

Light Tower Foundation Investigation

Richmond County

P. I. No. 222370

1. **Project Description** This report covers the foundation investigation for 11 light towers at the interchange of SR4/US1 and Tobacco Road in Richmond County.
2. **Geology** This project is geologically sited in the Lower Tertiary-Cretaceous Undifferentiated Formation of the Georgia Coastal Plain Region
3. **Subsurface Information** The underlying soils are primarily composed of medium dense to dense silty sands and sandy silts. Groundwater was encountered from elevations ranging from 122 to 137.
4. **Foundation Recommendations** Foundation recommendations are based on the following loads:

Axial	15.12 kN
Shear	11.12 kN
Moment	237.3 kN·m

The light towers should be founded on 900mm or 1200mm diameter drilled shafts.

<u>Light Tower No.</u>	<u>Station</u>	<u>Location</u>	<u>Approximate Ground Elev.</u>
1	49+837 Ramp A-C	17.0 m RT	133.00
2	11+390.5 SR4/US1	37.5 m LT	139.00
3	11+400 Tobacco Road	28.5 m RT	137.50
4	50+200 Ramp A-C	46.5 m LT	129.75
5	10+488 Ramp A-C	36.5 m LT	126.00
6	11+058 SR4/US1	62.5 m RT	135.50
7	50+303.5 Ramp D-B	30.0 m LT	134.75
8	50+050 Ramp D-B	33.0 m RT	133.50
9	10+881 SR4/US1	49.0 m RT	133.00
10	49+835.5 Ramp D-B	33.0 m LT	129.00
11	49+660.5 Ramp D-B	35.0 m LT	127.50

All shafts should be embedded a minimum of six (6) meters below existing groundline.

Temporary casing may be required due to the presence of groundwater. Groundwater was encountered from Elevations 122 to 137 and may fluctuate depending upon the time of construction. We also recommend the use of a pump if groundwater is encountered. A tremie may be required to place concrete in the shaft if the excavations cannot be dewatered.

**5. Additional
Information**

Boring 1LP and 9LP were drilled for the Bridge Foundation Investigation for Tobacco Road over SR4/US1. These borings were used to establish tip elevations for Lights Towers 1 and 9, respectively.

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