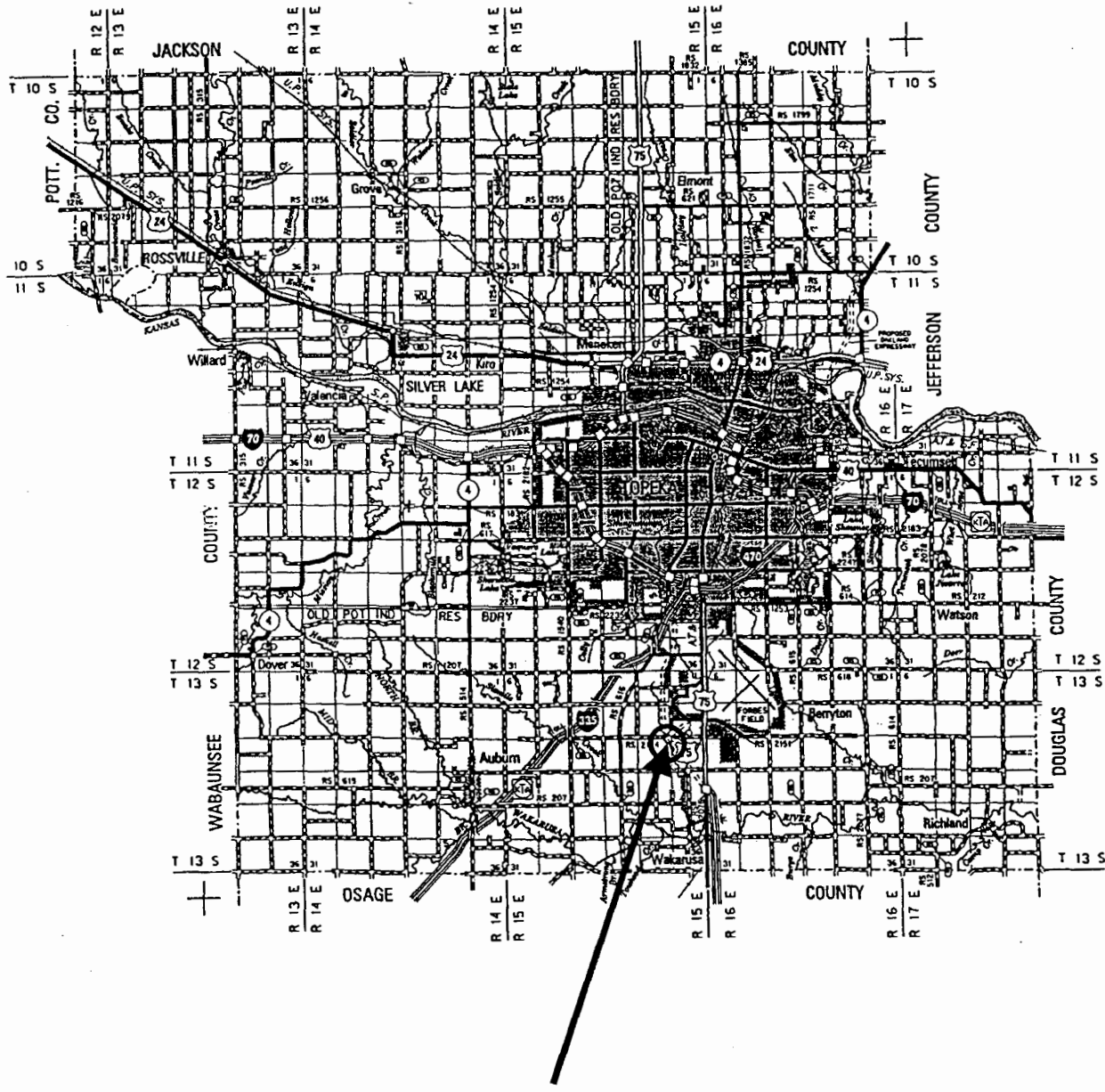


SE SE 11-13-15E



**Project 75-89 K-7317-01**  
**Bridge No. 75-89-04.48 (270)**  
**Southbound US-75 over 77<sup>th</sup> Street**  
**Shawnee County**

**Southbound US-75 over 77th Street Bridge # 75-89-04.48 (270)**  
**Shawnee County, Topeka**

SF 52 11-13-155

	<u>Elevation</u>	<u>Depth</u>		
<b>Core Hole #1</b>	1016.10	0.00	Empty casing. Casing plugged at 12.0 ft.	
Sta. 236+55	1004.10	12.00	Shale in the casing. Casing set to 13.0 ft.	
78 ft. lt. Project C.L.	1003.10	13.00	Shale, tan to gray.	<b>Severy Shale FM.</b>
Water Level 6.0 ft.	1002.10	14.00	Start coring.	
Water Elevation 1010.10				
Date Drilled 04/24/2000				
Core # 1	1002.10	14.00	Shale, sandy, firm, gray.	<b>Severy Shale FM.</b>
14.0 to 17.9	998.20	17.90	End core 1	
Cut 3.9				
Recovered 3.9			Sample 1 15.7 to 16.5	Shale, sandy, gray.
RQD = 3.8/3.9 = 97%				
Core # 2	998.20	17.90	Shale, sandy, gray, firm.	<b>Severy Shale FM.</b>
17.9 to 22.9	995.60	20.50	Shale, less sandy and softer, gray.	
Cut 5.0	993.20	22.90	End core 2	
Recovered 5.0				
RQD = 3.0/5.0 = 60%			Sample 2 20.4 to 20.9	Shale, gray, sandy.
Core # 3	993.20	22.90	Shale, sandy, gray, firm.	<b>Severy Shale FM.</b>
22.9 to 27.9	989.60	26.50	Shale, very sandy, some sandstone lenses, gray.	
Cut 5.0	988.20	27.90	End core 3	
Recovered 4.9				
RQD = 2.0/5.0 = 40%			Sample 3 25.6 to 26.1	Shale sandy gray.
Core # 4	988.20	27.90	Shale, sandy, cross-bedded, sand lenses, gray.	
27.9 to 32.9	983.20	32.90	End core 4	<b>Severy Shale FM.</b>
Cut 5.0				
Recovered 5.0				
RQD = 1.7/5.0 = 34%				
Core # 5	983.20	32.90	Shale, sandy, cross-bedded, sand lenses, gray.	
32.9 to 37.9	978.20	37.90	End core 5	<b>Severy Shale FM.</b>
Cut 5.0				
Recovered 5.0				
RQD = 2.6/5.0 = 52%			Sample 4 34.8 to 35.6	Shale, sandy, gray.
Core # 6	978.20	37.90	Shale, sandy, cross-bedded, sand lenses, gray.	
37.9 to 42.9	974.90	41.20	Shale, sandy, cross-bedded, fewer sand lenses, gray.	
Cut 5.0	973.20	42.90	End core 6	<b>Severy Shale FM.</b>
Recovered 5.0				
RQD = 1.5/5.0 = 30%			Sample 5 41.7 to 42.2	Shale, gray, sandy.

## Southbound US-75 over 77th Street Bridge # 75-89-04.48 (270)

### Shawnee County, Topeka

Core # 7	973.20	42.90	Shale, sandy, cross-bedded, sand lenses, gray.	
42.9 to 47.9	970.20	45.90	Sandstone, shaly, gray.	<b>Severy Shale FM.</b>
Cut 5.0	968.20	47.90	End Core 7.	
Recovered 5.0				
RQD = 2.3/5.0 = 46%				
Core # 8	968.20	47.90	Sandstone, shaly, gray.	<b>Severy Shale FM.</b>
47.9 to 52.9	967.40	48.70	Shale, sandy, gray.	
Cut 5.0	963.20	52.90	End core 8.	
Recovered 5.0				
RQD = 2.2/5.0 = 44%			Sample 6 49.4 to 49.9 Shale, sandy, gray.	
Core # 9	963.20	52.90	Shale, sandy, gray.	<b>Severy Shale FM.</b>
52.9 to 57.9	958.20	57.90	End core 9.	
Cut 5.0				
Recovered 5.0			Sample 7 57.1 to 57.5 Shale, gray, sandy.	
RQD = 1.0/5.0 = 20%				
Core # 10	958.20	57.90	Sandstone, shaly, gray.	<b>Severy Shale FM.</b>
57.9 to 62.9	953.50	62.60	Limestone, gray, hard, dense.	<b>Coal Creek Ls. Mbr.</b>
Cut 5.0	953.20	62.90	End core 10.	
Recovered 5.0				
RQD = 1.8/5.0 = 36%			Sample 8 60.10 to 60.50 Sandstone, shaly, gray.	
Core # 11	953.20	62.90	Limestone, hard, blue-gray, dense.	
62.9 to 67.9	952.60	63.50	Shale, dark gray, very limy, very fossiliferous.	
Cut 5.0	949.90	66.20	Limestone, shaly, gray, fossiliferous.	
Recovered 5.0	948.50	67.60	Shale, dark gray to black.	<b>Holt Shale Mbr.</b>
RQD = 5.0/5.0 = 100%	948.20	67.90	End core 11.	
			Sample 9 63.0 to 63.6 Limestone, hard, dense.	
			Sample 10 66.5 to 67.0 Limestone, shaly.	
Core # 12	948.20	67.90	Shale, dark gray to black.	<b>Holt Shale Mbr.</b>
67.9 to 72.9	946.90	69.20	Limestone, hard, gray.	<b>Du Bois Ls. Mbr.</b>
Cut 5.0	945.00	71.10	Shale, limy, 0.10 limestone on bottom.	
Recovered 5.0	944.20	71.90	Limestone, hard, gray.	
RQD = 5.0/5.0 = 100%	944.10	72.00	Shale, limy, firm, gray.	<b>Turner Crk. Sh. Mbr.</b>
	943.20	72.90	End core 12.	
			Sample 11 68.6 to 69.0 Shale, black.	
			Sample 12 70.1 to 70.6 Limestone, gray.	
			Sample 13 72.4 to 72.9 Shale, gray, firm.	

**Southbound US-75 over 77th Street Bridge # 75-89-04.48 (270)**

**Shawnee County, Topeka**

Core # 13	943.20	72.90	Shale, limy, gray, fossiliferous.	<b>Turner Crk. Sh. Mbr.</b>
72.9 to 77.9	941.50	74.60	Limestone, hard, light gray.	<b>Sheldon Ls. Mbr.</b>
Cut 5.0	939.60	76.50	Lost lower 1.6. Think it is	<b>Jones Point Shale</b>
Recovered 3.4			gray-green shale.	<b>Mbr.</b>
RQD = $3.2/3.4 = 94\%$	938.20	77.90	End core 13.	
lost 1.6 off bottom.				

Sample 14 74.7 to 75.4 Limestone, light gray.

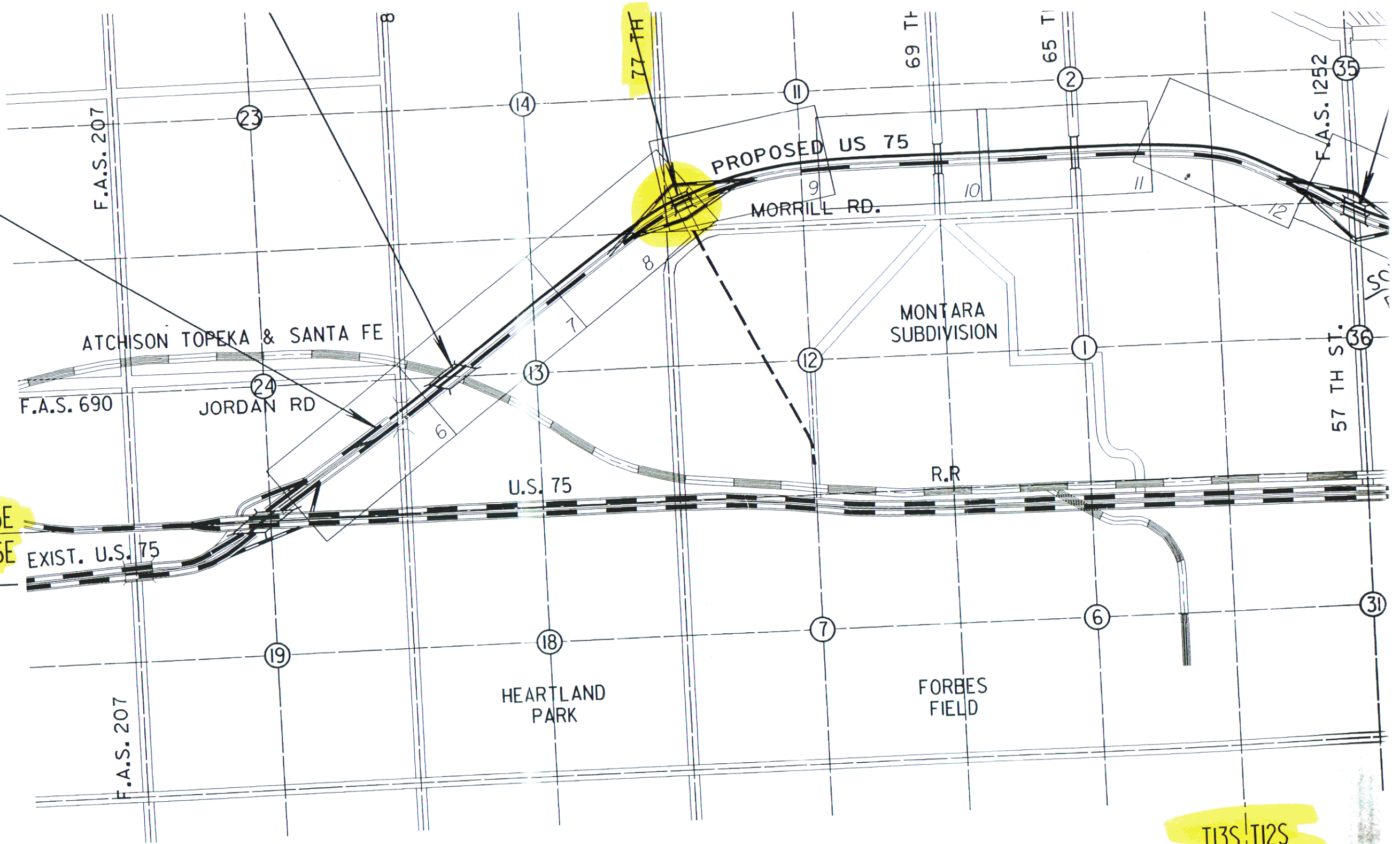
Core # 14	938.20	77.90	Shale, firm, gray-green.	<b>Jones Pt. Shale Mbr.</b>
77.9 to 81.3	935.50	80.60	Limestone, gray, hard.	<b>Curzon Ls. Mbr.</b>
Cut 3.4	934.80	81.30	End core 14.	
Recovered 3.4				
RQD = 100%				

Sample 15 78.3 to 78.7 Shale, gray-green.

Core # 15	934.80	81.30	Limestone, hard, gray, fossiliferous.	
81.3 to 85.7	930.40	85.70	End core 15. Total depth. Stopped on limestone.	
Cut 4.4				
Recovered 4.4				
RQD = 100%				

Sample 16 81.3 to 82.1 Limestone, hard, light gray.

00.00 BEGIN  
 9 K-7317-01=  
 0.00 on  
 9 K-3371-01

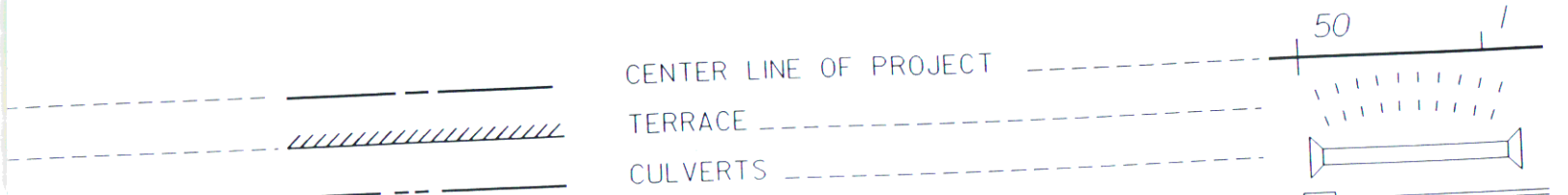


TO CARBONDALE  
 6 MILES

SIGNATION

5 8,000  
 5 13,800  
 1520  
 60%  
 5.5%  
 70 MPH  
 Full  
 30

CONVENTIONAL SIGNS



GROSS LENGTH OF PROJECT 29,300 FT.

EXCEPTIONS	0
ADDITIONS	0