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<td>SI-BT6372-1-0</td>
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<td>10/7/2016</td>
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<tr>
<td>SI-BT6372-1-L-Less than or equal to 30 degrees</td>
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<td>SI-BT6372-1-R-Greater than 30 degrees</td>
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Prestressed-Superstructure-with-Integral-Abutments

Page 3 of 4

10/7/2016
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**SUPERSTRUCTURE DETAILS**

**BILL OF MATERIAL**

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<tr>
<td>SDI-BT6372-2</td>
<td>Fiberglass Pipe</td>
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<td>SDI-BT6372-2</td>
<td>Concrete</td>
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<tr>
<td>SDI-BT6372-2</td>
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**SUPERSTRUCTURE DETAILS**

- **Structure No.**
- **Description**
  - Aluminum Tube
  - Fiberglass Pipe
  - Concrete
  - Epoxy Coated

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- **Structure No.**
- **Description**
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  - Concrete
  - Epoxy Coated

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**SUPERSTRUCTURE DETAILS**

**BILL OF MATERIAL**

**SDI-13642-2**

**STATE OF ILLINOIS**

**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE**

**BILL OF MATERIAL**

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<tr>
<td><strong>ALUMINUM TUBE</strong></td>
<td>7-#4 E (E) bars at 11'' cts.</td>
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<tr>
<td><strong>FIBERGLASS PIPE</strong></td>
<td>1-#8 E (E) bar, Back Face</td>
</tr>
<tr>
<td><strong>BAR s (E)</strong></td>
<td>1-#4 E (E) bar, Front Face</td>
</tr>
<tr>
<td><strong>BAR v (E)</strong></td>
<td>1-#8 E (E) bar, Front Face</td>
</tr>
<tr>
<td><strong>BAR d (E)</strong></td>
<td>1-#4 E (E) bar, Front Face</td>
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<tr>
<td><strong>BAR w (E)</strong></td>
<td>1-#4 E (E) bar, Front Face</td>
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<tr>
<td><strong>BAR sp (E)</strong></td>
<td>1-#4 E (E) bar, Front Face</td>
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</table>

**MINIMUM BAR LAP**

- **(Parapet)**
  - #4 bar = 2'-8''
  - #8 bar = 5'-11''

**SECTION THRU PARAPET**

- **Typical Panel**
  - 6'' } x 8''
  - 6'' } Aluminum Pipe

**INSIDE ELEVATION OF PARAPET**

- **Cork Joint Filler**
  - Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std.

**SUPERSTRUCTURE)**

- **Aluminum tubes**
  - Full height aluminum joints
  - Cork joint (typ. between panels except at Const. Jt.

**INSIDE ELEVATION OF PARAPET**

- **Fiberglass Pipe**
  - Conforms to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 psi minimum.
  - Short-time rupture strength hoop tensile stress of 30,000 psi minimum.

**SUPERSTRUCTURE DETAILS**

- **Aluminum tubes**
  - Full height aluminum joints
  - Cork joint (typ. between panels except at Const. Jt.

**INSIDE ELEVATION OF PARAPET**

- **Fiberglass Pipe**
  - Conforms to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 psi minimum.
  - Short-time rupture strength hoop tensile stress of 30,000 psi minimum.

**SUPERSTRUCTURE DETAILS**

- **Aluminum tubes**
  - Full height aluminum joints
  - Cork joint (typ. between panels except at Const. Jt.

**INSIDE ELEVATION OF PARAPET**

- **Fiberglass Pipe**
  - Conforms to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 psi minimum.
  - Short-time rupture strength hoop tensile stress of 30,000 psi minimum.
**INSIDE ELEVATION OF PARAPET**

**MINIMUM BAR LAP**

- #4 bar = 2'-0"
- #6 bar = 5'-0"

**PARAPET JOINT DETAILS**

- 3" Fiberglass joint inserters for 
  - 3" Steel stud bolts, threaded
  - 3" for insert end and 6" for clamp end with nuts.

**SECTION THRU PARAPET**

- 3'-0" Pad
- 7'-0" Fabric
- 9" Pad
- 7'-0" Fabric
- 9" Pad
- 7'-0" Fabric

**SUPERSTRUCTURE DETAILS**

- **BILL OF MATERIAL**

**STATE OF ILLINOIS**

**DEPARTMENT OF TRANSPORTATION**

**BILL OF MATERIAL**

- **SUPERSTRUCTURE DETAILS**

**BILL OF MATERIAL**
SUPERSTRUCTURE DETAILS

**For sheet locations see sheet 1 of 3.**

**MINIMUM BAR LAP**

<table>
<thead>
<tr>
<th>BAR d(E)</th>
<th>BAR e(E)</th>
<th>BAR f(E)</th>
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<tbody>
<tr>
<td>1'-2''</td>
<td>1'-2''</td>
<td>1'-2''</td>
</tr>
</tbody>
</table>

**SECTION THRU PARAPET**

- Aluminum sheet joints in parapet (select from Table 1)
- Aluminum joints (full height)
- Cork Joint Filler (optional)
- Cork Joint (typ. between panels except at 6'' for clamp and 9'' for insert end)

**SUPERSTRUCTURE BILL OF MATERIAL**

<table>
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<th>MATERIAL</th>
<th>DESCRIPTION</th>
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<td>Cu. Yds.</td>
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<tr>
<td>Steel</td>
<td>Reinforcement Bars, Epoxy Coated</td>
<td>Lbs.</td>
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**Notes:**
- Fiber glass pipe shall conform to ASTM D3096, with short-time rupture strength hoop tensile stress of 50,000 p.s.i. minimum.
- The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.
- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.
- The clamping device and inserts shall be galvanized according to ASTM D 144.
- The 3/4" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete.
- The polyester Sealant shall be non-staining gray one component non-sag elastomeric gun grade, meeting the requirements of ASTM C-355, Type 2, Grade No. Class 2B, Unit 7 with a 1/4" backed rod.
- The 5/8" Preferred Self-Expanding Cork Joint Fiber shall be according to Article 1551.07 of the SHA.
MINIMUM BAR LAP

(Parapet)

**For insert locations see sheet of.

Notes:

- Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile strength of 30,000 psi. minimum.

- The external surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.

- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

- The clamping device and inserts shall be galvanized according to AASHTO M 232. Coated to minimize reaction with wet concrete.

- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

- The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.

- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade, meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a †'' backer rod.

- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade, meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a †'' backer rod.

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- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade, meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a †'' backer rod.

- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade, meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a †'' backer rod.

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**Typical Panel**

- Aluminum sheet 100% back face Back Face
- #6 1 x - #8 e (E) bars. Front Face
- #6 1 x - #8 e (E) bars. Back Face

**Inside Elevation of Parapet**

- "" Aluminum sheet joints in parapet
- 6" Fiberglass Pipe
- #8 bar = 5'-11"
- #4 bar = 2'-8"

**Minimum Bar Lap**

Parapet:
- #4 bar = 5'-2"
- #8 bar = 5'-11"

**Parapet Joint Details**

- Copperhead Section
- 5" Preformed Self-Expanding Cork Joint Filler
- 1-#4 e (E) bar: Back Face
- 1-#8 e (E) bar: Front Face

**Notes:**

- Fiber glass pipe shall conform to ASTM D2296, with short time rupture strength hoop tensile stress of 30,000 psi. Minimum.
- The exterior surfaces of the fiberglass flow drains shall be painted by the manufacturer with a color that matches the concrete.
- The tap portion of aluminum flow drain shall be coated in minimum reaction with wet concrete.
- The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Flow Drains.
- The 5/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Floor Drains.
- The Polyethylene tubing shall be non-sagging grey pp non-treeing pipe grade meeting the requirements of ASTM C-350. Type II, Grade W, Class 2%. Use T with a "" backer rod.
- The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade wet concrete. Cost included with Concrete Superstructure.
- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
- The "" Aluminum sheet shall be ASTM B 209 alloy 3505-H11 and coated to minimize reaction with wet concrete. Cost of clamping device included with Concrete Superstructure.
- The Polyurethane Sealant shall be non-staining grey one component non-sagging grey grade meeting the requirements of ASTM C-350. Type II, Grade W, Class 2%. Use T with a "" backer rod.

**Table of Materials**

<table>
<thead>
<tr>
<th>Description</th>
<th>Type</th>
<th>Code</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Tube</td>
<td>6&quot; O.D. Aluminum</td>
<td>6&quot; Fiberglass Pipe</td>
<td></td>
</tr>
</tbody>
</table>
**MINIMUM BAR LAP**  
- For Parapet Joint (full height)  
- 4" bar = 2-3"  
- #6 bar = 5-1/2"

**PARAPET JOINT DETAILS**  
- 1/8" w/ 4-8"  
- 1/4" w/ 5-1/2"

**SECTION THRU PARAPET**  
For insert locations see sheet

**SUPERSTRUCTURE**
**BILL OF MATERIAL**

**ALUMINUM TUBE**

**FIBERGLASS PIPE**

**TOP PLAN**
(Showing Aluminum Tube)

**TOP PLAN**

**SECTION A-A**

**BAR d(E)**

**BAR sp(E)**

**BAR sp(E)**

**BAR wpo(E)**

**NOTES**
- Fiberglass pipe shall conform to ASTM D2996 with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
- All exterior surfaces of the fiberglass floor drains shall be pigment by the manufacturer with a color that matches the concrete.  
- The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.  
- Clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Pipe Clamp.  
- The 3/8" Steel stud bolts with locknuts.  

**SUPERSTRUCTURE DETAILS**
**STRUCTURE NO.**

**STATE OF ILLINOIS**
DEPARTMENT OF TRANSPORTATION
MINIMUM BAR LAP

#5 bar = 3'-6"

- Order #E) & #a(E) bars full length.
- Cut to fit skew and use remainder of bars in opposite end.

PLAN

out to out deck

out to out deck

Face to face parapets

Total drop =

CROSS SECTION

species of

SI-BT6372-1-RK(30°)
**MINIMUM BAR LAP**

- Order (E) & (E) bars full length.
- Cut to fit skew and use remainder of bars in opposite end.

**PARTIAL PLAN**

Cut back leg of (E) bar to fit.

**NOTES**

- See sheet of for superstructure details and BID of materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**Cut to out deck**

**SURVEY NO.**

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**CONTRACT NO.**

**SUPERSTRUCTURE STRUCTURE NO.**

**FILE NAME = USER NAME = PLOT SCALE = PLOT DATE = CHECKED = DRAWN = CHECKED = DESIGNED = REVISED = REVISED = REVISED = REVISED =**

**DEPARTMENT OF TRANSPORTATION**

**F.A. RTE. SECTION ILLINOIS FED. AID PROJECT **

**TOTAL SHEETS SHEET NO.**

**10-7-2016**
MINIMUM BAR LAP
-#5 bar = 3'-6''
Order #6 and #12 bars full length. Cut to fit skewed areas and use remainder of bars in opposite end.

PARTIAL PLAN

Notes:
- See sheet for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

CROSS SECTION

Total drop = 2''
MINIMUM BAR LAP

#5 bar ≥ 3'-6''

Order #5 & #6 bars full length. Cut to fit skew and use remainder of bars in opposite end.

Cut back leg of #5 bar to fit

Note:
- See sheet # for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

PLAN

out to out deck

CROSS SECTION (looking )

Total drop =
PLAN

MINIMUM BAR LAP

- Order #5 bars full length. Cut to fit skew and use remainder of bars in opposite end.

Note:
- Bars indicated thus 20 x #5 etc. indicates 20 lines of bars with 3 lengths per line.
- See sheet for superstructure details and Bill of Materials.

CROSS SECTION

MINIMUM BAR LAP

- Order #5 bars full length. Cut to fit skew and use remainder of bars in opposite end.

Note:
- Bars indicated thus 20 x #5 etc. indicates 20 lines of bars with 3 lengths per line.
- See sheet for superstructure details and Bill of Materials.

CROSS SECTION

(Two views of)

- #5 a(E) bars at cts., bottom
- #5 a(E) bars at cts., top
- #5 d(E) bars at 11" cts.
- #5 d(E) bars at top of slab
- #5 d(E) bars of 11" cts.

Total drop = 2''

Notes:
- See sheet for superstructure details and Bill of Materials.
- Bars indicated thus 20 x #5 etc. indicates 20 lines of bars with 3 lengths per line.
MINIMUM BAR LAP
#5 bar = 3'-6"

PARTIAL PLAN

FACE TO FACE PARAPETS

TOTAL DROP = 2''

MINIMUM BAR LAP
#5 bar = 3'-6''

MINIMUM BAR LAP
#5 bar = 3'-6''

Notes:
See sheet A-1 for superstructure details
Bars indicated thus: 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
**PARTIAL PLAN**

- **MINIMUM BAR LAP**
  - #5 bar = 3'-6"

  *Order #6(1/2) bars full length. Cut to fit skew and use remainder of bars in opposite end.*

  *-#5 bars at 10" ct., top
  -#6(a) bars at 10" ct., bottom
  *Cut back leg of #6(a) bar to fit*

**CROSS SECTION**

- **Total drop = 2"**

**Notes:**
- See sheet of for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**FILE NAME**

**USER NAME**

**PLOT SCALE**

**PLOT DATE**

**CHECKED**

**DRAWN**

**DESIGNED**

**REVISED**

**DEPARTMENT OF TRANSPORTATION**

**STATE OF ILLINOIS**

**SUPERSTRUCTURE STRUCTURE NO.**

**F.A. RTE. SECTION**

**FED. AID PROJECT**

**CONTRACT NO.**

**TOTAL SHEETS**

**SHEET NO.**

10-7-2016
MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

PLAN

MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

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* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

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MINIMUM BAR LAP

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MINIMUM BAR LAP

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* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

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MINIMUM BAR LAP

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MINIMUM BAR LAP

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MINIMUM BAR LAP

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MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MINIMUM BAR LAP

* Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

* Order d(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.
MINIMUM BAR LAP

- Order all #5 bars full length. Cut to fit skew and use remainder of bars in opposite end.

PLAN

OUT TO OUT DECK

1'-0" bar = 3'-6"

* Order all #5 bars full length. Cut to fit skew and use remainder of bars in opposite end.

Bar of

Back of

Face to face parapets

Cut back leg of #5(E) bar to fit

-#5 #5(E) bars at 11" cts.

MINIMUM BAR LAP

#5 bar = 3'-6"

Back of

Face to face parapets

CROSS SECTION

Looking 1

TOTAL DROP =

Notes:

See sheet of for superstructure details and BOM of materials. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
OUT TO OUT DECK

1'-7''

1'-2''

Back of

Top of slab

3 x 5#5 bars equally spaced

2 5#5 bars at each end

6''

100

PARTIAL PLAN

MINIMUM BAR LAP

5#5 bars 3'-6''

end to end deck

3#5 bars at top

6'' each end at 12'' cts., top

4#5 a(E) bars

(Lap with a(E) bars)

3#5 bars at 12'' cts., bottom

3#5 b(E) bars at 12'' cts., top

2#5 a(E) bars

Typ.

1'-0''

Total drop = 2''

Notes:

See sheet of for superstructure details and Bill of Materials.

Bars indicated thus 20 x 3#5 etc. indicates 20 lines of bars with 3 lengths per line.

FILE NAME =

USER NAME =

PLOT SCALE =

PLOT DATE =

CHECKED =

DRAWN =

CHECKED =

DESIGNED =

REVISED =

DEPARTMENT OF TRANSPORTATION

STATE OF ILLINOIS

FED. AID PROJECT

COUNTY

SUPERSTRUCTURE

DEPARTMENT OF TRANSPORTATION

F.A.

RTE.

SECTION

CONTRACT NO.

TOTAL

SHEETS

SHEET

ILLINOIS

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

F.A.

RTE.

SECTION

CONTRACT NO.

TOTAL

SHEETS

SHEET

07-7-2016
**PARTIAL PLAN**

- #5 d/E) bars at 11" o.c.
- #5 d/E) bars at c.t., top
- #5 d/E) bars at c.t., bottom
- #5 d/E) bars at c.t., top
- #5 d/E) bars at c.t., bottom
- #5 d/E) bars at c.t., top
- #5 d/E) bars at c.t., bottom
- #5 d/E) bars at c.t., top
- #5 d/E) bars at c.t., bottom

**MINIMUM BAR LAP**

- #5 bar = 3'-5"

**Cut to fit deck**

- Order d/E) & d/E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

**Face to face parapets**

- Cut back leg of d/E) bar to fit
- #5 d/E) bars at 11" c.t.
- #5 d/E) bars at c.t., top
- #5 d/E) bars at c.t., bottom

**Notes:**

- See sheet for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. Indicates 20 lines of bars with 3 lengths per line.

**TOTAL DROP**

- 2''

**FILE NAME**

- USER NAME

**PLOT SCALE**

- PLOT DATE

**CHECKED**

- DRAWN

**CHECKED**

- DESIGNED

**REVISED**

- REVISED

**DEPARTMENT OF TRANSPORTATION**

- STATE OF ILLINOIS

**SUPERSTRUCTURE**

- STRUCTURE NO.

**F.A. RTE.**

- SECTION

**COUNTY**

- CONTRACT NO.
PLAN

MINIMUM BAR LAP
#5 bar = 3'-6"

CROSS SECTION

Notes:
- See sheet of for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SI-IL3672-1-0
30-7-2016
PLAN

MINIMUM BAR LAP

Order #5 % a(E) bars full length.
Cut to fit skew and use remainder of bars in opposite end.

CROSS SECTION

Note:
See sheet 3 of superstructure details and Bill of Materials.
Bars indicated thus 20 x 3-#5 etc. indicates 20 bars of bars with 3 lengths per line.
MINIMUM BAR LAP

#5 bar = 3'-6"

- Order #5 & #6 bars full length.
- Cut to fit skew and use remainder of bars in opposite end.
- Order #5 a(E) & #5 d(E) bars full length.

PLAN

out to out deck

Face to face parapets

CROSS SECTION
MINIMUM BAR LAP

#5 bar = 3'-6"

- Order #6(1) & #5(b) bars full length.
- Cut to fit skew and use remainder of bars in opposite end.

PLAN

- #5 d(E) bars at cts., top
- #5 a(E) bars at cts., bottom
- #5 d(E) bars at cts., top
- #5 a(E) bars at cts., bottom
- Cut back leg of d(E) bar to fit
- 3 x #5 d(E) bars at 11" cts.

CROSS SECTION

- #5 a(E) bars at cts., top
- #5 a(E) bars at cts., bottom
- #5 b(E) bars at 12" cts., each end
- 5 x #5 b(E) bars spaced as shown
- 3 x -#5 a(E) bars, top of slab

Notes:
- See sheet of superstructure details and Bill of Materials. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
- Order a(E) & a(E) bars full length.
- See sheet of superstructure details and Bill of Materials. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

Total drop = 2"

CUT TO OUT DECK

Face to face parapets

SLOPE X

SLOPE X

SLOPE X

SLOPE X

TOTAL DROP =

WATER"
MINIMUM BAR LAP
-#5 bar = 3'-6"

- Order d(E) & a(E) bars full length.
- Cut to fit skew and use remainder of bars in opposite end.

PARTIAL PLAN

**Notes:**
- See sheet___ for superstructure details and Bill of Materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

CROSS SECTION (Looking 1)
**PARTIAL PLAN**

**CROSS SECTION**

*Order a(E) & a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.*

*Minimum bar lap:
- #5 bar = 3'-6''*

- #6 x 3'-0'' bars at cts. top
- #6 x 3'-0'' bars at cts. bottom
- #5 x 1'-0'' bars at cts. top
- #5 x 1'-0'' bars at cts. bottom

**Notes:**
- See sheet  for superstructure details and list of materials.
- Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.