| PROJECT | |
|---|---|
| PB-09-0013 | |
| | SMALL STRUCTURE NO. |
| | HAMILTON 31053 |

## INDEX

| STRUCTURE | TYPE | SPAN AND SKEW | OVER | STATION |
|---|---|---|---|---|
| HAMILTON COUNTY BRIDGE 31053 | PRECAST CONCRETE THREE-SIDED CULVERT | 18'-0" SPAN 24° LT. SKEW | BOYER DITCH | 5+01.00 "PRA" |

| SHEET NO. | SUBJECT |
|---|---|
| 1 | TITLE SHEET |
| 2 | TYPICAL SECTIONS |
| 3 | PLAT 1 |
| 4 | TRAFFIC DETOUR PLAN |
| 5 | EROSION CONTROL PLAN |
| 6-7 | SOIL BORINGS |
| 8 | LAYOUT |
| 9 | GENERAL PLAN |
| 10 | ROAD SUMMARY |
| | |
| XS1 - XS5 | CROSS SECTIONS - LINE "PRA" |

# HAMILTON COUNTY HIGHWAY DEPARTMENT

# REPLACEMENT PLANS FOR SMALL STRUCTURE No. 31053 JERKWATER ROAD/BOYER DITCH ADAMS TOWNSHIP HAMILTON COUNTY INDIANA PB-09-0013

SMALL STRUCTURE NO. 31053 REPLACEMENT ON JERKWATER ROAD OVER BOYER DITCH,
1300 FEET SOUTH OF 296TH STREET
IN SECTIONS 5 & 6, T-20-N, R-3-E,
ADAMS TOWNSHIP, HAMILTON COUNTY, INDIANA

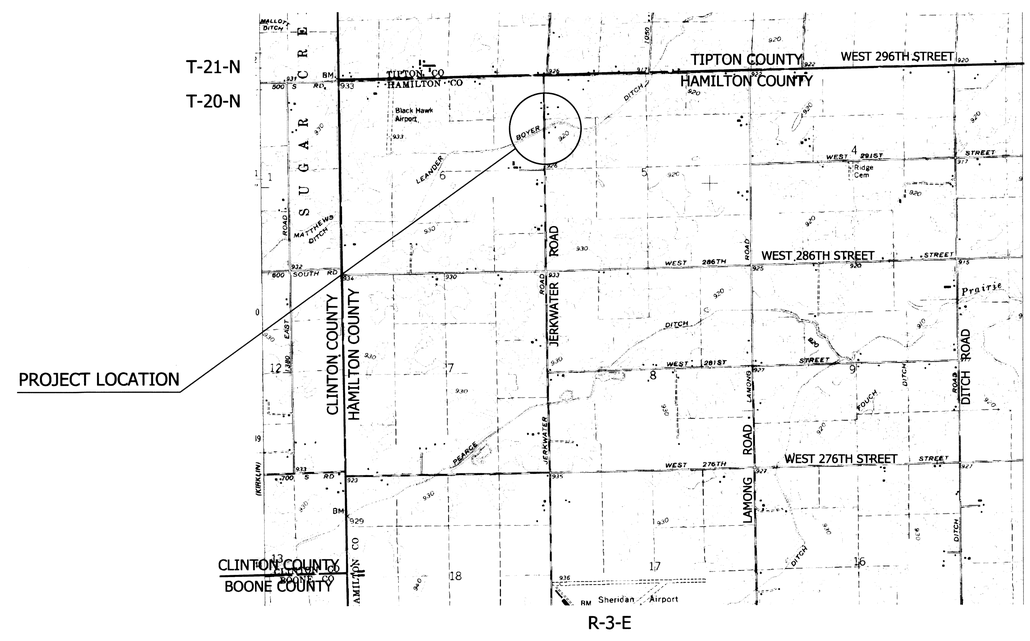
LATITUDE 40° 12' 45" N
LONGITUDE 86° 13' 25" W

| TRAFFIC DATA | |
|---|---|
| A.A.D.T. (2006) | 484 V.P.D. |
| A.A.D.T. (2013) | 681 V.P.D. |
| A.A.D.T. (2033) | 1800 V.P.D. |
| DIRECTIONAL DISTRIBUTION | 50% |
| TRUCKS | 3 % A.A.D.T. |
| | |
| | |
| **DESIGN DATA** | |
| DESIGN SPEED | 45 M.P.H. |
| PROJECT DESIGN CRITERIA | 3R (NON-FREEWAY) |
| FUNCTIONAL CLASSIFICATION | SECONDARY ARTERIAL |
| RURAL/URBAN | RURAL |
| TERRAIN | LEVEL |
| ACCESS CONTROL | NONE |
| REGULATED DRAIN | YES |

STATE OF INDIANA

PROJECT LOCATION SHOWN BY

| | |
|---|---|
| BRIDGE LENGTH: | 0.0038 MI |
| ROADWAY LENGTH: | 0.110 MI |
| TOTAL LENGTH: | 0.114 MI |
| MAXIMUM GRADE: | 1.5 % |




PROJECT LOCATION

1" = 2000'

HAMILTON COUNTY

## HAMILTON COUNTY BOARD OF COMMISSIONERS

APPROVED BY DATE 10/11/10

STEVEN C. DILLINGER, PRESIDENT

STEVEN A. HOLT, MEMBER

CHRISTINE ALTMAN, MEMBER

RECOMMEND FOR APPROVAL DATE 10/11/10

JAMES W. NEAL, COUNTY ENGINEER

ATTESTED BY DATE 10/11/10

DAWN COVERDALE, AUDITOR

PLANS PREPARED BY:


STEPHEN J. CHRISTIAN & ASSOCIATES, P.C.
*Civil Engineers*
9102 North Meridian Street - Suite 200 - Indianapolis, IN 46260
Phone: (317) 566-0629
Fax: (317) 566-0633
Email: sjca@sjcassoc.com


UTILITIES

ELECTRIC:
DUKE ENERGY
100 SOUTH MILL CREEK ROAD
NOBLESVILLE, IN 46062
(317) 776-5327

PHONE:
AT&T
116 EAST TAYLOR STREET
KOKOMO, IN 46901
(765) 454-4054
CURTIS MILLER

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED
2010 TO BE USED WITH THESE PLANS

PLANS PREPARED BY: STEPHEN J. CHRISTIAN & ASSOCIATES, P.C. (317) 566-0629 PHONE NUMBER

CERTIFIED BY: Sherly George 10/1/2010 DATE

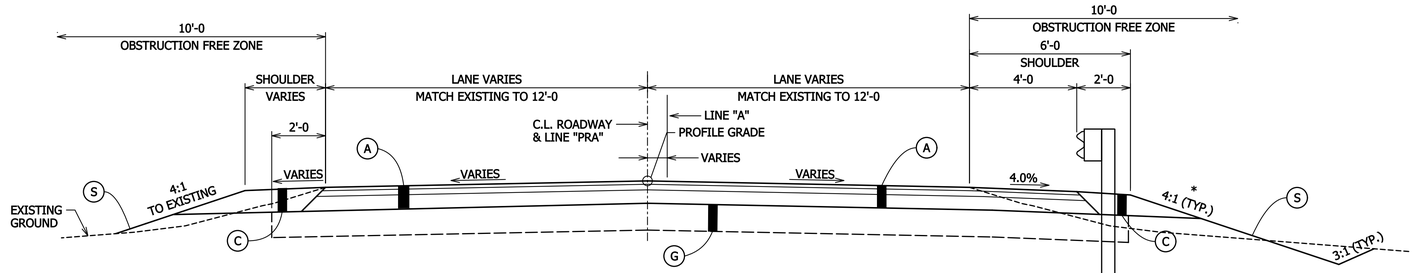
SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

| SMALL STRUCTURE NO. |
|---|
| HAMILTON 31053 |

| SHEETS | | |
|---|---|---|
| 1 | of | 15 |

| PROJECT |
|---|
| PB-09-0013 |

Model: Title
Drawing: H:\Projects\2009\2961\Drawings\Sheets\2961Title.dgn
Printed: 10/1/2010
By: jthomas

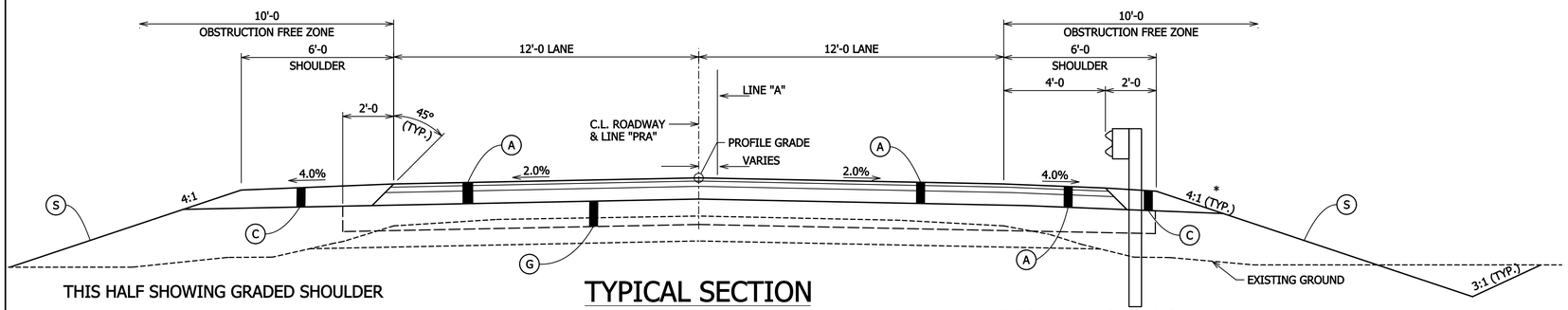



THIS HALF SHOWING GRADED SHOULDER

## TYPICAL INCIDENTAL SECTION

STA. 2+50 TO 2+75
STA. 7+25 TO 7+50
SCALE: ⅜" = 1'-0

THIS HALF SHOWING GUARDRAIL
AND DITCHES



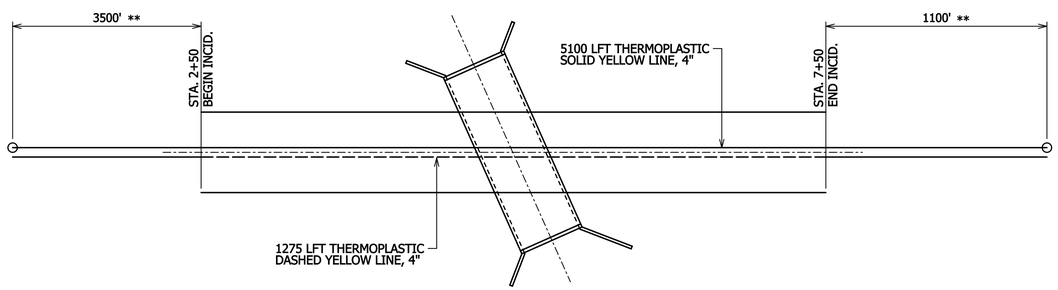

THIS HALF SHOWING GRADED SHOULDER

## TYPICAL SECTION

STA. 2+75 TO 7+25
SCALE: ⅜" = 1'-0

THIS HALF SHOWING GUARDRAIL
AND DITCHES

* 3:1 SLOPE FROM STA. 2+50.00 TO 4+97.00 RT.




** 4600' APPROXIMATE LIMITS OF UNDISTRIBUTED FOR NO PASSING ZONE

## STRIPING DETAIL

NOT TO SCALE

## LEGEND

(A) 165 LB/SYS HMA SURFACE, TYPE A ON
275 LB/SYS HMA INTERMEDIATE, TYPE A ON
660 LB/SYS HMA BASE, TYPE A

(C) 10" COMPACTED AGGREGATE, NO. 53

(G) SUBGRADE TREATMENT, TYPE IIIA

(S) MULCHED SEEDING, R
EROSION CONTROL BLANKETS

By: jthomas
Drawing: H:\Projects\2009\0981\Drawings\Sheets\0981TypicalSections.dgn
10/20/2010
Model: TypSheet

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

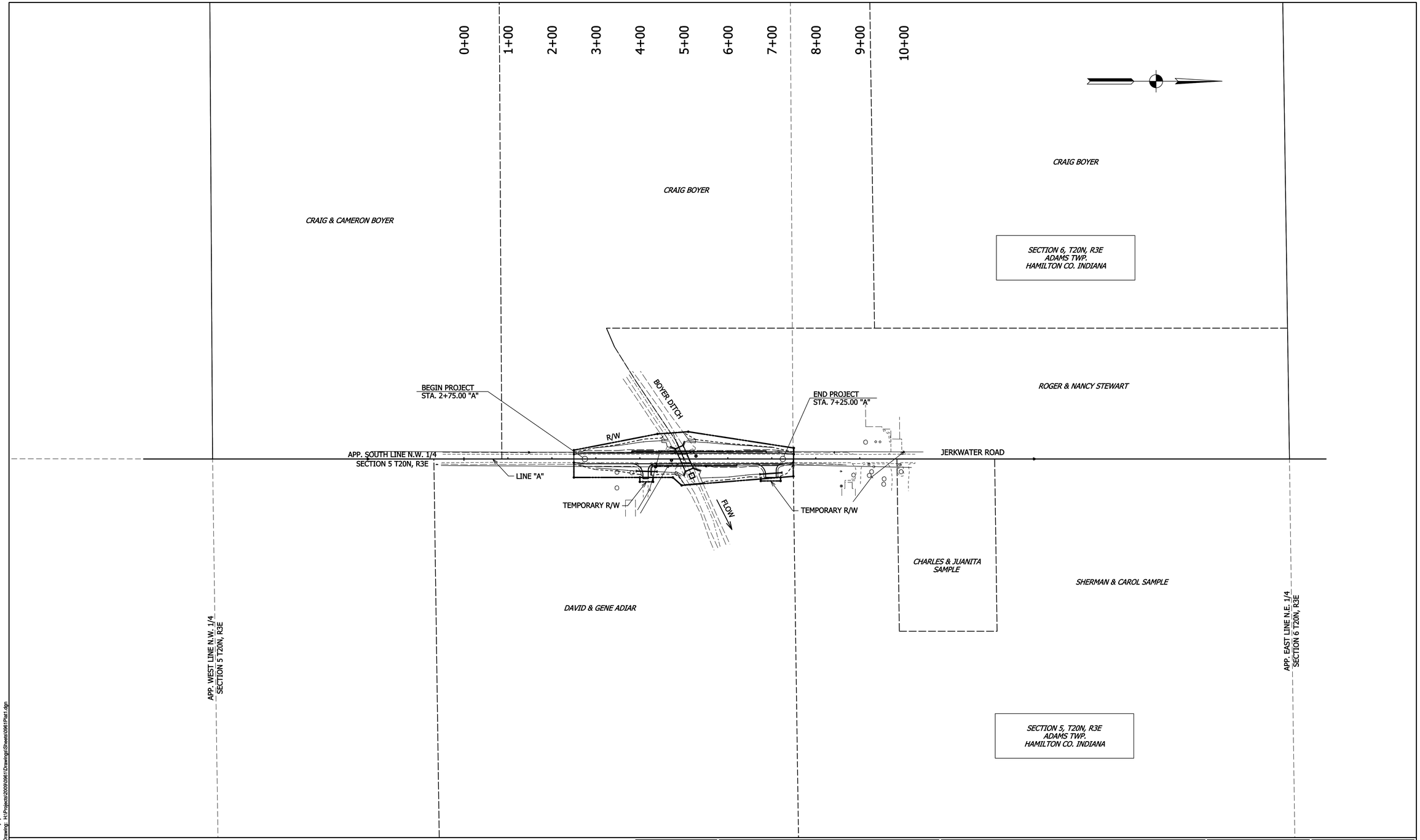
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: AEO
DRAWN: JMT
CHECKED: SG
CHECKED: AEO

HAMILTON COUNTY

TYPICAL SECTIONS

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| AS NOTED | HAMILTON 31053 |
| VERTICAL SCALE | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 2 of 15 |
| | PROJECT |
| | PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961Plat1.dgn
10/20/2010
Model: Default

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Sherly George
DESIGN ENGINEER DATE

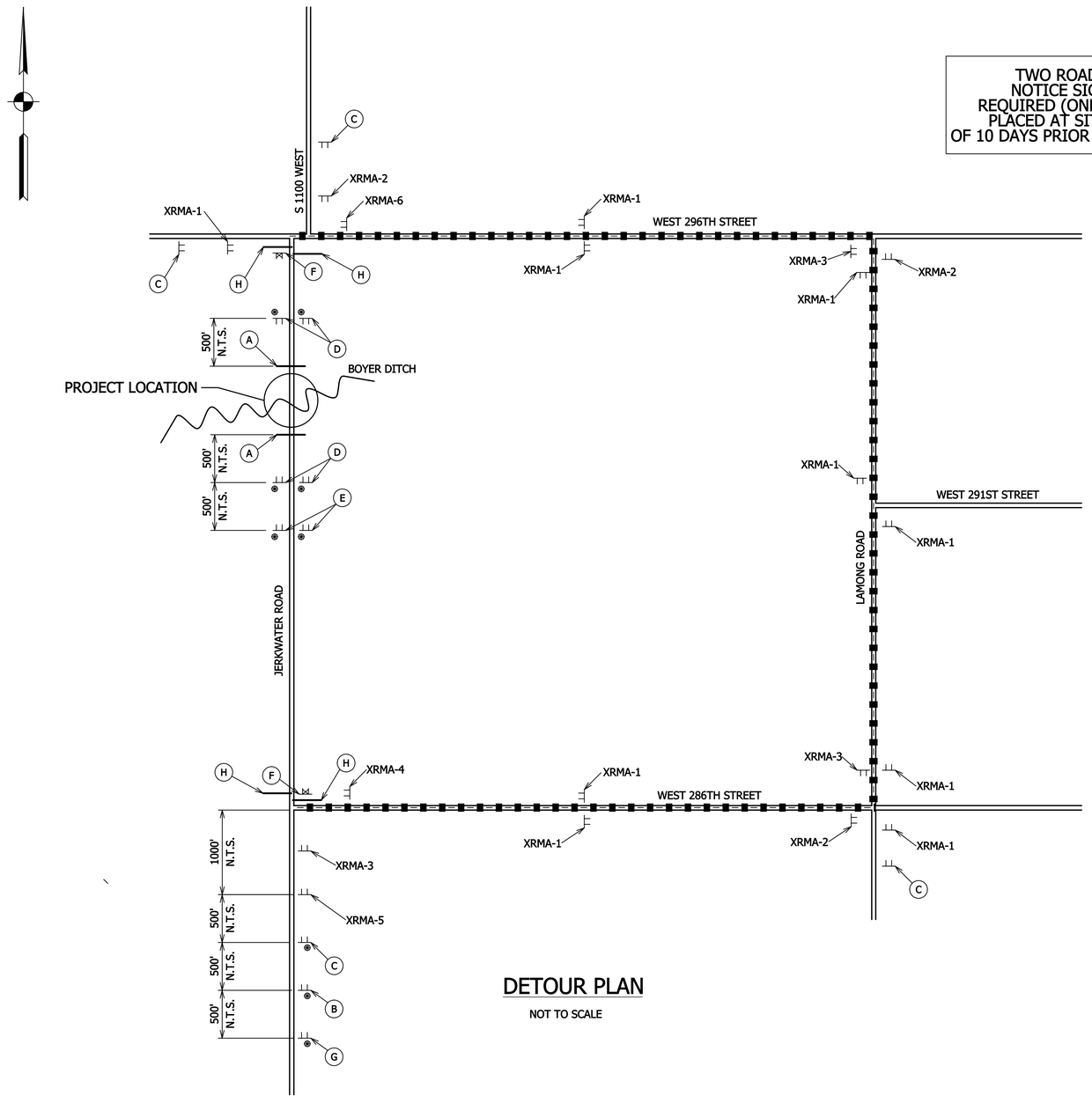
DESIGNED: JMT
DRAWN: JMT
CHECKED: SJC
CHECKED: SJC

HAMILTON COUNTY

PLAT NO. 1

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| 1" = 100' | HAMILTON 31053 |
| VERTICAL SCALE | |
| | |

| SURVEY BOOK | SHEET | | |
|---|---|---|---|
| ELECTRONIC | 3 | of | 15 |
| | PROJECT | | |
| | PB-09-0013 | | |

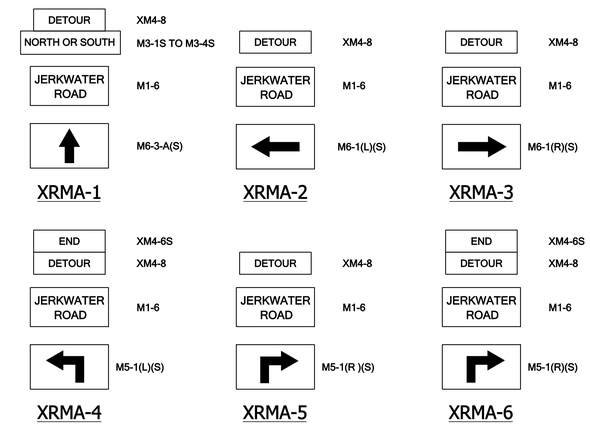



TWO ROAD CLOSURE NOTICE SIGNS XG20-5 REQUIRED (ONE AT EACH END) PLACED AT SITE A MINIMUM OF 10 DAYS PRIOR TO ROAD CLOSURE

## DETOUR PLAN

NOT TO SCALE

## DETOUR ROUTE MARKER ASSEMBLY LEGEND




## LEGEND

- (A) TYPE III-A BARRICADES WITH ROAD CLOSURE SIGN ASSEMBLY AND R11-2
- (B) "ROAD CLOSED AHEAD" - XW20-3
- (C) "DETOUR AHEAD" - XW20-2
- (D) "ROAD CLOSED 500 FT." - XW20-3
- (E) "ROAD CLOSED 1000 FT." - XW20-3
- (F) "ROAD CLOSED X MILES AHEAD LOCAL TRAFFIC ONLY" - R11-3 "DETOUR" (LT. OR RT.) XM4-10
- (G) "ROAD CONSTRUCTION AHEAD" - XW20-1
- (H) TYPE III-B BARRICADES STAGGERED WITH ROAD CLOSURE SIGN ASSEMBLY AND R11-4
- SIGN ASSEMBLY
- WARNING LIGHT
- DETOUR ROUTE

### CONSTRUCTION SIGN SCHEDULE

| SIGN NO. | DESCRIPTION | SIZE (FT.) | TYPE | EST. QTY |
|---|---|---|---|---|
| XW20-1 | ROAD CONSTRUCTION AHEAD | 4 x 4 | A | 1 |
| XW20-2 | DETOUR AHEAD | 4 x 4 | A | 4 |
| R11-2 | ROAD CLOSED | 4 x 2.5 | A | 2 |
| XW20-3 | ROAD CLOSED AHEAD / 500 FT. /1000 FT. | 4 x 4 | A | 4 |
| R11-3 | ROAD CLOSED __ MI. AHEAD LOCAL TRAFFIC ONLY | 4 x 2.5 | A | 2 |
| XG20-5 | ROAD CLOSURE NOTICE | 4 x 2.5 | A | 2 |
| XM4-10 | "DETOUR" (LT. OR RT.) | 4 x 1.5 | B | 2 |
| R11-4 | ROAD CLOSED TO THROUGH TRAFFIC | 5 x 2.5 | A | 2 |

| TOTAL | |
|---|---|
| TYPE "A" SIGNS | 17 |
| TYPE "B" SIGNS | 2 |

NOTES:

ESTIMATED QTY. FOR PAYMENT:
CONSTRUCTION SIGN, A: 13 EACH
(4 TYPE A SIGNS INCLUDED IN ROAD CLOSURE SIGN ASSEMBLY)
CONSTRUCTION SIGN, B: 2 EACH
DETOUR ROUTE MARKER ASSEMBLY: 19 EACH
TYPE III-A BARRICADES: 48 LFT
ROAD CLOSURE SIGN ASSEMBLY: 4 EACH
TYPE III-B BARRICADES: 48 LFT

DETOUR ROUTE MARKER ASSEMBLIES SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 801-TCDT-03.

TYPE B CONSTRUCTION WARNING LIGHTS SHALL BE USED WITH ALL SIGNS LOCATED ON BARRICADES.
TYPE A CONSTRUCTION WARNING LIGHTS SHALL BE USED ON ALL OTHER CONSTRUCTION SIGNS.

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Sherly George
DESIGN ENGINEER DATE

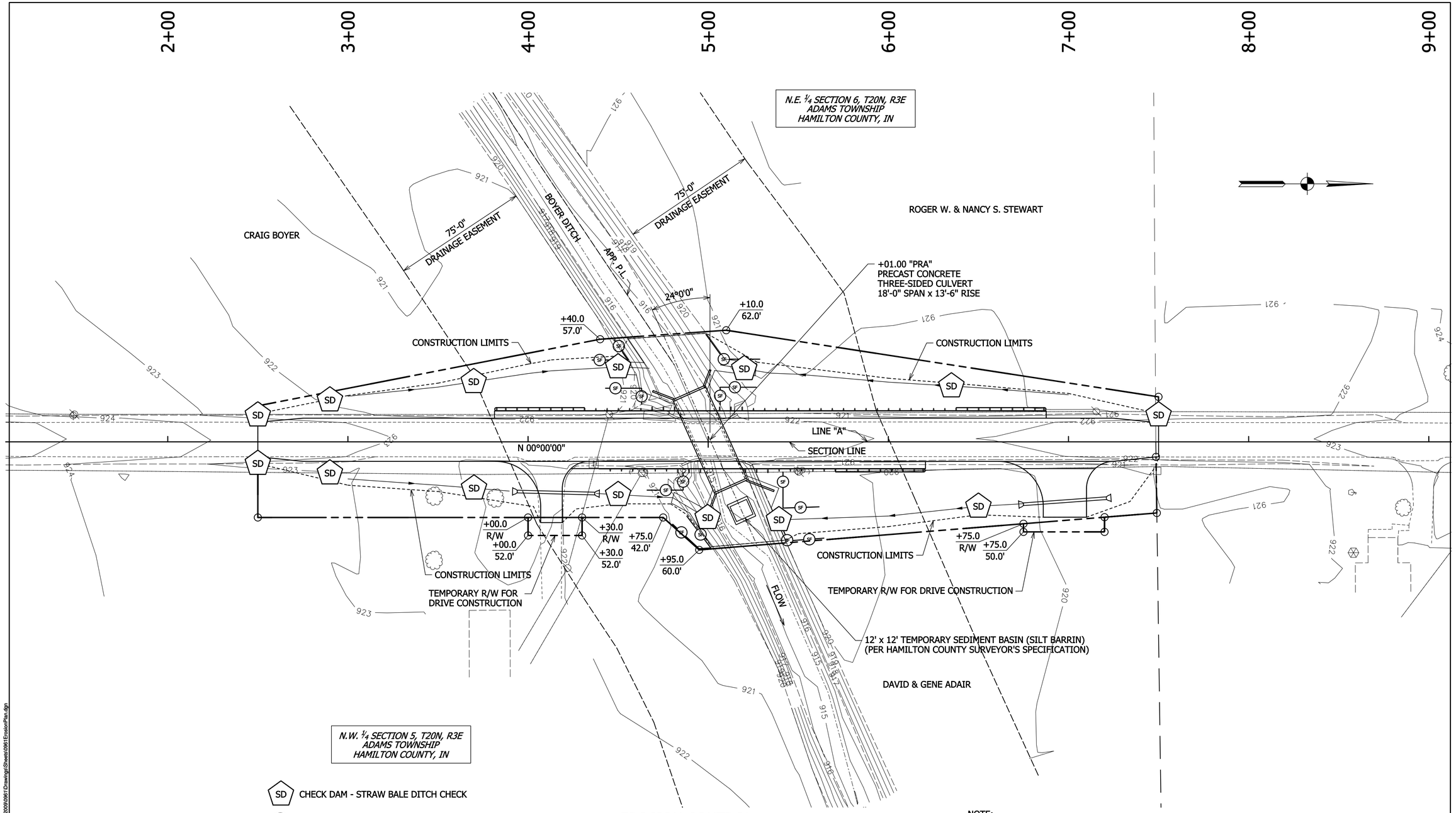
DESIGNED: JMT DRAWN: JMT
CHECKED: AEO CHECKED: AEO

HAMILTON COUNTY

TRAFFIC DETOUR PLAN

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| AS NOTED | HAMILTON 31053 |
| VERTICAL SCALE | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 4 of 15 |
| | PROJECT |
| | PB-09-0013 |

By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961\Detour.dgn
10/20/2010
Model: Default




## EROSION CONTROL

CONTOUR INTERVAL = 1'-0"

NOTE:
ALL R/W ON THIS SHEET TO BE AS SHOWN.
ALL R/W ON THIS SHEET DESCRIBED FROM
LINE "A" EXCEPT AS SHOWN.

NOTES:
ANY AREAS IN ADDITION TO THOSE CALLED OUT, LEFT UNDISTURBED FOR A PERIOD EXCEEDING 15 DAYS SHALL BE REQUIRED TO HAVE TEMPORARY SEEDING.
1. ALL DISTURBED AREAS, DITCHES THAT ARE NOT RIPRAPPED, AND SLOPES SHALL BE PERMANENTLY SEEDED IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS AS SOON AS POSSIBLE UPON COMPLETION OF WORK IN THAT AREA. EROSION CONTROL BLANKETS SHALL BE APPLIED ON ALL DISTURBED AREAS BEFORE SEEDING.
2. UPON COMPLETION OF DITCH GRADING, PERMANENT EROSION CONTROL MEASURES SPECIFIED ON ROAD PLANS SHALL BE IMPLEMENTED.

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Sherly George
DESIGN ENGINEER DATE

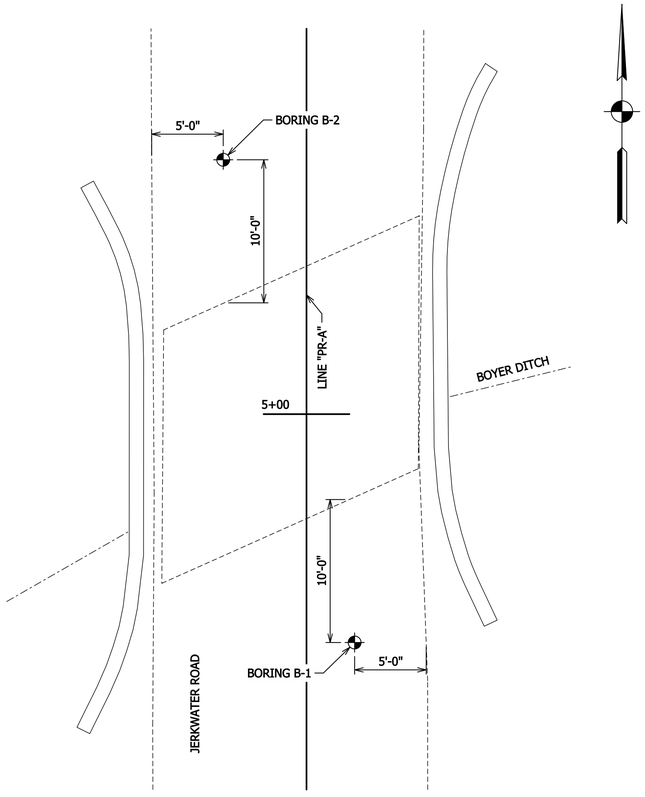
DESIGNED: LAS DRAWN: LAS
CHECKED: SG CHECKED: SG

HAMILTON COUNTY

EROSION CONTROL

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| 1" = 25' | HAMILTON 31053 |
| VERTICAL SCALE | |
| 1" = 5' | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 5 of 15 |
| | PROJECT |
| | PB-09-0013 |

By: jthomas
Drawing: H:\Projects\2009\0861\Drawings\Sheets\0861Erosion\Plan.dgn
10/20/2010
Model: Erosion




## PLAN

SCALE: 1" = 5'-0"

EARTH EXPLORATION

## LOG OF TEST BORING

Project: Jerkwater Road over Boyer Ditch
Location: Hamilton County, Indiana
Client: Stephen J. Christian & Associates, PC
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. B-1
Elevation: ---
Datum: ---
EEI Proj. No. 1-09-403
Sheet 1 of 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Proj. No. | --- | Station | --- | Weather | Cloudy | Driller | D.C. |
| Struct. No. | 31053 | Offset | --- | Temp. | 60° F | Inspector | --- |

| SAMPLE No. | Type | Rec % | N Value | Depth ft | DESCRIPTION/CLASSIFICATION and REMARKS | $q_p$ tsf | $q_u$ tsf | $\gamma_d$ pcf | W % | LL % | PL % | PI % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **ASPHALTIC CONCRETE**, 6 in. | | | | | | | |
| | | | | | **GRANULAR SUBBASE**, sand and gravel | | | | | | | |
| SS-1 | | 50 | 3 | | **SILTY LOAM**, very soft, dark brown, (fill) | 0.25 | | | 27.9 | | | |
| SS-2 | | 20 | 6 | 5 | **SILTY CLAY LOAM**, medium, brown and gray, (fill) | 0.75 | | | 22.5 | | | |
| SS-3 | | 100 | 9 | | **CLAY LOAM**, medium, brown and gray, with occasional silty clay loam inclusions | 0.75 | | | 12.8 | | | |
| SS-4 | | 100 | 16 | 10 | **SAND**, medium dense, wet, brown to gray below 11' | | | | | | | |
| SS-5 | | 100 | 14 | | | | | | | | | |
| SS-6 | | 100 | 11 | 15 | **SILTY LOAM**, very stiff, gray, with occasional silt seams | 3.0 | | | 14.4 | | | |
| SS-7 | | 100 | 23 | | **SAND**, medium dense, wet, gray | | | | | | | |
| SS-8 | | 100 | 10 | 20 | **LOAM**, stiff, gray | 1.25 | | | 10.9 | | | |
| SS-9 | | 100 | 50 | 25 | **SAND**, dense to very dense, wet, gray, with sandy loam and gravel seam near 24½', with sandy loam inclusions below 28½' | | | | | | | |
| SS-10 | | 100 | 62 | 30 | | | | | | | | |

Continued Next Page

### WATER LEVEL OBSERVATIONS

| Depth ft | While Drilling | Upon Completion | After Drilling |
|---|---|---|---|
| To Water | 13 | 9½ | BF |
| To Cave-in | | 10 | |

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

### GENERAL NOTES

Start 4/27/10 End 4/27/10 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks: Backfilled with auger cuttings, bentonite chips and concrete patch at surface.

By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961SoilBorings.dgn
10/20/2010
Model: SB01

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Sherly George
DESIGN ENGINEER DATE

DESIGNED: SG | DRAWN: MAB
CHECKED: LAS | CHECKED: SG

HAMILTON COUNTY

SOIL BORINGS

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| AS NOTED | HAMILTON 31053 |
| VERTICAL SCALE | |
| AS NOTED | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 6 of 15 |
| | PROJECT |
| | PB-09-0013 |

EARTH EXPLORATION

## LOG OF TEST BORING

Project: Jerkwater Road over Boyer Ditch
Location: Hamilton County, Indiana
Client: Stephen J. Christian & Associates, PC
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. B-1
Elevation: ---
Datum: ---
EEI Proj. No.: 1-09-403
Sheet 2 of 2

Proj. No.: ---
Struct. No.: 31053
Station: ---
Offset: ---
Weather: Cloudy
Temp.: 60° F
Driller: D.C.
Inspector: ---

| SAMPLE No. | Type | Rec % | N Value | Depth ft | DESCRIPTION/CLASSIFICATION and REMARKS | $q_p$ tsf | $q_u$ tsf | $\gamma_d$ pcf | W % | LL % | PL % | PI % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **SAND**, dense to very dense, wet, gray, with sandy loam and gravel seam near 24½', with sandy loam inclusions below 28½' | | | | | | | |
| SS-11 | | 100 | 17 | 35 | **SANDY LOAM**, medium dense, wet, gray | | | | | | | |
| SS-12 | | 100 | 23 | 40 | **SAND**, medium dense, wet, gray, with frequent silty loam seams | | | | | | | |
| SS-13 | | 65 | 28 | 45 | | 2.75 | | | 10.7 | | | |
| SS-14 | | 100 | 42 | 50 | **LOAM**, very stiff to hard, gray, with possible boulder near 43½' and 53½' | 3.5 | 6.43 | 133.4 | 9.2 | | | |
| SS-15 | | 100 | 54 | 55 | | >4.5 | | | 13.3 | | | |
| SS-16 | | 100 | 53 | 60 | | >4.5 | | | 9.9 | | | |
| | | | | | End of Boring at 60 ft | | | | | | | |

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

EARTH EXPLORATION

## LOG OF TEST BORING

Project: Jerkwater Road over Boyer Ditch
Location: Hamilton County, Indiana
Client: Stephen J. Christian & Associates, PC
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. B-2
Elevation: ---
Datum: ---
EEI Proj. No.: 1-09-403
Sheet 1 of 2

Proj. No.: ---
Struct. No.: 31053
Station: ---
Offset: ---
Weather: Cloudy
Temp.: 60° F
Driller: D.C.
Inspector: ---

| SAMPLE No. | Type | Rec % | N Value | Depth ft | DESCRIPTION/CLASSIFICATION and REMARKS | $q_p$ tsf | $q_u$ tsf | $\gamma_d$ pcf | W % | LL % | PL % | PI % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **ASPHALTIC CONCRETE**, 6½ in. | | | | | | | |
| | | | | | **GRANULAR SUBBASE**, sand and gravel | | | | | | | |
| SS-1 | | 65 | 5 | | **CLAY**, stiff, dark brown and gray to brown and gray below 3½', (fill) | 1.75 | | | 23.8 | | | |
| SS-2 | | 80 | 5 | 5 | | 1.5 | | | 26.8 | | | |
| SS-3 | | 100 | 5 | | **LOAM**, stiff, brown and gray | 1.25 | 2.61 | 124.6 | 12.4 | | | |
| SS-4 | | 100 | 7 | 10 | | 0.75 | | | 11.6 | | | |
| SS-5 | | 100 | 8 | | **SILTY LOAM**, medium to very stiff, gray, with occasional silt seams below 16', with occasional sand inclusions below 16½' | 1.25 | | | 11.1 | | | |
| SS-6 | | 100 | 11 | 15 | | 2.25 | 2.60 | 132.4 | 10.2 | | | |
| SS-7 | | 100 | 16 | | | 3.0 | | | 12.5 | | | |
| SS-8 | | 100 | 13 | 20 | **LOAM**, stiff, gray | 1.5 | | | 11.6 | | | |
| SS-9 | | 100 | 27 | 25 | **SAND**, dense to medium dense, wet, gray | | | | | | | |
| SS-10 | | 90 | 37 | 30 | | | | | | | | |

Continued Next Page

### WATER LEVEL OBSERVATIONS

| Depth ft | While Drilling | Upon Completion | After Drilling |
|---|---|---|---|
| To Water | 21 | 18 | BF |
| To Cave-in | | 16 | |

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

### GENERAL NOTES

Start 4/27/10 End 4/27/10 Rig CME 75
Drilling Method 3¼" I.D. HSA Truck
Remarks: Backfilled with auger cuttings, bentonite chips and concrete patch at surface.

EARTH EXPLORATION

## LOG OF TEST BORING

Project: Jerkwater Road over Boyer Ditch
Location: Hamilton County, Indiana
Client: Stephen J. Christian & Associates, PC
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. B-2
Elevation: ---
Datum: ---
EEI Proj. No.: 1-09-403
Sheet 2 of 2

Proj. No.: ---
Struct. No.: 31053
Station: ---
Offset: ---
Weather: Cloudy
Temp.: 60° F
Driller: D.C.
Inspector: ---

| SAMPLE No. | Type | Rec % | N Value | Depth ft | DESCRIPTION/CLASSIFICATION and REMARKS | $q_p$ tsf | $q_u$ tsf | $\gamma_d$ pcf | W % | LL % | PL % | PI % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS-11 | | 100 | 17 | 35 | **SAND**, dense to medium dense, wet, gray | | | | | | | |
| SS-12 | | 100 | 13 | 40 | | >4.5 | | | 9.8 | | | |
| SS-13 | | 90 | 24 | 45 | | >4.5 | | | 10.5 | | | |
| SS-14 | | 100 | 31 | 50 | **LOAM**, hard to stiff, gray | 3.0 | | | 10.4 | | | |
| SS-15 | | 100 | 43 | 55 | | 4.25 | | | 11.6 | | | |
| SS-16 | | 100 | 45 | 60 | | 1.5 | | | 12.1 | | | |
| | | | | | End of Boring at 60 ft | | | | | | | |

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

By: jthomas
Drawing: H:\Projects\2009\0981\Drawings\Sheets\0981SoilBorings.dgn
10/20/2010
Model: SB02

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

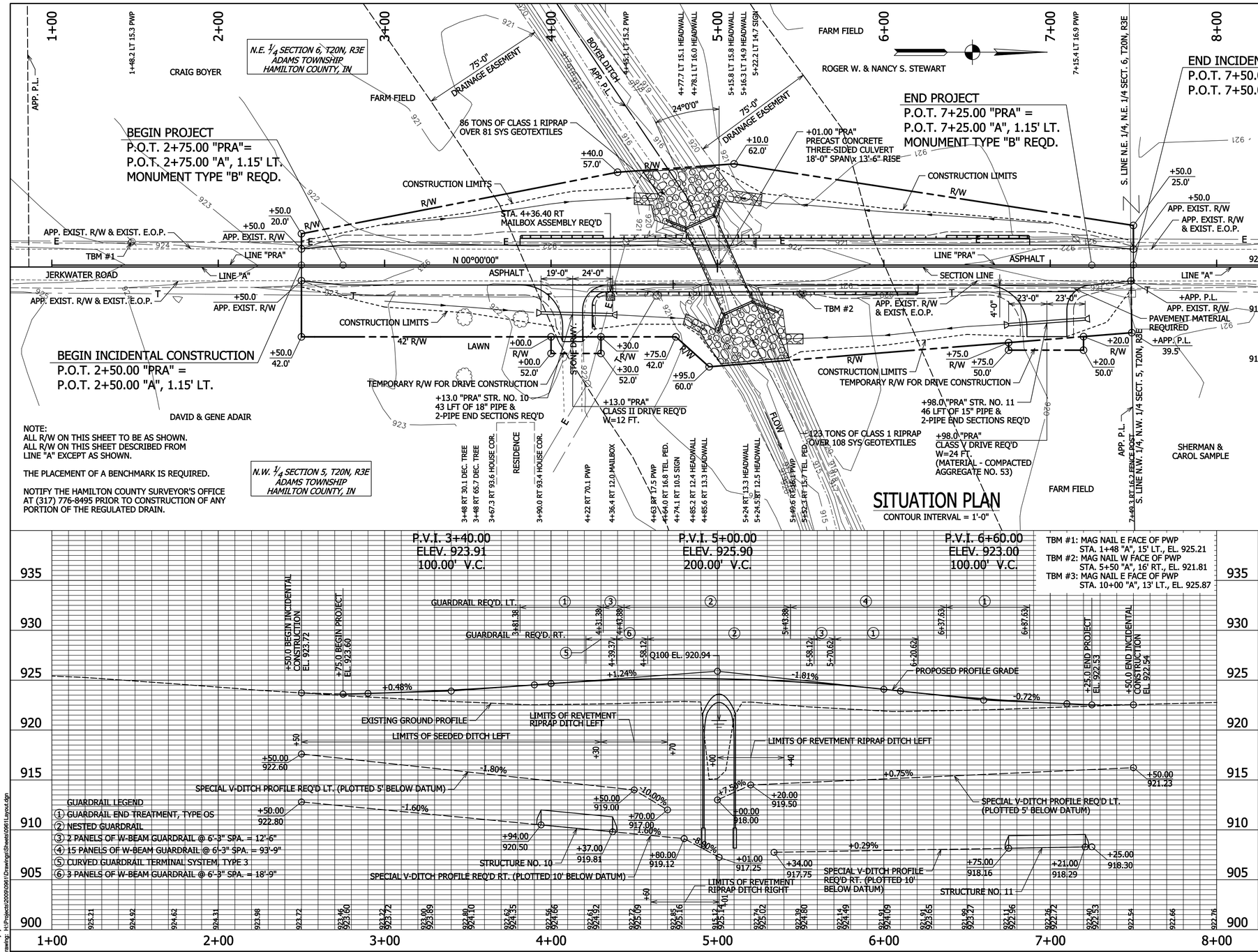
RECOMMENDED FOR APPROVAL: Sherly George
DESIGN ENGINEER DATE

DESIGNED: SG
DRAWN: MAB
CHECKED: LAS
CHECKED: SG

HAMILTON COUNTY

SOIL BORINGS

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| AS NOTED | HAMILTON 31053 |
| VERTICAL SCALE | |
| AS NOTED | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 7 of 15 |
| | PROJECT |
| | PB-09-0013 |




NOTE:
ALL R/W ON THIS SHEET TO BE AS SHOWN.
ALL R/W ON THIS SHEET DESCRIBED FROM LINE "A" EXCEPT AS SHOWN.

THE PLACEMENT OF A BENCHMARK IS REQUIRED.

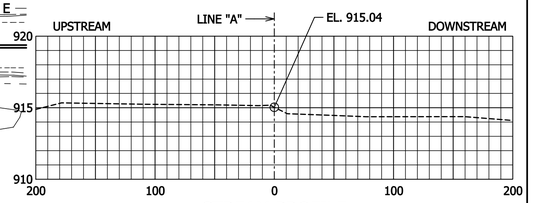
NOTIFY THE HAMILTON COUNTY SURVEYOR'S OFFICE AT (317) 776-8495 PRIOR TO CONSTRUCTION OF ANY PORTION OF THE REGULATED DRAIN.

## UTILITIES

SEE TITLE SHEET FOR INFO.

## EXISTING STRUCTURE

EXISTING STRUCTURE IS A SINGLE 17'-6" SPAN REINFORCED CONCRETE CULVERT ON WALL ABUTMENTS ON A 24° SKEW LT. TO BE REMOVED




## STREAM PROFILE

SCALE: 1"=60' H, 1"=5' V

## HYDRAULIC DATA

| | |
|---|---|
| DRAINAGE AREA | 2.21 sq. miles |
| DESIGN DISCHARGE (Q100) | 704 cfs |
| Q100 ELEVATION | 920.94 ft |
| BACKWATER | 0.37 ft |
| VELOCITY @ Q100 | 6.26 ft/sec. |
| GROSS WATERWAY OPENING REQUIRED BELOW Q100 (STRUCTURE) | 86.88 sq. ft |
| ROAD OVERFLOW WATERWAY AREA | 0 sq. ft |
| WATERWAY OPENING PROVIDED (BELOW Q100) | 104.04 sq. ft |
| MINIMUM LOW STRUCTURE ELEVATION | 923.06 ft |
| SKEW | 24 degrees |
| EXISTING WATERWAY OPENING (BELOW Q100) | 96.87 sq. ft |
| EXISTING ROAD OVERFLOW WATERWAY AREA | 71.26 sq. ft. |
| EXISTING LOW STRUCTURE ELEVATION | 918.74 ft |
| EXISTING BACKWATER | 0.68 ft |

P.V.I. 3+40.00
ELEV. 923.91
100.00' V.C.

P.V.I. 5+00.00
ELEV. 925.90
200.00' V.C.

P.V.I. 6+60.00
ELEV. 923.00
100.00' V.C.

TBM #1: MAG NAIL E FACE OF PWP
STA. 1+48 "A", 15' LT., EL. 925.21
TBM #2: MAG NAIL W FACE OF PWP
STA. 5+50 "A", 16' RT., EL. 921.81
TBM #3: MAG NAIL E FACE OF PWP
STA. 10+00 "A", 13' LT., EL. 925.87

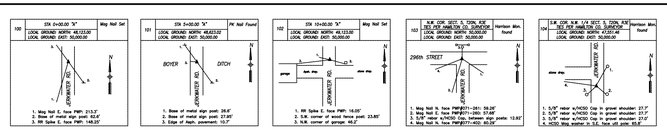



GUARDRAIL LEGEND
① GUARDRAIL END TREATMENT, TYPE OS
② NESTED GUARDRAIL
③ 2 PANELS OF W-BEAM GUARDRAIL @ 6'-3" SPA. = 12'-6"
④ 15 PANELS OF W-BEAM GUARDRAIL @ 6'-3" SPA. = 93'-9"
⑤ CURVED GUARDRAIL TERMINAL SYSTEM, TYPE 3
⑥ 3 PANELS OF W-BEAM GUARDRAIL @ 6'-3" SPA. = 18'-9"

## EARTHWORK SUMMARY

| | |
|---|---|
| FILL +25% | 1675 CYS |
| COMMON EXCAVATION | 329 CYS |
| USABLE WATERWAY EXCAVATION (70%) | 0 CYS |
| BORROW | 1346 CYS |
| TOTAL WATERWAY EXCAVATION | 0 CYS |
| WASTE | 0 CYS |

PRECAST CONCRETE THREE-SIDED CULVERT
18'-0" SPAN x 13'-6" RISE
24° SKEW LT.
32' CLEAR ROADWAY WIDTH
ON JERKWATER ROAD OVER BOYER DITCH



SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Sherly George
DESIGN ENGINEER DATE

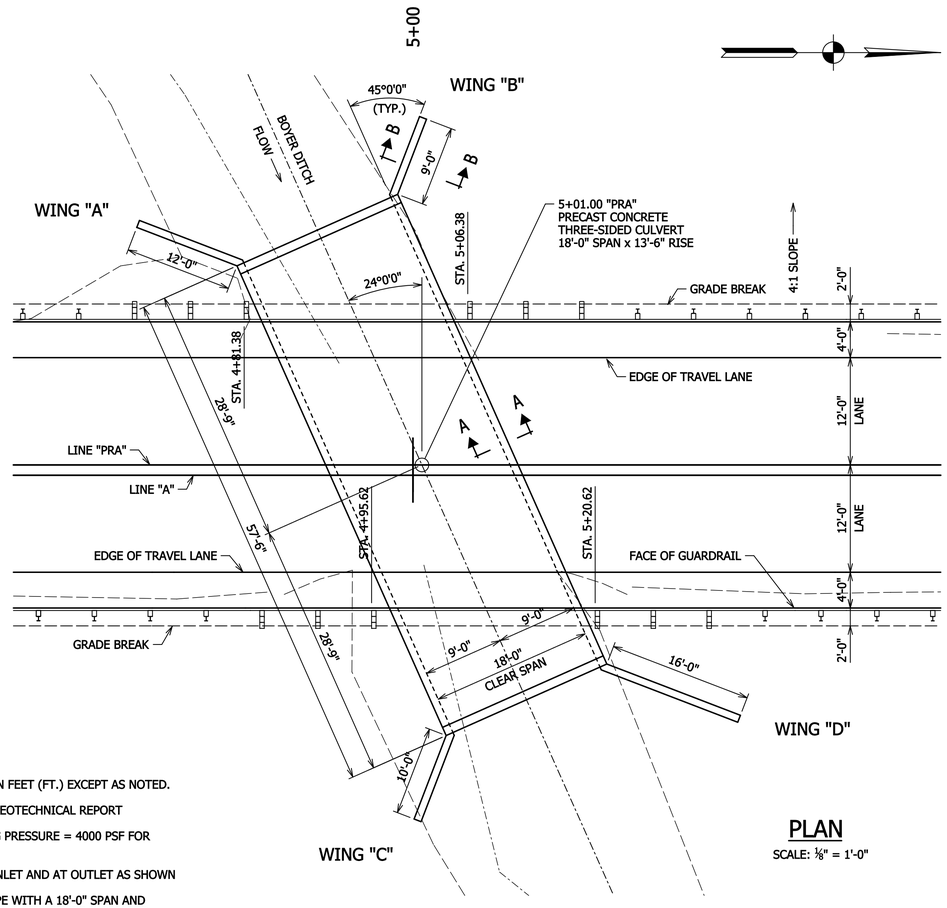
DESIGNED: LAS DRAWN: MAB
CHECKED: SG CHECKED: AEO

HAMILTON COUNTY

LAYOUT

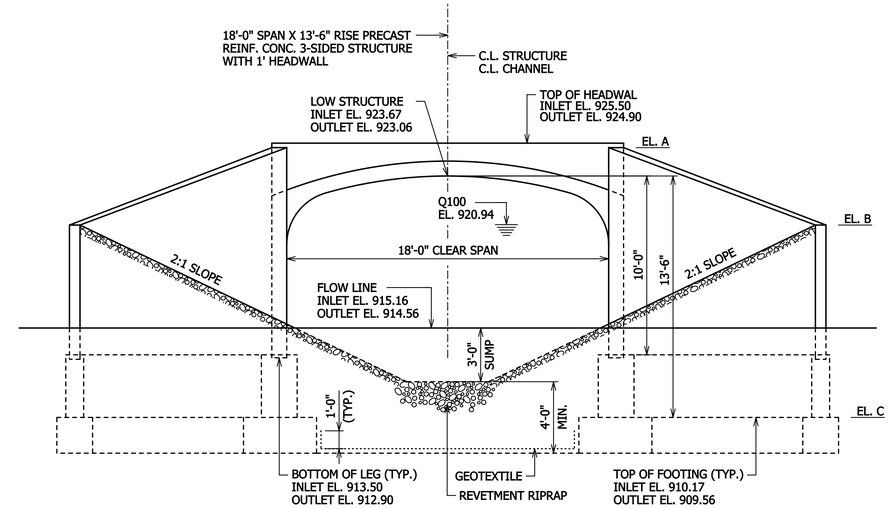
| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| 1" = 30' | HAMILTON 31053 |
| VERTICAL SCALE | |
| 1" = 5' | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 8 of 15 |
| | PROJECT |
| | PB-09-0013 |

By: jthomas
Drawing: H:\Projects\2009\09013\Drawings\Sheets\09013Layout.dgn
10/20/2010
Model: Layout



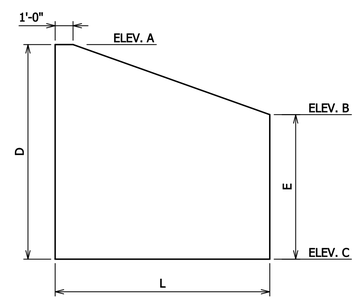

## PLAN

SCALE: ⅛" = 1'-0"




## END ELEVATION

SCALE: ¼" = 1'-0"




| | WING WALL | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | |
| ELEV. A | 925.25 | 925.25 | 924.65 | 924.65 | |
| ELEV. B | 920.91 | 918.83 | 918.23' | 920.57 | |
| ELEV. C | 910.16 | 910.16 | 909.57 | 909.57 | |
| D | 15.08' | 15.08' | 15.08' | 15.08' | |
| E | 10.75' | 8.67' | 8.67' | 11.00' | |
| L | 12.00' | 9.00' | 10.00' | 16.00' | |
| AREA (SFT.) | 157.15 | 110.10 | 121.90 | 210.70 | 600.0 |

## WINGWALL ELEVATION

NOT TO SCALE

## GENERAL NOTES

ALL DIMENSIONS AND ELEVATIONS ARE IN FEET (FT.) EXCEPT AS NOTED.

SEE THE SPECIAL PROVISIONS FOR THE GEOTECHNICAL REPORT

MAXIMUM NET ALLOWABLE SOIL BEARING PRESSURE = 4000 PSF FOR CULVERT AND WING WALLS

24" MIN. CLASS 1 RIPRAP REQUIRED AT INLET AND AT OUTLET AS SHOWN

AN ALTERNATE FLAT TOP STRUCTURE TYPE WITH A 18'-0" SPAN AND A 13'-6" RISE MAY BE SUBSTITUTED FOR THE STRUCTURE INDICATED IN THE LAYOUT SCHEME.

## SUMMARY OF QUANTITIES

| | |
|---|---|
| STRUCTURE BACKFILL | = 428 CYS |
| CLASS 1 RIPRAP | = 209 TONS |
| REVETMENT RIPRAP | = 307 TONS |
| GEOTEXTILE | = 354 SYS |
| WINGWALL | = 584.6 SFT |
| PRECAST CONCRETE 3-SIDED CULVERT | = 57.5 LFT |

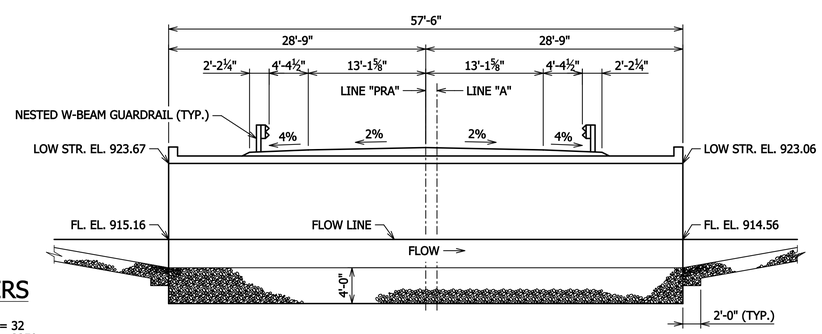
## DESIGN DATA

LOADING

DESIGN FOR HL-93 LOADING IN ACCORDANCE WITH FOURTH EDITION, 2007 AASHTO LRFD SPECIFICATIONS AND ALL SUBSEQUENT INTERIMS. THROUGH 2009.

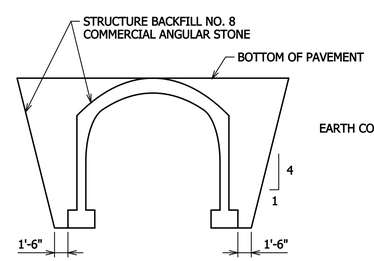
## WINGWALL AND FOOTING SOIL PARAMETERS

| | |
|---|---|
| ANGLE OF INTERNAL FRICTION OF FOUNDATION SOIL (Φ) | = 32 |
| ULTIMATE COHESION OF FOUNDATION SOIL (PSF) | = 2250 |
| ULTIMATE ADHESION BETWEEN FOOTINGS AND FOUNDATION SOIL (CA), PSF | = 900 |
| ANGLE OF INTERNAL FRICTION OF BACKFILL MATERIAL, DEGREES | = 32 |



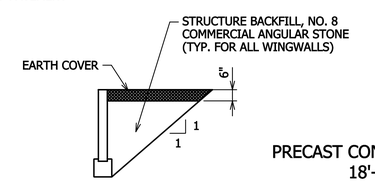

## SECTION ALONG C.L. OF CULVERT

SCALE: ⅛" = 1'-0"




## SECTION A-A

NOT TO SCALE




## SECTION B-B

NOT TO SCALE

PRECAST CONCRETE THREE-SIDED CULVERT
18'-0" SPAN x 13'-6" RISE
24° SKEW LT.
32' CLEAR ROADWAY WIDTH
ON JERKWATER ROAD OVER BOYER DITCH

SHERLY GEORGE
REGISTERED
No. 19600508
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: SG | DRAWN: TMT

CHECKED: LAS | CHECKED: SG

HAMILTON COUNTY

GENERAL PLAN

| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| | HAMILTON 31053 |
| VERTICAL SCALE | |
| | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 9 of 15 |
| | PROJECT |
| | PB-09-0013 |

By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961\GeneralPlan.dgn
10/20/2010
Model: General Plan

# APPROACH TABLE

| LOCATION FROM STATION | LOCATION TO STATION | DESCRIPTION (APPROACH TYPE OR CLASS) | WIDTH | LENGTH | RADII | DISTANCE BEYOND R/W LINE | SURFACE BEYOND R/W LINE: COMPACTED AGGREGATE BASE | SURFACE BEYOND R/W LINE: HMA | SURFACE BEYOND R/W LINE: CONCRETE | GRADE 1 | GRADE 2 | EXCAVATION CUT | EXCAVATION FILL | CLEAR ZONE AT DRIVE | HMA FOR APPROACHES TYPE B LBS/SYS 550 | SUBGRADE TREATMENT IIIA SYS. | SYS. | HMA MATERIALS: TYPE "A" SURFACE LBS./SYS. 165 | HMA MATERIALS: TYPE "A" INTERMED. LBS./SYS. 275 | HMA MATERIALS: TYPE "A" BASE LBS./SYS. 660 | HMA MATERIALS: SHOULDER LBS./SYS. 495 | HMA MATERIALS: LBS./SYS. | ASPHALT MATERIAL FOR | ASPHALT MATERIAL FOR: TACK COAT | COMPACTED AGGREGATE NO. 53 DEPTH: VARIES | COMPACTED AGGREGATE NO. 53 DEPTH: 10 IN. | COMPACTED AGGREGATE NO. 53 DEPTH: 6 IN. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | FT. | FT. | FT. | FT. | FT. | FT. | FT. | % | % | CYS | CYS | FT. | TONS | | | TONS | TONS | TONS | TONS | TONS | | SYS | TONS | TONS | TONS | |
| 4+13.00 | | CLASS II DRIVE | 12.0 | | | | | | | -10.0 | | | | | 18.0 | 66.0 | | | | | | | | | | | | |
| 6+98.00 | | CLASS V DRIVE | 24.0 | | | | | | | -10.0 | | | | | | | | 1.2 | 2.9 | 7.0 | | | | | | | 27.2 | |
| 2+50.00 | 7+50.00 | | | | | | | | | | | | | | | 1750 | | 127 | 215 | 528 | | | | 338 | | 297 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | 1816 | | 128 | 218 | 535 | | | | 338 | | 297 | 27 | |

# RIPRAP AND SODDING SUMMARY TABLE

| LOCATION FROM STATION | LOCATION TO STATION | LEFT | RIGHT | RIPRAP: REVETMENT RIPRAP | RIPRAP: UNIFORM RIPRAP | RIPRAP: GEOTEXTILES | SODDING: FOR DITCHES | SODDING: NURSERY SODDING FOR DITCHES |
|---|---|---|---|---|---|---|---|---|
| | | | | TONS | TONS | SYS | SYS | SYS |
| 3+50 | 4+50 | X | | 54 | | | | |
| 5+50 | 7+00 | X | | 80 | | | | |
| 4+00 | 4+50 | | X | 27 | | | | |
| 2+50 | 4+30 | X | | | | | | |
| 2+50 | 4+60 | | X | | | | | |
| | | | | | | | | |
| TOTALS | | | | 161 | | | | |

# GUARDRAIL SUMMARY TABLE

| FROM STATION | TO STATION | LEFT/RIGHT | W-BEAM STANDARD POST AT 6'-3" SPACING | STANDARD POST AT 3'-2" SPACING | NESTED GUARDRAIL | GUARDRAIL FLARE RATE | GUARDRAIL TRANSITION TYPE TGB | GUARDRAIL TRANSITION TYPE WGB | CURVED W-BEAM CONNECTOR SYSTEM MODIFIED | GUARDRAIL END TREATMENT, OS | CURVE W-BEAM TERMINAL SYSTEM TYPE 3 | GUARDRAIL REMOVE | GUARDRAIL RESET | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LFT | LFT | LFT | | EACH | EACH | EACH | EACH | EACH | LFT | LFT | |
| 4+24.70 | 6+20.62 | R | 31.25 | | 100 | | | | | 1 | 1 | | | 8.5' RADIUS |
| 3+81.40 | 6+87.63 | L | 106.25 | | 100 | | | | | 2 | | | | |
| TOTAL | | | 137.5 | | 200 | | | | | 3 | 1 | | | |

# TEMPORARY EROSION CONTROL

| FROM STATION | TO STATION | LEFT | RIGHT | TEMP. EROSION CONTROL SIDE DITCH PROTECTION STRAW BALES | TEMPORARY SILT FENCE | TEMPORARY SEDIMENT BASIN |
|---|---|---|---|---|---|---|
| | | | | FT. | FT. | |
| 2+50 | | X | | 12 | | |
| 2+50 | | | X | 12 | | |
| 2+90 | | X | | 12 | | |
| 2+90 | | | X | 12 | | |
| 3+70 | | X | | 12 | | |
| 3+70 | | | X | 12 | | |
| 4+50 | | X | | 12 | 65 | |
| 4+50 | | | X | 12 | | |
| 5+00 | | | X | 12 | 80 | |
| 5+00 | | X | | | 67 | |
| 5+20 | | X | | 12 | | |
| 5+25 | | | X | | 72 | 1 |
| 5+40 | | | X | 12 | | |
| 6+35 | | X | | 12 | | |
| 6+50 | | | X | 12 | | |
| 7+25 | | | X | | | |
| 7+50 | | X | | 12 | | |
| TOTAL | | | | 168 | 284 | 1 |

# R/W MARKER TABLE

| LT/RT | STATION | OFFSET (FT.) |
|---|---|---|
| LT | 2+50.00 | PVMT |
| RT | 2+50.00 | PVMT |
| LT | 2+50.00 | 20' |
| RT | 2+50.00 | 42' |
| RT | 4+00.00 | R/W |
| RT | 4+30.00 | R/W |
| LT | 4+40.00 | 57' |
| RT | 4+75.00 | 42' |
| RT | 4+95.00 | 60' |
| LT | 5+10.00 | 62' |
| RT | 6+75.00 | R/W |
| RT | 7+20.00 | R/W |
| LT | 7+50.00 | 25' |
| LT | 7+50.00 | PVMT |
| RT | 7+50.00 | PVMT |
| RT | 7+50.00 | PL |

# MAILBOX APPROACH

| LOCATION LEFT/RIGHT | C.L. BOX STATION | DESCRIPTION | WIDTH | MAILBOX ASSEMBLY REQUIRED: SINGLE | MAILBOX ASSEMBLY REQUIRED: DOUBLE |
|---|---|---|---|---|---|
| | | | FT. | | |
| LT. | 4+35.71 | ATTACH TO GUARDRAIL | 4.0 | 1.0 | |

# STRUCTURE DATA

| STRUCTURE NUMBER | LOCATION STATION | LOCATION LEFT | LOCATION CROSS | LOCATION RIGHT | SIZE | PIPE TYPE | MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE | LENGTH | SKEW | COVER | FLOW LINE UP STREAM | FLOW LINE DOWN STREAM | TOP OF CASTING | SERVICE LIFE | SITE DESIGNATION | pH | BACKFILL METHOD | STRUCTURE BACKFILL | REVETMENT RIPRAP | DELINEATOR POST | PIPE END SECTION | GRATED BOX END SECTION TYPE | GRATED BOX END SECTION SLOPE | GRATED BOX END SECTION EA. | SAFETY METAL END SECTION TYPE | SAFETY METAL END SECTION SLOPE | SAFETY METAL END SECTION EA. | CONNECT TO STRUCTURE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | FT. | | FT. | ELEV. | ELEV. | ELEV. | YR. | | | | CYS. | TONS | EACH | EA. | TYPE | SLOPE | EA. | TYPE | SLOPE | EA. | | |
| 10 | 4+13.00 | | | X | 18" | 3 | | 43 | | 1.0 | 920.50 | 919.81 | | 50 | | 7.0 | | | | | 2 | | | | | | | | |
| 11 | 6+98.00 | | | X | 15" | 3 | | 46 | | 1.0 | 918.29 | 918.16 | | 50 | | 7.0 | | | | | 2 | | | | | | | | |
| | | | | | 6" | 4 | FIELD TILE | 20 | | | | | | | | | | | | | | | | | | | | | UNDISTRIBUTED QUANTITY |
| | | | | | 8" | 4 | FIELD TILE | 20 | | | | | | | | | | | | | | | | | | | | | UNDISTRIBUTED QUANTITY |
| | | | | | 10" | 4 | FIELD TILE | 20 | | | | | | | | | | | | | | | | | | | | | UNDISTRIBUTED QUANTITY |
| | | | | | 12" | 4 | FIELD TILE | 20 | | | | | | | | | | | | | | | | | | | | | UNDISTRIBUTED QUANTITY |
| | | | | | 15" | 4 | FIELD TILE | 20 | | | | | | | | | | | | | | | | | | | | | UNDISTRIBUTED QUANTITY |

# PIPE MATERIAL TABLE

| | | STR. NO. 10 | STR. NO. 11 |
|---|---|---|---|
| PIPE TYPE/ SHAPE | | 3/CIR. | 3/CIR. |
| SMOOTH PIPE SIZE | | 18" | 15" |
| CORRUGATED PIPE SIZE | | 18" | 15" |
| RCP/ RCHEP (S) | CLASS | II | III |
| | $D_{0.01}$ RATING | 1000 | 1250 |
| REINFORCED CONCRETE PIPE | | OK | |
| CORRUGATED PE PIPE, TYPE S (S) * | | | |
| RIBBED PE PIPE (S) * | | | |
| SMOOTH WALL PE PIPE (S)*/ MAXIMUM DR | | | |
| PROFILE WALL PVC PIPE (S) | | | |
| SMOOTH WALL PVC PIPE (S) * | | | |
| VITRIFIED CLAY PIPE, EXTRA STRENGTH (S) | | | |
| CORR. STEEL PIPE/ PIPE-ARCH: ZINC COATED (LS) (R) (C) | CORR. PROFILE | 2 2/3" x 1/2" | 2 2/3" x 1/2" |
| | THICKNESS | 0.109 IN | 0.109 IN |
| ZINC COATED W/ BPI (LS) (R) (C) | CORR. PROFILE | 2 2/3" x 1/2" | 2 2/3" x 1/2" |
| | THICKNESS | 0.064 IN | 0.064 IN |
| ALUM. COATED TYPE 2 (LS) (R) (C) | CORR. PROFILE | 2 2/3" x 1/2" | 2 2/3" x 1/2" |
| | THICKNESS | 0.064 IN | 0.064 IN |
| POLYMER PRECOATED GALVANIZED TYPE 1A(S) (LOCK SEAM) (C) | CORR. PROFILE | 2 2/3" x 1/2" | |
| | THICKNESS | 0.064 IN | |
| POLYMER PRECOATED GALVANIZED (LS) (R) (C) | CORR. PROFILE | 2 2/3" x 1/2" | 2 2/3" x 1/2" |
| | THICKNESS | 0.064 IN | 0.064 IN |
| CORRUGATED ALUM. ALLOY PIPE (LS) (R) | CORR. PROFILE | 2 2/3" x 1/2" | 2 2/3" x 1/2" |
| | THICKNESS | 0.060 IN | 0.060 IN |

## LEGEND

| | |
|---|---|
| RCP- | REINFORCED CONCRETE PIPE |
| RCHEP- | REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE |
| PE- | POLYETHYLENE |
| DR- | DIMENSION RATIO |
| PVC- | POLYVINYL CHLORIDE |
| BIT- | BITUMINOUS |
| CORR- | CORRUGATION |
| BPI- | BITUMINOUS PAVED INVERT |
| ALUM- | ALUMINUM |
| STR- | STRUCTURAL |
| CFP- | CONCRETE FIELD PAVING |
| CIR- | CIRCULAR PIPE |
| DEF- | DEFORMED PIPE |
| (S)- | SMOOTH PIPE MATERIAL |
| (C)- | CORRUGATED PIPE MATERIAL |
| OK- | ACCEPTABLE FOR USE |
| (LS)- | LOCK SEAM PIPE REQUIRED |
| *- | REFER TO STANDARD DRAWING 715-PHCL-18 OR 19 FOR NOMINAL DIAMETER APPROPRIATE FOR PAY ITEM DIAMETER |
| **- | TABULATED THICKNESS REFERS TO TOP & SIDE PLATES. BOTTOM PLATES SHALL BE OF NEXT GREATER AVAILABLE THICKNESS. |

SHERLY GEORGE REGISTERED No. 19600508 STATE OF INDIANA PROFESSIONAL ENGINEER

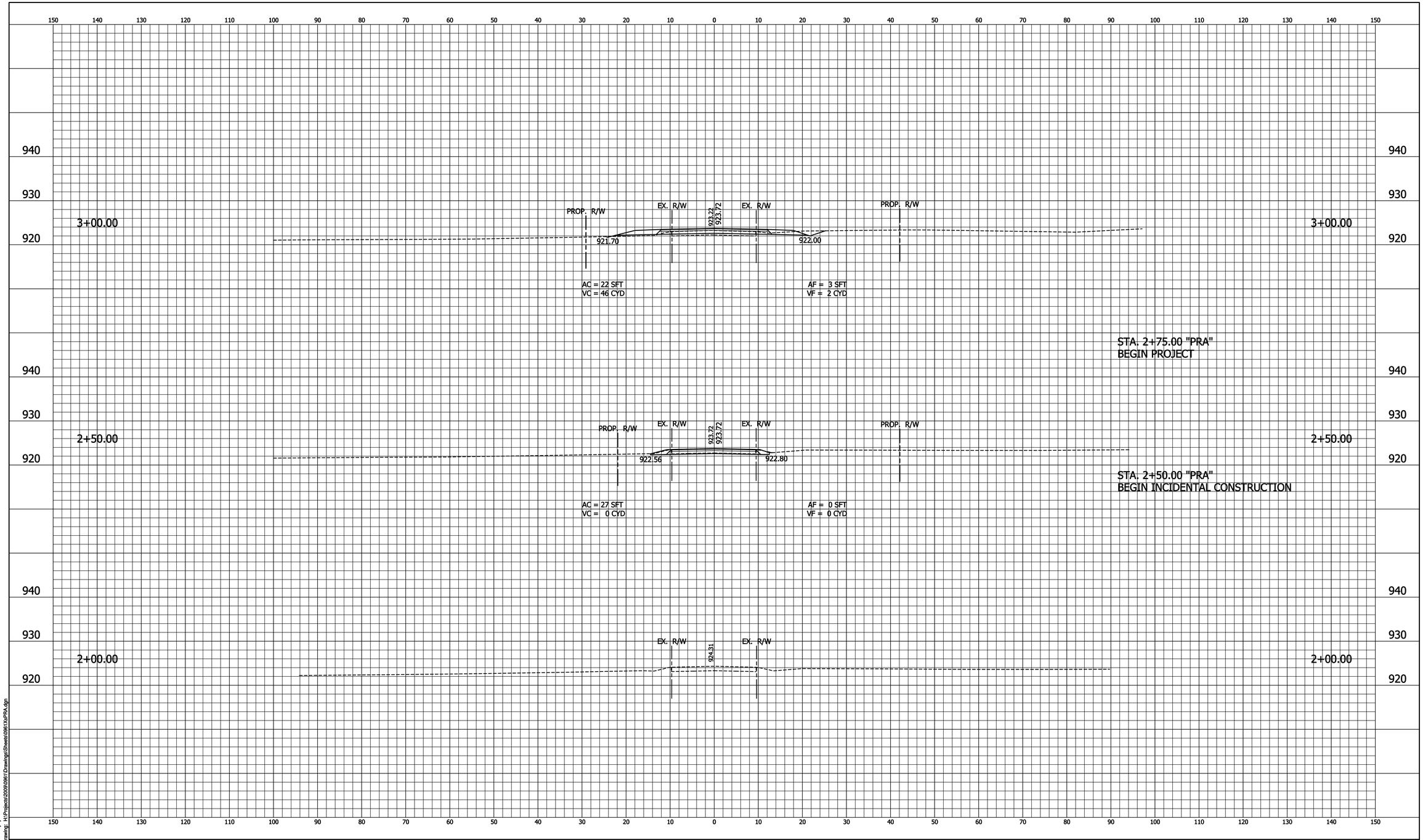
RECOMMENDED FOR APPROVAL Sherly George
DESIGN ENGINEER DATE

DESIGNED: SG DRAWN: TMT
CHECKED: LAS CHECKED: SG

HAMILTON COUNTY

SUMMARY

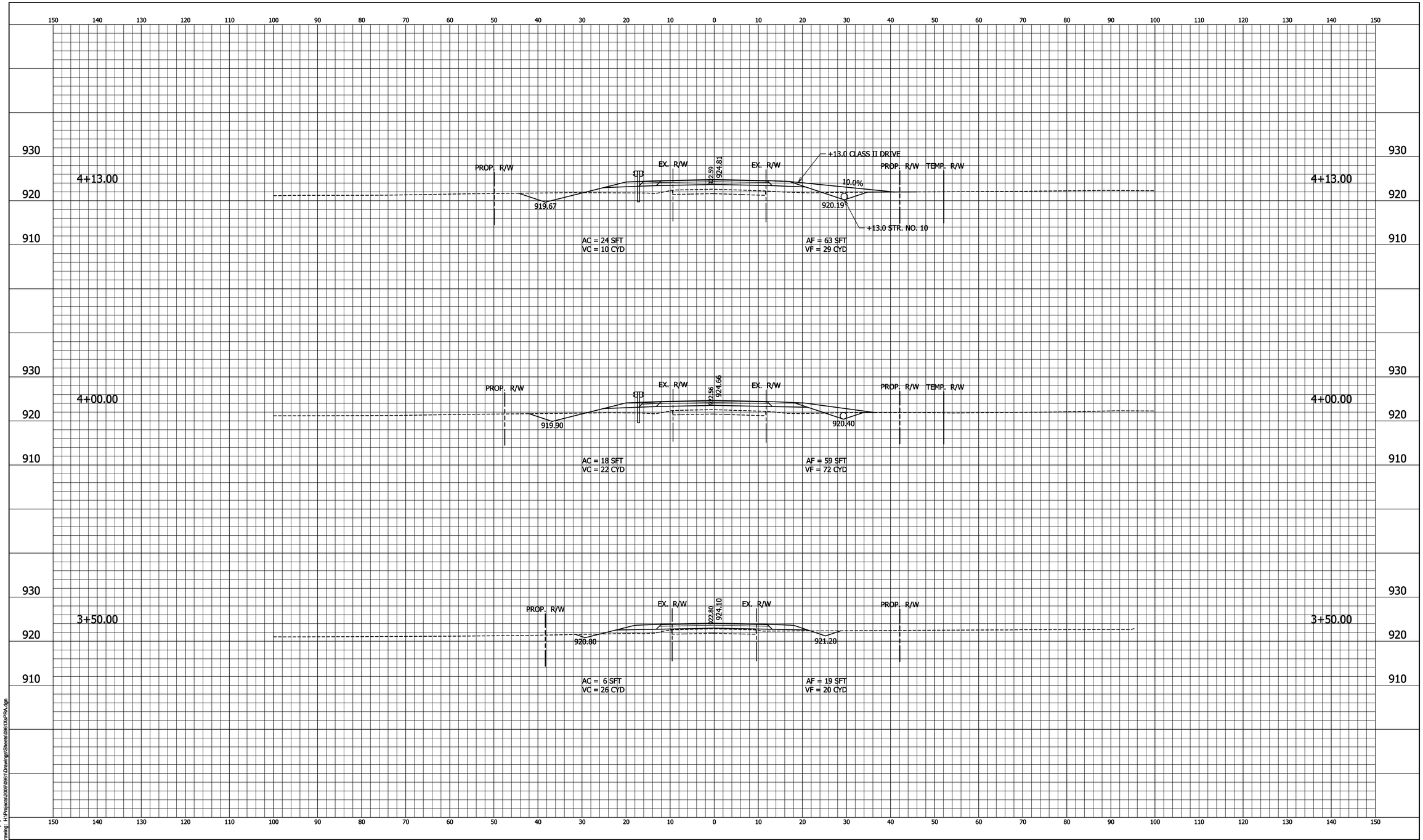
| HORIZONTAL SCALE | BRIDGE FILE |
|---|---|
| | HAMILTON 31053 |
| VERTICAL SCALE | |
| SURVEY BOOK | SHEET |
| ELECTRONIC | 10 of 15 |
| | PROJECT |
| | PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961XsPRA.dgn

10/20/2010
Model: XSh1

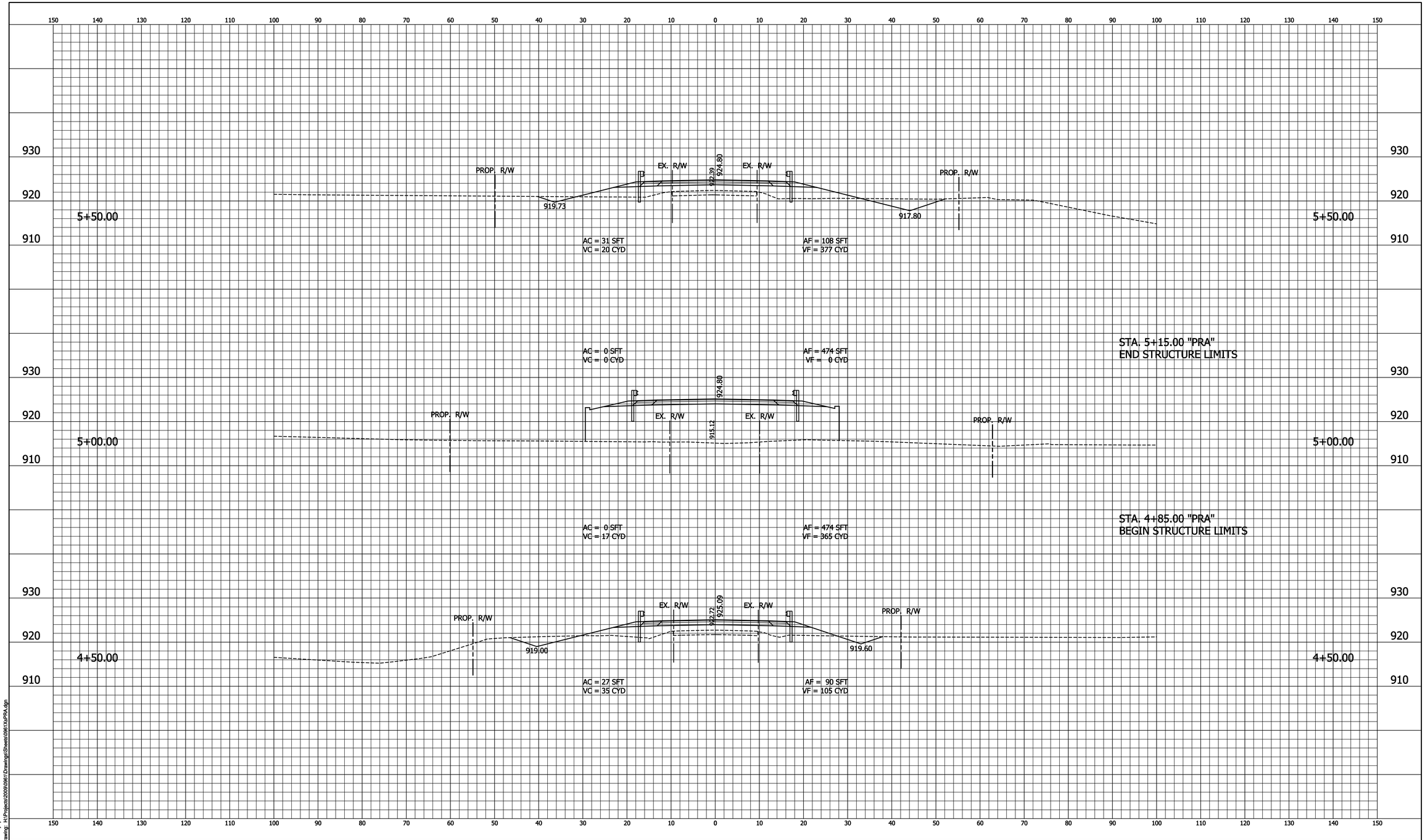
| | | | |
|---|---|---|---|
| RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE | HAMILTON COUNTY | HORIZONTAL SCALE 1" = 10' / VERTICAL SCALE 1" = 10' | BRIDGE FILE HAMILTON 31053 |
| DESIGNED: LAS / DRAWN: MAB | CROSS SECTIONS LINE "PRA" | SURVEY BOOK ELECTRONIC | SHEET 11 of 15 |
| CHECKED: SG / CHECKED: SG | | | PROJECT PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961XsPRA.dgn

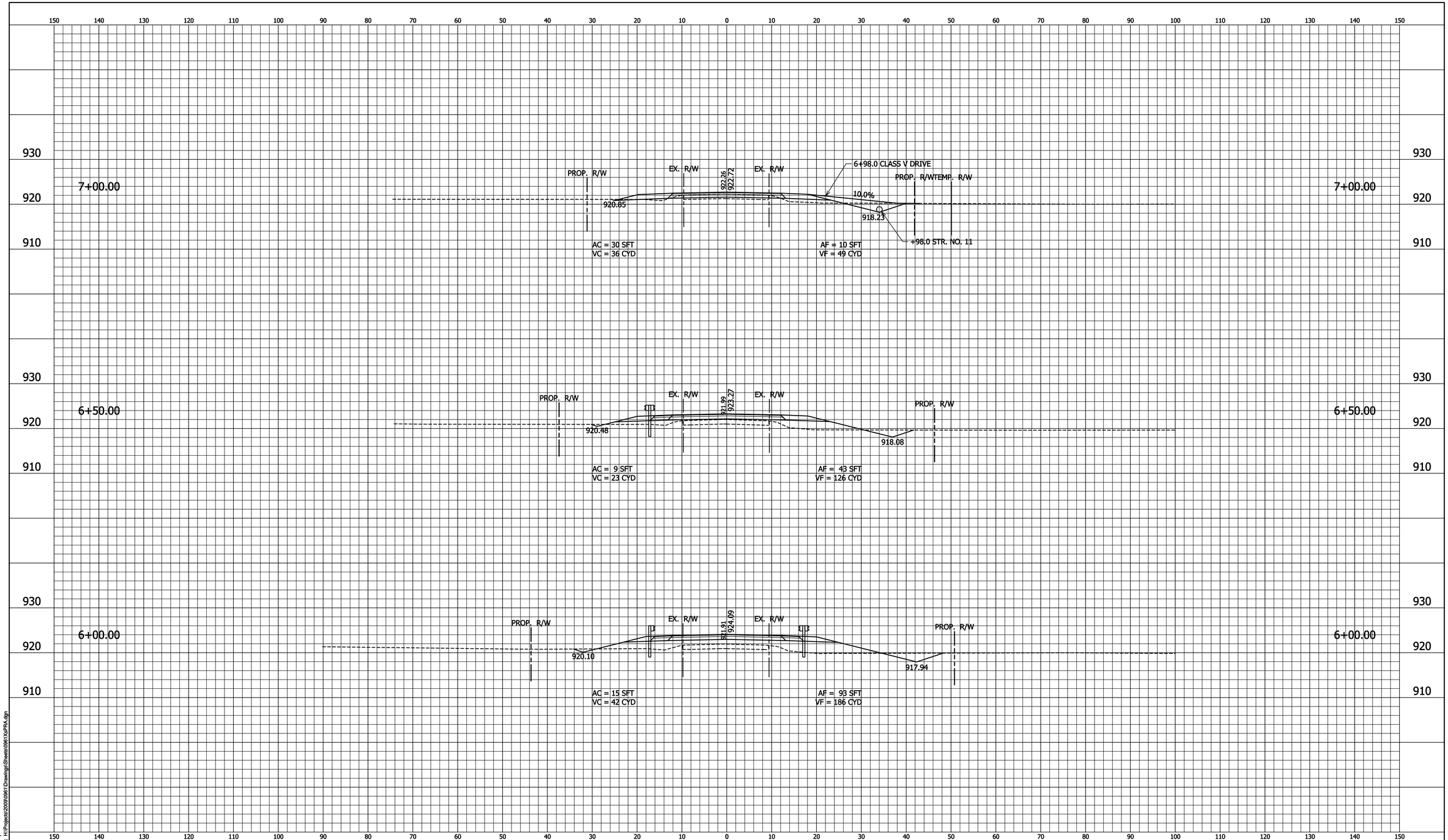
10/20/2010
Model: XSV2

| | | | |
|---|---|---|---|
| RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE | HAMILTON COUNTY | HORIZONTAL SCALE 1" = 10' / VERTICAL SCALE 1" = 10' | BRIDGE FILE HAMILTON 31053 |
| DESIGNED: LAS / DRAWN: MAB | CROSS SECTIONS LINE "PRA" | SURVEY BOOK ELECTRONIC | SHEET 12 of 15 |
| CHECKED: SG / CHECKED: SG | | | PROJECT PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961XsPRA.dgn
10/20/2010
Model: XSIS

| | | | |
|---|---|---|---|
| RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE | HAMILTON COUNTY | HORIZONTAL SCALE 1" = 10' / VERTICAL SCALE 1" = 10' | BRIDGE FILE HAMILTON 31053 |
| DESIGNED: LAS / DRAWN: MAB | CROSS SECTIONS LINE "PRA" | SURVEY BOOK ELECTRONIC | SHEET 13 of 15 |
| CHECKED: SG / CHECKED: SG | | | PROJECT PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961XsPRA.dgn
10/20/2010
Model: XSs4

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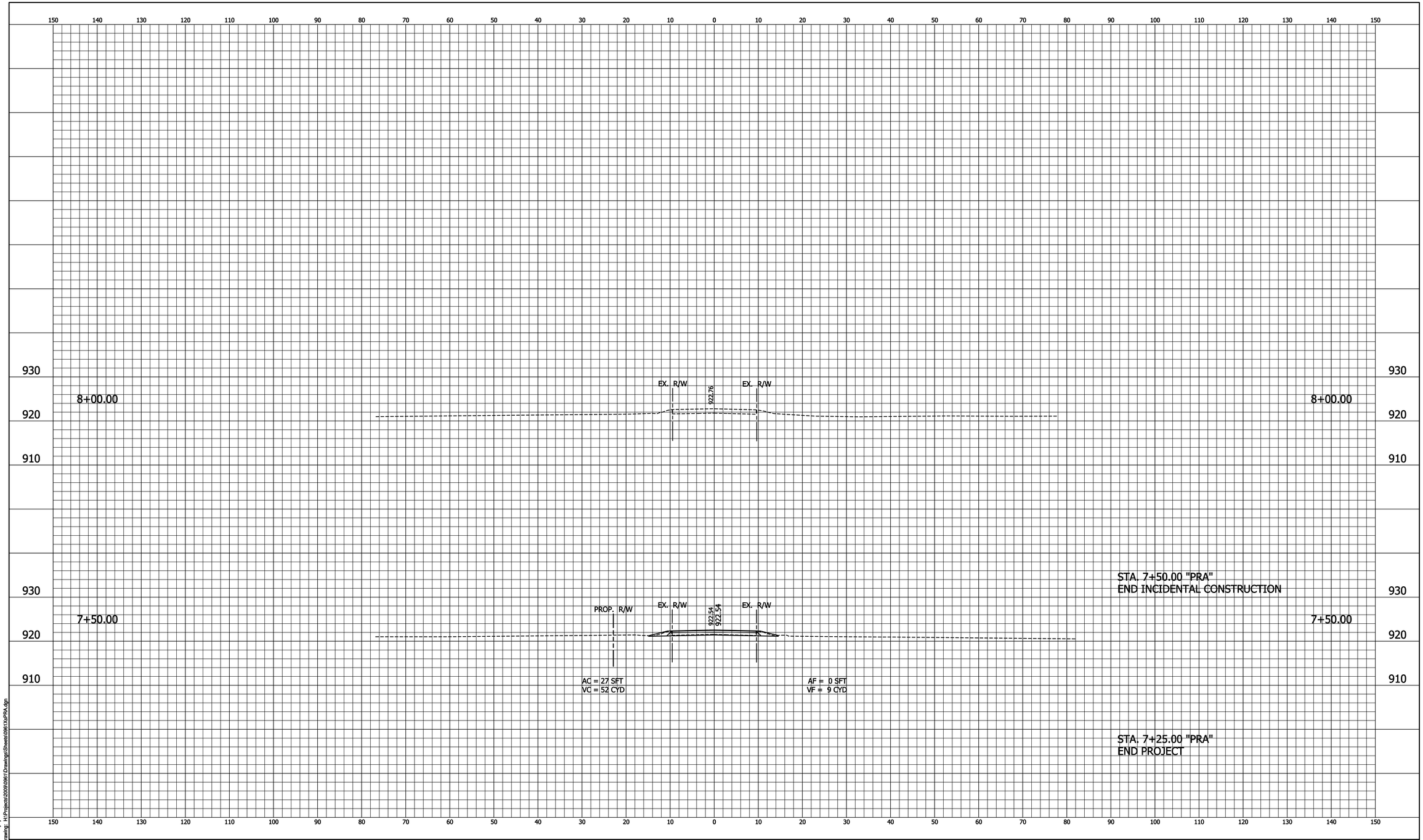
|---|---|---|---|
| RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE | HAMILTON COUNTY | HORIZONTAL SCALE 1" = 10' / VERTICAL SCALE 1" = 10' | BRIDGE FILE HAMILTON 31053 |
| DESIGNED: LAS / DRAWN: MAB | CROSS SECTIONS LINE "PRA" | SURVEY BOOK ELECTRONIC | SHEET 14 of 15 |
| CHECKED: SG / CHECKED: SG | | | PROJECT PB-09-0013 |




By: jthomas
Drawing: H:\Projects\2009\0961\Drawings\Sheets\0961XsPRA.dgn
10/20/2010
Model: XSIS

| | | | |
|---|---|---|---|
| RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE | HAMILTON COUNTY | HORIZONTAL SCALE 1" = 10' / VERTICAL SCALE 1" = 10' | BRIDGE FILE HAMILTON 31053 |
| DESIGNED: LAS / DRAWN: MAB | CROSS SECTIONS LINE "PRA" | SURVEY BOOK ELECTRONIC | SHEET 15 of 15 |
| CHECKED: SG / CHECKED: SG | | | PROJECT PB-09-0013 |