11-17-06 Letting, Item 045

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	1
	ILLINOIS			

CONTRACT NO. 85391

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

SECTION 04–00163–00–BR
STEPHENSON COUNTY
PROJECT NO. BRS–60(120)
F.A.S. 60 (C.H. 5) CEDARVILLE ROAD
C–92–070–06
CONTRACT NO. 85391

INDEX OF SHEETS

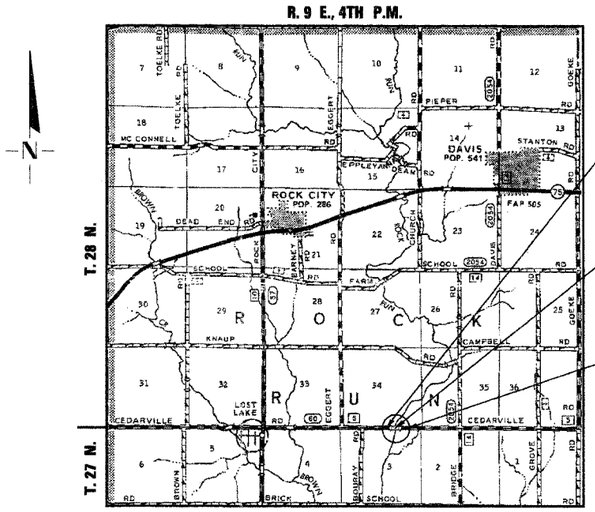
STANDARDS:

280001–02	TEMPORARY EROSION CONTROL SYSTEMS
515001–02	NAME PLATE FOR BRIDGES
601101	CONCRETE HEADWALL FOR PIPE DRAIN
630001–06	STEEL PLATE BEAM GUARDRAIL
630301–03	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032–02	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006–02	REFLECTOR AND TERMINAL MARKER PLACEMENT
665001–01	WOVEN WIRE FENCE
702001–06	TRAFFIC CONTROL DEVICES
BLR 21–6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SCALES

PLAN — 0′ 50′ 100′
PROFILE HORIZ. — 0′ 50′ 100′
PROFILE VERT. — 0′ 5′ 10′
CROSS SECTIONS — 0′ 5′ 10′

R. 9 E., 4TH P.M.



IMPROVEMENT BEGINS
STA. 252+50

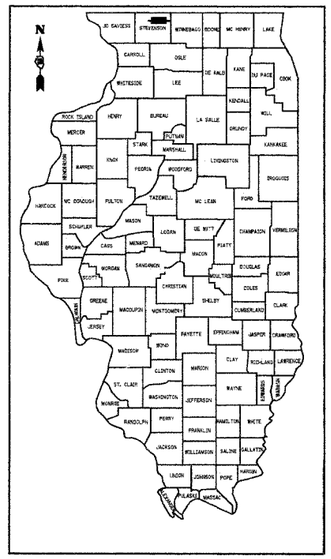
STA. 255+30 – SPECIAL BRIDGE DESIGN
CONTINUOUS STEEL COMPOSITE WIDE FLANGE
BEAM BRIDGE, THREE SPANS @ 48′–0″, 58′–0″, 48′–0″
30′–0″ ROADWAY, 20° SKEW
EXISTING S.N. 089–3013
PROPOSED S.N. 089–3280

IMPROVEMENT ENDS
STA. 258+00

LOCATION PLAN

GROSS LENGTH OF SECTION = 550 FEET = 0.104 MILES
NET LENGTH OF SECTION = 550 FEET = 0.104 MILES

0 1 2 3 4 5
SCALE IN MILES



LOCATION OF SECTION INDICATED THUS: ▬

CLASSIFICATION: RURAL TWO–LANE COLLECTORS (3R PROJECTS)
DESIGN VOLUME: 400–1000 ADT
CURRENT ADT: 895 (2006)
DESIGN SPEED: 50 MPH

APPROVED MAY 10 2006
COUNTY ENGINEER

PASSED August 25 2006
DISTRICT TWO ENGINEER OF LOCAL ROADS & STREETS

Releasing for Bid Based on Limited Review August 25 2006
DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRED J. STONE, JR.
26065
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Fred J. Stone Jr. (5-8-06)
ILLINOIS PROFESSIONAL NO. 26065
EXPIRES 11-30-07

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

TOLL FREE JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123

#0527

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	2
	ILLINOIS			

CONTRACT NO. 85391

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: X071-2A

	NUMBER	ITEM	UNIT	QUANTITY
	20200100	EARTH EXCAVATION	CU YD	30
	20300100	CHANNEL EXCAVATION	CU YD	330
	20400800	FURNISHED EXCAVATION	CU YD	124
*	20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD	76
*	25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	30
	28000400	PERIMETER EROSION BARRIER	FOOT	935
	28100207	STONE RIPRAP, CLASS A4	TON	194
	28200200	FILTER FABRIC	SQ YD	242
	35101400	AGGREGATE BASE COURSE, TYPE B	TON	164
	40500100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	241
*	40500300	BITUMINOUS MIXTURE COMPLETE	TON	267
	40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	340
	44000100	PAVEMENT REMOVAL	SQ YD	137
	48101200	AGGREGATE SHOULDERS, TYPE B	TON	43
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	296
	50300225	CONCRETE STRUCTURES	CU YD	115.2
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	146.3
	50300260	BRIDGE DECK GROOVING	SQ YD	522
	50300300	PROTECTIVE COAT	SQ YD	581
*	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
	50500505	STUD SHEAR CONNECTORS	EACH	2,220
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	42,980
	50901005	STEEL BRIDGE RAILING, TYPE SM	FOOT	314
*	51201000	FURNISHING METAL PILE SHELLS 12"	FOOT	1,000
	51202600	DRIVING AND FILLING SHELLS	FOOT	1,000
	51203200	TEST PILE METAL SHELLS	EACH	4
	51500100	NAME PLATES	EACH	1
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	48
*	60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	140
	63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	25
*	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	EACH	2
*	63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	225
*	63200307	STEEL PLATE BEAM GUARD RAIL REMOVAL ATTACHED TO STRUCTURE	FOOT	240
*	66503100	BARBED WIRE FENCE, FOUR STRAND	FOOT	154
	67100100	MOBILIZATION	L SUM	1
△	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,600
*	78201000	TERMINAL MARKERS - DIRIECT APPLIED	EACH	2
*	X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
*	X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1
*	Z0022800	FENCE REMOVAL	FOOT	131

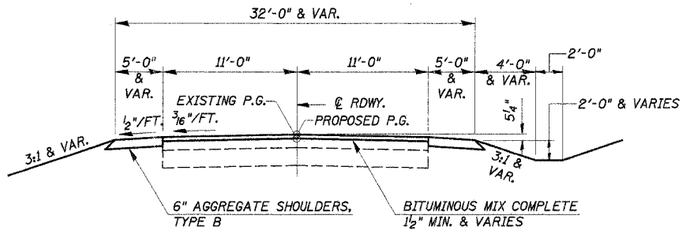
*SEE SPECIAL PROVISIONS
△ SPECIALTY ITEM

GENERAL NOTES

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

THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.2 ACRE



SUGGESTED FILL SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

SUGGESTED CUT SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

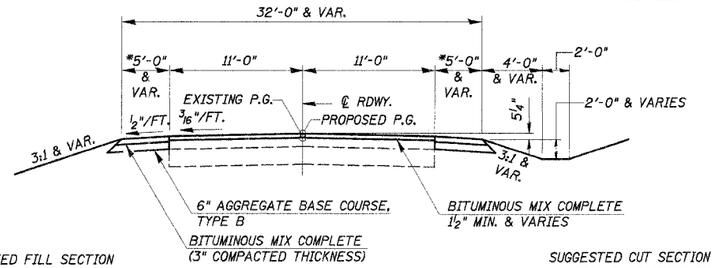
TYPICAL PROPOSED CROSS SECTION

STA. 252+50 TO STA. 253+30.81 AND
STA. 257+54.19 TO STA. 258+00

ROAD CLASSIFICATION: RURAL TWO-LANE COLLECTORS (3R PROJECTS)
CURRENT ADT: 895 (2006)

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 252+50 TO STA. 253+00 AND FROM STA. 257+50 TO STA. 258+00.

*SEE SHEET 5 FOR SHOULDER AND GUARDRAIL DETAILS



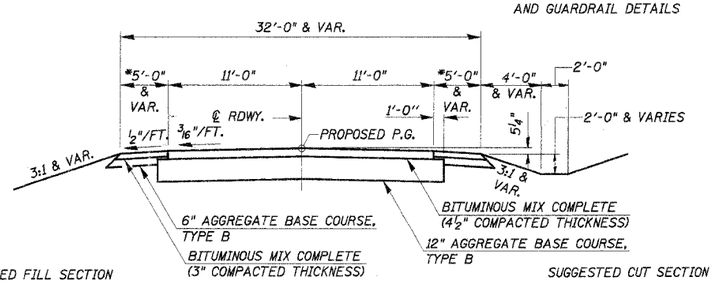
SUGGESTED FILL SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

SUGGESTED CUT SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

STA. 253+30.81 TO STA. 254+42 AND
STA. 256+18 TO STA. 257+54.19

*SEE SHEET 5 FOR SHOULDER AND GUARDRAIL DETAILS

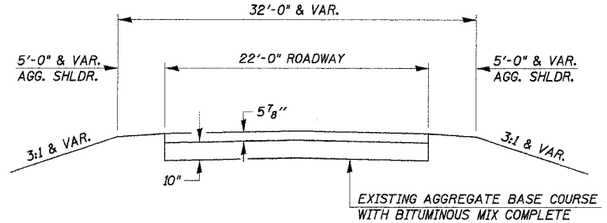


SUGGESTED FILL SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

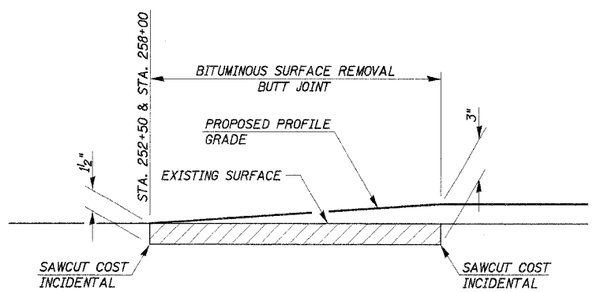
SUGGESTED CUT SECTION CONSTRUCT AS SHOWN BY STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

STA. 254+42 TO STA. 254+51.67 AND
STA. 256+08.33 TO STA. 256+18



EXISTING TYPICAL CROSS SECTION



BUTT JOINT DETAIL

STA. 252+50 TO STA. 252+89 AND
STA. 257+00 TO STA. 258+00

SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-3600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

DRAWN: S.A.P.
DATE: 01/27/05

CHECKED: G.J.C.
DATE: 02/08/06

JOB NO.: 0527
FILE: 0527SUMTYP.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	3
	ILLINOIS			

CONTRACT NO. 85391

SCHEDULE OF QUANTITIES

35101400 AGGREGATE BASE COURSE, TYPE B

LOCATION		TON
LT. STA. 253+30.81 TO LT. STA. 254+56.69	=	24
RT. STA. 253+30.81 TO RT. STA. 254+44.31	=	34
RT. STA. 256+03.31 TO RT. STA. 257+54.19	=	29
LT. STA. 256+15.69 TO LT. STA. 257+54.19	=	42
STA. 254+42 TO STA. 254+51.67	=	17
STA. 256+08.33 TO STA. 256+18	=	18
TOTAL	=	164 TON

40500100 BITUMINOUS MATERIALS (PRIME COAT)

LOCATION		GALLON
LT. STA. 253+30.81 TO LT. STA. 254+56.69	=	25
RT. STA. 253+30.81 TO RT. STA. 254+44.31	=	35
RT. STA. 256+03.31 TO RT. STA. 257+54.19	=	30
LT. STA. 256+15.69 TO LT. STA. 257+54.19	=	43
STA. 254+42 TO STA. 254+51.67	=	8
STA. 256+08.33 TO STA. 256+18	=	8
STA. 252+50.00 TO STA. 254+42.11	=	47
STA. 256+18.03 TO STA. 258+00.00	=	45
TOTAL	=	241 GALLON

40500300 BITUMINOUS MIXTURE COMPLETE

LOCATION		TON
LT. STA. 253+30.81 TO LT. STA. 254+56.69	=	12
RT. STA. 253+30.81 TO RT. STA. 254+44.31	=	17
RT. STA. 256+03.31 TO RT. STA. 257+54.19	=	14
LT. STA. 256+15.69 TO LT. STA. 257+54.19	=	21
STA. 252+50.00 TO STA. 254+51.67	=	122
STA. 256+08.33 TO STA. 258+00.00	=	81
TOTAL	=	267 TON

40600980 BITUMINOUS SURFACE REMOVAL - BUTT JOINT

LOCATION		SQ YD
STA. 252+50.00 TO STA. 252+89.00	=	95
STA. 257+00.00 TO STA. 258+00.00	=	245
TOTAL	=	340 SQ YD

44000100 PAVEMENT REMOVAL

LOCATION		SQ YD
STA. 254+42 TO STA. 254+70.00	=	68.5
STA. 255+90.00 TO STA. 256+18	=	68.5
TOTAL	=	137 SQ YD

48101200 AGGREGATE SHOULDERS, TYPE B

LOCATION		TON
LT. STA. 252+50.00 TO LT. STA. 253+30.81	=	12
RT. STA. 252+50.00 TO RT. STA. 253+30.81	=	15
LT. STA. 257+54.19 TO LT. STA. 258+00.00	=	8
RT. STA. 257+54.19 TO RT. STA. 258+00.00	=	8
TOTAL	=	43 TON

63200305 STEEL PLATE BEAM GUARDRAIL REMOVAL

LOCATION		FOOT
NORTHWEST CORNER EXISTING STRUCTURE	=	50
SOUTHWEST CORNER EXISTING STRUCTURE	=	62.5
NORTHEAST CORNER EXISTING STRUCTURE	=	62.5
SOUTHEAST CORNER EXISTING STRUCTURE	=	50
TOTAL	=	225 FOOT

63200307 STEEL PLATE BEAM GUARDRAIL REMOVAL ATTACHED TO STRUCTURE

LOCATION		FOOT
LT. STA. 254+70 TO LT. STA. 255+90	=	120
RT. STA. 254+70 TO RT. STA. 255+90	=	120
TOTAL	=	240 FOOT

78001110 PAINT PAVEMENT MARKING - LINE 4"

LOCATION		FOOT
LT. & RT. STA. 252+50 TO LT. & RT. STA. 258+00 (WHITE SOLID)	=	1100
℄ STA. 252+50 TO ℄ STA. 258+00 (YELLOW SKIP DASH)	=	140
W.B. ℄ STA. 252+50 TO W.B. ℄ 256+10 (YELLOW SOLID)	=	360
TOTAL	=	1600 FOOT

TEMPORARY EROSION CONTROL

THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES AND LOCATIONS FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY PRICE DUE TO A CHANGE IN PLAN QUANTITY.

PERIMETER EROSION BARRIER	=	935 FOOT
TEMPORARY EROSION CONTROL SEEDING	=	30 POUND

SCHEDULE OF QUANTITIES

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

DRAWN: S.A.P.
DATE: 01/30/06

CHECKED: G.J.C.
DATE: 02/08/06

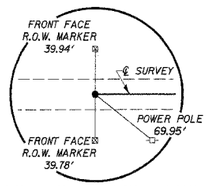
JOB NO.: 0527
FILE: 0527SCHED.DGN
DATE: 03/07/06

STANDARDS\GENERAL\RPLAN.DGN 1:1 7-17-98

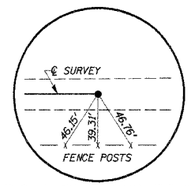
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	4
STA. 249+79.92	TO STA. 266+77.41			
	ILLINOIS			

CONTRACT NO. 85391

SE1/4, SECTION 34, T28N, R9E, 4TH P.M.



P.O.T. STA. 249+79.92
NAIL & WASHER



P.O.T. STA. 266+77.41
NAIL & WASHER

STA. 255+30 - SPECIAL BRIDGE DESIGN
CONTINUOUS COMPOSITE WIDE FLANGE
BEAM BRIDGE, THREE SPANS AT 48', 58', 48';
30'-0" ROADWAY, SKEW = 20°.

CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 330 CU. YD.

BARBED WIRE FENCE, 4 STRAND

40' LT. STA. 254+67.50 TO 15' LT. STA. 254+57.02	=	27 FOOT
39.1' RT. STA. 254+56.00 TO 15' RT. STA. 254+46.10	=	26 FOOT
26' LT. STA. 255+43.00 TO 15' LT. STA. 256+13.90	=	72 FOOT
40' RT. STA. 255+89.00 TO 15' RT. STA. 256+02.98	=	29 FOOT
TOTAL	=	154 FOOT

SEE SHEET 5 FOR SHOULDER AND GUARDRAIL DETAILS.

EXISTING STRUCTURE NO. 089-3013

3-SPAN CONTINUOUS STEEL I-BEAM BRIDGE WITH CONCRETE DECK ON OPEN STEEL PIERS WITH CLOSED TIMBER AND STEEL PILE ABUTMENTS AND WINGS. 120'-0" BK.-BK. ABUTS. 24'-0" O.-O. DECK, 0° SKEW.

REMOVAL OF EXISTING STRUCTURES = 1 EACH

UTILITIES

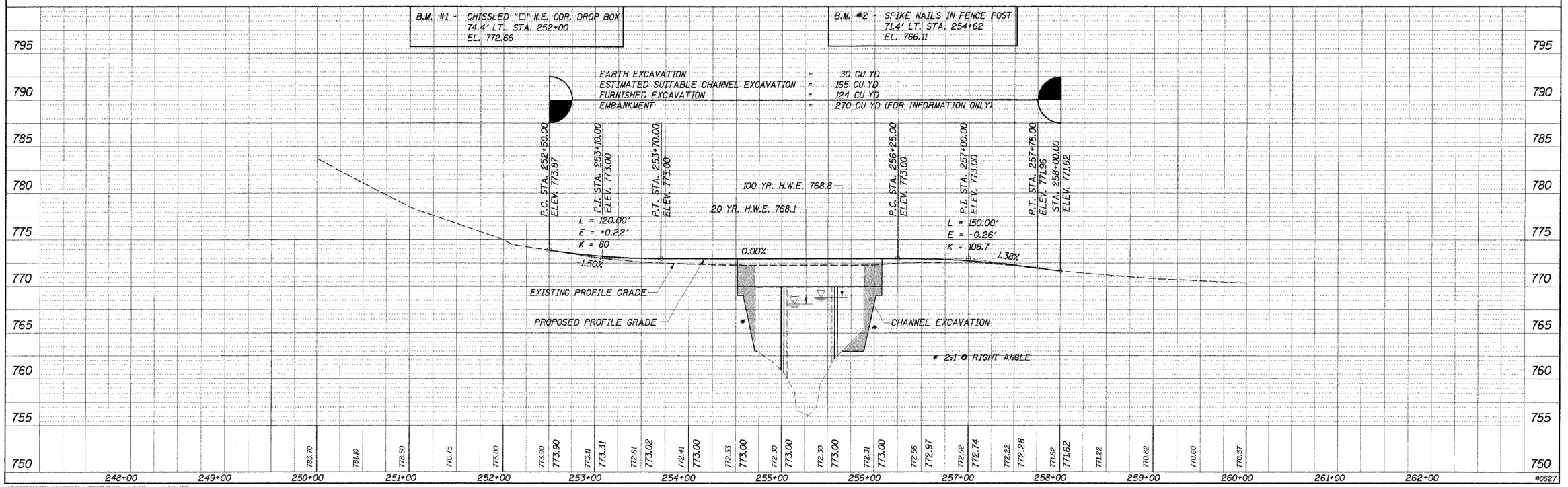
ELECTRIC	-	COMED
TELEPHONE	-	VERIZON
GAS	-	NICOR

NE1/4, SECTION 3, T27N, R9E, 4TH P.M.

B.M. #1 - CHISSLED "□" N.E. COR. DROP BOX
74.4' LT., STA. 252+00
EL. 772.66

B.M. #2 - SPIKE NAILS IN FENCE POST
71.4' LT. STA. 254+62
EL. 766.11

EARTH EXCAVATION	=	30 CU YD
ESTIMATED SUITABLE CHANNEL EXCAVATION	=	165 CU YD
FURNISHED EXCAVATION	=	124 CU YD
EMBANKMENT	=	270 CU YD (FOR INFORMATION ONLY)



#0527

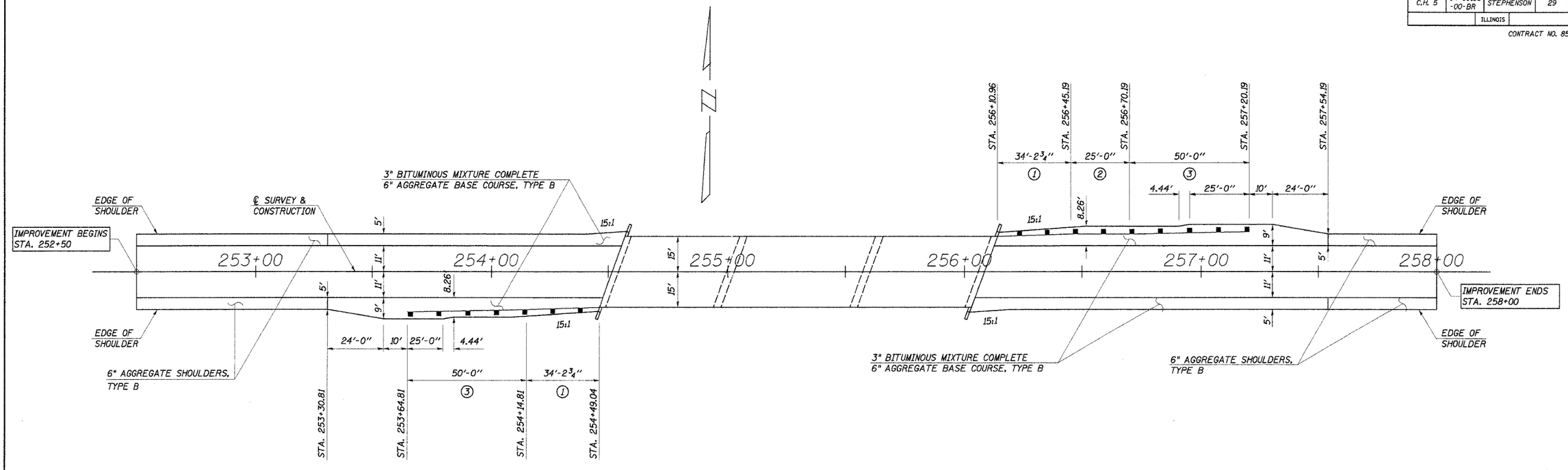
STANDARDS\GENERAL\RPAP.DGN 1:10 7-17-98

PLAN & PROFILE

DRAWN	BY	DATE
CHECKED	S.A.P.	12/01/98
REVISED		
REVISED		
REVISED		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	5
		ILLINOIS		

CONTRACT NO. 85391



SHOULDER AND GUARDRAIL DETAILS

TRAFFIC BARRIER TERMINAL, TYPE 6A

16' RT. STA. 254+14.81 TO 15' RT. STA. 254+49.04 = 1 EACH
15' LT. STA. 256+10.96 TO 16' LT. STA. 256+45.19 = 1 EACH
TOTAL = 2 EACH

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

17' RT. STA. 253+64.81 TO 16' RT. STA. 254+14.81 = 1 EACH
16' LT. STA. 256+70.19 TO 17' LT. STA. 257+20.19 = 1 EACH
TOTAL = 2 EACH

STEEL PLATE BEAM GUARDRAIL, TYPE A

16' LT. STA. 256+45.19 TO 16' LT. STA. 256+70.19 = 25 FOOT
TOTAL = 25 FOOT

LEGEND

NOTE: ALL DIMENSIONS REFER TO THE FRONT FACE OF PROPOSED RAILING.

(1) TRAFFIC BARRIER TERMINAL, TYPE 6A

(2) STEEL PLATE BEAM GUARD RAIL, TYPE A

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

SHOULDER AND GUARDRAIL DETAILS
SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

DRAWN: S.A.P.
DATE: 01/30/05

CHECKED: G.J.C.
DATE: 02/08/06

JOB NO.: 0527
FILE: 0527SHLD.DGN
DATE: 03/07/06

STANDARDS\GENERAL\RPLAN.DGN 1:1 7-17-98

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	6
	ILLINOIS			

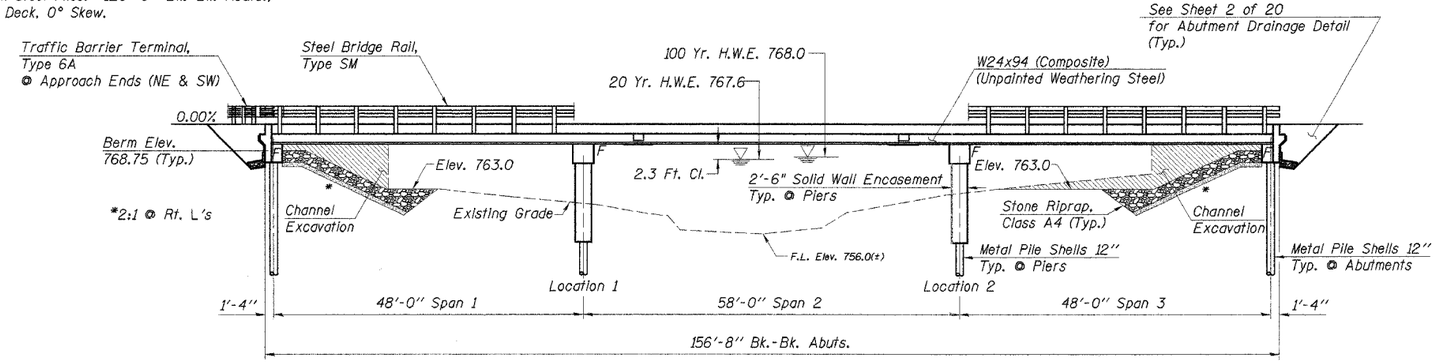
Sheet 1 of 20 CONTRACT NO. 85391

Existing Structure No. 089-3013

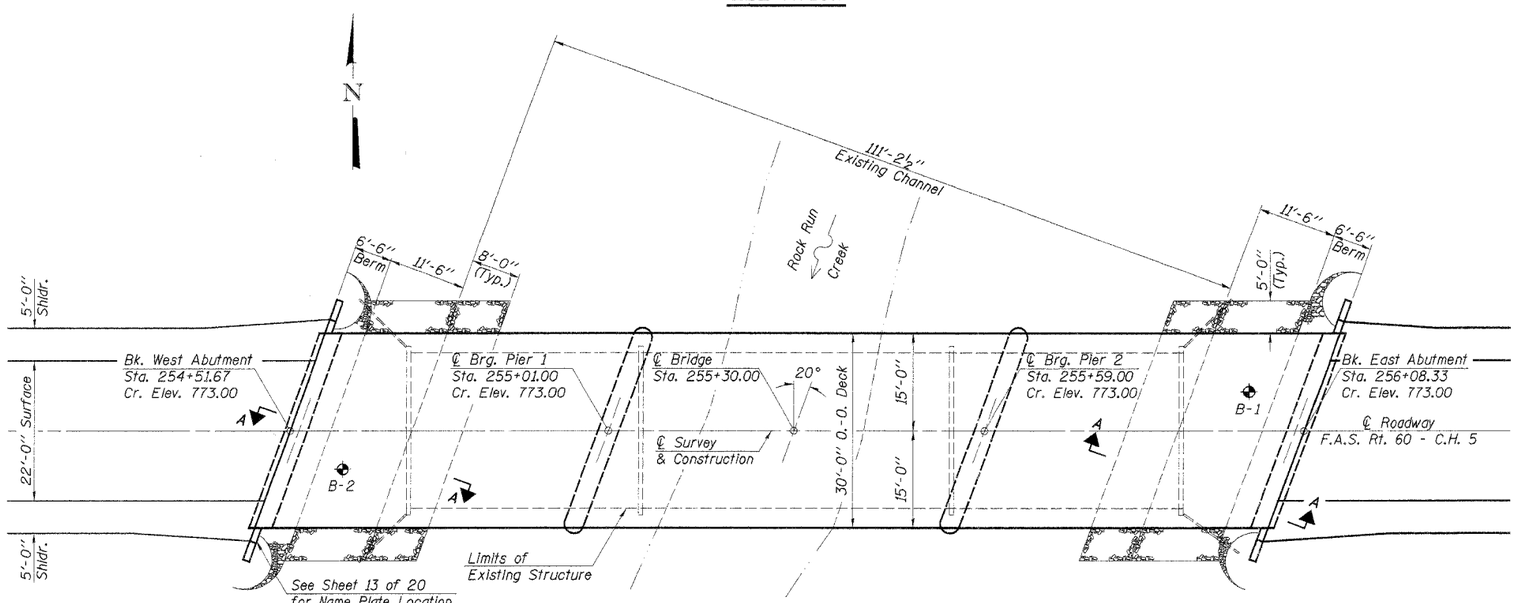
Sta. 255+30 - 3-Span Continuous Steel Wide Flange Beam Bridge with Concrete Deck on Pile Bent Steel Piers with Closed Timber Abutments with Steel Piles. 120'-0" Bk.-Bk. Abuts., 24'-0" O.-O. Deck, 0° Skew.

B.M. Descriptions

B.M. #2 - Spike Nail In Fence Post
71.4' Lt. Sta. 254+62, Elev. 766.11

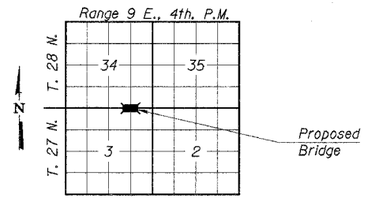


ELEVATION



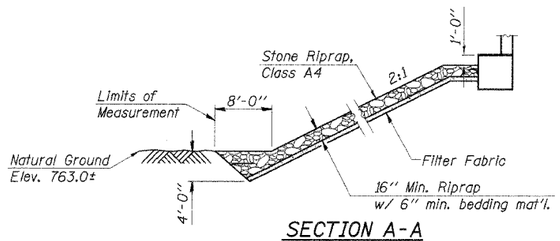
PLAN

Range 9 E., 4th. P.M.



LOCATION PLAN

INDEX OF SHEETS



SECTION A-A
RIPRAP PLACEMENT DETAIL

Construction Permits:
The requirements of the IDNR - Office of Water Resources have been fullfilled in accordance with Statewide Permit No. 2.

WATERWAY INFORMATION

Drainage Area	32.95 Sq. Mi.
Existing Opening (20 Yr.)	785 Sq. Ft.
Required Opening (20 Yr.)	842 Sq. Ft.
Proposed Opening (20 Yr.)	842 Sq. Ft.
Design Discharge (20 Yr.)	2978 C.F.S.
Created Head (20 Yr.)	0.2 Ft.
100 Year Discharge	4261 C.F.S.
100 Yr. Created Head	0.3 Ft.

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.032 g
Site Coefficient (S) = 1.0

DESIGN STRESSES

f'_c = 3,500 p.s.i. (Sub. & Super)
f_y = 60,000 p.s.i. (Reinf. Bars -- Field Units)
f_y = 50,000 p.s.i. AASHTO M270 GR 50W (Structural Steel)

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS 20-44

25#/Sq. Ft. included in dead load for future wearing surface.

"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 Specifications for Highway Bridges'".

Fred J. Stone, Jr. (5-8-06)
ILLINOIS STRUCTURAL NO. 2934 (Expires 11/30/06)

LICENSED STRUCTURAL ENGINEER
FRED J. STONE, JR.
81-2934
SPRINGFIELD
STATE OF ILLINOIS

GENERAL PLAN & ELEVATION

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.:	0527
FILE:	0527GPE.DGN
DATE:	03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	7
		ILLINOIS		

Sheet 2 of 20 CONTRACT NO. 85391

GENERAL NOTES

Fasteners shall be high strength bolts (AASHTO M 164, Type 3). Bolts $\frac{7}{8}$" ϕ, open holes $\frac{15}{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 84,270 Pound AASHTO M270 Grade 50W

All structural steel shall be AASHTO M 270 Grade 50W.

AASHTO M 270 Grade 50W structural steel shall only be painted, at the ends of the beams, for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with an inorganic zinc rich primer per AASHTO M 300, Type 1. No field painting shall be required. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".

Anchor Bolts shall be set before bolting diaphragms over supports.

Field welding of construction accessories will not be permitted to beams or girders.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.

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

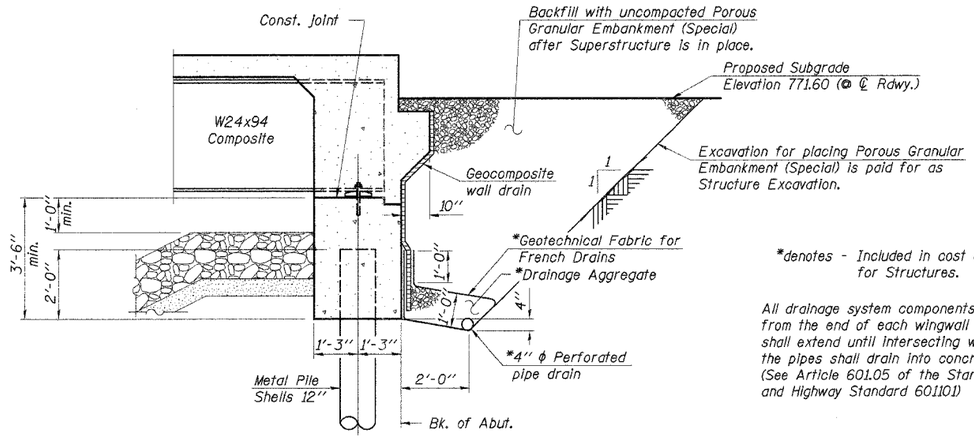
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$" adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The contractor shall drive one metal shell test pile in a permanent location at each abutment & pier as directed by the Engineer before ordering the remainder of piles.

All exposed portions of abutments, wing walls, and piers shall receive a rubbed finish in accordance with Article 503.16 (b) of the standard specifications. Cost to be included in cost of Concrete Structures.

See Sheets 19 & 20 of 20 for Boring Data.



SECTION THRU INTEGRAL ABUTMENT

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

*denotes - Included in cost of Pipe Underdrains for Structures.

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

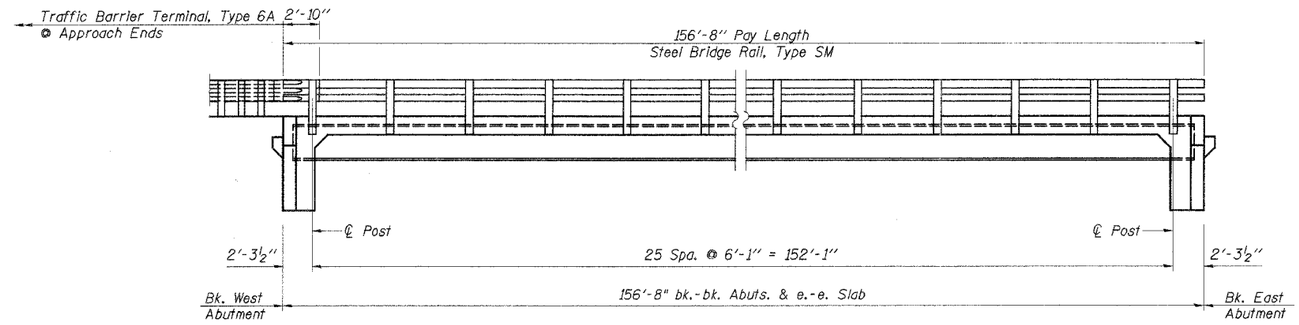
ROCK RUN CREEK
BUILT 200_ BY
STEPHENSON COUNTY
SEC. 04-00163-00-BR
F.A. PROJ. BRS-60(120)
STR. NO. 089-3280
LOADING HS20

LETTERING FOR NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		76	76
Stone Riprap, Class A4	Ton		194	194
Filter Fabric	Sq. Yd.		242	242
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		296	296
Concrete Structures	Cu. Yd.		115.2	115.2
Concrete Superstructure	Cu. Yd.	146.3		146.3
Bridge Deck Grooving	Sq. Yd.	522		522
Protective Coat	Sq. Yd.	571	10	581
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2,220		2,220
Reinforcement Bars, Epoxy Coated	Pound	32,960	10,020	42,980
Steel Bridge Rail, Type SM	Foot	314		314
Furnishing Metal Pile Shells 12"	Foot		1,000	1,000
Driving and Filling Shells	Foot		1,000	1,000
Test Pile Metal Shells	Each		4	4
Name Plates	Each		1	1
Pipe Underdrains for Structures 4"	Foot		140	140
Geocomposite Wall Drain	Sq.Yd.		48	48
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1



RAIL POST SPACING

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

GENERAL NOTES & BILL OF MATERIAL

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
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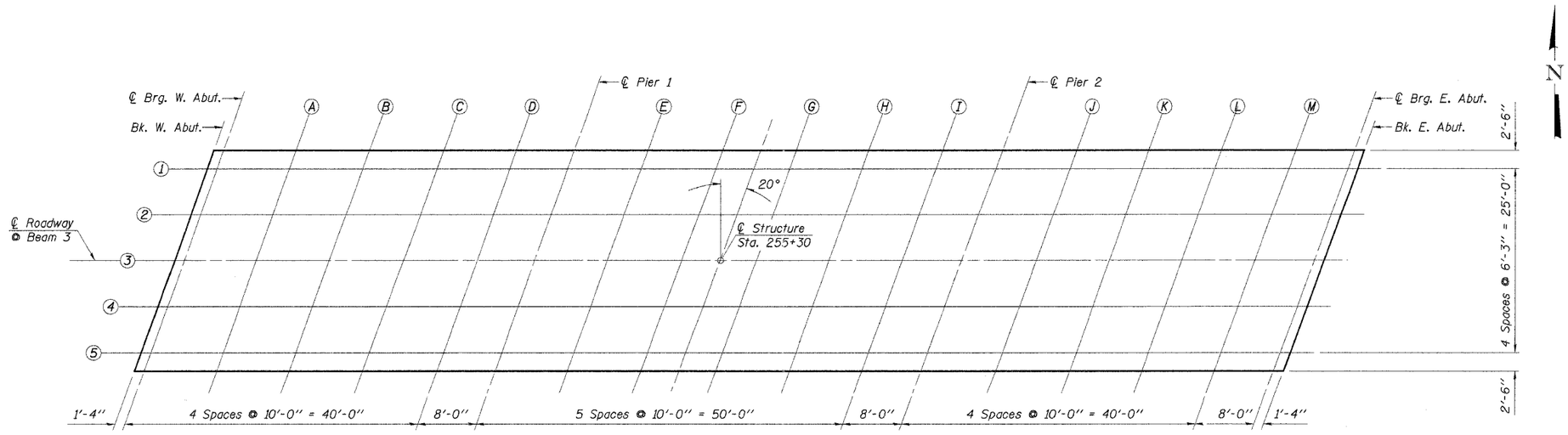
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

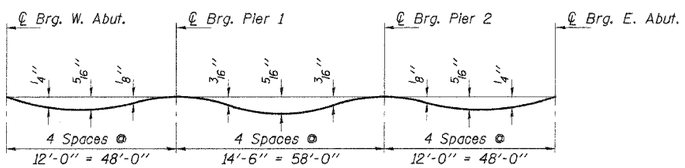
JOB NO.: 0527
FILE: 0509NOTES.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	8
	ILLINOIS			

Sheet 3 of 20 CONTRACT NO. 85391



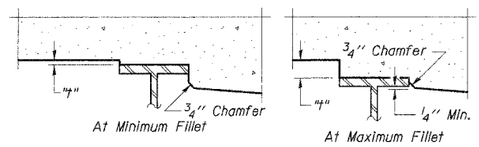
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 4 & 5.



To determine "t": After all structural steel has 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 Deflection" shown on Sheets 4 & 5 of 20, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

E-S 4-30-97

TOP OF SLAB ELEVATIONS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
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OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527SLAB1.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	9
	ILLINOIS			

Sheet 4 of 20 CONTRACT NO. 85391

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. W. Abut.	25456.220	-12.500	772.805	772.805
℄ Brg. W. Abut.	25457.550	-12.500	772.805	772.805
A	25467.550	-12.500	772.805	772.823
B	25477.550	-12.500	772.805	772.829
C	25487.550	-12.500	772.805	772.824
D	25497.550	-12.500	772.805	772.813
℄ Brg. Pier 1	25505.550	-12.500	772.805	772.805
E	25515.550	-12.500	772.805	772.815
F	25525.550	-12.500	772.805	772.824
G	25535.550	-12.500	772.805	772.830
H	25545.550	-12.500	772.805	772.822
I	25555.550	-12.500	772.805	772.813
℄ Brg. Pier 2	25563.550	-12.500	772.805	772.805
J	25573.550	-12.500	772.805	772.815
K	25583.550	-12.500	772.805	772.826
L	25593.550	-12.500	772.805	772.828
M	25603.550	-12.500	772.805	772.819
℄ Brg. E. Abut.	25611.550	-12.500	772.805	772.805
Bk. E. Abut.	25612.880	-12.500	772.805	772.805

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. W. Abut.	25453.945	-6.250	772.903	772.903
℄ Brg. W. Abut.	25455.275	-6.250	772.903	772.903
A	25465.275	-6.250	772.903	772.920
B	25475.275	-6.250	772.903	772.927
C	25485.275	-6.250	772.903	772.921
D	25495.275	-6.250	772.903	772.911
℄ Brg. Pier 1	25503.275	-6.250	772.903	772.903
E	25513.275	-6.250	772.903	772.912
F	25523.275	-6.250	772.903	772.921
G	25533.275	-6.250	772.903	772.927
H	25543.275	-6.250	772.903	772.920
I	25553.275	-6.250	772.903	772.910
℄ Brg. Pier 2	25561.275	-6.250	772.903	772.903
J	25571.275	-6.250	772.903	772.913
K	25581.275	-6.250	772.903	772.924
L	25591.275	-6.250	772.903	772.926
M	25601.275	-6.250	772.903	772.917
℄ Brg. E. Abut.	25609.275	-6.250	772.903	772.903
Bk. E. Abut.	25610.605	-6.250	772.903	772.903

BEAM 3 (℄ ROADWAY P.G.)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. W. Abut.	25451.670	.000	773.000	773.000
℄ Brg. W. Abut.	25453.000	.000	773.000	773.000
A	25463.000	.000	773.000	773.018
B	25473.000	.000	773.000	773.024
C	25483.000	.000	773.000	773.019
D	25493.000	.000	773.000	773.008
℄ Brg. Pier 1	25501.000	.000	773.000	773.000
E	25511.000	.000	773.000	773.010
F	25521.000	.000	773.000	773.019
G	25531.000	.000	773.000	773.025
H	25541.000	.000	773.000	773.017
I	25551.000	.000	773.000	773.008
℄ Brg. Pier 2	25559.000	.000	773.000	773.000
J	25569.000	.000	773.000	773.010
K	25579.000	.000	773.000	773.021
L	25589.000	.000	773.000	773.023
M	25599.000	.000	773.000	773.014
℄ Brg. E. Abut.	25607.000	.000	773.000	773.000
Bk. E. Abut.	25608.330	.000	773.000	773.000

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

E-S 4-30-97

TOP OF SLAB ELEVATIONS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527SLAB2.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	10
	ILLINOIS			

Sheet 5 of 20 CONTRACT NO. 85391

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. W. Abut.	25449.395	6.250	772.903	772.903
℄ Brg. W. Abut.	25450.725	6.250	772.903	772.903
A	25460.725	6.250	772.903	772.920
B	25470.725	6.250	772.903	772.927
C	25480.725	6.250	772.903	772.921
D	25490.725	6.250	772.903	772.911
℄ Brg. Pier 1	25498.725	6.250	772.903	772.903
E	25508.725	6.250	772.903	772.912
F	25518.725	6.250	772.903	772.921
G	25528.725	6.250	772.903	772.927
H	25538.725	6.250	772.903	772.920
I	25548.725	6.250	772.903	772.910
℄ Brg. Pier 2	25556.725	6.250	772.903	772.903
J	25566.725	6.250	772.903	772.913
K	25576.725	6.250	772.903	772.924
L	25586.725	6.250	772.903	772.926
M	25596.725	6.250	772.903	772.917
℄ Brg. E. Abut.	25604.725	6.250	772.903	772.903
Bk. E. Abut.	25606.056	6.250	772.903	772.903

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. W. Abut.	25447.120	12.500	772.805	772.805
℄ Brg. W. Abut.	25448.451	12.500	772.805	772.805
A	25458.451	12.500	772.805	772.823
B	25468.451	12.500	772.805	772.829
C	25478.451	12.500	772.805	772.824
D	25488.451	12.500	772.805	772.813
℄ Brg. Pier 1	25496.451	12.500	772.805	772.805
E	25506.451	12.500	772.805	772.815
F	25516.451	12.500	772.805	772.824
G	25526.451	12.500	772.805	772.830
H	25536.451	12.500	772.805	772.822
I	25546.451	12.500	772.805	772.813
℄ Brg. Pier 2	25554.451	12.500	772.805	772.805
J	25564.451	12.500	772.805	772.815
K	25574.451	12.500	772.805	772.826
L	25584.451	12.500	772.805	772.828
M	25594.451	12.500	772.805	772.819
℄ Brg. E. Abut.	25602.451	12.500	772.805	772.805
Bk. E. Abut.	25603.781	12.500	772.805	772.805

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

E-S 4-30-97

TOP OF SLAB ELEVATIONS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

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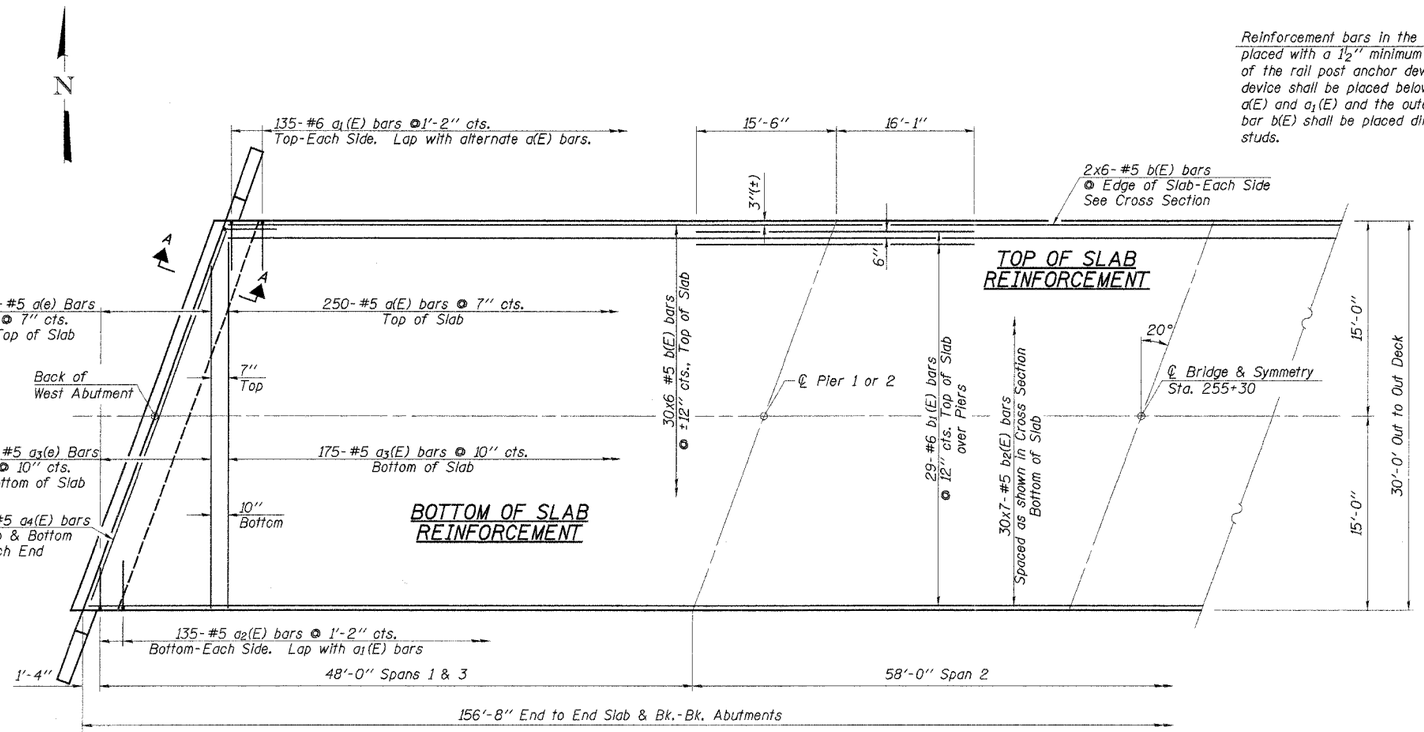
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527SLAB3.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	11
	ILLINOIS			

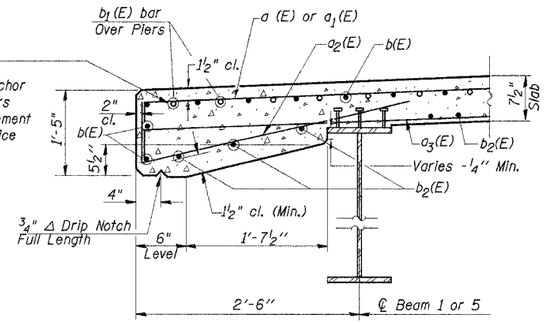
Sheet 6 of 20 CONTRACT NO. 85391



*Order a(E) & a3(E) bars full length. Cut to fit skew and remainder of bars in opposite end of slab.

HALF PLAN

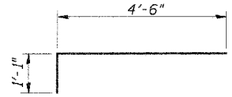
Reinforcement bars in the top of the deck shall be placed with a 1½" minimum clearance in the area of the rail post anchor devices. The studs of the anchor device shall be placed below the top reinforcement bars a(E) and a_1(E) and the outermost longitudinal reinforcement bar b(E) shall be placed directly above the anchor device studs.



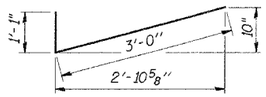
SECTION THRU EDGE OF SLAB

MIN. BAR LAPS

#5 1'-8"
#6 2'-0"



BAR a_1(E)



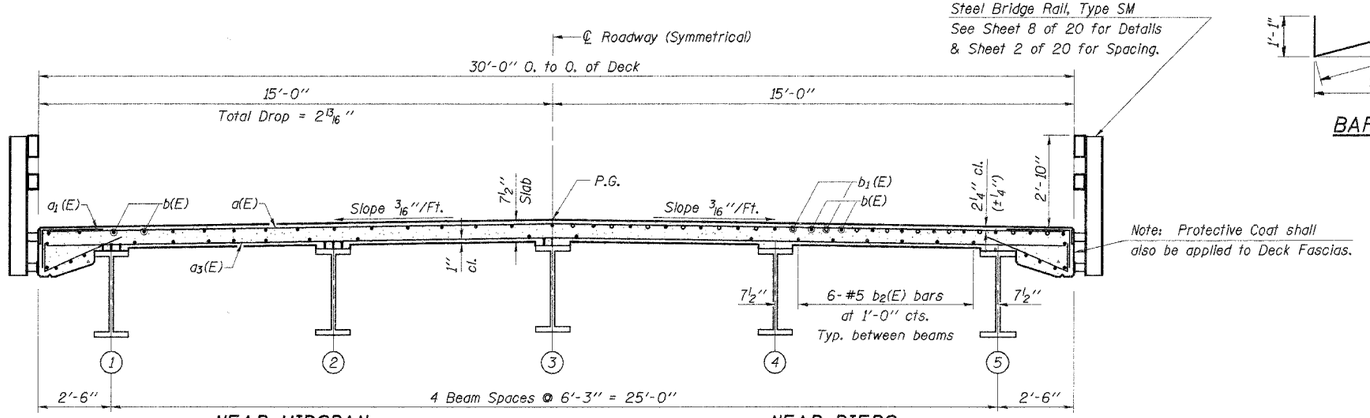
BAR a_2(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a (E)	268	#5	29'-8"	
a_1(E)	270	#6	5'-7"	
a_2(E)	270	#5	4'-1"	
a_3(E)	188	#5	29'-4"	
a_4(E)	4	#5	31'-7"	
b(E)	204	#5	27'-6"	
b_1(E)	58	#6	31'-7"	
b_2(E)	210	#5	23'-9"	
m(E)	10	#6	31'-8"	
m_1(E)	20	#6	8'-8"	
m_2(E)	8	#6	6'-4"	
m_3(E)	4	#6	2'-6"	
s(E)	68	#5	5'-9"	
s_1(E)	60	#4	8'-4"	
Protective Coat		Sq. Yd.	571	
Conc. Superstructure		Cu. Yd.	146.3	
Reinforcement Bars, Epoxy Coated		Pound	32,960	
Bridge Deck Grooving		Sq. Yd.	522	

Reinforcement Bars designated (E) shall be epoxy coated.

Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



NEAR MIDSPAN NEAR PIERS

CROSS SECTION
(Looking East)

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

Work this Sheet with Sheet 7 of 20.

SUPERSTRUCTURE

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
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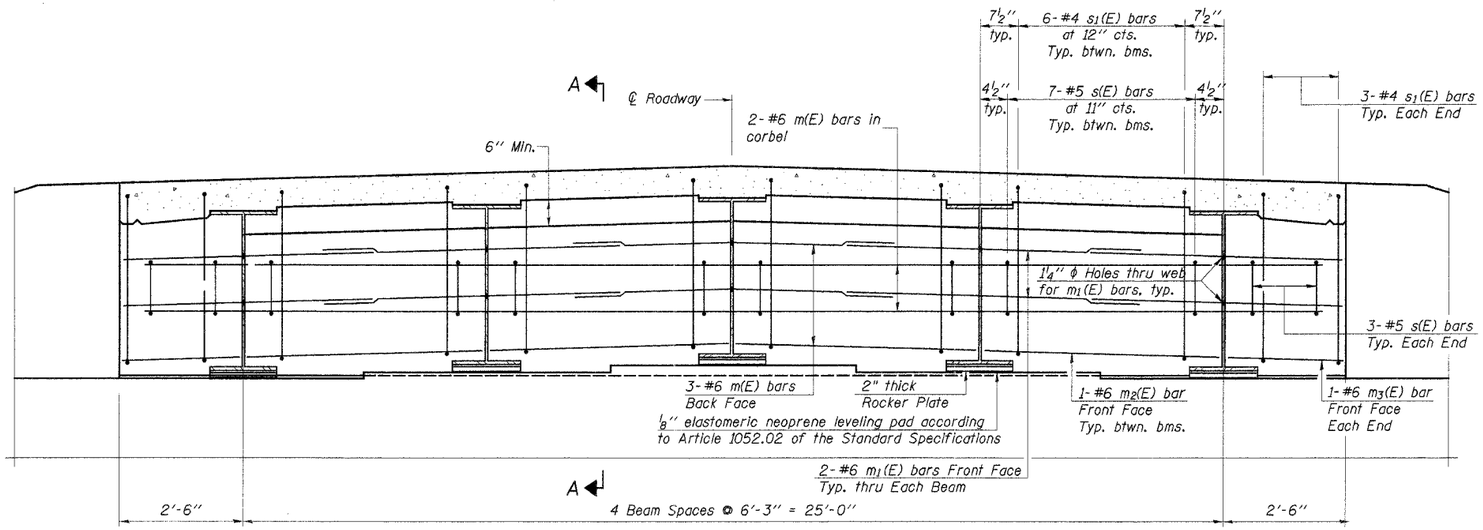
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527SUPER1.DGN
DATE: 03/07/06

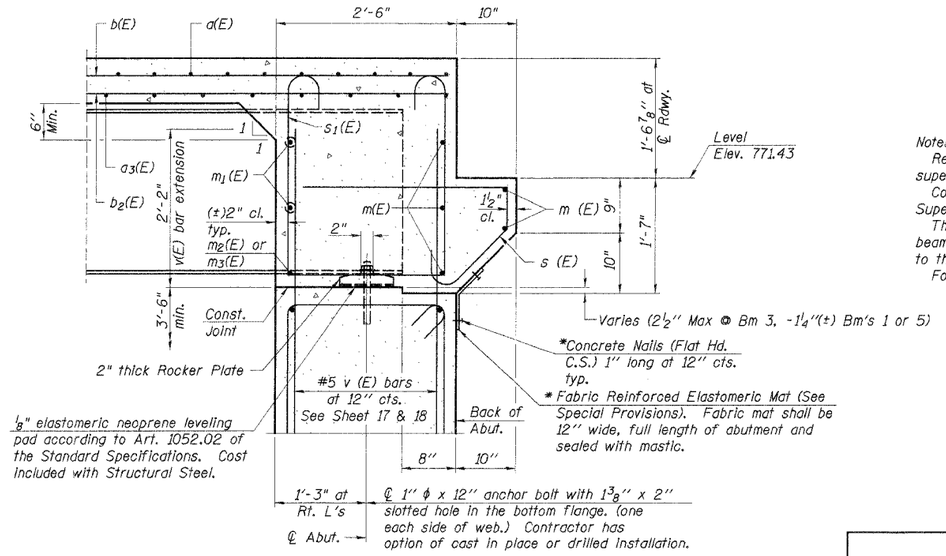
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	12
	ILLINOIS			

Sheet 7 of 20 CONTRACT NO. 85391



DIAPHRAGM ELEVATION AT ABUTMENT

(Dimensions @ Rt. L's ℄ Roadway)



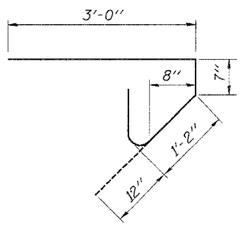
SECTION A-A

Dimensions at right angles to abutment, except as shown.
* Cost included with Concrete Superstructure.

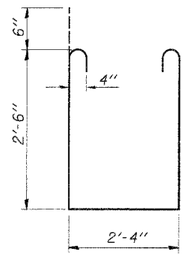
MIN. BAR LAP

#6 bar = 2'-0"

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 6 of 20.
Concrete in diaphragm is included with Concrete Superstructure on sheet 6 of 20.
The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
For anchor bolt details see sheet 12 of 20.



BAR s(E)



BAR s_1(E)

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

SI-DS2 9-01-03

Work this sheet with Sheet 6 of 20

SUPERSTRUCTURE DETAILS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
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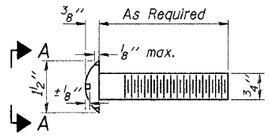
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

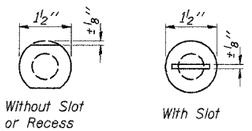
JOB NO.: 0527
FILE: 0527SUPER2.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	13
	ILLINOIS			

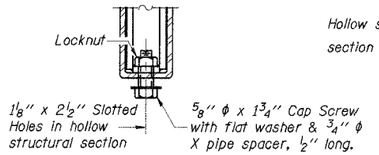
Sheet 8 of 20 CONTRACT NO. 85391



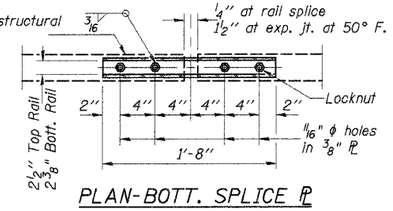
DETAIL OF $\frac{3}{4}$" ϕ ROUND HEAD BOLT



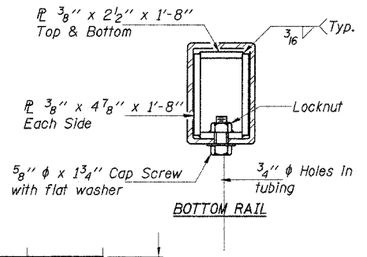
VIEW A-A

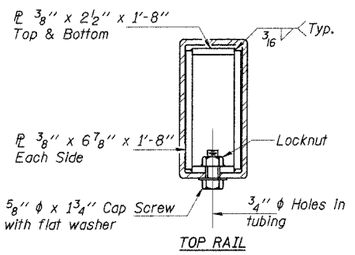


RAIL SPLICE CONNECTION AT EXPANSION JT.

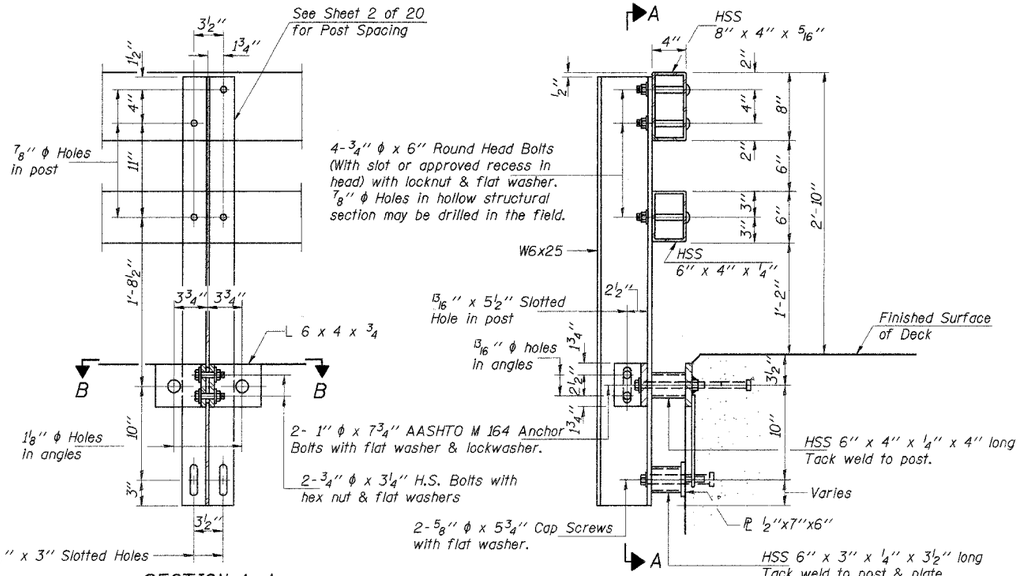


PLAN-BOTT. SPLICE Pl TYPICAL



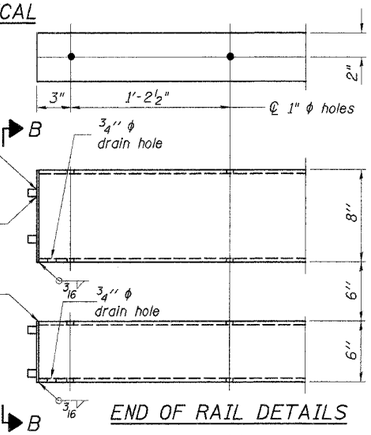


SECTIONS AT RAIL SPLICE

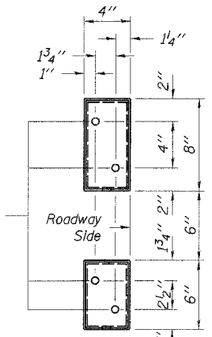


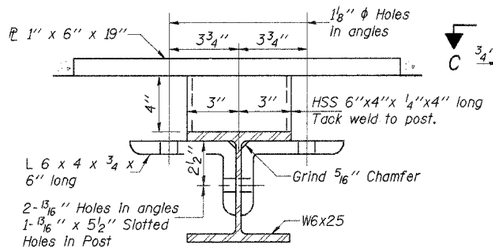
SECTION A-A

SECTION AT RAIL POST

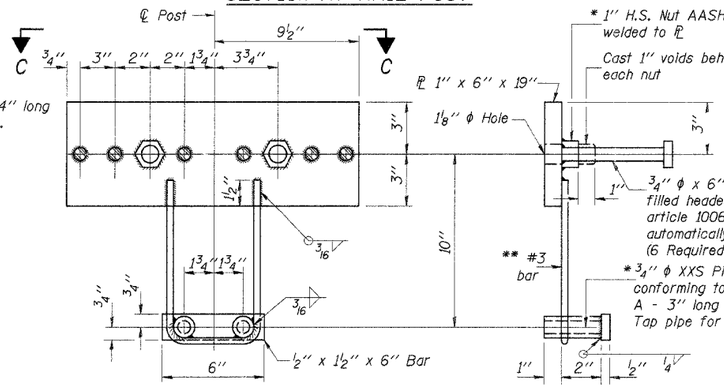


END OF RAIL DETAILS





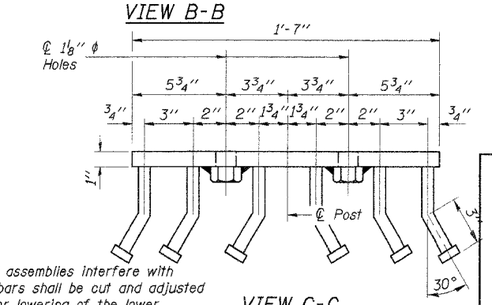
SECTION B-B



ANCHOR DEVICE

℄ -5/8" reduced base welded studs. Provide 4 -5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032

VIEW B-B



VIEW C-C

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

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

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.

The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

The 3/4" ϕ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.

Note: See Sheet 2 of 20 for Post Spacing

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	314

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

9-01-03 (6'-3" Maximum Post Spacing)

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

STEEL BRIDGE RAIL, TYPE SM

SECTION 04-00163-00-BR
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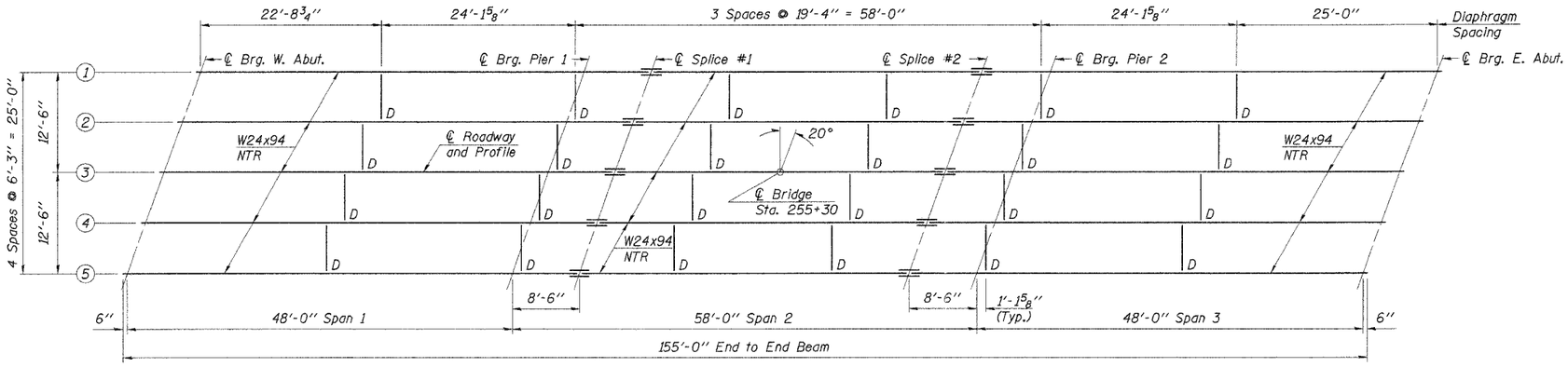
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527RAIL.DGN
DATE: 03/07/06

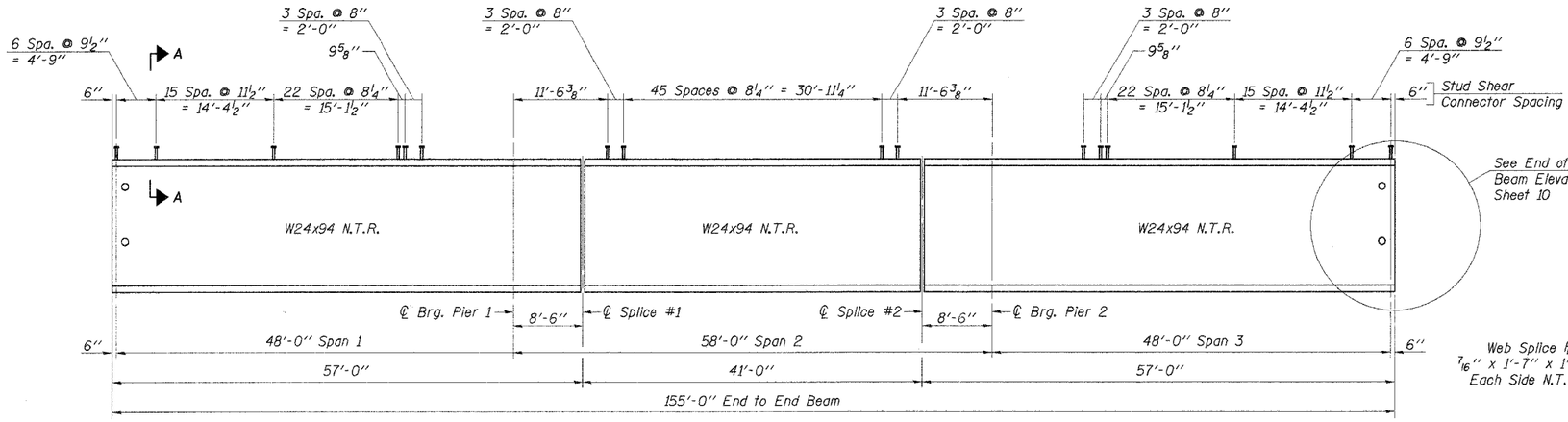
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	14
	ILLINOIS			

See Sheet 9 of 20 CONTRACT NO. 85391

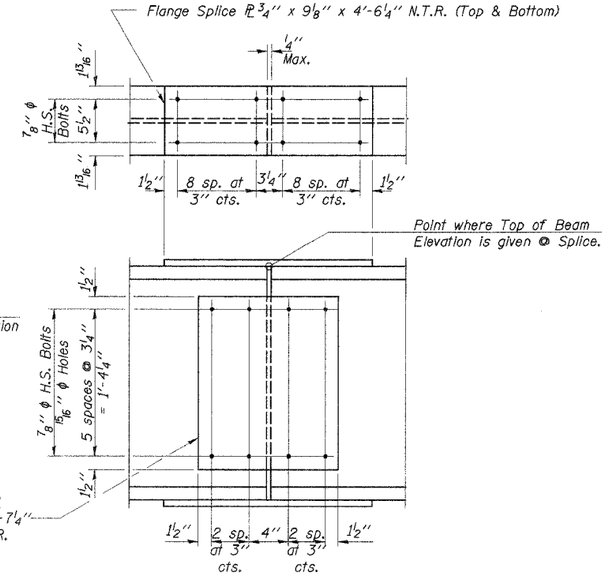


FRAMING PLAN

Note: NTR indicates that Notch Toughness Requirements are applicable.

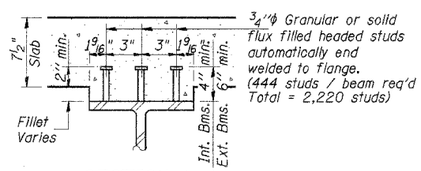


ELEVATION



SPLICE

(Splice #1 or #2)



3/4" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (444 studs / beam req'd Total = 2,220 studs)

SECTION A-A

Typical Shear Connector Detail

TOP OF BEAM ELEVATIONS

(For fabrication only)

	Beam 1 or 5	Beam 2 or 4	Beam 3
℄ Brg. W. Abut.	771.96	772.17	772.27
℄ Brg. Pier 1	771.96	772.17	772.27
℄ Splice 1	771.96	772.17	772.27
℄ Splice 2	771.96	772.17	772.27
℄ Brg. Pier 2	771.96	772.17	772.27
℄ Brg. E. Abut.	771.96	772.17	772.27

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

I-2-D 2-26-93

Work this Sheet with Sheets 10 & 11 of 20

STRUCTURAL STEEL

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
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OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527STEELLDGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	15
	ILLINOIS			

Sheet 10 of 20 CONTRACT NO. 85391

EXTERIOR BEAM MOMENT TABLE				
		0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
Is	(in^4)	2,700	2,700	2,700
Ic (n)	(in^4)	8,159	———	8,159
Ic (3n)	(in^4)	6,002	———	6,002
Ss	(in^3)	222	222	222
Sc (n)	(in^3)	347	———	347
Sc (3n)	(in^3)	312	———	312
$\overline{D}$	(k/ft.)	0.940	1.180	0.940
$M\overline{D}$	('k)	154	322	129
$s\overline{D}$	(k/ft.)	0.240	———	0.240
$Ms\overline{D}$	('k)	44	———	45
$M\overline{L}$	('k)	307	163	327
M (Imp)	('k)	88	46	89
$5/3[M\overline{L}+M(Imp)]$	('k)	658	348	693
Ma	('k)	1,113	871	1,127
* Mu	('k)	1,445	———	1,445
$fs\overline{D}$ non-comp	(k.s.i.)	8.3	17.4	7.0
$fs\overline{D}$ (comp)	(k.s.i.)	1.7	———	1.7
$fs\,5/3(\overline{L}+Imp)$	(k.s.i.)	22.8	18.8	24.0
fs (Overload)	(k.s.i.)	32.8	36.2	32.7
** fs (Total)	(k.s.i.)	———	47.1	———
VR	(k)	47.8	———	45.3

*Compact Braced Section
**Non-Compact Section

EXTERIOR BEAM REACTION TABLE			
		Abutment	Pier
$R\overline{D}$	(k)	21.6	69.2
$R\overline{L}$	(k)	34.0	40.5
Imp.	(k)	9.8	11.4
R (Total)	(k)	65.4	121.1

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

$Ic_{(n)}$ and $Sc_{(n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$Ic_{(3n)}$ and $Sc_{(3n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads.

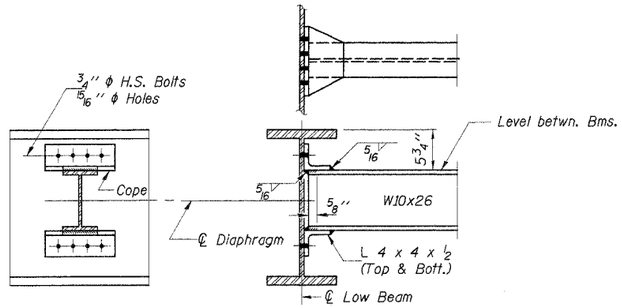
VR is the maximum Live Load + Impact shear range in the composite portion of the span.

Ma (Applied Moment)$=1.3[M\overline{D} + Ms\overline{D} + 5/3(M\overline{L} + M_{imp})]$.

The plastic moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1

fs (Overload) is the sum of the stresses due to $M\overline{D} + Ms\overline{D} + 5/3(M\overline{L} + M_{imp})$.

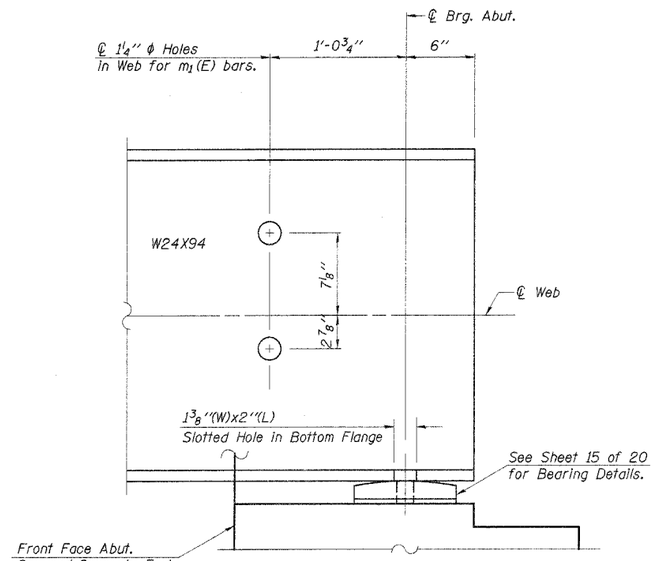
fs (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\overline{D} + Ms\overline{D} + 5/3(M\overline{L} + M_{imp})]$.



DIAPHRAGM D

24 Required

Note:
Two hardened washers shall be required over all oversize holes for diaphragms.



END OF BEAM ELEVATION

(Typical)

Work this Sheet with Sheets 9 & 11 of 20

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

I-2-D 2-26-93

STRUCTURAL STEEL

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
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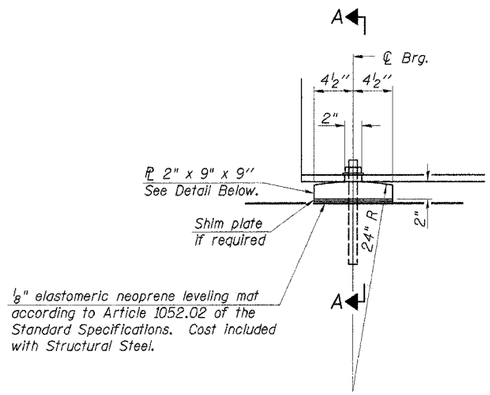
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

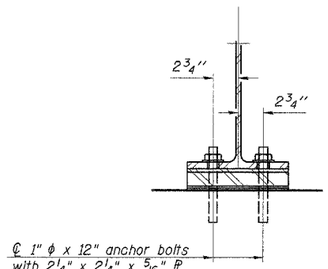
JOB NO.: 0527
FILE: 0527STEEL2.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	16
	ILLINOIS			

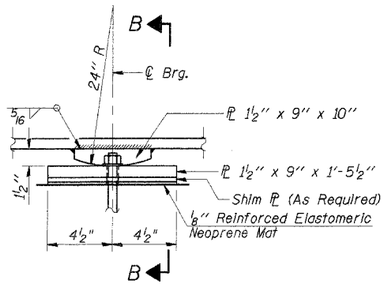
Sheet 11 of 20 CONTRACT NO. 85391



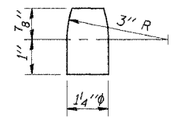
ELEVATION AT ABUTMENTS



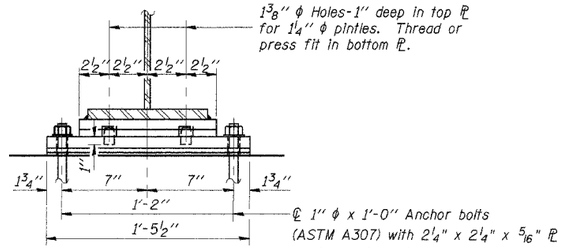
SECTION A-A



ELEVATION AT PIERS 1 & 2



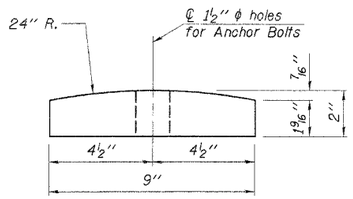
PINTLE



SECTION B-B

ABUTMENT BEARING

10 Required
Weight included with Structural Steel.



BEARING PLATE DETAIL

FIXED BEARING

(10 Required)
Weight included with Structural Steel.

Notes: Anchor bolts at fixed bearings may be built into the masonry.
See sheet 12 of 20 for Anchor Bolt installation.

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

I-2-E2 9-1-03

Work this Sheet with Sheets 9 & 10 of 20

BEARING DETAILS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
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4440 ASH GROVE
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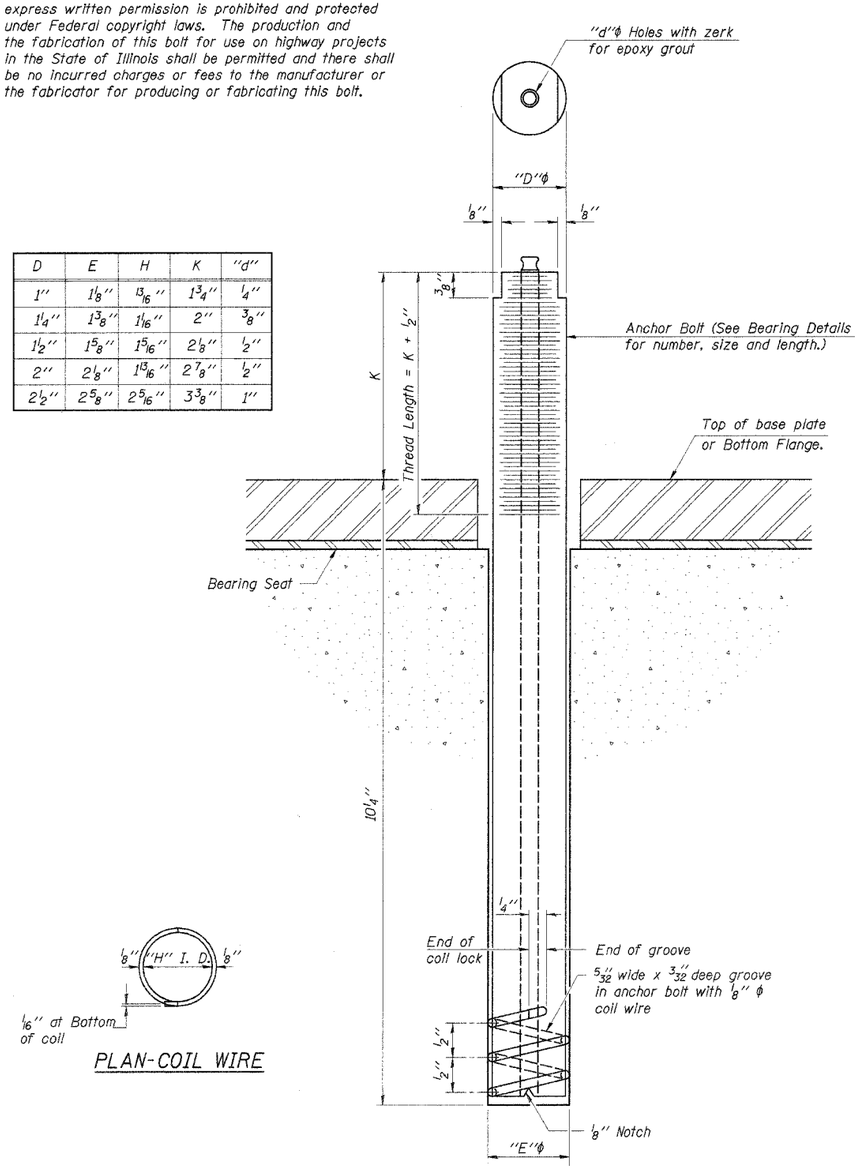
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527BRG.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	17
	ILLINOIS			

Sheet 12 of 20 CONTRACT NO. 85391

D	E	H	K	"d"
1"	$1\frac{1}{8}$"	$\frac{13}{16}$"	$1\frac{3}{4}$"	$\frac{1}{4}$"
$1\frac{1}{4}$"	$1\frac{3}{8}$"	$1\frac{1}{16}$"	2"	$\frac{3}{8}$"
$1\frac{1}{2}$"	$1\frac{5}{8}$"	$1\frac{5}{16}$"	$2\frac{1}{8}$"	$\frac{1}{2}$"
2"	$2\frac{1}{8}$"	$1\frac{13}{16}$"	$2\frac{7}{8}$"	$\frac{1}{2}$"
$2\frac{1}{2}$"	$2\frac{5}{8}$"	$2\frac{5}{16}$"	$3\frac{3}{8}$"	1"



ILLINOIS COIL-LOCK ANCHOR BOLT

PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	A307
Piers	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

ABB-1 4-30-99

ANCHOR BOLT DETAILS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

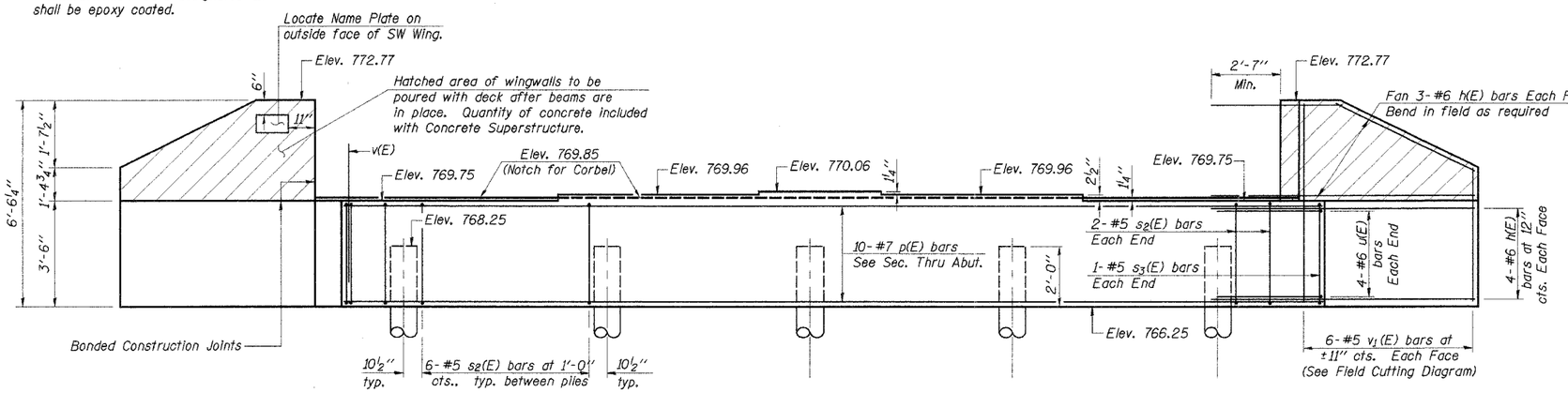
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527ABOLT.DGN
DATE: 03/07/06

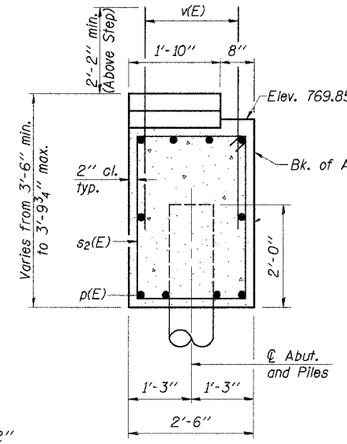
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	18
	ILLINOIS			

Sheet 13 of 20 CONTRACT NO. 85391

Notes: Pour steps monolithically with cap. Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION
(Looking West)

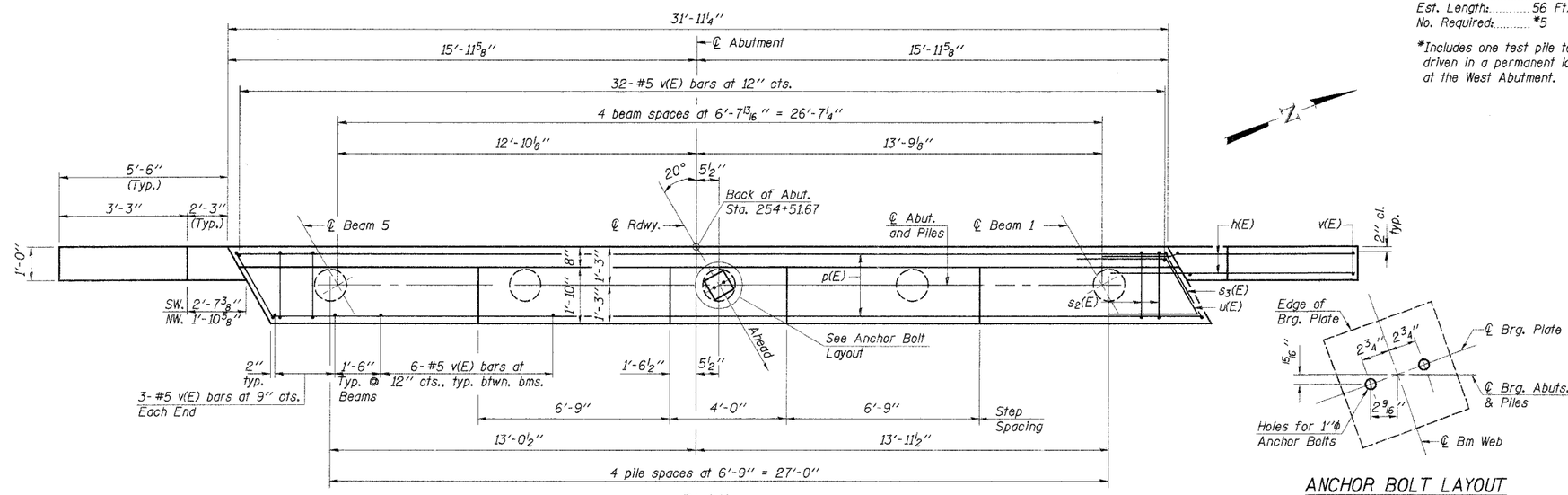


SEC. THRU ABUT.

PILE DATA

Type: ..... Metal Shell 12"
Capacity: ..... 50 Ton/Pile
Est. Length: ..... 56 Ft/Pile
No. Required: *5

*Includes one test pile to be driven in a permanent location at the West Abutment.

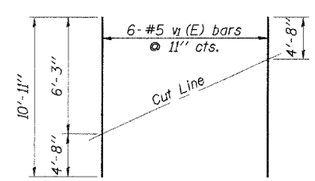


PLAN

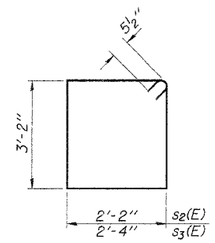
ANCHOR BOLT LAYOUT

BILL OF MATERIAL

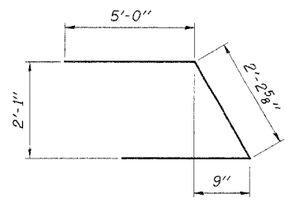
Bar	No.	Size	Length	Shape
h(E)	28	#6	8'-0"	
p(E)	10	#7	31'-7"	
s2(E)	28	#5	11'-7"	
s3(E)	2	#5	11'-11"	
u(E)	8	#6	12'-3"	
v(E)	62	#5	4'-4"	
v1(E)	24	#5	10'-11"	
Concrete Structures		Cu. Yd.	11.9	
Reinforcement Bars, Epoxy Coated		Pound	2,050	
Structure Excavation		Cu. Yd.	83	
Name Plates		Each	1	
Furnishing Metal Pile Shells 12"		Feet	224	
Driving & Filling Shells		Feet	224	
Test Pile Metal Shell		Each	1	
Protective Coat		Sq. Yd.	5	
Pourus Granular Embankment (Special)		Cu. Yd.	38	
Geocomposite Wall Drain		Sq. Yd.	24	
Pipe Underdrains for Structures 4"		Foot	70	



FIELD CUTTING DIAGRAM
Order v1(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u(E)

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

9-01-03

WEST ABUTMENT

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

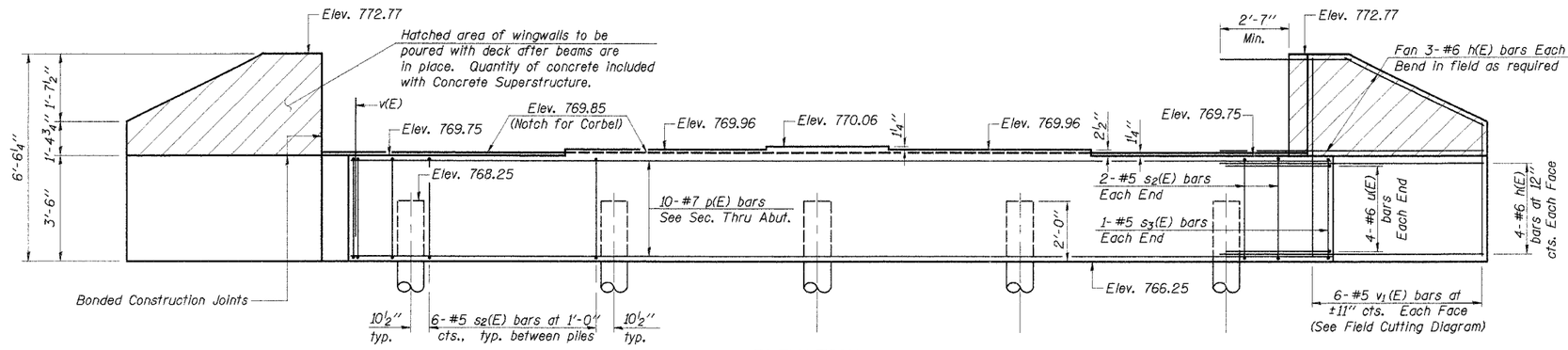
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527ABUT1.DGN
DATE: 03/07/06

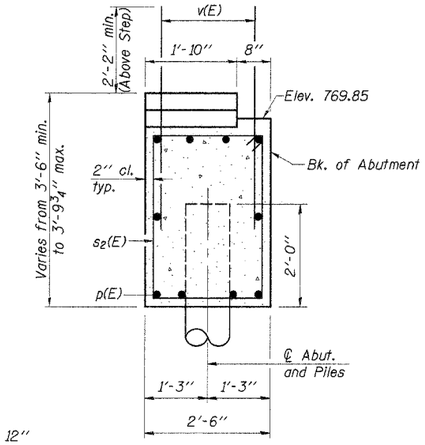
Notes: Pour steps monolithically with cap.
Reinforcement bars designated (E) shall be epoxy coated.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	19
	ILLINOIS			

Sheet 14 of 20 CONTRACT NO. 85391



ELEVATION
(Looking East)

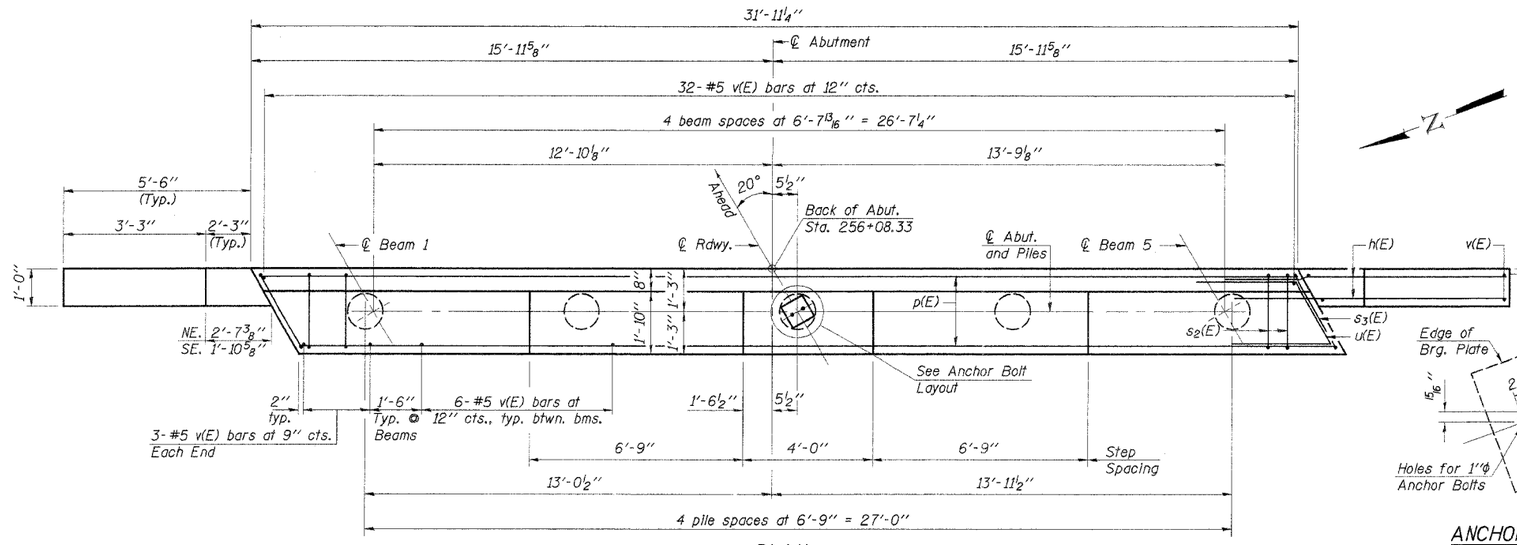


SEC. THRU ABUT.

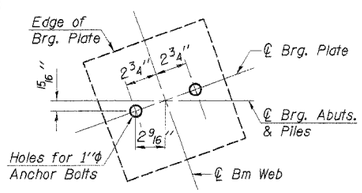
PILE DATA

Type:..... Metal Shell 12"
Capacity:..... 50 Ton/Pile
Est. Length:..... 38 Ft/Pile
No. Required:..... *5

*Includes one test pile to be driven in a permanent location at the East Abutment.



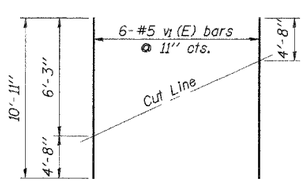
PLAN



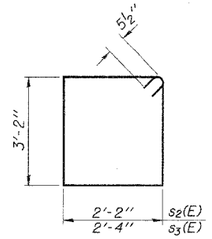
ANCHOR BOLT LAYOUT

BILL OF MATERIAL

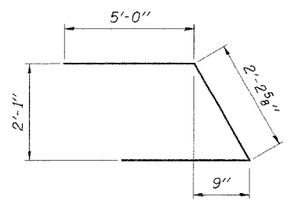
Bar	No.	Size	Length	Shape
h(E)	28	#6	8'-0"	——
p(E)	10	#7	31'-7"	——
s2(E)	28	#5	11'-7"	□
s3(E)	2	#5	11'-11"	□
u(E)	8	#6	12'-3"	⌐
v(E)	62	#5	4'-4"	——
v1(E)	24	#5	10'-11"	——
Concrete Structures		Cu. Yd.	11.9	
Reinforcement Bars, Epoxy Coated		Pound	2,050	
Structure Excavation		Cu. Yd.	83	
Furnishing Metal Pile Shells 12"		Feet	152	
Driving & Filling Shells		Feet	152	
Test Pile Metal Shell		Each	1	
Protective Coat		Sq. Yd.	5	
Pourus Granular Embankment (Special)		Cu. Yd.	38	
Geocomposite Wall Drain		Sq. Yd.	24	
Pipe Underdrains for Structures 4"		Foot	70	



FIELD CUTTING DIAGRAM
Order v1(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u(E)

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

9-01-03

EAST ABUTMENT

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

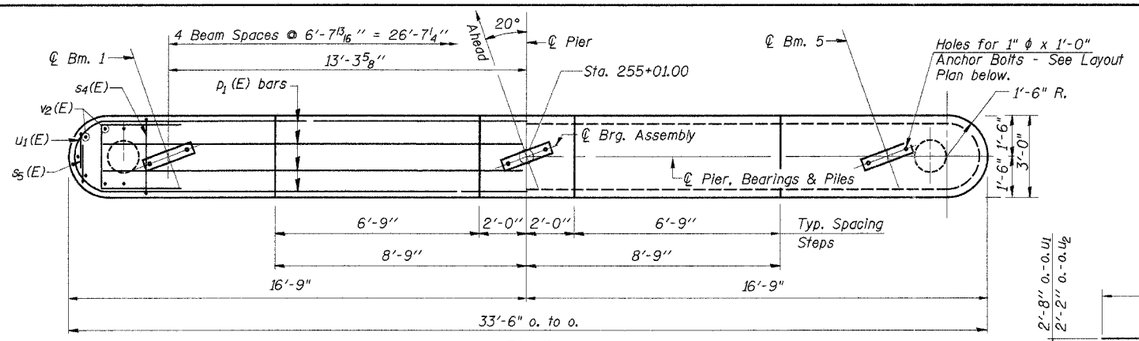
4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

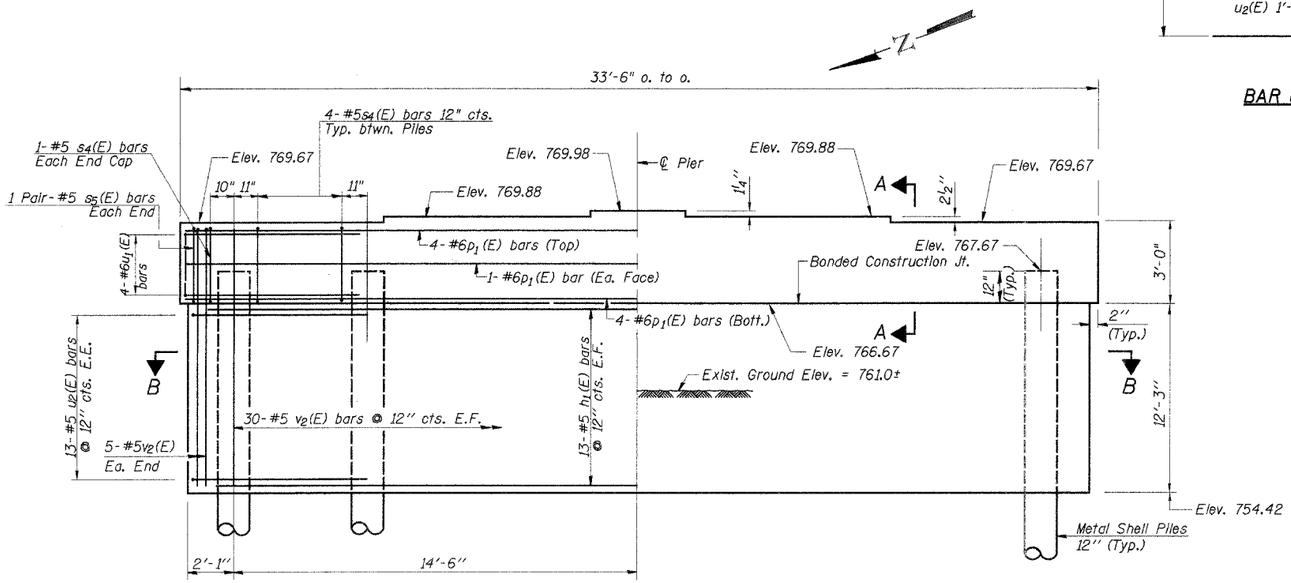
JOB NO.: 0527
FILE: 0527ABUT2.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	20
	ILLINOIS			

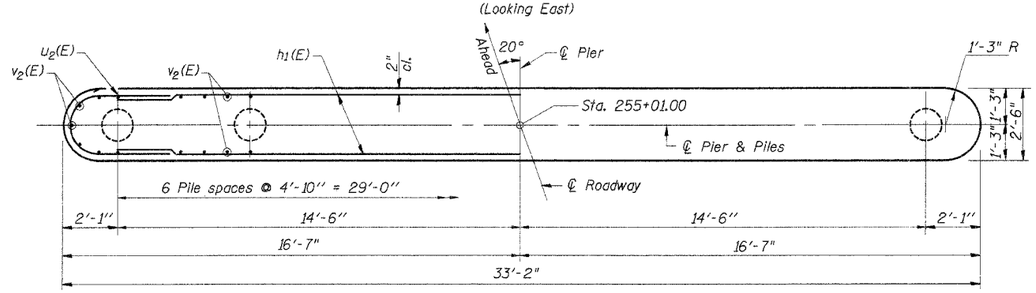
Sheet 15 of 20 CONTRACT NO. 85391



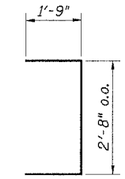
PLAN



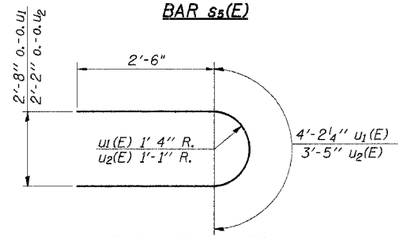
ELEVATION
(Looking East)



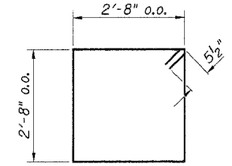
SECTION B-B



BAR s_5(E)



BAR u_1(E) & u_2(E)



BAR s_4(E)

MIN. BAR LAP

#5	1'-4"
#6	1'-7"

NOTES

Space Reinforcement in cap to miss Anchor Bolts.

Pour Steps monolithically with cap.

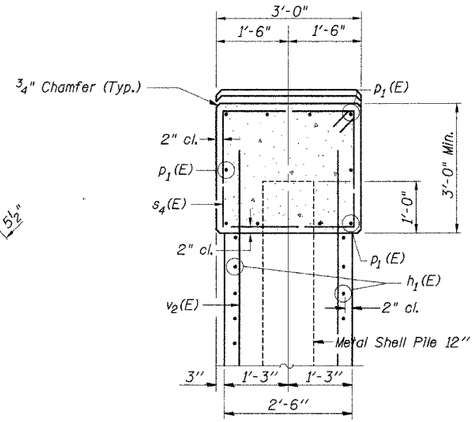
All edges shall have the standard ¾" Chamfer except as noted.

Anchor Bolts at fixed bearings may be built into the masonry.

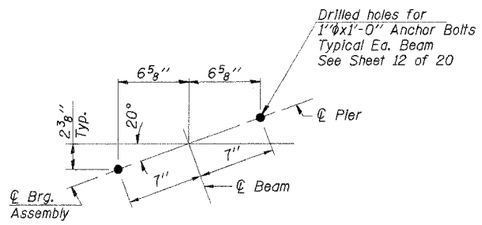
PILE DATA

Type: _____ Metal Pile Shell 12"
Capacity: _____ 55 Ton/Pile
Est. Length: _____ 62 Ft./Pile
No. Required: _____ 7*

* Includes 1 Test Pile to be driven in a permanent location.



SECTION A-A



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h_1(E)	26	#5	30'-8"	———
p_1(E)	10	#6	30'-6"	———
s_4(E)	26	#5	11'-7"	□
s_5(E)	4	#5	6'-2"	⊏
u_1(E)	8	#6	9'-3"	⊂⊃
u_2(E)	26	#5	8'-5"	⊂⊃
v_2(E)	70	#5	13'-7"	———

Concrete Structures	Cu. Yd.	45.7
Reinforcement Bars, Epoxy Coated	Pound	2,960
Furnishing Metal Pile Shells 12"	Foot	372
Driving and Filling Shells	Foot	372
Test Pile Metal Shell	Each	1
Underwater Structure Excavation Protection - Location 1	Each	1
Structure Excavation	Cu. Yd.	60

Reinforcement bars designated (E) shall be Epoxy Coated

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

PIER 1

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

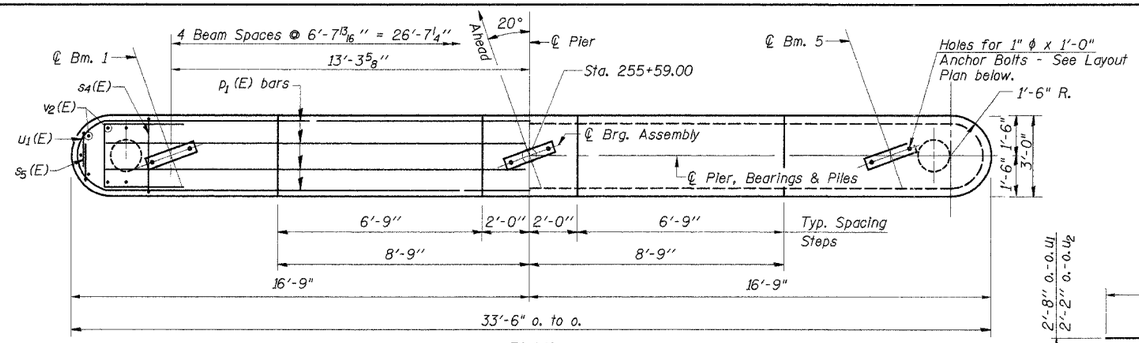
4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

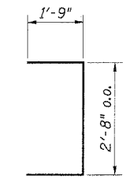
JOB NO.: 0527
FILE: 0527PIER1.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	21
	ILLINOIS			

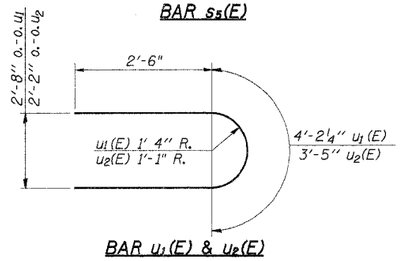
Sheet 16 of 20 CONTRACT NO. 85391



PLAN



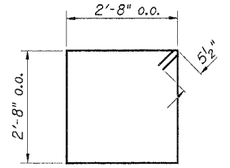
BAR $s_5(E)$



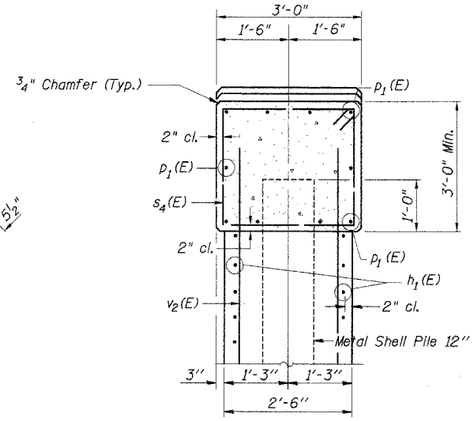
BAR $u_1(E)$ & $u_2(E)$

MIN. BAR LAP

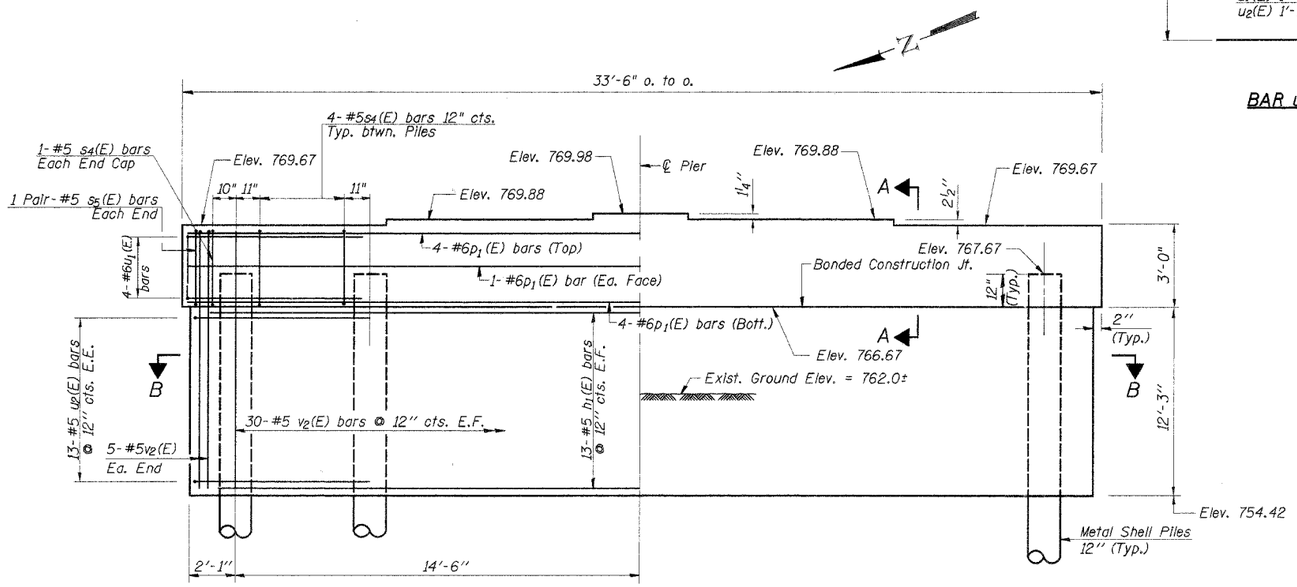
#5 _____ 1'-4"
#6 _____ 1'-7"



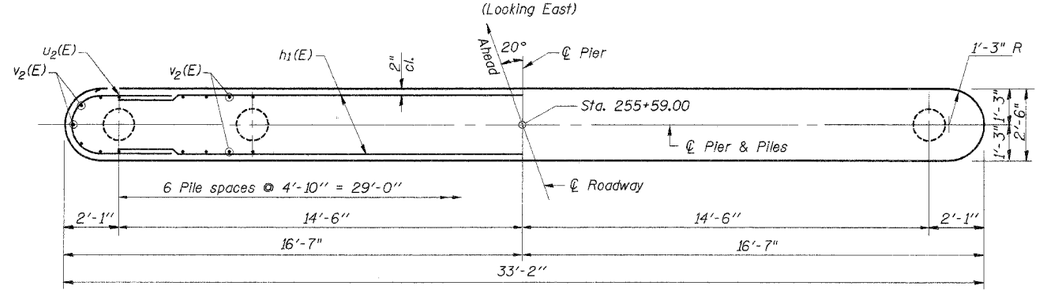
BAR $s_4(E)$



SECTION A-A



ELEVATION
(Looking East)



SECTION B-B

NOTES

Space Reinforcement in cap to miss Anchor Bolts.

Pour Steps monolithically with cap.

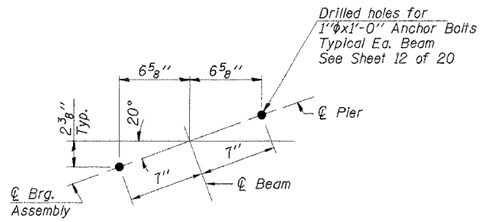
All edges shall have the standard 3/4" Chamfer except as noted.

Anchor Bolts at fixed bearings may be built into the masonry.

PILE DATA

Type: _____ Metal Pile Shell 12"
Capacity: _____ 55 Ton/Pile
Est. Length: _____ 42 Ft./Pile
No. Required: _____ 7*

* Includes 1 Test Pile to be driven in a permanent location.



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
$h_1(E)$	26	#5	30'-8"	
$p_1(E)$	10	#6	30'-6"	
$s_4(E)$	26	#5	11'-7"	
$s_5(E)$	4	#5	6'-2"	
$u_1(E)$	8	#6	9'-3"	
$u_2(E)$	26	#5	8'-5"	
$v_2(E)$	70	#5	13'-7"	
Concrete Structures			Cu. Yd.	45.7
Reinforcement Bars, Epoxy Coated			Pound	2,960
Furnishing Metal Pile Shells 12"			Foot	252
Driving and Filling Shells			Foot	252
Test Pile Metal Shell			Each	1
Underwater Structure Excavation Protection - Location 2			Each	1
Structure Excavation			Cu. Yd.	70

Reinforcement bars designated (E) shall be Epoxy Coated

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

PIER 2

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

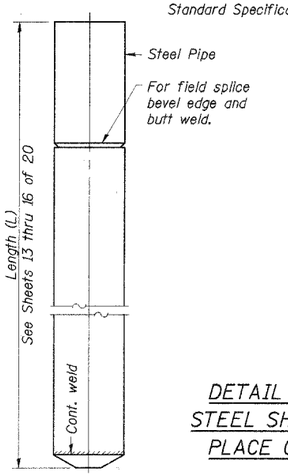
OZYURT AND STONE, INC.
CONSULTING ENGINEERS

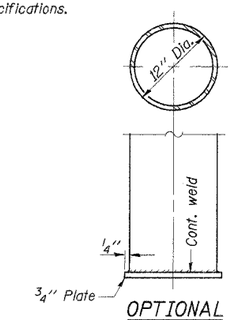
JOB NO.: 0527
FILE: 0527PIER2.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	22
	ILLINOIS			

Sheet 17 of 20 CONTRACT NO. 85391

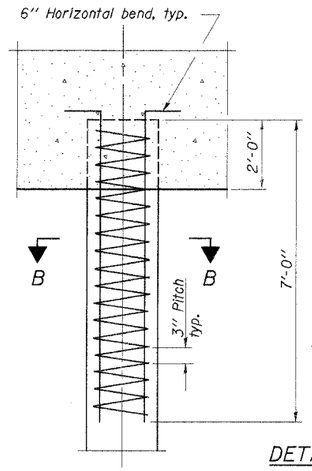
Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.250 inches with a tolerance of 5 % . The shell shall be according to Article 1006.05(a) of the Standard Specifications.

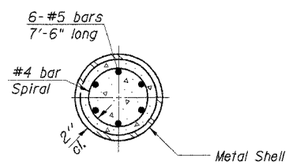




OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES





SECTION B-B

The cost of Reinforcement is incidental to the cost of furnishing piles.

DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

CONCRETE PILE DETAILS

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

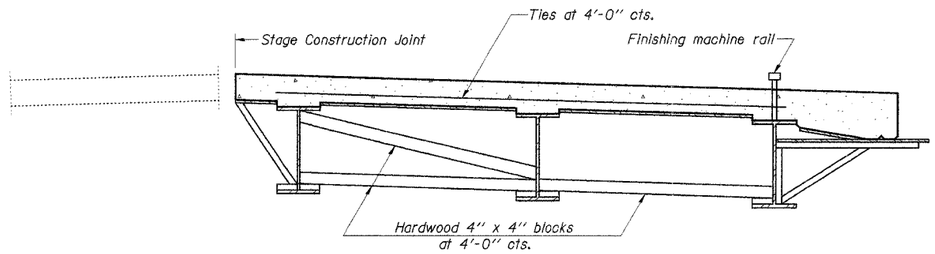
4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

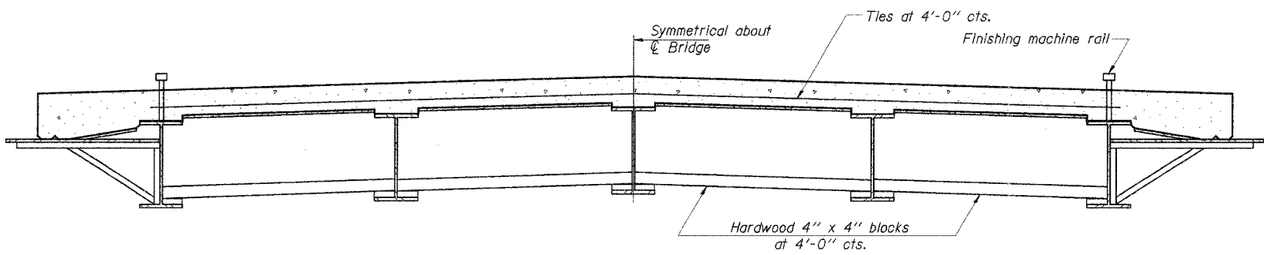
JOB NO.: 0527
FILE: 0527PILE.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	23
	ILLINOIS			

Sheet 18 of 20 CONTRACT NO. 85391



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

9-01-03

CANTILEVER FORMING BRACKET

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527CBRCK.DGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163-00-BR	STEPHENSON	29	24
	ILLINOIS			

Sheet 19 of 20 CONTRACT NO. 85391

Midwest Testing Services, Inc.
3703 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

BORING LOG

Sheet 1 of 5

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-1
Surface Elev. 100.10
Auger Depth 86' Rotary Depth NA
Start Date 02/24/04 Finish Date 02/24/04

Location: 70' E center of bridge
6' N. centerline of road.

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
100.10											
99.10			1								
98.10			2								
97.10	Stiff Black & Brown Silty Clay (Fill)		3	1	SS	1.6	12	B	20		
96.10			4								
95.10			5	2	SS	1.4	10	B	22		
94.10			6								
93.10			7								
92.10			8	3	SS	1.2	10	B	23		
91.10			9								
90.10	Medium Black Silty Clay Loam		10	4	SS	0.7	6	B	25		
89.10			11								
88.10			12								
87.10	Stiff Brown Silty Clay		13	5	SS	1.0	8	B	22		
86.10			14								
85.10	Loose Gray Fine Sand		15	6	SS	---	4	---	---		
84.10			16								
83.10			17								
82.10			18	7	SS	---	17	---	---		
81.10	Medium Gray Fine To Coarse Sand		19								
80.10			20	8	SS	---	26	---	---		

Groundwater Data: Static water level after auger removal elevation 86.5
Comments:

Midwest Testing Services, Inc.
3703 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

BORING LOG

Sheet 2 of 5

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-1
Surface Elev. 100.10
Auger Depth 86' Rotary Depth NA
Start Date 02/24/04 Finish Date 02/24/04

Location: 70' E center of bridge
6' N. centerline of road.

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
79.10											
78.10			22								
77.10	Medium Gray Fine To Coarse Sand		23	9	SS	---	21	---	---		
76.10			24								
75.10			25								
74.10			26	10	SS	---	38	---	---		
73.10			27								
72.10	Dense Gray Fine To Coarse Sand With Limestone Fragments		28	11	SS	---	36	---	---		
71.10			29								
70.10			30	12	SS	---	45	---	---		
69.10			31								
68.10			32	13	SS	---	31	---	---		
67.10			33								
66.10			34	14	SS	---	24	---	---		
65.10	Medium Gray Fine To Coarse Sand		35								
64.10			36								
63.10			37								
62.10			38	15	SS	---	26	---	---		
61.10			39								
60.10			40								
59.10	Dense Gray Fine Sand		41	16	SS	---	33	---	---		

Groundwater Data:
Comments:

Midwest Testing Services, Inc.
3703 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

BORING LOG

Sheet 3 of 5

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-1
Surface Elev. 100.10
Auger Depth 86' Rotary Depth NA
Start Date 02/24/04 Finish Date 02/24/04

Location: 70' E center of bridge
6' N. centerline of road.

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
58.10											
57.10			43	17	SS	---	36	---	---		
56.10	Dense To Medium Gray Fine Sand		44								
55.10			45								
54.10			46	18	SS	---	28	---	---		
53.10			47								
52.10			48	19	SS	2.6	15	B	20		
51.10			49								
50.10			50								
49.10			51	20	SS	3.1	17	B	18		
48.10	Very Stiff Gray Clay Till		52								
47.10			53	21	SS	3.5	22	B	17		
46.10			54								
45.10			55	22	SS	3.6	23	B	18		
44.10			56								
43.10			57								
42.10			58	23	SS	3.0	20	B	18		
41.10			59								
40.10	Medium Gray Silt		60								
39.10			61	24	SS	---	25	---	---		
38.10			62								
				25	SS	---	22	---	---		

Groundwater Data:
Comments:

Midwest Testing Services, Inc.
3703 Progress Blvd.
Peru, IL 61354

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

BORING LOG

Sheet 4 of 5

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-1
Surface Elev. 100.10
Auger Depth 86' Rotary Depth NA
Start Date 02/24/04 Finish Date 02/24/04

Location: 70' E center of bridge
6' N. centerline of road.

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
37.10											
36.10	Medium Gray Silt		64	25	SS	1	22	1	11		
35.10			65	26	SS	3.1	18	B	21		
34.10			66								
33.10			67								
32.10			68	27	SS	2.3	16	B	22		
31.10	Very Stiff Gray Clay Till		69								
30.10			70								
29.10			71	28	SS	2.1	15	B	24		
28.10			72								
27.10			73	29	SS	2.4	16	B	22		
26.10			74								
25.10			75								
24.10			76	30	SS	4.2	20	B	21		
23.10			77								
22.10	Hard Gray Clay		78	31	SS	4.4	22	B	21		
21.10			79								
20.10			80	32	SS	4.0	18	B	22		
19.10			81								
18.10			82								
17.10			83	33	SS	4.5	21	B	20		

Groundwater Data:
Comments:

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3703 Progress Blvd.
Peru, IL 61354

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E-Mail: Midwest @ TheRamp.net

BORING LOG

Sheet 5 of 5

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-1
Surface Elev. 100.10
Auger Depth 86' Rotary Depth NA
Start Date 02/24/04 Finish Date 02/24/04

Location: 70' E center of bridge
6' N. centerline of road.

DRILLED BY: Randy Safranski; Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
16.10											
15.10			85								
14.10	Hard Gray Clay		86	34	SS	4.3	18	B	22		
13.10			87								
12.10			88								
11.10			89								
10.10			90								
9.10			91								
8.10			92								
7.10			93								
6.10			94								
5.10			95								
4.10			96								
3.10			97								
2.10			98								
1.10			99								
0.10			100								
-0.90			101								
-1.90			102								
-2.90			103								
-3.90			104								

Bottom Of Boring

Groundwater Data:
Comments:

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

Note: Project Elev. Datum = Boring Elev. + 627.30
(eg.) Elev. 772.30 = Elev. 100.00 + 672.30

SOIL BORING LOG NO. 1

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

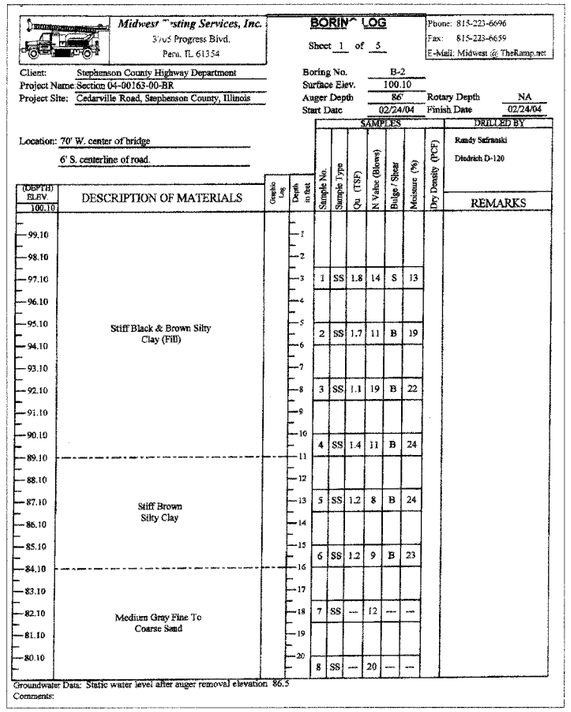
4440 ASH GROVE
SPRINGFIELD, IL. 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE: 0527BORINGLOGN
DATE: 03/07/06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5	04-00163 -00-BR	STEPHENSON	29	25
	ILLINOIS			

Sheet 20 of 20 CONTRACT NO. 85391



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

BORING LOG — Sheet 1 of 5

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

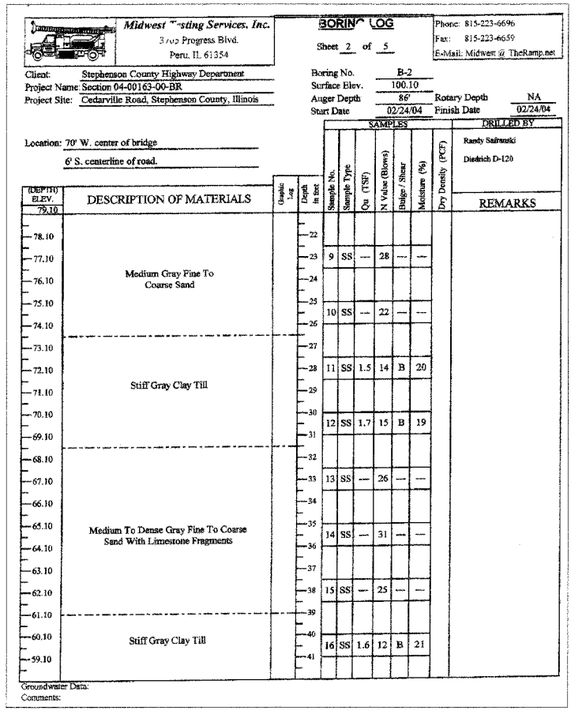
Boring No. B-2
Surface Elev. 100.10
Auger Depth 86'
Rotary Depth NA
Start Date 02/24/04
Finish Date 02/24/04

Location: 70' W. center of bridge
6' S. centerline of road.

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
100.10											
97.10	Stiff Black & Brown Silty Clay (Fill)		3	1	SS	1.8	14	S	13		
94.10			6	2	SS	1.7	11	B	19		
92.10			8	3	SS	1.1	19	B	22		
89.10			11	4	SS	1.4	11	B	24		
87.10	Stiff Brown Silty Clay		13	5	SS	1.2	8	B	24		
84.10			16	6	SS	1.2	9	B	23		
82.10	Medium Gray Fine To Coarse Sand		18	7	SS	---	12	---	---		
80.10			20	8	SS	---	20	---	---		

Groundwater Data: Static water level after auger removal elevation: 86.5
Comments:



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

BORING LOG — Sheet 2 of 5

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

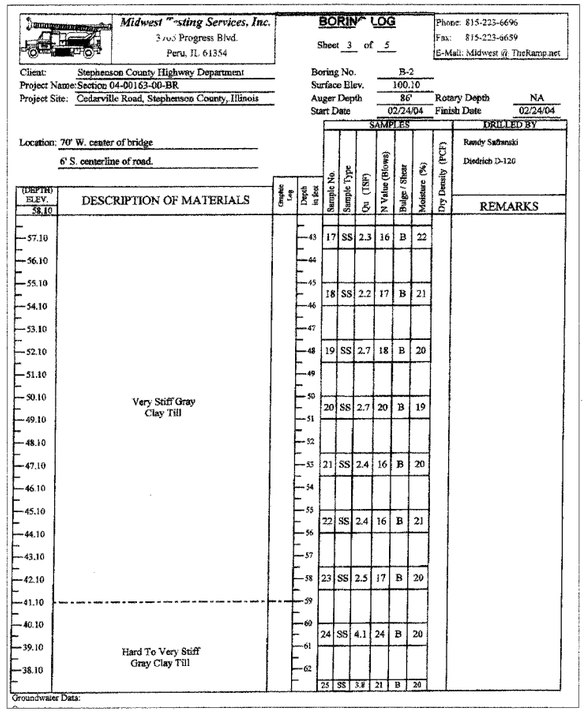
Boring No. B-2
Surface Elev. 100.10
Auger Depth 86'
Rotary Depth NA
Start Date 02/24/04
Finish Date 02/24/04

Location: 70' W. center of bridge
6' S. centerline of road.

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
79.10											
78.10	Medium Gray Fine To Coarse Sand		22								
73.10			27	9	SS	---	28	---	---		
72.10	Stiff Gray Clay Till		28	10	SS	---	22	---	---		
69.10			31	11	SS	1.5	14	B	20		
68.10			32	12	SS	1.7	15	B	19		
67.10	Medium To Dense Gray Fine To Coarse Sand With Limestone Fragments		33	13	SS	---	26	---	---		
65.10			35	14	SS	---	31	---	---		
64.10			36	15	SS	---	25	---	---		
62.10	Stiff Gray Clay Till		38	16	SS	1.6	12	B	21		
59.10			41								

Groundwater Data:
Comments:



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

BORING LOG — Sheet 3 of 5

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

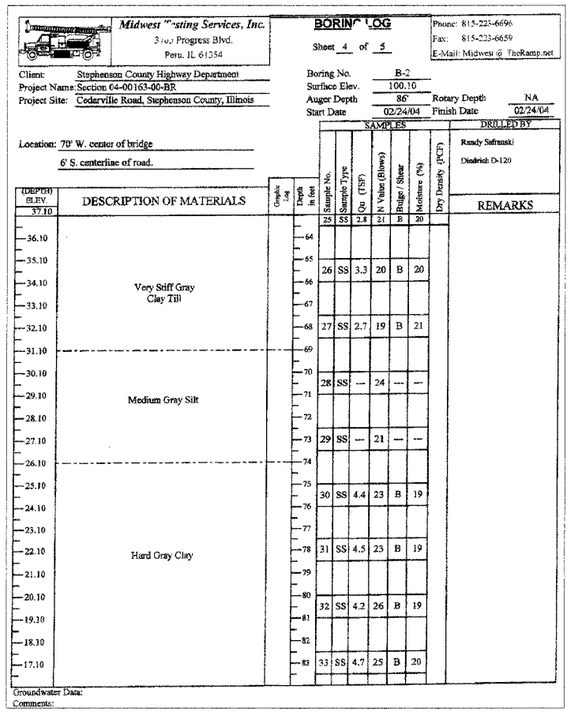
Boring No. B-2
Surface Elev. 100.10
Auger Depth 86'
Rotary Depth NA
Start Date 02/24/04
Finish Date 02/24/04

Location: 70' W. center of bridge
6' S. centerline of road.

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
58.10											
57.10	Very Stiff Gray Clay Till		43	17	SS	2.3	16	B	22		
54.10			46	18	SS	2.2	17	B	21		
52.10			48	19	SS	2.7	18	B	20		
49.10			51	20	SS	2.7	20	B	19		
47.10			53	21	SS	2.4	16	B	20		
44.10			56	22	SS	2.4	16	B	21		
42.10			58	23	SS	2.5	17	B	20		
41.10	Hard To Very Stiff Gray Clay Till		59	24	SS	4.1	24	B	20		
38.10			62	25	SS	3.#	21	B	20		

Groundwater Data:



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

BORING LOG — Sheet 4 of 5

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

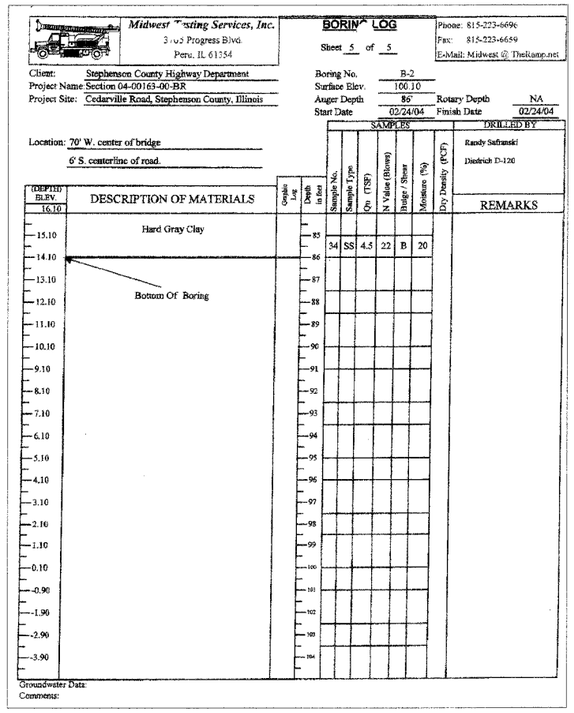
Boring No. B-2
Surface Elev. 100.10
Auger Depth 86'
Rotary Depth NA
Start Date 02/24/04
Finish Date 02/24/04

Location: 70' W. center of bridge
6' S. centerline of road.

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
37.10				25	SS	2.8	21	B	20		
36.10	Very Stiff Gray Clay Till		64								
31.10			69	26	SS	3.3	20	B	20		
30.10	Medium Gray Silt		70	27	SS	2.7	19	B	21		
26.10			74	28	SS	---	24	---	---		
25.10	Hard Gray Clay		75	29	SS	---	21	---	---		
24.10			76	30	SS	4.4	23	B	19		
23.10			77	31	SS	4.5	23	B	19		
22.10			78	32	SS	4.2	26	B	19		
19.10			81	33	SS	4.7	25	B	20		
17.10			83								

Groundwater Data:
Comments:



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

BORING LOG — Sheet 5 of 5

Phone: 815-223-6696
Fax: 815-223-6659
E-Mail: Midwest @ TheRamp.net

Client: Stephenson County Highway Department
Project Name: Section 04-00163-00-BR
Project Site: Cedarville Road, Stephenson County, Illinois

Boring No. B-2
Surface Elev. 100.10
Auger Depth 86'
Rotary Depth NA
Start Date 02/24/04
Finish Date 02/24/04

Location: 70' W. center of bridge
6' S. centerline of road.

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bridge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
16.10											
15.10	Hard Gray Clay		85								
14.10			86	34	SS	4.5	22	B	20		
13.10	Bottom Of Boring		87								
-3.90			104								

Groundwater Data:
Comments:

DESIGNED	A.R.K.
CHECKED	S.F.M. & F.J.S.
DRAWN	S.A.P.
CHECKED	A.R.K. & F.J.S.

Note: Project Elev. Datum = Boring Elev. + 627.30
(eg.) Elev. 772.30 = Elev. 100.00 + 672.30

SOIL BORING LOG NO. 2

SECTION 04-00163-00-BR
F.A.S. ROUTE 60 - C.H. 5
STEPHENSON COUNTY
STATION 255+30

4440 ASH GROVE
SPRINGFIELD, IL 62711
(217) 793-8600
oasinc@insightbb.com

OZYURT AND STONE, INC.
CONSULTING ENGINEERS

JOB NO.: 0527
FILE:0527BORING2.DGN
DATE: 03/07/06

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
C.H. 5	04-00163-00-BR	STEPHENSON	29	26
STA. 252+50		TO STA. 253+50		
	ILLINOIS			

CONTRACT NO. 85391

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

DATE	1/30/98
BY	S.A.P.
SURVEYED	
PLOTTED	
DRAWN	
AREAS	
AREAS CHECKED	
ORIGINAL SURVEY NOTE BOOK NO.	

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60

775 770 765

253 + 50

C = 2 F = 13

773.02

3:1 3:1

253 + 00

EXISTING R.O.W. EXISTING R.O.W.

C = 0 F = 10

773.30

3:1 3:1

252 + 50

C = 4 F = 0 AHEAD

C = 0 F = 0 BACK

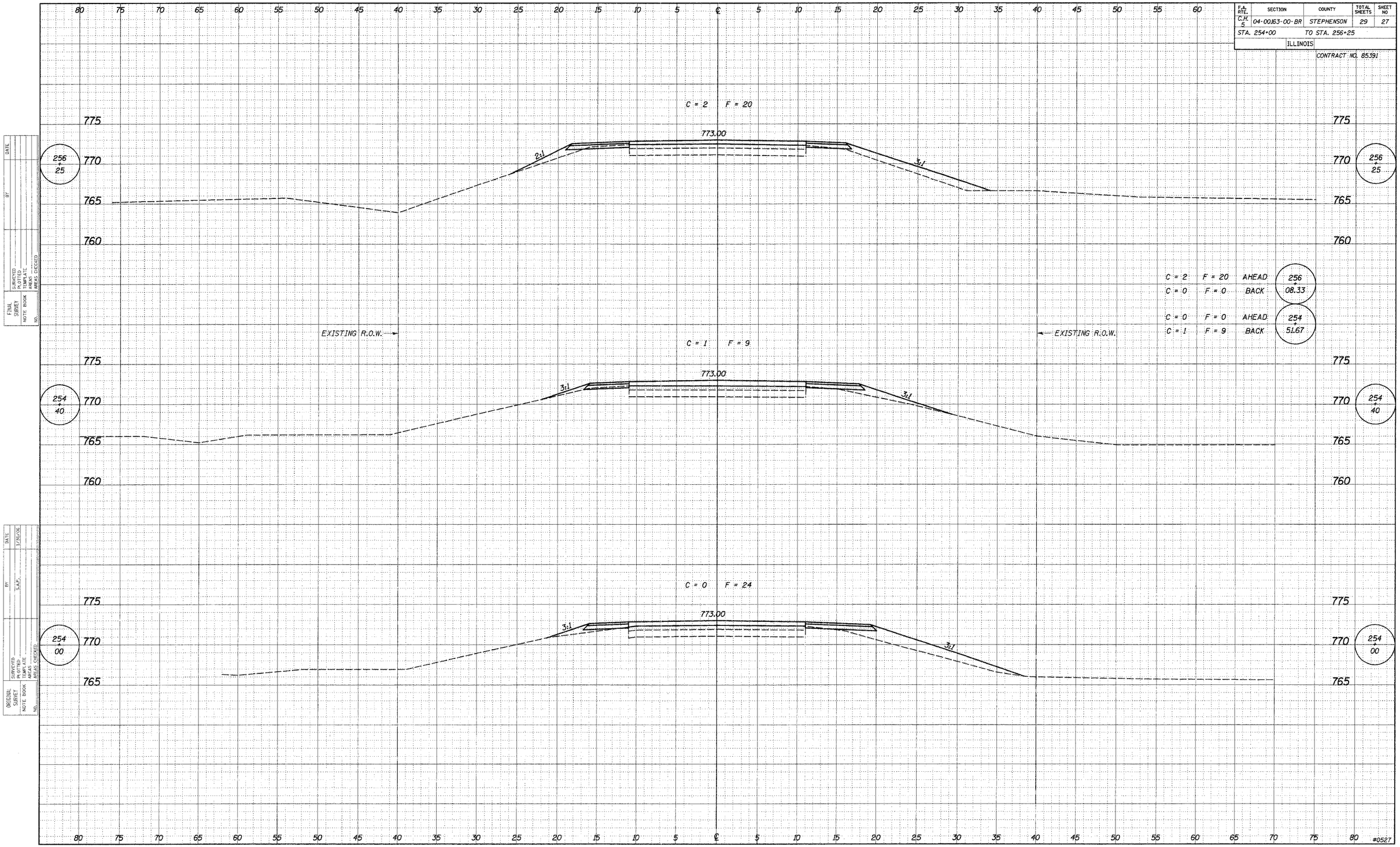
773.90

#0527

STANDARDS\GENERAL\XSEC_SHT.DGN 1:1 7-17-98

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
C.H. 5	04-00163-00-BR	STEPHENSON	29	27
STA. 254+00	TO STA. 256+25			
ILLINOIS				

CONTRACT NO. 85391



C = 2	F = 20	AHEAD	256	
C = 0	F = 0	BACK	08.33	
C = 0	F = 0	AHEAD	254	
C = 1	F = 9	BACK	51.67	

FINAL SURVEY	BY	DATE
NOTE BOOK		
NO.	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	S.A.P.	1/30/08
NO.	AREAS CHECKED	

STANDARDS\GENERAL\XSEC_SHT.DGN 1:1 7-17-98

#0527

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
C.H. 5	04-00163-00-BR	STEPHENSON	29	28
STA. 256+50		TO STA. 257+50		
	ILLINOIS			

CONTRACT NO. 85391

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60

C = 2 F = 22

775 770 765 760

257 + 50

772.28

3:1 3:1

EXISTING R.O.W. EXISTING R.O.W.

C = 3 F = 37

775 770 765 760

257 + 00

772.74

2:1 3:1

C = 4 F = 34

775 770 765 760

256 + 50

772.97

2:1 3:1

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

#0527

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

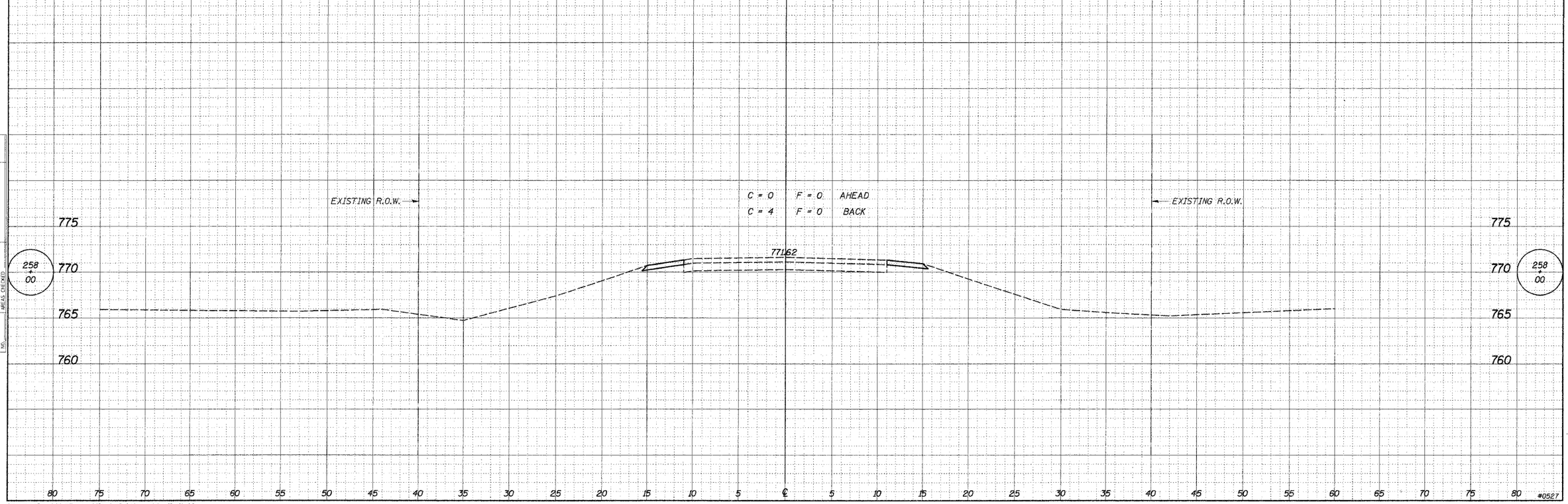
ORIGINAL SURVEY — NOTE BOOK — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — S.A.P. — DATE — 1/26/98

STANDARDS\GENERAL\XSEC_SHT.DGN 1:1 7-17-98

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
C.H. 5	04-00163-00-BR	STEPHENSON	29	29
STA. 258+00				
	ILLINOIS			
		CONTRACT NO. 85391		

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

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED	S.A.P.	1/30/06
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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