AGGREGATE DRAIN, CMS 605.07, 2'-0" WIDE x 1'-0" DEEP, CENTERED ON THE CENTERLINE OF SLEEPER SLAB. SEE DETAIL A ON SHEET 5 OF 14.

1. THICKNESS OF PROPOSED REINFORCED CONCRETE APPROACH SLAB SEE BRIDGE PLANS AND NOTE 41.
2. THICKNESS OF THE 25'-0" FLEXIBLE (ASPHALT) PAVEMENT SEE ROADWAY PLANS AND NOTE 41.
3. THICKNESS OF PROPOSED/EXISTING PAVEMENT SEE ROADWAY PLANS.

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REINFORCING STEEL FOR SLEEPER SLAB

<table>
<thead>
<tr>
<th>MARK</th>
<th>LENGTH</th>
<th>TYPE</th>
<th>BENDING DIAGRAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS501</td>
<td>A</td>
<td>STR</td>
<td>4</td>
</tr>
<tr>
<td>SS502</td>
<td>B</td>
<td>STR</td>
<td>11</td>
</tr>
</tbody>
</table>

NOTE:
1. 6" DIA. PERFORATED PIPE ICM 702.31 UNDERGRUND ICMS 605.03 IS RECOMMENDED. MATERIAL IS ONLY REQUIRED IF THE LONGITUDINAL SLOPE OF THE AGGREGATE BASE IS TOWARDS THE APPROACH SLAB AND SLEEPER SLAB.
2. 6" DIA. PERFORATED PIPE ICM 702.31 UNDERGRUND ICMS 605.03 IF REQUIRED, SHALL BE SLOPED THE SAME AS THE PAVEMENT CROSS SLOPE.
3. FOR ADDITIONAL NOTES AND DETAILS AT PIPE OUTLET ENDS, SEE STD. CONST. DWG. DM-1-1.
4. THICKNESS OF THE PROPOSED 25'-0" FLEXIBLE (ASPHALT) PAVEMENT (T2) SHALL MATCH THE THICKNESS OF PROPOSED REINFORCED CONCRETE APPROACH SLAB (T1).
5. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB. SEE REINFORCED CONCRETE SLEEPER SLAB SURFACE FINISH AND BOND BREAKER NOTE ON SHEET 5 OF 14.
6. THE CROSSES AT THE TOP AND BOTTOM OF THE SLEEPER SLAB SHALL CONFORM TO THAT OF THE REINFORCED CONCRETE APPROACH SLAB.
8. SEE SHEET 5 OF 14 FOR REINFORCED CONCRETE APPROACH SLAB WITH OPTIONAL ASPHALT CONCRETE WEARING COURSES. DETAIL A, LIMITS OF AGGREGATE DRAIN, SECTION 5-3.0, AND ADDITIONAL NOTES.
NOTES:

1. 1" P.E.J.F. (Typ.) PREFORMED EXPANSION JOINT FILLER SHALL EXTEND UP BETWEEN CAST-IN-PLACE CONCRETE TURNBACK WINGWALLS AND THE SIDE FACES OF APPROACH SLAB AND PROPOSED FLEXIBLE (ASPHALT) PAVEMENT TO THE ELEVATION OF 1" BELOW THE FINAL SURFACE ELEVATION OF THE FLEXIBLE (ASPHALT) PAVEMENT. THEN, APPLY 1" DEEP x 1" WIDE HOT APPLIED JOINT SEALER AS PER CMS 705.04.

2. SEE DETAIL A AND ADDITIONAL NOTES, SHEET 514.

3. FOR DETAIL A AND ADDITIONAL NOTES, SEE DETAIL C.
OUTSIDE EDGE OF APPROACH SLAB AT THE END OF CONCRETE BRIDGE RAILING (TYPE 4-B CONCRETE CURB ON APPROACH SLAB AND THREE-BEAM RAIL, NOT SHOWN)

**DETAIL A**

**SECTION A-A**

**SECTION B-B**

**NOTES:**

1. PREFORMED EXPANSION JOINT FILLER SHALL EXTEND UP BETWEEN CAST-IN-PLACE CONCRETE TURNBACK WINGWALLS AND THE SIDE FACES OF APPROACH SLAB AND PROPOSED FLEXIBLE (ASPHALT) PAVEMENT TO THE ELEVATION OF 1" BELOW THE FINAL SURFACE ELEVATION OF THE FLEXIBLE (ASPHALT) PAVEMENT. THEN, APPLY 1" DEEP x 1" WIDE HOT APPLIED JOINT SEALER AS PER CMS 705.04.

2. FOR MIDWEST GUARDRAIL SYSTEM BRIDGE TERMINAL ASSEMBLY, TYPE 1, SEE STD. CONST. DWG. MGS-3.1. FOR MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, SEE STD. CONST. DWG. MGS-3.2. FOR MIDWEST GUARDRAIL SYSTEM, BRIDGE TERMINAL ASSEMBLY, TYPE 1, SEE STD. CONST. DWG. BP-5.1.

3. FOR TYPE 4-B CONCRETE CURB, SEE STD. CONST. DWG. BP-5.1.


5. PROVIDE PRE-CAST RACING CURB AT THE INTERFACE BETWEEN END OF CONCRETE BRIDGE RAILING AND TYPE 4-B CONCRETE CURB.

6. FOR GENERAL NOTES, SEE SHEET 11-15.
NOTES:

1. For location of Detail A, see Sheet 6.14.
2. For Sections B-B, C-C, D-D, and Additional Notes, see Sheet 6.15.
3. If the skew angle is 0°, and A and B equal to zero.
4. Rebars SS502 and SS503 shall be placed parallel to centerline of roadway.
5. See Std. Constr. SWL, RM-4.6 for Type D Barrier End Section.
6. For Armorless Prefabricated Joint Seal, see Sheet 6.16.
7. For Joint Opening, Dimension "A" (See Table 1).

TABLE 1 - EXPANSION JOINT OPENING

<table>
<thead>
<tr>
<th>TEMPERATURE (°F)</th>
<th>JOINT OPENING, DIMENSION &quot;A&quot;</th>
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<tbody>
<tr>
<td>30°</td>
<td>15&quot;</td>
</tr>
<tr>
<td>40°</td>
<td>20&quot;</td>
</tr>
<tr>
<td>50°</td>
<td>25&quot;</td>
</tr>
<tr>
<td>60°</td>
<td>27&quot;</td>
</tr>
<tr>
<td>70°</td>
<td>29&quot;</td>
</tr>
<tr>
<td>80°</td>
<td>32&quot;</td>
</tr>
<tr>
<td>90°</td>
<td>35&quot;</td>
</tr>
</tbody>
</table>

SECTION A-A

LEGEND:

P.E.J.F. = PREFORMED EXPANSION JOINT FILLER

A, A, A = ADDITIONAL LENGTH DUE TO GEOMETRY OF THE SKEW ANGLE IS GREATER THAN 0°. SEE NOTE 3 ON THIS SHEET.

1 = SEE NOTE 1 ON SHEET 6.14.
SECTION B-B

REINFORCING STEEL AND MSE WALL NOT SHOWN

ITEM 516 - ARMORLESS PREFORMED JOINT SEAL

SELECT THE ARMORLESS PREFORMED JOINT SEAL FROM ONE OF THE MANUFACTURERS LISTED BELOW:

- R.J. Watson, Inc.
  1035 Weldon Avenue
  Akron, OH 44304-2905
  Phone: (330) 666-7020
  Fax: (330) 666-7019
  WacoFlex 5400 MAX. MOVEMENT RATING 49

- Watson Bowman ACME Corp.
  95 Pineview Drive
  Amherst, NY 14228-2121
  Phone: (716) 901-7020
  Fax: (716) 901-7019
  SilcoCure 4500 MAX. MOVEMENT RATING 49

- D.S. Brown Company
  950 East Cherry Street
  North Baltimore, OH 45872-2207
  Phone: (419) 257-3561
  Fax: (419) 257-2200
  V-400 (MAX. MOVEMENT RATING: 49)

- Watson Bowman ACME Corp.
  95 Pineview Drive
  Amherst, NY 14228-2121
  Phone: (716) 901-7020
  Fax: (716) 901-7019
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  Fax: (419) 257-2200
  V-400 (MAX. MOVEMENT RATING: 49)

THE SEAL AND ADHESIVE ARE AN INTEGRAL JOINT SYSTEM THAT SHALL BE DESIGNED AND SUPPLIED BY THE SAME MANUFACTURER.

SECTION C-C

REINFORCING STEEL AND MSE WALL NOT SHOWN

SECTION D-D

REINFORCING STEEL AND MSE WALL NOT SHOWN
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

DATA ADMINISTRATOR DESIGN AGENCY

REVISION OFFICE OF STRUCTURAL ENGINEERING

S T A N D A R D  B R I D G E  D R A W I N G

BRIDGE LIMIT

PROPOSED FLEXIBLE (ASPHALT) PAVEMENT

PLAN

REINFORCED CONCRETE APPROACH SLAB

ROADWAY

PROPOSED FLEXIBLE (ASPHALT) PAVEMENT

LEGEND:
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER

NOTE:
1. FOR DETAIL A AND ADDITIONAL NOTES, SEE SHEET 11 14.
2. FOR AGGREGATE DRAIN, CMS 605.01, 2'-0" WIDE x 1'-0" DEEP, CENTERED ON ARMORESS PREFORMED JOINT SEAL OPENING; SEE DETAIL AA ON SHEET 10 14.
5. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB. SEE "REINFORCED CONCRETE SLEEPER SLAB SURFACE FINISH AND BOND BREAKER" NOTE ON SHEET 10 14.
7. SEE SECTION A-A ON SHEET 11 14.

SECTION A-A
REINFORCING STEEL NOT SHOWN

REINFORCEMENT STEEL FOR SLEEPER SLAB

MARK | LENGTH | TYPE | BENDING DIAGRAM
--- | --- | --- | ---
S5501 | A | 51R | BENT
S5502 | B | 51R | BENT
S5503 | 2C + 14" + D | BENT | BENT

ELEVATION
TAKEN PERPENDICULAR TO ROADWAY, LOOKING UP-STATION

PLAN

REINFORCED CONCRETE APPROACH SLAB

ROADWAY

PROPOSED FLEXIBLE (ASPHALT) PAVEMENT

LEGEND:
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER

NOTE:
1. FOR DETAIL A AND ADDITIONAL NOTES, SEE SHEET 11 14.
2. FOR AGGREGATE DRAIN, CMS 605.01, 2'-0" WIDE x 1'-0" DEEP, CENTERED ON ARMORESS PREFORMED JOINT SEAL OPENING; SEE DETAIL AA ON SHEET 10 14.
5. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB. SEE "REINFORCED CONCRETE SLEEPER SLAB SURFACE FINISH AND BOND BREAKER" NOTE ON SHEET 10 14.
7. SEE SECTION A-A ON SHEET 11 14.
**DETAIL A**

**JOINTLESS SUPERSTRUCTURE WITH CAST-IN-PLACE CONCRETE TURNBACK WINGWALLS AND PROPOSED FLEXIBLE (ASPHALT) PAVEMENT**

**NOTES:**

1. FOR LOCATION OF DETAIL A AND REINFORCING STEEL LIST, SEE SHEET 14.
2. FOR SECTIONS C-C, D-D, E-E, AND ADDITIONAL NOTES, SEE SHEET 11.
3. IF THE SKEW ANGLE IS 0°, A1 AND A2 EQUAL TO ZERO.
4. REBARS SS502 AND SS503 SHALL BE PLACED PARALLEL TO CENTERLINE OF ROADWAY.
5. FOR ARMORLESS PREFORMED JOINT SEAL OPENING TABLE SEE SHEET 11 FOR JOINT OPENING USING REMOVABLE FORM.
6. FOR ARMORLESS PREFORMED JOINT SEAL NOTE, SEE SHEET 7.
7. APPLY BOND BREAKER TO THE ENTIRE TOP SURFACE OF THE CONCRETE SLEEPER SLAB. SEE "REINFORCED CONCRETE SLEEPER SLAB SURFACE FINISH AND BOND BREAKER" NOTE ON SHEET 1.
8. FOR TYPE 4-A CONCRETE CURB AND TYPE 4-C CONCRETE CURB, SEE STD. CONST. CMS, (P-1).
NOTES:
1. FOR LOCATION OF SECTIONS C-C, D-D, AND E-E, SEE SHEET 14.
2. FOR MIDWEST GUARDRAIL SYSTEM BRIDGE TERMINAL ASSEMBLY, TYPE 1, SEE STD. CONST. OMS. WMS-3.1, WMS BRIDGE TERMINAL ASSEMBLY, TYPE 2 (STD. CONST. OMS. WMS-3.2) SIMILAR.
3. FOR TYPE 4-A CONCRETE CURB AND TYPE 4-C CONCRETE CURB, SEE STD. CONST. OMS. WMS-4.1.
5. FOR ARMORLESS PREFORMED JOINT SEAL OPENING TABLE SEE SHEET 14.
6. FOR ARMORLESS PREFORMED JOINT SEAL NOTE, SEE SHEET 8.
7. FOR GENERAL NOTES, SEE SHEET 10.
8. PLACE DRAINS AND OUTLETS ON THE LOW SIDE OF SUPERELEVATED APPROACH SLABS AND BOTH SIDES IF THE APPROACH SLAB IS CROWNED.

REINFORCING STEEL AND MIDWEST GUARDRAIL SYSTEM NOT SHOWN

SECTION C-C
REINFORCED CONCRETE APPROACH SLAB

SECTION D-D
REINFORCED CONCRETE SLEEPER SLAB

SECTION E-E
REINFORCED CONCRETE CURB

SECTION F-F
REINFORCED CONCRETE SLEEPER SLAB
PLAN

JOINTLESS SUPERSTRUCTURE WITH MSE WALLS AND PROPOSED RIGID (CONCRETE) PAVEMENT

SECTION A-A

REINFORCING STEEL NOT SHOWN

NOTES:
1. FOR ADDITIONAL DETAILS, NOTES, REINFORCING STEEL LIST, ARMORLESS PREFORMED JOINT SEAL OPENING TABLE SEE SHEETS 6-14 THROUGH 8-14.
2. FOR TYPE B PRESSURE RELIEF JOINT, SEE STD. CONST. DWG. BP-2.4.
3. FOR APPROACH SLAB REINFORCING STEEL AND ADDITIONAL DETAILS, SEE STD. BRIDGE DWG. AS-7-15.
4. FOR GENERAL NOTES, SEE SHEET 6-14.
NOTES:
1. FOR ADDITIONAL DETAILS, NOTES, REINFORCING STEEL LIST, ARMORLESS PREFORMED JOINT SEAL OPENING TABLE, SEE SHEETS 14-14 THROUGH 14-16.
2. FOR TYPE B PRESSURE RELIEF JOINT, SEE STD. CONST. DWG. BP-2.4.
4. FOR GENERAL NOTES, SEE SHEET SPACE.
GENERAL NOTES

GENERAL:
This standard drawing provides design and general construction details. The project plans shall show skew angle, special notes and details where necessary, and a pay item for Type A, Type B, or Type C installation in the estimated quantities table. For conditions other than those indicated herein, the approach slab installation shall be adapted to fit the ends of the reinforced concrete approach slab.

For bridges and approach slabs with sidewalks, the details will be similar to the details shown here. The width of the approach slab shall be the full width of the bridge, and the sidewalk will be on top of the approach slab.

DESCRIPTION:
Perform work in accordance with CMS 526 except as noted herein.

DESIGN CRITERIA:

DESIGN DATA:

DESIGN LOAD:
F.M.L. = 0.060 KSF

DESIGN STRESSES:
Concrete = Compressive Strength = 4,500 psi
Reinforcing Steel = Min. Yield Strength = 60 KSI

REINFORCED CONCRETE SLEEPER SLAB LENGTH:
For Type A installation and Type C installation, the length of sleeper slab shall be for the entire length of the approach slab as shown on sheets 1 through 40 and sheets 51 through 90, respectively. For a skewed structure, the sleeper slab shall be placed parallel to the skew at the end of approach slab.

LONGITUDINAL CONSTRUCTION JOINTS:
For stage construction, longitudinal joint shall be in accordance with CMS 511. For Type A installation and Type C installation, longitudinal joint shall be in accordance with CMS 511. Provide 2'-6" lap splice of SS501 rebars or provide mechanical connectors per CMS 509.07.

REINFORCED CONCRETE SLEEPER SLAB SURFACE FINISH AND BOND BREAKER:
For Type A installation and Type C installation, the top surface of reinforced concrete sleeper slab shall be steel troweled for a smooth finish.

WATER CURE THE SLEEPER SLAB AS PER CMS 511.4.B. After water curing has been completed, wrap drain hose to the sleeper slab as per CMS 511.4.B. Apply a second coat of the membrane cure to the sleeper slab prior to approaching slab concrete pour at the same dosage rate specified in CMS 511.6.B to the surfaces labeled "Bond Breaker" on sheets 51 through 90. For Type A installation and sheets 51 through 90 for Type C installation.

REPAIR COATING DAMAGE IDENTIFIED BY THE ENGINEER.

METHOD OF MEASUREMENT:
For Type A installation and Type C installation, the department will measure reinforced concrete sleeper slab by the number of linear feet complete in place and measured along the skew at the end of the approach slab.

For Type B installation sheets 1 through 40, the department will measure reinforced joint mesh in the number of square yards of applied surface area, measured along the skew. See note for "Reinforced joint mesh" on sheets 51 through 90. There is no reinforced concrete sleeper slab in Type B installation.

REINFORCED JOINT MESH (TYPE B INSTALLATION)

REINFORCING STEEL - MIN. YIELD STRENGTH = 60 KSI
CONCRETE - COMPRESSIVE STRENGTH = 4,500 PSI

BASIS OF PAYMENT:
The department will pay for accepted quantities at the contract price for "Item 526 - Type A Installation" (*). The designer should fill in the appropriate type A, B, or C (which includes):

- 6" SSA, PERFORATED PIPE CMS 707.33 UNDERDRAIN (Type A Installation)
- GRANULAR MATERIAL FOR THE UNDERDRAIN (Type A Installation)
- PIPE COUPLINGS (Type A Installation)
- PIPE OUTLETS AS PER STD. CONST. DWG. DM-1.2 AND PIPE INSTALLATIONS AS PER STD. CONST. DWG. DM-1.1, IF REQUIRED (Type A Installation)
- AGGREGATE DRAINS (Type A Installation and Type C Installation)
- REINFORCED JOINT MESH (Type B Installation)
- EXCAVATION FOR REINFORCED CONCRETE SLEEPER SLAB (Type A Installation and Type C Installation)
- REINFORCED CONCRETE SLEEPER SLAB (Type A Installation and Type C Installation)
- REINFORCED CONCRETE SLEEPER SLAB WITH CURBS IF REQ'D.
- REQUIRED, MECHANICAL CONNECTORS (Type A Installation and Type C Installation)
- BOND BREAKER (Type A Installation and Type C Installation)
- LONGITUDINAL CONSTRUCTION JOINT FOR STAGE CONSTRUCTION, IF REQUIRED FOR TYPE A INSTALLATION AND TYPE C INSTALLATION

The department will pay for the following items separately:

- REINFORCED CONCRETE APPROACH SLAB WITH CURBS IF REQ'D.
- FLEXIBLE ASPHALT/PAVEMENT
- RIGID (CONCRETE) PAVEMENT
- PIPE COUPLINGS (TYPE A INSTALLATION)
- GRANULAR MATERIAL FOR THE UNDERDRAIN (TYPE A INSTALLATION)
- PREFORMED EXPANSION JOINT FILLER