### Illinois Tollway Base Sheet Revisions

#### Section M Base Sheet Drawings

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
<th>Effective: 03-01-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-BRG-526</td>
<td>DEMOLITION PLAN Added requirement to list maximum crane load and allowable ground bearing pressure to the SCOPE OF WORK.</td>
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<tr>
<td>M-BRG-527</td>
<td>ERECTION PLAN Added requirement to list maximum crane load and allowable ground bearing pressure to the SCOPE OF WORK.</td>
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<tr>
<td>M-BRG-528</td>
<td>ERECTION PLAN - STEEL Added requirement to list maximum crane load and allowable ground bearing pressure to the SCOPE OF WORK.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th>Effective: 04-01-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-BRG-529</td>
<td>STRUCTURE MOUNTED NOISE ABATEMENT WALL COVER SHEET AND SCHEDULES</td>
</tr>
<tr>
<td>Sheets 1-3</td>
<td>New Base Sheets</td>
</tr>
</tbody>
</table>

| M-BRG-530            | STRUCTURE MOUNTED NOISE ABATEMENT WALL EXPANSION DETAILS |
| New Base Sheet |

| M-BRG-531            | CTS STRUCTURE MOUNTED NOISE ABATEMENT WALL COVER SHEETS AND SCHEDULES |
| Sheets 1-4           | New Base Sheets |

| M-BRG-532            | GROUND MOUNTED NOISE ABATEMENT WALL COVER SHEET AND SCHEDULES |
| Sheets 1-3           | New Base Sheets |
EXPANSION JOINT SHALL FOLLOW ROADWAY GRADE & CROSS SLOPE.
EXPANSION JOINT TO BE SET TO GRADE BY ATTACHING FRAME RAILS TO BACKWALL AND BEAMS.

FRAME RAILS AND OTHER STEEL SHALL BE ASARCO M10 GRADE 36, ASTM A36.

STUD ANCHORS SHALL BE ASARCO M169 (ASTM A108).

EXPANSION ANCHORS SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS, SECTION 101.

FRAME RAIL ASSEMBLY SHALL BE FABRICATED IN 20 FT. MAXIMUM LENGTHS. SHOP AND FIELD SPLICES SHALL BE PLACED AT CROWN BREAKS, CONSTRUCTION STAGE LINES, AND TRANSVERSE BREAKS IN DECK.

AT SPLICES, A CONTINUOUS GROUND SMOOTH WELD SHALL BE PROVIDED EXCEPT ON SURFACES IN LOCKING CONTACT WITH SEAL WHICH SHALL HAVE NO BURRS.

ALL STUD ANCHORS TO BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.

AFTER FABRICATION IS COMPLETE FRAME RAILS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M232 (ASTM A153).

CORRESPONDING SECTIONS SHALL BE TEMPORARILY SHOP ASSEMBLED, CHECKED FOR FIT, AND MATCH HAZED WITH STEEL, AND BLACK PAINT FOR SHIPMENT.

NEOPRENE SEAL SHALL BE CONTINUOUS, FACTORY Vulcanized Horizontal MITERS SHALL BE REQUIRED FOR ALL SKEWS.

NEOPRENE SEAL SHALL BE INSTALLED CONTINUOUS, SPLICING OF SEAL IN THE FIELD IS NOT PERMITTED.

NEOPRENE SEAL SHALL BE SOLDERED TO THE FRAME RAILS WITH AN ADHESIVE MEETING THE REQUIREMENTS OF ASTM D795.

CORRESPONDING SECTIONS SHALL BE TEMPORARILY SHOP ASSEMBLED, CHECKED FOR FIT, AND MATCH HAZED WITH STEEL, AND BLACK PAINT FOR SHIPMENT.

SUPPORT PLATES, NUTS AND WASHERS CONNECTED TO FRAME RAILS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153.

SUPPORT PLATES ON STEEL GIRDERS SHALL BE WELDED IN ACCORDANCE WITH ARTICLES 505.04 (q) & 505.08 (n) OF THE IDOT STANDARDS SPECIFICATIONS.

FURNISHING AND INSTALLING EXPANSION JOINT FRAME RAIL SUPPORT SYSTEM SHALL BE INCLUDED IN THE COST OF EXPANSION JOINT SYSTEM.

JOINT OPENINGS SHALL BE ADJUSTED IN ACCORDANCE WITH THE FIELD ENGINEER'S INSTRUCTIONS.

UPON COMPLETION OF FIELD WELDING, THE CONTRACTOR SHALL CLEAN THE WELD AREA AND APPLY A COATING OF ORGANIC ZINC-RICH PAINT IN ACCORDANCE WITH SSPC-PS12.01.
ANCHOR LUG DETAIL

ANCHOR LUGS AT 9° 05° TYPE

CONTINUOUS NEOPRENE STRIP SEAL

SECTION THRU EXPANSION JOINT

NOTES:
1. EXPANSION JOINT SEAL SHALL BE LAYED FLAT ON THE GROUND AND ATTACHED TO THE EDGE OF THE FRONTAL FLUSH WITH A CONTINUOUS GROUND SMOOTH WELD. EXPANSION JOINT SEAL TO BE ﬂAT ON THE EXPANSION JOINT FLUSH WITH EDGE OF FRONTAL.
2. AT SPLICES, A CONTINUOUS GROUND SMOOTH WELD SHALL BE PROVIDED OVER THE CONTINUOUS SEAL. SEAL SHALL NOT BE CORRODED.
3. MAIN SEAL AND OTHER SEALS SHALL BE ADJUSTED TO THE ADJACENT FACE WITH A CONTINUOUS SMOOTH WELD.
4. CONTINUOUS SEAMLESS SEAL SHALL BE MAINTAINED WITH A SMOOTH WELD.
5. EXPANSION JOINTS SHALL BE ALLOWED TO WAVE.
6. EXPANSION JOINTS SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIFICATIONS (SDS).
7. FRAME RAIL SUPPORTS SHALL BE PLACED AT DEFLECTIONS, SPACING BETWEEN I-BEAMS AND TRANSVERSE BRACING IN DECK.
8. AFTER INSTALLATION IN COMPLETE FRAME RAILS SHALL BE ADJUSTED TO SITE CONDITIONS PRIOR TO FABRICATION.
9. EXPANSION JOINTS SHALL BE ADJUSTED, FACTORY WELDED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DRAWING.
10. NEOPRENE SEAL SHALL BE CONTINUOUS, FACTORY WELDED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DRAWING.
11. NEOPRENE SEAL SHALL BE INSTALLED CONTINUOUSLY IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DRAWING.
12. FRAME RAIL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIFICATIONS.
13. SUPPORT PLATES ON STEEL GIRDERS SHALL BE WELDED IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIFICATIONS.
14. FURNISHING AND INSTALLING EXPANSION JOINT SYSTEM SHALL BE INCLUDED IN THE COST OF THE BRIDGE EXPANSION JOINT SYSTEM.
15. JOINT OPENINGS SHALL BE ADJUSTED IN ACCORDANCE WITH THE FIELD ENGINEER'S INSTRUCTIONS.
16. SUPPORT PLATES, NUTS, AND WASHERS CONNECTED TO FRAME RAILS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIFICATIONS.
17. UPON COMPLETION OF FIELD WELDING, THE CONTRACTOR SHALL CLEAN THE WELD AREA AND APPLY A COATING OF ORGANIC ZINC-RICH PAINT IN ACCORDANCE WITH THE ILLINOIS TOLLWAY SPECIFICATIONS.

NOTE TO DESIGNER

THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT IS MEANT TO BE USED AS A CONSTRUCTION GUIDELINE FOR THE DESIGNER TO DEVELOP DESIGN SPECIFICATIONS FOR THE PROJECT. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

WORK THIS DRAWING WITH THE BASE SHEET FOR EXPANSION JOINTS. THE DRAWING SET PROVIDES THE BASE SHEET.

DATE
03-01-2019
TYPICAL SECTION THRU EXP. JOINT AND SUPPORT SYSTEM AT STEEL GIRDERS

SECTION A-A
FIELD WELD AFTER SUPPORT SYSTEM IS ADJUSTED FOR THE OPENING AND HEIGHT REQUIREMENTS AND THE BENT PLATE ON THE OPPOSITE SIDE IS SECURED IN PLACE WITH EXPANSION ANCHOR INTO THE CONCRETE.

SECTION B-B

NOTE TO DESIGNER
THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

NOTE
WORK THIS DRAWING WITH THE BASE SHEETS M-BRG-500 AND M-BRG-501 FOR EITHER EXPANSION JOINT FRAME RAIL AND SEAL ALTERNATIVE A OR ALTERNATIVE B.

DATE
2-7-2012
PROTECTION FOR EXISTING MEDIAN PIER WITH CRASH WALL

SECTION A-A

SECTION B-B

CRACK CONTROL DETAIL

SEALANT DETAIL

NOTES:
1. REMOVE EXISTING CONCRETE CRASHWALL BACK TO FACE OF COLUMNS PRIOR TO PLACING CONCRETE AROUND EXISTING CRASHWALL AND COLUMNS. SURFACES TO RECEIVE NEW CONCRETE SHALL BE BLOWED FREE OF DUST AND CLEANED OF LEAVES PRIOR TO CONCRETE PLACEMENT.
2. CONCRETE MEDIAN BARRIER TRANSITION TAPER LENGTHS, PAY LIMITS AND MEASUREMENT, AND BASIS OF PAYMENT ALL IN ACCORDANCE WITH THE ILLINOIS TOLLWAY STANDARD DRAWING C13, C14 AND THE SPECIAL PROVISIONS.
3. THE CLEAR COVER FOR REINFORCEMENT BARS TO THE SURFACE OF CONCRETE SHALL BE 2" UNLESS OTHERWISE SHOWN.
4. REINFORCEMENT BARS DESIGNATED "E" SHALL BE EPOXY COATED.
5. EXPOSED CONCRETE EDGES SHALL HAVE 3/4"x45° CHAMFERS. CHAMFERS ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
6. CONCRETE SEALANT SHALL BE APPLIED TO THE EXPOSED SURFACES OF ALL NEW AND/OR MODIFIED PIER CRASH WALLS.
7. E.R. DENOTES EACH FACE

PROTECTION FOR EXISTING MEDIAN PIER WITHOUT CRASH WALL

ELEVATION

PLAN

SECTION A-A

SECTION B-B

CRACK CONTROL DETAIL

SEALANT DETAIL

NOTES:
1. REMOVE EXISTING CONCRETE CRASHWALL BACK TO FACE OF COLUMNS PRIOR TO PLACING CONCRETE AROUND EXISTING CRASHWALL AND COLUMNS. SURFACES TO RECEIVE NEW CONCRETE SHALL BE BLOWED FREE OF DUST AND CLEANED OF LEAVES PRIOR TO CONCRETE PLACEMENT.
2. CONCRETE MEDIAN BARRIER TRANSITION TAPER LENGTHS, PAY LIMITS AND MEASUREMENT, AND BASIS OF PAYMENT ALL IN ACCORDANCE WITH THE ILLINOIS TOLLWAY STANDARD DRAWING C13, C14 AND THE SPECIAL PROVISIONS.
3. THE CLEAR COVER FOR REINFORCEMENT BARS TO THE SURFACE OF CONCRETE SHALL BE 2" UNLESS OTHERWISE SHOWN.
4. REINFORCEMENT BARS DESIGNATED "E" SHALL BE EPOXY COATED.
5. EXPOSED CONCRETE EDGES SHALL HAVE 3/4"x45° CHAMFERS. CHAMFERS ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
6. CONCRETE SEALANT SHALL BE APPLIED TO THE EXPOSED SURFACES OF ALL NEW AND/OR MODIFIED PIER CRASH WALLS.
7. E.R. DENOTES EACH FACE
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY

SB = -6,012 in³
ST = 5,162 in³
WT. = 658#/ft.
YB = -16.63 in.
I = 99,980 in⁴
r² = 158.20 in²
YT = 19.37 in.
36-BT BEAM
A = 632 sq. in.
BEAMS WITH DRAPED 0.6” Ø STRANDS

ARRANGEMENT AT 2’ SPAN - FOR 16 STRANDS

STRAIGHT PRE-TENSION

SINGLE FERRULE, FLARED-LOOP TYPE FOR EXTERIOR BEAMS.

VESTIGE PLATE

TOP OF BEAM TO BE ROUGH FLOATED AND BROOCHED TRANSVERSELY, EXCEPT THE OUTSIDE 6” OF BEAM AND ANCHOR PLATE SHALL RECEIVE A SMOOTH FINISH. AN APPROXIMATE CONCRETE COVER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 6” OF THE TOP FlANGE.

THE BEAM SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE BEAMS. SEE SECTION 302.01 OF ILLINOIS TOLLWAY SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION FOR GUIDANCE.

STRANDS SHALL BE PLUFF WITH END OF BEAM, FOR BEAM ENDS THAT ARE ENTIRELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER. FOR BEAM ENDS THAT ARE ONLY COMPLETELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER.

APPLICATION OF THE SEALER.

NOTES:

TOP OF BEAM TO BE ROUGH FLOATED AND BROOCHED TRANSVERSELY, EXCEPT THE OUTSIDE 6” OF BEAM AND ANCHOR PLATE SHALL RECEIVE A SMOOTH FINISH. AN APPROXIMATE CONCRETE COVER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 6” OF THE TOP FlANGE.

THE BEAM SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE BEAMS. SEE SECTION 302.01 OF ILLINOIS TOLLWAY SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION FOR GUIDANCE.

STRANDS SHALL BE PLUFF WITH END OF BEAM, FOR BEAM ENDS THAT ARE ENTIRELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER. FOR BEAM ENDS THAT ARE ONLY COMPLETELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER.

APPLICATION OF THE SEALER.

NOTES:

TOP OF BEAM TO BE ROUGH FLOATED AND BROOCHED TRANSVERSELY, EXCEPT THE OUTSIDE 6” OF BEAM AND ANCHOR PLATE SHALL RECEIVE A SMOOTH FINISH. AN APPROXIMATE CONCRETE COVER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 6” OF THE TOP FlANGE.

THE BEAM SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE BEAMS. SEE SECTION 302.01 OF ILLINOIS TOLLWAY SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION FOR GUIDANCE.

STRANDS SHALL BE PLUFF WITH END OF BEAM, FOR BEAM ENDS THAT ARE ENTIRELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER. FOR BEAM ENDS THAT ARE ONLY COMPLETELY IN CONCRETE, END OF STRANDS WILL BE COVERED WITH NON-BITUMINOUS JOINT SEALER.

APPLICATION OF THE SEALER.
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY

TO AVOID DRAPING OF 0.6"

16 STRANDS
34 STRANDS
28 STRANDS
22 STRANDS
40 STRANDS
16 STRANDS 18 STRANDS
36 STRANDS
24 STRANDS
18 STRANDS
30 STRANDS
26 STRANDS
13 SPA. © 2"
42 STRANDS
38 STRANDS
20 STRANDS
32 STRANDS
28 STRANDS
9 "
54-BT BEAM

PRE-TENSION

A = 788 SQ. IN.
I = 102,421 IN.4
FY = 60,000 PSI.
G6 = 11,592 IN.3
Fy = 12,205 IN.3
w = 3814 k/ft.

ARRANGEMENT AT 1/8 SPAN - FOR BEAMS WITH DRAPED 0.6" Ø STRANDS

NOTES:

TOP OF BEAM TO BE ROUGH FLOATED AND BROomed. TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF BEAM, WHICH SHALL RECEIVE A SMOOTH Finish. AN APPROVED NON-BITUMINOUS JOINTER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE BEAM WILL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING FOR ROAD AND BRIDGE CONSTRUCTION FOR GUIDANCE.

STRAINS SHALL BE FLUSH WITH END OF BEAM. FOR BEAM ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE CUTTED WITH AN APPROVED NON-BITUMINOUS JOINTER, WHICH SHALL BE APPLIED TO THE LEFT CENTERLINE OF THE BEAM AND EXTENDING 2 FEET ON THE LEFT SIDE OF THE BEAM, TO A MAXIMUM OF 2 IN. THE ADJACENT 2 FEET ON THE RIGHT SIDE OF THE BEAM SHALL BE COVERED WITH 2 IN. OF THE MEMBRANE CEMENT AS SHOWN ON THIS SHEET.PURSUE 3 DAYS AFTER MOST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE JOINTER.

SPACING SHOWN FOR 4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

PATTERNS WITH AN ULTIMATE STRENGTH OF 270,000 PSI. THE MAX NUMBER OF FEET OF THE BEAM ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE JOINTER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN, SPACING SHOWN FOR 4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

PRESTRESSING STRANDS SHALL BE 0.6" Ø, 7-WIRE LOW RELAXATION FOR ALL THREADS EXCEPT FOR EXPANSION JOINT ENDS. ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR 4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

NOTE TO DESIGNER

THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNED PRIOR TO INSERTION INTO A CONTRACT, MICROSTATION FILES AND THE "CADD ST AND ARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

NOTES:

1. SPECIFY CONCRETE STRENGTH AS REQUIRED BY DESIGN FROM A MINIMUM OF 6,000 PSI TO A MAX. OF 8,000 PSI. MAXIMUM RELEASE STRENGTH IS 6,800 PSI.

2. REINFORCEMENT IN STANDARD END SECTION OF THE BEAM IS BASED ON THE STRAND PATTERNS LISTED ON THIS SHEET. THE MAXIMUM SPAN LENGTH SHOWN IN FIGURE 13.22 OF THE TOLLWAY STRUCTURE DESIGN MANUAL USING DIFFERENT STRAND PATTERNS WILL REQUIRE A COMPLETE DESIGN OF THIS REINFORCEMENT. PRIOR APPROVAL FROM THE ILLINOIS TOLLWAY IS REQUIRED IF DESIGN OF THE END REINFORCEMENT IS REQUIRED.

3. THE DESIGN ENGINEER DETERMINES THE PROJECTION OF BAR G 7 BASED ON 1/8" MIN. BRANCH AT EDGES OF BEAMS. X-PLANE PROFILE, GRACE LINE AND CALCULATED RESIDUAL BEAM CAMBERS, INCLUDING THE CARRIERS MULTIPLED OF 1/16, THIS VALUE CAN VARY AND SHOULD BE GIVEN FOR EACH OF THE BEAM LENGTH. PROVIDE VALUES THAT MAINTAIN 3" MIN. DECK EMBEDMENT AND 2 1/2" CLEAR FROM TOP OF DECK WHILE ACCOUNTING FOR ± 1/16 VARIANCE IN ACTUAL CAMBER VERSUS THE CALCULATED RESIDUAL CAMBER.

SHORTENING LOSS 270,000 PSI
LONG TERM LOSSES 270,000 PSI
TOTAL LOSSES

54" PPC BULB-T BEAM DETAILS

DATE: 02-01-2019

CALCULATED PRESTRESS LOSSES

ELASTIC SHORTENING LOSS 270,000 PSI
LONG TERM LOSSES 270,000 PSI
TOTAL LOSSES
**Note to designer**

This base sheet shows typical new construction but it is not a standard drawing. It requires completion by the designer prior to preparation into a contract. Microstation files and the "CADD ST and ARDS MANUAL" are available from the Illinois Tollway website. The designer shall accept the responsibility of the design of this sheet upon its completion and insertion into a contract. All notes to designer boxes shall be removed prior to insertion of the sheet into the plan set.

**Notes:**

1. Present practice is to use a minimum "fillet" (at edge of beam flange) of 1/4" for design calculations. The minimum fillet (at edge of beam flange) allowed in construction is 3/8" at mid-span and 1/2" at centerline of bearing.

2. If 1/4" minimum fillet height at edge of beam at mid-span cannot be maintained during construction, the edge line may be raised by up to 1/16" from the plan profile at the discretion of the designer. A minimum deck thickness of the "fillet" shall be maintained. The plan slab thickness shall be held.

3. Use the calculated theoretical average "fillet" at centerline of beam for computing the "fillet" concrete quantity.

4. Use top of deck elevations and calculated "fillet" at centerline of beam for computing beam seat elevations at substructures.

5. For skew < 10°, place intermediate diaphragms in a straight line. Refer to sheets M-BRG-518 provide offset for skew > 10°.

6. Diaphragm spacing: for spans > 80'-0", place one diaphragm at mid-length of beam. For spans < 80'-0", place at 1/4 and 3/8 points.

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**36" & 45" PPC BULB-T EXTERIOR BEAMS**

*Deck Haunch Detail*

- Variable, not less than 1/4".

**54" & 72" PPC BULB-T BEAMS**

*Slab Haunch Detail*

- Full length
**NOTES:**

All Diaphragm Assembly Material shall be paid for at the contract lump sum price set for furnishing and erecting structural steel.

Each diaphragm between beams shall constitute one unit.

All Diaphragm Structural Steel shall be ASTM A36 or ASTM A50. All bolts, nuts and washers shall be ASTM A325 Type I.

All Diaphragm Structural Steel shown shall be HDG (hot-dip galvanized). All bolts, nuts and washers shall be hot-dipped galvanized in accordance with ASTM A522 standards. All bolts and nuts are ordered in accordance with the requirements of ASTM A325, and shall be hot-dipped galvanized. Additional requirements are shown in the "Notes to Designer." For spans equal to or less than 80'-0", place one diaphragm at mid-length of beam. For spans over 80'-0", place at 1/2 and 93 points.

For spans equal to or less than 80'-0", place one diaphragm at mid-length of beam. For spans over 80'-0", place at 1/2 and 93 points.

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**PLAN FOR SKEW ANGLES < 10°**

**PLAN FOR SKEW ANGLES > 10°**

**DETAIL C**

**DETAIL B**

**SECTION AT INTERIOR BEAMS THRU DIAPHRAGM FOR SKEW ANGLES > 10°**

**SECT. A-A**

**FOR EXTERIOR ATTACHMENT**

**NOTE TO DESIGNER**

See sheet D for typical new construction but it is subject to change. This information is a guide to the designer and is not intended to define the responsibility of the designer, the contractor, or the sub-contractor. The engineer and the contractor shall consult with the designer for changes or additions. The designer is responsible for all changes and additions. The contractor is responsible for the work and the work shall be completed in accordance with the plans and specifications.
SEE SHEET M-BRG-517 FOR BOTTOM OF SLAB AT EXTERIOR BEAM DETAIL.

TOP OF DECK

EXTERIOR BEAM

INTERIOR BEAM

PART TRANSVERSE SECTION AT DIAPHRAGM

BEAM SUPPORT

DIAPHRAGM

6"x6"x%" ANGLE

DIAPHRAGM SUPPORT

PLAN FOR SKEW ANGLES < 10°

PLAN FOR SKEW ANGLES > 10°

TABLE

<table>
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<tr>
<th>Dim. Beam</th>
<th>45&quot; Bull-T</th>
<th>54&quot; Bull-T</th>
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<tr>
<td>&quot;A&quot;</td>
<td>1'-9¼&quot;</td>
<td>1'-9½&quot;</td>
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NOTES:

ALL DIAPHRAGM ASSEMBLY MATERIAL SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR FURNISHING AND ERECTING STRUCTURAL STEEL.

EXTERIOR BEAM INTERIOR BEAM SECTION THRU ALTERNATE DIAPHRAGM FOR SPANS EQUAL TO OR LESS THAN 80'-0", PLACE ONE DIAPHRAGM AT MID-LENGTH OF BEAM. FOR SPANS OVER 80'-0", PLACE AT ½ AND ¾ POINTS.

INTERIOR STEEL DIAPHRAGMS

SECTION AT INTERIOR BEAMS THRU DIAPHRAGM FOR SKEW ANGLES > 10°

NOTE TO DESIGNER

THIS SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT.

MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

DATE 03-01-2019
**TOP OF DECK**

- **9" X 6" X ½" BENT STEEL PLATE**
- **9" X 6" X ½" PLATE WASHER, TOP AND BOTTOM BOLTS**

**EXTERIOR BEAM PLATE WASHER, (TOP AND BOTTOM BOLT)**

- **9" X 6" X ½" SHORT SLOTTED HOLES LONGITUDINALLY IN ANGLES FOR ⅝" BOLT WITH TWO WASHERS, HEX NUT AND ½" FILL PLATE.**

**INTERIOR BEAM (FOR SKEWS = 10°)**

- **7½" X 7½" X ¾" PLATE WASHER (CENTER BOLTS)**
- **1½" HIGH STRENGTH BOLTS WITH HEX NUT & TWO WASHERS.**

**PART TRANSVERSE SECTION AT DIAPHRAGM**

- **1½" ELECTROPLATED FERRULE LOOP INSERT (MEDIUM HIGH CARBON WIRE) OR APPROVED EQUAL.**

**NOTE TO DESIGNER**

- **BASE FACE**
- **DIAPHRAGM FACE**
- **DIAPHRAGM SUPPORT**

- **SECTION AT INTERIOR BEAMS THRU**
  **DIAPHRAGM FOR SKEW ANGLES > 10°**

**NOTES:**

- **ALL DIAPHRAGM ASSEMBLY MATERIAL SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR FURNISHING AND ERECTING STRUCTURAL STEEL.**

- **EACH DIAPHRAGM BETWEEN BEAMS SHALL CONSTITUTE ONE UNIT.**

- **ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36 OR 50. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.**

- **ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A153 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT SI OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.**

- **FOR SPANS EQUAL TO OR LESS THAN 80'-0", PLACE ONE DIAPHRAGM AT MID-LENGTH OF BEAM. FOR SPANS OVER 80'-0", PLACE AT ½ AND ½ POINTS.**

- **IN THE BEAM PLAN SHOW LOCATION OF INSERTS / HOLES FOR DIAPHRAGM TO WEB CONNECTION FROM THE BOTTOM OF THE BEAM (DIM "A" AND "B") AND ALSO FROM THE ENDS OF EACH BEAM.**

<table>
<thead>
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<th>NOTES</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>ALL BEAMS SHALL BE MADE OF HIGH STRENGTH MATERIAL.</td>
<td><strong>BASE FACE</strong></td>
</tr>
<tr>
<td><strong>DIAPHRAGM FACE</strong></td>
<td><strong>DIAPHRAGM SUPPORT</strong></td>
</tr>
<tr>
<td><strong>SECTION AT INTERIOR BEAMS THRU</strong></td>
<td><strong>DIAPHRAGM FOR SKEW ANGLES &gt; 10°</strong></td>
</tr>
<tr>
<td><strong>NOTES:</strong></td>
<td><strong>ALL DIAPHRAGM ASSEMBLY MATERIAL SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID FOR FURNISHING AND ERECTING STRUCTURAL STEEL.</strong></td>
</tr>
<tr>
<td><strong>EACH DIAPHRAGM BETWEEN BEAMS SHALL CONSTITUTE ONE UNIT.</strong></td>
<td><strong>ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36 OR 50. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.</strong></td>
</tr>
<tr>
<td><strong>ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A153 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT SI OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.</strong></td>
<td><strong>FOR SPANS EQUAL TO OR LESS THAN 80'-0&quot;, PLACE ONE DIAPHRAGM AT MID-LENGTH OF BEAM. FOR SPANS OVER 80'-0&quot;, PLACE AT ½ AND ½ POINTS.</strong></td>
</tr>
<tr>
<td><strong>IN THE BEAM PLAN SHOW LOCATION OF INSERTS / HOLES FOR DIAPHRAGM TO WEB CONNECTION FROM THE BOTTOM OF THE BEAM (DIM &quot;A&quot; AND &quot;B&quot;) AND ALSO FROM THE ENDS OF EACH BEAM.</strong></td>
<td><strong>ONLY</strong></td>
</tr>
<tr>
<td><strong>BASE FACE</strong></td>
<td><strong>DIAPHRAGM FACE</strong></td>
</tr>
<tr>
<td><strong>DIAPHRAGM SUPPORT</strong></td>
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<td><strong>FOR SPANS EQUAL TO OR LESS THAN 80'-0&quot;, PLACE ONE DIAPHRAGM AT MID-LENGTH OF BEAM. FOR SPANS OVER 80'-0&quot;, PLACE AT ½ AND ½ POINTS.</strong></td>
</tr>
<tr>
<td><strong>IN THE BEAM PLAN SHOW LOCATION OF INSERTS / HOLES FOR DIAPHRAGM TO WEB CONNECTION FROM THE BOTTOM OF THE BEAM (DIM &quot;A&quot; AND &quot;B&quot;) AND ALSO FROM THE ENDS OF EACH BEAM.</strong></td>
<td><strong>ONLY</strong></td>
</tr>
</tbody>
</table>

**DATE:**

- **03-01-2019**
**ELEVATION OF OUTSIDE FACE OF BARRIER PARAPET AND FENCE**

* FENCING SHALL NOT ANCHOR TO THE TOP OF PARAPETS.

- TENSION WIRE TO POST WITH NO. 9 GAUGE ZINC-COATED TIE WIRE TRIPLE WRAP REQUIRED AT BOTH ENDS OF THE WIRE (TYP).
- PLACE FABRIC AS SHOWN.
- TYPICAL SECTION ON PARAPET OR BARRIER

**DESIGNER NOTES:**
1. FULL POST ASSEMBLY IS REQUIRED AT MAXIMUM INTERVALS OF 200'. SEE SHEET 2 OF THIS SERIES.
2. INSTALL POSTS PLUMB WITHIN A TOLERANCE OF 4'/12". USE SHIM PLATES AS REQUIRED TO ACHIEVE PLUMB. INSTALL CHAIN LINK FENCE IN ACCORDANCE WITH ASTM F567 AS APPLICABLE.
3. FABRIC SHALL NOT BE SPLICED BY PICKETS. FABRIC SPLICES IF REQUIRED SHALL ONLY OCCUR AT POSTS AT A MINIMUM OF 100' BETWEEN SPLICES. (ADD THIS NOTE TO PLANS.)
4. RAILROAD BRIDGE FENCE SHALL BE DETAILED ON SUPERSTRUCTURE DRAWING.
5. COORDINATE LIMITS OF RAILROAD BRIDGE FENCE WITH SPECIFIC RAILROAD REQUIREMENTS.
6. VERIFY LIMITS OF THE FENCING REQUIREMENTS ON THE BRIDGE APPROACH PER THE ILLINOIS TOLLWAY STRUCTURAL DESIGN MANUAL ARTICLE 23.5.2.

**POST SPACING (SEE NOTE 1) EQUAL SPACES @ 10'-0" MAX. POSTS MAY BE SHIFTED MINIMALLY TO MEET REQUIRED CLEARANCES**

- PLACE FABRIC AS SHOWN.

**VIEW A-A DETAIL**

**DETAIL A**

**NOTE TO DESIGNER:**

- AFTER THE NUTS HAVE BEEN TIGHTENED, DISTORT THE ANCHOR ROD THREADS TO PREVENT REMOVAL OF THE NUT. COAT DISTORTED THREADS AND EXPOSED TRIMMED ENDS OF ANCHORS WITH A COATING IN ACCORDANCE WITH SECTION 1008 OF THE STANDARD SPECIFICATIONS.

- POSTS MAY BE SHIFTED MINIMALLY TO MEET REQUIRED CLEARANCES.
Pull Post Assembly Detail for Barrier Parapet Fence

Expansion Assembly Detail

Notes:
1. For treatment at bridge ends, see base sheet 1 of 2 M-BRG-521.
2. The 1½" x 1½" expansion shown is for expansion joint openings 3" or less. If the expansion joint opening exceeds 3", increase this dimension by the difference between the expansion joint opening and 3".

Pipe Clamp Connection Detail

Pipe Clamp Detail

Spacer Detail

Hog Rings @ 2'-0" Centers

Ties @ 2'-0" Centers

Ties @ 2'-0" Centers

Tension Wire

Tension Wire

Tension Wire

Tension Bar One Each Side of Pull Post

Parapet

Pipe Clamp

Post

Parapet

Expansion Joint Opening Width at Time of Fence Installation

NOTE TO DESIGNER

This base sheet shows typical new construction but is not a detailed drawing. It requires completion by the designer. Microstation files and the "CADD Standards Manual" are available on the Illinois Tollway website. The designer shall accept the responsibility of the design if this sheet is used to complete an insertion into a contract. The "Note to Designer" shall be removed prior to insertion of the sheet into the plan set.
TYPICAL U-BEAM SECTION

TYPICAL U-BEAM PRESTRESSING

PLACE STRANDS IN PAIRS (TYP.)

DEBOND XX'

AT PIER SPA.

AT MID-SPAN

TYPICAL U-BEAM PRESTRESSING (PRETENSIONING)

NOTE TO DESIGNER

THIS SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IS NOT A STANDARD SHEET. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL NOTE TO DESIGNEE BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

DATE

SHEET 2 of 2

M-BRG-522

PPC U-BEAM PRETENDED

03-01-2019
**TENDON PROFILE**

<table>
<thead>
<tr>
<th>SPAN NO.</th>
<th>TENDON IN SAG CURVE</th>
<th>TENDON LOCATION DETAIL</th>
<th>LEGEND</th>
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<tbody>
<tr>
<td>SPAN NO.</td>
<td>DIMENSIONS</td>
<td>POST-TENSIONING DETAILS</td>
<td>NOTES</td>
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</tr>
<tr>
<td>A20</td>
<td>120</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- Construction shall subdue the stressing and relaxation calculations to the nearest 1/2% for areas due to tension vertical and horizontal, the stressing sequence, and the stressing sequence shall meet the following criteria:
- Tension cables may be spaced a distance equal to or less than 1/2% of the theoretical spacing due to the alignment of the cables.
- No more than 1% of the stressing force in any web shall be subjected to an equal force in any other web, unless otherwise approved by the engineer.
- The minimum compressive strength of the cast-in-place concrete shall be 3000 psi (21 MPa).
- The design is based on dead load, live load, and seismic load calculations, and the design shall be based on the estimated prestress loss of post-tensioning strands shown in the post-tensioning table due to dead load, live load, and seismic calculations.
SLOPE WALLS FOR BRIDGES OVER ILLINOIS TOLLWAY

NOTE:
- SEALANT, BACKER ROD AND PJF SHALL MEET THE REQUIREMENTS OF SECTIONS 1050 AND 1051 OF THE STANDARD SPECIFICATIONS.

NOTE TO DESIGNER
- THIS DIMENSION SHALL BE INCREASED TO 4" FOR STRUCTURES WITH SKEWS OF 10° OR GREATER AND DRAINAGE ELEMENTS THAT OUTLET ONTO SLOPEWALL.

NOTE TO DESIGNER
- SEE DETAIL "A"
**SCOPE OF WORK:**

1. Location of work activities.
2. Load to be lifted description detail (lifting points, dimensions of load, center of gravity, etc.).
3. Load calculation: Load weight, 25% add on, lifting gear weight, hook block weight, total weight, safety factor, crane capacity usage (Load/SAFE WORKING LOAD (SWL) (%).
4. Maximum crane load to be used for crane pad size.
5. List ground allowable bearing pressure at crane loading locations.
6. Schedule with specific working hour limitations.
7. List of operator/lift supervisor qualification.

**CRANE INFORMATION:**

CRANE "A" - XXX TON HYDRO

ID: EQUIVALENT COUNTYWEIGHT: XXX,XXX LBS.

- MAIN BOOM = XX'
- ANTICIPATED MAX WEIGHT: XXX,XXX LBS.
- CAPACITY AT RADIUS: XXX,XXX LBS.
- MAX RADIUS: XX'-XX"
- SWING SPEED: XX MPH.

CRANE "B" - XXX TON HYDRO

ID: EQUIVALENT COUNTYWEIGHT: XXX,XXX LBS.

- MAIN BOOM = XX'
- ANTICIPATED MAX WEIGHT: XXX,XXX LBS.
- CAPACITY AT RADIUS: XXX,XXX LBS.
- MAX RADIUS: XX'-XX"
- SWING SPEED: XX MPH.

**LIMITATIONS:**

1. Access and address for the assembly and disassembly of the crane and the materials to be lifted will be...
2. Federal Aviation Administration (FAA) restrictions.
3. Crane reactions: Site ground is suitable / non suitable for crane operation, pad size...
4. Crane's superstructure rotates 360° without coming into contact with any object.
5. Maximum permissible wind...
7. Electric hazard (overhead/underground), clearance distances...
8. Spotters are required/not required, public utility contact required/list contact information.

**DEMO Sequence:**

1. XXX...
2. XXX...
3. XXX...
4. XXX...

**NOTE TO DESIGNER/CONTRACTOR:**

This base sheet shows typical construction but it is not a standard drawing. This sheet is to be used as a guide by the contractor for preparation of a demolition submittal per the contract requirements.

This base sheet depicts demolition of concrete girders; steel girders may be similar. Microstation files are available on the Illinois Tollway website.

- Suggest identify beam weights or pick weights and identify cross frames to be removed during demolition.
- "XX" designates dimension values or input data to be provided on submitted drawing.
- Sequence shall address temporary blocking, bracing or other temporary supports.
- Sequence of load placement shall confirm structure can withstand the new loads without damage.

**DATE:** 3-01-2020
NOTES TO DESIGNER/CONTRACTOR

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. THIS SHEET IS TO BE USED AS A GUIDE BY THE CONTRACTOR FOR PREPARATION OF A DEMOLITION SUBMITAL PER THE CONTRACT REQUIREMENTS. THIS BASE SHEET DEPICTS DEMOLITION OF CONCRETE GIRDERS, STEEL GIRDERS WOULD BE SIMILAR. MICROSTATION FILES ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE.

• "XX" DESIGNATES DIMENSION VALUES OR INPUT DATA TO BE PROVIDED ON SUBMITTED DRAWING.
• SPECIFY CENTER OF GRAVITY OF LOAD.
NOTES TO DESIGNER/CONTRACTOR

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. THIS SHEET IS TO BE USED AS A GUIDE BY THE CONTRACTOR FOR PREPARATION OF A DEMOLITION SUBMITAL PER THE CONTRACT REQUIREMENTS. THIS SHEET SHOWS DEMOLITION OF CONCRETE GIRDERS, STEEL GIRDERS WOULD BE SIMILAR. MICROSTATION FILES ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE.

• "XX" DESIGNATES DIMENSION VALUES OR INPUT DATA TO BE PROVIDED ON SUBMITTED DRAWING.
**Scope of Work:**

1. Location of work activities.
2. Load to be lifted: description, detail, lifting points, dimensions of load, center of gravity.
3. Load details: weight, center of gravity, location.

**Crane Information:**

1. Crane 'A' - XXX TON HYDRO (or equivalent), counterweight XXX, XXX LBS.
2. Main boom = XXX', anticipated max weight XX,XXX LBS.
3. Capacity at radius = XX,XXX LBS.
4. Max radius = XX'-X'
5. Swing speed = XX MPH.

**Limitations:**

1. Access and egress for the assembly and disassembly of the crane and materials to be lifted will be ______________.
2. Federal Aviation Administration (FAA) restrictions ________.
3. Crane reactions ____ site ground is suitable / non-suitable for crane operation. Pad size _____.
4. Crane's superstructure rotates 360° without coming into contact with any object.
5. Boom deflection to be considered are _____.
6. Environmental considerations: maximum temperature, weather, lighting, etc. in which left operations are to be stopped.
7. Electrical hazards: overhead/underground, clearance distances, mounted & requirements, utilities/contacts required / left contact information.

**Erection Sequence:**

1. ...  
2. ...  
3. ...  
4. ...  
5. ...  
6. ...  
7. ...  
8. ...  
9. ...  
10. ...
RIGGING DETAILS

SINGLE CRANE WITH SPREADER BEAM

PRECAST BEAM WEIGHT = XX LBS.

CALCULATED RIGGING WEIGHT = XX LBS.

ELEVATION VIEW

NOTES TO DESIGNER/CONTRACTOR

THE BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. THE SHEET IS TO BE USED AS A GUIDE BY THE CONTRACTOR FOR PREPARATION OF AN ERECTION SPECIFICATION. THE CONTRACT REQUIREMENTS, SPECIFICATION FILES, AND AVAILABLE INFORMATION FILES ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE.

- XX" DESIGNATES DIMENSION VALUES OR PROVIDED DATA TO BE PROVIDED ON SUBMITTED DRAWINGS.
- SPECIFY CENTER OF GRAVITY OF LOADS.

DATE
3-01-2020
This base sheet shows typical construction but it is not a standard drawing and sheet is to be used as a guide by the contractor for preparation of an erection submittal for the contract requirements.

Microstation files are available on the Illinois Tollway website.

• "XX" designates dimension values or provided data to be provided on submitted drawings.
NOTE TO DESIGNER/CONTRACTOR

2. FEATHER AVATION ADMINISTRATION (FAA) RESTRICTIONS
3. CRANE REACTIONS _ SITE GROUND IS SUITABLE / NON SUITABLE FOR CRANE OPERATION. PAD SIZE ____________
4. CRANE'S SUPERSTRUCTURE ROTATES 360° WITHOUT COMING INTO CONTACT WITH ANY OBJECT.
5. BOOM DEFLECTION TO BE CONSIDERED ARE ____________
6. ENVIRONMENTAL CONSIDERATIONS (MAXIMUM PERMISSIBLE WIND ___ , WEATHER ___ , LIGHTNING ___ ) IN WHICH LIFT OPERATIONS ARE TO BE STOPPED.
7. ELECTRICAL HAZARD (OVERHEAD/UNDERGROUND) CLEARANCE ___ , SPOTTER IS REQUIRED/NOT REQUIRED. PUBLIC UTILITY CONTACT REQUIRED (LIST CONTACT INFORMATION).
8. ____________
9. ____________

SCOPE OF WORK:
1. DESCRIPTION OF WORK ACTIVITIES:
2. LOAD TO BE LIFTED DESCRIPTION DETAIL (LIFTING POINTS, DIMENSIONS OF LOAD, CENTER OF GRAVITY, ETC.)
3. LOAD CALCULATION: LOAD WEIGHT, 25% ADDITION, LIFTING GEAR WEIGHT, HOOK BLOCK WEIGHT, TOTAL WEIGHT, SAFETY FACTOR, CRANE CAPACITY (LOAD/SAFE WORKING LOAD (SWL)).
4. MAXIMUM CRANE LOAD TO BE USED FOR CRANE PAD SIZE.
5. LIST GROUND ALLOWABLE BEARING PRESSURE AT CRANE LOADING LOCATIONS.
6. SCHEDULE WITH SPECIFIC WORKING HOUR LIMITATIONS.
7. LIST OF OPERATORS/LIFT SUPERVISOR QUALIFICATIONS.

CRANE INFORMATION:
1. CRANE DELIVERY ORDER NO. ____________
2. CRANE NUMBER ____________
3. CRANE CAPACITY ____________
4. CRANE MODEL ____________
5. CRANE MAKE ____________
6. CRANE SERIES ____________

RISK ASSESSMENT & LIMITATIONS:
1. ACCESS AND EGRESS FOR THE ASSEMBLY AND DISASSEMBLY OF THE CRANE AND THE MATERIALS TO BE LIFTED WILL BE ____________
2. FEDERAL AVIATION ADMINISTRATION (FAA) RESTRICTIONS
3. CRANE REACTIONS ___ SITE GROUND IS SUITABLE / NON SUITABLE FOR CRANE OPERATION. PAD SIZE ____________
4. CRANE'S SUPERSTRUCTURE ROTATES 360° WITHOUT COMING INTO CONTACT WITH ANY OBJECT.
5. BOOM DEFLECTION TO BE CONSIDERED ARE ____________
6. ENVIRONMENTAL CONSIDERATIONS (MAXIMUM PERMISSIBLE WIND ___ , WEATHER ___ , LIGHTNING ___ ) IN WHICH LIFT OPERATIONS ARE TO BE STOPPED.
7. ELECTRICAL HAZARD (OVERHEAD/UNDERGROUND) CLEARANCE DISTANCES ___ , SPOTTER IS REQUIRED/NOT REQUIRED. PUBLIC UTILITY CONTACT REQUIRED (LIST CONTACT INFORMATION).
8. ____________
9. ____________

ERECTION SEQUENCE:
1. ____________
2. ____________
3. ____________
4. ____________

NOTE TO DESIGNER/CONTRACTOR

THE BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. THE SHEET IS TO BE USED AS A GUIDE FOR PREPARATION OF SUBMITTAL. MICROSTATION FILES ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE.

IDENTIFY TEMPORARY SHORING, TEMPORARY CROSS FRAMES DURING ERECTION.

DATE 3-01-2020

ERECTION PLAN VIEW

NOTE TO DESIGNER/CONTRACTOR

NOTE TO DESIGNER/CONTRACTOR

NOTE TO DESIGNER/CONTRACTOR

NOTE TO DESIGNER/CONTRACTOR

NOTE TO DESIGNER/CONTRACTOR
THE BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. THE SHEET IS TO BE USED AS A GUIDE BY THE CONTRACTOR FOR PREPARATION OF AN ERECTION SUBMITAL PER THE CONTRACT REQUIREMENTS. MICROSTATION FILES ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE.

- "XX' DESIGNATES DIMENSION VALUES OR INPUT DATA TO BE PROVIDED ON SUBMITTED DRAWING.
- SPECIFY CENTER OF GRAVITY OR LOAD.
NOTES TO DESIGNER/CONTRACTOR

THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IS NOT A STANDARD DRAWING. THIS SHEET IS TO BE USED AS A GUIDE BY THE CONTRACTOR FOR PREPARATION OF AN ERECTION SUBMITAL PER THE CONTRACT REQUIREMENTS.

- "XX" DESIGNATES DIMENSION VALUES OR INPUT DATA TO BE PROVIDED ON SUBMITTED DRAWING.
- PROPOSED TEMPORARY SHORING AND DETAILS SHALL BE SHOWN.
NOTE TO DESIGNER

The base sheet shows typical construction but is not a standard drawing. It requires completion by the DSE prior to insertion into a contract. The DSE shall accept responsibility for the design upon its completion and insertion into a contract. This base sheet represents the typical details for structure mounted, noise abatement walls. The DSE is responsible for completing the tables and including in their contract plans, if any of the design parameters in the Illinois Tollway standards are exceeded. The DSE will be responsible for design calculations and details for those components.

NOTE TO DESIGNER

The plan and elevation on this cover sheet represents additional information to show on the GPE sheet. The GPE sheet and remaining NAW plans shall be in accordance with Illinois Tollway Structure Design Manual Articles 2.2 and 23.3.

NOTE TO DESIGNER

The cover sheet is for information only and should not be included in the contract.

NOTE TO DESIGNER

Use Specialty Panels and post spacing at ends of wall or unique locations such as construction or expansion joint conflicts to accommodate typical 11'-8" post spacing along the majority of the length of wall. Post spacing should not exceed limits within the Illinois Tollway standards. If limits are exceeded, DSE to design and detail all components.

NOTE TO DESIGNER

Contraction joints are not required in Barrier/Banner on moment slabs.
### STEEL POST SCHEDULE

<table>
<thead>
<tr>
<th>STN.</th>
<th>NO.</th>
<th>STATION</th>
<th>OFFSET</th>
<th>TOP BEVEL</th>
<th>BOTTOM BEVEL</th>
<th>WALL FL.</th>
<th>A/R POST SIZE</th>
<th>POST LENGTH</th>
<th>B/MG STEEL</th>
<th>POST B/MG</th>
<th>TOTAL WT.</th>
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</thead>
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<tr>
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</tr>
</tbody>
</table>

**NOTE:** Work this sheet with Illinois Tollway Standard.

This base sheet shows typical new construction but is not a standard drawing. It requires completion by the designer prior to insertion into a contract. The designer shall accept the responsibility of the design of these details upon its completion and insertion into a contract. All "Note to Designer" boxes shall be removed prior to insertion of the details into the plan set.

---

### TOTAL BILL OF MATERIAL

#### ADVANCE PROCUREMENT

<table>
<thead>
<tr>
<th>PAY ITEM NO.</th>
<th>PAY ITEM</th>
<th>UNIT</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>JI504520</td>
<td>FURNISHING PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL, STRUCTURE MOUNTED</td>
<td>SQ. FT.</td>
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<td>JI505230</td>
<td>FURNISHING STRUCTURAL STEEL, NOISE ABATEMENT WALL</td>
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<td>X</td>
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<td>JI505600</td>
<td>STORAGE OF PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL</td>
<td>CAL. DAY</td>
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#### TOTAL BILL OF MATERIAL (NO ADVANCE PROCUREMENT)

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<th>PAY ITEM</th>
<th>UNIT</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>JI599920</td>
<td>PRECAST CONCRETE NOISE ABATEMENT WALL, STRUCTURE MOUNTED</td>
<td>SQ. FT.</td>
<td>X</td>
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</tbody>
</table>

---

### ADVANCE PROCUREMENT NOTES:

#### FOR THE FABRICATION CONTRACT

Pick up of the noise abatement wall structural steel from the contractor's storage is anticipated from (XXXX-XXX).

Pick up of the precast concrete noise abatement panels from the contractor's storage is anticipated from (XXXX-XXX).

Or combination of pick up of the materials from the contractor's storage is anticipated from (XXXX-XXX).

#### FOR THE INSTALLATION CONTRACT

The materials for the precast concrete noise abatement walls are stored for pick up at (XXXX-XXX). The pickup of the material is anticipated from (XXXX-XXX).

---

### TOTAL BILL OF MATERIAL

#### ADVANCE PROCUREMENT

<table>
<thead>
<tr>
<th>PAY ITEM NO.</th>
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<th>UNIT</th>
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<td>JI505600</td>
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<td>CAL. DAY</td>
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#### TOTAL BILL OF MATERIAL (NO ADVANCE PROCUREMENT)

<table>
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<th>PAY ITEM</th>
<th>UNIT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>JI599920</td>
<td>PRECAST CONCRETE NOISE ABATEMENT WALL, STRUCTURE MOUNTED</td>
<td>SQ. FT.</td>
<td>X</td>
</tr>
</tbody>
</table>

---

### NOTE TO DESIGNER

- Work this sheet with Illinois Tollway Standard.
- This base sheet shows typical new construction but is not a standard drawing. It requires completion by the designer prior to insertion into a contract. The designer shall accept the responsibility of the design of these details upon its completion and insertion into a contract. All "Note to Designer" boxes shall be removed prior to insertion of the details into the plan set.
NOTE TO DESIGNER
THE BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IS NOT A STANDARD DRAWING. IT REQUESTS COMPLETION BY THE DSE PRIOR TO INSERTION INTO A CONTRACT. THE DSE SHALL ACCEPT RESPONSIBILITY OF THE DESIGN UPON ITS COMPLETION AND INSERTION INTO A CONTRACT.

NOTE TO DESIGNER
THE BASE SHEET REPRESENTS THE TYPICAL DETAILS FOR STRUCTURE MOUNTED NOISE ABATEMENT WALLS. THE DSE IS RESPONSIBLE FOR COMPLETING THE TABLES AND INCLUDING IN THEIR CONTRACT PLANS, ALL OF THE DESIGN PARAMETERS IN THE ILLINOIS TOLWAY STANDARD AND EXCEEDING THE DSE WILL BE RESPONSIBLE FOR DESIGN CALCULATIONS AND DETAILS FOR THOSE COMPONENTS.

NOTE TO DESIGNER
THE PLAN AND ELEVATION ON THIS COVER SHEET REPRESENTS ADDITIONAL INFORMATION TO SHOW ON THE GP&E SHEET. THE GP&E SHEET AND REMAINING NAW PLANS SHALL BE IN ACCORDANCE WITH ILLINOIS TOLWAY STRUCTURE DESIGN MANUAL ARTICLES 6.2.5 AND 23.3.

NOTE TO DESIGNER
THE BASE SHEET IS FOR INFORMATION ONLY AND SHOULD NOT INCLUDE Any COMPONENTS, THE “SPX” DESIGNATION FOR SPECIALTY PANELS SHOULD BE USED FOR ALL PANELS WITHIN THAT BAY WITH THE SAME WIDTH.

NOTE TO DESIGNER
USING S11 SPECIALTY PANEL AND POST SPACING AT ENDS OF WALL OR UNIQUE LOCATIONS SUCH AS CONTRACTION OR EXPANSION JOINTS TO ACCOMMODATE TYPICAL 11'-8" POST SPACING ALONG THE MAJORITY OF THE LENGTH OF WALL. POST SPACING SHOULD NOT EXCEED LIMITS WITHIN THE ILLINOIS TOLWAY STANDARD. IF LIMITS ARE EXCEEDED, THE DSE TO DESIGN AND DETAIL ALL COMPONENTS. THE "SPX" DESIGNATION FOR SPECIALTY PANELS SHOULD BE USED FOR ALL PANELS WITHIN THAT BAY WITH THE SAME WIDTH.

NOTE TO DESIGNER
CONTRACTION JOINTS ARE NOT REQUIRED IN BARRIER ON MOMENT SLAB.
### STRUCTURE MOUNTED PANEL SCHEDULE

<table>
<thead>
<tr>
<th>PANEL MARK</th>
<th>PANEL WIDTH</th>
<th>PANEL THICKNESS</th>
<th>PANEL TOTAL</th>
<th>NUMBER OF PANELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST07-l</td>
<td>7'-0&quot;</td>
<td>6'-4&quot;</td>
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<td>5'-0&quot;</td>
</tr>
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<td>ST06-l</td>
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<td>5'-0&quot;</td>
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<td>SB04-l</td>
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<td>4'-0&quot;</td>
<td>4'-0&quot;</td>
</tr>
<tr>
<td>SB05-l</td>
<td>5'-0&quot;</td>
<td>S½&quot;</td>
<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
</tr>
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<td>4'-6&quot;</td>
</tr>
</tbody>
</table>

**Note:** Work this sheet with Illinois Tollway Standards.

### GENERAL NOTES

1. **Contractor shall not scale from the contract plans for construction purposes, scales shown are for information only.**
2. **No construction joints except those shown on the plans shall be allowed unless approved by the Engineer.**
3. **The contractor may request copies of existing construction plans that are currently on file with the Illinois Tollway. The request shall be in writing with the understanding that any reproduction cost will be at the contractor’s expense at no additional cost to the Illinois Tollway.**
4. **No concrete placement shall be permitted until the cutting limits have been outlined by the contractor and approved by the Engineer.**
5. **It shall be the contractor’s responsibility to verify the location of all utilities prior to starting construction, contact J.U.L.I.E., 800-892-0123, for the location and contact Illinois Tollway.**
6. **WhenEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.**

### BUMP-OUT STRUCTURE MOUNTED PANEL SCHEDULE

<table>
<thead>
<tr>
<th>PANEL MARK</th>
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<th>PANEL THICKNESS</th>
<th>PANEL TOTAL</th>
<th>NUMBER OF PANELS</th>
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<tr>
<td>ST07-l</td>
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<td>5'-0&quot;</td>
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<tr>
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<td>ST04-l</td>
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<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
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<td>SB04-l</td>
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<td>S½&quot;</td>
<td>4'-0&quot;</td>
<td>4'-0&quot;</td>
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<td>SB05-l</td>
<td>5'-0&quot;</td>
<td>S½&quot;</td>
<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
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<tr>
<td>SB04.5-l</td>
<td>4'-6&quot;</td>
<td>S½&quot;</td>
<td>4'-6&quot;</td>
<td>4'-6&quot;</td>
</tr>
</tbody>
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5. **It shall be the contractor’s responsibility to verify the location of all utilities prior to starting construction, contact J.U.L.I.E., 800-892-0123, for the location and contact Illinois Tollway.**
6. **WhenEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.**

### BUMP-OUT STRUCTURE MOUNTED VARIABLE HEIGHT PANEL SCHEDULE

<table>
<thead>
<tr>
<th>PANEL MARK</th>
<th>PANEL WIDTH</th>
<th>PANEL THICKNESS</th>
<th>PANEL TOTAL</th>
<th>NUMBER OF PANELS</th>
</tr>
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<tr>
<td>ST07-l</td>
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<td>5'-0&quot;</td>
</tr>
<tr>
<td>ST06-l</td>
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<td>6'-4&quot;</td>
<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
</tr>
<tr>
<td>ST04-l</td>
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<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
</tr>
<tr>
<td>SB04-l</td>
<td>4'-0&quot;</td>
<td>S½&quot;</td>
<td>4'-0&quot;</td>
<td>4'-0&quot;</td>
</tr>
<tr>
<td>SB05-l</td>
<td>5'-0&quot;</td>
<td>S½&quot;</td>
<td>5'-0&quot;</td>
<td>5'-0&quot;</td>
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<tr>
<td>SB04.5-l</td>
<td>4'-6&quot;</td>
<td>S½&quot;</td>
<td>4'-6&quot;</td>
<td>4'-6&quot;</td>
</tr>
</tbody>
</table>

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### GENERAL NOTES

1. **Contractor shall not scale from the contract plans for construction purposes, scales shown are for information only.**
2. **No construction joints except those shown on the plans shall be allowed unless approved by the Engineer.**
3. **The contractor may request copies of existing construction plans that are currently on file with the Illinois Tollway. The request shall be in writing with the understanding that any reproduction cost will be at the contractor’s expense at no additional cost to the Illinois Tollway.**
4. **No concrete placement shall be permitted until the cutting limits have been outlined by the contractor and approved by the Engineer.**
5. **It shall be the contractor’s responsibility to verify the location of all utilities prior to starting construction, contact J.U.L.I.E., 800-892-0123, for the location and contact Illinois Tollway.**
6. **WhenEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.**

### VARIABLE HEIGHT PANEL ELEVATION BUMP-OUT MOUNTED

**NAW TYPE**

- **ST:** Structure mounted full height panel
- **ST:** Structure mounted top panel
- **SC:** Structure mounted center panel
- **SB:** Structure mounted bottom panel
- **B:** Bump-out structure mounted full height panel (variable height) or Specialty Panel
- **B:** Bump-out structure mounted center panel
- **B:** Bump-out structure mounted bottom panel (variable height)
- **SF:** Specialty Panel

**NOTE TO DESIGNER**

- **NOTE TO DESIGNER**
- **NOTE TO DESIGNER**
- **NOTE TO DESIGNER**
- **NOTE TO DESIGNER**

**LIST OF ABBREVIATIONS**

- **AASHTO:** American Association of State Highway and Transportation Officials
- **ABT:** Abutment
- **B:** Baseline
- **BOL:** Bottom
- **BM:** Bridge mounted
- **C:** Column
- **CONC:** Concrete
- **CS:** Crashworthy ground mounted
- **E.A.:** East
- **F.:** Front
- **F.T.:** Foot
- **FEL:** Elevation
- **F.E.:** Existing
- **F.P.:** Empire
- **G.F.:** General
- **G.F.:** Ground face
- **G.F.:** Gulf
- **I.T.:** Illinois Tollway
- **I.T.:** Illinois Tollway Geotechnical Manual
- **I.T.:** Illinois Tollway Structure Design Manual
- **I.T.:** Illinois Tollway Supplemental Specifications
- **I.T.:** Illinois Tollway Technical Notes

**GENERAL NOTES**

1. **Contractor shall not scale dimensions from the contract plans for construction purposes, scales shown are for information only.**
2. **No construction joints except those shown on the plans shall be allowed unless approved by the Engineer.**
3. **The contractor may request copies of existing construction plans that are currently on file with the Illinois Tollway. The request shall be in writing with the understanding that any reproduction cost will be at the contractor’s expense at no additional cost to the Illinois Tollway.**
4. **No concrete placement shall be permitted until the cutting limits have been outlined by the contractor and approved by the Engineer.**
5. **It shall be the contractor’s responsibility to verify the location of all utilities prior to starting construction, contact J.U.L.I.E., 800-892-0123, for the location and contact Illinois Tollway.**
6. **WhenEVER ANY MATERIAL IS DEPOSITED INTO A DRAINAGE SYSTEM OR DRAINAGE STRUCTURES, THE DEPOSITED MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE SYSTEMS AND STRUCTURES SHALL BE FREE FROM DIRT AND DEBRIS DEPOSITED DURING THE VARIOUS CONSTRUCTION OPERATIONS.**

**TYPICAL PANEL NAMING CONVENTION**

- **Type**
- **Number**
- **Height**

**SPECIALTY PANEL NAMING CONVENTION**

- **Type**
- **Unique Panel Number**
- **Height**
- **Panel Width**
### STEEL POST SCHEDULE

<table>
<thead>
<tr>
<th>STATION</th>
<th>OFFSET</th>
<th>B/E DIAM.</th>
<th>B/E THICK.</th>
<th>SIDE POST SIZE</th>
<th>POST LENGTH</th>
<th>MISC. STEEL WT.</th>
<th>TOTAL WT.</th>
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<td></td>
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</table>

**ADVANCE PROCUREMENT NOTES:**

- **For the Fabrication Contract:**
  - Pick up of the noise abatement wall structural steel from the contractor's storage is anticipated from (XXXX-1 to XXXX).
  - Pick up of the precast concrete noise abatement panels from the contractor's storage is anticipated from (XXXX-1 to XXXX).
  - Combined pick up of materials from the contractor's storage is anticipated from (XXXX-1 to XXXX).

- **For the Installation Contract:**
  - Materials for the precast concrete noise abatement walls are stored for pick up at (XXXXXX).
  - The pick-up of the material is anticipated from (XXXX to XXXX).

### TOTAL BILL OF MATERIAL (ADVANCE PROCUREMENT)

<table>
<thead>
<tr>
<th>PAY ITEM</th>
<th>ITEM NUMBER</th>
<th>ITEM DESCRIPTION</th>
<th>UNIT</th>
<th>TOTAL</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>JT505230</td>
<td>FURNISHING STRUCTURAL STEEL, NOISE ABATEMENT WALL</td>
<td>LBS.</td>
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<tr>
<td>JT509920</td>
<td>INSTALLING PRECAST CONCRETE NOISE ABATEMENT WALL, STRUCTURE MOUNTED</td>
<td>CAL. DAY</td>
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</tr>
<tr>
<td>JT509920</td>
<td>STORAGE OF STRUCTURAL STEEL, NOISE ABATEMENT WALL</td>
<td>CAL. DAY</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>JT509920</td>
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<td>CAL. DAY</td>
<td>X</td>
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</tbody>
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### TOTAL BILL OF MATERIAL (NO ADVANCE PROCUREMENT)

<table>
<thead>
<tr>
<th>PAY ITEM</th>
<th>ITEM NUMBER</th>
<th>ITEM DESCRIPTION</th>
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<td>PRECAST CONCRETE NOISE ABATEMENT WALL, STRUCTURE MOUNTED</td>
<td>SQ. FT.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

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**NOTE TO DESIGNER:**

1. **Work this sheet with Illinois Tollway Standard.**

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**BASE SHEET M-BRG-531**

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**CENTRAL TRI-STATE STRUCTURE MOUNTED NOISE ABATEMENT WALL SCHEDULE**

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**SHEET 4 OF 4**

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**Illinois Tollway**

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**NOTE TO DESIGNER:**

- The base sheet shows typical new construction but it is not a standard drawing.
- It requires completion by the designer prior to insertion into a contract. The designer shall accept the responsibility of the design of these details upon its completion and insertion into a contract. All "Note to Designer" boxes shall be redone prior to insertion of the details into the plan set.
THE BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DSE PRIOR TO INSERTION INTO A CONTRACT. THE DSE SHALL ACCEPT RESPONSIBILITY FOR THE DESIGN UPON ITS COMPLETION AND INSERTION INTO A CONTRACT.

THIS BASE SHEET REPRESENTS THE TYPICAL DETAILS FOR GROUND MOUNTED, NOISE ABATEMENT WALLS. THE DSE IS RESPONSIBLE FOR COMPUTING THE TABLES AND INCLUDING THEM IN THEIR CONTRACT

PANEL MARK (TOP)
CRASHWORTHY OR NON-CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL
SAFETY GATE WITH 6" SHIMS (MIN.)
CRASHWORTHY PANELS WITHIN 6FT ABOVE FACE OF ROADWAY PAVEMENT SHALL BE THE TL-4 IMPACT PANELS.

NOTE TO DESIGNER

ALL POSTS MOUNTED TO ANY PANEL BE SHOWN ON SHEET IN ACCORDANCE WITH LATEST ILLINOIS STANDARD DETAIL FOR NOISE ABATEMENT WALL MOUNTED SIGN SUPPORT.

NOTE TO DESIGNER

USE SPECIALTY PANEL AND POST SPACING AT ENDS OF WALL OR UNIQUE LOCATIONS SUCH AS UTILITY CROSSINGS TO ACCOMMODATE TYPICAL 20'-0" OR 15'-0" POST SPACING FOR NON-CRASHWORTHY OR CRASHWORTHY RESPECTIVELY ALONG THE MAJORITY OF THE LENGTH OF WALL. POST SPACING SHOULD NOT EXCEED LIMITS WITHIN THE ILLINOIS TOLLWAY STANDARD. LIMITS ARE EXCEEDED DUE TO DESIGN AND DETAIL ALL COMPONENTS. THE "SPX" DESIGNATION FOR SPECIALTY PANELS SHOULD BE USED FOR ALL PANELS WITHIN THAT BAY WITH THE SAME WIDTH.
## General Notes

1. **Contractor Panel**: Not scale dimensions from the contract plans for construction purposes, scales shown are for information only.

2. **No Construction Gaps**: Except those shown on the plans shall be allowed unless approved by the engineer.

3. **The Contractor May Request Copies**: Of existing construction plans that are currently on file with the Illinois Tollway. The request shall be in writing with the understanding that any reproduction cost will be at the contractor's expense at no construction cost to the Illinois Tollway.

4. **No Concrete Cutting**: Shall be permitted until the cutting limits have been outlined by the contractor and approved by the engineer.

5. **It Shall Be the Contractor's Responsibility**: To verify the location of all utilities prior to starting construction, contact (312) 669-2123.

6. **It Shall Be the Contractor's Responsibility**: To verify the location of all fiber optic utilities prior to starting construction, the contractor shall initiate the location process for the fiber optic cable by completing a "Request for Illinois Tollway Utilities Location" form. The request shall be in writing with the understanding that any reproduction cost will be at the contractor's expense at no construction cost to the Illinois Tollway.

7. **The soil boring logs represent point information**: Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.

8. **Whenever any material is deposited into a drainage system or drainage structure**: the deposited material shall be removed at the close of each working day. Upon the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.

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### List of Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASHTO</td>
<td>American Association of State Highway and Transportation Officials</td>
</tr>
<tr>
<td>A2U1</td>
<td>Away, utility</td>
</tr>
<tr>
<td>B</td>
<td>Back</td>
</tr>
<tr>
<td>B1</td>
<td>Back face</td>
</tr>
<tr>
<td>BBL</td>
<td>Baseline</td>
</tr>
<tr>
<td>BM</td>
<td>Bridge Mounted</td>
</tr>
<tr>
<td>BRG</td>
<td>Bridge Mounted (off-center)</td>
</tr>
<tr>
<td>C</td>
<td>Centerline</td>
</tr>
<tr>
<td>COL</td>
<td>Column</td>
</tr>
<tr>
<td>CONCRETE</td>
<td>Concrete</td>
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<tr>
<td>CRASHWORTHY GROUND MOUNTED</td>
<td>Crashworthy Ground Mounted Panel</td>
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<td>East</td>
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<td>Column</td>
</tr>
<tr>
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<td>Concrete</td>
</tr>
<tr>
<td>CRASHWORTHY GROUND MOUNTED</td>
<td>Crashworthy Ground Mounted Panel</td>
</tr>
<tr>
<td>EAST</td>
<td>East</td>
</tr>
<tr>
<td>EASTBOUND</td>
<td>Eastbound</td>
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<td>Elevation</td>
</tr>
<tr>
<td>EQ.</td>
<td>Existing</td>
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<td>EX</td>
<td>Expansion</td>
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<td>Front face</td>
</tr>
<tr>
<td>F/F</td>
<td>Front Face</td>
</tr>
<tr>
<td>JT.</td>
<td>Joint</td>
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<td>LOC.</td>
<td>Location</td>
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<td>MAX.</td>
<td>Maximum</td>
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<td>MIN.</td>
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</tr>
<tr>
<td>MIN.</td>
<td>Minimum</td>
</tr>
<tr>
<td>MOV.</td>
<td>Move</td>
</tr>
<tr>
<td>NAW</td>
<td>Noise Abatement Wall</td>
</tr>
<tr>
<td>N.E.</td>
<td>North East</td>
</tr>
<tr>
<td>N.E.</td>
<td>North East</td>
</tr>
<tr>
<td>N.W.</td>
<td>North West</td>
</tr>
<tr>
<td>N.W.</td>
<td>North West</td>
</tr>
<tr>
<td>N.R.</td>
<td>Non-Radioactive</td>
</tr>
<tr>
<td>N.S.</td>
<td>North South</td>
</tr>
<tr>
<td>N.S.</td>
<td>North South</td>
</tr>
<tr>
<td>O.C.</td>
<td>Outside Centerline</td>
</tr>
<tr>
<td>PVT</td>
<td>Point of Vertical Tangency</td>
</tr>
<tr>
<td>PVT</td>
<td>Point of Vertical Tangency</td>
</tr>
<tr>
<td>S.P.</td>
<td>Specialty Panel</td>
</tr>
<tr>
<td>S.P.</td>
<td>Specialty Panel</td>
</tr>
<tr>
<td>S.M.</td>
<td>Structure Mounted</td>
</tr>
<tr>
<td>S.M.</td>
<td>Structure Mounted</td>
</tr>
<tr>
<td>T.E.</td>
<td>Top of Structure</td>
</tr>
<tr>
<td>T.E.</td>
<td>Top of Structure</td>
</tr>
<tr>
<td>T.L.</td>
<td>Top Left</td>
</tr>
<tr>
<td>T.R.</td>
<td>Top Right</td>
</tr>
<tr>
<td>T.Y.</td>
<td>Top Right</td>
</tr>
<tr>
<td>U.N.O.</td>
<td>Unbalanced soil load</td>
</tr>
<tr>
<td>U.N.O.</td>
<td>Unbalanced soil load</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States</td>
</tr>
<tr>
<td>W</td>
<td>Wide</td>
</tr>
<tr>
<td>W</td>
<td>Wide</td>
</tr>
<tr>
<td>W.F.</td>
<td>Wide Flange</td>
</tr>
<tr>
<td>W.F.</td>
<td>Wide Flange</td>
</tr>
</tbody>
</table>

---

### Special Provision Naming Convention

- **Specialty Panel**: Unique Panel Number
- **Unique Panel Number**: New Number

---

## Design Specifications

**Illinois Tollway Structure Design Manual, March 2020.**

**ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2010) - MARCH 2012.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2015) - MARCH 2016.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS ADDENDUMS.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS ADDENDUMS.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS ADDENDUMS.**

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### Construction Specifications

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2020).**

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS ADDENDUMS.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION SPECIFICATIONS ADDENDUMS.**

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### Typical Panel Naming Convention

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

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## Non-Crashworthy NAW Ground Mounted Panel Schedule

### Non-Crashworthy NAW Ground Mounted Panel Schedule (No TL-4 Impact)

<table>
<thead>
<tr>
<th>Panel Mark</th>
<th>Panel Height</th>
<th>Panel Width</th>
<th>Panel Thicknes</th>
<th>Number of Panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBU04-1</td>
<td>4'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU06-1</td>
<td>6'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU07-1</td>
<td>7'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU08-1</td>
<td>8'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
</tbody>
</table>

---

## Crashworthy NAW Ground Mounted Panel Schedule

### Crashworthy NAW Ground Mounted Panel Schedule (No TL-4 Impact)

<table>
<thead>
<tr>
<th>Panel Mark</th>
<th>Panel Height</th>
<th>Panel Width</th>
<th>Panel Thicknes</th>
<th>Number of Panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBU04-1</td>
<td>4'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU06-1</td>
<td>6'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU07-1</td>
<td>7'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
<tr>
<td>GBU08-1</td>
<td>8'-0&quot;</td>
<td>19'-10&quot;</td>
<td>9&quot;</td>
<td>X</td>
</tr>
</tbody>
</table>

---

### Note to Designer

**Designer to complete tables, list of abbreviations,**

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

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### Special Panel Naming Convention

- **Specialty Panel**: Unique Panel Number
- **Unique Panel Number**: New Number

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**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

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**CAUTION**: This design contains a standard drawing. If a design change is made, it is the designer’s responsibility to complete the design change in the drawing. Any changes made to this drawing must be done in accordance with the original design.

- **Illinois Tollway Structure Design Manual, March 2020.**
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**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

**NOTE TO DESIGNER**

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**ILLINOIS TOLLWAY NOISE ABATEMENT WALL SPECIFICATIONS**

**SHEET 2 OF 3**

**BASE SHEET M-BRG-532**

**ILLINOIS TOLLWAY**

**04-01-2020**
### Drilled Shaft Schedule

<table>
<thead>
<tr>
<th>Shaft Mark</th>
<th>Station</th>
<th>Offset</th>
<th>Shaft Clr</th>
<th>Shaft El.</th>
<th>Shaft Depth</th>
<th>Steel Con</th>
<th>Post Elv. Fl.</th>
<th>Post Depth</th>
<th>Post Mark</th>
<th>Shaft El.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
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</tr>
<tr>
<td>GT02</td>
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<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>GT09</td>
<td>09</td>
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<td>09</td>
<td>09</td>
<td>09</td>
<td>09</td>
<td>09</td>
<td>09</td>
</tr>
</tbody>
</table>

### Steel Post Schedule

<table>
<thead>
<tr>
<th>Post Mark</th>
<th>Steel Post Size</th>
<th>Post Length</th>
<th>Total in Post Elv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>01</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>02</td>
<td>02</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>09</td>
<td>09</td>
<td>09</td>
<td>09</td>
</tr>
</tbody>
</table>

### Total Bill of Material (No Advance Procurement)

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Item No.</th>
<th>Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>75999960</td>
<td>PRECAST CONCRETE NOISE ABATEMENT WALL, GROUND MOUNTED, NON-CRASHWORTHY</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
<tr>
<td>75999965</td>
<td>PRECAST CONCRETE NOISE ABATEMENT WALL, GROUND MOUNTED, CRASHWORTHY</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
</tbody>
</table>

### Total Bill of Material (Advance Procurement)

<table>
<thead>
<tr>
<th>Toy Item</th>
<th>ID</th>
<th>Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>75045180</td>
<td>FURNISHING PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL, GROUND MOUNTED, NON-CRASHWORTHY</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
<tr>
<td>75045185</td>
<td>FURNISHING PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL, GROUND MOUNTED, CRASHWORTHY</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
<tr>
<td>75045190</td>
<td>FURNISHING PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL, GROUND MOUNTED, CRASHWORTHY</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
<tr>
<td>7505790</td>
<td>STORAGE OF PRECAST CONCRETE PANELS, NOISE ABATEMENT WALL</td>
<td>CAL. DAY</td>
<td>x</td>
</tr>
<tr>
<td>7505795</td>
<td>STORAGE OF STRUCTURAL STEEL, NOISE ABATEMENT WALL</td>
<td>CAL. DAY</td>
<td>x</td>
</tr>
<tr>
<td>7505790</td>
<td>INSTALLING PRECAST CONCRETE NOISE ABATEMENT WALL, GROUND MOUNTED</td>
<td>SQ. FT.</td>
<td>x</td>
</tr>
</tbody>
</table>

**Advance Procurement Notes:**

- For the fabrication contract, pick up of the noise abatement wall posts from the contractors' storage is anticipated from XXXX to XXXX. Pick up of the precast concrete noise abatement panels from the contractors' storage is anticipated from XXXX to XXXX. On completion of the materials from the contractors' storage is anticipated from XXXX to XXXX.

- For the installation contract:
  - The material for the precast concrete noise abatement walls are stored for pick up at XXXX.
  - The pickup of the material is anticipated from XXXX to XXXX.