

conditions, e.g. straddle piers and integral framing systems where bearings are not directly beneath the beams or girders.

1.3 ENVIRONMENTAL CLASSIFICATIONS

1.3.1 General (Rev. 01/23)

- A. The Geotechnical Engineer of Record will recommend the environmental classifications for all new bridge sites. Environmental classification is required for major widenings (see definitions in [SDG Chapter 7](#)) and may be required for minor widenings. This determination will be made before or during the development of the Bridge Development Report (BDR)/30% Plans Stage (see [FDM 121](#)) and the results will be included in the documents. The bridge site will be tested, and separate classifications will be determined for both superstructure and substructure.

Modification for Non-Conventional Projects:

Delete **SDG 1.3.1.A** and see the RFP for requirements.

- B. In the bridge plans "General Notes," include the environmental classification for both the superstructure and substructure according to the following classifications:
1. Slightly Aggressive
 2. Moderately Aggressive
 3. Extremely Aggressive
- C. For the substructure, additional descriptive data supplements the environmental classification. After the classification, note in parentheses the source and magnitude of the environmental classification parameters resulting in the classification.

Commentary: As an example, for a proposed bridge located in a freshwater swampy area where the substructure is determined to be in an Extremely Aggressive environment due to low soil pH of 4.5 and the superstructure to be in a Slightly Aggressive environment, the format on the bridge plans will be:

ENVIRONMENTAL CLASSIFICATION:

Substructure: Extremely Aggressive (Soil - pH = 4.5)

Superstructure: Slightly Aggressive

- D. The substructure will not be classified less severely than the superstructure.

1.3.2 Classification Criteria

- A. Bridge substructure and superstructure environments will be classified as "Slightly Aggressive", "Moderately Aggressive", or "Extremely Aggressive" environments according to the following criteria and as shown in [Figure 1.3.3-1](#). The superstructure is defined as all components from the bearings upward. Conversely, every element below the bearings is classified as substructure.

B. Marine Structures: Structures located over or within 2,500-feet of a body of water containing chloride above 2,000 ppm are considered to be marine structures and all other structures will be considered non-marine structures. Only chloride test results are required to determine if a structure is classified as marine. Results of chloride tests for most locations are available on SharePoint at the following address:

Environmental Database <http://smosp.dot.state.fl.us/sites/materials-str/districts/Lists/Bridge%20Environmental%20Database/Default%20View.aspx>

NOTE: Access to this database is currently limited to FDOT personnel only. Consultants needing information from this database should contact the appropriate district office for assistance.

Classify superstructure and substructure as follows:

1. For structures over or within 2,500-feet of a body of water with chloride concentrations in excess of 6,000 ppm, both superstructure and substructure will be classified as extremely aggressive.
2. For structures over any water with chloride concentrations of 2,000 to 6,000 ppm, the substructure will be classified as extremely aggressive. Superstructures located within the splash zone will be classified as extremely aggressive. Superstructures located above the splash zone will be classified as moderately aggressive. See **SDG 1.4** for definition of splash zone.
3. For structures within 2,500-feet of any body of water with a chloride concentration of 2,000 to 6,000 ppm, but not directly over the body of water, the superstructure will be classified as moderately aggressive. The substructure will follow the non-marine criteria in Table 1.3.2-1.

C. Non-Marine Structures: All structures that do not meet the criteria above are considered non-marine structures.

1. Substructure: Classify all non-marine substructures in contact with water and/or soil as follows: