LARGER DISTANCE REQ'D. NOTE: SHALL BE MODIFIED BY P. ENG. WHERE STD-EC-050-17, THE TYP DISTANCE FROM TOP CORNER OF BALLAST WALL TO DECK BRIDGE (TYP) Guardrail

Assume not to scale

NOT FOR CONSTRUCTION

OVERVIEW OF BRIDGE APPROACH BARRIERS

- This concept Dwg illustrates the minimum Ministry of Forests, Lands, Natural Resource Operations and Rural Development (Ministry) standard for approach barriers where approach barriers are specified for a forest service road (FSR) bridge site.

- The two barrier options on this Dwg are not physically anchored into the approach roadway fill and are not physically connected to the bridge guardrails. These options reflect minimum standards providing visual guidance and will provide some limited resistance to vehicle impacts. They are not crash tested and have not been engineered to resist specified vehicle impact forces.

- The Ministry also has standard drawings for more robust bridge approach barriers: STD-EC-010-17 to 22 "Anchored/Connected Bridge Approach Barriers.”

- This drawing is for reference for the Bridge General Arrangement Engineer in producing project specific design drawings for which they take full responsibility. This professional engineer shall be registered to practice in British Columbia.

- The Bridge General Arrangement Engineer shall determine and incorporate into their design, the appropriate Ministry Standard Bridge Approach Barrier Concept for a specific site based on an assessment of the bridge characteristics, road alignment, vehicle usage, site conditions, and other factors as appropriate. The general arrangement design shall include the site specific approach road geometry and dimensions (including pullout and flares) as well as the detailed approach barrier requirements (including types, lengths & positions).

- The Bridge General Arrangement Engineer shall include a note on their drawings to address the requirement for field reviews consistent with the guidelines published by engineers and geoscientists British Columbia called, "Documented Field Reviews during Implementation or Construction.”

- All dimensions are nominal.

- Further guidance and considerations related to selection and use of FSR bridge approach barriers are provided in the following Ministry documents:
  - “Guidance for Selecting Bridge Guardrail Containment Level and Determining Need for Bridge Approach Barriers on FSR” and
  - “Considerations for use of Ministry standard drawings STD-EC-010-15 and STD-EC-010-17 to 22 Bridge Approach Barriers for FSR Bridges.

2. MATERIALS & INSTALLATION

- Barriers shall be placed on a level, and compact granular base with minimal anticipated settlement in relation to the bridge ends. Specifications for the base shall be determined by the Bridge General Arrangement Engineer, including required compaction of fills, and field inspections during construction.

- Materials and fabrication of precast reinforced concrete barriers (CRB-H, CTB-1E, CBN-H, and other barrier types if req'd) shall be in accordance with the BC Ministry of Transportation and Infrastructure's standard specifications for highway construction: Section 9.41 "Precast reinforced concrete barriers.”

- If lines of concrete barriers longer than those shown on this drawing are necessary, CRB-H pieces connecting to CRB-H pieces will be req'd. If roadway drainage is recessed through a longer line of concrete barriers, a CDB-E barrier (together with erosion control measures) may be specified.

- If not stated otherwise by the Ministry, concrete barriers rather than log barriers shall be used.

- If specified by the Ministry for a particular site, log approach barriers may be used in place of the concrete barriers shown on this Dwg. Any proposed alternate equivalent method of log buttressing must be specified by a professional engineer for approval, consideration by the Ministry on a site specific basis.

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NOTES

1.0 OPERATIONS AND RURAL DEVELOPMENT (MINISTRY) STANDARD FOR APPROACH BARRIERS WHERE

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