

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

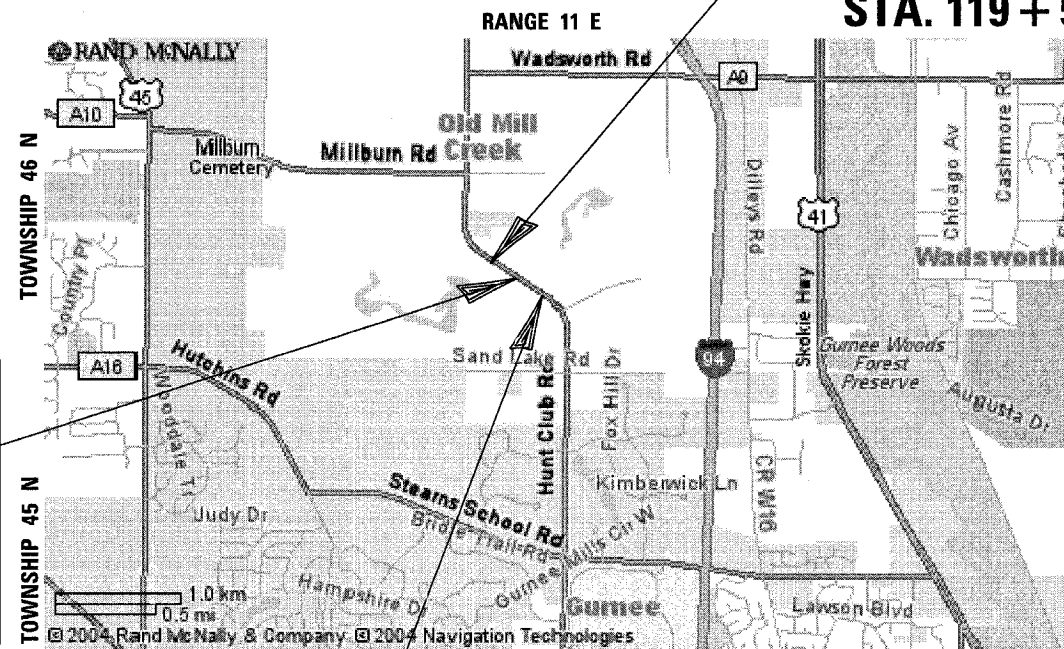
**PROPOSED FEDERAL AID PROJECT  
REPLACEMENT BRIDGE**

PROJECT LOCATION: FAU 2661 HUNT CLUB ROAD OVER MILL CREEK  
SN 049-3072  
SECTION: 00-00095-11-BR  
PROJECT No.: BRM-7003 (873)  
LAKE COUNTY  
JOB NO: C-91-169-00

**INDEX OF SHEETS**

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**Bridge Replacement over Mill Creek to include:**  
Removal of the existing 30' clear width, single span steel stringer/multi-beam/girder and cast-in-place concrete decking bridge and construction of a new bridge with 40' clear width, single span, integral abutment, composite steel beam @ 77' back to back abutments supported on steel H piles.  
SN 049-3072  
STA. 116+60.00

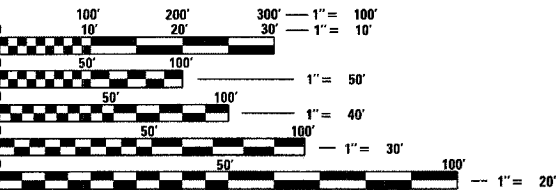


**PROJECT BEGINS  
STA. 113 + 31.22**

**PROJECT ENDS  
STA. 119 + 50.00**

ROAD	STATION	STATION	LENGTH
HUNT CLUB ROAD	113+31.22	119+50.00	618.78 FEET
NET LENGTH OF IMPROVEMENT (MILES)			0.12 MILES

**DESIGN DESIGNATION**  
HUNT CLUB ROAD 1737 (25) MAJOR COLLECTOR 1.47 (B-20)  
POSTED SPEED: 45 MPH  
ADT = 11,100 (2000)

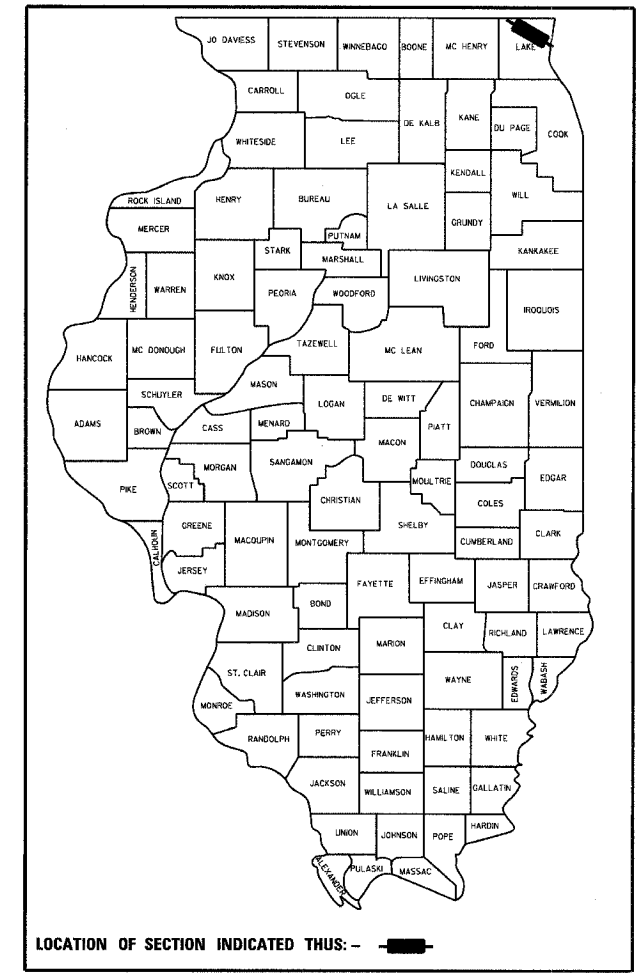


J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

**CONTRACT NO. 83789**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-00095-11-BR	LAKE	28	1
COVER SHEET				
C-91-69-00	ILLINOIS			

CONTRACT NO.: 83789



**McCLURE ENGINEERING ASSOCIATES, INC.**  
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Dec 29 2004  
Martin H. Buehler  
COUNTY ENGINEER

Jan 4 20 05  
Paul J. Pugh  
BUREAU OF LOCAL ROADS AND STREETS

Jan 4 20 05  
Dina O'Keefe/AP  
DISTRICT ENGINEER

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McCLURE ENGINEERING ASSOCIATES, INC.  
QUAD CITY DIVISION

A. A. Gharanti  
ALI A. GHARANTI  
LICENSED STRUCTURAL ENGINEER OF MOLINE  
NO. 081-005060  
EXPIRATION DATE 11/30/06

McCLURE ENGINEERING ASSOCIATES, INC.  
WAUKEGAN DIVISION

Cynthia R. Flower  
CYNTHIA R. FLOWER  
LICENSED PROFESSIONAL ENGINEER  
NO. 062-053717  
EXPIRATION DATE 11/30/05



FEDERAL AID DESIGN ENGINEER: CHARLES RIDDLE; TEL: 847-705-4406  
McCLURE ENGINEERING ASSOCIATES INC.: 2728 GRAND AVENUE WAUKEGAN, IL 60085; TEL: 847-336-7100, FAX: 847-336-7155

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-0095+RR	LAKE	28	2
GENERAL NOTES AND SPECIAL SYMBOLS				
C-9H69-00	ILLINOIS	CONTRACT NO.: 83789		

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING:
  - THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2002 AND THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2004.
  - THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, THE MILLENIUM EDITION, DATED DECEMBER 28, 2001.
  - THE DETAILS IN THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR WILL BE REQUIRED TO RELOCATE OR REMOVE AND REPLACE ALL ROAD SIGNS WHICH INTERFERE WITH HIS CONSTRUCTION OPERATIONS, AND TO TEMPORARILY RESET ALL SUCH SIGNS DURING CONSTRUCTION OPERATIONS. THIS WORK WILL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
 

ALL WORK INVOLVING SIGNS SHALL BE GOVERNED BY THE FOLLOWING REQUIREMENTS:

  - SIGNS SHALL NOT BE MOVED UNTIL PROGRESS OF WORK NECESSITATES IT.
  - EVERY SIGN REMOVED MUST BE RE-ERECTED AT A TEMPORARY LOCATION IN A WORKMANLIKE MANNER AND BE VISIBLE TO TRAFFIC FOR WHICH IT IS INTENDED. ALL SUCH SIGNS MUST BE MAINTAINED STRAIGHT AND CLEAN FOR THE DURATION OF THE TEMPORARY SETTING.
  - ALL SIGNS SHALL BE RE-ERECTED IN PERMANENT LOCATIONS AS THE ROADWAY IS COMPLETED. HORIZONTAL LOCATION FROM THE EDGE OF PAVEMENT SHALL BE AS DESIGNATED BY THE ENGINEER.
  - ALL UNUSED SIGNS WILL BE RETURNED TO THE COUNTY.
  - LONGER POSTS MAY BE REQUIRED AT SOME TEMPORARY OR PERMANENT SIGN LOCATIONS TO MAINTAIN PROPER SIGN ELEVATIONS.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE THE MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- PUBLIC AND PRIVATE UTILITIES: THE CONTRACTOR WILL BE REQUIRED TO ASCERTAIN THE EXACT LOCATIONS OF UTILITIES AND EXERCISE CARE DURING HIS CONSTRUCTION OPERATIONS SO AS NOT TO DAMAGE THEM.
- SEE SPECIAL PROVISIONS FOR CONSTRUCTION TRAILER, PAVEMENT MARKING PAINT AND TRAFFIC CONTROL AND PROTECTION.
- DRAINAGE:
  - THE COST OF CONNECTING EXISTING STORM SEWERS TO THE PROPOSED DRAINAGE SYSTEM AND CONNECTING PROPOSED STORM SEWER TO EXISTING STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT; HOWEVER, THE NECESSARY PIPE USED WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR STORM SEWER OR PIPE CULVERT OF THE SIZE REQUIRED.
  - ALL EXISTING DRAINAGE FACILITIES, HEADWALLS AND FENCES NO LONGER REQUIRED, IN THE OPINION OF THE ENGINEER, SHALL BE REMOVED. THE COST OF REMOVAL OF EXISTING PIPE CULVERTS, STORM SEWERS, DRAINAGE STRUCTURES, CONCRETE HEADWALLS, FENCING OR IMPROVEMENTS AND WHICH ARE NOT SHOWN TO BE REMOVED AS A SEPARATE PAY ITEM SHALL BE INCIDENTAL TO THE CONTRACT.
 

ANY OF THESE MATERIALS CONSIDERED SUITABLE FOR SALVAGE BY THE ENGINEER SHALL BE STORED WITHIN THE RIGHT-OF-WAY FOR LATER REMOVAL BY THE LAKE COUNTY DIVISION OF TRANSPORTATION. UNUSABLE MATERIALS SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH SECTION 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. TRENCH BACKFILL AND/OR PAVEMENT REPLACEMENT AND/OR AGGREGATE BASE COURSE TYPE A (SPECIAL) WILL BE PAID FOR WHEN THE WORK LIES UNDER EXISTING PAVEMENT AREAS.
  - LOOSE MATERIAL DEPOSITED IN THE FLOW LINE OF DITCHES, GUTTERS, OR DRAINAGE STRUCTURES DURING THE CONSTRUCTION OPERATION SO THAT THE NATURAL FLOW OF WATER IS OBSTRUCTED SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF THE CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES SHALL BE FREE FROM ALL DIRT AND DEBRIS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL TO THE CONTRACT.
  - FRAME ELEVATIONS GIVEN ON THE PLANS ARE ONLY TO ASSIST THE CONTRACTOR IN DETERMINING THE APPROXIMATE OVERALL HEIGHT OF THE STRUCTURE. FRAMES ON ALL NEW STRUCTURES WILL BE ADJUSTED TO THE FINAL ELEVATIONS OF THE AREA IN WHICH THEY ARE LOCATED AS PART OF THE STRUCTURE COST.
  - UNLESS OTHERWISE NOTED, LOCATIONS SHOWN ON THE PLANS ARE EDGE OF PAVEMENT FOR STRUCTURES IN THE CURB, OTHERWISE IT IS TO THE CENTER OF STRUCTURES. FLAT TOPS AND CONES ARE TO BE TURNED SO THAT THE FRAME IS CLOSEST TO THE CENTER LINE OF THE ROAD, UNLESS OTHERWISE NOTED ON THE STRUCTURE IN THE PLANS. ALL FLAT TOPS AND CONES SHALL BE ECCENTRIC.
  - BITUMINOUS OR CONCRETE PAVEMENT CROSSINGS SHALL NOT BE LEFT IN GRAVEL OVERNIGHT. THIS WILL INCLUDE THE MAIN ROAD, SIDE STREETS, PRIVATE ENTRANCES, COMMERCIAL ENTRANCES AND PARKING AREAS. TEMPORARY BITUMINOUS PATCHING AT THE CONTRACTOR'S EXPENSE MAY BE USED IN LIEU OF IMMEDIATE PAVEMENT REPLACEMENT.
  - AT LOCATIONS WHERE THE PROPOSED STORM SEWER CROSSES OVER UTILITIES, A 4" STYROFOAM CUSHION SHALL BE PLACED UNDER THE STORM SEWER WHEN DIRECTED TO DO SO BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- DRIVEWAYS OR ENTRANCES
  - EXISTING BITUMINOUS, CONCRETE AND GRAVEL DRIVEWAYS AND ENTRANCES SHALL BE SURFACED TO THE RIGHT-OF-WAY WITH 2-1/2" BITUMINOUS SURFACE COURSE.
  - EXISTING FIELD ENTRANCES SHALL BE BUILT UP IN PLACE TO THE RIGHT-OF-WAY WITH AGGREGATE SHOULDER MATERIAL.
  - THE CONTRACTOR SHALL CONSTRUCT ALL COMMERCIAL AND PRIVATE DRIVEWAYS IN ACCORDANCE WITH THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
- THE THICKNESS OF BITUMINOUS MIXTURES SHOWN IN THE PLANS IS NOMINAL. DEVIATIONS MAY OCCUR DUE TO IRREGULARITIES IN THE SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
- ANY REFERENCE TO STANDARDS IN THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE DEPARTMENT'S LATEST REVISION OF THE STANDARD.
- ALL ELEVATIONS SHOWN ON THESE PLANS ARE ON U.S.C.S. DATUM.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT SOME QUANTITIES ARE GIVEN IN BOTH SUMMARY FORM AND ON THE PLAN SHEETS. CARE SHOULD BE TAKEN TO AVOID DUPLICATION OF QUANTITIES.
- ALL DIMENSIONS SHOWN ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

**SPECIAL SYMBOLS**

- 1 TRENCH BACKFILL - CUBIC YARDS
- 2 PAVEMENT REPLACEMENT - SQUARE YARDS

**IDOT STANDARDS**

000001-04	Standard Symbols, Abbreviations and Patterns
280001-02	Temporary Erosion Control Systems
420001-06	Pavement Joints
420401-05	Bridge Approach Pavement
421001-01	Bar Reinforcement for CRC Pavement
442201-01	Class C&D Patches
482001	Bituminous Shoulder Adjacent to Flexible Pavement
515001-02	Name Plate for Bridges
542401-00	Metal End Section for Pipe Culverts
608005-02	Bridge Approach Pavement (Drain Detail)
630001-05	Steel Plate Beam Guardrail
630201-05	PCC/Bituminous Stabilization of Steel Plate Beam Guardrail
633006-02	Traffic Barrier Terminals, Type B & DA
635006-02	Reflector and Terminal Marker Placement
635011-01	Reflector Marker and Mounting Details
701521-08	Lane Closure 2L, 2W Bridge Repair with Barrier
702001-05	Traffic Control Devices
704001-02	Temporary Concrete Barrier
720006	Sign Panel Erection Details

**LCDOT STANDARDS**

LC 1005	Triangular Sign Ditch
LC 1014	Shoulder Break at Traffic Barrier Terminal, Type 1 Special
LC 1019	Shoulder Break at Traffic Barrier Terminal, Type 1 Special
LC 4010	Bituminous Apron for Aggregate Field Entrance (Special)
LC 7002	Modified Standard 701001-02
LC 7004	Modified Standard 701006-02
LC 7006	Direction Indicator Barricades
LC 7008	Modified Standard 701011

REVISIONS	
NAME	DATE
MCCLURE ENGINEERING	02/03/05

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL NOTES AND SPECIAL SYMBOLS**

SCALE: VERT. N.T.S.      DRAWN BY    AJP  
 HORIZ. N.T.S.      CHECKED BY    CRF  
 DATE

SPECIALTY ITEMS	CODED PAY ITEM	ITEM DESCRIPTION	UNIT	QUANTITIES			
				CONSTRUCTION TYPE CODE			TOTAL
			1000-2A	Y031-IF	X071-2A		
*	20100110	TREE REMOVAL (6 TO 15 INCHES DIAMETER)	UNIT	38	0	0	38
*	20100210	TREE REMOVAL (OVER 15 INCHES DIAMETER)	UNIT	58	0	0	58
	20200100	EARTH EXCAVATION	CU YD	268	0	0	268
*	20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	223	0	0	223
	20300100	CHANNEL EXCAVATION	CU YD	0	0	898	898
	20400800	FURNISHED EXCAVATION	CU YD	431	0	0	431
	20700220	POROUS GRANULAR EMBANKMENT	CU YD	0	0	189	189
B	* 21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	1829	0	0	1829
B	* 25000210	SEEDING, CLASS 2A	ACRE	0.07	0	0	0
B	* 25000300	SEEDING, CLASS 3	ACRE	0.27	0	0	0
B	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	34	0	0	34
B	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	34	0	0	34
B	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	34	0	0	34
B	25100120	MULCH METHOD 2	TON	0.14	0	0	0
*	25100640	EROSION CONTROL FABRIC	SQ YD	1262	0	0	1262
B	25200200	SUPPLEMENTAL WATERING	UNIT	11	0	0	11
*	28000300	TEMPORARY DITCH CHECK	EACH	5	0	0	5
*	28000400	PERIMETER EROSION BARRIER	FOOT	1142	0	0	1142
	28100107	STONE RIPRAP CLASS A4	SQ YD	0	0	506	506
	28200200	FILTER FABRIC	SQ YD	0	0	527	527
	28400100	GABIONS	CU YD	0	0	21	21
*	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLONS	1640	0	0	1640
	42001165	BRIDGE APPROACH PAVEMENT	SQ YD	302	0	0	302
*	44000006	BITUMINOUS SURFACE REMOVAL 1 1/2"	SQ YD	413	0	0	413
*	44201761	CLASS D PATCHES, TYPE I, 10 INCH	SQ YD	3	0	0	3
*	44201765	CLASS D PATCHES, TYPE II, 10 INCH	SQ YD	4	0	0	4
*	44201769	CLASS D PATCHES, TYPE III, 10 INCH	SQ YD	10	0	0	10
*	44201771	CLASS D PATCHES, TYPE IV, 10 INCH	SQ YD	7	0	0	7
	44300190	AREA REFLECTIVE CRACK CONTROL TREATMENT	SQ YD	558	0	0	558
*	48100100	AGGREGATE SHOULDERS, TYPE A	TON	55	0	0	55
*	48200400	BITUMINOUS SHOULDERS, 6"	SQ YD	799	0	0	799
*	50100100	REMOVAL OF EXISTING STRUCTURE	EACH	0	0	1	1
	50200100	STRUCTURE EXCAVATION	CU YD	0	0	225	225
	50300225	CONCRETE STRUCTURES	CU YD	0	0	36	36
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	0	0	113	113
	50300260	BRIDGE DECK GROOVING	SQ YD	0	0	325	325
	50300275	CONCRETE HANDRAIL	CU YD	0	0	16	16
*	50300300	PROTECTIVE COAT	SQ YD	0	0	419	419
	50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	LUMP SUM	0	0	1	1
	50500505	STUD SHEAR CONNECTORS	EACH	0	0	1134	1134
	50800205	REINFORCEMENT BARS EPOXY COATED	POUND	0	0	28690	28690
	51201600	FURNISHING STEEL PILES - HP12X53	FOOT	0	0	864	864
	51202700	DRIVING STEEL PILES	FOOT	0	0	864	864
	51203600	TEST PILES STEEL - HP12X53	EACH	0	0	2	2
*	51205200	TEMPORARY SHEET PILING	SQ FT	0	0	1578	1578
	51500100	NAME PLATES	EACH	0	0	1	1

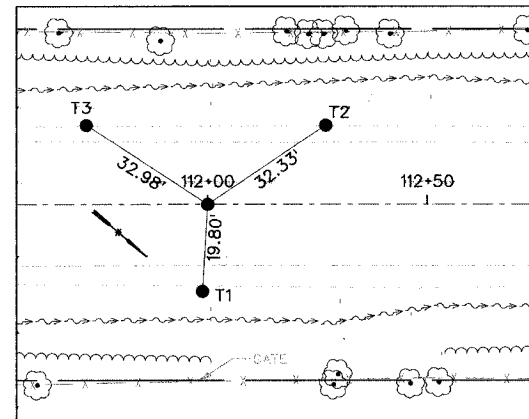
SPECIALTY ITEMS	CODED PAY ITEM	ITEM DESCRIPTION	UNIT	QUANTITIES			
				CONSTRUCTION TYPE CODE			TOTAL
				1000-2A	Y031-IF	X071-2A	
	54200640	PIPE CULVERTS, TYPE 1, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE, 15"	FOOT	27	0	0	27
	54213867	STEEL END SECTIONS, 12"	EACH	2	0	0	2
	54213870	STEEL END SECTIONS, 15"	EACH	2	0	0	2
	60103500	PIPE DRAINS, CORRUGATED STEEL 12"	FOOT	35	0	0	35
	60900315	TYPE D INLET BOX, STANDARD 609006	EACH	2	0	0	2
	60900515	CONCRETE THRUST BLOCKS	EACH	2	0	0	2
	63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	405	0	0	405
	63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	4	0	0	4
	63200310	GUARDRAIL REMOVAL	FOOT	456	0	0	456
	66410410	CHAIN LINK FENCE TO BE RELOCATED	FOOT	184	0	0	184
	70101700	TRAFFIC CONTROL AND PROTECTION	LUMP SUM	1	0	0	1
B	* 70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	0	4	0	4
B	70300100	SHORT-TERM PAVEMENT MARKING	FOOT	124	0	0	124
B	70300625	TEMPORARY PAINT PAVEMENT MARKING LINE, 4"	FOOT	2476	0	0	2476
B	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2600	0	0	2600
B	* 70400100	TEMPORARY CONCRETE BARRIER	FOOT	414	0	0	414
B	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	414	0	0	414
B	78000200	THERMOPLASTIC PAVEMENT MARKING LINE- 4"	FOOT	964	0	0	964
B	* 78000300	THERMOPLASTIC PAVEMENT MARKING LINE- 5"	FOOT	964	0	0	964
B	* 78001110	PAINT PAVEMENT MARKING LINE- 4"	FOOT	274	0	0	274
B	* 78001120	PAINT PAVEMENT MARKING LINE- 5"	FOOT	274	0	0	274
*	78200400	GUARDRAIL REFLECTORS	EACH	17	0	0	17
B	* A2006716	TREE, QUERCUS MACROCARPA (BUR OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	0	0	3
B	* A2004216	TREE, FRAXINUS PENNSYLVANICA SUMMIT (SUMMIT GREEN ASH), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	0	0	3
*	X4066426	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70	TON	174	0	0	174
*	X4066616	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL 19.0L, N70	TON	741	0	0	741
*	X4066770	LEVELING BINDER (MACHINE METHOD) SUPERPAVE, N70	TON	20	0	0	20
*	X6700405	ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED)	CAL MO.	8	0	0	8
*	X7015050	PORTABLE CHANGEABLE MESSAGE SIGN	CAL MO.	8	0	0	8
*	XX001302	ENERGY DISSIPATOR (SPECIAL)	EACH	4	0	0	4
*	Z0000990	AGGREGATE FOR TEMPORARY ACCESS	TON	7	0	0	7
*	Z0002600	BAR SPLICERS	EACH	0	0	333	333
*	Z0013798	CONSTRUCTION LAYOUT	LUMP SUM	1	0	0	1
X0006128	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL)	EACH	4	0	0	4	
67100100	MOBILIZATION	LUMP SUM	1	0	0	1	

SHEET	INDEX OF SCHEDULES	
SCH-1	1	SCHEDULE OF EARTH EXCAVATION/EMBANKMENT QUANTITIES
SCH-1	2	SCHEDULE OF SEEDING AND RELATED ITEMS
SCH-1	3	SCHEDULE OF PAVEMENT MATERIALS
SCH-1	4	SCHEDULE OF TOPSOIL STRIPPING
SCH-1	5	SCHEDULE OF TREES
SCH-1	6	SCHEDULE OF GUARDRAIL AND RELATED ITEMS
SCH-1	7	SCHEDULE OF SEWER PIPING
SCH-1	8	SCHEDULE OF PAVEMENT MARKINGS
SCH-1	9	SCHEDULE OF REMOVAL ITEMS
SCH-1	10	SCHEDULE OF EROSION CONTROL MEASURES

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
MCCLURE ENGINEERING	02/03/05	<b>SUMMARY OF QUANTITIES</b>  SCALE: VERT. N.T.S. SCALE: HORIZ. N.T.S. DATE: _____ DRAWN BY: AJP CHECKED BY: CRF

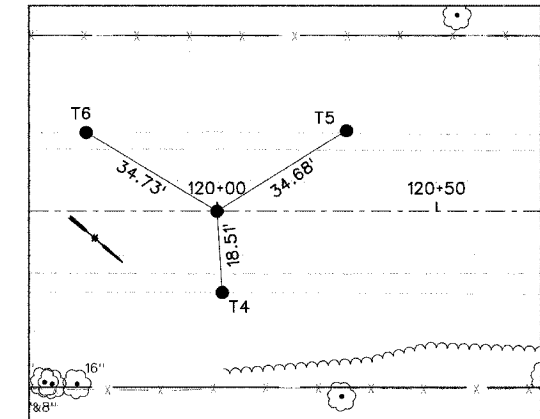


F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095+BR	LAKE	28	5
ALIGNMENT, TIE AND BENCHMARK PLAN				
C-9-169-00			ILLINOIS	
CONTRACT NO.: 83789				



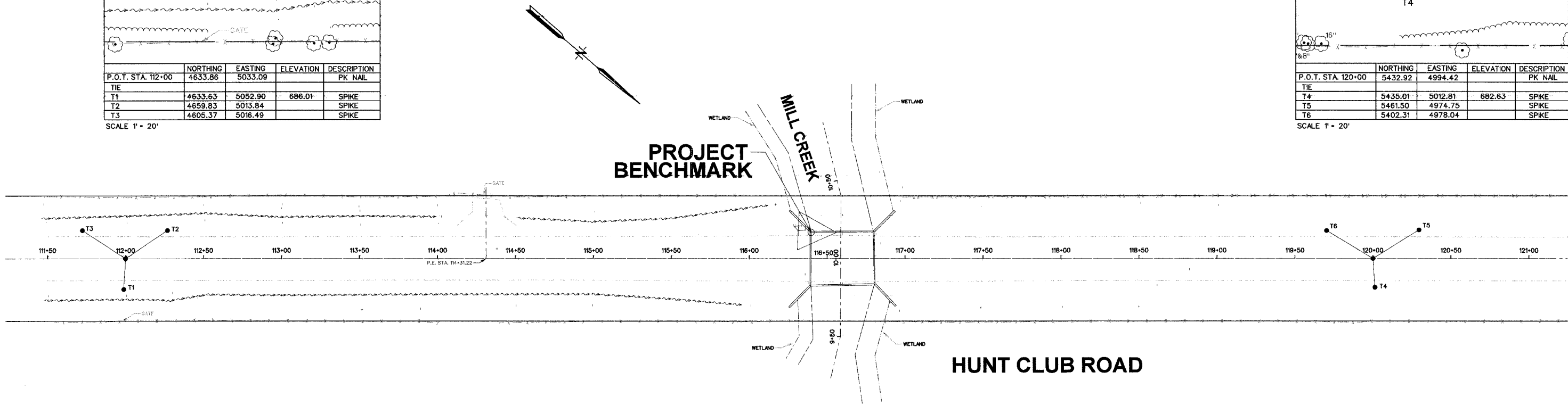
P.O.T. STA.	NORTHING	EASTING	ELEVATION	DESCRIPTION
112+00	4633.86	5033.09		PK NAIL
TIE				
T1	4633.63	5052.90	686.01	SPIKE
T2	4659.83	5013.84		SPIKE
T3	4605.37	5016.49		SPIKE

SCALE 1" = 20'



P.O.T. STA.	NORTHING	EASTING	ELEVATION	DESCRIPTION
120+00	5432.92	4994.42		PK NAIL
TIE				
T4	5435.01	5012.81	682.63	SPIKE
T5	5461.50	4974.75		SPIKE
T6	5402.31	4978.04		SPIKE

SCALE 1" = 20'



**CONTROL / BENCHMARK DATA**

PROJECT BENCHMARK CHISLED "□" ON RIGHT  
UPSTREAM WINGWALL  
STA 116+39.7, 17' LT  
EL. 686.12

REVISIONS	
NAME	DATE
MCCLURE ENGINEERING	02/03/09

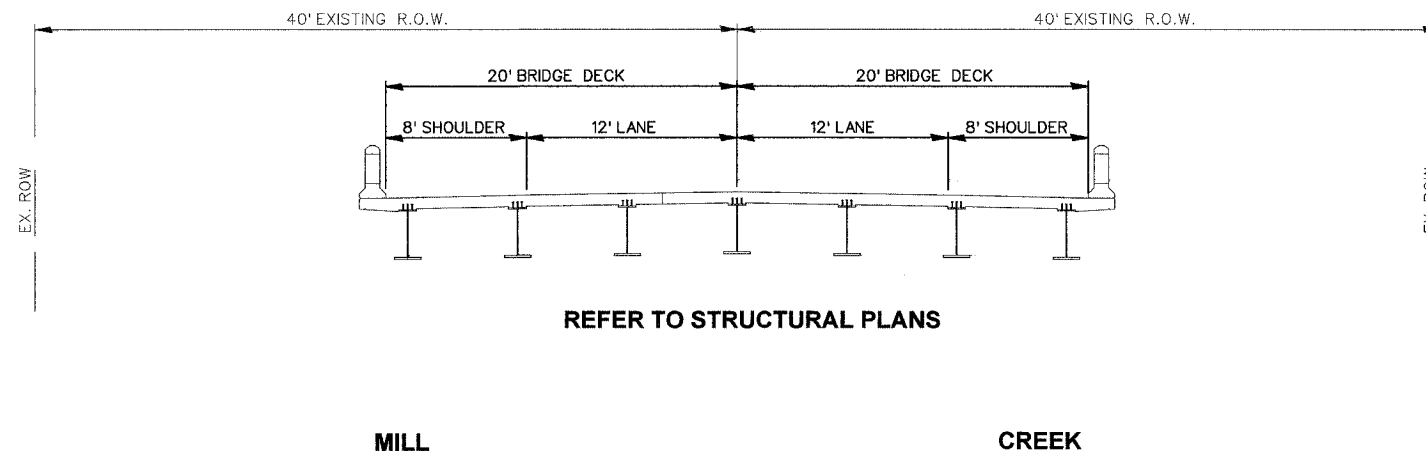
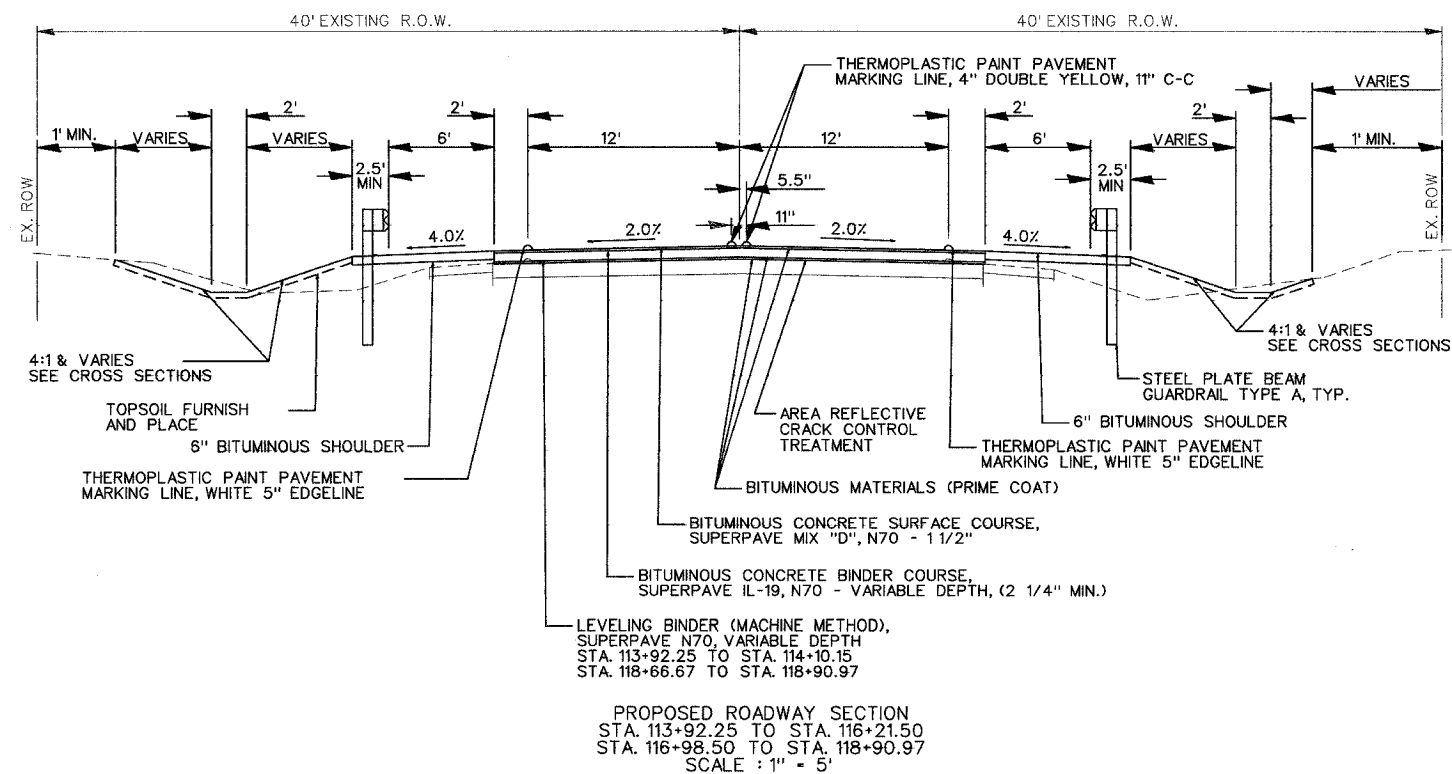
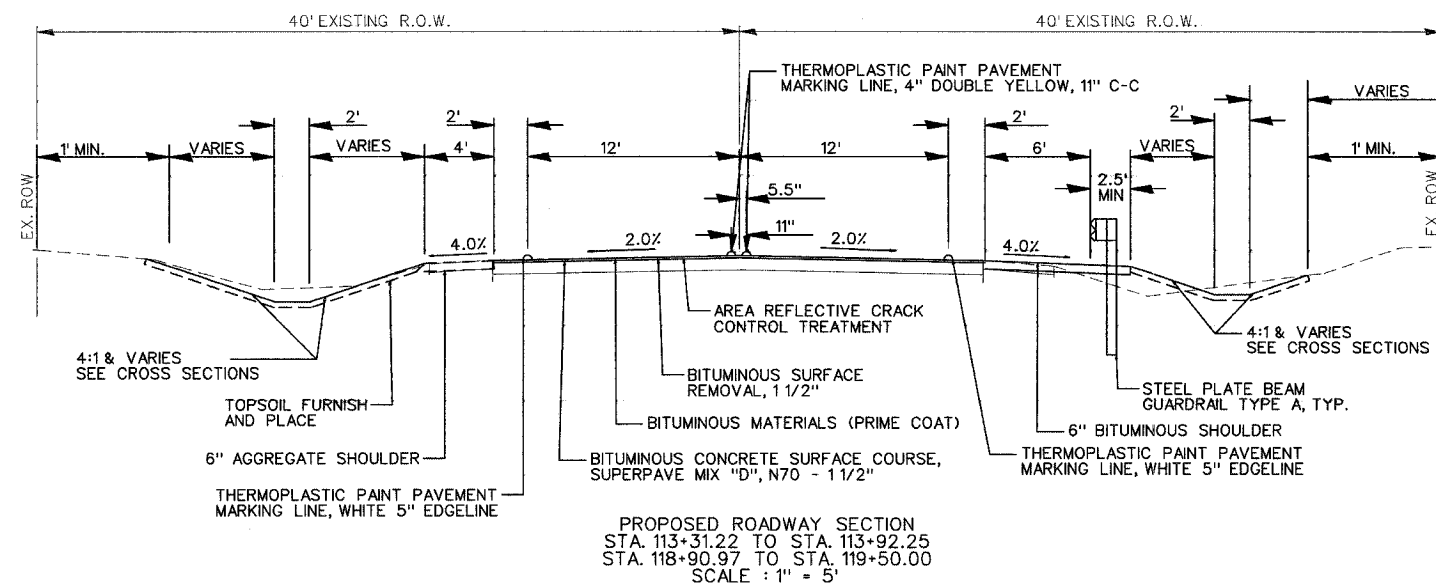
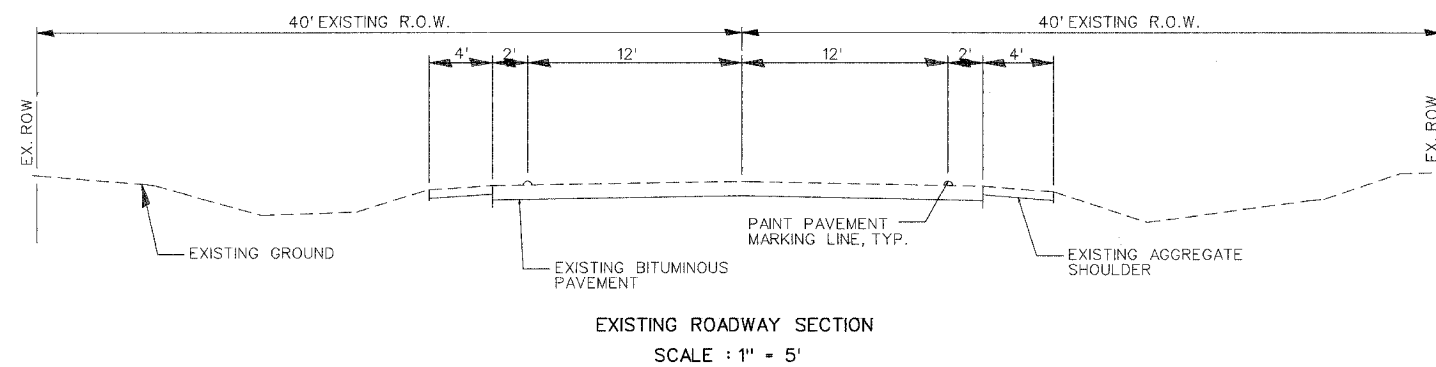
ILLINOIS DEPARTMENT OF TRANSPORTATION

**ALIGNMENT, TIE AND BENCHMARK PLAN**

SCALE: VERT. 1" = 30'  
HORIZ. 1" = 30'

DATE \_\_\_\_\_ DRAWN BY AJP  
CHECKED BY CRF

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-1-BR	LAKE	28	6
C-9-69-00		ILLINOIS	CONTRACT NO.: 83789	



STRUCTURAL DESIGN TRAFFIC:	YEAR 2005
PV = 16,501	SU = 695 MU = 174
ROAD/STREET CLASSIFICATION:	CLASS 2
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:	
P = 95%	S = 4% M = 1%
TRAFFIC FACTOR:	ACTUAL TF = 1.47 AC TYPE = PG 64-22
	MINIMUM TF =
PG GRADE:	BINDER = 64.22 (N70) SURFACE = 64.22 (N70)
SUBGRADE SUPPORT RATING:	
SSR = POOR (STA. 113+31 TO 119+50)	

ITEM	UNIT	AC TYPE	VOIDS	MAX RAP %	LIFT THICKNESS
BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N70	TON	PG 64-22	4% @ 70 Gyr.	10	1-1/2"
BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19, N70	TON	PG 64-22	4% @ 70 Gyr.	15	2-1/4"
LEVELING BINDER (MACHINE METHOD), SUPERPAVE N70	TON	PG 64-22	4% @ 70 Gyr.	10	3/4" - 2"

REVISIONS	
NAME	DATE
MCCLURE, ENGINEERING	02/03/05

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TYPICAL SECTIONS**

SCALE: VERT. 1" = 5'  
HORIZ. 1" = 5'

DATE \_\_\_\_\_ DRAWN BY AJP  
CHECKED BY CRF

# EROSION CONTROL PLAN & STORMWATER POLLUTION PREVENTION PLAN

THIS PROJECT DISTURBS 0.73 ACRES OF TOTAL LAND AREA. COMPLIANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT IS NECESSARY IF A PROJECT DISTURBS 1 OR MORE ACRES OF TOTAL LAND AREA; AN NPDES STORMWATER PERMIT WILL NOT BE REQUIRED FOR THIS PROJECT.

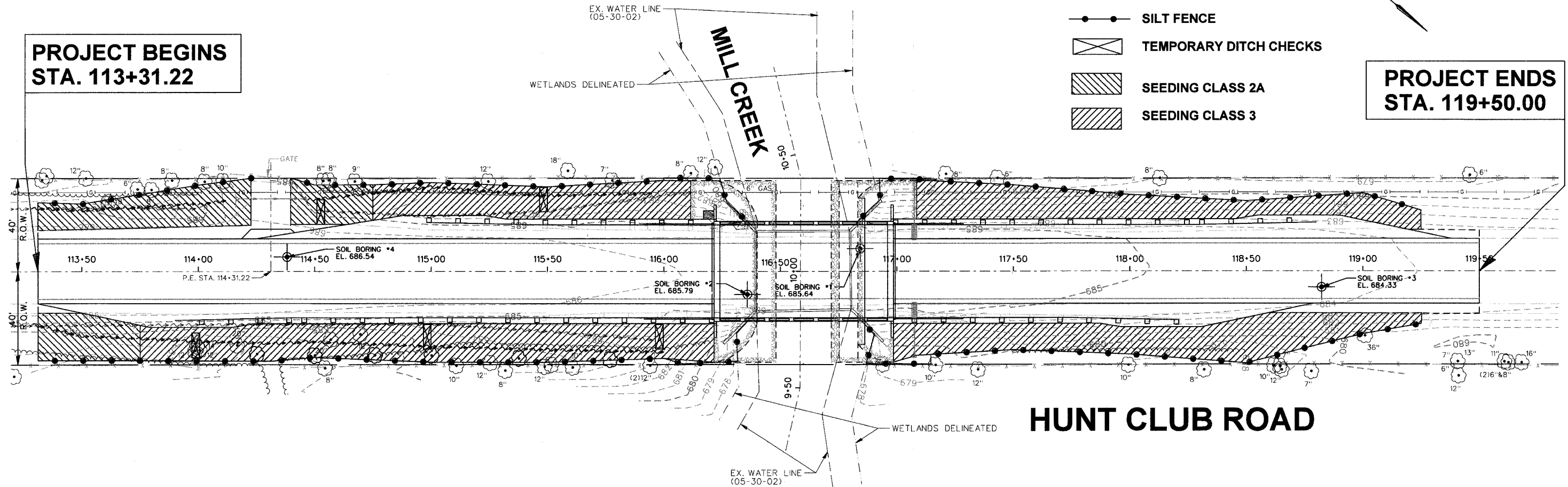
F.A.J.U. RTE. 2661	SECTION 00-00095-1-BR	COUNTY LAKE	TOTAL SHEETS 28	SHEET NO. 7
EROSION AND SEDIMENT CONTROL PLAN				
C-9-69-00	ILLINOIS	CONTRACT NO. 83789		

## LEGEND

- EXISTING DITCH LINE
- PROPOSED DITCH LINE
- SILT FENCE
- TEMPORARY DITCH CHECKS
- SEEDING CLASS 2A
- SEEDING CLASS 3

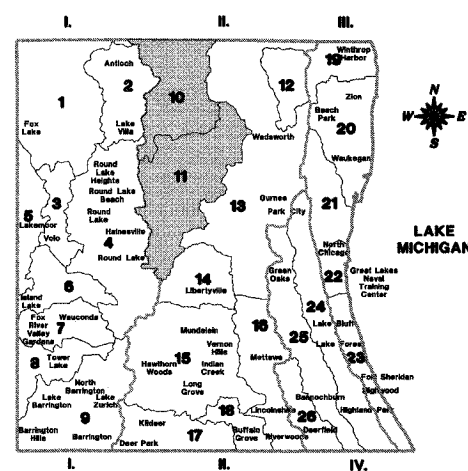
**PROJECT BEGINS  
STA. 113+31.22**

**PROJECT ENDS  
STA. 119+50.00**



HUNT CLUB ROAD

### DRAINAGE BASINS OF LAKE COUNTY



- I. FOX RIVER WATERSHED**
  - 1. Upper Fox River
  - 2. Sequoit Creek
  - 3. Fish Lake Drain
  - 4. Squaw Creek
  - 5. Lower Fox River
  - 6. Mutton Creek
  - 7. Slossum Lake Drain
  - 8. Tower Lake Drain
  - 9. Flint Creek
- II. DES PLAINES RIVER WATERSHED**
  - 10. North Mill Creek
  - 11. Mill Creek
  - 12. Newport Drainage Ditch
  - 13. Upper Des Plaines River
  - 14. Bull Creek
  - 15. Indian Creek
  - 16. Lower Des Plaines River
  - 17. Buffalo Creek
  - 18. Apaklake Creek
- III. LAKE MICHIGAN WATERSHED**
  - 19. Kellogg Creek
  - 20. Dead River
  - 21. Waukagan River
  - 22. Peitbone Creek
  - 23. Buff/Revere
- IV. CHICAGO RIVER WATERSHED**
  - 24. Skokie River
  - 25. Middle Fork
  - 26. West Fork

### GENERAL NOTES FOR EROSION CONTROL

- A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
  - B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
  - C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.
  - D. AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3:1H/V, AND APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE STABILIZED WITH SOD, MAT, BLANKET OR FABRIC IN COMBINATION WITH SEEDING.
  - E. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
  - F. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.
  - G. A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
  - H. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF LAKE COUNTY.
  - I. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
  - J. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.
  - K. PERIMETER EROSION BARRIER SHALL BE INSTALLED AT LOCATIONS SPECIFIED IN THE PLANS AT 1 FOOT OR MORE OUTSIDE THE TOE OF SLOPE OR INSIDE THE RIGHT-OF-WAY WHICHEVER IS CLOSER TO THE CENTERLINE, OR AS DIRECTED BY THE ENGINEER PRIOR TO THE START OF ANY EARTHWORK, CULVERT, OR STORM SEWER CONSTRUCTION.
  - L. THE PERIMETER EROSION BARRIER SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED WITH VEGETATION. AT THIS TIME, THE PERIMETER EROSION BARRIER SHALL BE REMOVED AND THE AREAS DAMAGED BY THE FENCE INSTALLATION RESTORED.
  - M. THE INSTALLATION, REMOVAL AND THE RESTORATION OF THE AREA DISTURBED BY THE PERIMETER EROSION BARRIER IS INCLUDED IN THE PAY ITEM PERIMETER EROSION BARRIER.
  - N. THE DITCH CHECKS, SPECIAL SHALL BE INSTALLED AS SHOWN ON THE SPECIAL DETAIL LC1005 AS GRADING PROGRESSES THROUGH THE PROJECT.
  - O. UNLESS OTHERWISE DESIGNATED, ALL RESTORATION AREAS SHALL BE SEEDDED WITH CLASS 4A AND COVERED WITH EROSION CONTROL BLANKET.
- APPLICABLE STANDARDS, SPECIFICATIONS, AND SPECIAL PROVISIONS FOR EROSION AND SEDIMENT CONTROL
- SPECIAL PROVISION FOR TEMPORARY DITCH CHECK  
SPECIAL PROVISION FOR PERIMETER EROSION BARRIER  
SPECIAL PROVISION FOR EROSION CONTROL FABRIC  
SPECIAL PROVISION FOR SEEDING  
DOT HIGHWAY STANDARD 28000  
LCDDT STANDARD DETAIL LC1005

### SEQUENCE OF EROSION CONTROL OPERATIONS

1. INSTALL PERIMETER EROSION BARRIER AND WETLAND PROTECTION BARRIERS AT LOCATIONS SPECIFIED IN THE PLANS PRIOR TO THE START OF ANY EARTHWORK.
2. BEGIN CONSTRUCTION AND INSTALL TEMPORARY DITCH CHECKS AS WORK PROGRESSES.
3. PLACE SOD AT THE SIDE SLOPES OF THE CREEK AS SHOWN TO ELIMINATE THE EROSION AT THESE AREAS.
4. THE TEMPORARY DITCH CHECKS ARE TO REMAIN IN PLACE UNTIL THE AREA IS STABILIZED WITH SEEDING AND BLANKET.
5. SEEDING SHALL BE COMPLETED IN STAGES AS SECTIONS OF THE CONSTRUCTION ARE COMPLETED AS DEFINED IN THE SPECIAL PROVISIONS OR WHEN THE CONSTRUCTION WILL BE SHUT DOWN FOR THE SEASON. ALSO ANY STOCKPILES OF DIRT TO BE USED IN THE NEXT SEASON SHALL BE SEEDDED WITH TEMPORARY SEED AND MULCHED.
6. WHEN THE PROJECT HAS BEEN STABILIZED WITH VEGETATION THE PERIMETER EROSION BARRIER SHALL BE REMOVED AND THE AREAS DAMAGED BY THE FENCE INSTALLATION RESTORED.

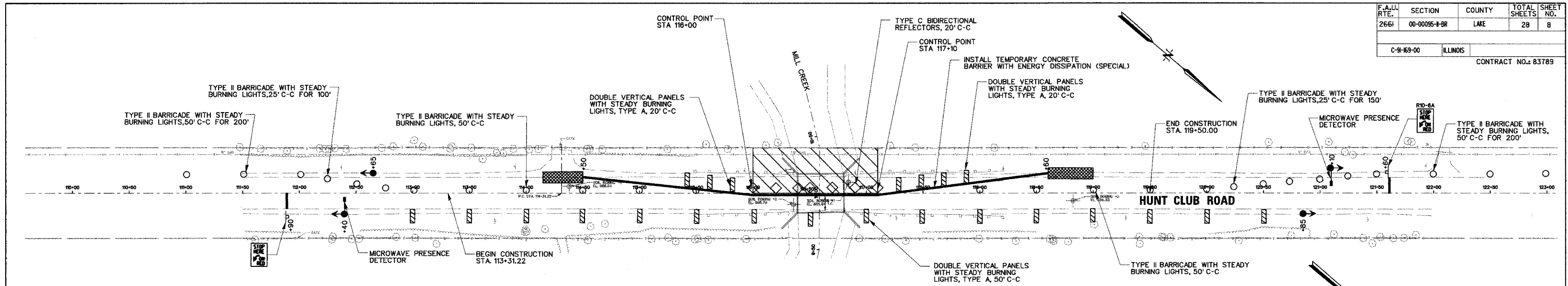
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
EROSION AND SEDIMENT  
CONTROL PLAN

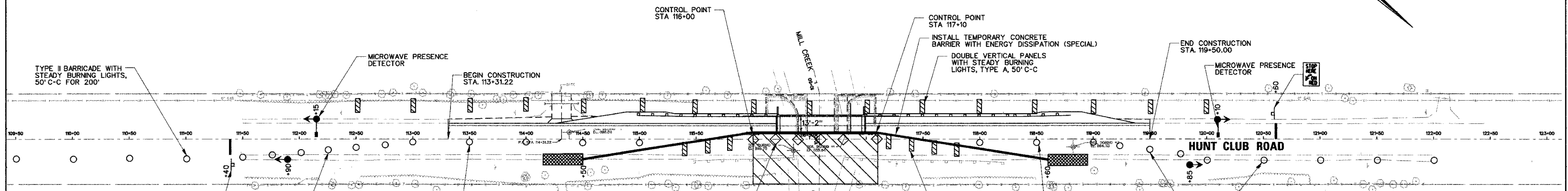
SCALE: VERT. 1" = 20'  
HORIZ. 1" = 20'

DRAWN BY AJP  
CHECKED BY CRF

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-I-BR	LAKE	28	8
C-9-169-00		ILLINOIS	CONTRACT NO.: 83789	

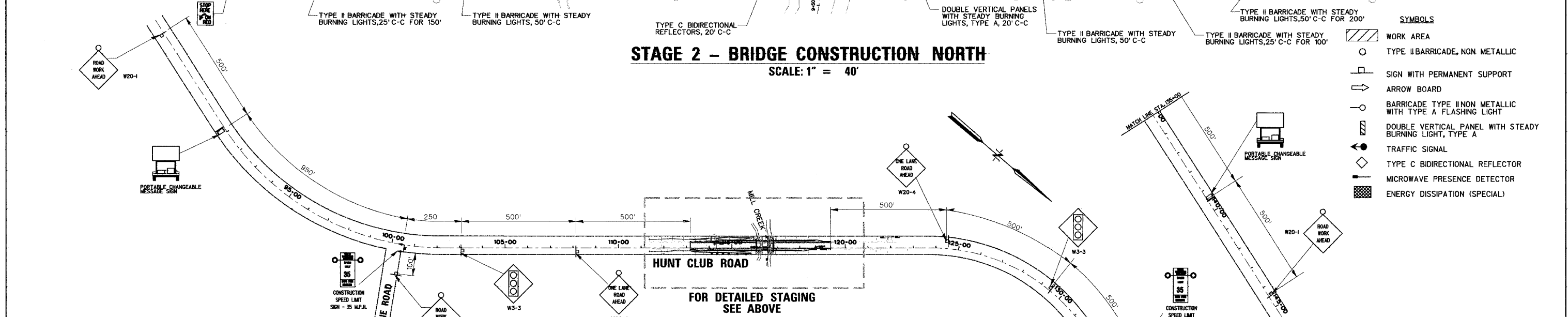


**STAGE 1 - BRIDGE CONSTRUCTION SOUTH**  
SCALE: 1" = 40'



**STAGE 2 - BRIDGE CONSTRUCTION NORTH**  
SCALE: 1" = 40'

- SYMBOLS**
- WORK AREA
  - TYPE II BARRICADE, NON METALLIC
  - SIGN WITH PERMANENT SUPPORT
  - ARROW BOARD
  - BARRICADE TYPE II NON METALLIC WITH TYPE A FLASHING LIGHT
  - DOUBLE VERTICAL PANEL WITH STEADY BURNING LIGHT, TYPE A
  - TRAFFIC SIGNAL
  - TYPE C BIDIRECTIONAL REFLECTOR
  - MICROWAVE PRESENCE DETECTOR
  - ENERGY DISSIPATION (SPECIAL)



**OVERALL TRAFFIC CONTROL**  
SCALE: 1" = 200'

REVISIONS	
NAME	DATE
MCCLURE ENGINEERING	02/03/05

ILLINOIS DEPARTMENT OF TRANSPORTATION

**SUGGESTED STAGED TRAFFIC CONTROL PLAN**

SCALE: VERT. 1" = 40'  
HORIZ. 1" = 40'

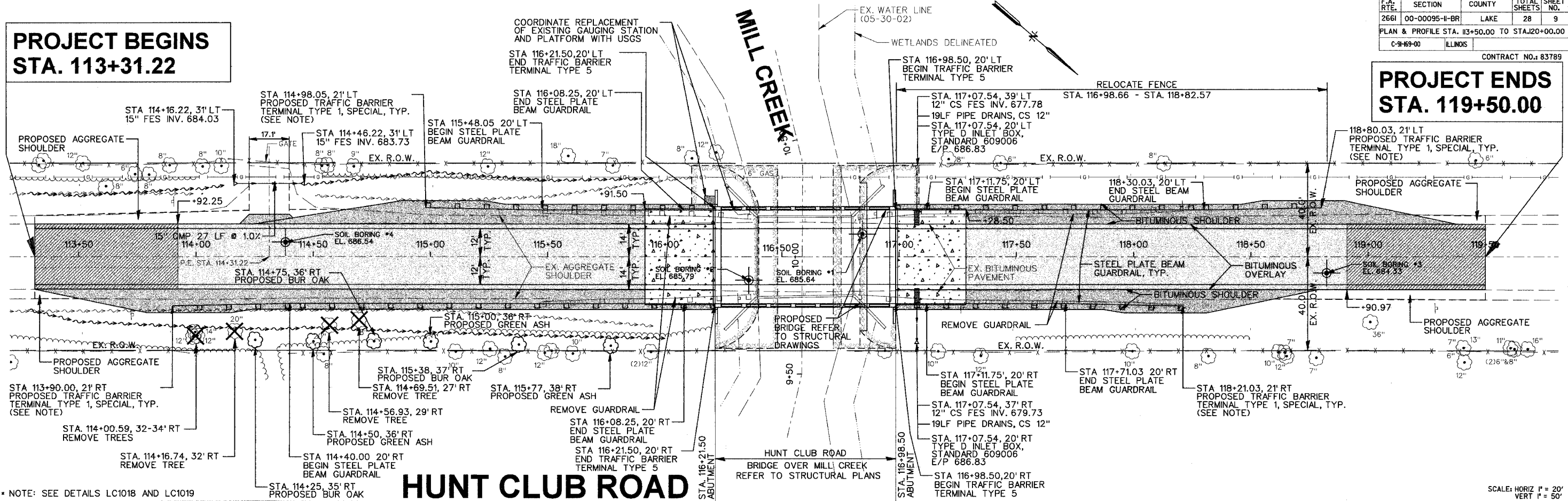
DATE: \_\_\_\_\_ DRAWN BY: AJP  
CHECKED BY: CRF



**PROJECT BEGINS  
STA. 113+31.22**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	9
PLAN & PROFILE STA. 113+50.00 TO STA. 120+00.00				
C-9-89-00		ILLINOIS		CONTRACT NO. 83789

**PROJECT ENDS  
STA. 119+50.00**



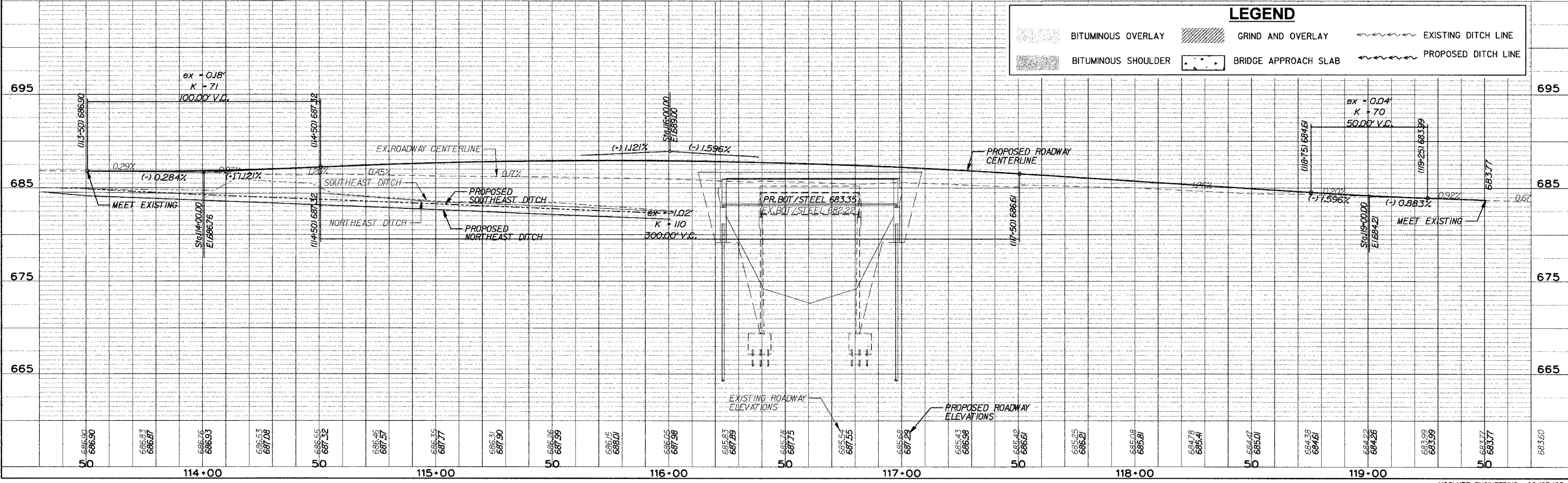
NOTE: SEE DETAILS LC1018 AND LC1019

SCALE: HORIZ 1" = 20'  
VERT 1" = 50'

**HUNT CLUB ROAD**

**LEGEND**

	BITUMINOUS OVERLAY		GRIND AND OVERLAY		EXISTING DITCH LINE
	BITUMINOUS SHOULDER		BRIDGE APPROACH SLAB		PROPOSED DITCH LINE



DATE	BY	REVISION

DATE	BY	REVISION

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-00095-11-BR	LAKE	28	10
GENERAL PLAN AND ELEVATION				
0-91-89-00	ILLINOIS			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

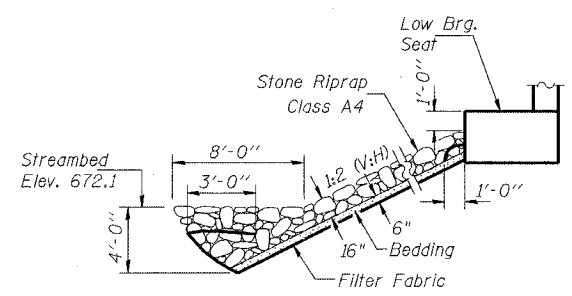
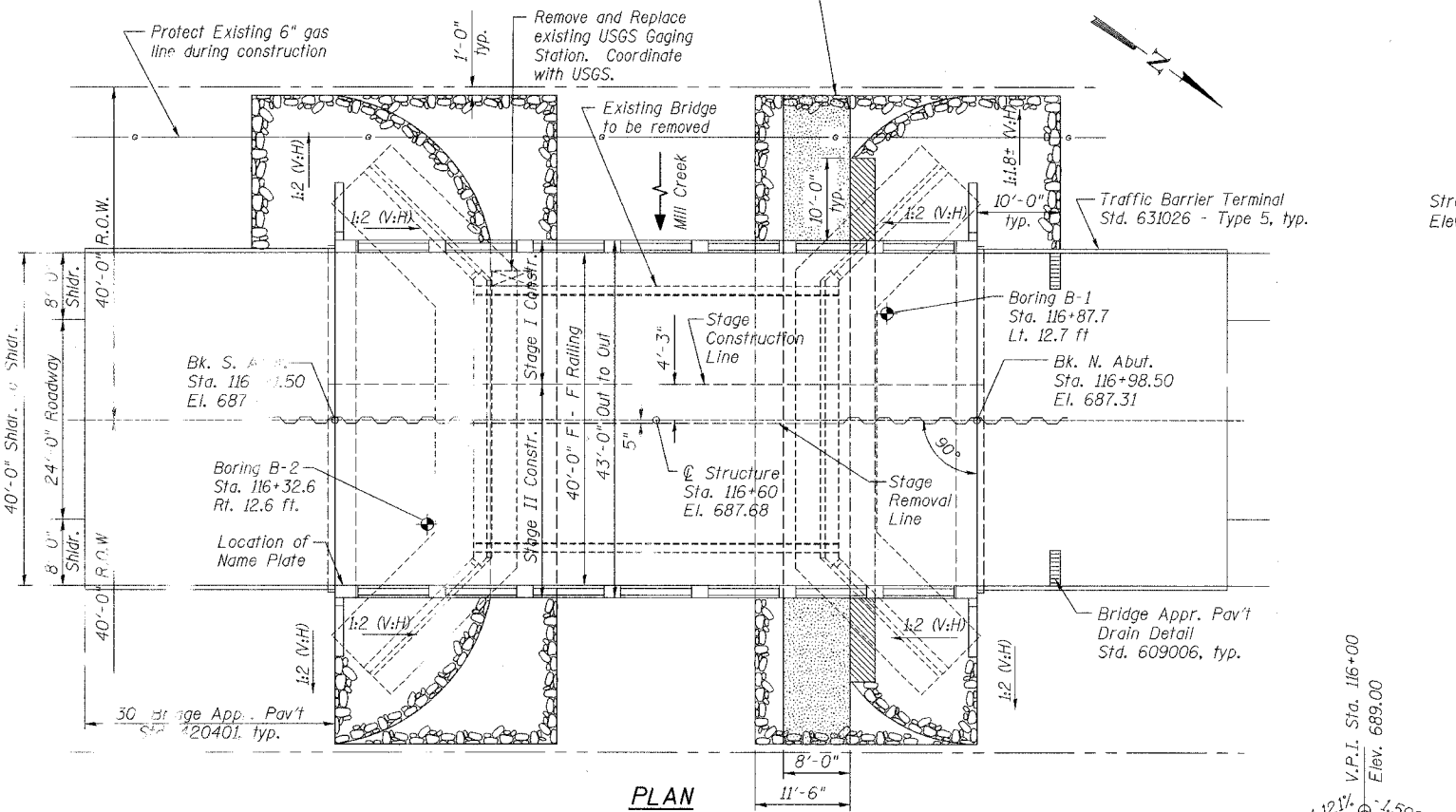
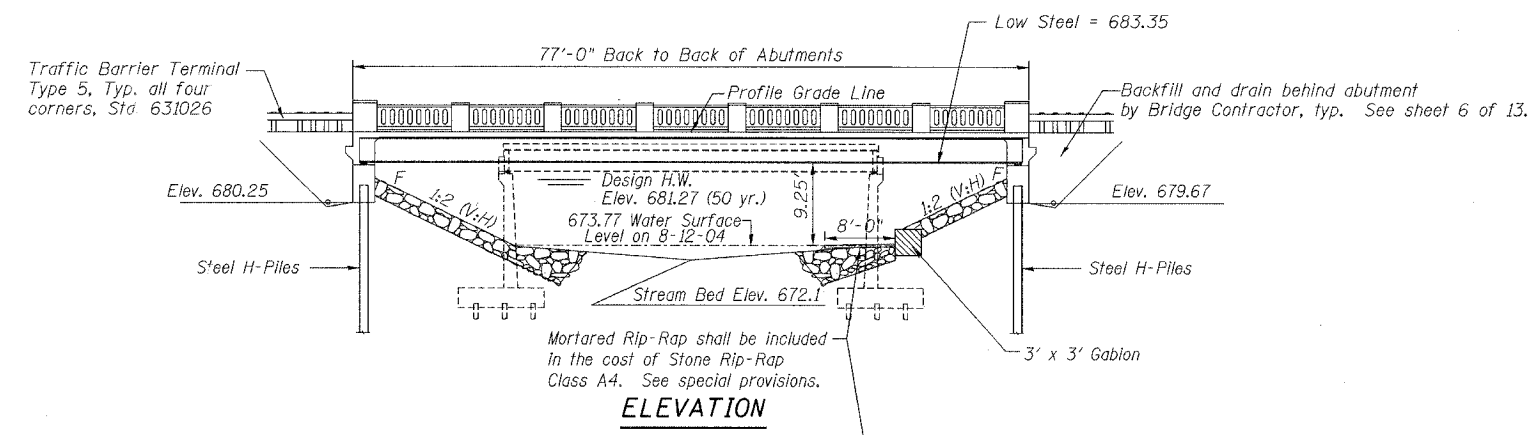
GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.  
 Layout of slope protection system may be varied in the field to suit ground condition as directed by the Engineer.  
 The Contractor shall drive one (1) steel HP12 x 53 test pile in a permanent location at both Abutments as directed by the Engineer before ordering the remainder of piles.  
 Fasteners shall be high strength bolts. Bolts 7/8" φ, open holes 15/16" φ, unless otherwise noted.  
 Calculated mass of Structural Steel = 75,780 lbs (M270 Grade 50)  
 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 tension flanges and web.  
 Field welding of construction accessories will not be permitted to the bottom flange of girders. Field welding in other areas will be permitted only when approved by the Engineer.  
 The Inorganic zinc rich primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue, Munsell No. 10B-3/6. See Special Provision for "Cleaning and Painting New Metal Structures".  
 The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.  
 Anchor bolts shall be set before bolting diaphragms over supports.  
 All exposed concrete edges shall have a 3/4" x 45 deg. chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.  
 Do not scale dimensions for construction, scale applies only to full size drawings.  
 No construction joints except those shown on the plans will be allowed unless ordered by the Engineer. After the girders are set, all elevations for determining fillet heights shall be taken at one time.  
 Contractor to protect all utilities during construction. See Plan and Profile sheet in Roadway Plans for further information.  
 Excavation behind existing abutment walls shall be done before removing the existing superstructure.  
 The Contractor shall sawcut the existing abutments at the stage removal line before Stage I removal. All construction joints shall be bonded.

CONTRACT NO.: 83789

**BENCH MARK:**  
 Chisled "□" in the Southwest wingwall of S.N. 049-3016  
 Elevation = 686.12 Sta. 116+39.7, 17' Left

**EXISTING STRUCTURE:**  
 S.N. 049-3016, Estimated to have been constructed in 1949 consists of one steel beam span with 7" concrete deck and vertical concrete abutments. The structure length is approximately 42 ft. Bk. to Bk. of abutments. The contractor is to remove the existing structure as required. (No Salvage) The road shall be kept open to traffic at all times of construction by means of staged construction.



STONE RIPRAP ANCHOR DETAIL

**LOADING HS20-44**  
 Allow 50 psf for future wearing surface.

**DESIGN SPECIFICATIONS**  
 2002 AASHTO Standard Specifications for Highway Bridges

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)  
 $f_y = 50,000$  psi (structural steel)

**SEISMIC DATA**  
 Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.034  
 Site Coefficient (S) = 1.0

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		898	898
Porous Granular Embankment	Cu. Yd.		189	189
Stone Riprap, Class A4	Sq. Yd.		506	506
Filter Fabric	Sq. Yd.		527	527
Gabions	Cu. Yd.		21	21
Removal of Existing Structure	Each	1		1
Structure Excavation	Cu. Yd.		225	225
Concrete Structures	Cu. Yd.		35.4	35.4
Concrete Superstructure	Cu. Yd.	112.3		112.3
Bridge Deck Grooving	Sq. Yd.		325	325
Concrete Handrill	Cu. Yd.		15.6	15.6
Protective Coat	Sq. Yd.		419	419
Furnishing & Erecting Structural Steel	Pound	75,780		75,780
Stud Shear Connectors	Each	1134		1134
Reinforcement Bars, Epoxy Coated	Pound	25,110	3580	28,690
Furnishing Steel Piles - HP12x53	Feet		864	864
Driving Steel Piles	Feet		864	864
Test Piles Steel HP12x53	Each		2	2
Temporary Sheet Piling	Sq. Ft.		1573	1573
Name Plates	Each	1		1
Bar Splicers	Each	321	12	333

**STATION 116+60**  
 BUILT 20\_\_ BY  
 LAKE COUNTY  
 HUNT CLUB ROAD (CO. HW. 15)  
 SECTION 00-00095-11-BR  
 LOADING HS20-44  
 STR. NO. 049-3072

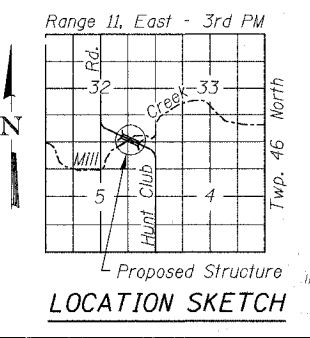
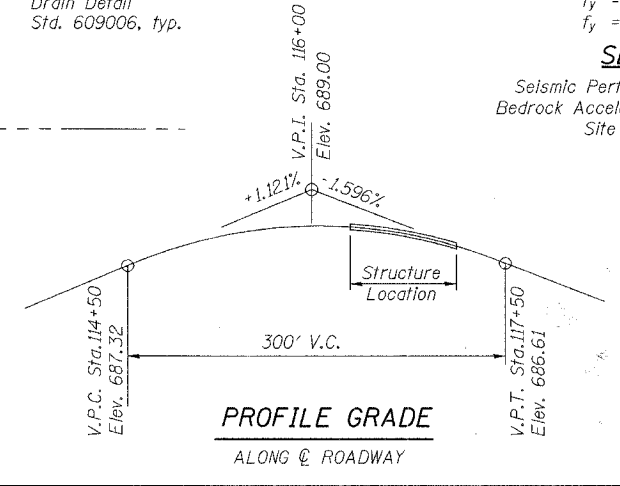
**NAME PLATE**  
 See Std. 515001

- INDEX OF SHEETS**
- GENERAL PLAN AND ELEVATION
  - STAGE CONSTRUCTION DETAILS
  - TOP OF SLAB ELEVATIONS
  - SUPERSTRUCTURE
  - SUPERSTRUCTURE DETAILS
  - DIAPHRAGM DETAILS
  - FRAMING PLAN AND DETAILS
  - SOUTH ABUTMENT DETAILS
  - NORTH ABUTMENT DETAILS
  - ANCHOR BOLT DETAILS
  - TEMPORARY CONCRETE BARRIER
  - BAR SPLICER DETAILS
  - BORING LOGS

**WATERWAY INFORMATION**

Drainage Area = 61.9 sq. mi. Low Grade Elev. = 687.25 @ Sta. 116+60

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Not. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	2645	312	433	681.27	0.51	0.14	681.78
Base	100	3220	326	467	681.70	0.83	0.28	682.59
Overtopping								
Max. Calc.	500	4386	364	514	682.48	2.11	0.66	684.59



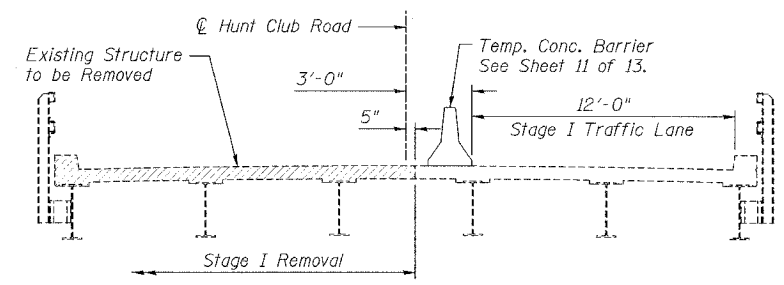
PLANS PREPARED BY  
**McCLURE ENGINEERING ASSOCIATES, INC.**  
 4700 Kankakee Drive  
 East Moline, Illinois 61244  
 (309) 792-9350 FAX (309) 792-8974  
 Copyright ©2004 by McClure Engineering Associates, Inc.

**ALIA GHARANI**  
 081-000800  
 LICENSED STRUCTURAL ENGINEER  
 STATE OF ILLINOIS  
 Signature: [Signature]  
 Date: 12/20/04  
 Exp. Date: 11/20/16

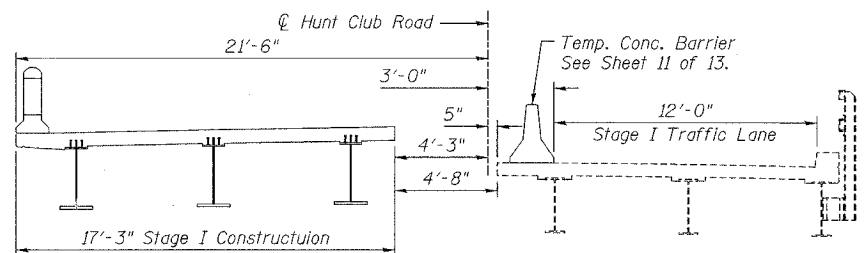
**GENERAL PLAN AND ELEVATION**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-11-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

F.A.W. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-00095-II-BR	LAKE	28	II
STAGE CONSTRUCTION DETAILS				
C-91-89-00	ILLINOIS			

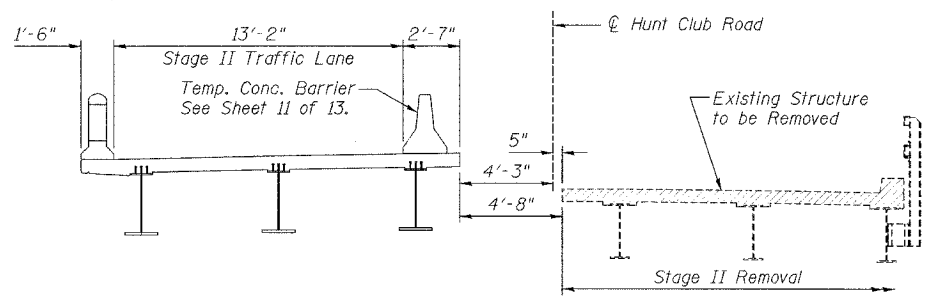
CONTRACT NO.: 83769



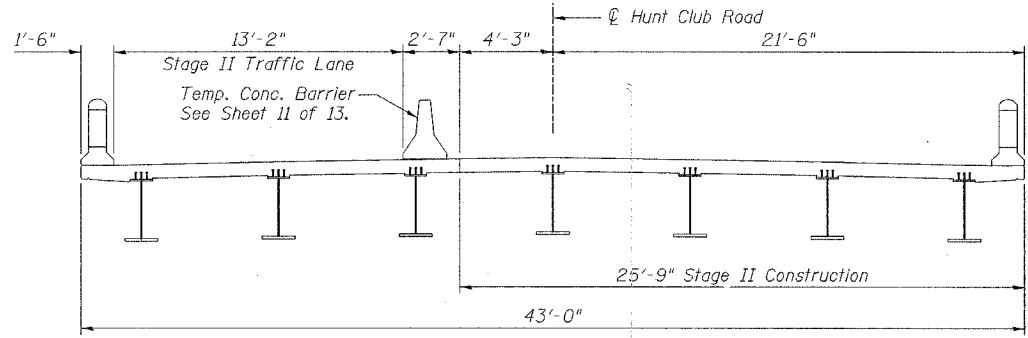
**STAGE I REMOVAL**



**STAGE I CONSTRUCTION**

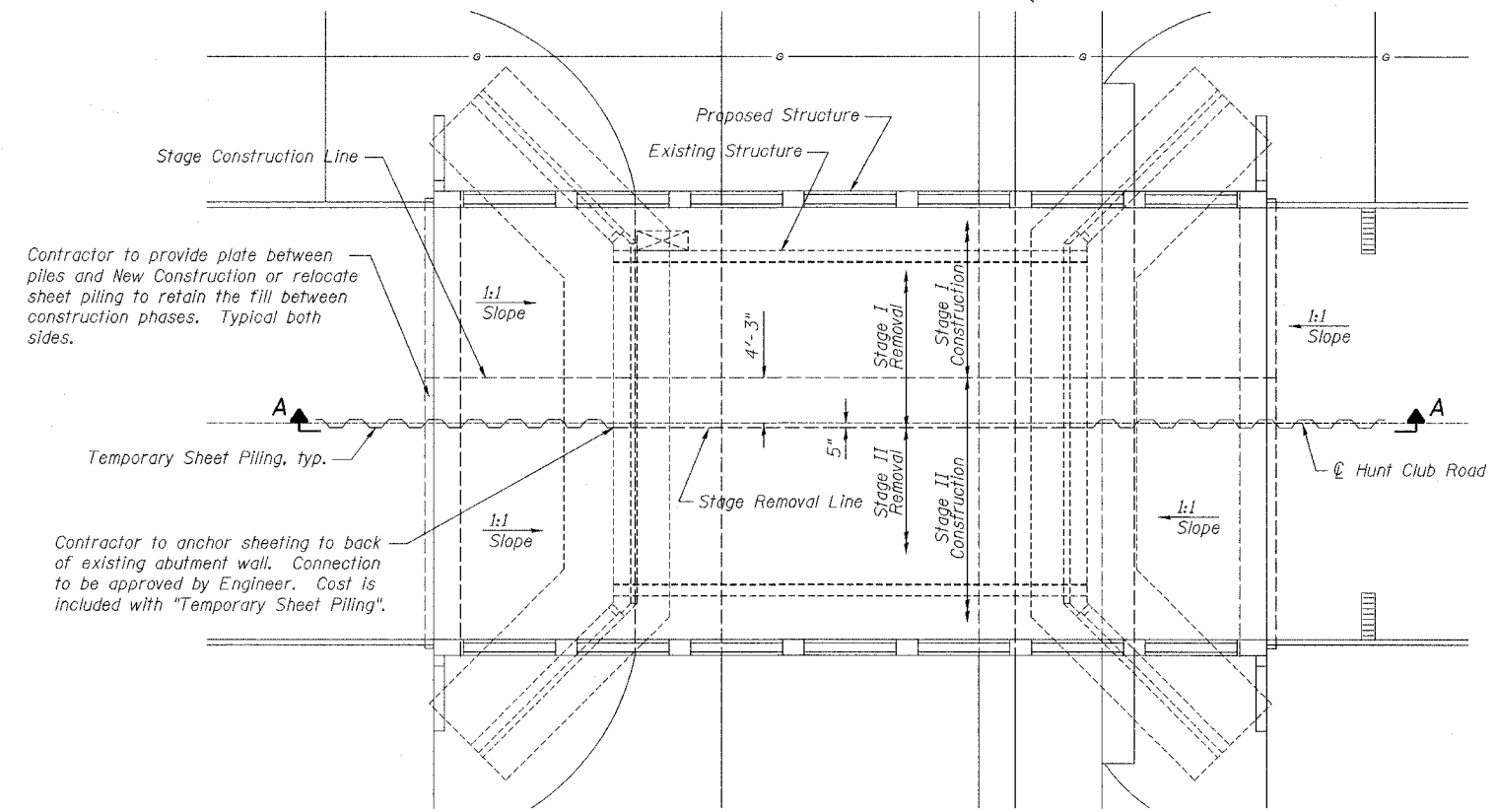


**STAGE II REMOVAL**

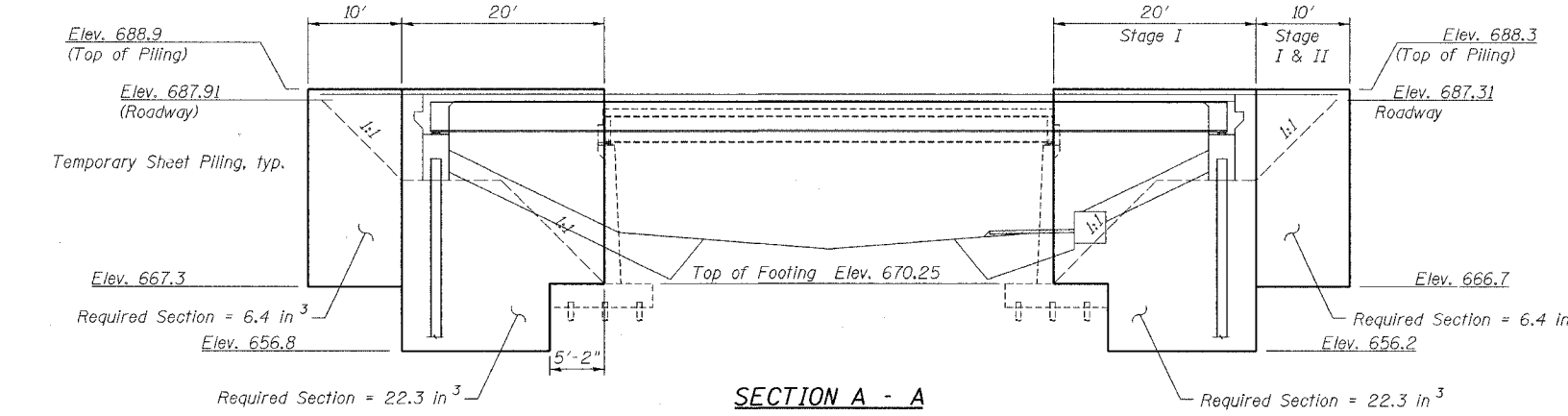


**STAGE II CONSTRUCTION**

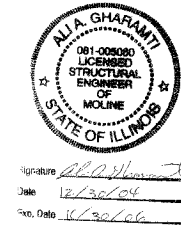
All views looking North.



**PLAN**



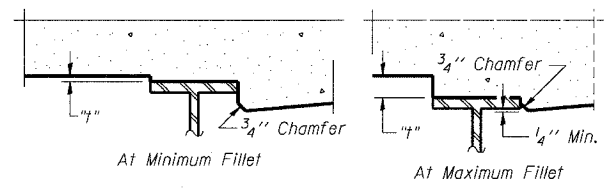
**SECTION A - A**



Signature: *Ali A. Gharami*  
 Date: 12/30/04  
 Exp. Date: 12/30/06

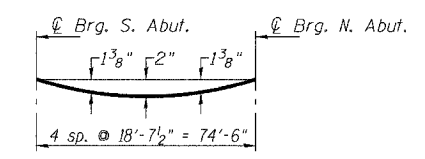
**NOTE:**  
 If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full design submittals with the required seals will be expected by the Engineer, for review and approval.  
 The Existing Structure shall be removed in accordance with Article 501 of the Standard Specifications.

**STAGE CONSTRUCTION DETAILS**  
**HUNT CLUB ROAD OVER**  
**MILL CREEK**  
**SECTION 00-00095-II-BR**  
**LAKE COUNTY**  
**STATION 116+60.00**  
**STRUCTURE NO. 049-3072**



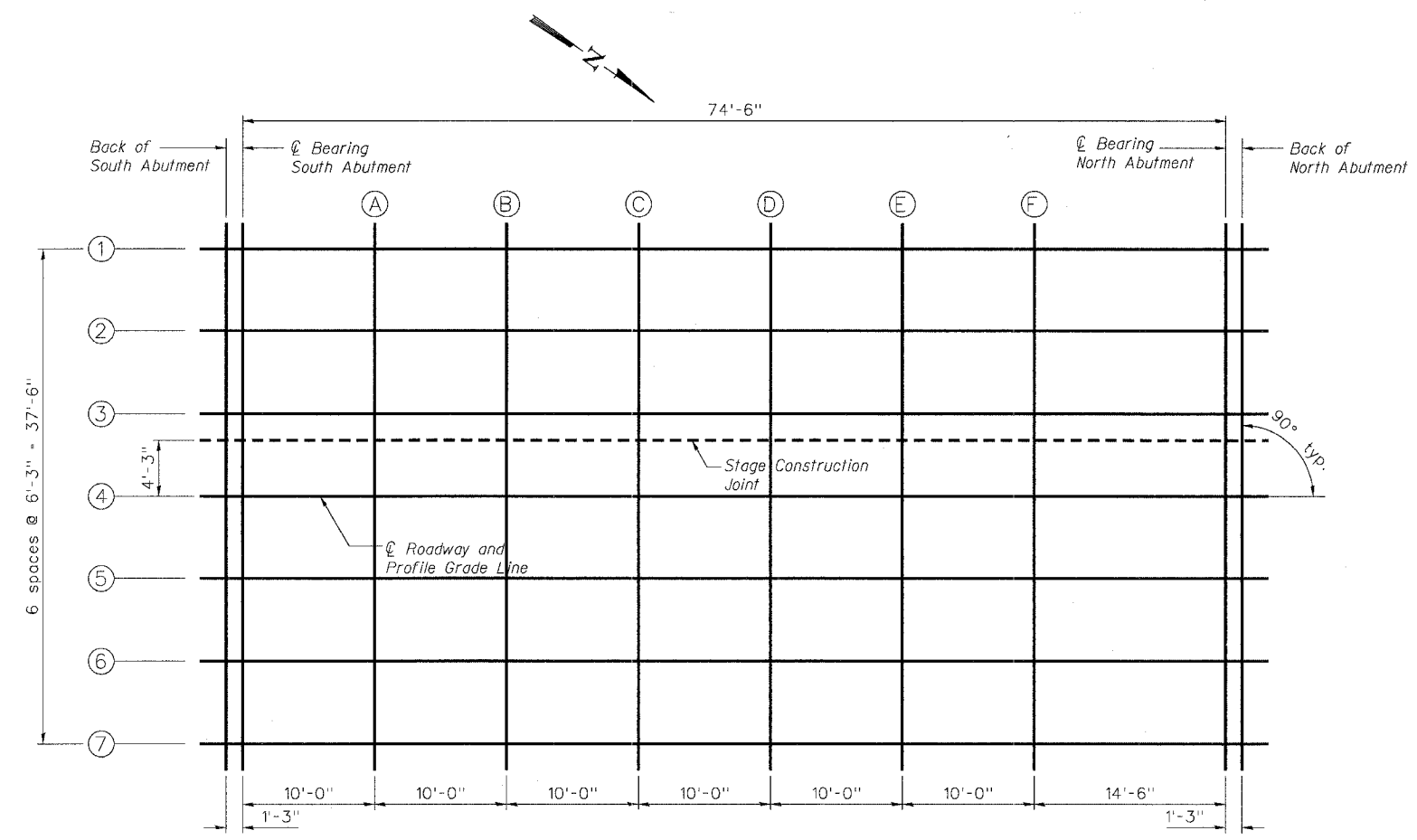
To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of beams.

**FILLET HEIGHTS**



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)  
 Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



**PLAN**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	-18.750	687.581	687.581
CL S. Abut	116+22.75	-18.750	687.576	687.576
A	116+32.75	-18.750	687.527	687.595
B	116+42.75	-18.750	687.469	687.591
C	116+52.75	-18.750	687.402	687.558
D	116+62.75	-18.750	687.326	687.487
E	116+72.75	-18.750	687.241	687.381
F	116+82.75	-18.750	687.147	687.241
CL N. Abut	116+97.25	-18.750	686.994	686.994
Back N. Abut	116+98.50	-18.750	686.980	686.980

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	-12.500	687.711	687.711
CL S. Abut	116+22.75	-12.500	687.706	687.706
A	116+32.75	-12.500	687.657	687.725
B	116+42.75	-12.500	687.599	687.721
C	116+52.75	-12.500	687.532	687.688
D	116+62.75	-12.500	687.456	687.617
E	116+72.75	-12.500	687.371	687.511
F	116+82.75	-12.500	687.277	687.371
CL N. Abut	116+97.25	-12.500	687.124	687.124
Back N. Abut	116+98.50	-12.500	687.110	687.110

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	-6.250	687.811	687.811
CL S. Abut	116+22.75	-6.250	687.806	687.806
A	116+32.75	-6.250	687.757	687.825
B	116+42.75	-6.250	687.699	687.821
C	116+52.75	-6.250	687.632	687.788
D	116+62.75	-6.250	687.556	687.717
E	116+72.75	-6.250	687.471	687.611
F	116+82.75	-6.250	687.377	687.471
CL N. Abut	116+97.25	-6.250	687.224	687.224
Back N. Abut	116+98.50	-6.250	687.210	687.210

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	-4.250	687.843	687.843
CL S. Abut	116+22.75	-4.250	687.838	687.838
A	116+32.75	-4.250	687.789	687.857
B	116+42.75	-4.250	687.731	687.853
C	116+52.75	-4.250	687.664	687.820
D	116+62.75	-4.250	687.588	687.749
E	116+72.75	-4.250	687.503	687.643
F	116+82.75	-4.250	687.409	687.503
CL N. Abut	116+97.25	-4.250	687.256	687.256
Back N. Abut	116+98.50	-4.250	687.242	687.242

**BEAM 4, P.G.L. AND Q BRIDGE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	0.000	687.909	687.909
CL S. Abut	116+22.75	0.000	687.904	687.904
A	116+32.75	0.000	687.855	687.923
B	116+42.75	0.000	687.797	687.919
C	116+52.75	0.000	687.730	687.886
D	116+62.75	0.000	687.654	687.815
E	116+72.75	0.000	687.569	687.709
F	116+82.75	0.000	687.475	687.569
CL N. Abut	116+97.25	0.000	687.322	687.322
Back N. Abut	116+98.50	0.000	687.308	687.308

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	6.250	687.811	687.811
CL S. Abut	116+22.75	6.250	687.806	687.806
A	116+32.75	6.250	687.757	687.825
B	116+42.75	6.250	687.699	687.821
C	116+52.75	6.250	687.632	687.788
D	116+62.75	6.250	687.556	687.717
E	116+72.75	6.250	687.471	687.611
F	116+82.75	6.250	687.377	687.471
CL N. Abut	116+97.25	6.250	687.224	687.224
Back N. Abut	116+98.50	6.250	687.210	687.210

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	12.500	687.711	687.711
CL S. Abut	116+22.75	12.500	687.706	687.706
A	116+32.75	12.500	687.657	687.725
B	116+42.75	12.500	687.599	687.721
C	116+52.75	12.500	687.532	687.688
D	116+62.75	12.500	687.456	687.617
E	116+72.75	12.500	687.371	687.511
F	116+82.75	12.500	687.277	687.371
CL N. Abut	116+97.25	12.500	687.124	687.124
Back N. Abut	116+98.50	12.500	687.110	687.110

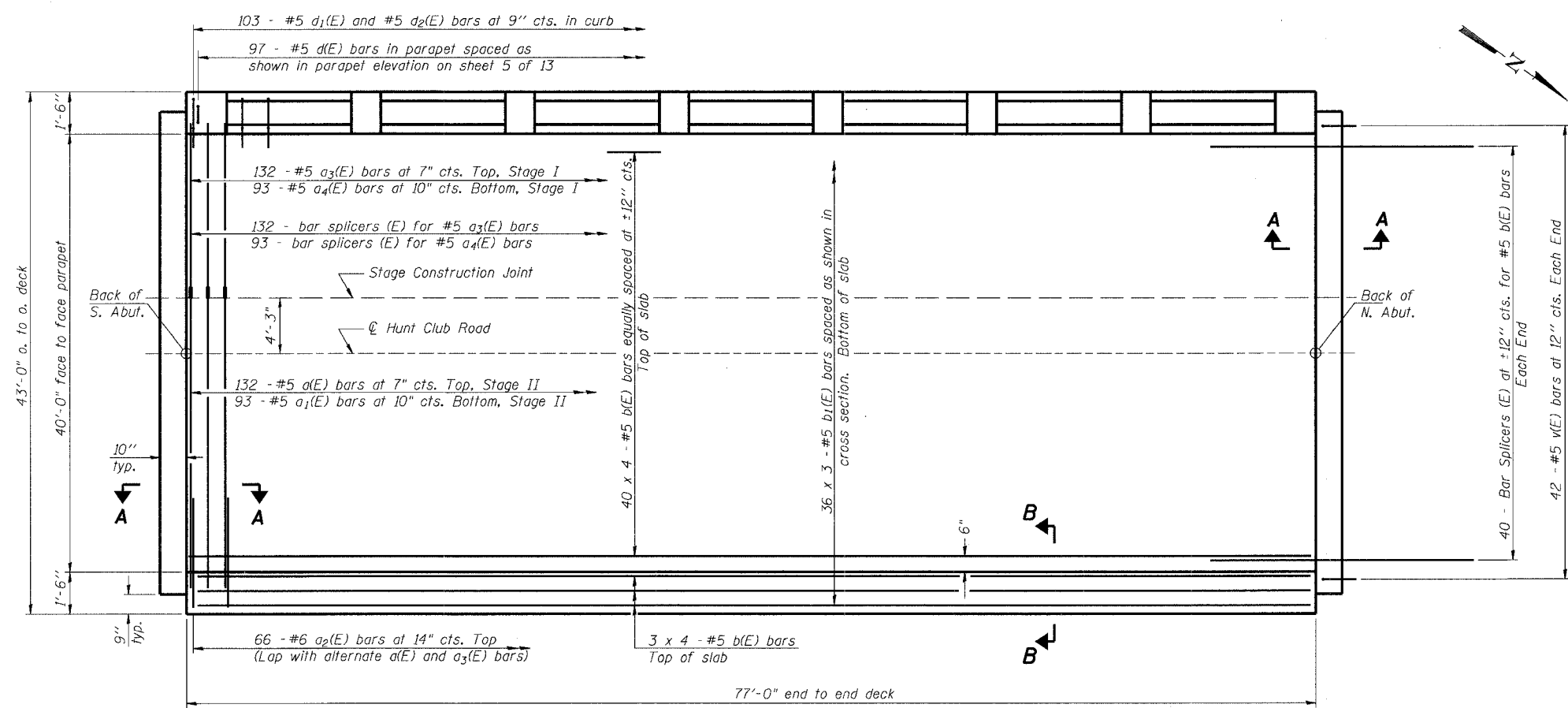
**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back S. Abut	116+21.50	18.750	687.581	687.581
CL S. Abut	116+22.75	18.750	687.576	687.576
A	116+32.75	18.750	687.527	687.595
B	116+42.75	18.750	687.469	687.591
C	116+52.75	18.750	687.402	687.558
D	116+62.75	18.750	687.326	687.487
E	116+72.75	18.750	687.241	687.381
F	116+82.75	18.750	687.147	687.241
CL N. Abut	116+97.25	18.750	686.994	686.994
Back N. Abut	116+98.50	18.750	686.980	686.980

**TOP OF SLAB ELEVATIONS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	13
SUPERSTRUCTURE				
C-9-169-00	ILLINOIS			

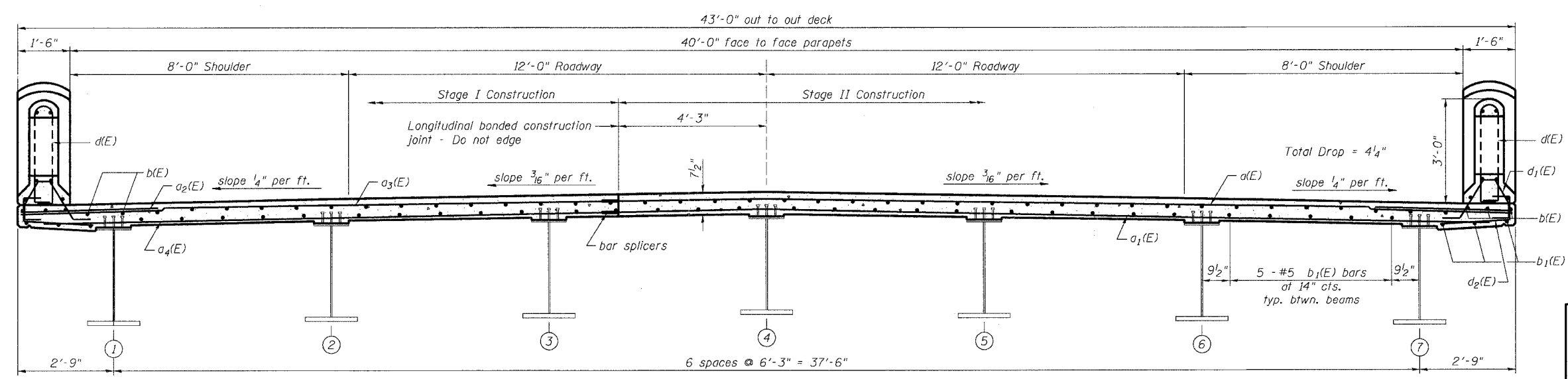
CONTRACT NO.: 83789



**PLAN**

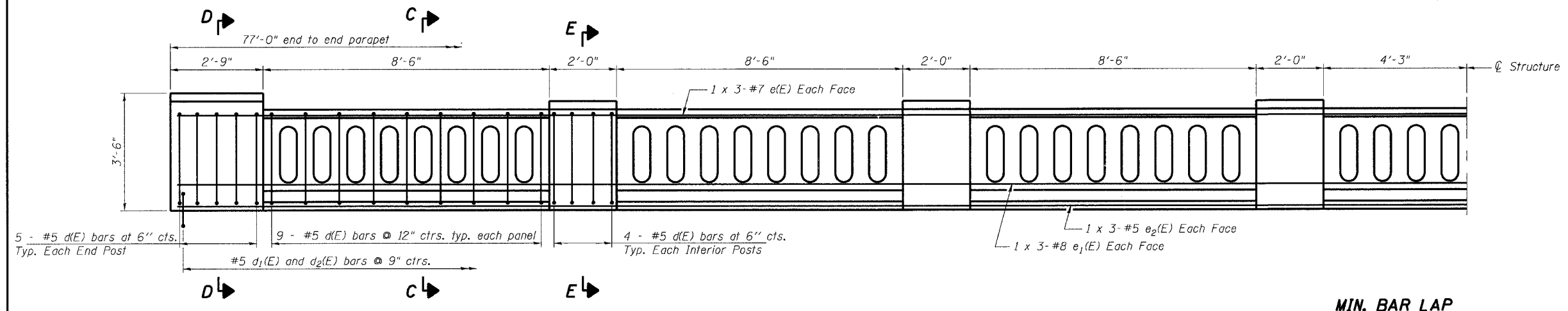
Notes:  
 See Sheet 5 of 13 for superstructure details and Bill of Material.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet 5 of 13 for parapet reinforcement.  
 See Sheet 6 fo 13 for Section A-A.  
 See Sheet 5 fo 13 for Section B-B.

**MIN. BAR LAP**  
 #5 bar = 2'-2"



**CROSS SECTION**  
 (Looking North)

**SUPERSTRUCTURE**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072



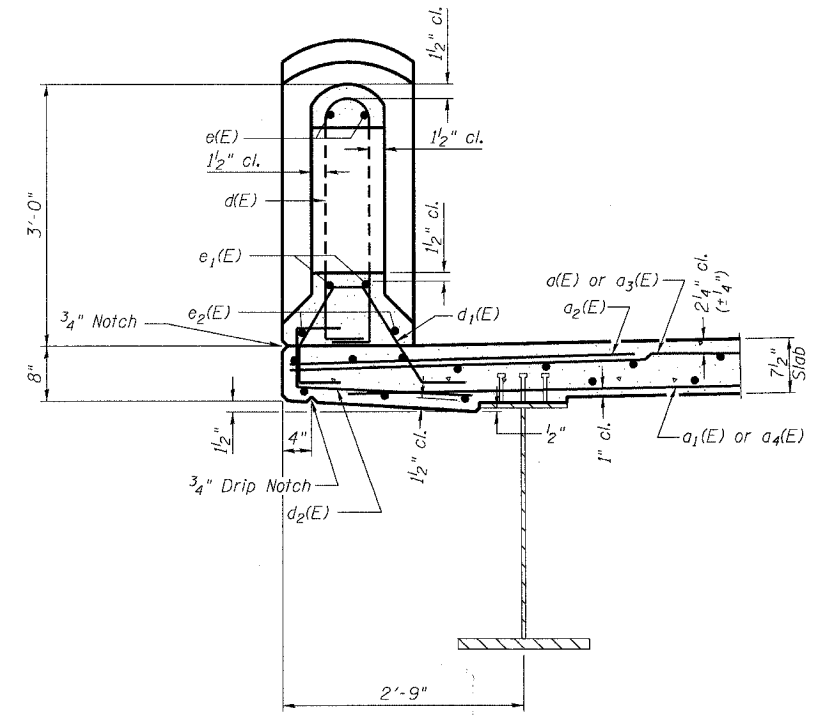
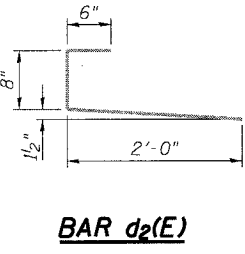
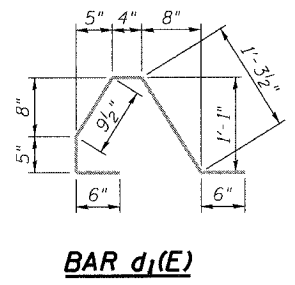
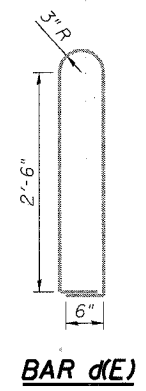
**INSIDE HALF ELEVATION OF PARAPET**

**MIN. BAR LAP**  
 #5 bar = 2'-2"  
 #7 bar = 3'-5"  
 #8 bar = 4'-6"

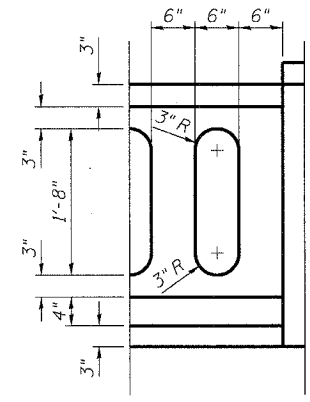
**SUPERSTRUCTURE BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	132	#5	25'-6"	—
a <sub>1</sub> (E)	93	#5	24'-9"	—
a <sub>2</sub> (E)	132	#6	4'-6"	—
a <sub>3</sub> (E)	132	#5	17'-0"	—
a <sub>4</sub> (E)	93	#5	16'-3"	—
b(E)	184	#5	20'-9"	—
b <sub>1</sub> (E)	108	#5	27'-0"	—
d(E)	194	#5	6'-10"	—
d <sub>1</sub> (E)	206	#5	3'-10"	—
d <sub>2</sub> (E)	206	#5	3'-2"	—
e(E)	12	#7	27'-11"	—
e <sub>1</sub> (E)	12	#8	28'-7"	—
e <sub>2</sub> (E)	12	#5	27'-1"	—
m(E)	4	#6	16'-3"	—
m <sub>1</sub> (E)	6	#6	17'-0"	—
m <sub>2</sub> (E)	20	#6	9'-0"	—
m <sub>3</sub> (E)	10	#6	6'-0"	—
m <sub>4</sub> (E)	4	#6	2'-5"	—
m <sub>5</sub> (E)	4	#6	24'-9"	—
m <sub>6</sub> (E)	6	#6	25'-6"	—
m <sub>7</sub> (E)	2	#6	1'-9"	—
m <sub>8</sub> (E)	2	#6	4'-0"	—
m <sub>9</sub> (E)	4	#6	6'-6"	—
m <sub>10</sub> (E)	4	#6	8'-9"	—
s(E)	84	#5	6'-11"	—
s <sub>1</sub> (E)	84	#4	10'-0"	—
v(E)	84	#5	3'-0"	—
Reinforcement Bars, Epoxy Coated	Pound		25,110	
Concrete Superstructure	Cu. Yds.		112.3	
Bar Splicers	Each		321	
Concrete Handrail	Cu. Yd.		15.6	
Protective Coat	Sq. Yd.		419	

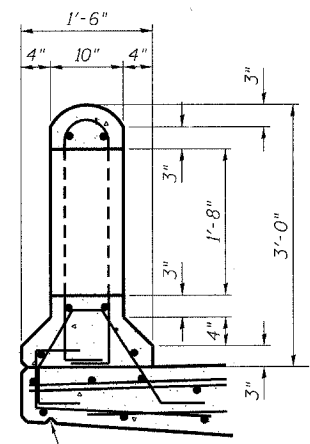
Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.



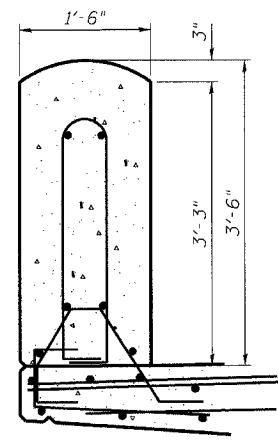
**SECTION B - B THRU PARAPET**  
 (Showing Reinforcement)



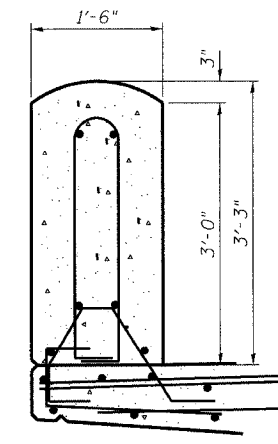
**TYPICAL RAIL OPENING**



**SECTION C - C**  
 (Showing Concrete Dimensions)



**SECTION D - D**

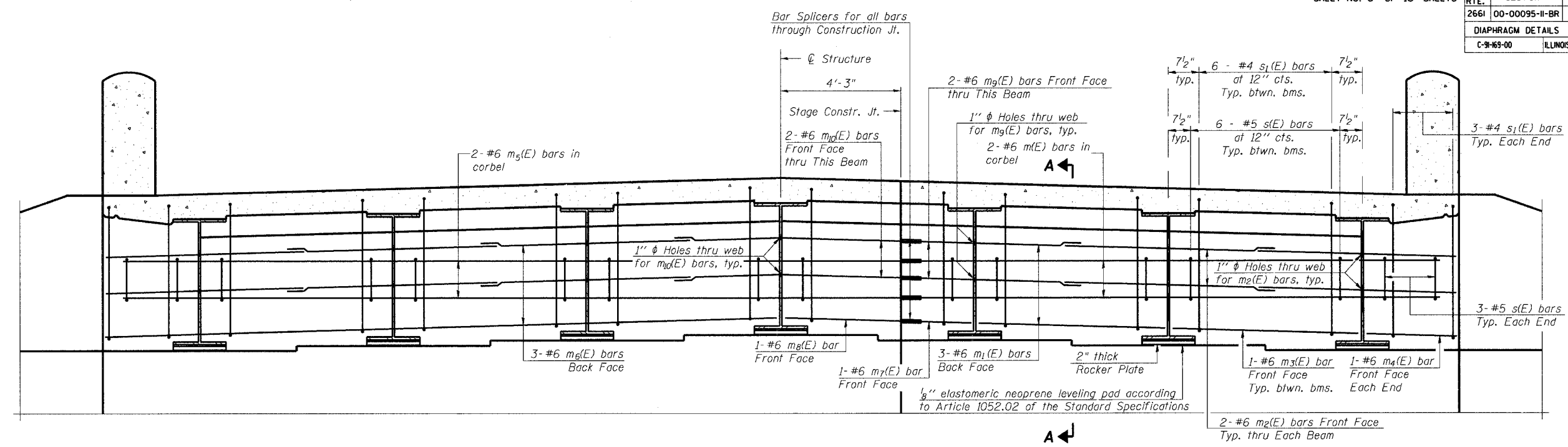


**SECTION E - E**

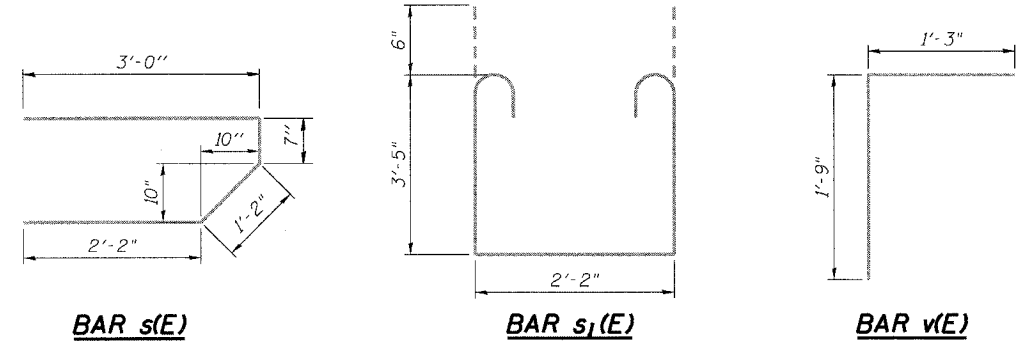
**SUPERSTRUCTURE DETAILS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-00095-II-BR	LAKE	28	15
DIAPHRAGM DETAILS				
C-9-69-00	ILLINOIS			

CONTRACT NO.: 83789

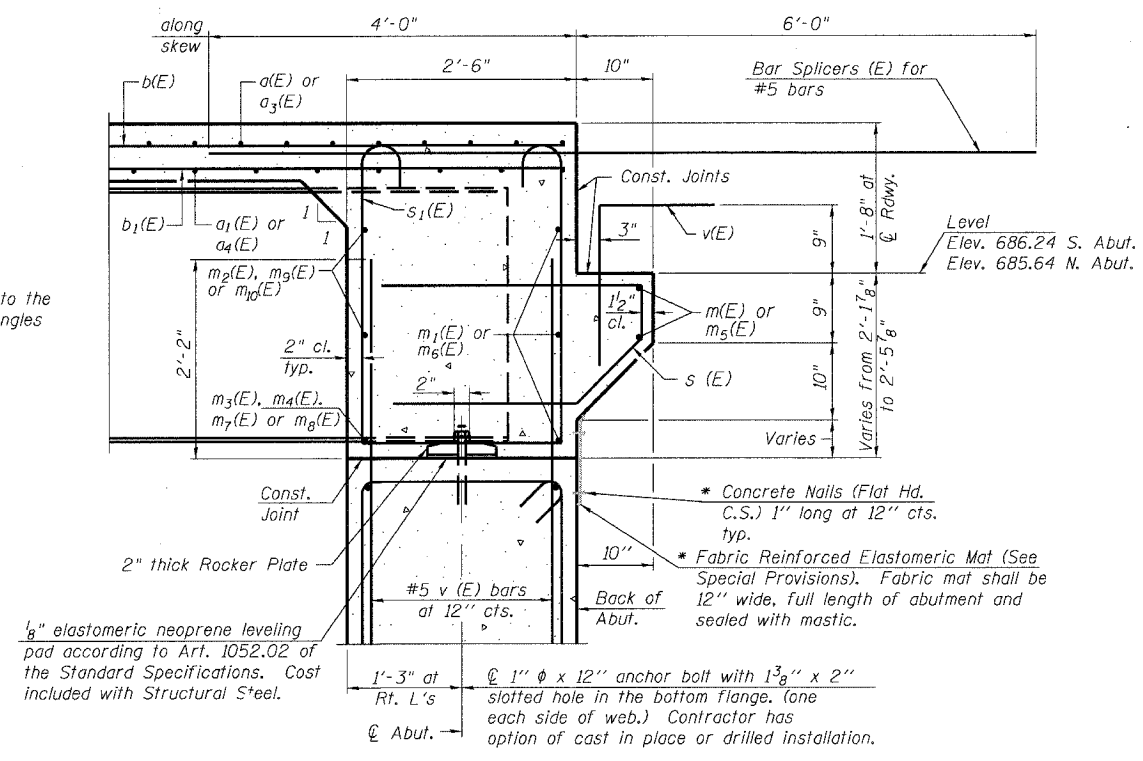


**DIAPHRAGM ELEVATION AT ABUTMENT**  
(Looking South)



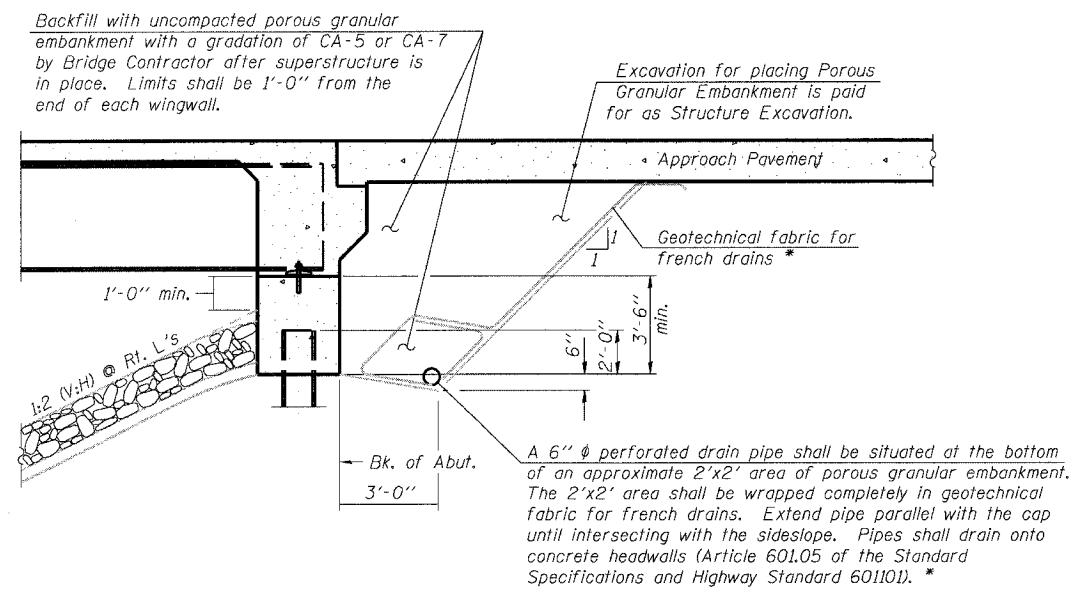
Notes:  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 5 of 13.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 5 of 13.  
 The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
 For anchor bolt details see sheet 10 of 13.

**MIN. BAR LAP**  
 #6 bar = 2'-9"



**SECTION A-A**

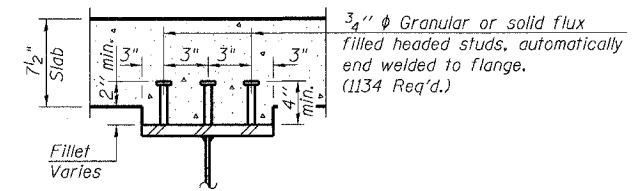
Dimensions at right angles to abutment, except as shown.  
 \* Cast included with Concrete Superstructure.



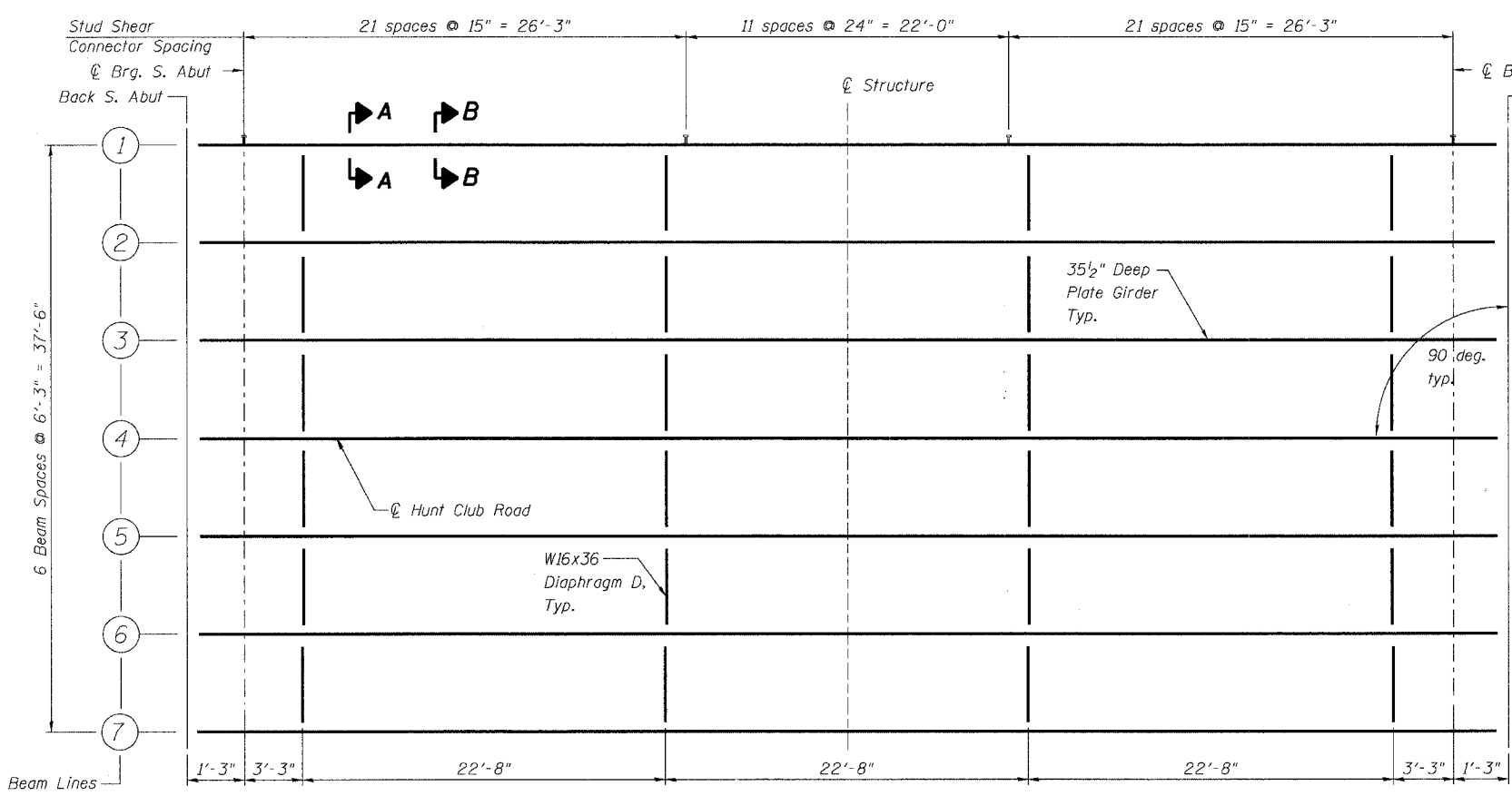
\* Included in the cost of Porous Granular Embankment.  
**SECTION THRU INTEGRAL ABUTMENT**  
 (Horiz. dim.  $\odot$  Rt. L's)

**DIAPHRAGM DETAILS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

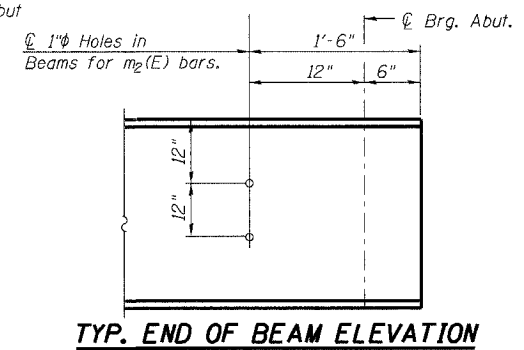
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	16
FRAMING PLAN AND DETAILS				
C-9-63-00	ILLINOIS	CONTRACT NO.: 83789		



SECTION A-A



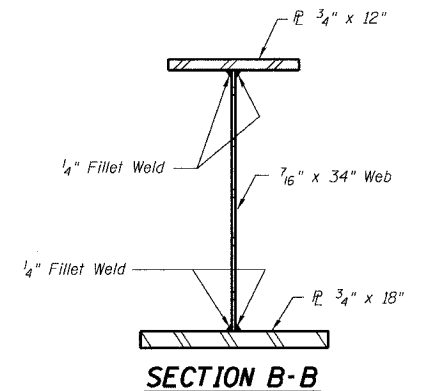
FRAMING PLAN



TYP. END OF BEAM ELEVATION

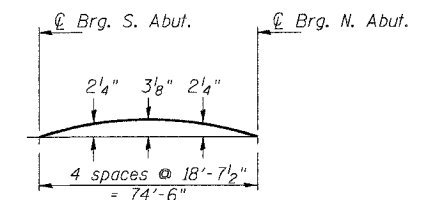
	Midpoint of Span
Is	(in <sup>4</sup> ) 8063
Ic (n)	(in <sup>4</sup> ) 22214
Ic (3n)	(in <sup>4</sup> ) 16087
Ss	(in <sup>3</sup> ) 515
Sc (n)	(in <sup>3</sup> ) 719
Sc (3n)	(in <sup>3</sup> ) 660
φ	(k/ft.) 0.735
M <sub>ℓ</sub>	(k) 510
s <sub>ℓ</sub>	(k/ft.) 0.400
M <sub>sℓ</sub>	(k) 278
M <sub>t</sub>	(k) 603
M (Imp)	(k) 151
S <sub>3</sub> [M <sub>ℓ</sub> +M(Imp)]	(k) 1257
M <sub>a</sub>	(k) 2659
f <sub>sℓ</sub> non-comp (k.s.i.)	11.9
f <sub>sℓ</sub> (comp) (k.s.i.)	5.1
f <sub>s</sub> <sup>5</sup> <sub>3</sub> (k+Imp) (k.s.i.)	21.0
f <sub>s</sub> (Overload) (k.s.i.)	38.0
f <sub>s</sub> (Total) (k.s.i.)	49.4
VR	(k) 45.5

	Abutments
R <sub>ℓ</sub>	(k) 42.3
R <sub>t</sub>	(k) 35.8
Imp.	(k) 9.0
R (Total)	(k) 87.1



SECTION B-B

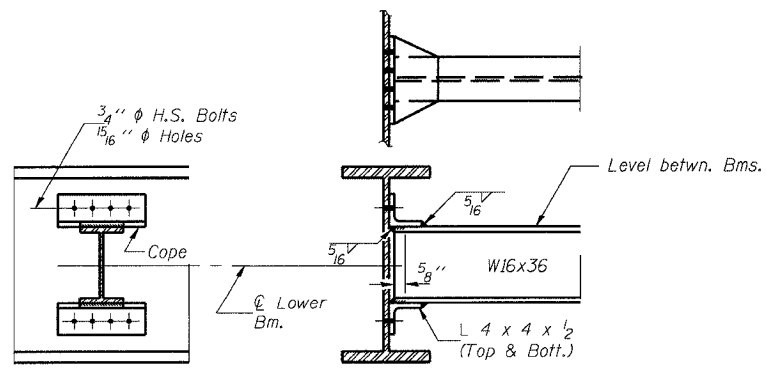
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).  
 Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
 Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)  
 VR is the maximum Live Load + Impact shear range in span.  
 Ma (Applied Moment) = 1.3(M<sub>ℓ</sub> + Ms<sub>ℓ</sub> + S<sub>3</sub>(M<sub>t</sub> + M(Imp))).  
 fs (Overload) is the sum of the stresses due to M<sub>ℓ</sub> + Ms<sub>ℓ</sub> + S<sub>3</sub>(M<sub>t</sub> + M(Imp)).  
 fs (Total) (Non-compact section) is the sum of the stresses due to 1.3(M<sub>ℓ</sub> + Ms<sub>ℓ</sub> + S<sub>3</sub>(M<sub>t</sub> + M(Imp))).



WEB CAMBER DIAGRAM

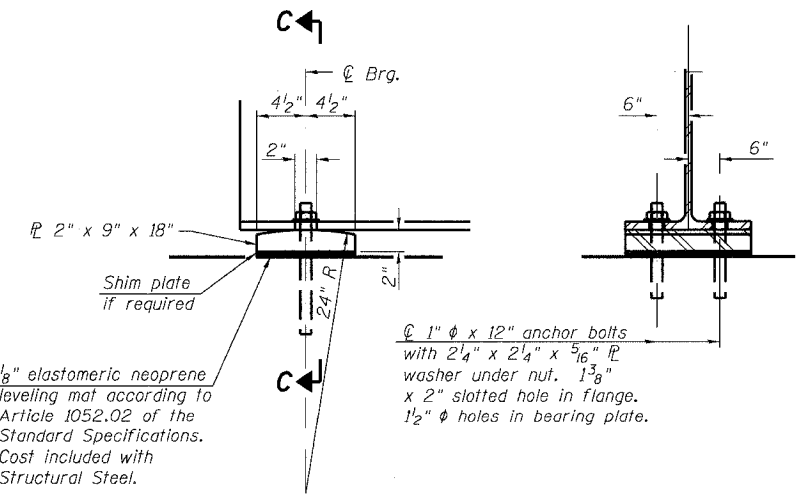
TOP OF WEB ELEVATIONS

Beam No.	ℓ Brg. South Abutment	ℓ Brg. North Abutment
1	686.826	686.244
2	686.956	686.374
3	687.056	686.474
4	687.154	686.572
5	687.056	686.474
6	686.956	686.374
7	686.826	686.244



DIAPHRAGM D  
24 Required

Note: Two hardened washers shall be required over all oversize holes for diaphragms.



ELEVATION AT ABUTMENT

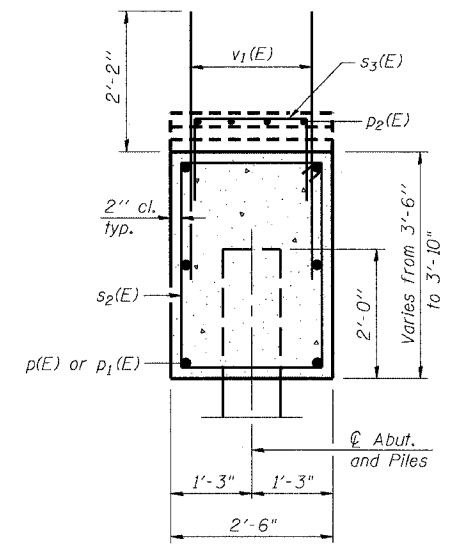
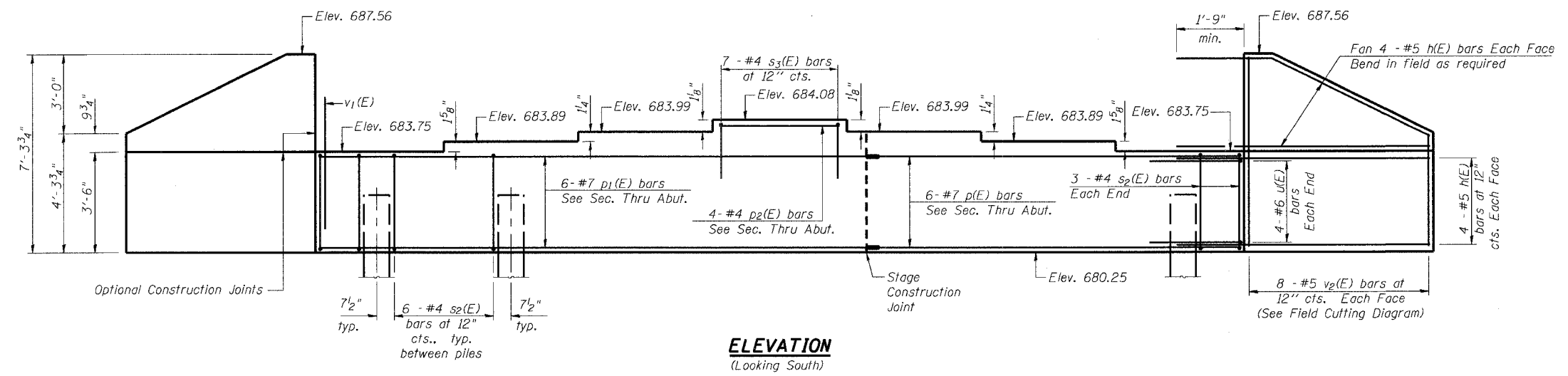
SECTION C-C

FIXED BEARING

Notes: Anchor bolts at fixed bearings may be built into the masonry. See sheet 10 of 13 for Anchor Bolt Installation.

**FRAMING PLAN AND DETAILS**  
**HUNT CLUB ROAD OVER**  
**MILL CREEK**  
**SECTION 00-00095-II-BR**  
**LAKE COUNTY**  
**STATION 116+60.00**  
**STRUCTURE NO. 049-3072**





**SEC. THRU ABUT.**

**BILL OF MATERIAL**

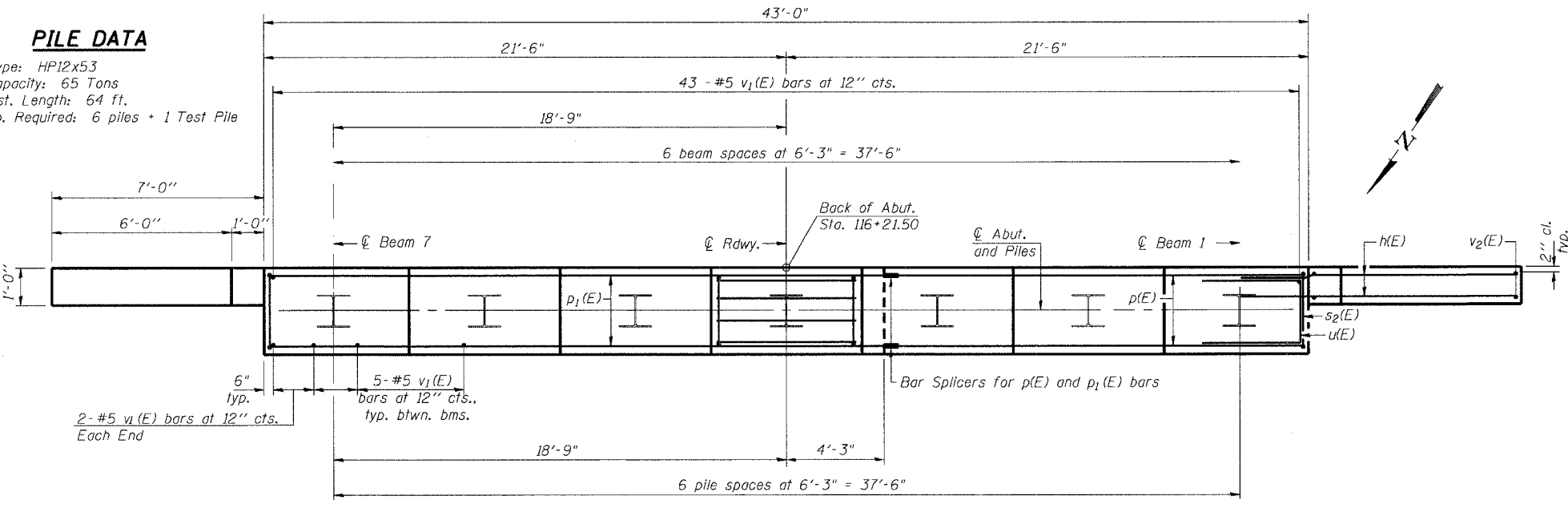
Bar	No.	Size	Length	Shape
h(E)	32	#5	8'-9"	—
p(E)	6	#7	17'-1"	—
p1(E)	6	#7	25'-7"	—
p2(E)	4	#4	5'-11"	—
s2(E)	42	#4	11'-5"	□
s3(E)	7	#4	5'-5"	□
u(E)	8	#6	7'-5"	□
v1(E)	77	#5	4'-4"	—
v2(E)	16	#5	10'-8"	—
Concrete Structures		Cu. Yd.	17.7	
Reinforcement Bars, Epoxy Coated		Pound	1790	
Structure Excavation		Cu. Yd.		
Bar Splicers		Each	6	
Furnishing Steel Piles HP12x53		Feet	384	
Driving Steel Piles		Feet	384	
Test Pile, Steel HP12x53		Each	1	

Notes: Pour steps monolithically with cap.  
Reinforcement bars designated (E) shall be epoxy coated.  
All exposed concrete edges shall have a 3/4" x 45 deg. chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of 12" below finished ground level.  
Place reinforcement in abutment to miss anchor bolts.

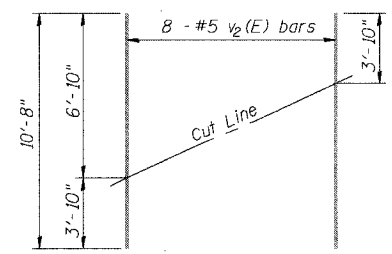
**SOUTH ABUTMENT DETAILS**  
HUNT CLUB ROAD OVER  
MILL CREEK  
SECTION 00-00095-II-BR  
LAKE COUNTY  
STATION 116+60.00  
STRUCTURE NO. 049-3072

**PILE DATA**

Type: HP12x53  
Capacity: 65 Tons  
Est. Length: 64 ft.  
No. Required: 6 piles + 1 Test Pile

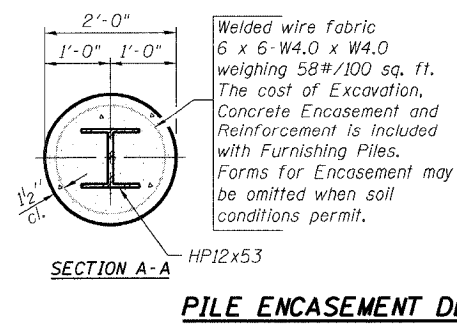
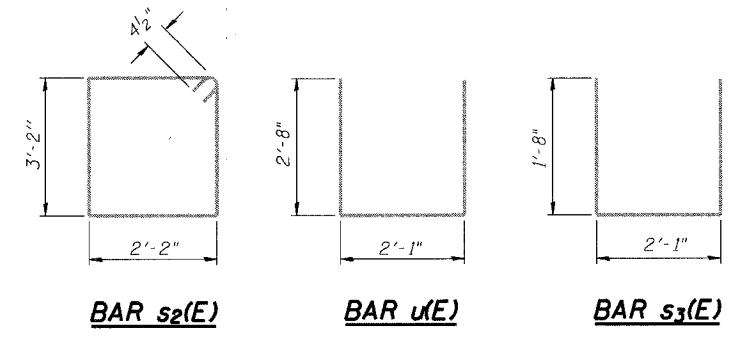


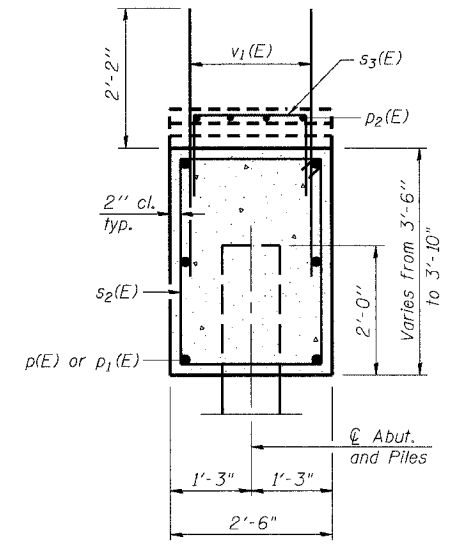
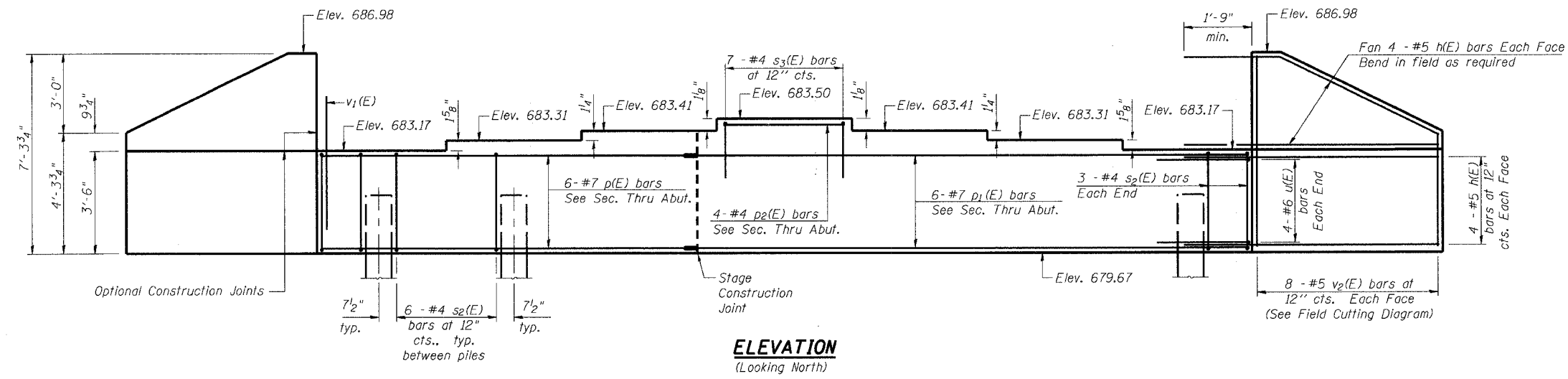
**PLAN**



**FIELD CUTTING DIAGRAM**

Order v2(E) Full length. Cut as shown and use remainder of bars in opposite face.





**SEC. THRU ABUT.**

**BILL OF MATERIAL**

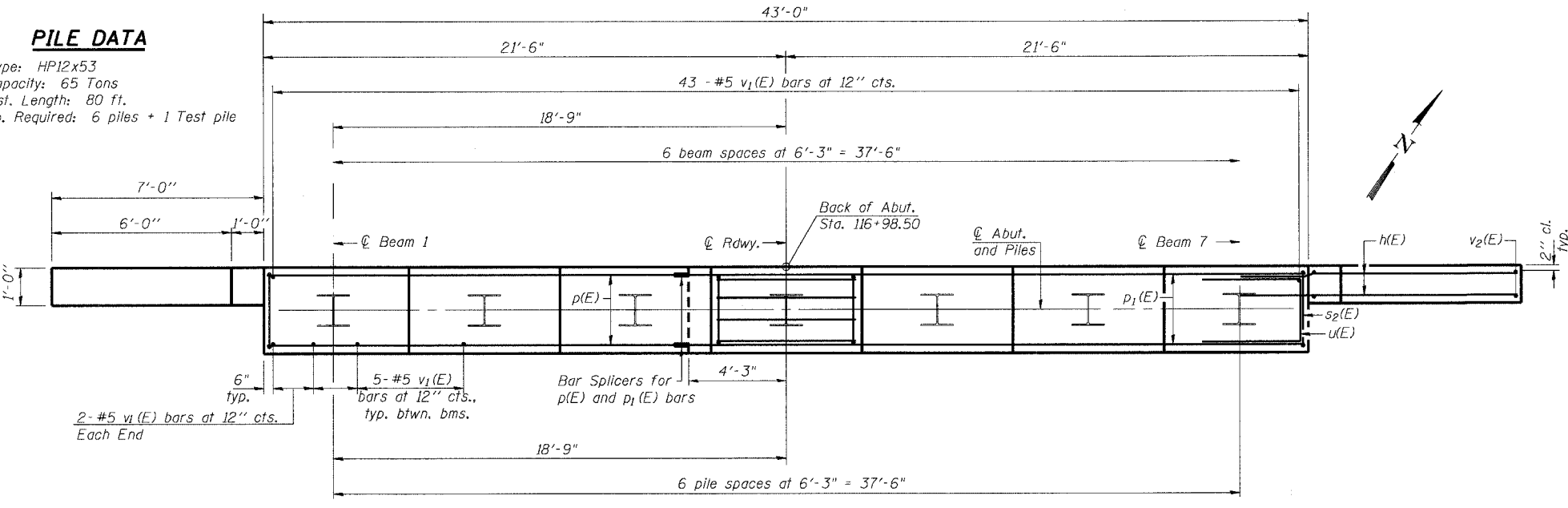
Bar	No.	Size	Length	Shape
h(E)	32	#5	8'-9"	—
p(E)	6	#7	17'-1"	—
p1(E)	6	#7	25'-7"	—
p2(E)	4	#4	5'-11"	—
s2(E)	42	#4	11'-5"	□
s3(E)	7	#4	5'-5"	□
u(E)	8	#6	7'-5"	□
v1(E)	77	#5	4'-4"	—
v2(E)	16	#5	10'-8"	—
Concrete Structures		Cu. Yd.	17.7	
Reinforcement Bars, Epoxy Coated		Pound	1790	
Structure Excavation		Cu. Yd.		
Bar Splicers		Each	6	
Furnishing Steel Piles HP12x53		Feet	480	
Driving Steel Piles		Feet	480	
Test Pile, Steel HP12x53		Each	1	

Notes: Pour steps monolithically with cap.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 All exposed concrete edges shall have a 3/4" x 45 deg. chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of 12" below finished ground level.  
 Place reinforcement in abutment to miss anchor bolts.

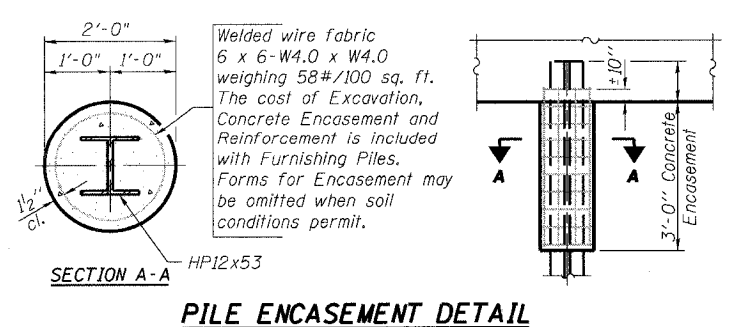
**NORTH ABUTMENT DETAILS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

**PILE DATA**

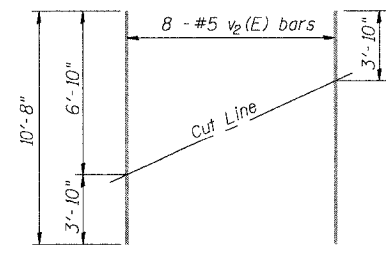
Type: HP12x53  
 Capacity: 65 Tons  
 Est. Length: 80 ft.  
 No. Required: 6 piles + 1 Test pile



**PLAN**

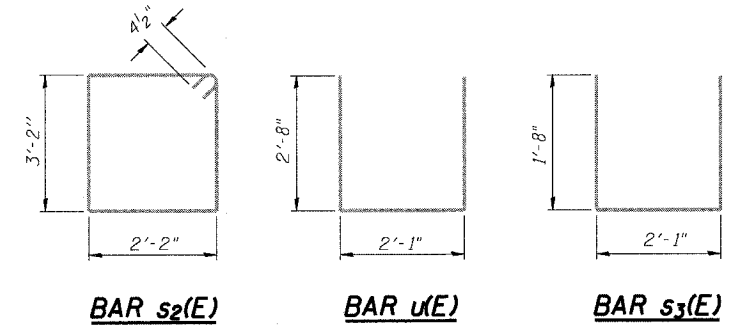


**PILE ENCASEMENT DETAIL**



**FIELD CUTTING DIAGRAM**

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s2(E)**

**BAR u(E)**

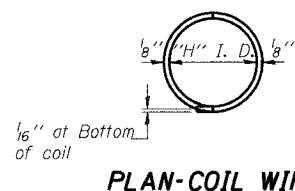
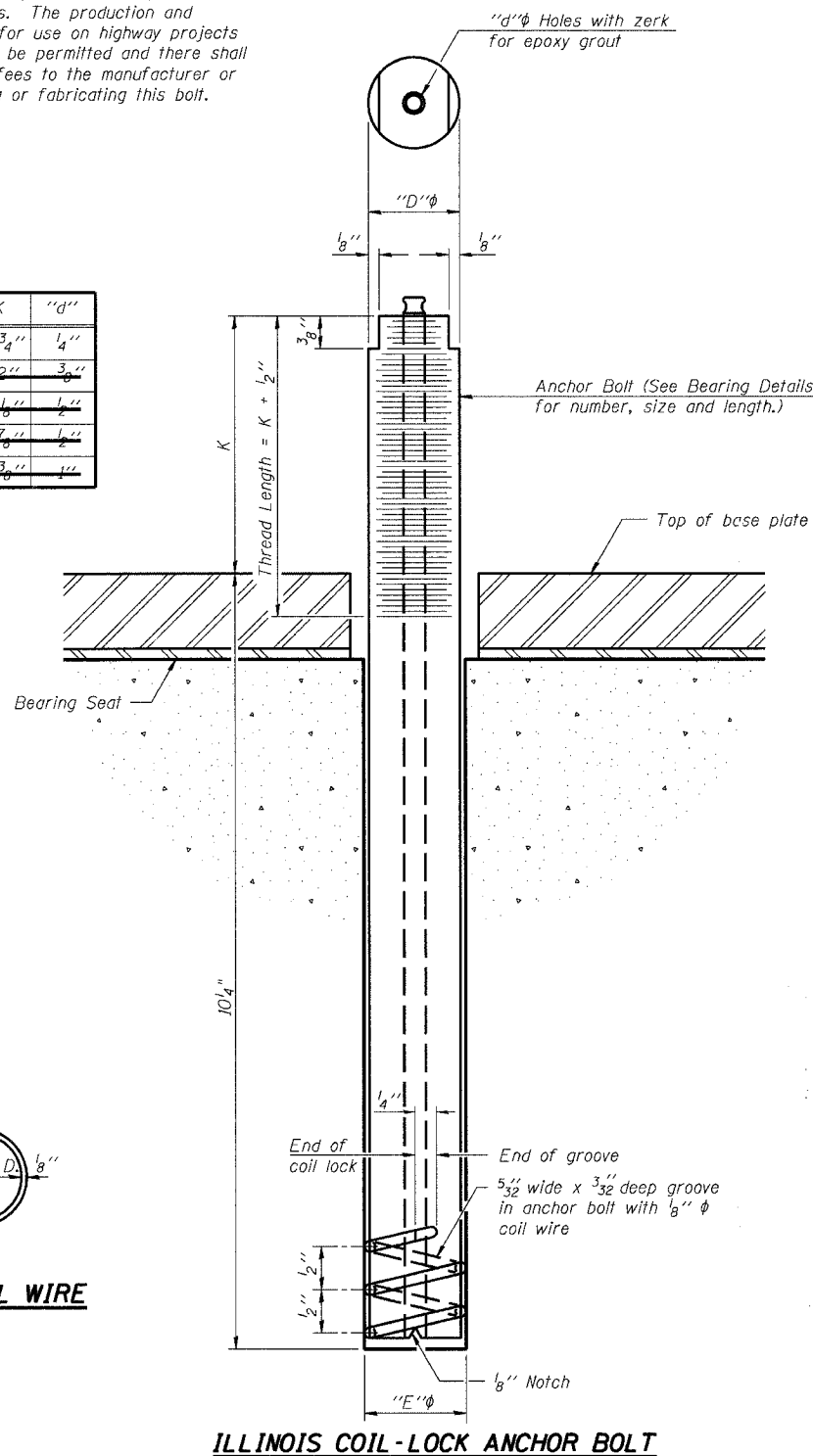
**BAR s3(E)**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	19
ANCHOR BOLT DETAILS				
C-9-69-00	ILLINOIS			

CONTRACT NO.: 83789

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 1/8"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/8"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

**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.

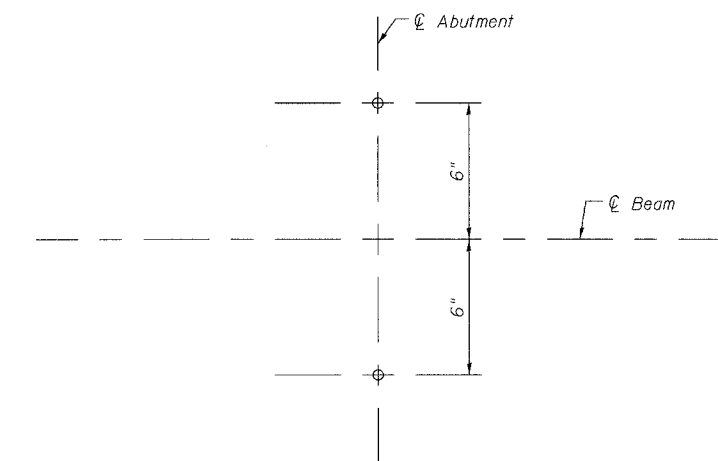
- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
  2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abutments	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**

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.  
 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.  
 The anchor bolts, furnished and installed 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.

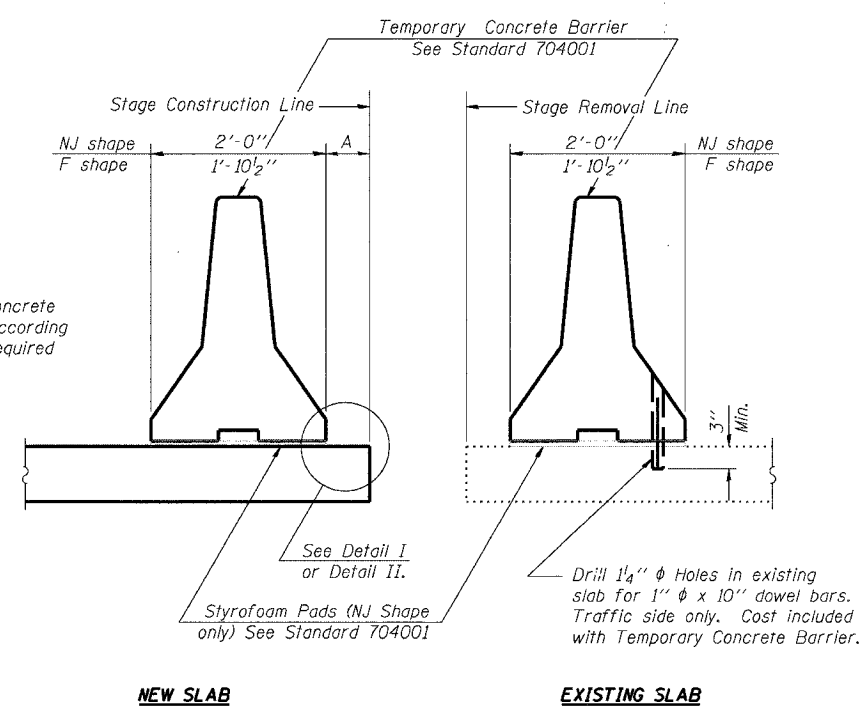


ANCHOR BOLT LAYOUT DETAIL FOR ABUTMENTS

**ANCHOR BOLT DETAILS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-11-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	20
TEMPORARY CONCRETE BARRIER				
C-9-69-00	ILLINOIS			

CONTRACT NO.: 83789



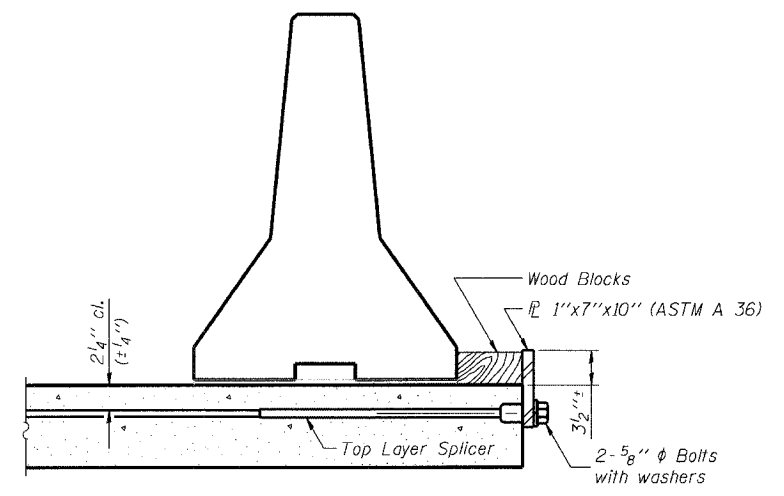
**SECTIONS THRU SLAB**

**NOTES**

Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

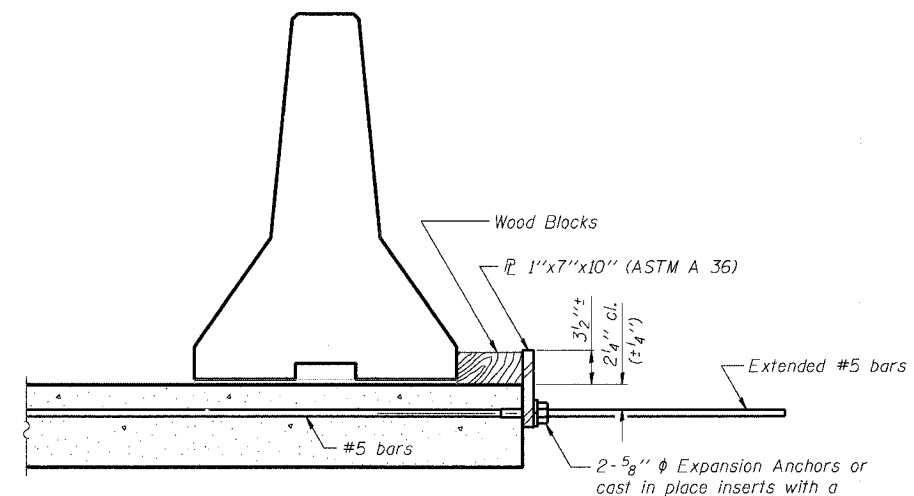
Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.



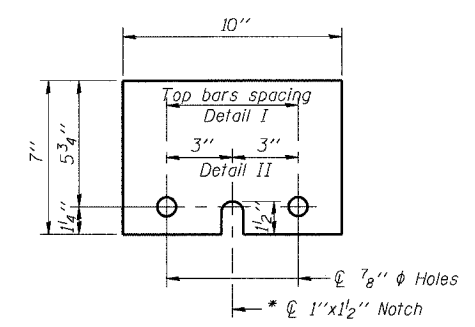
**DETAIL I**

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



**DETAIL II**

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



**1"x7"x10"**

\* Required only with Detail II

**TEMPORARY CONCRETE BARRIER**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072

**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.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement 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) =  $1.25 \times f_y \times A_1$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $1.25 \times f_{s_{allow}} \times A_1$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s_{allow}}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_1$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

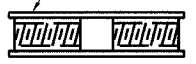
The diameter of this part is equal or larger than the diameter of bar spliced.

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

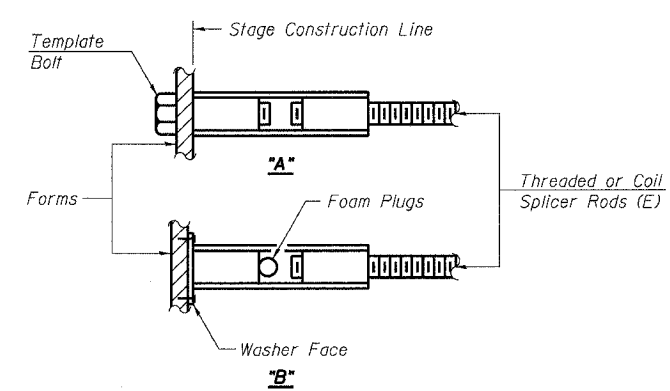
Wire Connector



**WELDED SECTIONS**

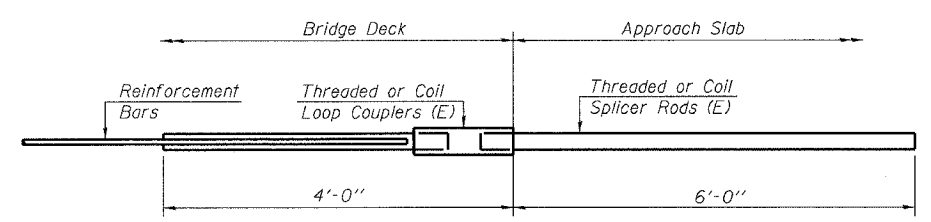
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



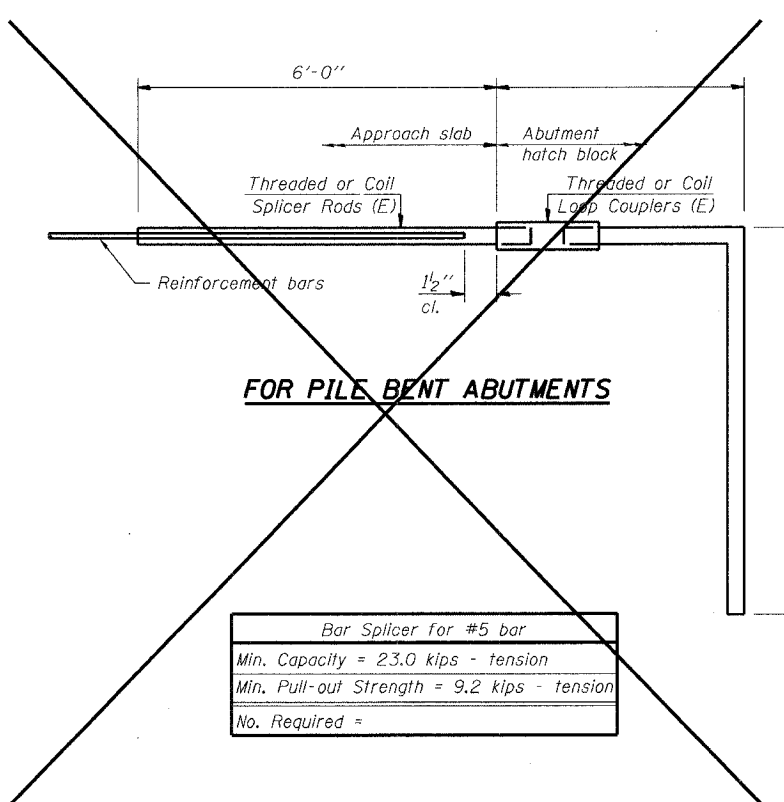
**INSTALLATION AND SETTING METHODS**

"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.  
 (E) : Indicates epoxy coating.



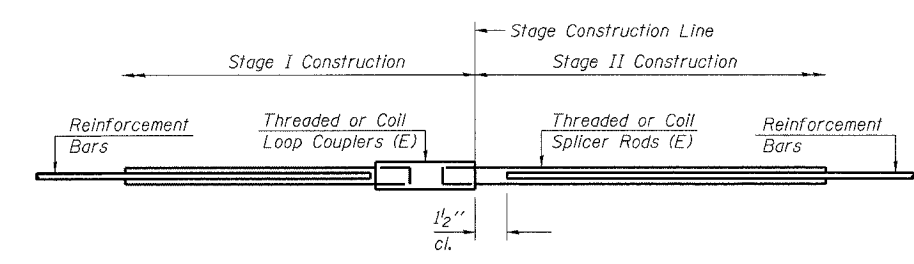
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 80



**FOR PILE BENT ABUTMENTS**

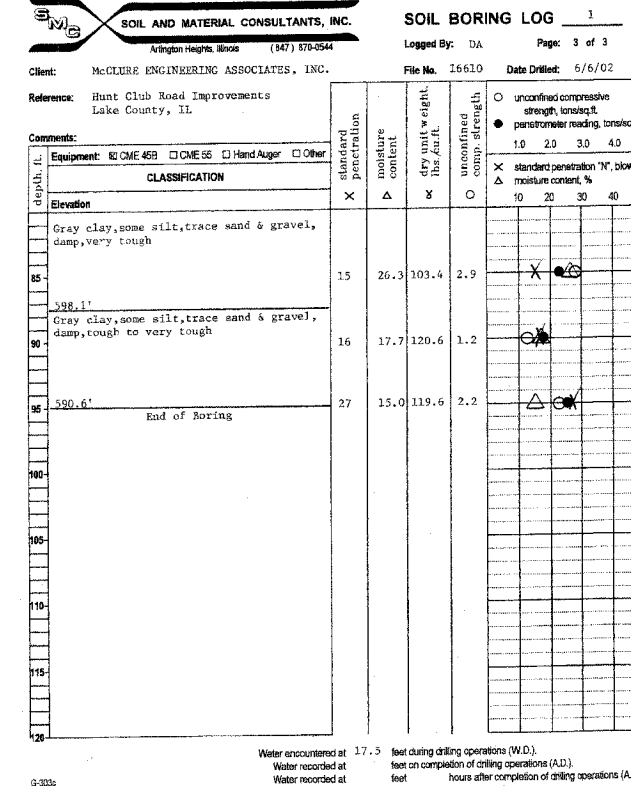
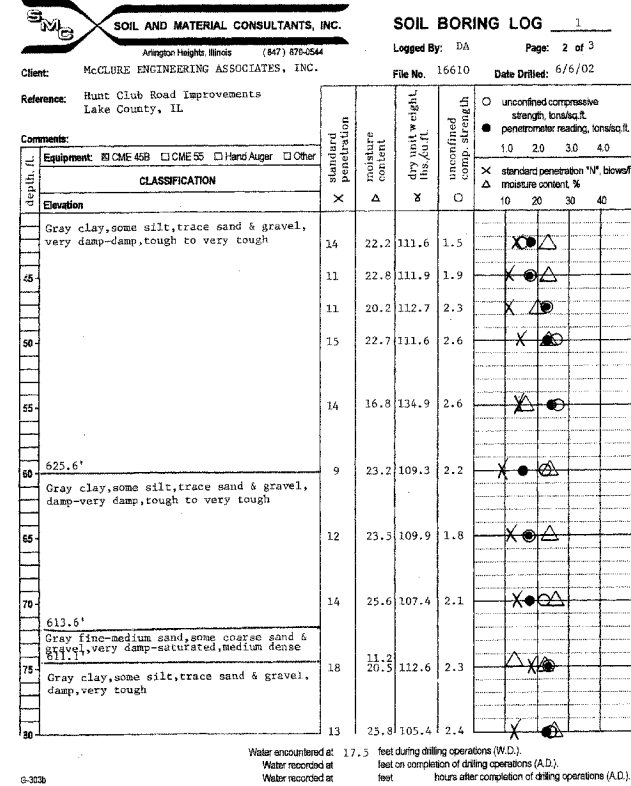
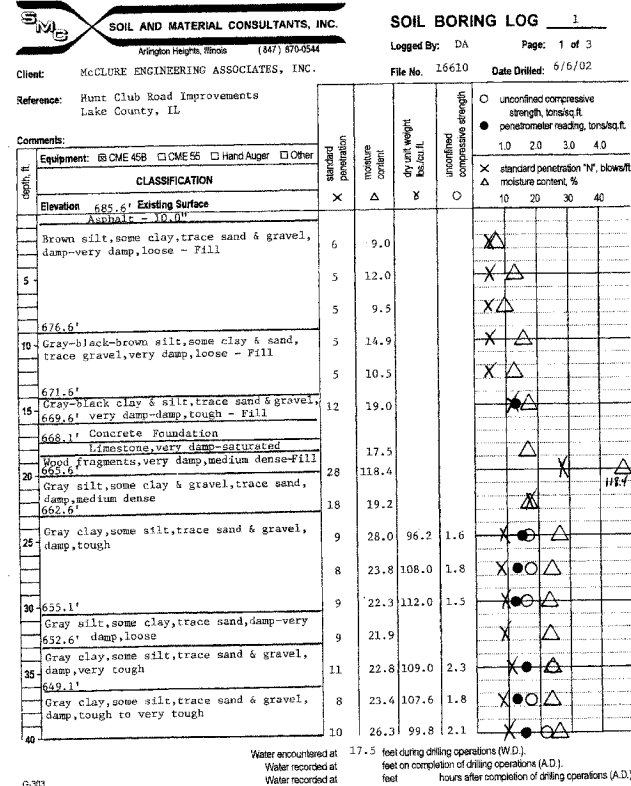
Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



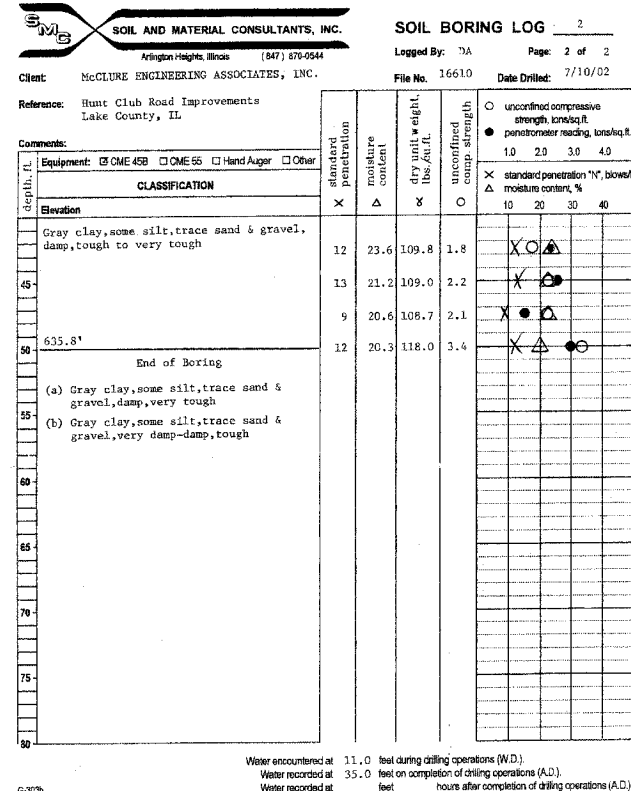
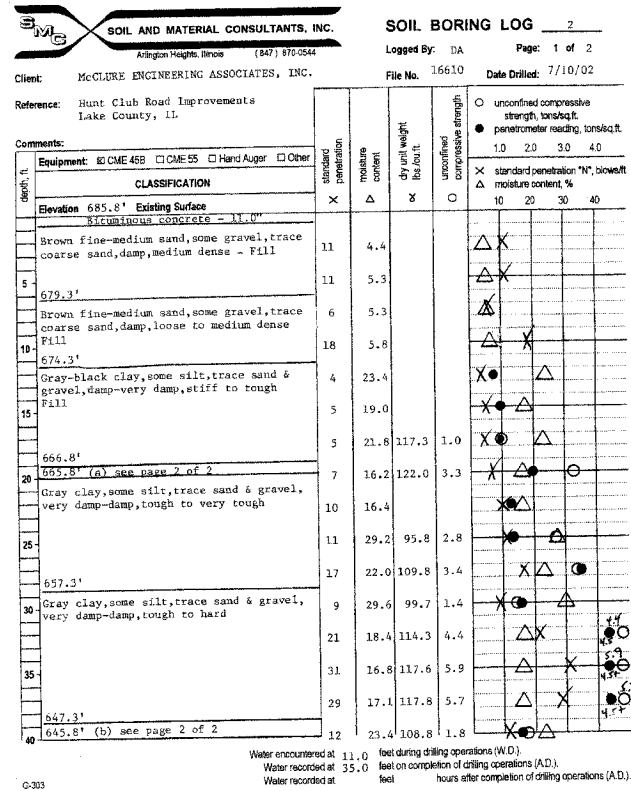
**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	225	Deck
#6	16	Diaphragms
#7	12	Abutments

**BAR SPLICER DETAILS**  
 HUNT CLUB ROAD OVER  
 MILL CREEK  
 SECTION 00-00095-II-BR  
 LAKE COUNTY  
 STATION 116+60.00  
 STRUCTURE NO. 049-3072



**BORING B-1**



**BORING B-2**

**General Notes**

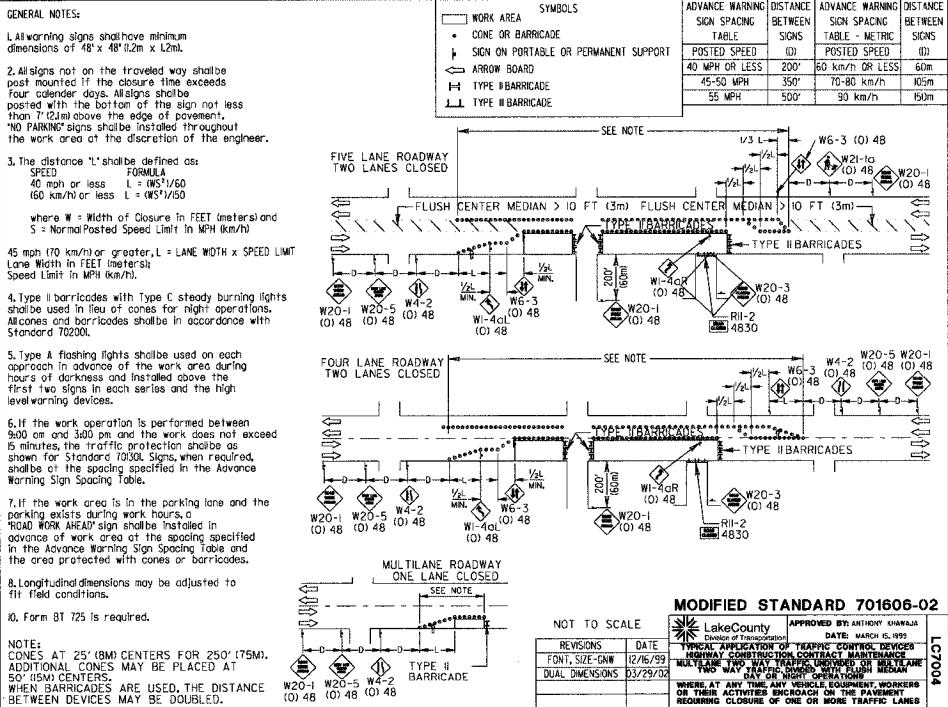
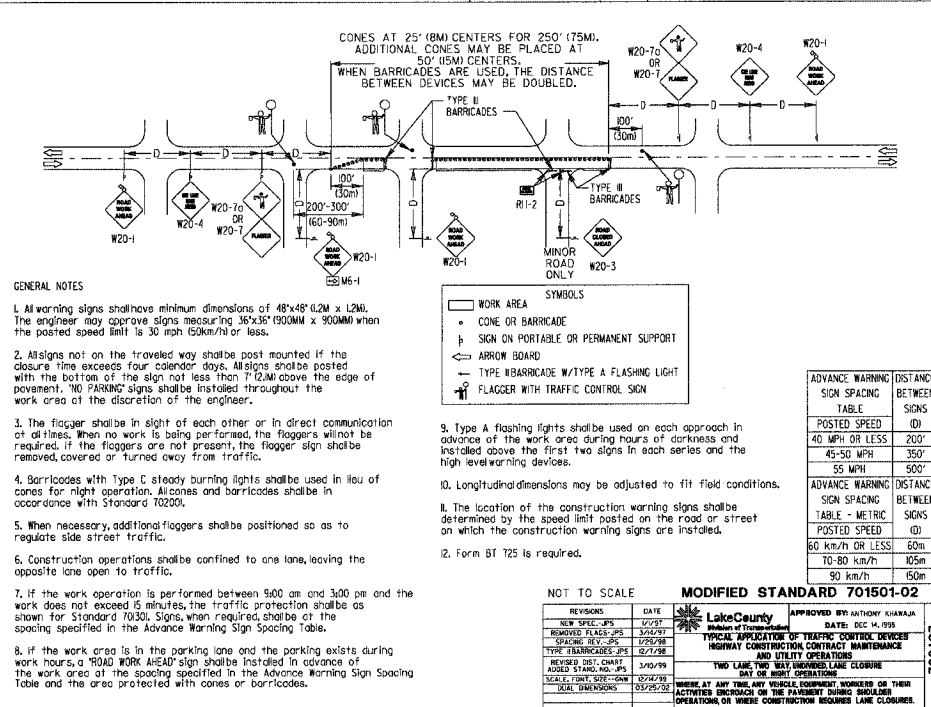
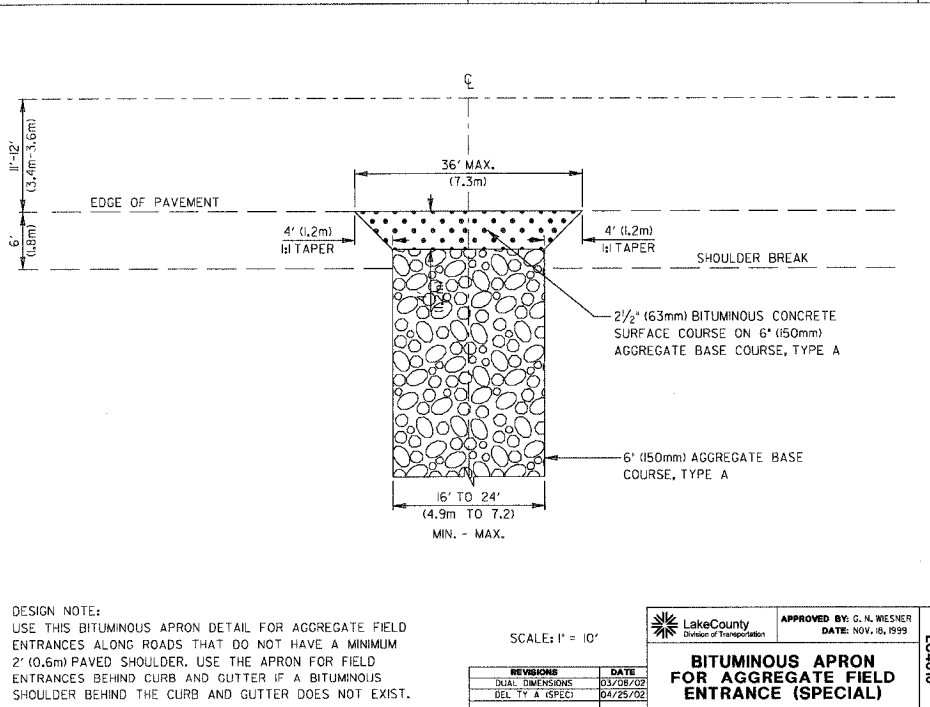
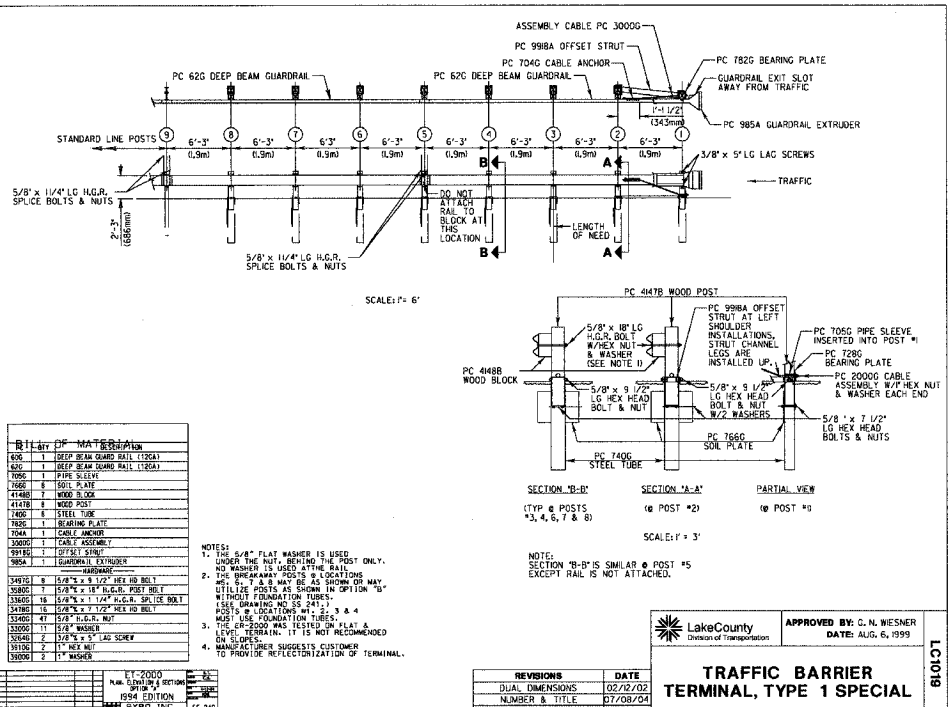
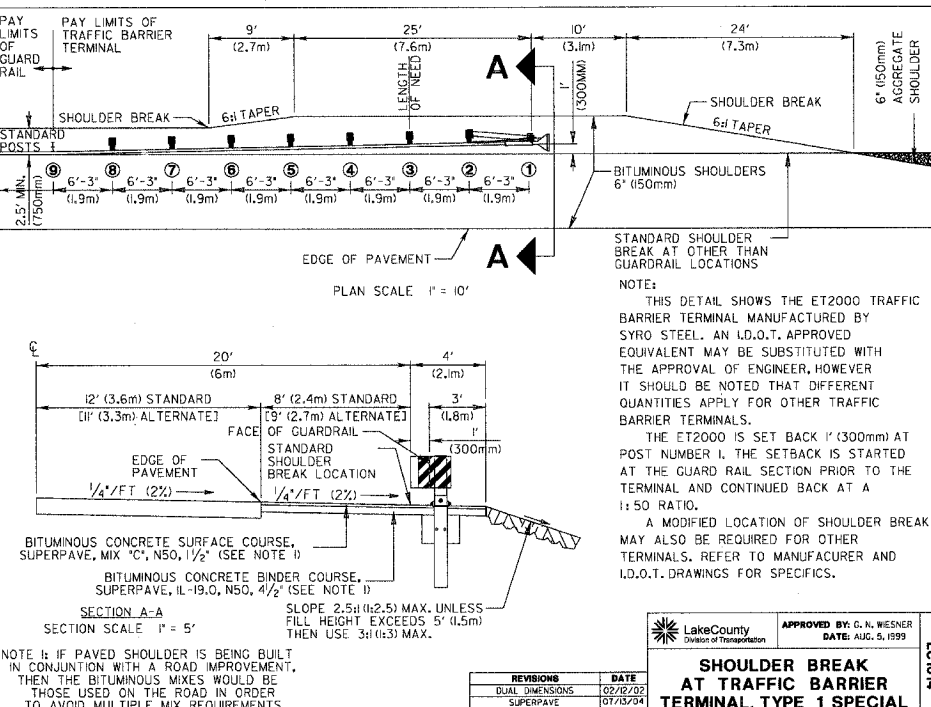
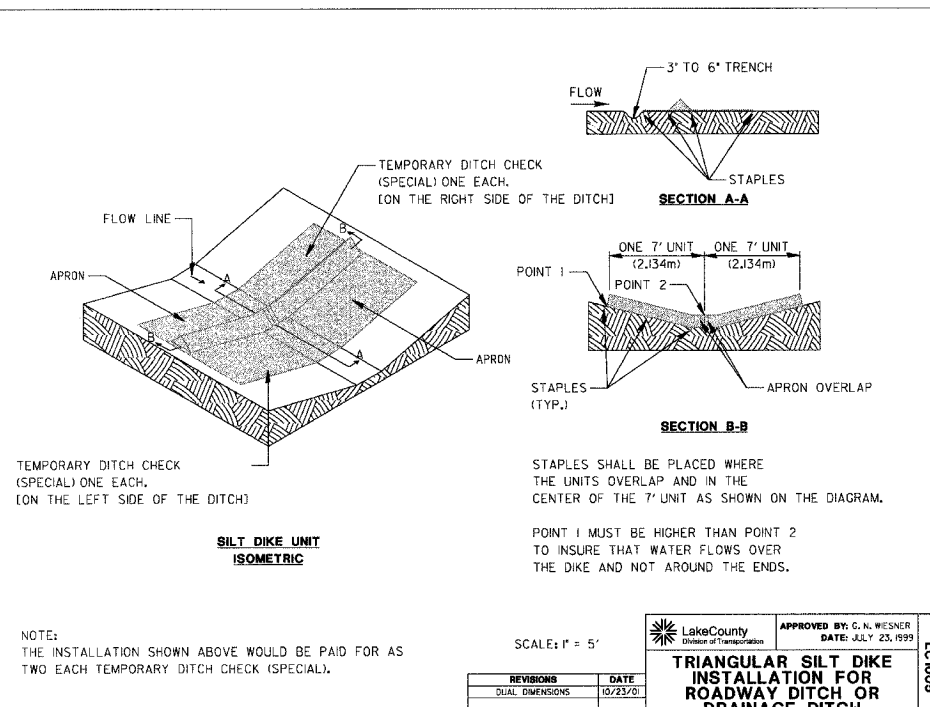
**SAMPLE CLASSIFICATION**  
Soil sample classification is based on the Unified Soil Classification System, the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), ASTM D-2488, the Standard Test Method for Classification of Soils for Engineering Purposes, ASTM D-2487 (when applicable), and the modifiers noted below.

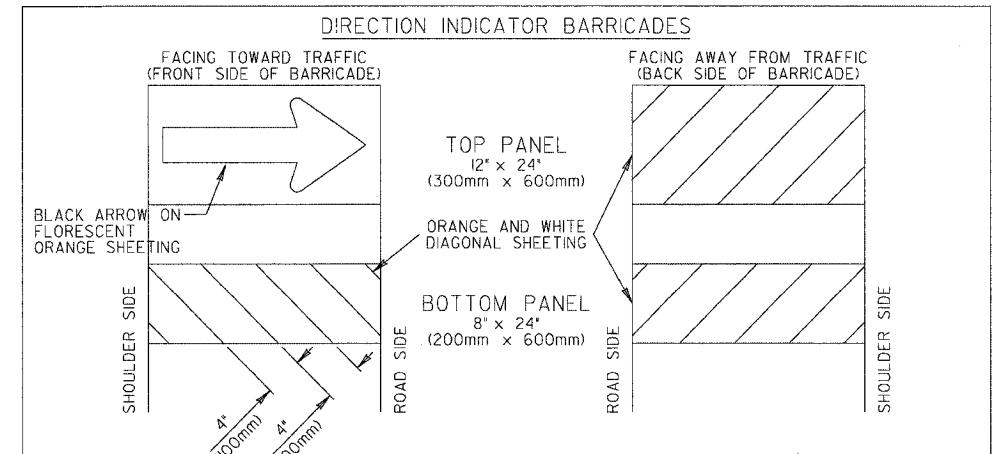
CONSISTENCY OF COHESIVE SOILS		RELATIVE DENSITY OF GRANULAR SOILS	
Term	Qu - tons/sq. ft. (Unreliable)	Term	N - blows/foot
Very Soft	0.00 - 0.25	Very Loose	0 - 4
Soft	0.26 - 0.49	Loose	5 - 9
Stiff	0.50 - 0.99	Medium Dense	10 - 29
Tough	1.00 - 1.99	Dense	30 - 49
Very Tough	2.00 - 3.99	Very Dense	50 +
Hard	4.00 - 7.99		
Very Hard	8.00 +		

IDENTIFICATION AND TERMINOLOGY		DRILLING, SAMPLING & SOIL PROPERTY SYMBOLS	
Term	Size Range	CF	Continuous Flight Auger
		HS	Hollow Stem Auger
		HA	Hand Auger
		RD	Rotary Drilling
Boulder	over 8 in.	AX	Rock Core, 1-3/16 in. diameter
Cobble	3 in. to 8 in.	BX	Rock Core, 1-5/8 in. diameter
Gravel	1 in. to 3 in.	NX	Rock Core, 2-1/8 in. diameter
-medium	3/8 in. to 1 in.	S	Sample Number
-fine	#4 sieve to 3/8 in.	T	Type of Sample
Sand	#10 sieve to #40 sieve	J	Jar
-coarse	#40 sieve to #100 sieve	AS	Auger Sample
-medium	#100 sieve to #200 sieve	SS	Split-spoon (2 in. O.D. with 1-3/8 in. I.D.)
-fine	#200 sieve to #420 sieve	ST	Shelby Tube (2 in. O.D. with 1-7/8 in. I.D.)
Silt	0.002 mm to #200 sieve	R	Recovery Length, in.
Clay	smaller than 0.002 mm	B	Blows/6 in. Interval, Standard Penetration Test (SPT)
		N	Blows/foot to drive 2 in. O.D. split-spoon sampler with 140 lb. hammer falling 30 in., (STP)
		Pen.	Pocket Penetrometer reading, tons/sq. ft.
		W	Water Content, % of dry weight
		Uw	Dry Unit Weight of soil, lbs./cu. ft.
		Qu	Unconfined Compressive Strength, tons/sq. ft.
		Sir	% Strain at Qu
		WL	Water Level
		WD	While Drilling
		AD	After Drilling
		DCI	Dry Cave-in
		WCI	Wet Cave-in
		LL	Liquid Limit, %
		PL	Plastic Limit, %
		PI	Plasticity Index [(LL-PL)]
		LI	Liquidity Index [(W-PL)/PI]
Trace	1 - 10		
Little	11 - 20		
Some	21 - 35		
And	36 - 50		
		Dry	
		Damp	
		Very Damp	
		Saturated	

NOTE:  
See Sheet 1 of 13 for Boring Locations.

**BORING LOGS**  
**HUNT CLUB ROAD OVER**  
**MILL CREEK**  
**SECTION 00-00095-II-BR**  
**LAKE COUNTY**  
**STATION 116+60.00**  
**STRUCTURE NO. 049-3072**

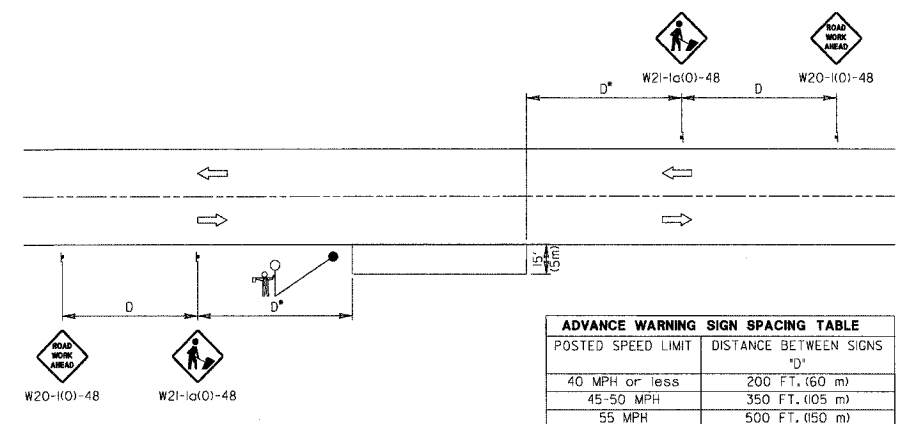




**GENERAL NOTES**

- 1) Direction Indicator Barricades shall be constructed from non-metallic Type II barricades meeting the requirements of Article 702.03 (e) of the Standard Specifications.
- 2) The Direction Indicator Barricades shall be equipped with Type C steady burning lights if used to channelize traffic during the hours of darkness.
- 3) The reflective sheeting for the top panel shall be Type AZ fluorescent orange. The diagonal panels shall have orange and white Type A or better reflective sheeting.

REVISIONS	DATE	APPROVED BY:	DATE:
		ANTHONY KHARAJA <td>JAN 27, 2008</td>	JAN 27, 2008
LAKELAND COUNTY			
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE			
<b>DIRECTION INDICATOR BARRICADES</b>			
LC7008			



**GENERAL NOTES**

This special detail is used at any time, any vehicle, equipment, workers or their activities require a stationary, intermittent or continuous moving operation within 15 feet (5 m) of the traffic lane, where the average speed is 1mph (2 km) or less.

• Minimum distance 'D' is shown in the Advance Warning Sign Spacing Table. If the work is a moving operation, the maximum distance 'D' may be extended to 1/2 the length required for one normal working day's operation or 4 miles (6.4 km), whichever is less.

If the work operation does not exceed 60 minutes, traffic control may be in accordance with I.D.O.T. Highway Standard 70130.

**SYMBOLS**

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN WHEN REQUIRED

**MODIFIED STANDARD 701011**

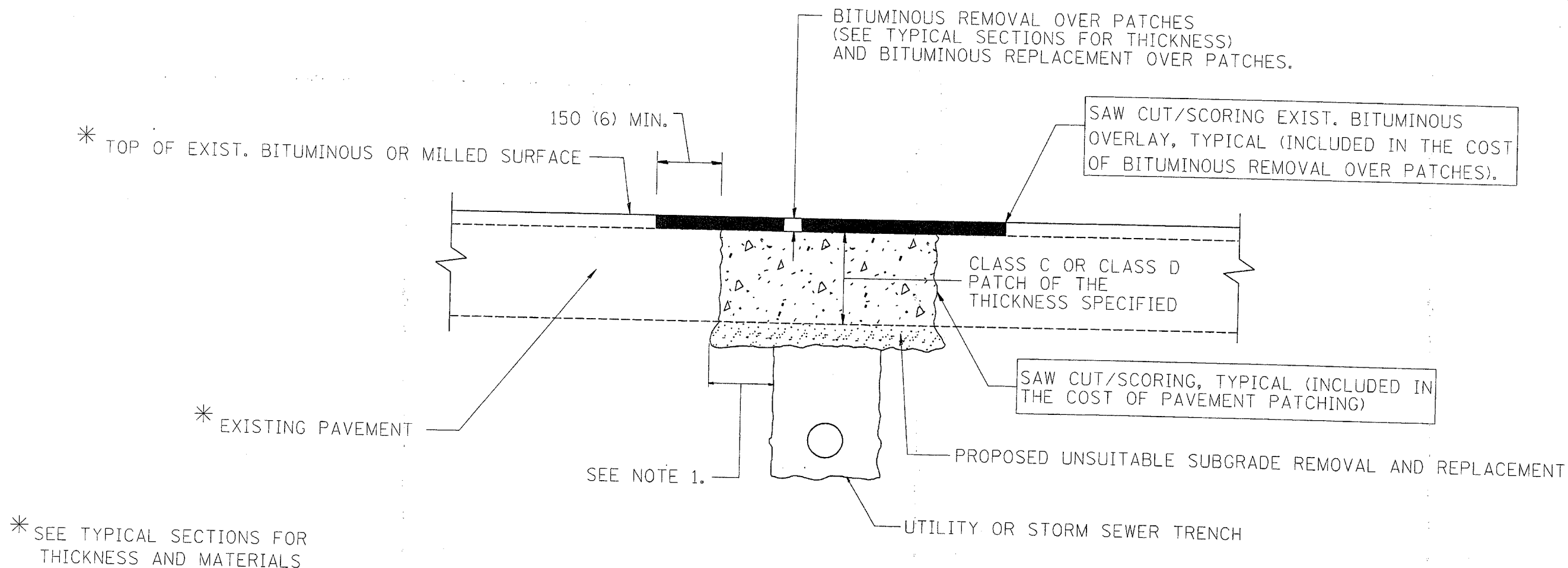
LAKELAND COUNTY	APPROVED BY: A. KHARAJA
Division of Transportation	DATE: 01/20/2003
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE AND UTILITY OPERATIONS	
TWO LANE, TWO WAY, OFF-ROAD OPERATIONS DAY ONLY OPERATIONS	
LC7008	

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION		
NAME	DATE			
		<b>DETAILS</b>		
		VERT. N.T.S.	DRAWN BY	AJP
		HORIZ. N.T.S.	CHECKED BY	CRF
		DATE		



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	25
PAVEMENT PATCHING FOR BIT. SURFACE PAVEMENT				
C-9-69-00		ILLINOIS		

CONTRACT NO.: 63789



**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 300 (12) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE SPECIAL PROVISION "PATCHING WITH BITUMINOUS OVERLAY REMOVAL".

**SEQUENCE OF CONSTRUCTION**

1. REMOVE THE EXISTING BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE FULL DEPTH PATCHES
3. REPLACE BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PAVEMENT PATCHING FOR BITUMINOUS SURFACED PAVEMENT**

REVISIONS		REVISIONS	
NAME	DATE	NAME	DATE
R. SHAH	10/25/94	ART ABBAS	04/27/98
R. SHAH	01/14/95		
R. SHAH	03/23/95		
R. SHAH	04/24/95		
A. HOUSEH	03/15/96		
A. ABBAS	03/21/97		
A. ABBAS	01/20/98		

SCALE: NONE  
DATE 08/07/2002

DRAWN BY  
CHECKED BY

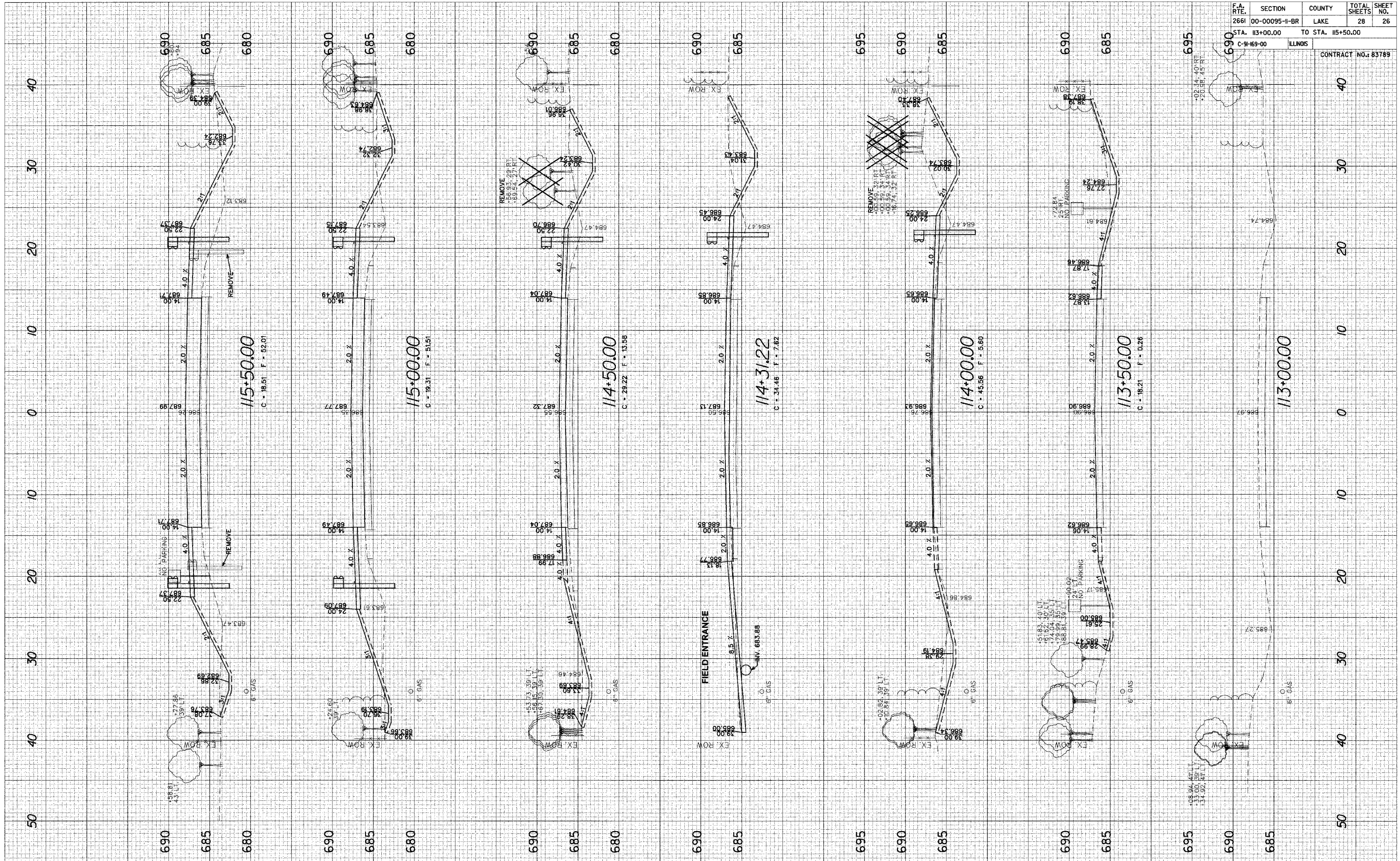
BD400-04 (BD-22)

FINAL SURVEYED PLOTTED NOTE BOOK AREAS CHECKED

FINAL SURVEYED PLOTTED NOTE BOOK AREAS CHECKED

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	26
STA. 113+00.00 TO STA. 115+50.00				
C-9-169-00		ILLINOIS		

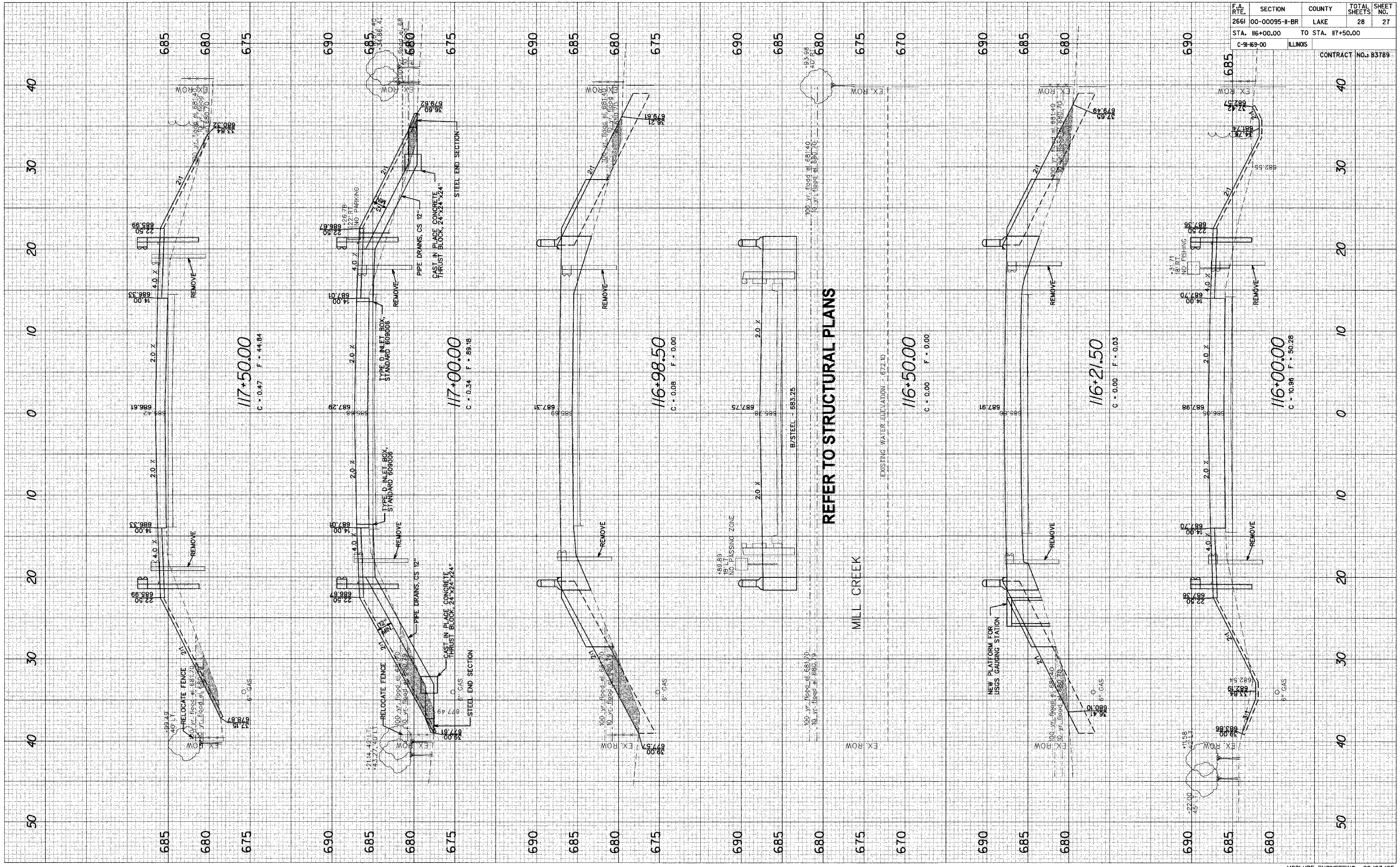
CONTRACT NO.: 83789



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

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
266I	00-00095-II-BR	LAKE	28	27
STA. 116+00.00	TO STA. 117+50.00			
C-9-169-00	ILLINOIS	CONTRACT NO.: 83789		

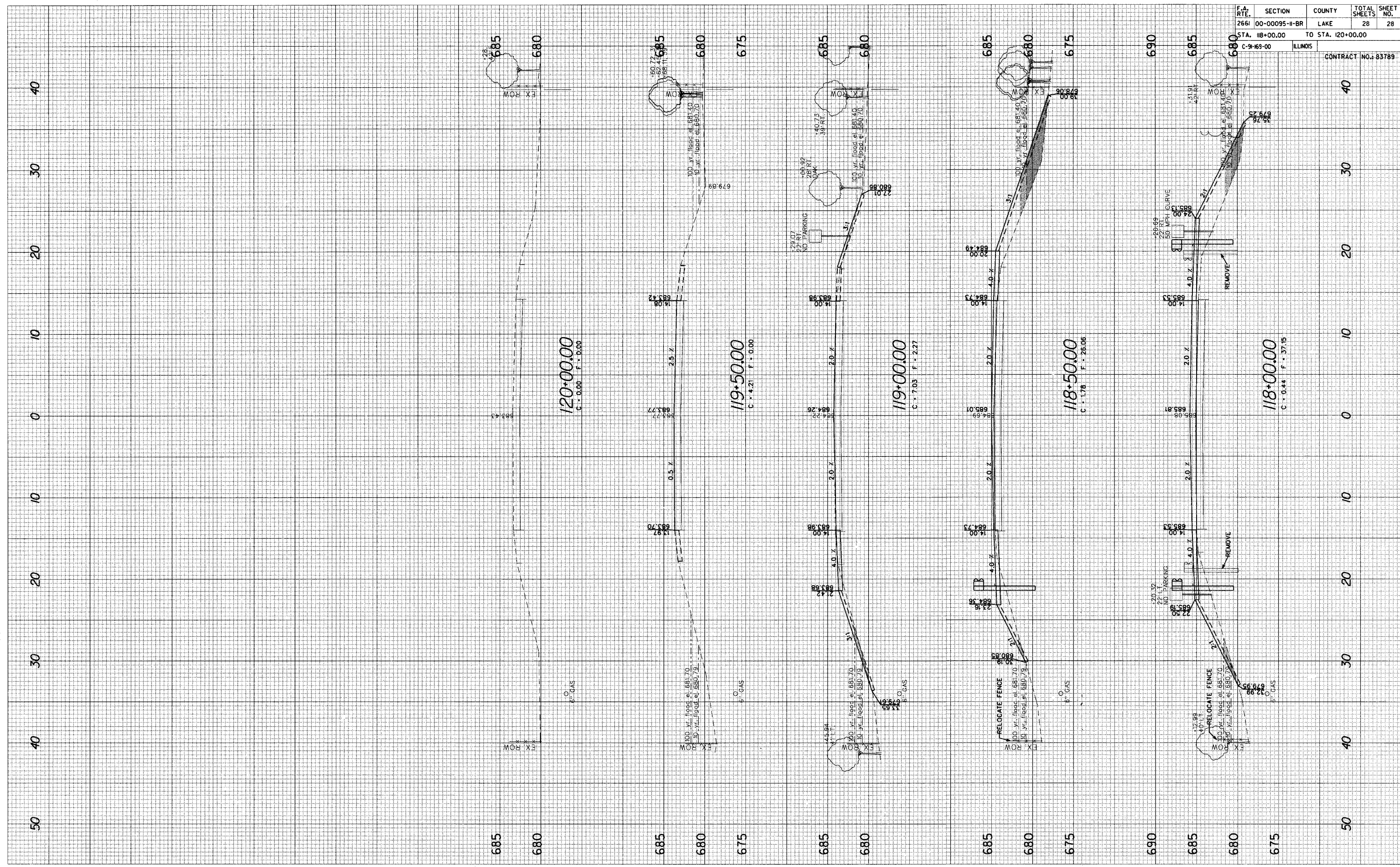


REFER TO STRUCTURAL PLANS

MILL CREEK

DATE: \_\_\_\_\_  
 T.M.L. SURVEYED SURVEYED SURVEYED  
 NOTE BOOK TEMPLATE TEMPLATE TEMPLATE  
 NO. AREAS CHECKED AREAS CHECKED AREAS CHECKED

DATE: \_\_\_\_\_  
 ORIGINAL SURVEY SURVEYED SURVEYED  
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 NO. AREAS CHECKED AREAS CHECKED AREAS CHECKED



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2661	00-00095-II-BR	LAKE	28	28
STA. 118+00.00		TO STA. 120+00.00		
C-91-69-00		ILLINOIS		
CONTRACT NO. 83789				