Index 521-010 Opaque Visual Barrier (OVB)

Design Criteria

FDOT Design Manual *(FDM);* **AASHTO Roadside Design Guide***, 4th Edition;* **NCHRP Synthesis of Highway Practice 66**

Design Assumptions and Limitations

For usage information, see ***FDM 215***.

OVB is only intended for use as a visual screen; it is designed to withstand wind loading, light debris, and minor contact from errant vehicles.

OVB is not intended to resist or shield against errant vehicle impact loads; it is designed to yield upon large vehicle strikes.

A. Placement:

Per ***Index 521-010***, align the centerline of the OVB with the centerline of the top face of the supporting Concrete Barrier or Traffic Railing.

For split Concrete Barrier sections that run separately (for shielding vertical structures, dual bridges, etc.), the OVB runs atop only one of the two Concrete Barrier sections. Per the Standard Plans, the Contractor will place the OVB atop the Concrete Barrier section with the highest elevation unless otherwise called for in the Plans.

At the discretion of the designer, different runs of OVB may overlap longitudinally in order to maintain an effective visual screen. Show this overlap using the callout methods in the Plan Content Requirements.

Due to the yielding design of OVB, shoulders are required on both sides of the Concrete Barrier or Traffic Railing per the requirements of the FDM. For split Concrete Barrier sections, this requires one shoulder at the gutterline of each single-faced section. This precludes use of OVB over or immediately adjacent to traffic lanes, sidewalks, or waterways.

B. Non-Standard Visual Barrier:

Use of visual barrier that is taller than the panels shown in ***Index 521-010*** requires project-specific designs prepared by a structural engineer. This visual barrier must be a non-yielding design and meet the requirements of ***Index 521-510*** and the corresponding Standard Plans Instructions design criteria. The Concrete Barrier, footing, and visual barrier must be designed as a rigid, composite unit, with continuous vertical steel between the Concrete Barrier and visual barrier.

Plan Content Requirements

A. General:

In the Roadway Plan views, label the Begin/End Opaque Visual Barrier Stations as they correspond to the callout point shown in ***Index 521-010***. OVB stationing callouts are not required for leave-out locations as defined per ***Index 521-010***. In addition, call out any special placement information as needed to supersede the default placement in the Standard Plans (e.g. preferred OVB placement side for split Concrete Barrier sections).

On the Typical Sections, Cross Sections, Roadway Plan views, and all other appropriate sheets, show the OVB panels to scale, using Concrete Barrier section dimensions from ***Index 521-010*** as applicable.

Include project-specific structural engineering drawings for any non-standard visual barrier as applicable.

B. Summary of Permanent Barrier Wall Table:

Tabulate the individual Pay Items as defined in the ***Basis of Estimates Manual*** and ***Specification 521-001***. Produce the Summary of Permanent Barrier Wall table and include it in the Plans.

The location callouts for OVB segments will be listed as Station to Station, but the length of the corresponding segments must be measured along the centerline of the OVB and include the effect of curvature. OVB measurement includes gaps for leave-outs to accommodate barrier-mounted structures as defined per ***Index 521-010***.

Payment

Item number	Item Description	Unit Measure
521-9	Opaque Visual Barrier	LF