

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**PLANS FOR PROPOSED**  
**HIGHWAY BRIDGE PROGRAM**  
**LASALLE COUNTY**  
**SECTION 09-00658-00-BR**  
**F.A.S. 271 (CH 25) OVER BRANCH OF NETTLE CREEK**  
**PROJECT NO. BRS-0271(103)**  
**JOB NUMBER C-93-077-10**

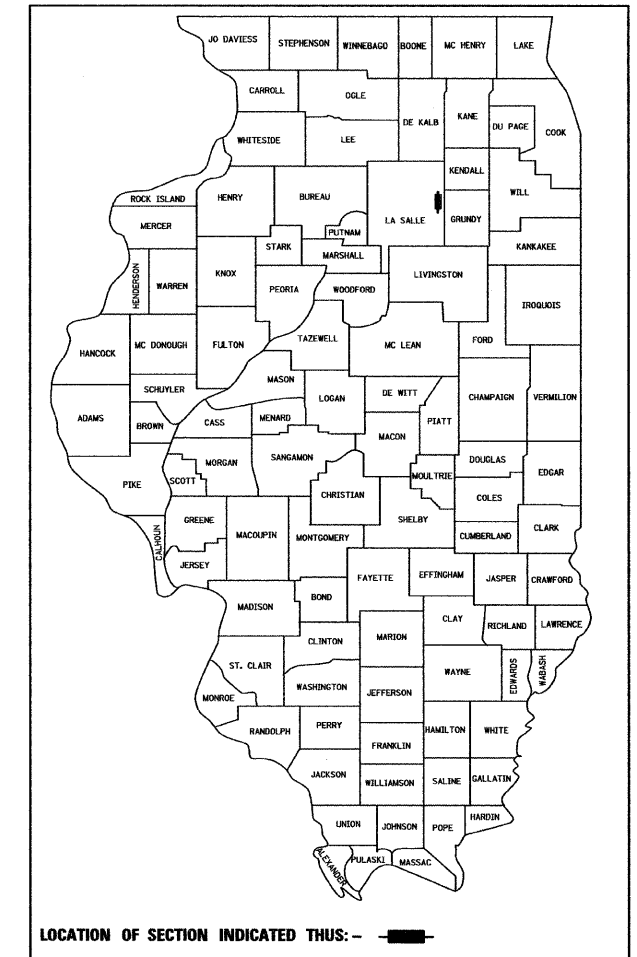
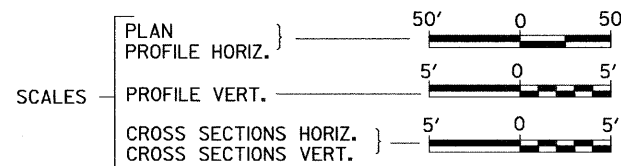
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
271	09-00658-00-BR	LASALLE	39	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 87451	

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, TYPICAL SECTIONS
3.-4.	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
5.	TRAFFIC CONTROL PLAN
6.	STORM WATER POLLUTION PREVENTION PLAN
7.	PLAN AND PROFILE
8.-29.	STRUCTURE PLANS AND SOIL BORING LOGS
30.-31.	EXISTING STRUCTURE PLANS
32.-39.	CROSS SECTIONS

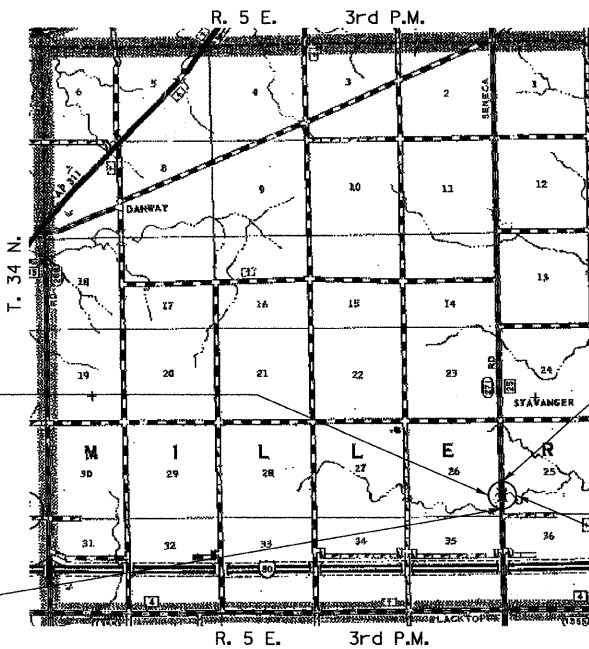
**REQUIRED HIGHWAY STANDARDS**

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
515001-03	NAME PLATE FOR BRIDGES
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-05	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701901-01	TRAFFIC CONTROL DEVICES
780001-02	TYPICAL PAVEMENT MARKINGS
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



PROPOSED STRUCTURE NO. 050-3598  
 SINGLE SPAN 42" P.P.C. I-BEAM WITH  
 CONCRETE DECK SUPERSTRUCTURE  
 ON CONC. INTEGRAL ABUTMENTS,  
 62'-0" BK. TO BK. AND 33'-0" O. TO O.,  
 15° SKEW LT. AH.

SECTION 09-00658-00-BR  
 BEGINS  
 STATION 16+75.00



SECTION 09-00658-00-BR  
 ENDS  
 STATION 24+00.00

EXISTING STRUCTURE 050-3031  
 SINGLE SPAN RC SLAB ON RC T-BEAM SUPER-  
 STRUCTURE WITH SINGLE ELEMENT CONC. RAIL  
 ON CURB WITH STEEL WT RAIL ADDED INSIDE OF  
 ORIGINAL CONC. RAIL, SUPPORTED ON CONCRETE  
 CLOSED ABUTMENTS ON UNTREATED TIMBER PILES,  
 32'-0" BK TO BK, AND 28'-4" O TO O DECK,  
 NO SKEW. TO BE REMOVED

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

APPROVED March 23 2010

*James A. Kasper*  
 LASALLE COUNTY ENGINEER

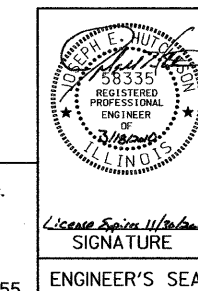
PASSED 3-25 2010

*Justin T. [Signature]*  
 DISTRICT THREE IMPLEMENTATION ENGINEER

Released For  
 Bid Based on  
 Limited Review 3-25 2010

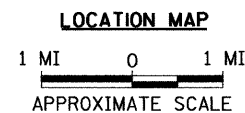
*Duane R. [Signature]*  
 DEPUTY DIRECTOR OF HIGHWAYS,  
 REGION TWO ENGINEER

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



**Hutchison Engineering, Inc.**  
 JACKSONVILLE ILLINOIS  
 SHOREWOOD ILLINOIS

2010 JOB#2655



NET LENGTH OF PROJECT = 725.00 FEET = 0.137 MILES  
 DESIGN CLASSIFICATION: MAJOR-COLLECTOR (NON-URBAN)  
 DESIGN ADT = 1730 (2030)  
 DESIGN SPEED = 50 MPH

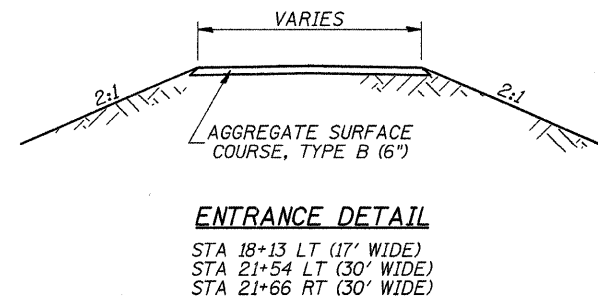
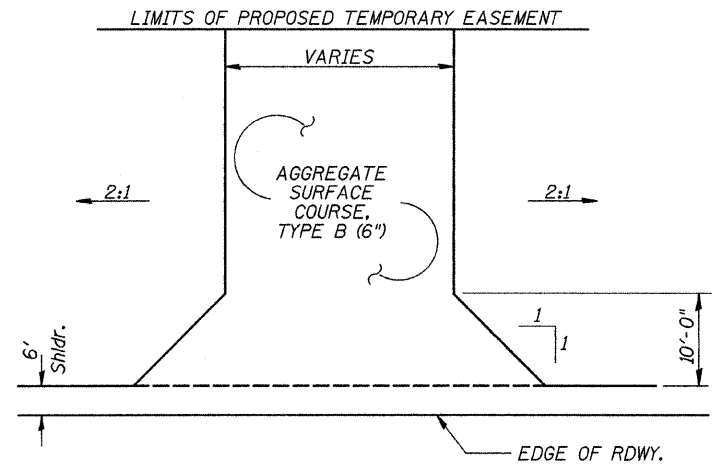
**UTILITY COMPANIES**

ComED  
 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. 87451**



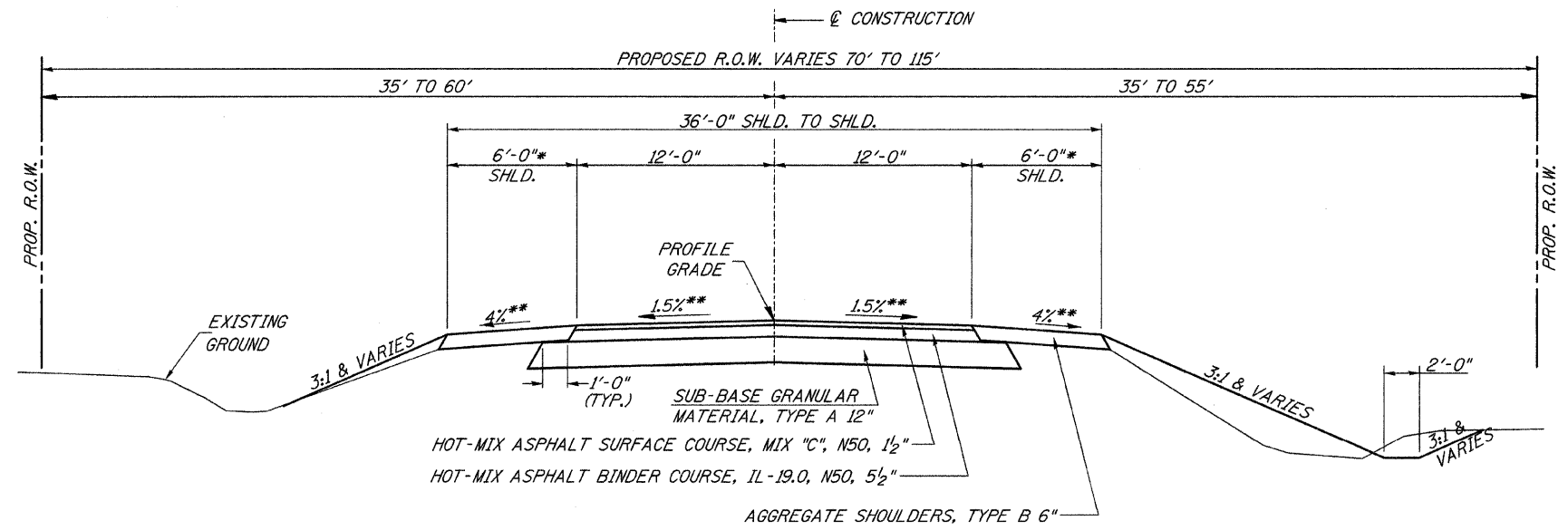
**HOT-MIX ASPHALT MIXTURE REQUIREMENTS**

	HMA BINDER	HMA SURFACE
PG GRADE	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION	IL-19.0	IL-12.5 OR IL-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/QA 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 25**

ROAD CLASSIFICATION: CLASS III 80,000 lb./20 YEAR DESIGN  
 STRUCTURAL DESIGN TRAFFIC:  
 PV = 1,306 SU = 104 MU = 74  
 PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:  
 P = 88% S = 7% M = 5%  
 MINIMUM SUBGRADE SUPPORT RATING: FAIR  
 FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.40  
 ASPHALT PAVEMENT THICKNESS: 7"  
 SUB-BASE GRANULAR MATERIAL, TYPE A: 12"



**PROPOSED TYPICAL SECTION**

STA. 16+75.00 TO STA. 19+34.64  
 STA. 20+67.00 TO STA. 24+00.00  
 EXCEPT TRANSITIONS

BRIDGE APPROACH PAVEMENT CONNECTOR  
 STA. 19+34.64 TO STA. 19+39.82  
 STA. 20+61.82 TO STA. 20+67.00

BRIDGE APPROACH PAVEMENT  
 STA. 19+39.82 TO STA. 19+69.82  
 STA. 20+31.82 TO STA. 20+61.82

BRIDGE OMISSION  
 STA. 19+69.82 TO STA. 20+31.82

\* CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301

\*\* TRANSITION ROADWAY AND SHOULDER CROSS SLOPE TO MATCH APPROACH PAVEMENT CROSS SLOPES FROM STA. 19+09.82 TO STA 19+39.82 AND FROM STA 20+61.82 TO STA 20+91.82

**GENERAL NOTES**

PLAN QUANTITIES FOR TREE REMOVAL HAVE BEEN BASED ON ALL TREES WITHIN THE PROPOSED RIGHT OF WAY. THIS QUANTITY MAY BE REVISED DURING CONSTRUCTION, AT THE DIRECTION OF THE ENGINEER, BY DELETING FROM THE TREE REMOVAL QUANTITIES, SUCH TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE REMOVAL OF EXISTING ASPHALT SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE 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

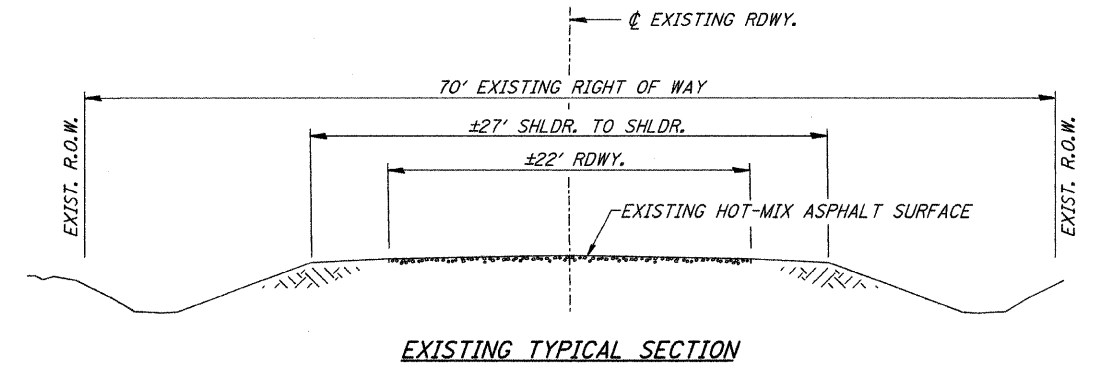
THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES 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 EMBANKMENT AREAS SHALL BE SEEDDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE 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 FURNISHED EXCAVATION.

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



**EXISTING TYPICAL SECTION**

FILE NAME = V:\Bridges\2655-Lasalle\2655.tbd.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	<b>LASALLE COUNTY COUNTY HIGHWAY 25 OVER BRANCH OF NETTLE CREEK</b>	<b>GENERAL NOTES, DETAILS, TYPICAL SECTIONS</b>	F.A.S. RTE. 271	SECTION 09-00658-00-BR	COUNTY LASALLE	TOTAL SHEETS 39	SHEET NO. 2		
PLOT SCALE = 1:8000 ft / IN.	CHECKED -	REVISED -	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS	STA. 16+75.00 TO STA. 24+00.00	FED. ROAD DIST. NO. 7 [ILLINOIS]	FED. AID PROJECT BRS-0271(103)	CONTRACT NO. 87451		
PLOT DATE = 3/16/2010	DATE -	REVISED -										

**SUMMARY OF QUANTITIES**

CODE NO.	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	16
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	38
20200100	EARTH EXCAVATION	CU YD	1,175
20300100	CHANNEL EXCAVATION	CU YD	475
① 20400800	FURNISHED EXCAVATION	CU YD	1,030
① 20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	135
① 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	750
① 28000305	TEMPORARY DITCH CHECKS	FOOT	156
28000400	PERIMETER EROSION BARRIER	FOOT	195
28000500	INLET AND PIPE PROTECTION	EACH	3
28100109	STONE RIPRAP, CLASS A5	SQ YD	355
① 28200200	FILTER FABRIC	SQ YD	355
31100100	SUB-BASE GRANULAR MATERIAL, TYPE A	TON	1,162
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	142
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	889
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	498
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	133
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	220
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	38
48101200	AGGREGATE SHOULDERS, TYPE B	TON	246
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
① 50105220	PIPE CULVERT REMOVAL	FOOT	120
50200100	STRUCTURE EXCAVATION	CU YD	330
50300100	FLOOR DRAINS	EACH	6
50300225	CONCRETE STRUCTURES	CU YD	32.4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	106.6
50300260	BRIDGE DECK GROOVING	SQ YD	407
50300280	CONCRETE ENCASEMENT	CU YD	6.4
50300300	PROTECTIVE COAT	SQ YD	457
50400905	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 42 IN.	FOOT	365
① 50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	20,730
50800515	BAR SPLICERS	EACH	66
* 50901050	STEEL RAILING, TYPE SM	FOOT	124
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	600
① 51202305	DRIVING PILES	FOOT	600
① 51203200	TEST PILE METAL SHELLS	EACH	2
51204650	PILE SHOES	EACH	14
51500100	NAME PLATES	EACH	1
① 542D0235	PIPE CULVERTS, CLASS D, TYPE 1 30"	FOOT	50
① 542D0241	PIPE CULVERTS, CLASS D, TYPE 1 36"	FOOT	34
① 542D1069	PIPE CULVERTS, CLASS D, TYPE 2 24"	FOOT	52
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	72
① 60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	140
* ① 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
* ① 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	390
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	11
67100100	MOBILIZATION	L SUM	1
① 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,632
* 78200405	GUARDRAIL MARKERS	EACH	8
* ① 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
① 20013798	CONSTRUCTION LAYOUT	L SUM	1

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: X081-2A

\* SPECIALTY ITEMS

**EARTHWORK SUMMARY**

STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
	CU YD	CU YD	CU YD	CU YD	CU YD
RDWY 16+75.00 - 19+69.82	576			770	(338)
RDWY 20+31.82 - 24+00.00	598			1,142	(694)
CHANNEL		475			
STRUCTURE			330		
<b>TOTAL</b>	<b>1,174</b>			<b>1,912</b>	<b>(1,032)</b>
<b>USE</b>	<b>1,175</b>	<b>475</b>	<b>330</b>	<b>-</b>	<b>(1,030)</b>

② 25% SHRINKAGE

**PAINT PAVEMENT MARKING - LINE 4"**

STATION TO STATION	SIDE	DESCRIPTION	FOOT
16+75 - 24+00	LEFT	WHITE EDGE LINE	725
16+75 - 24+00	℄	YELLOW SKIP-DASH	182
16+75 - 24+00	RIGHT	WHITE EDGE LINE	725
<b>TOTAL</b>			<b>1,632</b>

**TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT**

SIDE	STATION TO STATION	EACH
RIGHT	18+71.65 - 19+21.65	1
LEFT	18+80.49 - 19+30.49	1
RIGHT	20+71.15 - 21+21.15	1
LEFT	20+79.99 - 21+29.99	1
<b>TOTAL</b>		<b>4</b>

**TRAFFIC BARRIER TERMINAL, TYPE 6A**

SIDE	STATION TO STATION	EACH
RIGHT	19+21.65 - 19+65.40	1
LEFT	19+30.49 - 19+74.24	1
RIGHT	20+27.40 - 20+71.15	1
LEFT	20+36.24 - 20+79.99	1
<b>TOTAL</b>		<b>4</b>

**PIPE CULVERTS**

STATION	SIDE	24" CL	30" CL	36" CL
		FOOT	FOOT	FOOT
18+13	LT			34
21+54	LT	52		
21+66	RT		50	
<b>TOTAL</b>		<b>52</b>	<b>50</b>	<b>34</b>

**GUARDRAIL MARKERS**

STATION TO STATION	SIDE	GUARDRAIL MARKERS (EACH)
18+71.65 - 21+21.15	RIGHT	4
18+80.49 - 21+29.99	LEFT	4
<b>TOTAL</b>		<b>8</b>

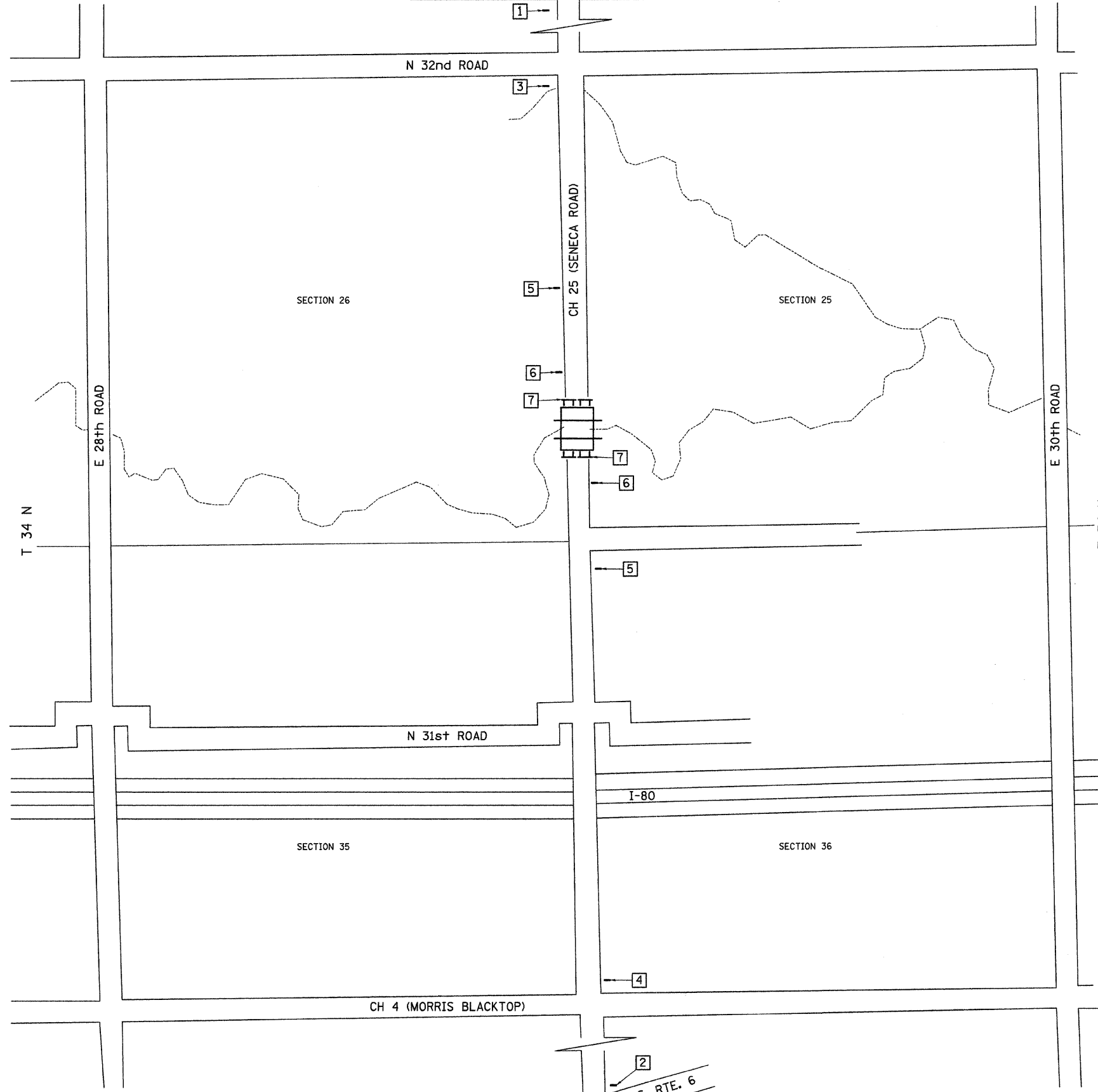
ALL GUARDRAIL MARKERS SHALL BE BI-DIRECTIONAL

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PLOT SCALE = 49.9999' / IN.	CHECKED -	REVISED -	SCALE: NONE			SHEET NO. 1 OF 2 SHEETS	STA. 16+75.00 TO STA. 24+00.00	FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT BRS-0211031	
PLOT DATE = 3/18/2010	DATE -	REVISED -								



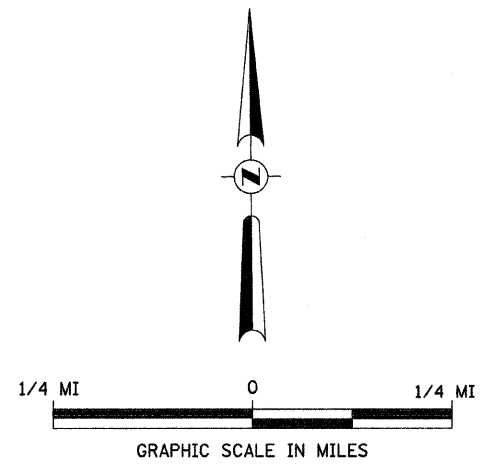


U.S. RTE. 52 R 5 E, 3rd PM



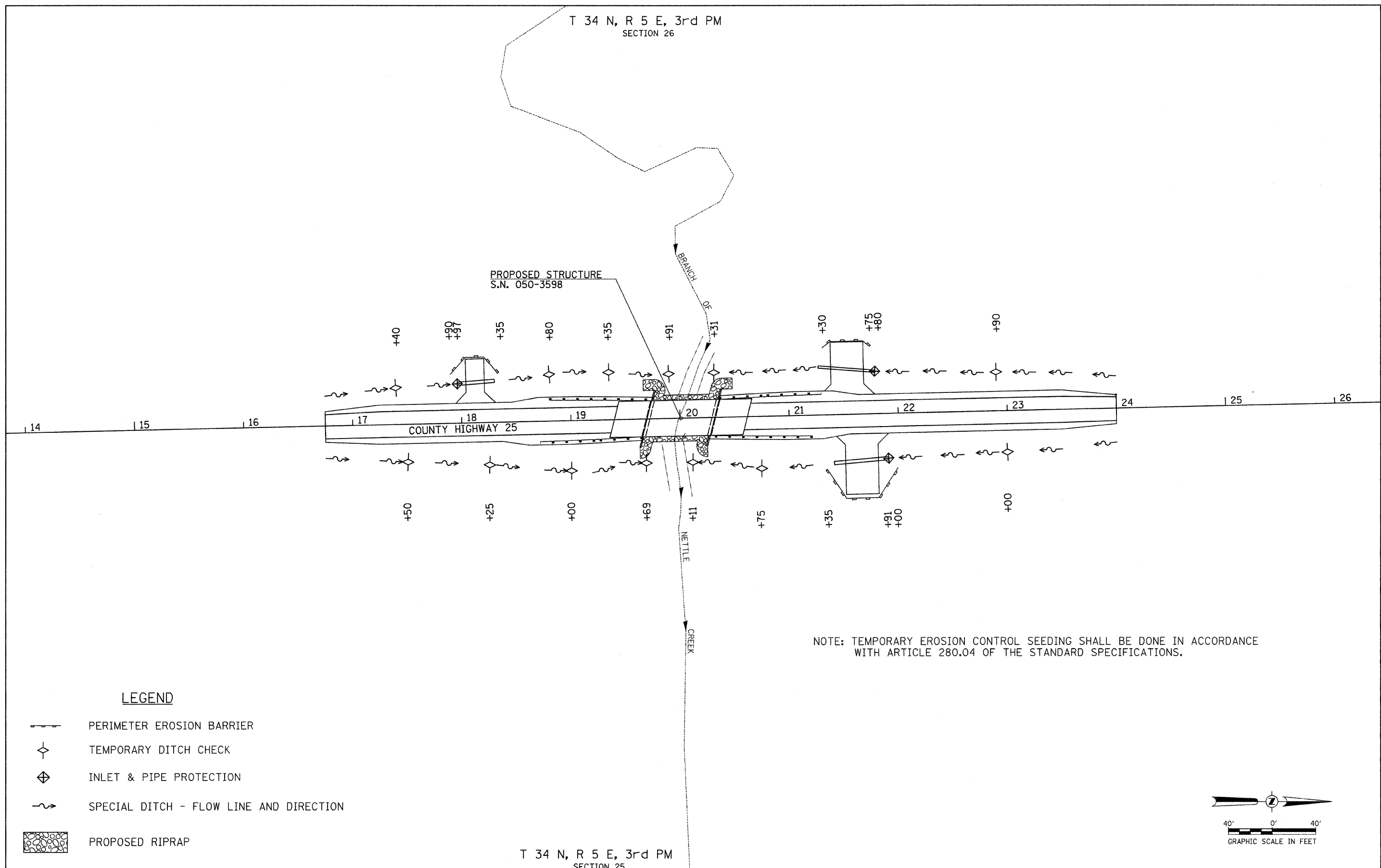
- |       |   |   |
|-------|---|---|
| 1     | ROAD CLOSED<br>6 3/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY | ROAD CLOSED<br>6 3/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY |
| R11-3 |   |   |
- |       |   |   |
|-------|---|---|
| 2     | ROAD CLOSED<br>4 1/2 MILE AHEAD<br>LOCAL TRAFFIC ONLY | ROAD CLOSED<br>4 1/2 MILE AHEAD<br>LOCAL TRAFFIC ONLY |
| R11-3 |   |   |
- |       |   |   |
|-------|---|---|
| 3     | ROAD CLOSED<br>3/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY | ROAD CLOSED<br>3/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY |
| R11-3 |   |   |
- |       |   |   |
|-------|---|---|
| 4     | ROAD CLOSED<br>1 1/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY | ROAD CLOSED<br>1 1/4 MILE AHEAD<br>LOCAL TRAFFIC ONLY |
| R11-3 |   |   |
- |       |                      |                      |
|-------|----------------------|----------------------|
| 5     | ROAD CLOSED<br>AHEAD | ROAD CLOSED<br>AHEAD |
| W20-3 |                      |                      |
- |       |                       |                       |
|-------|-----------------------|-----------------------|
| 6     | ROAD CLOSED<br>500 FT | ROAD CLOSED<br>500 FT |
| W20-3 |                       |                       |
- |   |                     |  |
|---|---------------------|--|
| 7 | TYPE III BARRICADES |  |
|---|---------------------|--|

SEE STANDARD BLR 21  
AND SPECIAL PROVISIONS



FILE NAME = V:\Bridge\2655-Lasalle\2655N001.dgn	USER NAME = othomas	DESIGNED -	REVISED -	<b>LASALLE COUNTY COUNTY HIGHWAY 25 OVER BRANCH OF NETTLE CREEK</b>	<b>TRAFFIC CONTROL PLAN</b>	SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. 16+75.00 TO STA. 24+00.00	F.A.S. RTE. 271	SECTION 09-00658-00-BR	COUNTY LASALLE	TOTAL SHEETS 39	SHEET NO. 5
PLOT SCALE = 1.0000' / IN.		CHECKED -	REVISED -	CONTRACT NO. 87451		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-0271(103)							
PLOT DATE = 3/18/2010		DATE -	REVISED -										

T 34 N, R 5 E, 3rd PM  
SECTION 26



PROPOSED STRUCTURE  
S.N. 050-3598

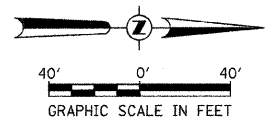
COUNTY HIGHWAY 25

BRANCH OF  
NETTLE  
CREEK

NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.

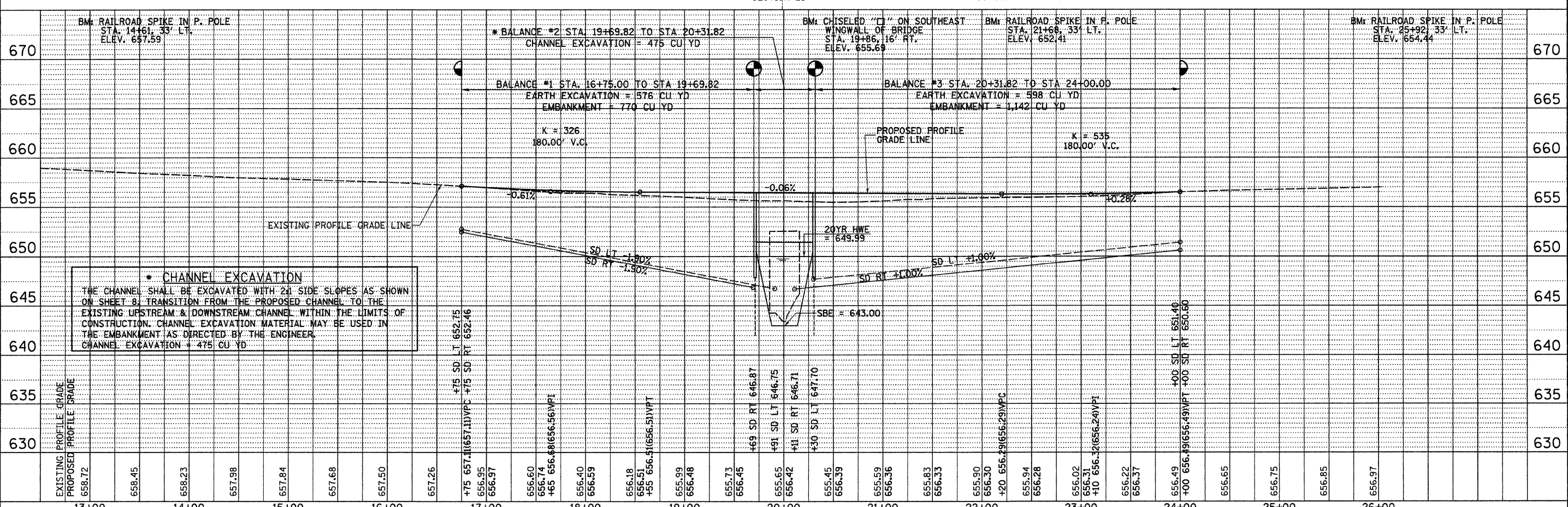
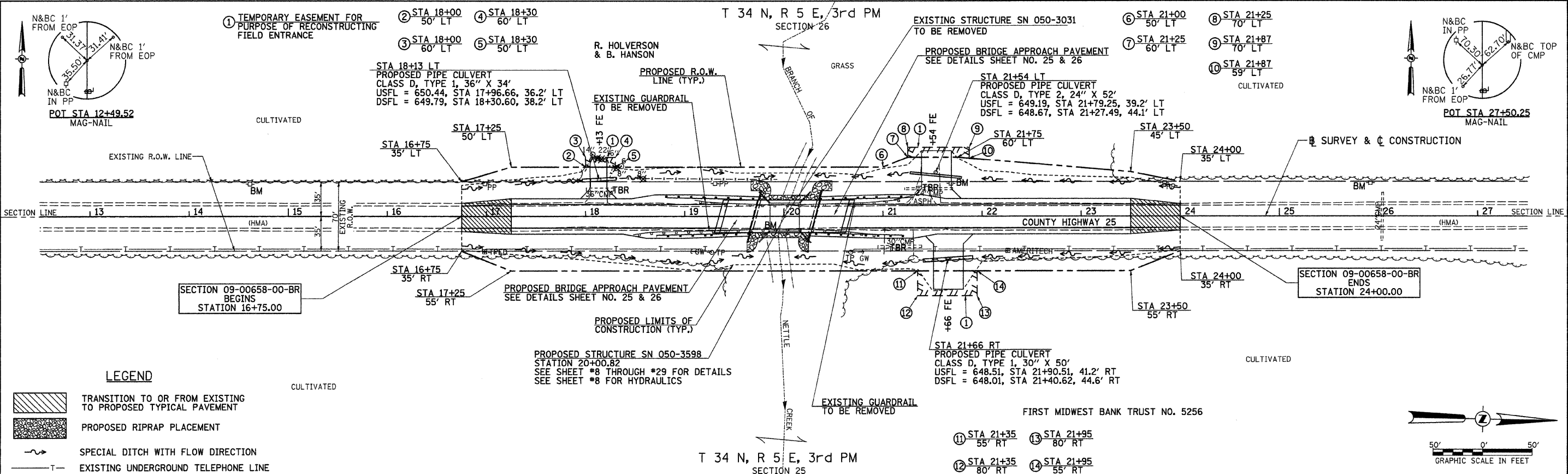
**LEGEND**

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK
- INLET & PIPE PROTECTION
- SPECIAL DITCH - FLOW LINE AND DIRECTION
- PROPOSED RIPRAP



T 34 N, R 5 E, 3rd PM  
SECTION 25

FILE NAME = V:\Bridges\2655-Lasalle\2655S001.dgn	USER NAME = othomas	DESIGNED -	REVISED -	<b>LASALLE COUNTY COUNTY HIGHWAY 25 OVER BRANCH OF NETTLE CREEK</b>	<b>STORM WATER POLLUTION PREVENTION PLAN</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	PLOT SCALE = 40,0000' / IN.	CHECKED -	REVISED -			271	09-00658-00-BR	LASALLE	39	6		
	PLOT DATE = 3/18/2010	DATE -	REVISED -			SCALE: 1" = 40'-0" SHEET NO. 1 OF 1 SHEETS STA. 16+75.00 TO STA. 24+00.00		CONTRACT NO. 87451				
						FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-02711031						



FILE NAME =	USER NAME = othomes	DESIGNED -	REVISED -	<b>LASALLE COUNTY COUNTY HIGHWAY 25 OVER BRANCH OF NETTLE CREEK</b>				<b>PLAN AND PROFILE</b>				F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
V:\Bridges\2655-LaSalle\2655P1.dgn		DRAWN -	REVISED -									271	09-00658-00-BR	LASALLE	39	7					
		CHECKED -	REVISED -									SCALE: 1"=50'				SHEET NO. 1 OF 1 SHEETS STA. 16+75.00 TO STA. 24+00.00				CONTRACT NO. 87451	
		DATE -	REVISED -									FED. ROAD DIST. NO. 7 ILLINOIS				FED. AID PROJECT BRS-0271(03)					

DATE	
BY	
PLAN	
NO.	
NO.	
NO.	
NO.	
NO.	

DATE	
BY	
PROFILE	
NO.	
NO.	
NO.	
NO.	
NO.	

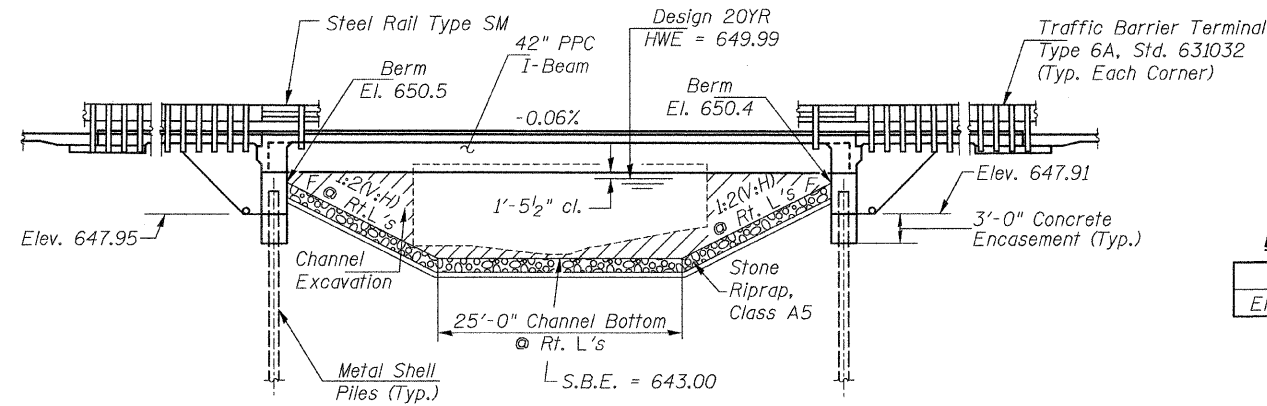
BM: Railroad Spike in Power Pole Sta. 14+61, 33' Lt. Elev. 657.59  
 BM: Railroad Spike in Power Pole Sta. 21+68, 33' Lt. Elev. 652.41

**Existing Structure:**

Single span RC slab on RC T-beam superstructure with single element concrete rail on curb. A steel WT rail has been added inside of the original concrete rail. The substructure consists of concrete closed abutments on untreated timber piles. The structure is 32'-0" back to back of abutments, 28'-4" out to out of deck, with a ±24' driving surface, and is not skewed. Str. No. 050-3031

Salvage: None

Road to be closed to traffic during construction.



**DESIGN SCOUR TABLE**

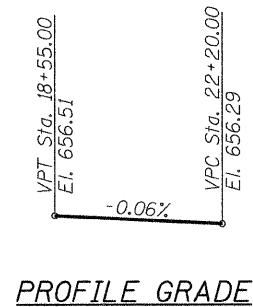
Location	S. Abut.	N. Abut.
Elevation (Ft.)	648.0	647.9

NOTE:  
 For Bill of Material and General Notes, See Shee 2 of 22.

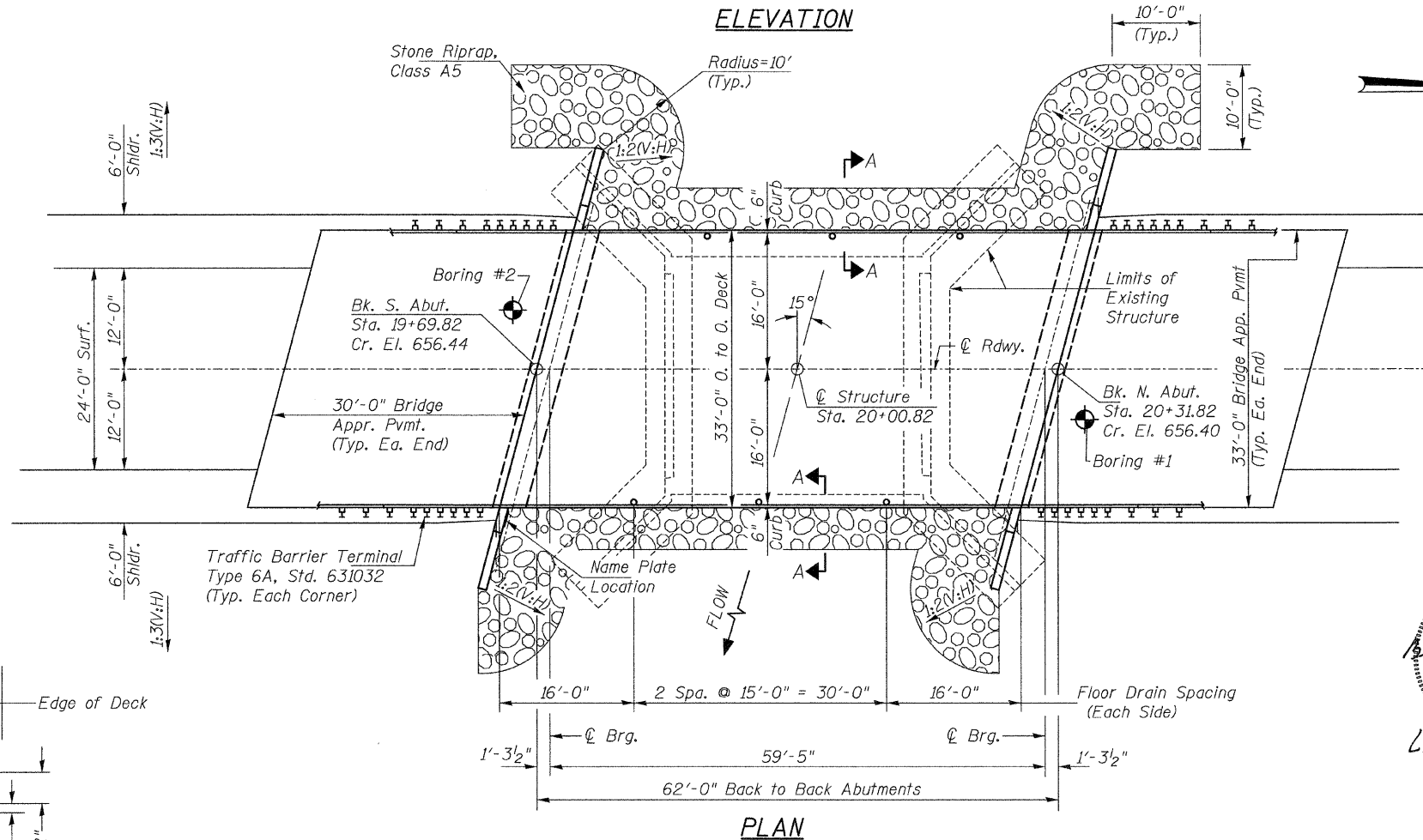
**BRANCH OF NETTLE CREEK  
 BUILT 2011 BY  
 LASALLE COUNTY  
 SEC. 09-00658-00-BR  
 C.H. 25 STATION 20+00.82  
 F.A. PROJ. BRS-0271(103)  
 STR. NO. 050-3598  
 LOADING HL-93 w/120,000 LB. TRUCK**

**NAME PLATE**

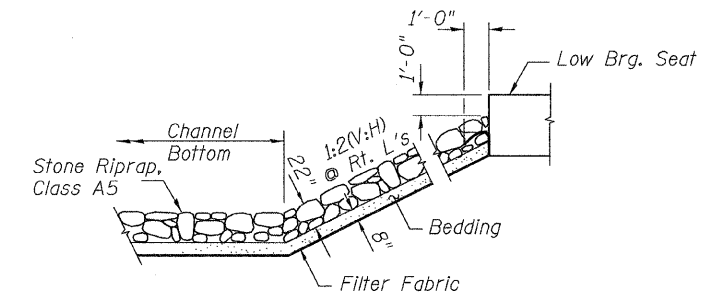
Locate Name Plate on Wingwall  
 S.E. Corner of Bridge (See Std. 515001)



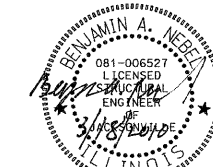
**PROFILE GRADE**



**PLAN**



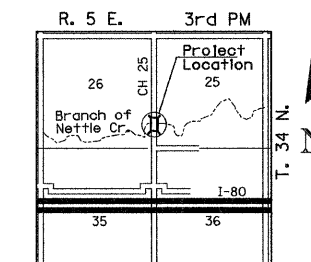
**STONE RIPRAP DETAIL**



Lic. Exp. 11/30/2010

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 LRFD Bridge Design Specifications.

*Benjamin A. Nebel* 3/14/2010  
 Illinois Structural No. 6527  
 Expires 11/30/2010



**LOCATION SKETCH**

**LOADING HL-93 w/ 120,000 lb. TRUCK**

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

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications  
 4th Edition with Interims

**DESIGN STRESSES**

**FIELD UNITS**

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

**PRECAST PRESTRESSED UNITS**

f'c = 6,000 p.s.i.  
 f'ci = 5,000 p.s.i.  
 f's = 270,000 p.s.i. (1/2" φ low relaxation strands)  
 f'si = 201,960 p.s.i. (1/2" φ low relaxation strands)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.07g  
 Design Spectral Acceleration at 0.2 sec. (SDS) = 0.13g  
 Soil Site Class = C

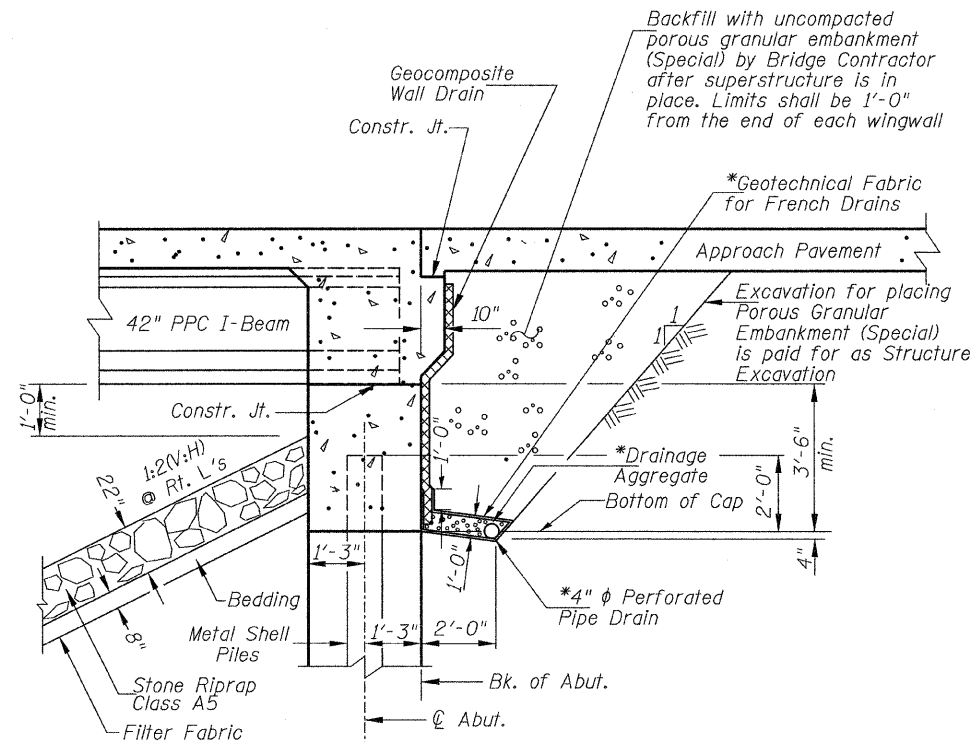
**WATERWAY INFORMATION**

Drainage Area = 7.65 Sq. Mi.		Low Grade Elev. = 656.28 @ Sta. 22+51.41					
Flood Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Headwater El. Prop.	
Design	20 752	161	272	649.99	0.09 0.00	650.08 649.99	
Base	100 1,060	173	296	650.42	0.28 0.00	650.70 650.42	

DESIGNED	B.A.N
CHECKED	J.O.H.
DRAWN	T.A.C.
CHECKED	B.A.N./J.E.H.

**GENERAL PLAN & ELEVATION**

SHEET NO. 1	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39
S.N. 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



\*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. Concrete headwalls included in cost of Pipe Underdrains for Structures. (See Article 601.05 of the Standard Specifications and Highway Standard 60110.1)

**SECTION THRU INTEGRAL ABUTMENTS**

(Horiz. dim. @ Rt. L's)

**GENERAL NOTES**

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60.

Reinforcement bars designated (E) shall be epoxy coated.

All embedded and separate bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

For Soil Boring Logs, see sheets 20 thru 22 of 22.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Protective Coat shall be applied to the top of the deck, approach pavement, and face and top of curbs.

Bridge Deck Grooving is figured 1'-0" from curb face and includes the approach pavements.

**TOTAL BILL OF MATERIAL**

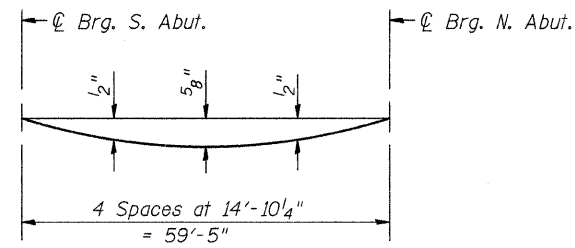
ITEM	UNIT	SUPER	SUB	TOTAL
① Removal of Existing Structures	EACH	—	—	1
Structure Excavation	CU YD	—	330	330
Channel Excavation	CU YD	—	475	475
Concrete Superstructure	CU YD	106.6	—	106.6
Concrete Structures	CU YD	—	32.4	32.4
Concrete Encasement	CU YD	—	6.4	6.4
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	FOOT	365	—	365
① Reinforcement Bars, Epoxy Coated	POUND	15,130	5,600	20,730
Stone Riprap, Class A5	SQ YD	—	355	355
① Filter Fabric	SQ YD	—	355	355
Steel Railing, Type SM	FOOT	124	—	124
Furnishing Metal Shell Piles 12"x0.250"	FOOT	—	600	600
① Driving Piles	FOOT	—	600	600
① Test Pile Metal Shells	EACH	—	2	2
Pile Shoes	EACH	—	14	14
Protective Coat	SQ YD	457	—	457
Bridge Deck Grooving	SQ YD	407	—	407
Name Plates	EACH	—	1	1
① Pipe Underdrains for Structures 4"	FOOT	—	140	140
Bridge Approach Pavement	SQ YD	—	220	220
① Porous Granular Embankment, Special	CU YD	—	135	135
Geocomposite Wall Drain	SQ YD	—	72	72
Bar Splicers	EACH	66	—	66
Floor Drains	EACH	6	—	6

① See Special Provisions

**GENERAL NOTES, DETAILS, AND BILL OF MATERIALS**

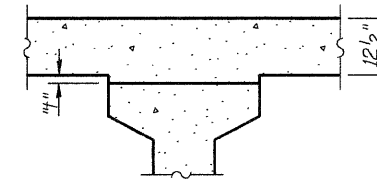
SHEET NO. 2	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	9
S.N. 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		





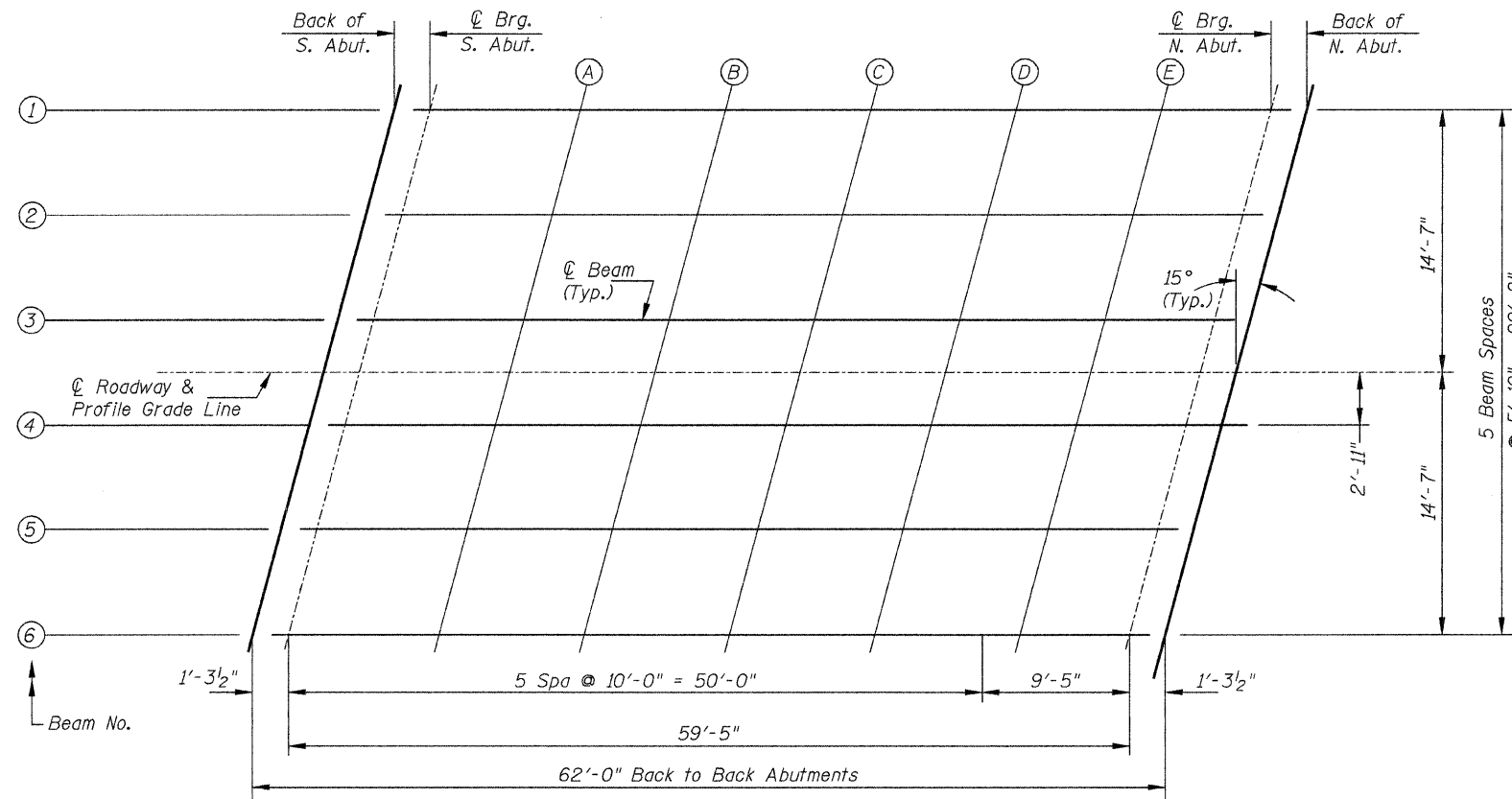
**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete, excluding beams).

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



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on Sh. 4 of 22, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN (DECK ELEVATIONS)**

**TOP OF SLAB ELEVATIONS**

SHEET NO. 3	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	10
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0271(103)		

**BEAM #1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1973.73	-14.58	656.20	656.20
CL Brg S. Abut.	1975.02	-14.58	656.20	656.20
A	1985.02	-14.58	656.19	656.22
B	1995.02	-14.58	656.18	656.23
C	2005.02	-14.58	656.18	656.23
D	2015.02	-14.58	656.17	656.22
E	2025.02	-14.58	656.17	656.19
CL Brg N. Abut.	2034.43	-14.58	656.16	656.16
Bk N. Abutment	2035.73	-14.58	656.16	656.16

**BEAM #2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1972.16	-8.75	656.30	656.30
CL Brg S. Abut.	1973.46	-8.75	656.30	656.30
A	1983.46	-8.75	656.30	656.32
B	1993.46	-8.75	656.29	656.34
C	2003.46	-8.75	656.28	656.34
D	2013.46	-8.75	656.28	656.32
E	2023.46	-8.75	656.27	656.30
CL Brg N. Abut.	2032.87	-8.75	656.27	656.27
Bk N. Abutment	2034.16	-8.75	656.27	656.27

**BEAM #3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1970.60	-2.92	656.39	656.39
CL Brg S. Abut.	1971.90	-2.92	656.39	656.39
A	1981.90	-2.92	656.39	656.41
B	1991.90	-2.92	656.38	656.43
C	2001.90	-2.92	656.38	656.43
D	2011.90	-2.92	656.37	656.42
E	2021.90	-2.92	656.36	656.39
CL Brg N. Abut.	2031.31	-2.92	656.36	656.36
Bk N. Abutment	2032.60	-2.92	656.36	656.36

**ROADWAY AND PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1969.82	0.00	656.44	656.44
CL Brg S. Abut.	1971.11	0.00	656.44	656.44
A	1981.11	0.00	656.43	656.46
B	1991.11	0.00	656.43	656.47
C	2001.11	0.00	656.42	656.48
D	2011.11	0.00	656.42	656.46
E	2021.11	0.00	656.41	656.44
CL Brg N. Abut.	2030.53	0.00	656.40	656.40
Bk N. Abutment	2031.82	0.00	656.40	656.40

**BEAM #4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1969.04	2.92	656.39	656.39
CL Brg S. Abut.	1970.33	2.92	656.39	656.39
A	1980.33	2.92	656.39	656.42
B	1990.33	2.92	656.38	656.43
C	2000.33	2.92	656.38	656.43
D	2010.33	2.92	656.37	656.42
E	2020.33	2.92	656.36	656.39
CL Brg N. Abut.	2029.74	2.92	656.36	656.36
Bk N. Abutment	2031.04	2.92	656.36	656.36

**BEAM #5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1967.48	8.75	656.30	656.30
CL Brg S. Abut.	1968.77	8.75	656.30	656.30
A	1978.77	8.75	656.30	656.33
B	1988.77	8.75	656.29	656.34
C	1998.77	8.75	656.29	656.34
D	2008.77	8.75	656.28	656.33
E	2018.77	8.75	656.27	656.30
CL Brg N. Abut.	2028.18	8.75	656.27	656.27
Bk N. Abutment	2029.48	8.75	656.27	656.27

**BEAM #6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflections
Bk S. Abutment	1965.91	14.58	656.20	656.20
CL Brg S. Abut.	1967.21	14.58	656.20	656.20
A	1977.21	14.58	656.19	656.22
B	1987.21	14.58	656.19	656.24
C	1997.21	14.58	656.18	656.24
D	2007.21	14.58	656.18	656.22
E	2017.21	14.58	656.17	656.20
CL Brg N. Abut.	2026.62	14.58	656.17	656.17
Bk N. Abutment	2027.91	14.58	656.16	656.16

**TOP OF SLAB ELEVATIONS**

SHEET NO. 4 22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	11
	SN 050-3598		CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

WEST CURB LINE OF APPROACH PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvm't.	1944.11	-16.00	656.18
A	1954.11	-16.00	656.18
B	1964.11	-16.00	656.17
Bk S. Abutment	1974.11	-16.00	656.17

WEST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvm't.	1943.04	-12.00	656.27
A	1953.04	-12.00	656.26
B	1963.04	-12.00	656.26
Bk S. Abutment	1973.04	-12.00	656.25

Ⓞ ROADWAY & PROFILE GRADE

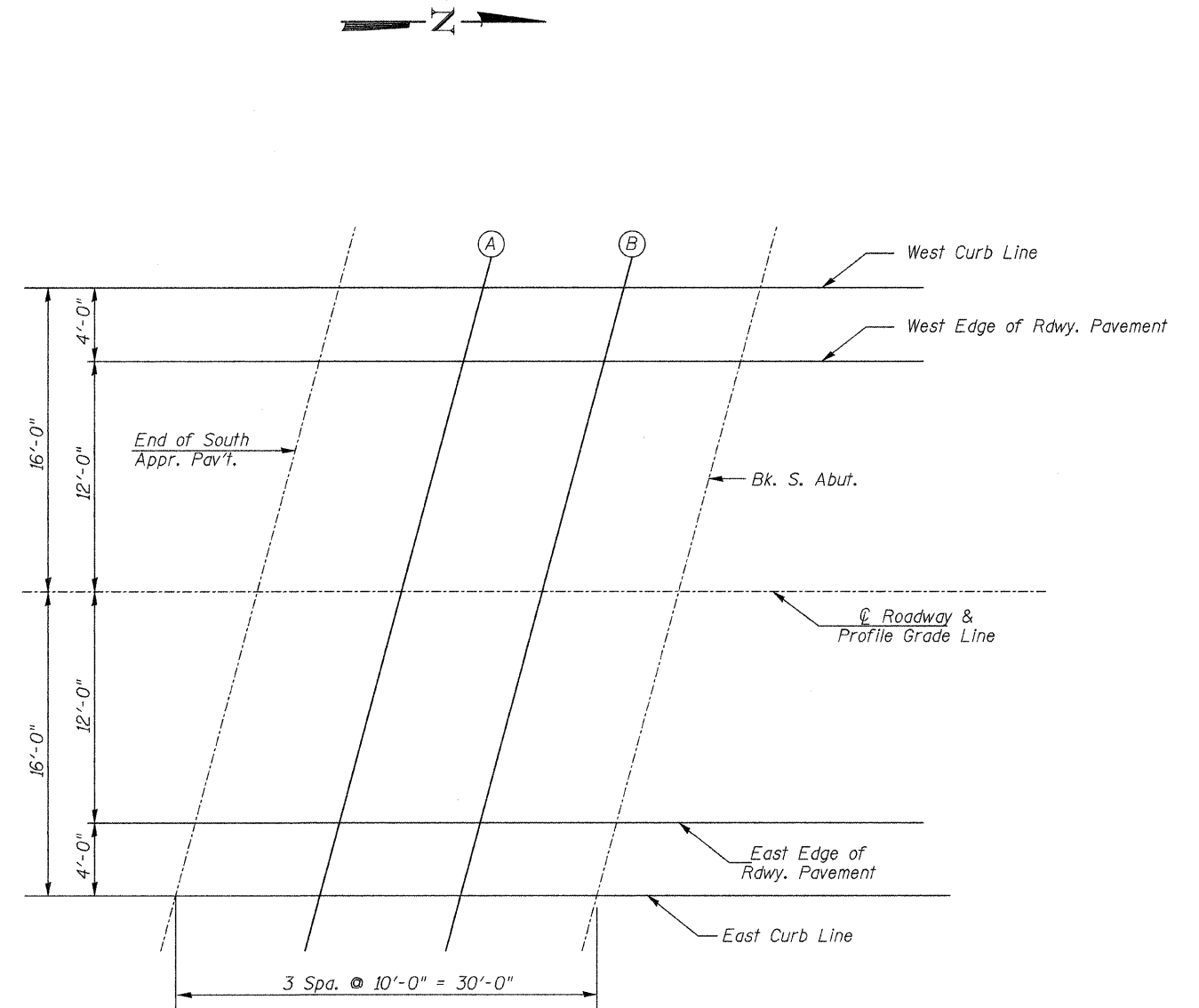
Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvm't.	1939.82	0.00	656.46
A	1949.82	0.00	656.45
B	1959.82	0.00	656.45
Bk S. Abutment	1969.82	0.00	656.44

EAST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvm't.	1936.60	12.00	656.27
A	1946.60	12.00	656.27
B	1956.60	12.00	656.26
Bk S. Abutment	1966.60	12.00	656.25

EAST CURB LINE OF APPROACH PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End S. App. Pvm't.	1935.53	16.00	656.19
A	1945.53	16.00	656.18
B	1955.53	16.00	656.18
Bk S. Abutment	1965.53	16.00	656.17



PLAN SOUTH APPROACH PAVEMENT

TOP OF SOUTH APPROACH PAVEMENT ELEVATIONS

SHEET NO. 5	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	12
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

WEST CURB LINE OF APPROACH PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk N. Abutment	2036.11	-16.00	656.13
A	2046.11	-16.00	656.12
B	2056.11	-16.00	656.12
End N. App. Pvmt.	2066.11	-16.00	656.11

WEST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk N. Abutment	2035.04	-12.00	656.21
A	2045.04	-12.00	656.21
B	2055.04	-12.00	656.20
End N. App. Pvmt.	2065.04	-12.00	656.20

Ⓞ ROADWAY & PROFILE GRADE

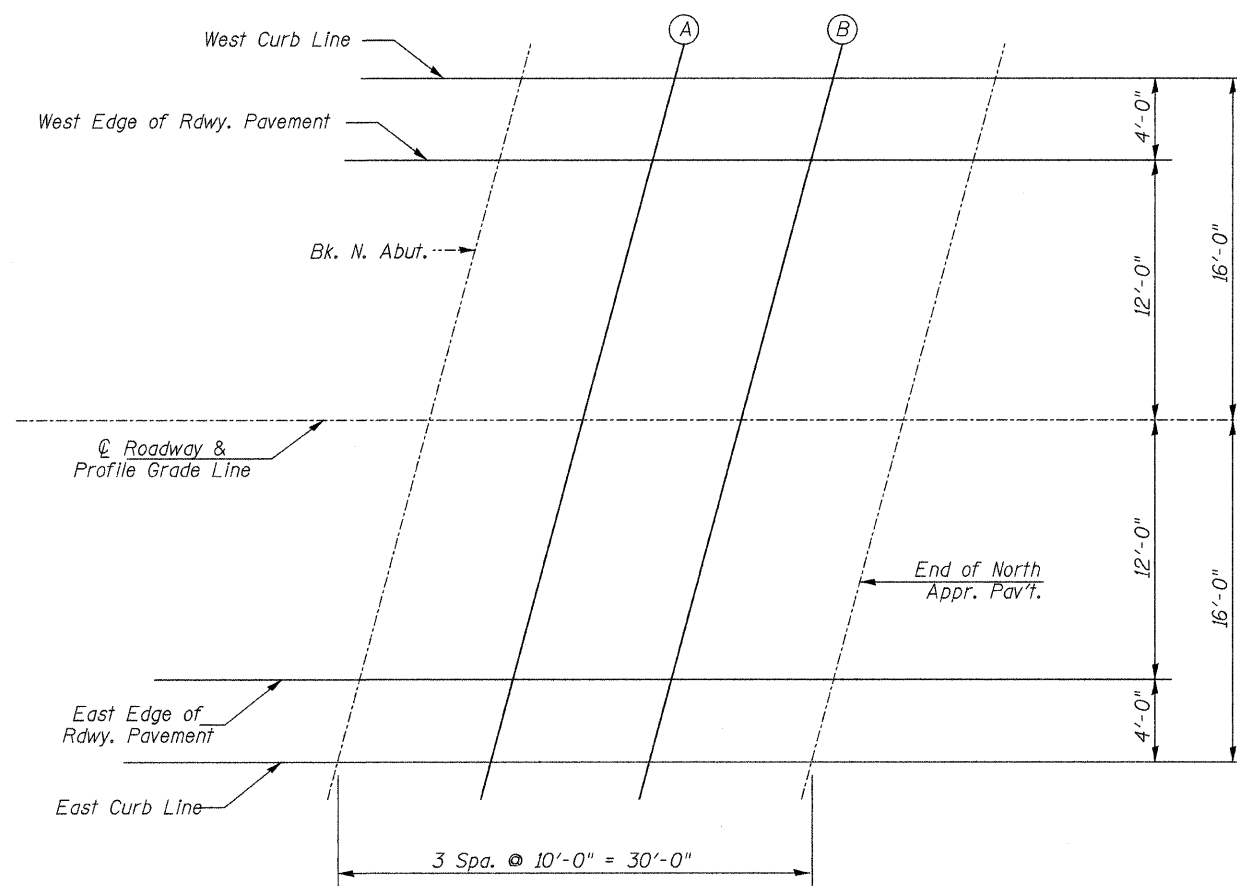
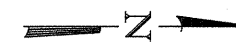
Location	Station	Offset	Theoretical Grade Elevations
Bk N. Abutment	2031.82	0.00	656.40
A	2041.82	0.00	656.40
B	2051.82	0.00	656.39
End N. App. Pvmt.	2061.82	0.00	656.39

EAST EDGE OF ROADWAY PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk N. Abutment	2028.60	12.00	656.22
A	2038.60	12.00	656.21
B	2048.60	12.00	656.21
End N. App. Pvmt.	2058.60	12.00	656.20

EAST CURB LINE OF APPROACH PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk N. Abutment	2027.53	16.00	656.14
A	2037.53	16.00	656.13
B	2047.53	16.00	656.12
End N. App. Pvmt.	2057.53	16.00	656.12

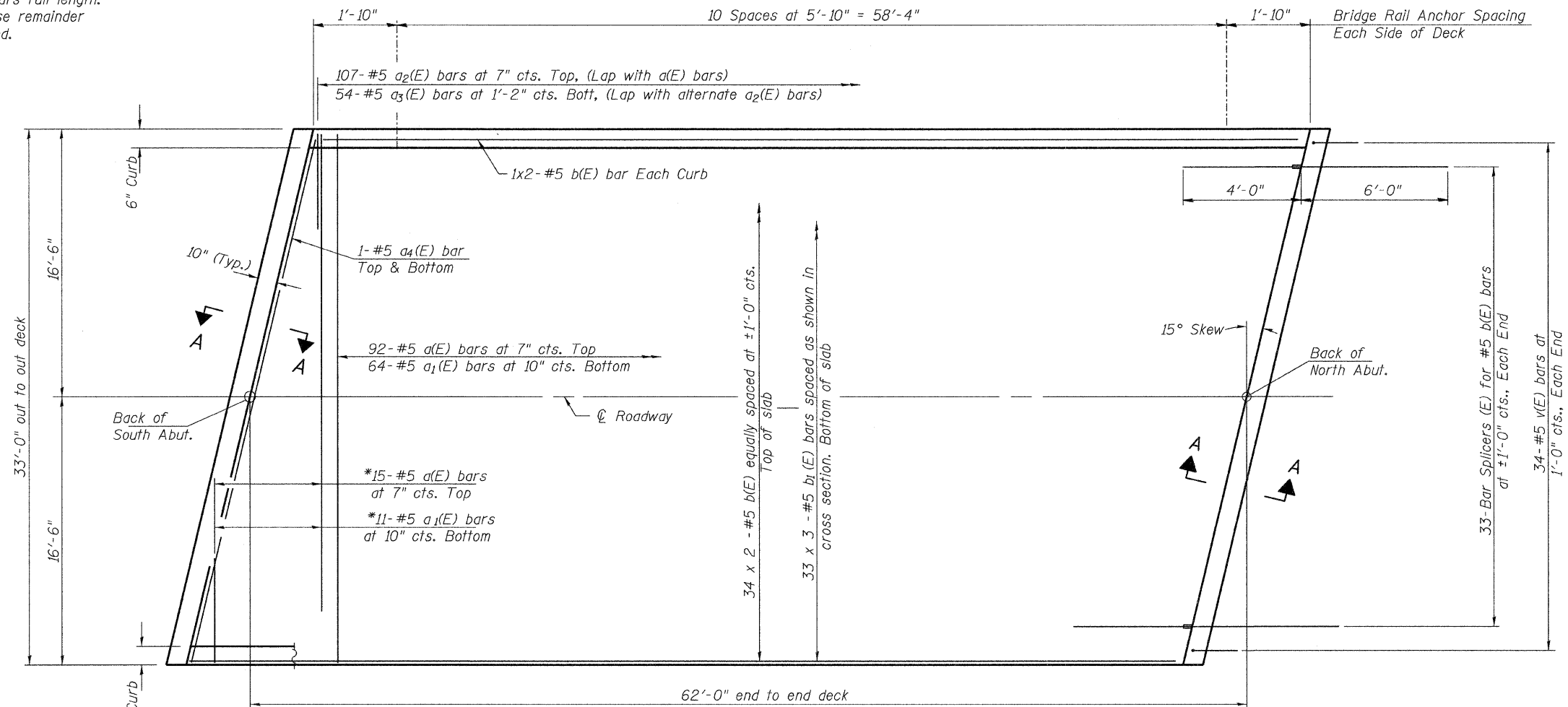


PLAN NORTH APPROACH PAVEMENT

TOP OF NORTH APPROACH PAVEMENT ELEVATIONS

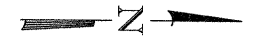
SHEET NO. 6	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	13
22 SHEETS	SN 050-3598		CONTRACT NO. 87451		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0271(103)		

\*Order a(E) & a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.

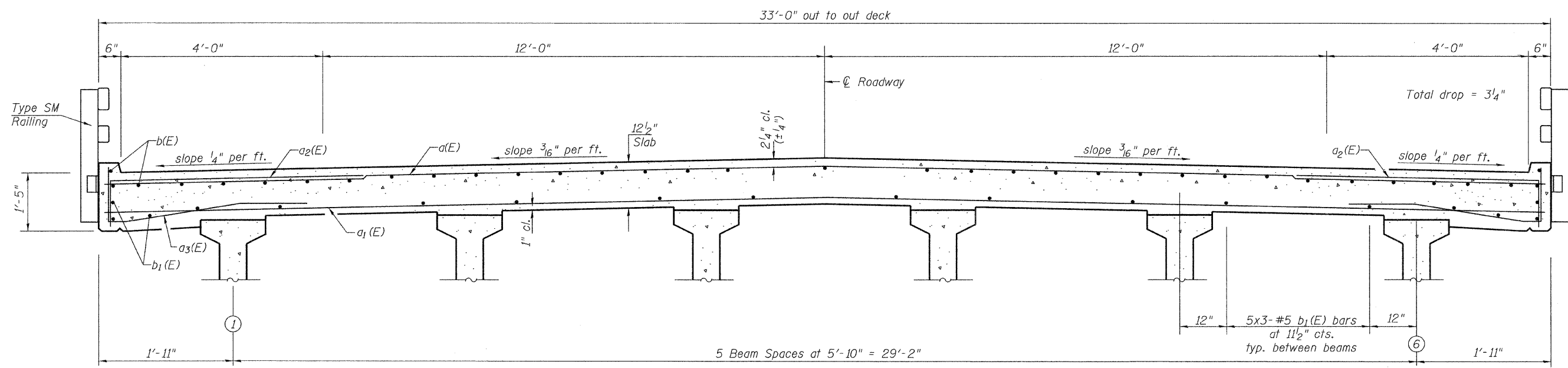


PLAN

Notes:  
See sheet 8 of 22 for superstructure details,  
and Bill of Material.  
Bars indicated thus 37 x 5-#5 etc. indicates  
37 lines of bars with 5 lengths per line.  
See sheet 9 of 22 for Section A-A &  
Diaphragm Details.



MIN. BAR LAP  
#5 = 1'-8"

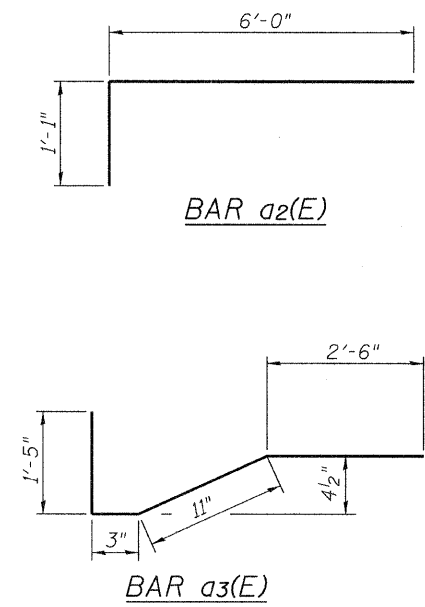
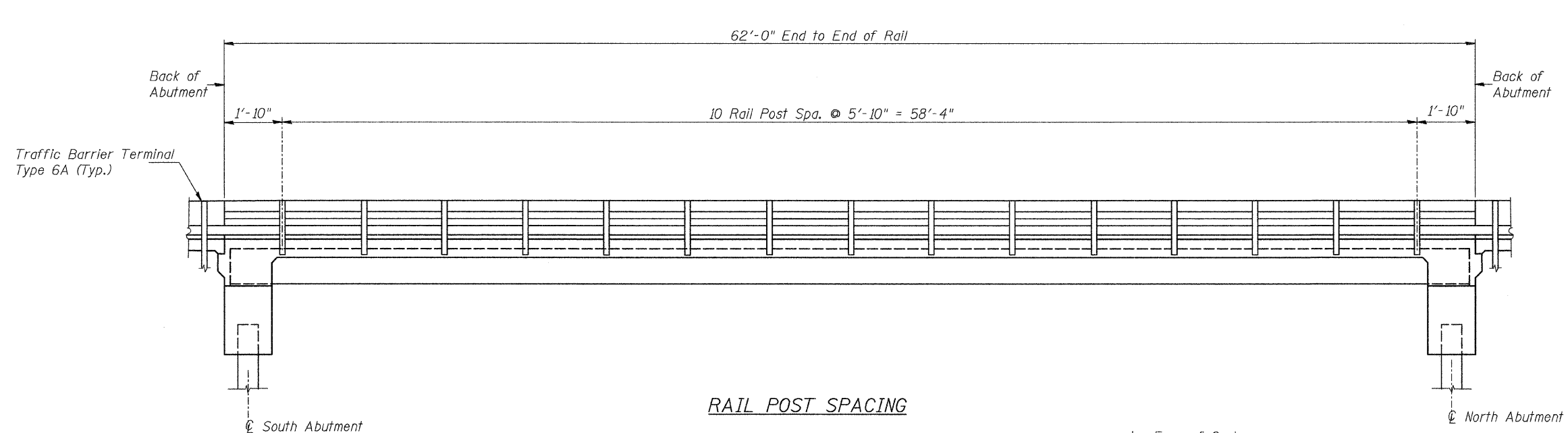


CROSS SECTION  
(Looking North)

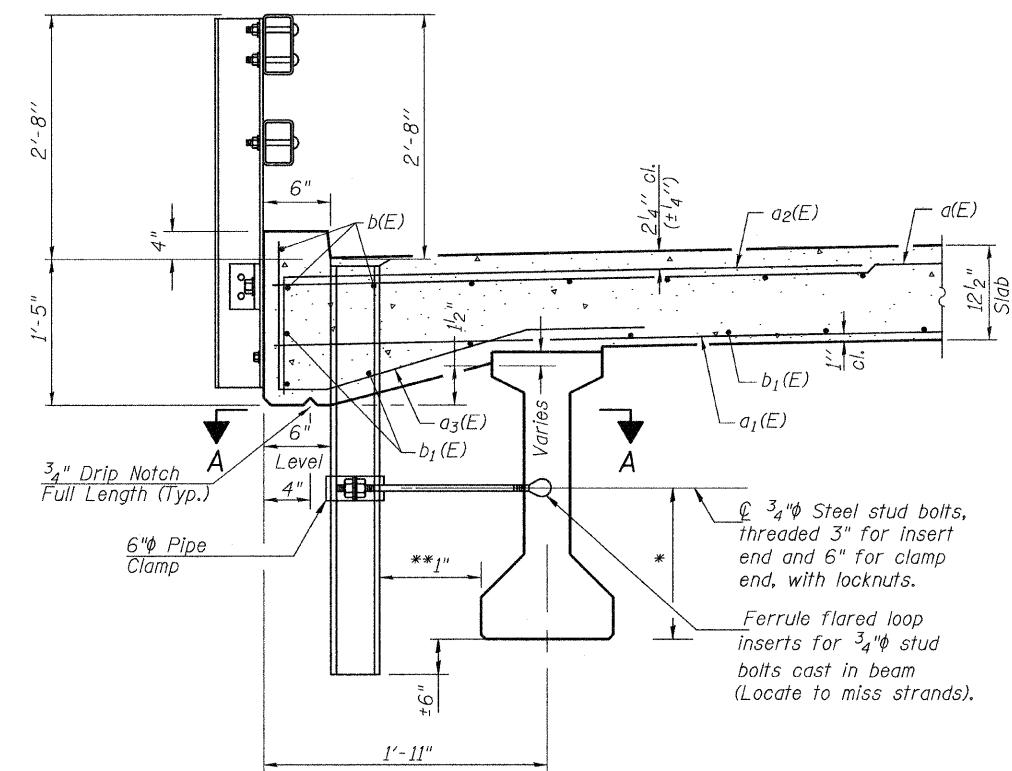
SUPERSTRUCTURE

SHEET NO. 7 22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	14
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		





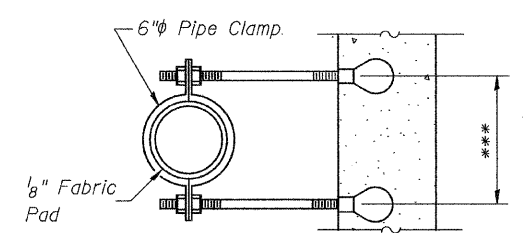
RAIL POST SPACING



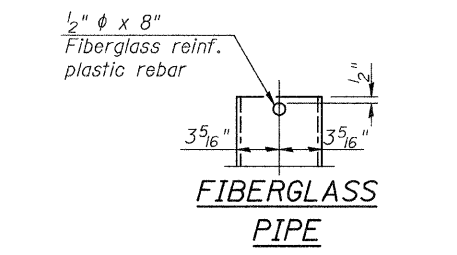
\* For insert locations See sheet 12 of 22.  
 \*\* Tilt Floor Drain as necessary to maintain clearance.

SECTION THRU PARAPET  
 See Sheet 10 of 22 for Rail Post Anchor Details

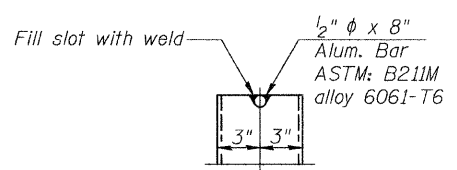
Notes:  
 Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
 The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.  
 The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device and galvanizing included with Floor Drains.



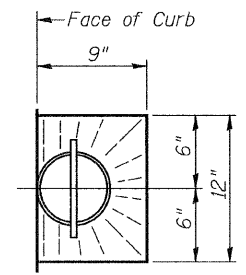
SECTION A-A  
 \*\*\*Dimension as required by Pipe Clamp



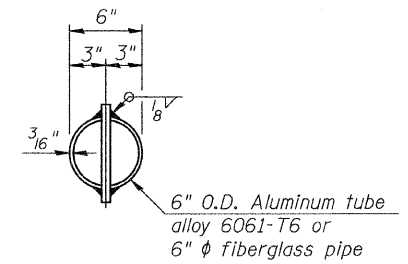
FIBERGLASS PIPE



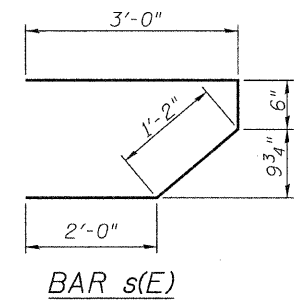
ALUMINUM TUBE



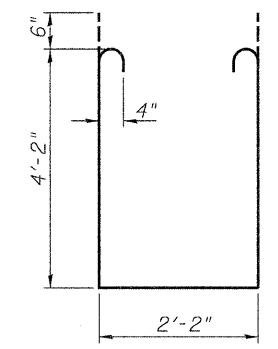
TOP PLAN



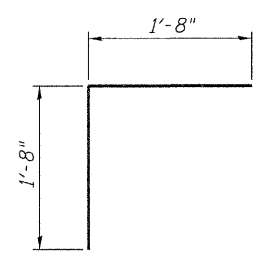
TOP PLAN (Showing aluminum tube)



BAR s(E)



BAR s1(E)



BAR v(E)

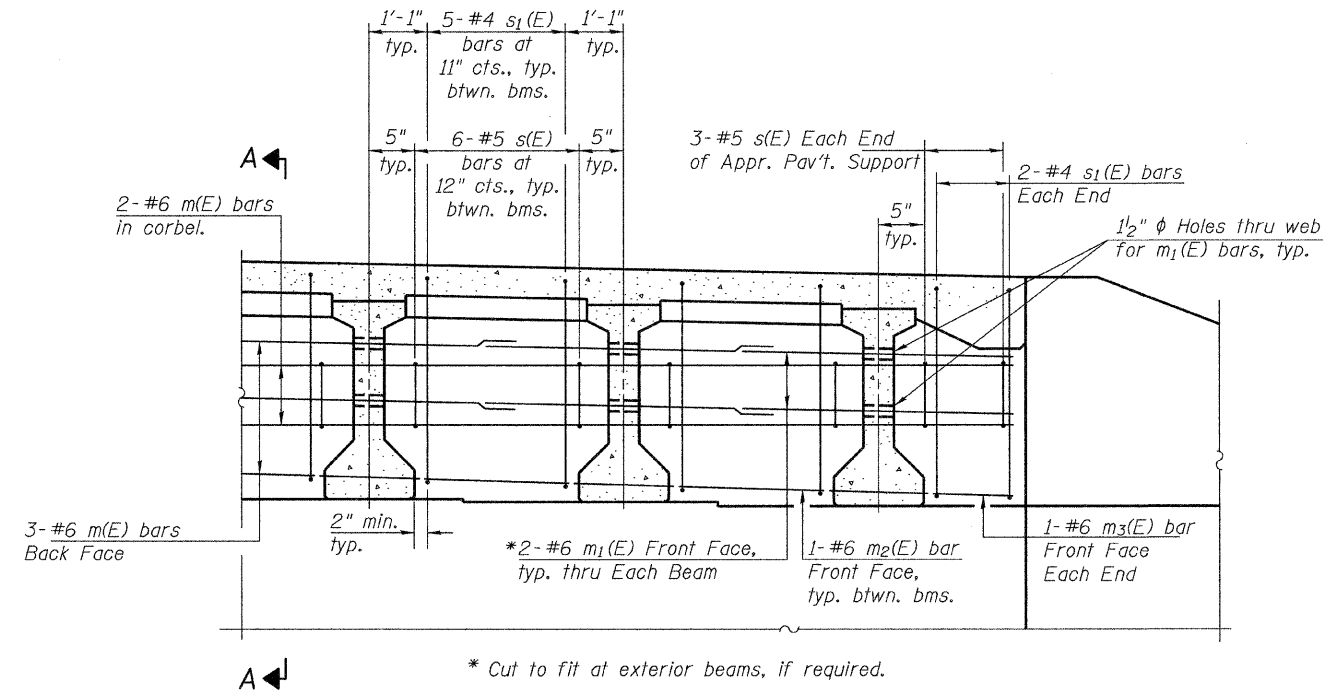
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	107	#5	32'-9"	—
a1(E)	75	#5	31'-9"	—
a2(E)	214	#5	7'-1"	—
a3(E)	108	#5	5'-1"	—
a4(E)	4	#5	33'-8"	—
b(E)	72	#5	31'-9"	—
b1(E)	99	#5	21'-9"	—
m(E)	10	#6	33'-9"	—
m1(E)	24	#6	8'-10"	—
m2(E)	10	#6	3'-9"	—
m3(E)	4	#6	9"	—
s(E)	72	#5	6'-8"	—
s1(E)	58	#4	11'-6"	—
v(E)	68	#5	3'-4"	—
① Reinforcement Bars, Epoxy Coated			Pound	15,130
Concrete Superstructure			Cu. Yd.	106.6

① See Special Provisions

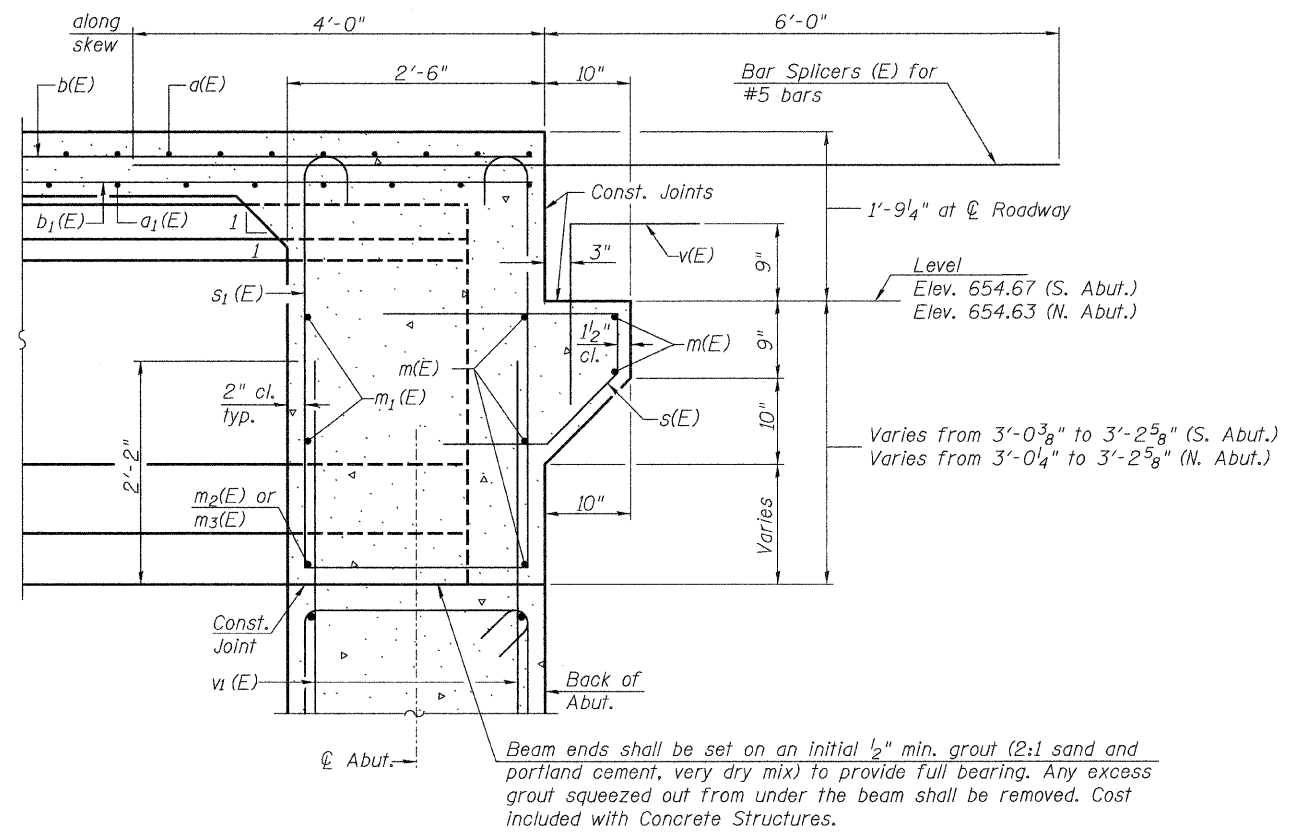
SUPERSTRUCTURE DETAILS

SHEET NO. 8	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	15
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



**DIAPHRAGM ELEVATION AT ABUTMENT**

**Notes:**  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 22.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 22.  
 The s(E) and s1(E) bars shall be placed parallel to beams. Spacing for these bars shall be at right angles to beams.  
 For details of bars s(E) and s1(E) see sheet 8 of 22.  
 For placement of v(E) bars see sheet 14 and 15 of 22.



**SECTION A-A**

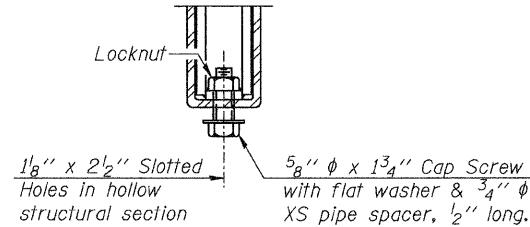
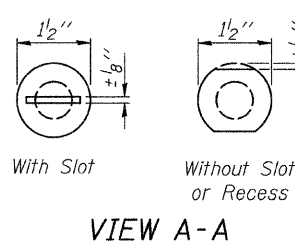
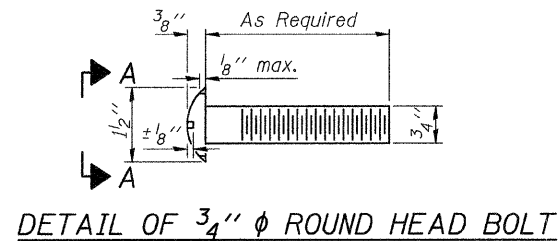
Dimensions at right angles to abutment, except as shown.

**MIN. BAR LAP**  
 #6 bar = 2'-9"

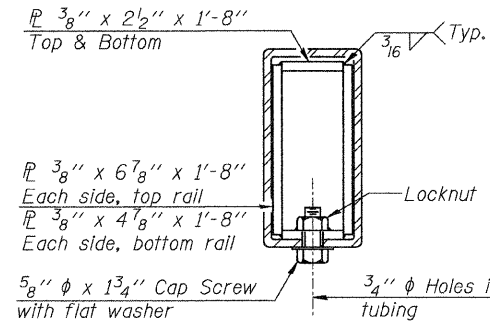
**DIAPHRAGM DETAILS**

SHEET NO. 9	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	16
22 SHEETS	SN 050-3598		CONTRACT NO. 87451		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0271(103)		

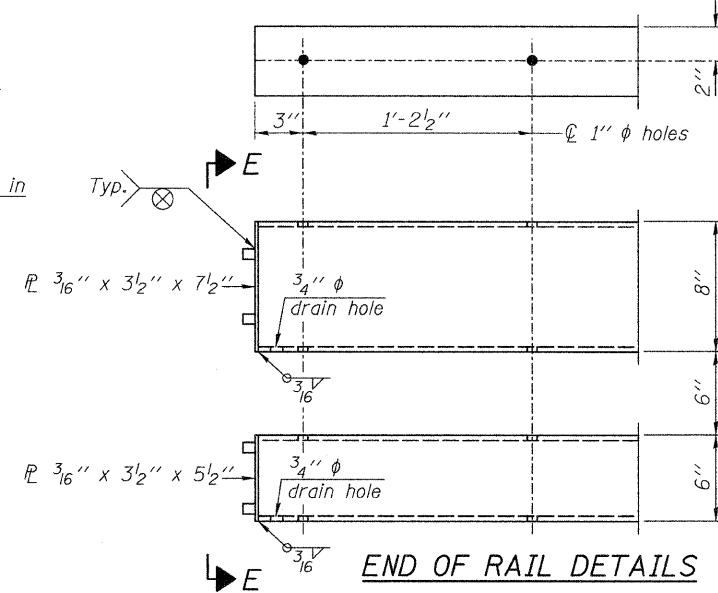
FOR RAIL POST SPACING SEE SH.#8 OF 22.



RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL SPLICE



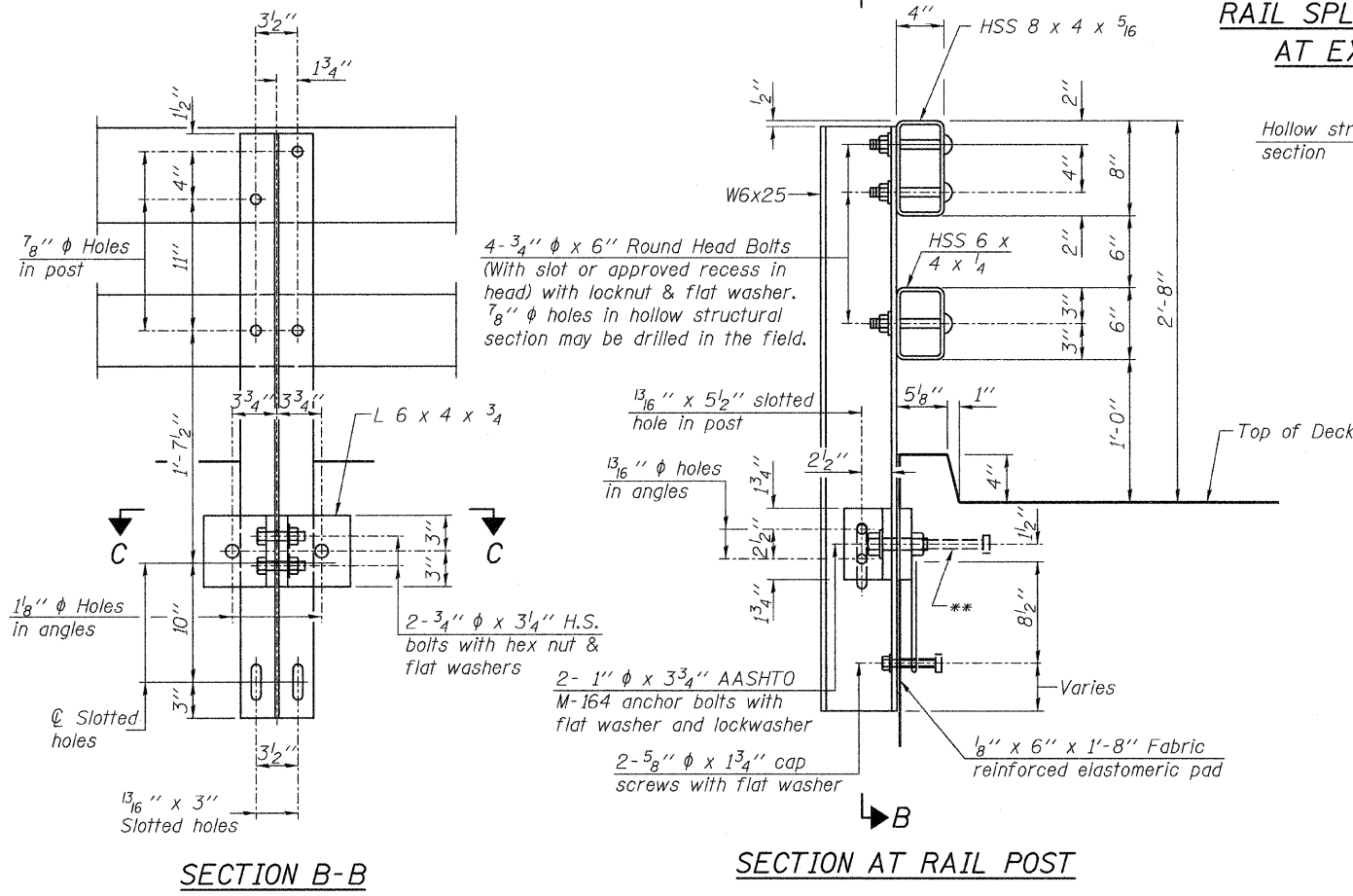
Notes:

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient  $\frac{1}{4}$ " x  $6$ " x  $1'-2$ " galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.

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

\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



SECTION B-B

SECTION AT RAIL POST

VIEW D-D

VIEW E-E

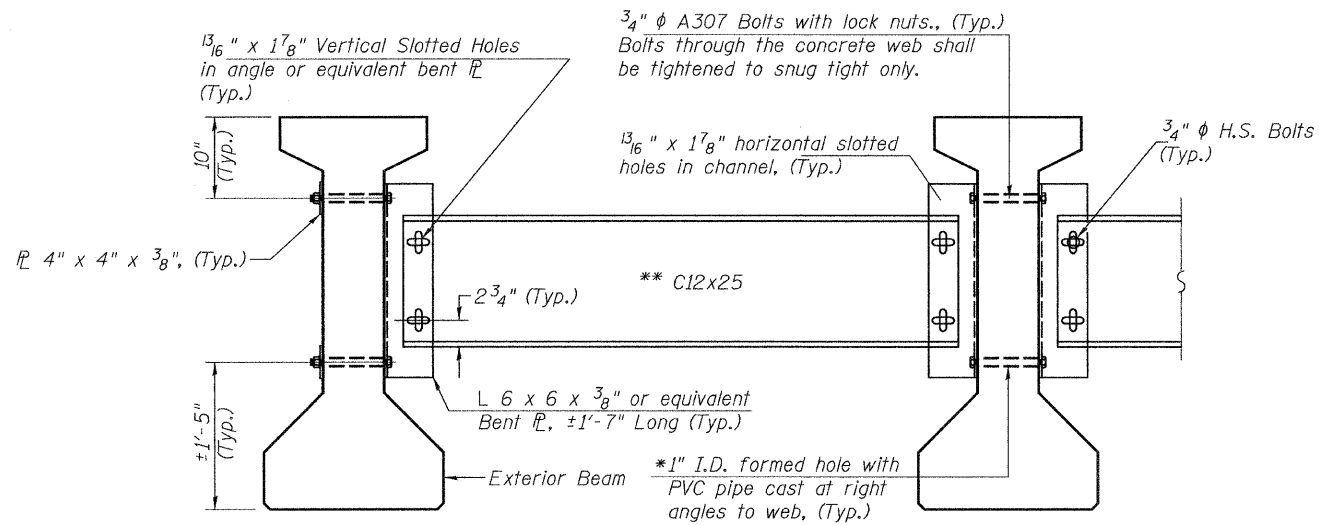
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	124

STEEL RAILING TYPE SM, WITH CONCRETE CURB

SHEET NO. 10	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	17
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

\* Threaded areas shall be plugged or blocked off during pouring of deck. Galvanized after fabrication.



**Notes:**

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16 inch diameter unless otherwise noted.

5/16 inch x 3 inch x 3 inch plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

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

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

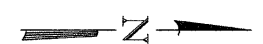
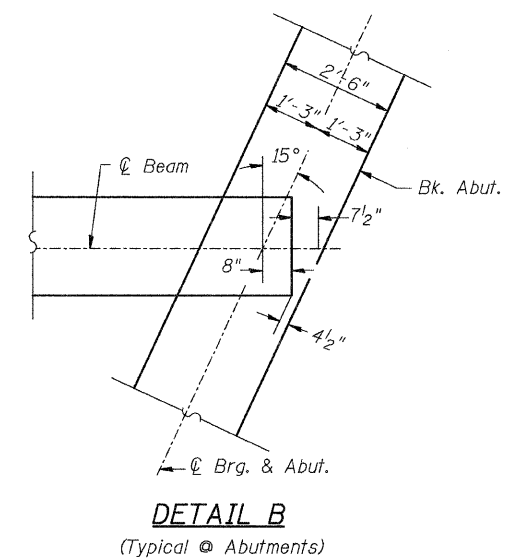
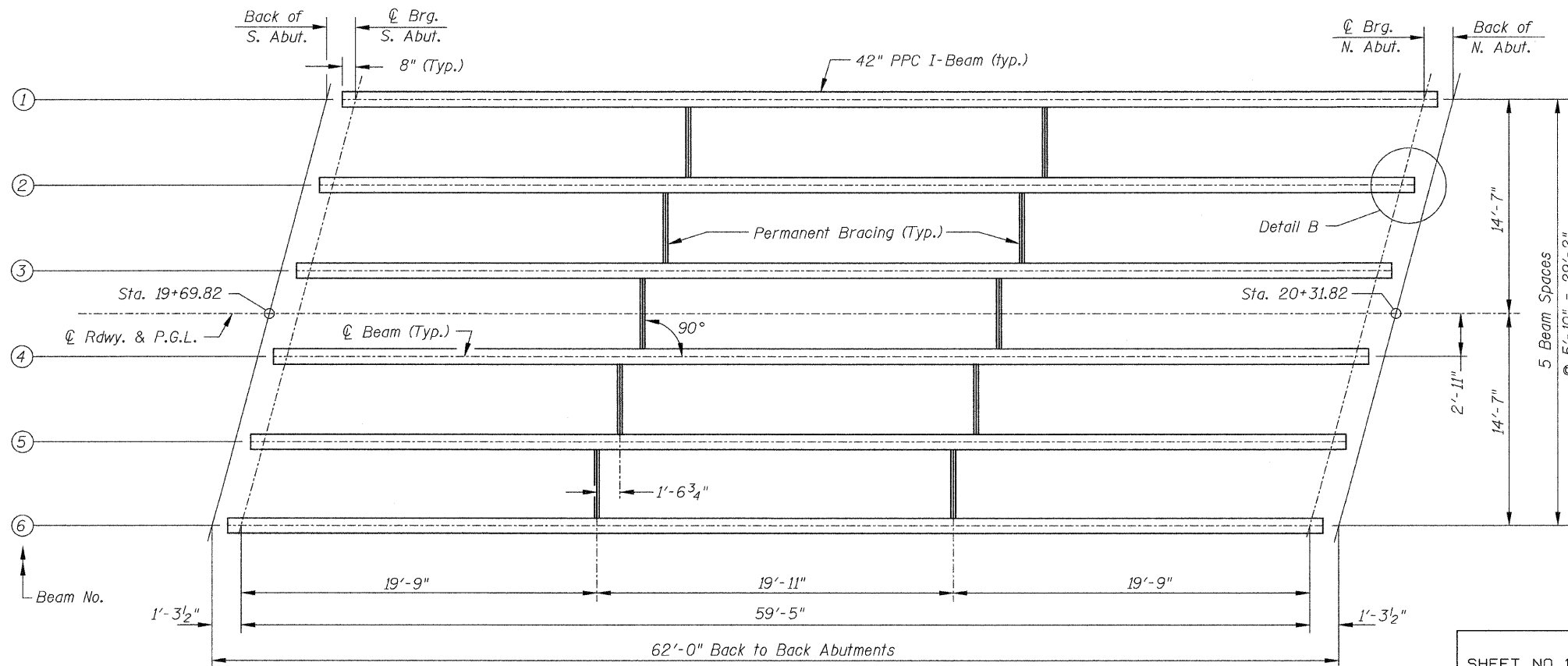
- I: Non-composite moment of inertia of beam section (in.<sup>4</sup>).
- I': Composite moment of inertia of beam section (in.<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- 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<sub>L + Imp</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp. 1
I	(in <sup>4</sup> )	90,956
I'	(in <sup>4</sup> )	356,217
S <sub>b</sub>	(in <sup>3</sup> )	5,153
S <sub>b</sub> '	(in <sup>3</sup> )	9,977
S <sub>t</sub>	(in <sup>3</sup> )	3,736
S <sub>t</sub> '	(in <sup>3</sup> )	56,572
DC1	(k/ft)	1.45
M <sub>DC1</sub>	(k)	638
DC2	(k/ft)	0.03
M <sub>DC2</sub>	(k)	15
DW	(k/ft)	0.29
M <sub>DW</sub>	(k)	129
M <sub>L + Imp</sub>	(k)	1,209

INTERIOR BEAM REACTION TABLE		
		Aabut.
R <sub>DC1</sub>	(k)	44.8
R <sub>DC2</sub>	(k)	1.0
R <sub>DW</sub>	(k)	9.1
R <sub>L + Imp</sub>	(k)	106.3
R <sub>Total</sub>	(k)	161.2

**PERMANENT BRACING DETAILS**

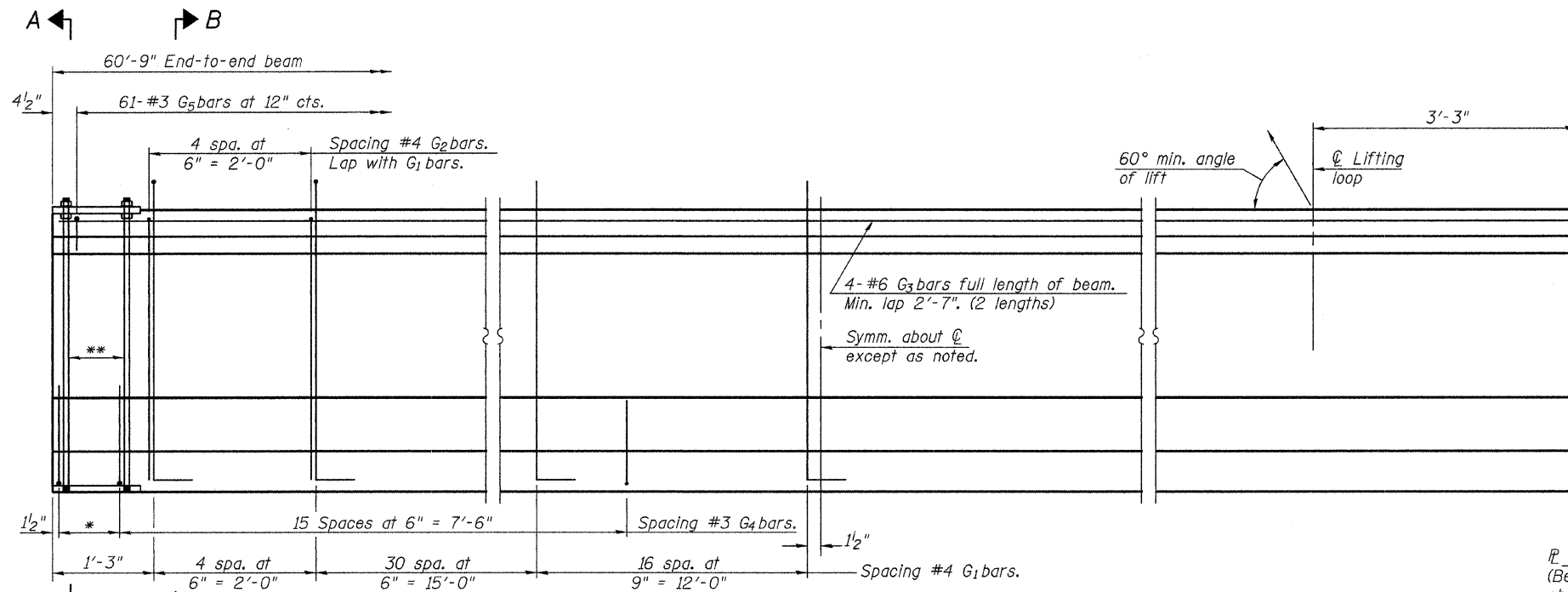
Permanent bracing shall not be paid for separately but shall be included with Furnishing and Erecting Precast Prestressed I-Beams, 42".



**FRAMING PLAN**

**FRAMING PLAN**

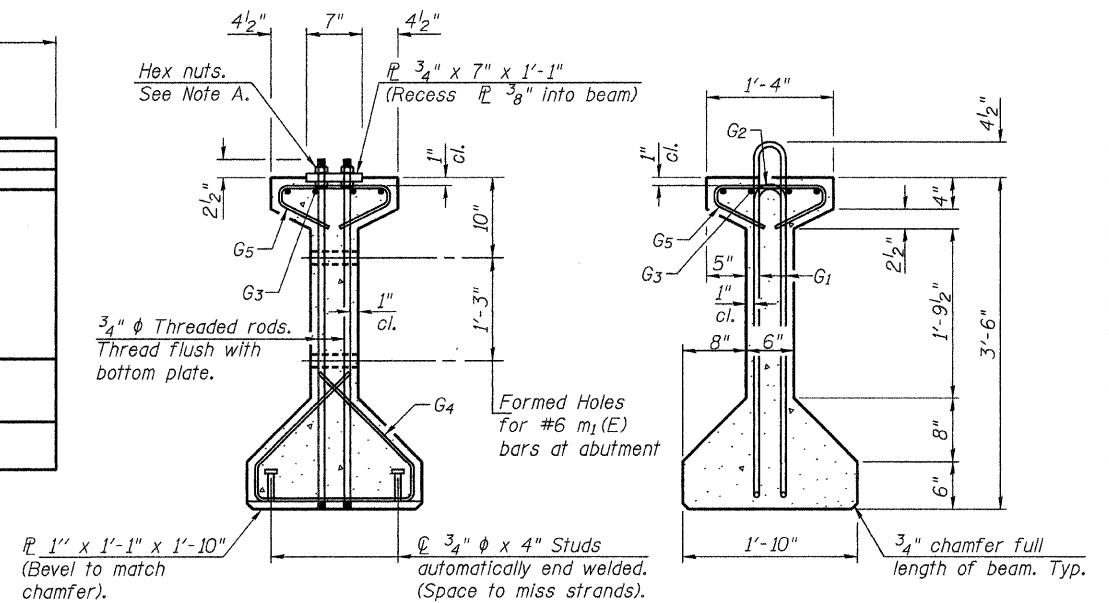
SHEET NO. 11 22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	18
	SN 050-3598		CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



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

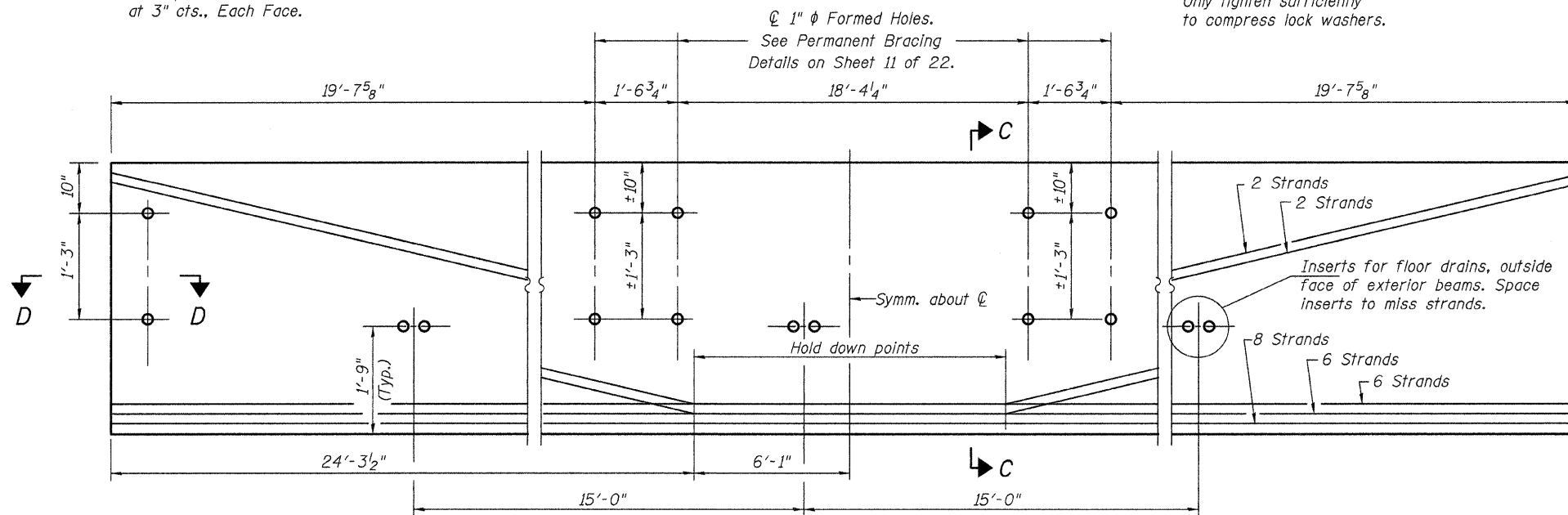
\*3 spaces at 3" = 9".  
\*\*4-3/4" φ threaded dowel rods at 3" cts., Each Face.

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

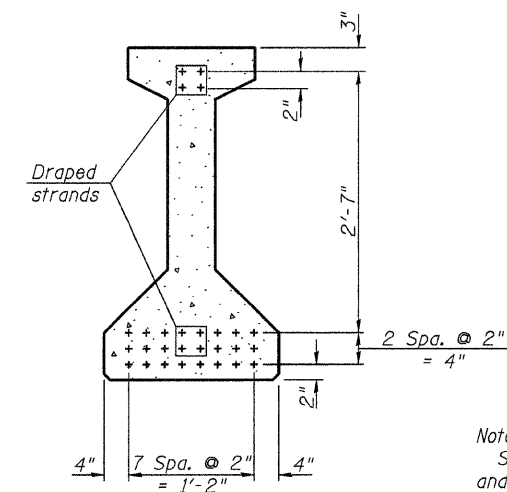


**SECTION A-A**

**SECTION B-B**



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



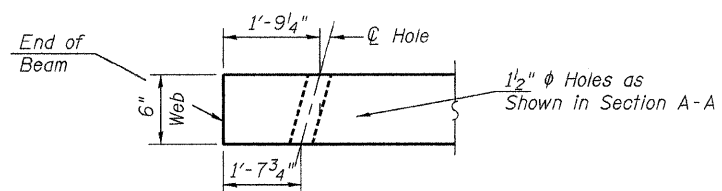
**SECTION C-C**

**\*\*\*BAR LIST  
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G <sub>1</sub>	102	#4	8'-5"	∩L
G <sub>2</sub>	10	#4	6'-8"	∩
G <sub>3</sub>	8	#6	31'-7"	—
G <sub>4</sub>	38	#3	4'-11"	∩
G <sub>5</sub>	61	#3	2'-6"	∩

\*\*\*For information only

Notes:  
See sheet 13 of 22 for additional details and Bill of Material.  
Required release strength, f'<sub>ci</sub>, shall be 5,000 psi.



**SECTION D-D**

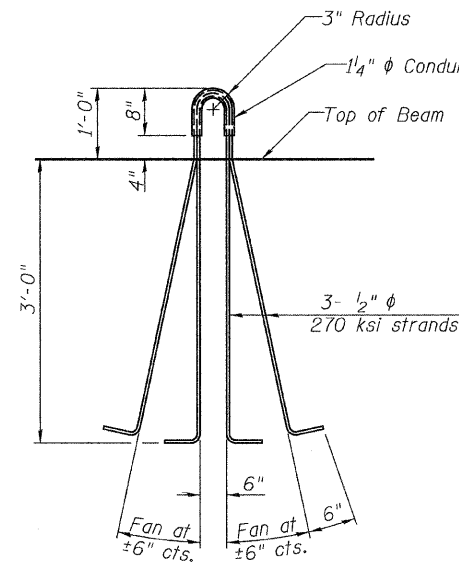
**42" PPC I-BEAM**

SHEET NO. 12 22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	19
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

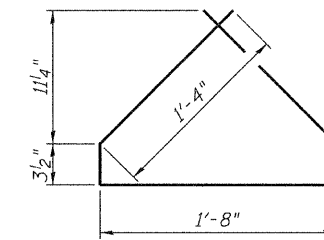


**NOTES**

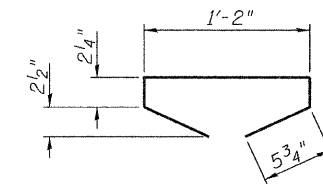
Inserts for  $\frac{3}{4}$ "  $\phi$  threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.  
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter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



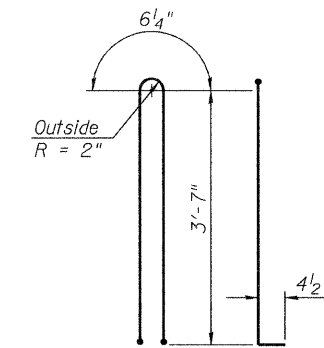
**LIFTING LOOP DETAIL**



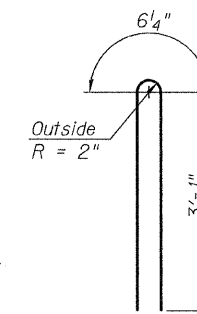
**BAR G4**



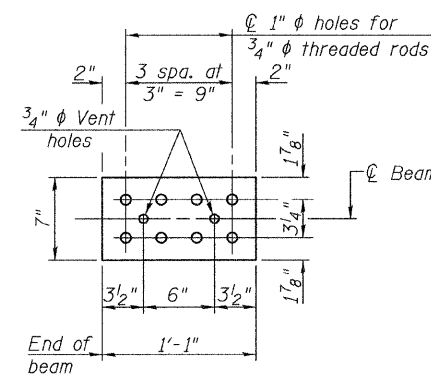
**BAR G5**



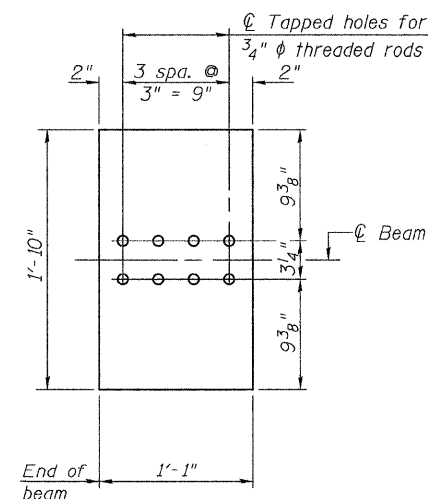
**BAR G1**



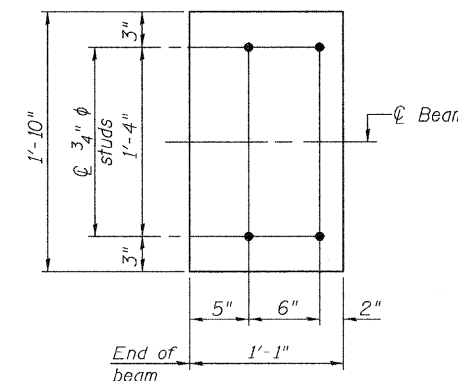
**BAR G2**



**TOP PLATE**



**BOTTOM PLATE**  
(Showing threaded rods)



**BOTTOM PLATE**  
(Showing studs)

**BILL OF MATERIAL**

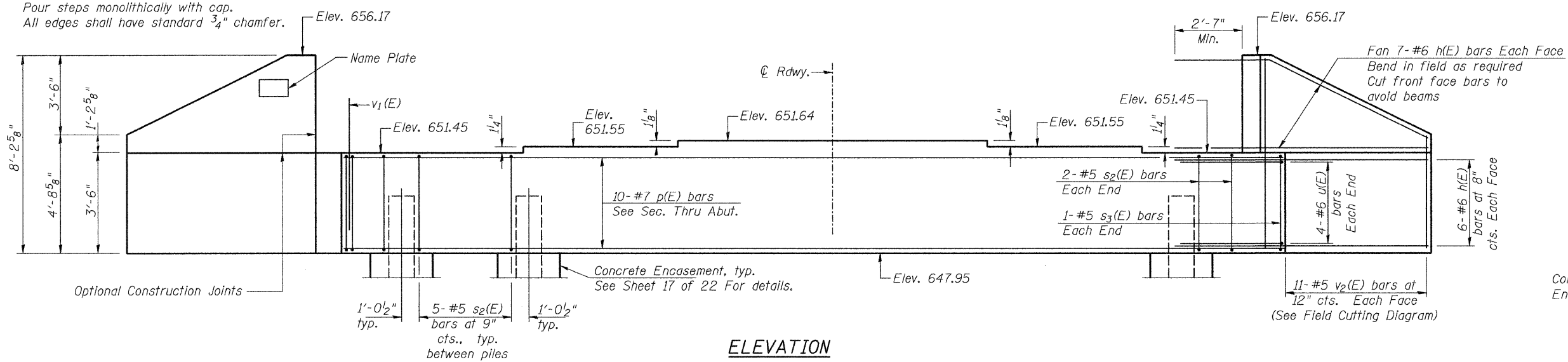
Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42"	Ft.	365

**42" PPC I-BEAM DETAILS**

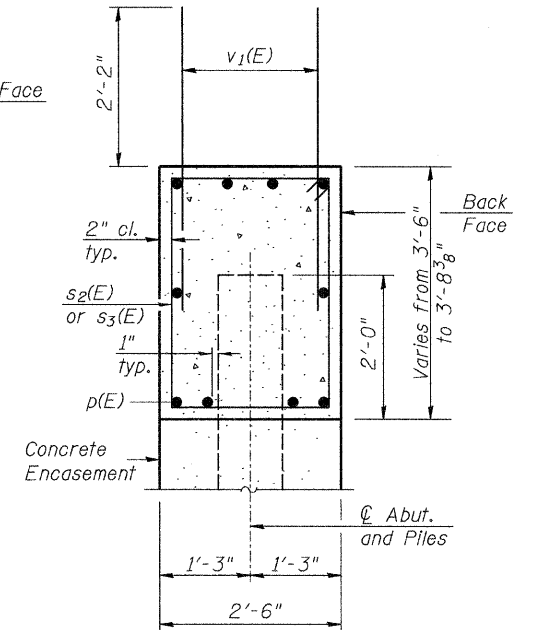
SHEET NO. 13	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	20
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

**Notes:**

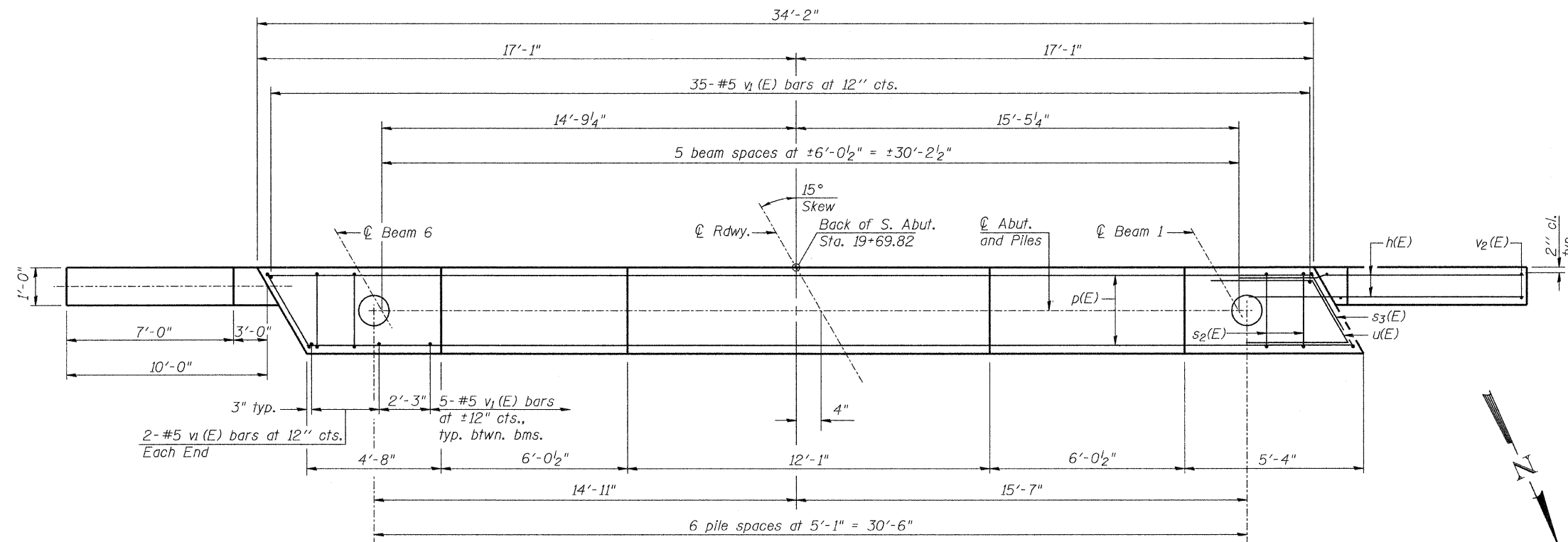
Pour steps monolithically with cap.  
All edges shall have standard 3/4" chamfer.



**ELEVATION**



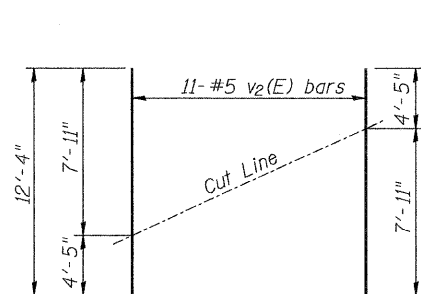
**SEC. THRU ABUT.**  
(At Right Angles)



**PLAN**

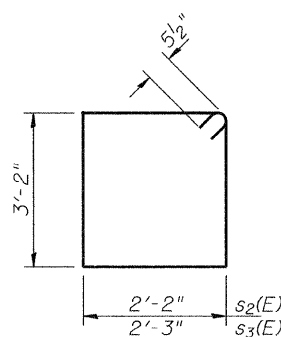
**PILE DATA**

Type: Metal Shells-12"x0.250" walls w/ pile shoes  
Nominal Required Bearing: 355k  
Factored Resistance Available: 178k  
Est. Length: 50'  
No. Production Piles: 6  
No. Test Piles: 1

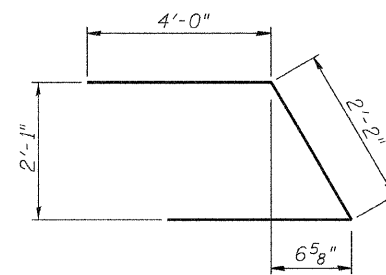


**FIELD CUTTING DIAGRAM**

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



**BARS s2(E) & s3(E)**



**BAR u(E)**

**SOUTH ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-6"	—
p(E)	10	#7	33'-10"	—
s2(E)	34	#5	11'-7"	□
s3(E)	2	#5	11'-9"	□
u(E)	8	#6	10'-2"	□
v1(E)	64	#5	4'-4"	—
v2(E)	22	#5	12'-4"	—
Structure Excavation		Cu. Yd.	165	
Concrete Structures		Cu. Yd.	16.2	
① Reinforcement Bars, Epoxy Coated		Pound	2,800	
Name Plates		Each	1	
Furnishing Metal Shell Piles 12"x0.250"		Foot	300	
① Driving Piles		Foot	300	
① Test Pile Metal Shells		Each	1	
Pile Shoes		Each	7	
Concrete Encasement		Cu. Yd.	3.2	

① See Special Provisions

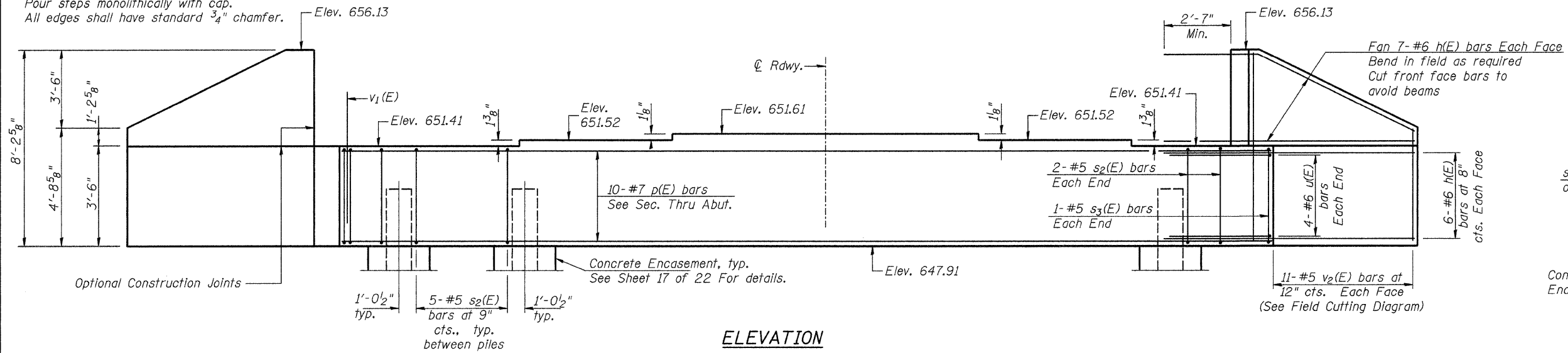
For details of Piles and Concrete Encasement, see sheet 17 of 22.

**SOUTH ABUTMENT**

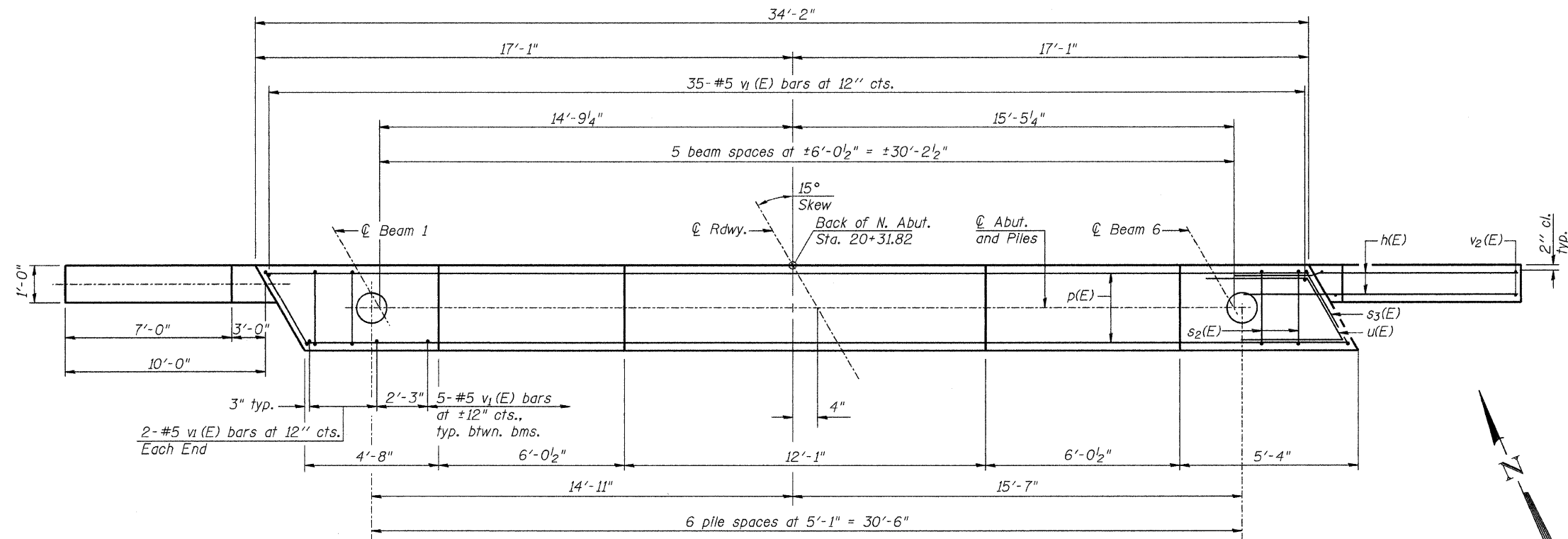
SHEET NO. 14	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	21
		SN 050-3598		CONTRACT NO. 87451	
		FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0271(103)	

**Notes:**

Pour steps monolithically with cap.  
All edges shall have standard 3/4" chamfer.



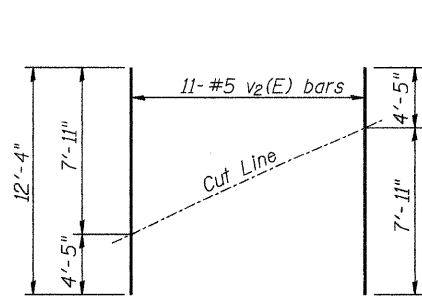
**ELEVATION**



**PLAN**

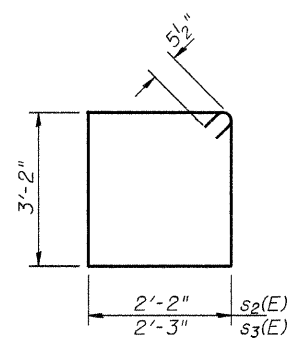
**PILE DATA**

Type: Metal Shells-12φx0.250" walls w/ pile shoes  
Nominal Required Bearing: 355k  
Factored Resistance Available: 178k  
Est. Length: 50'  
No. Production Piles: 6  
No. Test Piles: 1

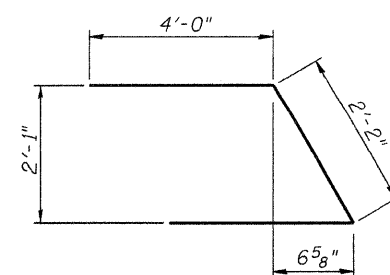


**FIELD CUTTING DIAGRAM**

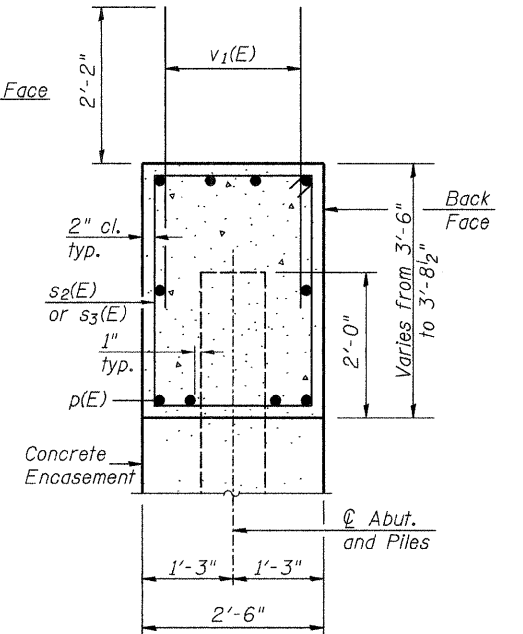
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s2(E) & s3(E)**



**BAR u(E)**



**SEC. THRU ABUT.**

(At Right Angles)

**NORTH ABUTMENT  
BILL OF MATERIAL**

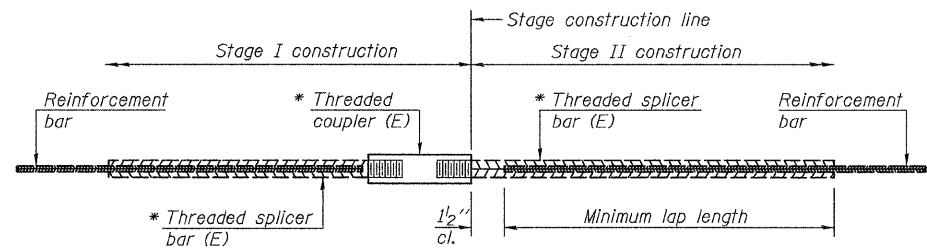
Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-6"	—
p(E)	10	#7	33'-10"	—
s2(E)	34	#5	11'-7"	□
s3(E)	2	#5	11'-9"	□
u(E)	8	#6	10'-2"	—
v1(E)	64	#5	4'-4"	—
v2(E)	22	#5	12'-4"	—
Structure Excavation		Cu. Yd.	165	
Concrete Structures		Cu. Yd.	16.2	
① Reinforcement Bars, Epoxy Coated		Pound	2,800	
Furnishing Metal Shell Piles 12"x0.250"		Foot	300	
① Driving Piles		Foot	300	
① Test Pile Metal Shells		Each	1	
Pile Shoes		Each	7	
Concrete Encasement		Cu. Yd.	3.2	

① See Special Provisions

For details of Piles and Concrete Encasement, see sheet 17 of 22.

**NORTH ABUTMENT**

SHEET NO. 15	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				22 SHEETS	39
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0271(103)		



**STANDARD BAR SPLICER ASSEMBLY**

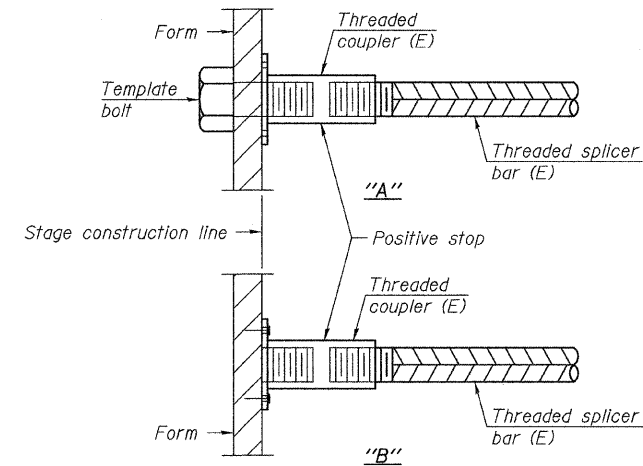
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

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

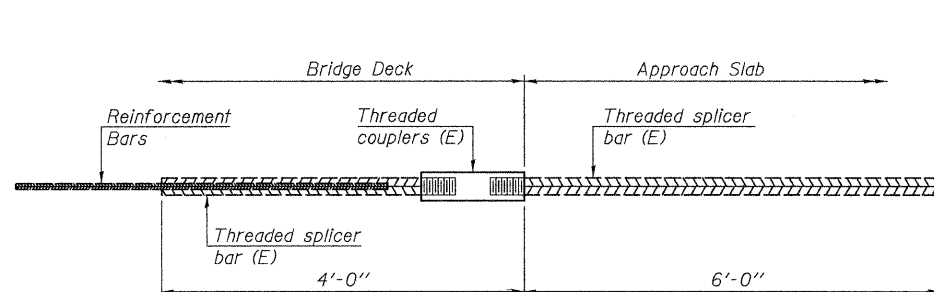


**INSTALLATION AND SETTING METHODS**

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

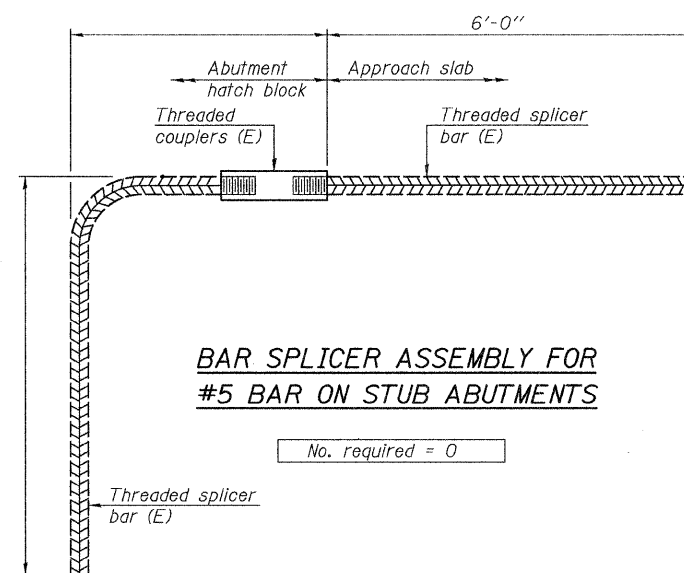
**NOTES**

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 approved list of bar splicer assemblies for alternatives.



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

No. required = 66

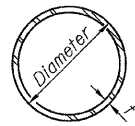


**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 0

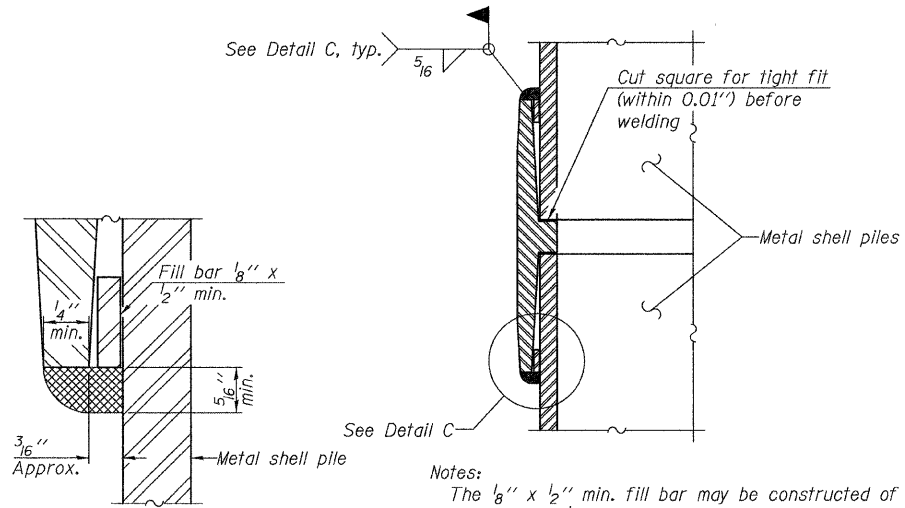
**BAR SPLICER ASSEMBLY DETAILS**

SHEET NO. 16	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



**METAL SHELL PILE TABLE**

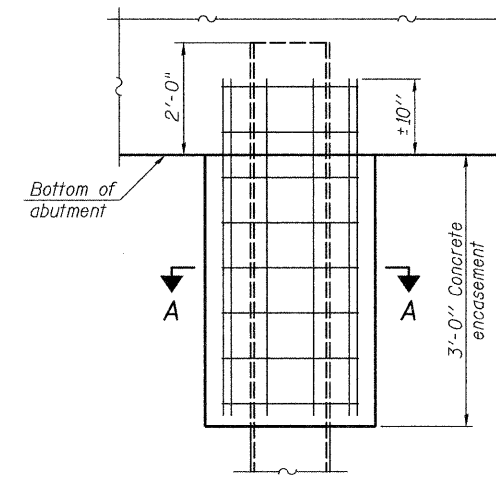
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



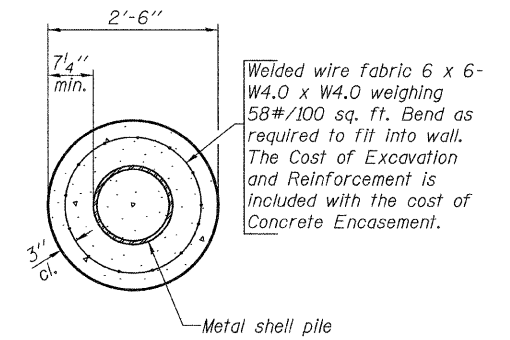
**DETAIL C**

Notes:  
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.  
 Pile segments shall be driven to solid contact with splicer before welding.

**WELDED COMMERCIAL SPLICE**



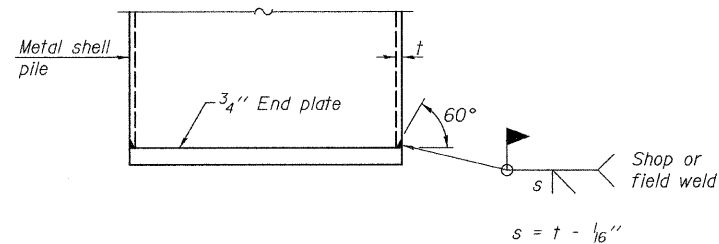
**ELEVATION**



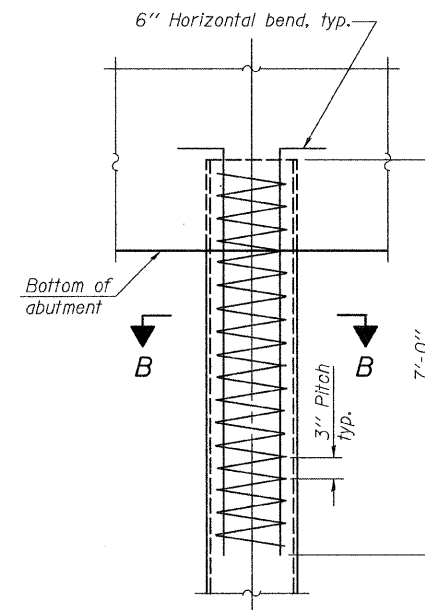
**SECTION A-A**

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

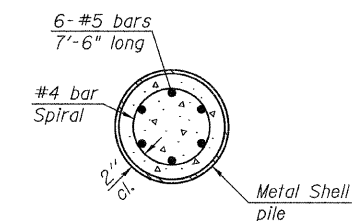
**CONCRETE ENCASEMENT AT ABUTMENTS**



**END PLATE ATTACHMENT**

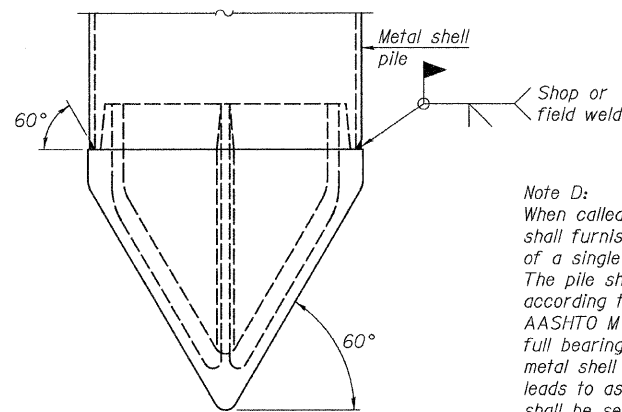


**ELEVATION**



**SECTION B-B**

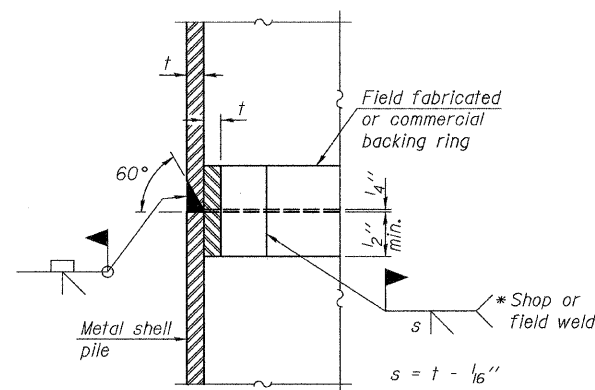
**METAL SHELL REINFORCEMENT AT ABUTMENTS**



**METAL SHELL PILE SHOE ATTACHMENT**

(See Note D)

Note D:  
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.



**COMPLETE PENETRATION WELD SPLICE**

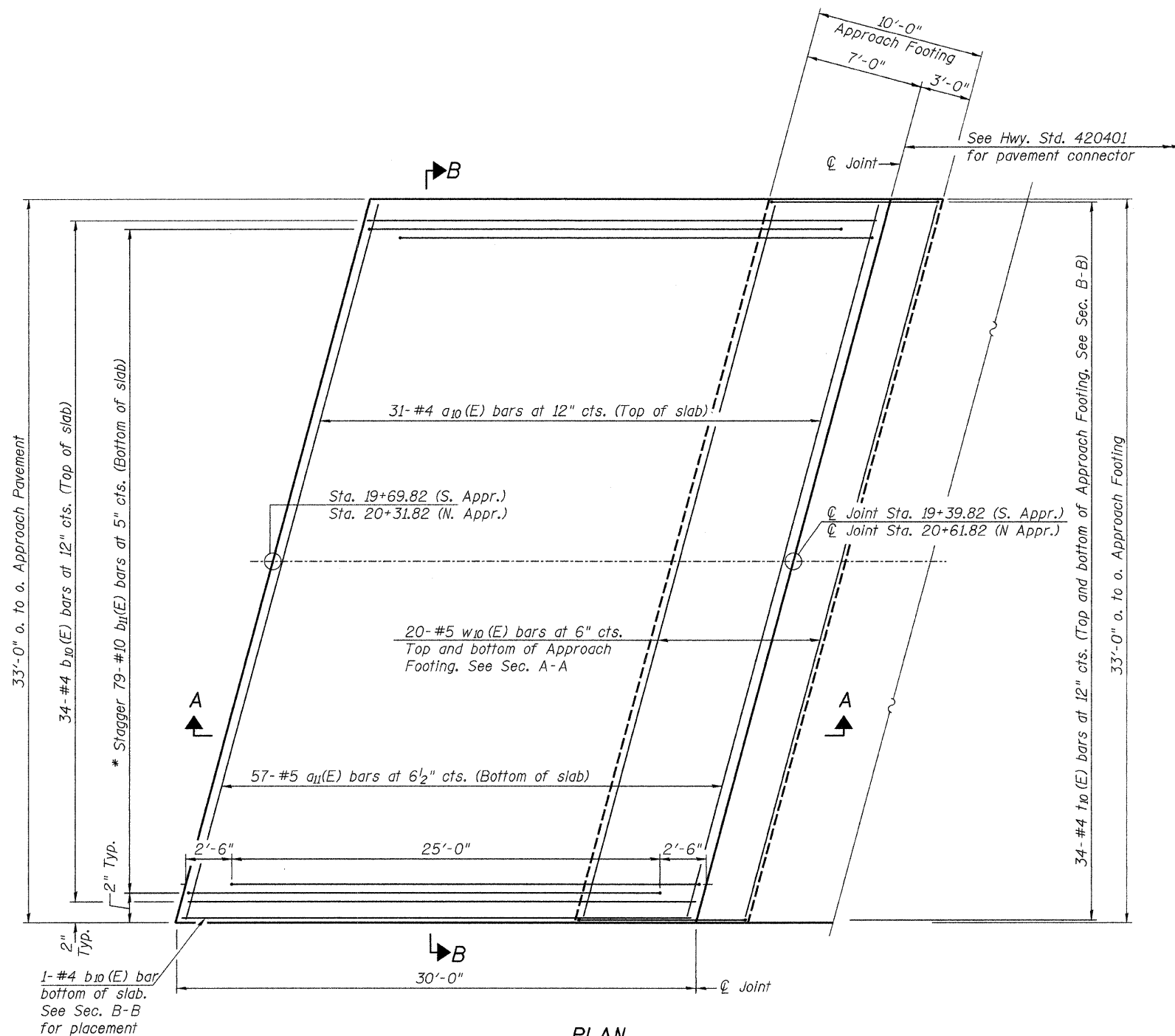
\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

Note:  
 The metal shell piles shall be according to ASTM A 252 Grade 3.

**METAL SHELL PILE DETAILS**

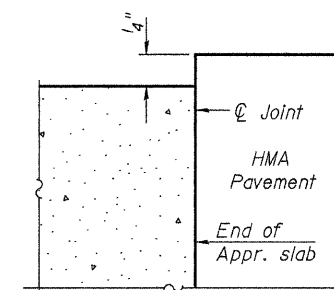
SHEET NO. 17	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	24
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		





\* Tilt #9  $b_{11}(E)$  bars as required to maintain clearance.

Notes:  
See sheet 19 of 22 for Sections A-A & B-B.  
 $a_{10}(E)$ ,  $a_{11}(E)$ , and  $w_{10}(E)$  bar spacings measured perpendicular to  $\text{CL}$  Rdwy.



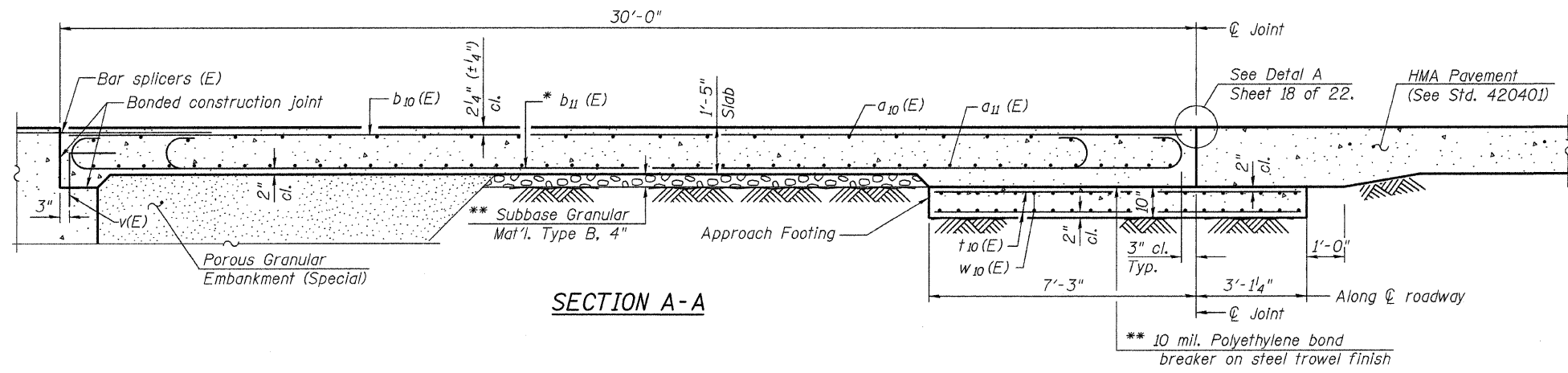
FLEXIBLE PAVEMENT

DETAIL A

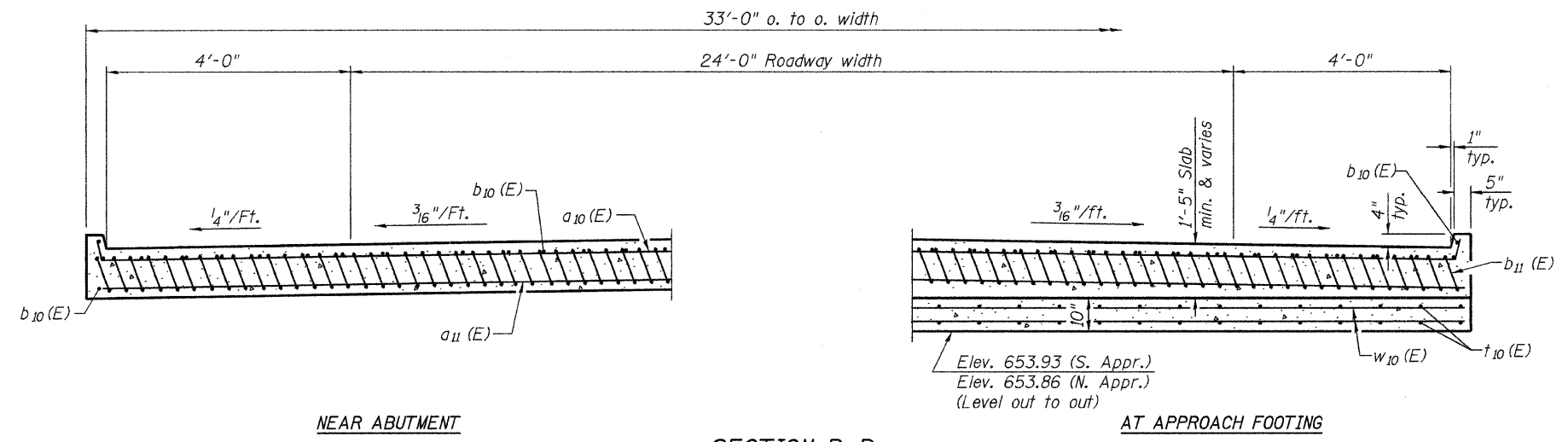
(Sheet 1 of 2)

BRIDGE APPROACH PAVEMENT DETAILS

SHEET NO. 18	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	25
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0271(103)		



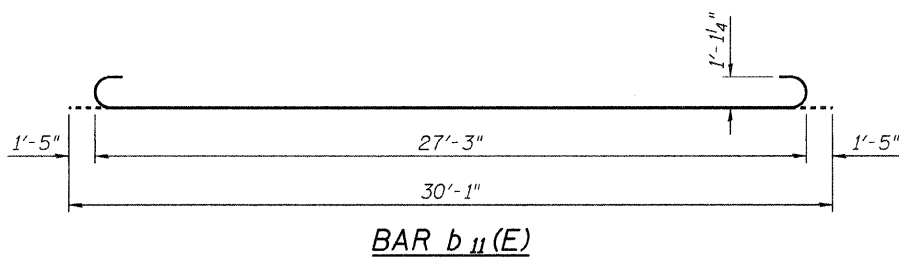
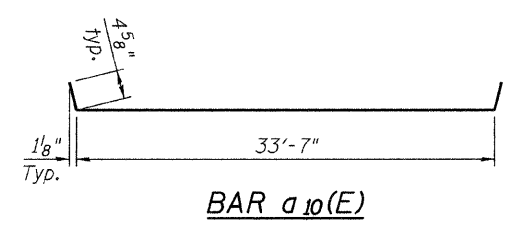
Notes:  
 For v(E) bar details, see sheet 8 of 22.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 16 of 22.  
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 22.  
 Approach slab concrete shall be Class BS.  
 Approach footing concrete shall be Class SI.  
 The cost of concrete and reinforcement in approach slab and footing are included with Bridge Approach Pavement.  
 The cost of Excavation for approach footing is included with Bridge Approach Pavement.



\* Tilt #10 b11(E) bars as required to maintain clearance.  
 \*\* Cost included with Bridge Approach Pavement.

**BAR LIST  
 ONE APPROACH PAVEMENT**

Bar	No.	Size	Length	Shape
a10(E)	31	#4	34'-4"	—
a11(E)	57	#5	33'-9"	—
b10(E)	37	#4	29'-8"	—
b11(E)	79	#10	30'-1"	—
t10(E)	68	#4	10'-0"	—
w10(E)	40	#5	33'-9"	—

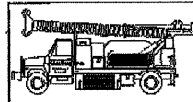


**TWO APPROACHES  
 BILL OF MATERIAL**

Item	Unit	Total
Bridge Approach Pavement	Sq Yd	220

(Sheet 2 of 2)  
**BRIDGE APPROACH PAVEMENT DETAILS**

SHEET NO. 19  22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	26
	SN 050-3598		CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 1 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

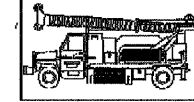
Client: Hutchison Engineering, Inc.  
Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
Project Site: LaSalle County, Illinois

Boring No. B-1  
Surface Elev. 655.61  
Auger Depth 61' Rotary Depth NA  
Start Date 01/05/10 Finish Date 01/05/10

Location: 6' Right of Station 20+35

(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 (%)		
655.61										Randy Salfanski Diedrich D-120	
654.61	Very Stiff Black And Brown Gravelly Clay (Fill)		1	SS	2.2	12	B	14			
653.61			2	SS	2.4	16	B	12			
652.61			3	SS	1.8	10	B	26			
651.61	Stiff Black Silty Clay		4	SS	2.0	11	B	23			
650.61			5	SS	1.7	10	B	24			
649.61	Very Stiff To Stiff Brownish Gray Clay Till		6	SS	2.8	21	B	22			
648.61			7	SS	3.2	24	B	20			
647.61			8	SS	2.9	21	B	21			
646.61	Very Stiff Brownish Gray To Gray Clay Till										
645.61											

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
Comments:



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Hutchison Engineering, Inc.  
Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
Project Site: LaSalle County, Illinois

Boring No. B-1  
Surface Elev. 655.61  
Auger Depth 61' Rotary Depth NA  
Start Date 01/05/10 Finish Date 01/05/10

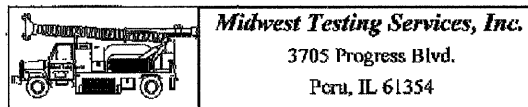
Location: 6' Right of Station 20+35

(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 (%)			Dry Density (PCF)
634.61										Randy Salfanski Diedrich D-120		
633.61	Stiff Gray Clay		9	SS	1.9	10	B	22				
632.61			10	SS	1.7	10	B	22				
631.61			11	SS	1.7	11	B	20				
630.61			12	SS	2.2	21	S	16				
629.61			13	SS	2.1	13	B	17				
628.61			14	SS	1.6	10	B	22				
627.61												
626.61												
625.61												
624.61												
623.61												
622.61												
621.61												
620.61												
619.61												
618.61												
617.61												
616.61												
615.61												
614.61												

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
Comments:

**SOIL BORING LOGS**

SHEET NO. 20  22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	27
	SN 050-3598		CONTRACT NO. 87451		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0271(103)		



**BORING LOG**  
 Sheet 3 of 3  
 Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

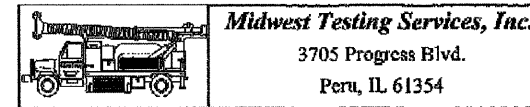
Client: Hutchison Engineering, Inc.  
 Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
 Project Site: LaSalle County, Illinois

Boring No. B-1  
 Surface Elev. 655.61  
 Auger Depth 61' Rotary Depth NA  
 Start Date 01/05/10 Finish Date 01/05/10

Location: 6' Right of Station 20+35

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
613.61										Randy Safranski Diedrich D-120	
612.61			43								
611.61			44								
610.61			45	15	SS	3.3	16	B	22		
609.61			46								
608.61			47								
607.61			48								
606.61			49								
605.61			50								
604.61	Very Stiff Gray Clay Till		51	16	SS	3.2	15	B	21		
603.61			52								
602.61			53								
601.61			54								
600.61			55								
599.61			56	17	SS	3.5	18	B	22		
598.61			57								
597.61			58								
596.61			59								
595.61			60								
594.61			61	18	SS	3.5	19	B	18		
593.61			62								

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
 Comments:



**BORING LOG**  
 Sheet 1 of 3  
 Phone: 815-223-6696  
 Fax: 815-223-6659  
 e-mail: mts37@comcast.net

Client: Hutchison Engineering, Inc.  
 Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
 Project Site: LaSalle County, Illinois

Boring No. B-2  
 Surface Elev. 655.69  
 Auger Depth 61' Rotary Depth NA  
 Start Date 01/05/10 Finish Date 01/05/10

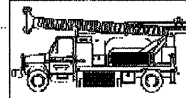
Location: 7' Left of Station 19 +67

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
655.69										Randy Safranski Diedrich D-120	
654.69			1								
653.69			2								
652.69	Stiff To Very Stiff Black And Brown Clay (Fill)		3	1	SS	1.7	10	S	16		
651.69			4								
650.69			5								
649.69			6	2	SS	2.0	13	S	13		
648.69			7								
647.69	Stiff Black Silty Clay		8	3	SS	1.4	9	B	23		
646.69			9								
645.69	Very Stiff Brownish Gray Till		10	4	SS	2.2	12	B	22		
644.69			11								
643.69			12								
642.69			13	5	SS	2.0	11	B	22		
641.69			14								
640.69			15								
639.69	Very Stiff Brownish Gray To Gray Clay Till		16	6	SS	2.6	19	B	20		
638.69			17								
637.69			18	7	SS	3.0	19	B	21		
636.69			19								
635.69			20	8	SS	3.2	20	B	21		

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
 Comments:

**SOIL BORING LOGS**

SHEET NO. 21 22 SHEETS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	28
	SN 050-3598		CONTRACT NO. 87451		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0271(103)		



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 2 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Hutchison Engineering, Inc.  
Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
Project Site: LaSalle County, Illinois

Boring No. B-2  
Surface Elev. 655.69  
Auger Depth 61' Rotary Depth NA  
Start Date 01/05/10 Finish Date 01/05/10

Location: 7' Left of Station 19 +67

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY		REMARKS
				Sample No.	Sample Type	Q <sub>u</sub> (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
634.69											
633.69			22								
632.69	Very Stiff To Stiff Gray Clay		23	9	SS	2.0	11	B	20		
631.69			24								
630.69			25	10	SS	1.8	10	B	22		
629.69			26								
628.69			27								
627.69			28	11	SS	1.9	12	B	20		
626.69			29								
625.69			30	12	SS	2.5	15	B	18		
624.69			31								
623.69			32								
622.69			33								
621.69	Very Stiff Gray Clay With Silt Seams At 35' Depth		34								
620.69			35	13	SS	2.6	20	B	16		
619.69			36								
618.69			37								
617.69			38								
616.69			39								
615.69			40	14	SS	2.3	14	B	19		
614.69			41								

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
Comments:



**Midwest Testing Services, Inc.**  
3705 Progress Blvd.  
Peru, IL 61354

**BORING LOG**

Sheet 3 of 3

Phone: 815-223-6696  
Fax: 815-223-6659  
e-mail: mts37@comcast.net

Client: Hutchison Engineering, Inc.  
Project Name: CH -25 Section 09-00658-00-BR Miller Twp.  
Project Site: LaSalle County, Illinois

Boring No. B-2  
Surface Elev. 655.69  
Auger Depth 61' Rotary Depth NA  
Start Date 01/05/10 Finish Date 01/05/10

Location: 7' Left of Station 19 +67

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES					DRILLED BY		REMARKS
				Sample No.	Sample Type	Q <sub>u</sub> (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	
613.69											
612.69			43								
611.69			44								
610.69			45								
609.69	Very Stiff Gray Clay Till		46	15	SS	3.0	15	B	21		
608.69			47								
607.69			48								
606.69			49								
605.69			50								
604.69			51	16	SS	3.4	17	B	19		
603.69			52								
602.69			53								
601.69			54								
600.69			55								
599.69			56	17	SS	3.3	17	B	19		
598.69			57								
597.69			58								
596.69			59								
595.69			60								
594.69			61	18	SS	3.8	21	B	16		
593.69			62								

Groundwater Data: No groundwater encountered at time of subsurface investigation.  
Comments:

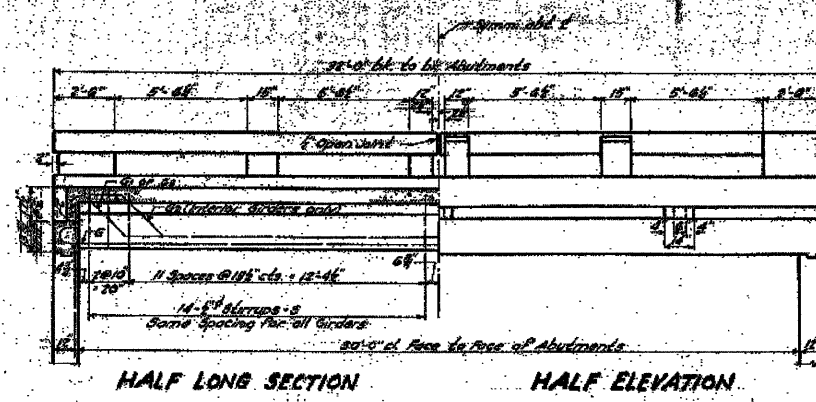
**SOIL BORING LOGS**

SHEET NO. 22	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 25	09-00658-00-BR	LASALLE	39	29
22 SHEETS	SN 050-3598		CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		

D.N.E. corner of East Concrete Headwall El. 88.58  
 Existing structure Steel I-beams, span 20' Rely 15' Conc. Abut.  
 to be removed by Bridge Contractor prior to new construction.

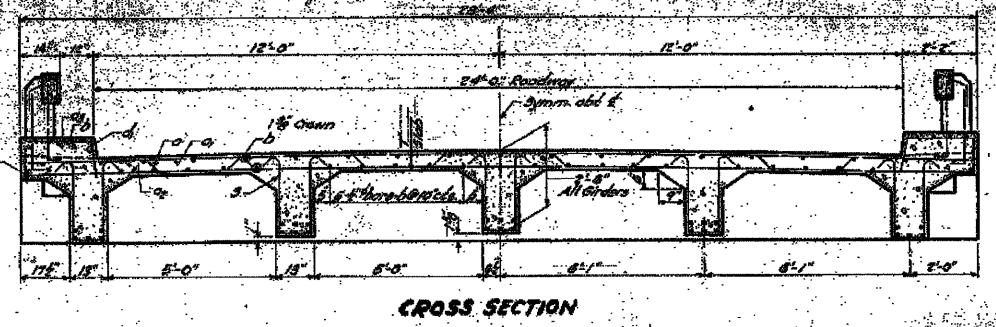
STATE OF ILLINOIS  
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
 DIVISION OF HIGHWAYS

NO. THIS SHEET	NO. OF SHEETS	COUNTY	SECTION	SHEET NO.
2	39	LASALLE	09-00658-00-BR	39

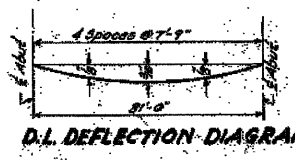


FOR FUNDING DETAILS SEE  
 S.D. 2072-2, PAGE 3-3

STATION 85+44  
 BUILT 1934 BY  
 CASALE COUNTY  
 SECTION 09-00658-00  
 LOADINGS 150  
 LETTERING BY NAME #  
 8-11-47

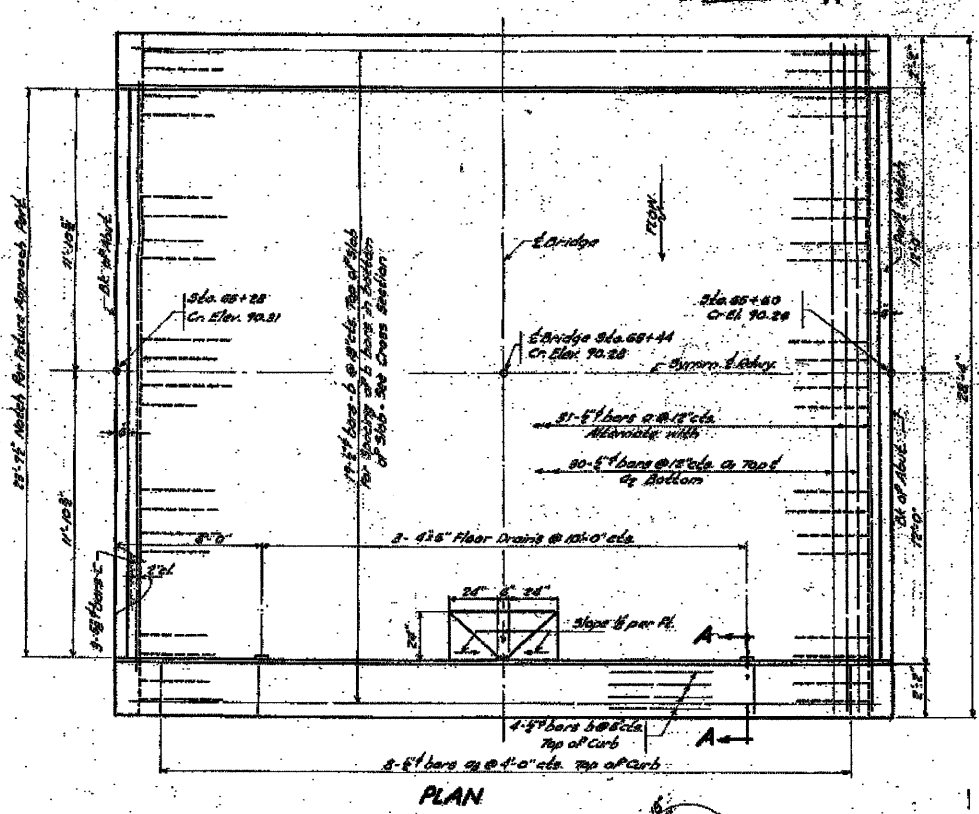


CROSS SECTION

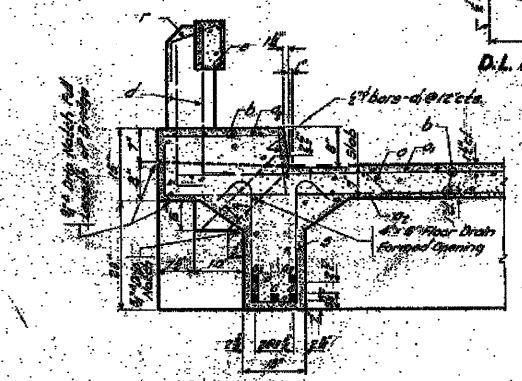


D.L. DEFLECTION DIAGRAM

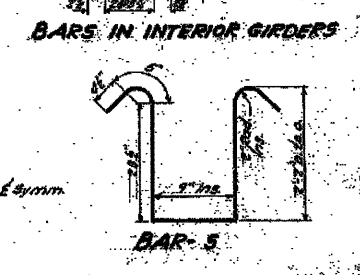
**GENERAL NOTES**  
 Class I Concrete shall be used thru out except in  
 Handrail & Rail Road  
 Handrail Concrete shall be used in Handrail & Road  
 The concrete floor slab shall be finished in accord-  
 ance with Art. 3110 of the Standard Specifications.  
 The concrete girders and floor slab shall be poured  
 complete in any continuous operation.  
 The handrail shall not be poured until after the  
 formwork has been removed.  
 For retaining walls, see separate sheet and schedule  
 see Special Provisions.



PLAN



SECTION A-A



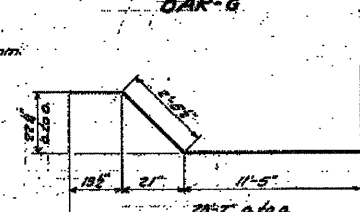
BAR-5  
 BARS IN INTERIOR GIRDER



BAR-0



BAR-G



BAR-G2

BILL OF MATERIAL SUPERSTRUCTURE

ITEM	NO.	SIZE	LENGTH	QTY
G <sub>1</sub>	24	1/2"	22'-0"	24
G <sub>2</sub>	30	1/2"	22'-0"	30
G <sub>3</sub>	30	1/2"	22'-0"	30
G <sub>4</sub>	16	1/2"	22'-0"	16
B	35	1/2"	30'-0"	35
A	8	1/2"	25'-0"	8
D	18	1/2"	8'-0"	18
C	24	1/2"	15'-0"	24
E	16	1/2"	14'-0"	16
F	18	1/2"	24'-0"	18
G	8	1/2"	21'-0"	8
H	2	1/2"	22'-0"	2
I	4	1/2"	22'-0"	4
J	24	1/2"	8'-0"	24
K	180	1/2"	10'-0"	180
Class I Concrete			cu yds	2108
Handrail Concrete			cu yds	18
Reinforcement Bars			Lbs.	8270

TOTAL BILL OF MATERIAL

ITEM	SUPER	SUB	TOTAL
Class I Conc	cu yds	210	182
Handrail Conc	cu yds	21	18
Reinforcement Bars	Lbs.	1820	180
Open Timber Piles (20) Lx12		180	180
Open Timber Piles (57) Lx12		240	240
Flag Pole	Each	One	One
Name Plate	Each	One	One
Removal Best Struct.	Each	One	One

BRIDGE OVER BRANCH  
 OF NETTLE CREEK  
 S.A. RT. 4A. SEC 66-D-MET.  
 LA SALLE COUNTY  
 STA. 85+44

COMPUTED	H.E. Thurman, Jr.	EXAMINED	9-11-47
CHECKED	H.E. Thurman	DRAWN	C. S. ...
CHECKED	H.E. Thurman	APPROVED	W.W. ...

Revised 7-3-51 P.R.R.

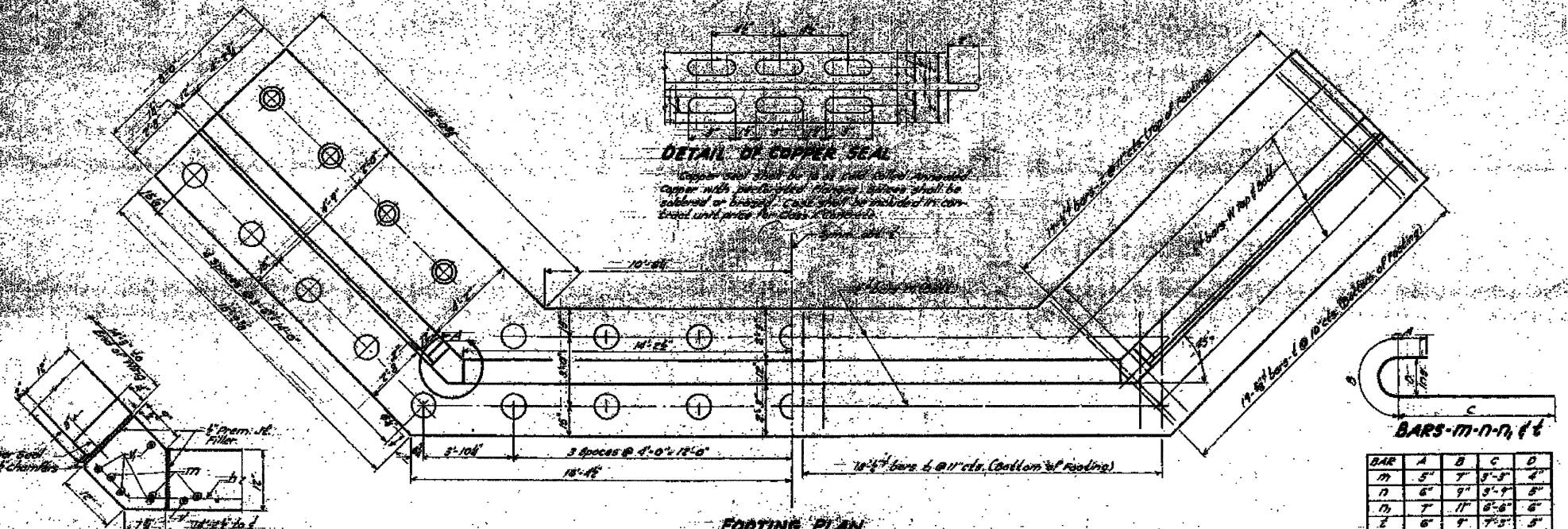
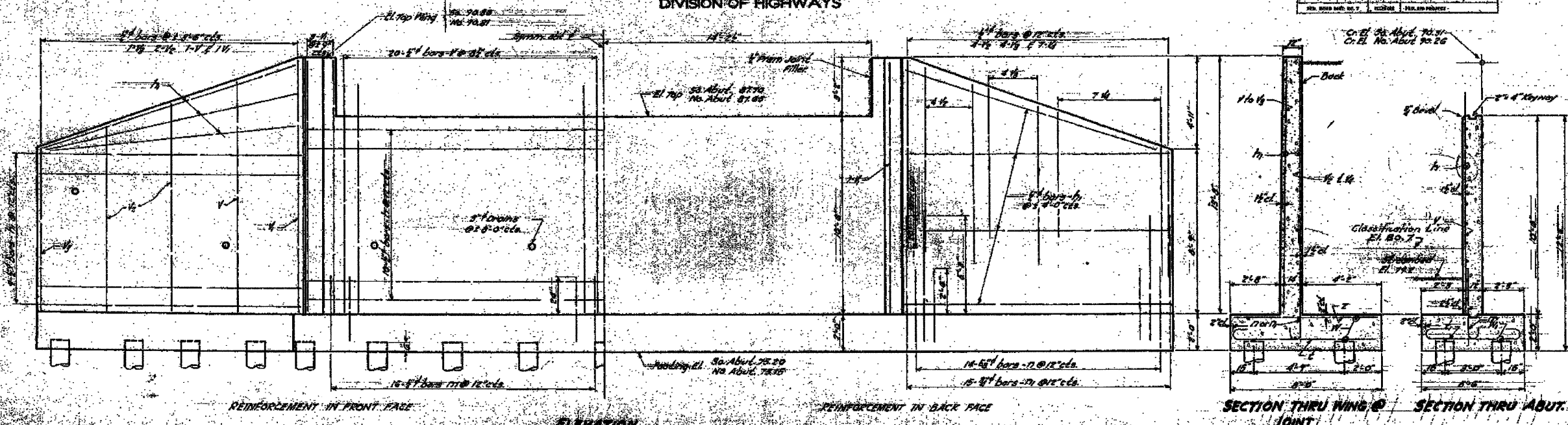
EXISTING STRUCTURE PLANS

SHEET NO. 1	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	30
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



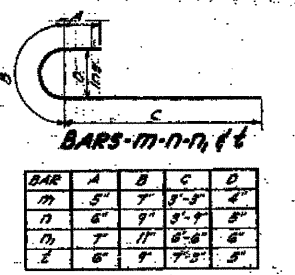
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2	CH 25	LASALLE	39	31



BILL OF MATERIAL TAKEOUTS

BAR	NO	SIZE	LENGTH	SHAPE
1	24	1/2"	12'-6"	
1	20	1/2"	18'-6"	
1	24	1/2"	10'-0"	
1	20	1/2"	8'-6"	
1	28	1/2"	8'-6"	
1	30	1/2"	18'-6"	
1	24	1/2"	18'-6"	
1	61	1/2"	4'-9"	
1	62	1/2"	5'-0"	
1	60	1/2"	8'-0"	
1	70	1/2"	8'-0"	
1	72	1/2"	8'-9"	
1	68	1/2"	7'-6"	
1	24	1/2"	16'-6"	
1	8	1/2"	18'-9"	
Class "A" Excav. For Struct. Cut&B				190.0
Class "A" Concrete				Cu. Yds. 109.0
Reinforcement Bars				Lbs. 5190
Under Timber Piles (18 Lg.)				Lin. Ft. 240
Under Timber Piles (20 Lg.)				Lin. Ft. 260
Post Piles				Each One
Class "B" Excav. For Struct. Cut&B				280.8



DESIGNED BY	9-11-47
DRAWN BY	H. E. Simon
CHECKED BY	W. J. P. P.
APPROVED	

- 10-TON PILES (18 Lg.) (2-ABUT.) EST. LENGTH 15 FT.
- 10-TON PILES (20 Lg.) (2-ABUT.) EST. LENGTH 10 FT.

Revised 7-3-51 P.R.D.

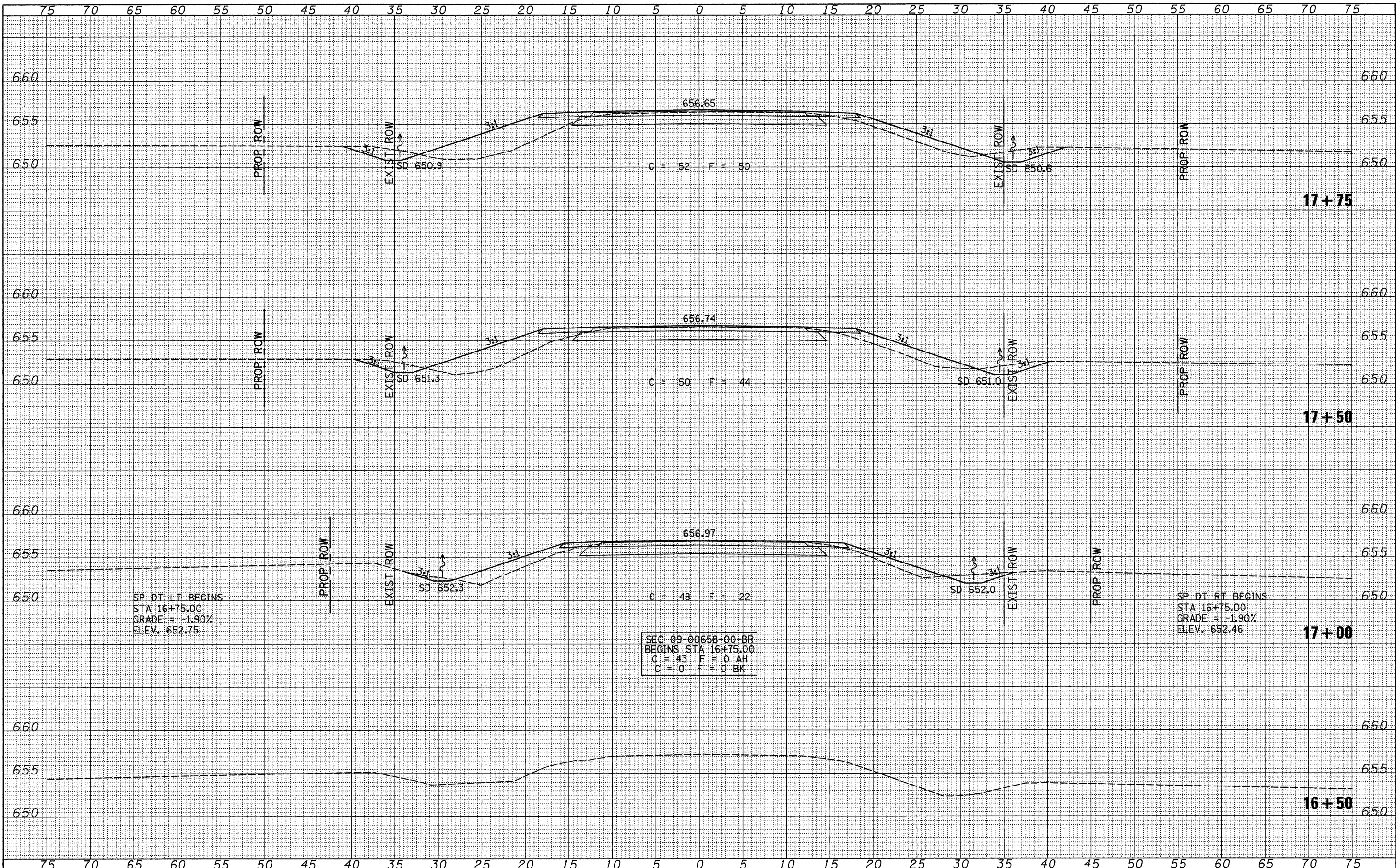
EXISTING STRUCTURE PLANS

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2 SHEETS	CH 25	09-00658-00-BR	LASALLE	39	31
SN 050-3598			CONTRACT NO. 87451		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0271(103)		



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

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



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	DRAWN -	REVISED -
PLOT SCALE = 5.0000' / IN.	CHECKED -	REVISED -
PLOT DATE = 3/17/2010	DATE -	REVISED -

**LASALLE COUNTY  
 COUNTY HIGHWAY 25 OVER  
 BRANCH OF NETTLE CREEK**

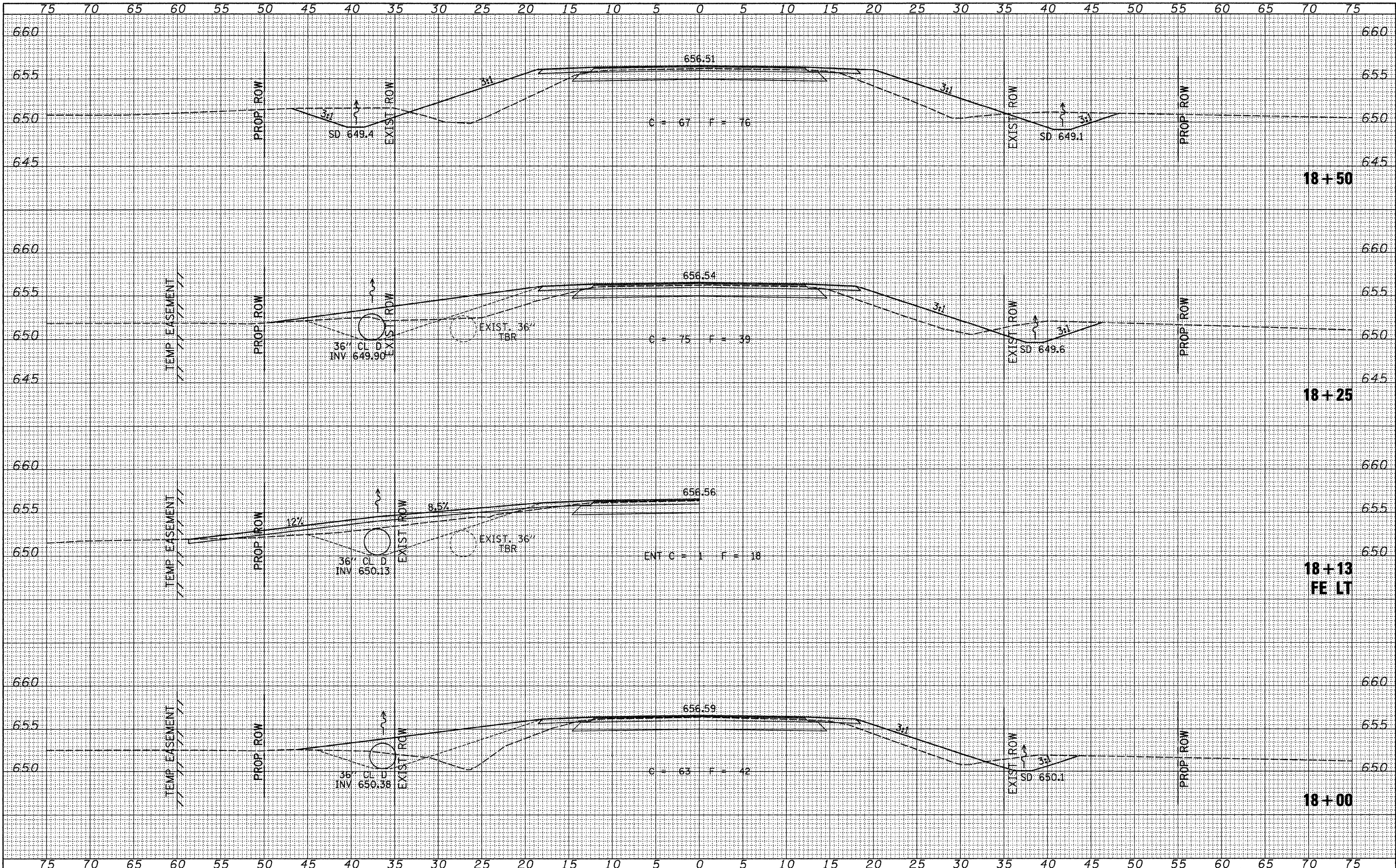
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F.A.S. RTE. 271	SECTION 09-00658-00-BR	COUNTY LASALLE	TOTAL SHEETS 39	SHEET NO. 32
CONTRACT NO. 87451				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-0271(103)				



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



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DRAWN -	REVISÉD -
CHECKED -	REVISÉD -
DATE -	REVISÉD -

**LASALLE COUNTY  
 COUNTY HIGHWAY 25 OVER  
 BRANCH OF NETTLE CREEK**

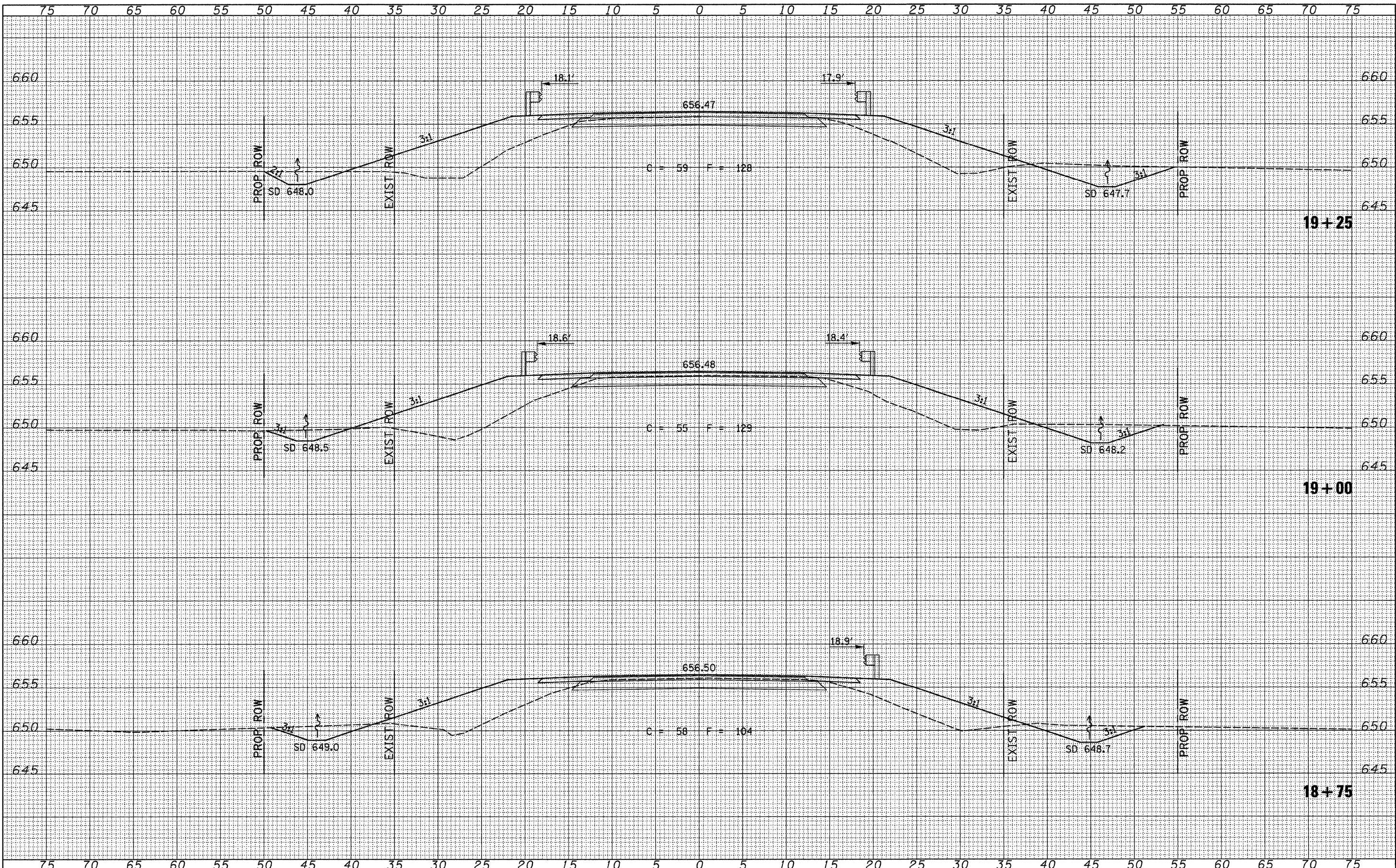
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 STA. 18+00.00 TO STA. 18+50.00

F.A.S. RTE. 271	SECTION 09-00658-00-8R	COUNTY LASALLE	TOTAL SHEETS 39	SHEET NO. 33
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0271(103)	
CONTRACT NO. 87451				



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

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

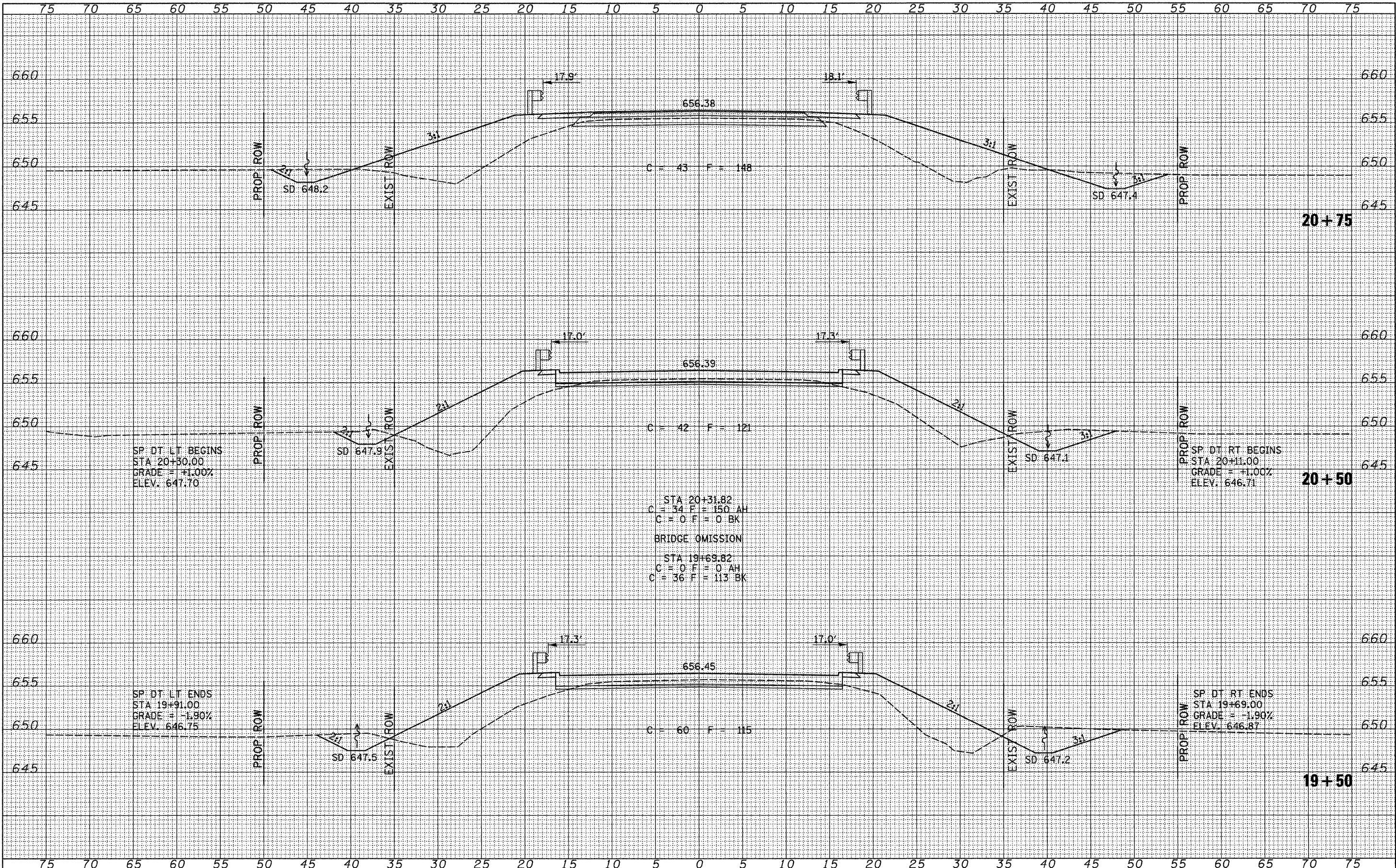


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	PLOT DATE = 3/17/2018	CHECKED -	REVISED -		CONTRACT NO. 87451								
		DATE -	REVISED -		FED. ROAD DIST. NO. 7 [ILLINOIS] FED. AID PROJECT BR5-0271(103)								



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

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



SP DT LT BEGINS  
STA 20+30.00  
GRADE = +1.00%  
ELEV. 647.70

SP DT RT BEGINS  
STA 20+11.00  
GRADE = +1.00%  
ELEV. 646.71

SP DT LT ENDS  
STA 19+91.00  
GRADE = -1.90%  
ELEV. 646.75

SP DT RT ENDS  
STA 19+69.00  
GRADE = -1.90%  
ELEV. 646.87

STA 20+31.82  
C = 34 F = 150 AH  
C = 0 F = 0 BK  
BRIDGE OMISSION  
STA 19+69.82  
C = 0 F = 0 AH  
C = 36 F = 113 BK

FILE NAME =  
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USER NAME = ethomas  
DRAWN -  
CHECKED -  
DATE -

DESIGNED -  
REVISOR -  
REVISIONS -

DESIGNED -  
REVISOR -  
REVISIONS -

**LASALLE COUNTY  
COUNTY HIGHWAY 25 OVER  
BRANCH OF NETTLE CREEK**

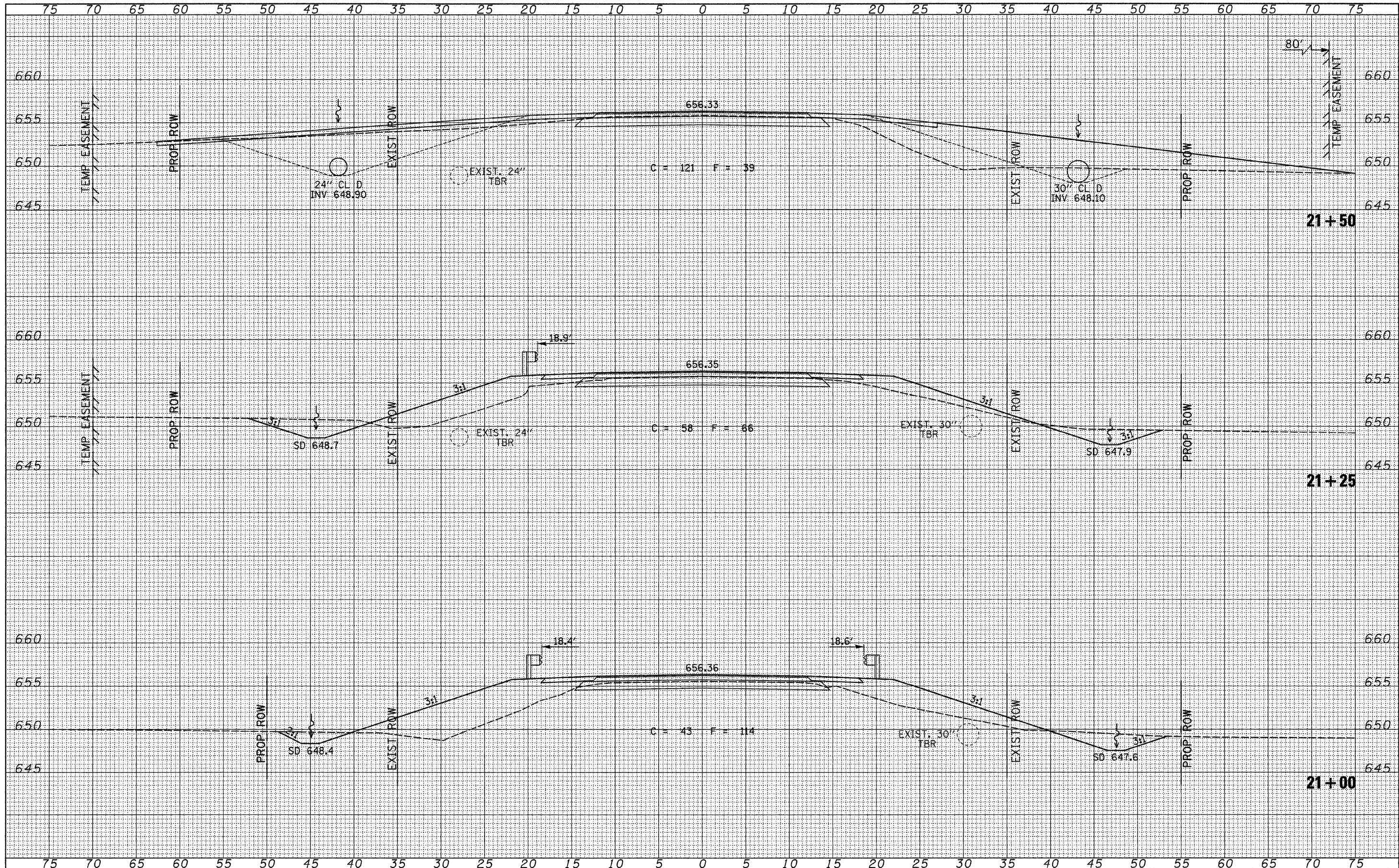
**CROSS SECTIONS**  
SCALE: 1" = 5'-0"  
SHEET NO. 4 OF 8 SHEETS  
STA. 19+50.00 TO STA. 20+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
271	09-00658-00-BR	LASALLE	39	35
CONTRACT NO. 87451				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-0271(103)				



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

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



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**LASALLE COUNTY  
 COUNTY HIGHWAY 25 OVER  
 BRANCH OF NETTLE CREEK**

**CROSS SECTIONS**

SCALE: 1" = 5'-0" SHEET NO. 5 OF 8 SHEETS STA. 21+00.00 TO STA. 21+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
271	09-00658-00-BR	LASALLE	39	36
CONTRACT NO. 87451				
FED. ROAD DIST. NO. 7 (ILLINOIS) FED. AID PROJECT BRS-0271103				

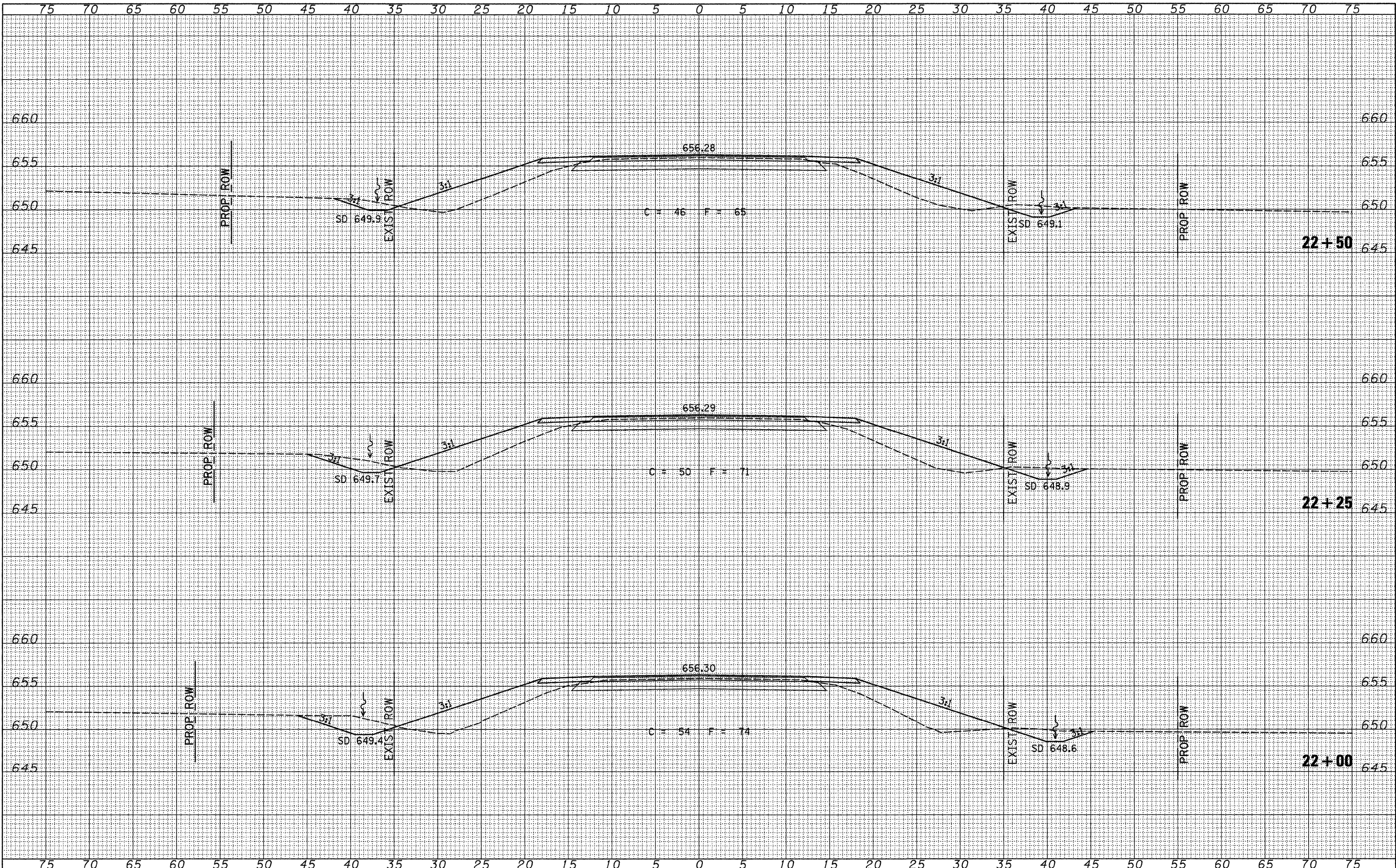






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NOTE BOOK NO.	PLOTTED	
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ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPLATE	
	AREAS CHECKED	

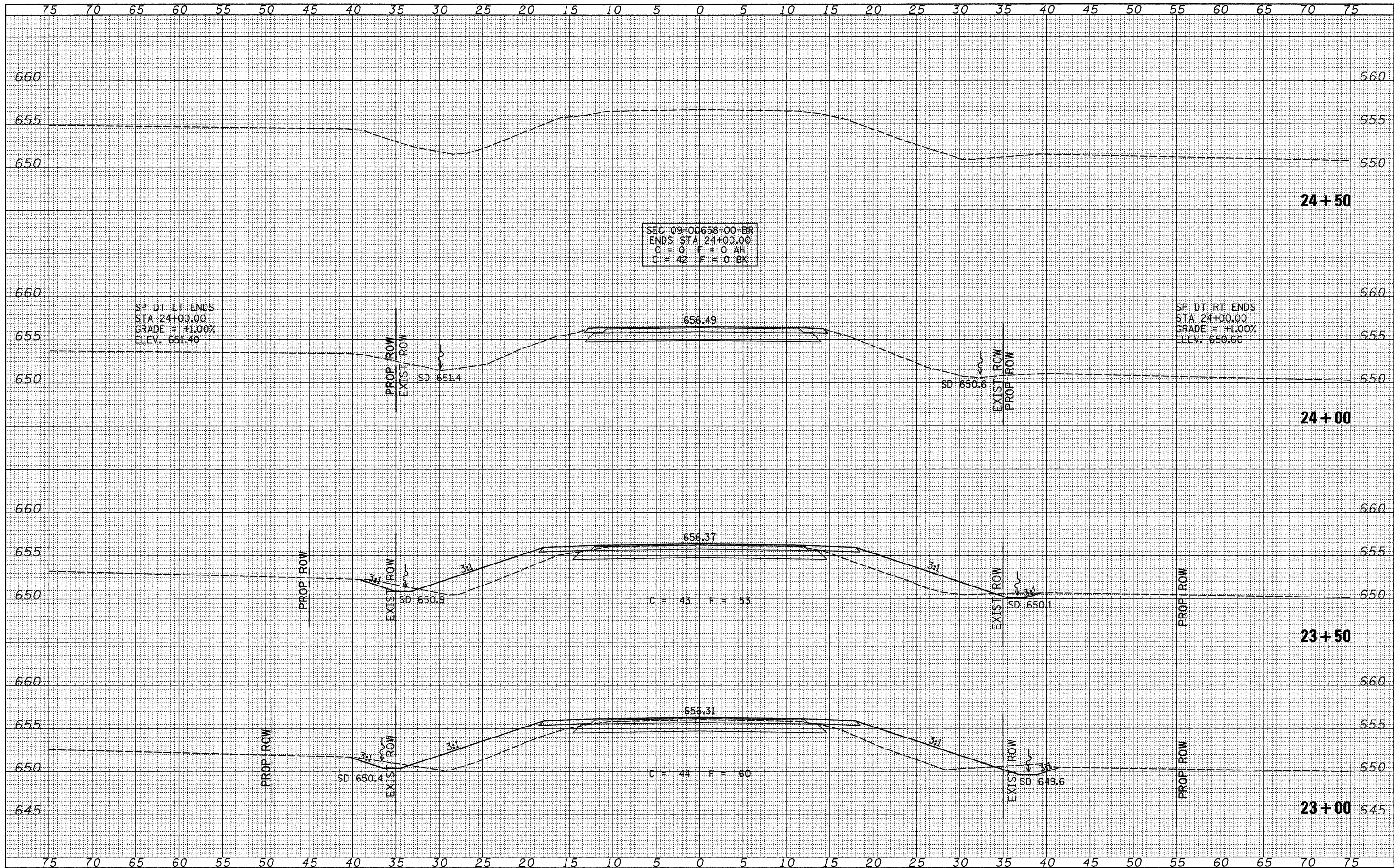


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	PLLOT SCALE = 5,0000' / IN.	DRAWN -	REVISIED -		SCALE: 1" = 5'-0"	SHEET NO. 7 OF 8 SHEETS	STA. 22+00.00 TO STA. 22+50.00	CONTRACT NO. 87451				
	PLLOT DATE = 3/17/2010	CHECKED -	REVISIED -		FED. ROAD DIST. NO. 7 [ILLINOIS] FED. AID PROJECT BRS-0271103							
		DATE -	REVISIED -									



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

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



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

**LASALLE COUNTY  
 COUNTY HIGHWAY 25 OVER  
 BRANCH OF NETTLE CREEK**

**CROSS SECTIONS**  
 SCALE: 1" = 5'-0"  
 SHEET NO. 8 OF 8 SHEETS  
 STA. 23+00.00 TO STA. 24+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
271	09-00658-00-BR	LASALLE	39	39
CONTRACT NO. 87451				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-0271103				