1 GENERAL
1.1 THESE STANDARD DRAWINGS APPLY TO THE DESIGN AND SUPPLY OF SIMPLE SPAN SINGLE-LANE STEEL GIRDER BRIDGES WITH NON-COMPOSITE PREFAB CONCRETE DECK PANELS. THE STANDARD DRAWINGS PROVIDE DESIGN GUIDELINES AND STANDARD DETAILS.

1.2 VARIATIONS FROM THE STANDARD DESIGN REQUIREMENTS MAY BE ACCEPTABLE IN CERTAIN SPECIAL SITUATIONS. ALL SUCH VARIATIONS SHALL BE DOCUMENTED AND REQUIRE APPROVAL 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
- ENGINEER: A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA EXPERIENCED IN THE DESIGN OF STEEL GIRDERS AND NON-COMPOSITE PANELIZED PREFAB CONCRETE DECK BRIDGES WHO IS RESPONSIBLE FOR THE DETAILED STRUCTURAL DESIGN OF A BRIDGE IN CONFORMANCE WITH THESE DRAWINGS.
- MFR: A PROFESSIONAL ENGINEER DESIGNATED BY THE MINISTRY OF FORESTS AND RANGE.

1.5 APPLICABLE OVERALL BRIDGE GIRDER LENGTH (OUT-TO-OUT):
- PROVIDE DESIGN GUIDELINES AND STANDARD DETAILS.

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

<table>
<thead>
<tr>
<th>DECK WIDTH     mm (ft)</th>
<th>STANDARD GIRDER SPACING mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGN VEHICLE</td>
<td></td>
</tr>
<tr>
<td>BC650 L150</td>
<td>4676 (15')</td>
</tr>
<tr>
<td>LT5 L165</td>
<td>4676 (15')</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>DECK WIDTH mm (ft)</th>
<th>STANDARD GIRDER SPACING mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC650 L150</td>
<td>4676 (15')</td>
</tr>
<tr>
<td>LT5 L165</td>
<td>4676 (15')</td>
</tr>
</tbody>
</table>

1.8 STANDARD DECK PANEL EDGE THICKNESS AND DECK PANEL CROSSFALL
- THE FOLLOWING TABLE SPECIFIES STANDARD DECK PANEL EDGE THICKNESS FOR SQUARE PREFAB CONCRETE DECK PANELS. VARIATIONS MAY BE REQUIRED FOR SHAPED OR DETAILED DECK PANELS.

<table>
<thead>
<tr>
<th>DESIGN VEHICLE</th>
<th>DECK PANEL LENGTH mm</th>
<th>STANDARD DECK EDGE THICKNESS mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC650 L150</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>LT5 L165</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

1.9 DECK PANEL LENGTH
- PROVIDE THE FOLLOWING DECK PANEL LENGTHS FOR THE FOLLOWING:
- MINIMUM DECK PANEL LENGTH: 1024 mm
- MAXIMUM INTERNAL DECK PANEL LENGTH: 3048 mm
- MAXIMUM END DECK PANEL LENGTH (DECK BEYOND BARRIER WALL): 3048 mm
- MAXIMUM END DECK PANEL (DECK BEYOND BARRIER WALL): 3048 mm

1.10 SUPERSTRUCTURE IDENTIFICATION MARKING:
- PROVIDE CLEARLY STAMPED OR PERMANENTLY MARKED ON AT LEAST ONE SIDE OF THE SUPERSTRUCTURE.
- STRUCTURE NUMBER:
- ENGINEER’S NAME:
- MINISTRY OF FOREST & RANGE:
- THE HEIGHT OF LETTERING MUST BE 50 mm MINIMUM.
- ALTERNATIVE IDENTIFICATION MARKING SHALL REQUIRE PRIOR APPROVAL FROM MFR

1.11 Bolted Girder Field Splices:
- PROVIDE BOLTED FIELD SPICES ON ALL BRIDGE SPANS PROCURED THROUGH A DESIGN/SUPPLY CONTRACT OR GIRDERS WITH AN OVERALL LENGTH (OUT-TO-OUT) LENGTH > 24 m (80 ft) UNLESS APPROVED BY MFR.
- WHERE THE CONTRACT IS DESIGN/SUPPLY INSTALL, BOLTED FIELD SPICES SHALL BE PROVIDED AT THE DISCRETION OF THE ENGINEER.

1.12 Diaphragms:
- PROVIDE ORDINARY DIAPHRAGMS AS REQUIRED. MAXIMUM SPACING OF ORDINARY DIAPHRAGMS NOT TO EXCEED 8.0 m.
- PROVIDE CONTINUOUS PLAN BRACING ON ALL BRIDGES.

1.13 Plan Bracing
- PROVIDE 50 mm CONTINUOUS PLAN BRACING.

1.14 Shear
- BREEZE SHEAR IN PLAN IS PERMITTED UP TO AN ANGLE OF 30°, AS SHOWN ON DWG. OR ADJUST BRIDGE DETAILS ACCORDINGLY.

1.15 COMPONENT WEIGHTS
- THE FOLLOWING COMPONENT WEIGHTS SHALL BE SPECIFIED ON THE DESIGN DRAWING.

<table>
<thead>
<tr>
<th>DESIGN VEHICLE</th>
<th>ASSEMBLED STEEL GIRDERS PLUS BRACING AND DIAPHRAGMS - TOTAL WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC650 L150</td>
<td>4676 (15')</td>
</tr>
</tbody>
</table>

2 DESIGN
2.1 DESIGN LIFE
- BRIDGE DESIGN LIFE: 45 YEARS.

2.2 DESIGN CODE AND MFR REFERENCE STANDARDS
- CAN/CSA-S6-06
- MINISTRY OF FORESTS AND RANGE BRIDGE DESIGN AND CONSTRUCTION MANUAL
- MFR INTERMEDIATE BRIDGE DESIGN GUIDELINES

2.3 DESIGN HEADERS
- REFER TO MFR STANDARD DRAWING STD-E-003-010 STD-E-005-002.
- THE DESIGN DRAWINGS SHALL CLEARLY SPECIFY THE DESIGN VEHICLE THAT WAS USED FOR THE BRIDGE DESIGN.

2.4 MULTI-LANE LOADING
- WHERE A BRIDGE IS ABLE TO SERIALLY SUPPORT MORE THAN ONE LANE OF TRAFFIC, THE DESIGNER SHOULD SEEK CLARIFICATION FROM MFR ON HOW TO ACCOUNT FOR MULTI-LANE LOADING.

2.5 DYNAMIC LOAD ALLOWANCE
- DYNAMIC LOAD ALLOWANCE SHALL BE APPLIED IN ACCORDANCE WITH CAN/CSA-S6-06.

2.6 FATIGUE DESIGN FOR STEEL GIRDERS
- FATIGUE DESIGN TO BE COMPLETED IN ACCORDANCE WITH CAN/CSA-S6-06 WITH THE FOLLOWING MODIFICATIONS:
- DESIGN VEHICLE:
- AS PER PROJECT SPECIFICATIONS
- FOR L150 USE L165 FOR FATIGUE DESIGN LOAD
- FATIGUE DESIGN VEHICLE TO BE CENTRED ON BRIDGE
- WHEEL LOCATION:
- LATERAL WHEEL DISTRIBUTION: 80% - 40%
- FATIGUE STRESS RANGE
- "F"
- THE CALCULATED STRESS RANGE AT THE DETAIL WILL BE DETERMINED BY THE DESIGN VEHICLE.

2.7 FRACTURE CRITICAL AND PRIMARY TENISION COMPONENTS
- DESIGNER TO SPECIFY FRACTURE CRITICAL AND PRIMARY TENSION COMPONENTS ON THE DESIGN DRAWINGS.

2.8 MAXIMUM LIVE LOAD DEFLECTION OF STEEL GIRDERS
- BRIDGES MUST BE DESIGNED SO THAT LIVE LOAD DEFLECTION, AS CALCULATED AS THAT CAUSED BY ONE TRUCK ONLY, PLACED AT THE CENTRE LINE OF THE TRAVELLED ROADWAY, DYNAMIC LOAD ALLOWANCE INCLUDED, DOES NOT EXCEED 8.0 m.

2.9 WEARING SURFACE
- AS A MINIMUM, ALL DESIGNS SHALL INCORPORATE AN ALLOWANCE FOR A FUTURE 50 mm COMPLETE EPOXY COAT.