

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

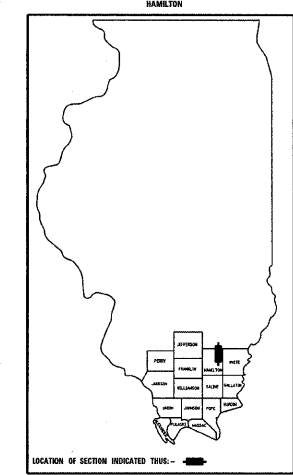
PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

PROJECT NO. BROS-065(44)
SECTION 08-01115-00-BR
BEAVER CREEK ROAD DISTRICT
HAMILTON COUNTY
T.R. 376
PROPOSED STRUCTURE NO. 033-3309
JOB C-99-526-08

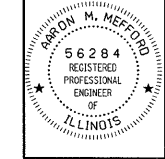
| | | | | |
|---------------------|----------------|-------------------|--------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 376 | 08-01115-00-BR | HAMILTON | 12 | 1 |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |
| PROJECT# | BROS-065(44) | CONTRACT# | 99355 | |
| JOB # | C-99-526-08 | BEAVER CREEK R.D. | | |
| LEC JOB # | H081015HM | | | |

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00887
(62-032435)(35-002769)



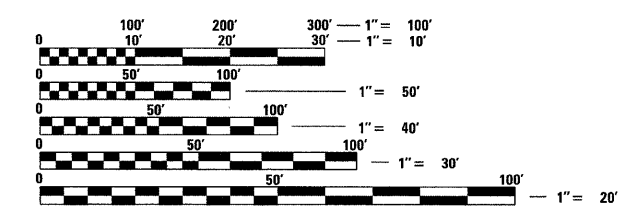
AARON M. MEFFORD
NAME
SIGNATURE
1-23-09
DATE
11-30-09
EXPIRES

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|-------------------------------------|
| 1. | COVER SHEET & SUMMARY OF QUANTITIES |
| 2. | PLAN AND PROFILE & TYPICAL SECTIONS |
| 3.-4. | STATION CROSS SECTIONS |
| 5.-11. | BRIDGE PLANS |
| 12. | BORINGS |

HIGHWAY STANDARDS:

| | |
|-----------|--|
| 280001-04 | TEMPORARY EROSION CONTROL SYSTEMS |
| 515001-03 | NAME PLATE FOR BRIDGES |
| 701901-01 | TRAFFIC CONTROL DEVICES |
| BLR 21-8 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |
| BLR 22-6 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC) |



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

SUMMARY OF QUANTITIES

| CODE NO. | ITEM | UNIT | QUANTITY |
|--------------|---|-------|----------|
| 20200100 | EARTH EXCAVATION | CU YD | 1,496 |
| 20300100 | CHANNEL EXCAVATION | CU YD | 180 |
| 20400800 | FURNISHED EXCAVATION | CU YD | 15 |
| > 25001000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.5 |
| 28000300 | TEMPORARY DITCH CHECKS | EACH | 2 |
| 280001000 | AGGREGATE (EROSION CONTROL) | TON | 19 |
| 28100807 | STONE DUMPED RIPRAP, CLASS A4 | TON | 180 |
| > 28102600 | STONE RIPRAP DITCH | TON | 112 |
| 40200800 | AGGREGATE SURFACE COURSE, TYPE B | TON | 205 |
| 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| 50300225 | CONCRETE STRUCTURES | CU YD | 23.6 |
| 50300280 | CONCRETE ENCASEMENT | CU YD | 2.8 |
| 50400505 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH) | SQ FT | 1,704 |
| 50800105 | REINFORCEMENT BARS | POUND | 2,670 |
| * 50900205 | STEEL RAILING, TYPE S1 | FOOT | 137 |
| 51201600 | FURNISHING STEEL PILES HP12X53 | FOOT | 352 |
| 51202305 | DRIVING PILES | FOOT | 352 |
| 51500100 | NAME PLATES | EACH | 1 |
| 67100100 | MOBILIZATION | L SUM | 1 |
| > * 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |

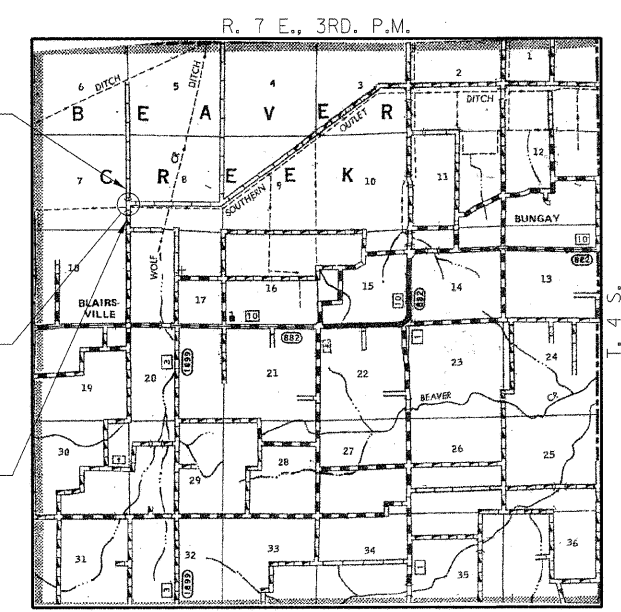
> SEE SPECIAL PROVISIONS
* SPECIALTY ITEMS

CONTRACT NO. 99355

IMPROVEMENT ENDS STATION 6+00

STA. 5+00
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE, SINGLE SPAN 71'-0"
24'-0" RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 033-3120
PROPOSED STRUCTURE NO. 033-3309

IMPROVEMENT BEGINS STATION 2+40



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 360 FEET = 0.068 MILES

HAMILTON COUNTY

APPROVED *January 27, 20 09*
Kim Debb
COUNTY ENGINEER

APPROVED *January 30, 20 09*
Vital R. Jack
TOWNSHIP COMMISSIONER

PASSED *8/18, 20 09*
Richard W. Malcher
DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review
8/25, 20 09
Mary C. Lamic
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOWNSHIP ROUTE 376
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

SHEET TITLE:
TITLE SHEET

| | |
|-----------|-----------|
| SCALE: | VARIABLES |
| BY: | AMM |
| DATE: | 1/23/09 |
| REV: | |
| 1 | OF 12 |
| SHEETS | |
| SHEET NO. | |
| 1 | |

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

HLR

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 08.0104.130 DATE: 01/21/09

GENERAL NOTES:

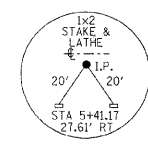
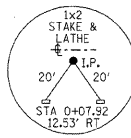
THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 71 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

NOTE: CONSTRUCTION TRANSITION
STA. 2+40 TO STA 2+90
STA 5+50 TO STA 6+00
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



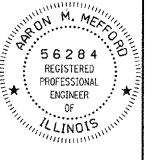
| | | | | |
|--------------------------------|----------------|------------------|--------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 376 | 08-01115-00-BR | HAMILTON | 12 | 2 |
| FED. ROAD DIST. NO. 9 ILLINOIS | | FED. AID PROJECT | | |
| PROJECT# BROS-065044 | | CONTRACT# 99355 | | |
| JOB NO. C-99-526-08 | | SOUTHERN OUTLET | | |
| LEC JOB # H081015H | | | | |

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS
SIGNATURE
1-23-09
DATE
11-30-09
EXPIRES

TOWNSHIP ROUTE 376
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

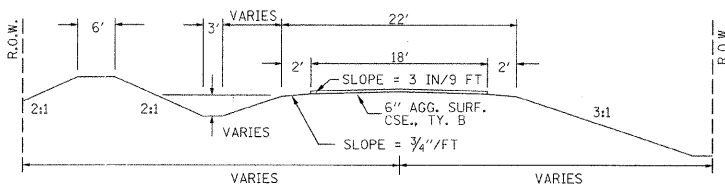
SHEET TITLE:
PLAN & PROFILE

SCALE: Varies
BY: AMM
DATE: 12/09
REV:

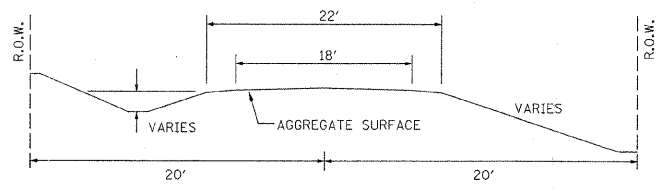
2 OF 12
SHEETS

SHEET NO.
2

TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING

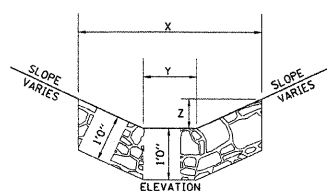
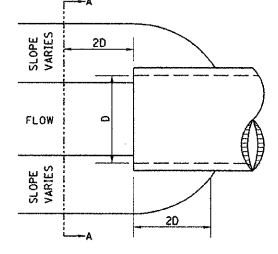


NOTE: CONSTRUCT SPECIAL DITCH
STA 3+30 TO STA 4+77.8 LT
STA 3+30 TO STA 4+82.6 RT

NOTE: CONSTRUCT STONE RIPRAP DITCH
STA 4+00 TO STA 4+77.8 LT (0.70 TON/LIN FT)
STA 4+00 TO STA 4+82.6 RT (0.70 TON/LIN FT)
112 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.
SEE STONE RIPRAP DITCH DETAIL.

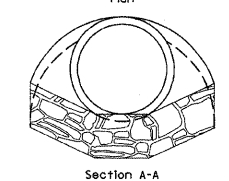
UTILITIES:
J.U.L.I.E. 1-800-892-0123

STONE RIPRAP DITCH DESIGN

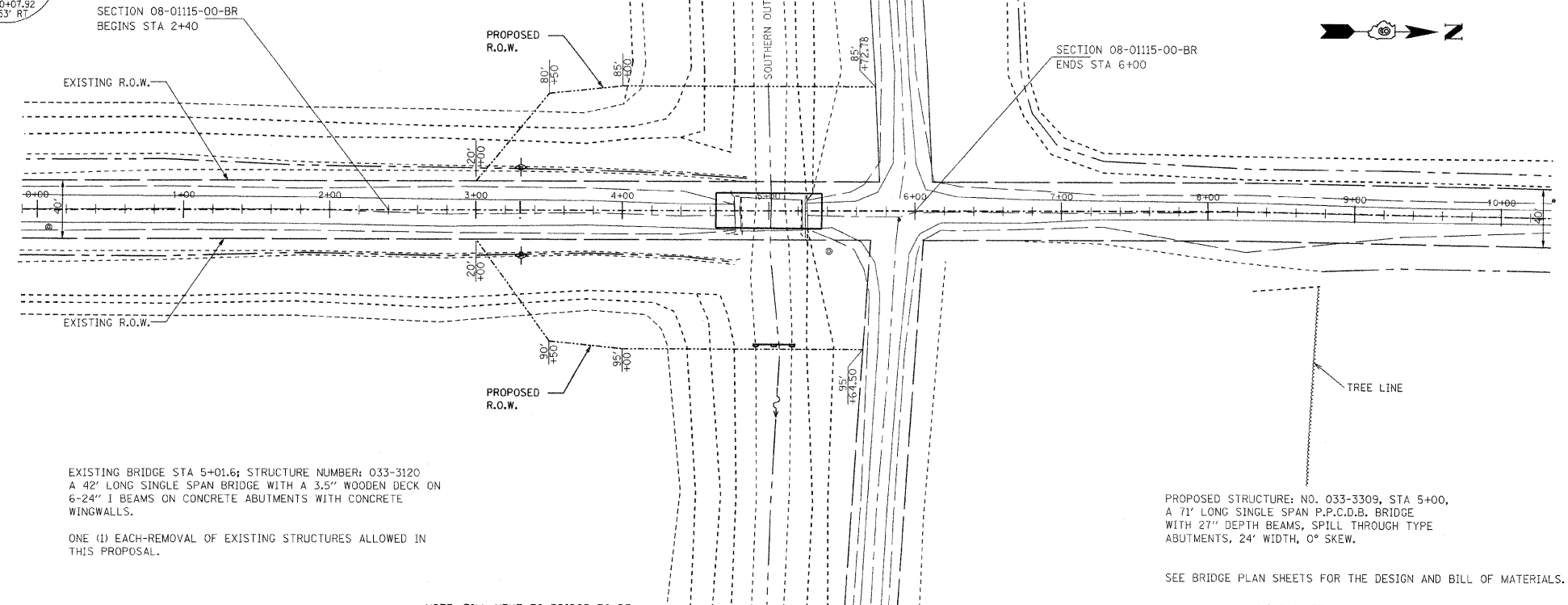


NOTE:
BOTTOM OF DITCH

| SLOPE | 1 1/2:1 | 2:1 | 3:1 |
|-------|---------|------|------------------|
| X= | 6 FT | 7 FT | 9 FT |
| Y= | 3 FT | 3 FT | 3 FT |
| Z= | 1 FT | 1 FT | 1 FT |
| | 0.48 | 0.56 | 0.70 TON/LIN. FT |



NOTE: FOR PLACEMENT, QUALITY GRADATION AND OTHER MISCELLANEOUS REQUIREMENTS FOR STONE RIPRAP DITCH-SEE SPECIAL PROVISIONS.



EXISTING BRIDGE STA 5+01.6; STRUCTURE NUMBER: 033-3120
A 42' LONG SINGLE SPAN BRIDGE WITH A 3.5" WOODEN DECK ON
6-24" I BEAMS ON CONCRETE ABUTMENTS WITH CONCRETE
WINGWALLS.

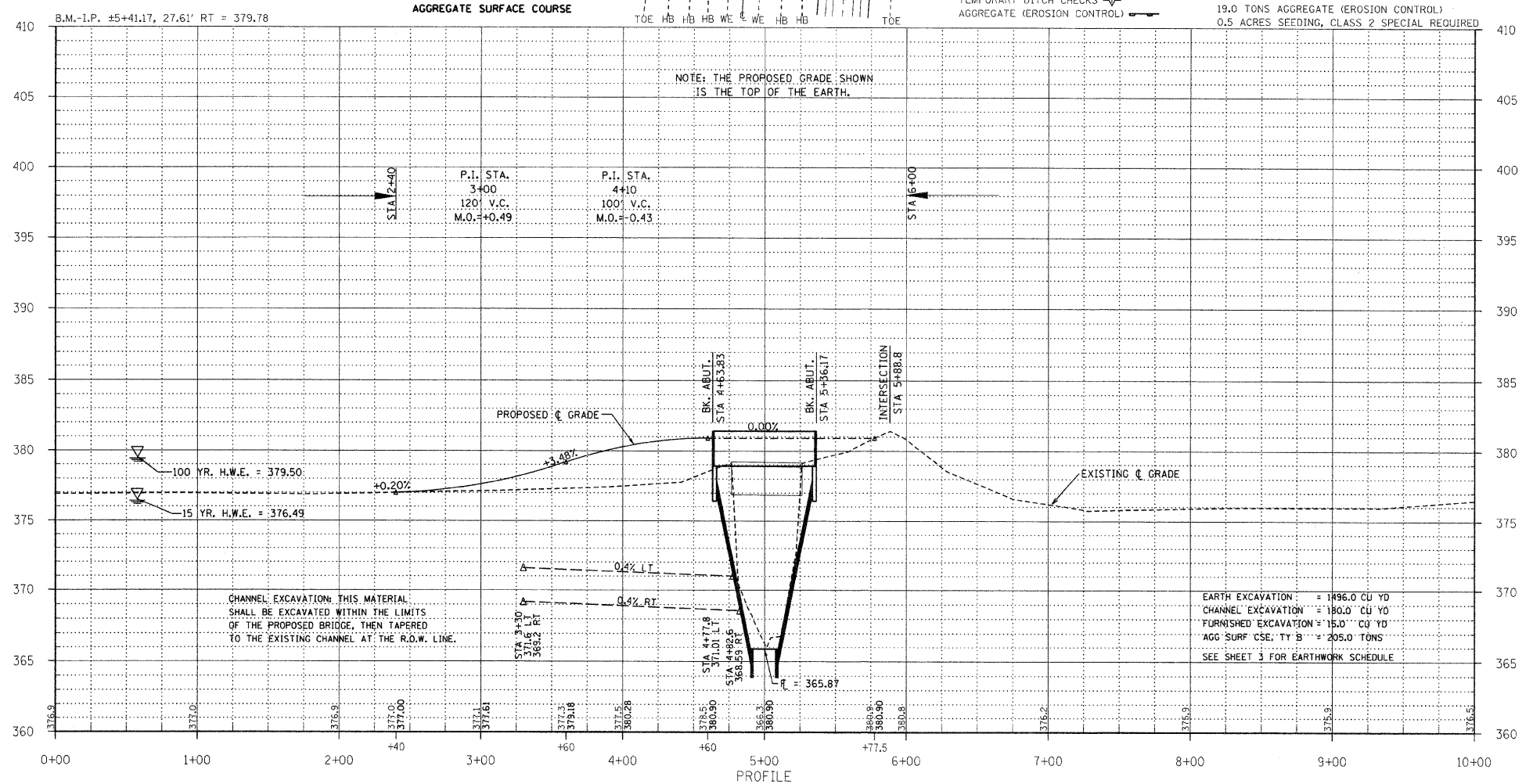
ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

PROPOSED STRUCTURE: NO. 033-3309, STA 5+00,
A 71' LONG SINGLE SPAN P.P.C.D.B. BRIDGE
WITH 27" DEPTH BEAMS, SPILL THROUGH TYPE
ABUTMENTS, 24' WIDTH, 0° SKEW.

SEE BRIDGE PLAN SHEETS FOR THE DESIGN AND BILL OF MATERIALS.

NOTE: FILL NEXT TO BRIDGE TO BE
AGGREGATE SURFACE COURSE

TEMPORARY DITCH CHECKS -
AGGREGATE (EROSION CONTROL) 2.0 EACH TEMPORARY DITCH CHECKS
19.0 TONS AGGREGATE (EROSION CONTROL)
0.5 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED



CHANNEL EXCAVATION THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

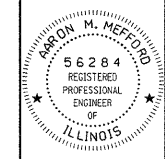
EARTH EXCAVATION = 1496.0 CU YD
CHANNEL EXCAVATION = 180.0 CU YD
FURNISHED EXCAVATION = 15.0 CU YD
AGG SURF CSE, TY B = 205.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

| | | | | | |
|--------------------------------|----------------|------------------|--------------|--------------------------|--|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| 376 | 08-01115-00-BR | HAMILTON | 12 | 3 | 323 W. 3RD. ST. P.O. BOX 166 MT. CARMEL, IL 62863 |
| FED. ROAD DIST. NO. 9 ILLINOIS | | FED. AID PROJECT | | PHONE: (618)-262-8661 | |
| PROJECT# BR05-065(044) | | CONTRACT# 99355 | | FAX: (618)-263-3327 | |
| JOB NO. C-99-526-08 | | SOUTHERN OUTLET | | LEC JOB # H081015HM | |

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-00887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
1-23-09
DATE
11-30-09
EXPIRES

TOWNSHIP ROUTE 376
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

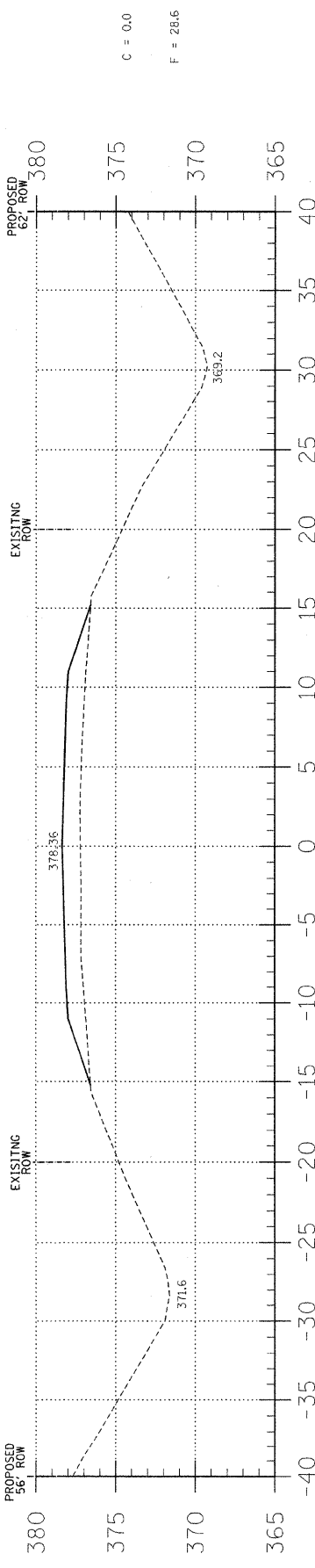
SHEET TITLE:

CROSS-SECTIONS

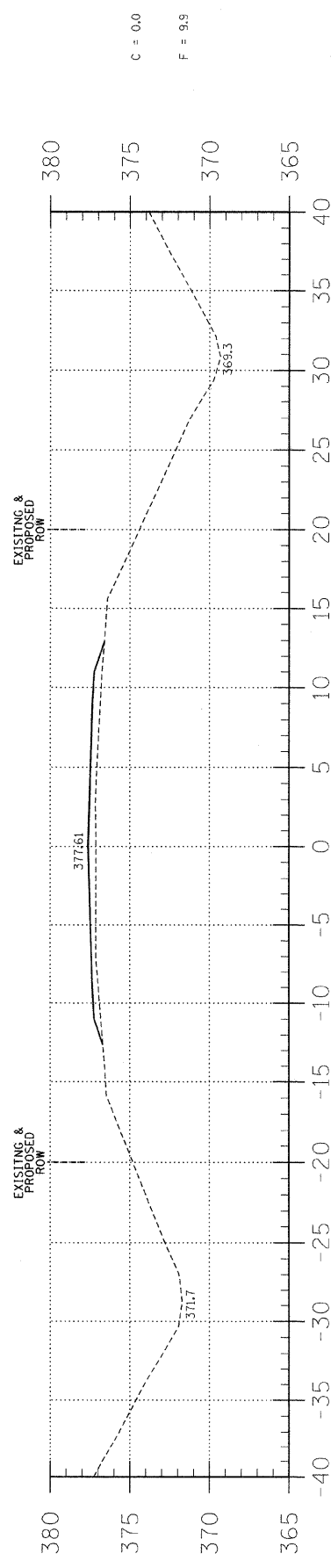
SCALE: 1" = 5'
BY: AMM
DATE: 12/09
REV:

3 OF 12
SHEETS

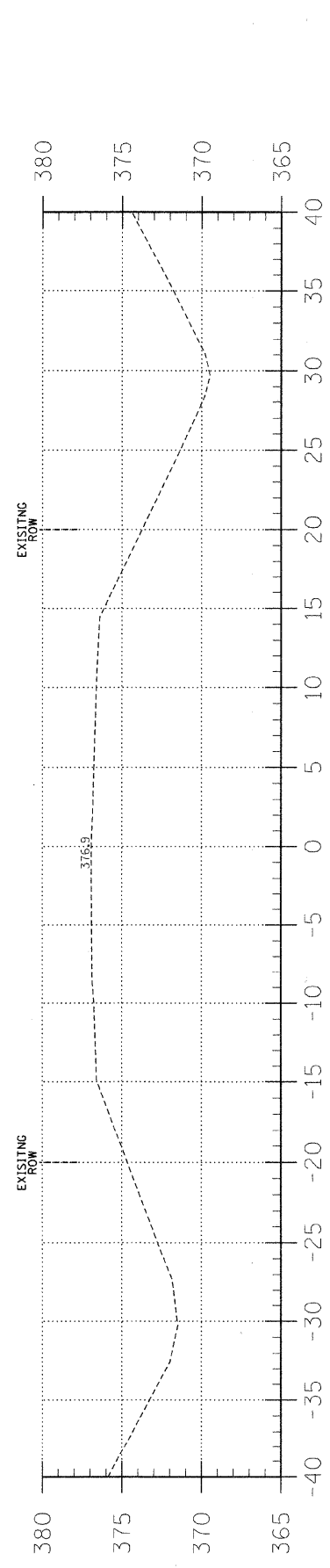
SHEET NO.
3



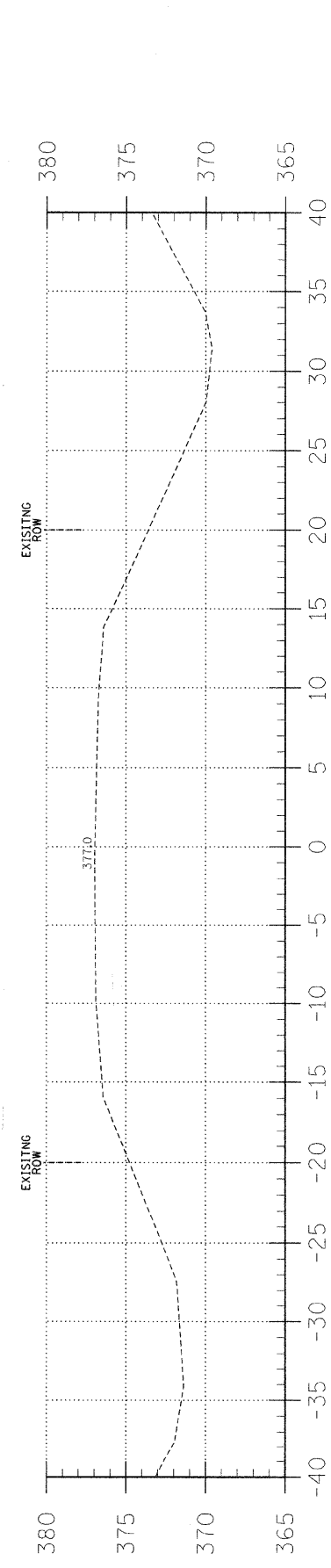
3+30



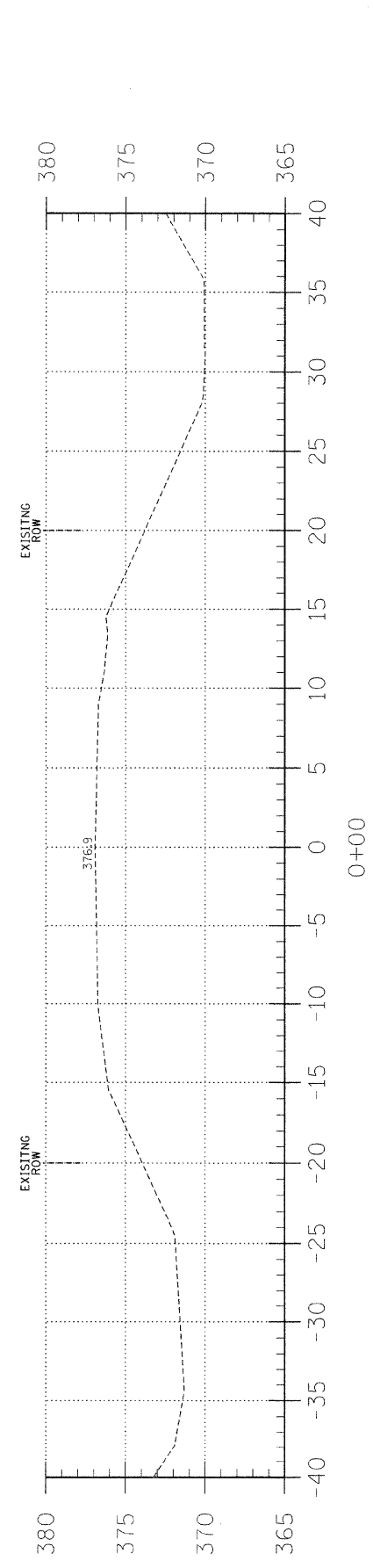
3+00



2+00



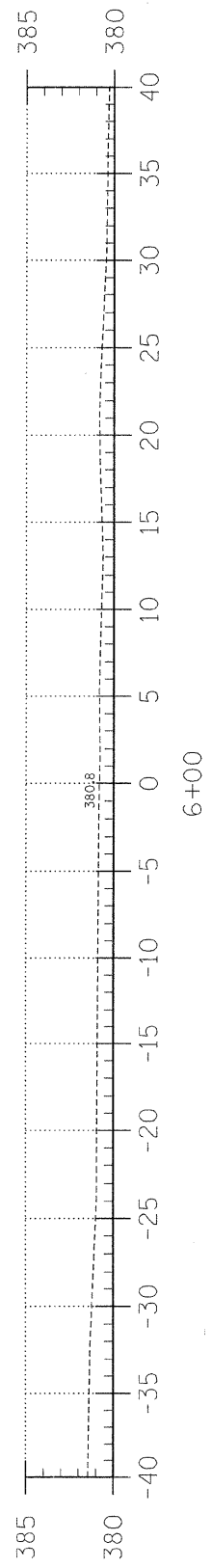
1+00



0+00

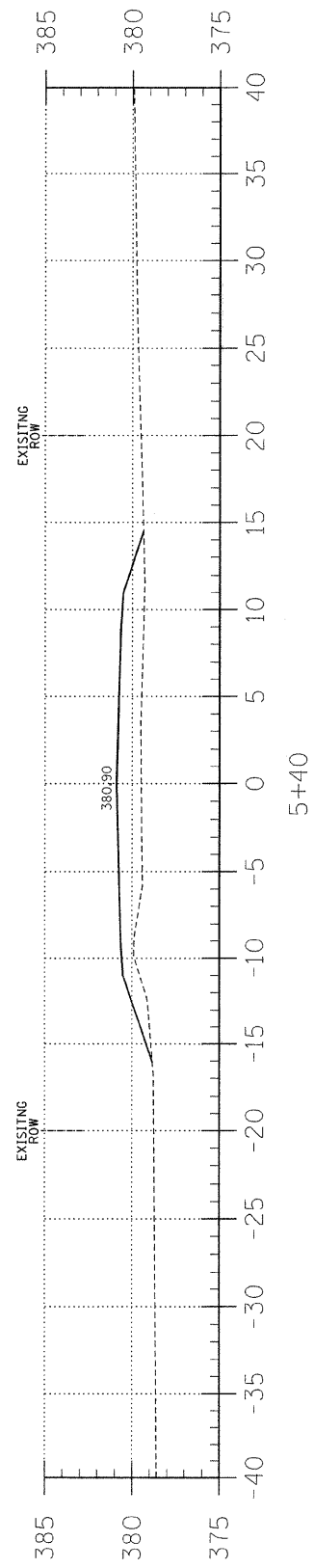
EARTHWORK SCHEDULE

| LOCATION | EARTH EXCAVATION | | CHANNEL EXCAVATION | | ESTIMATED UNSUITABLE MATERIAL | | SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE | | EMBANKMENT | | EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) | |
|----------------------|------------------|-------|--------------------|--------|-------------------------------|-------|--|------|------------|-------|---|--|
| | CUBIC YARD | | CUBIC YARD | | CUBIC YARD | | CUBIC YARD | | CUBIC YARD | | CUBIC YARD | |
| STA 0+00 TO 4+63.8 | 1495.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1121.6 | 67.4 | 1173.2 | 0.0 | -51.6 | |
| STA 4+63.8 TO 5+36.2 | 0.0 | 179.5 | 0.0 | 89.7 | 89.7 | 0.0 | 67.4 | 0.0 | 0.0 | 67.4 | | |
| STA 5+36.2 TO 6+00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 31.2 | 0.0 | -31.2 | | |
| TOTAL | 1495.5 | 179.5 | 89.7 | 1189.0 | 1204.4 | -15.4 | | | | | | |



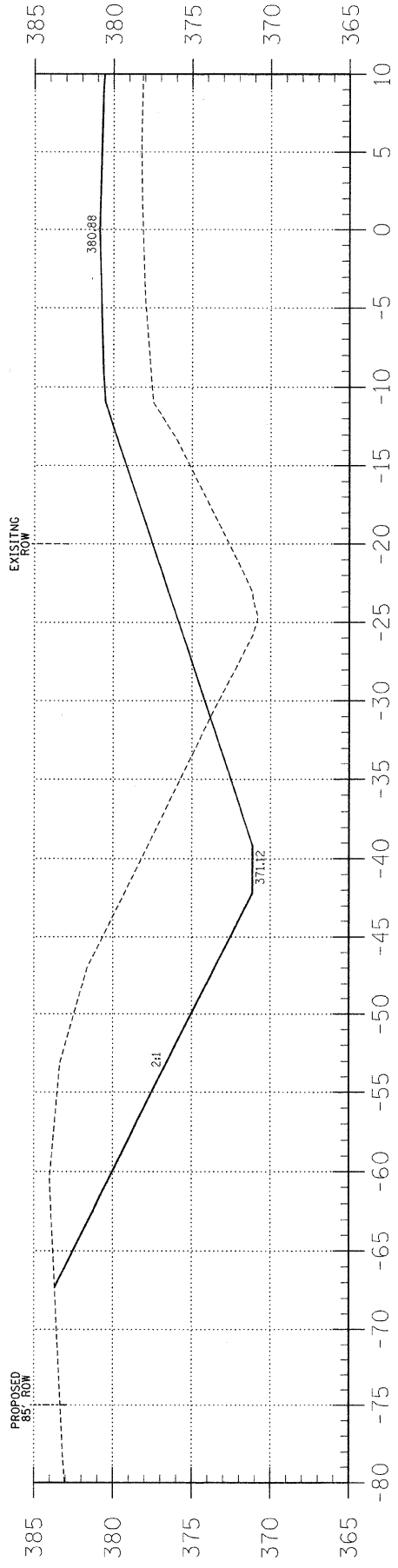
6+00

C = 0.0
F = 32.6



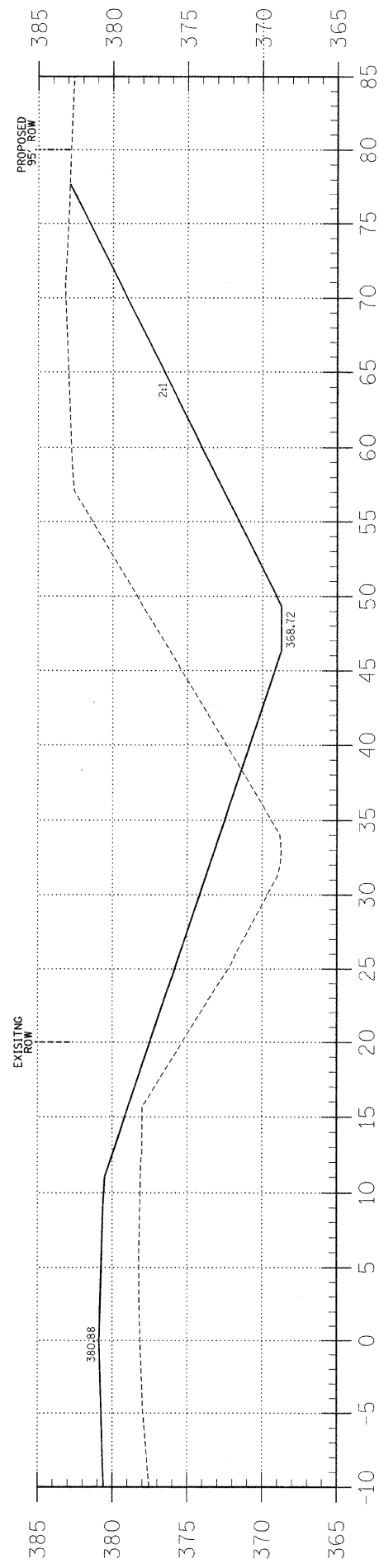
5+40

C = 422.0
F = 214.0



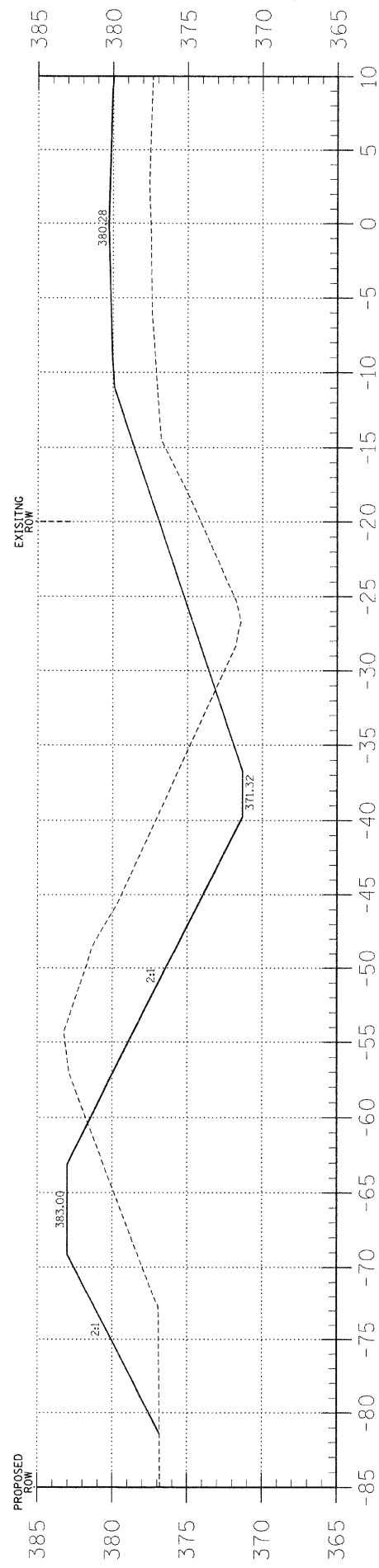
4+50

C = 341.1
F = 325.5



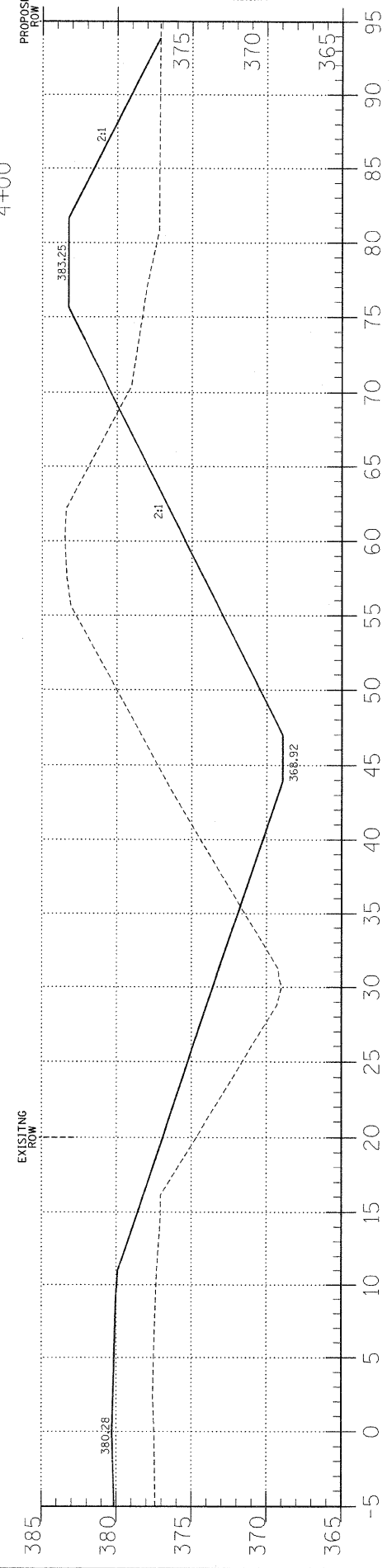
4+50

C = 341.1
F = 325.5



4+00

C = 341.1
F = 325.5



4+00

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------------|----------------|------------------|--------------|-----------|
| 376 | 08-01115-00-BR | HAMILTON | 12 | 4 |
| FED. ROAD DIST. NO. 9 ILLINOIS | | FED. AID PROJECT | | |
| PROJECT # BROS-065(044) | | CONTRACT # 99355 | | |
| JOB NO. C-99-526-08 | | SOUTHERN OUTLET | | |
| LEC JOB # H081015HM | | | | |

323 W. 3RD ST.
P.O. BOX 180
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-00887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
1-23-09
DATE
11-30-09
EXPIRES

TOWNSHIP ROUTE 376
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 12/09
REV:

4 OF 12
SHEETS

SHEET NO.
4

BENCHMARK:

EXISTING STRUCTURE: Sta. 5+01.6 - Single span steel I-beam bridge with concrete abutments & wingwalls. 45.0' bk. - bk. abuts.; 14.2' o.-o. deck Structure closed to traffic.

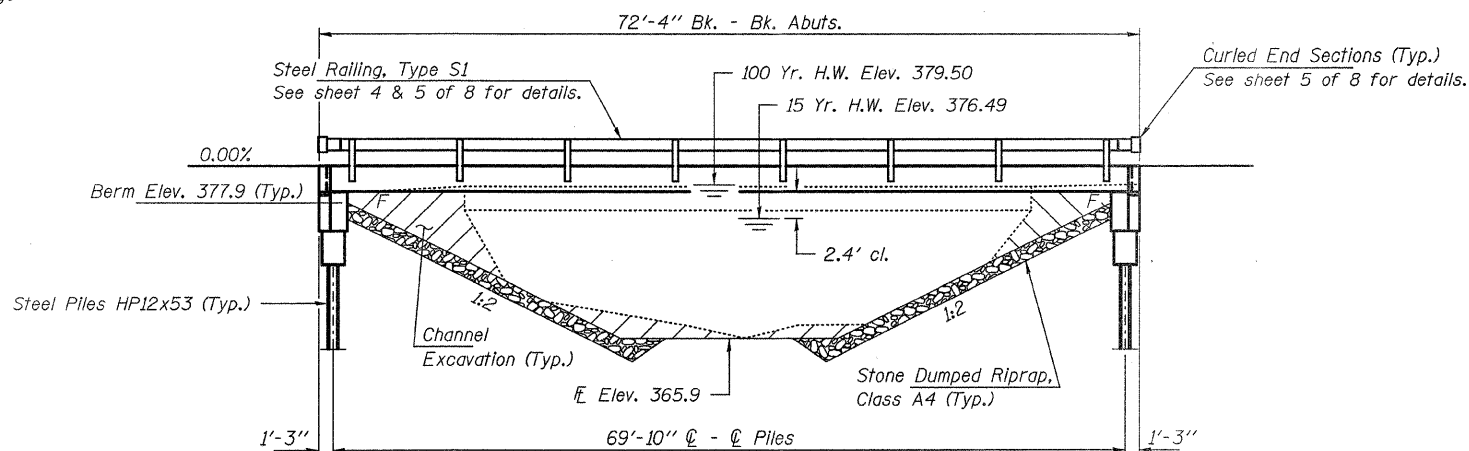
No Salvage

GENERAL NOTES

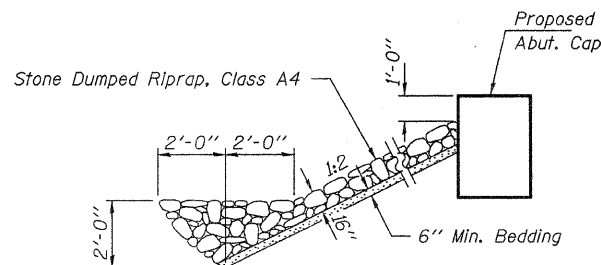
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The Contractor shall drive test piles to 110% of the nominal required bearing specified in production location at North Abutment or approved by the Engineer before ordering the remainder of piles. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
 Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
 All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. See Sheet 8 of 8 for Borings.

SOUTHERN OUTLET
 BUILT 200_ BY
 HAMILTON COUNTY
 SEC. 08-01115-00-BR
 BEAVER CREEK ROAD DISTRICT
 STR. NO. 033-3309
 LOADING HL-93

NAME PLATE
 See Std. 515001

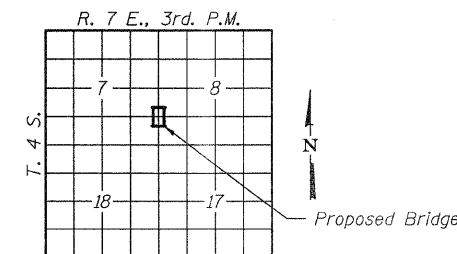


ELEVATION

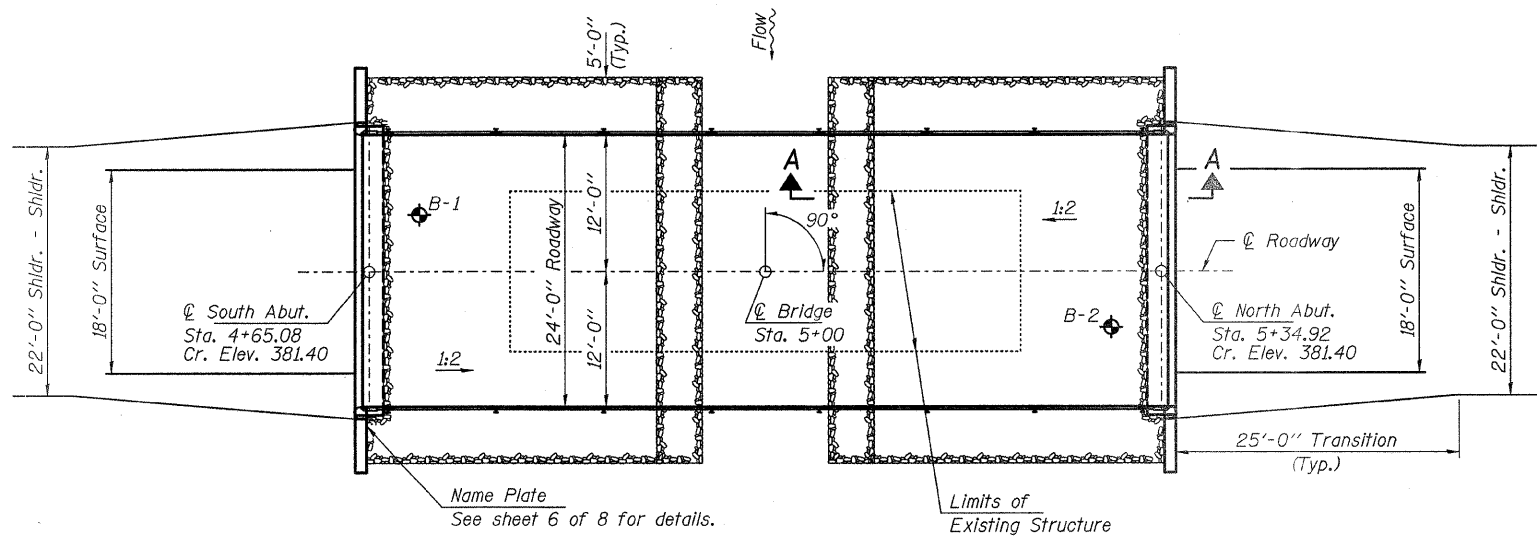
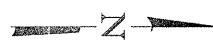


SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4.



LOCATION SKETCH



PLAN

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|-------|-------|-------|
| Stone Dumped Riprap, Class A4 | Ton | | | 180 |
| Removal of Existing Structures | Each | | | 1 |
| Concrete Structures | Cu. Yd. | | 23.6 | 23.6 |
| Concrete Encasement | Cu. Yd. | | 2.8 | 2.8 |
| Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 1,704 | | 1,704 |
| Reinforcement Bars | Pound | | 2,670 | 2,670 |
| Steel Railing, Type S1 | Foot | 137 | | 137 |
| Furnishing Steel Piles HP12x53 | Foot | | 352 | 352 |
| Driving Piles | Foot | | 352 | 352 |
| Name Plates | Each | | 1 | 1 |

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
 f'ci = 5,000 psi
 fpu = 270,000 psi (1/2" low lax. strands)
 fpbt = 201,960 psi (1/2" low lax. strands)
 fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable Interims.
 50#/Sq. Ft. Included in dead load for future wearing surface.

SEISMIC DATA

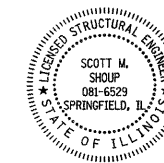
Seismic Performance Zone (SPZ) = 3
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.455g
 Design Spectral Acceleration at 0.2 sec. (SDS) = 0.864g
 Soil Site Class = E

WATERWAY DATA

Drainage Area..... 7.2 Sq. Mi.
 Existing Opening (15 yr)..... 360 Sq. Ft.
 Req'd Opening (15 yr)..... 385 Sq. Ft.
 Proposed Opening (15 yr)..... 385 Sq. Ft.
 Design Discharge (15 yr)..... 2,210 C.F.S.
 Created Head (15 yr)..... 0.0 Ft.
 100 Yr. Discharge..... 3,800 C.F.S.
 100 Yr. Created Head..... 0.2 Ft.

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 Specifications."

Scott M. Shoup
 2-6-2009
 ILLINOIS STRUCTURAL NO. 081-6529



Expires 11-30-2010

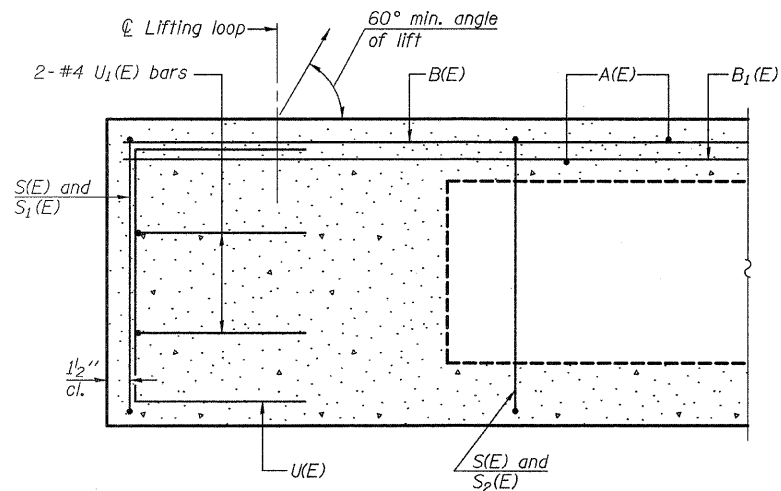
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 033-3309

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

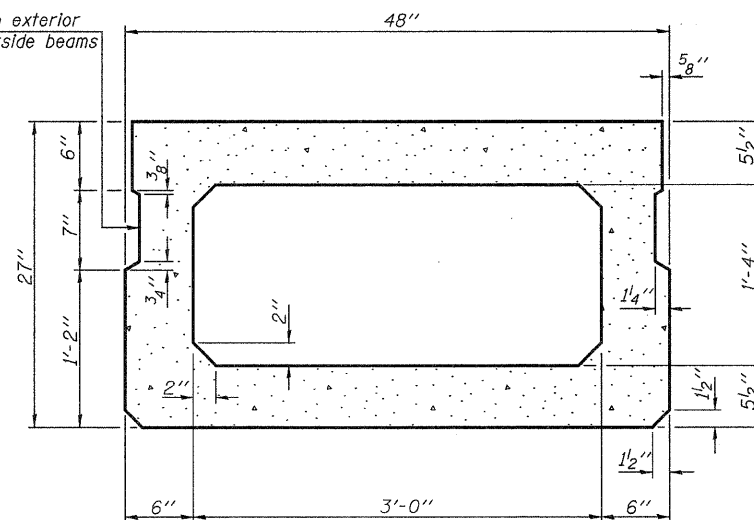
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 548-3400
 PROJECT NUMBER: 08.0104.130 DATE: 01/21/09

| | | | | | |
|----------------------------|------|----------------|-------------------------------|--------------|-----------|
| SHEET NO. 1 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 376 | 08-01115-00-BR | HAMILTON | 12 | 5 |
| BEAVER CREEK ROAD DISTRICT | | | CONTRACT NO. 99355 | | |
| FED. ROAD DIST. NO. | | ILLINOIS | FED. AID PROJECT BROS-065(44) | | |

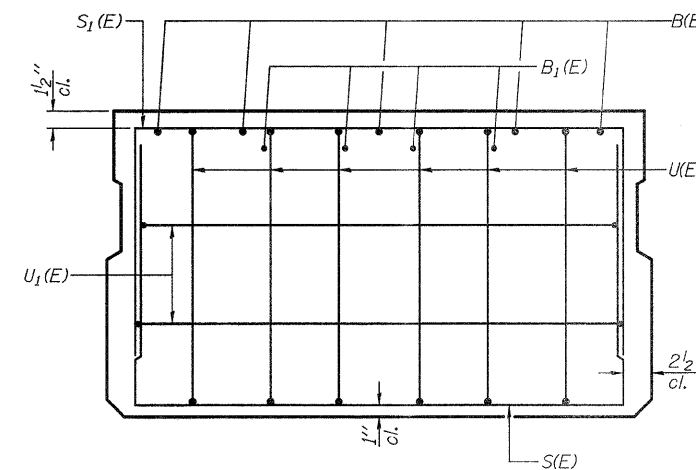


SECTION C-C

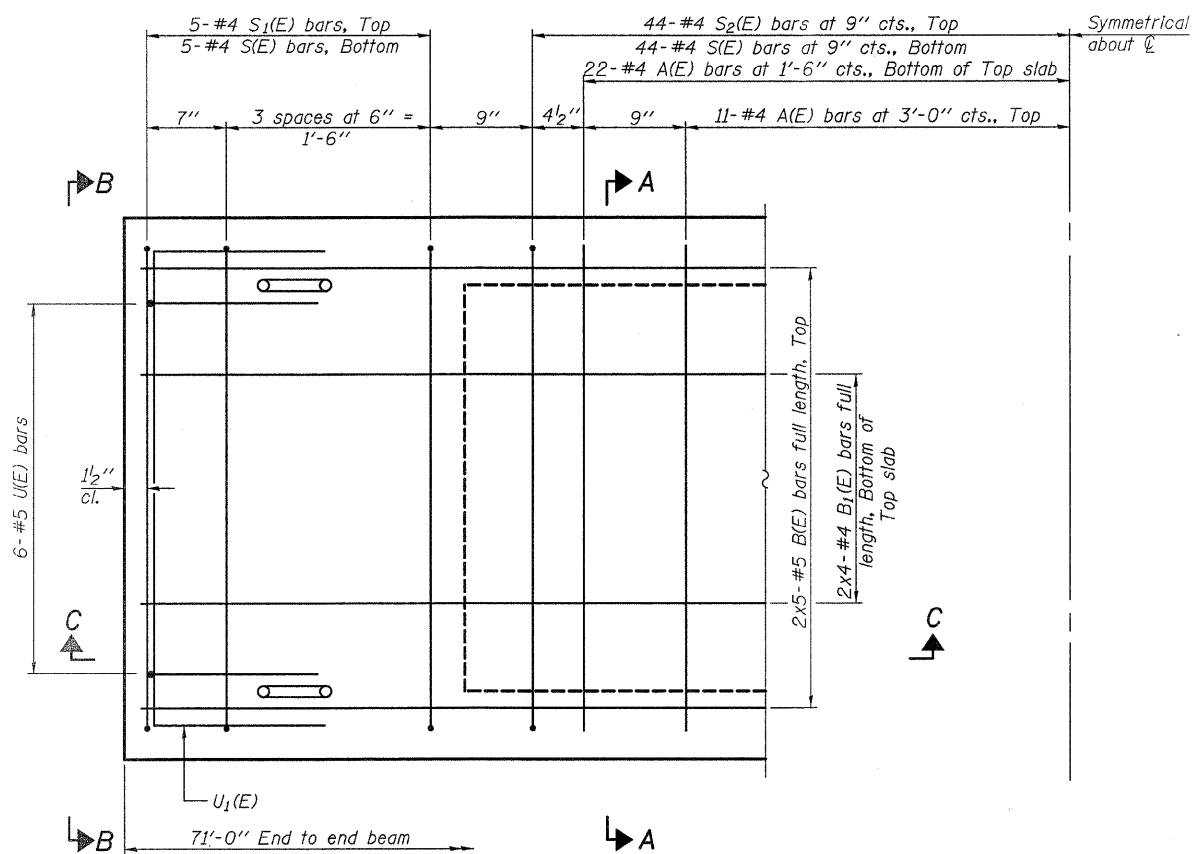
Omit key on exterior face of outside beams



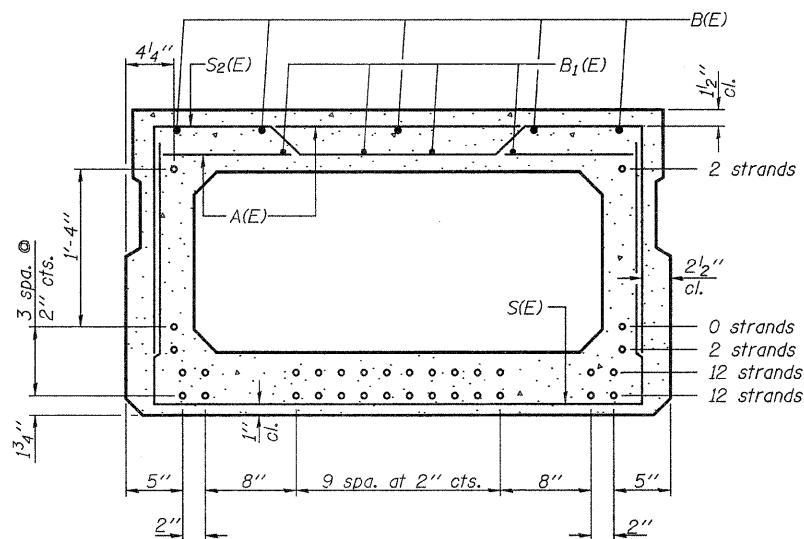
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E) | 66 | #4 | 3'-7" | — |
| B(E) | 10 | #5 | 36'-3" | — |
| B1(E) | 8 | #4 | 36'-3" | — |
| S(E) | 98 | #4 | 7'-5" | ⌊ |
| S1(E) | 10 | #4 | 6'-11" | ⌊ |
| S2(E) | 88 | #4 | 7'-2" | ⌊ |
| U(E) | 12 | #5 | 4'-6" | ⌊ |
| U1(E) | 4 | #4 | 6'-0" | ⌊ |

Note: See sheets 3 & 4 of 8 for additional details and Bill of Material.

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

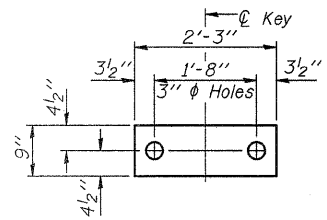
PD-2748-0 5-16-08

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
HLR
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 548-3400
 PROJECT NUMBER: 08.0104.130 DATE: 01/21/09

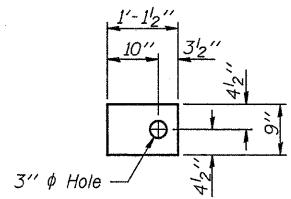
SHEET NO. 2
8 SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|----------------------------|----------------|-------------------------------|--------------|-----------|
| 376 | 08-01115-00-BR | HAMILTON | 12 | 6 |
| BEAVER CREEK ROAD DISTRICT | | CONTRACT NO. 99355 | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT BR05-065(44) | | |

SUPERSTRUCTURE
27" X 48" PPC DECK BEAM
STRUCTURE NO. 033-3309



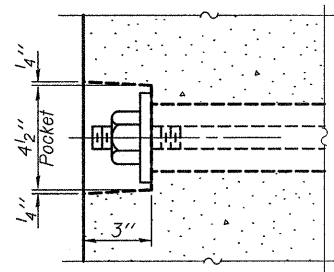
FABRIC BEARING PAD
(10 Req'd - Interior)



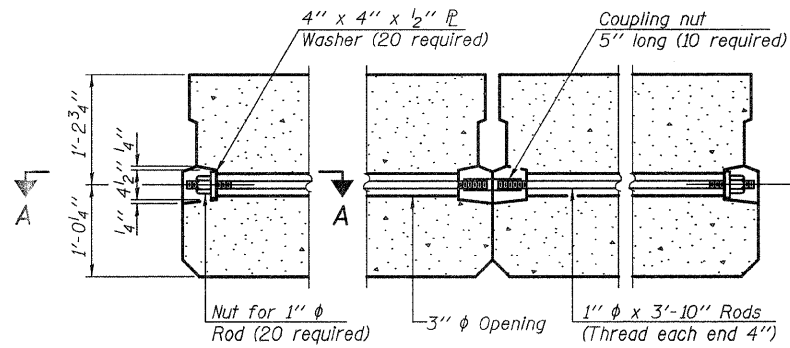
FABRIC BEARING PAD
(4 Req'd - Exterior)

FIXED

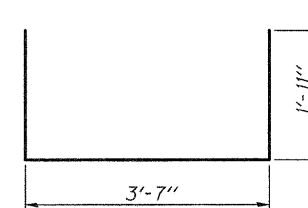
Note: Omit holes when using expansion bearings.



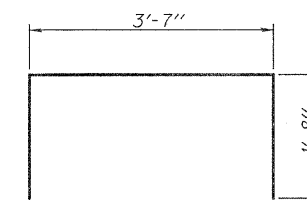
SECTION A-A



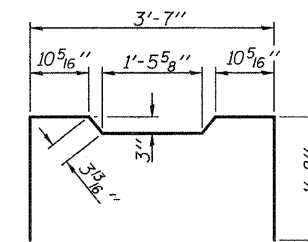
TYPICAL TRANSVERSE TIE ASSEMBLY



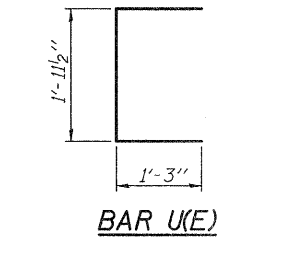
BAR S(E)



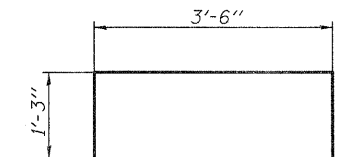
BAR S1(E)



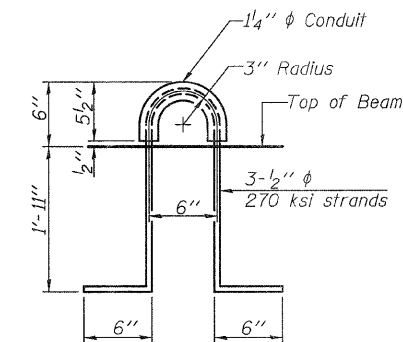
BAR S2(E)



BAR U(E)



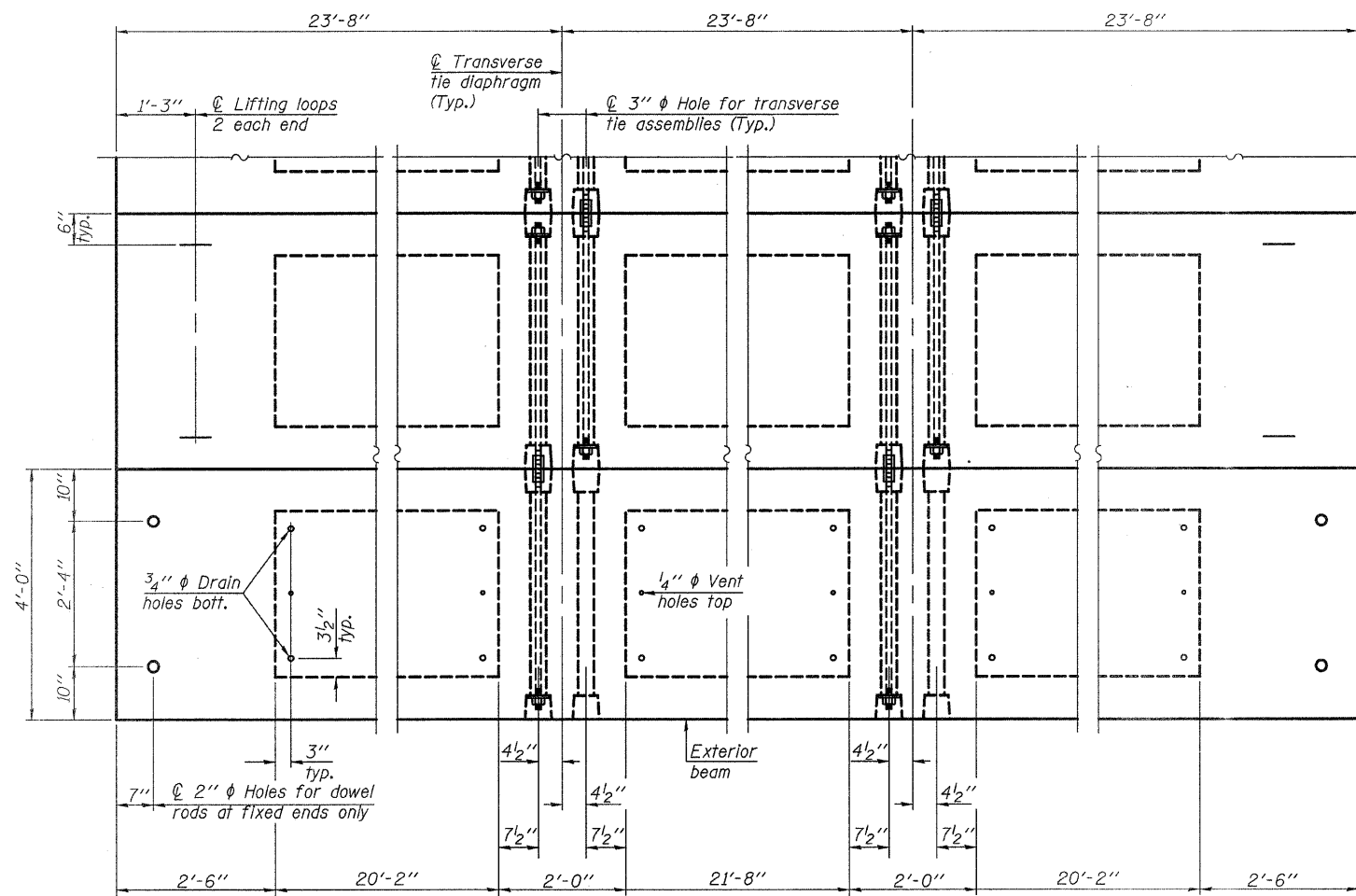
BAR U1(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

| | | |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (27" depth) | Sq. Ft. | 1,704 |
|---|---------|-------|



PLAN VIEW

NOTES

Note: Connect beams in pairs with the transverse tie configuration shown.

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

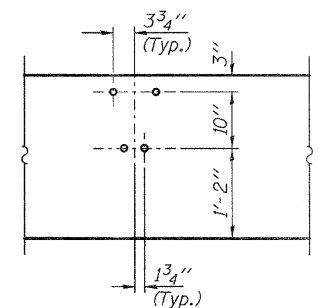
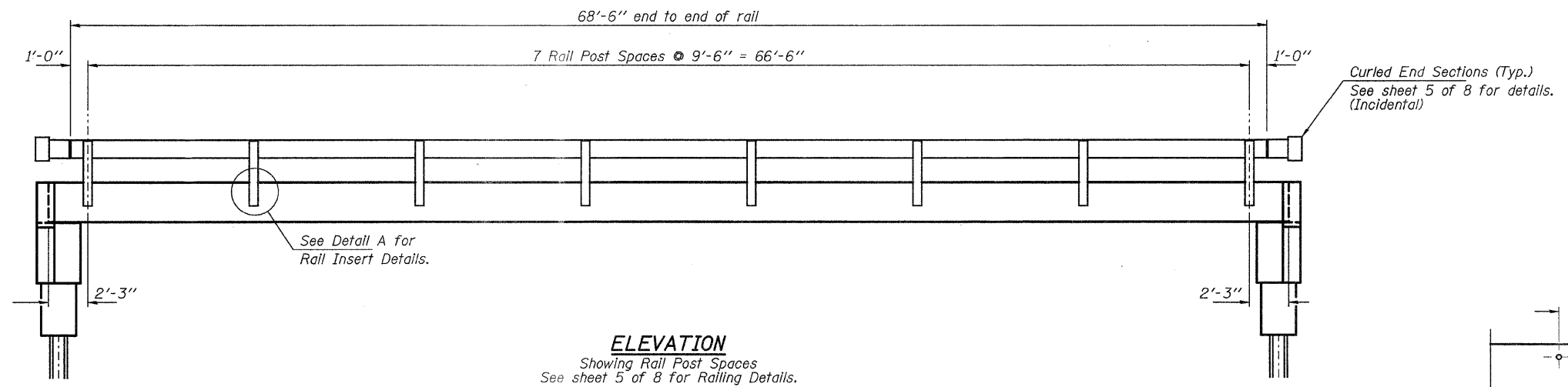
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 548-3400

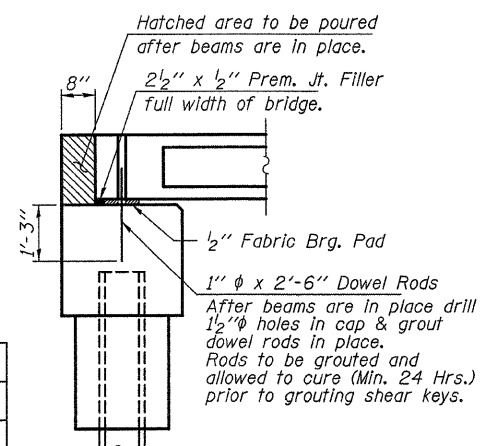
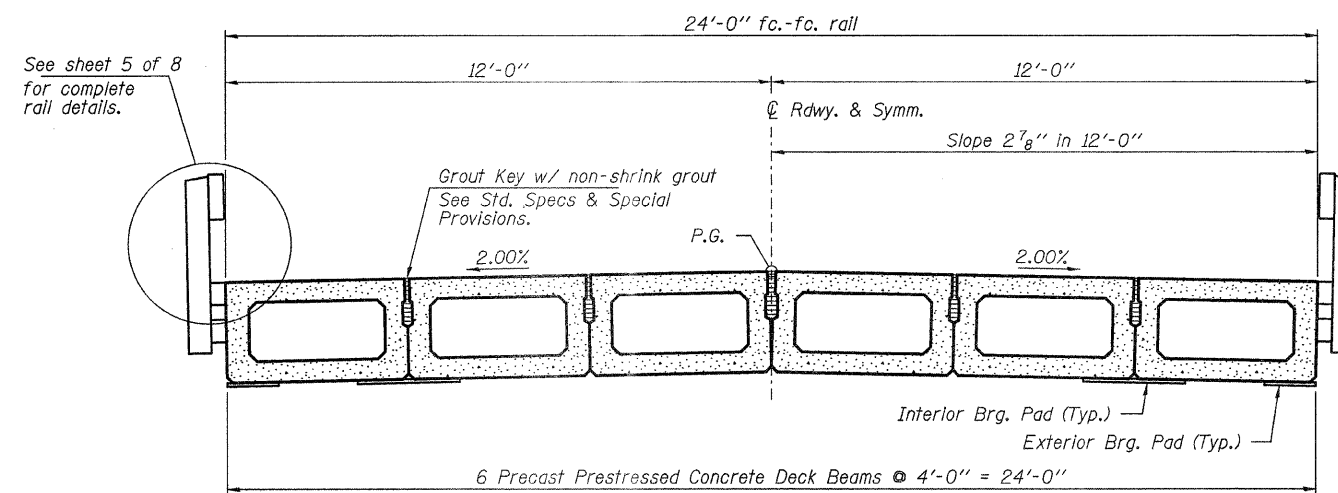
PROJECT NUMBER: 08.0104.130 DATE: 01/21/09

| | | | | | |
|-------------------------|----------------------------|--|--------------------|--------------|-----------|
| SHEET NO. 3 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 376 | 08-01115-00-BR | HAMILTON | 12 | 7 |
| | BEAVER CREEK ROAD DISTRICT | | CONTRACT NO. 99355 | | |
| | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT BROS-065(44) | | | |

SUPERSTRUCTURE DETAILS
27" X 48" PPC DECK BEAMS
STRUCTURE NO. 033-3309



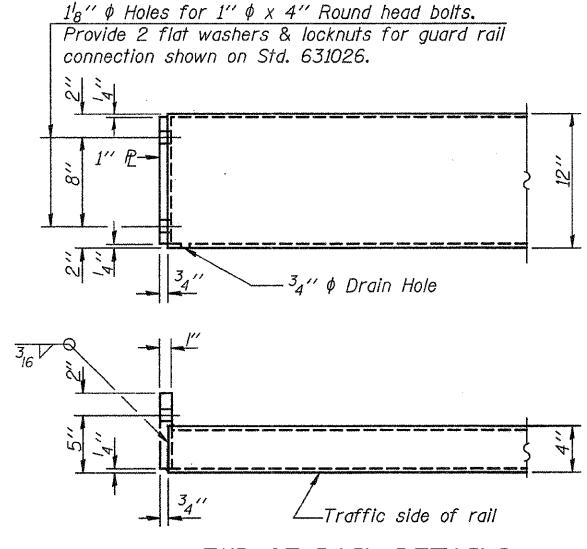
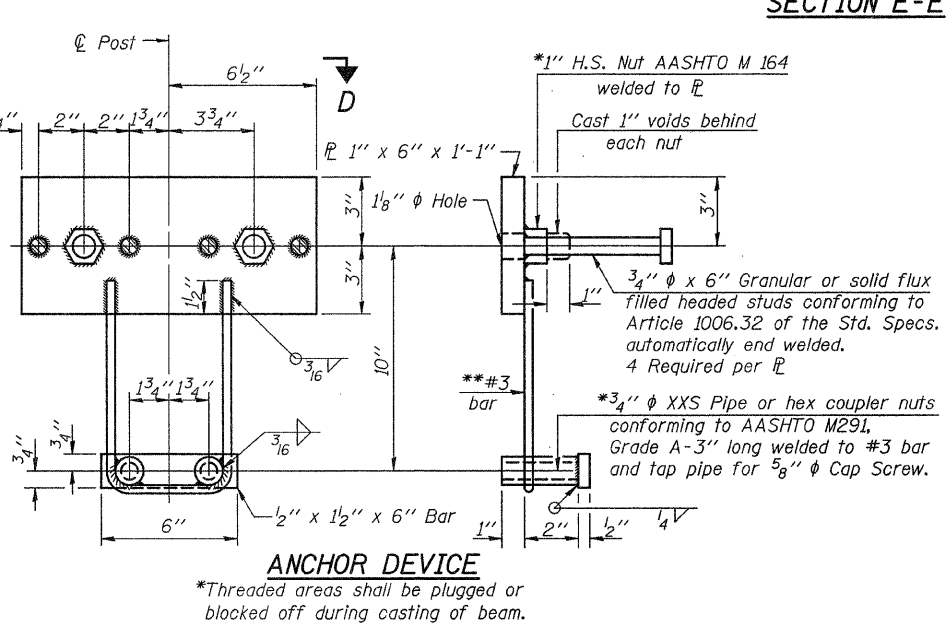
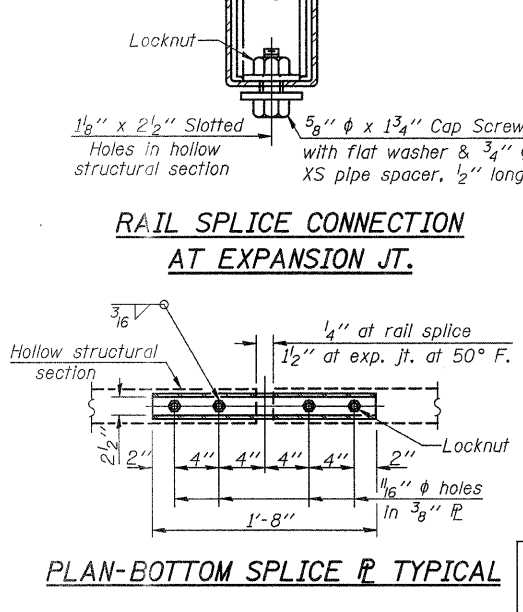
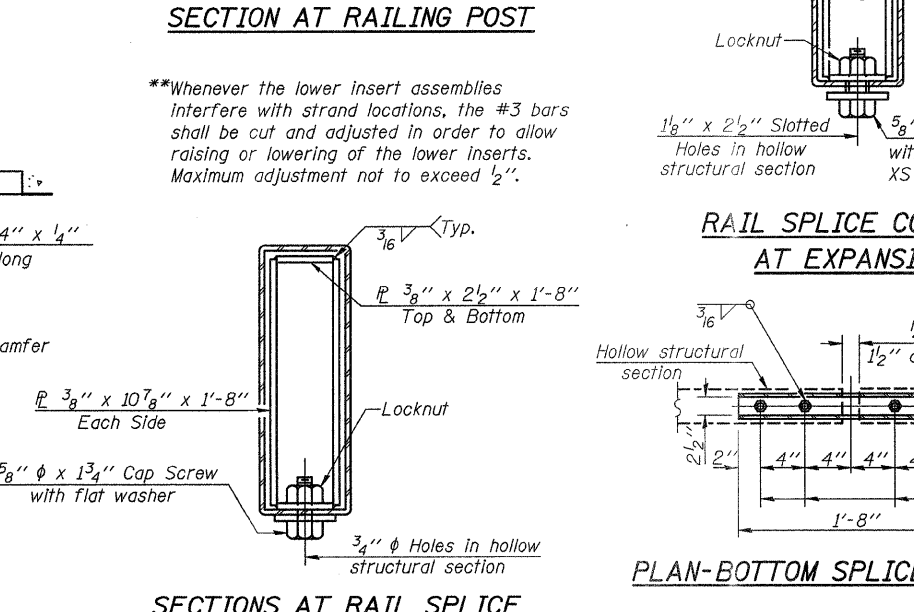
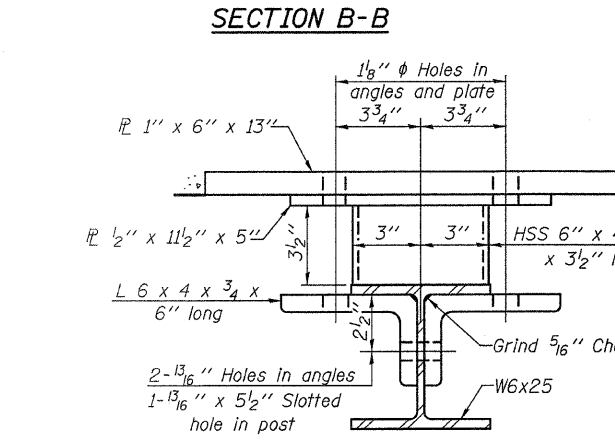
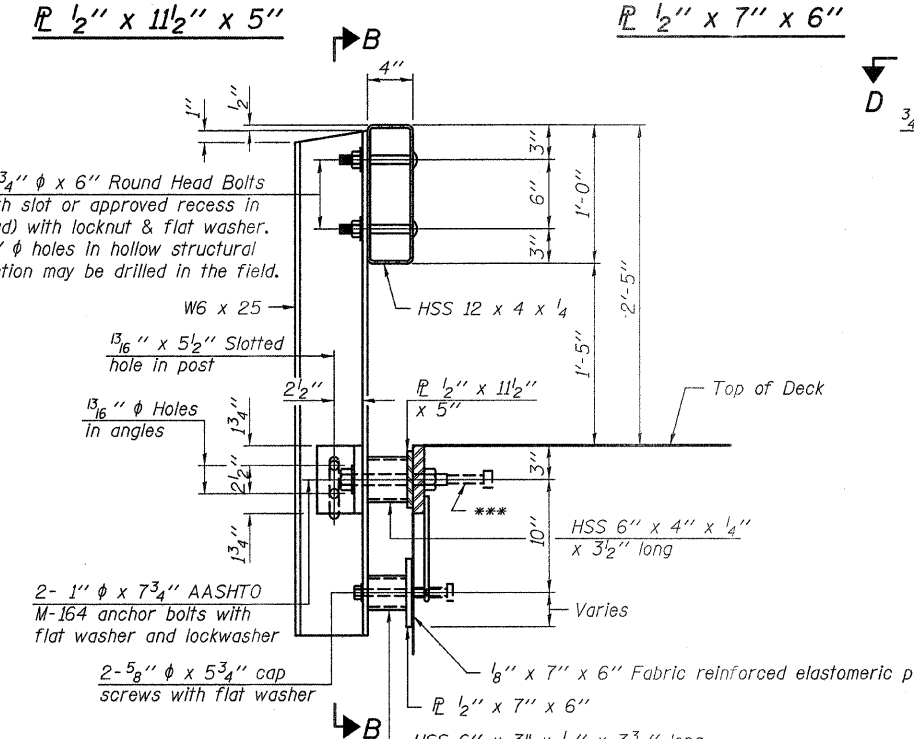
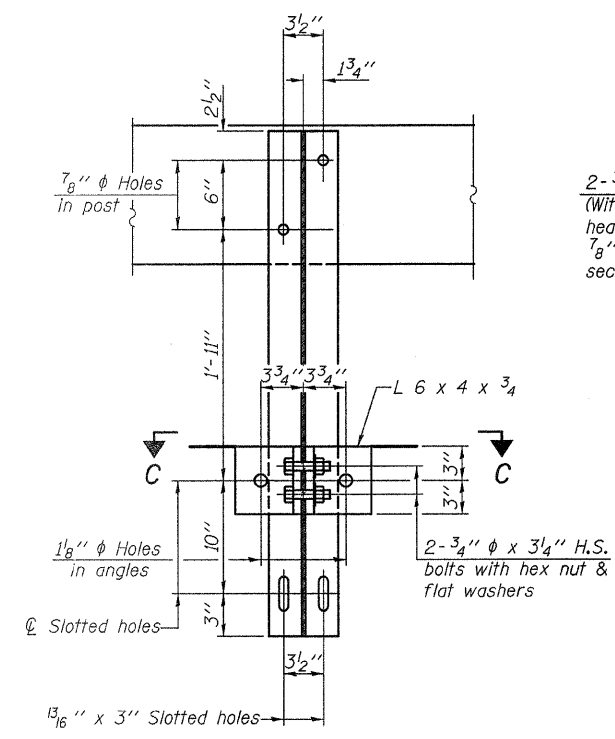
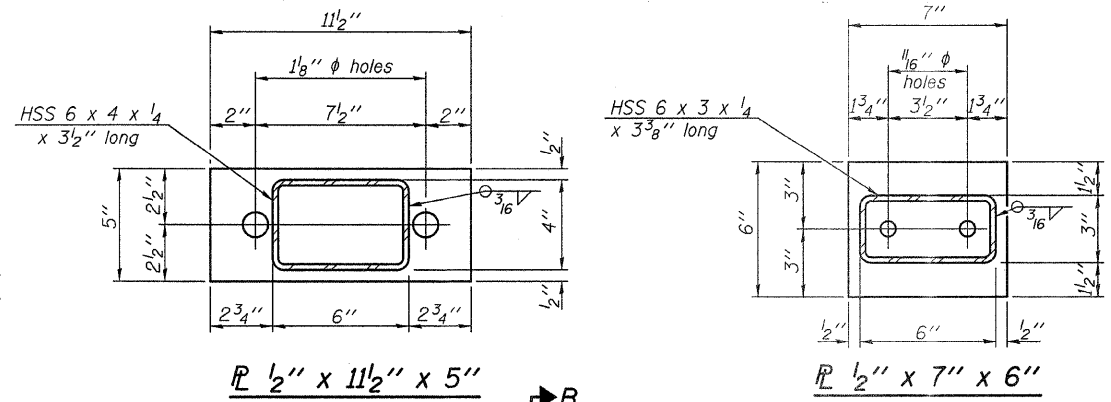
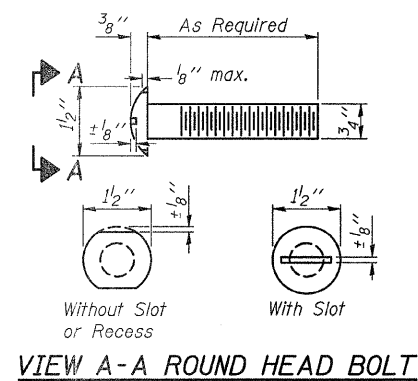
DETAIL A



| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 033-3309

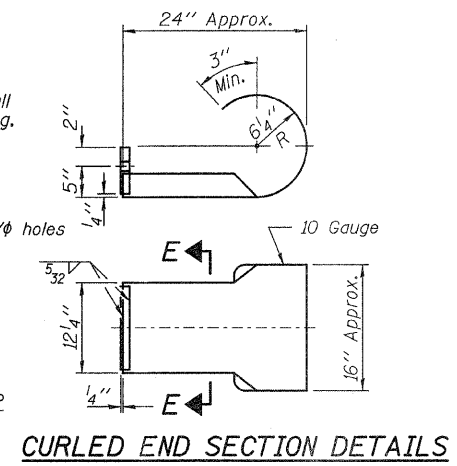
| | | | | | | |
|--|-------------|------|----------------------------|--------------------|-------------------------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 646-3400 PROJECT NUMBER: 08.0104.130 DATE: 01/21/09 | SHEET NO. 4 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 8 SHEETS | 376 | 08-01115-00-BR | HAMILTON | 12 | 8 |
| | | | BEAVER CREEK ROAD DISTRICT | CONTRACT NO. 99355 | | |
| | | | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT BROS-065(44) | |



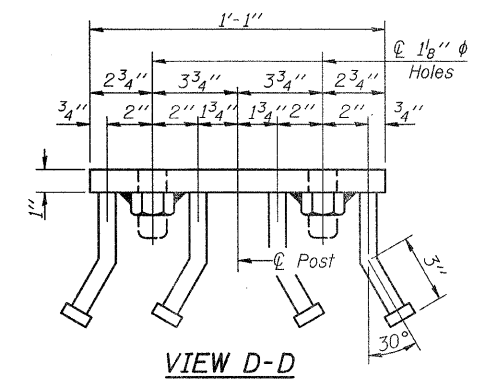
| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

(10'-9" Maximum Post Spacing)

Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



Notes:
 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 Railing, Type S-1.
 All steel rail 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.

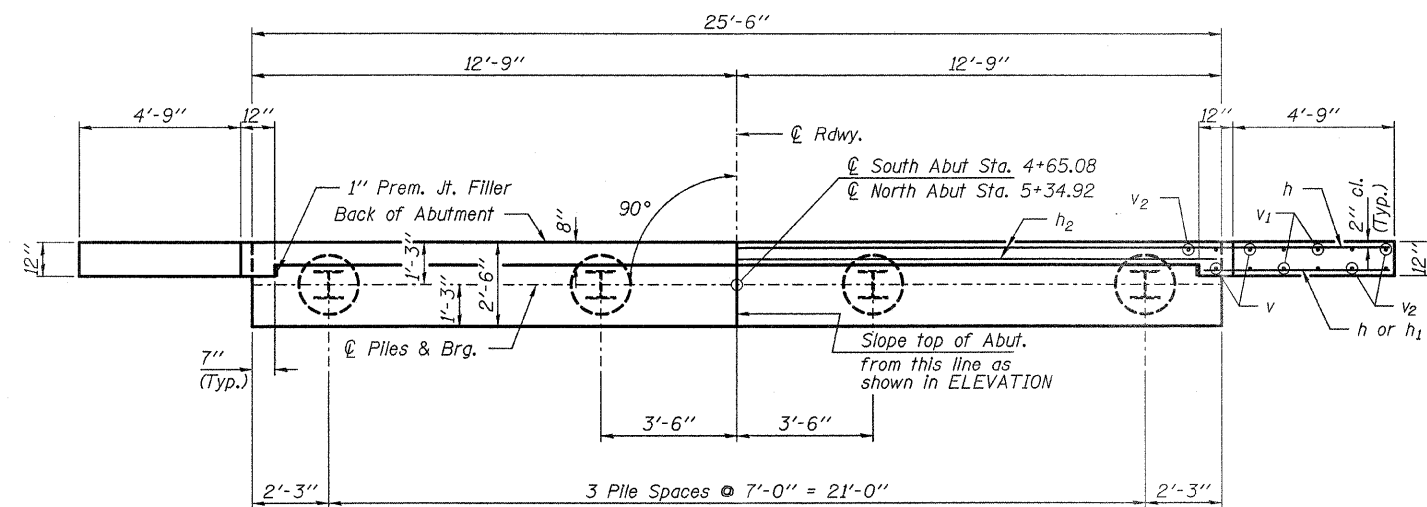


BILL OF MATERIAL

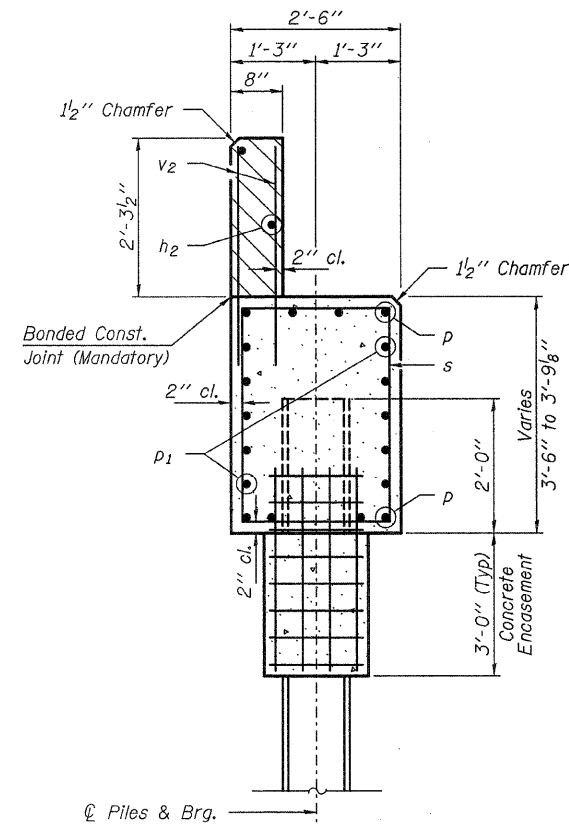
| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 137 |

**STEEL RAILING, TYPE S-1
 STRUCTURE NO. 033-3309**

| | | | | | | |
|---|-------------------------|----------------------------|--|--------------------|--------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400 PROJECT NUMBER: 08.0104.130 DATE: 01/21/09 | SHEET NO. 5 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | 376 | 08-0115-00-BR | HAMILTON | 12 | 9 |
| | | BEAVER CREEK ROAD DISTRICT | | CONTRACT NO. 99355 | | |
| | | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT BROS-065(44) | | | |

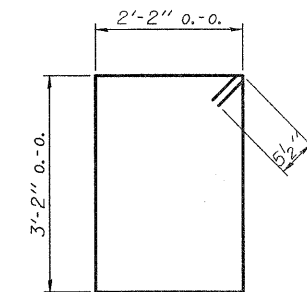


PLAN

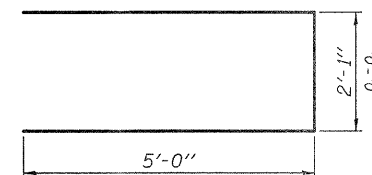


SECTION A-A

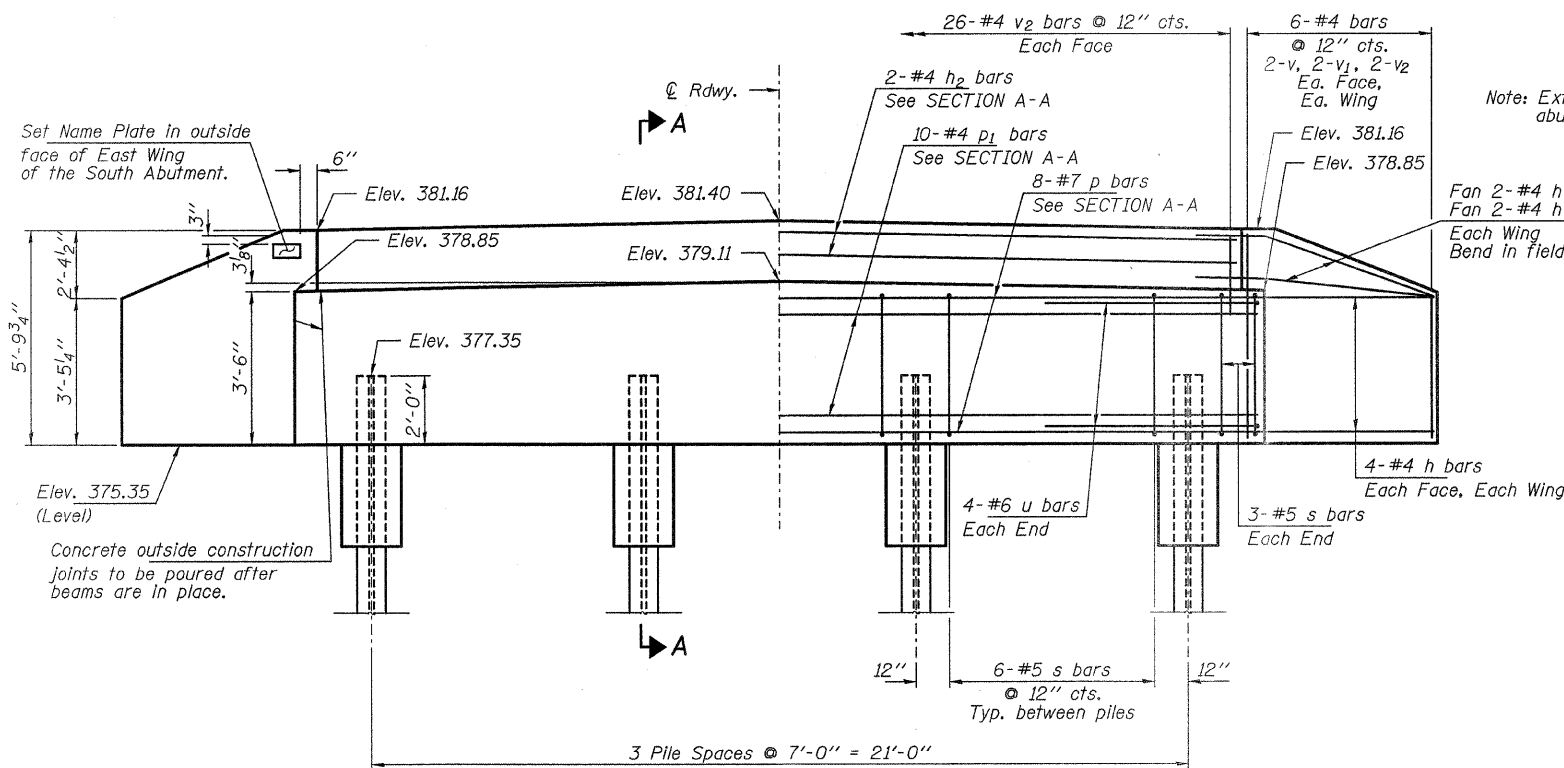
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

PILE DATA

| | |
|-------------------------------|--|
| Type | Steel HPI2x53 |
| No. Req'd. (2 Abuts.) | 8 |
| Factored Resistance Available | 209 Kips/Pile |
| Nominal Req'd Bearing | 419 Kips/Pile |
| Est. Length | 46 Ft/Pile - N. Abut. 42 Ft/Pile - S. Abut. |

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

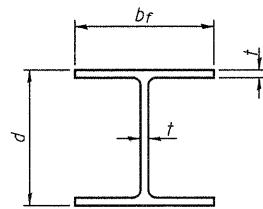
BILL OF MATERIAL - 2 ABUTS.

| BAR | NO. | SIZE | LENGTH | SHAPE |
|---------------------|-----|------|---------|-------|
| h | 40 | #4 | 7'-0" | — |
| h1 | 8 | #4 | 5'-6" | — |
| h2 | 4 | #4 | 25'-2" | — |
| p | 16 | #7 | 25'-2" | — |
| p1 | 20 | #4 | 25'-2" | — |
| s | 48 | #5 | 11'-7" | □ |
| u | 16 | #6 | 12'-1" | — |
| v | 16 | #4 | 5'-2" | — |
| v1 | 16 | #4 | 4'-2" | — |
| v2 | 120 | #4 | 3'-2" | — |
| Concrete Structures | | | Cu. Yd. | 23.6 |
| Concrete Encasement | | | Cu. Yd. | 2.8 |
| Reinforcement Bars | | | Pound | 2,670 |
| Steel Piles HPI2x53 | | | Foot | 352 |
| Name Plates | | | Each | 1 |

**ABUTMENTS
STRUCTURE NO. 033-3309**

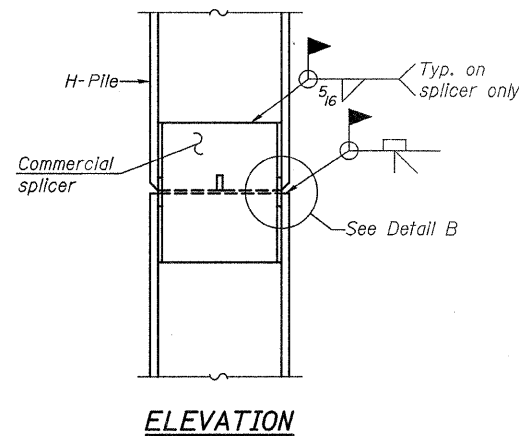
| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

| | | | | | | |
|--|-------------|----------------------------|----------------|-------------------------------|--------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0104.130 DATE: 01/21/09 | SHEET NO. 6 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 8 SHEETS | 376 | 08-01115-00-BR | HAMILTON | 12 | 10 |
| | | BEAVER CREEK ROAD DISTRICT | | CONTRACT NO. 99355 | | |
| | | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT BR05-065(44) | | |

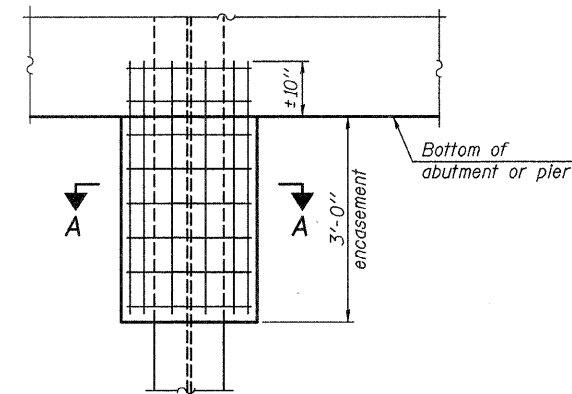


STEEL PILE TABLE

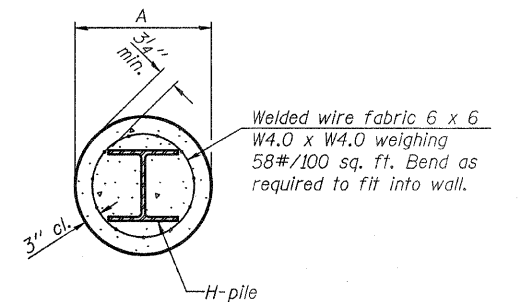
| Designation | Depth d | Flange width bf | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 13/16" | 30" |
| x102 | 14" | 14 3/4" | 1/16" | 30" |
| x89 | 13 7/8" | 14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



ELEVATION



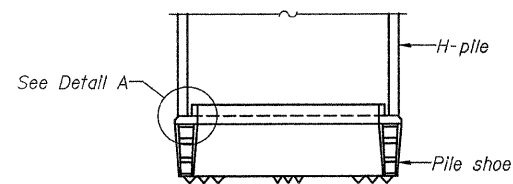
ELEVATION



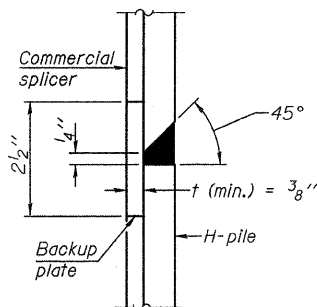
SECTION A-A

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

PILE ENCASEMENT

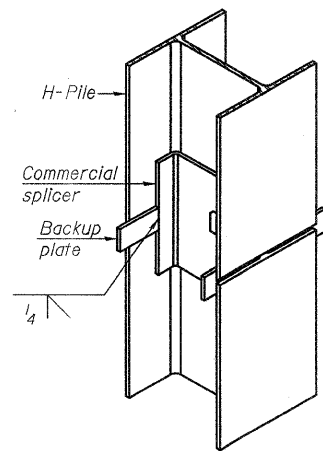


ELEVATION

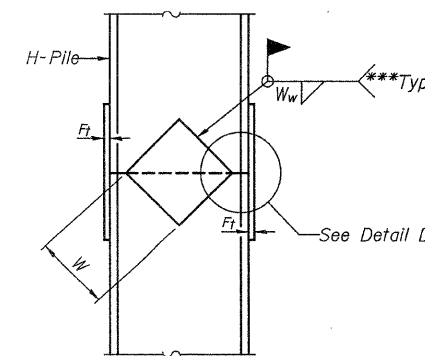


DETAIL "B"

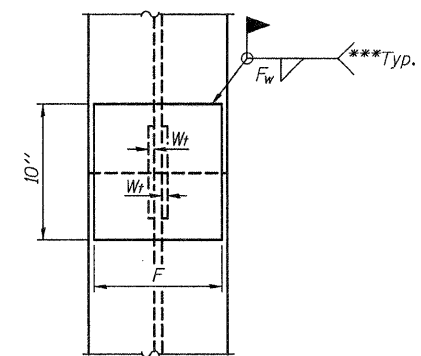
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

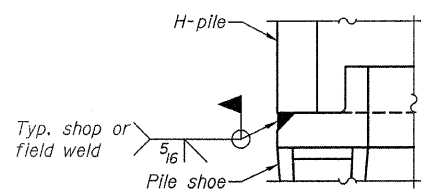


ELEVATION



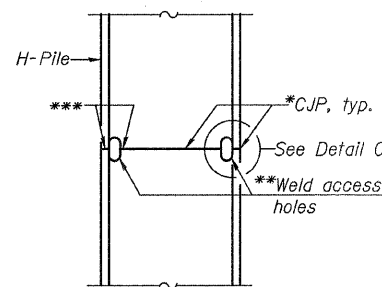
END VIEW

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

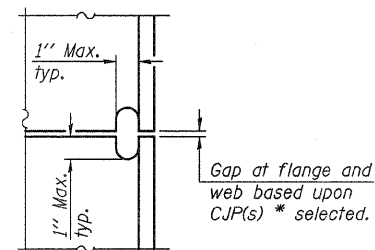


DETAIL A

H-PILE SHOE ATTACHMENT

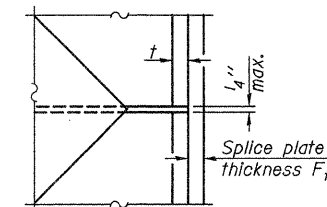


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

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

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code-Steel.

**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code-Steel.

***Interrupt welds 1/4" from end of each pile.

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

F-HP

5-16-08

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 548-3400

SHEET NO. 7

8 SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|----------------------------|----------------|--|--------------|-----------|
| 376 | 08-01115-00-BR | HAMILTON | 12 | 11 |
| BEAVER CREEK ROAD DISTRICT | | CONTRACT NO. 99355 | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT BROS-065(44) | | |

**STEEL H PILE DETAILS
 STRUCTURE NO. 033-3309**

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 1 of 1

Bridge Foundation Boring Log

Project: H-08068 Bridge _____ Date: 4/28/08
Section: 08-0115-00-BR Station _____ Bored by: D. Russell
Struct: 3120 _____ Checked By: T. Holcomb
County: Hamilton _____

Boring No: 1
Station: _____
Offset: _____

| Elevation | N | Cu | w | % | Surface Water Elev. | |
|-----------|------|----|---|---|---------------------|-----------------|
| | | | | | Ground Water Elev. | Upon Completion |
| 0 | | | | | | |
| 0 | | | | | | |
| 5 | 1.55 | 23 | | | | |
| 7 | 2.18 | 28 | | | | |
| 6 | 1.55 | 26 | | | | |
| 4 | 0.88 | 35 | | | | |
| 5 | 1.48 | 27 | | | | |
| 5 | 2.35 | 34 | | | | |
| 4 | 1.78 | 27 | | | | |
| 5 | 2.78 | 28 | | | | |
| 5 | 1.85 | 27 | | | | |

Ground Surface 378.15 99.0'
2" Crushed Stone
Brown Mottled Gray Silty CLAY (A-6) with brick fragments
Gray CLAY (A-7-6)
Gray Mottled Brown Silty CLAY to CLAY (A-6)
Gray Clayey SAND (A-2-4)
Gray Mottled Brown CLAY (A-7-6)
Gray SANDSTONE
End of Boring @ -44.0'

Ground Water Elev. 338.15
During Drilling 338.15
Upon Completion 338.15

351.65 72.5
371.65 92.5
344.15 88.0
364.15 85.0
338.15 80.0
334.15 55.0

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING 1

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 1 of 2

Bridge Foundation Boring Log

Project: H-08068 Bridge _____ Date: 4/28/08
Section: 08-0115-00-BR Station _____ Bored by: D. Russell
Struct: 3120 _____ Checked By: T. Holcomb
County: Hamilton _____

Boring No: 2
Station: _____
Offset: _____

| Elevation | N | Cu | w | % | Surface Water Elev. | |
|-----------|------|----|---|---|---------------------|-----------------|
| | | | | | Ground Water Elev. | Upon Completion |
| 0 | | | | | | |
| 7 | 3.18 | 18 | | | | |
| 6 | 1.75 | 26 | | | | |
| 5 | 1.35 | 28 | | | | |
| 4 | 1.08 | 28 | | | | |
| 5 | 0.48 | 38 | | | | |
| 1 | 1.35 | 31 | | | | |
| 4 | 0.48 | 46 | | | | |
| 4 | 1.48 | 24 | | | | |
| 5 | 2.18 | 29 | | | | |

Ground Surface 379.45 100.0'
2" Crushed Stone
Brown Mottled Gray Silty CLAY (A-6)
Gray Mottled Brown Silty CLAY to CLAY (A-6)
Gray Mottled Brown CLAY (A-7-6)
Gray Clayey SAND (A-2-4)
Gray SHALE

Ground Water Elev. 338.45
During Drilling 338.45
Upon Completion 338.45

372.95 92.5
367.95 88.0
345.45 80.5
340.45 61.3
335.45 56.3

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING 2

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 2 of 2

Bridge Foundation Boring Log

Project: H-08068 Bridge _____ Date: 4/28/08
Section: 08-0115-00-BR Station _____ Bored by: D. Russell
Struct: 3120 _____ Checked By: T. Holcomb
County: Hamilton _____

Boring No: 2
Station: _____
Offset: _____

| Elevation | N | Cu | w | % | Surface Water Elev. | |
|-----------|---|----|---|---|---------------------|-----------------|
| | | | | | Ground Water Elev. | Upon Completion |
| 45 | | | | | | |
| 75 | | | | | | |
| 70 | | | | | | |
| 75 | | | | | | |
| 50 | | | | | | |
| 75 | | | | | | |
| 55 | | | | | | |
| 60 | | | | | | |
| 50 | | | | | | |
| 85 | | | | | | |
| 65 | | | | | | |
| 74 | | | | | | |

shale (continued)
Gray SANDSTONE (A-6)
End of Boring @ -49.0'

Ground Water Elev. 338.45
During Drilling 338.45
Upon Completion 338.45

331.95 52.0
330.45 61.3

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - S.W.M. |
| DRAWN - D.A.B. |
| CHECKED - D.T.M. |

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

HLR

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 548-3400

PROJECT NUMBER: 08.0104.180 DATE: 01/21/09

| | | | | | |
|----------------------------|------|--|--------------------|--------------|-----------|
| SHEET NO. 8 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 376 | 08-0115-00-BR | HAMILTON | 12 | 12 |
| BEAVER CREEK ROAD DISTRICT | | | CONTRACT NO. 99355 | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT BR05-065(44) | | | |

BORINGS
STRUCTURE NO. 033-3309