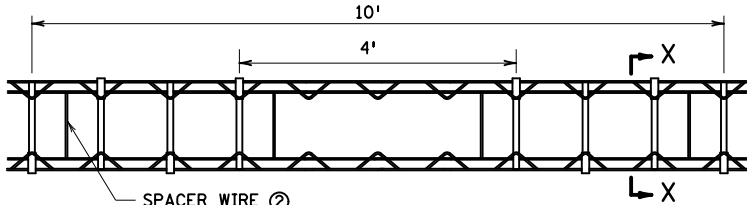
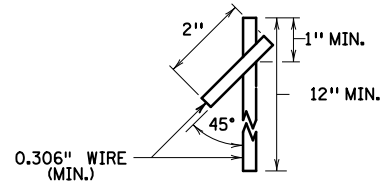


SPACER WIRE ②  
(4 PER UNIT)  
PLAN VIEW  
ELEVEN DOWEL BASKET (SPACED AT 12")



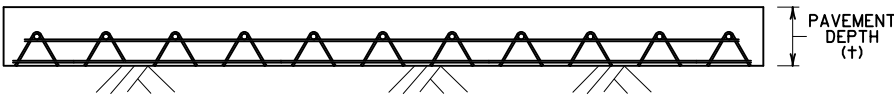
SPACER WIRE ②  
(4 PER UNIT)  
PLAN VIEW  
EIGHT DOWEL BASKET (WHEEL PATH DOWELS SPACED AT 12")



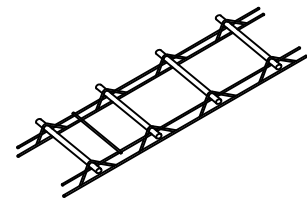
ANCHOR PIN



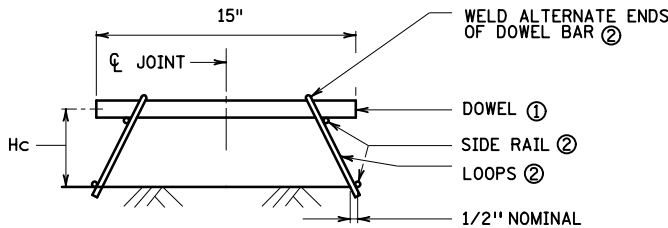
LEG SHAPE OPTIONS ②



ELEVATION  
CONTRACTION JOINT DOWEL ASSEMBLIES



PERSPECTIVE OF CONTRACTION JOINT DOWEL ASSEMBLY



SECTION X-X ③

DOWEL BAR TABLE ① ③		
PAVEMENT DEPTH (IN.)	DOWEL BAR DIAMETER (IN.)	H <sub>c</sub> HEIGHT TO CENTER (IN.)
7 - 7½	1	3
8 - 10	1¼	4
≥10½	1½	5

NOTES:

- ① DOWEL BARS:
  - PROVIDE DOWEL BARS, 15" IN LENGTH, IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
  - CUT ENDS WITH STRAIGHT SURFACE AND DEBURR.
  - SEE DOWEL BAR TABLE FOR DOWEL BAR DIAMETERS.
  - COAT ENTIRE DOWEL BAR ASSEMBLY WITH BOND BREAKER MATERIAL MEETING THE REQUIREMENTS OF MnDOT SPEC. 3302.
- ② DOWEL BAR ASSEMBLY:
  - SIDE RAILS (0.306" DIA. MIN.).
  - LOOPS (0.243" DIA. MIN.).
  - SPACER WIRES (0.177" DIA. MAX.).
  - ANCHOR PINS: STEM AND HOOK WIRE (0.306" DIA. MIN.).
  - ONLY V-LEG OR U-LEG SHAPES ARE ALLOWED.
  - WELD ALL WIRE INTERSECTIONS.
  - WELD ALTERNATE ENDS OF DOWER BAR OR MECHANICALLY ATTACH DOWEL BAR.
  - SUBMIT SHOP DRAWINGS OF CONTRACTION JOINT DOWEL ASSEMBLY FOR APPROVAL TO THE CONCRETE ENGINEER; ONE SHOP DRAWING IS REQUIRED FOR EACH METHOD USED TO FASTEN DOWEL BARS TO ASSEMBLY.
- ③ FABRICATION TOLERANCES:
  - ±¼" PER LINEAR FOOT UNLESS OTHERWISE SPECIFIED.
  - MANUFACTURE BASKETS SO THAT THE DOWELS ARE HORIZONTAL AND PARALLEL FROM EACH OTHER AND PERPENDICULAR TO THE BASKET ±⅛" PER LINEAR FOOT.
  - ON CENTER SHOULD BE ±½".
  - HEIGHT (H<sub>c</sub>) TO CENTER ±½".

APPROVED 08-13-2020

*Rom Sja*  
STATE DESIGN ENGINEER

STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION

TYPICAL DOWEL BAR ASSEMBLY  
CONTRACTION JOINT

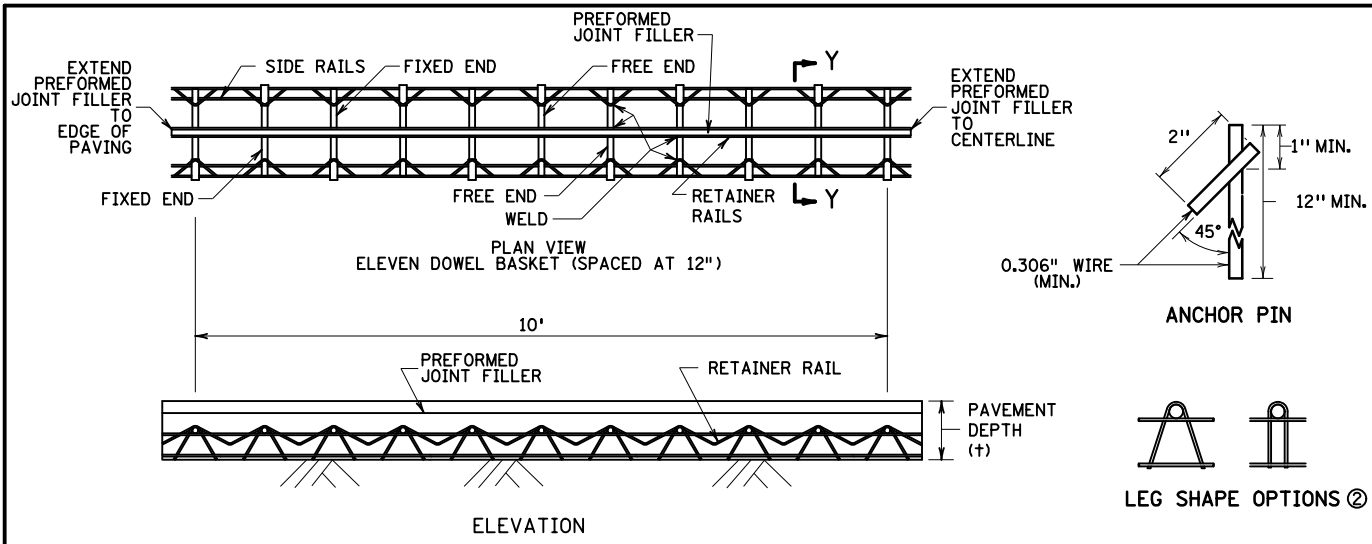
SPECIFICATION  
REFERENCE

2301

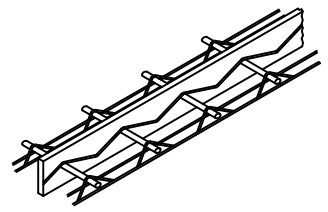
STANDARD  
PLATE  
NO.

1103L

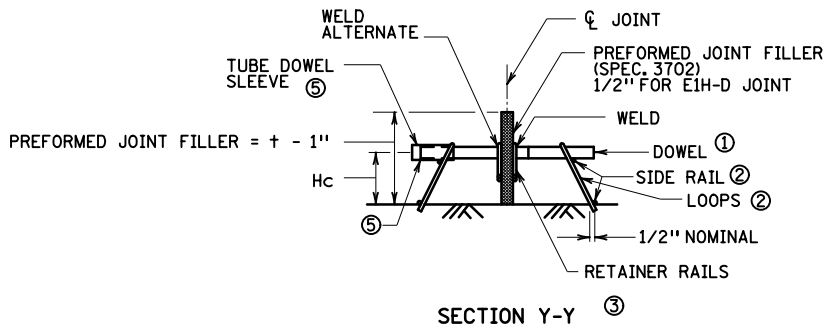
1 OF 2



EXPANSION JOINT DOWEL ASSEMBLIES



PERSPECTIVE OF EXPANSION JOINT DOWEL ASSEMBLY



+ PAVEMENT DEPTH (IN.)	DOWEL BAR DIAMETER (IN.)	Hc HEIGHT TO CENTER (IN.)
7 - 7 1/2	1	3
8 - 10	1 1/4	4
≥ 10 1/2	1 1/2	5

- NOTES:
- ① DOWEL BARS:
    - PROVIDE DOWEL BARS, 15" IN LENGTH, IN ACCORDANCE WITH SPEC. 3302 AND THE CONTRACT.
    - CUT ENDS WITH STRAIGHT SURFACE AND DEBURR.
    - SEE DOWEL BAR TABLE FOR DOWEL BAR DIAMETERS.
    - COAT ENTIRE DOWEL BAR ASSEMBLY WITH BOND BREAKER MATERIAL MEETING THE REQUIREMENTS OF MnDOT SPEC. 3302.
  - ② DOWEL BAR ASSEMBLY:
    - SIDE RAILS (0.306" DIA. MIN.).
    - LOOPS (0.243" DIA. MIN.).
    - SPACER WIRES (0.177" DIA. MAX.).
    - ONLY V-LEG OR U-LEG SHAPES ARE ALLOWED.
    - WELD ALL WIRE INTERSECTIONS.
    - SUBMIT SHOP DRAWINGS OF CONTRACTION JOINT DOWEL ASSEMBLY FOR APPROVAL TO THE CONCRETE ENGINEER; ONE SHOP DRAWING IS REQUIRED FOR EACH METHOD USED TO FASTEN DOWEL BARS TO ASSEMBLY.
  - ③ FABRICATION TOLERANCES:
    - ±1/4" PER LINEAR FOOT UNLESS OTHERWISE SPECIFIED.
    - MANUFACTURE BASKETS SO THAT THE DOWELS ARE HORIZONTAL AND PARALLEL FROM EACH OTHER AND PERPENDICULAR TO THE BASKET ±1/8" PER LINEAR FOOT.
    - ON CENTER SHOULD BE ±1/2".
    - HEIGHT (Hc) TO CENTER ±1/2".
  - ④ PLACE METAL INSTALLATION SHIELDS FOR EXPANSION JOINTS PARALLEL TO THE PAVEMENT SURFACE AND THE PAVEMENT CENTERLINE WITHIN A TOLERANCE OF 1/4" WITHIN THE LENGTH OF BAR.
  - ⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE IS 1" MINIMUM.

APPROVED 08-13-2020

*Rom Sja*

STATE DESIGN ENGINEER

STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION

**TYPICAL DOWEL BAR ASSEMBLY**  
EXPANSION JOINT

SPECIFICATION REFERENCE

2301

STANDARD PLATE NO.

**1103L**

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