



NicNevol

Engineering Services



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Radio Avenue Extension – Geotechnical Exploration

Location: Yulee, Nassau County, FL

Owner: Nassau County / School Access Improvements

Markets: Municipal, Roadway & Drainage Infrastructure.

Services: Geotechnical Exploration, Pavement Evaluation, Laboratory Testing, Drainage Infiltration Testing.

Project Description

NicNevol Engineering Services performed a geotechnical exploration for the proposed extension and improvement of Radio Avenue, located adjacent to Yulee High School in Nassau County, FL.

The project consisted of extending Radio Avenue for approximately 4,100 feet, including a new 24-ft-wide roadway section with a 5-ft sidewalk, a new cross drain culvert, construction of roadside drainage swales, and milling/resurfacing of the existing school access roadway.

The purpose of the geotechnical study was to evaluate subsurface conditions, determine infiltration rates for drainage swales, and provide engineering recommendations for roadway subgrade preparation, pavement design, drainage construction, and groundwater control.

NicNevol Responsibilities

- Conducting auger and SPT borings, pavement coring, and infiltration testing.
- Performing soil classification, LBR, compaction, and environmental corrosion testing.
- Evaluating subsurface conditions and groundwater behavior.
- Providing pavement subgrade and drainage design recommendations.
- Preparing earthwork, stabilization, and compaction guidelines.
- Delivering final geotechnical report for design and permitting.



Delivering engineering
expertise that supports safer,
stronger infrastructure.



Project Highlights

- Client: Nassau County / School Access Improvements.
- Roadway extension length: ~4,100 ft.
- Pavement section: 24 ft wide + 5-ft sidewalk.
- Field program:
- 33 auger borings (6 ft deep).
- 2 pavement cores.
- 2 SPT borings (25 ft deep) at cross drain location.
- 10 double-ring infiltration tests (drainage swales).
- 4 Limerock Bearing Ratio (LBR) samples.
- Subsurface profile: sands (A-3) with localized clayey sands (A-2-6) and sandy clays (A-6/A-7) at 9–13 ft depth.
- Pavement cores: asphalt 1.7–1.9 in., limerock base 10–14.5 in.
- Groundwater: 4–8 ft below grade; seasonal high 2–6.5 ft.
- Infiltration rates: 10–35 ft/day (permeable fine sands).
- Environmental tests: soils classified as “Extremely Aggressive” for concrete and steel (per FDOT guidelines).