| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| T.R. 98 | 06-04109 -00-BR | GALLATIN | 17 | 1 |
| | | ILLINOIS | CONTRACT NO. 99353 | |

# STATE OF ILLINOIS
# DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

# PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

## PROJECT BROS-059(18)
## SECTION 06-04109-00-BR
## EQUALITY ROAD DISTRICT
## GALLATIN COUNTY
## ST. JOSEPH CEMETERY ROAD / T.R. 98
## PROPOSED STRUCTURE NO. 030-3126
## C-99-523-07

**INDEX OF SHEETS**

| SHEET NO. | DESCRIPTION |
|---|---|
| 1. | COVER SHEET |
| 2. | SUMMARY OF QUANTITIES AND TYPICAL SECTIONS |
| 3. | PLAN AND PROFILE |
| 4.-8. | STATION CROSS SECTIONS |
| 9.-16. | BRIDGE PLANS |
| 17. | BORINGS |

HIGHWAY STANDARDS:

| | |
|---|---|
| 515001-03 | NAME PLATE FOR BRIDGES |
| 630001-08 | STEEL PLATE BEAM GUARDRAIL |
| 701901-01 | TRAFFIC CONTROL DEVICES |
| BLR 21-8 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |

**UTILITIES**

NONE

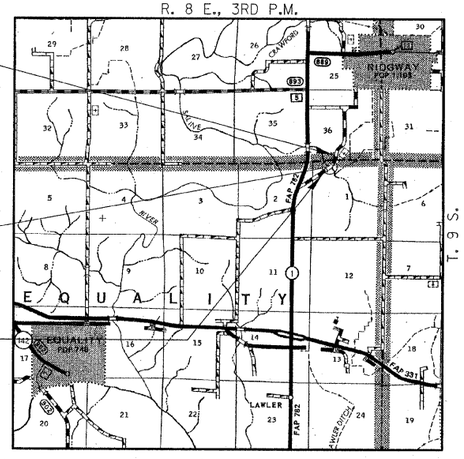

LOCATION OF SECTION INDICATED THUS:- ▬

FUNCTIONAL CLASSIFICATION: LOCAL ROAD (0-250 ADT)
DESIGN SPEED: 20 MPH
DESIGN TRAFFIC: 75 ADT (2005)

IMPROVEMENT ENDS STATION 12+25

STA. 9+98
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN 50'-0"
27'-0" RDWY.; SKEW = 10°; S.E. = 3.0%
EXISTING STRUCTURE NO. 030-3037
PROPOSED STRUCTURE NO. 030-3126

IMPROVEMENT BEGINS STATION 7+75




N

**LOCATION MAP**

APPROXIMATE SCALE: 0 ▬ 1 MILE

NET LENGTH OF SECTION = 450 FEET = 0.085 MILES

0 100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

**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.**

**WARNING**

CALL J.U.L.I.E. TOLL FREE 1-800-892-0123

**CALL 811 BEFORE YOU DIG**

**AGENCY RESPONSIBLE FOR LETTING**

APPROVED 11/6 20 08
J. W. Brown
COUNTY ENGINEER

PASSED 12/8 20 08
Dean W. Hilbk
DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 12 20 08
Mary C. Lamie
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 11/5/2008
STEVEN W. MEGGINSON 062-50051 LICENSED PROFESSIONAL ENGINEER STATE OF ILLINOIS
EXPIRES: 11/30/2009

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 08.0190.130 DATE: 11/05/08

**CONTRACT NO. 99353**

## SUMMARY OF QUANTITIES

| | | | CONSTRUCTION CODE X080-2A | |
|---|---|---|---|---|
| | CODE NO | ITEM | UNIT | QUANTITY |
| | 20200100 | EARTH EXCAVATION | CU YD | 215 |
| | 20300100 | CHANNEL EXCAVATION | CU YD | 125 |
| | 20400800 | FURNISHED EXCAVATION | CU YD | 625 |
| > | 25001000 | SEEDING CLASS 2, SPECIAL | ACRE | 0.5 |
| > | 28101500 | RIPRAP, SPECIAL | SQ YD | 140 |
| | 40200800 | AGGREGATE SURFACE COURSE, TYPE B | TON | 370 |
| | 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| | 50300225 | CONCRETE STRUCTURES | CU YD | 26.6 |
| | 50300280 | CONCRETE ENCASEMENT | CU YD | 2.8 |
| > | 50400405 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT | 1,350 |
| | 50800105 | REINFORCEMENT BARS | POUND | 3,240 |
| * | 50900205 | STEEL RAILING, TYPE S1 | FOOT | 96 |
| | 51201400 | FURNISHING STEEL PILES HP10X42 | FOOT | 88 |
| | 51500100 | NAME PLATES | EACH | 1 |
| | 542D0220 | PIPE CULVERTS, CLASS D, TYPE 1 15" | FOOT | 104 |
| | 67100100 | MOBILIZATION | L SUM | 1 |
| >* | 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |
| | Z0065000 | SETTING PILES IN ROCK | EACH | 8 |

> SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

## GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN CONTRACT. THE REMOVAL OF THE EXISTING AGGREGATE BASE COURSE AND A-3 SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF AS APPROVED BY THE ENGINEER

3. THE LOCATIONS OF EXISTING ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

4. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS UNTIL THE OWNER, HIS AGENT, PROFESSIONAL LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

5. THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.

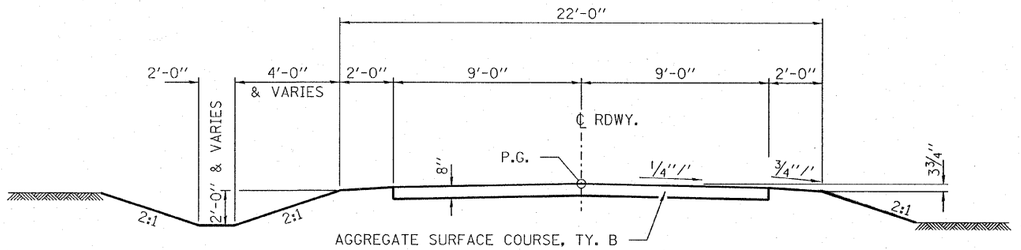
6. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
   AGGREGATE BASE CSE. 2.05 TON/CU YD
   RIPRAP, SPECIAL 1.75 TON/CU YD

7. THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. **ESTIMATED QUANTITY: SEEDING, CLASS 2 (SPECIAL) = 0.5 ACRES**

## EARTHWORK SCHEDULE

| LOCATION | EARTH EXCAVATION (CU YD) | SHRINKAGE FACTOR | PERCENT USED | AVAILABLE* EXCAVATION (CU YD) | EMBANKMENT REQUIRED (CU YD) | EARTHWORK BALANCE (CU YD) |
|---|---|---|---|---|---|---|
| STA. 7+75 TO STA. 9+72.32 | 80 | 25% | 100% | 60 | 399 | -338 |
| STA. 9+72.32 TO STA. 10+23.68 | - | 25% | 100% | - | - | - |
| STA. 10+23.68 TO STA. 12+25 | 134 | 25% | 100% | 100 | 411 | -311 |
| | | | | | | |
| CHANNEL EXCAVATION | (125) | 25% | 70% | 66 | | 66 |
| ENTRANCES | | | | | 41 | -41 |
| | | | | | | |
| TOTAL | 214 | | | 226 | 851 | -624 |
| USE: | 215 | | | | | 625 (FURN. EXC.) |

* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED



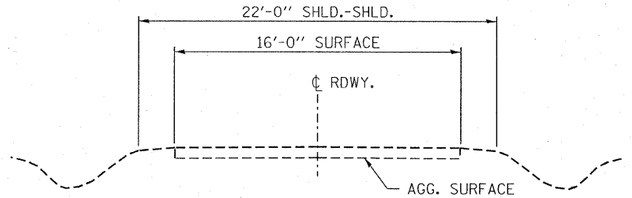

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

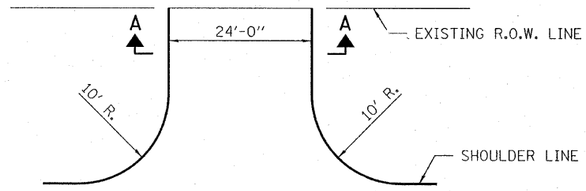
## TYPICAL CROSS SECTION

STA. 7+75 TO 12+25

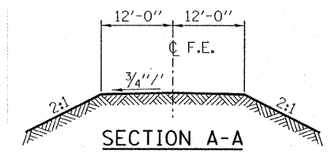
TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 7+75 TO 8+25 AND STA. 11+75 TO 12+25. SEE SHEET 9 FOR TRANSITION AT BRIDGE.




EXISTING CROSS SECTION




FIELD ENTRANCE DETAIL




SECTION A-A

| | | | | |
|---|---|---|---|---|
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| | | DRAWN - D.A.B. | REVISED - | |
| | PLOT SCALE = | CHECKED - A.S.L. | REVISED - | |
| | PLOT DATE = 11/5/2008 | DATE - 10/14/08 | REVISED - | |

**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

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

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

**SUMMARY OF QUANTITIES AND GENERAL NOTES**

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 2 |
| | | CONTRACT NO. 99353 | | |
| | ILLINOIS FED. AID PROJECT | | | |

NW¼, SEC 1, T. 9 S., R. 8 E., 3RD P.M.

P.O.T. STA. 6+67.14
½"Ø IRON PIN (SET)
N. 4,943.41
E. 4,819.35

P.I. STA. 9+74.49
½"Ø IRON PIN (TO BE SET)
N. 5,054.03
E. 5,106.10

P.O.T. STA. 13+43.88
½"Ø IRON PIN (SET)
N. 5,312.36
E. 5,376.08

CURVE DATA
PI Sta. 9+74.49
Δ = 22° 38' 27" (LT)
D = 7° 00' 00"
T = 163.86'
R = 816.51'
L = 323.44'
E = 16.24'
PC Sta. 8+10.63
PT Sta. 11+34.07
MAX S.E. = 3.00%
S.E. TRANSITIONS:
STA. 7+37.39 TO STA. 8+28.39
STA. 11+16.31 TO STA. 12+07.31

STATION 9+98
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE, SINGLE SPAN @ 50'-0"
27'-0" RDWY., SKEW = 10°, S.E. = 3.0%
PROPOSED STRUCTURE NO. 030-3126

18' LT. STA. 12+00 F.E.
PIPE CULVERTS, CL. D, TY. 1, 15"
LENGTH = 32 FT. (C.S.C.P.)

18' RT. STA. 12+00 F.E.
PIPE CULVERTS, CL. D, TY. 1, 15"
LENGTH = 32 FT. (C.S.C.P.)

24' RT. STA. 8+80 F.E.
PIPE CULVERTS, CL. D, TY. 1, 15"
LENGTH = 40 FT. (C.S.C.P.)
EXISTING CMP TO BE REMOVED.

STA. 10+60 RT. & LT.
F.E. TO BE RELOCATED
EXISTING CMP TO BE REMOVED.

IMPROVEMENT BEGINS
STATION 7+75

IMPROVEMENT ENDS
STATION 12+25

ST. JOSEPH CEMETERY ROAD

CROPLAND

+80 F.E.
+60 F.E.
+00 F.E.
80°
PC STA. 8+10.63
PT STA. 11+34.07
30' R.O.W.
35' EXIST.
30' R.O.W.
35' EXIST.

0 50' 100'
GRAPHIC SCALE

## ENTRANCES TO BE BUILT

RT. STA. 8+80 F.E. -11.0% EARTH 24' SURF.
LT. STA. 12+00 F.E. -1.6% EARTH 24' SURF.
RT. STA. 12+00 F.E. 0.0% EARTH 24' SURF.
QUANTITIES INCLUDED IN EARTHWORK TABLE.

## CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.

## EXISTING STRUCTURE NO. 030-3037

STATION 10+00 - SINGLE SPAN CAST-IN-PLACE CONCRETE SLAB ON STEEL WIDE FLANGE BEAM BRIDGE ON STEEL PILE BENT ABUTMENTS WITH STONE BACKING.
24.0' FC.-FC. ABUTS; 18.9' o.-o. DECK

PLAN
SURVEYED
ADDED
ALIGNMENT CHECKED
GRADES CHECKED
R.O.W. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
PLOT FILE NAME
BY
DATE

NW¼, SEC 1, T. 9 S., R. 8 E., 3RD P.M.

PROFILE
SURVEYED
ADDED
GRADES CHECKED
R.O.W. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE

EXISTING ELEVATION
PROPOSED ELEVATION

P.C. STA. 8+25 ELEV. 353.80
P.I. STA. 8+25 ELEV. 353.80
P.R.C.
P.I. STA. 9+25 ELEV. 356.50
P.T.
P.C.
P.I. STA. 10+75 ELEV. 356.50
P.R.C.
P.I. STA. 11+75 ELEV. 353.80
P.T.

K = 22 100' V.C.
K = 37 100' V.C.
K = 37 100' V.C.
K = 34 100' V.C.

100 YEAR H.W. ELEV. 355.0
15 YEAR H.W. ELEV. 353.9
PROPOSED ℄ GRADE
EXISTING ℄ GRADE

+0.00%
+2.10%
-1.80%
-2.00%
-2.70%
+0.20%
-1.00%
-2.00%
+0.67%
+1.00%

353.50 LT. & RT.
SP. DITCH LT. & RT.
351.50 LT. & RT.
SP. DITCH RT.
SP. DITCH RT.
350.50 LT.
349.50 RT.
352.00 RT.
350.50 LT. & RT.
CHANNEL EXCAVATION
351.50 LT. & RT.
SP. DITCH LT. & RT.
RIPRAP, SPECIAL
* 2H:1V @ RT. L'S
FL ELEV. 346.3

| | 5+00 | 6+00 | 7+00 | 8+00 | 9+00 | 10+00 | 11+00 | 12+00 | 13+00 | 14+00 | 15+00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATION | 373.31 | 369.28 | 365.60 | 362.31 | 359.37 | 357.05 | 355.30 | 354.70 | 354.39 | 353.15 | 354.62 |
| PROPOSED ELEVATION | | | | | | | | 354.03 | | | |
| | | | | | | | | 352.62 | 355.74 | 353.11 | 356.42 |
| | | | | | | | | | | 353.24 | 356.42 |
| | | | | | | | | | | 352.66 | 355.74 |
| | | | | | | | | 352.90 | 354.57 | | |
| | | | | | | | | 353.62 | 353.94 | 353.90 | 354.10 |
| | | | | | | | | | | | 354.53 |
| | | | | | | | | | | | 354.84 |
| | | | | | | | | | | | 355.08 |
| | | | | | | | | | | | 355.52 |
| | | | | | | | | | | | 356.12 |
| | | | | | | | | | | | 356.53 |

| | | | | | |
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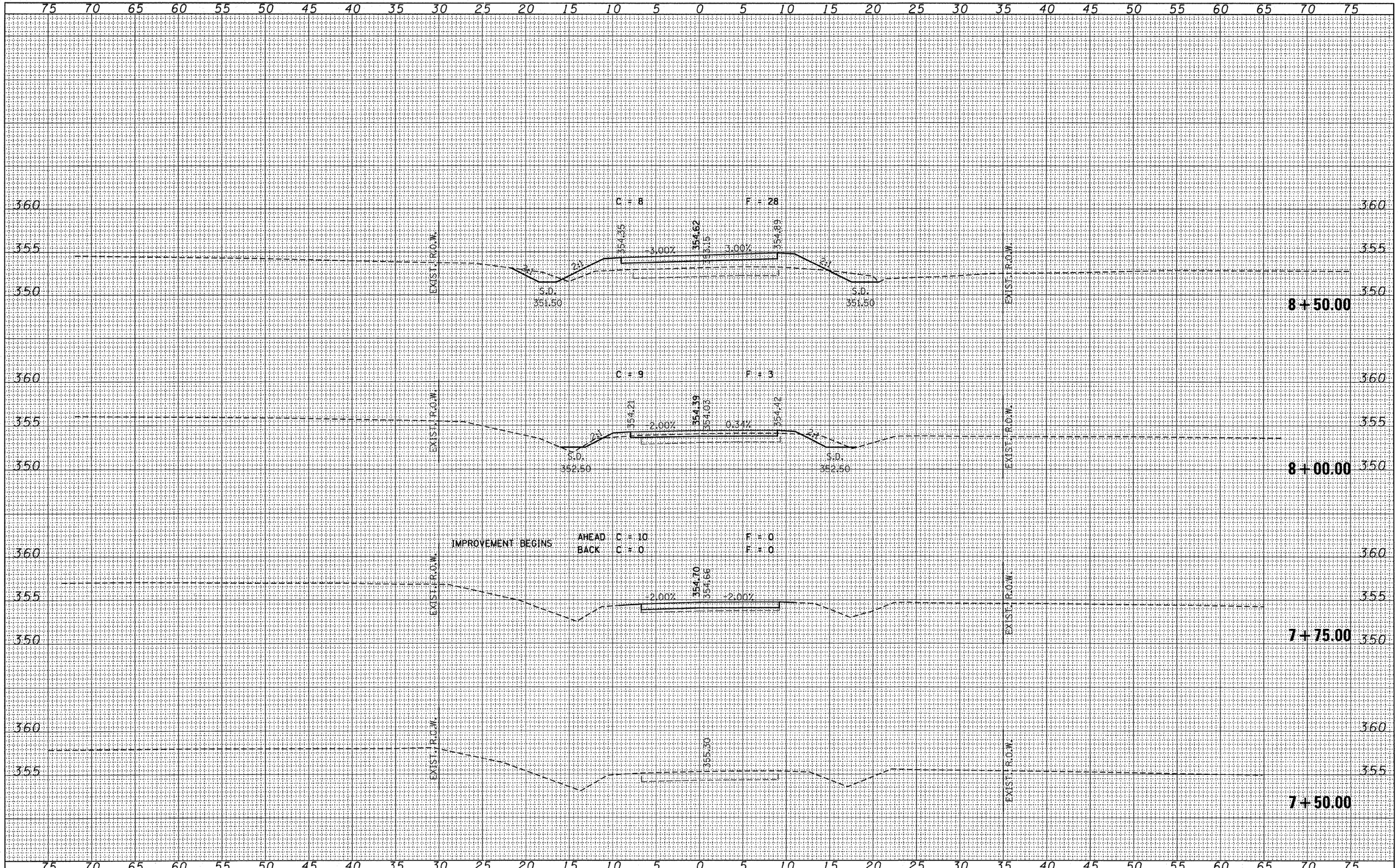
| FILE NAME = 080198-sht-ppl.dgn | USER NAME = | DESIGNED - J.W.F. | REVISED - | STATE OF ILLINOIS GALLATIN COUNTY HIGHWAY DEPARTMENT | HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS |
| | | DRAWN - D.T.M. | REVISED - | | |
| | PLOT SCALE = | CHECKED - S.W.M. | REVISED - | | SCALE: 50 SHEET NO. 1 OF 1 SHEETS |
| | PLOT DATE = 11/5/2008 | DATE - 07/16/08 | REVISED - | | STA. 6+67.14 TO STA. 13+43.88 |

**PLAN & PROFILE**
**EQUALITY ROAD DISTRICT**

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 3 |

CONTRACT NO. 99353
ILLINOIS FED. AID PROJECT

| FINAL SURVEY | | BY | DATE |
|---|---|---|---|
| NOTE BOOK | SURVEYED | | |
| | PLOTTED | | |
| | FIELD CHECKED | | |
| | AREAS | | |
| NO. | AREAS CHECKED | | |




| ORIGINAL SURVEY | | BY | DATE |
|---|---|---|---|
| NOTE BOOK | SURVEYED | | |
| | PLOTTED | | |
| | FIELD CHECKED | | |
| | AREAS | | |
| NO. | AREAS CHECKED | | |

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| | PLOT DATE = *DATE* | DATE - 07/16/08 | REVISED - |

**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

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

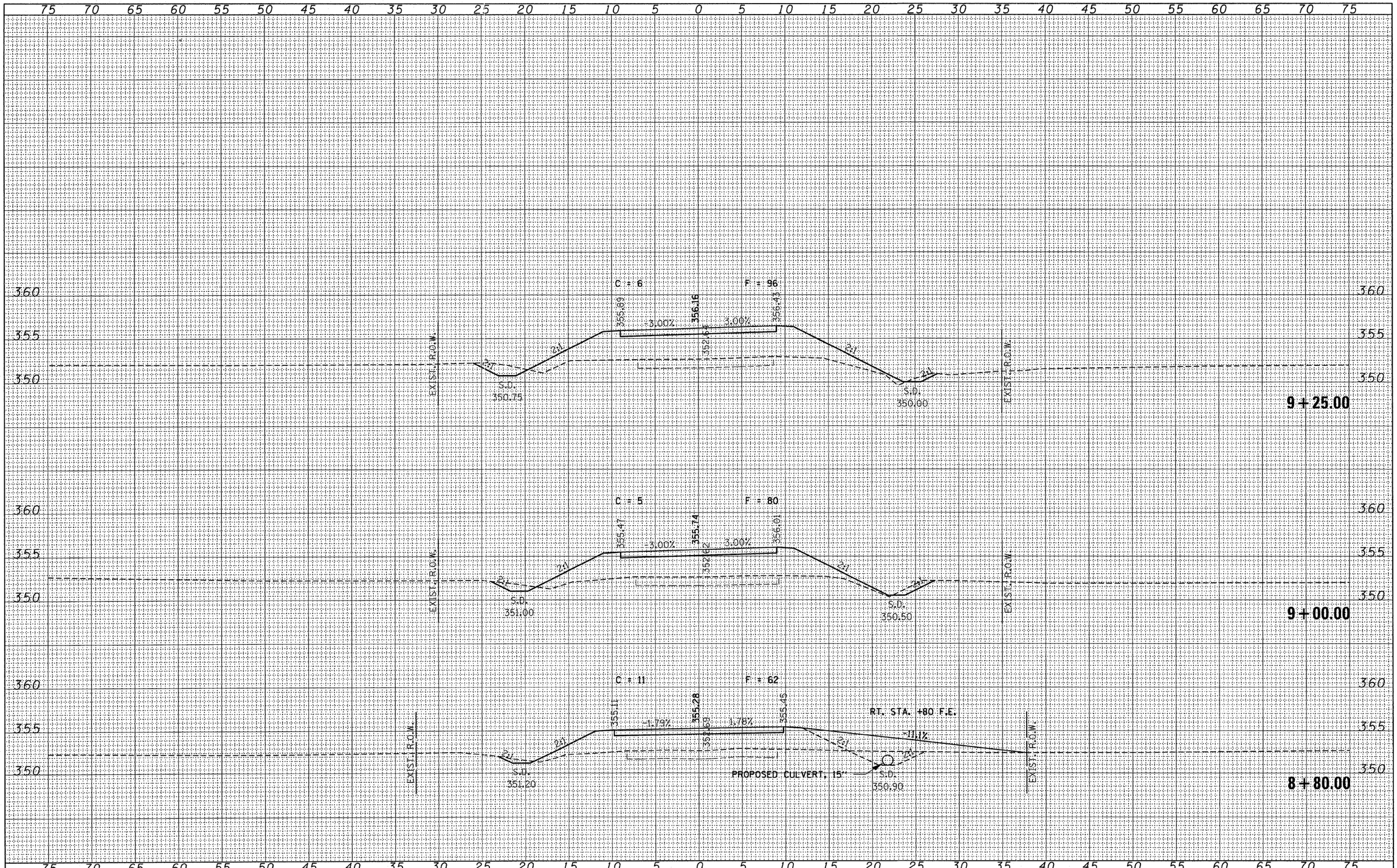
SCALE: 5 | SHEET NO. OF SHEETS | STA. 7+50.00 TO STA. 8+50.00

**CROSS SECTIONS**
**EQUALITY ROAD DISTRICT**

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 16 | 4 |
| | | CONTRACT NO. 99353 | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

| ORIGINAL SURVEY | | BY | DATE |
|---|---|---|---|
| NOTE BOOK | SURVEYED | | |
| NO. | PLOTTED | | |
| | TOPO & UTE | | |
| | AREAS | | |
| | AREAS CHECKED | | |

| FINAL SURVEY | | BY | DATE |
|---|---|---|---|
| NOTE BOOK | SURVEYED | | |
| NO. | PLOTTED | | |
| | TOPO & UTE | | |
| | AREAS | | |
| | AREAS CHECKED | | |

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| | PLOT SCALE = ⊕SCALE⊕ | CHECKED - S.W.M. | REVISED - |
| | PLOT DATE = ⊕DATE⊕ | DATE - 07/16/08 | REVISED - |

**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

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

SCALE: 5 | SHEET NO. OF SHEETS

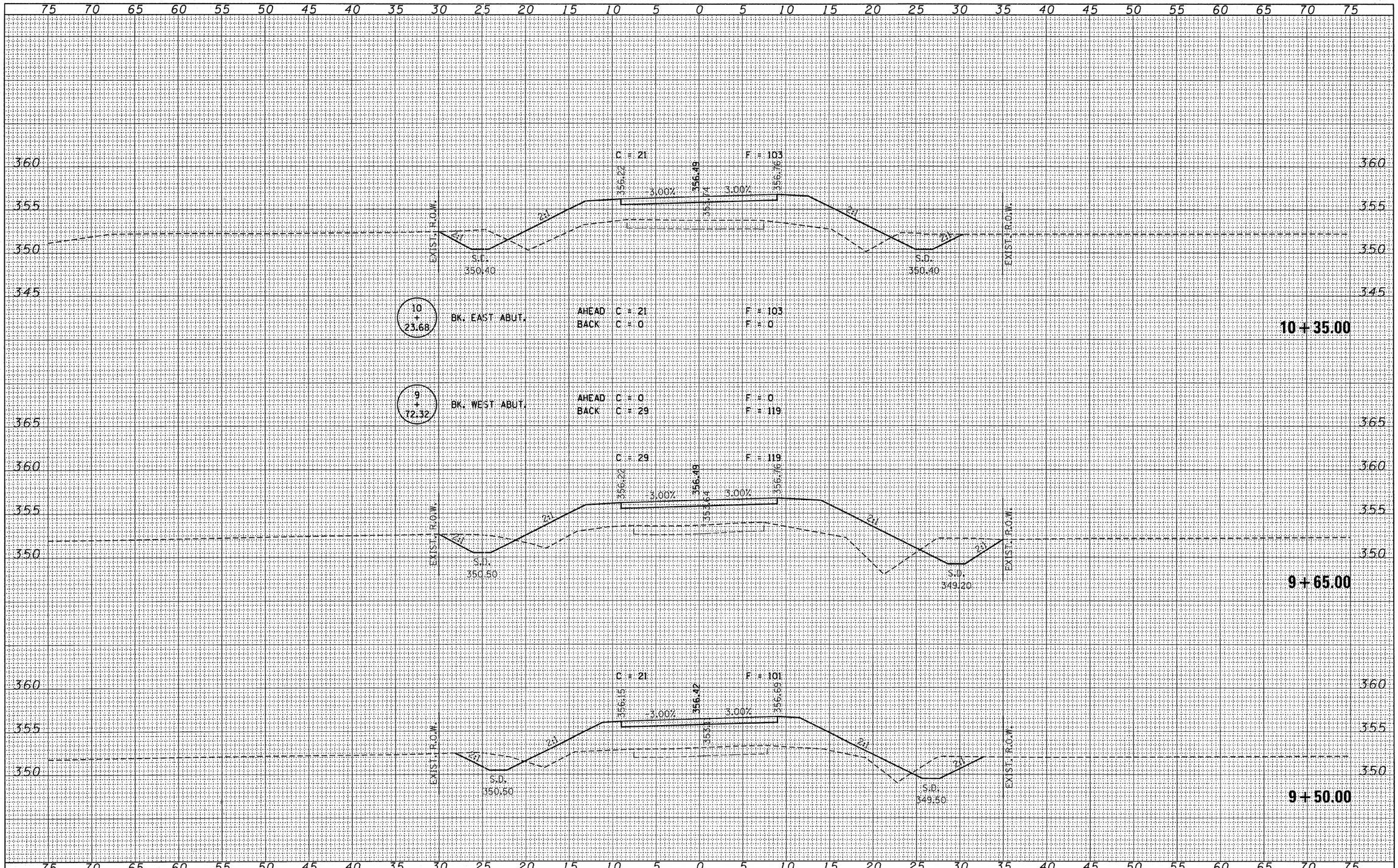
# CROSS SECTIONS
# EQUALITY ROAD DISTRICT

STA. 8+80.00 TO STA. 9+25.00

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 16 | 5 |
| | | CONTRACT NO. 99353 | | |

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

| FINAL SURVEY | BY | DATE |
|---|---|---|
| NOTE BOOK | SURVEYED | |
| NO. | PLOTTED | |
| | TOPO PLATE | |
| | AREAS | |
| | AREAS CHECKED | |




| ORIGINAL SURVEY | BY | DATE |
|---|---|---|
| NOTE BOOK | SURVEYED | |
| NO. | PLOTTED | |
| | TOPO PLATE | |
| | AREAS | |
| | AREAS CHECKED | |

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| | | DRAWN - D.T.M. | REVISED - |
| | PLOT SCALE = ⊕SCALE⊕ | CHECKED - S.W.M. | REVISED - |
| | PLOT DATE = ⊕DATE⊕ | DATE - 07/16/08 | REVISED - |

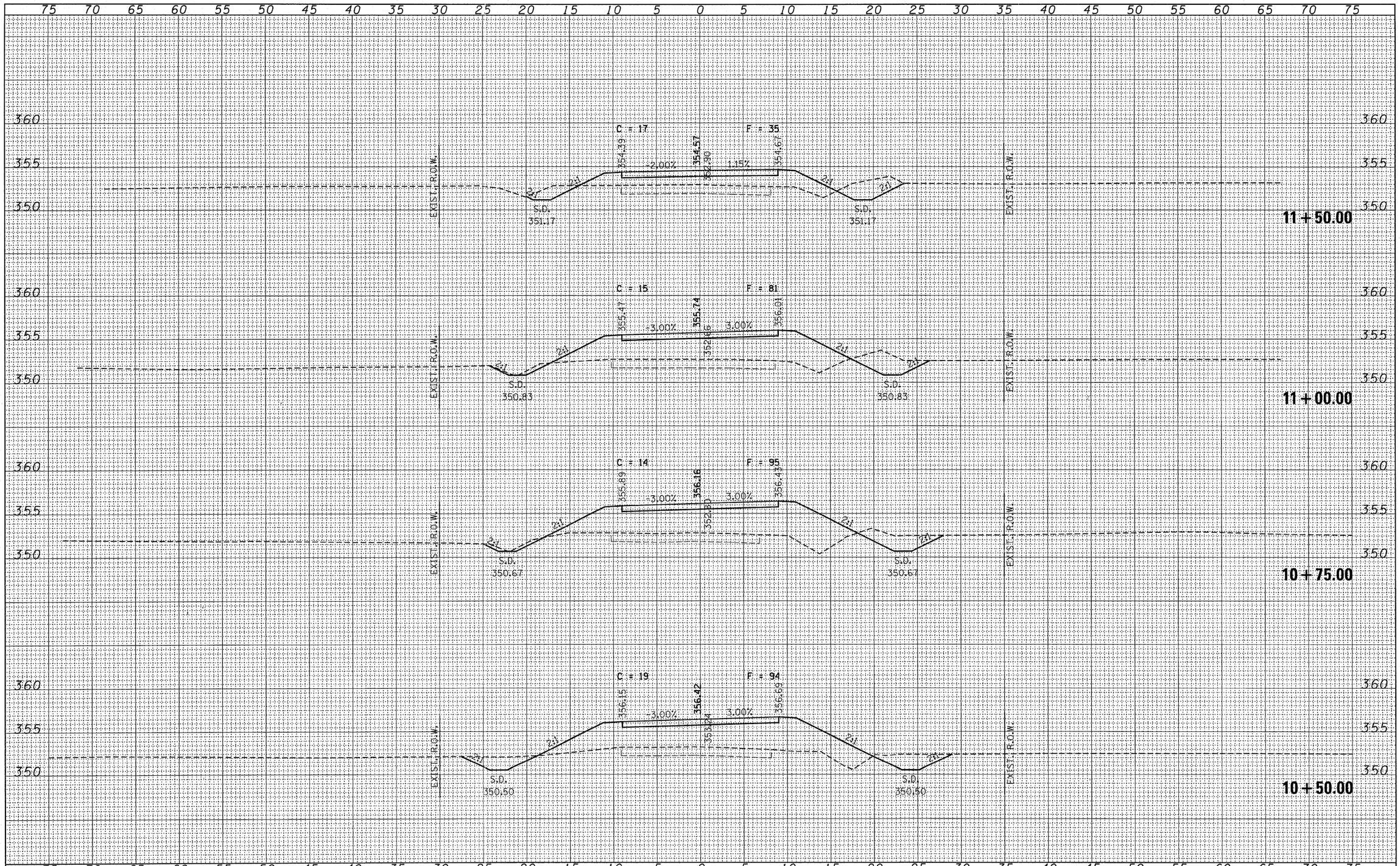
**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

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

SCALE: 5 | SHEET NO. OF SHEETS | STA. 9+50.00 TO STA. 10+35.00

# CROSS SECTIONS
# EQUALITY ROAD DISTRICT

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 16 | 6 |
| | | CONTRACT NO. 99353 | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |




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

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

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| FILE NAME = ⊕FILE⊕ | USER NAME = ⊕USER⊕ | DESIGNED - J.W.F. | REVISED - |
| | | DRAWN - D.T.M. | REVISED - |
| | PLOT SCALE = ⊕SCALE⊕ | CHECKED - S.W.M. | REVISED - |
| | PLOT DATE = ⊕DATE⊕ | DATE - 07/16/08 | REVISED - |

**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

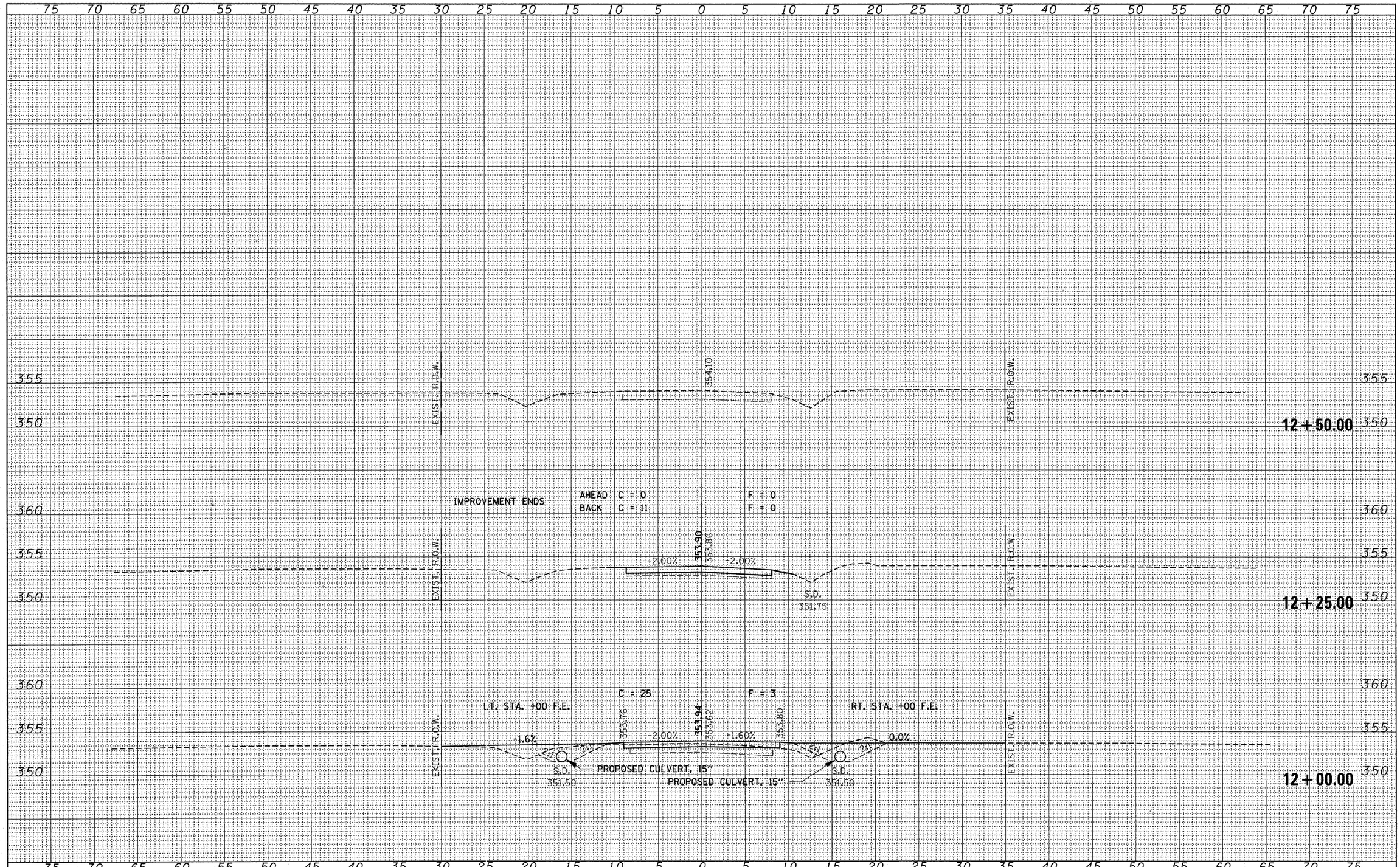
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

SCALE: 5 | SHEET NO. OF SHEETS | STA. 10+50.00 TO STA. 11+50.00

**CROSS SECTIONS**
**EQUALITY ROAD DISTRICT**

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 16 | 7 |
| | | CONTRACT NO. 99353 | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

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




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

| | | | |
|---|---|---|---|
| FILE NAME = ⊕FILE⊕ | USER NAME = ⊕USER⊕ | DESIGNED - J.W.F. | REVISED - |
| | | DRAWN - D.T.M. | REVISED - |
| | PLOT SCALE = ⊕SCALE⊕ | CHECKED - S.W.M. | REVISED - |
| | PLOT DATE = ⊕DATE⊕ | DATE - 07/16/08 | REVISED - |

**STATE OF ILLINOIS**
**GALLATIN COUNTY HIGHWAY DEPARTMENT**

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

SCALE: 5 | SHEET NO. OF SHEETS | STA. 12+00.00 TO STA. 12+50.00

**CROSS SECTIONS**
**EQUALITY ROAD DISTRICT**

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 16 | 8 |

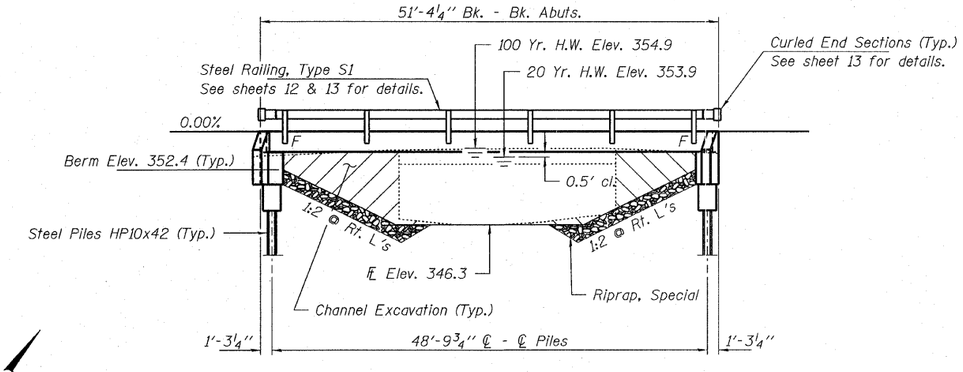
CONTRACT NO. 99353

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

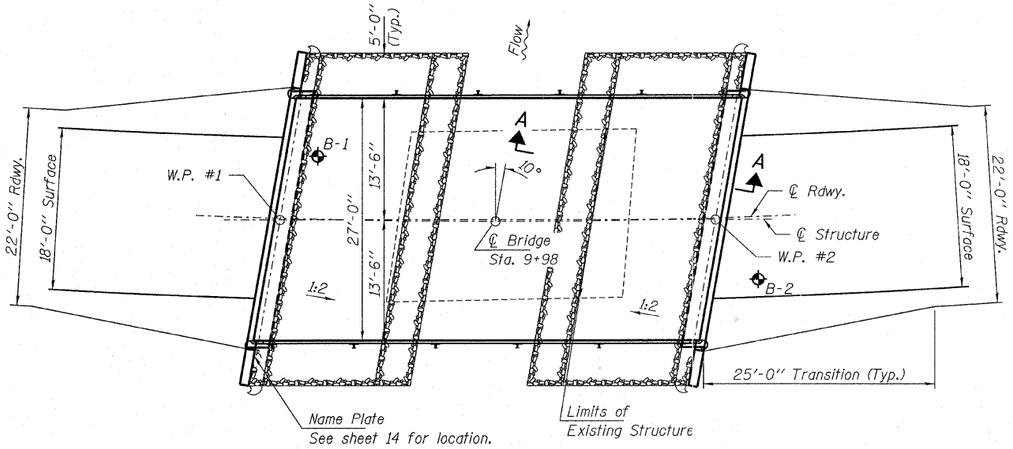
BENCHMARK:

EXISTING STRUCTURE: Single span cast-in-place concrete slab on steel wide flange beam bridge on steel pile bent abutments with stone backing. 24.0′ fc.-fc. abuts.; 18.9′ o.-o. deck. Structure closed to traffic.

No Salvage




## ELEVATION




## PLAN

## GENERAL NOTES

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

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). 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.

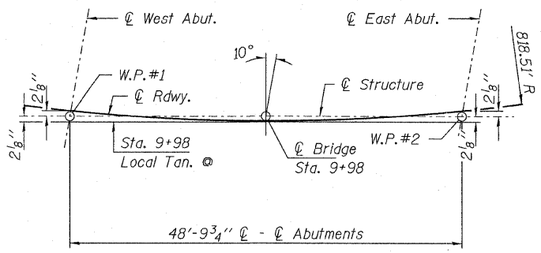
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

See sheet 16 for Borings.

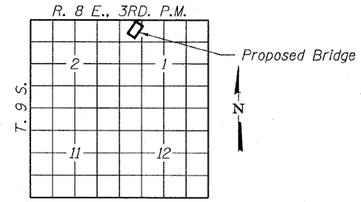
BUILT 200_ BY
GALLATIN COUNTY
SEC. 06-04109-00-BR
EQUALITY ROAD DISTRICT
STR. NO. 030-3126
LOADING HL-93

## NAME PLATE

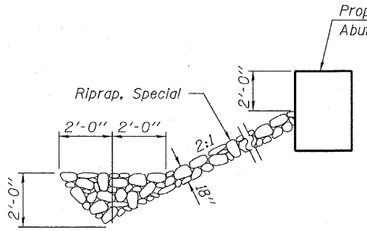
See Std. 515001




## OFFSET SKETCH




## LOCATION SKETCH




## SECTION A-A

Note: See Special Provisions for Riprap, Special.

## TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---|---|---|---|
| Channel Excavation | Cu. Yd. | | | 125 |
| Riprap, Special | Sq. Yd. | | | 140 |
| Removal of Existing Structures | Each | | | 1 |
| Concrete Structures | Cu. Yd. | | 26.6 | 26.6 |
| Concrete Encasement | Cu. Yd. | | 2.8 | 2.8 |
| Precast Prestressed Concrete Deck Beams (21″ Depth) | Sq. Ft. | 1,350 | | 1,350 |
| Reinforcement Bars | Pound | | 3,240 | 3,240 |
| Steel Railing, Type S1 | Foot | 96 | | 96 |
| Furnishing Steel Piles HP10x42 | Foot | | 88 | 88 |
| Name Plates | Each | | 1 | 1 |
| Setting Piles in Rock | Each | | 8 | 8 |

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

## 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 (½″Ø low lax. strands)
fpbt = 201,960 psi (½″Ø 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) = 2
Design Spectral Acceleration at 1.0 sec. ($S_{D1}$) = 0.238g
Design Spectral Acceleration at 0.2 sec. ($S_{DS}$) = 0.653g
Soil Site Class = C

## WATERWAY INFORMATION

Drainage Area = 10.94 Sq. Mi. Existing Low Grade Elev. 352.62 @ Sta. 9+00 Proposed Low Grade Elev. 353.50 @ Sta. 11+75

| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. Exist. | Opening Sq. Ft. Prop. | Natural H.W.E. | Head - Ft. Exist. | Head - Ft. Prop. | Headwater El. Exist. | Headwater El. Prop. |
|---|---|---|---|---|---|---|---|---|---|
| Design | 15 | 1768 | 150① | 280 | 353.9 | 0.5 | 1.0 | 354.4 | 354.9 |
| Base | 100 | 2804 | 150② | 300④ | 354.9 | 0.2 | 0.6 | 355.1 | 355.5 |
| Overtopping | | | | | | | | | |
| Max. Calc. | 500 | 3757 | 150③ | 300⑤ | 355.5 | 0.2 | 0.5 | 355.7 | 356.0 |

10 Year Velocity through Existing Bridge = 4.8 fps
10 Year Velocity through Proposed Bridge = 4.5 fps

① Approach flow area = 350 sq. ft.
② Approach flow area = 790 sq. ft.
③ Approach flow area = 1290 sq. ft.
④ Approach flow area = 150 sq. ft.
⑤ Approach flow area = 460 sq. 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 Standard Specifications for Highway Bridges".

Steven W. Meggenson 11/5/2008
ILLINOIS STRUCTURAL NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-10

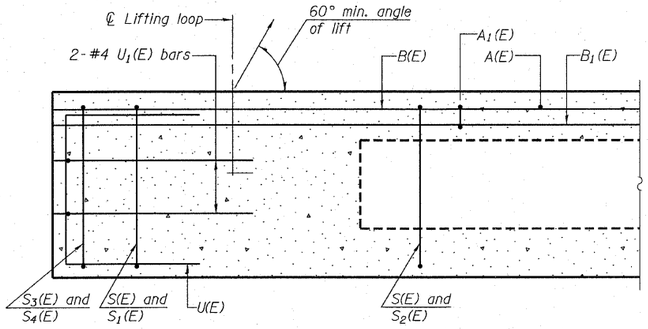
## GENERAL PLAN AND ELEVATION
## STRUCTURE NO. 030-3126

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

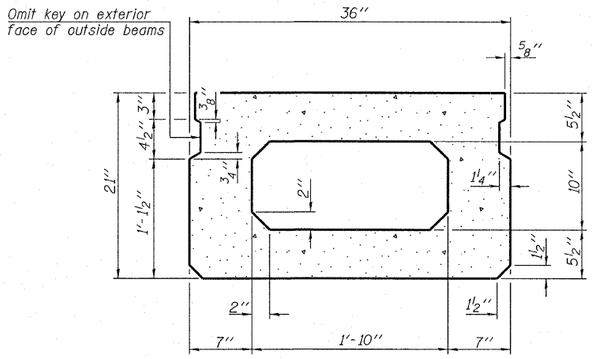
PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO.
SHEETS

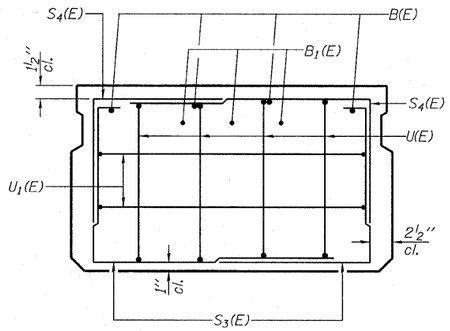
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 9 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | ILLINOIS FED. AID PROJECT | | |



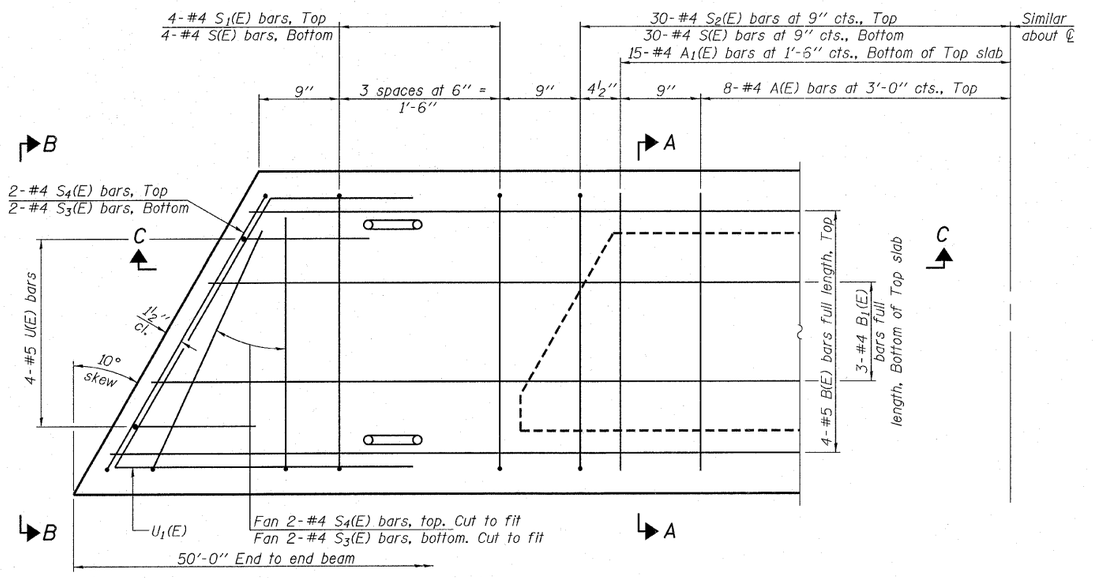

SECTION C-C




SECTION A-A
(Showing dimensions)

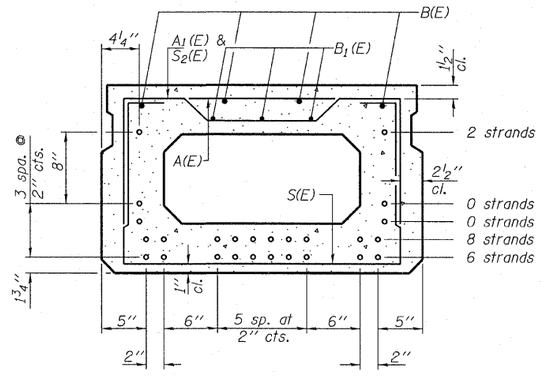



VIEW B-B




PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ 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.




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) | 16 | #4 | 2′-7″ | — |
| $A_1(E)$ | 30 | #4 | 2′-11″ | ⌐¬ |
| B(E) | 4 | #5 | 49′-8″ | — |
| $B_1(E)$ | 3 | #4 | 49′-8″ | — |
| S(E) | 68 | #4 | 6′-5″ | ⊔ |
| $S_1(E)$ | 8 | #4 | 4′-11″ | ⊓ |
| $S_2(E)$ | 60 | #4 | 5′-2″ | ⊓ |
| $S_3(E)$ | 4 | #4 | 4′-2″ | ⌋ |
| $S_4(E)$ | 4 | #4 | 3′-5″ | ⌋ |
| U(E) | 8 | #5 | 4′-0″ | ⊏ |
| $U_1(E)$ | 4 | #4 | 5′-6″ | ⌐ |

Note: See sheets 11 & 12 for additional details and Bill of Material.

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

PD-2136-L 5-16-08

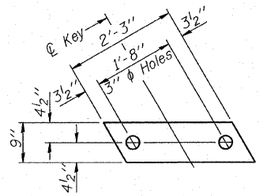
# SUPERSTRUCTURE
# 21″ X 36″ PPC DECK BEAM
# STRUCTURE NO. 030-3126


HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

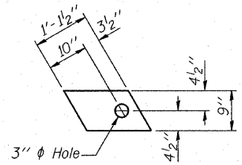

PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO.
SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 10 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | ILLINOIS | FED. AID PROJECT | | |



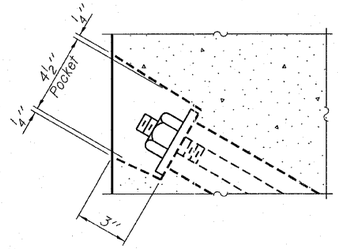

FABRIC BEARING PAD
(Interior - 16 Req'd)



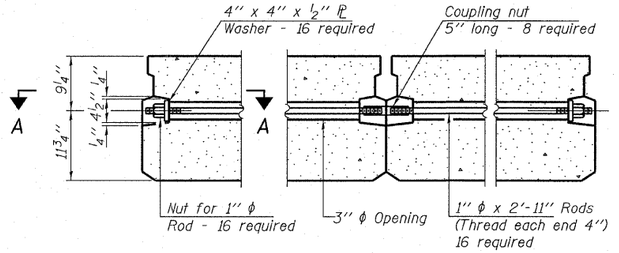

FABRIC BEARING PAD
(Exterior - 4 Req'd)

FIXED

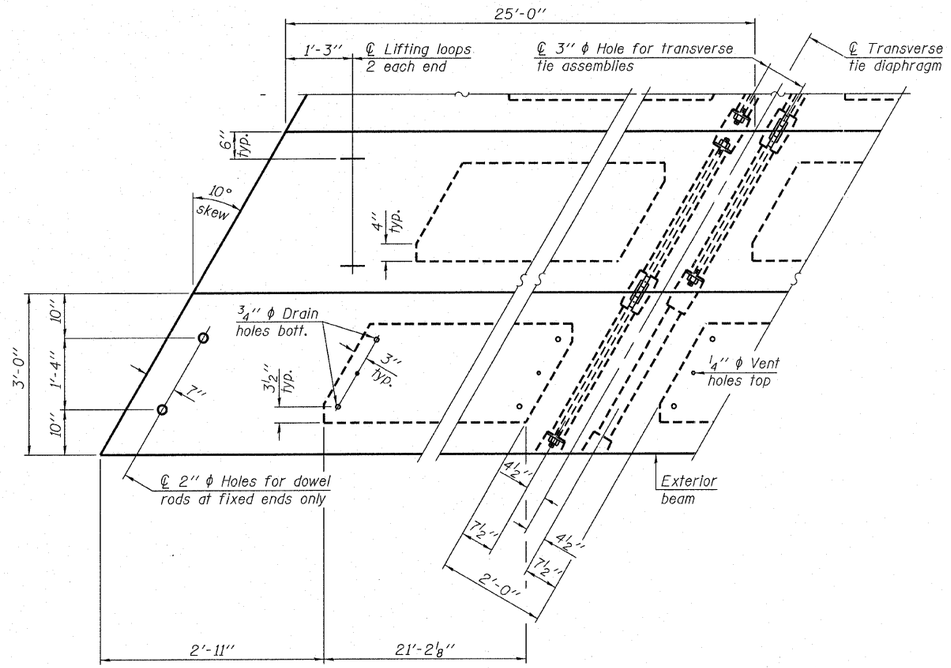
Note: Omit holes when using expansion bearings.



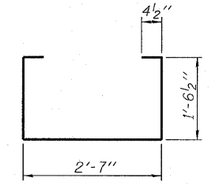

SECTION A-A



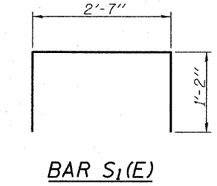

TYPICAL TRANSVERSE TIE ASSEMBLY



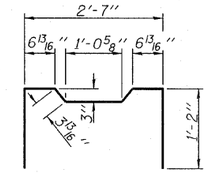

PLAN VIEW



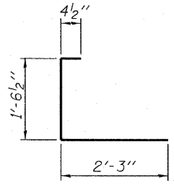

BAR S(E)



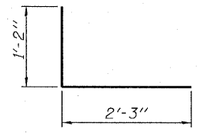

BAR S1(E)



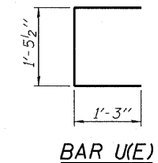

BAR S2(E)



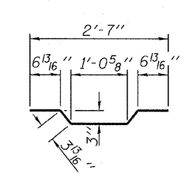

BAR S3(E)



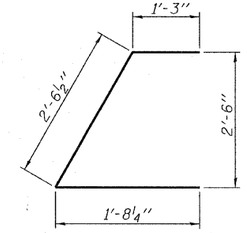

BAR S4(E)



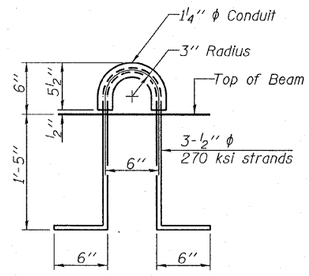

BAR U(E)




BAR A1(E)




BAR U1(E)




LIFTING LOOP DETAIL

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

## NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ 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 ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ 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.

## BILL OF MATERIAL

| | | |
|---|---|---|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,350 |

# SUPERSTRUCTURE
# 21" X 36" PPC DECK BEAM DETAILS
# STRUCTURE NO. 030-3126

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

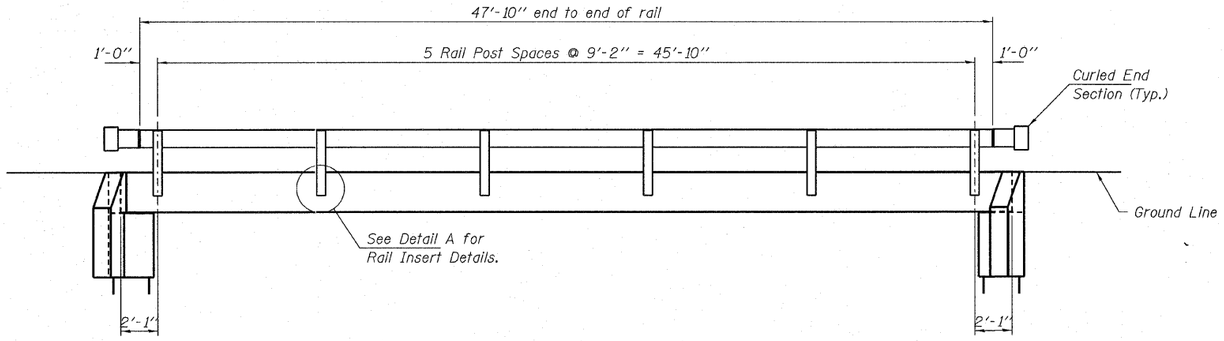
PD-2136-LD 5-16-08


HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400


PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO. SHEETS

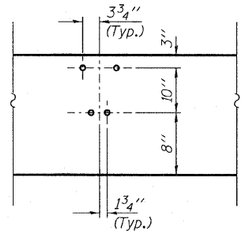
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 11 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | ILLINOIS FED. AID PROJECT | | | |



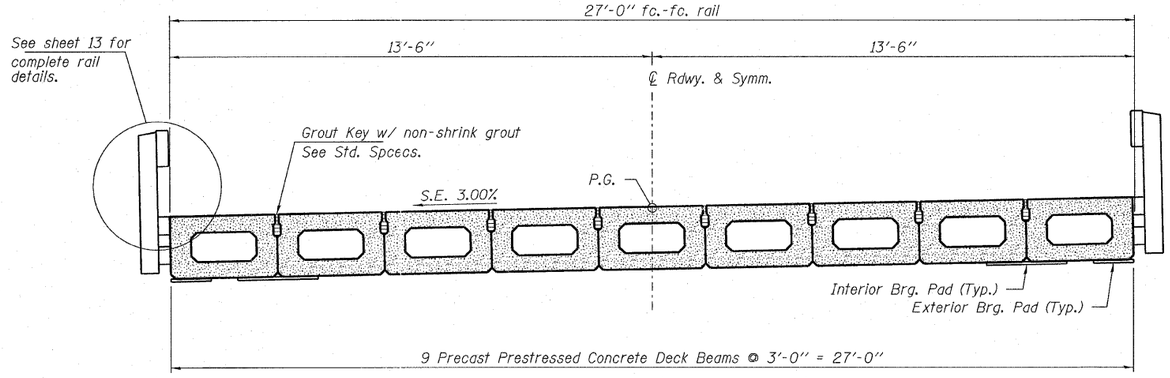

## ELEVATION

Showing Rail Post Spaces

See sheet 13 for Railing Details.

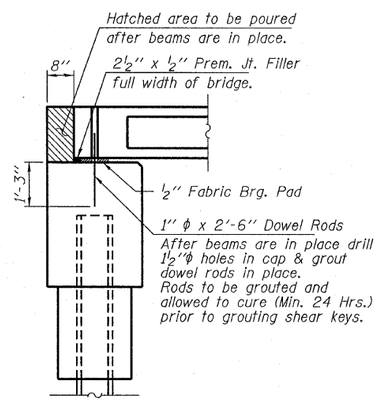



## DETAIL A




## CROSS SECTION

See sheets 10 & 11 for Superstructure.




## SECTION AT ABUTMENTS

@ Rt. L's

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

# SUPERSTRUCTURE DETAILS
# STRUCTURE NO. 030-3126

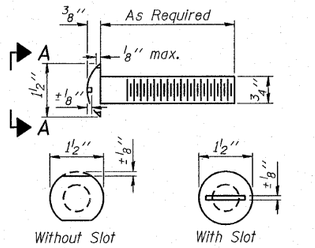
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 08.0190.130 | DATE: 10/14/08

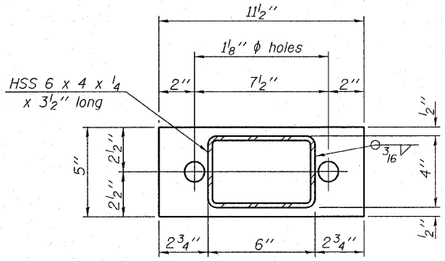
SHEET NO.

SHEETS

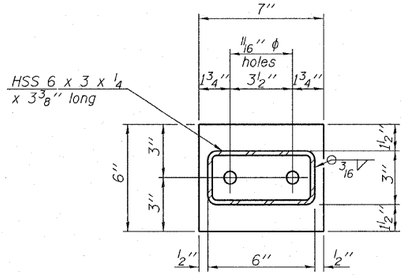
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 12 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | ILLINOIS | FED. AID PROJECT | |




VIEW A-A ROUND HEAD BOLT

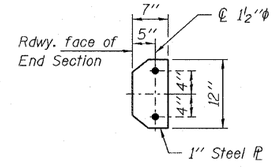



PL 1/2" x 11 1/2" x 5"

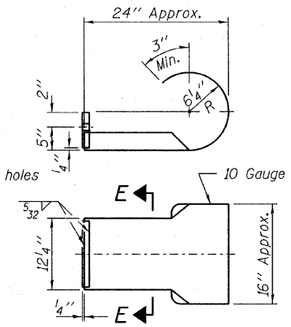



PL 1/2" x 7" x 6"

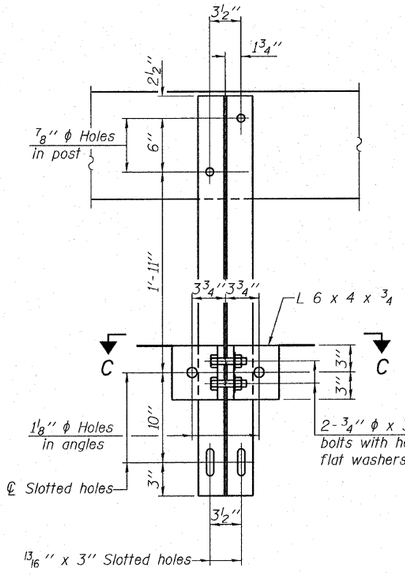
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



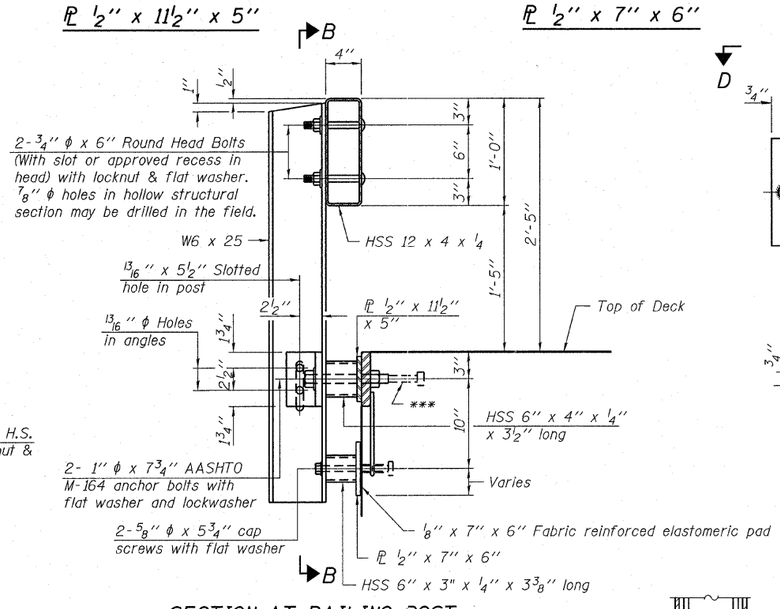

SECTION E-E



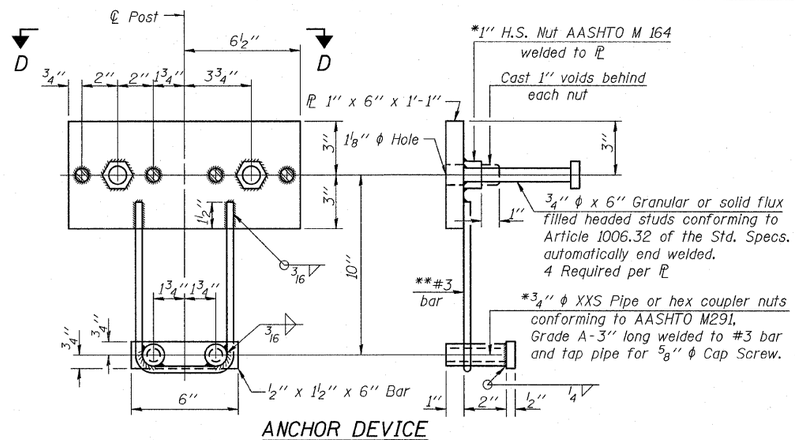

CURLED END SECTION DETAILS




SECTION B-B

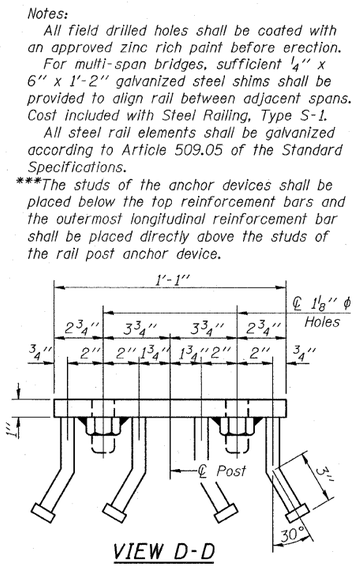



SECTION AT RAILING POST

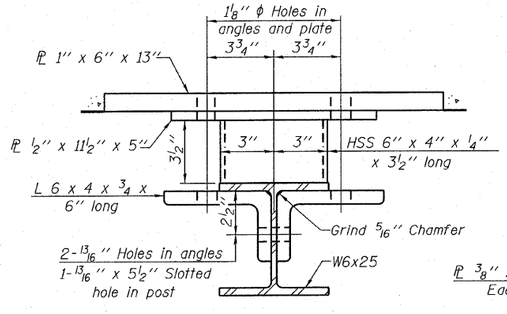



ANCHOR DEVICE

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

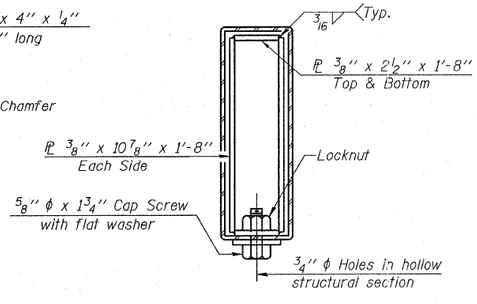



VIEW D-D

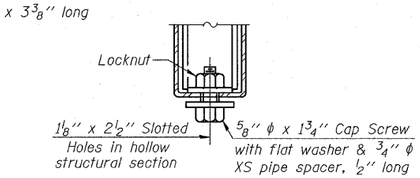



SECTION C-C

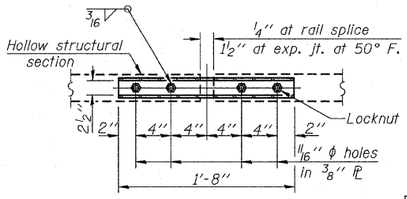
**Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



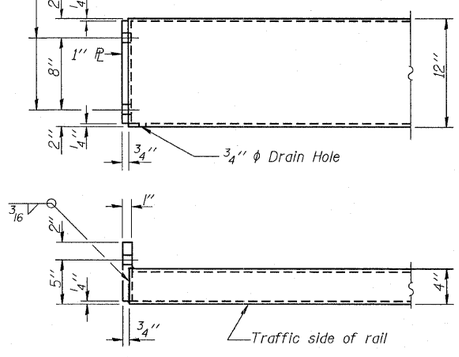

SECTIONS AT RAIL SPLICE




RAIL SPLICE CONNECTION AT EXPANSION JT.




PLAN-BOTTOM SPLICE PL TYPICAL







END OF RAIL DETAILS

BILL OF MATERIAL

| Item | Unit | Quantity |
|---|---|---|
| Steel Railing, Type S-1 | Foot | 96 |

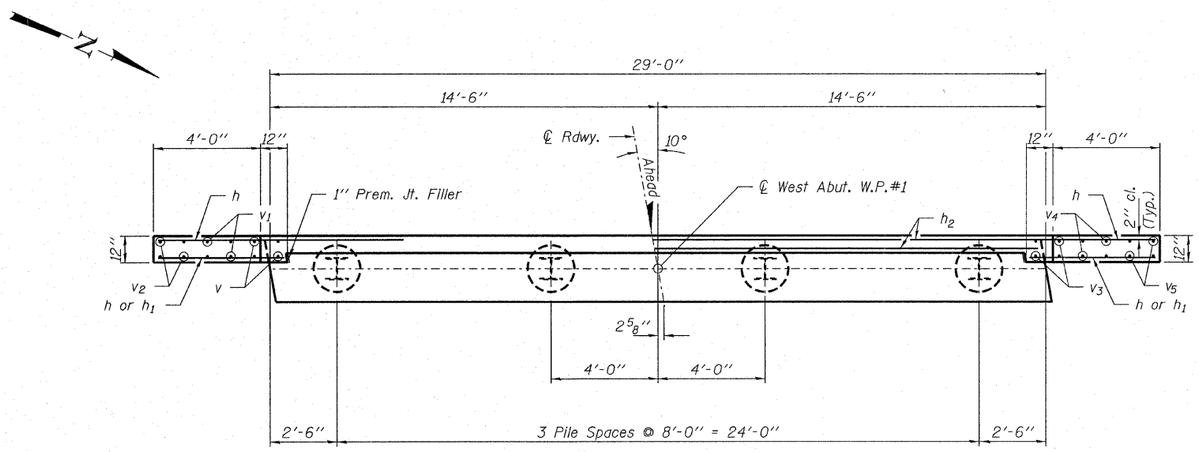
RAILING DETAILS
STRUCTURE NO. 030-3126

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

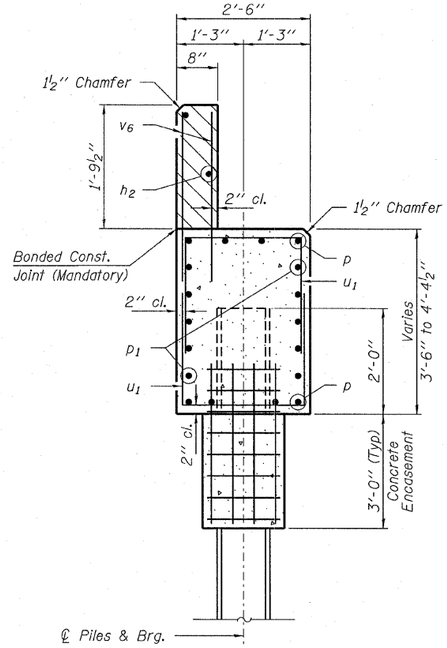
R-23A 5-16-08 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

| SHEET NO. | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|---|
| SHEETS | 98 | 06-04109-00-BR | GALLATIN | 17 | 13 |
| | EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | | ILLINOIS | FED. AID PROJECT | |

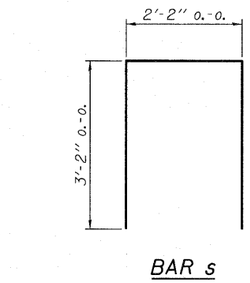



PLAN

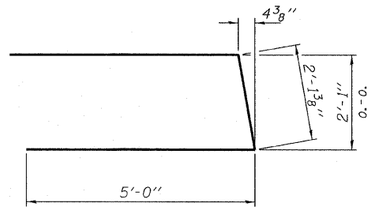



SECTION A-A

Hatched area to be poured after beams are in place.




BAR s




BAR u




ELEVATION

(Looking West)

## PILE DATA

Type _____ Steel HP10x42
No. Req'd. (W. Abut.) _____ 4
Factored Resistance Available ___ 167 Kips/Pile
Nominal Req'd Bearing _____ 335 Kips/Pile
Est. Length _____ 10 Ft/Pile - W. Abut.

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

## BILL OF MATERIAL - W. ABUT.

| BAR | NO. | SIZE | LENGTH | SHAPE |
|---|---|---|---|---|
| h | 20 | #4 | 6'-3" | |
| h1 | 4 | #4 | 4'-9" | |
| h2 | 2 | #4 | 28'-8" | |
| | | | | |
| p | 8 | #7 | 28'-8" | |
| p1 | 10 | #4 | 28'-8" | |
| | | | | |
| s | 54 | #5 | 8'-6" | |
| | | | | |
| u | 8 | #6 | 12'-2" | |
| | | | | |
| v | 4 | #4 | 5'-10" | |
| v1 | 4 | #4 | 4'-11" | |
| v2 | 4 | #4 | 3'-11" | |
| v3 | 4 | #4 | 5'-0" | |
| v4 | 4 | #4 | 4'-1" | |
| v5 | 66 | #4 | 3'-1" | |
| | | | | |
| Concrete Structures | | | Cu. Yd. | 13.3 |
| Concrete Encasement | | | Cu. Yd. | 1.4 |
| Reinforcement Bars | | | Pound | 1,620 |
| Steel Piles HP10x42 | | | Foot | 40 |
| Setting Piles in Rock | | | Each | 4 |
| Name Plates | | | Each | 1 |

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

# WEST ABUTMENT
# STRUCTURE NO. 030-3126

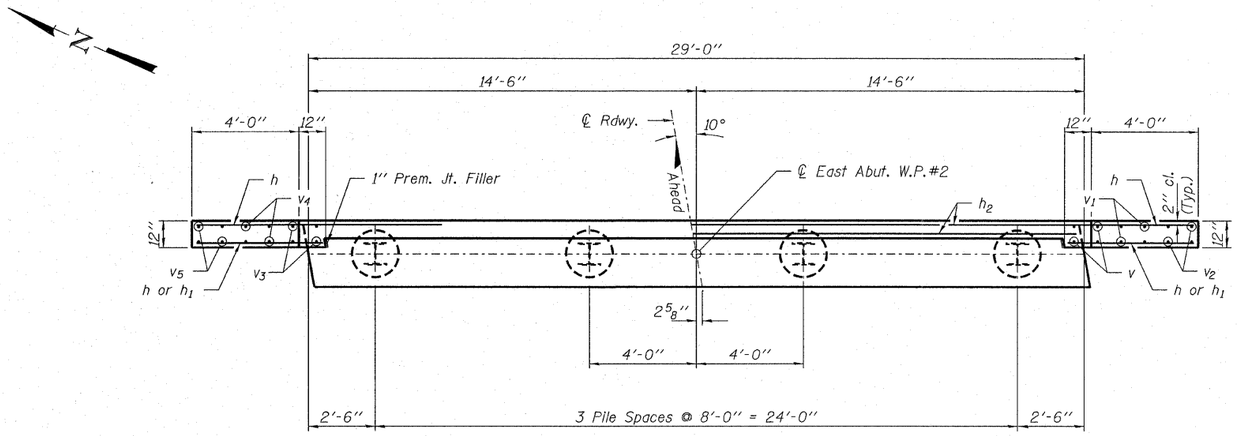

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400


PROJECT NUMBER: 08.0190.130 | DATE: 10/14/08

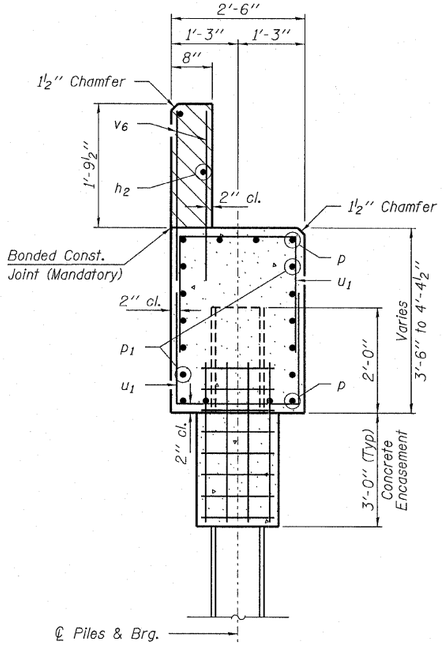
SHEET NO.

SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 14 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | ILLINOIS | FED. AID PROJECT | | |

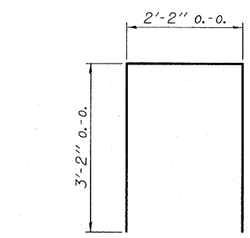



PLAN

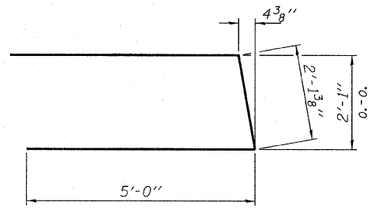



SECTION A-A

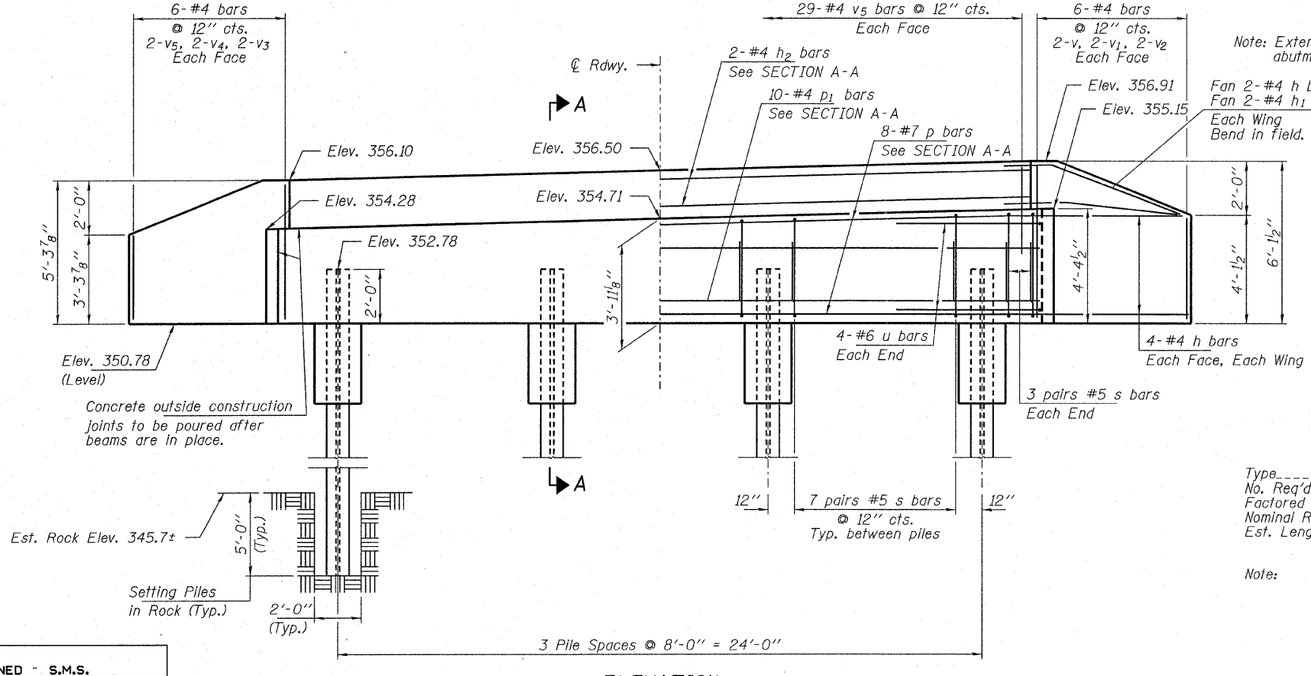
Hatched area to be poured after beams are in place.




BAR s




BAR u




ELEVATION

(Looking East)

Note: Extend h bars into abutment cap.

## PILE DATA

Type _____ Steel HP10x42
No. Req'd. (E. Abut.) _____ 4
Factored Resistance Available ___ 167 Kips/Pile
Nominal Req'd Bearing _____ 335 Kips/Pile
Est. Length _____ 12 Ft./Pile - E. Abut.

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

## BILL OF MATERIAL - E. ABUT.

| BAR | NO. | SIZE | LENGTH | SHAPE |
|---|---|---|---|---|
| h | 20 | #4 | 6'-3" | ——— |
| $h_1$ | 4 | #4 | 4'-9" | ——— |
| $h_2$ | 2 | #4 | 28'-8" | ——— |
| | | | | |
| p | 8 | #7 | 28'-8" | ——— |
| $p_1$ | 10 | #4 | 28'-8" | ——— |
| | | | | |
| s | 54 | #5 | 8'-6" | ⊓ |
| | | | | |
| u | 8 | #6 | 12'-2" | ⊐ |
| | | | | |
| v | 4 | #4 | 5'-10" | ——— |
| $v_1$ | 4 | #4 | 4'-11" | ——— |
| $v_2$ | 4 | #4 | 3'-11" | ——— |
| $v_3$ | 4 | #4 | 5'-0" | ——— |
| $v_4$ | 4 | #4 | 4'-1" | ——— |
| $v_5$ | 66 | #4 | 3'-1" | ——— |
| | | | | |
| Concrete Structures | | | Cu. Yd. | 13.3 |
| Concrete Encasement | | | Cu. Yd. | 1.4 |
| Reinforcement Bars | | | Pound | 1,620 |
| Steel Piles HP10x42 | | | Foot | 48 |
| Setting Piles in Rock | | | Each | 4 |

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

# EAST ABUTMENT
# STRUCTURE NO. 030-3126

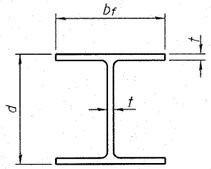
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO.

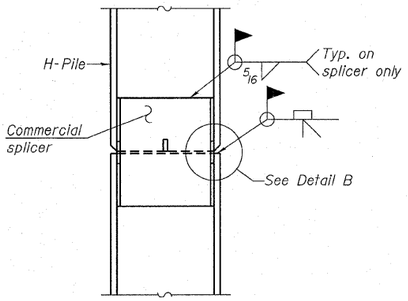
SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 15 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | ILLINOIS | FED. AID PROJECT | |

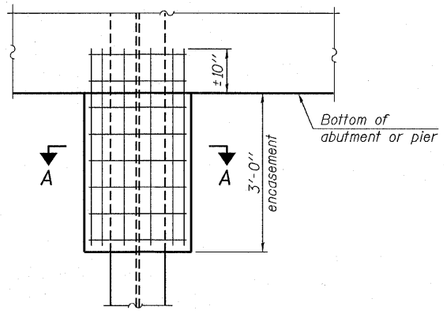



## STEEL PILE TABLE

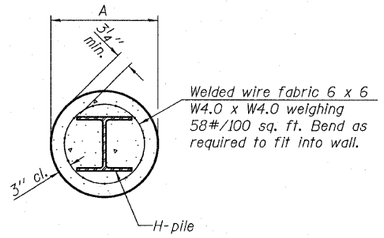
| Designation | Depth d | Flange width $b_f$ | Web and Flange thickness t | Encasement diameter A |
|---|---|---|---|---|
| HP 14x117 | 14 1/4" | 14 7/8" | 13/16" | 30" |
| x102 | 14" | 14 3/4" | 11/16" | 30" |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" |
| HP 12x84 | 12 1/4" | 12 1/4" | 11/16" | 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



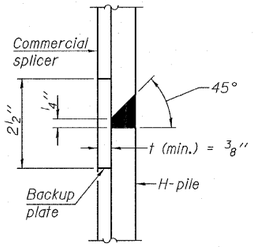

ELEVATION



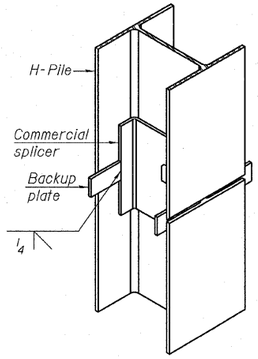

SECTION A-A

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

PILE ENCASEMENT

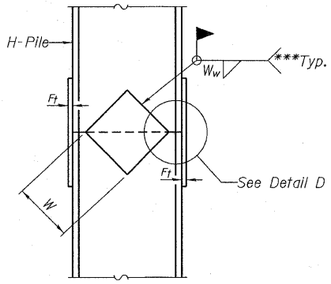



DETAIL "B"

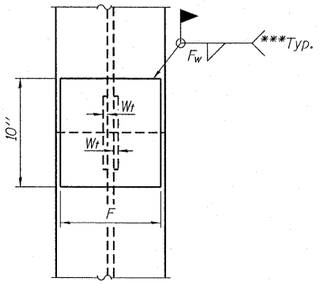



ISOMETRIC VIEW

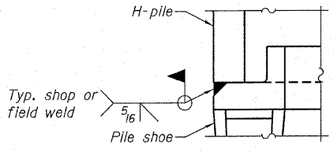
WELDED COMMERCIAL SPLICE




ELEVATION




END VIEW

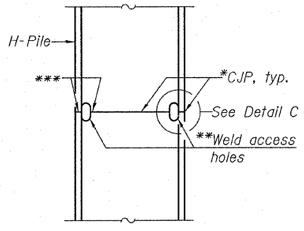



ELEVATION

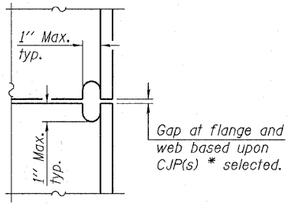



DETAIL A

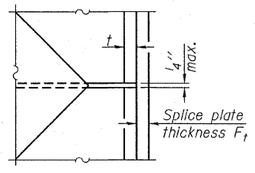
H-PILE SHOE ATTACHMENT




ELEVATION




DETAIL C




DETAIL D

| 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" | 11/16" | 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" | 11/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 11/16" | 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" |

COMPLETE PENETRATION WELD SPLICE

*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.

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

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

PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO.

SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 16 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | ILLINOIS | FED. AID PROJECT | |

# STEEL H PILE DETAILS
# STRUCTURE NO. 030-3126

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-08108 Bridge
Section: Station
Route: St. Joseph Road
County: Gallatin
Date: 6/10/08
Bored by: D. Russell
Checked By: T. Holcomb

Boring No: 1
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 93.8
Upon Completion 96.8

| Elevation | | N | Qu tsf | % w |
|---|---|---|---|---|
| Ground Surface (354.8) 99.8 | 0 | | | |
| 2" A-3 Surf./ 3" C. Stone 99.1 | | | | |
| Brown Clayey SILT (A-4) (354.1) | | 26 | 1.28 | 19 |
| (350.8) 95.8 | -5 | | | |
| Brown Silty CLAY (A-6) | | 9 | -- | 17 |
| (348.3) 93.3 | | | | |
| Gray to Brown SANDSTONE | | 100/6" | -- | 15 |
| | -10 | 100/6" | -- | 6 |
| (343.3) 88.3 | | 100/6" | -- | 6 |
| End of Boring @ -11.5' | -15 | | | |
| | -20 | | | |
| | -25 | | | |
| | -30 | | | |
| | -35 | | | |
| | -40 | | | |

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

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## Bridge Foundation Boring Log

Project: H-08108 Bridge
Section: Station
Route: St. Joseph Road
County: Gallatin
Date: 6/10/08
Bored by: D. Russell
Checked By: T. Holcomb

Boring No: 2
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 91.7
Upon Completion 96.7

| Elevation | | N | Qu tsf | % w |
|---|---|---|---|---|
| Ground Surface (355.7) 100.7 | 0 | | | |
| 2" A-3 Surf./ 3" C. Stone 100.0 | | | | |
| Brown Sandy SILT (A-4) (355.0) w/ concrete rubble | | 4 | -- | 10 |
| (351.7) 96.7 | -5 | | | |
| Brown Sandy CLAY (A-6) | | 2 | 0.38 | 22 |
| (349.2) 94.2 | | | | |
| Gray to Brown Sandy SILT (A-4) | | 4 | 1.08 | 23 |
| (346.2) 91.2 | | 100/4" | -- | 10 |
| Gray to Brown SANDSTONE 90.7 | -10 | | | |
| End of Boring @ -10.0' (345.7) | -15 | | | |
| | -20 | | | |
| | -25 | | | |
| | -30 | | | |
| | -35 | | | |
| | -40 | | | |

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

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

BORINGS
STRUCTURE NO. 030-3126

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
PROJECT NUMBER: 08.0190.130 DATE: 10/14/08

SHEET NO.
SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 98 | 06-04109-00-BR | GALLATIN | 17 | 17 |
| EQUALITY ROAD DISTRICT | | CONTRACT NO. 99353 | | |
| | | ILLINOIS | FED. AID PROJECT | |