

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3762	01-00139-02-BR	WILL	35	03
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS HIGHWAY PROJECT		
CONTRACT # 83802				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO.	ITEM	UNIT	TOTAL QUANTITIES	ROADWAY	BRIDGE
				80% FEDERAL 20% LOCAL 1000-2A	80% FEDERAL 20% LOCAL X071-2A
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1,156	1,156	-
20400800	FURNISHED EXCAVATION	CU YD	362	362	-
20700420	POROUS GRANULAR EMBANKMENT, SUBGRADE	CU YD	164	164	-
20900110	POROUS GRANULAR BACKFILL	CU YD	123	-	123
* 21101625	TOPSOIL FURNISH AND PLACE, 6"	SQ YD	3,291	3,291	-
* 25000210	SEEDING, CLASS 2A	ACRE	0.68	0.68	-
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	61	61	-
* 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	61	61	-
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	61	61	-
* 25100105	MULCH, METHOD 1	ACRE	0.52	0.52	-
25100630	EROSION CONTROL BLANKET	SQ YD	628	628	-
28000300	TEMPORARY DITCH CHECKS	EACH	12	12	-
28000400	PERIMETER EROSION BARRIER	FOOT	2,539	2,539	-
28100107	STONE RIP RAP CL A4	SQ YD	90	90	-
28200 00	FILTER FABRIC	SQ YD	90	90	-
35101400	AGGREGATE BASE COURSE, TYPE B	TON	110	110	-
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GAL	112	112	-
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	167	167	-
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	160	160	-
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	32	32	-
44000006	BITUMINOUS SURFACE REMOVAL 1 1/2"	SQ YD	957	957	-
44000100	PAVEMENT REMOVAL	SQ YD	158	158	-
48101200	AGGREGATE SHOULDERS, TYPE B	TONS	130	130	-
48202600	BITUMINOUS SHOULDERS SUPERPAVE 8"	SQ YD	492	492	-
50101600	REMOVAL OF EXISTING SUPERSTRUCTURES	L SUM	1	-	1
50102400	CONCRETE REMOVAL	CU YD	36.8	-	36.8
50105220	PIPE CULVERT REMOVAL	FOOT	23	23	-
50200100	STRUCTURE EXCAVATION	CU YD	320	-	320
50200510	COFFERDAMS (SPECIAL)	EACH	2	-	2
50300100	FLOOR DRAINS	EACH	8	-	8
50300225	CONCRETE STRUCTURES	CU YD	117.8	-	117.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	66.3	-	66.3
50300260	BRIDGE DECK GROOVING	SQ YD	193	-	193
50300300	PROTECTIVE COAT	SQ YD	65	-	65
50301245	FORMED CONCRETE REPAIR (DEPTH <=5")	SQ FT	5	-	5
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	-	1
50500505	STUD SHEAR CONNECTORS	EACH	1,008	-	1,008
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	26,780	-	26,780
51201000	FURNISHING METAL PILE SHELLS, 12"	FOOT	429	-	429
51202600	DRIVING AND FILLING SHELLS	FOOT	429	-	429
51203200	TEST PILE METAL SHELLS	EACH	1	-	1
51500100	NAME PLATES	EACH	1	-	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	27	27	-
54214080	ALUMINUM END SECTIONS 15"	EACH	2	2	-
59000100	EPOXY CRACK SEALING	FOOT	65	-	65
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	67	-	67
60100915	PIPE DRAINS, 6"	FOOT	67	-	67
60255500	MANHOLES TO BE ADJUSTED	EACH	2	2	-
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	128	128	-
63100085	TRAFFIC BARRIER TERMINAL TYPE 6	EACH	4	4	-
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4	-

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE		
CODE NO.	ITEM	UNIT	TOTAL QUANTITIES	ROADWAY	BRIDGE
				80% FEDERAL 20% LOCAL 1000-2A	80% FEDERAL 20% LOCAL X071-2A
63200310	GUARDRAIL REMOVAL	FOOT	309	309	-
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	-
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	1,458	1,458	-
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	7	7	-
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	-
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	7	7	-
X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	200	200	-
X4021000	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	1	1	-
X4066426	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70	TONS	94	94	-
X4066770	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	TONS	20	20	-
X7011005	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	L SUM	1	1	-
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	0.5	0.5
67100100	MOBILIZATION	L SUM	1	1	-

PLOT FILE STANDARD
COMP. FILE: 040155-811.dwg

REVISIONS	
NO.	DATE
7.	
6.	
5.	
4.	
3.	
2.	
1.	01-11-06

* SPECIALTY ITEM

SMITH ENGINEERING CONSULTANTS, INC.
 CIVIL/STRUCTURAL ENGINEERS AND SURVEYORS
 4500 FRANK PARKWAY, SUITE 201
 MARIETTA, ILLINOIS 60090
 TEL: 815-362-1170 FAX: 815-362-1701
 www.smithengineering.com E-MAIL: eec@smithengineering.com
 * HICKORY * HUNTLEY * YORKVILLE
 ILLINOIS PROFESSIONAL DESIGN FIRM # 184-000106

ILLINOIS DEPARTMENT OF TRANSPORTATION
 WILL COUNTY DEPARTMENT OF HIGHWAYS
 HARLEM AVENUE/DRECKSLER ROAD
 OVER BLACK WALNUT CREEK
 SUMMARY OF QUANTITIES

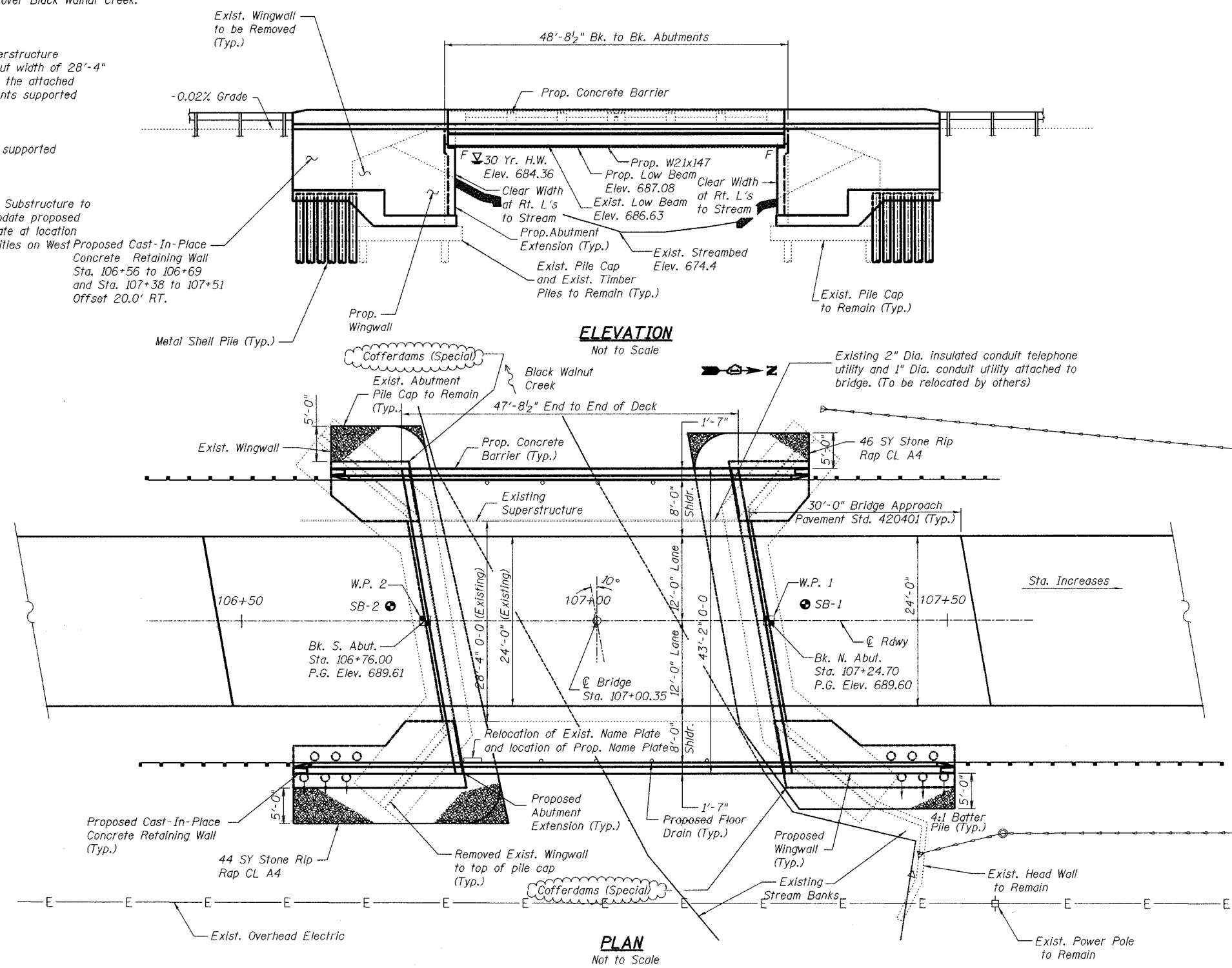
SCALE: "NTS" DRAWN BY W.JH
 DATE 5-26-2005 CHECKED BY J.P.

Benchmarks:
 BM 1: Cut square in top of concrete wingwall at the South East corner of the Harlem Avenue Bridge over Black Walnut Creek. Elev. 689.71
 BM 2: Cut square in top of concrete headwall adjacent to the wingwall at the North East corner of the Harlem Avenue Bridge over Black Walnut Creek. Elev. 685.35

Existing Structure:
 Bridge Constructed in 1962 (S.N.# 099-3091). The Superstructure consists of a precast concrete bridge with an out-to-out width of 28'-4" and a total length of 48'-8 1/2" to be removed along with the attached bridge rail. The Substructure consists of closed abutments supported on untreated timber piles to remain.

New Structure:
 One span composite concrete deck on Steel W sections supported on existing closed abutments.

Salvage:
 Existing Superstructure to be removed and the existing Substructure to be partially demolished, repaired and modified to accommodate proposed Superstructure. Salvage and re-install existing Name Plate at location indicated below. Also salvage and re-install existing utilities on West Fascia of proposed bridge.



DESIGN SPECIFICATIONS
 2002 AASHTO with 2003 & 2004 Interims

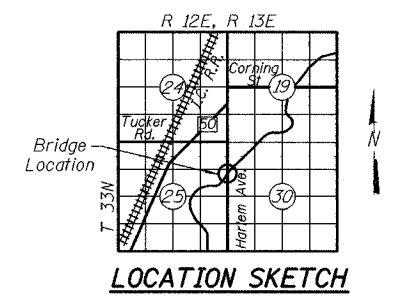
***LOADING HS20-44**
 50#/sq. ft. for future wearing surface.
 * Also designed for 120,000 Lb. Permit loading

DESIGN STRESSES

FIELD UNITS
 f_y = 60,000 psi (Reinforcement Bars)
 f_c = 4,000 psi (Class S1)
 f_c = 3,500 psi (Class BD)
 f_s = 27,500 psi (Structural Steel)

SEISMIC DATA

Seismic Performance Category (SPC) = "A"
 Bedrock Acceleration Coefficient (A) = 0.04g
 Site Coefficient (S) = 1.0



DRECKLER BRIDGE
 REBUILT 200- BY
 WILL COUNTY
 SEC. 01-00139-02-BR
 LOADING HS20-44
 S.N. 099-3091

NAME PLATE
 See Std. 515001

COFFERDAMS (SPECIAL)
 Description: Cofferdams (Special) shall conform to the applicable portions of Section 502 of the Standard Specifications except that the Contractor shall submit fabrication drawings to the Engineer signed and sealed by an Illinois Licensed Structural Engineer for the cofferdams. Installation and removal shall conform to Article 502.12

WATERWAY INFORMATION

Drainage Area = 15.7 mi ²		Low Grade Elev. 689.45 ft. @ Sta. 107+76.2							
Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head-Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
Design	30	1455	323.0	323.0	684.36	0.09	0.09	684.45	684.45
Base	100	2091	397.0	384.6	686.09	0.00	0.16	686.04	686.19

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

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".

Robert J. Duda
 IL Licensed Structural Engineer
 Date 1-11-2006
 Date 11-30-2006
 Licensed Expires



SMITH ENGINEERING CONSULTANTS, INC.
 CIVIL/STRUCTURAL ENGINEERS
 AND SURVEYORS
 www.smitheng.com
 800-368-8888

REVISIONS	
NAME	DATE
WJH	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 General Plan and Elevation
 Harlem Avenue/Dreckler Road
 Over Black Walnut Creek
 Will County
 Section 01-00139-02-BR
 S.N. 099-3091
 DATE 5-26-2005

INDEX OF SHEETS

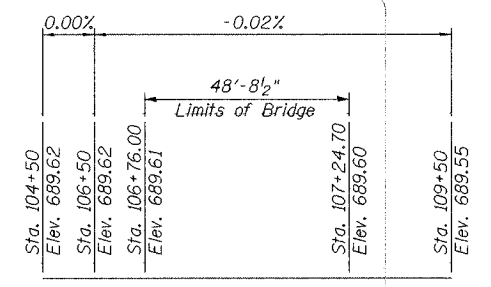
- S-1. General Plan and Elevation
- S-2. General Notes, Bill of Material, and Index of Sheets
- S-3. Top of Deck Slab Elevations
- S-4. Deck Plan and Cross Sections
- S-5. Parapet Elevations and Details
- S-6. Steel Framing Plan
- S-7. Beam Elevation and Details and Bearing Details
- S-8. Anchor Bolt Details
- S-9. Abutment Plan and Elevation
- S-10. Abutment Details
- S-11. Retaining Wall Plan and Elevation
- S-12. Pile Details and Forming Bracket Details
- S-13. Soil Borings

GENERAL NOTES

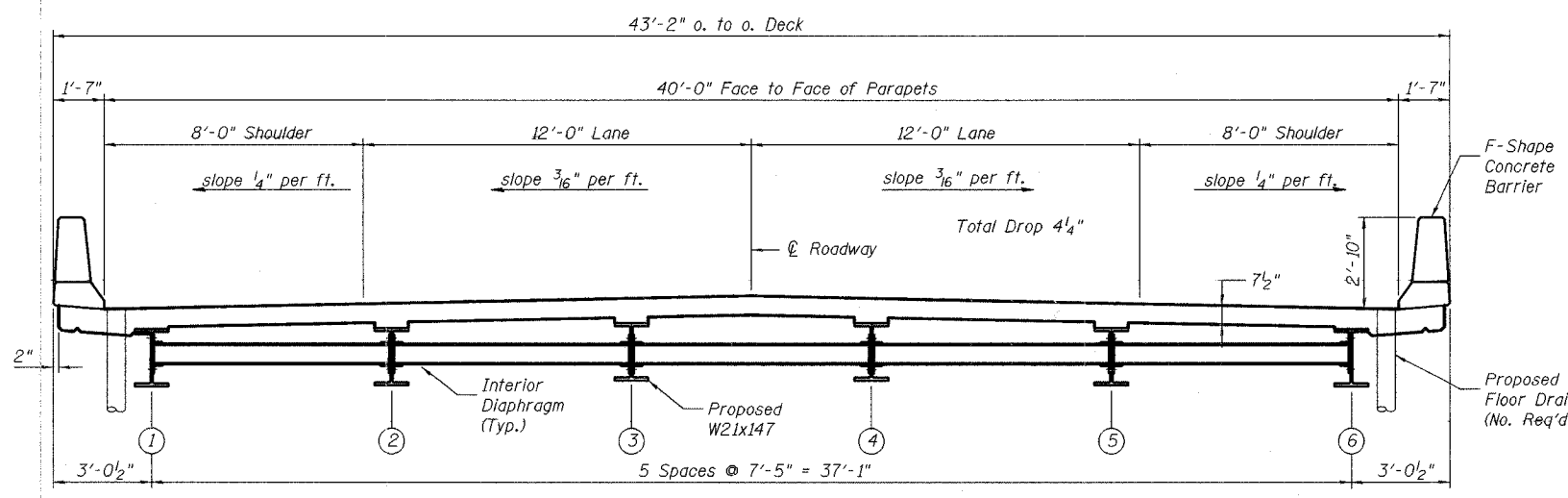
1. Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " Dia., open holes $\frac{5}{16}$ " unless otherwise noted.
 2. Calculated weight of Structural Steel (Grade 50) = 41,785 pounds.
 3. Calculated weight of Structural Steel (Grade 36) = 1,588 pounds.
 4. All Structural Steel shall be AASHTO M 270 Grade 50 except diaphragms, bearing plates, high strength bolts, and anchor bolts.
 5. Field welding of construction accessories will not be permitted to beams or girders.
 6. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams.
 7. Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
 8. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 9. Backfill shall be placed behind the abutment after the superstructure has been poured and the false work removed. See Article 502.10 of the Standard Specifications.
 10. The back face of the Abutment Extensions, their Wingwalls, and Retaining Walls shall be waterproofed according to Article 503.18 of the Standard Specifications.
 11. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of false work, in addition to allowance for dead load deflection.
 12. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering material. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.
 13. The contractor shall drive one (1) metal shell test pile in a permanent location as directed by the Engineer before ordering the remainder of the piles.
 14. Bridge Seat Sealer shall be applied to the seat area of the abutments.
 15. Excavation behind existing abutment walls shall be done before removing the existing superstructure. (See S-10 for Structure Excavation Detail)
 16. Cover from the face of concrete to reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.
 17. Reinforcement bending details shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACI 315, latest edition.
 18. Reinforcement Bars designated "(E)" shall be epoxy coated.
 19. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawings.
- | Size | Basic Lap | Top Bars Lap |
|------|-----------|--------------|
| #4 | 1'-8" | 2'-5" |
| #5 | 2'-2" | 3'-0" |
| #6 | 2'-7" | 3'-7" |
| #7 | 3'-5" | 4'-10" |
| #8 | 4'-6" | 6'-4" |
| #9 | 5'-9" | 8'-1" |
20. The inorganic zinc rich primer/Acrylic Paint System shall be used for shop and field painting of structural steel bridge members except where otherwise noted. The color of the final finish coat for the beams shall be Reddish Brown, Munsell No. 2.5 YR 3/4. The top surface of the Wide Flange Beams and the Stud Shear Connectors shall not be painted.
 21. The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water. This shall include the placement of material for run-arounds, causeways, etc.
- All construction joints shall be bonded.

TOTAL BILL OF MATERIAL

CODE NO.	DESCRIPTION	UNIT	TOTAL
20900110	Porous Granular Backfill	Cu. Yds.	123
28100107	Stone Rip Rap CL A4	Sq. Yds.	90
28200200	Filter Fabric	Sq. Yds.	90
50101600	Removal of Existing Superstructures	L. Sum.	1
50102400	Concrete Removal	Cu. Yds.	36.8
50200100	Structure Excavation	Cu. Yds.	320
50200510	Cofferdams (Special)	Each	2
50300100	Floor Drains	Each	8
50300225	Concrete Structures	Cu. Yds.	117.8
50300255	Concrete Superstructures	Cu. Yds.	66.3
50300260	Bridge Deck Grooving	Sq. Yds.	193
50300300	Protective Coat	Sq. Yds.	65
50301245	Formed Concrete Repair (Depth <= 5")	SF	5
50500105	Furnishing and Erecting Structural Steel	L. Sum	1
50500505	Stud Shear Connectors	Each	1008
50800205	Reinforcement Bars (Epoxy Coated)	Pound	26,780
51201000	Furnishing Metal Pile Shells, 12"	Foot	429
51202600	Driving and Filling Shells	Foot	429
51203200	Test Pile Metal Shells	Each	1
51500100	Name Plates	Each	1
59000100	Epoxy Crack Sealing	Foot	65
59100100	Geocomposite Wall Drain	Sq. Yds.	67
60100915	Pipe Drain, 6"	Foot	67



PROFILE GRADE
(along PGL)



TYPICAL CROSS SECTION
Not to Scale

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

SMITH ENGINEERING CONSULTANTS, INC.	
CIVIL/STRUCTURAL ENGINEERS AND SURVEYORS	
www.smithengineering.com	
REVISIONS	
NAME	DATE
WJH	1-11-06

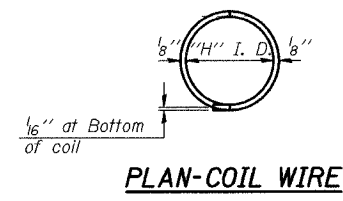
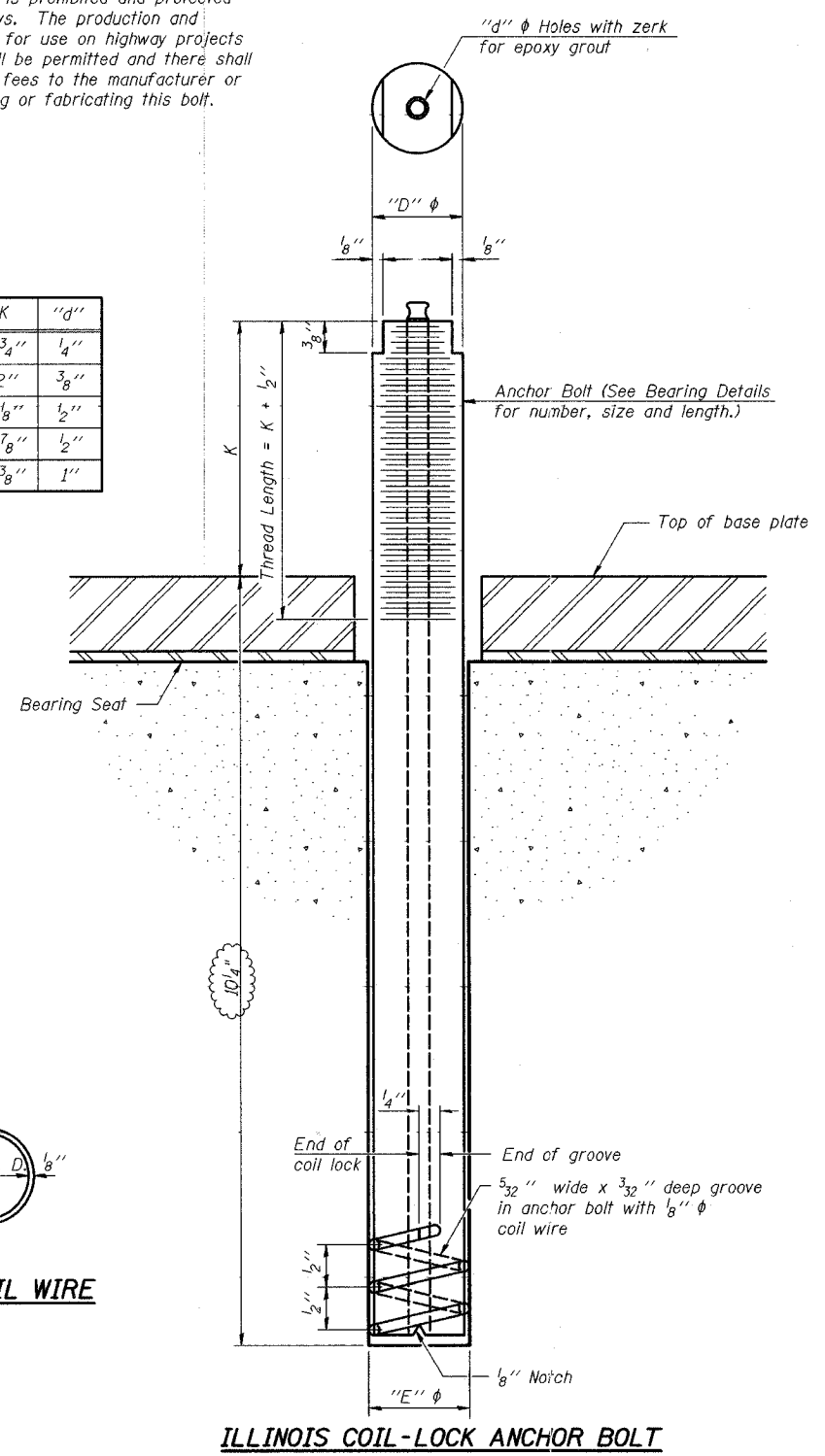
ILLINOIS DEPARTMENT OF TRANSPORTATION

General Notes, Bill of Material, and Index of Sheets
Harlem Avenue Over Black Walnut Creek
Will County
Section 139B-MFT
SN. 099-3091

DATE 5-26-2005

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 13/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.
The coil wire shall be made of any suitable soft steel wire.
The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
N. Abut.	A307
S. Abut.	A307

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

GENERAL NOTES

1. Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted.
2. Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
3. The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.
4. Work this sheet with S-07.

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

SMITH ENGINEERING CONSULTANTS, INC.
CIVIL/STRUCTURAL ENGINEERS
1470 S. WYOMING
CHICAGO, ILL. 60606
www.smithengineering.com
© 2006 www.smithengineering.com

REVISIONS	
NAME	DATE
W.J.H.	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

Anchor Bolt Details
Harlem Avenue/Drecksler Road
Over Black Walnut Creek
Will County
Section 01-00139-02-BR
SN. 099-3091

DATE 5-26-2005

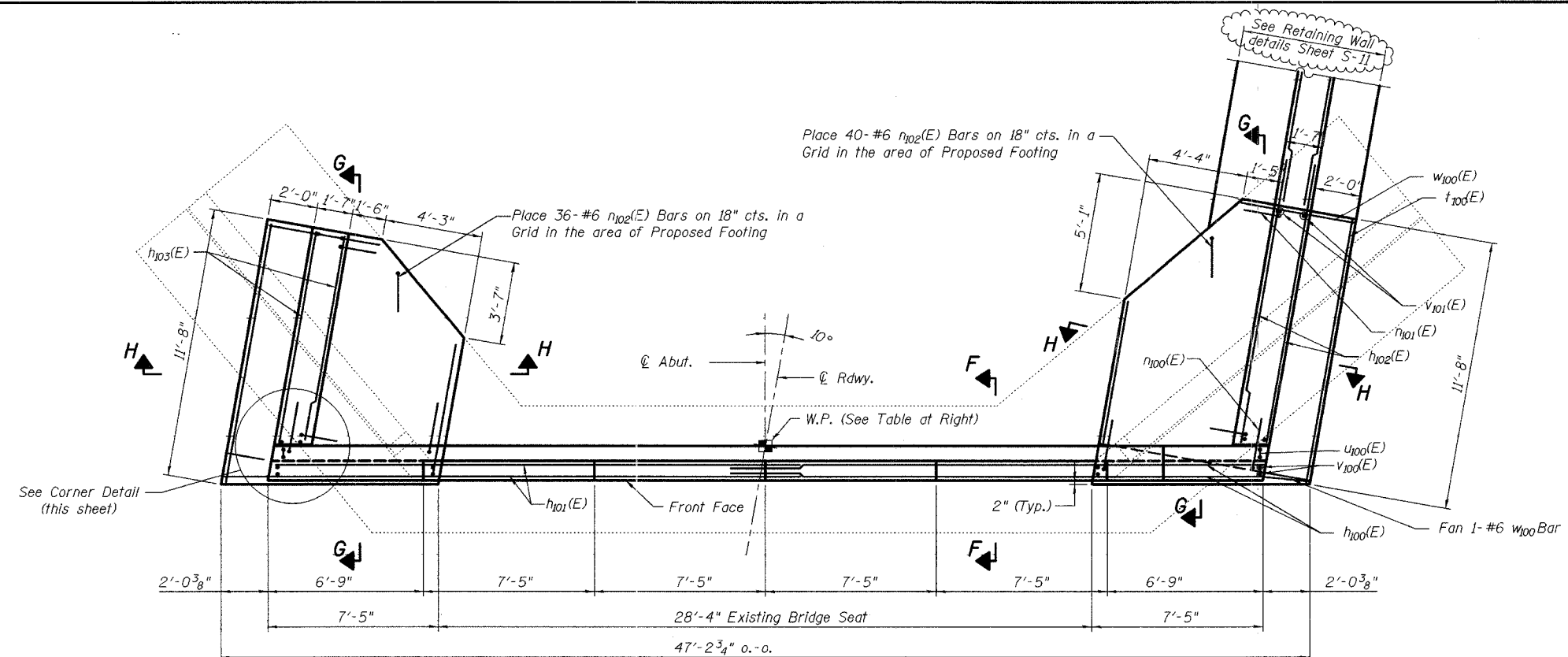
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.R.L. No. 3762	01-00139-02-BR	WILL	35	23
FED. ROAD DIST. NO. 1	ILL. PROJ. NO.	FED. AID PROJECT-		

SHEET NO. S-09
S-13 SHEETS

CONTRACT # 83802

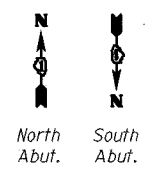
NOTES:

1. Removal of Existing Concrete shall conform to Article 501.03 of the Standard Specifications.
2. Existing reinforcement extending into removal areas shall be cleaned, straightened, and incorporated into the new construction.
3. Preserve and incorporate existing u Bar's located in the Back Wall.
4. Work this sheet with S-12.



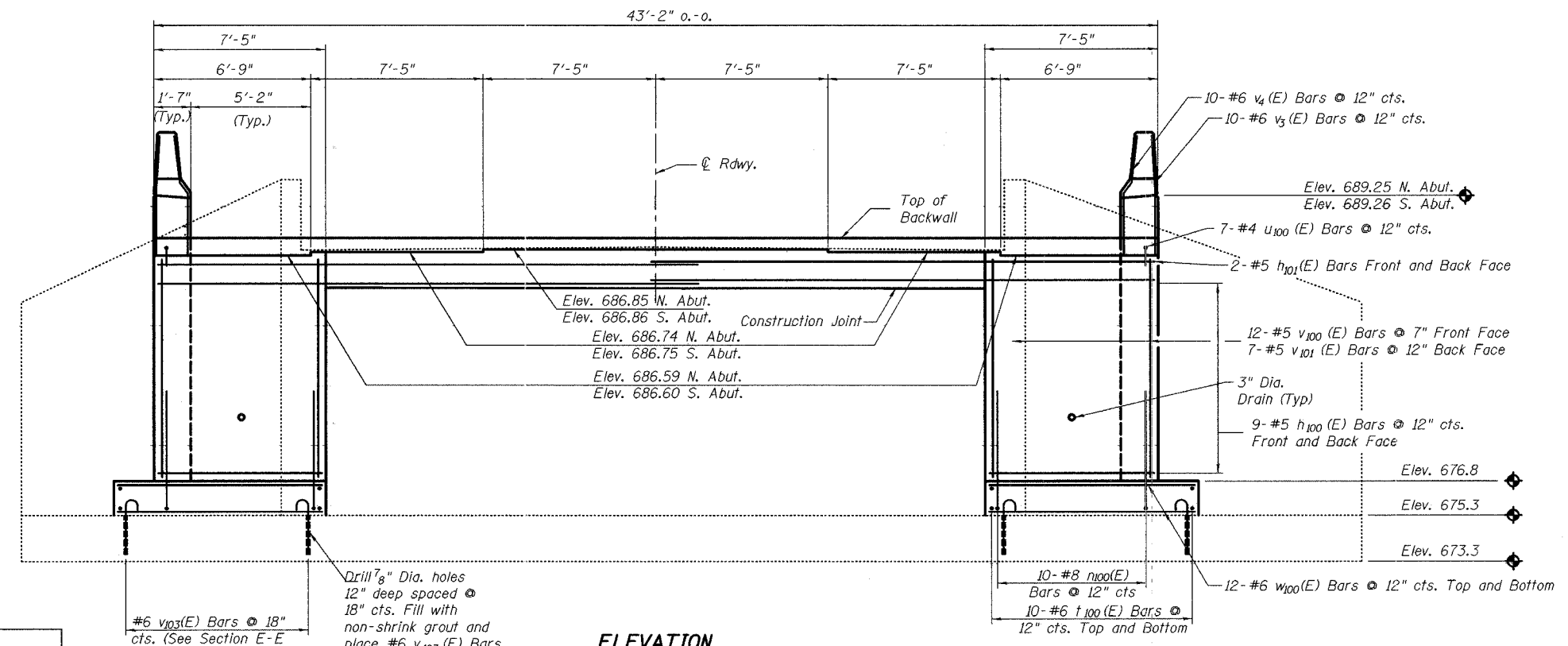
PLAN

Not to Scale



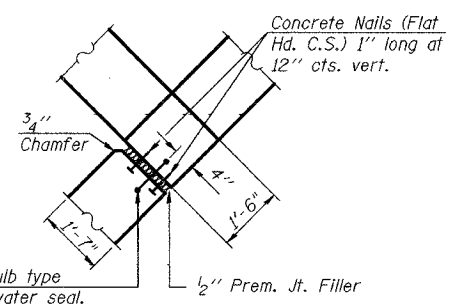
WORK POINT TABLE

Work Point	Harlem Ave Station	Offset
1	106+76.00	0' R
2	107+24.70	0' R



ELEVATION

Not to Scale



6" Hollow bulb type nonmetallic water seal. (6" from top of wall to top of ftg.)

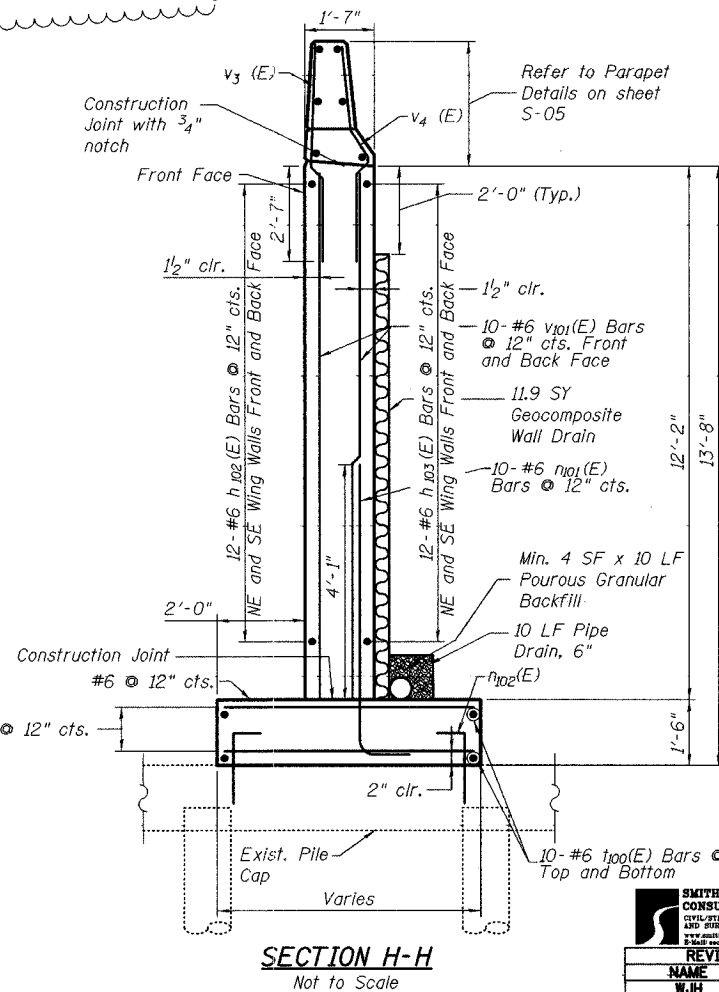
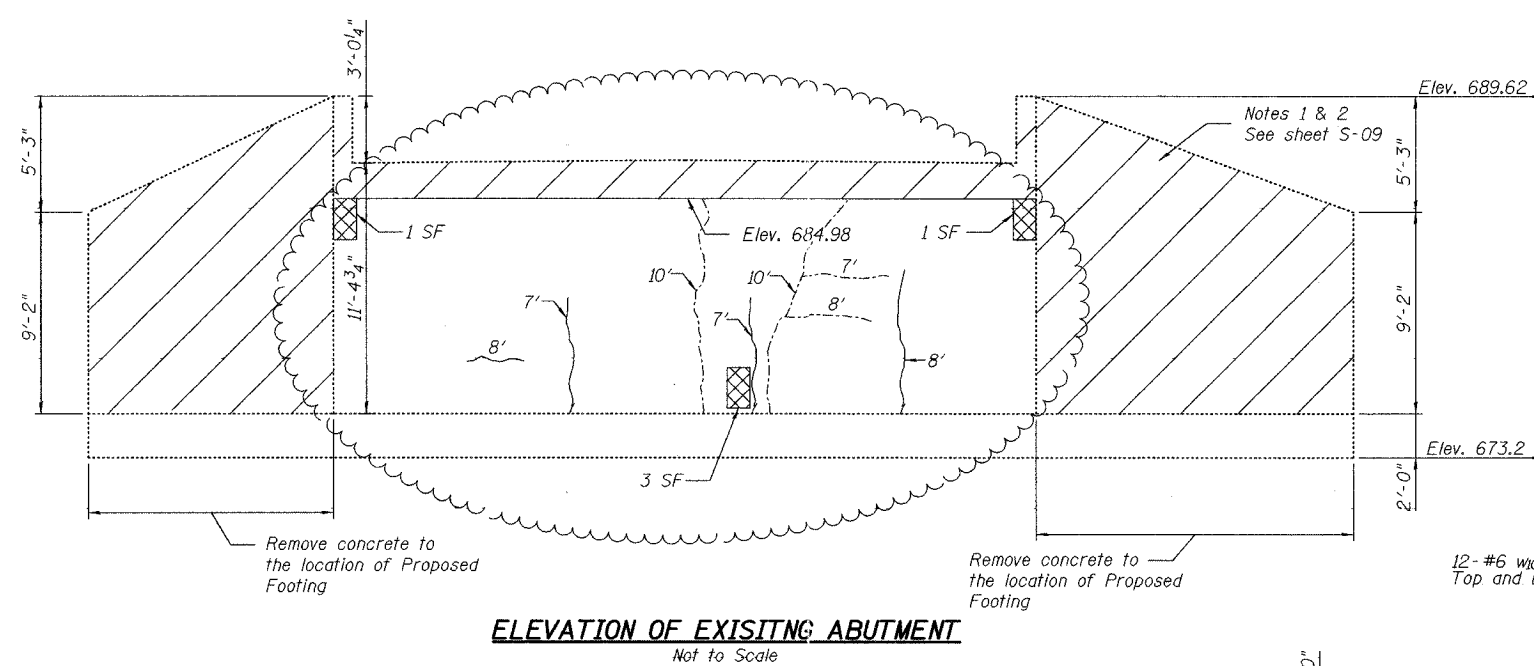
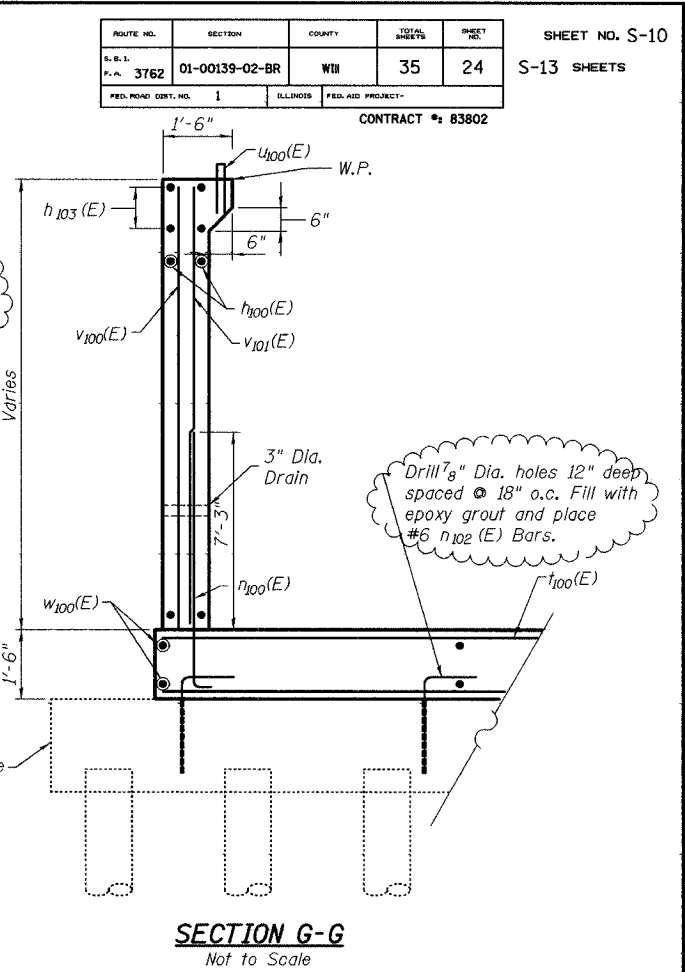
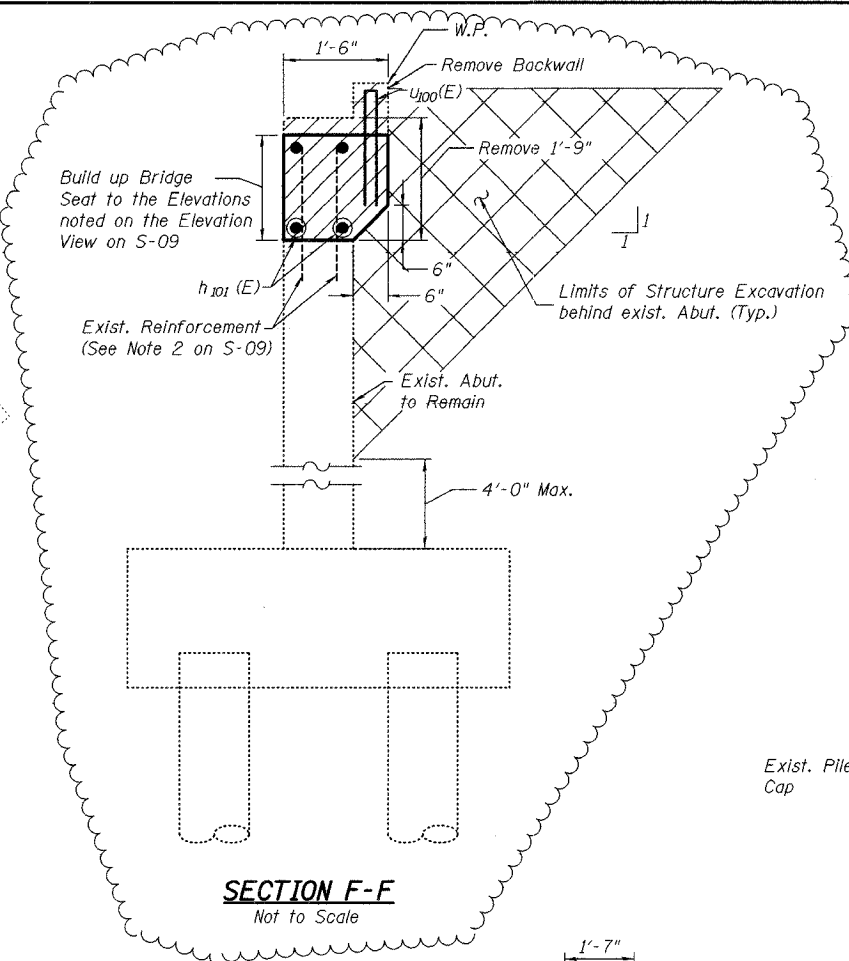
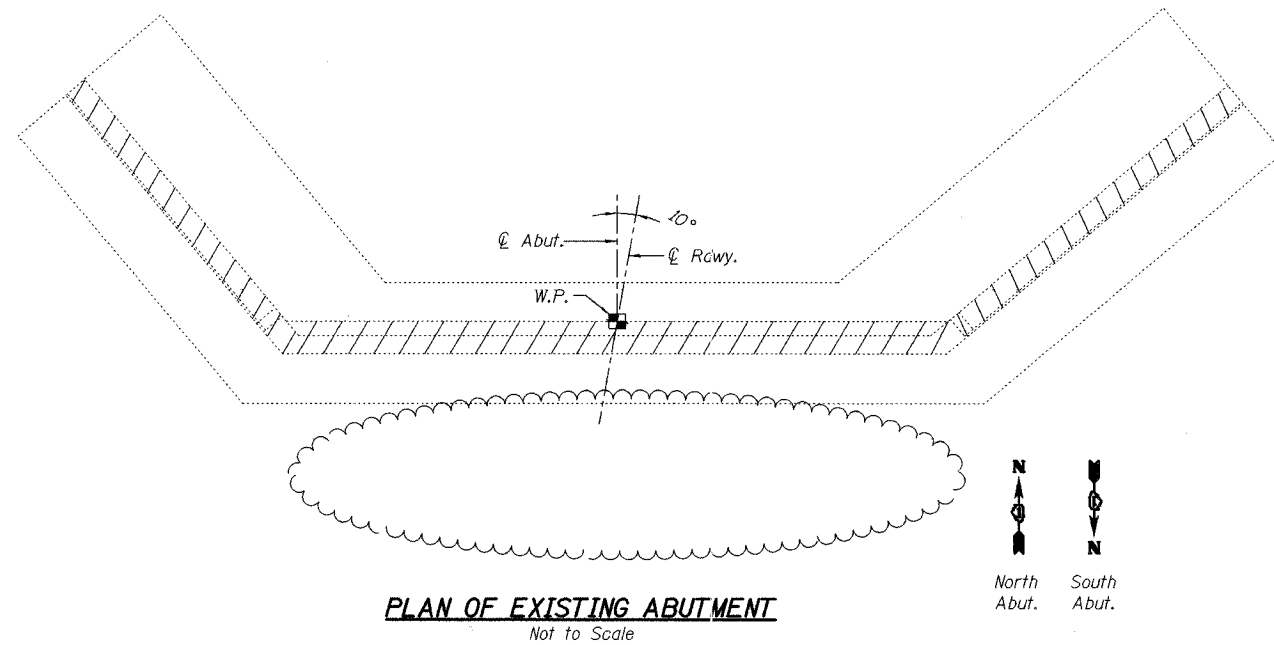
CORNER DETAIL

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

SMITH ENGINEERING CONSULTANTS, INC.	
CIVIL/STRUCTURAL ENGINEERS	
www.smith-engineering.com	
REVISIONS	
NAME	DATE
WJH	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION
Abutment Plan and Elevation
Harlem Avenue/Drecksler Road
Over Black Walnut Creek
Will County
Section 01-00139-02-BR
SN. 099-3091

DATE 5-26-2005



BILL OF MATERIAL

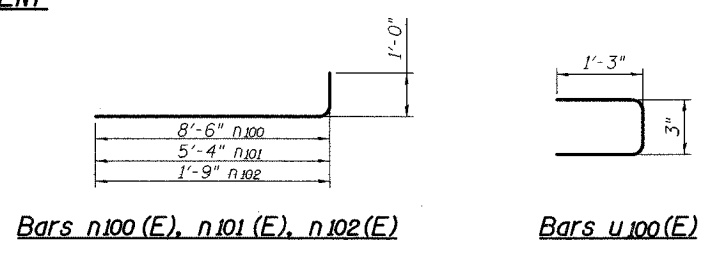
Bar	No.	Size	Length (FT)	Shape
h102(E)	72	# 5	7'-1"	
h101(E)	8	# 7	23'-6"	
h102(E)	96	# 6	12'-3"	
h102(E)	96	# 6	9'-8"	
h102(E)	40	# 8	6'-4"	
h102(E)	28	# 6	2'-9"	
h102(E)	80	# 6	11'-3"	
h102(E)	88	# 4	2'-9"	
v102(E)	48	# 5	9'-9"	
v102(E)	80	# 5	12'-4"	
v102(E)	40	# 6	9'-6"	
v102(E)	40	# 6	4'-5"	
v102(E)	40	# 6	5'-3"	
v102(E)	96	# 6	9'-1"	
Reinforcement Bars, Epoxy Coated		Pound	10,360	
Concrete Structures		Cu. Yds.	88.9	
Concrete Removal		Cu. Yds.	36.8	
Bridge Seat Sealer		Sq. Ft.	64.7	
Structure Excavation		Cu. Yd.	147	
Epoxy Crack Sealing		Foot	65	
Formed Concrete Repair (< 5 in)		Sq. Ft.	5	
Porous Granular Backfill		Cu. Yd.	76.3	
Geocomposite Wall Drain		Sq. Yd.	47.5	
Pipe Drain		Foot	40	

Reinforcement Bars designated (E) shall be Epoxy Coated

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

LEGEND:

- Indicates Concrete Removal Area
- Indicates Epoxy Crack Sealing (N. Abut.)
- Indicates Epoxy Crack Sealing (S. Abut.)
- Indicates Formed Concrete Repair (<5") (N. Abut.)



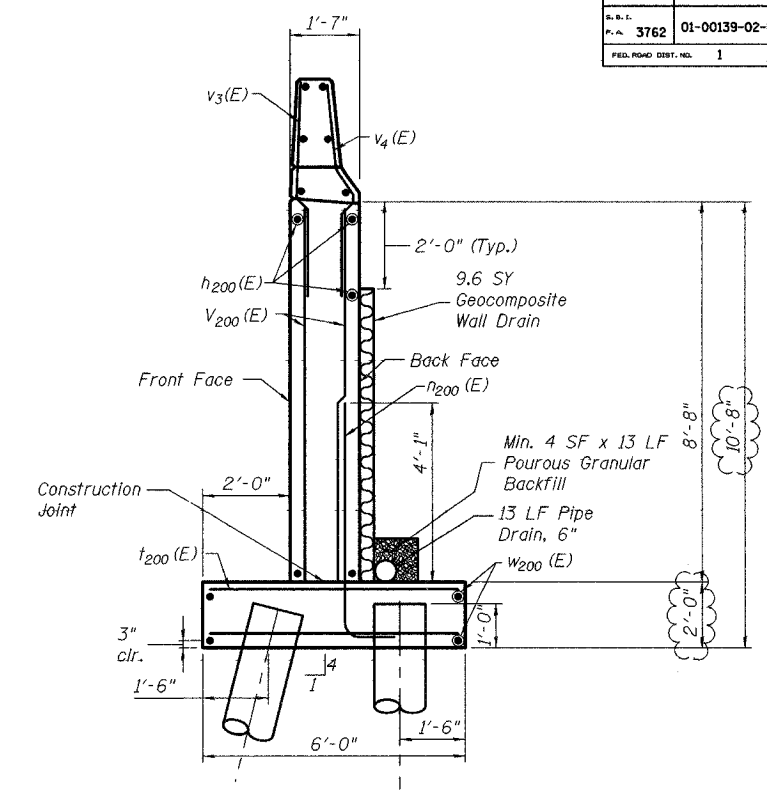
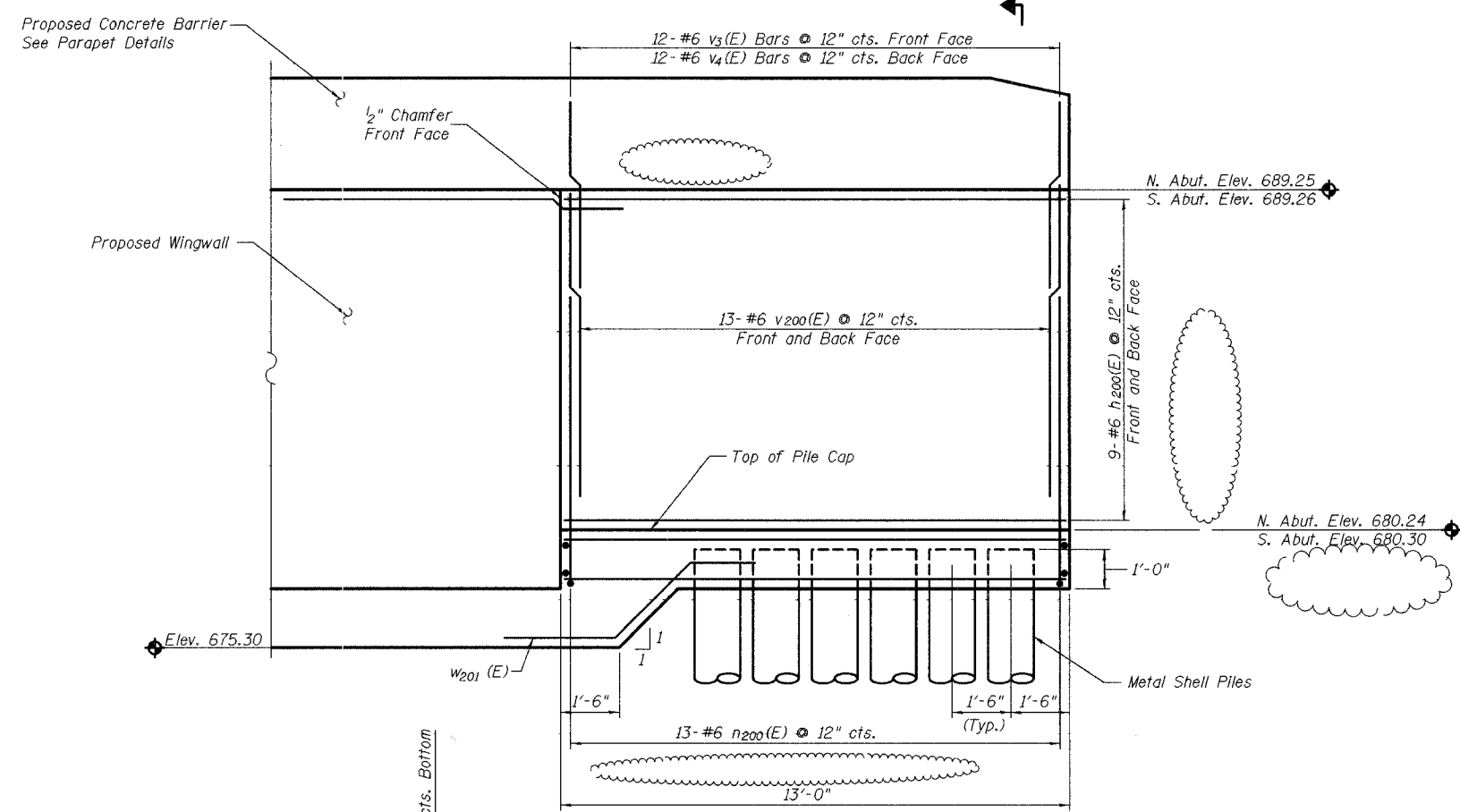
SMITH ENGINEERING CONSULTANTS, INC.
CIVIL/STRUCTURAL ENGINEERS AND SURVEYORS
www.smithengineering.com

REVISIONS	NAME	DATE
	WJH	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

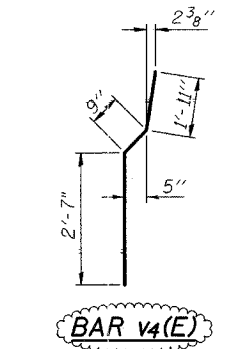
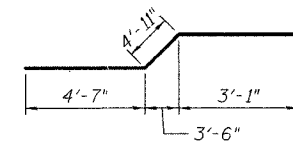
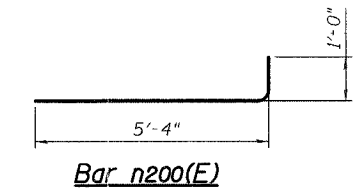
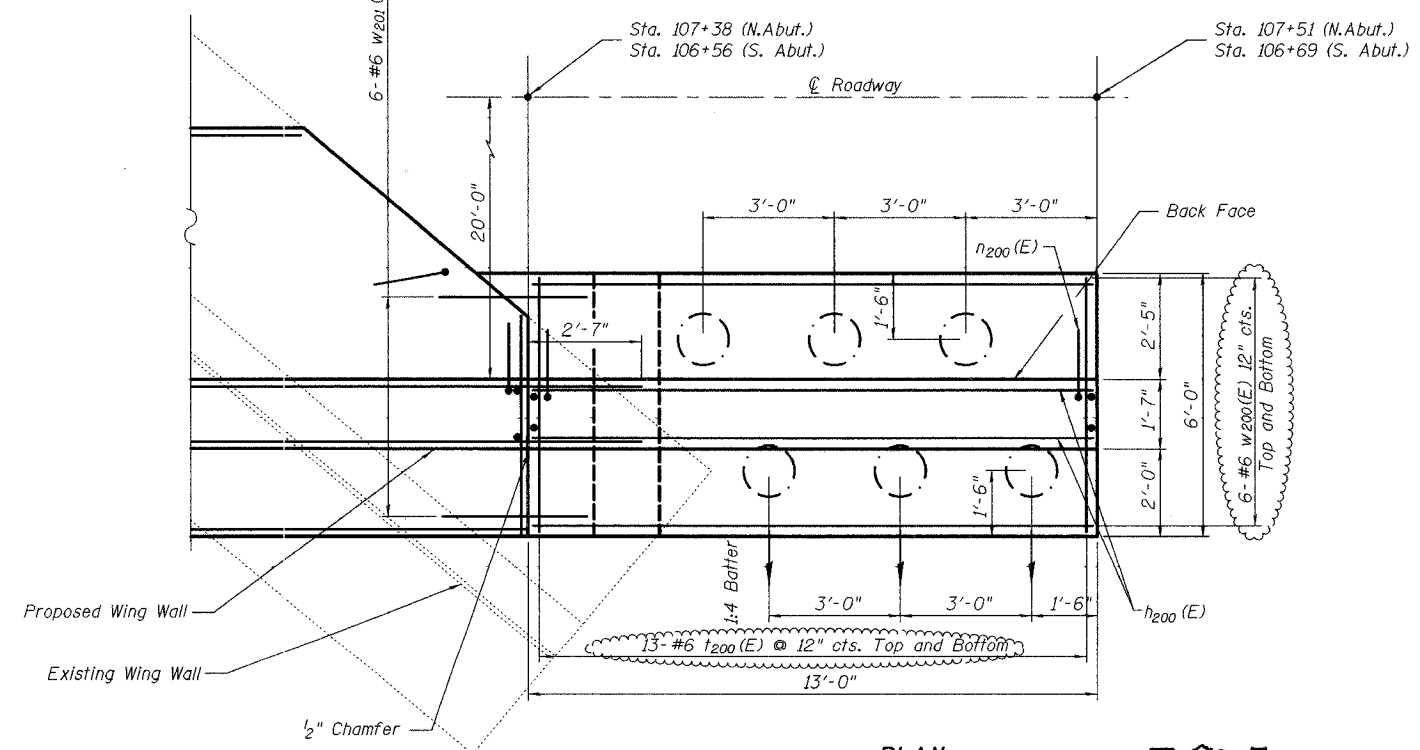
Abutment Details
Harlem Avenue/Drecksler Road
Over Black Walnut Creek
Will County
Section 01-00139-02-BR
SN. 099-3091

DATE 5-26-2005



PILE DATA

Type: 12" ϕ Metal Shells
Capacity: 15 Ton
Length: 39 Ft
No.: 12*
* includes one (1) Test Pile at Northeast Retaining Wall



BILL OF MATERIAL

Bar	No.	Size	Length (FT)	Shape
h ₂₀₀ (E)	36	# 6	12'-8"	
n ₂₀₀ (E)	26	# 6	6'-4"	
t ₂₀₀ (E)	52	# 6	5'-8"	
v ₂₀₀ (E)	52	# 6	8'-6"	
v ₃ (E)	23	# 6	4'-5"	
v ₄ (E)	23	# 6	5'-3"	
W ₂₀₀ (E)	24	# 6	12'-8"	
W ₂₀₁ (E)	12	# 6	12'-7"	
Reinforcement Bars, Epoxy Coated		Pound		3,970
Concrete Structures		Cu. Yd.		28.9
Structure Excavation		Cu. Yd.		83.6
Porous Granular Backfill		Cu. Yd.		46.7
Geocomposite Wall Drain		Sq. Yd.		19.3
Pipe Drain		Foot		26

Reinforcement Bars designated (E) shall be Epoxy Coated

DESIGNED	MGH
CHECKED	ROD
DRAWN	WJH
CHECKED	NRF

Not to Scale
Northeast Wall shown
(Southeast Wall ~ opposite hand)

SMITH ENGINEERING CONSULTANTS, INC.
CIVIL/STRUCTURAL ENGINEERS
1401 S. WASHINGTON ST., SUITE 200
CHICAGO, ILL. 60605
www.smithengineering.com
© 2005 smithengineering.com

REVISIONS	
NAME	DATE
WJH	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION

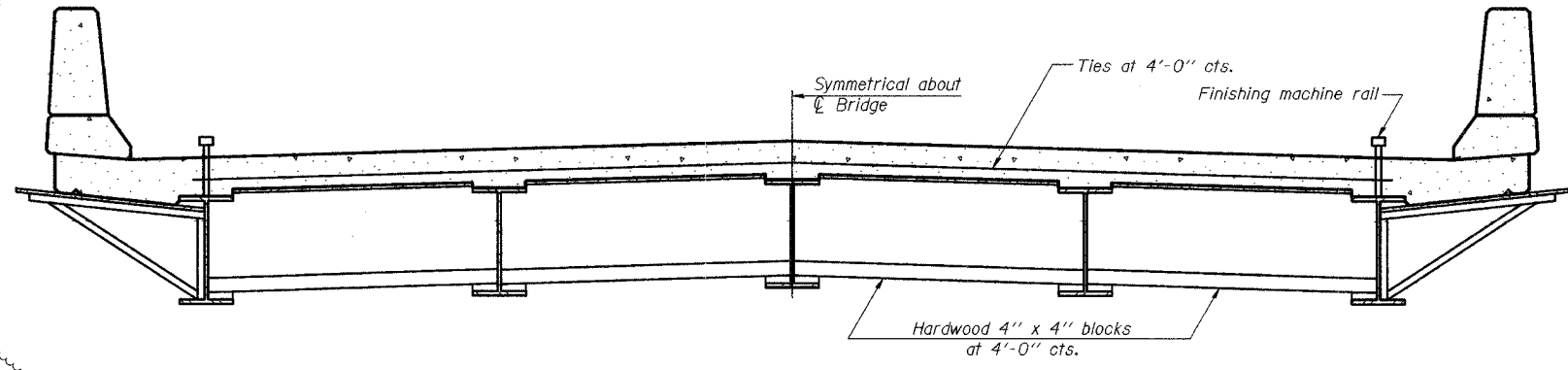
Retaining Wall Plan and Elevation
Harlem Avenue/Drecksler Road
Over Black Walnut Creek
Will County
Section 01-00139-02-BR
SN. 099-3091

DATE 5-26-2005

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.R.L. F.A. 3762	01-00139-02-BR	Will	35	26
FED. ROAD DIST. NO.	ILL. PROJ. NO.	FED. AID PROJECT		
1			CONTRACT #: 83802	

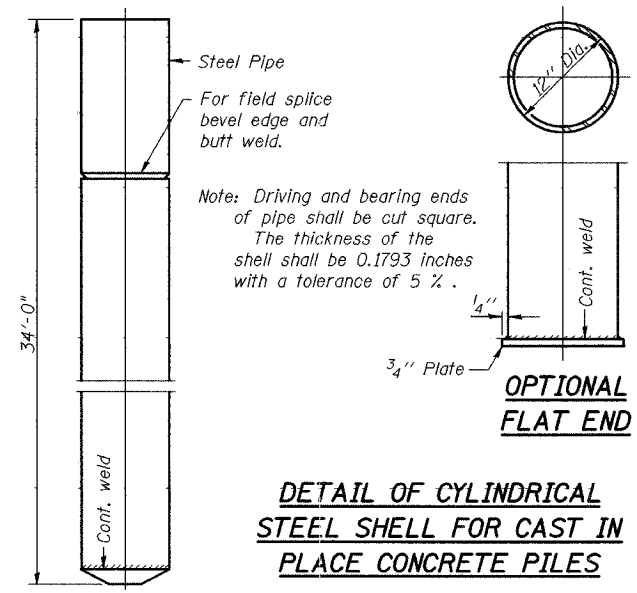
SHEET NO. S-12
S-13 SHEETS

When cantilever forming brackets are used, the work shall be done according to Article 503.06, except as modified below and in the details shown on this sheet.
The finishing machine rails shall be placed on the top flange of the exterior beams.
The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

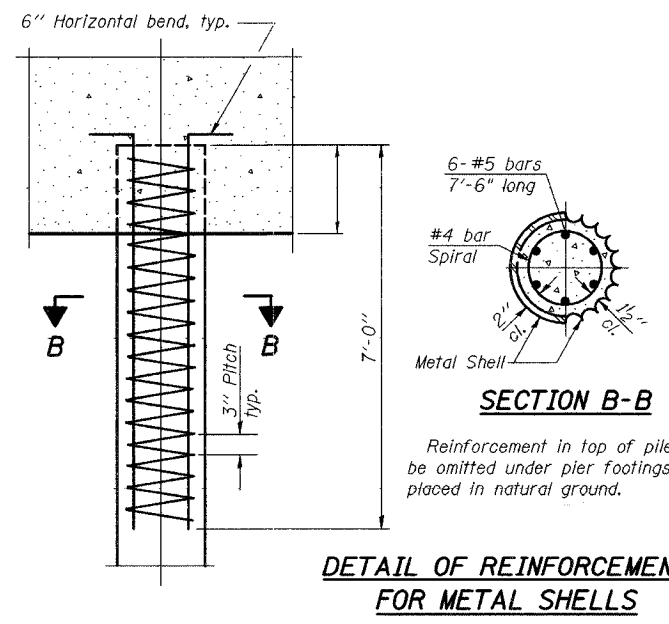


**FORM BRACES FOR
STANDARD CONSTRUCTION**

**CANTILEVER FORMING BRACKETS
FOR SUPERSTRUCTURES WITH
W27 BEAMS AND SMALLER**



**DETAIL OF CYLINDRICAL
STEEL SHELL FOR CAST IN
PLACE CONCRETE PILES**



**DETAIL OF REINFORCEMENT
FOR METAL SHELLS**

DESIGNED	MGH
CHECKED	RGD
DRAWN	WJH
CHECKED	NRF

SMITH ENGINEERING
CONSULTANTS, INC.
CIVIL, STRUCTURAL, MECHANICAL
AND SURVEYORS
www.smithengineering.com
© Smith Engineering

REVISIONS	
NAME	DATE
WJH	1-11-06

ILLINOIS DEPARTMENT OF TRANSPORTATION
Pile Details and Forming Bracket Details
Harlem Avenue/Drecksler Road
Over Black Walnut Creek
Will County
Section 01-00139-02-BR
SN. 099-3091

DATE 5-26-2005