

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
389A	D-7 Bridge Appr. 2009-1	SHELBY	14	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 74337		

D-97-054-08

PLANS FOR PROPOSED IMPROVEMENT

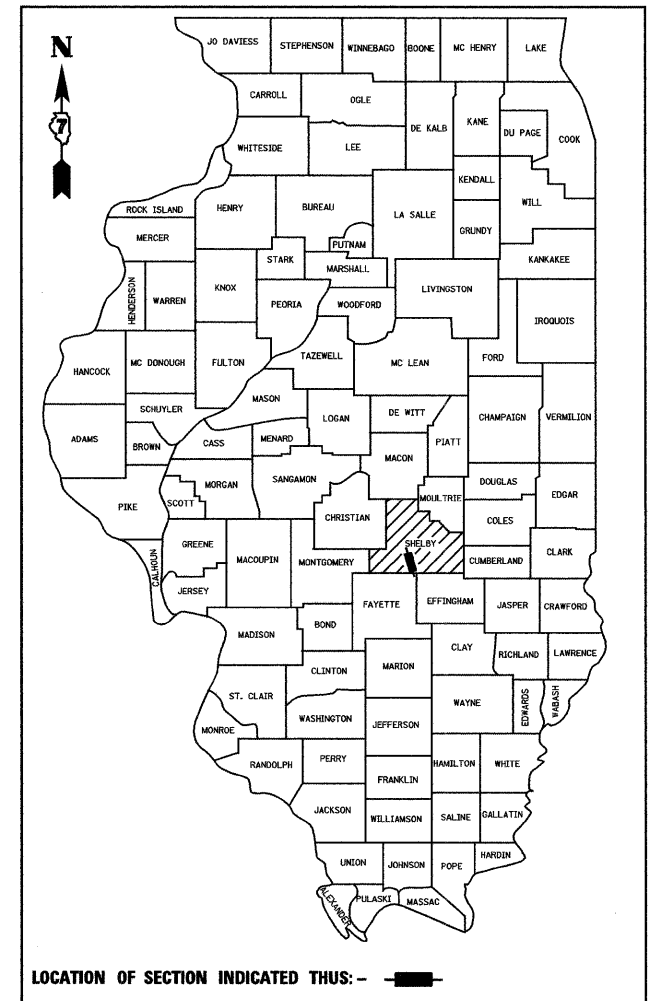
INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES & GENERAL NOTES
- 3-14 STRUCTURE PLANS

HIGHWAY STANDARDS

- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 701801-04 LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-01 TRAFFIC CONTROL DEVICES

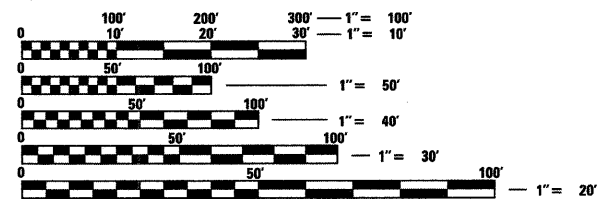
T.R. 389A (THOMPSON MILL ROAD)
SECTION D-7 BRIDGE APPROACH 2009-1
PROJECT : ACNHCB-0173(165)
SHELBY COUNTY
THOMPSON MILL COVERED BRIDGE
STRUCTURE NO. 087-0019
C-97-104-08
REPLACE APPROACH SPANS



James Paul Biggers
JAMES PAUL BIGGERS, P.E.
 2536 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
 DATE 02/01/09
 LICENSE EXPIRES 11/30/09

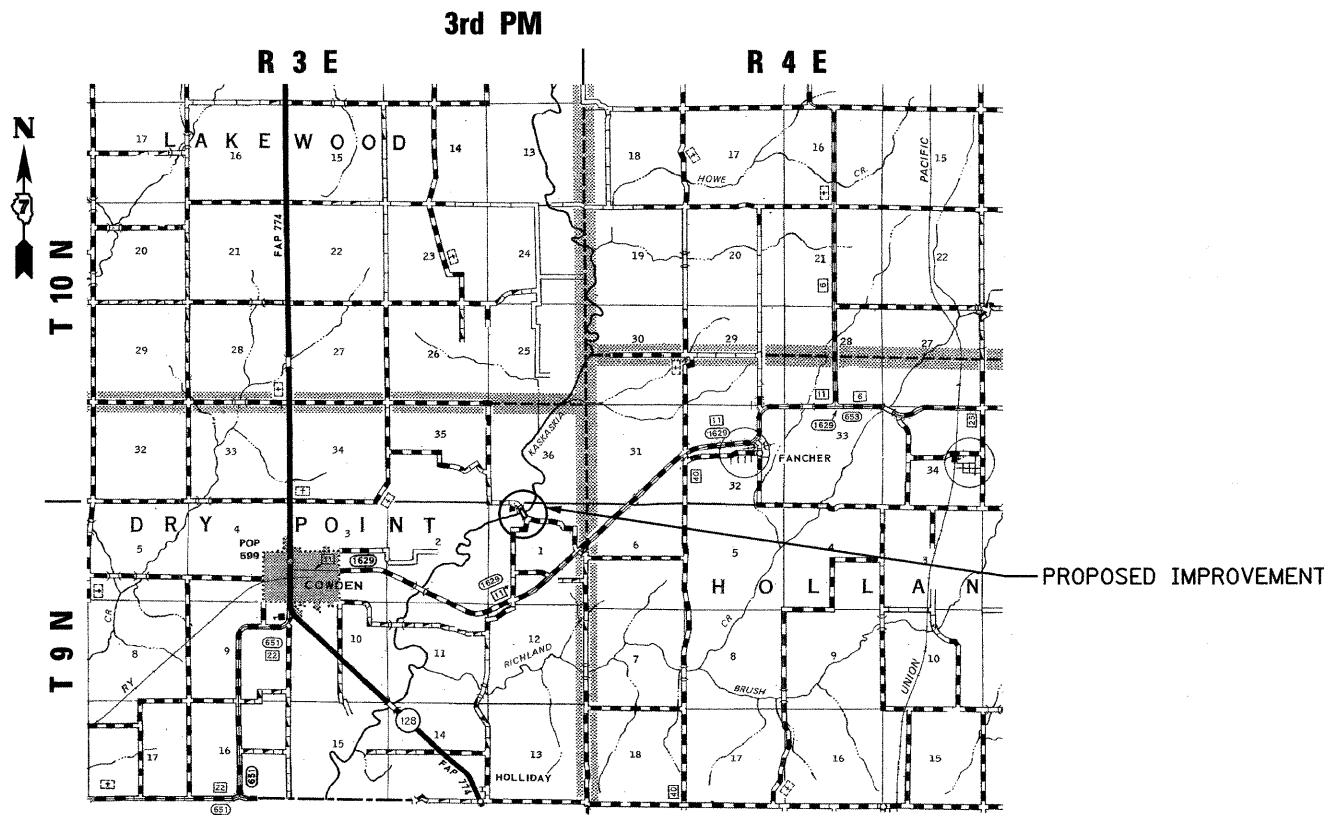
PLANS PREPARED BY:

JOHNSON, DEPP & QUISENBERRY
 CONSULTING ENGINEERS
 6450 South Sixth Street Road, Suite B Springfield, Illinois 62712
 Phone: (217) 529-4534 Fax: (217) 529-8278



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
 OR 811



LOCATION MAP
 1 MILE 0 1 2

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED February 11, 20 09

Roger L. Shubert
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 27, 20 09
Charles J. Ingersoll
 ENGINEER OF DESIGN AND ENVIRONMENT

March 27, 20 09
Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER: THOMAS RONAN (217)342-8320
SQUAD LEADER: JENNIFER WENTHE (217)342-8361
CONTRACT NO. 74337

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SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY <small>80% FED. 20% STATE</small>	BRIDGE Y068			
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.02	0.02			
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	20	20			
28000400	PERIMETER EROSION BARRIER	FOOT	120	120			
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	12	12			
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1			
50200100	STRUCTURE EXCAVATION	CU YD	123	123			
50700105	TREATED TIMBER	F.B.M.	5296	5296			
50700305	HARDWARE	POUND	182	182			
51200510	FURNISHING TREATED PILES 20.1 TO 38 FEET	FOOT	616	616			
51202305	DRIVING PILES	FOOT	616	616			
51202900	TEST PILE TIMBER	EACH	4	4			
51204650	PILE SHOES	EACH	26	26			
56300300	ADJUSTING WATER SERVICE LINES	FOOT	46	46			
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	3	3			
67100100	MOBILIZATION	L SUM	1	1			
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1			
X0321100	GEOTEXTILE RETAINING WALL	SQ FT	327	327			
X0325712	RELOCATE EXISTING ELECTRICAL SYSTEM	L SUM	1	1			

GENERAL NOTES

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

THE WORK ON THIS PROJECT IS LOCATED AT EXISTING SN 087-0019, THOMPSON MILL COVERED BRIDGE, CARRYING PEDESTRIAN TRAFFIC OVER THE KASKASKIA RIVER. THE THOMPSON MILL COVERED BRIDGE IS LOCATED APPROXIMATELY ONE MILE EAST OF COWDEN IN SHELBY COUNTY. THE WORK INCLUDED IN SECTION D-7 BRIDGE APPROACH 2009-1 CONSISTS OF COMPLETE REMOVAL AND REPLACEMENT OF BOTH BRIDGE APPROACH SPANS AND ANY OTHER WORK NECESSARY TO COMPLETE THE SECTION.

THE PROPOSED PROFILE AT THE NORTH END OF THE BRIDGE IS ABOUT 1.5 FEET HIGHER THAN THE EXISTING PROFILE. THE ADDITIONAL HEIGHT SHALL BE TRANSITIONED TO MEET THE EXISTING GRADE OVER A LENGTH OF ABOUT 50 FEET FROM THE NORTH ABUTMENT, USING MATERIAL FROM THE STRUCTURE EXCAVATION. THE COST OF THE EMBANKMENT PLACEMENT IS INCLUDED IN THE BID FOR "STRUCTURE EXCAVATION". A 2 INCH THICK "AGGREGATE SURFACE COURSE TYPE B" SHALL BE APPLIED OVER THE NEW GRADE TRANSITION. THE MATERIAL USED FOR "AGGREGATE SURFACE COURSE TYPE B" SHALL BE CRUSHED STONE.

SEEDING AND MULCH SHALL BE APPLIED TO AREAS AT THE SOUTH AND NORTH ABUTMENTS THAT ARE DISTURBED BY THE CONSTRUCTION, AND AS DIRECTED BY THE ENGINEER.

EROSION CONTROL GENERAL NOTES

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION:

- 1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
 - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM MOWING, BRUSH CUTTING, TREE REMOVAL, AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
 - (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
 - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION:

- 1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
 - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
 - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

- 1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADE. EROSION CONTROL BLANKET SHALL BE PLACED ON ALL DISTURBED AREAS.
 - (a) TEMPORARY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.

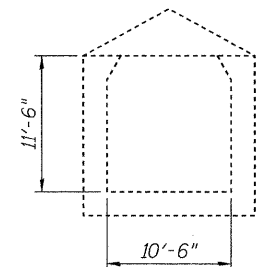
Benchmark: TBM #2, Railroad spike in timber pile at northwest corner of North Abutment, S.N. 087-0019, Elev. 522.31

EXISTING STRUCTURE: S.N. 087-0019, Covered span originally constructed in 1868, wood truss with 103 foot span, 14'-6" out-out width, concrete piers. Approach spans use steel beams with wood deck, timber pile bent piers and abutments.

Existing approach spans shall be removed and replaced.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



END ELEVATION
COVERED BRIDGE

GENERAL NOTES

Treated timber shall be according to Sections 507 and 1007 of the Standard Specifications. Wood members shall be visually graded No. 2 Southern Pine or No. 2 Douglas Fir-Larch, or approved equivalent. Members shall be surfaced on all sides (S4S), except the 3"x10" members shall be rough-sawn. Member thickness and width shown on the plans are actual (not nominal) dimensions.

Treated timber piles shall be according to Sections 512 and 1007.08 of the Standard Specifications, except the piles shall have a nominal diameter as specified on the plans (10"). The tops of all piles shall be protected with galvanized flashing according to Article 512.13.

Hardware shall be according to Sections 507.07 and 1006.17 of the Standard Specifications. Holes for all hardware shall be predrilled to avoid splitting. Wood screws (except lag screws) shall have a flat-countersunk head, and shall be "rolled thread" with a constant root diameter to simplify predrilling (not "cut thread" with a tapered diameter).

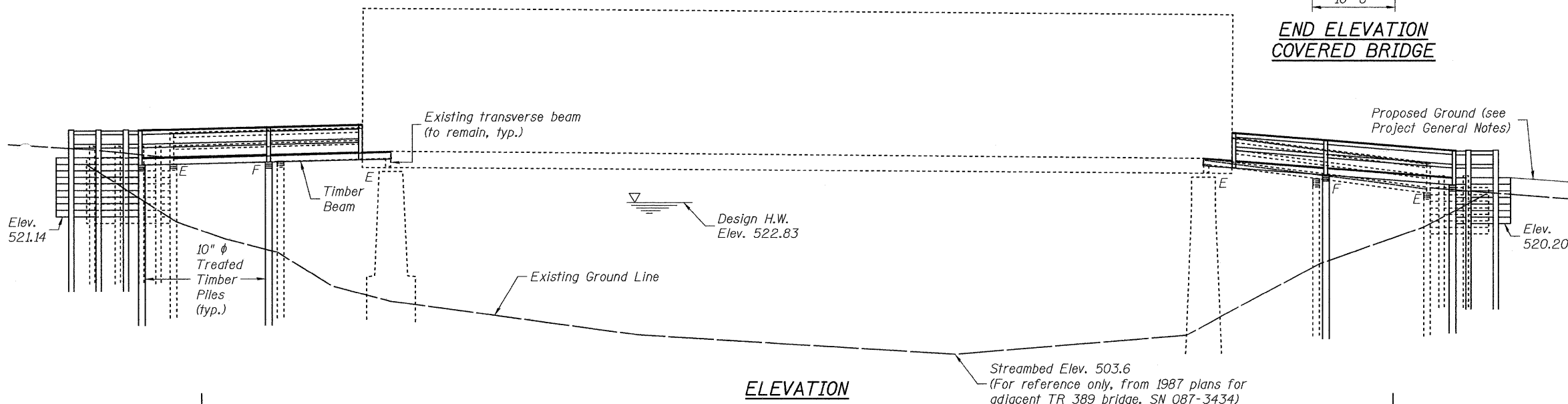
Tapered shims shall be made of a composite material, with a minimum thickness of about 1/8", as supplied by Nelson Shim Company or Glazlock Shims Inc., or approved equivalent. Multiple shims may be necessary to obtain desired slope and/or width.

The existing electrical and water lines on and adjacent to the structure shall be located and maintained or adjusted during construction. See Special Provisions.

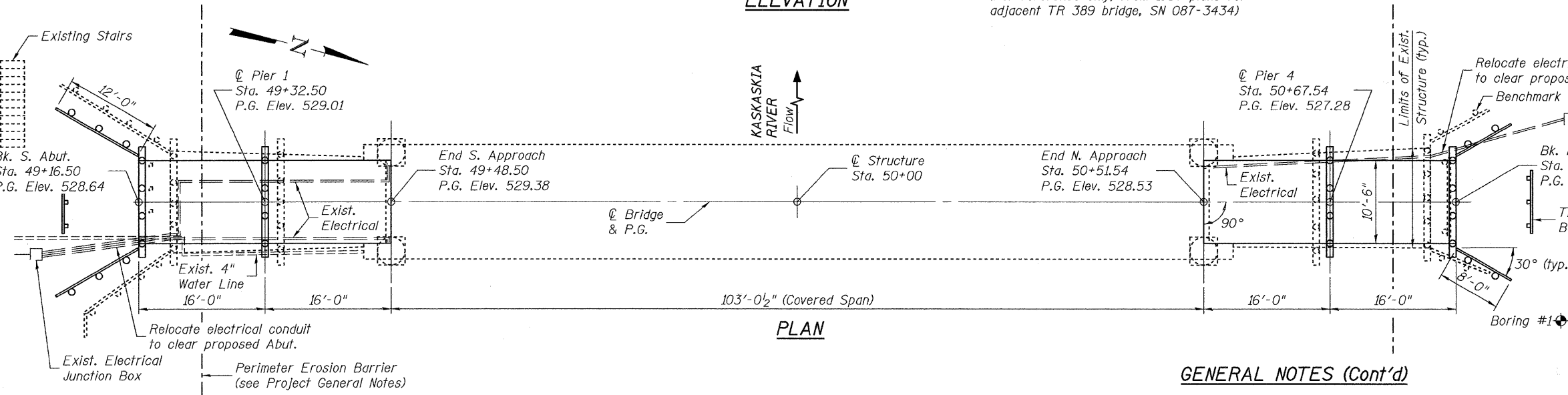
The Contractor shall submit a demolition plan to the Engineer for approval, detailing the proposed methods of demolition and the amount, location(s) and type(s) of equipment to be used.

The existing historic covered bridge shall be protected during construction, and shall not be used for construction equipment, or material storage, without approval of the Engineer.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.



ELEVATION



PLAN

INDEX OF SHEETS

Sheet No.	Description
1	General Plan/Elev, General Notes & Bill of Mat'l
2-3	Superstructure
4	South Abutment
5	North Abutment
6	Geotextile Retaining Wall
7	Piers 1 & 4
8-12	Soil Borings

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal Of Existing Structures	Each	1	--	1
Structure Excavation	Cu Yd	--	123	123
Treated Timber	F.B.M.	3229	2067	5296
Hardware	Pound	116	66	182
Furnishing Treated Piles 20.1 To 38 Feet	Foot	--	616	616
Driving Piles	Foot	--	616	616
Test Pile Timber	Each	--	4	4
Pile Shoes	Each	--	26	26
Adjusting Water Service Lines	Foot	32	14	46
Relocate Existing Electrical System	L Sum	1	--	1
Geotextile Retaining Wall	Sq Ft	--	327	327

GENERAL NOTES (Cont'd)

Considering the relatively soft soils indicated by the boring at the north abutment, the Contractor shall keep heavy construction equipment (crane, dump truck, etc.) a minimum of 15 feet from the excavation limits at both abutments.

LOADING

Pedestrian (85 psf)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

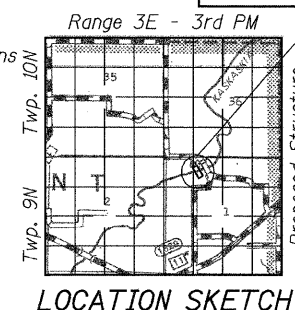
DESIGN STRESSES

FIELD UNITS

Per AASHTO Table 8.4.1.1.4-1 For Southern Pine, No. 2: Fbo = 1,050 psi (10" wide) For Douglas Fir-Larch, No. 2: Fbo = 900 psi (10" wide)

SEISMIC DATA

Not Applicable



LOCATION SKETCH

GENERAL PLAN & ELEVATION
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1 OF 12	389A	D-T Bridge Appr. 2009-1	SHELBY	14	3
		STA. 50+00			CONTRACT NO. 74337
					ILLINOIS FED. AID PROJECT

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (T00)
ENGINEER OF BRIDGES AND STRUCTURES

DESIGN SCOUR ELEVATION TABLE

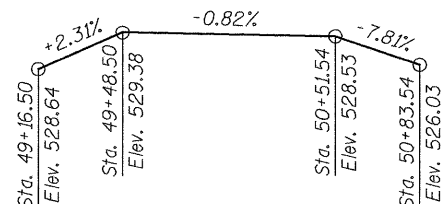
Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 4	N. Abut.
	521.1	513.0	512.0	520.2

WATERWAY INFORMATION**

** For Reference only, Info from 1987 plans for TR 389 bridge (SN 087-3434), located approx. 150' upstream.

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	10558	1952	2231	522.83	0	0.12	522.83	522.95
Base	100	13313	2048	2342	523.47	0	0.38	523.47	523.85
Max. Calc.	500	15574	2122	2430	523.97	0.16	0.62	524.13	524.59

PROFILE GRADE



Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ DRAWN: SJS
CHECKED: DCD CHECKED: DCD

Signed: David Depp
Date: 7-10-2009
Lic. Expires: 11-30-2010

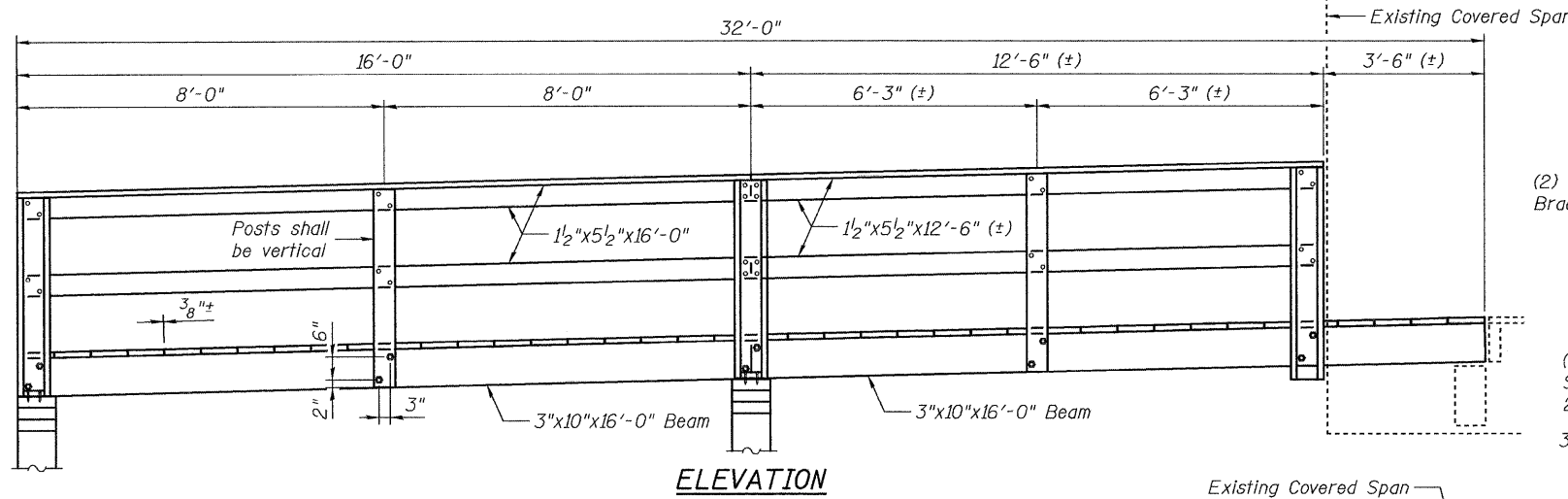


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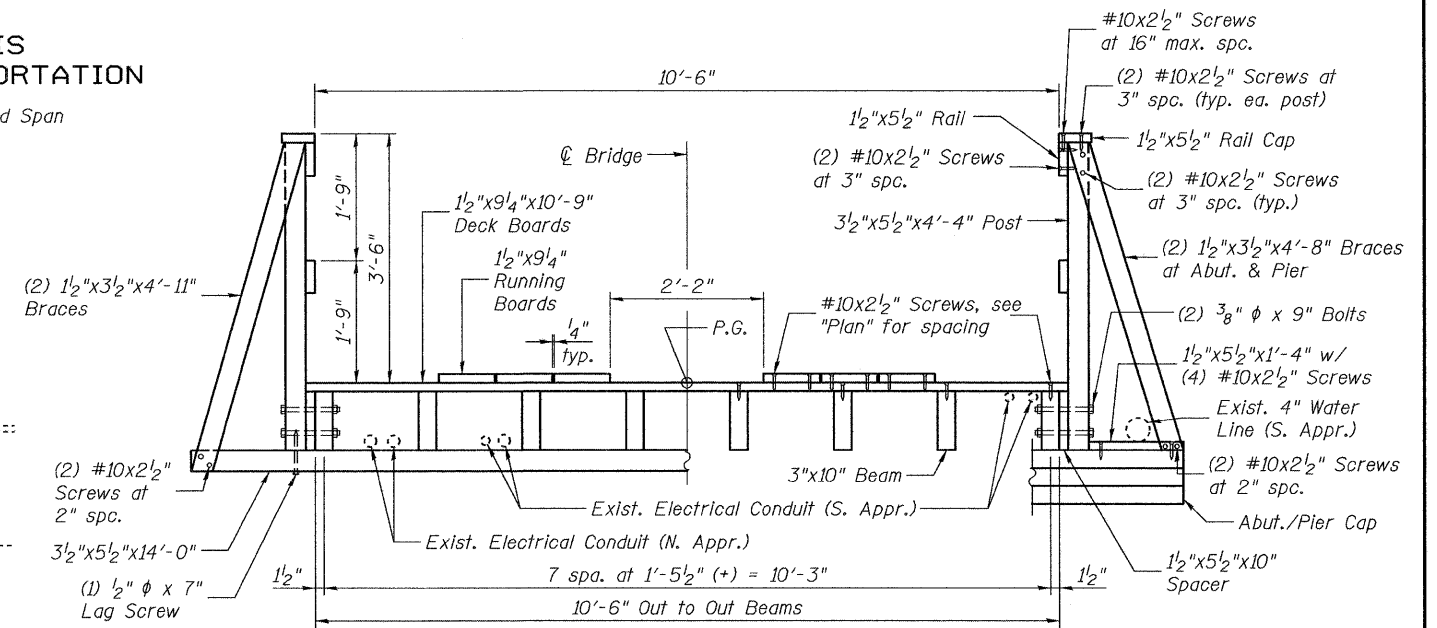
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



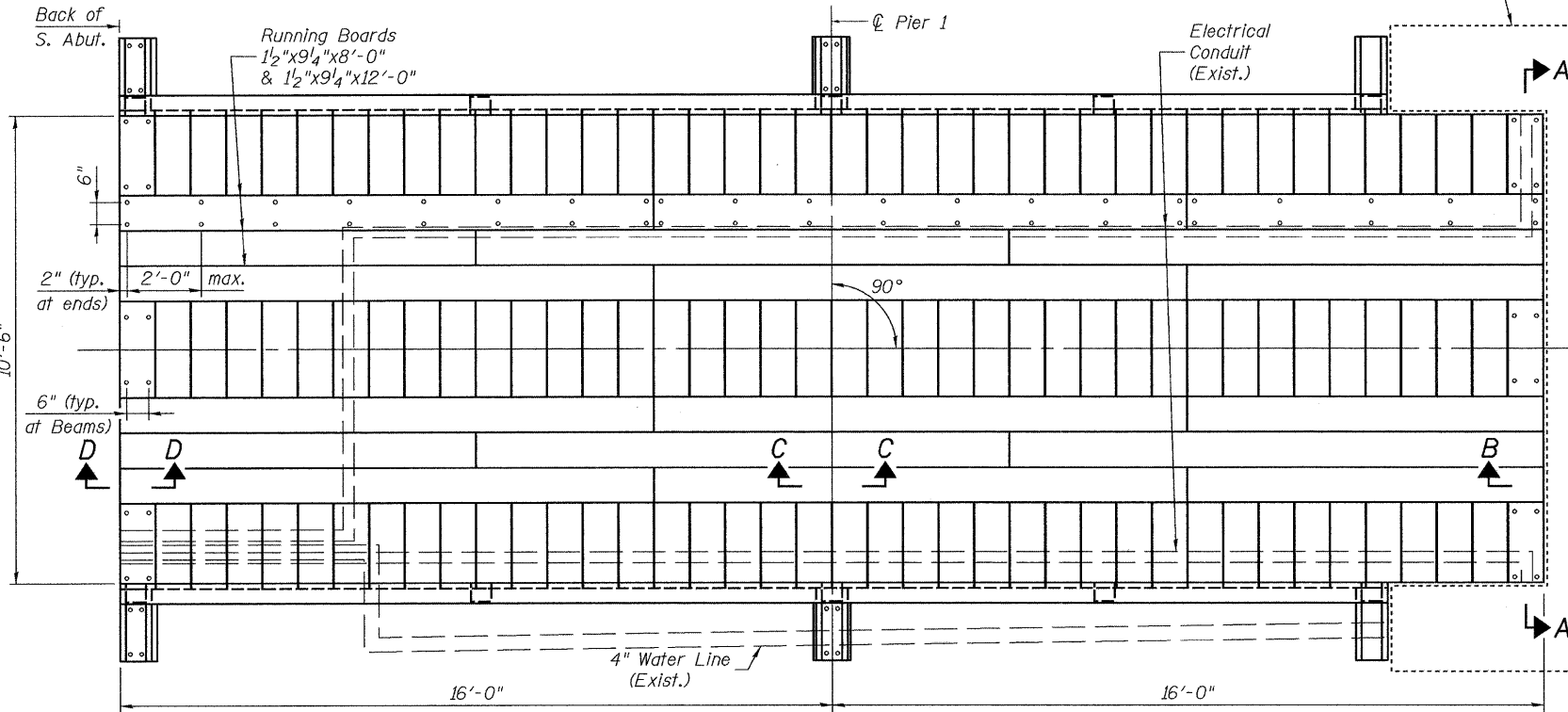
ELEVATION



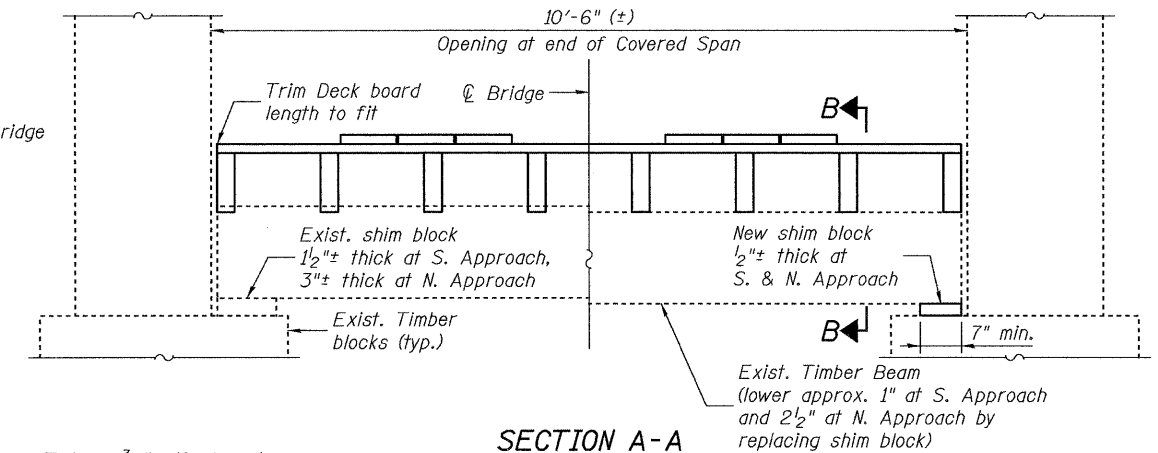
SHOWING RAIL POST AT
END OF COVERED SPAN

SHOWING RAIL POST AT
ABUTMENT & PIER

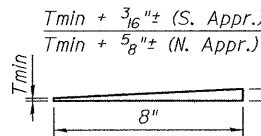
CROSS SECTION
(Looking North)



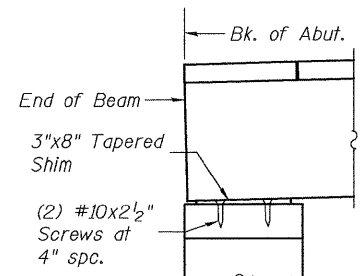
PLAN-SOUTH APPROACH



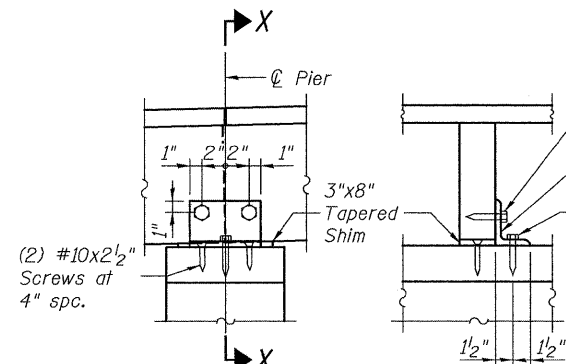
SECTION A-A



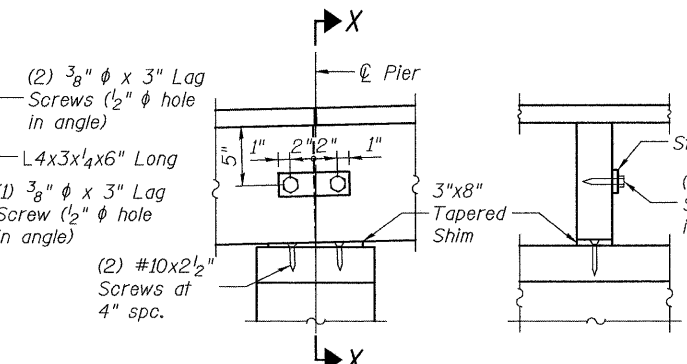
TAPERED SHIM
(See General Notes)



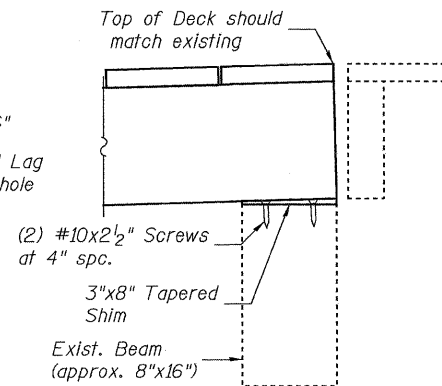
SECTION D-D



SECTION C-C
SECTION X-X
AT BEAMS 2, 3, 6 & 7



SECTION C-C
SECTION X-X
AT BEAMS 1, 4, 5 & 8



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Treated Timber	F.B.M.	1615
Hardware	Pound	58

SUPERSTRUCTURE - SOUTH APPROACH
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

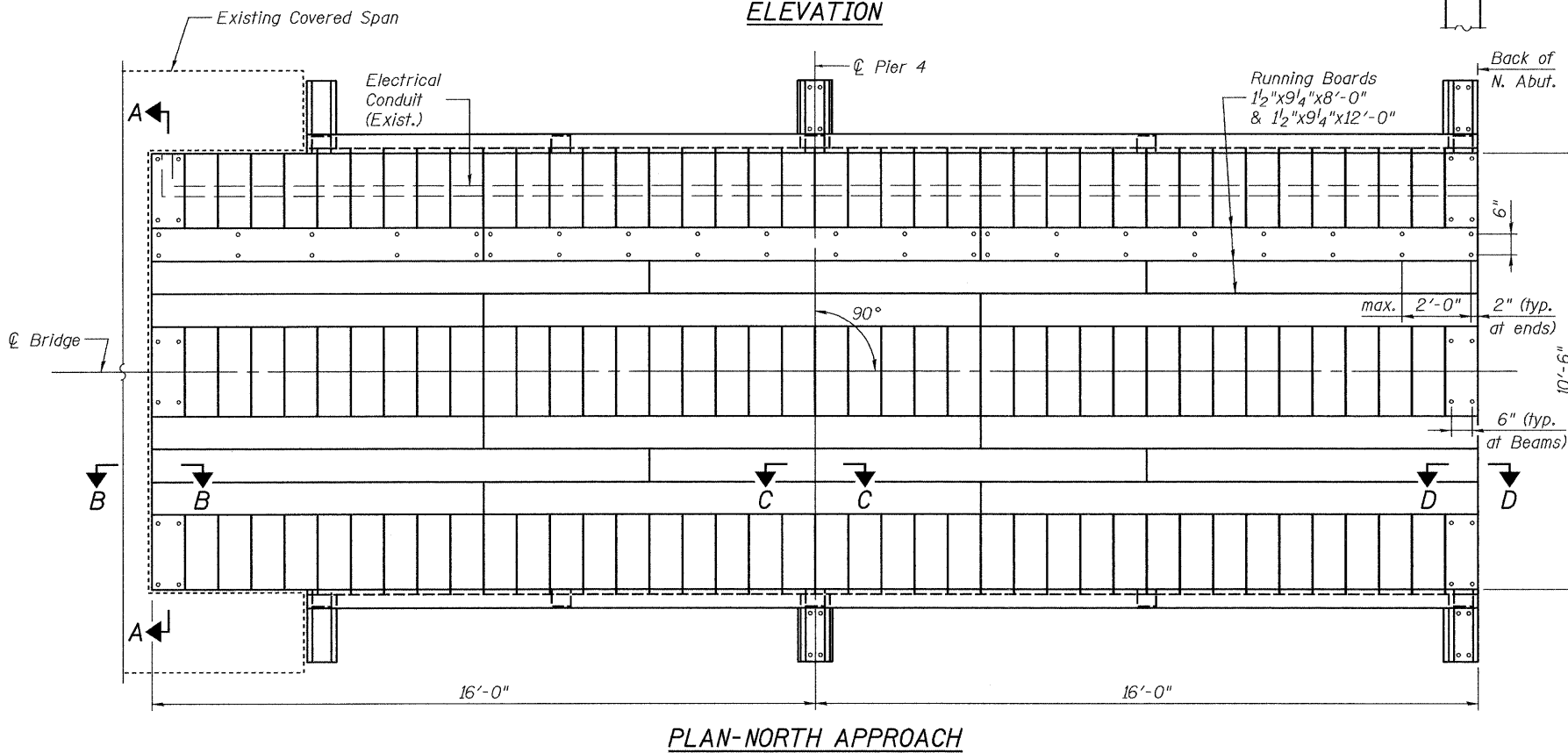
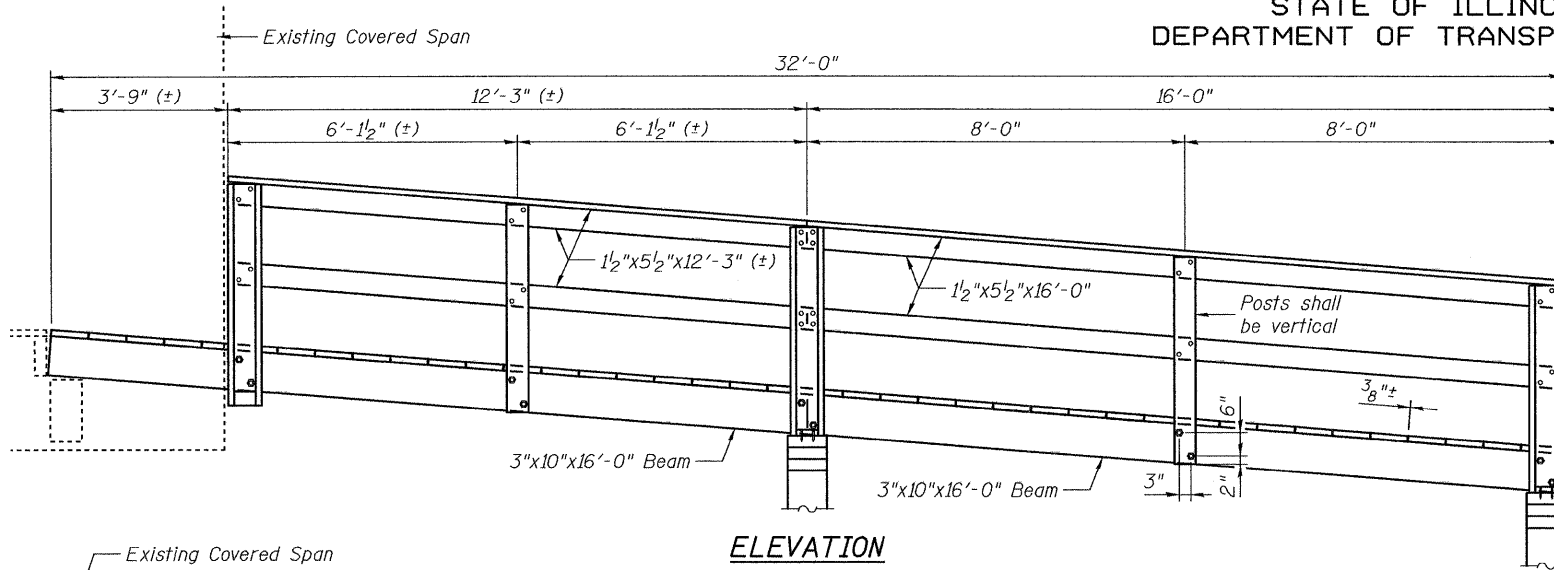
SHEET 2 OF 12	I.R. RTE. 389A	SECTION D-7 Bridge Appr. 2009-1	COUNTY SHELBY	TOTAL SHEETS 14	SHEET NO. 4
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ DRAWN: SJS/PTR
CHECKED: DCD CHECKED: DCD

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NOTE:
For additional Details and Sections,
see sheet 2 of 12.

BILL OF MATERIAL

Item	Unit	Total
Treated Timber	F.B.M.	1614
Hardware	Pound	58

**SUPERSTRUCTURE - NORTH APPROACH
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019**



DESIGNED: JDQ	DRAWN: SJS/PTR
CHECKED: DCD	CHECKED: DCD

SHEET 3 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-T Bridge Appr. 2009-1	SHELBY	14	5
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

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DEPARTMENT OF TRANSPORTATION

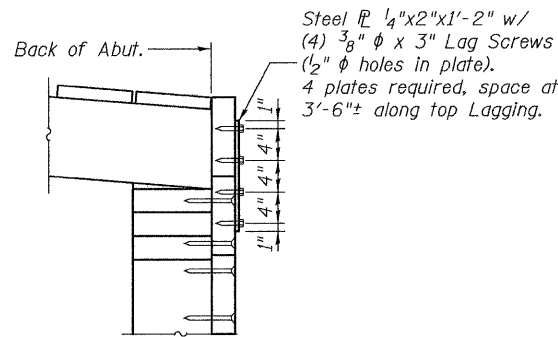
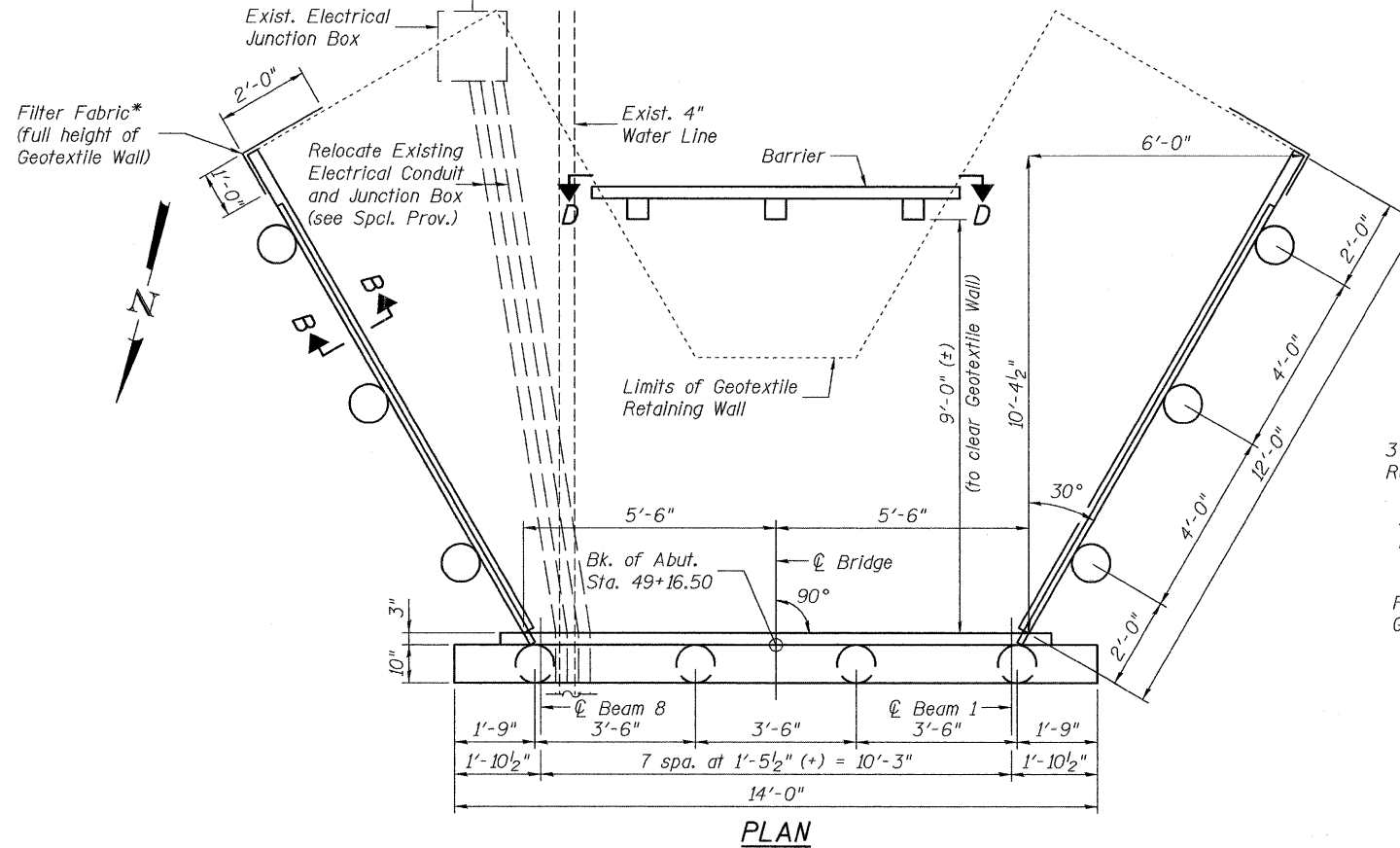
PILE DATA (PILE BENT)

Type: Timber - 10" dia. Treated, with Pile Shoes
Nominal Required Bearing: 106 kips
Factored Resistance Available: 53 kips
Est. Length: 25'
No. Production Piles: 3
No. Test Piles: 1

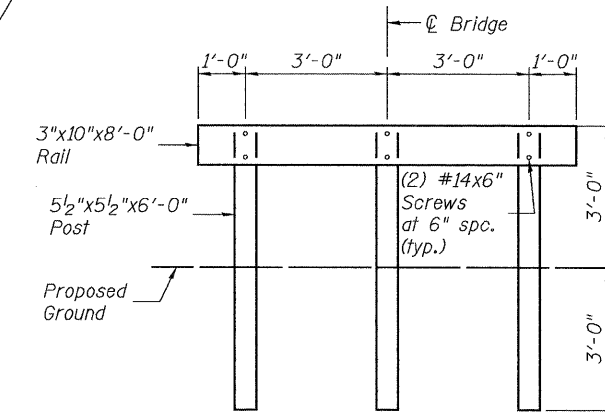
PILE DATA (WINGWALLS)

Type: Timber - 10" dia. Treated, with Pile Shoes
Nominal Required Bearing: NA
Factored Resistance Available: NA
Min. Pile Tip Elevation: 506.1 (see Note **)
Est. Length: 26'
No. Production Piles: 6
No. Test Piles: None

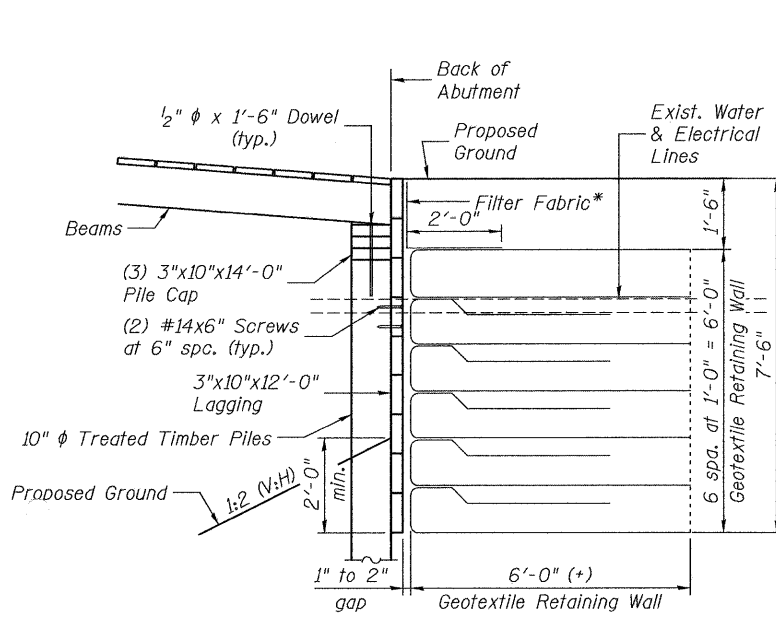
** Wingwall piles shall be driven to the Min. Tip Elevation shown. However if the piles reach the shale/rock layer above this elevation, then pile driving may stop when a Nominal Bearing of 106 kips is obtained.



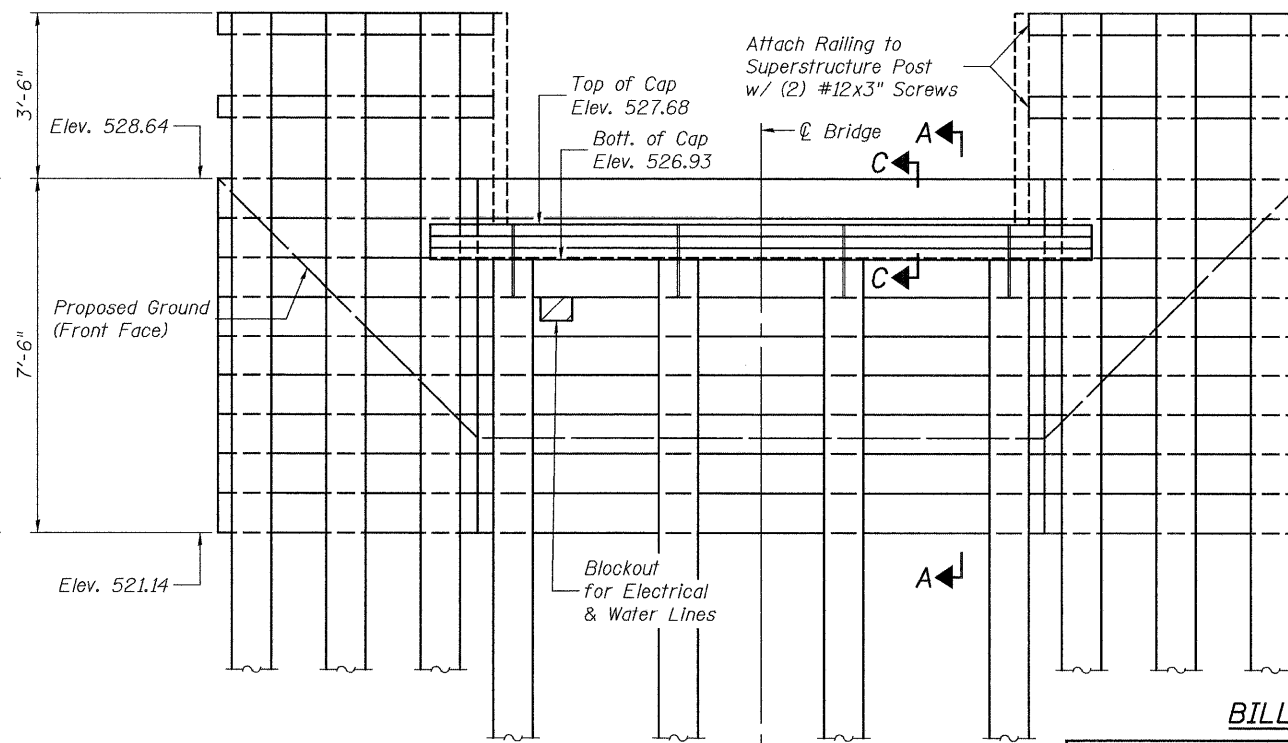
SECTION C-C



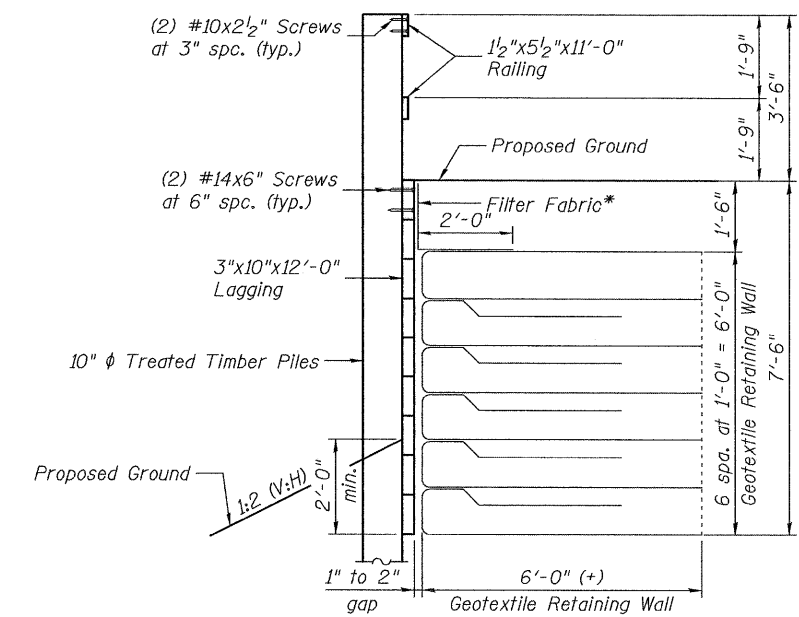
SECTION D-D



SECTION A-A



ELEVATION - SOUTH ABUTMENT
(Facing South)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Treated Timber	F.B.M.	1014
Hardware	Pound	30
Furnishing Treated Piles 20.1 to 38 Feet	Foot	231
Driving Piles	Foot	231
Test Pile Timber	Each	1
Pile Shoes	Each	10
Geotextile Retaining Wall	Sq Ft	210
Structure Excavation	Cu Yd	86

* Filter Fabric shall be provided for soil backfill as shown, cost included with Geotextile Retaining Wall.

For Geotextile Retaining Wall construction details, see sheet 6 of 12.

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ DRAWN: SJS/PTR
CHECKED: DCD CHECKED: DCD

SOUTH ABUTMENT
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET 4 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-T Bridge Appr. 2009-1	SHELBY	14	6
STA. 50+00			CONTRACT NO. 74337		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

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DEPARTMENT OF TRANSPORTATION

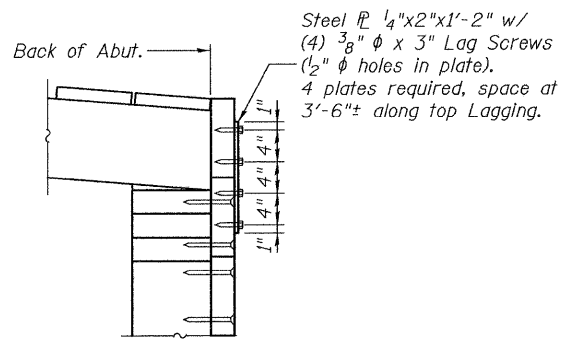
PILE DATA (PILE BENT)

Type: Timber - 10" dia. Treated, with Pile Shoes
Nominal Required Bearing: 106 kips
Factored Resistance Available: 53 kips
Est. Length: 35'
No. Production Piles: 3
No. Test Piles: 1

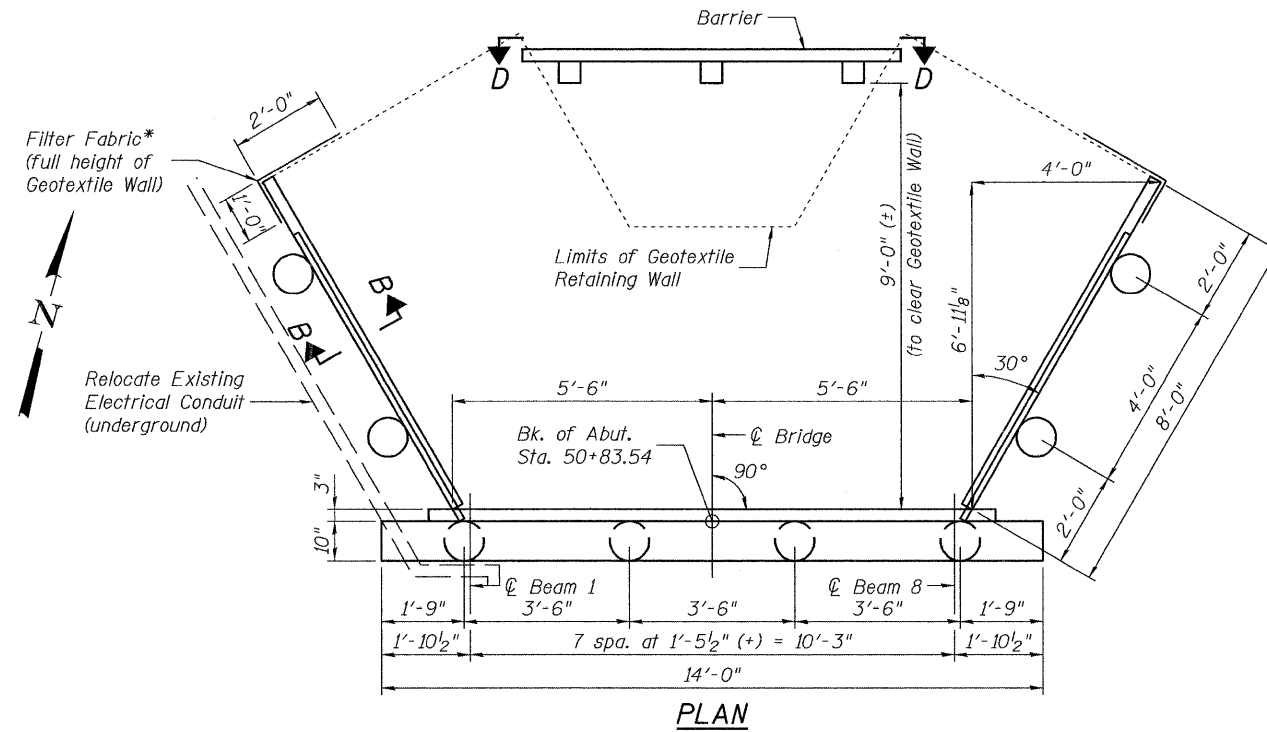
PILE DATA (WINGWALLS)

Type: Timber - 10" dia. Treated, with Pile Shoes
Nominal Required Bearing: NA
Factored Resistance Available: NA
Min. Pile Tip Elevation: 505.2 (see Note **)
Est. Length: 25'
No. Production Piles: 4
No. Test Piles: None

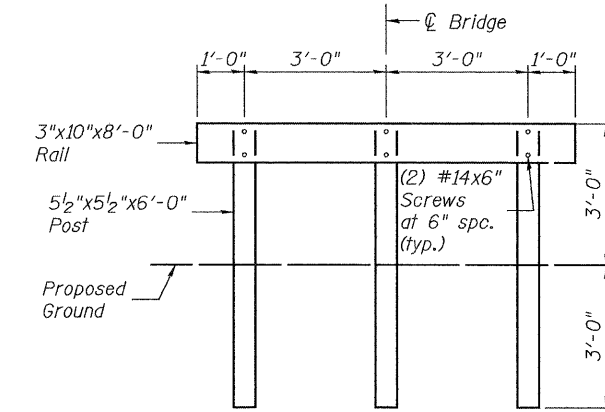
** Wingwall piles shall be driven to the Min. Tip Elevation shown. However if the piles reach the shale/rock layer above this elevation, then pile driving may stop when a Nominal Bearing of 106 kips is obtained.



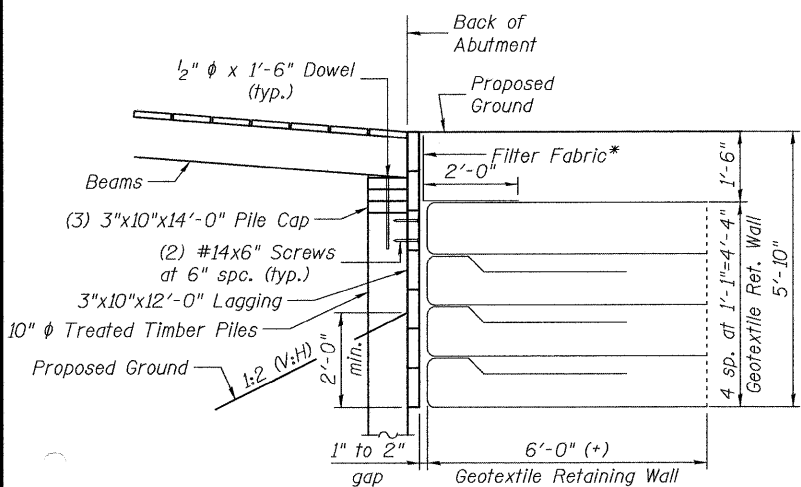
SECTION C-C



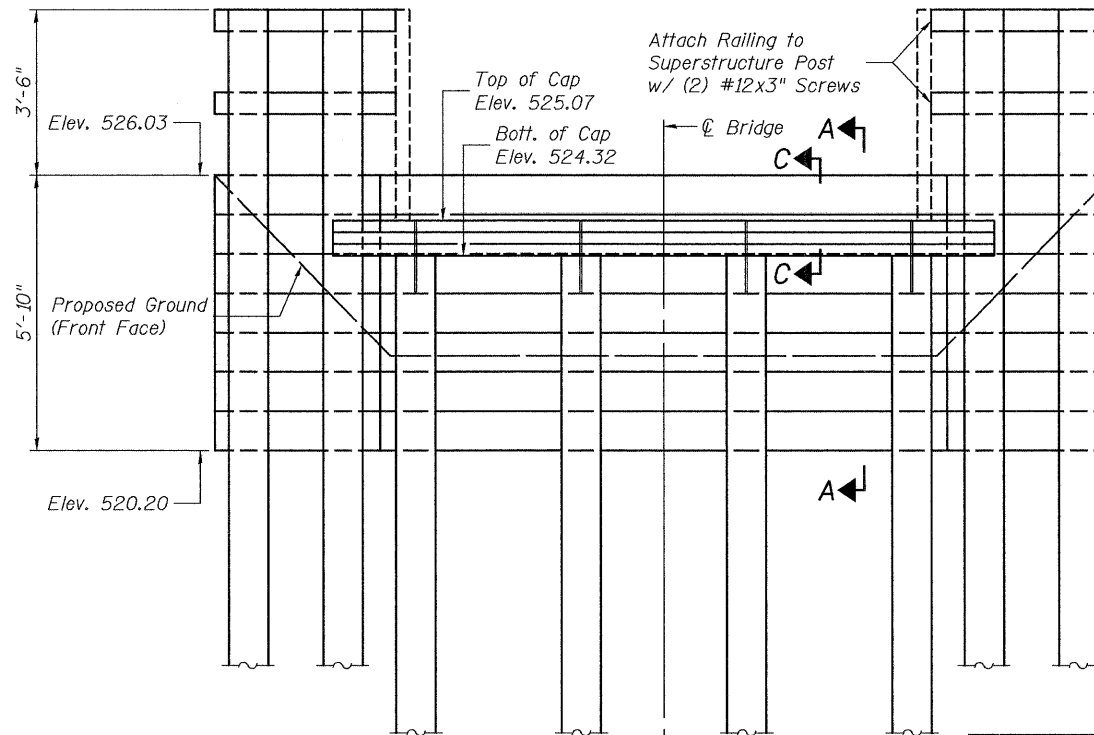
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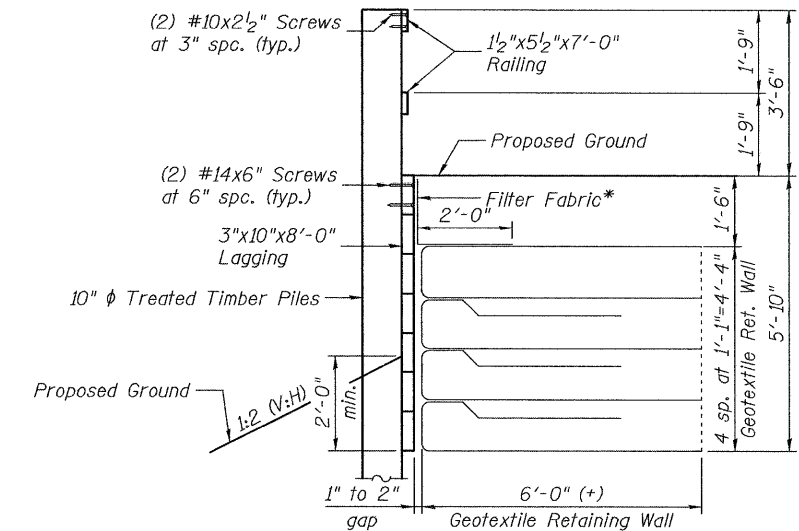
SECTION D-D



SECTION A-A



ELEVATION - NORTH ABUTMENT
(Facing North)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Treated Timber	F.B.M.	683
Hardware	Pound	24
Furnishing Treated Piles 20.1 to 38 Feet	Foot	205
Driving Piles	Foot	205
Test Pile Timber	Each	1
Pile Shoes	Each	8
Geotextile Retaining Wall	Sq Ft	117
Structure Excavation	Cu Yd	37

* Filter Fabric shall be provided for soil backfill as shown, cost included with Geotextile Retaining Wall.

For Geotextile Retaining Wall construction details, see sheet 6 of 12.

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

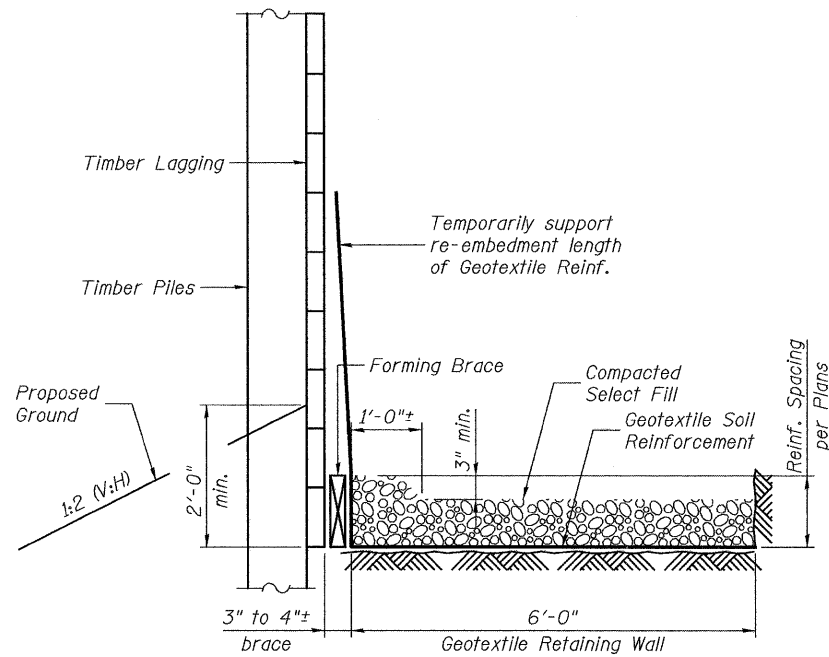
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CHECKED: DCD	CHECKED: DCD

NORTH ABUTMENT
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

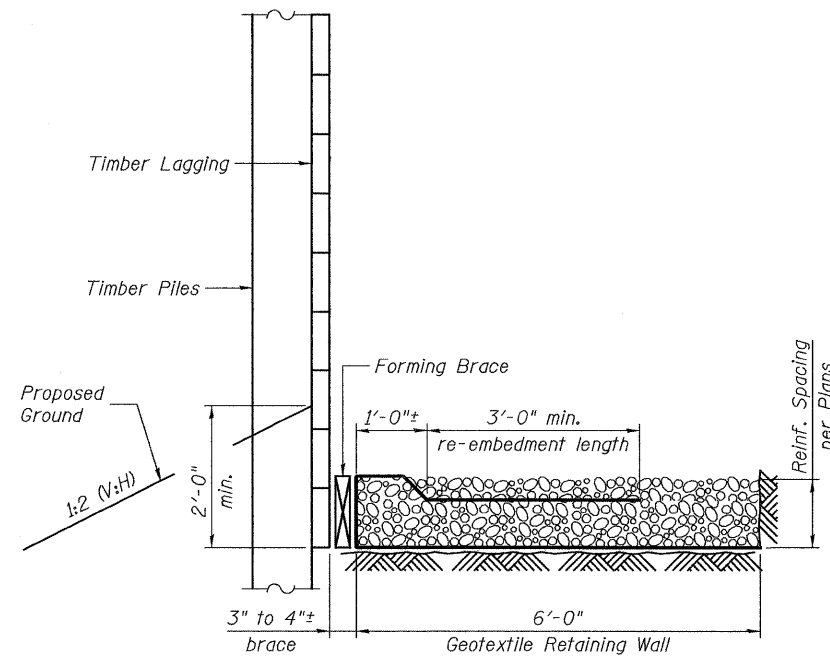
SHEET 5 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	7
STA. 50+00			CONTRACT NO. 74337		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

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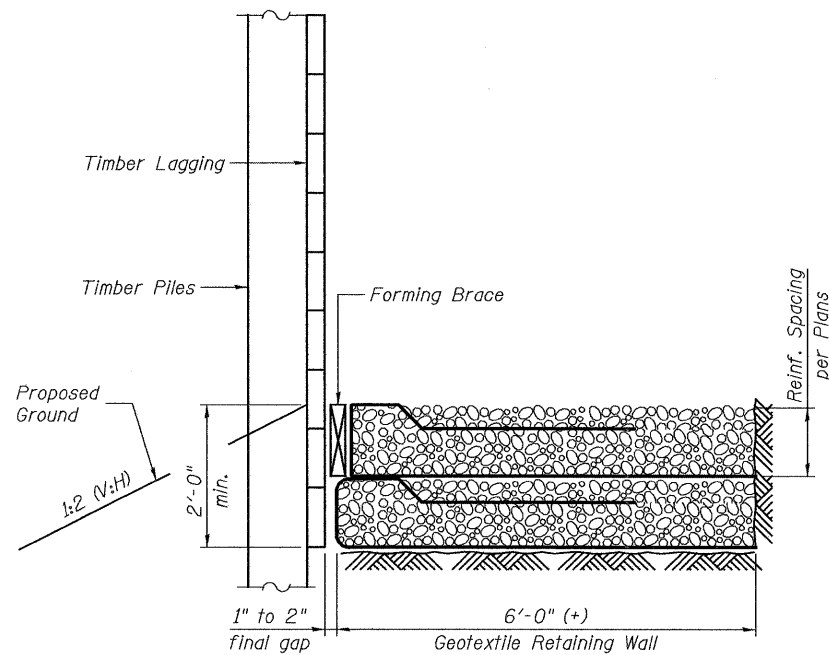
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



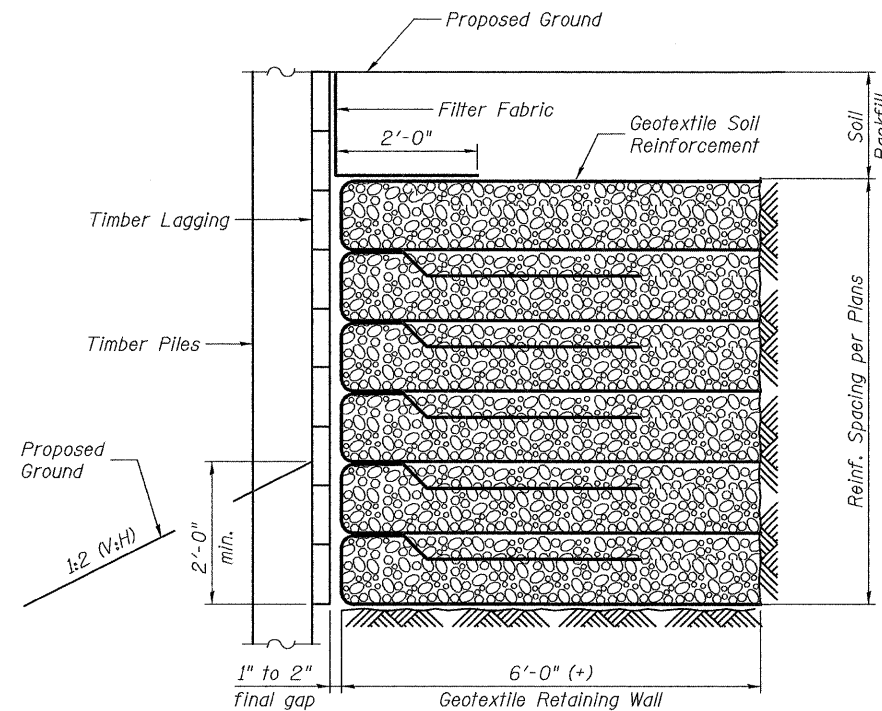
1. Place Forming Brace against timber lagging.
2. Place Geotextile Reinforcement tightly over prepared base. Temporarily support the re-embedment length.
3. Place compacted select fill on reinforcement.



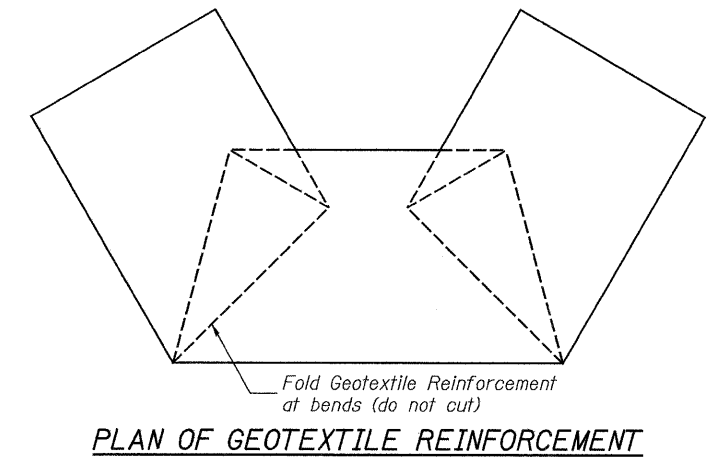
4. Fold re-embedment length tightly over compacted fill.
5. Place compacted select fill over re-embedment length to complete layer.



6. Pull Forming Brace up to begin next layer. Check that a gap of 1-2" remains after bulging/sagging of the previous layer. If necessary, adjust the Forming Brace thickness to ensure this gap for each layer.
7. Repeat previous steps for successive layers.



8. For top layer of reinforced fill, the geotextile reinforcement should be folded over the full width as shown.
9. Place filter fabric and soil backfill to the proposed grade.



PLAN OF GEOTEXTILE REINFORCEMENT

Note:
The geotextile soil reinforcement shall have a minimum allowable tensile strength (T min.) of 30 lb./in. as determined by the procedure described in the Special Provision. The computations supporting the determination of (T min.) shall be submitted to the engineer for approval.

GEOTEXTILE WALL CONSTRUCTION SEQUENCE

GEOTEXTILE RETAINING WALL
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

DESIGNED: JDQ	DRAWN: SJS/PTR
CHECKED: DCD	CHECKED: DCD

SHEET 6 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-T Bridge Appr. 2009-1	SHELBY	14	8
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

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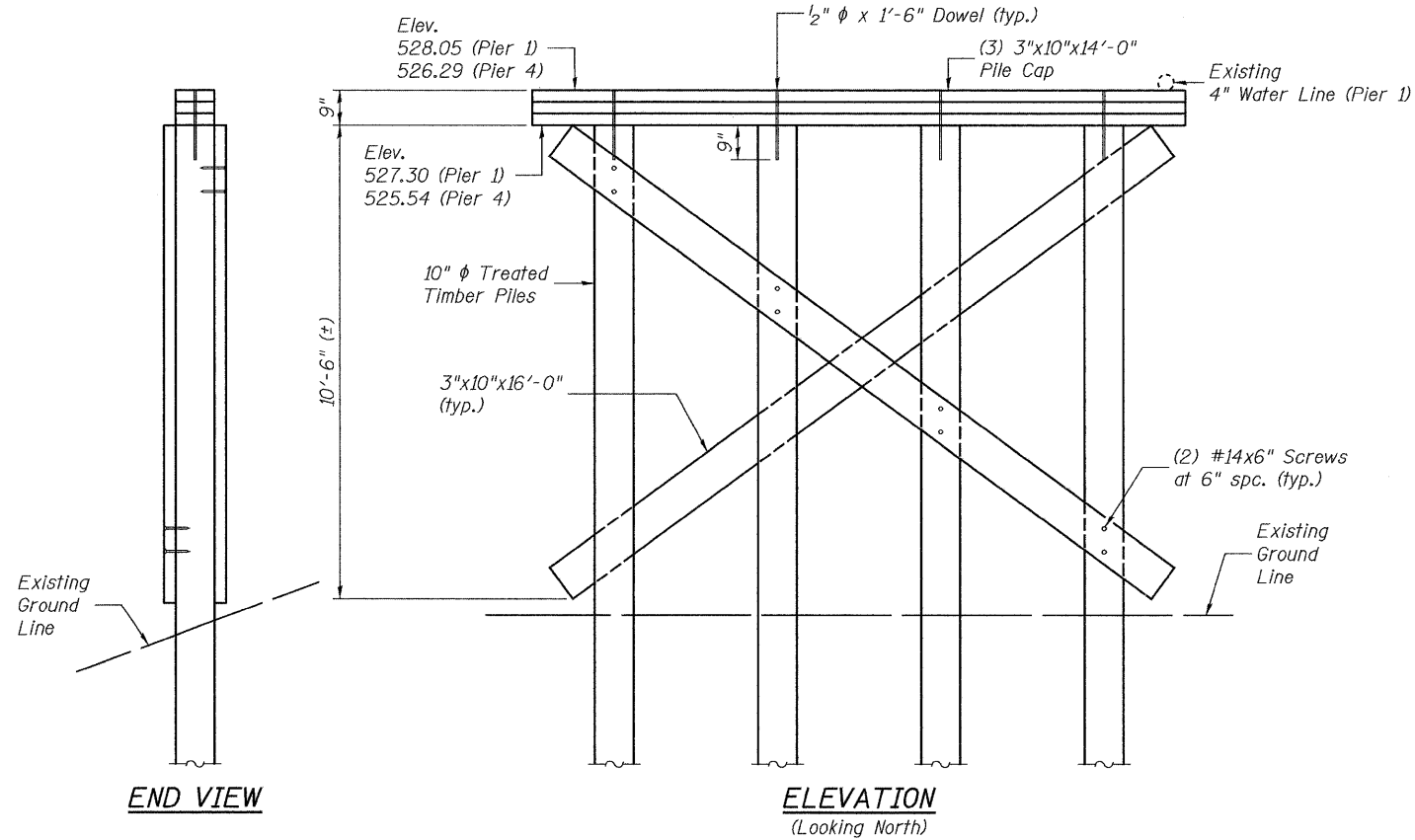
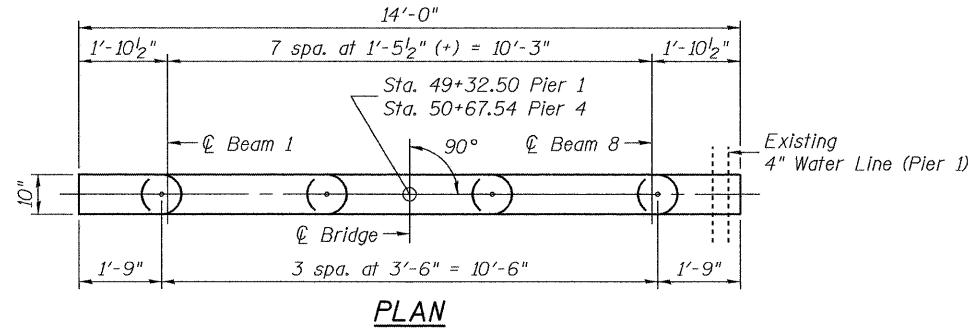
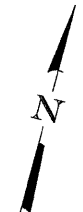
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DATA

Type: Timber - 10" dia. Treated, with Pile Shoes
 Nominal Required Bearing: 106 kips
 Factored Resistance Available: 53 kips
 Est. Length: 25' (Pier 1), 35' (Pier 4)
 No. Production Piles: 3 (each Pier)
 No. Test Piles: 1 (each Pier)



BILL OF MATERIAL

Item	Unit	Pier 1	Pier 4
Treated Timber	F.B.M.	185	185
Hardware	Pound	6	6
Furnishing Treated Piles 20.1 to 38 Feet	Foot	75	105
Driving Piles	Foot	75	105
Test Pile Timber	Each	1	1
Pile Shoes	Each	4	4

PIERS 1 & 4
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

JD Johnson, Depp & Quisenberry
 CONSULTING ENGINEERS
 Springfield, Illinois

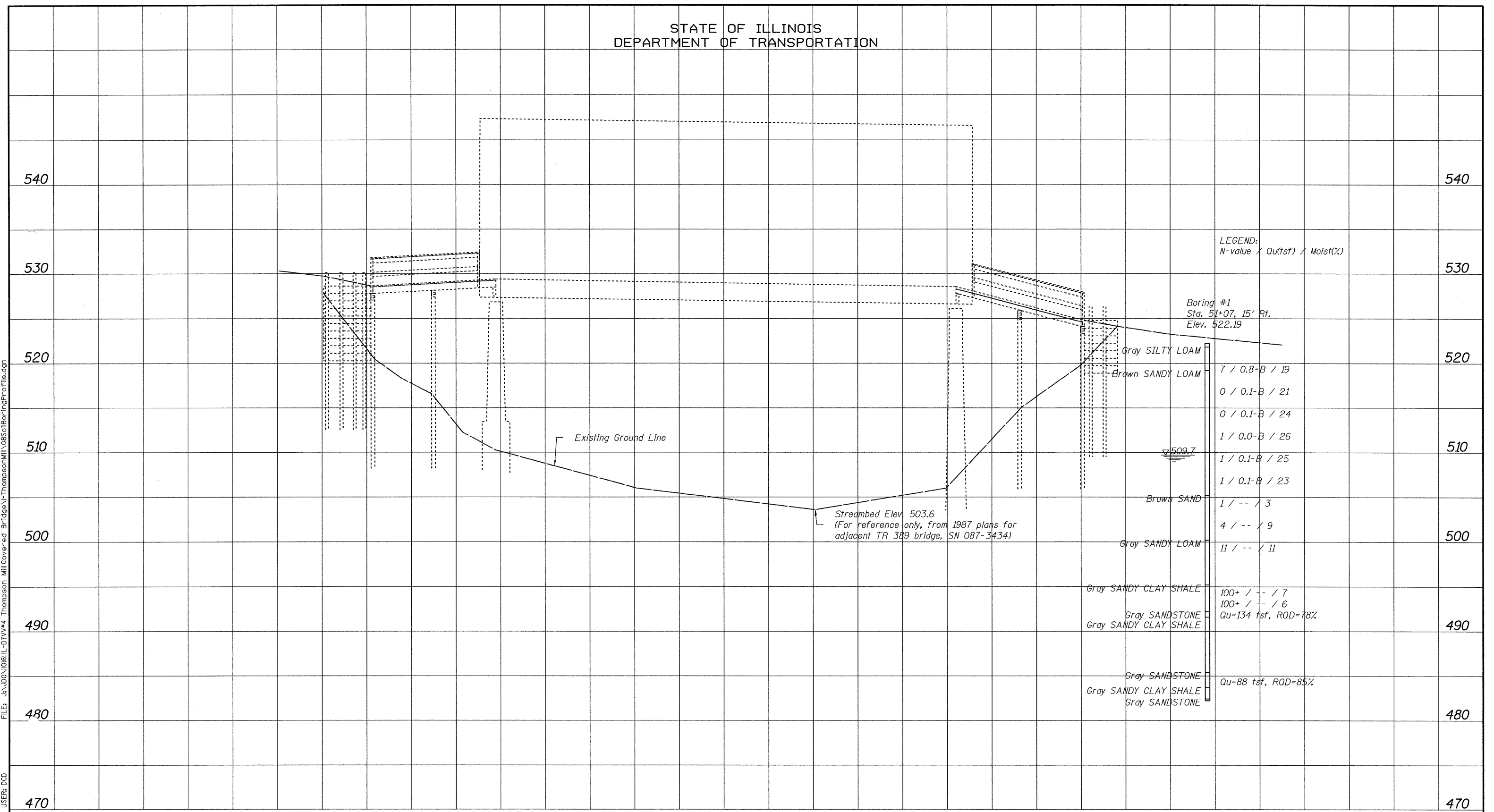
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CHECKED: DCD	CHECKED: DCD

SHEET 7 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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DATE: 02/04/2009 16:38:55



LEGEND:
N-value / Qu(tsf) / Moist(%)

Boring #1
Sta. 51+07.15' Rt.
Elev. 522.19

Gray SILTY LOAM	7 / 0.8-B / 19
Brown SANDY LOAM	0 / 0.1-B / 21
	0 / 0.1-B / 24
	1 / 0.0-B / 26
	1 / 0.1-B / 25
	1 / 0.1-B / 23
Brown SAND	1 / -- / 3
	4 / -- / 9
Gray SANDY LOAM	11 / -- / 11
Gray SANDY CLAY SHALE	100+ / -- / 7
Gray SANDSTONE	100+ / -- / 6
Gray SANDY CLAY SHALE	Qu=134 tsf, RQD=78%
Gray SANDSTONE	Qu=88 tsf, RQD=85%
Gray SANDY CLAY SHALE	
Gray SANDSTONE	

Streambed Elev. 503.6
(For reference only, from 1987 plans for adjacent TR 389 bridge, SN 087-3434)

Existing Ground Line

509.7

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: JDQ	DRAWN: SJS
CHECKED: DCD	CHECKED: DCD

SOIL BORING PROFILE
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET 8 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	10
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SOIL BORING LOG

Page 1 of 2

Date 6/10/08

ROUTE 1725 E DESCRIPTION Thompson Mill Covered Bridge: North Approach
Span
LOGGED BY E. Sandschafer
SECTION D7 Br Appr 2009-1 LOCATION NW 1/4, SEC. 1, TWP. 9 N, RNG. 3 E, 3 PM
COUNTY Shelby DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. Station	BORING NO. Station	DEPTH (ft)	BULGE (/6")	SHEAR (tsf)	PENETROMETER (%)	DESCRIPTION	DEPTH (ft)	BULGE (/6")	SHEAR (tsf)	PENETROMETER (%)	SURFACE WATER ELEV. ft	STREAM BED ELEV. ft	GROUNDWATER ELEV. ft	FIRST ENCOUNTER ft	UPON COMPLETION ft	AFTER Hrs.	SAMPLES ft	WASHED ft	
																			1
087-0019 50+00	1 51+07	0				1" oil & chip roadway surface on 4" aggregate base.					512.36	N/A							
		3				Medium, damp, gray, SILTY LOAM.													
		4	0.8	19		Very soft, very damp, brown, SANDY LOAM.													
		5																	
		6																	
		7				Skipped this trip.													
		8																	
		9				Very dense, moist, gray, SANDY CLAY SHALE.													
		10																	
		11				Borehole continued with rock coring.													
		12																	
		13																	
		14																	
		15																	
		16																	
		17																	
		18																	
		19																	
		20																	

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)



ROCK CORE LOG

Page 2 of 2

Date 6/10/08

ROUTE 1725 E DESCRIPTION Thompson Mill Covered Bridge: North Approach
Span
LOGGED BY E. Sandschafer
SECTION D7 Br Appr 2009-1 LOCATION NW 1/4, SEC. 1, TWP. 9 N, RNG. 3 E, 3 PM
COUNTY Shelby CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. Station	BORING NO. Station	DEPTH (ft)	CORING METHOD	CORING BARREL TYPE & SIZE	CORE (#)	RECOVERY (%)	CORRECTION (%)	CORE (min/ft)	S T R E N G T H (tsf)
087-0019 50+00	1 51+07	0		NW, conv dbl bbl, split inner					
		1		Core Diameter 2.06 in					
		2		Top of Rock Elev. 495.19 ft					
		3		Begin Core Elev. 492.19 ft					
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		11							
		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

Gray, slightly weathered, SANDSTONE. Rock core B1C1 at 30.0' to 30.6' depth = 492.19
133.6 tsf.
Gray, moderately weathered, SANDY CLAY SHALE.
B1a 90 78 1
Gray w/ thin, black lenses, SANDSTONE.
Rock core B1C2 at 38.0' to 38.5' depth = 88.2 tsf.
Gray, slightly weathered, SANDY CLAY SHALE.
485.69
Gray, slightly weathered, SANDSTONE.
Extent of exploration.
482.39
482.15
B1b 97 85 0.8
Benchmark: RR Spike in timber pile in NW corner of existing bridge = 522.31 elevation. Provided by Program Development.
Location of B1 is 27' North of North approach span/wood abutment.
Color pictures of the cores None
Cores will be stored for examination until
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



DESIGNED: IDOT DRAWN: PTR
CHECKED: DCD CHECKED: DCD

SOIL BORINGS (1 OF 4)
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

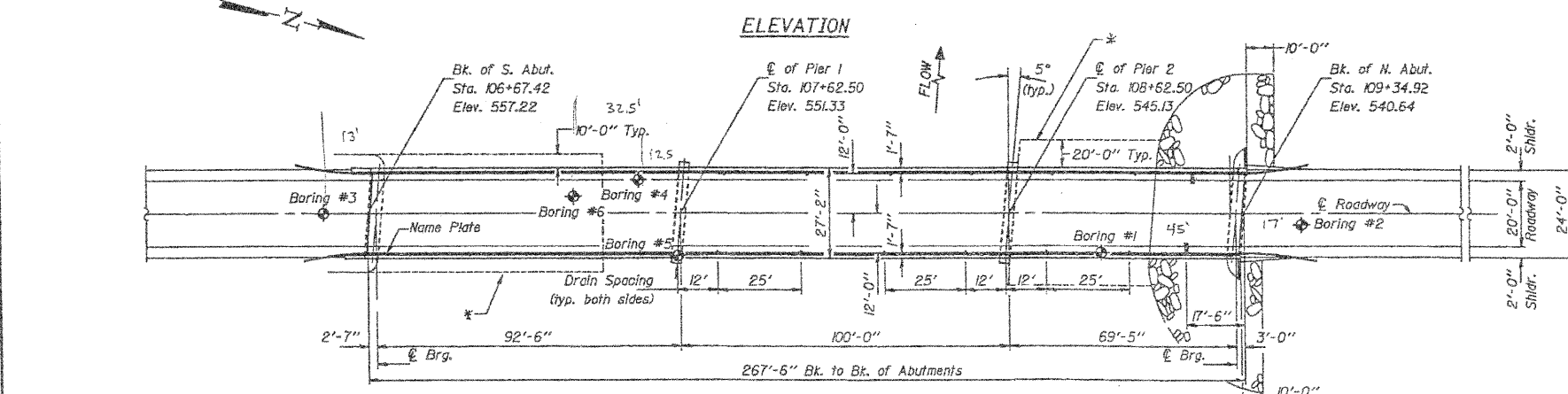
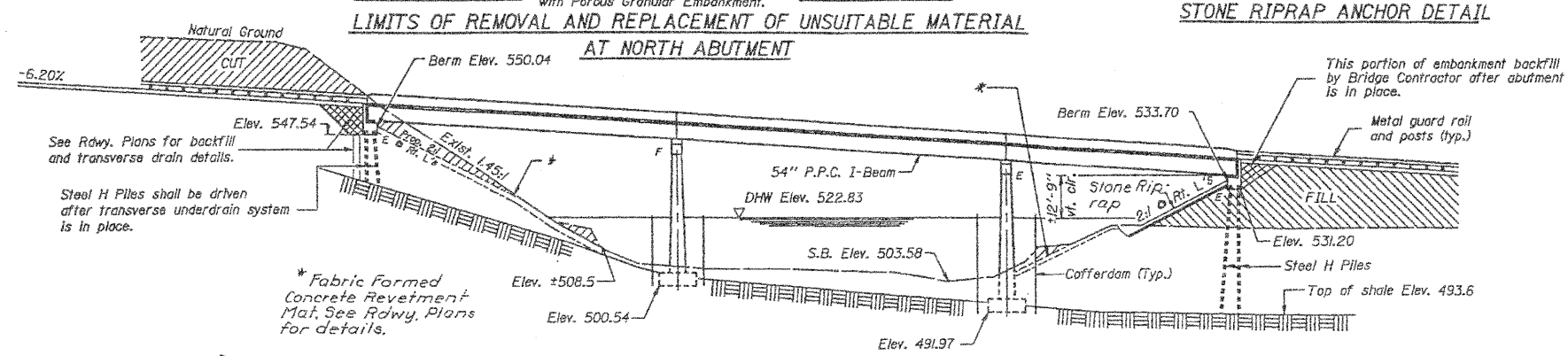
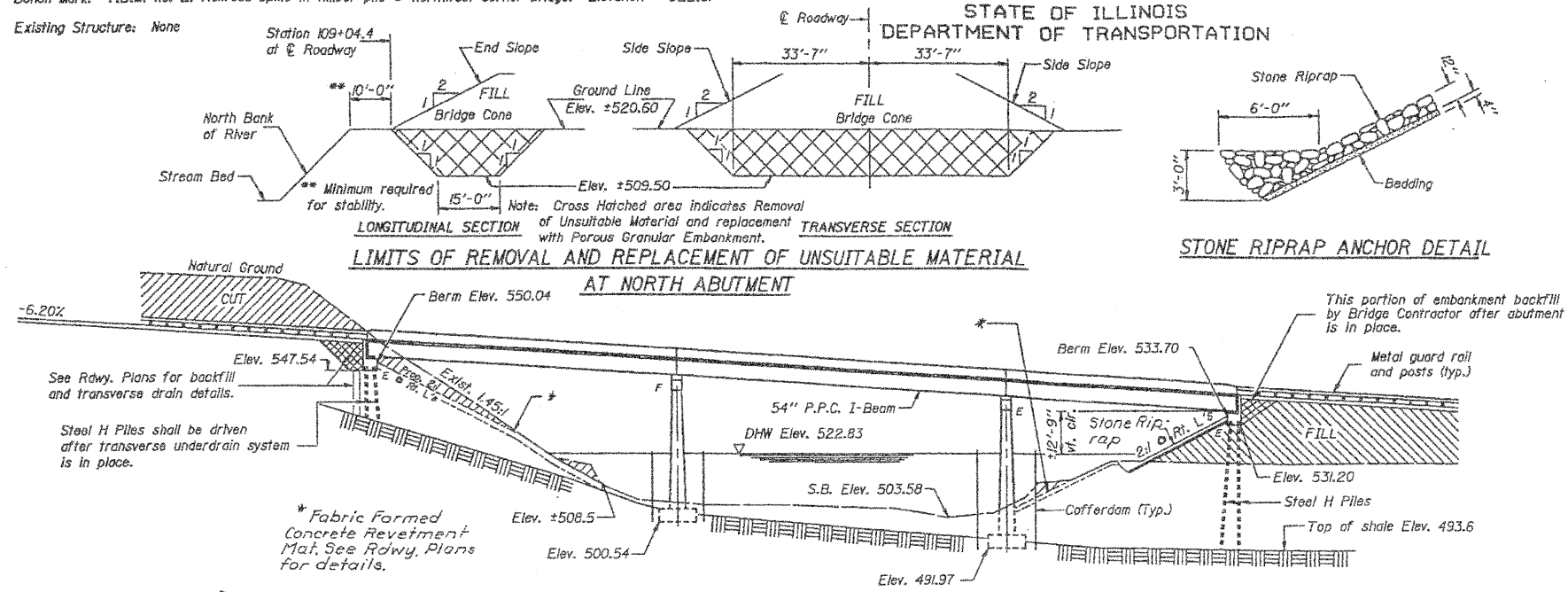
SHEET 9 OF 12	T.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	11
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

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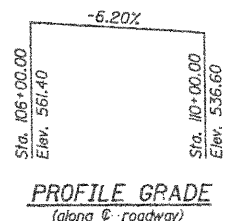
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 389	100BR	SHELBY	14	20

Bench Mark: T.B.M. No. 2; Railroad spike in timber pile at Northwest corner bridge. Elevation = 522.31
Existing Structure: None



KASKASKIA RIVER
BUILT BY
ROAD DISTRICT
SHELBY COUNTY - SECTION 100BR
PROJECT KAROS-173 (62)
STA. 106+01.17
STR. NO. 087-3434 LOADING HS20
NAME PLATE
See Std. 2113

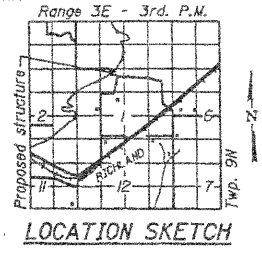


WATERWAY INFORMATION
Drainage Area = 1240 sq. mi. Low Grade Elev. 520.39 @ Sta. 117+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	15	10558	1952	2231	522.83	0	0.12	522.83	522.95
Base	100	13313	2048	2342	523.47	0	0.38	523.47	523.85
Overtopping	5	8727	1875	2141	522.31	0	0	522.31	522.31
Max. Calc.	500	15574	2122	2430	523.97	0.16	0.62	524.13	524.59

DESIGN SPECIFICATIONS
1983 AASHTO, 1984 and 1985 Interim Specifications.
LOADING HS20-44
Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES
FIELD UNITS
f_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
f_y = 36,000 psi AASHTO M-183 (Struct. Steel)
PRECAST PRESTRESSED UNITS
f_c = See sheets 8, 9 & 10 of 20
f_c = See sheets 8, 9 & 10 of 20
f_s = 270,000 psi (1/2" # strands)
f_s = 183,000 psi (3/8" # strands)



GENERAL PLAN
TR 389 OVER KASKASKIA RIVER
TR 389 SECTION 100BR
SHELBY COUNTY
STATION 108+01.17
STRUCTURE NO. 087-3434

DESIGNED	SA	ZK
CHECKED	SA	ZK
DRAWN	F.M.	
CHECKED	SA	ZK

3-18-86

January 7 1987
EXAMINED
PASSED
APPROVED

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	IDOT	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

NOTE:
SOIL BORING INFORMATION ON THIS SHEET IS FOR REFERENCE ONLY, AND IS TAKEN FROM THE 1987 PLANS FOR THE ADJACENT TR 389 BRIDGE, LOCATED ABOUT 150 FEET UPSTREAM FROM THE COVERED BRIDGE.

SOIL BORINGS (2 OF 4)
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET 10 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	12
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department
of Transportation

Bridge Foundation
Boring Log

W&Sec. 1, T. 9 N., R. 3 E., 3rd PM Sh. 1 of 3 Sh
ECT BRIDGE Thompson Mill Covered Bridge Date May 14, 1985
TE TR 389 replacement structure over Bored By Winschief
Kaskaskia River
100 BR STA. Checked By TGB

JNTY Shelby		Surface Water El.		Groundwater El. at Completion		WASH BORED		Elevation		N		Qu U/s.l.		w (%)	
Boring No.	Station	Elevation	N	Qu U/s.l.	w (%)	Elevation	N	Qu U/s.l.	w (%)						
1(N.Pier)	108+90	520.4													
Ground Surface		520.4													
COARSE SAND						497.4									
BROWN SILTY CLAY LOAM-SAND LOAM ALLUVIUM						494.4	-25	13							
GRAY SHALE BED ROCK						513.4				100					11
BROWN SAND-SAND LOAM ALLUVIUM						509.4				100					
BROWN SILTY CLAY LOAM-SAND LOAM ALLUVIUM (Free H ₂ O)						506.9				100					
FINE-MEDIUM GRAY SAND						501.9				100					
MEDIUM GRAY SAND						499.4				100					
COARSE GRAY SAND w/fine gravel										100					

-Standard Penetration Test- Blows per foot to drive 2" J.D. Split Spoon Sampler 12" with 40 No. hammer falling 30".
Qu-Unconfined Compressive Strength - U/sf
w - Water Content - percentage of oven dry weight.
Type failure: B - Bulge Failure S - Shear Failure E - Estimated Value P - Penetrometer

Illinois Department
of Transportation

Bridge Foundation
Boring Log

Thompson Mill Covered Bridge Replacement Sh. 2 of 3 Sh
ECT BRIDGE Bridge Replacement Date May 14, 1985
TE TR 389 Structure over Kaskaskia River Bored By Winschief
Kaskaskia River
100 BR STA. Checked By TGB

JNTY Shelby		Surface Water El.		Groundwater El. at Completion		WASH BORED		Elevation		N		Qu U/s.l.		w (%)	
Boring No.	Station	Elevation	N	Qu U/s.l.	w (%)	Elevation	N	Qu U/s.l.	w (%)						
2 N.ABT.	109+52	520.6													
Ground Surface		520.6													
MEDIUM-COARSE GRAY SAND															
BROWN SILTY CLAY LOAM ALLUVIUM						493.6	-25	13							
GRAY SHALE BED ROCK						514.6				100					
BROWN SILTY CLAY LOAM-SILT LOAM ALLUVIUM						509.6				100					
FINE BROWN SAND (Free H ₂ O)						503.6				100					
MEDIUM-FINE GRAY SAND						499.6				100					
MEDIUM-COARSE GRAY SAND										100					

-Standard Penetration Test- Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".
Qu-Unconfined Compressive Strength - U/sf
w - Water Content - percentage of oven dry weight.
Type failure: B - Bulge Failure S - Shear Failure E - Estimated Value P - Penetrometer

NOTE:
SOIL BORING INFORMATION ON THIS SHEET IS FOR REFERENCE ONLY, AND IS TAKEN FROM THE 1987 PLANS FOR THE ADJACENT TR 389 BRIDGE, LOCATED ABOUT 150 FEET UPSTREAM FROM THE COVERED BRIDGE.

Illinois Department
of Transportation

Bridge Foundation
Boring Log

Thompson Mill Covered Bridge Replacement Structure over Kaskaskia River Sh. 3 of 3 Sh
ECT BRIDGE Bridge Replacement Date May 14, 1985
TE TR 389 Replacement Structure over Kaskaskia River Bored By Winschief
Kaskaskia River
100 BR STA. Checked By TGB

JNTY Shelby		Surface Water El.		Groundwater El. at Completion		WASH BORED		Elevation		N		Qu U/s.l.		w (%)	
Boring No.	Station	Elevation	N	Qu U/s.l.	w (%)	Elevation	N	Qu U/s.l.	w (%)						
3 S.ABT.	106+54	575.0													
Ground Surface		575.0													
BROWN SILT LOAM						573.0									
BROWN GRAY SANDY CLAY LOAM TILL										-25	88	10+			7.5
RED BROWN SILTY CLAY LOAM-CLAY LOAM						567.5				-25	11	24	18		
GRAY SHALE BED ROCK						546.0				-30					
BROWN SANDY CLAY LOAM TILL						537.5				-35	11				19
COARSE BROWN SANDY LOAM-LOAM						534.5				-40	100				
MEDIUM-FINE GRAY SAND						499.6				-20	88	10+			8.4

-Standard Penetration Test- Blows per foot to drive 2" J.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".
Qu-Unconfined Compressive Strength - U/sf
w - Water Content - percentage of oven dry weight.
Type failure: B - Bulge Failure S - Shear Failure E - Estimated Value P - Penetrometer

JD Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED: IDOT	DRAWN: PTR
CHECKED: DCD	CHECKED: DCD

SOIL BORINGS (3 OF 4)
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET 11 OF 12	I.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	13
STA. 50+00			CONTRACT NO. 74337		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

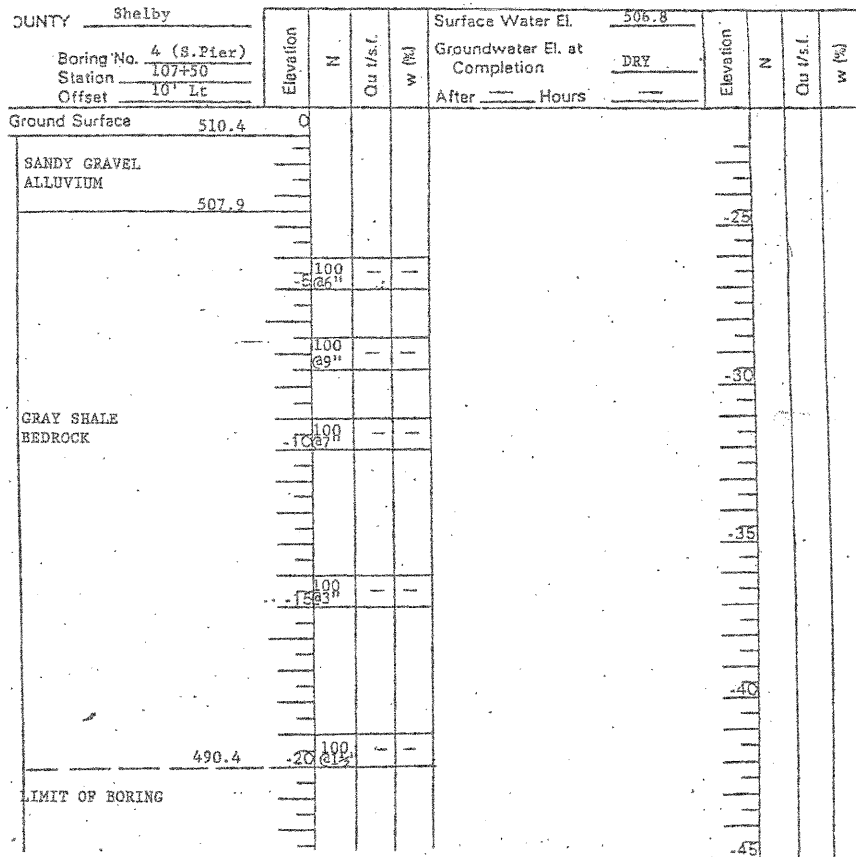
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Bridge Foundation
Boring Log

PROJECT: Kaskaskia River, BRIDGE Thompson Mill Covered, Date 10/07/85, Sh. 1 of 3 Sh
ROUTE: TR 389, Bridge Replacement, Bored By Baker
BOREHOLE: 100BR, STA. 108+00, Checked By TGB



N-Standard Penetration Test- Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - *U_{sf}*
w - Water Content - percentage of oven dry weight. %

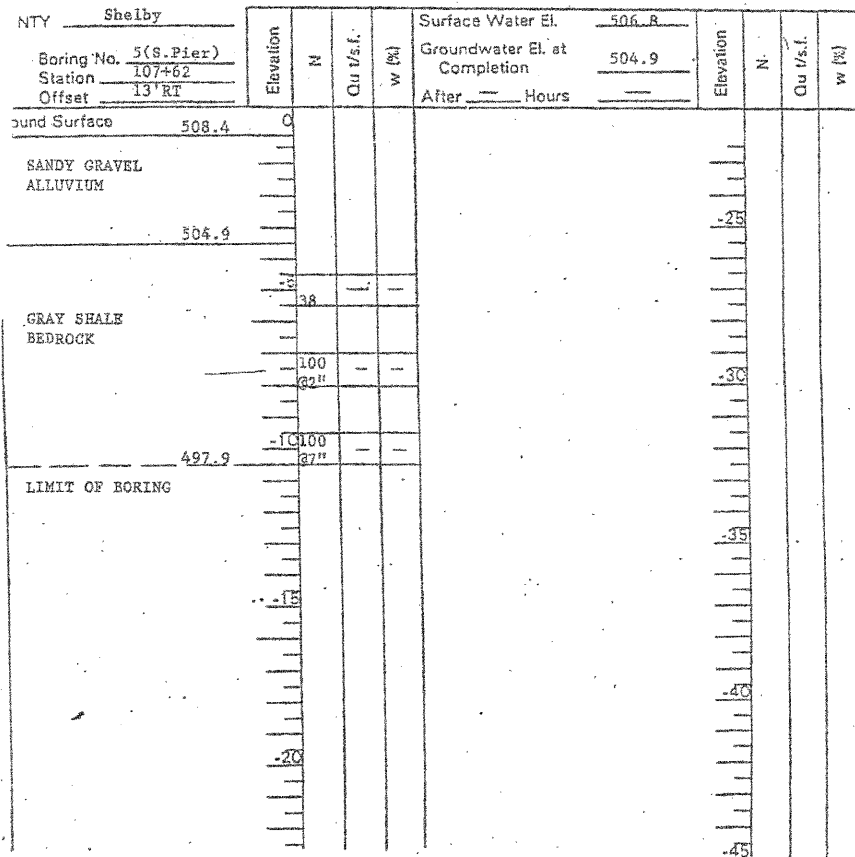
Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

-35-



Bridge Foundation
Boring Log

PROJECT: Kaskaskia River, BRIDGE Thompson Mill Covered, Date 10/07/85, Sh. 2 of 3 Sh
ROUTE: TR 389, Bridge Replacement, Bored By Baker
BOREHOLE: 100 BR, STA. 108+00, Checked By TGB



N-Standard Penetration Test- Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - *U_{sf}*
w - Water Content - percentage of oven dry weight. %

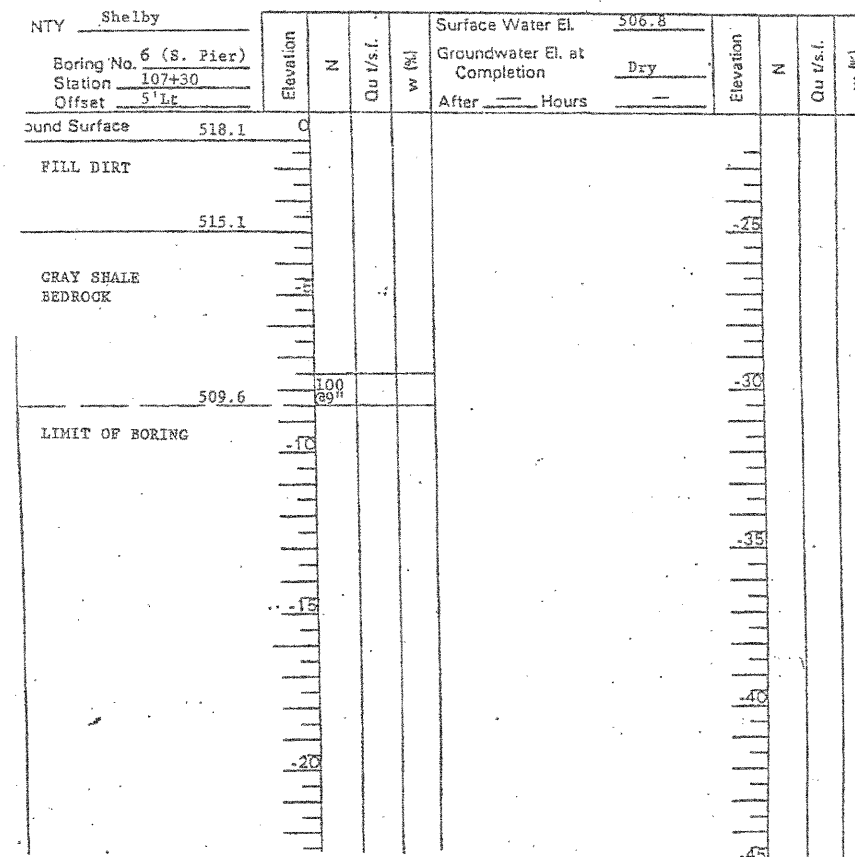
Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

NOTE:
SOIL BORING INFORMATION ON THIS SHEET IS FOR REFERENCE ONLY, AND IS TAKEN FROM THE 1987 PLANS FOR THE ADJACENT TR 389 BRIDGE, LOCATED ABOUT 150 FEET UPSTREAM FROM THE COVERED BRIDGE.



Bridge Foundation
Boring Log

PROJECT: Kaskaskia River, BRIDGE Thompson Mill Covered, Date 10/07/85, Sh. 3 of 3 Sh
ROUTE: TR 389, Bridge Replacement, Bored By BAKER
BOREHOLE: 100 BR, STA. 108+00, Checked By TGB



N-Standard Penetration Test- Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 No. hammer falling 30".

Qu-Unconfined Compressive Strength - *U_{sf}*
w - Water Content - percentage of oven dry weight. %

Type failure:
B - Bulge Failure
S - Shear Failure
E - Estimated Value
P - Penetrometer

-37-



Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	IDOT	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

SOIL BORINGS (4 OF 4)
THOMPSON MILL COVERED BRIDGE OVER
KASKASKIA RIVER
STRUCTURE NO. 087-0019

SHEET 12 OF 12	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	389A	D-7 Bridge Appr. 2009-1	SHELBY	14	14
	STA. 50+00		CONTRACT NO. 74337		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

FILE: J:\DD\N1061L-D7V44 Thompson Mill Covered Bridge\ThompsonMill\09borings.dgn
DATE: 02/04/2009 16:39:54
USER: DCD