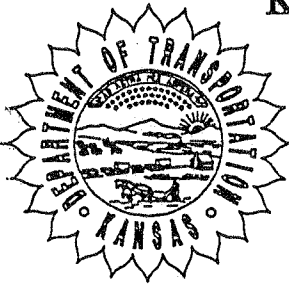


22-11-16E
E2 SE NE



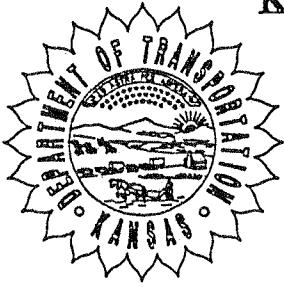
KANSAS DEPARTMENT OF TRANSPORTATION

1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. 4	12. SHEET 01 OF 09
2. BRIDGE STA. 637+48.25	8. PROJECT NO. K-3362-01	13. BRIDGE NO. 28.66
3. DESCRIPTION Oakland Expressway		14. HOLE STA. 610+77
4. GEOLOGIST Billinger	9. VERTICLE SCALE 1"=10'	15. DATE 4-6-93
5. DRILLER Shull	10. RIG B-61	16. ELEVATION TOP OF HOLE 866.9
6. GROUND WATER ELEV. 856.9	11. TOTAL DEPTH OF HOLE 111'2"	17. ELEVATION TOP OF ROCK 794.7

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV.
			0°	866.9				
			7°	860	Sandy, silt, brown			
	Alluvium			859.9	Sand fine to medium.			
				850				
				840				
				830				
				820	Sand, medium to coarse and gravel beds			
				810				
				800				
			72'2"	794.7				

Casing

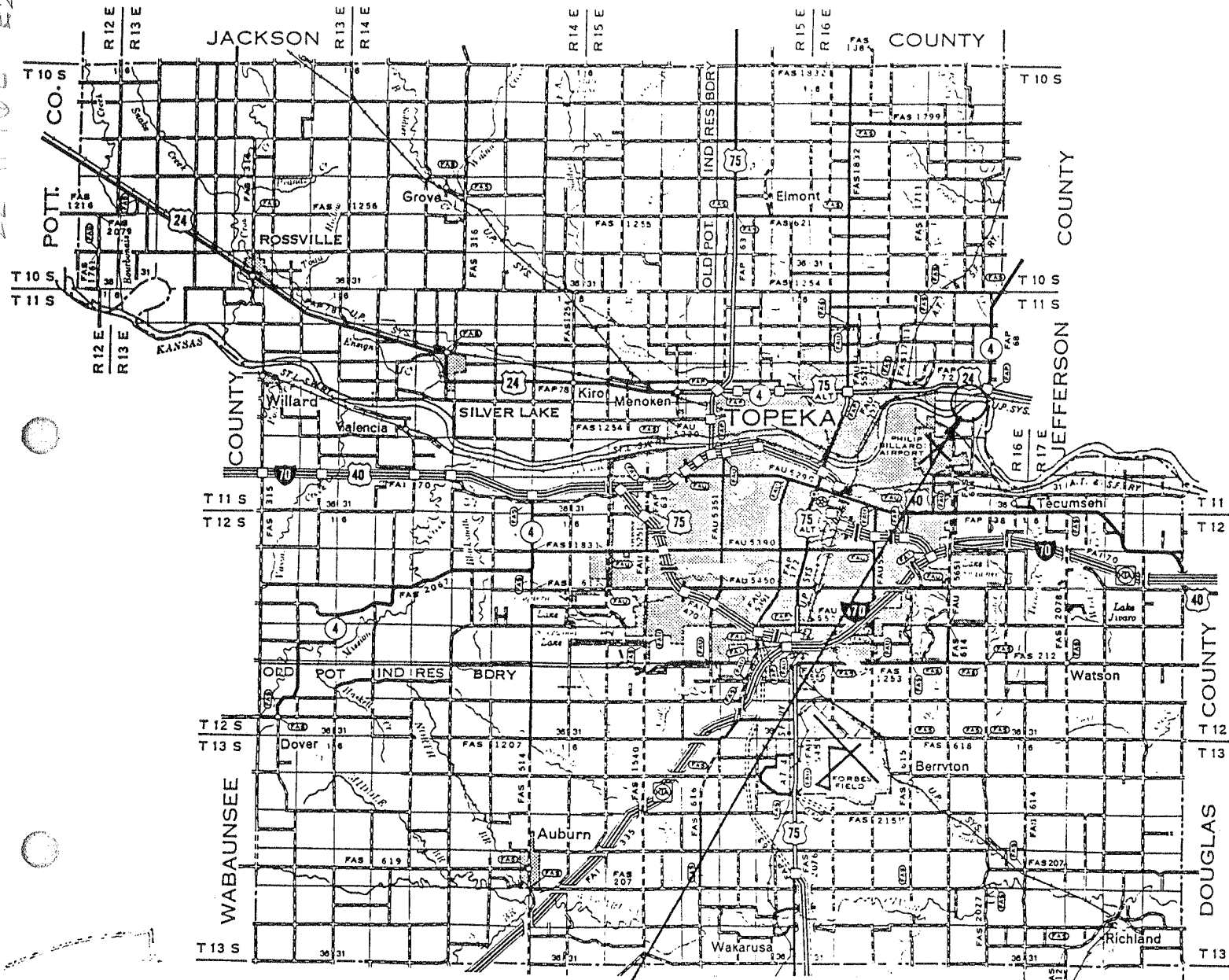
KANSAS DEPARTMENT OF TRANSPORTATION



1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. 4	12. SHEET 02 OF 09
2. BRIDGE STA. 637+48.25	8. PROJECT NO. K-3362-01	13. BRIDGE NO. 28.66
3. DESCRIPTION Oakland Expressway		14. HOLE STA. 610+77
4. GEOLOGIST Billinger	9. VERTICLE SCALE 1" = 10'	15. DATE 4-6-93
5. DRILLER Shall	10. RIG B-61	16. ELEVATION TOP OF HOLE 866.9
6. GROUND WATER ELEV. 856.9	11. TOTAL DEPTH OF HOLE 1112	17. ELEVATION TOP OF ROCK 794.7

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OF CASING DRIVE	
							BLOWS	ELEV.
	Alluvium		722	800	794.7			
	Tecumseh shale		750	791.9	shale, weathered, clayey, gray	374.8		791.3
	Avoca ls.	1	795	796 787.9	Limestone, gray, hard, unit bedded upper 1/2 impure	732.9		790.2
	King Hill shale	2	815	785.1	784.5 shale, gray-green limestone, gray hard	36.2		785.6
		3	870	780	779.9 shale, limy, gray-green	448.4		784.5
	Beil ls.	4			Limestone, gray, massive, hard.	159.2		782.5
		5	969	770.5		189.9		778.1
	Queen shale	6	995	767.4	Shale, fissile, black	192.9		775.3
	Big Spring ls	7	1030	763.9	Limestone, gray, hard, unit bedded impure zones	296.7		771.6
	Doniphan	8	1091	762.8		67.7		769.2
	Spring Branch ls.			760	Limestone, light gray, massive	1174.1		765.7
			1112	755.7	limy shale limestone	519.9		761.7
				750		150.0		758.9
						119.9		755.9

22-11-16 E2 E2

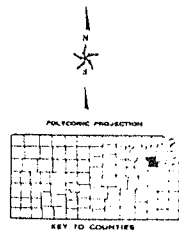


Proj.No. 004-089 K-3362-05
 Br.No. 004-089-28.66
 Oakland Expressway over the Kansas River
 Sta.637+48.25
 Shawnee County

LEGEND

- ROADS AND ROADWAY FEATURES**
- PRIMITIVE ROAD
 - UNIMPROVED ROAD
 - GRADED AND DRAINED ROAD
 - SOIL SURFACED ROAD
 - GRAVEL OR STONE ROAD - NOT GRADED OR DRAINED
 - GRAVEL OR STONE ROAD - GRADED AND DRAINED
 - GRAVEL OR STONE ROAD WITH STABILIZED SURFACE
 - BITUMINOUS ROAD - LOW TYPE PAVED ROAD
 - DIVIDED HIGHWAY
 - HIGHWAY WITH FULL CONTROL OF ACCESS AND INTERCHANGE

- ROAD SYSTEM DESIGNATION**
- FEDERAL-AID INTERSTATE HIGHWAY SYSTEM
 - FEDERAL-AID PRIMARY HIGHWAY SYSTEM
 - FEDERAL-AID SECONDARY HIGHWAY SYSTEM
 - INTERSTATE NUMBERED HIGHWAY
 - U.S. NUMBERED HIGHWAY
 - STATE HIGHWAY SYSTEM OR STATE NUMBERED HIGHWAY
 - END OF DESIGNATED SYSTEM OR MARKED ROUTE



FA SYSTEM REVISED TO MAR. 15 1988

GENERAL HIGHWAY MAP
SHAWNEE COUNTY
 KANSAS

PREPARED BY THE
 KANSAS DEPARTMENT OF TRANSPORTATION
 BUREAU OF TRANSPORTATION PLANNING
 IN COOPERATION WITH THE
 U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

