1 GENERAL

1.1 THESE STANDARD DRAWINGS APPLY TO THE DESIGN AND SUPPLY OF SINGLE SPAN SINGLE LANE STEEL GIRDERS BRIDGES WITH COMPOSITE PRECAST CONCRETE DECK PANELS. THE STANDARD DRAWINGS PROVIDE DESIGN GUIDELINES AND STANDARD DETAILS.

1.2 VARIATIONS FROM THE STANDARD REQUIREMENTS MAY BE ACCEPTABLE IN CERTAIN SPECIAL SITUATIONS. ALL SUCH VARIATIONS SHALL BE DOCUMENTED AND APPROVED FROM MFR PRIOR TO USE.

1.3 A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE PROVINCE OF BRITISH COLUMBIA SHALL DESIGN ALL BRIDGE COMPONENTS.

1.4 DEFINITIONS

1.4.1 ENGINEER: A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA EXPERIENCED IN THE DESIGN OF STEEL GIRDERS AND COMPOSITE PANELIZED PRECAST CONCRETE DECK BRIDGES, WHO IS RESPONSIBLE FOR THE DETAILED STRUCTURAL DESIGN OF A BRIDGE IN CONFORMANCE WITH THESE DRAWINGS.

1.4.2 MFR: PROFESSIONAL ENGINEER DESIGNATED BY THE MINISTRY OF FORESTS AND RANGE.

1.5 APPLICABLE OVERALL BRIDGE GIRDER LENGTH (OUT-TO-OUT):

- FOR GIRDER LENGTHS UP TO 18.288 m (60') IT MAY BE MORE ECONOMICAL TO DESIGN A NON-COMPOSITE DESIGN.
- TYPICAL APPLICABLE OVERALL COMPOSITE BRIDGE GIRDER LENGTH IS 15.240 m (50') TO 48.632 m (160').

1.6 STANDARD DECK PANEL EDGE THICKNESS AND DECK PANEL CROSSFALL

- DECK PANEL LENGTH - THE PROPOSED DECK PANEL LENGTH IS 3048 (10').
- MINIMUM DECK PANEL LENGTH: 1548 mm
- MAXIMUM INTERNAL DECK PANEL LENGTH - THE MAXIMUM DECK PANEL LENGTH IS 3048 mm.
- MINIMUM DECK PANEL LENGTH - THE DECK EDGE BALLAST WALL: 3048 mm.
- MAXIMUM DECK PANEL LENGTH - THE DECK OVER BALLAST WALL: 3588 mm.

1.7 STANDARD GIRDER SPACINGS

- THE FOLLOWING TABLE SPECIFIES STANDARD GIRDER SPACINGS FOR SEVERAL DECK WIDTHS.

<table>
<thead>
<tr>
<th>DECK WIDTH</th>
<th>STANDARD GIRDER SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>4268 (14')</td>
<td>3000</td>
</tr>
<tr>
<td>4876 (16')</td>
<td>3000</td>
</tr>
<tr>
<td>5486 (18')</td>
<td>4200</td>
</tr>
</tbody>
</table>

1.8 STANDARD DECK PANEL EDGE THICKNESS AND DECK PANEL CROSSFALL

- THE FOLLOWING TABLE SPECIFIES STANDARD DECK WIDTHS FOR THE DESIGNATED DESIGN VEHICLES.

<table>
<thead>
<tr>
<th>DESIGN VEHICLE</th>
<th>STANDARD DECK WIDTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCL655, L100</td>
<td>4876</td>
</tr>
<tr>
<td>L100, L150</td>
<td>4876</td>
</tr>
</tbody>
</table>

1.9 DECK PANEL LENGTH

- THE FOLLOWING TABLE SPECIFIES STANDARD DECK PANEL LENGTHS FOR SQUARE PRECAST CONCRETE DECK PANELS. THE FOLLOWING TABLE SPECIFIES STANDARD GIRDER SPACINGS FOR SEVERAL DECK WIDTHS.
- THE FOLLOWING TABLE SPECIFIES STANDARD DECK WIDTHS FOR THE DESIGNATED DESIGN VEHICLES.

<table>
<thead>
<tr>
<th>DESIGN VEHICLE</th>
<th>DECK PANEL LENGTH</th>
<th>STANDARD EDGE THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCL655</td>
<td>4876 (16')</td>
<td>175</td>
</tr>
<tr>
<td>L100</td>
<td>5486 (18')</td>
<td>225</td>
</tr>
<tr>
<td>L150</td>
<td>5486 (18')</td>
<td>250</td>
</tr>
</tbody>
</table>

1.10 SUPERSTRUCTURE IDENTIFICATION MARKING

- EACH BRIDGE SUPERSTRUCTURE SHALL HAVE CLEARLY STAMPED OR PERMANENTLY MARKED ON AT LEAST ONE SIDE OF THE SUPERSTRUCTURE:

- STRUCTURAL MEMBER IDENTIFICATION:
- LOAD RATING:
- DATE OF MANUFACTURE:
- MANUFACTURER'S NAME AND NUMBER:
- "MINISTRY OF FORESTS & RANGE":
- THE HEIGHT OF LETTERING MUST BE 60 mm (MINIMUM ALTERNATIVE IDENTIFICATION MARKINGS MAY BE REQUIRED PRIOR APPROVAL FROM MFR.

1.11 BOLTED GIRDER FIELD SPLICES

- PROVIDE BOLTED FIELD SPLICES ON ALL GIRDER SPANS PROCURED THROUGH A DESIGN/SUPPLY CONTRACT FOR GIRDER SPANS WITH A LENGTH OF 7.620 m (25') UNLESS APPROVED BY MFR.
- WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, GIRDER FIELD SPLICES SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER.

1.12 ERECTION BRACE:

- PROVIDE ERECTION BRACING ON ALL BRIDGES PROCURED THROUGH A DESIGN/SUPPLY CONTRACT WHERE THE OVERALL BRIDGE LENGTH (OUT-TO-OUT) EXCEEDS 24.384 m (80').
- PROVIDE CONTINUOUS ERECTION BRACING ON ALL BRIDGES PROCURED THROUGH A DESIGN/SUPPLY CONTRACT WHERE THE OVERALL BRIDGE LENGTH (OUT-TO-OUT) EXCEEDS 24.384 m (80').
- WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, ERECTION BRACING SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER WHO SHALL CONSIDER THE METHOD OF ERECTION.

1.13 PLAN BRACING

- PROVIDE CONTINUOUS PLAN BRACING ON ALL BRIDGES PROCURED THROUGH A DESIGN/SUPPLY CONTRACT WHERE THE OVERALL BRIDGE LENGTH (OUT-TO-OUT) EXCEEDS 24.384 m (80').
- WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, PLAN BRACING SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER WHO SHALL CONSIDER THE METHOD OF ERECTION.

1.14 DIAPHRAGMS

- PROVIDE INTERNAL DIAPHRAGMS AS REQUIRED. MAXIMUM SPACING OF INTERNAL DIAPHRAGMS NOT TO EXCEED 4.9 m.

1.15 DIAPHRAGMS

- PROVIDE DIAPHRAGMS AT BEARING LOCATIONS.
- PROVIDE INTERNAL DIAPHRAGMS AS REQUIRED. MAXIMUM SPACING OF INTERNAL DIAPHRAGMS NOT TO EXCEED 4.9 m.

1.16 BOLTED GIRDER FIELD SPLICES

- PROVIDE ERECTION BRACING ON ALL BRIDGES PROCURED THROUGH A DESIGN/SUPPLY CONTRACT WHERE THE OVERALL BRIDGE LENGTH (OUT-TO-OUT) EXCEEDS 24.384 m (80').
- WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, ERECTION BRACING SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER WHO SHALL CONSIDER THE METHOD OF ERECTION.

1.17 MINISTRY OF FORESTS & RANGE

- GIRDER SPACING

- PROVIDE CONTINUOUS PLAN BRACING ON ALL BRIDGES PROCURED THROUGH A DESIGN/SUPPLY CONTRACT WHERE THE OVERALL BRIDGE LENGTH (OUT-TO-OUT) EXCEEDS 24.384 m (80').
- WHERE THE CONTRACT IS DESIGN/SUPPLY AND INSTALL, PLAN BRACING SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER WHO SHALL CONSIDER THE METHOD OF ERECTION.

2 DESIGN

2.1 DESIGN LIFE

- GIRDER DESIGN LIFE: 45 YEARS

2.2 DESIGN LOADS AND MFR REFERENCE STANDARDS

- CAN/CSA S6:1994
- MINISTRY OF FORESTS AND RANGE BRIDGE DESIGN AND CONSTRUCTION MANUAL
- MFR INTERIM BRIDGE DESIGN GUIDELINES

2.3 DESIGN VEHICLES

- REFER TO MFR STANDARDS DRAWING STD-EC-099-61 TO STD-EC-099-62
- THE DESIGN DRAWINGS SHALL CLEARLY SPECIFY THE DESIGN VEHICLE THAT WAS USED FOR THE BRIDGE DESIGN

ASSUME NOT TO SCALE

NOT FOR CONSTRUCTION