



Peabody Bikeway-Independence Greenway Extension

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University of New Hampshire in association with Green International Affiliates Inc.



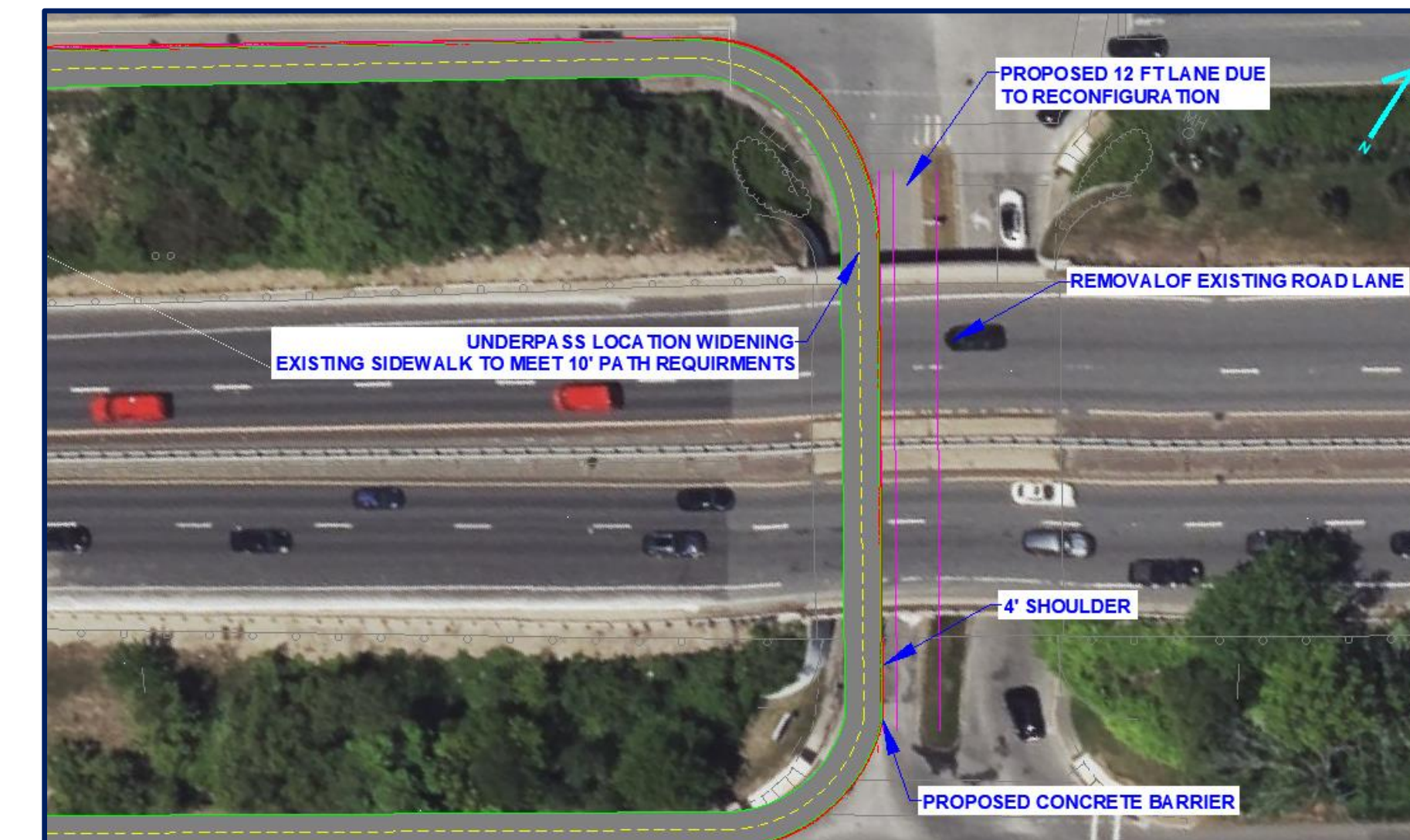
Introduction

Team 3 of CEE 797 partnered with Green International Affiliates, Inc. to design a 1.25-mile-long bikeway in Peabody, Massachusetts (MA). This trail is part of a 70-mile-long shared use path plan that will extend from Portsmouth, New Hampshire (NH) to Boston, MA. The project includes designs for a crossing of Route 128 crossing, a wetland crossing, and a trail alignment following existing conditions. The team has been working closely with Green International Affiliates, Inc. who provided technical guidance and support.

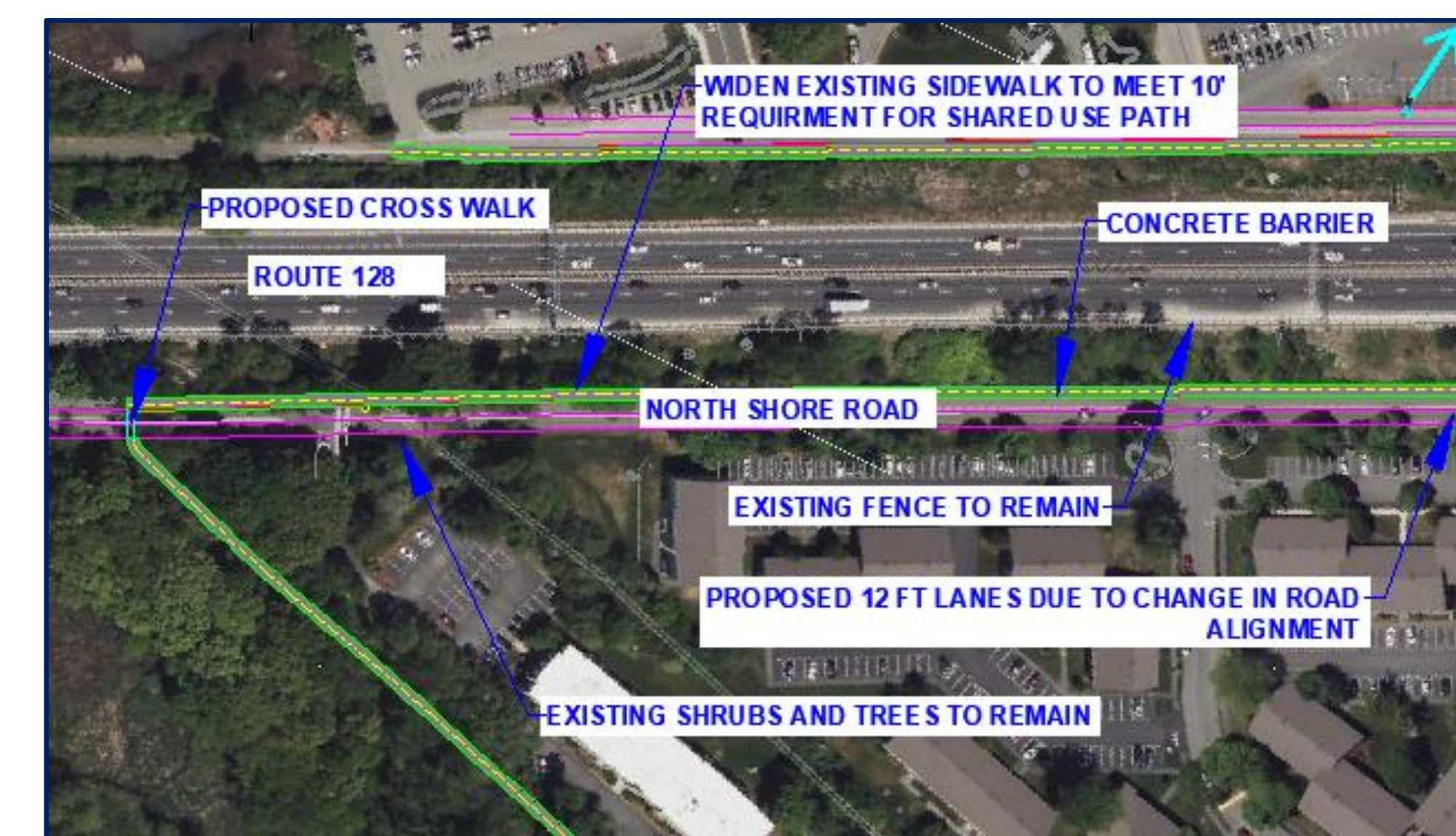
Shared Use Path Locations



Location of Path Along Essex Center Drive



Location of Path Along Existing Underpass

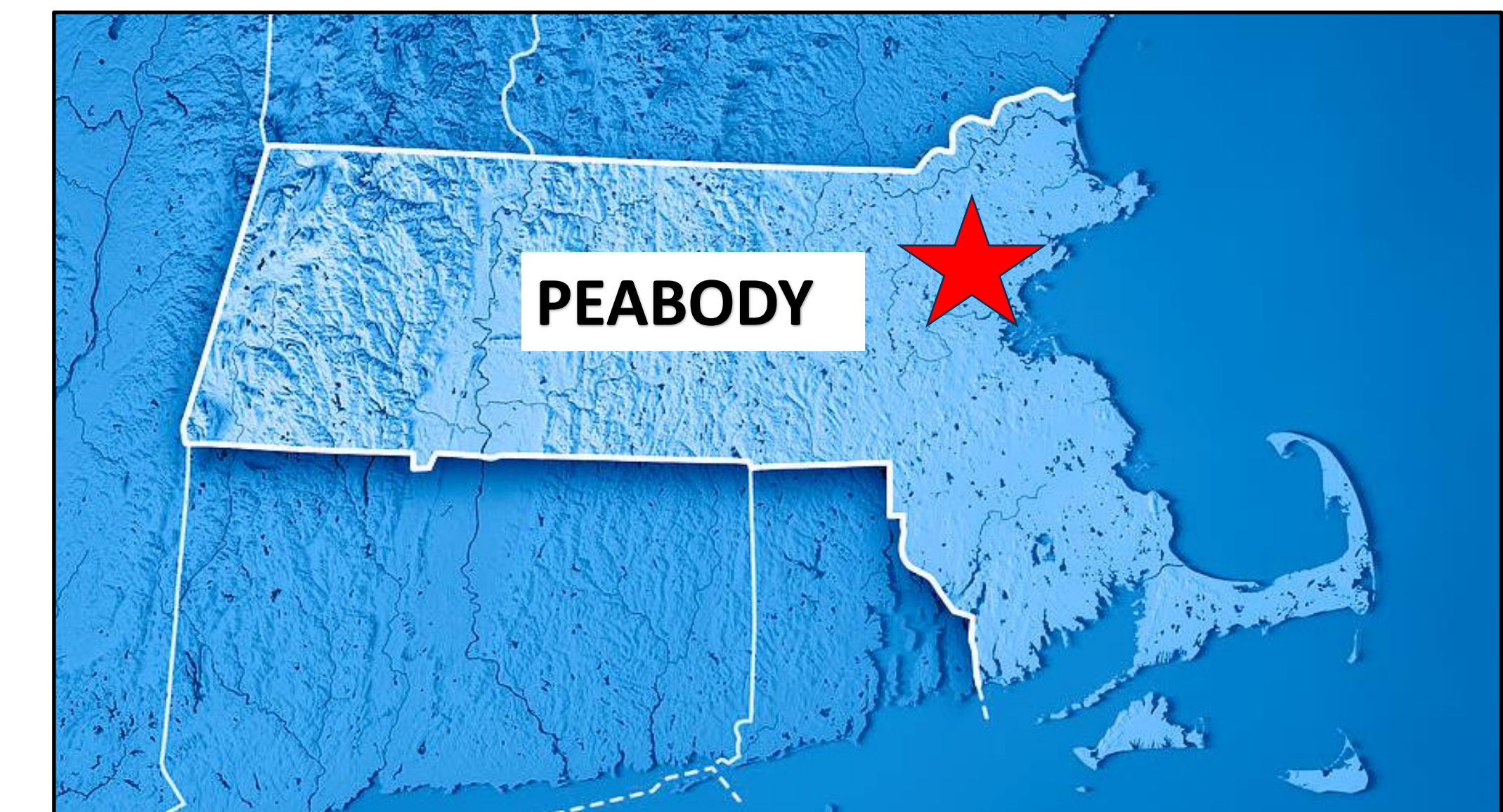


Location of Path Along Northshore Road

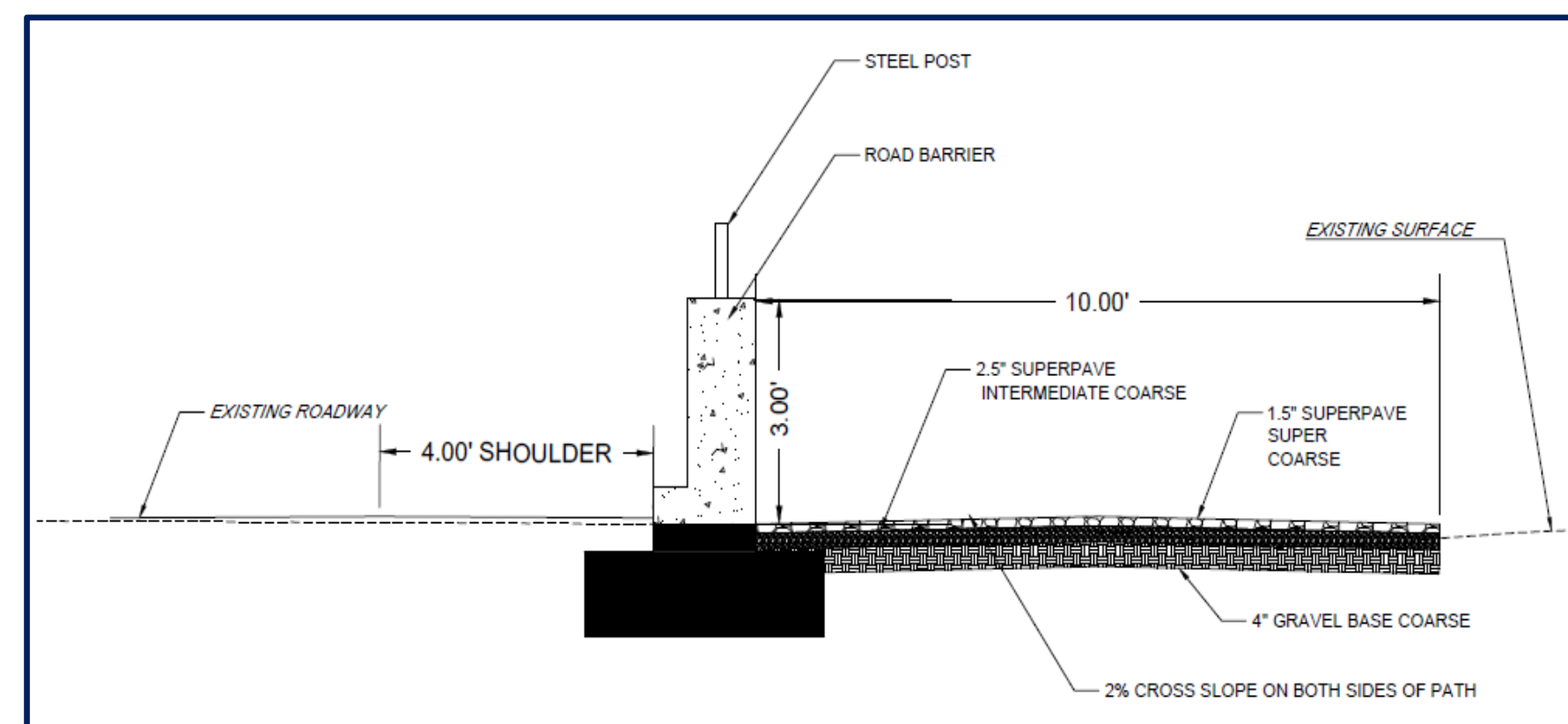


Location of Path Along Railbed

Location



Typical Section



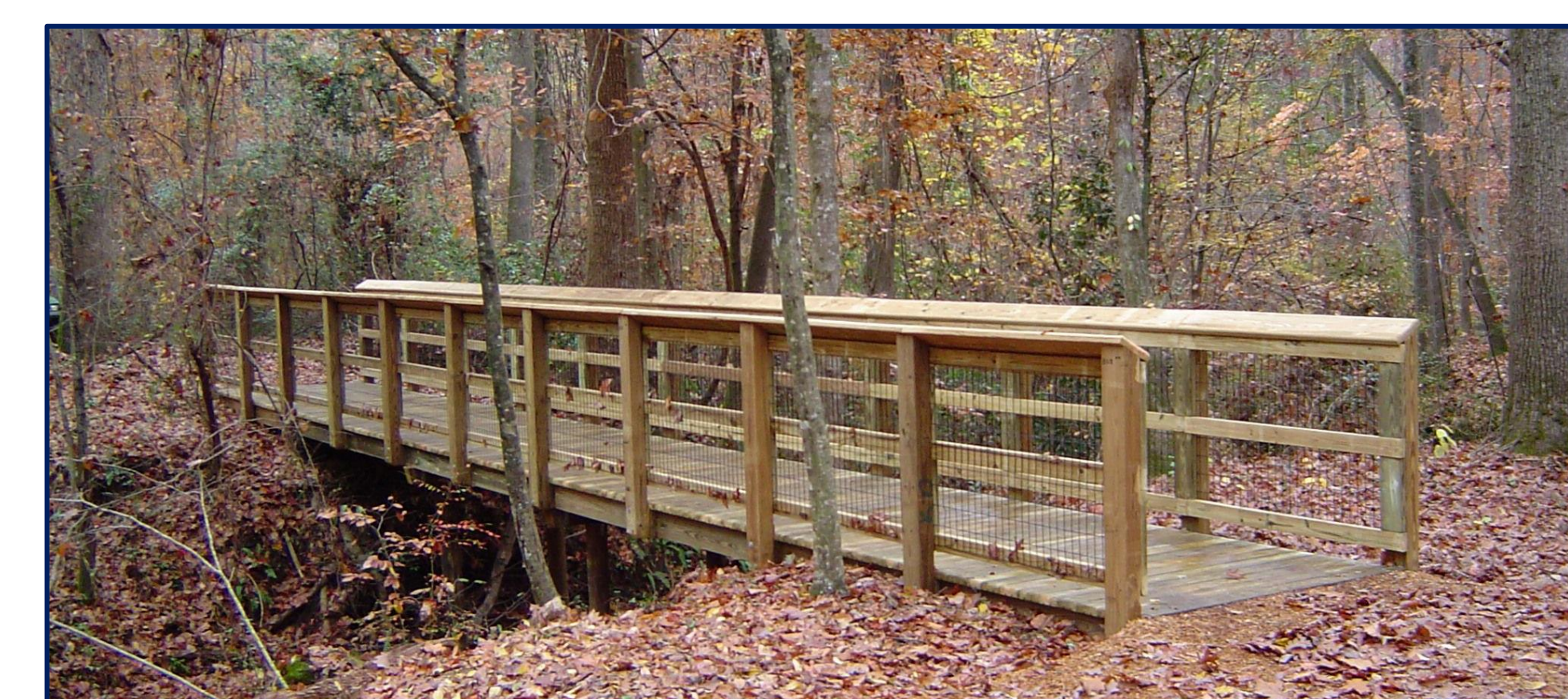
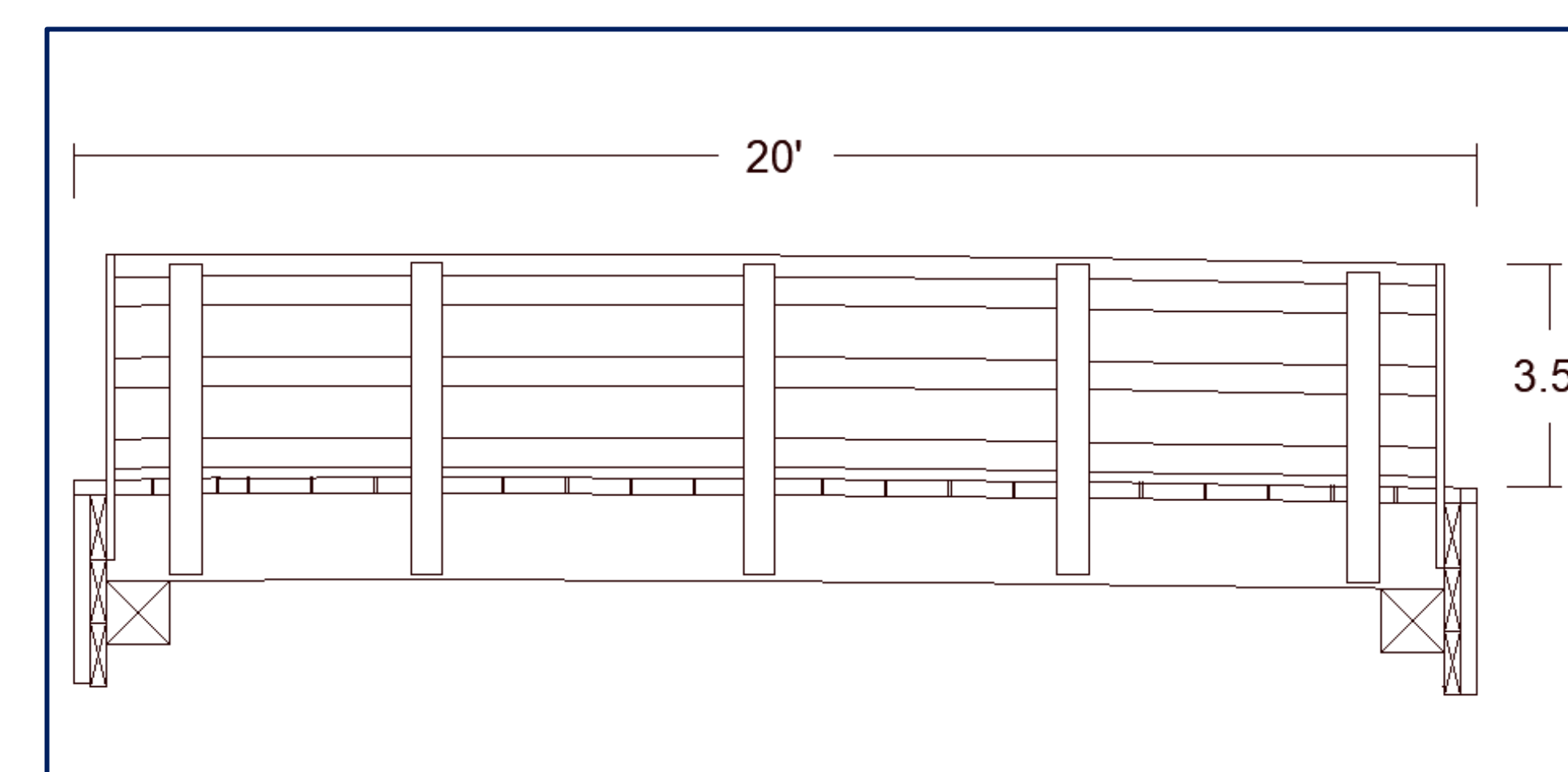
The figure above shows a typical trail cross section running parallel to a roadway. A concrete barrier will separate the shared use path from the road. A 6-inch curb will also be constructed between the concrete barrier and the roadway as an added layer of safety. The pavement design is also shown in the figure.

Path and Road Separation

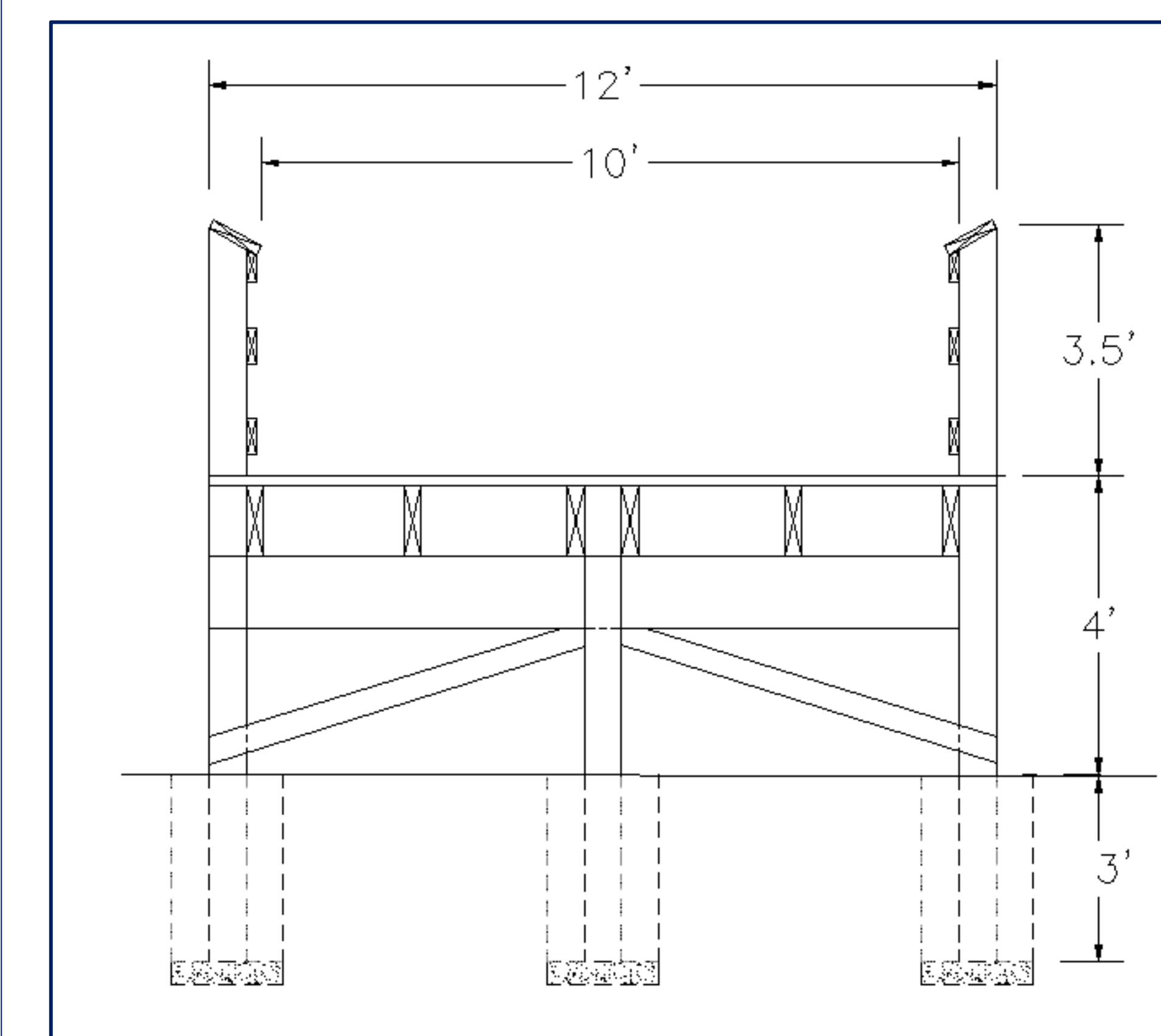


This barrier will wrap around the underpass and will end when the path crosses Northshore Road. The proposed barrier for this path will use a steel railing attached to a concrete base the same as used on the Scammell Bridge.

Brook and Wetland Crossings



Timber bridges were selected for the final design in order to preserve the natural atmosphere and minimize environmental impact.



The inclusion of a boardwalk will allow for a safe crossing of the wetlands while also keeping environmental impact at a minimum.

Underpass Street View



Expanding and utilizing the existing underpass connecting Essex Drive to Northshore Road was a cost effective and safe alternative to cross Route 128. There are 4 traffic lanes in the existing underpass. The design would replace the right turn lane and existing sidewalk with a 10-foot shared use path.

Acknowledgements

Team 3 was able to complete this project with the help of their Advisor Anthony Puntin, P.E. and Sponsor from Green Affiliates Inc, Joe Labrecque, E.I.T. Both met weekly with team members helping them meet course learning objectives while providing constructive feedback improving team effectiveness.

References

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