2.13 STANDARD CONCRETE COVER:
- The following are the standard required concrete covers:
  - Top of Deck Panel: 50 mm
  - Underside of Deck Panel: 25 mm
  - Vertical face of exposed deck edge: 50 mm
  - Face of Stud Pocket: 25 mm
  - Vertical face of transverse grouted joint: 25 mm

3 MATERIALS AND FABRICATION

3.1 STRUCTURAL STEEL:
- To CAN/CSA-G40.21M
  - Steel girder flanges and web plates: Grade 35 d in Category 3
  - Other steel plate: 35A
  - Bracing: diaphragms and plate bracing: Grade 35A
- Any required variations require MFR Approval. If non weathering steel is approved by MFR, a corrosion protection system will be required.
- Complete all welds in accordance with CSA W59. Weld metal of primary tension members and fracture critical members shall meet the own toughness requirements of Table 10.14 of Canadia 66-96:
  - Inspect all butt welds by ultrasonic or X-ray examination in accordance with CSA W59.
  - Fabricators to be certified for Division 1 or 2 in accordance with CSA W47.1.
  - Field welding by company certified to CSA W47.1 Division 1 or 2.
  - Fabricate girders as fracture critical members in accordance with CAN/CSA-G40.21, as noted on design drawings. Steel plates for bottom flanges and webs shall conform to the requirements for fracture critical. In accordance with CAN/CSA-G40.21, in excess that Charpy V-notch testing results are only required on a per heat frequency.
  - Where all I-girder flanges to web welded using submerged arc welding.
  - Where specified by MFR, paint steel girders in accordance with the following specifications:
    - Surface preparation blast clean to SPC-SP1.
    - Paint high solids, self priming epoxy or moisture cure urethane. Specific paint product to be approved by MFR prior to usage.
    - Paint shall be utilized in accordance with manufacturer specifications.
    - Minimum 2 coats.
    - Minimum 8 mic dry film thickness.
    - Colour by MFR.
  - Shot blast fit all field splices unless CNC equipment is used.

3.3 STRUCTURAL BOLTS:
- All bolts incorporated into steel girder connections bolted field splices, diaphragms and bracing to be ASTM A325 Type 3 NEL U.O. installed in accordance with Can/CSA 66-96.

3.4 GALVANIZING:
- All items specified as galvanized are to be galvanized to CSA G166.

3.5 REINFORCING:
- To CAN/CSA-G40.21M
  - Reinforcing steel must not be welded or tack welded.

3.6 PRECAST CONCRETE:
- To CAN/CSA-G40.21M
  - Precast concrete must be fabricated in accordance with CAN/CSA-G40.21M by a plant certified in accordance with CAN/CSA-G40.21.
  - Fabrication tolerances to CAN/CSA-G40.21.
  - Finish to be transverse gried to top of deck panels, otherwise to CAN/CSA-G40.21.
  - All corbels to come with 250 mm chamfer U.O. in the applicable standard drawing.

3.7 GROUT:
- GROUT MIN f'c = 35 MPa at 28 days, installed in accordance with CAN/CSA-G40.21M.
  - GROUT for blockouts shall be target traffic patch with coarse aggregate, or alternate equivalent product. Equivalent products must be approved by MFR prior to use.
  - GROUT for panel joints shall be target traffic patch with fine aggregate, or alternate equivalent product. Equivalent products must be approved by MFR prior to use.

3.8 BEARINGS:
- To CAN/CSA-G40.06: Ozone resistant natural rubber, natural polyisoprene.
  - Where expansion joints are used, engineer to include sufficient information to facilitate calculation at various temperatures.

3.9 COUPLERS:
- Couplers shall conform to ASTM A634 grade A with tensile strength of 10% of the yield strength of the elements being connected or as specified on the standard drawings.

4 TRANSPORTATION AND ERECTION OF BRIDGES:

4.1 SUPPORT STEEL GIRDERS IN SUCH A WAY THAT THEY SUSTAIN NO DAMAGE DURING TRANSPORTATION. WHEN TRANSPORTING STEEL GIRDERS ON THE FLAT, PROVIDE A TRANSPORTATION PLAN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA.

4.2 LIFTING DEVICES:
- All precast components (except concrete roadbed barriers and wall reinforced, interlocking concrete blocks) must utilize lifting inserts (or preapproved equivalents) as lifting devices. Group access after installation.
  - Engineer to design lifting inserts to facilitate lifting using four equal length slings/chains.
  - Only low impact lifts are permitted. Angle of lift must not exceed 30 degrees from vertical.

4.3 STEEL GIRDERS SHALL BE CLEAN AND FREE OF SHOP-MARKS.

5 CERTIFICATION AND QUALITY CONTROL

5.1 PROVIDE CONCRETE TEST RESULTS BY AN APPROVED TESTING LABORATORY FOR ALL PRECAST CONCRETE COMPONENTS AND FOR FIELD GROUTING.

5.2 FIELD GROUT SAMPLES FOR THE BLOCKOUTS AND DECK JOINTS CAN COMPRISE 50 mm CUBE SAMPLES OR 50mm DIAMETER X 100 mm CYLINDERS.

5.3 PROVIDE MILL CERTIFICATES FOR ALL STEEL INCORPORATED INTO THE STRUCTURE.

5.4 CERTIFICATION TO CSA STANDARDS FOR THE STEEL AND PRECAST CONCRETE MANUFACTURERS MUST BE IN EFFECT AT THE TIME OF TENDER OPENING AND THROUGHOUT THE MANUFACTURING PERIOD.