T25S R4W 5109
Sec 14K

Memorandum · UTAH DEPARTMENT OF TRANSPORTATION

DATE:

TO : Those Listed Below

Heber Nam for E. E. L.

FROM : Edwin E. Lovelace, Engineer of Materials and Research

SUBJECT: BRS-0317(1) - SR-118 Sevier River Bridge Replacement; Foundation Report on Sevier River Bridge Replacement at Sta. 138+25 ℄ SR-118

SITE CONDITIONS

A structure is proposed to replace the existing bridge carrying SR-118 over the Sevier River. The proposed structure will have two spans with prestressed concrete beam construction and will be approximately 85 feet long by 31 feet wide. It will cross the river at an angle of approximately 65 degrees.

SUBSURFACE CONDITIONS

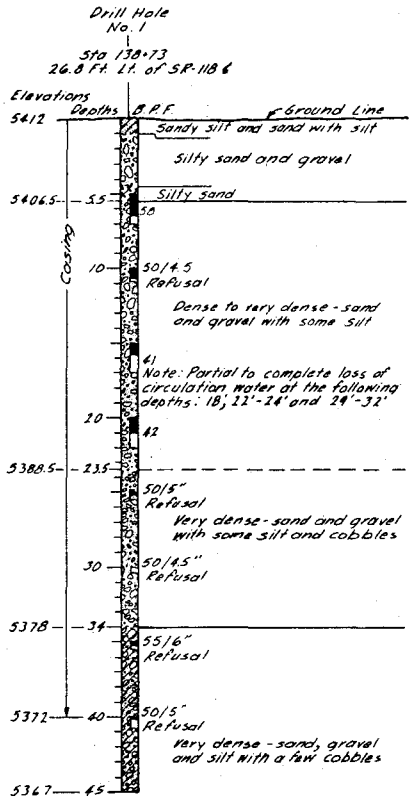
Two test holes were drilled at this site, on either side of the river near the proposed abutments. Test Hole No. 1 reached a depth of 45 feet and Test Hole No. 2 reached 35.3 feet. Correlation between test holes is good and the subsurface materials may be described as follows: From the ground surface to a depth of 5 feet - silty sand with some gravel; from 5 feet to the maximum depth of exploration - medium to very dense sand and gravel with varying amounts of silt and a few cobbles. See Fig. 1, Drilling Log, for more detailed subsoils descriptions and test hole locations.

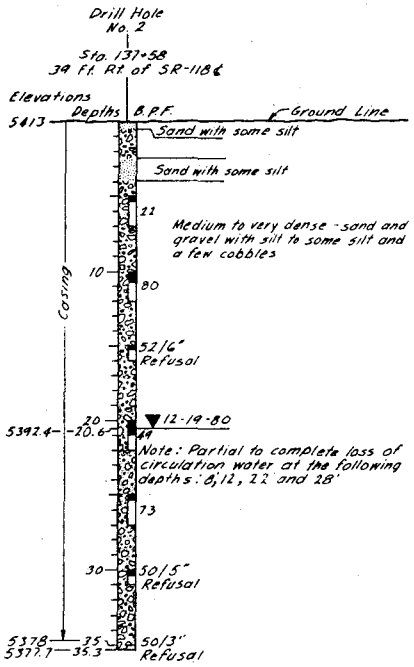
FOUNDATION RECOMMENDATIONS

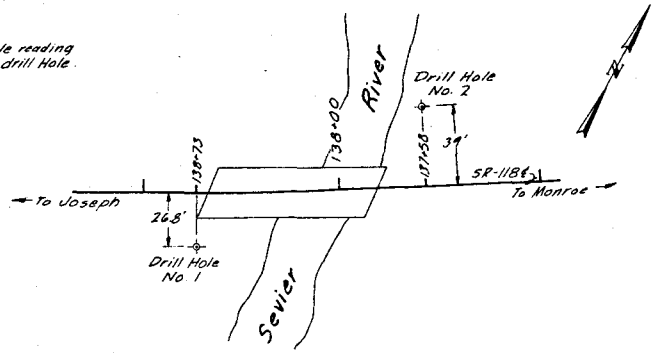
Drilled caissons are recommended to support the abutments and bent on the proposed structure. Drilled caissons, 3.5 feet in diameter, founded in the medium to very dense sand and gravel with silt may be loaded to 60 tons per caisson. See Fig. 2 for the bearing capacities of caissons with other diameters. The caissons should be founded at least 26 feet below the ground surface at the abutments and 23 feet below the channel bottom at the bent. The recommended caisson tip elevation is 5386 feet.

The abutments should be protected with riprap and the caissons at the bent should have a minimum diameter of 3.0 feet to protect against impact by stream load.

All loose material at the bottom of caisson excavations should either be removed or recompacted to its in situ density. Excavations may have to be cased to prevent caving before concrete is placed. Caisson settlement is expected to be less than 1 inch.







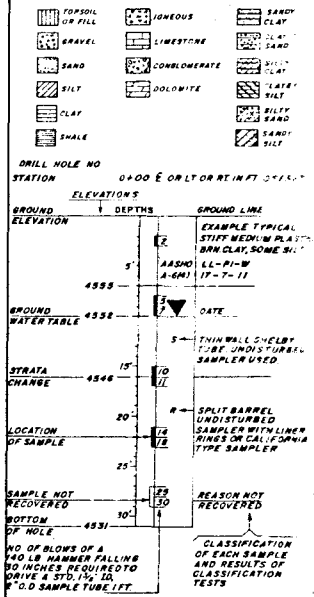
KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

VERY LOOSE — LESS THAN 4 BLOWS PER FOOT
LOOSE — 4 TO 10 BLOWS PER FOOT
MEDIUM — 10 TO 30 BLOWS PER FOOT
DENSE — 10 TO 30 BLOWS PER FOOT
VERY DENSE — MORE THAN 30 BLOWS PER FOOT

CONSISTENCY (PLASTIC SILT & CLAY)

VERY SOFT — LESS THAN 2 BLOWS PER FOOT
SOFT — 2 TO 4 BLOWS PER FOOT
MEDIUM — 4 TO 8 BLOWS PER FOOT
STIFF — 8 TO 15 BLOWS PER FOOT
VERY STIFF 15 TO 30 BLOWS PER FOOT
HARD — MORE THAN 30 BLOWS PER FOOT



ABBREVIATIONS

L.L — LIQUID LIMIT IN %
P.I — PLASTIC INDEX
w — NATURAL MOISTURE CONTENT IN %
W.G. — WELL GRADED
PEN. — PENETRATION
G.W.T. — GROUND WATER TABLE
B.P.F. — BLOWS PER FOOT.
N.P. — NON PLASTIC

NOTE. REFUSAL = 50 or more blows per 6"

NOTE: Drilled December 18, 1980

NO.	BY	DATE	REMARKS
			REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
MATERIALS AND RESEARCH SECTION
SEVIER RIVER BRIDGE REPLACEMENT
SR-118 OVER SEVIER RIVER

DRAWN BY Kistler	CHECKED BY [illegible]	BRS-0	
CHECKED BY [illegible]	CHECKED BY [illegible]	PROJECT	
CHECKED BY [illegible]	CHECKED BY	138-3	
APPROVAL RECOMMENDED BY Leven H. Rawlins		STAT	
RECEIVED		SEVER	
SR NO.	DRG NO.		

FIGURE 1