59
 PART 1
 174-10



DESIGN STRESSES
 F_c = 4500 psi
 F_s = 20,000 psi
 n = 8

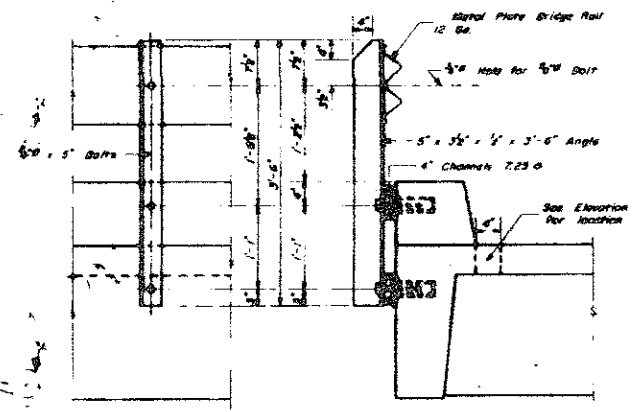
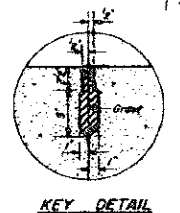
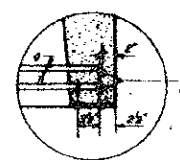
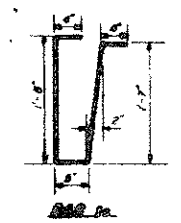
LOADING HIS-312-69



BILL OF MATERIALS

Qty	Size	Qty	Length	Weight
a	4#	145	3'-3"	5.0
b	4#	16	20'-4"	27
c	3#	10	5'-6"	28
d	6#	8	38'-7"	181
e	4#	180	4'-8"	483
Concrete		On R.R.	5.8	
Reinforcement Bars		Lbs.	288	
Total Weight of Beam		Lbs.	23,720	

Reinforcing and Concrete for Curbs are not included in above Bill of Materials.

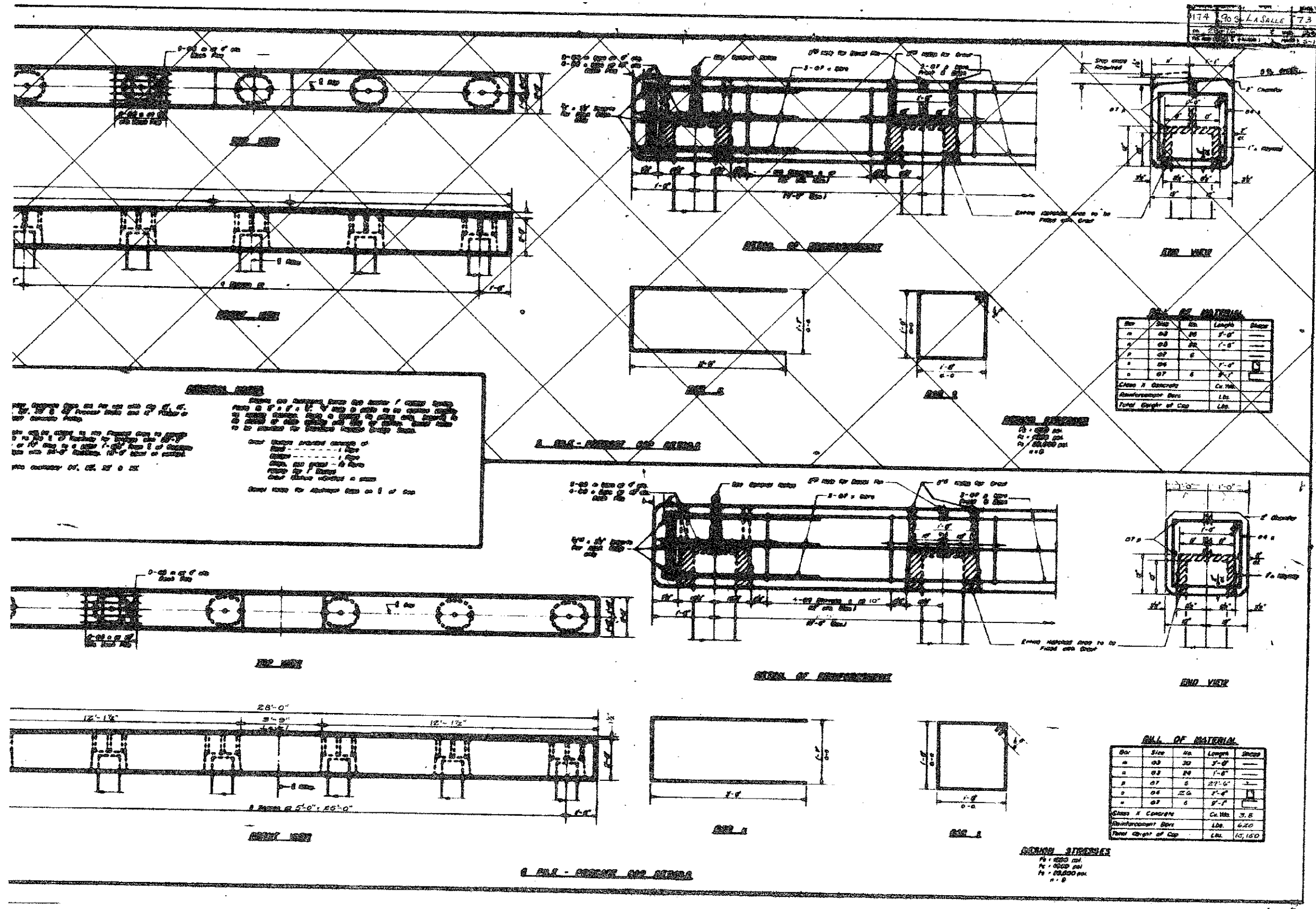


PRECAST CONCRETE SLAB BRIDGE USING 40 FT. BEAMS
 LASALLE COUNTY
 FAS RT 174 SECTION 906
 STATION 28+76
 STATION 245+73

NOTE: EXISTING STRUCTURE PLANS ARE NOT AS-BUILT PLANS. EXISTING SUPERSTRUCTURE CONSISTS OF PPC DECK BEAMS NOT SHOWN IN PLANS.

EXISTING STRUCTURE PLANS

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	174	13-00726-00-BR	LASALLE	16	12
3 SHEETS	S.N. 050-3608		CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

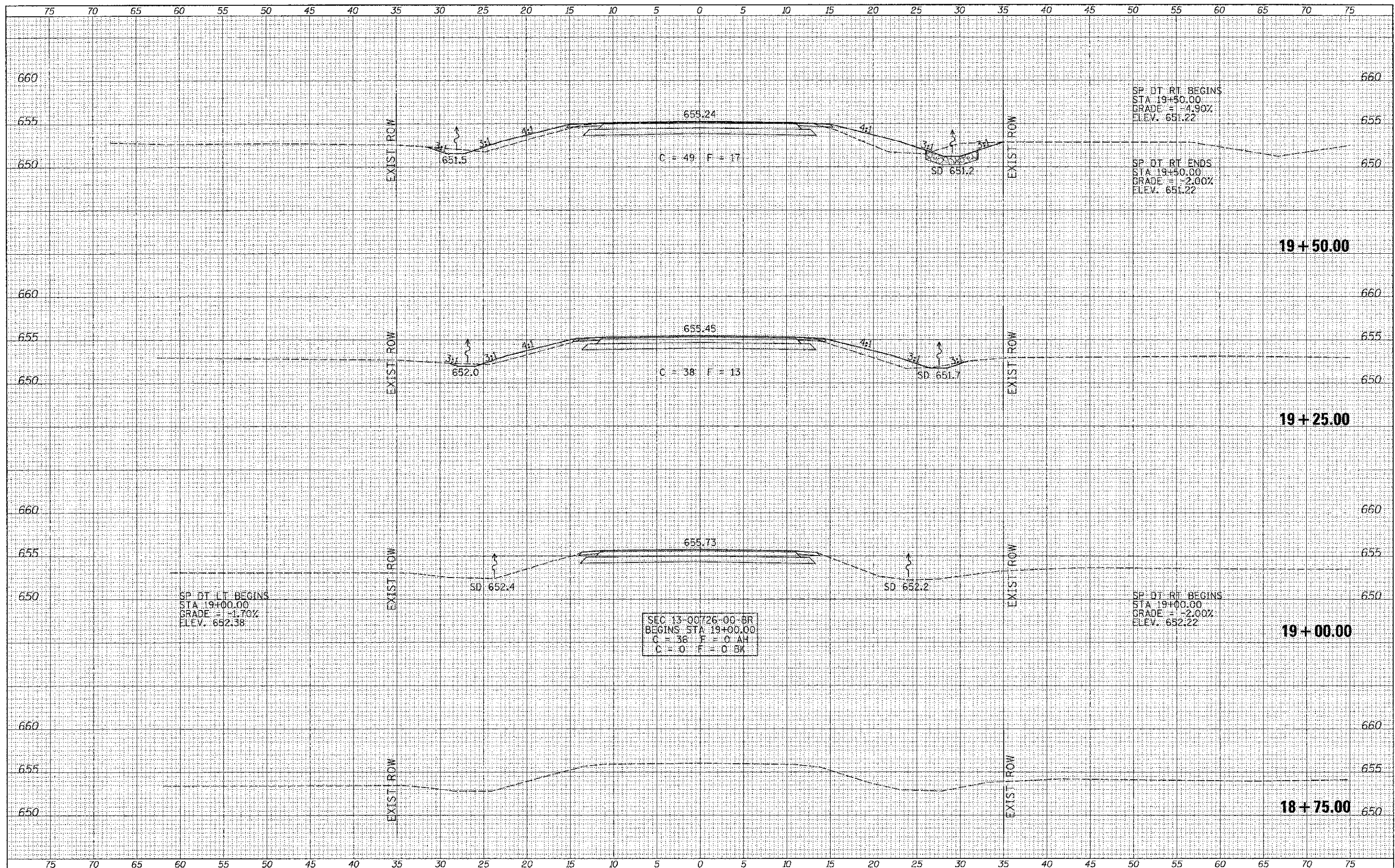


EXISTING STRUCTURE PLANS

SHEET NO. 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3 SHEETS	174	13-00726-00-BR	LASALLE	16	13
S.N. 050-3608			CONTRACT NO. 87557		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0174(119)		

DATE	
BY	
FINAL SURVEY	
NO. E. BOOK	
NO. SHEET	
NO. OF SHEETS	
NO. OF AREAS	
NO. OF CHECKS	

DATE	
BY	
ORIGINAL SURVEY	
NO. E. BOOK	
NO. SHEET	
NO. OF SHEETS	
NO. OF AREAS	
NO. OF CHECKS	



FILE NAME = V:\Bridge\3262-LoSalle\3262xsh.ts.dgn
 USER NAME = c.thomas
 PLOT SCALE = 5.2000' / in.
 PLOT DATE = 3/25/2013

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

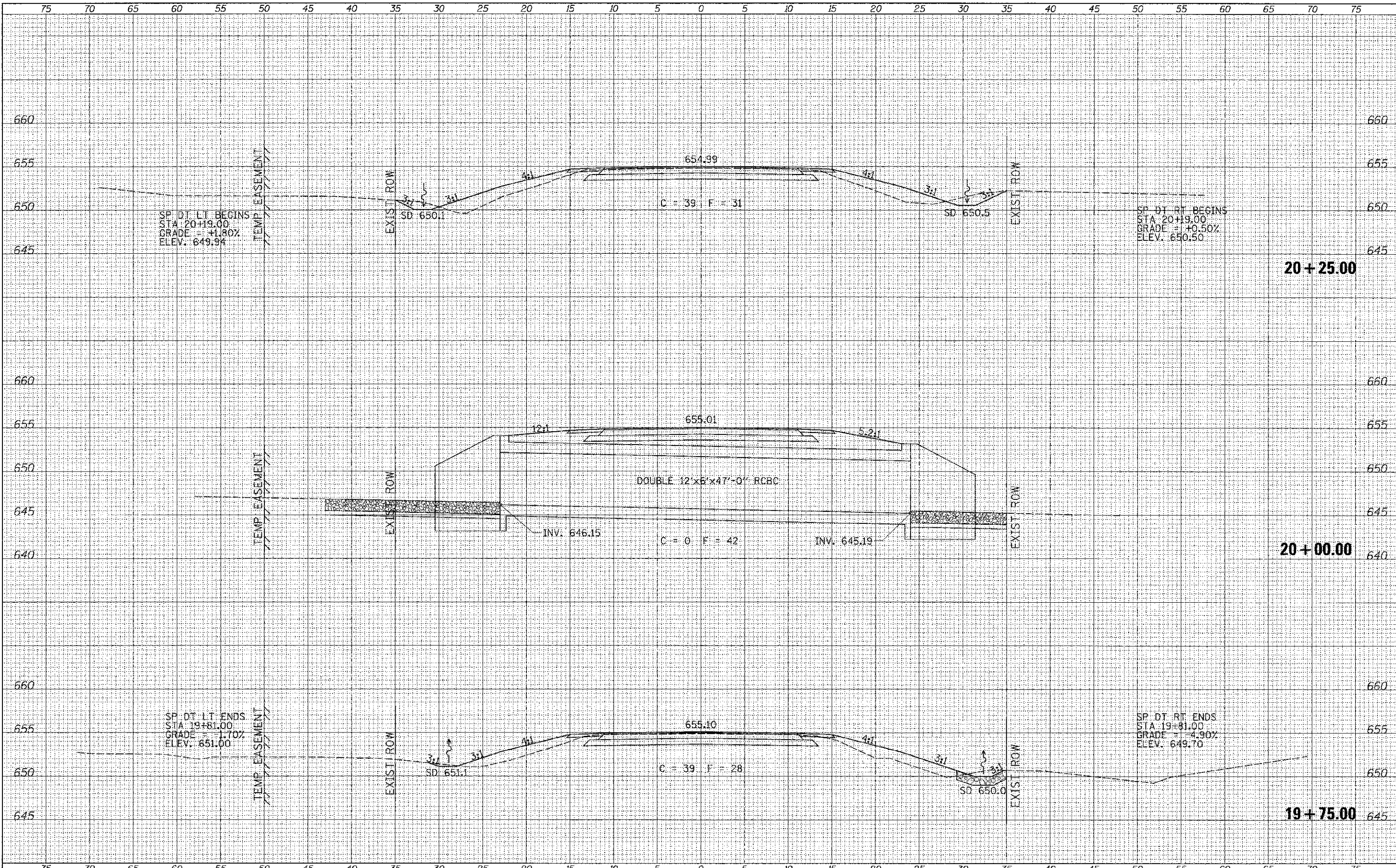
**LASALLE COUNTY
 COUNTY HIGHWAY 9
 OVER BUCK CREEK**

SCALE: 1"=5'
 SHEET 1 OF 3 SHEETS
 STA. 18+75.00 TO STA. 19+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
174	13-00726-00-BR	LASALLE	16	14
CONTRACT NO. 87557			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT BR-0174(119)				

DATE	
BY	
SUBJECT	
TEMPERATURE	
AREAS	
CHECKED	
NO.	

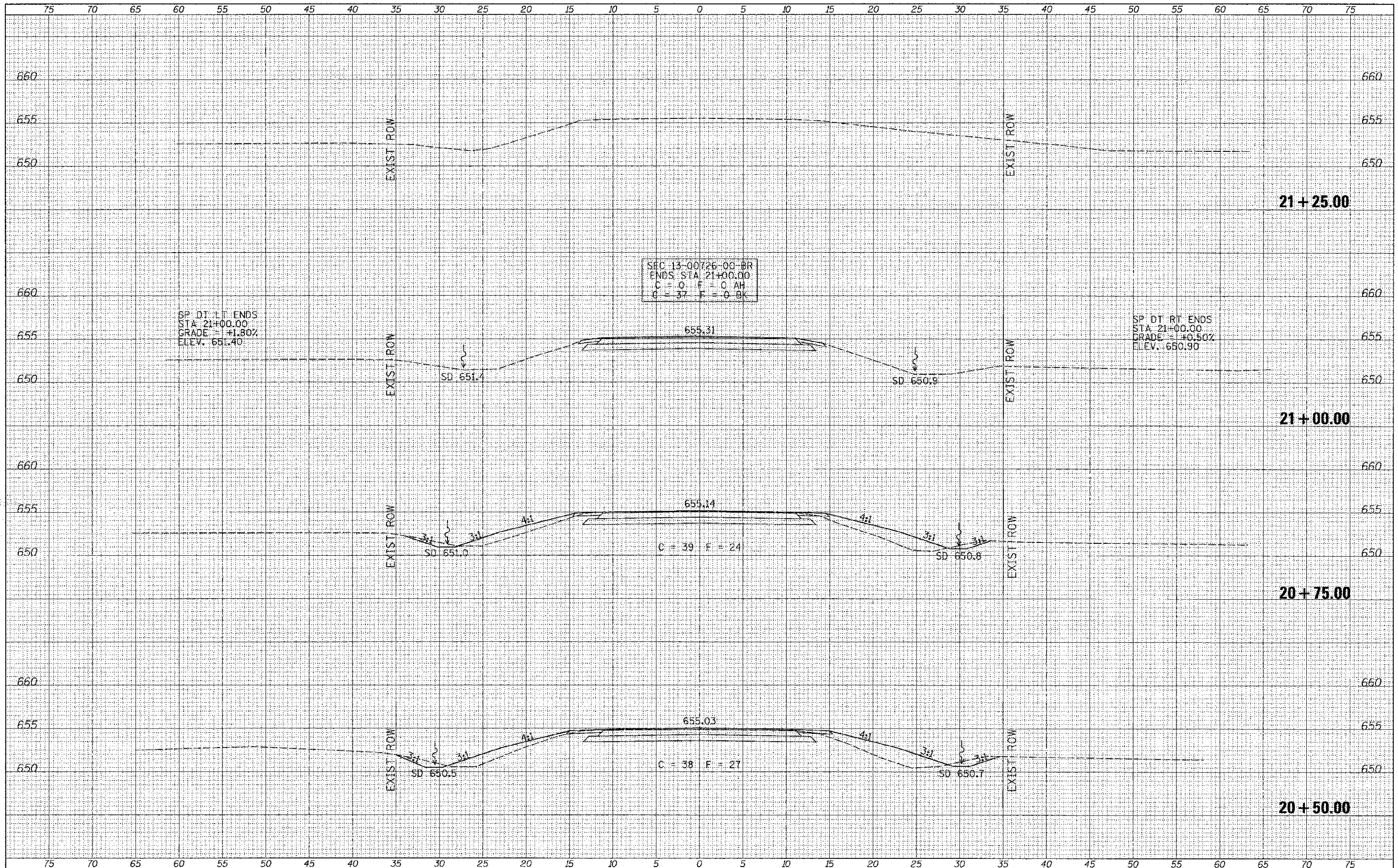
DATE	
BY	
SUBJECT	
TEMPERATURE	
AREAS	
CHECKED	
NO.	



FILE NAME =	USER NAME = othomas	DESIGNED -	REVISED -	LASALLE COUNTY COUNTY HIGHWAY 9 OVER BUCK CREEK	CROSS SECTIONS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Y:\Bridge\3282-Lasalle\3282-shs.cgm		DRAWN -	REVISED -		174	13-00726-00-BR	LASALLE	16	15			
MODEL NAME =	PLOT SCALE = 5/8"=1' / 1/4"	CHECKED -	REVISED -		SCALE: 1"=5'		SHEET 2 OF 3 SHEETS		STA. 19+75.00 TO STA. 20+25.00		CONTRACT NO. 87557	
	PLOT DATE = 3/25/2013	DATE -	REVISED -		STA. 19+75.00 TO STA. 20+25.00		FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BR-0174019			

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	
DATE	
BY	
DESCRIPTION	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
REVISIONS	
NO.	
DATE	
BY	
DESCRIPTION	



FILE NAME = V:\Bridge\3262-LaSalle\3262ahta.dgn
 #MODEL NAMES

USER NAME = cthomas	DESIGNED -	REVISED -
PLOT SCALE = 5.0000' / 1" =	DRAWN -	REVISED -
PLOT DATE = 3/25/2013	CHECKED -	REVISED -
	DATE -	REVISED -

**LASALLE COUNTY
 COUNTY HIGHWAY 9
 OVER BUCK CREEK**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET 3 OF 3 SHEETS STA. 20+50.00 TO STA. 21+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
174	13-00726-00-BR	LASALLE	16	16
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87557	
FED. AID PROJECT BR5-0174(119)				