

TABLE 4
BRBW ALIGNMENT DESIGN OPTIONS:
NHESP AREA OF CONCERN - PLUMMER'S LANDING, NORTHBRIDGE

Design Option	Station	Description	Pros	Cons
1. Entire section elevated	5202+00 to 5266+00	6400 feet of elevated bikeway, including over many upland areas in order to provide connectivity for wildlife and restrict potential increased human access to the area.	May satisfy NHESP while keeping the alignment in current location.	Expensive to construct and completely removes connectivity to the other trails in DCR parklands.
2. Wetland section elevated with regular intervals of pier or boardwalk	Elevate ~ 5232+00 to 5249+00 Alternate between fill and low, elevated sections at 5202+00 to 5228+00 and 5249+00 to 5266+00	Use treatment suggested for area of significant wetland impact along berm. (5232+00 to 5249+00 (1700ft)) Supplement with a combination of alternating fill and elevated bikeway elsewhere in the sensitive section to allow connectivity. First section is 3000 linear ft, final section is 1700 linear ft.	Reduces cost of elevating the entire section while maintaining habitat connectivity.	Expensive, labor intensive. And may be difficult to design.
3. Wetland section elevated with regularly spaced, open bottom arch culverts and turtle fencing/walls	Elevate ~ 5232+00 to 5249+00 Place turtle culverts between 5202+00 to 5228+00 and 5249+00 to 5266+00	Use treatment suggested for area of significant wetland impact along berm. (5232+00 to 5249+00 (1700ft)) Supplement with open bottom culverts or arches elsewhere in the sensitive section. Place 2x2 culvert with open grate top or arch/culvert with appropriate openness ratio and wingwalls every 200 feet to 500 feet in non-elevated areas. Vertical rise to the top of the berm should be at least 18 inches in select locations to funnel turtles to the tunnels	Reduces cost of elevating the entire section while maintaining habitat connectivity.	Expensive. Turtle tunnels are an untested method and may not be appropriate in these conditions. Frequent flooding would require frequent maintenance to clear tunnels of debris.

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		and prevent them from climbing the berm.		
4. Alternative alignment suggested by NHESP	5202+00 to 5266+00	<p>Suggested by NHESP to reduce hindrance of movement by turtles to nesting habitat.</p> <p>Shift the alignment to the west of several existing open sandy and field areas. A portion of the alignment would continue on the existing network of trails at Plummer's Landing and through an area heavily used by off road vehicles.</p> <p>It would cross a large, inundated wetland system near the Northbridge Public Sewer Works and stay to the west side of the old, open gravel pit</p>	Satisfies NHESP concerns.	<p>Brings trail closer to sewer treatment works and further from River (not desirable).</p> <p>May cause more ROW impacts.</p> <p>Requires an extensive, open water, inundated wetland system crossing.</p> <p>Additional effort to design and delineate.</p>

Shaded section is the design option recommended. MassHighway and NHESP would need to review and comment on acceptability of this option.