11-16-07 Letting, Item 018

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17 +1 18	1

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

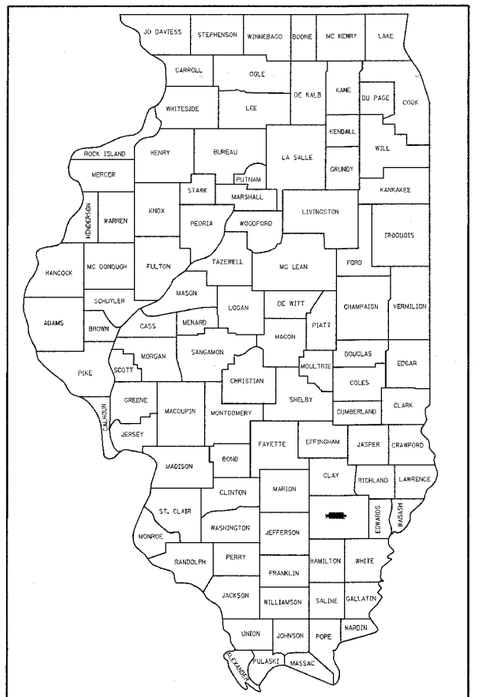
PROPOSED
HIGHWAY PLANS

SBI ROUTE 15B (OLD IL 15)
SECTION (17C)B

WAYNE COUNTY
BRIDGE REPLACEMENT WITH BOX CULVERT

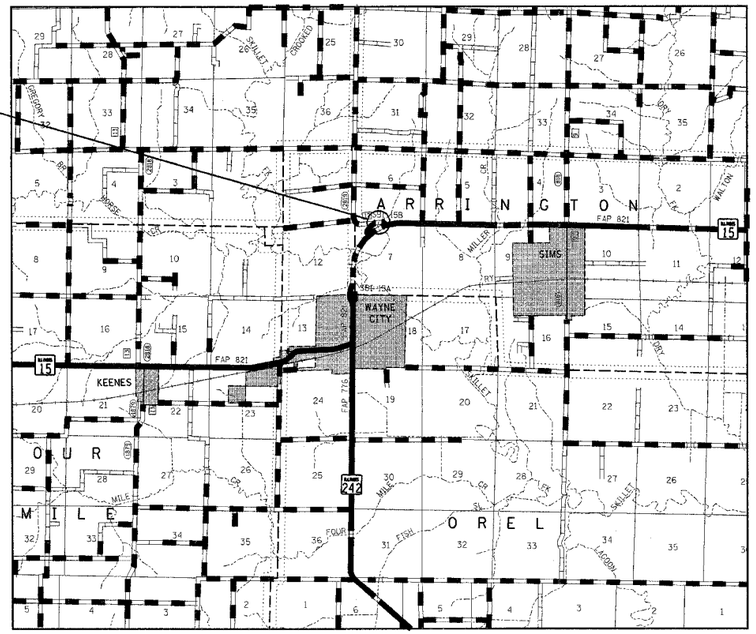
C-97-053-05

D-97-020-05



LOCATION OF SECTION INDICATED THUS: -

EXISTING S.N. 096-0057
PROPOSED S.N. 096-2009



GROSS LENGTH = 193 FEET = 0.04 MILES
NET LENGTH = 193 FEET = 0.04 MILES

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

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 24 20 07
Christine M. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 12, 20 07
Eric E. Harm (P.E.)
Interim ENGINEER OF DESIGN AND ENVIRONMENT
October 12, 20 07
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

CONTRACT NO. 74092 TOWNSHIP : ARRINGTON 2005 ADT = 159

PROJECT ENGINEER : MARK DAUGHERTY
SQUAD LEADER :
DESIGNER : BRIAN BIERMAN
TELEPHONE : 217/342-3951 EX

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
158	(17C)B	WAYNE	17	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

PERIMETER EROSION BARRIER IS FOR PLACEMENT AT THE TOE OF THE PROPOSED FILL SLOPE ALONG THE TOTAL LENGTH OF THE PROJECT. EROSION CONTROL BLANKET IS FOR PLACEMENT ON ALL NEW SLOPE CONSTRUCTION.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING-LINE 4 INCH CONSISTS OF 104 FEET OF WHITE AND 20 FEET OF YELLOW.

THE PROCESS OF REMOVAL OF UNSUITABLE MATERIAL AND REPLACING WITH ROCK FILL SHALL BE A CONTINUOUS OPERATION AND CLOSELY MONITORED BY THE CONTRACTOR. ANY UNSUITABLE MATERIAL REMOVED DURING THE COURSE OF A DAY SHALL BE REPLACED WITH ROCK FILL THAT SAME DAY. THE SLOPE STABILITY OF THE NEW CULVERT CUT DEPENDS ON THIS MATERIAL BEING IN PLACE.

AGGREGATE FOR AGGREGATE SHOULDERS, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE OR RAP.

THE REMOVAL OF ALL EARTHWORK, SUB-GRADE AND PAVEMENT WITHIN THE LIMITS OF THE EXISTING BRIDGE STRUCTURE SHALL BE INCLUDED IN THE COST OF THE PAY ITEM REMOVAL OF EXISTING STRUCTURES. ALL EARTHWORK AND SUB-GRADE REMOVAL NECESSARY TO FACILITATE THE REMOVAL OF THE EXISTING BRIDGE STRUCTURE WHILE MAINTAINING SLOPE STABILITY (1:1 MINIMUM) SHALL BE INCLUDED IN THE COST OF THE PAY ITEM REMOVAL OF EXISTING STRUCTURES. ALL PAVEMENT REMOVAL IN THESE AREAS WILL BE PAID FOR AS PAVEMENT REMOVAL.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF ACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

INDEX OF SHEETS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

STD. NO.	DESCRIPTION
000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-06	PAVEMENT JOINTS
420101-03	24' JOINTED PCC PAVEMENT
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630101-07	GUARDRAIL MOUNTED ON EXISTING CULVERTS
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701001-01	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-02	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-01	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-02	LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
702001-06	TRAFFIC CONTROL DEVICES
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND INDEX OF SHEETS

SCALE: VERT. HORIZ.
DATE
DRAWN BY
CHECKED BY

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PLOT SCALE = 20.0000 '/ IN.
USER NAME = staffernnk

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	3
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	100% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE X028-2A		
20200100	EARTH EXCAVATION	CU YD	15	15		
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	100	100		
20400800	FURNISHED EXCAVATION	CU YD	105	105		
20700220	POROUS GRANULAR EMBANKMENT	CU YD	250	250		
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1	0.1		
25100630	EROSION CONTROL BLANKET	SQ YD	299	299		
28000400	PERIMETER EROSION BARRIER	FOOT	386	386		
28100107	STONE RIPRAP, CLASS A4	SQ YD	94	94		
28200200	FILTER FABRIC	SQ YD	142	142		
31101000	SUB-BASE GRANULAR MATERIAL, TYPE B	TON	34	34		
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ YD	139	139		
44000100	PAVEMENT REMOVAL	SQ YD	60	60		
48101200	AGGREGATE SHOULDERS, TYPE B	TON	86	86		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1		
51500100	NAME PLATES	EACH	1	1		
54000900	BOX CULVERT END SECTIONS, SPECIAL	EACH	2	2		
54011009	PRECAST CONCRETE BOX CULVERT 10' X 9'	FOOT	62	62		
* 63000025	STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES	FOOT	50	50		
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4		
63200310	GUARDRAIL REMOVAL	FOOT	164	164		
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	4	4		
67100100	MOBILIZATION	L SUM	1	1		
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	124	124		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	8	8		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
* Z0054505	ROCK FILL (REPLACEMENT)	TON	246	246		

* SPECIALTY ITEMS

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: VERT. HORIZ.

DATE

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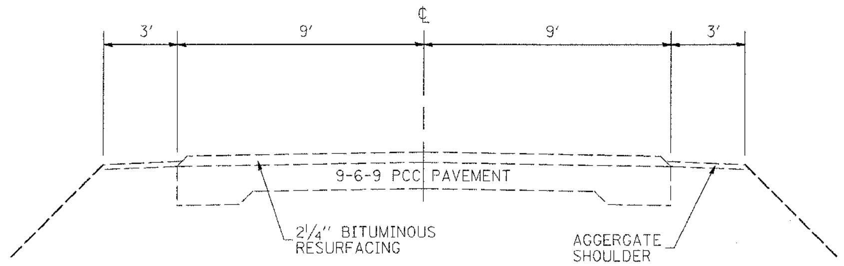
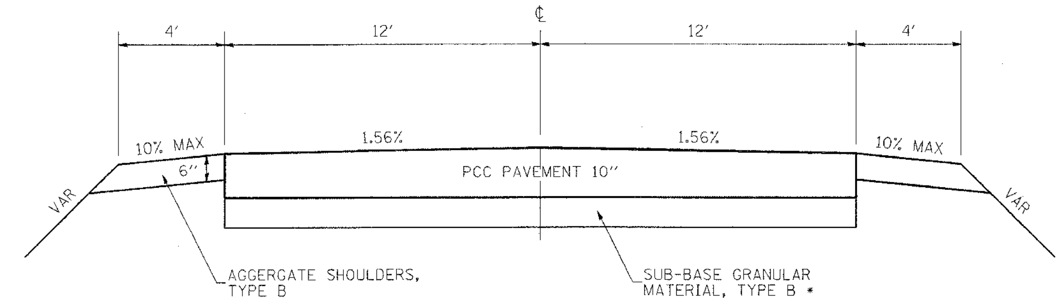
CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



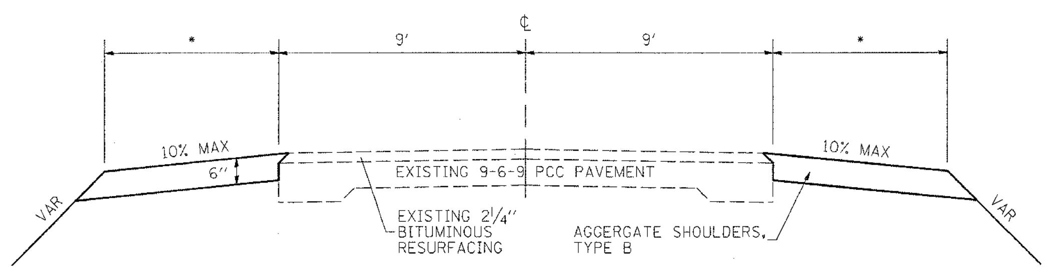
EXISTING ROADWAY TYPICAL SECTION



PROPOSED TYPICAL SECTION

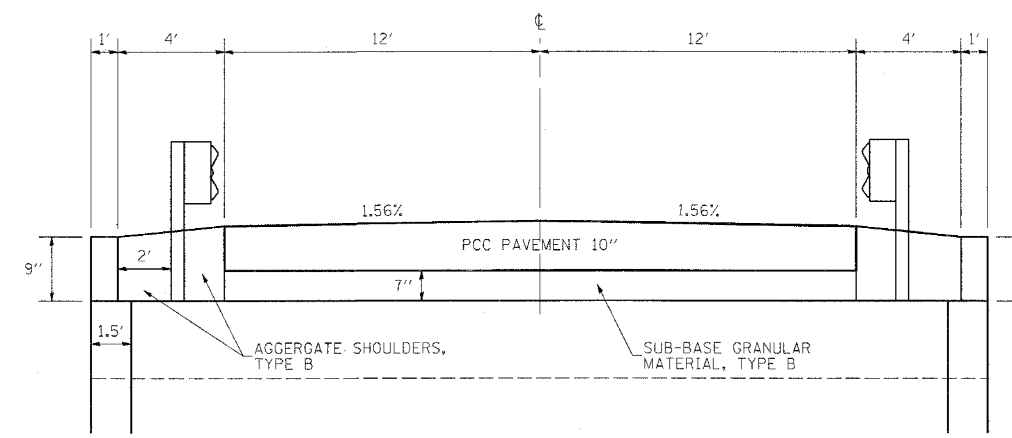
STA 1011+60 TO STA 1011+74
STA 1011+98 TO STA 1012+12

* ONCE EXISTING RESURFACING AND PCC PAVEMENT IS REMOVED, PLACE SUB-BASE GRANULAR MATERIAL, TYPE B AS NEEDED TO ALLOW FOR NEW PCC PAVEMENT 10" (2" AVERAGE)



PROPOSED TYPICAL SECTION

STA 1010+89.5 TO STA 1011+13.5: *=0'-7'
STA 1011+13.5 TO STA 1011+60 : *=7'
STA 1012+12 TO STA 1012+58.5: *=7'
STA 1012+58.5 TO STA 1012+82.5: *=7'-0'



PROPOSED TYPICAL SECTION

STA 1011+74 TO STA 1011+98

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: VERT. HORIZ.
DATE

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CHECKED BY

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CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	5
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PAVEMENT SCHEDULE

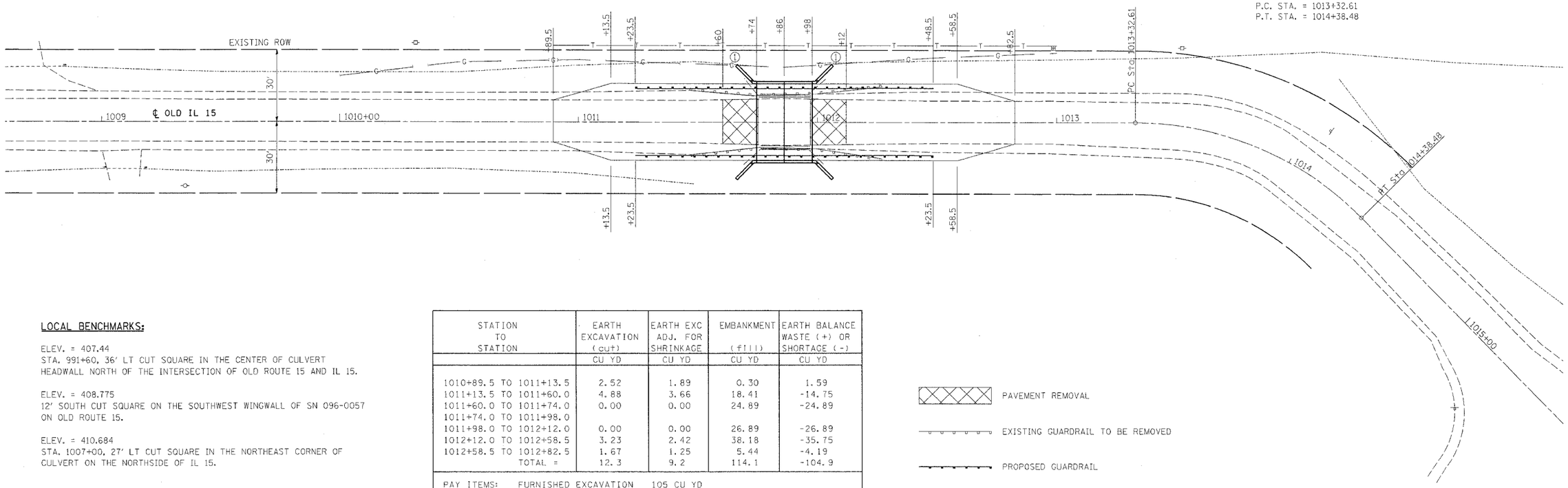
STATION TO STATION	LENGTH	AVERAGE PAVEMENT WIDTH	AREA	SUB-BASE GRANULAR MATERIAL, TYPE B	PCC PAVEMENT 10"	PAVEMENT REMOVAL	AGGREGATE SHOULDERS, TYPE B
	LIN FT	FEET	SQ FT	TON	SQ YD	SQ YD	TON
1010+89.5 TO 1011+13.5	24	18.0	48	0.0	0.0	0.0	6.4
1011+13.5 TO 1011+60.0	47	18.0	93	0.0	0.0	0.0	24.7
1011+60.0 TO 1011+74.0	14	24.0	37	4.3	37.3	30.0	4.3
1011+74.0 TO 1011+98.0	24	24.0	64	25.5	64.0	0.0	15.8
1011+98.0 TO 1012+12.0	14	24.0	37	4.3	37.3	30.0	4.3
1012+12.0 TO 1012+58.5	47	18.0	93	0.0	0.0	0.0	24.7
1012+58.5 TO 1012+82.5	24	18.0	48	0.0	0.0	0.0	6.4
	193			34	139	60	86

GUARDRAIL SCHEDULE

STATION TO STATION	LENGTH	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	GUARDRAIL REMOVAL	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	GUARDRAIL MARKER, TYPE A	TERMINAL MARKER, DIRECT APPLIED
	LIN FT	FOOT	FOOT	EACH	EACH	EACH
1011+23.5 TO 1012+48.5	125	50	164	4	8	4

NOTE ①:
ADJUST DITCH FLOWLINE AS NECESSARY TO ALLOW WATER FLOW AROUND PROPOSED WINGWALLS WHILE STAYING WITHIN R.O.W. THE COST OF THIS WORK WILL BE INCLUDED WITH EARTH EXCAVATION.

EXIST. CURVE CURI
PI STA. = 1013+88.47
Δ = 45° 10' 43" (RT)
D = 42° 40' 37"
R = 134.26'
T = 55.86'
L = 105.86'
E = 11.16'
e = _____
T.R. = _____
S.E. RUN = _____
P.C. STA. = 1013+32.61
P.T. STA. = 1014+38.48



LOCAL BENCHMARKS:

ELEV. = 407.44
STA. 991+60, 36' LT CUT SQUARE IN THE CENTER OF CULVERT HEADWALL NORTH OF THE INTERSECTION OF OLD ROUTE 15 AND IL 15.

ELEV. = 408.775
12' SOUTH CUT SQUARE ON THE SOUTHWEST WINGWALL OF SN 096-0057 ON OLD ROUTE 15.

ELEV. = 410.684
STA. 1007+00, 27' LT CUT SQUARE IN THE NORTHEAST CORNER OF CULVERT ON THE NORTHSIDE OF IL 15.

STATION TO STATION	EARTH EXCAVATION (cut)	EARTH EXC ADJ. FOR SHRINKAGE	EMBANKMENT (fill)	EARTH BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD
1010+89.5 TO 1011+13.5	2.52	1.89	0.30	1.59
1011+13.5 TO 1011+60.0	4.88	3.66	18.41	-14.75
1011+60.0 TO 1011+74.0	0.00	0.00	24.89	-24.89
1011+74.0 TO 1011+98.0				
1011+98.0 TO 1012+12.0	0.00	0.00	26.89	-26.89
1012+12.0 TO 1012+58.5	3.23	2.42	38.18	-35.75
1012+58.5 TO 1012+82.5	1.67	1.25	5.44	-4.19
TOTAL =	12.3	9.2	114.1	-104.9

PAY ITEMS: FURNISHED EXCAVATION 105 CU YD
EARTH EXCAVATION 15 CU YD

PAVEMENT REMOVAL

EXISTING GUARDRAIL TO BE REMOVED

PROPOSED GUARDRAIL

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PLAN SHEET

SCALE: VERT.
HORIZ.
DATE

DRAWN BY
CHECKED BY

PLOT DATE = 8/24/2007
FILE NAME = c:\projects\74092\sht\plan_74092.dgn
PLOT SCALE = 20.0000 ' / IN.
USER NAME = steffenmk

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)BQ	WAYNE	17	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ALL SIGNAGE SHALL BE POST MOUNTED AND FITTED WITH FLASHING MONO-DIRECTIONAL LIGHTS.

NOTE ①:
TWO (2) TYPE III BARRICADES WITH FLASHING BI-DIRECTIONAL LIGHTS AS SHOWN ON STANDARD 702001

EXIST. CURVE CUR1
PI STA. = 1013+88.47
Δ = 45° 10' 43" (RT)
D = 42° 40' 37"
R = 134.26'
T = 55.86'
L = 105.86'
E = 11.16'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA. = 1013+32.61
P.T. STA. = 1014+38.48

N

POT Sta 1006+00.00

℄ OLD IL 15

1010+00

EXISTING ROW

POT Sta 1013+32.61

P.T. Sta 1014+38.48

1015+00

POT Sta 1015+96.86

ROAD CLOSED AHEAD W20-3(0)-48

ROAD CLOSED 500 FT W20-3(0)-48

ROAD CLOSED AHEAD W20-3(0)-48
M5-1R(0)-3018

ROAD CLOSED 500 FT W20-3(0)-48

ROAD CLOSED AHEAD W20-3(0)-48
M5-1L(0)-3018

IL 15

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

SCALE: VERT.
HORIZ.

DATE

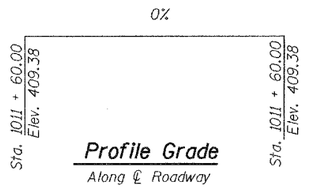
DRAWN BY

CHECKED BY

PLOT DATE = 9/24/2007
FILE NAME = e:\projects\74092\shts\traffcont_74092.dgn
PLOT SCALE = 40.0000 '/ IN.
USER NAME = staffcmck

BENCHMARK: ELEV. = 408.775 Cut square on the southwest wingwall of the existing structure SN 096-0057

EXISTING STRUCTURE: S.N. 096-0057 Was orginally constructed in 1918 under SBI-15, Section 17C as a single span slab superstructure on closed abutments supported by spread footings. The length of the existing structure is 20'-0" and the width is 22'-0" out to out. The existing structure is not skewed and is to be completely removed and replaced. The road will be temporarily closed during construction. No salvage.



Profile Grade
Along ℄ Roadway

STATION 1011+86
BUILT 200_ BY
STATE OF ILLINOIS
S.B.I. RT. 15B SEC. (17C)B
LOADING HS20
STR. NO. 096-2009

NAME PLATE
See Std. 515001

Index of Sheets

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44

Allow 50#/sq.ft for future wearing surface

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 65,000 psi (welded wire fabric)

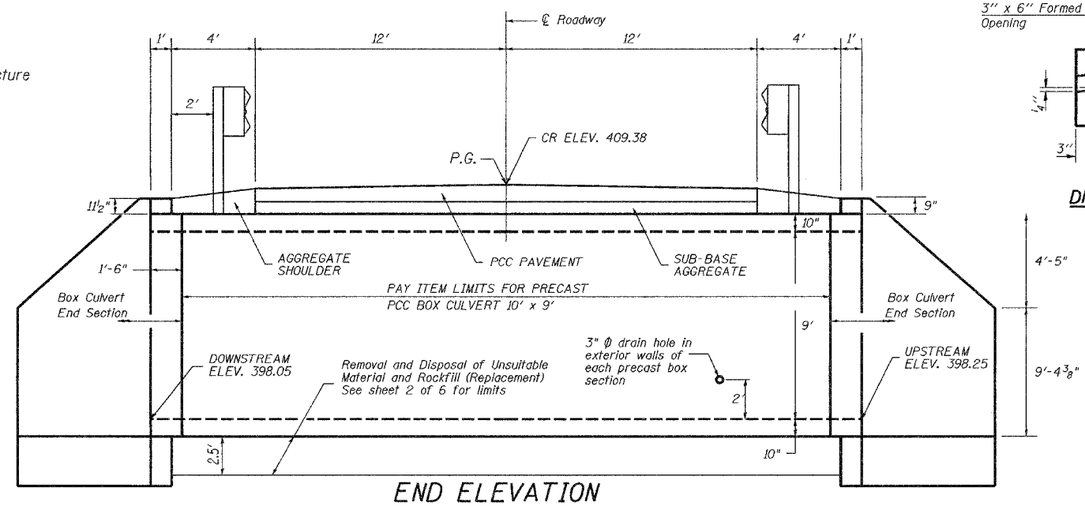
PRECAST UNITS
f'c = 5,000 psi
fy = 65,000 psi (welded wire fabric)

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

Expires 11-30-08

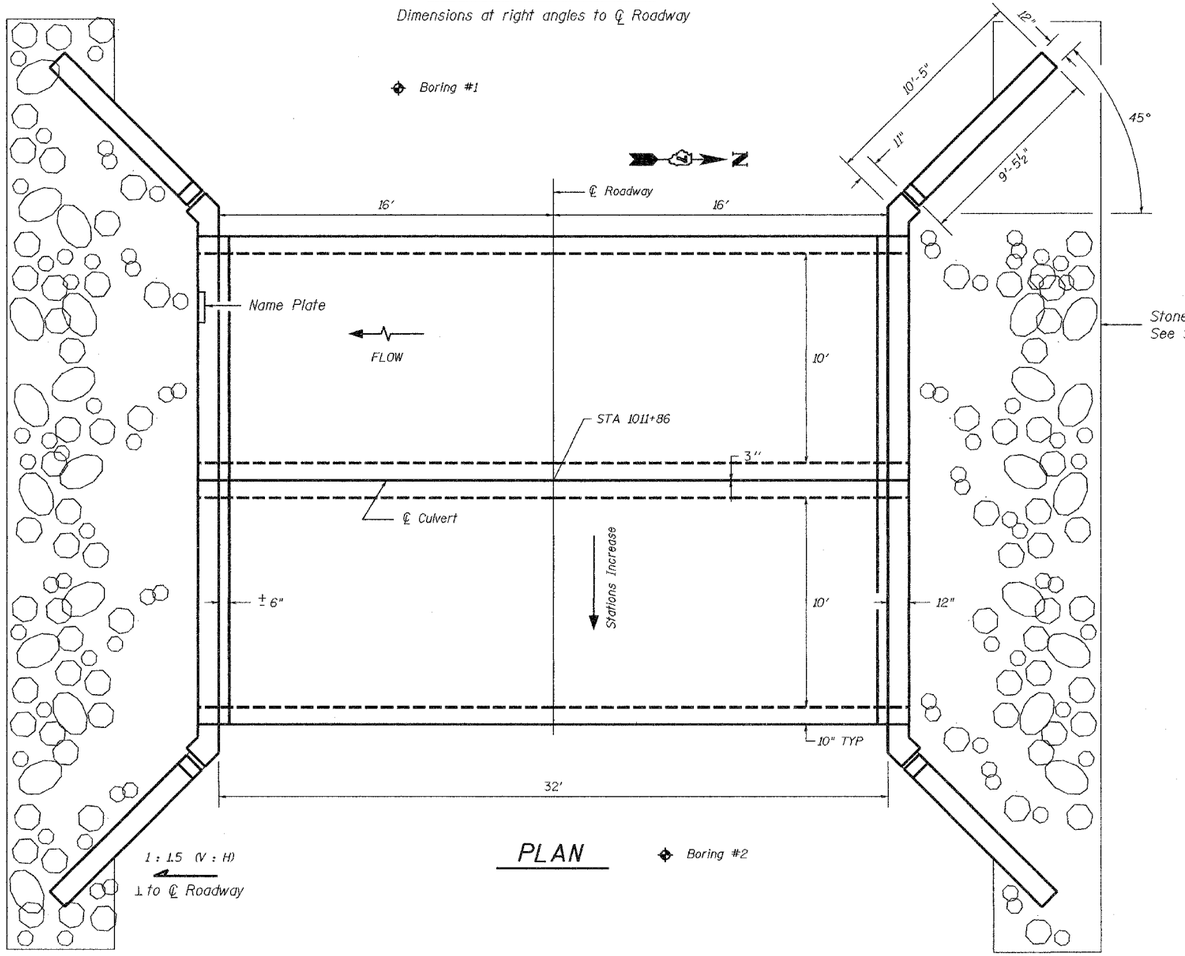
DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

October 10, 2007
EXAMINED _____ ENGINEER OF BRIDGE DESIGN
PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

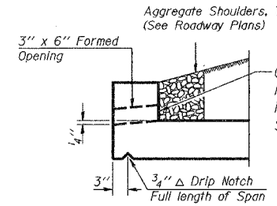


END ELEVATION

Dimensions at right angles to ℄ Roadway



PLAN



DRAIN DETAIL

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
6 SHEET

CONTRACT NO. 74092

General Notes

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

Build tops of headwalls parallel to profile grade.

Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified). See Special Provisions.

The design fill height for the precast boxes is less than 2 feet.

The welded wire fabric extending from the outside face of the vertical walls of the precast box sections shall be 2x3 W4.5 x W4.0 or equivalent. Substitution of reinforcement bar for welded wire fabric is not allowed.

For End Section only, 1½" cover unless otherwise noted.

The ends of the the precast box sections adjacent to the end section shall be formed without the male and female shapes specified in Article 8.1 of AASHTO M273. See Section D-D on sheet 4 of 6.

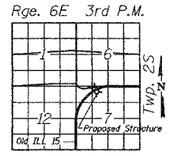
All portions of the precast box culverts in contact with cast-in-place concrete shall be sandblasted according to Article 503.09(b).

The box culvert end section shall be built in the field and a precast option is not allowed except the cut-off wall may be precast. If the contractor elects to use a precast cut-off wall, shop drawings and a proposed construction sequence shall be submitted to the Engineer for approval.

The joints between precast box sections shall be sealed and all void filled with a mastic joint sealer. In addition, the joints shall be externally sealed on all four sides with a 13 inch wide external sealing band. The seal shall be centered over the joint, secured in place and protected during the backfilling process.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Removal and Disposal of Unsuitable Material	Cu. Yd.	100
Rockfill (Replacement)	Ton	246
Precast Concrete Box Culverts 10' x 9'	Foot	62
Box Culvert End Sections (Special)	Each	2
Name Plates	Each	1
Stone Riprap, Class A4	Sq. Yd.	94
Filter Fabric	Sq. Yd.	142
Porous Granular Embankment	Cu. Yd.	250



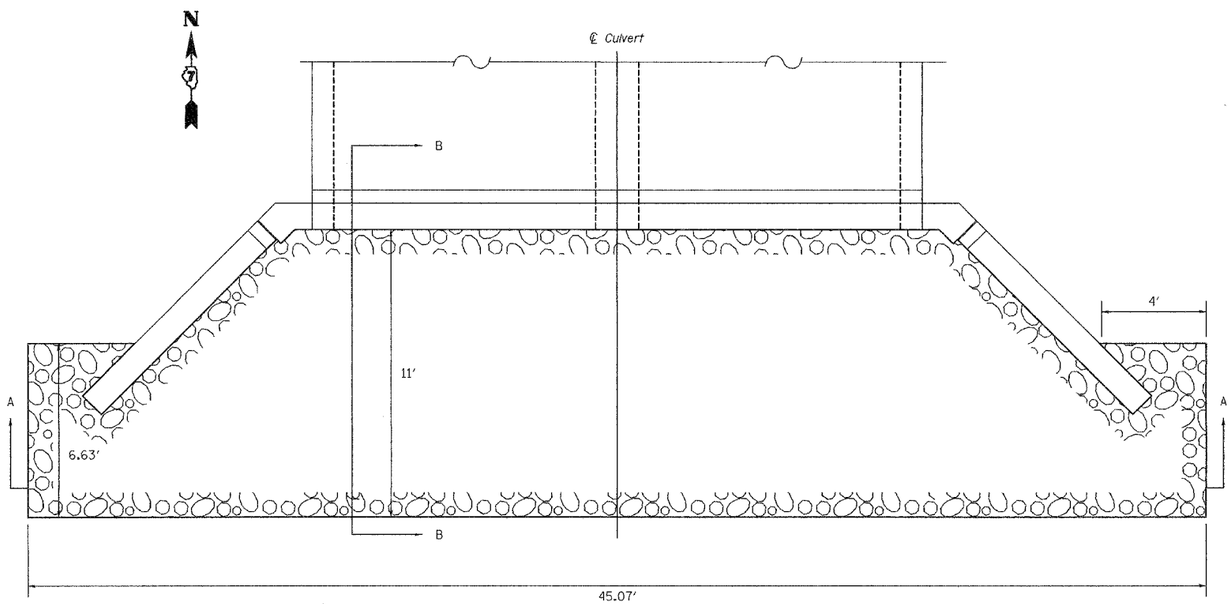
LOCATION SKETCH

GENERAL PLAN AND ELEVATION
DOUBLE 10'x9' PRECAST BOX CULVERT
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

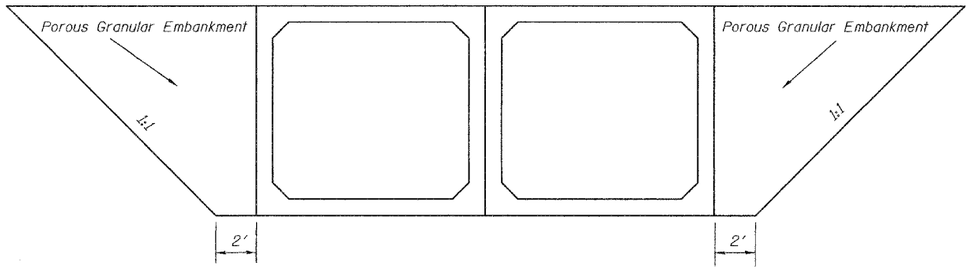
SHEET NO. 2
6 SHEET

CONTRACT NO. 74092



PLAN

South end shown, North end similar

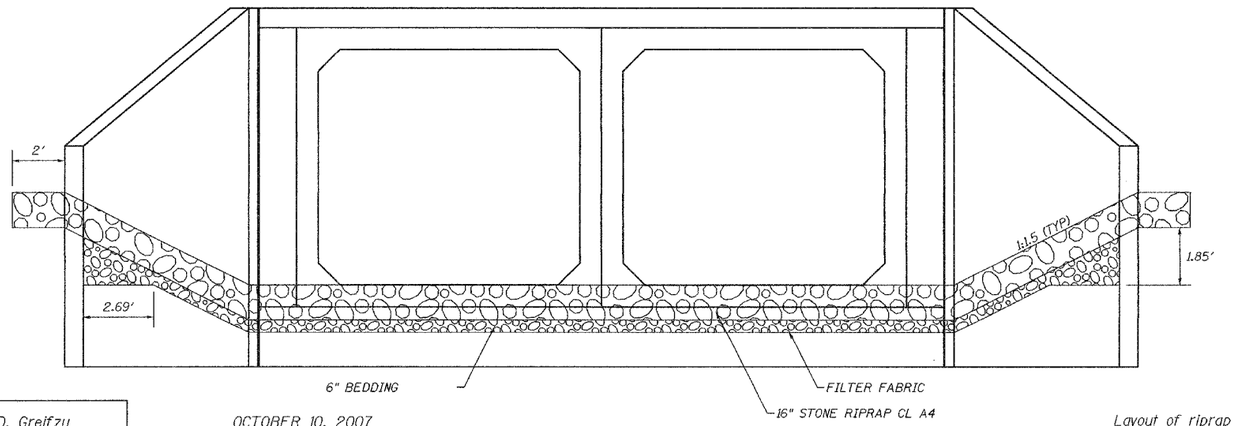


Limits of Porous Granular Embankment

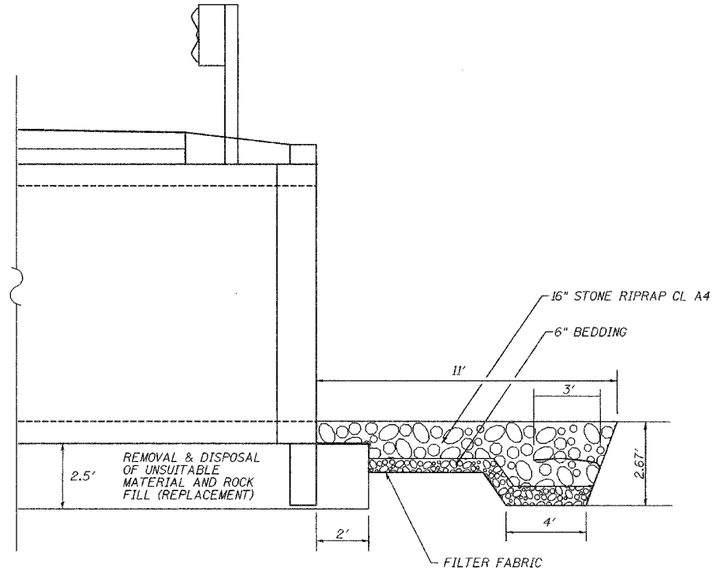
The limits shall be as shown above or as directed by the Engineer.

The granular material shall be compacted according to Article 205.06, or as directed by the Engineer.

That portion of the PGE outside the aggregate shoulders and behind the end section wingwalls shall be covered with a minimum of 1 foot of cohesive material as directed by the Engineer. Cost included with Porous Granular Embankment.



SECTION A-A



SECTION B-B

DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

OCTOBER 10, 2007

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

NOTES

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

The limits of Removal and Disposal of Unsuitable Material and Rockfill (Replacement) shall be, in plan view, two feet outside the limits of the proposed box culvert and collar and in the vertical direction, as shown in Section B-B.

RIPRAP DETAILS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

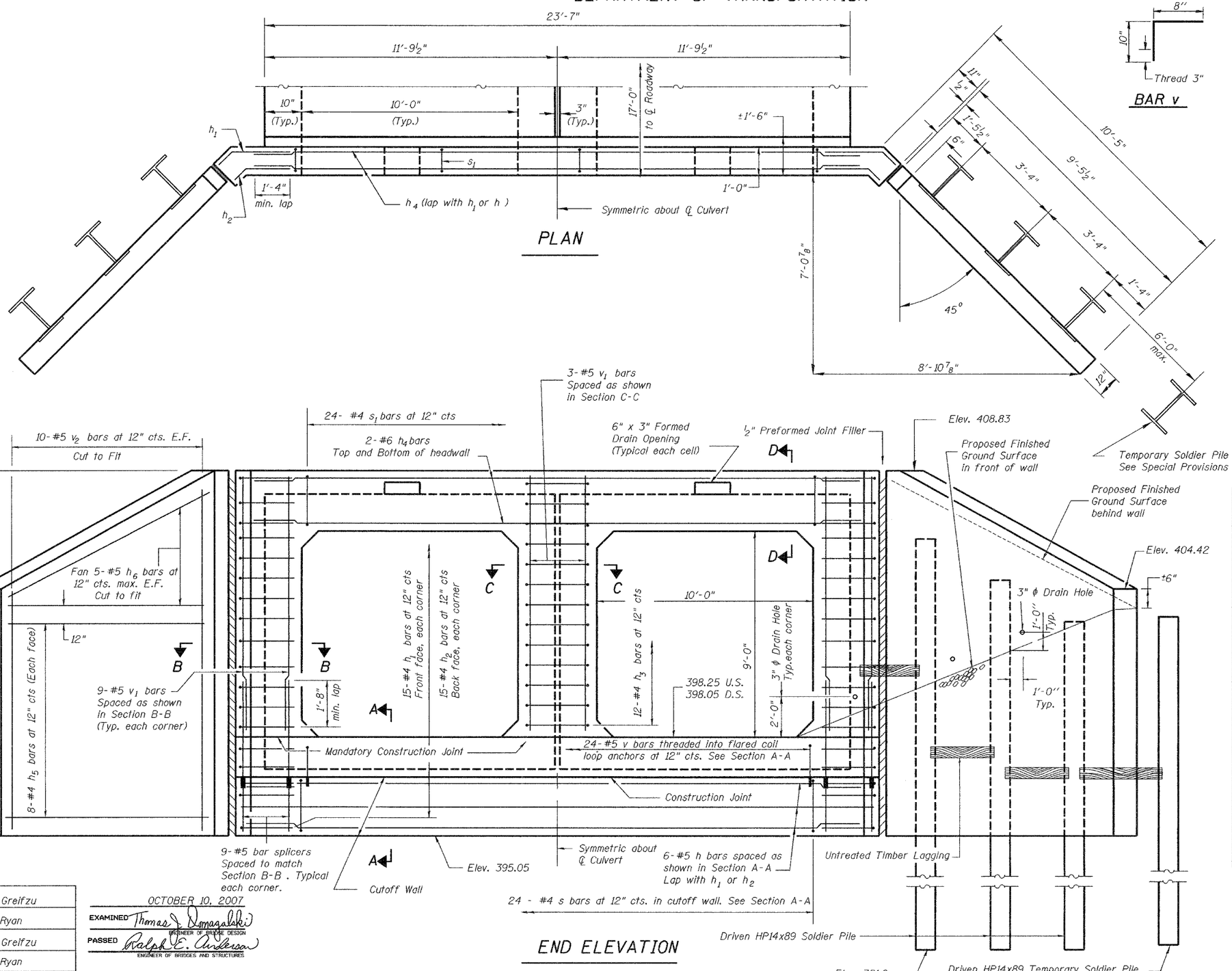
...\Wayne County Soldier pile final to Detailing.dgn 10/12/2007 2:43:26 PM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3 6 SHEET

CONTRACT NO. 74092



BILL OF MATERIAL

For Information Only
(One End Section)

Bar	No.	Size	Length	Shape
h	6	#5	25'-0"	
h1	30	#4	2'-8"	
h2	30	#4	2'-0"	
h3	12	#4	4'-1"	
h4	4	#6	25'-0"	
h5	32	#5	9'-1"	
h6	20	#5	10'-6"	
s	24	#4	5'-5"	
s1	24	#4	4'-2"	
v	24	#5	1'-6"	
v1	21	#5	10'-3"	
v2	40	#5	13'-5"	

ITEM	UNIT	TOTAL
Furnishing Soldier Piles (HP Section)	Ft.	190
Driving Soldier Piles	Ft.	190
Untreated Timber Lagging	Sq. Ft.	282
Geocomposite Wall Drain	Sq. Yd.	11
Stud Shear Connectors	Each	60
Concrete Box Culverts	Cu. Yd.	17.4
Reinforcement Bars	Pound	1930
Bar Splicers	Each	18

DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

OCTOBER 10, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

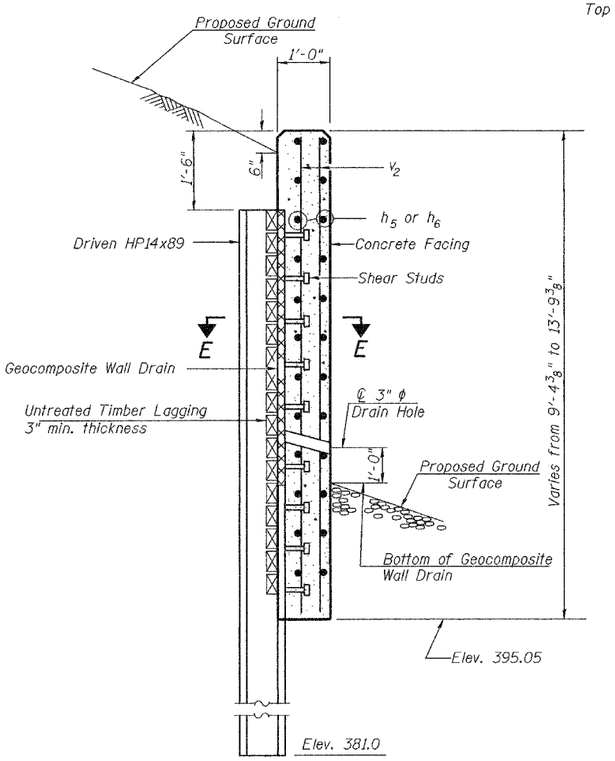
BOX CULVERT END SECTION DETAILS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

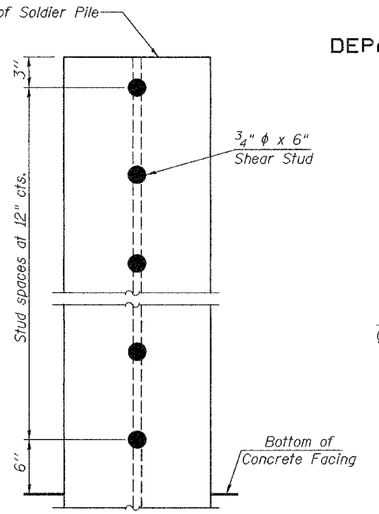
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
6 SHEET

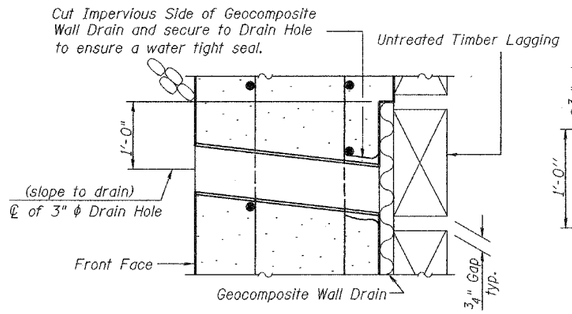
CONTRACT NO. 74092

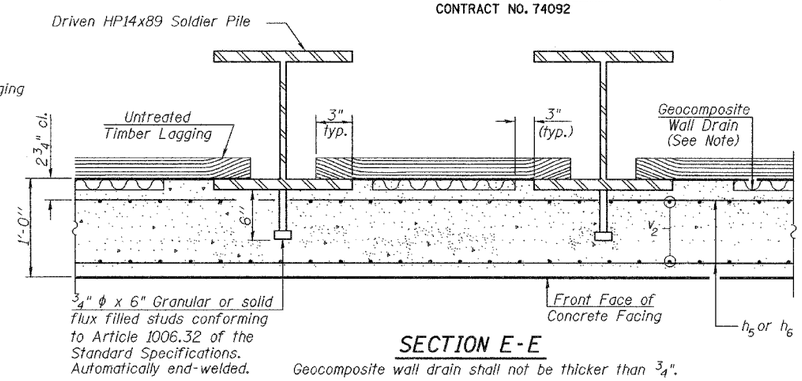


SECTION THRU WALL



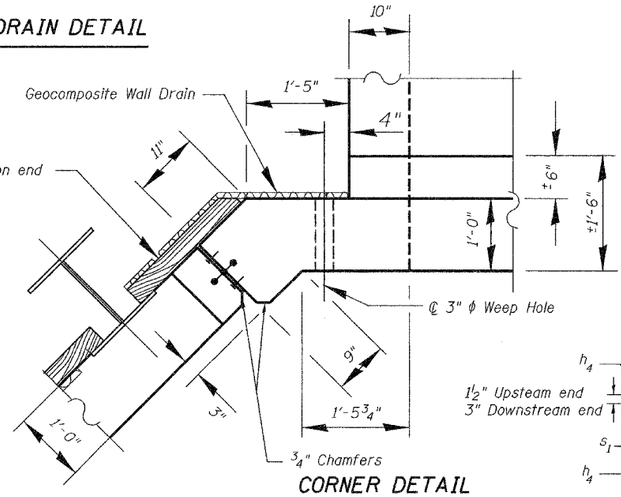
SHEAR STUD DETAIL
(Elevation of pile shown)



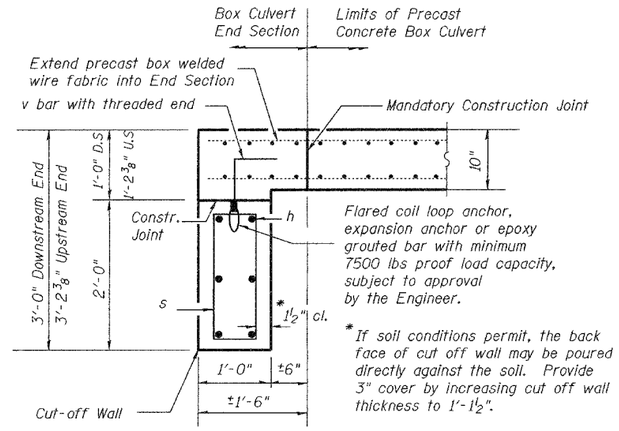


SECTION E-E
Geocomposite wall drain shall not be thicker than 3/4".

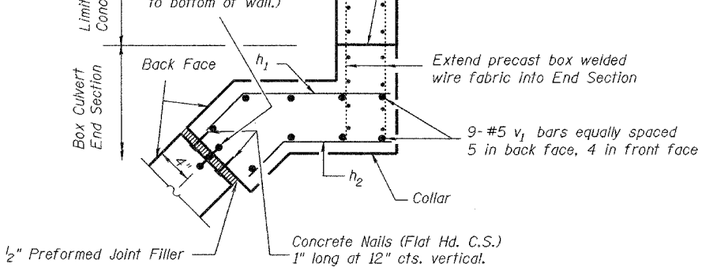
WINGWALL DRAIN HOLE DRAIN DETAIL



CORNER DETAIL
(Showing dimensions, wall drain and weep hole)



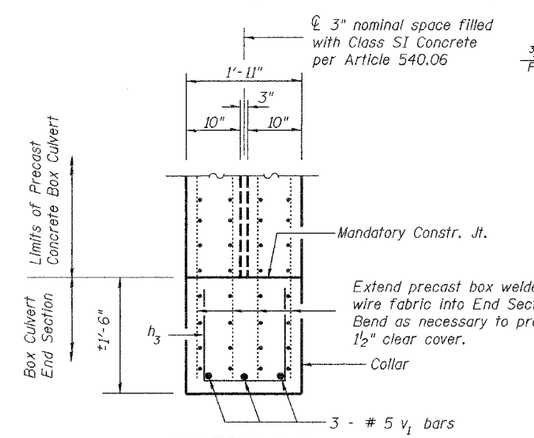
SECTION A-A



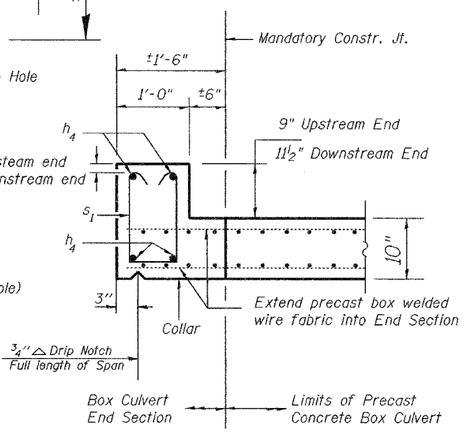
SECTION B-B
(Showing reinforcement and seal)

SEQUENCE OF WALL CONSTRUCTION

1. Build the cut-off wall
2. Place precast box sections
3. Drive soldier piles (may be driven prior to placing the boxes)
4. Install Untreated Timber Lagging
5. Place Geocomposite Wall Drain
6. Place and compact backfill behind wall
7. Install Stud Shear Connectors
8. Form concrete face and place rebar
9. Cast concrete face
10. Remove temporary soldier pile and associated timber lagging.
11. Place remainder of backfill to proposed finished ground surface in front and back of wall.



SECTION C-C
Tilt or adjust h_3 bar as necessary to fit



SECTION D-D

DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

OCTOBER 10, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

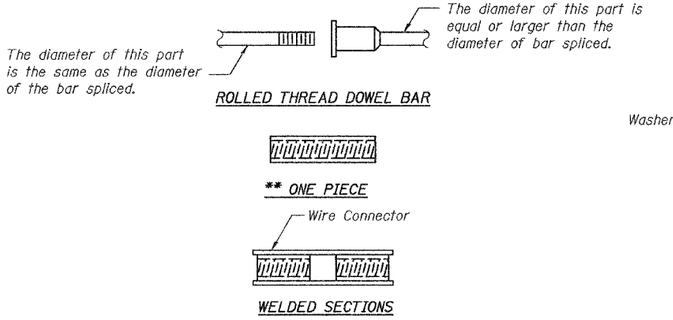
BOX CULVERT END SECTION DETAILS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

...\wayne county soldier pile final 11.dgn 10/10/2007 9:12:03 AM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

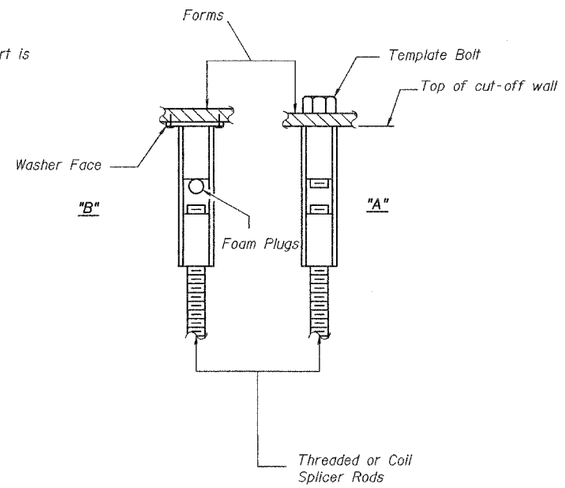
SHEET NO. 5
6 SHEET

CONTRACT NO. 74092



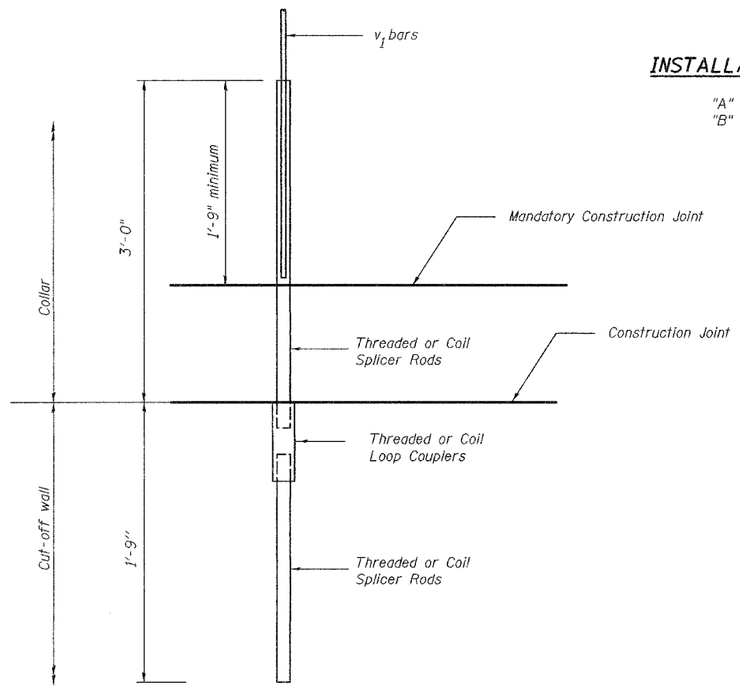
BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" Set bar splicer assembly by means of a template bolt.
"B" Set bar splicer assembly by nailing to wood forms or cementing to steel forms.



FOR BOX CULVERT END SECTIONS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 36

DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

OCTOBER 10, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BAR SPLICER ASSEMBLY DETAILS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 6
6 SHEET

CONTRACT NO. 74092

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 10/14/05

ROUTE SBI 15 B (Old IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer

SECTION (17C) LOCATION Sec 6 - SW 1/4, Sec 7 - NW 1/4, SEC. , TWP. 2 S, RNG. 6 E, 3 PM

COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 096-0057
Station 1011+86

BORING NO. 1
Station 1011+64.5
Offset 4.00ft Rt
Ground Surface Elev. 409.34 ft

Surface Water Elev. 399.24 ft
Stream Bed Elev. 398.86 ft

Groundwater Elev.:
First Encounter 384.7 ft
Upon Completion 384.7 ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOW (/6")	UCS (tsf)	MOIST (%)
408.54			
2" asphalt over 7" concrete pavement.			
Medium, damp, brown to gray, SILTY CLAY.			
	2		
	3	0.7	18
	3	B	
-5	1		
	2	0.5	26
	2	B	
402.34			
Soft, very damp, gray, SILTY LOAM.	0		
	0	0.3	23
	1	B	
399.84			
3" of wood in sampler, no soil recovery.	14		
-10	3		102
	4		
No recovery this trip, estimated wood plugging borehole.	2		
	3		
	3		
394.84			
Very stiff, damp, red mottled gray, CLAY w/ sand and wood fragments.	3		
-15	6	1.7	18
	7	B	
392.34			
Very soft, wet, red, SANDY LOAM.	3		
391.14	7	0.2	19
Very stiff, damp, brown mottled gray, CLAY TILL.	6	B	
389.34 -20	7		

DEPTH (ft)	BLOW (/6")	UCS (tsf)	MOIST (%)
Brown w/ maroon layers, SANDSTONE. 389.04	20	2.7	13
	23	B	
Hard, very moist, brown, CLAY TILL.			
	7		
	12	4.7	14
	16	B	
-25	4		
	11	2.5	16
383.54	50	B	
Very dense, moist, brown, CLAY SHALE w/ trace sand.			
	34		
381.24	50/4"		12
Extent of exploration.	50/3"		
Benchmark: BM 457 chiseled square on SW wingwall of existing structure = 408.78'			
-30			
-35			
-40			

Latitude N 38 deg 22.139 min, Longitude W 88 deg 34.779 min, Map Datum WGS 84

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 10/14/05

ROUTE SBI 15 B (Old IL 15) DESCRIPTION Un-named Stream LOGGED BY E. Sandschafer

SECTION (17C) LOCATION Sec 6 - SW 1/4, Sec 7 - NW 1/4, SEC. , TWP. 2 S, RNG. 6 E, 3 PM

COUNTY Wayne DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 096-0057
Station 1011+86

BORING NO. 2
Station 1012+13.5
Offset 4.50ft Lt
Ground Surface Elev. 409.31 ft

Surface Water Elev. 399.24 ft
Stream Bed Elev. 398.86 ft

Groundwater Elev.:
First Encounter 374.8 ft
Upon Completion 383.1 ft
After ____ Hrs. N/A ft

DEPTH (ft)	BLOW (/6")	UCS (tsf)	MOIST (%)
408.61			
2 1/2" asphalt over 6" concrete pavement.			
Stiff, damp, brown, SILTY CLAY.			
	3		
	3	1.5	24
	4	PP	
404.61			
-5	2		
Stiff to soft, damp, gray and brown, SILTY LOAM.	3	1.5	15
	8	PP	
	0		
	0	0.5	19
	0	PP	
-10	5		
	5	0.4	17
	5	S	
397.31			
Medium, damp, gray mottled red, SILTY CLAY.	4		
	5	1.0	23
	6	B	
-15	3		
	4	0.6	24
	5	B	
	2		
391.51	3	1.7	26
Stiff, damp, red marbled gray, CLAY.	5	B	
389.81			
Red marbled gray, SILTY LOAM. -20	1		

DEPTH (ft)	BLOW (/6")	UCS (tsf)	MOIST (%)
Red marbled gray, SILTY LOAM. 388.81 (continued)	3	1.3	20
	4	B	
Stiff, damp, red mottled gray, CLAY.			
386.81	5		
Brown, SANDSTONE.	8	1.7	18
Red marbled gray, CLAY. 386.51	11	B	
384.81			
Hard, very moist, brownish tan, CLAY SHALE w/ some Sandy Clay Shale layering. -25	7		
	19	+4.5	13
	43	PP	
	17		
	19	+4.5	11
	29	PP	
-30	16		
	23	+4.5	15
	37	PP	
-35	47		
	50/4"		8
373.51	50/5"		
Extent of exploration.			
Benchmark: BM 457 chiseled square on SW wingwall of existing structure = 408.78'			
-40			

Latitude N 38 deg 22.341 min, Longitude W 88 deg 34.770 min, Map Datum WGS 84

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

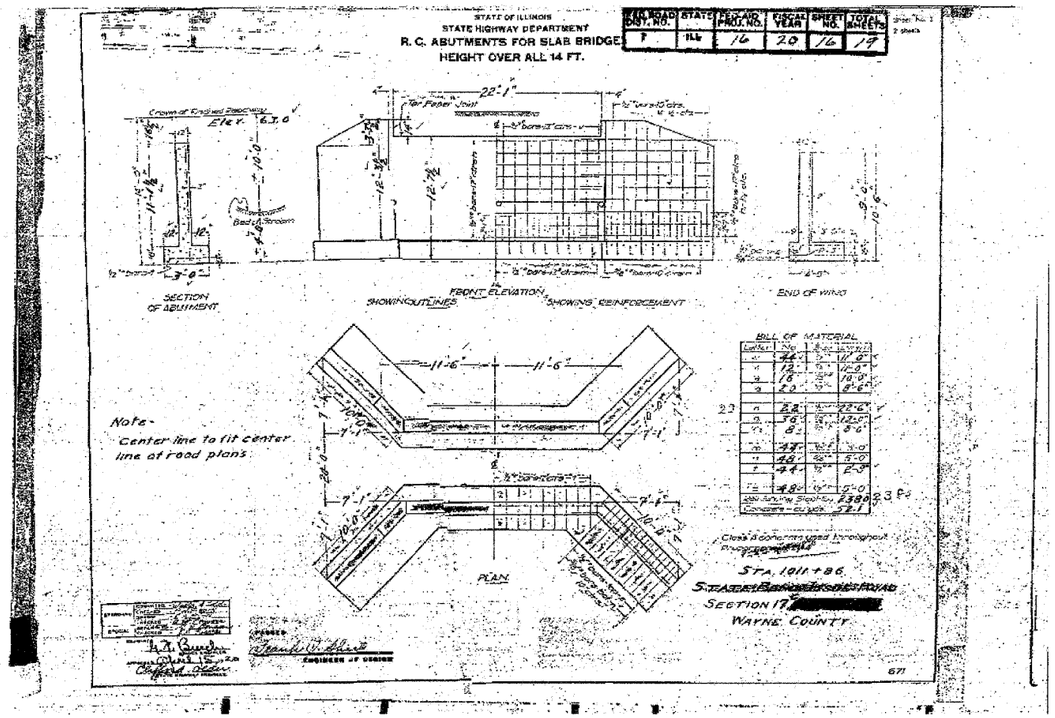
DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

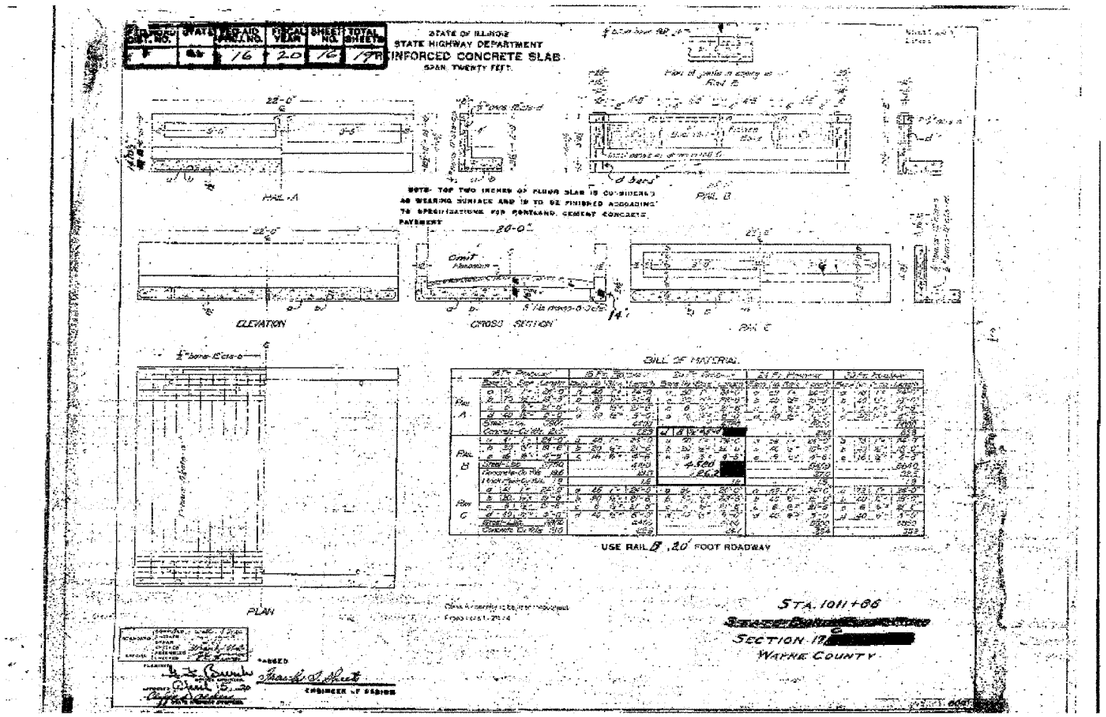
OCTOBER 10, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BORING LOGS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SBI Rt. 15B	(17C)B	WAYNE	17	12a
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

CONTRACT NO. 74092





DESIGNED	D. Greifzu
CHECKED	S. Ryan
DRAWN	D. Greifzu
CHECKED	S. Ryan

OCTOBER 10, 2007

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

EXISTING PLANS
SBI ROUTE 15B - SECTION (17C)B
WAYNE COUNTY
STATION 1011+86.00
STRUCTURE NO. 096-2009

...\wayne county soldier pile final 11.dgn 10/10/2007 9:29:31 AM

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	13

STA. 1010+89.50 TO STA. 1011+13.50

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

420
415
410
405
400

409.71

R.O.W.

1:4.55

1:6

406.76

407.06

C=5.7 Fi=0.7

1011+13.50

409.97

R.O.W.

R.O.W.

408.10

408.47

C=0.0 Fi=0.0

1010+89.50

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

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

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USER NAME = burmanbj

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	14
STA. 1011+60.00		TO STA. 1011+74.00		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

430 425 420 415 410 405 400 395 390

409.37

R.O.W.

1.5:1

404.43

C=0.0

F=75.3

2:1

401.05

R.O.W.

1011+74.00

409.38

R.O.W.

1.5:1

402.86

C=0.0

F=20.7

2:1

404.07

R.O.W.

1011+60.00

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

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

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USER NAME = bdermody

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	15
STA. 1011+86.00		TO STA. 1011+98.00		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

435 430 425 420 415 410 405 400 395

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

409.33

R.O.W. 14.5 4:1 R.O.W.

400.49 400.38

C=0.0 F=71.6

1011+98.00

409.38

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

1011+86.00

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

ORIGINAL SURVEY	
FINAL SURVEY	

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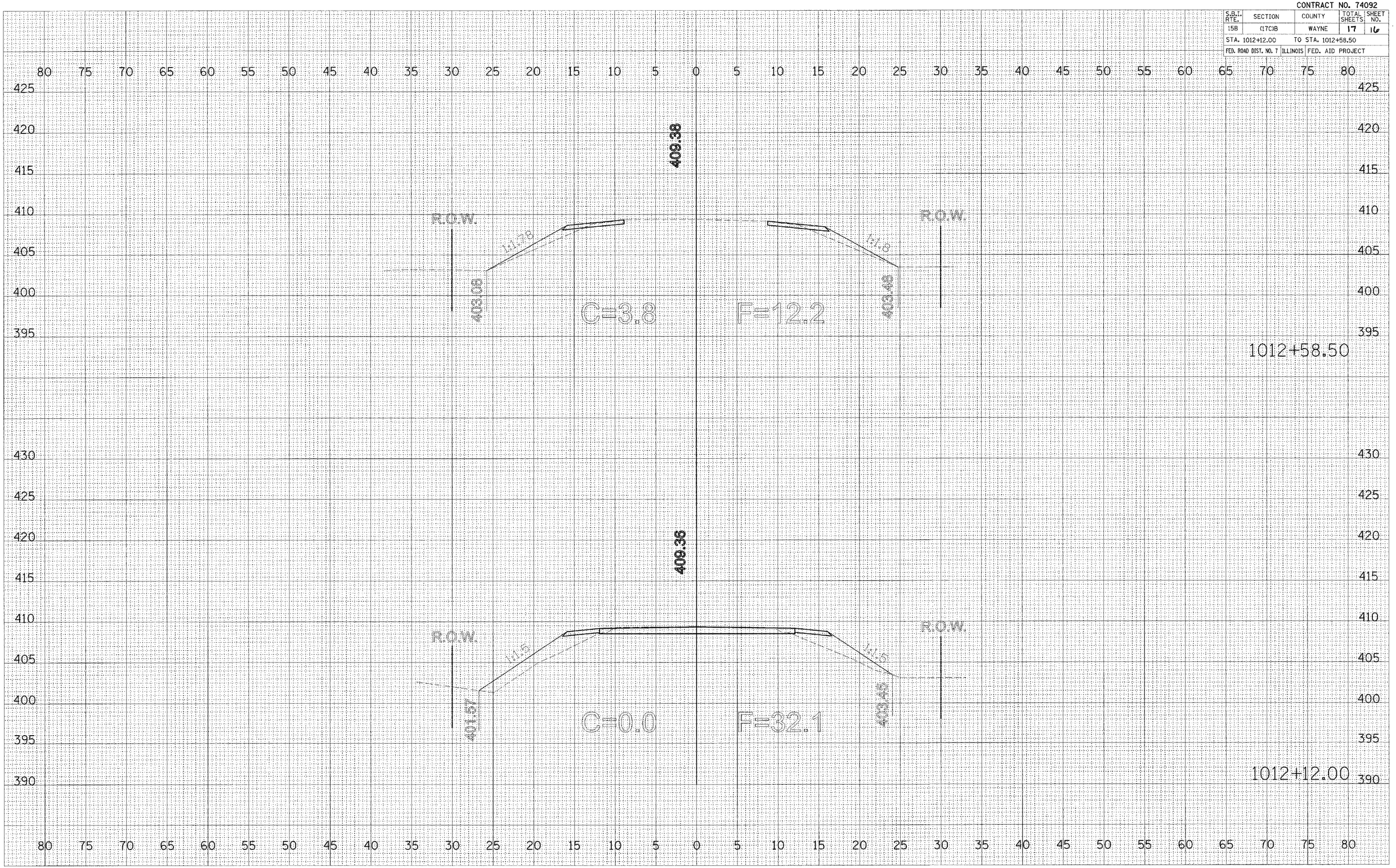
PLOT SCALE = 5.0139 ' / IN.
USER NAME = bwarmbold

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	16
STA. 1012+12.00		TO STA. 1012+58.50		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



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

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

PLOT DATE = 8/24/2007
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USER NAME = bsammons

CONTRACT NO. 74092

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15B	(17C)B	WAYNE	17	17
STA. 1012+82.50		TO STA. 1012+82.50		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

425 420 415 410 405 400 395

409.50

ROW

402.98

C=0.0

F=0.0

ROW

403.54

1012+82.50

PLOT DATE = 8/24/2007
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USER NAME = bierman