This Bridge Standard Drawing is meant to be used as a starting point. Modify details as needed.

**Standard Drawing Guidance (Do not show on plans):**

- Modify as needed.
- Approximately one sixth of girder/beam height; 5" minimum.
- Bolt holes shall be cored through existing deck and into girder/beam.
- Use backer rod around drain at bottom of slab and epoxy inject from the top.
- Drain access for slab is required to allow for field cutting as needed.
- Drain shall be as recommended by the manufacturer and any coating for added UV resistance.

**Notes for FRP Drain:**

- Drains shall be inserted through slab such that damage to galvanized coating is minimized.
- Drains shall be fabricated from 1/4-inch structural steel tubing ASTM A500 or A590.
- Drains shall be inserted through slab such that damage to galvanized coating is minimized.
- Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:
  - Minimum reinforced wall thickness shall be 3/16-inch.
  - The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
  - Drains shall be fabricated from 1/4-inch structural steel tubing ASTM A500 or A590.
  - Drains shall be inserted through slab such that damage to galvanized coating is minimized.

**Notes for Steel Drain:**

- Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:
  - Minimum reinforced wall thickness shall be 3/16-inch.
  - The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
  - Drains shall be fabricated from 1/4-inch structural steel tubing ASTM A500 or A590.
  - Drains shall be inserted through slab such that damage to galvanized coating is minimized.

**General Notes:**

- Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of the same type.
- Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.
- The bracket assembly shall be galvanized in accordance with ASTM A123.
- All bolts, hardened washers, lock washers and nuts that may be exposed in the finished structure shall be galvanized in accordance with ASTM A532 (A535M, Class C).
- All 1/2-inch diameter bolts shall be ASTM A325, except as noted.
- Shop drawings will not be required for the slab drain and the bracket assembly.

**Elevations of Drain:**

- Drain elevation shall be as recommended by the manufacturer.
- Drain shall withstand at least 500 hours of D4329 Cycle A.
- The representative material shall be tested for UV resistance in accordance with ASTM D2996 with the following exceptions:
  - Minimum reinforced wall thickness shall be 3/16-inch.
  - The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
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  - Drains shall be inserted through slab such that damage to galvanized coating is minimized.

**Notes for Steel Drain:**

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- All 1/2-inch diameter bolts shall be ASTM A325, except as noted.
- Shop drawings will not be required for the slab drain and the bracket assembly.

**Elevations of Drain:**

- Drain elevation shall be as recommended by the manufacturer.
- Drain shall withstand at least 500 hours of D4329 Cycle A.
- The representative material shall be tested for UV resistance in accordance with ASTM D2996 with the following exceptions:
  - Minimum reinforced wall thickness shall be 3/16-inch.
  - The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
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**Notes for Steel Drain:**

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**General Notes:**

- Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of the same type.
- Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.
- The bracket assembly shall be galvanized in accordance with ASTM A123.
- All bolts, hardened washers, lock washers and nuts that may be exposed in the finished structure shall be galvanized in accordance with ASTM A532 (A535M, Class C).
- All 1/2-inch diameter bolts shall be ASTM A325, except as noted.
- Shop drawings will not be required for the slab drain and the bracket assembly.

**Elevations of Drain:**

- Drain elevation shall be as recommended by the manufacturer.
- Drain shall withstand at least 500 hours of D4329 Cycle A.
- The representative material shall be tested for UV resistance in accordance with ASTM D2996 with the following exceptions:
  - Minimum reinforced wall thickness shall be 3/16-inch.
  - The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
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ANCHOR TO EXISTING SLAB, STEEL GIRDER

(Based on A2015 & A49301)